

Thursday, May 5, 2016

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 A6D0056, which was received by the laboratory on 4/1/2016 at 5:50:00PM.

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](mailto:pnerenberg@apex-labs.com), or by phone at 503-718-2323.

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Philip Nerenberg, Lab Director

**Hahn and Associates**

434 NW 6th Ave. Suite 203  
 Portland, OR 97209

Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
 Project Manager: Rob Ede

**Reported:**

05/05/16 22:24

## ANALYTICAL REPORT FOR SAMPLES

### SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
5237-160401-DC-EMB038G	A6D0056-01	Soil	04/01/16 10:25	04/01/16 17:50
5237-160401-DC-EMB038	A6D0056-02	Soil	04/01/16 10:25	04/01/16 17:50
5237-160401-DC-EMB039G	A6D0056-03	Soil	04/01/16 11:05	04/01/16 17:50
5237-160401-DC-EMB039	A6D0056-04	Soil	04/01/16 11:05	04/01/16 17:50
5237-160401-DC-EMB046G	A6D0056-05	Soil	04/01/16 12:00	04/01/16 17:50
5237-160401-DC-EMB046	A6D0056-06	Soil	04/01/16 12:00	04/01/16 17:50
5237-160401-NDP-EMB002G	A6D0056-07	Soil	04/01/16 16:00	04/01/16 17:50
5237-160401-NDP-EMB002	A6D0056-08	Soil	04/01/16 16:00	04/01/16 17:50
5237-160401-NDP-EMB003G	A6D0056-09	Soil	04/01/16 16:10	04/01/16 17:50
5237-160401-NDP-EMB003	A6D0056-10	Soil	04/01/16 16:10	04/01/16 17:50

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## ANALYTICAL CASE NARRATIVE

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**Work Order: A6D0056**

Amended Report Revision 1:

This report supersedes all previous reports.

Analysis of full list VOCs on samples EMB046G and EMB002G were added after the previous report version had been completed.

Philip Nerenberg  
Lab Director  
5/5/16

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## ANALYTICAL SAMPLE RESULTS

### Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>5237-160401-DC-EMB038 (A6D0056-02)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040068</b>			
Diesel	ND	11.7	25.0	mg/kg dry	1	04/05/16 03:12	NWTPH-Dx	
<b>Oil</b>	<b>63.8</b>	23.4	50.0	"	"	"	"	F-03
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 77 %</i>		<i>Limits: 50-150 %</i>			
<b>5237-160401-DC-EMB039 (A6D0056-04)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040068</b>			
Diesel	ND	12.4	25.0	mg/kg dry	1	04/05/16 05:01	NWTPH-Dx	
<b>Oil</b>	<b>55.7</b>	24.8	50.0	"	"	"	"	F-03
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 85 %</i>		<i>Limits: 50-150 %</i>			
<b>5237-160401-DC-EMB046 (A6D0056-06)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040068</b>			
Diesel	ND	11.4	25.0	mg/kg dry	1	04/05/16 05:23	NWTPH-Dx	
<b>Oil</b>	<b>116</b>	22.9	50.0	"	"	"	"	F-03
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 88 %</i>		<i>Limits: 50-150 %</i>			
<b>5237-160401-NDP-EMB002 (A6D0056-08)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040068</b>			
Diesel	ND	12.7	25.4	mg/kg dry	1	04/05/16 06:07	NWTPH-Dx	
<b>Oil</b>	<b>81.4</b>	25.4	50.8	"	"	"	"	F-03
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 89 %</i>		<i>Limits: 50-150 %</i>			
<b>5237-160401-NDP-EMB003 (A6D0056-10)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040068</b>			
Diesel	ND	12.1	25.0	mg/kg dry	1	04/05/16 06:28	NWTPH-Dx	
<b>Oil</b>	<b>62.8</b>	24.2	50.0	"	"	"	"	F-03
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 80 %</i>		<i>Limits: 50-150 %</i>			

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## ANALYTICAL SAMPLE RESULTS

### Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>5237-160401-DC-EMB038G (A6D0056-01)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040059</b>			
Gasoline Range Organics	ND	4.14	8.28	mg/kg dry	50	04/04/16 16:43	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 94 %</i>		<i>Limits: 50-150 %</i>		1	"	"
<i>1,4-Difluorobenzene (Sur)</i>		<i>86 %</i>		<i>Limits: 50-150 %</i>		"	"	"
<b>5237-160401-DC-EMB039G (A6D0056-03)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040059</b>			
Gasoline Range Organics	ND	4.32	8.64	mg/kg dry	50	04/04/16 17:07	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 88 %</i>		<i>Limits: 50-150 %</i>		1	"	"
<i>1,4-Difluorobenzene (Sur)</i>		<i>86 %</i>		<i>Limits: 50-150 %</i>		"	"	"
<b>5237-160401-DC-EMB046G (A6D0056-05)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040059</b>			
Gasoline Range Organics	ND	2.03	4.05	mg/kg dry	50	04/04/16 17:32	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 93 %</i>		<i>Limits: 50-150 %</i>		1	"	"
<i>1,4-Difluorobenzene (Sur)</i>		<i>88 %</i>		<i>Limits: 50-150 %</i>		"	"	"
<b>5237-160401-NDP-EMB002G (A6D0056-07)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040059</b>			
Gasoline Range Organics	ND	4.46	8.93	mg/kg dry	50	04/04/16 17:56	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 93 %</i>		<i>Limits: 50-150 %</i>		1	"	"
<i>1,4-Difluorobenzene (Sur)</i>		<i>88 %</i>		<i>Limits: 50-150 %</i>		"	"	"
<b>5237-160401-NDP-EMB003G (A6D0056-09)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040059</b>			
Gasoline Range Organics	ND	3.84	7.69	mg/kg dry	50	04/04/16 18:21	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 93 %</i>		<i>Limits: 50-150 %</i>		1	"	"
<i>1,4-Difluorobenzene (Sur)</i>		<i>88 %</i>		<i>Limits: 50-150 %</i>		"	"	"

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## ANALYTICAL SAMPLE RESULTS

### BTEX Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>5237-160401-DC-EMB038G (A6D0056-01)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040059</b>			
Benzene	ND	8.28	16.6	ug/kg dry	50	04/04/16 16:43	5035/8260B	
Toluene	ND	41.4	82.8	"	"	"	"	
Ethylbenzene	ND	20.7	41.4	"	"	"	"	
Xylenes, total	ND	62.1	124	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 91 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>94 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>96 %</i>	<i>Limits: 70-130 %</i>	50	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>100 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<b>5237-160401-DC-EMB039G (A6D0056-03)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040059</b>			
Benzene	ND	8.64	17.3	ug/kg dry	50	04/04/16 17:07	5035/8260B	
Toluene	ND	43.2	86.4	"	"	"	"	
Ethylbenzene	ND	21.6	43.2	"	"	"	"	
Xylenes, total	ND	64.8	130	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 90 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>94 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>99 %</i>	<i>Limits: 70-130 %</i>	50	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>101 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<b>5237-160401-DC-EMB046G (A6D0056-05)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040059</b>			
Benzene	ND	4.05	8.11	ug/kg dry	50	04/04/16 17:32	5035/8260B	
Toluene	ND	20.3	40.5	"	"	"	"	
Ethylbenzene	ND	10.1	20.3	"	"	"	"	
Xylenes, total	ND	30.4	60.8	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 93 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>95 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>98 %</i>	<i>Limits: 70-130 %</i>	50	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>99 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<b>5237-160401-NDP-EMB002G (A6D0056-07)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040059</b>			
Benzene	ND	8.93	17.9	ug/kg dry	50	04/04/16 17:56	5035/8260B	
Toluene	ND	44.6	89.3	"	"	"	"	
Ethylbenzene	ND	22.3	44.6	"	"	"	"	
Xylenes, total	ND	67.0	134	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 97 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>96 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>97 %</i>	<i>Limits: 70-130 %</i>	50	"	"	

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 05/05/16 22:24

**ANALYTICAL SAMPLE RESULTS**

**BTEX Compounds by EPA 8260B**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>5237-160401-NDP-EMB002G (A6D0056-07)</b>		<b>Matrix: Soil</b>		<b>Batch: 6040059</b>				
<i>Surrogate: 4-Bromofluorobenzene (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 70-130 %</i>	1	"	5035/8260B	
<b>5237-160401-NDP-EMB003G (A6D0056-09)</b>		<b>Matrix: Soil</b>		<b>Batch: 6040059</b>				
Benzene	ND	7.69	15.4	ug/kg dry	50	04/04/16 18:21	5035/8260B	
Toluene	ND	38.4	76.9	"	"	"	"	
Ethylbenzene	ND	19.2	38.4	"	"	"	"	
Xylenes, total	ND	57.6	115	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>		<i>Recovery: 102 %</i>		<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>		<i>96 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>		<i>97 %</i>		<i>Limits: 70-130 %</i>	50	"	"	
<i>4-Bromofluorobenzene (Surr)</i>		<i>102 %</i>		<i>Limits: 70-130 %</i>	1	"	"	



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## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>5237-160401-DC-EMB046G (A6D0056-05)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040059</b>			
Acetone	ND	405	811	ug/kg dry	50	04/04/16 17:32	5035/8260B	
Benzene	ND	4.05	8.11	"	"	"	"	
Bromobenzene	ND	10.1	20.3	"	"	"	"	
Bromochloromethane	ND	20.3	40.5	"	"	"	"	
Bromodichloromethane	ND	40.5	81.1	"	"	"	"	
Bromoform	ND	101	203	"	"	"	"	
Bromomethane	ND	405	405	"	"	"	"	
2-Butanone (MEK)	ND	203	405	"	"	"	"	
n-Butylbenzene	ND	20.3	40.5	"	"	"	"	
sec-Butylbenzene	ND	20.3	40.5	"	"	"	"	
tert-Butylbenzene	ND	20.3	40.5	"	"	"	"	
Carbon tetrachloride	ND	101	203	"	"	"	"	
Chlorobenzene	ND	10.1	20.3	"	"	"	"	
Chloroethane	ND	203	405	"	"	"	"	E-03
Chloroform	ND	20.3	40.5	"	"	"	"	
Chloromethane	ND	101	203	"	"	"	"	
2-Chlorotoluene	ND	20.3	40.5	"	"	"	"	
4-Chlorotoluene	ND	20.3	40.5	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	101	203	"	"	"	"	
Dibromochloromethane	ND	101	203	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	20.3	40.5	"	"	"	"	
Dibromomethane	ND	20.3	40.5	"	"	"	"	
1,2-Dichlorobenzene	ND	10.1	20.3	"	"	"	"	
1,3-Dichlorobenzene	ND	10.1	20.3	"	"	"	"	
1,4-Dichlorobenzene	ND	10.1	20.3	"	"	"	"	
Dichlorodifluoromethane	ND	40.5	81.1	"	"	"	"	
1,1-Dichloroethane	ND	10.1	20.3	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	10.1	20.3	"	"	"	"	
1,1-Dichloroethene	ND	10.1	20.3	"	"	"	"	
cis-1,2-Dichloroethene	ND	10.1	20.3	"	"	"	"	
trans-1,2-Dichloroethene	ND	10.1	20.3	"	"	"	"	
1,2-Dichloropropane	ND	10.1	20.3	"	"	"	"	
1,3-Dichloropropane	ND	20.3	40.5	"	"	"	"	
2,2-Dichloropropane	ND	20.3	40.5	"	"	"	"	
1,1-Dichloropropene	ND	20.3	40.5	"	"	"	"	

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## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Units	Dilution	Date Analyzed	Method	Notes
			Limit	Matrix: Soil					
<b>5237-160401-DC-EMB046G (A6D0056-05)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040059</b>				
cis-1,3-Dichloropropene	ND	20.3	40.5		ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	101	203		"	"	"	"	
Ethylbenzene	ND	10.1	20.3		"	"	"	"	
Hexachlorobutadiene	ND	40.5	81.1		"	"	"	"	
2-Hexanone	ND	203	405		"	"	"	"	
Isopropylbenzene	ND	20.3	40.5		"	"	"	"	
4-Isopropyltoluene	ND	20.3	40.5		"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	203	405		"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	20.3	40.5		"	"	"	"	
Methylene chloride	ND	101	203		"	"	"	"	
Naphthalene	ND	40.5	81.1		"	"	"	"	
n-Propylbenzene	ND	10.1	20.3		"	"	"	"	
Styrene	ND	20.3	40.5		"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	10.1	20.3		"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	101	203		"	"	"	"	
Tetrachloroethene (PCE)	ND	10.1	20.3		"	"	"	"	
Toluene	ND	20.3	40.5		"	"	"	"	
1,2,3-Trichlorobenzene	ND	101	203		"	"	"	"	
1,2,4-Trichlorobenzene	ND	101	203		"	"	"	"	
1,1,1-Trichloroethane	ND	10.1	20.3		"	"	"	"	
1,1,2-Trichloroethane	ND	10.1	20.3		"	"	"	"	
Trichloroethene (TCE)	ND	10.1	20.3		"	"	"	"	
Trichlorofluoromethane	ND	40.5	81.1		"	"	"	"	E-03
1,2,3-Trichloropropane	ND	20.3	40.5		"	"	"	"	
1,2,4-Trimethylbenzene	ND	20.3	40.5		"	"	"	"	
1,3,5-Trimethylbenzene	ND	20.3	40.5		"	"	"	"	
Vinyl chloride	ND	10.1	20.3		"	"	"	"	
m,p-Xylene	ND	20.3	40.5		"	"	"	"	
o-Xylene	ND	10.1	20.3		"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 93 %</i>	<i>Limits: 70-130 %</i>		1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>95 %</i>	<i>Limits: 70-130 %</i>		"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>98 %</i>	<i>Limits: 70-130 %</i>		50	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>99 %</i>	<i>Limits: 70-130 %</i>		1	"	"	

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Reported:  
05/05/16 22:24

## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>5237-160401-NDP-EMB002G (A6D0056-07)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040059</b>			
Acetone	ND	893	1790	ug/kg dry	50	04/04/16 17:56	5035/8260B	
Benzene	ND	8.93	17.9	"	"	"	"	
Bromobenzene	ND	22.3	44.6	"	"	"	"	
Bromochloromethane	ND	44.6	89.3	"	"	"	"	
Bromodichloromethane	ND	89.3	179	"	"	"	"	
Bromoform	ND	223	446	"	"	"	"	
Bromomethane	ND	893	893	"	"	"	"	
2-Butanone (MEK)	ND	446	893	"	"	"	"	
n-Butylbenzene	ND	44.6	89.3	"	"	"	"	
sec-Butylbenzene	ND	44.6	89.3	"	"	"	"	
tert-Butylbenzene	ND	44.6	89.3	"	"	"	"	
Carbon tetrachloride	ND	223	446	"	"	"	"	
Chlorobenzene	ND	22.3	44.6	"	"	"	"	
Chloroethane	ND	446	893	"	"	"	"	E-03
Chloroform	ND	44.6	89.3	"	"	"	"	
Chloromethane	ND	223	446	"	"	"	"	
2-Chlorotoluene	ND	44.6	89.3	"	"	"	"	
4-Chlorotoluene	ND	44.6	89.3	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	223	446	"	"	"	"	
Dibromochloromethane	ND	223	446	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	44.6	89.3	"	"	"	"	
Dibromomethane	ND	44.6	89.3	"	"	"	"	
1,2-Dichlorobenzene	ND	22.3	44.6	"	"	"	"	
1,3-Dichlorobenzene	ND	22.3	44.6	"	"	"	"	
1,4-Dichlorobenzene	ND	22.3	44.6	"	"	"	"	
Dichlorodifluoromethane	ND	89.3	179	"	"	"	"	
1,1-Dichloroethane	ND	22.3	44.6	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	22.3	44.6	"	"	"	"	
1,1-Dichloroethene	ND	22.3	44.6	"	"	"	"	
cis-1,2-Dichloroethene	ND	22.3	44.6	"	"	"	"	
trans-1,2-Dichloroethene	ND	22.3	44.6	"	"	"	"	
1,2-Dichloropropane	ND	22.3	44.6	"	"	"	"	
1,3-Dichloropropane	ND	44.6	89.3	"	"	"	"	
2,2-Dichloropropane	ND	44.6	89.3	"	"	"	"	
1,1-Dichloropropene	ND	44.6	89.3	"	"	"	"	

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**Hahn and Associates**

434 NW 6th Ave. Suite 203  
Portland, OR 97209

Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
Project Manager: Rob Ede

Reported:  
05/05/16 22:24

## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>5237-160401-NDP-EMB002G (A6D0056-07)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040059</b>			
cis-1,3-Dichloropropene	ND	44.6	89.3	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	223	446	"	"	"	"	
Ethylbenzene	ND	22.3	44.6	"	"	"	"	
Hexachlorobutadiene	ND	89.3	179	"	"	"	"	
2-Hexanone	ND	446	893	"	"	"	"	
Isopropylbenzene	ND	44.6	89.3	"	"	"	"	
4-Isopropyltoluene	ND	44.6	89.3	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	446	893	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	44.6	89.3	"	"	"	"	
Methylene chloride	ND	223	446	"	"	"	"	
Naphthalene	ND	89.3	179	"	"	"	"	
n-Propylbenzene	ND	22.3	44.6	"	"	"	"	
Styrene	ND	44.6	89.3	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	22.3	44.6	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	223	446	"	"	"	"	
Tetrachloroethene (PCE)	ND	22.3	44.6	"	"	"	"	
Toluene	ND	44.6	89.3	"	"	"	"	
1,2,3-Trichlorobenzene	ND	223	446	"	"	"	"	
1,2,4-Trichlorobenzene	ND	223	446	"	"	"	"	
1,1,1-Trichloroethane	ND	22.3	44.6	"	"	"	"	
1,1,2-Trichloroethane	ND	22.3	44.6	"	"	"	"	
Trichloroethene (TCE)	ND	22.3	44.6	"	"	"	"	
Trichlorofluoromethane	ND	89.3	179	"	"	"	"	E-03
1,2,3-Trichloropropane	ND	44.6	89.3	"	"	"	"	
1,2,4-Trimethylbenzene	ND	44.6	89.3	"	"	"	"	
1,3,5-Trimethylbenzene	ND	44.6	89.3	"	"	"	"	
Vinyl chloride	ND	22.3	44.6	"	"	"	"	
m,p-Xylene	ND	44.6	89.3	"	"	"	"	
o-Xylene	ND	22.3	44.6	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>		<i>Recovery: 97 %</i>		<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>		<i>96 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>		<i>97 %</i>		<i>Limits: 70-130 %</i>	50	"	"	
<i>4-Bromofluorobenzene (Surr)</i>		<i>100 %</i>		<i>Limits: 70-130 %</i>	1	"	"	

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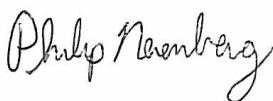
Project: **Siltronic RI-Doane Creek**  
 Project Number: 5237-10dc  
 Project Manager: Rob Ede

**Reported:**  
 05/05/16 22:24

## ANALYTICAL SAMPLE RESULTS

### Anions by EPA 300.0/9056A (Ion Chromatography)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>5237-160401-DC-EMB038 (A6D0056-02)</b>			<b>Matrix: Soil</b>					
Batch: 6040311								
Sulfate	ND	12.7	12.7	mg/kg dry	1	04/13/16 04:24	EPA 9056A	
<b>5237-160401-DC-EMB039 (A6D0056-04)</b>			<b>Matrix: Soil</b>					
Batch: 6040311								
Sulfate	ND	13.0	13.0	mg/kg dry	1	04/13/16 05:29	EPA 9056A	
<b>5237-160401-DC-EMB046 (A6D0056-06)</b>			<b>Matrix: Soil</b>					
Batch: 6040311								
Sulfate	ND	12.7	12.7	mg/kg dry	1	04/13/16 05:51	EPA 9056A	
<b>5237-160401-NDP-EMB002 (A6D0056-08)</b>			<b>Matrix: Soil</b>					
Batch: 6040311								
Sulfate	ND	14.2	14.2	mg/kg dry	1	04/13/16 06:12	EPA 9056A	
<b>5237-160401-NDP-EMB003 (A6D0056-10)</b>			<b>Matrix: Soil</b>					
Batch: 6040311								
Sulfate	ND	13.0	13.0	mg/kg dry	1	04/13/16 07:17	EPA 9056A	



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05/05/16 22:24

## ANALYTICAL SAMPLE RESULTS

### Cyanide - Total (Non-aqueous)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>5237-160401-DC-EMB038 (A6D0056-02)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040257</b>			
Cyanide, Total	63.0	1.30	1.30	mg/kg dry	10	04/11/16 19:03	EPA 9013M/9014	
<b>5237-160401-DC-EMB039 (A6D0056-04)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040257</b>			
Cyanide, Total	ND	0.131	0.131	mg/kg dry	1	04/11/16 19:09	EPA 9013M/9014	
<b>5237-160401-DC-EMB046 (A6D0056-06)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040257</b>			
Cyanide, Total	0.825	0.127	0.127	mg/kg dry	1	04/11/16 18:49	EPA 9013M/9014	
<b>5237-160401-NDP-EMB002 (A6D0056-08)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040257</b>			
Cyanide, Total	0.232	0.140	0.140	mg/kg dry	1	04/11/16 18:57	EPA 9013M/9014	
<b>5237-160401-NDP-EMB003 (A6D0056-10)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040257</b>			
Cyanide, Total	0.233	0.127	0.127	mg/kg dry	1	04/11/16 18:59	EPA 9013M/9014	

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Project: **Siltronic RI-Doane Creek**  
 Project Number: 5237-10dc  
 Project Manager: Rob Ede

Reported:  
 05/05/16 22:24

## ANALYTICAL SAMPLE RESULTS

### Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>5237-160401-DC-EMB038 (A6D0056-02)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040070</b>			
Acenaphthene	72.3	6.59	13.2	ug/kg dry	4	04/06/16 11:00	EPA 8270D	
Acenaphthylene	61.1	6.59	13.2	"	"	"	"	
Anthracene	124	6.59	13.2	"	"	"	"	
Benz(a)anthracene	597	6.59	13.2	"	"	"	"	
Benzo(a)pyrene	817	9.91	19.8	"	"	"	"	
Benzo(b)fluoranthene	1050	9.91	19.8	"	"	"	"	M-02
Benzo(k)fluoranthene	372	9.91	19.8	"	"	"	"	M-02
Benzo(g,h,i)perylene	762	6.59	13.2	"	"	"	"	
Chrysene	791	6.59	13.2	"	"	"	"	
Dibenz(a,h)anthracene	118	6.59	13.2	"	"	"	"	Q-42
Fluoranthene	1180	6.59	13.2	"	"	"	"	
Fluorene	41.9	6.59	13.2	"	"	"	"	
Indeno(1,2,3-cd)pyrene	649	6.59	13.2	"	"	"	"	
1-Methylnaphthalene	18.1	13.2	26.4	"	"	"	"	J
2-Methylnaphthalene	35.6	13.2	26.4	"	"	"	"	
Naphthalene	105	13.2	26.4	"	"	"	"	
Phenanthrene	649	6.59	13.2	"	"	"	"	
Pyrene	1410	6.59	13.2	"	"	"	"	
Carbazole	62.2	9.91	19.8	"	"	"	"	
Dibenzofuran	18.3	6.59	13.2	"	"	"	"	
4-Chloro-3-methylphenol	ND	65.9	132	"	"	"	"	
2-Chlorophenol	ND	33.1	65.9	"	"	"	"	
2,4-Dichlorophenol	ND	33.1	65.9	"	"	"	"	
2,4-Dimethylphenol	ND	33.1	65.9	"	"	"	"	
2,4-Dinitrophenol	ND	165	331	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	165	331	"	"	"	"	
2-Methylphenol	ND	16.5	33.1	"	"	"	"	
3+4-Methylphenol(s)	ND	16.5	33.1	"	"	"	"	
2-Nitrophenol	ND	65.9	132	"	"	"	"	
4-Nitrophenol	ND	65.9	132	"	"	"	"	
Pentachlorophenol (PCP)	ND	65.9	132	"	"	"	"	
Phenol	ND	13.2	26.4	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	33.1	65.9	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	33.1	65.9	"	"	"	"	
2,4,5-Trichlorophenol	ND	33.1	65.9	"	"	"	"	
2,4,6-Trichlorophenol	ND	33.1	65.9	"	"	"	"	

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Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
Project Manager: Rob Ede

Reported:

05/05/16 22:24

## ANALYTICAL SAMPLE RESULTS

### Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting		Units	Dilution	Date Analyzed	Method	Notes
			Limit	Matrix: Soil					
<b>5237-160401-DC-EMB038 (A6D0056-02)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040070</b>				
Bis(2-ethylhexyl)phthalate	ND	99.1	198		ug/kg dry	4	"	EPA 8270D	
Butyl benzyl phthalate	ND	65.9	132		"	"	"	"	
Diethylphthalate	ND	65.9	132		"	"	"	"	
Dimethylphthalate	ND	65.9	132		"	"	"	"	
<b>Di-n-butylphthalate</b>	<b>91.1</b>	65.9	132		"	"	"	"	J
Di-n-octyl phthalate	ND	65.9	132		"	"	"	"	
N-Nitrosodimethylamine	ND	16.5	33.1		"	"	"	"	
N-Nitroso-di-n-propylamine	ND	16.5	33.1		"	"	"	"	
N-Nitrosodiphenylamine	ND	16.5	33.1		"	"	"	"	
Bis(2-Chloroethoxy) methane	ND	16.5	33.1		"	"	"	"	
Bis(2-Chloroethyl) ether	ND	16.5	33.1		"	"	"	"	
Bis(2-Chloroisopropyl) ether	ND	16.5	33.1		"	"	"	"	
Hexachlorobenzene	ND	6.59	13.2		"	"	"	"	
Hexachlorobutadiene	ND	16.5	33.1		"	"	"	"	
Hexachlorocyclopentadiene	ND	33.1	65.9		"	"	"	"	
Hexachloroethane	ND	16.5	33.1		"	"	"	"	
2-Chloronaphthalene	ND	6.59	13.2		"	"	"	"	
1,2-Dichlorobenzene	ND	16.5	33.1		"	"	"	"	
1,3-Dichlorobenzene	ND	16.5	33.1		"	"	"	"	
1,4-Dichlorobenzene	ND	16.5	33.1		"	"	"	"	
1,2,4-Trichlorobenzene	ND	16.5	33.1		"	"	"	"	
4-Bromophenyl phenyl ether	ND	16.5	33.1		"	"	"	"	
4-Chlorophenyl phenyl ether	ND	16.5	33.1		"	"	"	"	
Aniline	ND	33.1	65.9		"	"	"	"	
4-Chloroaniline	ND	16.5	33.1		"	"	"	"	
2-Nitroaniline	ND	132	264		"	"	"	"	
3-Nitroaniline	ND	132	264		"	"	"	"	
4-Nitroaniline	ND	132	264		"	"	"	"	
Nitrobenzene	ND	65.9	132		"	"	"	"	
2,4-Dinitrotoluene	ND	65.9	132		"	"	"	"	
2,6-Dinitrotoluene	ND	65.9	132		"	"	"	"	
Benzoic acid	ND	828	1650		"	"	"	"	
Benzyl alcohol	ND	33.1	65.9		"	"	"	"	
Isophorone	ND	16.5	33.1		"	"	"	"	
Azobenzene (1,2-DPH)	ND	16.5	33.1		"	"	"	"	

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Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
Project Manager: Rob Ede

Reported:  
05/05/16 22:24

## ANALYTICAL SAMPLE RESULTS

### Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting			Dilution	Date Analyzed	Method	Notes
			Limit	Units					
<b>5237-160401-DC-EMB038 (A6D0056-02)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040070</b>				
Bis(2-Ethylhexyl) adipate	ND	165	331	ug/kg dry	4	"	EPA 8270D		
3,3'-Dichlorobenzidine	ND	65.9	132	"	"	"	"		
1,2-Dinitrobenzene	ND	165	331	"	"	"	"		
1,3-Dinitrobenzene	ND	165	331	"	"	"	"		
1,4-Dinitrobenzene	ND	165	331	"	"	"	"		
Pyridine	ND	33.1	65.9	"	"	"	"		
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 72 %</i>		<i>Limits: 37-122 %</i>		"	"	
<i>2-Fluorobiphenyl (Surr)</i>			<i>80 %</i>		<i>Limits: 44-115 %</i>		"	"	
<i>Phenol-d6 (Surr)</i>			<i>74 %</i>		<i>Limits: 33-122 %</i>		"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>75 %</i>		<i>Limits: 54-127 %</i>		"	"	
<i>2-Fluorophenol (Surr)</i>			<i>68 %</i>		<i>Limits: 35-115 %</i>		"	"	
<i>2,4,6-Tribromophenol (Surr)</i>			<i>91 %</i>		<i>Limits: 39-132 %</i>		"	"	
<b>5237-160401-DC-EMB039 (A6D0056-04)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040070</b>				
Acenaphthene	<b>39.6</b>	7.03	14.1	ug/kg dry	4	04/06/16 12:15	EPA 8270D		
Acenaphthylene	ND	7.03	14.1	"	"	"	"		
Anthracene	<b>41.1</b>	7.03	14.1	"	"	"	"		
Benz(a)anthracene	<b>254</b>	7.03	14.1	"	"	"	"		
Benzo(a)pyrene	<b>378</b>	10.6	21.1	"	"	"	"		
Benzo(b)fluoranthene	<b>464</b>	10.6	21.1	"	"	"	"	M-02	
Benzo(k)fluoranthene	<b>158</b>	10.6	21.1	"	"	"	"	M-02	
Benzo(g,h,i)perylene	<b>310</b>	7.03	14.1	"	"	"	"		
Chrysene	<b>307</b>	7.03	14.1	"	"	"	"		
Dibenz(a,h)anthracene	<b>62.1</b>	7.03	14.1	"	"	"	"		
Fluoranthene	<b>431</b>	7.03	14.1	"	"	"	"		
Fluorene	<b>17.3</b>	7.03	14.1	"	"	"	"		
Indeno(1,2,3-cd)pyrene	<b>286</b>	7.03	14.1	"	"	"	"		
1-Methylnaphthalene	ND	14.1	28.2	"	"	"	"		
2-Methylnaphthalene	ND	14.1	28.2	"	"	"	"		
Naphthalene	ND	14.1	28.2	"	"	"	"		
Phenanthrene	<b>192</b>	7.03	14.1	"	"	"	"		
Pyrene	<b>439</b>	7.03	14.1	"	"	"	"		
Carbazole	<b>36.8</b>	10.6	21.1	"	"	"	"		
Dibenzofuran	<b>8.33</b>	7.03	14.1	"	"	"	"	J	
4-Chloro-3-methylphenol	ND	70.3	141	"	"	"	"		
2-Chlorophenol	ND	35.2	70.3	"	"	"	"		

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Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
 Project Manager: Rob Ede

Reported:

05/05/16 22:24

## ANALYTICAL SAMPLE RESULTS

### Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting		Units	Dilution	Date Analyzed	Method	Notes
			Limit	Matrix					
<b>5237-160401-DC-EMB039 (A6D0056-04)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040070</b>				
2,4-Dichlorophenol	ND	35.2	70.3		ug/kg dry	4	"	EPA 8270D	
2,4-Dimethylphenol	ND	35.2	70.3		"	"	"	"	
2,4-Dinitrophenol	ND	176	352		"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	176	352		"	"	"	"	
2-Methylphenol	ND	17.6	35.2		"	"	"	"	
3+4-Methylphenol(s)	ND	17.6	35.2		"	"	"	"	
2-Nitrophenol	ND	70.3	141		"	"	"	"	
4-Nitrophenol	ND	70.3	141		"	"	"	"	
Pentachlorophenol (PCP)	ND	70.3	141		"	"	"	"	
Phenol	ND	14.1	28.2		"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	35.2	70.3		"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	35.2	70.3		"	"	"	"	
2,4,5-Trichlorophenol	ND	35.2	70.3		"	"	"	"	
2,4,6-Trichlorophenol	ND	35.2	70.3		"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	106	211		"	"	"	"	
Butyl benzyl phthalate	ND	70.3	141		"	"	"	"	
Diethylphthalate	ND	70.3	141		"	"	"	"	
Dimethylphthalate	ND	70.3	141		"	"	"	"	
Di-n-butylphthalate	ND	70.3	141		"	"	"	"	
Di-n-octyl phthalate	ND	70.3	141		"	"	"	"	
N-Nitrosodimethylamine	ND	17.6	35.2		"	"	"	"	
N-Nitroso-di-n-propylamine	ND	17.6	35.2		"	"	"	"	
N-Nitrosodiphenylamine	ND	17.6	35.2		"	"	"	"	
Bis(2-Chloroethoxy) methane	ND	17.6	35.2		"	"	"	"	
Bis(2-Chloroethyl) ether	ND	17.6	35.2		"	"	"	"	
Bis(2-Chloroisopropyl) ether	ND	17.6	35.2		"	"	"	"	
Hexachlorobenzene	ND	7.03	14.1		"	"	"	"	
Hexachlorobutadiene	ND	17.6	35.2		"	"	"	"	
Hexachlorocyclopentadiene	ND	35.2	70.3		"	"	"	"	
Hexachloroethane	ND	17.6	35.2		"	"	"	"	
2-Chloronaphthalene	ND	7.03	14.1		"	"	"	"	
1,2-Dichlorobenzene	ND	17.6	35.2		"	"	"	"	
1,3-Dichlorobenzene	ND	17.6	35.2		"	"	"	"	
1,4-Dichlorobenzene	ND	17.6	35.2		"	"	"	"	
1,2,4-Trichlorobenzene	ND	17.6	35.2		"	"	"	"	

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**Hahn and Associates**

434 NW 6th Ave. Suite 203  
Portland, OR 97209

Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
Project Manager: Rob Ede

Reported:

05/05/16 22:24

## ANALYTICAL SAMPLE RESULTS

### Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting		Units	Dilution	Date Analyzed	Method	Notes
			Limit						
<b>5237-160401-DC-EMB039 (A6D0056-04)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040070</b>				
4-Bromophenyl phenyl ether	ND	17.6	35.2		ug/kg dry	4	"	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	17.6	35.2		"	"	"	"	
Aniline	ND	35.2	70.3		"	"	"	"	
4-Chloroaniline	ND	17.6	35.2		"	"	"	"	
2-Nitroaniline	ND	141	282		"	"	"	"	
3-Nitroaniline	ND	141	282		"	"	"	"	
4-Nitroaniline	ND	141	282		"	"	"	"	
Nitrobenzene	ND	70.3	141		"	"	"	"	
2,4-Dinitrotoluene	ND	70.3	141		"	"	"	"	
2,6-Dinitrotoluene	ND	70.3	141		"	"	"	"	
Benzoic acid	ND	882	1760		"	"	"	"	
Benzyl alcohol	ND	35.2	70.3		"	"	"	"	
Isophorone	ND	17.6	35.2		"	"	"	"	
Azobenzene (1,2-DPH)	ND	17.6	35.2		"	"	"	"	
Bis(2-Ethylhexyl) adipate	ND	176	352		"	"	"	"	
3,3'-Dichlorobenzidine	ND	70.3	141		"	"	"	"	
1,2-Dinitrobenzene	ND	176	352		"	"	"	"	
1,3-Dinitrobenzene	ND	176	352		"	"	"	"	
1,4-Dinitrobenzene	ND	176	352		"	"	"	"	
Pyridine	ND	35.2	70.3		"	"	"	"	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>				<i>Recovery: 84 %</i>	<i>Limits: 37-122 %</i>	"	"	"	
<i>2-Fluorobiphenyl (Surr)</i>				<i>88 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>Phenol-d6 (Surr)</i>				<i>81 %</i>	<i>Limits: 33-122 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>				<i>84 %</i>	<i>Limits: 54-127 %</i>	"	"	"	
<i>2-Fluorophenol (Surr)</i>				<i>74 %</i>	<i>Limits: 35-115 %</i>	"	"	"	
<i>2,4,6-Tribromophenol (Surr)</i>				<i>106 %</i>	<i>Limits: 39-132 %</i>	"	"	"	

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Philip Nerenberg, Lab Director

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

Project: **Siltronic RI-Doane Creek**  
 Project Number: 5237-10dc  
 Project Manager: Rob Ede

Reported:  
 05/05/16 22:24

## ANALYTICAL SAMPLE RESULTS

### Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>5237-160401-DC-EMB046 (A6D0056-06RE1)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040070</b>			
Acenaphthene	183	6.59	13.2	ug/kg dry	4	04/06/16 12:55	EPA 8270D	
Acenaphthylene	447	6.59	13.2	"	"	"	"	
Anthracene	669	6.59	13.2	"	"	"	"	
Benz(a)anthracene	2020	6.59	13.2	"	"	"	"	
Benzo(a)pyrene	2600	9.92	19.8	"	"	"	"	
Benzo(b)fluoranthene	3120	9.92	19.8	"	"	"	"	M-02
Benzo(k)fluoranthene	1050	9.92	19.8	"	"	"	"	M-02
Benzo(g,h,i)perylene	2180	6.59	13.2	"	"	"	"	
Chrysene	2470	6.59	13.2	"	"	"	"	
Dibenz(a,h)anthracene	407	6.59	13.2	"	"	"	"	
Fluoranthene	3440	6.59	13.2	"	"	"	"	
Fluorene	301	6.59	13.2	"	"	"	"	
Indeno(1,2,3-cd)pyrene	1930	6.59	13.2	"	"	"	"	
1-Methylnaphthalene	107	13.2	26.4	"	"	"	"	
2-Methylnaphthalene	203	13.2	26.4	"	"	"	"	
Naphthalene	585	13.2	26.4	"	"	"	"	
Phenanthrene	2890	6.59	13.2	"	"	"	"	
Pyrene	4000	6.59	13.2	"	"	"	"	
Carbazole	249	9.92	19.8	"	"	"	"	
Dibenzofuran	66.3	6.59	13.2	"	"	"	"	
4-Chloro-3-methylphenol	ND	65.9	132	"	"	"	"	
2-Chlorophenol	ND	33.1	65.9	"	"	"	"	
2,4-Dichlorophenol	ND	33.1	65.9	"	"	"	"	
2,4-Dimethylphenol	ND	33.1	65.9	"	"	"	"	
2,4-Dinitrophenol	ND	165	331	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	165	331	"	"	"	"	
2-Methylphenol	ND	16.5	33.1	"	"	"	"	
3+4-Methylphenol(s)	ND	16.5	33.1	"	"	"	"	
2-Nitrophenol	ND	65.9	132	"	"	"	"	
4-Nitrophenol	ND	65.9	132	"	"	"	"	
Pentachlorophenol (PCP)	ND	65.9	132	"	"	"	"	
Phenol	ND	13.2	26.4	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	33.1	65.9	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	33.1	65.9	"	"	"	"	
2,4,5-Trichlorophenol	ND	33.1	65.9	"	"	"	"	
2,4,6-Trichlorophenol	ND	33.1	65.9	"	"	"	"	

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Philip Nerenberg, Lab Director

**Hahn and Associates**

434 NW 6th Ave. Suite 203  
Portland, OR 97209

Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
Project Manager: Rob Ede


Reported:  
05/05/16 22:24

## ANALYTICAL SAMPLE RESULTS

### Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>5237-160401-DC-EMB046 (A6D0056-06RE1)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040070</b>			
Bis(2-ethylhexyl)phthalate	ND	99.2	198	ug/kg dry	4	"	EPA 8270D	
Butyl benzyl phthalate	ND	65.9	132	"	"	"	"	
Diethylphthalate	ND	65.9	132	"	"	"	"	
Dimethylphthalate	ND	65.9	132	"	"	"	"	
Di-n-butylphthalate	ND	65.9	132	"	"	"	"	
Di-n-octyl phthalate	ND	65.9	132	"	"	"	"	
N-Nitrosodimethylamine	ND	16.5	33.1	"	"	"	"	
N-Nitroso-di-n-propylamine	ND	16.5	33.1	"	"	"	"	
N-Nitrosodiphenylamine	ND	16.5	33.1	"	"	"	"	
Bis(2-Chloroethoxy) methane	ND	16.5	33.1	"	"	"	"	
Bis(2-Chloroethyl) ether	ND	16.5	33.1	"	"	"	"	
Bis(2-Chloroisopropyl) ether	ND	16.5	33.1	"	"	"	"	
Hexachlorobenzene	ND	6.59	13.2	"	"	"	"	
Hexachlorobutadiene	ND	16.5	33.1	"	"	"	"	
Hexachlorocyclopentadiene	ND	33.1	65.9	"	"	"	"	
Hexachloroethane	ND	16.5	33.1	"	"	"	"	
2-Chloronaphthalene	ND	6.59	13.2	"	"	"	"	
1,2-Dichlorobenzene	ND	16.5	33.1	"	"	"	"	
1,3-Dichlorobenzene	ND	16.5	33.1	"	"	"	"	
1,4-Dichlorobenzene	ND	16.5	33.1	"	"	"	"	
1,2,4-Trichlorobenzene	ND	16.5	33.1	"	"	"	"	
4-Bromophenyl phenyl ether	ND	16.5	33.1	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	16.5	33.1	"	"	"	"	
Aniline	ND	33.1	65.9	"	"	"	"	
4-Chloroaniline	ND	16.5	33.1	"	"	"	"	
2-Nitroaniline	ND	132	264	"	"	"	"	
3-Nitroaniline	ND	132	264	"	"	"	"	
4-Nitroaniline	ND	132	264	"	"	"	"	
Nitrobenzene	ND	65.9	132	"	"	"	"	
2,4-Dinitrotoluene	ND	65.9	132	"	"	"	"	
2,6-Dinitrotoluene	ND	65.9	132	"	"	"	"	
Benzoic acid	ND	828	1650	"	"	"	"	
Benzyl alcohol	ND	33.1	65.9	"	"	"	"	
Isophorone	ND	16.5	33.1	"	"	"	"	
Azobenzene (1,2-DPH)	ND	16.5	33.1	"	"	"	"	

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434 NW 6th Ave. Suite 203  
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Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
Project Manager: Rob Ede

Reported:  
05/05/16 22:24

## ANALYTICAL SAMPLE RESULTS

### Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting			Dilution	Date Analyzed	Method	Notes
			Limit	Units					
<b>5237-160401-DC-EMB046 (A6D0056-06RE1)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040070</b>				
Bis(2-Ethylhexyl) adipate	ND	165	331	ug/kg dry	4	"	EPA 8270D		
3,3'-Dichlorobenzidine	ND	65.9	132	"	"	"	"		
1,2-Dinitrobenzene	ND	165	331	"	"	"	"		
1,3-Dinitrobenzene	ND	165	331	"	"	"	"		
1,4-Dinitrobenzene	ND	165	331	"	"	"	"		
Pyridine	ND	33.1	65.9	"	"	"	"		
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 75 %</i>		<i>Limits: 37-122 %</i>		"	"	
<i>2-Fluorobiphenyl (Surr)</i>			<i>93 %</i>		<i>Limits: 44-115 %</i>		"	"	
<i>Phenol-d6 (Surr)</i>			<i>79 %</i>		<i>Limits: 33-122 %</i>		"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>94 %</i>		<i>Limits: 54-127 %</i>		"	"	
<i>2-Fluorophenol (Surr)</i>			<i>72 %</i>		<i>Limits: 35-115 %</i>		"	"	
<i>2,4,6-Tribromophenol (Surr)</i>			<i>105 %</i>		<i>Limits: 39-132 %</i>		"	"	
<b>5237-160401-NDP-EMB002 (A6D0056-08RE1)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040070</b>				
Acenaphthene	177	7.44	14.9	ug/kg dry	4	04/06/16 13:33	EPA 8270D		
Acenaphthylene	18.4	7.44	14.9	"	"	"	"		
Anthracene	202	7.44	14.9	"	"	"	"		
Benz(a)anthracene	1160	7.44	14.9	"	"	"	"		
Benzo(a)pyrene	1630	11.2	22.4	"	"	"	"		
Benzo(b)fluoranthene	2120	11.2	22.4	"	"	"	"	M-02	
Benzo(k)fluoranthene	775	11.2	22.4	"	"	"	"	M-02	
Benzo(g,h,i)perylene	1330	7.44	14.9	"	"	"	"		
Chrysene	1330	7.44	14.9	"	"	"	"		
Dibenz(a,h)anthracene	278	7.44	14.9	"	"	"	"		
Fluoranthene	1730	7.44	14.9	"	"	"	"		
Fluorene	92.4	7.44	14.9	"	"	"	"		
Indeno(1,2,3-cd)pyrene	1260	7.44	14.9	"	"	"	"		
1-Methylnaphthalene	16.1	14.9	29.8	"	"	"	"	J	
2-Methylnaphthalene	29.1	14.9	29.8	"	"	"	"	J	
Naphthalene	59.6	14.9	29.8	"	"	"	"		
Phenanthrene	836	7.44	14.9	"	"	"	"		
Pyrene	1660	7.44	14.9	"	"	"	"		
Carbazole	173	11.2	22.4	"	"	"	"		
Dibenzofuran	47.3	7.44	14.9	"	"	"	"		
4-Chloro-3-methylphenol	ND	74.4	149	"	"	"	"		
2-Chlorophenol	ND	37.3	74.4	"	"	"	"		
2,4-Dichlorophenol	ND	37.3	74.4	"	"	"	"		

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Philip Nerenberg, Lab Director

**Hahn and Associates**

434 NW 6th Ave. Suite 203  
Portland, OR 97209

Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
Project Manager: Rob Ede

Reported:

05/05/16 22:24

## ANALYTICAL SAMPLE RESULTS

### Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting		Units	Dilution	Date Analyzed	Method	Notes
			Limit	Matrix: Soil					
<b>5237-160401-NDP-EMB002 (A6D0056-08RE1)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040070</b>				
2,4-Dimethylphenol	ND	37.3	74.4		ug/kg dry	4	"	EPA 8270D	
2,4-Dinitrophenol	ND	186	373		"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	186	373		"	"	"	"	
2-Methylphenol	ND	18.6	37.3		"	"	"	"	
3+4-Methylphenol(s)	ND	18.6	37.3		"	"	"	"	
2-Nitrophenol	ND	74.4	149		"	"	"	"	
4-Nitrophenol	ND	74.4	149		"	"	"	"	
Pentachlorophenol (PCP)	ND	74.4	149		"	"	"	"	
Phenol	ND	14.9	29.8		"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	37.3	74.4		"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	37.3	74.4		"	"	"	"	
2,4,5-Trichlorophenol	ND	37.3	74.4		"	"	"	"	
2,4,6-Trichlorophenol	ND	37.3	74.4		"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	112	224		"	"	"	"	
Butyl benzyl phthalate	ND	74.4	149		"	"	"	"	
Diethylphthalate	ND	74.4	149		"	"	"	"	
Dimethylphthalate	ND	74.4	149		"	"	"	"	
Di-n-butylphthalate	ND	74.4	149		"	"	"	"	
Di-n-octyl phthalate	ND	74.4	149		"	"	"	"	
N-Nitrosodimethylamine	ND	18.6	37.3		"	"	"	"	
N-Nitroso-di-n-propylamine	ND	18.6	37.3		"	"	"	"	
N-Nitrosodiphenylamine	ND	18.6	37.3		"	"	"	"	
Bis(2-Chloroethoxy) methane	ND	18.6	37.3		"	"	"	"	
Bis(2-Chloroethyl) ether	ND	18.6	37.3		"	"	"	"	
Bis(2-Chloroisopropyl) ether	ND	18.6	37.3		"	"	"	"	
Hexachlorobenzene	ND	7.44	14.9		"	"	"	"	
Hexachlorobutadiene	ND	18.6	37.3		"	"	"	"	
Hexachlorocyclopentadiene	ND	37.3	74.4		"	"	"	"	
Hexachloroethane	ND	18.6	37.3		"	"	"	"	
2-Chloronaphthalene	ND	7.44	14.9		"	"	"	"	
1,2-Dichlorobenzene	ND	18.6	37.3		"	"	"	"	
1,3-Dichlorobenzene	ND	18.6	37.3		"	"	"	"	
1,4-Dichlorobenzene	ND	18.6	37.3		"	"	"	"	
1,2,4-Trichlorobenzene	ND	18.6	37.3		"	"	"	"	
4-Bromophenyl phenyl ether	ND	18.6	37.3		"	"	"	"	

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Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
Project Manager: Rob Ede

Reported:  
05/05/16 22:24

## ANALYTICAL SAMPLE RESULTS

### Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>5237-160401-NDP-EMB002 (A6D0056-08RE1)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040070</b>			
4-Chlorophenyl phenyl ether	ND	18.6	37.3	ug/kg dry	4	"	EPA 8270D	
Aniline	ND	37.3	74.4	"	"	"	"	
4-Chloroaniline	ND	18.6	37.3	"	"	"	"	
2-Nitroaniline	ND	149	298	"	"	"	"	
3-Nitroaniline	ND	149	298	"	"	"	"	
4-Nitroaniline	ND	149	298	"	"	"	"	
Nitrobenzene	ND	74.4	149	"	"	"	"	
2,4-Dinitrotoluene	ND	74.4	149	"	"	"	"	
2,6-Dinitrotoluene	ND	74.4	149	"	"	"	"	
Benzoic acid	ND	934	1860	"	"	"	"	
Benzyl alcohol	ND	37.3	74.4	"	"	"	"	
Isophorone	ND	18.6	37.3	"	"	"	"	
Azobenzene (1,2-DPH)	ND	18.6	37.3	"	"	"	"	
Bis(2-Ethylhexyl) adipate	ND	186	373	"	"	"	"	
3,3'-Dichlorobenzidine	ND	74.4	149	"	"	"	"	
1,2-Dinitrobenzene	ND	186	373	"	"	"	"	
1,3-Dinitrobenzene	ND	186	373	"	"	"	"	
1,4-Dinitrobenzene	ND	186	373	"	"	"	"	
Pyridine	ND	37.3	74.4	"	"	"	"	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 75 %</i>		<i>Limits: 37-122 %</i>	"	"	"	
<i>2-Fluorobiphenyl (Surr)</i>		<i>79 %</i>		<i>Limits: 44-115 %</i>	"	"	"	
<i>Phenol-d6 (Surr)</i>		<i>77 %</i>		<i>Limits: 33-122 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>		<i>81 %</i>		<i>Limits: 54-127 %</i>	"	"	"	
<i>2-Fluorophenol (Surr)</i>		<i>68 %</i>		<i>Limits: 35-115 %</i>	"	"	"	
<i>2,4,6-Tribromophenol (Surr)</i>		<i>103 %</i>		<i>Limits: 39-132 %</i>	"	"	"	



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

Project: **Siltronic RI-Doane Creek**  
 Project Number: 5237-10dc  
 Project Manager: Rob Ede

Reported:  
 05/05/16 22:24

## ANALYTICAL SAMPLE RESULTS

### Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>5237-160401-NDP-EMB003 (A6D0056-10RE1)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040070</b>			
Acenaphthene	42.6	6.70	13.4	ug/kg dry	4	04/06/16 14:11	EPA 8270D	
Acenaphthylene	18.7	6.70	13.4	"	"	"	"	
Anthracene	62.6	6.70	13.4	"	"	"	"	
Benz(a)anthracene	331	6.70	13.4	"	"	"	"	Q-42
Benzo(a)pyrene	459	10.1	20.1	"	"	"	"	Q-42
Benzo(b)fluoranthene	613	10.1	20.1	"	"	"	"	Q-42, M-02
Benzo(k)fluoranthene	211	10.1	20.1	"	"	"	"	M-02
Benzo(g,h,i)perylene	383	6.70	13.4	"	"	"	"	Q-42
Chrysene	400	6.70	13.4	"	"	"	"	Q-42
Dibenz(a,h)anthracene	73.4	6.70	13.4	"	"	"	"	
Fluoranthene	530	6.70	13.4	"	"	"	"	Q-42
Fluorene	30.9	6.70	13.4	"	"	"	"	
Indeno(1,2,3-cd)pyrene	347	6.70	13.4	"	"	"	"	Q-42
1-Methylnaphthalene	ND	13.4	26.8	"	"	"	"	
2-Methylnaphthalene	13.6	13.4	26.8	"	"	"	"	J
Naphthalene	36.6	13.4	26.8	"	"	"	"	
Phenanthrene	271	6.70	13.4	"	"	"	"	
Pyrene	542	6.70	13.4	"	"	"	"	Q-42
Carbazole	46.2	10.1	20.1	"	"	"	"	
Dibenzofuran	17.1	6.70	13.4	"	"	"	"	
4-Chloro-3-methylphenol	ND	67.0	134	"	"	"	"	
2-Chlorophenol	ND	33.6	67.0	"	"	"	"	
2,4-Dichlorophenol	ND	33.6	67.0	"	"	"	"	
2,4-Dimethylphenol	ND	33.6	67.0	"	"	"	"	
2,4-Dinitrophenol	ND	168	336	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	168	336	"	"	"	"	
2-Methylphenol	ND	16.8	33.6	"	"	"	"	
3+4-Methylphenol(s)	ND	16.8	33.6	"	"	"	"	
2-Nitrophenol	ND	67.0	134	"	"	"	"	
4-Nitrophenol	ND	67.0	134	"	"	"	"	
Pentachlorophenol (PCP)	ND	67.0	134	"	"	"	"	
Phenol	ND	13.4	26.8	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	33.6	67.0	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	33.6	67.0	"	"	"	"	
2,4,5-Trichlorophenol	ND	33.6	67.0	"	"	"	"	
2,4,6-Trichlorophenol	ND	33.6	67.0	"	"	"	"	

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Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
 Project Manager: Rob Ede

Reported:  
 05/05/16 22:24

## ANALYTICAL SAMPLE RESULTS

### Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting		Units	Dilution	Date Analyzed	Method	Notes
			Limit	Matrix: Soil					
<b>5237-160401-NDP-EMB003 (A6D0056-10RE1)      Matrix: Soil      Batch: 6040070</b>									
Bis(2-ethylhexyl)phthalate	ND	101	201		ug/kg dry	4	"	EPA 8270D	
Butyl benzyl phthalate	ND	67.0	134		"	"	"	"	
Diethylphthalate	ND	67.0	134		"	"	"	"	
Dimethylphthalate	ND	67.0	134		"	"	"	"	
Di-n-butylphthalate	ND	67.0	134		"	"	"	"	
Di-n-octyl phthalate	ND	67.0	134		"	"	"	"	
N-Nitrosodimethylamine	ND	16.8	33.6		"	"	"	"	
N-Nitroso-di-n-propylamine	ND	16.8	33.6		"	"	"	"	
N-Nitrosodiphenylamine	ND	16.8	33.6		"	"	"	"	
Bis(2-Chloroethoxy) methane	ND	16.8	33.6		"	"	"	"	
Bis(2-Chloroethyl) ether	ND	16.8	33.6		"	"	"	"	
Bis(2-Chloroisopropyl) ether	ND	16.8	33.6		"	"	"	"	
Hexachlorobenzene	ND	6.70	13.4		"	"	"	"	
Hexachlorobutadiene	ND	16.8	33.6		"	"	"	"	
Hexachlorocyclopentadiene	ND	33.6	67.0		"	"	"	"	
Hexachloroethane	ND	16.8	33.6		"	"	"	"	
2-Chloronaphthalene	ND	6.70	13.4		"	"	"	"	
1,2-Dichlorobenzene	ND	16.8	33.6		"	"	"	"	
1,3-Dichlorobenzene	ND	16.8	33.6		"	"	"	"	
1,4-Dichlorobenzene	ND	16.8	33.6		"	"	"	"	
1,2,4-Trichlorobenzene	ND	16.8	33.6		"	"	"	"	
4-Bromophenyl phenyl ether	ND	16.8	33.6		"	"	"	"	
4-Chlorophenyl phenyl ether	ND	16.8	33.6		"	"	"	"	
Aniline	ND	33.6	67.0		"	"	"	"	Q-42
4-Chloroaniline	ND	16.8	33.6		"	"	"	"	
2-Nitroaniline	ND	134	268		"	"	"	"	
3-Nitroaniline	ND	134	268		"	"	"	"	Q-42
4-Nitroaniline	ND	134	268		"	"	"	"	Q-42
Nitrobenzene	ND	67.0	134		"	"	"	"	
2,4-Dinitrotoluene	ND	67.0	134		"	"	"	"	
2,6-Dinitrotoluene	ND	67.0	134		"	"	"	"	
Benzoic acid	ND	841	1680		"	"	"	"	Q-42
<b>Benzyl alcohol</b>	<b>46.0</b>	33.6	67.0		"	"	"	"	J
Isophorone	ND	16.8	33.6		"	"	"	"	
Azobenzene (1,2-DPH)	ND	16.8	33.6		"	"	"	"	

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Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
 Project Manager: Rob Ede

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## ANALYTICAL SAMPLE RESULTS

### Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>5237-160401-NDP-EMB003 (A6D0056-10RE1)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040070</b>			
Bis(2-Ethylhexyl) adipate	ND	168	336	ug/kg dry	4	"	EPA 8270D	
3,3'-Dichlorobenzidine	ND	67.0	134	"	"	"	"	Q-42
1,2-Dinitrobenzene	ND	168	336	"	"	"	"	
1,3-Dinitrobenzene	ND	168	336	"	"	"	"	
1,4-Dinitrobenzene	ND	168	336	"	"	"	"	
Pyridine	ND	33.6	67.0	"	"	"	"	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 71 %</i>		<i>Limits: 37-122 %</i>		"	"	"
<i>2-Fluorobiphenyl (Surr)</i>		<i>81 %</i>		<i>Limits: 44-115 %</i>		"	"	"
<i>Phenol-d6 (Surr)</i>		<i>75 %</i>		<i>Limits: 33-122 %</i>		"	"	"
<i>p-Terphenyl-d14 (Surr)</i>		<i>85 %</i>		<i>Limits: 54-127 %</i>		"	"	"
<i>2-Fluorophenol (Surr)</i>		<i>61 %</i>		<i>Limits: 35-115 %</i>		"	"	"
<i>2,4,6-Tribromophenol (Surr)</i>		<i>110 %</i>		<i>Limits: 39-132 %</i>		"	"	"



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05/05/16 22:24

## ANALYTICAL SAMPLE RESULTS

### Alkylated PAH Homologs by 8270D Modified

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>5237-160401-DC-EMB038 (A6D0056-02)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040070</b>			
C1-Chrysenes/Benz(a)anthracenes	443	66.1	66.1	ug/kg dry	4	04/06/16 11:00	GC/MS Scan	
C1-Fluoranthrenes/Pyrenes	501	66.1	66.1	"	"	"	"	
C1-Fluorenes	ND	149	149	"	"	"	"	R-02
C1-Phenanthrenes/Anthracenes	427	66.1	66.1	"	"	"	"	
C2-Chrysenes/Benz(a)anthracenes	206	66.1	66.1	"	"	"	"	
C2-Fluorenes	ND	66.1	66.1	"	"	"	"	
C2-Naphthalenes	ND	66.1	66.1	"	"	"	"	
C2-Phenanthrenes/Anthracenes	298	66.1	66.1	"	"	"	"	
C3-Chrysenes/Benz(a)anthracenes	145	66.1	66.1	"	"	"	"	
C3-Fluorenes	92.7	66.1	66.1	"	"	"	"	
C3-Naphthalenes	73.7	66.1	66.1	"	"	"	"	
C3-Phenanthrenes/Anthracenes	158	66.1	66.1	"	"	"	"	
C4-Chrysenes/Benz(a)anthracenes	ND	132	132	"	"	"	"	
C4-Naphthalenes	ND	66.1	66.1	"	"	"	"	
C4-Phenanthrenes/Anthracenes	ND	132	132	"	"	"	"	
<i>Surrogate: Acenaphthylene-d8 (Surr)</i>			Recovery: 92 %		Limits: 40-120 %		"	"
<i>Benzo(a)pyrene-d12 (Surr)</i>			89 %		Limits: 40-120 %		"	"
<b>5237-160401-DC-EMB039 (A6D0056-04)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040070</b>			
C1-Chrysenes/Benz(a)anthracenes	145	70.4	70.4	ug/kg dry	4	04/06/16 12:15	GC/MS Scan	
C1-Fluoranthrenes/Pyrenes	171	70.4	70.4	"	"	"	"	
C1-Fluorenes	ND	70.4	70.4	"	"	"	"	
C1-Phenanthrenes/Anthracenes	78.5	70.4	70.4	"	"	"	"	
C2-Chrysenes/Benz(a)anthracenes	ND	70.4	70.4	"	"	"	"	
C2-Fluorenes	ND	70.4	70.4	"	"	"	"	
C2-Naphthalenes	ND	70.4	70.4	"	"	"	"	
C2-Phenanthrenes/Anthracenes	ND	70.4	70.4	"	"	"	"	
C3-Chrysenes/Benz(a)anthracenes	ND	70.4	70.4	"	"	"	"	
C3-Fluorenes	ND	70.4	70.4	"	"	"	"	
C3-Naphthalenes	ND	70.4	70.4	"	"	"	"	
C3-Phenanthrenes/Anthracenes	ND	70.4	70.4	"	"	"	"	
C4-Chrysenes/Benz(a)anthracenes	ND	141	141	"	"	"	"	
C4-Naphthalenes	ND	70.4	70.4	"	"	"	"	

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Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
Project Manager: Rob Ede

Reported:  
05/05/16 22:24

## ANALYTICAL SAMPLE RESULTS

### Alkylated PAH Homologs by 8270D Modified

Analyte	Result	MDL	Reporting		Units	Dilution	Date Analyzed	Method	Notes
			Limit						
<b>5237-160401-DC-EMB039 (A6D0056-04)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040070</b>				
C4-Phenanthrenes/Anthracenes	ND	141	141		ug/kg dry	4	"	GC/MS Scan	
<i>Surrogate: Acenaphthylene-d8 (Surr)</i>		Recovery: 101 %		Limits: 40-120 %		"	"	"	
<i>Benzo(a)pyrene-d12 (Surr)</i>		92 %		Limits: 40-120 %		"	"	"	
<b>5237-160401-DC-EMB046 (A6D0056-06RE1)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040070</b>				
C1-Chrysenes/Benz(a)anthracenes	1160	66.1	66.1		ug/kg dry	4	04/06/16 12:55	GC/MS Scan	
C1-Fluoranthrenes/Pyrenes	1570	66.1	66.1		"	"	"	"	
C1-Fluorenes	281	66.1	66.1		"	"	"	"	
C1-Phenanthrenes/Anthracenes	1360	66.1	66.1		"	"	"	"	
C2-Chrysenes/Benz(a)anthracenes	421	66.1	66.1		"	"	"	"	
C2-Fluorenes	119	66.1	66.1		"	"	"	"	
C2-Naphthalenes	283	66.1	66.1		"	"	"	"	
C2-Phenanthrenes/Anthracenes	625	66.1	66.1		"	"	"	"	
C3-Chrysenes/Benz(a)anthracenes	263	66.1	66.1		"	"	"	"	
C3-Fluorenes	182	66.1	66.1		"	"	"	"	
C3-Naphthalenes	203	66.1	66.1		"	"	"	"	
C3-Phenanthrenes/Anthracenes	268	66.1	66.1		"	"	"	"	
C4-Chrysenes/Benz(a)anthracenes	365	132	132		"	"	"	"	
C4-Naphthalenes	79.0	66.1	66.1		"	"	"	"	
C4-Phenanthrenes/Anthracenes	ND	132	132		"	"	"	"	
<i>Surrogate: Acenaphthylene-d8 (Surr)</i>		Recovery: 94 %		Limits: 40-120 %		"	"	"	
<i>Benzo(a)pyrene-d12 (Surr)</i>		94 %		Limits: 40-120 %		"	"	"	
<b>5237-160401-NDP-EMB002 (A6D0056-08RE1)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040070</b>				
C1-Chrysenes/Benz(a)anthracenes	658	74.5	74.5		ug/kg dry	4	04/06/16 13:33	GC/MS Scan	
C1-Fluoranthrenes/Pyrenes	783	74.5	74.5		"	"	"	"	
C1-Fluorenes	ND	104	104		"	"	"	"	R-02
C1-Phenanthrenes/Anthracenes	344	74.5	74.5		"	"	"	"	
C2-Chrysenes/Benz(a)anthracenes	230	74.5	74.5		"	"	"	"	
C2-Fluorenes	ND	74.5	74.5		"	"	"	"	
C2-Naphthalenes	ND	74.5	74.5		"	"	"	"	
C2-Phenanthrenes/Anthracenes	168	74.5	74.5		"	"	"	"	

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Project Number: 5237-10dc  
Project Manager: Rob Ede

Reported:

05/05/16 22:24

## ANALYTICAL SAMPLE RESULTS

### Alkylated PAH Homologs by 8270D Modified

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>5237-160401-NDP-EMB002 (A6D0056-08RE1)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040070</b>			
<b>C3-Chrysenes/Benz(a)anthracenes</b>	<b>158</b>	74.5	74.5	ug/kg dry	4	"	GC/MS Scan	
C3-Fluorenes	ND	74.5	74.5	"	"	"	"	
C3-Naphthalenes	ND	74.5	74.5	"	"	"	"	
<b>C3-Phenanthrenes/Anthracenes</b>	<b>81.1</b>	74.5	74.5	"	"	"	"	
<b>C4-Chrysenes/Benz(a)anthracenes</b>	<b>232</b>	149	149	"	"	"	"	
C4-Naphthalenes	ND	74.5	74.5	"	"	"	"	
C4-Phenanthrenes/Anthracenes	ND	149	149	"	"	"	"	
<i>Surrogate: Acenaphthylene-d8 (Surr)</i>			Recovery: 93 %		Limits: 40-120 %		"	"
<i>Benzo(a)pyrene-d12 (Surr)</i>			90 %		Limits: 40-120 %		"	"
<b>5237-160401-NDP-EMB003 (A6D0056-10RE1)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040070</b>			
<b>C1-Chrysenes/Benz(a)anthracenes</b>	<b>196</b>	67.1	67.1	ug/kg dry	4	04/06/16 14:11	GC/MS Scan	
<b>C1-Fluoranthrenes/Pyrenes</b>	<b>230</b>	67.1	67.1	"	"	"	"	
C1-Fluorenes	ND	148	148	"	"	"	"	R-02
<b>C1-Phenanthrenes/Anthracenes</b>	<b>139</b>	67.1	67.1	"	"	"	"	
<b>C2-Chrysenes/Benz(a)anthracenes</b>	<b>79.4</b>	67.1	67.1	"	"	"	"	
C2-Fluorenes	ND	67.1	67.1	"	"	"	"	
C2-Naphthalenes	ND	67.1	67.1	"	"	"	"	
<b>C2-Phenanthrenes/Anthracenes</b>	<b>72.5</b>	67.1	67.1	"	"	"	"	
<b>C3-Chrysenes/Benz(a)anthracenes</b>	<b>70.7</b>	67.1	67.1	"	"	"	"	
C3-Fluorenes	ND	67.1	67.1	"	"	"	"	
C3-Naphthalenes	ND	67.1	67.1	"	"	"	"	
C3-Phenanthrenes/Anthracenes	ND	67.1	67.1	"	"	"	"	
C4-Chrysenes/Benz(a)anthracenes	ND	134	134	"	"	"	"	
C4-Naphthalenes	ND	67.1	67.1	"	"	"	"	
C4-Phenanthrenes/Anthracenes	ND	134	134	"	"	"	"	
<i>Surrogate: Acenaphthylene-d8 (Surr)</i>			Recovery: 92 %		Limits: 40-120 %		"	"
<i>Benzo(a)pyrene-d12 (Surr)</i>			89 %		Limits: 40-120 %		"	"

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Project Number: 5237-10dc  
Project Manager: Rob Ede

Reported:  
05/05/16 22:24

## ANALYTICAL SAMPLE RESULTS

### Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>5237-160401-DC-EMB038 (A6D0056-02)</b>		<b>Matrix: Soil</b>						
Batch: 6040293								
Antimony	3.29	0.645	1.29	mg/kg dry	10	04/13/16 22:40	EPA 6020A	
Arsenic	9.87	0.645	1.29	"	"	"	"	
Beryllium	0.761	0.129	0.258	"	"	"	"	
Cadmium	1.30	0.129	0.258	"	"	"	"	
Chromium	25.4	0.645	1.29	"	"	"	"	
Copper	111	0.645	1.29	"	"	"	"	
Iron	47500	32.2	64.5	"	"	"	"	
Lead	208	0.129	0.258	"	"	"	"	
Manganese	878	0.645	1.29	"	"	"	"	
Mercury	0.142	0.0516	0.103	"	"	"	"	
Nickel	27.5	0.645	1.29	"	"	"	"	
Selenium	ND	0.645	1.29	"	"	"	"	
Silver	ND	0.129	0.258	"	"	"	"	
Thallium	0.168	0.129	0.258	"	"	"	"	J
Vanadium	108	0.645	1.29	"	"	"	"	
Zinc	433	2.58	5.16	"	"	"	"	
<b>5237-160401-DC-EMB038 (A6D0056-02RE1)</b>		<b>Matrix: Soil</b>						
Batch: 6040293								
Aluminum	19800	32.2	64.5	mg/kg dry	10	04/14/16 14:03	EPA 6020A	
Barium	191	0.645	1.29	"	"	"	"	
Calcium	4330	64.5	129	"	"	"	"	
Magnesium	4890	32.2	64.5	"	"	"	"	
Potassium	1090	64.5	129	"	"	"	"	
Sodium	162	64.5	129	"	"	"	"	
<b>5237-160401-DC-EMB039 (A6D0056-04)</b>		<b>Matrix: Soil</b>						
Batch: 6040293								
Antimony	ND	0.670	1.34	mg/kg dry	10	04/13/16 22:43	EPA 6020A	
Arsenic	6.91	0.670	1.34	"	"	"	"	
Beryllium	0.737	0.134	0.268	"	"	"	"	
Cadmium	0.295	0.134	0.268	"	"	"	"	
Chromium	18.6	0.670	1.34	"	"	"	"	
Copper	20.4	0.670	1.34	"	"	"	"	
Iron	40500	33.5	67.0	"	"	"	"	
Lead	13.6	0.134	0.268	"	"	"	"	
Manganese	928	0.670	1.34	"	"	"	"	

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434 NW 6th Ave. Suite 203  
Portland, OR 97209

Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
Project Manager: Rob Ede

**Reported:**

05/05/16 22:24

## ANALYTICAL SAMPLE RESULTS

### Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>5237-160401-DC-EMB039 (A6D0056-04)</b>			<b>Matrix: Soil</b>					
Mercury	ND	0.0536	0.107	mg/kg dry	10	"	EPA 6020A	
<b>Nickel</b>	<b>14.1</b>	0.670	1.34	"	"	"	"	
Selenium	ND	0.670	1.34	"	"	"	"	
Silver	ND	0.134	0.268	"	"	"	"	
<b>Thallium</b>	<b>0.188</b>	0.134	0.268	"	"	"	"	J
<b>Vanadium</b>	<b>114</b>	0.670	1.34	"	"	"	"	
<b>Zinc</b>	<b>81.2</b>	2.68	5.36	"	"	"	"	
<b>5237-160401-DC-EMB039 (A6D0056-04RE1)</b>			<b>Matrix: Soil</b>					
Batch: 6040293								
<b>Aluminum</b>	<b>16100</b>	33.5	67.0	mg/kg dry	10	04/14/16 14:06	EPA 6020A	
<b>Barium</b>	<b>163</b>	0.670	1.34	"	"	"	"	
<b>Calcium</b>	<b>3470</b>	67.0	134	"	"	"	"	
<b>Magnesium</b>	<b>4330</b>	33.5	67.0	"	"	"	"	
<b>Potassium</b>	<b>816</b>	67.0	134	"	"	"	"	
<b>Sodium</b>	<b>152</b>	67.0	134	"	"	"	"	
<b>5237-160401-DC-EMB046 (A6D0056-06)</b>			<b>Matrix: Soil</b>					
Batch: 6040293								
Antimony	ND	0.634	1.27	mg/kg dry	10	04/13/16 22:54	EPA 6020A	
<b>Arsenic</b>	<b>0.735</b>	0.634	1.27	"	"	"	"	J
<b>Barium</b>	<b>196</b>	0.634	1.27	"	"	"	"	
<b>Beryllium</b>	<b>0.482</b>	0.127	0.253	"	"	"	"	
<b>Cadmium</b>	<b>0.342</b>	0.127	0.253	"	"	"	"	
<b>Chromium</b>	<b>8.99</b>	0.634	1.27	"	"	"	"	
<b>Copper</b>	<b>15.4</b>	0.634	1.27	"	"	"	"	
<b>Iron</b>	<b>28900</b>	31.7	63.4	"	"	"	"	
<b>Lead</b>	<b>8.86</b>	0.127	0.253	"	"	"	"	
<b>Manganese</b>	<b>1240</b>	0.634	1.27	"	"	"	"	
Mercury	ND	0.0507	0.101	"	"	"	"	
<b>Nickel</b>	<b>9.45</b>	0.634	1.27	"	"	"	"	
Selenium	ND	0.634	1.27	"	"	"	"	
Silver	ND	0.127	0.253	"	"	"	"	
<b>Thallium</b>	<b>0.203</b>	0.127	0.253	"	"	"	"	J
<b>Vanadium</b>	<b>87.8</b>	0.634	1.27	"	"	"	"	
<b>Zinc</b>	<b>72.9</b>	2.53	5.07	"	"	"	"	
<b>5237-160401-DC-EMB046 (A6D0056-06RE1)</b>			<b>Matrix: Soil</b>					

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Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
Project Manager: Rob Ede

Reported:  
05/05/16 22:24

## ANALYTICAL SAMPLE RESULTS

### Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>5237-160401-DC-EMB046 (A6D0056-06RE1)</b>			<b>Matrix: Soil</b>					
Batch: 6040293								
Aluminum	9260	31.7	63.4	mg/kg dry	10	04/14/16 14:09	EPA 6020A	
Calcium	3890	63.4	127	"	"	"	"	
Magnesium	1560	31.7	63.4	"	"	"	"	
Potassium	276	63.4	127	"	"	"	"	
Sodium	96.8	63.4	127	"	"	"	"	J
<b>5237-160401-NDP-EMB002 (A6D0056-08)</b>			<b>Matrix: Soil</b>					
Batch: 6040293								
Antimony	ND	0.720	1.44	mg/kg dry	10	04/13/16 22:57	EPA 6020A	
Arsenic	1.76	0.720	1.44	"	"	"	"	
Barium	111	0.720	1.44	"	"	"	"	
Beryllium	0.461	0.144	0.288	"	"	"	"	
Cadmium	0.288	0.144	0.288	"	"	"	"	
Chromium	17.6	0.720	1.44	"	"	"	"	
Copper	15.9	0.720	1.44	"	"	"	"	
Iron	25000	36.0	72.0	"	"	"	"	
Lead	12.5	0.144	0.288	"	"	"	"	
Manganese	490	0.720	1.44	"	"	"	"	
Mercury	ND	0.0576	0.115	"	"	"	"	
Nickel	10.8	0.720	1.44	"	"	"	"	
Selenium	ND	0.720	1.44	"	"	"	"	
Silver	ND	0.144	0.288	"	"	"	"	
Thallium	ND	0.144	0.288	"	"	"	"	
Vanadium	81.2	0.720	1.44	"	"	"	"	
Zinc	66.4	2.88	5.76	"	"	"	"	
<b>5237-160401-NDP-EMB002 (A6D0056-08RE1)</b>			<b>Matrix: Soil</b>					
Batch: 6040293								
Aluminum	12400	36.0	72.0	mg/kg dry	10	04/14/16 14:12	EPA 6020A	
Calcium	2560	72.0	144	"	"	"	"	
Magnesium	2280	36.0	72.0	"	"	"	"	
Potassium	446	72.0	144	"	"	"	"	
Sodium	136	72.0	144	"	"	"	"	J
<b>5237-160401-NDP-EMB003 (A6D0056-10)</b>			<b>Matrix: Soil</b>					
Batch: 6040293								
Antimony	ND	0.691	1.38	mg/kg dry	10	04/13/16 23:00	EPA 6020A	

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Project Number: 5237-10dc  
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05/05/16 22:24

## ANALYTICAL SAMPLE RESULTS

### Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>5237-160401-NDP-EMB003 (A6D0056-10)</b>			<b>Matrix: Soil</b>					
Arsenic	1.77	0.691	1.38	mg/kg dry	10	"	EPA 6020A	
Barium	112	0.691	1.38	"	"	"	"	
Beryllium	0.483	0.138	0.276	"	"	"	"	
Cadmium	0.318	0.138	0.276	"	"	"	"	
Chromium	15.0	0.691	1.38	"	"	"	"	
Copper	15.1	0.691	1.38	"	"	"	"	
Iron	26800	34.5	69.1	"	"	"	"	
Lead	12.8	0.138	0.276	"	"	"	"	
Manganese	681	0.691	1.38	"	"	"	"	
Mercury	ND	0.0553	0.111	"	"	"	"	
Nickel	10.4	0.691	1.38	"	"	"	"	
Selenium	ND	0.691	1.38	"	"	"	"	
Silver	ND	0.138	0.276	"	"	"	"	
Thallium	ND	0.138	0.276	"	"	"	"	
Vanadium	80.0	0.691	1.38	"	"	"	"	
Zinc	67.4	2.76	5.53	"	"	"	"	
<b>5237-160401-NDP-EMB003 (A6D0056-10RE1)</b>			<b>Matrix: Soil</b>					
Batch: 6040293								
Aluminum	11800	34.5	69.1	mg/kg dry	10	04/14/16 14:15	EPA 6020A	
Calcium	3030	69.1	138	"	"	"	"	
Magnesium	2160	34.5	69.1	"	"	"	"	
Potassium	543	69.1	138	"	"	"	"	
Sodium	93.9	69.1	138	"	"	"	"	J

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## ANALYTICAL SAMPLE RESULTS

### Conventional Chemistry Parameters

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>5237-160401-DC-EMB038 (A6D0056-02)</b>			<b>Matrix: Soil</b>					
Batch: 6040241								
<b>Total Organic Carbon</b>	<b>15000</b>	100	200	mg/kg	1	04/14/16 14:55	SM 5310B MOD	
<b>5237-160401-DC-EMB039 (A6D0056-04)</b>			<b>Matrix: Soil</b>					
Batch: 6040241								
<b>Total Organic Carbon</b>	<b>8800</b>	100	200	mg/kg	1	04/14/16 14:55	SM 5310B MOD	
<b>5237-160401-DC-EMB046 (A6D0056-06)</b>			<b>Matrix: Soil</b>					
Batch: 6040241								
<b>Total Organic Carbon</b>	<b>15000</b>	100	200	mg/kg	1	04/14/16 14:55	SM 5310B MOD	
<b>5237-160401-NDP-EMB002 (A6D0056-08)</b>			<b>Matrix: Soil</b>					
Batch: 6040241								
<b>Total Organic Carbon</b>	<b>14000</b>	100	200	mg/kg	1	04/14/16 14:55	SM 5310B MOD	
<b>5237-160401-NDP-EMB003 (A6D0056-10)</b>			<b>Matrix: Soil</b>					
Batch: 6040241								
<b>Total Organic Carbon</b>	<b>14000</b>	100	200	mg/kg	1	04/14/16 14:55	SM 5310B MOD	



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## ANALYTICAL SAMPLE RESULTS

### Ammonia by UV Digestion/Gas Diffusion/Colorimetric Detection

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>5237-160401-DC-EMB038 (A6D0056-02)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040054</b>			
Ammonia as N	1.09	0.114	0.229	mg/kg dry	1	04/06/16 19:15	SM4500-NH3 Mod	
<b>5237-160401-DC-EMB039 (A6D0056-04)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040054</b>			
Ammonia as N	1.42	0.125	0.249	mg/kg dry	1	04/06/16 19:15	SM4500-NH3 Mod	
<b>5237-160401-DC-EMB046 (A6D0056-06)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040054</b>			
Ammonia as N	2.00	0.117	0.234	mg/kg dry	1	04/06/16 19:15	SM4500-NH3 Mod	
<b>5237-160401-NDP-EMB002 (A6D0056-08)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040054</b>			
Ammonia as N	5.52	0.125	0.251	mg/kg dry	1	04/06/16 19:15	SM4500-NH3 Mod	
<b>5237-160401-NDP-EMB003 (A6D0056-10)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040054</b>			
Ammonia as N	3.74	0.124	0.248	mg/kg dry	1	04/06/16 19:15	SM4500-NH3 Mod	

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## ANALYTICAL SAMPLE RESULTS

### Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>5237-160401-DC-EMB038G (A6D0056-01)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040048</b>			
% Solids	76.3	1.00	1.00	% by Weight	1	04/05/16 08:12	EPA 8000C	A-01
<b>5237-160401-DC-EMB038 (A6D0056-02)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040048</b>			
% Solids	76.3	1.00	1.00	% by Weight	1	04/05/16 08:12	EPA 8000C	
<b>5237-160401-DC-EMB039G (A6D0056-03)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040048</b>			
% Solids	74.6	1.00	1.00	% by Weight	1	04/05/16 08:12	EPA 8000C	A-01
<b>5237-160401-DC-EMB039 (A6D0056-04)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040048</b>			
% Solids	74.6	1.00	1.00	% by Weight	1	04/05/16 08:12	EPA 8000C	
<b>5237-160401-DC-EMB046G (A6D0056-05)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040048</b>			
% Solids	78.4	1.00	1.00	% by Weight	1	04/05/16 08:12	EPA 8000C	A-01
<b>5237-160401-DC-EMB046 (A6D0056-06)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040048</b>			
% Solids	78.4	1.00	1.00	% by Weight	1	04/05/16 08:12	EPA 8000C	
<b>5237-160401-NDP-EMB002G (A6D0056-07)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040048</b>			
% Solids	69.2	1.00	1.00	% by Weight	1	04/05/16 08:12	EPA 8000C	A-01
<b>5237-160401-NDP-EMB002 (A6D0056-08)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040048</b>			
% Solids	69.2	1.00	1.00	% by Weight	1	04/05/16 08:12	EPA 8000C	
<b>5237-160401-NDP-EMB003G (A6D0056-09)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040048</b>			
% Solids	76.0	1.00	1.00	% by Weight	1	04/05/16 08:12	EPA 8000C	A-01
<b>5237-160401-NDP-EMB003 (A6D0056-10)</b>			<b>Matrix: Soil</b>		<b>Batch: 6040048</b>			
% Solids	76.0	1.00	1.00	% by Weight	1	04/05/16 08:12	EPA 8000C	

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Project Number: 5237-10dc  
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05/05/16 22:24

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 6040068 - EPA 3546 (Fuels)</b>						<b>Soil</b>						
<b>Blank (6040068-BLK1)</b>						Prepared: 04/04/16 14:10 Analyzed: 04/04/16 21:18						
<b>NWTPH-Dx</b>												
Diesel	ND	6.25	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	12.5	50.0	"	"	---	---	---	---	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 91 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<b>LCS (6040068-BS1)</b>						Prepared: 04/04/16 14:10 Analyzed: 04/04/16 21:38						
<b>NWTPH-Dx</b>												
Diesel	103	10.0	25.0	mg/kg wet	1	125	---	82	76-115%	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 95 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<b>Duplicate (6040068-DUP1)</b>						Prepared: 04/04/16 14:10 Analyzed: 04/05/16 07:12						
<b>QC Source Sample: 5237-160401-NDP-EMB003 (A6D0056-10)</b>												
<b>NWTPH-Dx</b>												
Diesel	ND	12.6	25.3	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	<b>120</b>	25.3	50.6	"	"	---	62.8	---	---	62	30%	F-03, Q-05
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 83 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						



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05/05/16 22:24

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 6040059 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (6040059-BLK1)</b>						Prepared: 04/04/16 09:30 Analyzed: 04/04/16 13:51						
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	1.67	3.33	mg/kg wet	50	---	---	---	---	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 97 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>88 %</i>		<i>50-150 %</i>		<i>"</i>						
<b>LCS (6040059-BS2)</b>						Prepared: 04/04/16 09:30 Analyzed: 04/04/16 13:26						
NWTPH-Gx (MS)												
Gasoline Range Organics	24.2	2.50	5.00	mg/kg wet	50	25.0	---	97	70-130%	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 95 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>98 %</i>		<i>50-150 %</i>		<i>"</i>						



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## QUALITY CONTROL (QC) SAMPLE RESULTS

### BTEX Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 6040059 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (6040059-BLK1)</b>						Prepared: 04/04/16 09:30 Analyzed: 04/04/16 13:51						
<b>5035/8260B</b>												
Benzene	ND	3.33	6.67	ug/kg wet	50	---	---	---	---	---	---	
Toluene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	8.33	16.7	"	"	---	---	---	---	---	---	
Xylenes, total	ND	25.0	50.0	"	"	---	---	---	---	---	---	
<i>Surr: Dibromofluoromethane (Surr)</i>			<i>Recovery: 96 %</i>		<i>Limits: 70-130 %</i>		<i>Dilution: 1x</i>					
<i>1,4-Difluorobenzene (Surr)</i>			<i>96 %</i>		<i>70-130 %</i>		<i>"</i>					
<i>Toluene-d8 (Surr)</i>			<i>95 %</i>		<i>70-130 %</i>		<i>50x</i>					
<i>4-Bromofluorobenzene (Surr)</i>			<i>100 %</i>		<i>70-130 %</i>		<i>1x</i>					
<b>LCS (6040059-BS1)</b>						Prepared: 04/04/16 09:30 Analyzed: 04/04/16 13:02						
<b>5035/8260B</b>												
Benzene	900	5.00	10.0	ug/kg wet	50	1000	---	90	65-135%	---	---	
Toluene	960	25.0	50.0	"	"	"	---	96	"	---	---	
Ethylbenzene	952	12.5	25.0	"	"	"	---	95	"	---	---	
Xylenes, total	2890	37.5	75.0	"	"	3000	---	96	"	---	---	
<i>Surr: Dibromofluoromethane (Surr)</i>			<i>Recovery: 96 %</i>		<i>Limits: 70-130 %</i>		<i>Dilution: 1x</i>					
<i>1,4-Difluorobenzene (Surr)</i>			<i>96 %</i>		<i>70-130 %</i>		<i>"</i>					
<i>Toluene-d8 (Surr)</i>			<i>96 %</i>		<i>70-130 %</i>		<i>50x</i>					
<i>4-Bromofluorobenzene (Surr)</i>			<i>99 %</i>		<i>70-130 %</i>		<i>1x</i>					
<b>Matrix Spike (6040059-MS1)</b>						Prepared: 04/01/16 16:10 Analyzed: 04/04/16 18:46						
<b>QC Source Sample: 5237-160401-NDP-EMB003G (A6D0056-09)</b>												
<b>5035/8260B</b>												
Benzene	1470	7.69	15.4	ug/kg dry	50	1540	ND	96	65-135%	---	---	
Toluene	1580	38.4	76.9	"	"	"	ND	103	"	---	---	
Ethylbenzene	1580	19.2	38.4	"	"	"	ND	103	"	---	---	
Xylenes, total	4770	57.6	115	"	"	4620	ND	103	"	---	---	
<i>Surr: Dibromofluoromethane (Surr)</i>			<i>Recovery: 101 %</i>		<i>Limits: 70-130 %</i>		<i>Dilution: 1x</i>					
<i>1,4-Difluorobenzene (Surr)</i>			<i>96 %</i>		<i>70-130 %</i>		<i>"</i>					
<i>Toluene-d8 (Surr)</i>			<i>95 %</i>		<i>70-130 %</i>		<i>50x</i>					
<i>4-Bromofluorobenzene (Surr)</i>			<i>98 %</i>		<i>70-130 %</i>		<i>1x</i>					

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Philip Nerenberg, Lab Director

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**Hahn and Associates**

434 NW 6th Ave. Suite 203  
Portland, OR 97209

Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
Project Manager: Rob Ede

Reported:

05/05/16 22:24

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 6040059 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (6040059-BLK1)</b>						Prepared: 04/04/16 09:30 Analyzed: 04/04/16 13:51						
<b>5035/8260B</b>												
Acetone	ND	333	667	ug/kg wet	50	---	---	---	---	---	---	
Benzene	ND	3.33	6.67	"	"	---	---	---	---	---	---	
Bromobenzene	ND	8.33	16.7	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	16.7	33.3	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	33.3	66.7	"	"	---	---	---	---	---	---	
Bromoform	ND	83.3	167	"	"	---	---	---	---	---	---	
Bromomethane	ND	333	333	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	167	333	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	83.3	167	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	8.33	16.7	"	"	---	---	---	---	---	---	
Chloroethane	ND	167	333	"	"	---	---	---	---	---	---	E-03
Chloroform	ND	16.7	33.3	"	"	---	---	---	---	---	---	
Chloromethane	ND	83.3	167	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	83.3	167	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	83.3	167	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	16.7	33.3	"	"	---	---	---	---	---	---	
Dibromomethane	ND	16.7	33.3	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	8.33	16.7	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	8.33	16.7	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	8.33	16.7	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	33.3	66.7	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	8.33	16.7	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	8.33	16.7	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	8.33	16.7	"	"	---	---	---	---	---	---	

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Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
Project Manager: Rob Ede

Reported:

05/05/16 22:24

## QUALITY CONTROL (QC) SAMPLE RESULTS

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Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 6040059 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (6040059-BLK1)</b>						Prepared: 04/04/16 09:30 Analyzed: 04/04/16 13:51						
cis-1,2-Dichloroethene	ND	8.33	16.7	ug/kg wet	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	8.33	16.7	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	8.33	16.7	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	16.7	33.3	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	16.7	33.3	"	"	---	---	---	---	---	---	
1,1-Dichloropropene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	83.3	167	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	8.33	16.7	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	33.3	66.7	"	"	---	---	---	---	---	---	
2-Hexanone	ND	167	333	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	167	333	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	16.7	33.3	"	"	---	---	---	---	---	---	
Methylene chloride	ND	83.3	167	"	"	---	---	---	---	---	---	
Naphthalene	ND	33.3	66.7	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	8.33	16.7	"	"	---	---	---	---	---	---	
Styrene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	8.33	16.7	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	83.3	167	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	8.33	16.7	"	"	---	---	---	---	---	---	
Toluene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	83.3	167	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	83.3	167	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	8.33	16.7	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	8.33	16.7	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	8.33	16.7	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	33.3	66.7	"	"	---	---	---	---	---	---	E-03
1,2,3-Trichloropropane	ND	16.7	33.3	"	"	---	---	---	---	---	---	

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Philip Nerenberg, Lab Director

**Hahn and Associates**

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Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
Project Manager: Rob Ede

Reported:

05/05/16 22:24

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 6040059 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (6040059-BLK1)</b>						Prepared: 04/04/16 09:30 Analyzed: 04/04/16 13:51						
1,2,4-Trimethylbenzene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	8.33	16.7	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
o-Xylene	ND	8.33	16.7	"	"	---	---	---	---	---	---	

Surr: Dibromofluoromethane (Surr)	Recovery: 96 %	Limits: 70-130 %	Dilution: 1x
1,4-Difluorobenzene (Surr)	96 %	70-130 %	"
Toluene-d8 (Surr)	95 %	70-130 %	50x
4-Bromofluorobenzene (Surr)	100 %	70-130 %	1x

<b>LCS (6040059-BS1)</b>						Prepared: 04/04/16 09:30 Analyzed: 04/04/16 13:02						
<b>5035/8260B</b>												
Acetone	2120	500	1000	ug/kg wet	50	2000	---	106	65-135%	---	---	
Benzene	900	5.00	10.0	"	"	1000	---	90	"	---	---	
Bromobenzene	904	12.5	25.0	"	"	"	---	90	"	---	---	
Bromochloromethane	1030	25.0	50.0	"	"	"	---	103	"	---	---	
Bromodichloromethane	984	50.0	100	"	"	"	---	98	"	---	---	
Bromoform	1230	125	250	"	"	"	---	123	"	---	---	Q-41
Bromomethane	1220	500	500	"	"	"	---	122	"	---	---	Q-41
2-Butanone (MEK)	2040	250	500	"	"	2000	---	102	"	---	---	
n-Butylbenzene	828	25.0	50.0	"	"	1000	---	83	"	---	---	
sec-Butylbenzene	894	25.0	50.0	"	"	"	---	89	"	---	---	
tert-Butylbenzene	838	25.0	50.0	"	"	"	---	84	"	---	---	
Carbon tetrachloride	980	125	250	"	"	"	---	98	"	---	---	
Chlorobenzene	976	12.5	25.0	"	"	"	---	98	"	---	---	
Chloroethane	1790	250	500	"	"	"	---	179	"	---	---	E-03
Chloroform	925	25.0	50.0	"	"	"	---	92	"	---	---	
Chloromethane	952	125	250	"	"	"	---	95	"	---	---	
2-Chlorotoluene	884	25.0	50.0	"	"	"	---	88	"	---	---	
4-Chlorotoluene	881	25.0	50.0	"	"	"	---	88	"	---	---	
1,2-Dibromo-3-chloropropane	922	125	250	"	"	"	---	92	"	---	---	Q-41

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Project Number: 5237-10dc  
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Reported:

05/05/16 22:24

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 6040059 - EPA 5035A</b>						<b>Soil</b>						
<b>LCS (6040059-BS1)</b>						Prepared: 04/04/16 09:30 Analyzed: 04/04/16 13:02						
Dibromochloromethane	1190	125	250	ug/kg wet	"	"	---	119	"	---	---	Q-41
1,2-Dibromoethane (EDB)	992	25.0	50.0	"	"	"	---	99	"	---	---	
Dibromomethane	938	25.0	50.0	"	"	"	---	94	"	---	---	
1,2-Dichlorobenzene	974	12.5	25.0	"	"	"	---	97	"	---	---	
1,3-Dichlorobenzene	940	12.5	25.0	"	"	"	---	94	"	---	---	
1,4-Dichlorobenzene	934	12.5	25.0	"	"	"	---	93	"	---	---	
Dichlorodifluoromethane	913	50.0	100	"	"	"	---	91	"	---	---	
1,1-Dichloroethane	940	12.5	25.0	"	"	"	---	94	"	---	---	
1,2-Dichloroethane (EDC)	949	12.5	25.0	"	"	"	---	95	"	---	---	
1,1-Dichloroethene	992	12.5	25.0	"	"	"	---	99	"	---	---	
cis-1,2-Dichloroethene	906	12.5	25.0	"	"	"	---	91	"	---	---	
trans-1,2-Dichloroethene	944	12.5	25.0	"	"	"	---	94	"	---	---	
1,2-Dichloropropane	933	12.5	25.0	"	"	"	---	93	"	---	---	
1,3-Dichloropropane	948	25.0	50.0	"	"	"	---	95	"	---	---	
2,2-Dichloropropane	887	25.0	50.0	"	"	"	---	89	"	---	---	
1,1-Dichloropropene	914	25.0	50.0	"	"	"	---	91	"	---	---	
cis-1,3-Dichloropropene	890	25.0	50.0	"	"	"	---	89	"	---	---	
trans-1,3-Dichloropropene	890	125	250	"	"	"	---	89	"	---	---	
Ethylbenzene	952	12.5	25.0	"	"	"	---	95	"	---	---	
Hexachlorobutadiene	1150	50.0	100	"	"	"	---	115	"	---	---	Q-41
2-Hexanone	1970	250	500	"	"	2000	---	98	"	---	---	
Isopropylbenzene	940	25.0	50.0	"	"	1000	---	94	"	---	---	
4-Isopropyltoluene	916	25.0	50.0	"	"	"	---	92	"	---	---	
4-Methyl-2-pentanone (MiBK)	2030	250	500	"	"	2000	---	101	"	---	---	
Methyl tert-butyl ether (MTBE)	936	25.0	50.0	"	"	1000	---	94	"	---	---	
Methylene chloride	960	125	250	"	"	"	---	96	"	---	---	
Naphthalene	957	50.0	100	"	"	"	---	96	"	---	---	
n-Propylbenzene	830	12.5	25.0	"	"	"	---	83	"	---	---	
Styrene	968	25.0	50.0	"	"	"	---	97	"	---	---	
1,1,1,2-Tetrachloroethane	1120	12.5	25.0	"	"	"	---	112	"	---	---	Q-41

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Project: **Siltronic RI-Doane Creek**  
 Project Number: 5237-10dc  
 Project Manager: Rob Ede

Reported:  
 05/05/16 22:24

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 6040059 - EPA 5035A</b>						<b>Soil</b>						
<b>LCS (6040059-BS1)</b>						Prepared: 04/04/16 09:30 Analyzed: 04/04/16 13:02						
1,1,2,2-Tetrachloroethane	814	125	250	"	"	"	---	81	"	---	---	Q-41
Tetrachloroethene (PCE)	1040	12.5	25.0	"	"	"	---	104	"	---	---	
Toluene	960	25.0	50.0	"	"	"	---	96	"	---	---	
1,2,3-Trichlorobenzene	1010	125	250	"	"	"	---	101	"	---	---	
1,2,4-Trichlorobenzene	940	125	250	"	"	"	---	94	"	---	---	
1,1,1-Trichloroethane	984	12.5	25.0	"	"	"	---	98	"	---	---	
1,1,2-Trichloroethane	1010	12.5	25.0	"	"	"	---	101	"	---	---	
Trichloroethene (TCE)	1050	12.5	25.0	"	"	"	---	105	"	---	---	
Trichlorofluoromethane	1590	50.0	100	"	"	"	---	159	"	---	---	E-03
1,2,3-Trichloropropane	956	25.0	50.0	"	"	"	---	96	"	---	---	
1,2,4-Trimethylbenzene	904	25.0	50.0	"	"	"	---	90	"	---	---	
1,3,5-Trimethylbenzene	888	25.0	50.0	"	"	"	---	89	"	---	---	
Vinyl chloride	1180	12.5	25.0	"	"	"	---	118	"	---	---	Q-41
m,p-Xylene	1950	25.0	50.0	"	"	2000	---	97	"	---	---	
o-Xylene	944	12.5	25.0	"	"	1000	---	94	"	---	---	

Surr: <i>Dibromofluoromethane (Surr)</i>	Recovery: 96 %	Limits: 70-130 %	Dilution: 1x
Surr: <i>1,4-Difluorobenzene (Surr)</i>	96 %	70-130 %	"
Surr: <i>Toluene-d8 (Surr)</i>	96 %	70-130 %	50x
Surr: <i>4-Bromofluorobenzene (Surr)</i>	99 %	70-130 %	1x

**Matrix Spike (6040059-MS1)**

Prepared: 04/01/16 16:10 Analyzed: 04/04/16 18:46

QC Source Sample: 5237-160401-NDP-EMB003G (A6D0056-09)

**5035/8260B**

Acetone	3600	769	1540	ug/kg dry	50	3080	ND	117	65-135%	---	---	
Benzene	1470	7.69	15.4	"	"	1540	ND	96	"	---	---	
Bromobenzene	1480	19.2	38.4	"	"	"	ND	96	"	---	---	
Bromochloromethane	1670	38.4	76.9	"	"	"	ND	108	"	---	---	
Bromodichloromethane	1590	76.9	154	"	"	"	ND	103	"	---	---	
Bromoform	2080	192	384	"	"	"	ND	135	"	---	---	Q-41
Bromomethane	2010	769	769	"	"	"	ND	131	"	---	---	Q-41
2-Butanone (MEK)	3440	384	769	"	"	3080	ND	112	"	---	---	
n-Butylbenzene	1400	38.4	76.9	"	"	1540	ND	91	"	---	---	

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Reported:  
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## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 6040059 - EPA 5035A</b>						<b>Soil</b>						
<b>Matrix Spike (6040059-MS1)</b>						Prepared: 04/01/16 16:10 Analyzed: 04/04/16 18:46						
<b>QC Source Sample: 5237-160401-NDP-EMB003G (A6D0056-09)</b>												
sec-Butylbenzene	1480	38.4	76.9	ug/kg dry	"	"	ND	96	"	---	---	
tert-Butylbenzene	1370	38.4	76.9	"	"	"	ND	89	"	---	---	
Carbon tetrachloride	1680	192	384	"	"	"	ND	109	"	---	---	
Chlorobenzene	1620	19.2	38.4	"	"	"	ND	105	"	---	---	
Chloroethane	3050	384	769	"	"	"	ND	198	"	---	---	E-03
Chloroform	1530	38.4	76.9	"	"	"	ND	99	"	---	---	
Chloromethane	1550	192	384	"	"	"	ND	100	"	---	---	
2-Chlorotoluene	1450	38.4	76.9	"	"	"	ND	94	"	---	---	
4-Chlorotoluene	1450	38.4	76.9	"	"	"	ND	94	"	---	---	
1,2-Dibromo-3-chloropropane	1820	192	384	"	"	"	ND	118	"	---	---	Q-41
Dibromochloromethane	1910	192	384	"	"	"	ND	124	"	---	---	Q-41
1,2-Dibromoethane (EDB)	1600	38.4	76.9	"	"	"	ND	104	"	---	---	
Dibromomethane	1520	38.4	76.9	"	"	"	ND	99	"	---	---	
1,2-Dichlorobenzene	1640	19.2	38.4	"	"	"	ND	106	"	---	---	
1,3-Dichlorobenzene	1560	19.2	38.4	"	"	"	ND	102	"	---	---	
1,4-Dichlorobenzene	1550	19.2	38.4	"	"	"	ND	101	"	---	---	
Dichlorodifluoromethane	1570	76.9	154	"	"	"	ND	102	"	---	---	
1,1-Dichloroethane	1540	19.2	38.4	"	"	"	ND	100	"	---	---	
1,2-Dichloroethane (EDC)	1530	19.2	38.4	"	"	"	ND	99	"	---	---	
1,1-Dichloroethene	1650	19.2	38.4	"	"	"	ND	107	"	---	---	
cis-1,2-Dichloroethene	1480	19.2	38.4	"	"	"	ND	96	"	---	---	
trans-1,2-Dichloroethene	1550	19.2	38.4	"	"	"	ND	101	"	---	---	
1,2-Dichloropropane	1460	19.2	38.4	"	"	"	ND	95	"	---	---	
1,3-Dichloropropane	1530	38.4	76.9	"	"	"	ND	99	"	---	---	
2,2-Dichloropropane	1360	38.4	76.9	"	"	"	ND	88	"	---	---	
1,1-Dichloropropene	1510	38.4	76.9	"	"	"	ND	98	"	---	---	
cis-1,3-Dichloropropene	1410	38.4	76.9	"	"	"	ND	91	"	---	---	
trans-1,3-Dichloropropene	1510	192	384	"	"	"	ND	98	"	---	---	
Ethylbenzene	1580	19.2	38.4	"	"	"	ND	103	"	---	---	

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Philip Nerenberg, Lab Director

**Hahn and Associates**

434 NW 6th Ave. Suite 203  
Portland, OR 97209

Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
Project Manager: Rob Ede

Reported:

05/05/16 22:24

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 6040059 - EPA 5035A</b>						<b>Soil</b>						
<b>Matrix Spike (6040059-MS1)</b>						Prepared: 04/01/16 16:10 Analyzed: 04/04/16 18:46						
<b>QC Source Sample: 5237-160401-NDP-EMB003G (A6D0056-09)</b>												
Hexachlorobutadiene	2060	76.9	154	ug/kg dry	"	"	ND	134	"	---	---	Q-41
2-Hexanone	3170	384	769	"	"	3080	ND	103	"	---	---	
Isopropylbenzene	1570	38.4	76.9	"	"	1540	ND	102	"	---	---	
4-Isopropyltoluene	1550	38.4	76.9	"	"	"	ND	100	"	---	---	
4-Methyl-2-pentanone (MiBK)	3270	384	769	"	"	3080	ND	106	"	---	---	
Methyl tert-butyl ether (MTBE)	1460	38.4	76.9	"	"	1540	ND	95	"	---	---	
Methylene chloride	1590	192	384	"	"	"	ND	103	"	---	---	
Naphthalene	1450	76.9	154	"	"	"	ND	94	"	---	---	
n-Propylbenzene	1370	19.2	38.4	"	"	"	ND	89	"	---	---	
Styrene	1610	38.4	76.9	"	"	"	ND	105	"	---	---	
1,1,1,2-Tetrachloroethane	1870	19.2	38.4	"	"	"	ND	121	"	---	---	Q-41
1,1,2,2-Tetrachloroethane	1820	192	384	"	"	"	ND	118	"	---	---	Q-41
Tetrachloroethene (PCE)	1740	19.2	38.4	"	"	"	ND	113	"	---	---	
Toluene	1580	38.4	76.9	"	"	"	ND	103	"	---	---	
1,2,3-Trichlorobenzene	1590	192	384	"	"	"	ND	103	"	---	---	
1,2,4-Trichlorobenzene	1530	192	384	"	"	"	ND	99	"	---	---	
1,1,1-Trichloroethane	1660	19.2	38.4	"	"	"	ND	108	"	---	---	
1,1,2-Trichloroethane	1630	19.2	38.4	"	"	"	ND	106	"	---	---	
Trichloroethene (TCE)	1540	19.2	38.4	"	"	"	ND	100	"	---	---	
Trichlorofluoromethane	3060	76.9	154	"	"	"	ND	199	"	---	---	E-03
1,2,3-Trichloropropane	1560	38.4	76.9	"	"	"	ND	102	"	---	---	
1,2,4-Trimethylbenzene	1490	38.4	76.9	"	"	"	ND	97	"	---	---	
1,3,5-Trimethylbenzene	1470	38.4	76.9	"	"	"	ND	95	"	---	---	
Vinyl chloride	2130	19.2	38.4	"	"	"	ND	138	"	---	---	Q-41
m,p-Xylene	3220	38.4	76.9	"	"	3080	ND	105	"	---	---	
o-Xylene	1550	19.2	38.4	"	"	1540	ND	101	"	---	---	

Surr: Dibromofluoromethane (Surr)	Recovery: 101 %	Limits: 70-130 %	Dilution: 1x
1,4-Difluorobenzene (Surr)	96 %	70-130 %	"
Toluene-d8 (Surr)	95 %	70-130 %	50x

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Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
Project Manager: Rob Ede

Reported:  
05/05/16 22:24

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 6040059 - EPA 5035A**

**Soil**

Matrix Spike (6040059-MS1)

Prepared: 04/01/16 16:10 Analyzed: 04/04/16 18:46

QC Source Sample: 5237-160401-NDP-EMB003G (A6D0056-09)

Surr: 4-Bromofluorobenzene (Surr)

Recovery: 98 % Limits: 70-130 %

Dilution: 1x

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**Reported:**

05/05/16 22:24

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Anions by EPA 300.0/9056A (Ion Chromatography)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 6040311 - Method Prep: Non-Aq</b>						<b>Soil</b>						
<b>Blank (6040311-BLK1)</b>						Prepared: 04/12/16 12:45 Analyzed: 04/13/16 00:06						
<b>EPA 9056A</b>												
Sulfate	ND	10.0	10.0	mg/kg wet	1	---	---	---	---	---	---	
<b>LCS (6040311-BS1)</b>						Prepared: 04/12/16 12:45 Analyzed: 04/13/16 00:28						
<b>EPA 9056A</b>												
Sulfate	78.6	10.0	10.0	mg/kg wet	1	80.0	---	98	90-110%	---	---	
<b>Duplicate (6040311-DUP2)</b>						Prepared: 04/12/16 12:45 Analyzed: 04/13/16 04:46						
<b>QC Source Sample: 5237-160401-DC-EMB038 (A6D0056-02)</b>												
<b>EPA 9056A</b>												
Sulfate	ND	12.9	12.9	mg/kg dry	1	---	ND	---	---	---	15%	
<b>Matrix Spike (6040311-MS2)</b>						Prepared: 04/12/16 12:45 Analyzed: 04/13/16 05:07						
<b>QC Source Sample: 5237-160401-DC-EMB038 (A6D0056-02)</b>												
<b>EPA 9056A</b>												
Sulfate	103	13.0	13.0	mg/kg dry	1	104	ND	99	80-120%	---	---	





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## QUALITY CONTROL (QC) SAMPLE RESULTS

### Cyanide - Total (Non-aqueous)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 6040257 - Method Prep: Non-Aq</b>						<b>Soil</b>						
<b>Blank (6040257-BLK1)</b>						Prepared: 04/11/16 09:50 Analyzed: 04/11/16 18:37						
EPA 9013M/9014												
Cyanide, Total	ND	0.100	0.100	mg/kg wet	1	---	---	---	---	---	---	
<b>LCS (6040257-BS1)</b>						Prepared: 04/11/16 09:50 Analyzed: 04/11/16 18:39						
EPA 9013M/9014												
Cyanide, Total	4.04	0.100	0.100	mg/kg wet	1	4.00	---	101	85-115%	---	---	
<b>Duplicate (6040257-DUP1)</b>						Prepared: 04/11/16 09:50 Analyzed: 04/11/16 19:05						
QC Source Sample: 5237-160401-DC-EMB038 (A6D0056-02)												
EPA 9013M/9014												
Cyanide, Total	49.0	1.30	1.30	mg/kg dry	10	---	63.0	---	---	25	10%	Q-03
<b>Matrix Spike (6040257-MS1)</b>						Prepared: 04/11/16 09:50 Analyzed: 04/11/16 19:07						
QC Source Sample: 5237-160401-DC-EMB038 (A6D0056-02)												
EPA 9013M/9014												
Cyanide, Total	64.4	1.27	1.27	mg/kg dry	10	5.06	63.0	28	80-120%	---	---	Q-03



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05/05/16 22:24

## 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
<b>Batch 6040070 - EPA 3546</b>						<b>Soil</b>						
<b>Blank (6040070-BLK1)</b>						Prepared: 04/04/16 14:40 Analyzed: 04/05/16 13:29						
<b>EPA 8270D</b>												
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	"	"	---	---	---	---	---	---	

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Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
Project Manager: Rob Ede

Reported:  
05/05/16 22:24

## 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
<b>Batch 6040070 - EPA 3546</b>						<b>Soil</b>						
<b>Blank (6040070-BLK1)</b>						Prepared: 04/04/16 14:40 Analyzed: 04/05/16 13:29						
Pentachlorophenol (PCP)	ND	12.5	25.0	ug/kg wet	"	---	---	---	---	---	---	
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	"	"	---	---	---	---	---	---	
2,4,5-Trichlorophenol	ND	6.25	12.5	"	"	---	---	---	---	---	---	
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	12.5	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	"	"	---	---	---	---	---	---	

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Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
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Reported:  
 05/05/16 22:24

## 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
<b>Batch 6040070 - EPA 3546</b>						<b>Soil</b>						
<b>Blank (6040070-BLK1)</b>						Prepared: 04/04/16 14:40 Analyzed: 04/05/16 13:29						
4-Chlorophenyl phenyl ether	ND	3.12	6.25	ug/kg wet	"	---	---	---	---	---	---	
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	"	"	---	---	---	---	---	---	
Benzyl alcohol	ND	6.25	12.5	"	"	---	---	---	---	---	---	
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	"	"	---	---	---	---	---	---	

Surr: Nitrobenzene-d5 (Surr)	Recovery: 68 %	Limits: 37-122 %	Dilution: 1x
2-Fluorobiphenyl (Surr)	74 %	44-115 %	"
Phenol-d6 (Surr)	67 %	33-122 %	"
p-Terphenyl-d14 (Surr)	84 %	54-127 %	"
2-Fluorophenol (Surr)	62 %	35-115 %	"
2,4,6-Tribromophenol (Surr)	74 %	39-132 %	"

**LCS (6040070-BS1)**

Prepared: 04/04/16 14:40 Analyzed: 04/05/16 14:06

<b>EPA 8270D</b>												
Acenaphthene	460	1.33	2.67	ug/kg wet	1	533	---	86	40-122%	---	---	
Acenaphthylene	434	1.33	2.67	"	"	"	---	81	32-132%	---	---	
Anthracene	468	1.33	2.67	"	"	"	---	88	47-123%	---	---	
Benz(a)anthracene	502	1.33	2.67	"	"	"	---	94	49-126%	---	---	

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## 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
<b>Batch 6040070 - EPA 3546</b>						<b>Soil</b>						
<b>LCS (6040070-BS1)</b>						Prepared: 04/04/16 14:40 Analyzed: 04/05/16 14:06						
Benzo(a)pyrene	492	2.00	4.00	ug/kg wet	"	"	---	92	45-129%	---	---	
Benzo(b)fluoranthene	534	2.00	4.00	"	"	"	---	100	45-132%	---	---	
Benzo(k)fluoranthene	492	2.00	4.00	"	"	"	---	92	47-132%	---	---	
Benzo(g,h,i)perylene	506	1.33	2.67	"	"	"	---	95	43-134%	---	---	
Chrysene	517	1.33	2.67	"	"	"	---	97	50-124%	---	---	
Dibenz(a,h)anthracene	491	1.33	2.67	"	"	"	---	92	45-134%	---	---	
Fluoranthene	511	1.33	2.67	"	"	"	---	96	50-127%	---	---	
Fluorene	467	1.33	2.67	"	"	"	---	88	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	476	1.33	2.67	"	"	"	---	89	45-133%	---	---	
1-Methylnaphthalene	455	2.67	5.33	"	"	"	---	85	40-120%	---	---	
2-Methylnaphthalene	456	2.67	5.33	"	"	"	---	85	38-122%	---	---	
Naphthalene	426	2.67	5.33	"	"	"	---	80	35-123%	---	---	
Phenanthrene	446	1.33	2.67	"	"	"	---	84	50-121%	---	---	
Pyrene	491	1.33	2.67	"	"	"	---	92	47-127%	---	---	
Carbazole	484	2.00	4.00	"	"	"	---	91	50-122%	---	---	
Dibenzofuran	465	1.33	2.67	"	"	"	---	87	44-120%	---	---	
4-Chloro-3-methylphenol	538	13.3	26.7	"	"	"	---	101	45-122%	---	---	
2-Chlorophenol	467	6.67	13.3	"	"	"	---	88	34-121%	---	---	
2,4-Dichlorophenol	532	6.67	13.3	"	"	"	---	100	40-122%	---	---	
2,4-Dimethylphenol	543	6.67	13.3	"	"	"	---	102	30-127%	---	---	
2,4-Dinitrophenol	455	33.3	66.7	"	"	"	---	85	5-137%	---	---	
4,6-Dinitro-2-methylphenol	480	33.3	66.7	"	"	"	---	90	29-132%	---	---	
2-Methylphenol	489	3.33	6.67	"	"	"	---	92	32-122%	---	---	
3+4-Methylphenol(s)	508	3.33	6.67	"	"	"	---	95	34-120%	---	---	
2-Nitrophenol	498	13.3	26.7	"	"	"	---	93	36-123%	---	---	
4-Nitrophenol	490	13.3	26.7	"	"	"	---	92	30-132%	---	---	
Pentachlorophenol (PCP)	539	13.3	26.7	"	"	"	---	101	25-133%	---	---	
Phenol	471	2.67	5.33	"	"	"	---	88	34-120%	---	---	
2,3,4,6-Tetrachlorophenol	531	6.67	13.3	"	"	"	---	99	44-125%	---	---	
2,3,5,6-Tetrachlorophenol	525	6.67	13.3	"	"	"	---	98	40-120%	---	---	
2,4,5-Trichlorophenol	510	6.67	13.3	"	"	"	---	96	41-124%	---	---	

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Philip Nerenberg, Lab Director

**Hahn and Associates**

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 Portland, OR 97209

Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
 Project Manager: Rob Ede

Reported:

05/05/16 22:24

## 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
<b>Batch 6040070 - EPA 3546</b>						<b>Soil</b>						
<b>LCS (6040070-BS1)</b>						Prepared: 04/04/16 14:40 Analyzed: 04/05/16 14:06						
2,4,6-Trichlorophenol	506	6.67	13.3	ug/kg wet	"	"	---	95	39-126%	---	---	
Bis(2-ethylhexyl)phthalate	529	20.0	40.0	"	"	"	---	99	51-133%	---	---	
Butyl benzyl phthalate	545	13.3	26.7	"	"	"	---	102	48-132%	---	---	
Diethylphthalate	475	13.3	26.7	"	"	"	---	89	50-124%	---	---	
Dimethylphthalate	478	13.3	26.7	"	"	"	---	90	48-124%	---	---	
Di-n-butylphthalate	494	13.3	26.7	"	"	"	---	93	51-128%	---	---	
Di-n-octyl phthalate	512	13.3	26.7	"	"	"	---	96	44-140%	---	---	
N-Nitrosodimethylamine	449	3.33	6.67	"	"	"	---	84	23-120%	---	---	
N-Nitroso-di-n-propylamine	462	3.33	6.67	"	"	"	---	87	36-120%	---	---	
N-Nitrosodiphenylamine	497	3.33	6.67	"	"	"	---	93	38-127%	---	---	
Bis(2-Chloroethoxy) methane	458	3.33	6.67	"	"	"	---	86	36-121%	---	---	
Bis(2-Chloroethyl) ether	404	3.33	6.67	"	"	"	---	76	31-120%	---	---	
Bis(2-Chloroisopropyl) ether	373	3.33	6.67	"	"	"	---	70	33-131%	---	---	
Hexachlorobenzene	475	1.33	2.67	"	"	"	---	89	44-122%	---	---	
Hexachlorobutadiene	461	3.33	6.67	"	"	"	---	87	32-123%	---	---	
Hexachlorocyclopentadiene	435	13.3	13.3	"	"	"	---	82	5-140%	---	---	Q-31
Hexachloroethane	441	3.33	6.67	"	"	"	---	83	28-120%	---	---	
2-Chloronaphthalene	441	1.33	2.67	"	"	"	---	83	41-120%	---	---	
1,2-Dichlorobenzene	412	3.33	6.67	"	"	"	---	77	33-120%	---	---	
1,3-Dichlorobenzene	402	3.33	6.67	"	"	"	---	75	30-120%	---	---	
1,4-Dichlorobenzene	411	3.33	6.67	"	"	"	---	77	31-120%	---	---	
1,2,4-Trichlorobenzene	444	3.33	6.67	"	"	"	---	83	34-120%	---	---	
4-Bromophenyl phenyl ether	509	3.33	6.67	"	"	"	---	95	46-124%	---	---	
4-Chlorophenyl phenyl ether	495	3.33	6.67	"	"	"	---	93	45-121%	---	---	
Aniline	432	6.67	13.3	"	"	"	---	81	7-120%	---	---	
4-Chloroaniline	301	3.33	6.67	"	"	"	---	56	16-120%	---	---	
2-Nitroaniline	509	26.7	53.3	"	"	"	---	95	44-127%	---	---	
3-Nitroaniline	429	26.7	53.3	"	"	"	---	81	33-120%	---	---	

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Project Number: 5237-10dc  
Project Manager: Rob Ede

Reported:

05/05/16 22:24

## 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
<b>Batch 6040070 - EPA 3546</b>						<b>Soil</b>						
<b>LCS (6040070-BS1)</b>						Prepared: 04/04/16 14:40 Analyzed: 04/05/16 14:06						
4-Nitroaniline	494	26.7	53.3	ug/kg wet	"	"	---	93	35-120%	---	---	
Nitrobenzene	421	13.3	26.7	"	"	"	---	79	34-122%	---	---	
2,4-Dinitrotoluene	533	13.3	26.7	"	"	"	---	100	48-126%	---	---	
2,6-Dinitrotoluene	496	13.3	26.7	"	"	"	---	93	46-124%	---	---	
Benzoic acid	586	167	333	"	"	1070	---	55	5-140%	---	---	
Benzyl alcohol	500	6.67	13.3	"	"	533	---	94	29-122%	---	---	
Isophorone	485	3.33	6.67	"	"	"	---	91	30-122%	---	---	
Azobenzene (1,2-DPH)	426	3.33	6.67	"	"	"	---	80	39-125%	---	---	
Bis(2-Ethylhexyl) adipate	525	33.3	66.7	"	"	"	---	98	60-121%	---	---	
3,3'-Dichlorobenzidine	1480	13.3	26.7	"	"	1070	---	139	22-121%	---	---	Q-29
1,2-Dinitrobenzene	519	33.3	66.7	"	"	533	---	97	44-120%	---	---	
1,3-Dinitrobenzene	516	33.3	66.7	"	"	"	---	97	42-127%	---	---	
1,4-Dinitrobenzene	518	33.3	66.7	"	"	"	---	97	37-132%	---	---	
Pyridine	388	6.67	13.3	"	"	"	---	73	5-120%	---	---	

Surr: Nitrobenzene-d5 (Surr)	Recovery: 72 %	Limits: 37-122 %	Dilution: 1x
2-Fluorobiphenyl (Surr)	78 %	44-115 %	"
Phenol-d6 (Surr)	85 %	33-122 %	"
p-Terphenyl-d14 (Surr)	92 %	54-127 %	"
2-Fluorophenol (Surr)	80 %	35-115 %	"
2,4,6-Tribromophenol (Surr)	85 %	39-132 %	"

**Duplicate (6040070-DUP1)**

Prepared: 04/04/16 14:40 Analyzed: 04/06/16 11:38

**QC Source Sample: 5237-160401-DC-EMB038 (A6D0056-02)**

**EPA 8270D**

Acenaphthene	76.4	6.60	13.2	ug/kg dry	4	---	72.3	---	---	6	30%	
Acenaphthylene	76.0	6.60	13.2	"	"	---	61.1	---	---	22	30%	
Anthracene	126	6.60	13.2	"	"	---	124	---	---	1	30%	
Benz(a)anthracene	706	6.60	13.2	"	"	---	597	---	---	17	30%	
Benzo(a)pyrene	987	9.92	19.8	"	"	---	817	---	---	19	30%	
Benzo(b)fluoranthene	1310	9.92	19.8	"	"	---	1050	---	---	23	30%	M-02
Benzo(k)fluoranthene	452	9.92	19.8	"	"	---	372	---	---	19	30%	M-02
Benzo(g,h,i)perylene	1010	6.60	13.2	"	"	---	762	---	---	28	30%	

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Reported:  
 05/05/16 22:24

## 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
<b>Batch 6040070 - EPA 3546</b>						<b>Soil</b>						
<b>Duplicate (6040070-DUP1)</b>						Prepared: 04/04/16 14:40 Analyzed: 04/06/16 11:38						
<b>QC Source Sample: 5237-160401-DC-EMB038 (A6D0056-02)</b>												
Chrysene	963	6.60	13.2	ug/kg dry	"	---	791	---	---	20	30%	
Dibenz(a,h)anthracene	165	6.60	13.2	"	"	---	118	---	---	33	30%	Q-17
Fluoranthene	1220	6.60	13.2	"	"	---	1180	---	---	3	30%	
Fluorene	34.4	6.60	13.2	"	"	---	41.9	---	---	20	30%	
Indeno(1,2,3-cd)pyrene	825	6.60	13.2	"	"	---	649	---	---	24	30%	
1-Methylnaphthalene	14.7	13.2	26.4	"	"	---	18.1	---	---	21	30%	J
2-Methylnaphthalene	33.9	13.2	26.4	"	"	---	35.6	---	---	5	30%	
Naphthalene	117	13.2	26.4	"	"	---	105	---	---	10	30%	
Phenanthrene	612	6.60	13.2	"	"	---	649	---	---	6	30%	
Pyrene	1430	6.60	13.2	"	"	---	1410	---	---	1	30%	
Carbazole	81.8	9.92	19.8	"	"	---	62.2	---	---	27	30%	
Dibenzofuran	19.4	6.60	13.2	"	"	---	18.3	---	---	5	30%	
4-Chloro-3-methylphenol	ND	66.0	132	"	"	---	ND	---	---	---	30%	
2-Chlorophenol	ND	33.1	66.0	"	"	---	ND	---	---	---	30%	
2,4-Dichlorophenol	ND	33.1	66.0	"	"	---	ND	---	---	---	30%	
2,4-Dimethylphenol	ND	33.1	66.0	"	"	---	ND	---	---	---	30%	
2,4-Dinitrophenol	ND	165	331	"	"	---	ND	---	---	---	30%	
4,6-Dinitro-2-methylphenol	ND	165	331	"	"	---	ND	---	---	---	30%	
2-Methylphenol	ND	16.5	33.1	"	"	---	ND	---	---	---	30%	
3+4-Methylphenol(s)	ND	16.5	33.1	"	"	---	ND	---	---	---	30%	
2-Nitrophenol	ND	66.0	132	"	"	---	ND	---	---	---	30%	
4-Nitrophenol	ND	66.0	132	"	"	---	ND	---	---	---	30%	
Pentachlorophenol (PCP)	ND	66.0	132	"	"	---	ND	---	---	---	30%	
Phenol	ND	13.2	26.4	"	"	---	ND	---	---	---	30%	
2,3,4,6-Tetrachlorophenol	ND	33.1	66.0	"	"	---	ND	---	---	---	30%	
2,3,5,6-Tetrachlorophenol	ND	33.1	66.0	"	"	---	ND	---	---	---	30%	
2,4,5-Trichlorophenol	ND	33.1	66.0	"	"	---	ND	---	---	---	30%	
2,4,6-Trichlorophenol	ND	33.1	66.0	"	"	---	ND	---	---	---	30%	
Bis(2-ethylhexyl)phthalate	ND	99.2	198	"	"	---	ND	---	---	---	30%	
Butyl benzyl phthalate	ND	66.0	132	"	"	---	ND	---	---	---	30%	

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Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
Project Manager: Rob Ede

Reported:

05/05/16 22:24

## 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
<b>Batch 6040070 - EPA 3546</b>						<b>Soil</b>						
<b>Duplicate (6040070-DUP1)</b>						Prepared: 04/04/16 14:40 Analyzed: 04/06/16 11:38						
<b>QC Source Sample: 5237-160401-DC-EMB038 (A6D0056-02)</b>												
Diethylphthalate	ND	66.0	132	ug/kg dry	"	---	ND	---	---	---	30%	
Dimethylphthalate	ND	66.0	132	"	"	---	ND	---	---	---	30%	
Di-n-butylphthalate	ND	66.0	132	"	"	---	91.1	---	---	***	30%	
Di-n-octyl phthalate	ND	66.0	132	"	"	---	ND	---	---	---	30%	
N-Nitrosodimethylamine	ND	16.5	33.1	"	"	---	ND	---	---	---	30%	
N-Nitroso-di-n-propylamine	ND	16.5	33.1	"	"	---	ND	---	---	---	30%	
N-Nitrosodiphenylamine	ND	16.5	33.1	"	"	---	ND	---	---	---	30%	
Bis(2-Chloroethoxy) methane	ND	16.5	33.1	"	"	---	ND	---	---	---	30%	
Bis(2-Chloroethyl) ether	ND	16.5	33.1	"	"	---	ND	---	---	---	30%	
Bis(2-Chloroisopropyl) ether	ND	16.5	33.1	"	"	---	ND	---	---	---	30%	
Hexachlorobenzene	ND	6.60	13.2	"	"	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	16.5	33.1	"	"	---	ND	---	---	---	30%	
Hexachlorocyclopentadiene	ND	33.1	66.0	"	"	---	ND	---	---	---	30%	
Hexachloroethane	ND	16.5	33.1	"	"	---	ND	---	---	---	30%	
2-Chloronaphthalene	ND	6.60	13.2	"	"	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	16.5	33.1	"	"	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	16.5	33.1	"	"	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	16.5	33.1	"	"	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	16.5	33.1	"	"	---	ND	---	---	---	30%	
4-Bromophenyl phenyl ether	ND	16.5	33.1	"	"	---	ND	---	---	---	30%	
4-Chlorophenyl phenyl ether	ND	16.5	33.1	"	"	---	ND	---	---	---	30%	
Aniline	ND	33.1	66.0	"	"	---	ND	---	---	---	30%	
4-Chloroaniline	ND	16.5	33.1	"	"	---	ND	---	---	---	30%	
2-Nitroaniline	ND	132	264	"	"	---	ND	---	---	---	30%	
3-Nitroaniline	ND	132	264	"	"	---	ND	---	---	---	30%	
4-Nitroaniline	ND	132	264	"	"	---	ND	---	---	---	30%	
Nitrobenzene	ND	66.0	132	"	"	---	ND	---	---	---	30%	

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## 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
<b>Batch 6040070 - EPA 3546</b>						<b>Soil</b>						
<b>Duplicate (6040070-DUP1)</b>						Prepared: 04/04/16 14:40 Analyzed: 04/06/16 11:38						
<b>QC Source Sample: 5237-160401-DC-EMB038 (A6D0056-02)</b>												
2,4-Dinitrotoluene	ND	66.0	132	ug/kg dry	"	---	ND	---	---	---	30%	
2,6-Dinitrotoluene	ND	66.0	132	"	"	---	ND	---	---	---	30%	
Benzoic acid	ND	828	1650	"	"	---	ND	---	---	---	30%	
Benzyl alcohol	ND	33.1	66.0	"	"	---	ND	---	---	---	30%	
Isophorone	ND	16.5	33.1	"	"	---	ND	---	---	---	30%	
Azobenzene (1,2-DPH)	ND	16.5	33.1	"	"	---	ND	---	---	---	30%	
Bis(2-Ethylhexyl) adipate	ND	165	331	"	"	---	ND	---	---	---	30%	
3,3'-Dichlorobenzidine	ND	66.0	132	"	"	---	ND	---	---	---	30%	
1,2-Dinitrobenzene	ND	165	331	"	"	---	ND	---	---	---	30%	
1,3-Dinitrobenzene	ND	165	331	"	"	---	ND	---	---	---	30%	
1,4-Dinitrobenzene	ND	165	331	"	"	---	ND	---	---	---	30%	
Pyridine	ND	33.1	66.0	"	"	---	ND	---	---	---	30%	

Surr: Nitrobenzene-d5 (Surr)	Recovery: 86 %	Limits: 37-122 %	Dilution: 4x
2-Fluorobiphenyl (Surr)	94 %	44-115 %	"
Phenol-d6 (Surr)	84 %	33-122 %	"
p-Terphenyl-d14 (Surr)	92 %	54-127 %	"
2-Fluorophenol (Surr)	80 %	35-115 %	"
2,4,6-Tribromophenol (Surr)	105 %	39-132 %	"

**Matrix Spike (6040070-MS1)**

Prepared: 04/04/16 14:40 Analyzed: 04/06/16 14:49

**QC Source Sample: 5237-160401-NDP-EMB003 (A6D0056-10RE1)**

<b>EPA 8270D</b>												
Acenaphthene	717	6.71	13.5	ug/kg dry	4	673	42.6	100	40-122%	---	---	
Acenaphthylene	665	6.71	13.5	"	"	"	18.7	96	32-132%	---	---	
Anthracene	784	6.71	13.5	"	"	"	62.6	107	47-123%	---	---	
Benz(a)anthracene	1240	6.71	13.5	"	"	"	331	135	49-126%	---	---	Q-04
Benzo(a)pyrene	1490	10.1	20.2	"	"	"	459	153	45-129%	---	---	Q-04
Benzo(b)fluoranthene	1800	10.1	20.2	"	"	"	613	177	45-132%	---	---	Q-04
Benzo(k)fluoranthene	1080	10.1	20.2	"	"	"	211	129	47-132%	---	---	
Benzo(g,h,i)perylene	1400	6.71	13.5	"	"	"	383	151	43-134%	---	---	Q-04
Chrysene	1370	6.71	13.5	"	"	"	400	144	50-124%	---	---	Q-04

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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
<b>Batch 6040070 - EPA 3546</b>						<b>Soil</b>						
<b>Matrix Spike (6040070-MS1)</b>						Prepared: 04/04/16 14:40 Analyzed: 04/06/16 14:49						
<b>QC Source Sample: 5237-160401-NDP-EMB003 (A6D0056-10RE1)</b>												
Dibenz(a,h)anthracene	803	6.71	13.5	ug/kg dry	"	"	73.4	108	45-134%	---	---	
Fluoranthene	1570	6.71	13.5	"	"	"	530	155	50-127%	---	---	Q-04
Fluorene	718	6.71	13.5	"	"	"	30.9	102	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	1270	6.71	13.5	"	"	"	347	137	45-133%	---	---	Q-04
1-Methylnaphthalene	655	13.5	26.9	"	"	"	ND	97	40-120%	---	---	
2-Methylnaphthalene	671	13.5	26.9	"	"	"	13.6	98	38-122%	---	---	
Naphthalene	649	13.5	26.9	"	"	"	36.6	91	35-123%	---	---	
Phenanthrene	1080	6.71	13.5	"	"	"	271	120	50-121%	---	---	
Pyrene	1590	6.71	13.5	"	"	"	542	155	47-127%	---	---	Q-04
Carbazole	734	10.1	20.2	"	"	"	46.2	102	50-122%	---	---	
Dibenzofuran	692	6.71	13.5	"	"	"	17.1	100	44-120%	---	---	
4-Chloro-3-methylphenol	705	67.1	135	"	"	"	ND	105	45-122%	---	---	
2-Chlorophenol	628	33.7	67.1	"	"	"	ND	93	34-121%	---	---	
2,4-Dichlorophenol	721	33.7	67.1	"	"	"	ND	107	40-122%	---	---	
2,4-Dimethylphenol	723	33.7	67.1	"	"	"	ND	107	30-127%	---	---	
2,4-Dinitrophenol	714	168	337	"	"	"	ND	106	5-137%	---	---	
4,6-Dinitro-2-methylphenol	698	168	337	"	"	"	ND	104	29-132%	---	---	
2-Methylphenol	652	16.8	33.7	"	"	"	ND	97	32-122%	---	---	
3+4-Methylphenol(s)	693	16.8	33.7	"	"	"	ND	103	34-120%	---	---	
2-Nitrophenol	664	67.1	135	"	"	"	ND	99	36-123%	---	---	
4-Nitrophenol	675	67.1	135	"	"	"	ND	100	30-132%	---	---	
Pentachlorophenol (PCP)	859	67.1	135	"	"	"	ND	128	25-133%	---	---	
Phenol	563	13.5	26.9	"	"	"	ND	84	34-120%	---	---	
2,3,4,6-Tetrachlorophenol	808	33.7	67.1	"	"	"	ND	120	44-125%	---	---	
2,3,5,6-Tetrachlorophenol	775	33.7	67.1	"	"	"	ND	115	40-120%	---	---	
2,4,5-Trichlorophenol	706	33.7	67.1	"	"	"	ND	105	41-124%	---	---	
2,4,6-Trichlorophenol	745	33.7	67.1	"	"	"	ND	111	39-126%	---	---	
Bis(2-ethylhexyl)phthalate	754	101	202	"	"	"	ND	112	51-133%	---	---	
Butyl benzyl phthalate	687	67.1	135	"	"	"	ND	102	48-132%	---	---	
Diethylphthalate	705	67.1	135	"	"	"	ND	105	50-124%	---	---	

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Philip Nerenberg, Lab Director

**Hahn and Associates**

434 NW 6th Ave. Suite 203  
 Portland, OR 97209

Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
 Project Manager: Rob Ede

Reported:  
 05/05/16 22:24

## 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
<b>Batch 6040070 - EPA 3546</b>						<b>Soil</b>						
<b>Matrix Spike (6040070-MS1)</b>						Prepared: 04/04/16 14:40 Analyzed: 04/06/16 14:49						
<b>QC Source Sample: 5237-160401-NDP-EMB003 (A6D0056-10RE1)</b>												
Dimethylphthalate	665	67.1	135	ug/kg dry	"	"	ND	99	48-124%	---	---	
Di-n-butylphthalate	743	67.1	135	"	"	"	ND	110	51-128%	---	---	
Di-n-octyl phthalate	727	67.1	135	"	"	"	ND	108	44-140%	---	---	
N-Nitrosodimethylamine	438	16.8	33.7	"	"	"	ND	65	23-120%	---	---	
N-Nitroso-di-n-propylamine	627	16.8	33.7	"	"	"	ND	93	36-120%	---	---	
N-Nitrosodiphenylamine	611	16.8	33.7	"	"	"	ND	91	38-127%	---	---	
Bis(2-Chloroethoxy) methane	609	16.8	33.7	"	"	"	ND	90	36-121%	---	---	
Bis(2-Chloroethyl) ether	515	16.8	33.7	"	"	"	ND	77	31-120%	---	---	
Bis(2-Chloroisopropyl) ether	530	16.8	33.7	"	"	"	ND	79	33-131%	---	---	
Hexachlorobenzene	657	6.71	13.5	"	"	"	ND	98	44-122%	---	---	
Hexachlorobutadiene	599	16.8	33.7	"	"	"	ND	89	32-123%	---	---	
Hexachlorocyclopentadiene	389	33.7	67.1	"	"	"	ND	58	5-140%	---	---	Q-31
Hexachloroethane	454	16.8	33.7	"	"	"	ND	67	28-120%	---	---	
2-Chloronaphthalene	627	6.71	13.5	"	"	"	ND	93	41-120%	---	---	
1,2-Dichlorobenzene	500	16.8	33.7	"	"	"	ND	74	33-120%	---	---	
1,3-Dichlorobenzene	482	16.8	33.7	"	"	"	ND	72	30-120%	---	---	
1,4-Dichlorobenzene	477	16.8	33.7	"	"	"	ND	71	31-120%	---	---	
1,2,4-Trichlorobenzene	580	16.8	33.7	"	"	"	ND	86	34-120%	---	---	
4-Bromophenyl phenyl ether	679	16.8	33.7	"	"	"	ND	101	46-124%	---	---	
4-Chlorophenyl phenyl ether	642	16.8	33.7	"	"	"	ND	95	45-121%	---	---	
Aniline	21.0	15.1	67.1	"	"	"	ND	3	7-120%	---	---	Q-01, J
4-Chloroaniline	246	16.8	33.7	"	"	"	ND	37	16-120%	---	---	
2-Nitroaniline	566	135	269	"	"	"	ND	84	44-127%	---	---	
3-Nitroaniline	48.1	25.2	269	"	"	"	ND	7	33-120%	---	---	Q-01, J
4-Nitroaniline	125	50.5	269	"	"	"	ND	19	35-120%	---	---	Q-01, J
Nitrobenzene	570	67.1	135	"	"	"	ND	85	34-122%	---	---	
2,4-Dinitrotoluene	658	67.1	135	"	"	"	ND	98	48-126%	---	---	

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Project Number: 5237-10dc  
 Project Manager: Rob Ede

**Reported:**

05/05/16 22:24

## 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
<b>Batch 6040070 - EPA 3546</b>						<b>Soil</b>						
<b>Matrix Spike (6040070-MS1)</b>						Prepared: 04/04/16 14:40 Analyzed: 04/06/16 14:49						
<b>QC Source Sample: 5237-160401-NDP-EMB003 (A6D0056-10RE1)</b>												
2,6-Dinitrotoluene	671	67.1	135	ug/kg dry	"	"	ND	100	46-124%	---	---	
Benzoic acid	2300	843	1680	"	"	1350	ND	171	5-140%	---	---	Q-01
Benzyl alcohol	695	33.7	67.1	"	"	673	46.0	96	29-122%	---	---	
Isophorone	669	16.8	33.7	"	"	"	ND	99	30-122%	---	---	
Azobenzene (1,2-DPH)	689	16.8	33.7	"	"	"	ND	102	39-125%	---	---	
Bis(2-Ethylhexyl) adipate	733	168	337	"	"	"	ND	109	60-121%	---	---	
3,3'-Dichlorobenzidine	ND	67.1	135	"	"	1350	ND		22-121%	---	---	Q-01
1,2-Dinitrobenzene	642	168	337	"	"	673	ND	95	44-120%	---	---	
1,3-Dinitrobenzene	663	168	337	"	"	"	ND	98	42-127%	---	---	
1,4-Dinitrobenzene	607	168	337	"	"	"	ND	90	37-132%	---	---	
Pyridine	372	33.7	67.1	"	"	"	ND	55	5-120%	---	---	

Surr: Nitrobenzene-d5 (Surr)	Recovery: 79 %	Limits: 37-122 %	Dilution: 4x
2-Fluorobiphenyl (Surr)	87 %	44-115 %	"
Phenol-d6 (Surr)	85 %	33-122 %	"
p-Terphenyl-d14 (Surr)	89 %	54-127 %	"
2-Fluorophenol (Surr)	75 %	35-115 %	"
2,4,6-Tribromophenol (Surr)	108 %	39-132 %	"



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## QUALITY CONTROL (QC) SAMPLE RESULTS

### Alkylated PAH Homologs by 8270D Modified

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 6040070 - EPA 3546</b>						<b>Soil</b>						
<b>Blank (6040070-BLK1)</b>						Prepared: 04/04/16 14:40 Analyzed: 04/05/16 13:29						
<b>GC/MS Scan</b>												
C1-Chrysenes/Benz(a)anthracenes	ND	12.5	12.5	ug/kg wet	1	---	---	---	---	---	---	
C1-Fluoranthrenes/Pyrenes	ND	12.5	12.5	"	"	---	---	---	---	---	---	
C1-Fluorenes	ND	12.5	12.5	"	"	---	---	---	---	---	---	
C1-Phenanthrenes/Anthracenes	ND	12.5	12.5	"	"	---	---	---	---	---	---	
C2-Chrysenes/Benz(a)anthracenes	ND	12.5	12.5	"	"	---	---	---	---	---	---	
C2-Fluorenes	ND	12.5	12.5	"	"	---	---	---	---	---	---	
C2-Naphthalenes	ND	12.5	12.5	"	"	---	---	---	---	---	---	
C2-Phenanthrenes/Anthracenes	ND	12.5	12.5	"	"	---	---	---	---	---	---	
C3-Chrysenes/Benz(a)anthracenes	ND	12.5	12.5	"	"	---	---	---	---	---	---	
C3-Fluorenes	ND	12.5	12.5	"	"	---	---	---	---	---	---	
C3-Naphthalenes	ND	12.5	12.5	"	"	---	---	---	---	---	---	
C3-Phenanthrenes/Anthracenes	ND	12.5	12.5	"	"	---	---	---	---	---	---	
C4-Chrysenes/Benz(a)anthracenes	ND	25.0	25.0	"	"	---	---	---	---	---	---	
C4-Naphthalenes	ND	12.5	12.5	"	"	---	---	---	---	---	---	
C4-Phenanthrenes/Anthracenes	ND	25.0	25.0	"	"	---	---	---	---	---	---	
2-Methylnaphthalene	ND	12.5	12.5	"	"	---	---	---	---	---	---	
2,6-Dimethylnaphthalene	ND	12.5	12.5	"	"	---	---	---	---	---	---	
1,6,7-Trimethylnaphthalene	ND	12.5	12.5	"	"	---	---	---	---	---	---	
Fluorene	ND	12.5	12.5	"	"	---	---	---	---	---	---	
1-Methylphenanthrene	ND	12.5	12.5	"	"	---	---	---	---	---	---	
Pyrene	ND	12.5	12.5	"	"	---	---	---	---	---	---	
Chrysene	ND	12.5	12.5	"	"	---	---	---	---	---	---	

Surr: Acenaphthylene-d8 (Surr) Recovery: 79 % Limits: 40-120 % Dilution: 1x  
 Benzo(a)pyrene-d12 (Surr) 92 % 40-120 % "

**LCS (6040070-BS2)**

Prepared: 04/04/16 14:56 Analyzed: 04/05/16 14:42

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Project Number: 5237-10dc  
Project Manager: Rob Ede

Reported:

05/05/16 22:24

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Alkylated PAH Homologs by 8270D Modified

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 6040070 - EPA 3546</b>												
						<b>Soil</b>						
<b>LCS (6040070-BS2)</b>												
						Prepared: 04/04/16 14:56 Analyzed: 04/05/16 14:42						
<b>GC/MS Scan</b>												
2-Methylnaphthalene	485	13.3	13.3	ug/kg wet	1	533	---	91	38-122%	---	---	
2,6-Dimethylnaphthalene	447	13.3	13.3	"	"	"	---	84	40-125%	---	---	
1,6,7-Trimethylnaphthalene	484	13.3	13.3	"	"	"	---	91	45-125%	---	---	
Fluorene	476	13.3	13.3	"	"	"	---	89	43-125%	---	---	
1-Methylphenanthrene	505	13.3	13.3	"	"	"	---	95	45-125%	---	---	
Pyrene	513	13.3	13.3	"	"	"	---	96	47-127%	---	---	
Chrysene	512	13.3	13.3	"	"	"	---	96	50-124%	---	---	

Surr: Acenaphthylene-d8 (Surr) Recovery: 96 % Limits: 40-120 % Dilution: 1x  
 Benzo(a)pyrene-d12 (Surr) 96 % 40-120 % "

**Duplicate (6040070-DUP1)**

Prepared: 04/04/16 14:40 Analyzed: 04/06/16 11:38

**QC Source Sample: 5237-160401-DC-EMB038 (A6D0056-02)**

<b>GC/MS Scan</b>												
C1-Chrysenes/Benz(a)anthracenes	<b>537</b>	66.1	66.1	ug/kg dry	4	---	443	---	---	19	30%	
C1-Fluoranthrenes/Pyrenes	<b>587</b>	66.1	66.1	"	"	---	501	---	---	16	30%	
C1-Fluorenes	ND	132	132	"	"	---	ND	---	---	---	30%	R-02
C1-Phenanthrenes/Anthracenes	<b>413</b>	66.1	66.1	"	"	---	427	---	---	3	30%	
C2-Chrysenes/Benz(a)anthracenes	<b>247</b>	66.1	66.1	"	"	---	206	---	---	18	30%	
C2-Fluorenes	ND	66.1	66.1	"	"	---	ND	---	---	---	30%	
C2-Naphthalenes	ND	66.1	66.1	"	"	---	ND	---	---	---	30%	
C2-Phenanthrenes/Anthracenes	<b>285</b>	66.1	66.1	"	"	---	298	---	---	5	30%	
C3-Chrysenes/Benz(a)anthracenes	<b>182</b>	66.1	66.1	"	"	---	145	---	---	23	30%	
C3-Fluorenes	<b>105</b>	66.1	66.1	"	"	---	92.7	---	---	13	30%	
C3-Naphthalenes	ND	66.1	66.1	"	"	---	73.7	---	---	***	30%	
C3-Phenanthrenes/Anthracenes	<b>158</b>	66.1	66.1	"	"	---	158	---	---	0.4	30%	
C4-Chrysenes/Benz(a)anthracenes	<b>170</b>	132	132	"	"	---	ND	---	---	---	30%	
C4-Naphthalenes	ND	66.1	66.1	"	"	---	ND	---	---	---	30%	

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Reported:

05/05/16 22:24

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Alkylated PAH Homologs by 8270D Modified

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 6040070 - EPA 3546</b>												
<b>Soil</b>												
<b>Duplicate (6040070-DUP1)</b>						Prepared: 04/04/16 14:40 Analyzed: 04/06/16 11:38						
<b>QC Source Sample: 5237-160401-DC-EMB038 (A6D0056-02)</b>												
C4-Phenanthrenes/Anthracenes	ND	132	132	ug/kg dry	"	---	ND	---	---	---	30%	
2-Methylnaphthalene	ND	66.1	66.1	"	"	---	ND	---	---	---	30%	
2,6-Dimethylnaphthalene	ND	66.1	66.1	"	"	---	ND	---	---	---	30%	
1,6,7-Trimethylnaphthalene	ND	66.1	66.1	"	"	---	ND	---	---	---	30%	
Fluorene	ND	66.1	66.1	"	"	---	ND	---	---	---	30%	
1-Methylphenanthrene	ND	66.1	66.1	"	"	---	69.0	---	---	***	30%	
Pyrene	<b>1510</b>	66.1	66.1	"	"	---	1430	---	---	5	30%	
Chrysene	<b>984</b>	66.1	66.1	"	"	---	803	---	---	20	30%	
<i>Surr: Acenaphthylene-d8 (Surr)</i>		<i>Recovery: 107 %</i>		<i>Limits: 40-120 %</i>		<i>Dilution: 4x</i>						
<i>Benzo(a)pyrene-d12 (Surr)</i>		<i>102 %</i>		<i>40-120 %</i>		<i>"</i>						

<b>Matrix Spike (6040070-MS2)</b>						Prepared: 04/04/16 14:57 Analyzed: 04/06/16 15:27						
<b>QC Source Sample: 5237-160401-NDP-EMB003 (A6D0056-10RE1)</b>												
<b>GC/MS Scan</b>												
2-Methylnaphthalene	667	66.5	66.5	ug/kg dry	4	665	ND	100	38-122%	---	---	
2,6-Dimethylnaphthalene	621	66.5	66.5	"	"	"	ND	94	40-125%	---	---	
1,6,7-Trimethylnaphthalene	644	66.5	66.5	"	"	"	ND	97	45-125%	---	---	
Fluorene	690	66.5	66.5	"	"	"	ND	104	43-125%	---	---	
1-Methylphenanthrene	722	66.5	66.5	"	"	"	ND	109	45-125%	---	---	
Pyrene	1790	66.5	66.5	"	"	"	563	185	47-127%	---	---	Q-04
Chrysene	1450	66.5	66.5	"	"	"	406	157	50-124%	---	---	Q-04
<i>Surr: Acenaphthylene-d8 (Surr)</i>		<i>Recovery: 97 %</i>		<i>Limits: 40-120 %</i>		<i>Dilution: 4x</i>						
<i>Benzo(a)pyrene-d12 (Surr)</i>		<i>95 %</i>		<i>40-120 %</i>		<i>"</i>						

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Reported:

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## QUALITY CONTROL (QC) SAMPLE RESULTS

### Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 6040293 - EPA 3051A</b>						<b>Soil</b>						
<b>Blank (6040293-BLK1)</b>						Prepared: 04/12/16 09:23 Analyzed: 04/13/16 21:50						
<b>EPA 6020A</b>												
Aluminum	ND	25.0	50.0	mg/kg wet	10	---	---	---	---	---	---	
Antimony	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Arsenic	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Barium	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Beryllium	ND	0.100	0.200	"	"	---	---	---	---	---	---	
Cadmium	ND	0.100	0.200	"	"	---	---	---	---	---	---	
Calcium	ND	50.0	100	"	"	---	---	---	---	---	---	
Chromium	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Copper	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Iron	ND	25.0	50.0	"	"	---	---	---	---	---	---	
Lead	ND	0.100	0.200	"	"	---	---	---	---	---	---	
Magnesium	ND	25.0	50.0	"	"	---	---	---	---	---	---	
Manganese	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Mercury	ND	0.0400	0.0800	"	"	---	---	---	---	---	---	
Nickel	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Potassium	ND	50.0	100	"	"	---	---	---	---	---	---	
Selenium	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Silver	ND	0.100	0.200	"	"	---	---	---	---	---	---	
Thallium	ND	0.100	0.200	"	"	---	---	---	---	---	---	
Vanadium	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Zinc	ND	2.00	4.00	"	"	---	---	---	---	---	---	

**Blank (6040293-BLK2)**

Prepared: 04/12/16 09:23 Analyzed: 04/14/16 13:13

<b>EPA 6020A</b>												
Sodium	ND	50.0	100	mg/kg wet	10	---	---	---	---	---	---	Q-16

**LCS (6040293-BS1)**

Prepared: 04/12/16 09:23 Analyzed: 04/13/16 21:53

<b>EPA 6020A</b>												
Aluminum	4770	25.0	50.0	mg/kg wet	10	5000	---	95	80-120%	---	---	
Antimony	25.2	0.500	1.00	"	"	25.0	---	101	"	---	---	
Arsenic	48.6	0.500	1.00	"	"	50.0	---	97	"	---	---	

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Philip Nerenberg, Lab Director

**Hahn and Associates**

434 NW 6th Ave. Suite 203  
Portland, OR 97209

Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
Project Manager: Rob Ede

**Reported:**

05/05/16 22:24

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 6040293 - EPA 3051A</b>						<b>Soil</b>						
<b>LCS (6040293-BS1)</b>						Prepared: 04/12/16 09:23 Analyzed: 04/13/16 21:53						
Barium	48.8	0.500	1.00	mg/kg wet	"	"	---	98	"	---	---	
Beryllium	24.7	0.100	0.200	"	"	25.0	---	99	"	---	---	
Cadmium	48.4	0.100	0.200	"	"	50.0	---	97	"	---	---	
Calcium	4990	50.0	100	"	"	5000	---	100	"	---	---	
Chromium	49.0	0.500	1.00	"	"	50.0	---	98	"	---	---	
Copper	48.6	0.500	1.00	"	"	"	---	97	"	---	---	
Iron	4960	25.0	50.0	"	"	5000	---	99	"	---	---	
Lead	47.0	0.100	0.200	"	"	50.0	---	94	"	---	---	
Magnesium	4770	25.0	50.0	"	"	5000	---	95	"	---	---	
Manganese	49.5	0.500	1.00	"	"	50.0	---	99	"	---	---	
Mercury	1.01	0.0400	0.0800	"	"	1.00	---	101	"	---	---	
Nickel	47.6	0.500	1.00	"	"	50.0	---	95	"	---	---	
Potassium	4840	50.0	100	"	"	5000	---	97	"	---	---	
Selenium	29.5	0.500	1.00	"	"	25.0	---	118	"	---	---	
Silver	24.6	0.100	0.200	"	"	"	---	99	"	---	---	
Sodium	4750	1000	2000	"	"	5000	---	95	"	---	---	
Thallium	24.4	0.100	0.200	"	"	25.0	---	98	"	---	---	
Vanadium	50.1	0.500	1.00	"	"	50.0	---	100	"	---	---	
Zinc	50.2	2.00	4.00	"	"	"	---	100	"	---	---	



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05/05/16 22:24

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Conventional Chemistry Parameters

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 6040241 - PSEP TOC</b>						<b>Sediment</b>						
<b>Blank (6040241-BLK1)</b>						Prepared: 04/08/16 17:20 Analyzed: 04/14/16 14:55						
<b>SM 5310B MOD</b>												
Total Organic Carbon	ND	100	200	mg/kg	1	---	---	---	---	---	---	
<b>LCS (6040241-BS1)</b>						Prepared: 04/08/16 17:20 Analyzed: 04/14/16 14:55						
<b>SM 5310B MOD</b>												
Total Organic Carbon	9300			mg/kg	1	10000	---	93	85-115%	---	---	
<b>Duplicate (6040241-DUP2)</b>						Prepared: 04/08/16 17:20 Analyzed: 04/14/16 14:55						
<b>QC Source Sample: 5237-160401-NDP-EMB003 (A6D0056-10)</b>												
<b>SM 5310B MOD</b>												
Total Organic Carbon	<b>15000</b>	100	200	mg/kg	1	---	14000	---	---	3	20%	

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 Project Number: 5237-10dc  
 Project Manager: Rob Ede

**Reported:**  
 05/05/16 22:24

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Ammonia by UV Digestion/Gas Diffusion/Colorimetric Detection

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 6040054 - Method Prep: Non-Aq</b>						<b>Soil</b>						
<b>Blank (6040054-BLK1)</b>						Prepared: 04/04/16 10:09 Analyzed: 04/06/16 19:15						
<b>SM4500-NH3 Mod</b>												
Ammonia as N	ND	0.100	0.200	mg/kg wet	1	---	---	---	---	---	---	
<b>LCS (6040054-BS1)</b>						Prepared: 04/04/16 10:09 Analyzed: 04/06/16 19:15						
<b>SM4500-NH3 Mod</b>												
Ammonia as N	2.02	0.100	0.200	mg/kg wet	1	2.00	---	101	90-110%	---	---	



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05/05/16 22:24

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----	-----------------	-------	------	--------------	---------------	------	-------------	-----	-----------	-------

#### Batch 6040048 - Total Solids (Dry Weight)

#### Soil

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

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**Reported:**

05/05/16 22:24

**SAMPLE PREPARATION INFORMATION**

**Diesel and/or Oil Hydrocarbons by NWTPH-Dx**

**Prep: EPA 3546 (Fuels)**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 6040068</b>							
A6D0056-02	Soil	NWTPH-Dx	04/01/16 10:25	04/04/16 14:10	11.2g/5mL	10g/5mL	0.89
A6D0056-04	Soil	NWTPH-Dx	04/01/16 11:05	04/04/16 14:10	10.8g/5mL	10g/5mL	0.93
A6D0056-06	Soil	NWTPH-Dx	04/01/16 12:00	04/04/16 14:10	11.15g/5mL	10g/5mL	0.90
A6D0056-08	Soil	NWTPH-Dx	04/01/16 16:00	04/04/16 14:10	11.38g/5mL	10g/5mL	0.88
A6D0056-10	Soil	NWTPH-Dx	04/01/16 16:10	04/04/16 14:10	10.86g/5mL	10g/5mL	0.92

**Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx**

**Prep: EPA 5035A**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 6040059</b>							
A6D0056-01	Soil	NWTPH-Gx (MS)	04/01/16 10:25	04/01/16 10:25	4.87g/5mL	5g/5mL	1.03
A6D0056-03	Soil	NWTPH-Gx (MS)	04/01/16 11:05	04/01/16 11:05	4.83g/5mL	5g/5mL	1.04
A6D0056-05	Soil	NWTPH-Gx (MS)	04/01/16 12:00	04/01/16 12:00	11.9g/5mL	5g/5mL	0.42
A6D0056-07	Soil	NWTPH-Gx (MS)	04/01/16 16:00	04/01/16 16:00	5.39g/5mL	5g/5mL	0.93
A6D0056-09	Soil	NWTPH-Gx (MS)	04/01/16 16:10	04/01/16 16:10	5.38g/5mL	5g/5mL	0.93

**BTEX Compounds by EPA 8260B**

**Prep: EPA 5035A**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 6040059</b>							
A6D0056-01	Soil	5035/8260B	04/01/16 10:25	04/01/16 10:25	4.87g/5mL	5g/5mL	1.03
A6D0056-03	Soil	5035/8260B	04/01/16 11:05	04/01/16 11:05	4.83g/5mL	5g/5mL	1.04
A6D0056-05	Soil	5035/8260B	04/01/16 12:00	04/01/16 12:00	11.9g/5mL	5g/5mL	0.42
A6D0056-07	Soil	5035/8260B	04/01/16 16:00	04/01/16 16:00	5.39g/5mL	5g/5mL	0.93
A6D0056-09	Soil	5035/8260B	04/01/16 16:10	04/01/16 16:10	5.38g/5mL	5g/5mL	0.93

**Volatile Organic Compounds by EPA 8260B**

**Prep: EPA 5035A**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 6040059</b>							
A6D0056-05	Soil	5035/8260B	04/01/16 12:00	04/01/16 12:00	11.9g/5mL	5g/5mL	0.42
A6D0056-07	Soil	5035/8260B	04/01/16 16:00	04/01/16 16:00	5.39g/5mL	5g/5mL	0.93

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Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
Project Manager: Rob Ede

**Reported:**

05/05/16 22:24

**SAMPLE PREPARATION INFORMATION**

**Anions by EPA 300.0/9056A (Ion Chromatography)**

**Prep: Method Prep: Non-Ag**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 6040311</b>							
A6D0056-02	Soil	EPA 9056A	04/01/16 10:25	04/12/16 12:45	5.1529g/50mL	5g/50mL	0.97
A6D0056-04	Soil	EPA 9056A	04/01/16 11:05	04/12/16 12:45	5.1489g/50mL	5g/50mL	0.97
A6D0056-06	Soil	EPA 9056A	04/01/16 12:00	04/12/16 12:45	5.0374g/50mL	5g/50mL	0.99
A6D0056-08	Soil	EPA 9056A	04/01/16 16:00	04/12/16 12:45	5.1061g/50mL	5g/50mL	0.98
A6D0056-10	Soil	EPA 9056A	04/01/16 16:10	04/12/16 12:45	5.0412g/50mL	5g/50mL	0.99

**Cyanide - Total (Non-aqueous)**

**Prep: Method Prep: Non-Ag**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 6040257</b>							
A6D0056-02	Soil	EPA 9013M/9014	04/01/16 10:25	04/11/16 09:50	2.5266g/50mL	2.5g/50mL	0.99
A6D0056-04	Soil	EPA 9013M/9014	04/01/16 11:05	04/11/16 09:50	2.5551g/50mL	2.5g/50mL	0.98
A6D0056-06	Soil	EPA 9013M/9014	04/01/16 12:00	04/11/16 09:50	2.5103g/50mL	2.5g/50mL	1.00
A6D0056-08	Soil	EPA 9013M/9014	04/01/16 16:00	04/11/16 09:50	2.5855g/50mL	2.5g/50mL	0.97
A6D0056-10	Soil	EPA 9013M/9014	04/01/16 16:10	04/11/16 09:50	2.5921g/50mL	2.5g/50mL	0.96

**Semivolatile Organic Compounds by EPA 8270D**

**Prep: EPA 3546**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 6040070</b>							
A6D0056-02	Soil	EPA 8270D	04/01/16 10:25	04/04/16 14:40	15.86g/2mL	15g/2mL	0.95
A6D0056-04	Soil	EPA 8270D	04/01/16 11:05	04/04/16 14:40	15.22g/2mL	15g/2mL	0.99
A6D0056-06RE1	Soil	EPA 8270D	04/01/16 12:00	04/04/16 14:40	15.43g/2mL	15g/2mL	0.97
A6D0056-08RE1	Soil	EPA 8270D	04/01/16 16:00	04/04/16 14:40	15.51g/2mL	15g/2mL	0.97
A6D0056-10RE1	Soil	EPA 8270D	04/01/16 16:10	04/04/16 14:40	15.67g/2mL	15g/2mL	0.96

**Alkylated PAH Homologs by 8270D Modified**

**Prep: EPA 3546**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 6040070</b>							
A6D0056-02	Soil	GC/MS Scan	04/01/16 10:25	04/04/16 14:55	15.86g/2mL	10g/2mL	0.63
A6D0056-04	Soil	GC/MS Scan	04/01/16 11:05	04/04/16 14:55	15.22g/2mL	10g/2mL	0.66

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Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
 Project Manager: Rob Ede

Reported:  
 05/05/16 22:24

**SAMPLE PREPARATION INFORMATION**

**Alkylated PAH Homologs by 8270D Modified**

**Prep: EPA 3546**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A6D0056-06RE1	Soil	GC/MS Scan	04/01/16 12:00	04/04/16 14:55	15.43g/2mL	10g/2mL	0.65
A6D0056-08RE1	Soil	GC/MS Scan	04/01/16 16:00	04/04/16 14:55	15.51g/2mL	10g/2mL	0.65
A6D0056-10RE1	Soil	GC/MS Scan	04/01/16 16:10	04/04/16 14:55	15.67g/2mL	10g/2mL	0.64

**Total Metals by EPA 6020 (ICPMS)**

**Prep: EPA 3051A**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 6040293</b>							
A6D0056-02	Soil	EPA 6020A	04/01/16 10:25	04/12/16 09:23	0.508g/50mL	0.5g/50mL	0.98
A6D0056-02RE1	Soil	EPA 6020A	04/01/16 10:25	04/12/16 09:23	0.508g/50mL	0.5g/50mL	0.98
A6D0056-04	Soil	EPA 6020A	04/01/16 11:05	04/12/16 09:23	0.5g/50mL	0.5g/50mL	1.00
A6D0056-04RE1	Soil	EPA 6020A	04/01/16 11:05	04/12/16 09:23	0.5g/50mL	0.5g/50mL	1.00
A6D0056-06	Soil	EPA 6020A	04/01/16 12:00	04/12/16 09:23	0.503g/50mL	0.5g/50mL	0.99
A6D0056-06RE1	Soil	EPA 6020A	04/01/16 12:00	04/12/16 09:23	0.503g/50mL	0.5g/50mL	0.99
A6D0056-08	Soil	EPA 6020A	04/01/16 16:00	04/12/16 09:23	0.502g/50mL	0.5g/50mL	1.00
A6D0056-08RE1	Soil	EPA 6020A	04/01/16 16:00	04/12/16 09:23	0.502g/50mL	0.5g/50mL	1.00
A6D0056-10	Soil	EPA 6020A	04/01/16 16:10	04/12/16 09:23	0.476g/50mL	0.5g/50mL	1.05
A6D0056-10RE1	Soil	EPA 6020A	04/01/16 16:10	04/12/16 09:23	0.476g/50mL	0.5g/50mL	1.05

**Conventional Chemistry Parameters**

**Prep: PSEP TOC**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 6040241</b>							
A6D0056-02	Soil	SM 5310B MOD	04/01/16 10:25	04/08/16 17:20	5g/5g	5g/5g	NA
A6D0056-04	Soil	SM 5310B MOD	04/01/16 11:05	04/08/16 17:20	5g/5g	5g/5g	NA
A6D0056-06	Soil	SM 5310B MOD	04/01/16 12:00	04/08/16 17:20	5g/5g	5g/5g	NA
A6D0056-08	Soil	SM 5310B MOD	04/01/16 16:00	04/08/16 17:20	5g/5g	5g/5g	NA
A6D0056-10	Soil	SM 5310B MOD	04/01/16 16:10	04/08/16 17:20	5g/5g	5g/5g	NA

**Ammonia by UV Digestion/Gas Diffusion/Colorimetric Detection**

**Prep: Method Prep: Non-Ag**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 6040054</b>							

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Project Number: 5237-10dc  
 Project Manager: Rob Ede

Reported:  
 05/05/16 22:24

**SAMPLE PREPARATION INFORMATION**

**Ammonia by UV Digestion/Gas Diffusion/Colorimetric Detection**

**Prep: Method Prep: Non-Ag**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A6D0056-02	Soil	SM4500-NH3 Mod	04/01/16 10:25	04/04/16 13:56	5.7313g/50mL	5g/50mL	0.87
A6D0056-04	Soil	SM4500-NH3 Mod	04/01/16 11:05	04/04/16 13:56	5.3787g/50mL	5g/50mL	0.93
A6D0056-06	Soil	SM4500-NH3 Mod	04/01/16 12:00	04/04/16 13:56	5.443g/50mL	5g/50mL	0.92
A6D0056-08	Soil	SM4500-NH3 Mod	04/01/16 16:00	04/04/16 13:56	5.7593g/50mL	5g/50mL	0.87
A6D0056-10	Soil	SM4500-NH3 Mod	04/01/16 16:10	04/04/16 13:56	5.2976g/50mL	5g/50mL	0.94

**Percent Dry Weight**

**Prep: Total Solids (Dry Weight)**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 6040048</b>							
A6D0056-01	Soil	EPA 8000C	04/01/16 10:25	04/04/16 14:53	1N/A/1N/A	1N/A/1N/A	NA
A6D0056-02	Soil	EPA 8000C	04/01/16 10:25	04/04/16 14:53	1N/A/1N/A	1N/A/1N/A	NA
A6D0056-03	Soil	EPA 8000C	04/01/16 11:05	04/04/16 14:53	1N/A/1N/A	1N/A/1N/A	NA
A6D0056-04	Soil	EPA 8000C	04/01/16 11:05	04/04/16 14:53	1N/A/1N/A	1N/A/1N/A	NA
A6D0056-05	Soil	EPA 8000C	04/01/16 12:00	04/04/16 14:53	1N/A/1N/A	1N/A/1N/A	NA
A6D0056-06	Soil	EPA 8000C	04/01/16 12:00	04/04/16 14:53	1N/A/1N/A	1N/A/1N/A	NA
A6D0056-07	Soil	EPA 8000C	04/01/16 16:00	04/04/16 14:53	1N/A/1N/A	1N/A/1N/A	NA
A6D0056-08	Soil	EPA 8000C	04/01/16 16:00	04/04/16 14:53	1N/A/1N/A	1N/A/1N/A	NA
A6D0056-09	Soil	EPA 8000C	04/01/16 16:10	04/04/16 14:53	1N/A/1N/A	1N/A/1N/A	NA
A6D0056-10	Soil	EPA 8000C	04/01/16 16:10	04/04/16 14:53	1N/A/1N/A	1N/A/1N/A	NA



**Hahn and Associates**

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Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
Project Manager: Rob Ede

Reported:  
05/05/16 22:24

## Notes and Definitions

### Qualifiers:

- A-01 % solids data copied from corresponding even numbered sample IDs to allow dry wt. correction of 5035 Gx analysis.
- E-03 Result is reported as an estimated value. QA protocols have not been met for this analyte.
- 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.
- 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-04 Spike recovery and/or RPD is outside control limits due to a non-homogeneous sample matrix.
- Q-05 Analyses are not controlled on RPD values from sample and duplicate concentrations that are below 5 times the reporting level.
- Q-16 Reanalysis of an original Batch QC sample.
- 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.)
- R-02 The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.

### 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 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.

Apex Laboratories

*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, Lab Director

**Hahn and Associates**

434 NW 6th Ave. Suite 203  
Portland, OR 97209

Project: **Siltronic RI-Doane Creek**

Project Number: 5237-10dc  
Project Manager: Rob Ede

Reported:  
05/05/16 22:24

**Blank Policy** Apex assesses blank data for potential high bias down to a level equal to 1/2 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.

--- 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).



**Hahn and Associates**  
434 NW 6th Ave. Suite 203  
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Project Number: 5237-10dc  
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05/05/16 22:24

AED 05/16

1 of 1

**Hahn and Associates, Inc.**  
Environmental Management  
434 NW 6th Avenue, Suite 203 - Portland, OR 97209  
(503) 756-9717 - Fax (503) 227-2209

**Apex Laboratories**  
Tigard, Oregon

Lab Project No. \_\_\_\_\_

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

Test Sheet: \_\_\_\_\_  
Test Blank: \_\_\_\_\_  
Test Frequency: \_\_\_\_\_  
Test Date: \_\_\_\_\_

Matrix: \_\_\_\_\_  
Liquid with Sediment Sample: \_\_\_\_\_  
Multi-Phase Sample: \_\_\_\_\_  
Test Date: \_\_\_\_\_

Sample Number Prefix: 5237-160401-DC  
and 5237-160401-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	Matrix	SVOCs (Full List) by EPA Method 8270	LL Pkts 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 mod	Amonia by SM 4500 mod	Total Cyanide by EPA Method 8014	Thiocyanate by SM 4500 mod	Metals by EPA Method 6020	Diesel and Oil-Range TPH by NMTPH-DX	TPH-Gx+BTEX	EPH by NMTPH-EPH	VPH by NMTPH-VPH	VOCs by EPA Method 8260B	Remarks
EMB036G	01-Apr-16	10:25		Soil Embankment (1.5)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
EMB038	01-Apr-16	10:25		Soil Embankment (0-3.5)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
EMB039G	01-Apr-16	11:05		Soil Embankment (1.5)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
EMB039	01-Apr-16	11:05		Soil Embankment (0-3.5)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
EMB040G	01-Apr-16	12:00		Soil Embankment (1.5)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
EMB046	01-Apr-16	12:00		Soil Embankment (0-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
EMB002G	01-Apr-16	16:00		NDP Soil Embankment (2.5)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
EMB002	01-Apr-16	16:00		NDP Soil Embankment (0-3.5)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
EMB003G	01-Apr-16	16:10		NDP Soil Embankment (1.5)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
EMB003	01-Apr-16	16:10		NDP Soil Embankment (0-3.0)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Requested by: Ben Uhl  
Requested by Date: 4-1-16  
Company: HAHN & ASSOC  
Company: HAHN & ASSOC  
Company: HAHN & ASSOC

Requested by: Rob Ede  
Requested by Date: 5/5/16  
Company: HAHN & ASSOC  
Company: HAHN & ASSOC  
Company: HAHN & ASSOC

Apex Laboratories

*Philip Nerenberg*

Philip Nerenberg, Lab Director

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