

13 September 2018

Erik Schaberl  
ECS-Frederick  
5112 Pegasus Court, Suite S  
Frederick, MD 21704  
RE: MT. AIRY RAILS

Enclosed are the results of analyses for samples received by the laboratory on 08/30/18 15:16.

Maryland Spectral Services, Inc. is a TNI 2009 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2009 TNI certified except as indicated at the end of this report. Please visit our website at [www.mdspectral.com](http://www.mdspectral.com) for a complete listing of our TNI 2009 Standard accreditations.

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

Sincerely,



Rabecka Koons  
Quality Assurance Officer

## Analytical Results

**Project: MT. AIRY RAILS**

Project Number: 47:5784  
Project Manager: Erik Schaberl

Reported:  
09/13/18 10:40

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
82918-6		8083011-01	Soil	08/29/18 09:55	08/30/18 15:16
82918-7		8083011-02	Soil	08/29/18 10:30	08/30/18 15:16
82918-11		8083011-03	Soil	08/29/18 10:52	08/30/18 15:16
6A		8083011-04	Soil	08/29/18 10:05	08/30/18 15:16
6B		8083011-05	Soil	08/29/18 10:07	08/30/18 15:16
6C		8083011-06	Soil	08/29/18 10:10	08/30/18 15:16
7A		8083011-07	Soil	08/29/18 10:32	08/30/18 15:16
7B		8083011-08	Soil	08/29/18 10:34	08/30/18 15:16
7C		8083011-09	Soil	08/29/18 10:36	08/30/18 15:16
11A		8083011-10	Soil	08/29/18 11:02	08/30/18 15:16
11B		8083011-11	Soil	08/29/18 11:04	08/30/18 15:16
11C		8083011-12	Soil	08/29/18 11:06	08/30/18 15:16



Rabecka Koons, Quality Assurance Officer

*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.*

## Analytical Results

**Project: MT. AIRY RAILS**

Project Number: 47:5784  
Project Manager: Erik Schaberl

Reported:  
09/13/18 10:40

82918-6

8083011-01 (Soil)  
Sample Date: 08/29/18

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
<b>TCLP VOLATILE ORGANICS BY EPA METHODS 1311/8260B (GC/MS)</b>									
Benzene	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:03	GM
2-Butanone (MEK)	ND		ug/L	50.0	50.0	5	09/07/18	09/07/18 12:03	GM
Carbon tetrachloride	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:03	GM
Chlorobenzene	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:03	GM
Chloroform	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:03	GM
1,4-Dichlorobenzene	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:03	GM
1,2-Dichloroethane	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:03	GM
1,1-Dichloroethene	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:03	GM
Tetrachloroethene	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:03	GM
Trichloroethene	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:03	GM
Vinyl chloride	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:03	GM
<i>Surrogate: 1,2-Dichloroethane-d4</i>			70-121	100 %			09/07/18	09/07/18 12:03	
<i>Surrogate: Toluene-d8</i>			84-138	100 %			09/07/18	09/07/18 12:03	
<i>Surrogate: 4-Bromofluorobenzene</i>			59-113	100 %			09/07/18	09/07/18 12:03	
<b>TCLP SEMIVOLATILE ORGANICS BY EPA METHODS 1311/8270D (GC/MS)</b>									
1,4-Dichlorobenzene	ND		ug/L	25.0	25.0	1	09/06/18	09/07/18 14:01	WB
2,4-Dinitrotoluene	ND		ug/L	25.0	25.0	1	09/06/18	09/07/18 14:01	WB
Hexachlorobenzene	ND		ug/L	25.0	25.0	1	09/06/18	09/07/18 14:01	WB
Hexachlorobutadiene	ND		ug/L	50.0	50.0	1	09/06/18	09/07/18 14:01	WB
Hexachloroethane	ND		ug/L	50.0	50.0	1	09/06/18	09/07/18 14:01	WB
3&4-Methylphenol	ND		ug/L	50.0	50.0	1	09/06/18	09/07/18 14:01	WB
2-Methylphenol	ND		ug/L	50.0	50.0	1	09/06/18	09/07/18 14:01	WB
Nitrobenzene	ND		ug/L	50.0	50.0	1	09/06/18	09/07/18 14:01	WB
Pentachlorophenol	ND		ug/L	125	125	1	09/06/18	09/07/18 14:01	WB
Pyridine	ND		ug/L	125	125	1	09/06/18	09/07/18 14:01	WB
2,4,5-Trichlorophenol	ND		ug/L	50.0	50.0	1	09/06/18	09/07/18 14:01	WB
2,4,6-Trichlorophenol	ND		ug/L	50.0	50.0	1	09/06/18	09/07/18 14:01	WB
<i>Surrogate: 2-Fluorophenol</i>			21-110	45 %			09/06/18	09/07/18 14:01	
<i>Surrogate: Phenol-d5</i>			10-110	38 %			09/06/18	09/07/18 14:01	
<i>Surrogate: Nitrobenzene-d5</i>			35-114	57 %			09/06/18	09/07/18 14:01	
<i>Surrogate: 2,4,6-Tribromophenol</i>			10-123	56 %			09/06/18	09/07/18 14:01	
<i>Surrogate: 2-Fluorobiphenyl</i>			43-116	54 %			09/06/18	09/07/18 14:01	
<i>Surrogate: Terphenyl-d14</i>			33-141	115 %			09/06/18	09/07/18 14:01	

Rabecka Koons, Quality Assurance Officer

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## Analytical Results

**Project: MT. AIRY RAILS**

Project Number: 47:5784  
Project Manager: Erik Schaberl

Reported:  
09/13/18 10:40

82918-6

8083011-01 (Soil)  
Sample Date: 08/29/18

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
<b>TCLP CHLORINATED PESTICIDES BY EPA METHODS 1311/8081 (GC/ECD)</b>									
alpha-Chlordane	ND		ug/L	0.250	0.250	1	09/06/18	09/12/18 18:41	SJA
gamma-Chlordane	ND		ug/L	0.250	0.250	1	09/06/18	09/12/18 18:41	SJA
Endrin	ND		ug/L	0.500	0.500	1	09/06/18	09/12/18 18:41	SJA
Heptachlor	ND		ug/L	0.250	0.250	1	09/06/18	09/12/18 18:41	SJA
Heptachlor epoxide	ND		ug/L	0.250	0.250	1	09/06/18	09/12/18 18:41	SJA
Lindane (gamma-BHC)	ND		ug/L	0.250	0.250	1	09/06/18	09/12/18 18:41	SJA
Methoxychlor	ND		ug/L	2.50	2.50	1	09/06/18	09/12/18 18:41	SJA
Toxaphene	ND		ug/L	1.00	1.00	1	09/06/18	09/12/18 18:41	SJA
<i>Surrogate: Tetrachloro-m-xylene</i>		50-150		69 %		09/06/18	09/12/18 18:41		
<i>Surrogate: Decachlorobiphenyl</i>		50-150		100 %		09/06/18	09/12/18 18:41		
<b>TCLP CHLORINATED HERBICIDES BY EPA METHOD 1311/8151A (GC/ECD)</b>									
2,4-D	ND		mg/L	0.0800	0.0800	1	09/06/18	09/10/18 20:05	CMK
2,4,5-TP (Silvex)	ND		mg/L	0.0800	0.0800	1	09/06/18	09/10/18 20:05	CMK
<i>Surrogate: DCAA</i>		20-150		61 %		09/06/18	09/10/18 20:05		
<b>TCLP METALS BY EPA METHODS 1311/3010A/6020A (ICP-MS)</b>									
Arsenic	ND		mg/L	0.500	0.500	1	09/06/18	09/06/18 16:00	CMK
Barium	ND		mg/L	0.500	0.500	1	09/06/18	09/06/18 16:00	CMK
Cadmium	ND		mg/L	0.500	0.500	1	09/06/18	09/06/18 16:00	CMK
Chromium	ND		mg/L	0.500	0.500	1	09/06/18	09/06/18 16:00	CMK
Lead	ND		mg/L	0.500	0.500	1	09/06/18	09/06/18 16:00	CMK
Mercury	ND		mg/L	0.0100	0.0100	1	09/06/18	09/06/18 16:00	CMK
Selenium	ND		mg/L	0.500	0.500	1	09/06/18	09/06/18 16:00	CMK
Silver	ND		mg/L	0.500	0.500	1	09/06/18	09/06/18 16:00	CMK



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## Analytical Results

**Project: MT. AIRY RAILS**

Project Number: 47:5784  
Project Manager: Erik Schaberl

Reported:  
09/13/18 10:40

82918-7

8083011-02 (Soil)  
Sample Date: 08/29/18

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
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**TCLP VOLATILE ORGANICS BY EPA METHODS 1311/8260B (GC/MS)**

Benzene	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:26	GM
2-Butanone (MEK)	ND		ug/L	50.0	50.0	5	09/07/18	09/07/18 12:26	GM
Carbon tetrachloride	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:26	GM
Chlorobenzene	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:26	GM
Chloroform	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:26	GM
1,4-Dichlorobenzene	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:26	GM
1,2-Dichloroethane	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:26	GM
1,1-Dichloroethene	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:26	GM
Tetrachloroethene	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:26	GM
Trichloroethene	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:26	GM
Vinyl chloride	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:26	GM

Surrogate: 1,2-Dichloroethane-d4		70-121	100 %		09/07/18	09/07/18 12:26
Surrogate: Toluene-d8		84-138	98 %		09/07/18	09/07/18 12:26
Surrogate: 4-Bromofluorobenzene		59-113	101 %		09/07/18	09/07/18 12:26

**TCLP SEMIVOLATILE ORGANICS BY EPA METHODS 1311/8270D (GC/MS)**

1,4-Dichlorobenzene	ND		ug/L	25.0	25.0	1	09/06/18	09/07/18 14:45	WB
2,4-Dinitrotoluene	ND		ug/L	25.0	25.0	1	09/06/18	09/07/18 14:45	WB
Hexachlorobenzene	ND		ug/L	25.0	25.0	1	09/06/18	09/07/18 14:45	WB
Hexachlorobutadiene	ND		ug/L	50.0	50.0	1	09/06/18	09/07/18 14:45	WB
Hexachloroethane	ND		ug/L	50.0	50.0	1	09/06/18	09/07/18 14:45	WB
3&4-Methylphenol	ND		ug/L	50.0	50.0	1	09/06/18	09/07/18 14:45	WB
2-Methylphenol	ND		ug/L	50.0	50.0	1	09/06/18	09/07/18 14:45	WB
Nitrobenzene	ND		ug/L	50.0	50.0	1	09/06/18	09/07/18 14:45	WB
Pentachlorophenol	ND		ug/L	125	125	1	09/06/18	09/07/18 14:45	WB
Pyridine	ND		ug/L	125	125	1	09/06/18	09/07/18 14:45	WB
2,4,5-Trichlorophenol	ND		ug/L	50.0	50.0	1	09/06/18	09/07/18 14:45	WB
2,4,6-Trichlorophenol	ND		ug/L	50.0	50.0	1	09/06/18	09/07/18 14:45	WB

Surrogate: 2-Fluorophenol		21-110	53 %		09/06/18	09/07/18 14:45
Surrogate: Phenol-d5		10-110	46 %		09/06/18	09/07/18 14:45
Surrogate: Nitrobenzene-d5		35-114	70 %		09/06/18	09/07/18 14:45
Surrogate: 2,4,6-Tribromophenol		10-123	62 %		09/06/18	09/07/18 14:45
Surrogate: 2-Fluorobiphenyl		43-116	66 %		09/06/18	09/07/18 14:45
Surrogate: Terphenyl-d14		33-141	115 %		09/06/18	09/07/18 14:45

Rabecka Koons, Quality Assurance Officer

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**Analytical Results**

**Project: MT. AIRY RAILS**

Project Number: 47:5784  
Project Manager: Erik Schaberl

Reported:  
09/13/18 10:40

**82918-7**

**8083011-02 (Soil)**  
**Sample Date: 08/29/18**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
<b>TCLP CHLORINATED PESTICIDES BY EPA METHODS 1311/8081 (GC/ECD)</b>									
alpha-Chlordane	ND		ug/L	0.250	0.250	1	09/06/18	09/12/18 19:08	SJA
gamma-Chlordane	ND		ug/L	0.250	0.250	1	09/06/18	09/12/18 19:08	SJA
Endrin	ND		ug/L	0.500	0.500	1	09/06/18	09/12/18 19:08	SJA
Heptachlor	ND		ug/L	0.250	0.250	1	09/06/18	09/12/18 19:08	SJA
Heptachlor epoxide	ND		ug/L	0.250	0.250	1	09/06/18	09/12/18 19:08	SJA
Lindane (gamma-BHC)	ND		ug/L	0.250	0.250	1	09/06/18	09/12/18 19:08	SJA
Methoxychlor	ND		ug/L	2.50	2.50	1	09/06/18	09/12/18 19:08	SJA
Toxaphene	ND		ug/L	1.00	1.00	1	09/06/18	09/12/18 19:08	SJA
<i>Surrogate: Tetrachloro-m-xylene</i>		<i>50-150</i>		<i>69 %</i>	<i>09/06/18</i>		<i>09/12/18 19:08</i>		
<i>Surrogate: Decachlorobiphenyl</i>		<i>50-150</i>		<i>89 %</i>	<i>09/06/18</i>		<i>09/12/18 19:08</i>		
<b>TCLP CHLORINATED HERBICIDES BY EPA METHOD 1311/8151A (GC/ECD)</b>									
2,4-D	ND		mg/L	0.0800	0.0800	1	09/06/18	09/10/18 20:35	CMK
2,4,5-TP (Silvex)	ND		mg/L	0.0800	0.0800	1	09/06/18	09/10/18 20:35	CMK
<i>Surrogate: DCAA</i>		<i>20-150</i>		<i>82 %</i>	<i>09/06/18</i>		<i>09/10/18 20:35</i>		
<b>TCLP METALS BY EPA METHODS 1311/3010A/6020A (ICP-MS)</b>									
Arsenic	ND		mg/L	0.500	0.500	1	09/06/18	09/06/18 16:04	CMK
Barium	ND		mg/L	0.500	0.500	1	09/06/18	09/06/18 16:04	CMK
Cadmium	ND		mg/L	0.500	0.500	1	09/06/18	09/06/18 16:04	CMK
Chromium	ND		mg/L	0.500	0.500	1	09/06/18	09/06/18 16:04	CMK
Lead	ND		mg/L	0.500	0.500	1	09/06/18	09/06/18 16:04	CMK
Mercury	ND		mg/L	0.0100	0.0100	1	09/06/18	09/06/18 16:04	CMK
Selenium	ND		mg/L	0.500	0.500	1	09/06/18	09/06/18 16:04	CMK
Silver	ND		mg/L	0.500	0.500	1	09/06/18	09/06/18 16:04	CMK



Rabecka Koons, Quality Assurance Officer

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**Analytical Results**

**Project: MT. AIRY RAILS**

Project Number: 47:5784  
Project Manager: Erik Schaberl

Reported:  
09/13/18 10:40

**82918-11**

**8083011-03 (Soil)**  
**Sample Date: 08/29/18**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
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**TCLP VOLATILE ORGANICS BY EPA METHODS 1311/8260B (GC/MS)**

Benzene	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:49	GM
2-Butanone (MEK)	ND		ug/L	50.0	50.0	5	09/07/18	09/07/18 12:49	GM
Carbon tetrachloride	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:49	GM
Chlorobenzene	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:49	GM
Chloroform	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:49	GM
1,4-Dichlorobenzene	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:49	GM
1,2-Dichloroethane	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:49	GM
1,1-Dichloroethene	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:49	GM
Tetrachloroethene	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:49	GM
Trichloroethene	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:49	GM
Vinyl chloride	ND		ug/L	25.0	25.0	5	09/07/18	09/07/18 12:49	GM

Surrogate: 1,2-Dichloroethane-d4		70-121	100 %		09/07/18	09/07/18 12:49		
Surrogate: Toluene-d8		84-138	99 %		09/07/18	09/07/18 12:49		
Surrogate: 4-Bromofluorobenzene		59-113	100 %		09/07/18	09/07/18 12:49		

**TCLP SEMIVOLATILE ORGANICS BY EPA METHODS 1311/8270D (GC/MS)**

1,4-Dichlorobenzene	ND		ug/L	25.0	25.0	1	09/06/18	09/07/18 15:29	WB
2,4-Dinitrotoluene	ND		ug/L	25.0	25.0	1	09/06/18	09/07/18 15:29	WB
Hexachlorobenzene	ND		ug/L	25.0	25.0	1	09/06/18	09/07/18 15:29	WB
Hexachlorobutadiene	ND		ug/L	50.0	50.0	1	09/06/18	09/07/18 15:29	WB
Hexachloroethane	ND		ug/L	50.0	50.0	1	09/06/18	09/07/18 15:29	WB
3&4-Methylphenol	ND		ug/L	50.0	50.0	1	09/06/18	09/07/18 15:29	WB
2-Methylphenol	ND		ug/L	50.0	50.0	1	09/06/18	09/07/18 15:29	WB
Nitrobenzene	ND		ug/L	50.0	50.0	1	09/06/18	09/07/18 15:29	WB
Pentachlorophenol	ND		ug/L	125	125	1	09/06/18	09/07/18 15:29	WB
Pyridine	ND		ug/L	125	125	1	09/06/18	09/07/18 15:29	WB
2,4,5-Trichlorophenol	ND		ug/L	50.0	50.0	1	09/06/18	09/07/18 15:29	WB
2,4,6-Trichlorophenol	ND		ug/L	50.0	50.0	1	09/06/18	09/07/18 15:29	WB

Surrogate: 2-Fluorophenol		21-110	31 %		09/06/18	09/07/18 15:29		
Surrogate: Phenol-d5		10-110	27 %		09/06/18	09/07/18 15:29		
Surrogate: Nitrobenzene-d5		35-114	41 %		09/06/18	09/07/18 15:29		
Surrogate: 2,4,6-Tribromophenol		10-123	49 %		09/06/18	09/07/18 15:29		
Surrogate: 2-Fluorobiphenyl		43-116	36 %		09/06/18	09/07/18 15:29		S-BN
Surrogate: Terphenyl-d14		33-141	115 %		09/06/18	09/07/18 15:29		

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Rabecka Koons, Quality Assurance Officer

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**Analytical Results**

**Project: MT. AIRY RAILS**

Project Number: 47:5784  
Project Manager: Erik Schaberl

Reported:  
09/13/18 10:40

**82918-11**

**8083011-03 (Soil)**  
**Sample Date: 08/29/18**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
<b>TCLP CHLORINATED PESTICIDES BY EPA METHODS 1311/8081 (GC/ECD)</b>									
alpha-Chlordane	ND		ug/L	0.250	0.250	1	09/06/18	09/12/18 19:34	SJA
gamma-Chlordane	ND		ug/L	0.250	0.250	1	09/06/18	09/12/18 19:34	SJA
Endrin	ND		ug/L	0.500	0.500	1	09/06/18	09/12/18 19:34	SJA
Heptachlor	ND		ug/L	0.250	0.250	1	09/06/18	09/12/18 19:34	SJA
Heptachlor epoxide	ND		ug/L	0.250	0.250	1	09/06/18	09/12/18 19:34	SJA
Lindane (gamma-BHC)	ND		ug/L	0.250	0.250	1	09/06/18	09/12/18 19:34	SJA
Methoxychlor	ND		ug/L	2.50	2.50	1	09/06/18	09/12/18 19:34	SJA
Toxaphene	ND		ug/L	1.00	1.00	1	09/06/18	09/12/18 19:34	SJA
<i>Surrogate: Tetrachloro-m-xylene</i>			50-150	66 %	09/06/18		09/12/18 19:34		
<i>Surrogate: Decachlorobiphenyl</i>			50-150	92 %	09/06/18		09/12/18 19:34		
<b>TCLP CHLORINATED HERBICIDES BY EPA METHOD 1311/8151A (GC/ECD)</b>									
2,4-D	ND		mg/L	0.0800	0.0800	1	09/06/18	09/10/18 21:05	CMK
2,4,5-TP (Silvex)	ND		mg/L	0.0800	0.0800	1	09/06/18	09/10/18 21:05	CMK
<i>Surrogate: DCAA</i>			20-150	82 %	09/06/18		09/10/18 21:05		
<b>TCLP METALS BY EPA METHODS 1311/3010A/6020A (ICP-MS)</b>									
Arsenic	ND		mg/L	0.500	0.500	1	09/06/18	09/06/18 16:08	CMK
Barium	ND		mg/L	0.500	0.500	1	09/06/18	09/06/18 16:08	CMK
Cadmium	ND		mg/L	0.500	0.500	1	09/06/18	09/06/18 16:08	CMK
Chromium	ND		mg/L	0.500	0.500	1	09/06/18	09/06/18 16:08	CMK
Lead	ND		mg/L	0.500	0.500	1	09/06/18	09/06/18 16:08	CMK
Mercury	ND		mg/L	0.0100	0.0100	1	09/06/18	09/06/18 16:08	CMK
Selenium	ND		mg/L	0.500	0.500	1	09/06/18	09/06/18 16:08	CMK
Silver	ND		mg/L	0.500	0.500	1	09/06/18	09/06/18 16:08	CMK



Rabecka Koons, Quality Assurance Officer

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**Analytical Results**

**Project: MT. AIRY RAILS**

Project Number: 47:5784  
Project Manager: Erik Schaberl

**Reported:**  
09/13/18 10:40

**6A**

**8083011-04 (Soil)**  
**Sample Date: 08/29/18**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
<b>Wet Chemistry Performed at Enviro-Chem</b>									
% Solids	76.3		%	1.00	1.00	1	09/05/18	09/05/18 11:55	BMG
<b>Metals EPA 6020 Performed at Enviro-Chem</b>									
Arsenic	204		mg/kg dry	0.495	0.495	2	09/04/18	09/06/18 15:02	MAP



Rabecka Koons, Quality Assurance Officer

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## Analytical Results

**Project: MT. AIRY RAILS**

Project Number: 47:5784  
Project Manager: Erik Schaberl

Reported:  
09/13/18 10:40

**6B**

**8083011-05 (Soil)**  
**Sample Date: 08/29/18**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
<b>Wet Chemistry Performed at Enviro-Chem</b>									
% Solids	79.2		%	1.00	1.00	1	09/05/18	09/05/18 11:55	BMG
<b>Metals EPA 6020 Performed at Enviro-Chem</b>									
Arsenic	342		mg/kg dry	0.468	0.468	2	09/04/18	09/06/18 15:17	MAP



Rabecka Koons, Quality Assurance Officer

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## Analytical Results

**Project: MT. AIRY RAILS**

Project Number: 47:5784  
Project Manager: Erik Schaberl

Reported:  
09/13/18 10:40

6C

8083011-06 (Soil)  
Sample Date: 08/29/18

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
<b>Wet Chemistry Performed at Enviro-Chem</b>									
% Solids	70.9		%	1.00	1.00	1	09/05/18	09/05/18 11:55	BMG
<b>Metals EPA 6020 Performed at Enviro-Chem</b>									
Arsenic	406		mg/kg dry	0.553	0.553	2	09/04/18	09/06/18 15:20	MAP



Rabecka Koons, Quality Assurance Officer

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## Analytical Results

**Project: MT. AIRY RAILS**

Project Number: 47:5784  
Project Manager: Erik Schaberl

Reported:  
09/13/18 10:40

7A

8083011-07 (Soil)  
Sample Date: 08/29/18

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
<b>Wet Chemistry Performed at Enviro-Chem</b>									
% Solids	76.1		%	1.00	1.00	1	09/05/18	09/05/18 11:55	BMG
<b>Metals EPA 6020 Performed at Enviro-Chem</b>									
Arsenic	115		mg/kg dry	0.515	0.515	2	09/04/18	09/06/18 15:23	MAP



Rabecka Koons, Quality Assurance Officer

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**Analytical Results**

**Project: MT. AIRY RAILS**

Project Number: 47:5784  
Project Manager: Erik Schaberl

**Reported:**  
09/13/18 10:40

**7B**

**8083011-08 (Soil)**  
**Sample Date: 08/29/18**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
<b>Wet Chemistry Performed at Enviro-Chem</b>									
% Solids	83.0		%	1.00	1.00	1	09/05/18	09/05/18 11:55	BMG
<b>Metals EPA 6020 Performed at Enviro-Chem</b>									
Arsenic	288		mg/kg dry	0.313	0.313	2	09/04/18	09/06/18 15:32	MAP

Rabecka Koons, Quality Assurance Officer

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**Analytical Results**

**Project: MT. AIRY RAILS**

Project Number: 47:5784  
Project Manager: Erik Schaberl

**Reported:**  
09/13/18 10:40

7C

**8083011-09 (Soil)**  
**Sample Date: 08/29/18**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
<b>Wet Chemistry Performed at Enviro-Chem</b>									
% Solids	72.3		%	1.00	1.00	1	09/05/18	09/05/18 11:55	BMG
<b>Metals EPA 6020 Performed at Enviro-Chem</b>									
Arsenic	232		mg/kg dry	0.503	0.503	2	09/04/18	09/06/18 15:35	MAP

Rabecka Koons, Quality Assurance Officer

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## Analytical Results

**Project: MT. AIRY RAILS**

Project Number: 47:5784  
Project Manager: Erik Schaberl

Reported:  
09/13/18 10:40

11A

8083011-10 (Soil)  
Sample Date: 08/29/18

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
<b>Wet Chemistry Performed at Enviro-Chem</b>									
% Solids	74.3		%	1.00	1.00	1	09/05/18	09/05/18 11:55	BMG
<b>Metals EPA 6020 Performed at Enviro-Chem</b>									
Arsenic	108		mg/kg dry	0.489	0.489	2	09/04/18	09/06/18 15:38	MAP



Rabecka Koons, Quality Assurance Officer

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**Analytical Results**

**Project: MT. AIRY RAILS**

Project Number: 47:5784  
Project Manager: Erik Schaberl

**Reported:**  
09/13/18 10:40

**11B**

**8083011-11 (Soil)**  
**Sample Date: 08/29/18**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
<b>Wet Chemistry Performed at Enviro-Chem</b>									
% Solids	76.3		%	1.00	1.00	1	09/05/18	09/05/18 11:55	BMG
<b>Metals EPA 6020 Performed at Enviro-Chem</b>									
Arsenic	733		mg/kg dry	0.423	0.423	2	09/04/18	09/06/18 15:41	MAP



Rabecka Koons, Quality Assurance Officer

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## Analytical Results

**Project: MT. AIRY RAILS**

Project Number: 47:5784  
Project Manager: Erik Schaberl

Reported:  
09/13/18 10:40

11C

8083011-12 (Soil)  
Sample Date: 08/29/18

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
<b>Wet Chemistry Performed at Enviro-Chem</b>									
% Solids	79.8		%	1.00	1.00	1	09/05/18	09/05/18 11:55	BMG
<b>Metals EPA 6020 Performed at Enviro-Chem</b>									
Arsenic	66.0		mg/kg dry	0.447	0.447	2	09/04/18	09/06/18 15:44	MAP



Rabecka Koons, Quality Assurance Officer

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## Analytical Results

### Project: MT. AIRY RAILS

Project Number: 47:5784  
Project Manager: Erik Schaberl

Reported:  
09/13/18 10:40

Maryland Spectral Services does not maintain certification for the following analytical parameters:

#### Enviro-Chem

Matrix , Method , Analyte

Solid | TS-% | % Solids

Solid | 6020S-As | Arsenic

#### Maryland Spectral Services

Matrix , Method , Analyte

Soil | 8151 (TCLP) | 2,4-D

Soil | 8151 (TCLP) | 2,4,5-TP (Silvex)

Soil | 6020 (RCRA8 TCLP) | Arsenic

Soil | 6020 (RCRA8 TCLP) | Barium

Soil | 6020 (RCRA8 TCLP) | Cadmium

Soil | 6020 (RCRA8 TCLP) | Chromium

Soil | 6020 (RCRA8 TCLP) | Lead

Soil | 6020 (RCRA8 TCLP) | Mercury

Soil | 6020 (RCRA8 TCLP) | Selenium

Soil | 6020 (RCRA8 TCLP) | Silver

Matrix , Method , Analyte

Water | 8270 (TCLP) | 1,4-Dichlorobenzene

Water | 8270 (TCLP) | 2,4-Dinitrotoluene

Water | 8270 (TCLP) | Hexachlorobenzene

Water | 8270 (TCLP) | Hexachlorobutadiene

Water | 8270 (TCLP) | Hexachloroethane

Water | 8270 (TCLP) | 3&4-Methylphenol

Water | 8270 (TCLP) | 2-Methylphenol

Water | 8270 (TCLP) | Nitrobenzene

Water | 8270 (TCLP) | Pentachlorophenol

Water | 8270 (TCLP) | Pyridine

Water | 8270 (TCLP) | 2,4,5-Trichlorophenol

Water | 8270 (TCLP) | 2,4,6-Trichlorophenol

Water | 8081 (TCLP) | alpha-Chlordane

Water | 8081 (TCLP) | gamma-Chlordane

Water | 8081 (TCLP) | Endrin

Water | 8081 (TCLP) | Heptachlor

Water | 8081 (TCLP) | Heptachlor epoxide

Water | 8081 (TCLP) | Lindane (gamma-BHC)

Water | 8081 (TCLP) | Methoxychlor

Water | 8081 (TCLP) | Toxaphene



Rabecka Koons, Quality Assurance Officer

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## Analytical Results

### Project: MT. AIRY RAILS

Project Number: 47:5784  
Project Manager: Erik Schaberl

### Notes and Definitions

S-BN	Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.
S-99	Laboratory spike was not added to this sample
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
RPD	Relative Percent Difference
%-Solids	Percent Solids is a supportive test and as such does not require accreditation



Rabecka Koons, Quality Assurance Officer

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1 OF 2

### CHAIN-OF-CUSTODY RECORD

**Company Name:** ECS - *Franklin*

**Project Name:** Mr. Army Bails

**Sampler(s):** ESS

**Project Manager:** *ESS*

**Project ID:** #5784

**P.O. Number:** 47:5784

**Maryland Spectral Services, Inc.**  
1500 Caton Center Drive, Suite G  
Baltimore, MD 21227  
410-247-7600 • Fax 410-247-7602  
labman@mdspectral.com

**Matrix Codes:** NW (nonpotable water)  
PW (potable water)

**Preservative:** Field pH, Residual Chlorine, QC Request, Trip Blank, Field Blank

**MSS Lab ID**

Field Sample ID	Date	Time	No. of Containers			Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
			Water	Soil	Other					
82918-6	8/29/18	0955	X	X	2				8083011-01	
82918-7	8/29/18	1030	X	X	2				-02	
82918-11	8/29/18	1052	X	X	2				-03	
6A	8/29/18	1005	X	X	1				-04	
6B	8/29/18	1007	X	X	1				-05	
6C	8/29/18	1010	X	X	1				-06	
7A	8/29/18	1032	X	X	1				-07	
7B	8/29/18	1034	X	X	1				-08	
7C	8/29/18	1036	X	X	1				-09	

**Relinquished by: (Signature)** *Ed Silva* / **Date/Time** 8/30/18

**Received by: (Signature)** *Ed Silva* / **Date/Time** 8/30/18

**Relinquished by: (Signature)** *Ed Silva* / **Date/Time** 8/30/18

**Received by: (Signature)** *Ed Silva* / **Date/Time** 8/30/18

**Lab Use:**

Temp: 33 °C

Received on Ice

Received same day

Preservation Appropriate

**Sample Disposal:**

Return to Client

Disposal by lab

Archive for \_\_\_ days

**Turn Around Time:**

Normal (7 day)

5 day

4 day

3 day

Rush (2 day)

Next Day

Other:

Specific Due Date: \_\_\_\_\_

**Delivery Method:**

Courier

Client

UPS

FedEx

USPS

Other:

**Special Instructions/QC Requirements & Comments:**

*Ascorbic*

*TKX TELP-FULL*

*Admin Motion*



**SUBCONTRACT ORDER**  
Maryland Spectral Services

**8083011**

**RECEIVING LABORATORY:**

Enviro-Chem Laboratories, Inc  
47 Loveton Circle, Suite K  
Sparks, MD 21152  
Phone : (410) 472-1112  
Fax: (410) 472-1116

Auto-log Sent  
Date/Initial

8/30/18 1554/ KTD

**SENDING LABORATORY:**

Maryland Spectral Services  
1500 Caton Center Dr. Suite G  
Halethorpe, MD 21227  
Phone: 410.247.7600  
Project Manager: Cory Koons  
Reports Email: Reporting@mdspectral.com

**Due 4:00 PM 09/11/18**

**Laboratory ID**

**Comments**

Sample ID: 8083011-04 6A

Soil

6A

Sample ID: 8083011-05 6B

Soil

6B

Sample ID: 8083011-06 6C

Soil

6C

Sample ID: 8083011-07 7A

Soil

7A

Sample ID: 8083011-08 8A

Soil

8A

6020S-As

Containers Supplied:  
Other (A)

6020S-As

Containers Supplied:  
Other (A)

6020S-As

Containers Supplied:  
Other (A)

6020S-As

Containers Supplied:  
Other (A)

Released By: *[Signature]* Date: 8/31/18  
1000

Received By: *Benjamin [Signature]* Date: 8/31/18 1000

**SUBCONTRACT ORDER**  
 Maryland Spectral Services  
**8083011**

**Due 4:00 PM 09/11/18** Laboratory ID \_\_\_\_\_ Comments \_\_\_\_\_

Sample ID: 8083011-08 7B Soil Sampled: 08/29/18 10:34

6020S-As \_\_\_\_\_

Containers Supplied:  
 Other (A) \_\_\_\_\_

Sample ID: 8083011-09 7C Soil Sampled: 08/29/18 10:36

6020S-As \_\_\_\_\_

Containers Supplied:  
 Other (A) \_\_\_\_\_

Sample ID: 8083011-10 11A Soil Sampled: 08/29/18 11:02

6020S-As \_\_\_\_\_

Containers Supplied:  
 Other (A) \_\_\_\_\_

Sample ID: 8083011-11 11B Soil Sampled: 08/29/18 11:04

6020S-As \_\_\_\_\_

Containers Supplied:  
 Other (A) \_\_\_\_\_

Sample ID: 8083011-12 11C Soil Sampled: 08/29/18 11:06

6020S-As \_\_\_\_\_

Containers Supplied:  
 Other (A) \_\_\_\_\_

Released By [Signature] Date 8/31/18  
 Received By Benjamin [Signature] Date 8/31/18 <sup>1000</sup>