



**LIMITED PHASE II ESA  
RAILS TO TRAILS  
MOUNT AIRY, MARYLAND 21771**

**ECS PROJECT NO. 13-5900-B**

**FOR**

**TOWN OF MOUNT AIRY**

**FEBRUARY 6, 2014**



February 6, 2014

Mr. Barney Quinn  
Town Engineer  
Town of Mt. Airy  
110 South Main Street  
Mt. Airy, Maryland 21771

ECS Project No. 13-5900-B

Reference: Limited Phase II ESA, Rails to Trails, Mount Airy, MD 21771.

Dear Mr. Quinn:

Pursuant to your request, ECS Mid-Atlantic, LLC (ECS) is pleased to provide you with the results of our recent Limited Phase II ESA of the referenced property. Our services were provided in accordance with ECS Proposal No. 13-7183-EP, dated December 11, 2013.

### **BACKGROUND**

The subject section of track is currently out of use, and overgrown with vegetation. Rails, ties and ballast are still present in this section. The easement runs through residential areas of the town, on the Frederick County side of Main Street. It is generally located just west of where the track crosses Hill Street to just east of Tempest Lane, in Mount Airy, MD (Figure 1).

ECS understands this section of track is proposed for the "Rails to Trails" program. ECS was provided with "Exhibit B-Minimum Sampling Requirements for Rails-to-Trails Conversion of Rail Corridors" prepared by CSX. As this section of track is between 0.5 and 0.75 miles in length (estimated 0.57 miles), a minimum of 15 composite samples are required. Therefore, 15 composite samples were obtained to a depth of approximately 6" each and spaced evenly along the corridor. Each composite sample consisted of 5 discrete locations as specified on the provided "Typical Corridor Sampling Layout" plan provided to ECS and prepared by CSX.

### **SCOPE OF WORK AND METHODOLOGY**

ECS utilized hand tools to collect samples from the top 6 inches of material along the railroad embankment.

As outlined in “Exhibit B-Minimum Sampling Requirements for Rails-to-Trails Conversion of Rail Corridors” prepared by CSX, a total of 15 composite samples were collected (Figure 1). In general accordance with the provided “Typical Corridor Sampling Layout” plan prepared by CSX each composite sample consisted of 5 discrete locations spanning diagonally across the easement approximately 40 feet apart (each composite sample representing approximately 200 linear feet).

The five discrete samples were homogenized in a dedicated plastic bag forming one composite sample. Sampling equipment was decontaminated with phosphate-free detergent and clean water between composite sample locations.

Soil samples were placed into laboratory-grade jars, placed on ice and submitted under chain-of-custody protocol to an independent laboratory for chemical testing for the following parameters, as outlined in Exhibit B:

- Total Petroleum Hydrocarbon (TPH) - Diesel Range Organics (DRO)- EPA 8015
- Arsenic and Lead (EPA 6020A)
- Poly-aromatic Hydrocarbons (PAH's)- EPA 8270

## RESULTS

### Soils

ECS collected composite soil samples from the locations illustrated on the attached Figure 1. The results of the laboratory analysis for metals and Diesel Range Organics (DRO) are summarized below.

Table 1: Lab Results-Metals and DRO

Location	Arsenic (mg/Kg)	Lead (mg/Kg)	TPH-DRO (mg/Kg)
ECS-1	<b>220</b>	211	253
ECS-2	<b>126</b>	106	206
ECS-3	<b>189</b>	77	<b>620</b>
ECS-4	<b>268</b>	114	285
ECS-5	<b>315</b>	125	313
ECS-6	<b>407</b>	183	249
ECS-7	<b>444</b>	127	198
ECS-8	<b>263</b>	95.1	309
ECS-9	<b>295</b>	218	406
ECS-10	<b>248</b>	129	482
ECS-11	<b>474</b>	105	494
ECS-12	<b>251</b>	110	225
ECS-13	<b>242</b>	82.5	224
ECS-14	<b>192</b>	122	240
ECS-15	<b>202</b>	96.5	246
NRCS	4.9*	1000	620

\*Value represents Anticipated Typical Concentration (ATC) for central Maryland used in place of RCS/NRCS  
 MDE-NRCS= Maryland Department of the Environment Non-residential Cleanup Standard  
 Bold values indicate levels above the NRCS

The results of the soil testing indicate elevated levels of arsenic above the Maryland Department of Environment (MDE) Anticipated Typical Concentration (ATC) for all samples. The detected levels are several orders of magnitude higher than typical naturally occurring levels (5-10 ppm), and are likely associated with leaching from railroad tie preservatives and pesticides/herbicides used along the easement during its operation. Recently, the MDE has determined that risk assessments for arsenic can only be conducted by the state toxicologist to determine bioavailability. Therefore, when preparing for arsenic remedial activities, the MDE should be consulted. The concentration of lead did not exceed the NRCS for any of the samples submitted.

The concentration of DRO is below the NRCS screening levels at all locations except ECS-3, though it should be noted that elevated levels were detected at all locations. DRO contamination associated with railroad operations may result from air compressors used in

braking, fuel spills, leaks, and other sources. Results of the laboratory analysis for PAH's are on Table 2 below.

Table 2: Lab Results-PAH Exceedances (mg/Kg)

Location	Benzo(a)-anthracene	Benzo(b)-fluoranthene	Benzo(a)-pyrene	Dibenzo(a,h)-anthracene	Indeno-pyrene
ECS-1	ND	1.9	ND	ND	ND
ECS-2	1.9	<b>5.16</b>	<b>2.39</b>	0.387	1.09
ECS-3	<b>4.6</b>	<b>14.5</b>	<b>6.5</b>	<b>1.38</b>	<b>3.91</b>
ECS-4	0.88	3.19	<b>1.16</b>	0.234	0.720
ECS-5	1.35	<b>4.64</b>	<b>1.49</b>	0.329	0.972
ECS-6	2.1	<b>7.49</b>	<b>2.44</b>	<b>0.453</b>	1.41
ECS-7	0.34	0.712	0.29	ND	0.149
ECS-8	1.21	<b>4.38</b>	<b>1.48</b>	0.274	0.751
ECS-9	1.42	<b>8.24</b>	<b>3.16</b>	<b>0.716</b>	1.93
ECS-10	1.12	<b>5.46</b>	<b>1.73</b>	<b>0.419</b>	1.26
ECS-11	1.31	<b>5.0</b>	<b>1.66</b>	<b>0.395</b>	1.08
ECS-12	0.46	1.67	<b>0.55</b>	0.14	0.37
ECS-13	0.73	2.24	<b>0.85</b>	0.23	0.62
ECS-14	0.43	1.58	<b>0.53</b>	0.14	0.38
ECS-15	1.54	<b>4.93</b>	<b>1.78</b>	0.38	1.15
NRCS	3.9	3.9	0.39	0.39	3.9

ND = non-detect

MDE-NRCS= Maryland Department of the Environment Non-residential Cleanup Standard

Bold values indicate levels above the NRCS

One or more Poly-aromatic Hydrocarbons (PAHs) exceed the corresponding cleanup standards at all locations except ECS-1 and ECS-7. PAH's are often a product of fossil fuel combustion. Additional PAH compounds were detected in most of the samples but did not exceed their corresponding non-residential cleanup standards. The complete lab results are included in the appendix.

## **CONCLUSIONS AND RECOMMENDATIONS**

The results of the soil testing indicate elevated levels of Arsenic well above the corresponding non-residential cleanup standards (NRCS) at all locations sampled. PAH's that exceed the corresponding NRCS levels were detected at all locations except ECS-1 and ECS-7. The concentration of DRO is below NRCS levels at all locations except ECS-3, though it should be noted that elevated levels were detected at all locations. ECS makes the following recommendations regarding the above findings:

1. If disturbance of soil (i.e., railroad ballast, soil, etc.) in the impacted areas is planned, a Soil Management Plan should be prepared to address the detected parameters. The MDE Oil Control Program has determined that petroleum impacted soils with TPH-DRO levels below 620 ppm in a non-residential setting do not pose a risk or threat of adverse effects if left undisturbed. However, impacted soil (i.e., greater than 10 ppm) that is removed from the property or otherwise disturbed and handled is considered "oil contaminated" and therefore cannot be used on another property (or at another location onsite) in Maryland as clean fill unless approved by MDE in writing.

The soil management plan can be prepared to address the detected arsenic, DRO and PAH levels and associated worker safety precautions when proposed grading/excavation activities are determined. Depending on the proposed activities, it may be possible to "cap" the existing material with the proposed pavement section or imported clean material. Upon receiving construction details of the proposed rails to trail alignment, ECS can work with the client to develop a site specific approach. However, if soil removal activities are proposed, soil disposal implications should be considered.

If taken to a disposal facility, further testing may be required to meet facility permit requirements. If used as clean fill out of state, appropriate state regulations will apply. If the material is disposed at a sanitary landfill, it must be certified to receive such soil and additional testing may be required.

Recently, the MDE has determined that risk assessments for arsenic can only be conducted by the state toxicologist to determine bioavailability. Therefore, when preparing for arsenic remedial activities, the MDE should be consulted.

2. During future excavation and soil removal, ECS recommends that an environmental technician be on site to monitor waste manifests and field screen soil during removal. Additionally, a technician can also help to prevent the unnecessary removal of clean soil as contaminated soil.

3. Following excavation, ECS recommends testing bottom samples as a confirmatory measure. If "capping" is deemed an acceptable alternative, ECS recommends documentation of capping material and thicknesses as applicable.

ECS has appreciated the opportunity to work with you on this project. If you have any questions regarding this report, or other aspects of the project, please feel free to contact us at (301) 668-4303.

Respectfully submitted,

**ECS MID-ATLANTIC, LLC**



Erik J. Schaberl  
Senior Environmental Scientist



Allen T. Sullivan, MEM, LEED AP  
Manager, Environmental Services

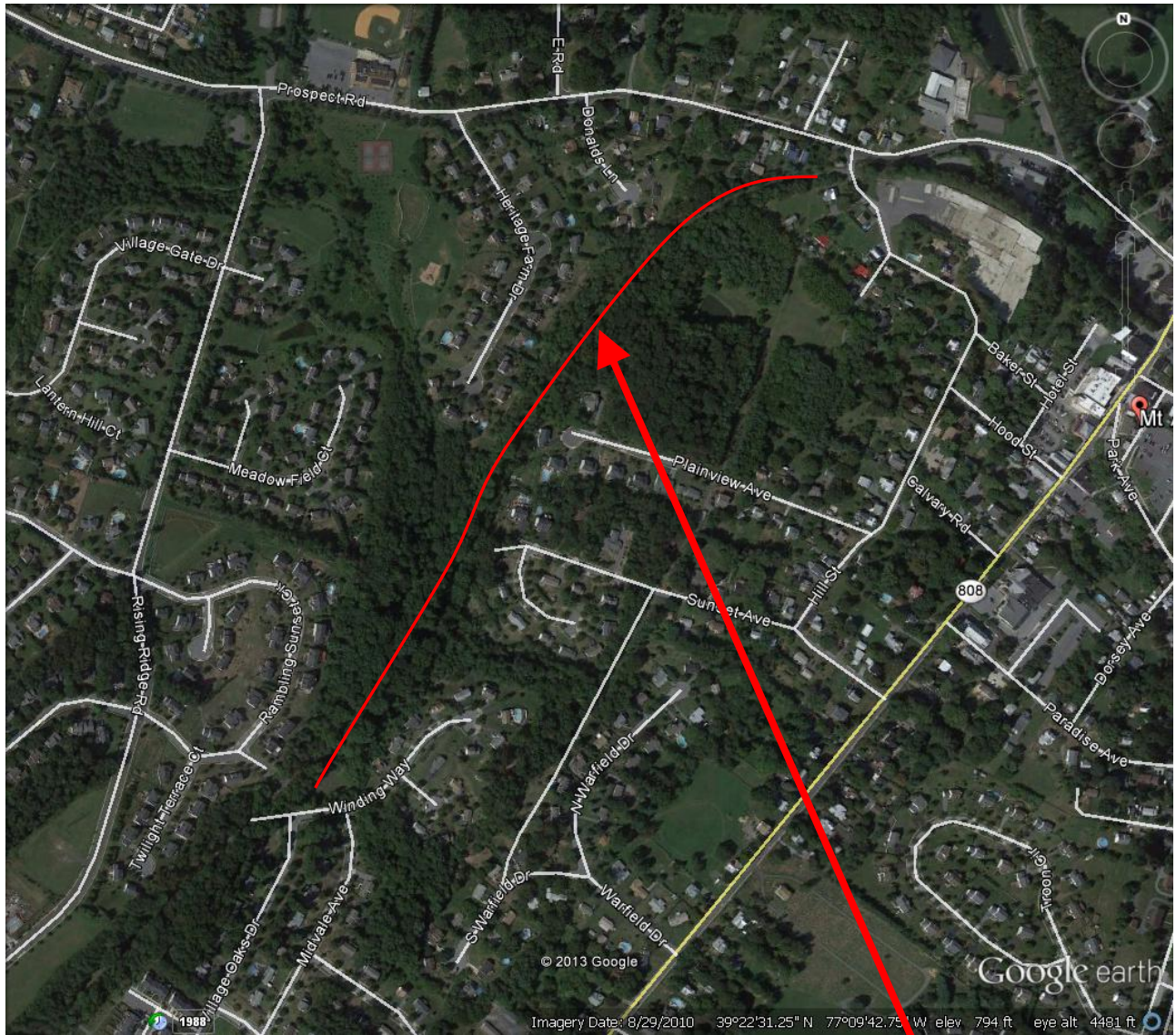


Garnett B Williams, CPG  
Principal Geologist

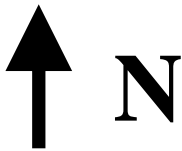
Attachments:     Figures  
                         Laboratory Results  
                         Requirements for Rails to Trails Conversion and sampling layout

## **Appendix**





**Approximate Subject Location**



**Limited Phase II ESA  
 Rails to Trails Site  
 Hill St. to Tempest Ln.  
 Mt. Airy, MD**

**1/30/2014**

ECS Mid-Atlantic, LLC  
 5112 Pegasus Ct., Suite S  
 Frederick, MD 21704



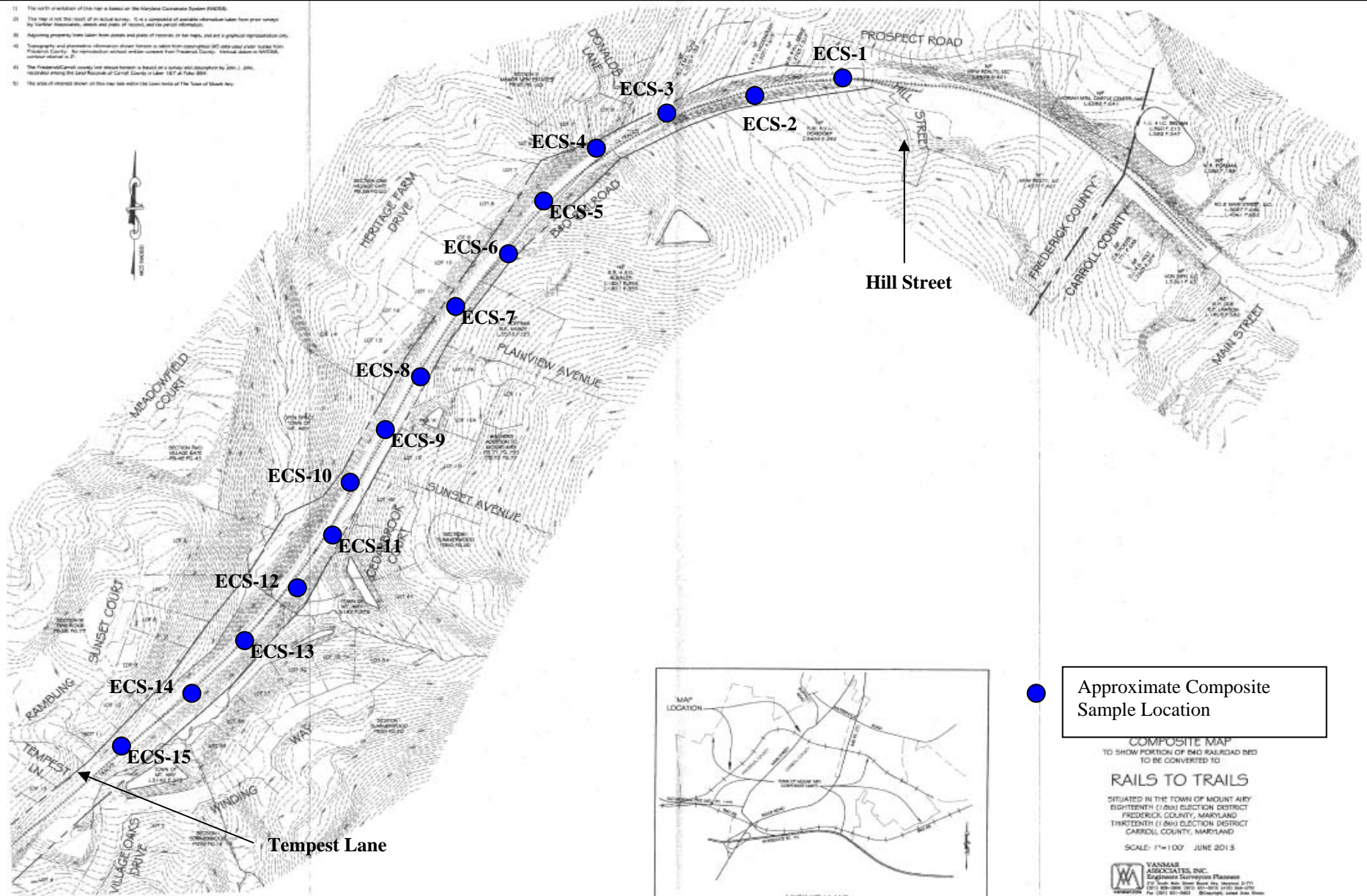
**Figure 1**

**Site Aerial Photograph  
 (circa 2010)**

**ECS Project No. 13-5900-B**

not to scale

12. The north orientation of this map is based on the Maryland Coordinate System (MDCS).
13. This map is not the result of an actual survey. It is a compilation of available information taken from prior surveys by VanNaeve Associates, and other sources of records, and the parcel information.
14. Adjusting property lines taken from deeds and plans of records to the map, and all graphical representation only.
15. Topographic and elevation information shown herein is taken from topographic data and aerial photos taken from Frederick County. No representation or warranty is made for Frederick County. VanNaeve Associates, Carroll County, MD.
16. The Frederick/Carroll county line shown herein is based on a survey and description by John J. Johns, RECS/Md among the Land Records of Carroll County in Liber 18.17 of Folio 389.
17. The area of interest shown on this map lies within the town of Mount Airy.



● Approximate Composite Sample Location

COMPOSITE MAP  
TO SHOW PORTION OF RAIL RAILROAD BED  
TO BE CONVERTED TO:

**RAILS TO TRAILS**

SITUATED IN THE TOWN OF MOUNT AIRY  
EIGHTEENTH (18th) ELECTION DISTRICT  
FREDERICK COUNTY, MARYLAND  
THIRTEENTH (13th) ELECTION DISTRICT  
CARROLL COUNTY, MARYLAND

SCALE: 1" = 100'    JUNE 2013

**VANNAE ASSOCIATES, INC.**  
Engineers Surveyors Planners  
210 North Main Street, Mount Airy, Maryland 21771  
(301) 498-9666 (201) 651-4552 (410) 334-0799  
Fax: (301) 621-1623    ©Copyright, VanNaeve Associates, Inc.

**Limited Phase II ESA**

**Rails to Trails  
Hill St. to Tempest Ln.  
Mount Airy, MD  
1.30.14**

ECS Mid-Atlantic, LLC



**Figure 2**

**Sample Location Plan**

**ECS Project No. 13-5900-B**

29 January 2014

Allen Sullivan  
ECS - Frederick  
5112 Pegasus Ct., Suite S  
Frederick, MD 21704

RE: MT AIRY RAILS TO TRAILS

Enclosed are the results of analyses for samples received by the laboratory on 01/21/14 12:40.

Maryland Spectral Services, Inc. is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory. Certification status for analytes included in this report will be provided upon request.

Please visit our website at [www.mdspectral.com](http://www.mdspectral.com) for a complete listing of our NELAP accreditations.

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

Sincerely,



Will Brewington  
Staff Chemist

## Analytical Results

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
ECS-1		4012101-01	Soil	01/17/14 09:30	01/21/14 12:40
ECS-2		4012101-02	Soil	01/17/14 09:40	01/21/14 12:40
ECS-3		4012101-03	Soil	01/17/14 09:51	01/21/14 12:40
ECS-4		4012101-04	Soil	01/17/14 09:58	01/21/14 12:40
ECS-5		4012101-05	Soil	01/17/14 10:11	01/21/14 12:40
ECS-6		4012101-06	Soil	01/17/14 10:23	01/21/14 12:40
ECS-7		4012101-07	Soil	01/17/14 10:45	01/21/14 12:40
ECS-8		4012101-08	Soil	01/17/14 10:55	01/21/14 12:40
ECS-9		4012101-09	Soil	01/17/14 11:14	01/21/14 12:40
ECS-10		4012101-10	Soil	01/17/14 11:24	01/21/14 12:40
ECS-11		4012101-11	Soil	01/17/14 11:36	01/21/14 12:40
ECS-12		4012101-12	Soil	01/17/14 11:50	01/21/14 12:40
ECS-13		4012101-13	Soil	01/17/14 12:00	01/21/14 12:40
ECS-14		4012101-14	Soil	01/17/14 12:11	01/21/14 12:40
ECS-15		4012101-15	Soil	01/17/14 12:26	01/21/14 12:40



Will Brewington, Staff Chemist

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## Analytical Results

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

**ECS-1**

**4012101-01 (Soil)**  
**Sample Date: 01/17/14**

Analyte	Result	Units	Reporting		Prepared	Analyzed	Analyst	Notes
			Limit	Dilution				
<b>SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS)</b>								
Acenaphthene	ND	ug/kg dry	3520	2	01/22/14	01/27/14 17:31	WB	
Acenaphthylene	ND	ug/kg dry	3520	2	01/22/14	01/27/14 17:31	WB	
Anthracene	ND	ug/kg dry	3520	2	01/22/14	01/27/14 17:31	WB	
Benzo[a]anthracene	ND	ug/kg dry	3520	2	01/22/14	01/27/14 17:31	WB	
<b>Benzo[b]fluoranthene</b>	<b>1990</b>	ug/kg dry	1410	2	01/22/14	01/27/14 17:31	WB	J
Benzo[k]fluoranthene	ND	ug/kg dry	3520	2	01/22/14	01/27/14 17:31	WB	
Benzo[ghi]perylene	ND	ug/kg dry	3520	2	01/22/14	01/27/14 17:31	WB	
Benzo[a]pyrene	ND	ug/kg dry	3520	2	01/22/14	01/27/14 17:31	WB	
Chrysene	ND	ug/kg dry	3520	2	01/22/14	01/27/14 17:31	WB	
Dibenzo[a,h]anthracene	ND	ug/kg dry	3520	2	01/22/14	01/27/14 17:31	WB	
Fluoranthene	ND	ug/kg dry	3520	2	01/22/14	01/27/14 17:31	WB	
Fluorene	ND	ug/kg dry	3520	2	01/22/14	01/27/14 17:31	WB	
Indeno[1,2,3-cd]pyrene	ND	ug/kg dry	3520	2	01/22/14	01/27/14 17:31	WB	
2-Methylnaphthalene	ND	ug/kg dry	3520	2	01/22/14	01/27/14 17:31	WB	
Naphthalene	ND	ug/kg dry	3520	2	01/22/14	01/27/14 17:31	WB	
Phenanthrene	ND	ug/kg dry	3520	2	01/22/14	01/27/14 17:31	WB	
Pyrene	ND	ug/kg dry	3520	2	01/22/14	01/27/14 17:31	WB	
<i>Surrogate: 2-Fluorophenol</i>		21-110	65 %		01/22/14	01/27/14 17:31		
<i>Surrogate: Phenol-d5</i>		10-110	84 %		01/22/14	01/27/14 17:31		
<i>Surrogate: Nitrobenzene-d5</i>		35-114	80 %		01/22/14	01/27/14 17:31		
<i>Surrogate: 2,4,6-Tribromophenol</i>		10-123	74 %		01/22/14	01/27/14 17:31		
<i>Surrogate: 2-Fluorobiphenyl</i>		43-116	60 %		01/22/14	01/27/14 17:31		
<i>Surrogate: Terphenyl-d14</i>		33-141	70 %		01/22/14	01/27/14 17:31		
<b>DIESEL RANGE ORGANICS BY EPA 3540/8015B</b>								
<b>Diesel-Range Organics</b>	<b>253</b>	mg/kg dry	14.1	1	01/21/14	01/22/14 16:21	CMK	
<i>Surrogate: o-Terphenyl</i>		70-130	71 %		01/21/14	01/22/14 16:21		

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Will Brewington, Staff Chemist

**Analytical Results**

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

**ECS-1**

**4012101-01 (Soil)**  
**Sample Date: 01/17/14**

Analyte	Result	Units	Reporting Limit	Dilution	Prepared	Analyzed	Analyst	Notes
<b>PERCENT SOLIDS</b>								
Percent Solids	71	%		1	01/21/14	01/22/14 08:15	WB	
<b>METALS ANALYSIS PERFORMED AT ECL INC</b>								
Arsenic*	220	mg/kg dry	0.508	1	02/24/14	02/24/14 00:00	ECL	
Lead*	211	mg/kg dry	0.508	1	02/24/14	02/24/14 00:00	ECL	

Will Brewington, Staff Chemist

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## Analytical Results

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

**ECS-2**

**4012101-02 (Soil)**  
**Sample Date: 01/17/14**

Analyte	Result	Units	Reporting			Prepared	Analyzed	Analyst	Notes
			Limit	Dilution					
<b>SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS)</b>									
Acenaphthene	152	ug/kg dry	133	1	01/22/14	01/27/14 15:19	WB	J	
Acenaphthylene	343	ug/kg dry	333	1	01/22/14	01/27/14 15:19	WB		
Anthracene	514	ug/kg dry	333	1	01/22/14	01/27/14 15:19	WB		
Benzo[a]anthracene	1920	ug/kg dry	333	1	01/22/14	01/27/14 15:19	WB		
Benzo[b]fluoranthene	5160	ug/kg dry	333	1	01/22/14	01/27/14 15:19	WB		
Benzo[k]fluoranthene	1840	ug/kg dry	333	1	01/22/14	01/27/14 15:19	WB		
Benzo[ghi]perylene	1050	ug/kg dry	333	1	01/22/14	01/27/14 15:19	WB		
Benzo[a]pyrene	2390	ug/kg dry	333	1	01/22/14	01/27/14 15:19	WB		
Chrysene	2610	ug/kg dry	333	1	01/22/14	01/27/14 15:19	WB		
Dibenzo[a,h]anthracene	387	ug/kg dry	333	1	01/22/14	01/27/14 15:19	WB		
Fluoranthene	2700	ug/kg dry	333	1	01/22/14	01/27/14 15:19	WB		
Fluorene	179	ug/kg dry	133	1	01/22/14	01/27/14 15:19	WB	J	
Indeno[1,2,3-cd]pyrene	1090	ug/kg dry	333	1	01/22/14	01/27/14 15:19	WB		
2-Methylnaphthalene	731	ug/kg dry	333	1	01/22/14	01/27/14 15:19	WB		
Naphthalene	850	ug/kg dry	333	1	01/22/14	01/27/14 15:19	WB		
Phenanthrene	1120	ug/kg dry	333	1	01/22/14	01/27/14 15:19	WB		
Pyrene	2860	ug/kg dry	333	1	01/22/14	01/27/14 15:19	WB		
Surrogate: 2-Fluorophenol		21-110	61 %		01/22/14	01/27/14 15:19			
Surrogate: Phenol-d5		10-110	69 %		01/22/14	01/27/14 15:19			
Surrogate: Nitrobenzene-d5		35-114	73 %		01/22/14	01/27/14 15:19			
Surrogate: 2,4,6-Tribromophenol		10-123	80 %		01/22/14	01/27/14 15:19			
Surrogate: 2-Fluorobiphenyl		43-116	74 %		01/22/14	01/27/14 15:19			
Surrogate: Terphenyl-d14		33-141	87 %		01/22/14	01/27/14 15:19			
<b>DIESEL RANGE ORGANICS BY EPA 3540/8015B</b>									
Diesel-Range Organics	206	mg/kg dry	13.3	1	01/21/14	01/22/14 16:58	CMK		
Surrogate: o-Terphenyl		70-130	74 %		01/21/14	01/22/14 16:58			

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Will Brewington, Staff Chemist

**Analytical Results**

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

ECS-2

4012101-02 (Soil)  
Sample Date: 01/17/14

Analyte	Result	Units	Reporting Limit	Dilution	Prepared	Analyzed	Analyst	Notes
<b>PERCENT SOLIDS</b>								
Percent Solids	75	%		1	01/21/14	01/22/14 08:15	WB	
<b>METALS ANALYSIS PERFORMED AT ECL INC</b>								
Arsenic*	126	mg/kg dry	0.489	1	02/24/14	02/24/14 00:00	ECL	
Lead*	106	mg/kg dry	0.489	1	02/24/14	02/24/14 00:00	ECL	

Will Brewington, Staff Chemist

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## Analytical Results

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

ECS-3

4012101-03 (Soil)  
Sample Date: 01/17/14

Analyte	Result	Units	Reporting		Prepared	Analyzed	Analyst	Notes
			Limit	Dilution				
<b>SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS)</b>								
Acenaphthene	ND	ug/kg dry	725	2	01/22/14	01/28/14 17:42	WB	
Acenaphthylene	881	ug/kg dry	725	2	01/22/14	01/28/14 17:42	WB	
Anthracene	687	ug/kg dry	290	2	01/22/14	01/28/14 17:42	WB	J
Benzo[a]anthracene	4670	ug/kg dry	725	2	01/22/14	01/28/14 17:42	WB	
Benzo[b]fluoranthene	14500	ug/kg dry	725	2	01/22/14	01/28/14 17:42	WB	
Benzo[k]fluoranthene	4910	ug/kg dry	725	2	01/22/14	01/28/14 17:42	WB	
Benzo[ghi]perylene	4160	ug/kg dry	725	2	01/22/14	01/28/14 17:42	WB	
Benzo[a]pyrene	6510	ug/kg dry	725	2	01/22/14	01/28/14 17:42	WB	
Chrysene	7300	ug/kg dry	725	2	01/22/14	01/28/14 17:42	WB	
Dibenzo[a,h]anthracene	1380	ug/kg dry	725	2	01/22/14	01/28/14 17:42	WB	
Fluoranthene	8340	ug/kg dry	725	2	01/22/14	01/28/14 17:42	WB	
Fluorene	ND	ug/kg dry	725	2	01/22/14	01/28/14 17:42	WB	
Indeno[1,2,3-cd]pyrene	3910	ug/kg dry	725	2	01/22/14	01/28/14 17:42	WB	
2-Methylnaphthalene	1180	ug/kg dry	725	2	01/22/14	01/28/14 17:42	WB	
Naphthalene	1140	ug/kg dry	725	2	01/22/14	01/28/14 17:42	WB	
Phenanthrene	2070	ug/kg dry	725	2	01/22/14	01/28/14 17:42	WB	
Pyrene	7260	ug/kg dry	725	2	01/22/14	01/28/14 17:42	WB	
Surrogate: 2-Fluorophenol		21-110	82 %		01/22/14	01/28/14 17:42		
Surrogate: Phenol-d5		10-110	90 %		01/22/14	01/28/14 17:42		
Surrogate: Nitrobenzene-d5		35-114	97 %		01/22/14	01/28/14 17:42		
Surrogate: 2,4,6-Tribromophenol		10-123	95 %		01/22/14	01/28/14 17:42		
Surrogate: 2-Fluorobiphenyl		43-116	100 %		01/22/14	01/28/14 17:42		
Surrogate: Terphenyl-d14		33-141	103 %		01/22/14	01/28/14 17:42		
<b>DIESEL RANGE ORGANICS BY EPA 3540/8015B</b>								
Diesel-Range Organics	620	mg/kg dry	14.5	1	01/21/14	01/22/14 17:58	CMK	
Surrogate: o-Terphenyl		70-130	72 %		01/21/14	01/22/14 17:58		

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**Analytical Results**

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

ECS-3

4012101-03 (Soil)  
Sample Date: 01/17/14

Analyte	Result	Units	Reporting Limit	Dilution	Prepared	Analyzed	Analyst	Notes
<b>PERCENT SOLIDS</b>								
Percent Solids	69	%		1	01/21/14	01/22/14 08:15	WB	
<b>METALS ANALYSIS PERFORMED AT ECL INC</b>								
Arsenic*	189	mg/kg dry	0.503	1	02/24/14	02/24/14 00:00	ECL	
Lead*	77.0	mg/kg dry	0.503	1	02/24/14	02/24/14 00:00	ECL	



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## Analytical Results

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

ECS-4

4012101-04 (Soil)  
Sample Date: 01/17/14

Analyte	Result	Units	Reporting			Analyzed	Analyst	Notes
			Limit	Dilution	Prepared			
<b>SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS)</b>								
Acenaphthene	ND	ug/kg dry	368	1	01/22/14	01/27/14 19:43	WB	
Acenaphthylene	179	ug/kg dry	147	1	01/22/14	01/27/14 19:43	WB	J
Anthracene	235	ug/kg dry	147	1	01/22/14	01/27/14 19:43	WB	J
Benzo[a]anthracene	877	ug/kg dry	368	1	01/22/14	01/27/14 19:43	WB	
Benzo[b]fluoranthene	3190	ug/kg dry	368	1	01/22/14	01/27/14 19:43	WB	
Benzo[k]fluoranthene	1060	ug/kg dry	368	1	01/22/14	01/27/14 19:43	WB	
Benzo[ghi]perylene	718	ug/kg dry	368	1	01/22/14	01/27/14 19:43	WB	
Benzo[a]pyrene	1160	ug/kg dry	368	1	01/22/14	01/27/14 19:43	WB	
Chrysene	1630	ug/kg dry	368	1	01/22/14	01/27/14 19:43	WB	
Dibenzo[a,h]anthracene	234	ug/kg dry	147	1	01/22/14	01/27/14 19:43	WB	J
Fluoranthene	1440	ug/kg dry	368	1	01/22/14	01/27/14 19:43	WB	
Fluorene	ND	ug/kg dry	368	1	01/22/14	01/27/14 19:43	WB	
Indeno[1,2,3-cd]pyrene	720	ug/kg dry	368	1	01/22/14	01/27/14 19:43	WB	
2-Methylnaphthalene	767	ug/kg dry	368	1	01/22/14	01/27/14 19:43	WB	
Naphthalene	718	ug/kg dry	368	1	01/22/14	01/27/14 19:43	WB	
Phenanthrene	942	ug/kg dry	368	1	01/22/14	01/27/14 19:43	WB	
Pyrene	1830	ug/kg dry	368	1	01/22/14	01/27/14 19:43	WB	
Surrogate: 2-Fluorophenol		21-110	51 %		01/22/14	01/27/14 19:43		
Surrogate: Phenol-d5		10-110	68 %		01/22/14	01/27/14 19:43		
Surrogate: Nitrobenzene-d5		35-114	76 %		01/22/14	01/27/14 19:43		
Surrogate: 2,4,6-Tribromophenol		10-123	70 %		01/22/14	01/27/14 19:43		
Surrogate: 2-Fluorobiphenyl		43-116	77 %		01/22/14	01/27/14 19:43		
Surrogate: Terphenyl-d14		33-141	97 %		01/22/14	01/27/14 19:43		
<b>DIESEL RANGE ORGANICS BY EPA 3540/8015B</b>								
Diesel-Range Organics	285	mg/kg dry	14.7	1	01/21/14	01/22/14 18:35	CMK	
Surrogate: o-Terphenyl		70-130	70 %		01/21/14	01/22/14 18:35		

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**Analytical Results**

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

ECS-4

4012101-04 (Soil)  
Sample Date: 01/17/14

Analyte	Result	Units	Reporting Limit	Dilution	Prepared	Analyzed	Analyst	Notes
<b>PERCENT SOLIDS</b>								
Percent Solids	68	%		1	01/21/14	01/22/14 08:15	WB	
<b>METALS ANALYSIS PERFORMED AT ECL INC</b>								
Arsenic*	268	mg/kg dry	0.511	1	02/24/14	02/24/14 00:00	ECL	
Lead*	114	mg/kg dry	0.511	1	02/24/14	02/24/14 00:00	ECL	

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## Analytical Results

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

ECS-5

4012101-05 (Soil)  
Sample Date: 01/17/14

Analyte	Result	Units	Reporting		Prepared	Analyzed	Analyst	Notes
			Limit	Dilution				
<b>SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS)</b>								
Acenaphthene	ND	ug/kg dry	342	1	01/22/14	01/23/14 13:51	WB	
Acenaphthylene	188	ug/kg dry	137	1	01/22/14	01/23/14 13:51	WB	J
Anthracene	236	ug/kg dry	137	1	01/22/14	01/23/14 13:51	WB	J
Benzo[a]anthracene	1350	ug/kg dry	342	1	01/22/14	01/23/14 13:51	WB	
Benzo[b]fluoranthene	4640	ug/kg dry	342	1	01/22/14	01/23/14 13:51	WB	
Benzo[k]fluoranthene	1590	ug/kg dry	342	1	01/22/14	01/23/14 13:51	WB	
Benzo[ghi]perylene	1010	ug/kg dry	342	1	01/22/14	01/23/14 13:51	WB	
Benzo[a]pyrene	1490	ug/kg dry	342	1	01/22/14	01/23/14 13:51	WB	
Chrysene	2760	ug/kg dry	342	1	01/22/14	01/23/14 13:51	WB	
Dibenzo[a,h]anthracene	329	ug/kg dry	137	1	01/22/14	01/23/14 13:51	WB	J
Fluoranthene	2240	ug/kg dry	342	1	01/22/14	01/23/14 13:51	WB	
Fluorene	ND	ug/kg dry	342	1	01/22/14	01/23/14 13:51	WB	
Indeno[1,2,3-cd]pyrene	972	ug/kg dry	342	1	01/22/14	01/23/14 13:51	WB	
2-Methylnaphthalene	717	ug/kg dry	342	1	01/22/14	01/23/14 13:51	WB	
Naphthalene	633	ug/kg dry	342	1	01/22/14	01/23/14 13:51	WB	
Phenanthrene	1110	ug/kg dry	342	1	01/22/14	01/23/14 13:51	WB	
Pyrene	2380	ug/kg dry	342	1	01/22/14	01/23/14 13:51	WB	
Surrogate: 2-Fluorophenol		21-110	63 %		01/22/14	01/23/14 13:51		
Surrogate: Phenol-d5		10-110	71 %		01/22/14	01/23/14 13:51		
Surrogate: Nitrobenzene-d5		35-114	84 %		01/22/14	01/23/14 13:51		
Surrogate: 2,4,6-Tribromophenol		10-123	84 %		01/22/14	01/23/14 13:51		
Surrogate: 2-Fluorobiphenyl		43-116	83 %		01/22/14	01/23/14 13:51		
Surrogate: Terphenyl-d14		33-141	87 %		01/22/14	01/23/14 13:51		
<b>DIESEL RANGE ORGANICS BY EPA 3540/8015B</b>								
Diesel-Range Organics	313	mg/kg dry	13.7	1	01/21/14	01/22/14 19:12	CMK	
Surrogate: o-Terphenyl		70-130	82 %		01/21/14	01/22/14 19:12		

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**Analytical Results**

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

**ECS-5**

**4012101-05 (Soil)**  
**Sample Date: 01/17/14**

Analyte	Result	Units	Reporting Limit	Dilution	Prepared	Analyzed	Analyst	Notes
<b>PERCENT SOLIDS</b>								
Percent Solids	73	%		1	01/21/14	01/22/14 08:15	WB	
<b>METALS ANALYSIS PERFORMED AT ECL INC</b>								
Arsenic*	315	mg/kg dry	0.515	1	02/24/14	02/24/14 00:00	ECL	
Lead*	125	mg/kg dry	0.515	1	02/24/14	02/24/14 00:00	ECL	



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## Analytical Results

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

**ECS-6**

**4012101-06 (Soil)**  
**Sample Date: 01/17/14**

Analyte	Result	Units	Reporting		Prepared	Analyzed	Analyst	Notes
			Limit	Dilution				
<b>SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS)</b>								
Acenaphthene	ND	ug/kg dry	602	2	01/22/14	01/27/14 16:03	WB	
Acenaphthylene	288	ug/kg dry	241	2	01/22/14	01/27/14 16:03	WB	J
Anthracene	555	ug/kg dry	241	2	01/22/14	01/27/14 16:03	WB	J
Benzo[a]anthracene	2100	ug/kg dry	602	2	01/22/14	01/27/14 16:03	WB	
Benzo[b]fluoranthene	7490	ug/kg dry	602	2	01/22/14	01/27/14 16:03	WB	
Benzo[k]fluoranthene	2280	ug/kg dry	602	2	01/22/14	01/27/14 16:03	WB	
Benzo[ghi]perylene	1310	ug/kg dry	602	2	01/22/14	01/27/14 16:03	WB	
Benzo[a]pyrene	2440	ug/kg dry	602	2	01/22/14	01/27/14 16:03	WB	
Chrysene	4090	ug/kg dry	602	2	01/22/14	01/27/14 16:03	WB	
Dibenzo[a,h]anthracene	453	ug/kg dry	241	2	01/22/14	01/27/14 16:03	WB	J
Fluoranthene	4520	ug/kg dry	602	2	01/22/14	01/27/14 16:03	WB	
Fluorene	ND	ug/kg dry	602	2	01/22/14	01/27/14 16:03	WB	
Indeno[1,2,3-cd]pyrene	1410	ug/kg dry	602	2	01/22/14	01/27/14 16:03	WB	
2-Methylnaphthalene	1160	ug/kg dry	602	2	01/22/14	01/27/14 16:03	WB	
Naphthalene	1060	ug/kg dry	602	2	01/22/14	01/27/14 16:03	WB	
Phenanthrene	1690	ug/kg dry	602	2	01/22/14	01/27/14 16:03	WB	
Pyrene	4270	ug/kg dry	602	2	01/22/14	01/27/14 16:03	WB	
Surrogate: 2-Fluorophenol		21-110	52 %		01/22/14	01/27/14 16:03		
Surrogate: Phenol-d5		10-110	59 %		01/22/14	01/27/14 16:03		
Surrogate: Nitrobenzene-d5		35-114	66 %		01/22/14	01/27/14 16:03		
Surrogate: 2,4,6-Tribromophenol		10-123	64 %		01/22/14	01/27/14 16:03		
Surrogate: 2-Fluorobiphenyl		43-116	67 %		01/22/14	01/27/14 16:03		
Surrogate: Terphenyl-d14		33-141	71 %		01/22/14	01/27/14 16:03		
<b>DIESEL RANGE ORGANICS BY EPA 3540/8015B</b>								
Diesel-Range Organics	249	mg/kg dry	12.0	1	01/21/14	01/22/14 19:49	CMK	
Surrogate: o-Terphenyl		70-130	68 %		01/21/14	01/22/14 19:49		S-02

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## Analytical Results

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

ECS-6

4012101-06 (Soil)  
Sample Date: 01/17/14

Analyte	Result	Units	Reporting Limit	Dilution	Prepared	Analyzed	Analyst	Notes
<b>PERCENT SOLIDS</b>								
Percent Solids	83	%		1	01/21/14	01/22/14 08:15	WB	
<b>METALS ANALYSIS PERFORMED AT ECL INC</b>								
Arsenic*	407	mg/kg dry	0.571	1	02/24/14	02/24/14 00:00	ECL	
Lead*	183	mg/kg dry	0.571	1	02/24/14	02/24/14 00:00	ECL	

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## Analytical Results

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

ECS-7

4012101-07 (Soil)  
Sample Date: 01/17/14

Analyte	Result	Units	Reporting		Prepared	Analyzed	Analyst	Notes
			Limit	Dilution				
<b>SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS)</b>								
Acenaphthene	ND	ug/kg dry	305	1	01/22/14	01/23/14 11:40	WB	
Acenaphthylene	ND	ug/kg dry	305	1	01/22/14	01/23/14 11:40	WB	
Anthracene	ND	ug/kg dry	305	1	01/22/14	01/23/14 11:40	WB	
<b>Benzo[a]anthracene</b>	<b>337</b>	ug/kg dry	305	1	01/22/14	01/23/14 11:40	WB	
<b>Benzo[b]fluoranthene</b>	<b>712</b>	ug/kg dry	305	1	01/22/14	01/23/14 11:40	WB	
<b>Benzo[k]fluoranthene</b>	<b>170</b>	ug/kg dry	122	1	01/22/14	01/23/14 11:40	WB	J
<b>Benzo[ghi]perylene</b>	<b>176</b>	ug/kg dry	122	1	01/22/14	01/23/14 11:40	WB	J
<b>Benzo[a]pyrene</b>	<b>287</b>	ug/kg dry	122	1	01/22/14	01/23/14 11:40	WB	J
<b>Chrysene</b>	<b>1000</b>	ug/kg dry	305	1	01/22/14	01/23/14 11:40	WB	
Dibenzo[a,h]anthracene	ND	ug/kg dry	305	1	01/22/14	01/23/14 11:40	WB	
<b>Fluoranthene</b>	<b>390</b>	ug/kg dry	305	1	01/22/14	01/23/14 11:40	WB	
Fluorene	ND	ug/kg dry	305	1	01/22/14	01/23/14 11:40	WB	
<b>Indeno[1,2,3-cd]pyrene</b>	<b>149</b>	ug/kg dry	122	1	01/22/14	01/23/14 11:40	WB	J
<b>2-Methylnaphthalene</b>	<b>732</b>	ug/kg dry	305	1	01/22/14	01/23/14 11:40	WB	
<b>Naphthalene</b>	<b>441</b>	ug/kg dry	305	1	01/22/14	01/23/14 11:40	WB	
<b>Phenanthrene</b>	<b>1440</b>	ug/kg dry	305	1	01/22/14	01/23/14 11:40	WB	
<b>Pyrene</b>	<b>480</b>	ug/kg dry	305	1	01/22/14	01/23/14 11:40	WB	
<i>Surrogate: 2-Fluorophenol</i>		21-110	63 %		01/22/14	01/23/14 11:40		
<i>Surrogate: Phenol-d5</i>		10-110	70 %		01/22/14	01/23/14 11:40		
<i>Surrogate: Nitrobenzene-d5</i>		35-114	87 %		01/22/14	01/23/14 11:40		
<i>Surrogate: 2,4,6-Tribromophenol</i>		10-123	72 %		01/22/14	01/23/14 11:40		
<i>Surrogate: 2-Fluorobiphenyl</i>		43-116	86 %		01/22/14	01/23/14 11:40		
<i>Surrogate: Terphenyl-d14</i>		33-141	89 %		01/22/14	01/23/14 11:40		
<b>DIESEL RANGE ORGANICS BY EPA 3540/8015B</b>								
<b>Diesel-Range Organics</b>	<b>198</b>	mg/kg dry	12.2	1	01/21/14	01/22/14 20:27	CMK	
<i>Surrogate: o-Terphenyl</i>		70-130	88 %		01/21/14	01/22/14 20:27		

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**Analytical Results**

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

ECS-7

4012101-07 (Soil)  
Sample Date: 01/17/14

Analyte	Result	Units	Reporting Limit	Dilution	Prepared	Analyzed	Analyst	Notes
<b>PERCENT SOLIDS</b>								
Percent Solids	82	%		1	01/21/14	01/22/14 08:15	WB	
<b>METALS ANALYSIS PERFORMED AT ECL INC</b>								
Arsenic*	444	mg/kg dry	4.47	1	02/24/14	02/24/14 00:00	ECL	
Lead*	127	mg/kg dry	0.447	1	02/24/14	02/24/14 00:00	ECL	

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## Analytical Results

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

ECS-8

4012101-08 (Soil)  
Sample Date: 01/17/14

Analyte	Result	Units	Reporting			Prepared	Analyzed	Analyst	Notes
			Limit	Dilution					
<b>SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS)</b>									
Acenaphthene	ND	ug/kg dry	329	1	01/22/14	01/23/14 14:35	WB		
Acenaphthylene	212	ug/kg dry	132	1	01/22/14	01/23/14 14:35	WB		J
Anthracene	339	ug/kg dry	329	1	01/22/14	01/23/14 14:35	WB		
Benzo[a]anthracene	1210	ug/kg dry	329	1	01/22/14	01/23/14 14:35	WB		
Benzo[b]fluoranthene	4380	ug/kg dry	329	1	01/22/14	01/23/14 14:35	WB		
Benzo[k]fluoranthene	1520	ug/kg dry	329	1	01/22/14	01/23/14 14:35	WB		
Benzo[ghi]perylene	761	ug/kg dry	329	1	01/22/14	01/23/14 14:35	WB		
Benzo[a]pyrene	1480	ug/kg dry	329	1	01/22/14	01/23/14 14:35	WB		
Chrysene	2380	ug/kg dry	329	1	01/22/14	01/23/14 14:35	WB		
Dibenzo[a,h]anthracene	274	ug/kg dry	132	1	01/22/14	01/23/14 14:35	WB		J
Fluoranthene	1960	ug/kg dry	329	1	01/22/14	01/23/14 14:35	WB		
Fluorene	ND	ug/kg dry	329	1	01/22/14	01/23/14 14:35	WB		
Indeno[1,2,3-cd]pyrene	751	ug/kg dry	329	1	01/22/14	01/23/14 14:35	WB		
2-Methylnaphthalene	1370	ug/kg dry	329	1	01/22/14	01/23/14 14:35	WB		
Naphthalene	1100	ug/kg dry	329	1	01/22/14	01/23/14 14:35	WB		
Phenanthrene	1360	ug/kg dry	329	1	01/22/14	01/23/14 14:35	WB		
Pyrene	2030	ug/kg dry	329	1	01/22/14	01/23/14 14:35	WB		
Surrogate: 2-Fluorophenol		21-110	62 %		01/22/14	01/23/14 14:35			
Surrogate: Phenol-d5		10-110	70 %		01/22/14	01/23/14 14:35			
Surrogate: Nitrobenzene-d5		35-114	81 %		01/22/14	01/23/14 14:35			
Surrogate: 2,4,6-Tribromophenol		10-123	74 %		01/22/14	01/23/14 14:35			
Surrogate: 2-Fluorobiphenyl		43-116	75 %		01/22/14	01/23/14 14:35			
Surrogate: Terphenyl-d14		33-141	75 %		01/22/14	01/23/14 14:35			
<b>DIESEL RANGE ORGANICS BY EPA 3540/8015B</b>									
Diesel-Range Organics	309	mg/kg dry	13.2	1	01/21/14	01/22/14 21:04	CMK		
Surrogate: o-Terphenyl		70-130	85 %		01/21/14	01/22/14 21:04			

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## Analytical Results

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

ECS-8

4012101-08 (Soil)  
Sample Date: 01/17/14

Analyte	Result	Units	Reporting Limit	Dilution	Prepared	Analyzed	Analyst	Notes
<b>PERCENT SOLIDS</b>								
Percent Solids	76	%		1	01/21/14	01/22/14 08:15	WB	
<b>METALS ANALYSIS PERFORMED AT ECL INC</b>								
Arsenic*	263	mg/kg dry	0.461	1	02/24/14	02/24/14 00:00	ECL	
Lead*	95.1	mg/kg dry	0.461	1	02/24/14	02/24/14 00:00	ECL	



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## Analytical Results

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

ECS-9

4012101-09 (Soil)  
Sample Date: 01/17/14

Analyte	Result	Units	Reporting		Prepared	Analyzed	Analyst	Notes
			Limit	Dilution				
<b>SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS)</b>								
Acenaphthene	ND	ug/kg dry	610	2	01/22/14	01/27/14 16:47	WB	
Acenaphthylene	ND	ug/kg dry	610	2	01/22/14	01/27/14 16:47	WB	
<b>Anthracene</b>	<b>276</b>	ug/kg dry	244	2	01/22/14	01/27/14 16:47	WB	J
<b>Benzo[a]anthracene</b>	<b>1420</b>	ug/kg dry	610	2	01/22/14	01/27/14 16:47	WB	
<b>Benzo[b]fluoranthene</b>	<b>8240</b>	ug/kg dry	610	2	01/22/14	01/27/14 16:47	WB	
<b>Benzo[k]fluoranthene</b>	<b>2820</b>	ug/kg dry	610	2	01/22/14	01/27/14 16:47	WB	
<b>Benzo[ghi]perylene</b>	<b>2020</b>	ug/kg dry	610	2	01/22/14	01/27/14 16:47	WB	
<b>Benzo[a]pyrene</b>	<b>3160</b>	ug/kg dry	610	2	01/22/14	01/27/14 16:47	WB	
<b>Chrysene</b>	<b>3010</b>	ug/kg dry	610	2	01/22/14	01/27/14 16:47	WB	
<b>Dibenzo[a,h]anthracene</b>	<b>716</b>	ug/kg dry	610	2	01/22/14	01/27/14 16:47	WB	
<b>Fluoranthene</b>	<b>2180</b>	ug/kg dry	610	2	01/22/14	01/27/14 16:47	WB	
Fluorene	ND	ug/kg dry	610	2	01/22/14	01/27/14 16:47	WB	
<b>Indeno[1,2,3-cd]pyrene</b>	<b>1930</b>	ug/kg dry	610	2	01/22/14	01/27/14 16:47	WB	
<b>2-Methylnaphthalene</b>	<b>898</b>	ug/kg dry	610	2	01/22/14	01/27/14 16:47	WB	
<b>Naphthalene</b>	<b>776</b>	ug/kg dry	610	2	01/22/14	01/27/14 16:47	WB	
<b>Phenanthrene</b>	<b>1120</b>	ug/kg dry	610	2	01/22/14	01/27/14 16:47	WB	
<b>Pyrene</b>	<b>2580</b>	ug/kg dry	610	2	01/22/14	01/27/14 16:47	WB	
Surrogate: 2-Fluorophenol		21-110	41 %		01/22/14	01/27/14 16:47		
Surrogate: Phenol-d5		10-110	46 %		01/22/14	01/27/14 16:47		
Surrogate: Nitrobenzene-d5		35-114	52 %		01/22/14	01/27/14 16:47		
Surrogate: 2,4,6-Tribromophenol		10-123	45 %		01/22/14	01/27/14 16:47		
Surrogate: 2-Fluorobiphenyl		43-116	46 %		01/22/14	01/27/14 16:47		
Surrogate: Terphenyl-d14		33-141	56 %		01/22/14	01/27/14 16:47		
<b>DIESEL RANGE ORGANICS BY EPA 3540/8015B</b>								
<b>Diesel-Range Organics</b>	<b>406</b>	mg/kg dry	12.2	1	01/21/14	01/22/14 21:41	CMK	
Surrogate: o-Terphenyl		70-130	92 %		01/21/14	01/22/14 21:41		

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**Analytical Results**

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

ECS-9

4012101-09 (Soil)  
Sample Date: 01/17/14

Analyte	Result	Units	Reporting Limit	Dilution	Prepared	Analyzed	Analyst	Notes
<b>PERCENT SOLIDS</b>								
Percent Solids	82	%		1	01/21/14	01/22/14 08:15	WB	
<b>METALS ANALYSIS PERFORMED AT ECL INC</b>								
Arsenic*	295	mg/kg dry	0.415	1	02/24/14	02/24/14 00:00	ECL	
Lead*	218	mg/kg dry	0.415	1	02/24/14	02/24/14 00:00	ECL	



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**Analytical Results**

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

**ECS-10**

**4012101-10 (Soil)**  
**Sample Date: 01/17/14**

Analyte	Result	Units	Reporting		Prepared	Analyzed	Analyst	Notes
			Limit	Dilution				
<b>SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS)</b>								
Acenaphthene	ND	ug/kg dry	313	1	01/22/14	01/23/14 15:19	WB	
Acenaphthylene	128	ug/kg dry	125	1	01/22/14	01/23/14 15:19	WB	J
Anthracene	211	ug/kg dry	125	1	01/22/14	01/23/14 15:19	WB	J
Benzo[a]anthracene	1120	ug/kg dry	313	1	01/22/14	01/23/14 15:19	WB	
Benzo[b]fluoranthene	5460	ug/kg dry	313	1	01/22/14	01/23/14 15:19	WB	
Benzo[k]fluoranthene	1650	ug/kg dry	313	1	01/22/14	01/23/14 15:19	WB	
Benzo[ghi]perylene	1450	ug/kg dry	313	1	01/22/14	01/23/14 15:19	WB	
Benzo[a]pyrene	1730	ug/kg dry	313	1	01/22/14	01/23/14 15:19	WB	
Chrysene	2950	ug/kg dry	313	1	01/22/14	01/23/14 15:19	WB	
Dibenzo[a,h]anthracene	419	ug/kg dry	313	1	01/22/14	01/23/14 15:19	WB	
Fluoranthene	1950	ug/kg dry	313	1	01/22/14	01/23/14 15:19	WB	
Fluorene	ND	ug/kg dry	313	1	01/22/14	01/23/14 15:19	WB	
Indeno[1,2,3-cd]pyrene	1260	ug/kg dry	313	1	01/22/14	01/23/14 15:19	WB	
2-Methylnaphthalene	1690	ug/kg dry	313	1	01/22/14	01/23/14 15:19	WB	
Naphthalene	1300	ug/kg dry	313	1	01/22/14	01/23/14 15:19	WB	
Phenanthrene	1250	ug/kg dry	313	1	01/22/14	01/23/14 15:19	WB	
Pyrene	1950	ug/kg dry	313	1	01/22/14	01/23/14 15:19	WB	
Surrogate: 2-Fluorophenol		21-110	63 %		01/22/14	01/23/14 15:19		
Surrogate: Phenol-d5		10-110	72 %		01/22/14	01/23/14 15:19		
Surrogate: Nitrobenzene-d5		35-114	86 %		01/22/14	01/23/14 15:19		
Surrogate: 2,4,6-Tribromophenol		10-123	83 %		01/22/14	01/23/14 15:19		
Surrogate: 2-Fluorobiphenyl		43-116	80 %		01/22/14	01/23/14 15:19		
Surrogate: Terphenyl-d14		33-141	82 %		01/22/14	01/23/14 15:19		
<b>DIESEL RANGE ORGANICS BY EPA 3540/8015B</b>								
Diesel-Range Organics	482	mg/kg dry	12.5	1	01/21/14	01/22/14 22:19	CMK	
Surrogate: o-Terphenyl		70-130	83 %		01/21/14	01/22/14 22:19		

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**Analytical Results**

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

**ECS-10**

**4012101-10 (Soil)**  
**Sample Date: 01/17/14**

Analyte	Result	Units	Reporting Limit	Dilution	Prepared	Analyzed	Analyst	Notes
<b>PERCENT SOLIDS</b>								
Percent Solids	80	%		1	01/21/14	01/22/14 08:15	WB	
<b>METALS ANALYSIS PERFORMED AT ECL INC</b>								
Arsenic*	248	mg/kg dry	0.455	1	02/24/14	02/24/14 00:00	ECL	
Lead*	129	mg/kg dry	0.455	1	02/24/14	02/24/14 00:00	ECL	

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## Analytical Results

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

**ECS-11**

**4012101-11 (Soil)**  
**Sample Date: 01/17/14**

Analyte	Result	Units	Reporting		Prepared	Analyzed	Analyst	Notes
			Limit	Dilution				
<b>SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS)</b>								
Acenaphthene	ND	ug/kg dry	321	1	01/22/14	01/23/14 16:03	WB	
Acenaphthylene	401	ug/kg dry	321	1	01/22/14	01/23/14 16:03	WB	
Anthracene	386	ug/kg dry	321	1	01/22/14	01/23/14 16:03	WB	
Benzo[a]anthracene	1310	ug/kg dry	321	1	01/22/14	01/23/14 16:03	WB	
Benzo[b]fluoranthene	5000	ug/kg dry	321	1	01/22/14	01/23/14 16:03	WB	
Benzo[k]fluoranthene	1730	ug/kg dry	321	1	01/22/14	01/23/14 16:03	WB	
Benzo[ghi]perylene	1110	ug/kg dry	321	1	01/22/14	01/23/14 16:03	WB	
Benzo[a]pyrene	1660	ug/kg dry	321	1	01/22/14	01/23/14 16:03	WB	
Chrysene	2750	ug/kg dry	321	1	01/22/14	01/23/14 16:03	WB	
Dibenzo[a,h]anthracene	395	ug/kg dry	321	1	01/22/14	01/23/14 16:03	WB	
Fluoranthene	2780	ug/kg dry	321	1	01/22/14	01/23/14 16:03	WB	
Fluorene	ND	ug/kg dry	321	1	01/22/14	01/23/14 16:03	WB	
Indeno[1,2,3-cd]pyrene	1080	ug/kg dry	321	1	01/22/14	01/23/14 16:03	WB	
2-Methylnaphthalene	1850	ug/kg dry	321	1	01/22/14	01/23/14 16:03	WB	
Naphthalene	1600	ug/kg dry	321	1	01/22/14	01/23/14 16:03	WB	
Phenanthrene	1610	ug/kg dry	321	1	01/22/14	01/23/14 16:03	WB	
Pyrene	2960	ug/kg dry	321	1	01/22/14	01/23/14 16:03	WB	
Surrogate: 2-Fluorophenol		21-110	54 %		01/22/14	01/23/14 16:03		
Surrogate: Phenol-d5		10-110	64 %		01/22/14	01/23/14 16:03		
Surrogate: Nitrobenzene-d5		35-114	78 %		01/22/14	01/23/14 16:03		
Surrogate: 2,4,6-Tribromophenol		10-123	60 %		01/22/14	01/23/14 16:03		
Surrogate: 2-Fluorobiphenyl		43-116	66 %		01/22/14	01/23/14 16:03		
Surrogate: Terphenyl-d14		33-141	76 %		01/22/14	01/23/14 16:03		
<b>DIESEL RANGE ORGANICS BY EPA 3540/8015B</b>								
Diesel-Range Organics	494	mg/kg dry	12.8	1	01/21/14	01/22/14 22:56	CMK	
Surrogate: o-Terphenyl		70-130	83 %		01/21/14	01/22/14 22:56		

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## Analytical Results

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

**ECS-11**

**4012101-11 (Soil)**  
**Sample Date: 01/17/14**

Analyte	Result	Units	Reporting Limit	Dilution	Prepared	Analyzed	Analyst	Notes
<b>PERCENT SOLIDS</b>								
Percent Solids	78	%		1	01/21/14	01/22/14 08:15	WB	
<b>METALS ANALYSIS PERFORMED AT ECL INC</b>								
Arsenic*	474	mg/kg dry	5.28	1	02/24/14	02/24/14 00:00	ECL	
Lead*	105	mg/kg dry	0.528	1	02/24/14	02/24/14 00:00	ECL	



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## Analytical Results

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

ECS-12

4012101-12 (Soil)  
Sample Date: 01/17/14

Analyte	Result	Units	Reporting		Prepared	Analyzed	Analyst	Notes
			Limit	Dilution				
<b>SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS)</b>								
Acenaphthene	ND	ug/kg dry	352	1	01/22/14	01/27/14 14:34	WB	
Acenaphthylene	ND	ug/kg dry	352	1	01/22/14	01/27/14 14:34	WB	
<b>Anthracene</b>	<b>171</b>	ug/kg dry	141	1	01/22/14	01/27/14 14:34	WB	J
<b>Benzo[a]anthracene</b>	<b>465</b>	ug/kg dry	352	1	01/22/14	01/27/14 14:34	WB	
<b>Benzo[b]fluoranthene</b>	<b>1670</b>	ug/kg dry	352	1	01/22/14	01/27/14 14:34	WB	
<b>Benzo[k]fluoranthene</b>	<b>475</b>	ug/kg dry	352	1	01/22/14	01/27/14 14:34	WB	
<b>Benzo[ghi]perylene</b>	<b>342</b>	ug/kg dry	141	1	01/22/14	01/27/14 14:34	WB	J
<b>Benzo[a]pyrene</b>	<b>545</b>	ug/kg dry	352	1	01/22/14	01/27/14 14:34	WB	
<b>Chrysene</b>	<b>1180</b>	ug/kg dry	352	1	01/22/14	01/27/14 14:34	WB	
<b>Dibenzo[a,h]anthracene</b>	<b>142</b>	ug/kg dry	141	1	01/22/14	01/27/14 14:34	WB	J
<b>Fluoranthene</b>	<b>861</b>	ug/kg dry	352	1	01/22/14	01/27/14 14:34	WB	
Fluorene	ND	ug/kg dry	352	1	01/22/14	01/27/14 14:34	WB	
<b>Indeno[1,2,3-cd]pyrene</b>	<b>368</b>	ug/kg dry	352	1	01/22/14	01/27/14 14:34	WB	
<b>2-Methylnaphthalene</b>	<b>1630</b>	ug/kg dry	352	1	01/22/14	01/27/14 14:34	WB	
<b>Naphthalene</b>	<b>1160</b>	ug/kg dry	352	1	01/22/14	01/27/14 14:34	WB	
<b>Phenanthrene</b>	<b>1390</b>	ug/kg dry	352	1	01/22/14	01/27/14 14:34	WB	
<b>Pyrene</b>	<b>846</b>	ug/kg dry	352	1	01/22/14	01/27/14 14:34	WB	
Surrogate: 2-Fluorophenol		21-110	65 %		01/22/14	01/27/14 14:34		
Surrogate: Phenol-d5		10-110	73 %		01/22/14	01/27/14 14:34		
Surrogate: Nitrobenzene-d5		35-114	85 %		01/22/14	01/27/14 14:34		
Surrogate: 2,4,6-Tribromophenol		10-123	81 %		01/22/14	01/27/14 14:34		
Surrogate: 2-Fluorobiphenyl		43-116	83 %		01/22/14	01/27/14 14:34		
Surrogate: Terphenyl-d14		33-141	90 %		01/22/14	01/27/14 14:34		
<b>DIESEL RANGE ORGANICS BY EPA 3540/8015B</b>								
<b>Diesel-Range Organics</b>	<b>225</b>	mg/kg dry	14.1	1	01/21/14	01/22/14 23:33	CMK	
Surrogate: o-Terphenyl		70-130	81 %		01/21/14	01/22/14 23:33		



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**Analytical Results**

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

ECS-12

4012101-12 (Soil)  
Sample Date: 01/17/14

Analyte	Result	Units	Reporting Limit	Dilution	Prepared	Analyzed	Analyst	Notes
<b>PERCENT SOLIDS</b>								
Percent Solids	71	%		1	01/21/14	01/22/14 08:15	WB	
<b>METALS ANALYSIS PERFORMED AT ECL INC</b>								
Arsenic*	251	mg/kg dry	0.420	1	02/24/14	02/24/14 00:00	ECL	
Lead*	110	mg/kg dry	0.420	1	02/24/14	02/24/14 00:00	ECL	

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## Analytical Results

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

ECS-13

4012101-13 (Soil)  
Sample Date: 01/17/14

Analyte	Result	Units	Reporting			Prepared	Analyzed	Analyst	Notes
			Limit	Dilution					
<b>SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS)</b>									
Acenaphthene	ND	ug/kg dry	347	1	01/22/14	01/23/14 12:24	WB		
Acenaphthylene	163	ug/kg dry	139	1	01/22/14	01/23/14 12:24	WB		J
Anthracene	158	ug/kg dry	139	1	01/22/14	01/23/14 12:24	WB		J
Benzo[a]anthracene	734	ug/kg dry	347	1	01/22/14	01/23/14 12:24	WB		
Benzo[b]fluoranthene	2240	ug/kg dry	347	1	01/22/14	01/23/14 12:24	WB		
Benzo[k]fluoranthene	744	ug/kg dry	347	1	01/22/14	01/23/14 12:24	WB		
Benzo[ghi]perylene	650	ug/kg dry	347	1	01/22/14	01/23/14 12:24	WB		
Benzo[a]pyrene	851	ug/kg dry	347	1	01/22/14	01/23/14 12:24	WB		
Chrysene	1470	ug/kg dry	347	1	01/22/14	01/23/14 12:24	WB		
Dibenzo[a,h]anthracene	230	ug/kg dry	139	1	01/22/14	01/23/14 12:24	WB		J
Fluoranthene	1230	ug/kg dry	347	1	01/22/14	01/23/14 12:24	WB		
Fluorene	ND	ug/kg dry	347	1	01/22/14	01/23/14 12:24	WB		
Indeno[1,2,3-cd]pyrene	622	ug/kg dry	347	1	01/22/14	01/23/14 12:24	WB		
2-Methylnaphthalene	725	ug/kg dry	347	1	01/22/14	01/23/14 12:24	WB		
Naphthalene	549	ug/kg dry	347	1	01/22/14	01/23/14 12:24	WB		
Phenanthrene	926	ug/kg dry	347	1	01/22/14	01/23/14 12:24	WB		
Pyrene	1300	ug/kg dry	347	1	01/22/14	01/23/14 12:24	WB		
Surrogate: 2-Fluorophenol		21-110	62 %		01/22/14	01/23/14 12:24			
Surrogate: Phenol-d5		10-110	73 %		01/22/14	01/23/14 12:24			
Surrogate: Nitrobenzene-d5		35-114	81 %		01/22/14	01/23/14 12:24			
Surrogate: 2,4,6-Tribromophenol		10-123	67 %		01/22/14	01/23/14 12:24			
Surrogate: 2-Fluorobiphenyl		43-116	65 %		01/22/14	01/23/14 12:24			
Surrogate: Terphenyl-d14		33-141	61 %		01/22/14	01/23/14 12:24			
<b>DIESEL RANGE ORGANICS BY EPA 3540/8015B</b>									
Diesel-Range Organics	224	mg/kg dry	13.9	1	01/21/14	01/23/14 00:11	CMK		
Surrogate: o-Terphenyl		70-130	103 %		01/21/14	01/23/14 00:11			

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**Analytical Results**

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

ECS-13

4012101-13 (Soil)  
Sample Date: 01/17/14

Analyte	Result	Units	Reporting Limit	Dilution	Prepared	Analyzed	Analyst	Notes
<b>PERCENT SOLIDS</b>								
Percent Solids	72	%		1	01/21/14	01/22/14 08:15	WB	
<b>METALS ANALYSIS PERFORMED AT ECL INC</b>								
Arsenic*	242	mg/kg dry	0.512	1	02/24/14	02/24/14 00:00	ECL	
Lead*	82.5	mg/kg dry	0.512	1	02/24/14	02/24/14 00:00	ECL	

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## Analytical Results

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

ECS-14

4012101-14 (Soil)  
Sample Date: 01/17/14

Analyte	Result	Units	Reporting			Prepared	Analyzed	Analyst	Notes
			Limit	Dilution					
<b>SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS)</b>									
Acenaphthene	ND	ug/kg dry	313	1	01/22/14	01/23/14 13:08	WB		
Acenaphthylene	ND	ug/kg dry	313	1	01/22/14	01/23/14 13:08	WB		
Anthracene	ND	ug/kg dry	313	1	01/22/14	01/23/14 13:08	WB		
Benzo[a]anthracene	433	ug/kg dry	313	1	01/22/14	01/23/14 13:08	WB		
Benzo[b]fluoranthene	1580	ug/kg dry	313	1	01/22/14	01/23/14 13:08	WB		
Benzo[k]fluoranthene	523	ug/kg dry	313	1	01/22/14	01/23/14 13:08	WB		
Benzo[ghi]perylene	461	ug/kg dry	313	1	01/22/14	01/23/14 13:08	WB		
Benzo[a]pyrene	531	ug/kg dry	313	1	01/22/14	01/23/14 13:08	WB		
Chrysene	1130	ug/kg dry	313	1	01/22/14	01/23/14 13:08	WB		
Dibenzo[a,h]anthracene	139	ug/kg dry	125	1	01/22/14	01/23/14 13:08	WB		J
Fluoranthene	786	ug/kg dry	313	1	01/22/14	01/23/14 13:08	WB		
Fluorene	ND	ug/kg dry	313	1	01/22/14	01/23/14 13:08	WB		
Indeno[1,2,3-cd]pyrene	377	ug/kg dry	313	1	01/22/14	01/23/14 13:08	WB		
2-Methylnaphthalene	2830	ug/kg dry	313	1	01/22/14	01/23/14 13:08	WB		
Naphthalene	2210	ug/kg dry	313	1	01/22/14	01/23/14 13:08	WB		
Phenanthrene	1830	ug/kg dry	313	1	01/22/14	01/23/14 13:08	WB		
Pyrene	816	ug/kg dry	313	1	01/22/14	01/23/14 13:08	WB		
Surrogate: 2-Fluorophenol		21-110	62 %		01/22/14	01/23/14 13:08			
Surrogate: Phenol-d5		10-110	69 %		01/22/14	01/23/14 13:08			
Surrogate: Nitrobenzene-d5		35-114	84 %		01/22/14	01/23/14 13:08			
Surrogate: 2,4,6-Tribromophenol		10-123	84 %		01/22/14	01/23/14 13:08			
Surrogate: 2-Fluorobiphenyl		43-116	79 %		01/22/14	01/23/14 13:08			
Surrogate: Terphenyl-d14		33-141	89 %		01/22/14	01/23/14 13:08			
<b>DIESEL RANGE ORGANICS BY EPA 3540/8015B</b>									
Diesel-Range Organics	240	mg/kg dry	12.5	1	01/21/14	01/23/14 00:48	CMK		
Surrogate: o-Terphenyl		70-130	80 %		01/21/14	01/23/14 00:48			

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Will Brewington, Staff Chemist

**Analytical Results**

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

ECS-14

4012101-14 (Soil)  
Sample Date: 01/17/14

Analyte	Result	Units	Reporting Limit	Dilution	Prepared	Analyzed	Analyst	Notes
<b>PERCENT SOLIDS</b>								
Percent Solids	80	%		1	01/21/14	01/22/14 08:15	WB	
<b>METALS ANALYSIS PERFORMED AT ECL INC</b>								
Arsenic*	192	mg/kg dry	0.477	1	02/24/14	02/24/14 00:00	ECL	
Lead*	122	mg/kg dry	0.477	1	02/24/14	02/24/14 00:00	ECL	

Will Brewington, Staff Chemist

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## Analytical Results

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

ECS-15

4012101-15 (Soil)  
Sample Date: 01/17/14

Analyte	Result	Units	Reporting		Prepared	Analyzed	Analyst	Notes
			Limit	Dilution				
<b>SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS)</b>								
Acenaphthene	ND	ug/kg dry	325	1	01/22/14	01/23/14 17:31	WB	
Acenaphthylene	224	ug/kg dry	130	1	01/22/14	01/23/14 17:31	WB	J
Anthracene	248	ug/kg dry	130	1	01/22/14	01/23/14 17:31	WB	J
Benzo[a]anthracene	1540	ug/kg dry	325	1	01/22/14	01/23/14 17:31	WB	
Benzo[b]fluoranthene	4930	ug/kg dry	325	1	01/22/14	01/23/14 17:31	WB	
Benzo[k]fluoranthene	1520	ug/kg dry	325	1	01/22/14	01/23/14 17:31	WB	
Benzo[ghi]perylene	1230	ug/kg dry	325	1	01/22/14	01/23/14 17:31	WB	
Benzo[a]pyrene	1780	ug/kg dry	325	1	01/22/14	01/23/14 17:31	WB	
Chrysene	2880	ug/kg dry	325	1	01/22/14	01/23/14 17:31	WB	
Dibenzo[a,h]anthracene	383	ug/kg dry	325	1	01/22/14	01/23/14 17:31	WB	
Fluoranthene	2790	ug/kg dry	325	1	01/22/14	01/23/14 17:31	WB	
Fluorene	ND	ug/kg dry	325	1	01/22/14	01/23/14 17:31	WB	
Indeno[1,2,3-cd]pyrene	1150	ug/kg dry	325	1	01/22/14	01/23/14 17:31	WB	
2-Methylnaphthalene	1380	ug/kg dry	325	1	01/22/14	01/23/14 17:31	WB	
Naphthalene	1070	ug/kg dry	325	1	01/22/14	01/23/14 17:31	WB	
Phenanthrene	1380	ug/kg dry	325	1	01/22/14	01/23/14 17:31	WB	
Pyrene	3060	ug/kg dry	325	1	01/22/14	01/23/14 17:31	WB	
Surrogate: 2-Fluorophenol		21-110	67 %		01/22/14	01/23/14 17:31		
Surrogate: Phenol-d5		10-110	74 %		01/22/14	01/23/14 17:31		
Surrogate: Nitrobenzene-d5		35-114	87 %		01/22/14	01/23/14 17:31		
Surrogate: 2,4,6-Tribromophenol		10-123	88 %		01/22/14	01/23/14 17:31		
Surrogate: 2-Fluorobiphenyl		43-116	85 %		01/22/14	01/23/14 17:31		
Surrogate: Terphenyl-d14		33-141	98 %		01/22/14	01/23/14 17:31		
<b>DIESEL RANGE ORGANICS BY EPA 3540/8015B</b>								
Diesel-Range Organics	246	mg/kg dry	13.0	1	01/21/14	01/23/14 01:25	CMK	
Surrogate: o-Terphenyl		70-130	76 %		01/21/14	01/23/14 01:25		

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Will Brewington, Staff Chemist

**Analytical Results**

**Project: MT AIRY RAILS TO TRAILS**

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

ECS-15

4012101-15 (Soil)  
Sample Date: 01/17/14

Analyte	Result	Units	Reporting Limit	Dilution	Prepared	Analyzed	Analyst	Notes
<b>PERCENT SOLIDS</b>								
Percent Solids	77	%		1	01/21/14	01/22/14 08:15	WB	
<b>METALS ANALYSIS PERFORMED AT ECL INC</b>								
Arsenic*	202	mg/kg dry	0.465	1	02/24/14	02/24/14 00:00	ECL	
Lead*	96.5	mg/kg dry	0.465	1	02/24/14	02/24/14 00:00	ECL	

Will Brewington, Staff Chemist

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## Analytical Results

### Project: MT AIRY RAILS TO TRAILS

Project Number: 13-5900-B  
Project Manager: Allen Sullivan

Reported:  
01/29/14 14:20

### Notes and Definitions

- S-06 Surrogate recovery and/or internal standard area are outside control limits due to sample matrix effect as confirmed by reanalysis.
- S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
- J Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).
- 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



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Will Brewington, Staff Chemist

Company Name: <b>ECS</b>				Project Manager: <b>ATS</b>				Analysis Requested				CHAIN-OF-CUSTODY RECORD					
Project Name: <b>MT. AIRY RAILS TO TRAILS</b>				Project ID: <b>13-5900-B</b>								Maryland Spectral Services, Inc. 1500 Caton Center Drive, Suite G Baltimore, MD 21227 410-247-7600 • Fax 410-247-7602 labman@rmdspectral.com					
Sampler(s): <b>ESS</b>				P.O. Number: <b>13-5900-B</b>								Matrix Codes: NW (nonpotable water) PW (potable water)					
Field Sample ID	Date	Time	Water	Soil	Other	No. of Containers	DRD - 8015	PAHs - 8270	As + Pb - 6020A					Preservative: 1 + 1 HCL, H <sub>2</sub> SO <sub>4</sub> , Methanol, Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> , NaHCO <sub>3</sub>	Field pH, Residual Chlorine, QC Request, Trip Blank, Field Blank	MSS Lab ID	
ECS-1	1/17	0930		X		2										4012101-01	
ECS-2		0940														02	
ECS-3		0951														03	
ECS-4		0958														04	
ECS-5		1011														05	
ECS-6		1023														06	
ECS-7		1045														07	
ECS-8		1055														08	
ECS-9		1114														09	
ECS-10		1124														10	
Relinquished by: (Signature) <b>[Signature]</b>		Date/Time: <b>1/20/14</b>		Received by: (Signature) <b>[Signature]</b>		Date/Time: <b>1-21-14</b>		Received by: (Signature) <b>[Signature]</b>		Date/Time: <b>12:20</b>		Received by: (Signature) <b>[Signature]</b>					
Relinquished by: (Printed) <b>FRANK SWEETBELL</b>		Date/Time: <b>12:30</b>		Received by Lab: (Signature) <b>[Signature]</b>		Date/Time: <b>12:20</b>		Received by: (Printed) <b>S HANNA</b>		Date/Time: <b>12:20</b>		Received by: (Printed) <b>S HANNA</b>					
Relinquished by: (Printed)		Date/Time:		Received by Lab: (Signature)		Date/Time:		Received by: (Printed)		Date/Time:		Received by: (Printed)					
Delivery Method:				Special Instructions/QC Requirements & Comments:				Turn Around Time:				Lab Use:					
<input type="checkbox"/> Courier <input type="checkbox"/> Client <input checked="" type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> USPS <input type="checkbox"/> Other:				<input type="checkbox"/> Normal (7 day) <input type="checkbox"/> 5 day <input type="checkbox"/> 4 day <input type="checkbox"/> 3 day <input type="checkbox"/> Rush (2 day) <input type="checkbox"/> Next Day <input type="checkbox"/> Other: _____ <input type="checkbox"/> Specific Due Date: _____				<input checked="" type="checkbox"/> Normal (7 day) <input type="checkbox"/> 5 day <input type="checkbox"/> 4 day <input type="checkbox"/> 3 day <input type="checkbox"/> Rush (2 day) <input type="checkbox"/> Next Day <input type="checkbox"/> Other: _____ <input type="checkbox"/> Specific Due Date: _____				Temp: <u>5.6</u> °C <input checked="" type="checkbox"/> Received on Ice <input type="checkbox"/> Received same day <input checked="" type="checkbox"/> Preservation Appropriate Sample Disposal: <input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by lab <input type="checkbox"/> Archive for ___ days					

# CHAIN-OF-CUSTODY RECORD

**Company Name:** ECS  
**Project Name:** MT. Airy PALS to Teds  
**Sampler(s):** ESS  
**Project ID:** 13-5900-B  
**P.O. Number:** 13-5900-B

**Project Manager:** ATS  
 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)

Field Sample ID	Date	Time	Water	Soil	Other	No. of Containers	Analysis Requested	MSS Lab ID
ECS-11	1/7	1136		X		2	DRG-8015 DATT'S-8270 AS + PB-6020A	402101-11
ECS-12		1150				1		12
ECS-13		1200				1		13
ECS-14		1211		X		1		14
ECS-15		1226		X		1		15
Preservative: Field pH, Residual Chlorine, QC Request, Trip Blank, Field Blank 1 + 1 HCL, H <sub>2</sub> SO <sub>4</sub> , Methanol, Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> , NaHCO <sub>3</sub>								
Received by: (Signature) <i>[Signature]</i> Date/Time 1-21-14 Received by: (Signature) <i>[Signature]</i> Date/Time 12:20 Lab Use:								
Relinquished by: (Signature) <i>[Signature]</i> Date/Time 1-21-14 Relinquished by: (Signature) <i>[Signature]</i> Date/Time 12:20 Turn Around Time:								
Delivery Method: <input type="checkbox"/> Courier <input type="checkbox"/> Client <input checked="" type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> USPS <input type="checkbox"/> Other:								
Special Instructions/QC Requirements & Comments: Sample Disposal: <input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by lab <input type="checkbox"/> Archive for ___ days								

**EXHIBIT B**  
**Minimum Sampling Requirements**  
**For Rails-to-Trails Conversion of Rail Corridors**

Buyer Agrees to:

I. Sampling

Surface soils should be sampled as follows:

- a. Adjacent to any existing or former buildings, bridges or signals etc.
- b. At 50-foot intervals adjacent to any switch or rail-to-rail crossing. Composite samples consisting of 5 specimens (i.e., each composite sample will consist of 5 specimens that are mixed together and analyzed as a single sample) should commence at the structure and continue at 50-foot intervals for a distance of 150 feet in each direction.
- c. Along the remaining rail corridor:
  - For corridor less than 0.5-mile long, collect a minimum of 10 composite samples.
  - For corridor 0.5 – 0.75 miles long, collect 15 composite samples.
  - For corridor 0.75 miles to 1 mile long, collect 20 composite samples. Space the sampling points evenly down corridor, i.e., 20 samples in one mile is one sample about every 250 feet.
  - For each additional mile of corridor beyond one mile in length, collect 5 more composite samples and space these evenly down the corridor. For example, for a 4-mile length of corridor, take 35 composite samples that are spaced about 600 feet apart.
- d. Samples should be collected from the upper 6 inches of soil (or ballast if present) taking into consideration State standards concerning direct exposure.
- e. Samples should be analyzed for arsenic (EPA Method 200.8), lead (EPA Method 200.8) and PAH (Method 8310). TPH-DRO should be measured using EPA Method 8015-modified or its State-specific equivalent. If the corridor was utilized for electric rail, the samples should also be analyzed for PCB's using Method 508.

II. Soil Management and Capping Plan

Buyer shall provide a written soil management/capping plan (the "Soil Management and Capping Plan") defining procedures for monitoring the Premises to ensure "un-capped" areas of the Premises are not being accessed or used by the public. The Plan shall define appropriate corrective actions to be implemented to control access to un-capped areas, or, if such control cannot be affected, to ensure exposure to impacted surface soil is not occurring.

The rail bed, defined as extending from opposite toes-of-slope of the ballast field, shall be graded and capped with pavement or other suitable material to prevent contact with the surface soil. This cap should have a minimum thickness of one foot. The actual cap design should be developed on a project-specific basis taking into account specific requirements of State and Local environmental regulation and shall be defined in the Plan.



**Legend**

- Discrete Soil Sample