



**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**