



**OPERATIONAL UNIT SOIL SAMPLING ASSESSMENT (SECOND ROUND)
MOUNT AIRY RAILS TO TRAILS
HILL STREET TO TEMPEST LANE
MOUNT AIRY, MARYLAND 21771**

ECS PROJECT NO. 47:5784-C

FOR: THE TOWN OF MOUNT AIRY

December 30, 2021



December 30, 2021

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

ECS Project No. 47:5784-C

Reference: Operational Unit Soil Sampling Assessment (Second Round)
Mount Airy Rails to Trails, Former B&O Railroad Right of Way (MD1985),
Between Hill Street and Tempest Lane
Mount Airy, Maryland 21771

Dear Mr. Quinn:

ECS Mid-Atlantic, LLC (ECS) is pleased to provide the Town of Mount Airy with the second round of results for this Operational Unit Soil Sampling Assessment Report. This report was completed in an effort to delineate the extent of soils with elevated concentrations of arsenic of concern along the planned Mount Airy Rails to Trails project in accordance with the Work Plan submitted to the MDE on October 19, 2021. If you have any questions or comments regarding this report, or any other aspect of the project, please contact us at 410-859-4300.

Respectfully submitted,

ECS MID-ATLANTIC, LLC

Erik Schaberl
Environmental Senior Project Manager

Michael M. Bell, CHMM
Environmental Principal

Attachments: Figure 1 – Site Location Map
Figure 2 – Sample Location Map and Operational Unit Diagram
Tables 1 to 6 - Arsenic Analytical Summary
Table 7 – Comprehensive Arsenic Analytical Summary
Attachment A –Laboratory Analytical Results

**OPERATIONAL UNIT SOIL SAMPLING ASSESSMENT (SECOND ROUND)
MOUNT AIRY RAILS TO TRAILS
HILL STREET TO TEMPEST LANE
MOUNT AIRY, MARYLAND 21771**

ECS PROJECT NO. 47:5784-C

SITE DESCRIPTION

The project site is located along the former B&O Railroad right-of-way generally situated between Hill Street and Tempest Lane in the Town of Mount Airy, Frederick County, Maryland ("the Site"). The Site consists of approximately 8.22 acres of land and is currently an out of service railroad corridor. A site map is included as Figure 1.

BACKGROUND

Proposed development at the Site includes the construction of an asphalt paved recreational path. ECS previously performed subsurface evaluations of the Site and identified areas of contaminants of concern (COCs) in onsite soils which included arsenic and Polycyclic Aromatic Hydrocarbons (PAHs) at concentrations exceeding the Maryland Department of the Environment (MDE) Non-Residential Cleanup Standards. The Site was accepted into the MDE Voluntary Cleanup Program (VCP) on September 6, 2019. In accordance with the VCP, further delineation of the areal and lateral extent of the arsenic and PAHs impacts on the Site were necessary to develop a site-specific Response Action Plan. In April 2021, ECS mobilized to the site and collected several soil samples in an effort to delineate the contaminants of concern. The samples were collected at various depths and distances from the rail tracks within designated areas of the site called Operational Units (OUs). Upon completion of the April 2021 sampling effort, the extent of PAH impacts was delineated; however, the extent of arsenic was not defined and the MDE required additional sampling. This report outlines the second round of OU sampling activities, that were performed by ECS, in an attempt to further delineate the extent of arsenic at the Site.

SCOPE OF WORK

ECS conducted the second round of OU soil sampling onsite between October 29, 2021 and November 1, 2021. All soil sampling was performed by advancing borings with a stainless-steel hand auger which was decontaminated between each boring. ECS maintained similar Operational Unit (OU) areas as those established during the previous assessment. For the purposes of this assessment, ECS divided the entire 8.22 acre site into six operational units (OU-1 to OU-6) to further assess arsenic.

Within OU-1 through OU-6, a properly decontaminated stainless steel hand auger was used to collect soil samples at designated distances from the tracks. Within each OU, five borings were advanced on each side of the tracks at intervals of 22 feet and 32 feet from the center line of the

tracks. As a result, a total of 20 borings were advanced within each OU. Each boring was advanced to a depth of 24-inches and two grab samples were collected from each boring. A shallow grab sample was collected from each boring at a depth of 0-6 inches below grade and a deeper grab samples was collected from each boring at a depth of 6-24 inches below grade.

The five grab samples collected in each OU at the same depth below grade and distance from the tracks were composited to create a single composite sample. This compositing frequency continued within each OU so that each composite sample was representative of the soil at a specific distance, depth, and cardinal direction from the centerline of the tracks. The eight (8) composite samples created within each OU (OU-1 to OU-6) were submitted for arsenic analysis via EPA method 6010. The sample locations are depicted on the attached Figure 2 and the below Exhibit A outlines the sampling frequency.

EXHIBIT A: ARSENIC OPERATIONAL UNIT SAMPLING SCHEDULE

Operational Unit ID	Composite Sample Location (Cardinal Direction and Feet from Track Centerline)	Number of Aliquots per Composite	Proposed Composite Sample Intervals (depth in inches)	Total number of 5-point composite samples
OU-1	22' North	5	0 – 6" and 6 – 24"	8
	22' South	5	0 – 6" and 6 – 24"	
	32 North	5	0 – 6" and 6 – 24"	
	32 South	5	0 – 6" and 6 – 24"	
OU-2	22' North	5	0 – 6" and 6 – 24"	8
	22' South	5	0 – 6" and 6 – 24"	
	32 South	5	0 – 6" and 6 – 24"	
OU-3	22' North	5	0 – 6" and 6 – 24"	8
	22' South	5	0 – 6" and 6 – 24"	
	32 North	5	0 – 6" and 6 – 24"	
	32 South	5	0 – 6" and 6 – 24"	
OU-4	22' North	5	0 – 6" and 6 – 24"	8
	22' South	5	0 – 6" and 6 – 24"	
	32 North	5	0 – 6" and 6 – 24"	
	32 South	5	0 – 6" and 6 – 24"	
OU-5	22' North	5	0 – 6" and 6 – 24"	8
	22' South	5	0 – 6" and 6 – 24"	
	32 North	5	0 – 6" and 6 – 24"	
	32 South	5	0 – 6" and 6 – 24"	
OU-6	22' North	5	0 – 6" and 6 – 24"	8
	22' South	5	0 – 6" and 6 – 24"	
	32 North	5	0 – 6" and 6 – 24"	
	32 South	5	0 – 6" and 6 – 24"	

Upon completion of this sampling effort a total of 48 composite samples were submitted to an accredited laboratory for arsenic analysis. The results of the analysis will be compared to

current MDE standards or the Regional Screening Levels published by Region 3 of the United States Environmental Protection Agency (EPA).

SOIL SAMPLING RESULTS

The following section summarizes the results of the laboratory analysis within the operational units.

Arsenic Sample Results

Arsenic was detected in each of the 48 composite soil samples analyzed at concentrations ranging from 3.29 milligrams per kilogram (mg/kg) to 180 mg/kg. Arsenic concentrations in 34 of these composite soil samples exceeded the MDE Tier 4 – Medium Frequency Use Public Recreational Areas standard for arsenic in soil (~20.0 mg/kg). A summary of the laboratory results for each OU is included as Table 1 through Table 6. The laboratory report is included in Attachment A.

SUMMARY AND CONCLUSIONS

The purpose of this operational unit soil sampling assessment was to delineate the extent of arsenic using the center line of the existing onsite railroad track as a reference point. In an effort to accomplish this, ECS advanced a total of 120 borings onsite and used the soil retrieved from the borings to create a total of 48 composite samples which were submitted to a laboratory for arsenic analysis.

Arsenic concentrations detected in 34 of the 48 composite samples generated onsite exceeded the MDE Tier 4 - Medium Frequency Use Public Recreational Use standard for arsenic in soil, which is approximately 20 mg/kg. However, seven of these samples with arsenic exceeding 20 mg/kg did not exceed 25.4 mg/kg. Additionally, the overall arsenic concentrations appear to be declining at distance from the tracks as outlined in Exhibit B below and summarized on the attached Table 7.

Exhibit B: Mean Arsenic Concentrations Compared to Sample Distance from the Tracks

Sample Distance from Track Centerline (Feet)	Mean Arsenic Concentration (mg/kg)
5	148.01
10	166.78
15	88.80
20	63.28
22	54.61
32	30.40

In addition to demonstrating a decreasing trend in arsenic concentrations, the most recent round of OU sampling delineates the concentrations of arsenic exceeding the MDE Tier 4 - Medium Frequency Use Public Recreational Use standard in Operational Units OU-2 North and OU-3 South.

Additionally, concentrations of arsenic in Operational Units OU-2 South, OU-3 North and OU-4 South are at or approaching the MDE Tier 4 - Medium Frequency Use Public Recreational Use standard. Since the arsenic standard for the site is approximate, ECS requests that the MDE review the data for Operational Units OU-2 South, OU-3 North and OU-4 South to determine if the delineation is complete in these areas. Note, it appears that delineation further to the south in OU-4 may lead offsite, which ECS understands is not the responsibility of the Town of Mount Airy.

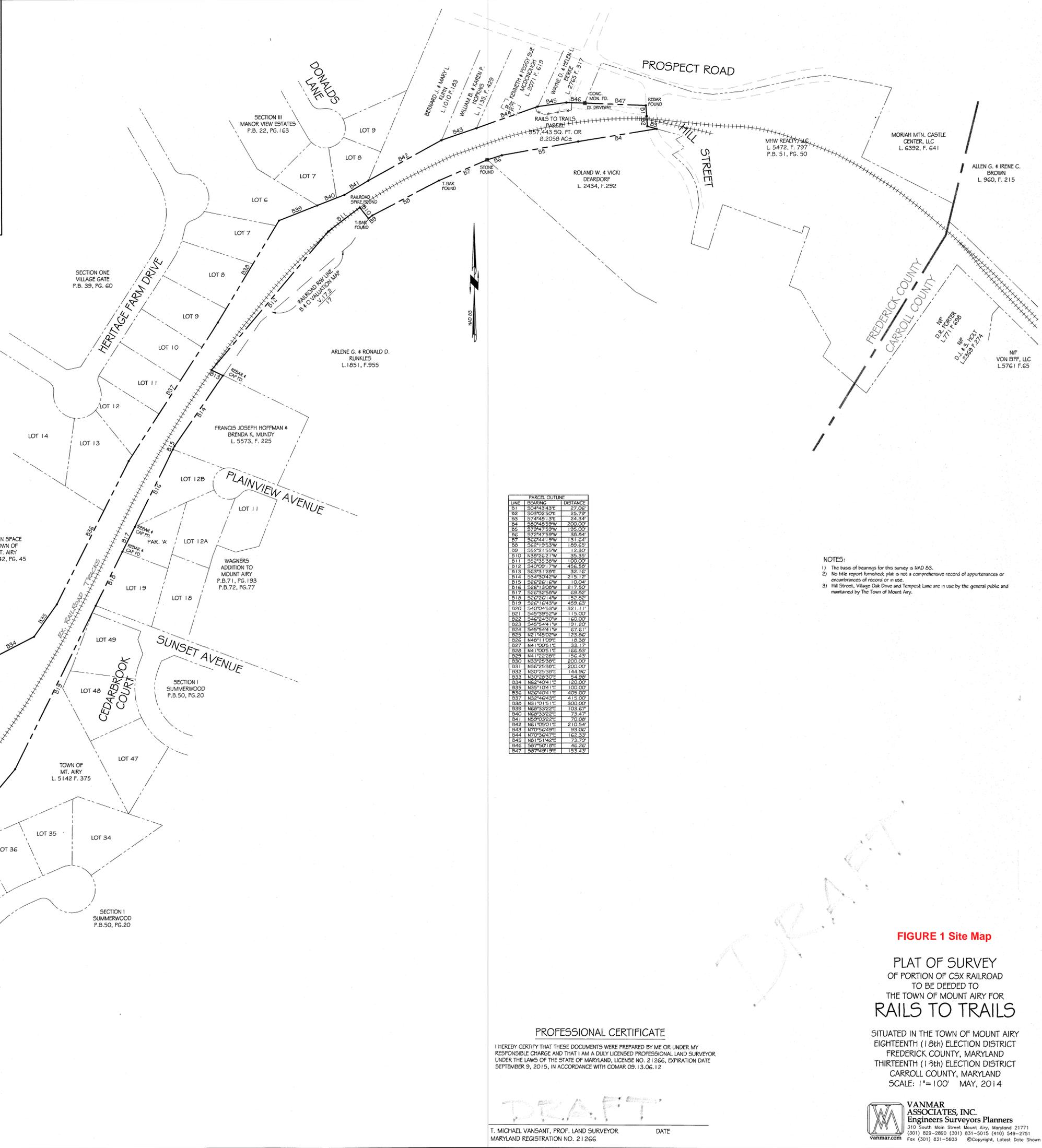
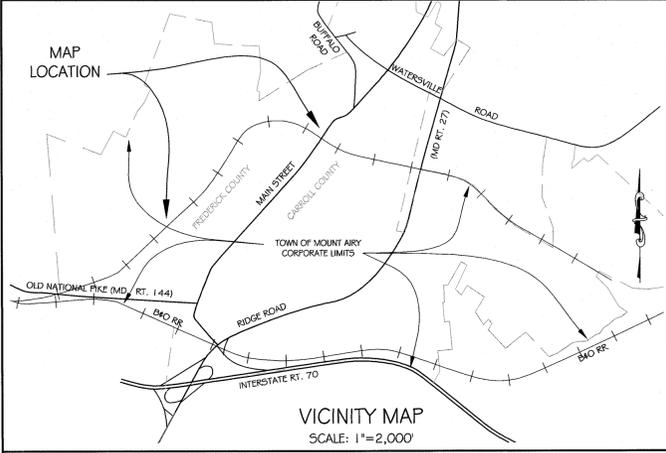
QUALIFICATIONS

The conclusions presented within this report are based upon a reasonable level of investigation within normal bounds and standards of professional practice for a site in this particular geographic and geologic setting, and the areas of the site accessible for drilling.

The findings of this study are not intended to serve as an audit of health and safety or compliance issues pertaining to improvements or occupant activities on-site. All observations, conclusions, and recommendations pertaining to environmental conditions at the subject site are limited to conditions observed and/or materials reviewed at the time this study was undertaken. No other warranty, expressed or implied, is made with regard to the conclusions and recommendations presented within this report.



Figures



LINE	BEARING	DISTANCE
B1	S04°34'33"E	27.06'
B2	S03°02'20"E	55.79'
B3	S74°49'13"E	24.34'
B4	S82°48'59"W	200.00'
B5	S78°47'59"W	195.00'
B6	S72°47'59"W	38.84'
B7	S66°44'19"W	131.64'
B8	S62°19'53"W	189.63'
B9	S52°21'55"W	12.30'
B10	N39°05'11"W	39.39'
B11	S52°35'30"W	100.00'
B12	S40°09'17"W	45.63'
B13	S43°31'20"E	32.16'
B14	S34°30'42"W	215.12'
B15	S23°20'12"W	10.04'
B16	S26°13'00"W	217.50'
B17	S26°32'50"W	69.82'
B18	S26°20'14"W	152.82'
B19	S26°16'43"W	459.63'
B20	S40°34'33"W	32.11'
B21	S45°38'29"W	115.00'
B22	S46°24'30"W	160.00'
B23	S45°54'11"W	131.50'
B24	S45°54'41"W	57.61'
B25	N21°45'02"W	123.86'
B26	N48°11'02"E	18.39'
B27	N41°00'51"E	33.17'
B28	N41°00'51"E	166.23'
B29	N41°22'02"E	156.43'
B30	N33°25'30"E	200.00'
B31	N36°23'30"E	200.00'
B32	N30°25'30"E	144.36'
B33	N30°26'30"E	54.39'
B34	N24°40'11"E	120.00'
B35	N35°10'41"E	100.00'
B36	N26°42'11"E	405.00'
B37	N32°46'31"E	415.00'
B38	N31°01'31"E	300.00'
B39	N62°33'22"E	105.67'
B40	N62°33'22"E	73.47'
B41	N59°03'22"E	70.00'
B42	N61°05'01"E	210.44'
B43	N70°56'49"E	33.06'
B44	N70°56'47"E	162.33'
B45	N71°14'22"E	73.79'
B46	S87°50'12"E	46.26'
B47	S87°49'19"E	153.43'

- NOTES:
- 1) The basis of bearings for this survey is NAD 83.
 - 2) No title report furnished; plat is not a comprehensive record of appurtenances or encumbrances of record or in use.
 - 3) Hill Street, Village Oak Drive and Tempest Lane are in use by the general public and maintained by the Town of Mount Airy.

PROFESSIONAL CERTIFICATE

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21266, EXPIRATION DATE SEPTEMBER 9, 2015, IN ACCORDANCE WITH COMAR 09.13.06.12

T. MICHAEL VANSANT, PROF. LAND SURVEYOR DATE
 MARYLAND REGISTRATION NO. 21266

FIGURE 1 Site Map

PLAT OF SURVEY
 OF PORTION OF CSX RAILROAD
 TO BE DEEDED TO
 THE TOWN OF MOUNT AIRY FOR
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' MAY, 2014

VANMAR ASSOCIATES, INC.
 Engineers Surveyors Planners
 310 South Main Street Mount Airy, Maryland 21771
 (301) 825-2890 (301) 831-5015 (410) 549-2751
 Fax (301) 831-5603 ©Copyright, Latest Date Shown

DRAFT

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Tables

Table 1
Operational Unit 1
Arsenic Concentrations in Soil Samples
Rails to Trails
Mount Airy, Maryland

	Operation Unit	OU-1 North				OU-1 South			
	Sample ID	OU-1 22'N 0-6"	OU-1 22'N 6-24"	OU-1 32'N 0-6"	OU-1 32'N 6"-24"	OU-1 22'S 0-6"	OU-1 22'S 6"-24"	OU-1 32'S 0-6"	OU-1 32'S 6"-24"
	Distance and Direction	22' N	22' N	32' N	32' N	22' S	22' S	32' S	32'S
	Sample Depth	0-6"	6-24"	0-6"	6-24"	0-6"	6-24"	0-6"	6-24"
	Sample Date	11/1/2021	11/1/2021	11/2/2021	11/2/2021	11/1/2021	11/1/2021	11/2/2021	11/2/2021
Total Metals (mg/kg)	MDE Tier 4 Recreational Use	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Arsenic	~20	48.9	31.2	53.3	25.3	47	6.74	81.5	48.1

Notes:

State of Maryland Department of Environment Tier 4 Medium-Use Recreational Use Clean-up Standards

J - Detected but below the reporting limit; therefore, result is an estimated concentration

ND (#): Not Detected

np = Not Published (The MDE has no published standard)

mg/kg - milligrams per kilogram

ug/kg - micrograms per kilogram

Exceeds Tier 4 Recreation Use Standards

Table 2
Operational Unit 2
Arsenic Concentrations in Soil Samples
Rails to Trails
Mount Airy, Maryland

	Operation Unit	OU-2 North				OU-2 South			
	Sample ID	OU2,22'N,0"-6"	OU2,22'N,6"-24"	OU2,32'N,0"-6"	OU2,32'N,6"-24"	OU2,22'S,0"-6"	OU2,22'S,6"-24"	OU2,32'S,0"-6"	OU2,32'S,6"-24"
	Distance and Direction	22' N	22' N	32' N	32' N	22' S	22' S	32' S	32' S
	Sample Depth	0-6"	6-24"	0-6"	6-24"	0-6"	6-24"	0-6"	6-24"
	Sample Date	11/1/2021	11/1/2021	11/2/2021	11/2/2021	11/1/2021	11/1/2021	11/2/2021	11/2/2021
	MDE Tier 4 Recreational Use	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Total Arsenic (mg/kg)									
Arsenic	~20	65.7	11.3	16.5	4.83	41.8	37.2	21.6	4.49

Notes:

State of Maryland Department of Environment Tier 4 Medium-Use Recreational Use Clean-up Standards

J - Detected but below the reporting limit; therefore, result is an estimated concentration

ND (#): Not Detected

np = Not Published (The MDE has no published standard)

mg/kg - milligrams per kilogram

ug/kg - micrograms per kilogram

Exceeds Tier 4 Recreation Use Standards

Table 3
Operational Unit 3
Arsenic Concentrations in Soil Samples
Rails to Trails
Mount Airy, Maryland

	Operation Unit	OU-3 North				OU-3 South			
	Sample ID	OU3,22'N,0-6"	OU3,22'N,6"-24"	OU3,32'N,0-6"	OU3,32'N,6"-24"	OU3,22'S,0-6"	OU3,22'S,6"-24"	OU3,32'S,0-6"	OU3,32'S,6"-24"
	Distance and Direction	22' N	22'N	32' N	32' N	22' S	22' S	32'S	32'S
	Sample Depth	0-6"	6-24"	0-6"	6-24"	0-6"	6-24"	0-6"	6-24"
	Sample Date	11/1/2021	11/1/2021	11/2/2021	11/2/2021	11/1/2021	11/1/2021	11/2/2021	11/2/2021
	MDE Tier 4 Recreational Use	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Total Arsenic (mg/kg)	~20	80.2	32.7	28.1	15.1	34.5	8.48	7.77	11.3

Notes:
State of Maryland Department of Environment Tier 4 Medium-Use Recreational Use Clean-up Standards
J - Detected but below the reporting limit; therefore, result is an estimated concentration
ND (#): Not Detected
np = Not Published (The MDE has no published standard)
mg/kg - milligrams per kilogram
ug/kg - micrograms per kilogram
Exceeds Tier 4 Recreation Use Standards

Table 4
Operational Unit 4
Arsenic Concentrations in Soil Samples
Rails to Trails
Mount Airy, Maryland

	Operation Unit	OU-4 North				OU-4 South			
	Sample ID	OU4,22'N,0-6"	OU4,22'N,6"-24"	OU4,32'N, 0-6"	OU4,32'N,6"-24"	OU4,22'S,0-6"	OU4,22'S,6"-24"	OU4,32'S,0-6"	OU4,32'S,6"-24"
	Distance and Direction	22' N	22' N	32' N	32' N	22' S	22' S	32' S	32' S
	Sample Depth	0-6"	6-24"	0-6"	6-24"	0-6"	6-24"	0-6"	6-24"
	Sample Date	10/29/2021	10/29/2021	10/29/2021	10/29/2021	10/29/2021	10/29/2021	10/29/2021	10/29/2021
Total Arsenic (mg/kg)	MDE Tier 4 Recreational Use	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Arsenic	~20	104	36.0	63.6	3.29	22.3	8.83	25.4	7.21

Notes:
State of Maryland Department of Environment Tier 4 Medium-Use Recreational Use Clean-up Standards
J - Detected but below the reporting limit; therefore, result is an estimated concentration
ND (#): Not Detected
np = Not Published (The MDE has no published standard)
mg/kg - milligrams per kilogram
ug/kg - micrograms per kilogram
Exceeds Tier 4 Recreation Use Standards

Table 5
Operational Unit 5
Arsenic Concentrations in Soil Samples
Rails to Trails
Mount Airy, Maryland

	Operation Unit	OU-5 North				OU-5 South			
	Sample ID	OU5,22'N,0-6"	OU5,22'N,6"-24"	OU5,32'N,0-6"	OU5,32'N,6"-24"	OU5,22'S,0-6"	OU5,22'S,6"-24"	OU5,32'S,0-6"	OU5,32'S,6"-24"
	Distance and Direction	22' N	22' N	32' N	32' N	22' S	22' S	32' S	32' S
	Sample Depth	0-6"	6-24"	0-6"	6-24"	0-6"	6-24"	0-6"	6-24"
	Sample Date	10/29/2021	10/29/2021	10/29/2021	4/28/2021	10/29/2021	10/29/2021	10/29/2021	10/29/2021
	MDE Tier 4 Recreational Use	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Total Arsenic (mg/kg)	~20	140	63.8	54.6	45.5	117	24.2	56	11.3

Notes:

State of Maryland Department of Environment Tier 4 Medium-Use Recreational Use Clean-up Standards

J - Detected but below the reporting limit; therefore, result is an estimated concentration

ND (#): Not Detected

np = Not Published (The MDE has no published standard)

mg/kg - milligrams per kilogram

ug/kg - micrograms per kilogram

Exceeds Tier 4 Recreation Use Standards

Table 6
Operational Unit 6
Arsenic Concentrations in Soil Samples
Rails to Trails
Mount Airy, Maryland

	Operation Unit	OU-6 North				OU-6 South			
	Sample ID	OU6,22'N, 0-6"	OU6,22'N,6-24"	OU6,32'N,0-6"	OU6,32'N,6-24"	OU6,22'S,0-6"	OU6,22'S 6-24"	OU6,32'S,0-6"	OU6,32'S,6-24"
	Distance and Direction	22' N	22' N	32' N	32' N	22' S	22' S	32' S	32' S
	Sample Depth	0-6"	6-24"	0-6"	6-24"	0-6"	6-24"	0-6"	6-24"
	Sample Date	10/29/2021	10/29/2021	10/29/2021	4/29/2021	10/29/2021	10/29/2021	10/29/2021	10/29/2021
	MDE Tier 4 Recreational Use	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Total Arsenic (mg/kg)	~20	180	13.7	62.7	21.8	134	21.1	31.4	29

Notes:

State of Maryland Department of Environment Tier 4 Medium-Use Recreational Use Clean-up Standards

J - Detected but below the reporting limit; therefore, result is an estimated concentration

ND (#): Not Detected

np = Not Published (The MDE has no published standard)

mg/kg - milligrams per kilogram

ug/kg - micrograms per kilogram

Exceeds Tier 4 Recreation Use Standards

Table 7
Historic Sample Data
Arsenic Detected in Soil Samples
Rails to Trails
Mount Airy, Maryland

Sample OU	OU-1 North	OU-1 North	OU-1 South	OU-1 South	OU-2 North	OU-2 North	OU-2 South	OU-2 South	OU-3 North	OU-3 North	OU-3 South	OU-3 South
Sample Depth	0-6	6-24	0-6	6-24	0-6	6-24	0-6	6-24	0-6	6-24	0-6	6-24
Distance from Tracks (feet)												
5	25.6	34.7	244	98.4	99	49.2	267	309	53.3	15.4	146	45.90
10	231	125	264	76.2	211	122	129	57.9	86.6	114	211	118
15	104	90.1	56.6	16	90.5	79.3	63.2	27	294	93.8	76.5	39.3
20	112	49.7	73.4	8.55	166	48.8	114	25.9	40	16.4	16.4	4.31
22	48.9	31.2	47	6.74	65.7	11.3	41.8	37.2	80.2	32.7	34.5	8.48
32	53.3	25.3	81.5	48.1	16.5	4.83	21.6	4.49	28.1	15.1	7.77	11.3

Sample OU	OU-4 North	OU-4 North	OU-4 South	OU-4 South	OU-5 North	OU-5 North	OU-5 South	OU-5 South	OU-6 North	OU-6 North	OU-6 South	OU-6 South
Sample Depth	0-6	6-24	0-6	6-24	0-6	6-24	0-6	6-24	0-6	6-24	0-6	6-24
Distance from Tracks (feet)												
5	209	21.3	75.9	42.6	129	130	361	132	226	144	302	392
10	224	59.5	326	87	115	40.6	284	242	143	309	186	241
15	112	36.3	155	72.8	147	92.4	61.8	35	85	91.8	119	92.8
20	18.4	8.6	160	102	120	119	65.3	19.2	76.6	83	25.7	45.6
22	104	36	22.3	8.83	140	63.8	117	24.2	180	13.7	134	21.1
32	63.6	3.29	25.4	7.21	54.6	45.5	56	11.3	62.7	21.8	31.4	29

Notes:

State of Maryland Department of Environment Tier 4 Medium-Use Recreational Use Clean-up Standards

J - Detected but below the reporting limit; therefore, result is an estimated concentration

ND (#): Not Detected (Method

np = Not Published (The MDE has no published

mg/kg - milligrams per kilogram

ug/kg - micrograms per kilogram

Bold - detected above laboratory detection limit

Exceeds Tier 4 Recreation Use Standard

Approaching the Tier 4 Recreational Use Standard in the most recent samples



Attachment A

10 November 2021

Mike Bell

ECS-Baltimore

1340 Charwood Rd, Suite A

Baltimore, MD 21076

RE: RAILS TO TRAILS OU SAMPLING

Enclosed are the results of analyses for samples received by the laboratory on 11/02/21 14:15.

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 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,



Will Brewington

President

Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OU4-22S-0"6"		1110219-01	Soil	10/29/21 12:45	11/02/21 14:15
OU4-22S-6"24"		1110219-02	Soil	10/29/21 12:45	11/02/21 14:15
OU3-22N-0"6"		1110219-03	Soil	11/01/21 09:00	11/02/21 14:15
OU3-22N-6"24"		1110219-04	Soil	11/01/21 09:00	11/02/21 14:15
OU3-22S-0"6"		1110219-05	Soil	11/01/21 10:00	11/02/21 14:15
OU3-22S-6"24"		1110219-06	Soil	11/01/21 10:00	11/02/21 14:15
OU2-22N-0"6"		1110219-07	Soil	11/01/21 10:30	11/02/21 14:15
OU2-22N-6"24"		1110219-08	Soil	11/01/21 10:30	11/02/21 14:15
OU2-22S-0"6"		1110219-09	Soil	11/01/21 11:30	11/02/21 14:15
OU2-22S-6"24"		1110219-10	Soil	11/01/21 11:30	11/02/21 14:15
OU6-22N-0"6"		1110219-11	Soil	10/29/21 08:45	11/02/21 14:15
OU6-22S-0"6"		1110219-13	Soil	10/29/21 09:00	11/02/21 14:15
OU6-22S-6"24"		1110219-14	Soil	10/29/21 09:00	11/02/21 14:15
OU5-22N-0"6"		1110219-15	Soil	10/29/21 10:00	11/02/21 14:15
OU5-22N-6"24"		1110219-16	Soil	10/29/21 10:00	11/02/21 14:15
OU5-22S-0"6"		1110219-17	Soil	10/29/21 10:30	11/02/21 14:15
OU5-22S-6"24"		1110219-18	Soil	10/29/21 10:30	11/02/21 14:15
OU4-22N-0"6"		1110219-19	Soil	10/29/21 11:30	11/02/21 14:15
OU4-22N-6"24"		1110219-20	Soil	10/29/21 11:30	11/02/21 14:15
OU1-22S-0"6"		1110219-21	Soil	11/01/21 12:30	11/02/21 14:15
OU1-22S-6"24"		1110219-22	Soil	11/01/21 12:30	11/02/21 14:15
OU1-22N-0"6"		1110219-23	Soil	11/01/21 13:00	11/02/21 14:15
OU1-22N-6"24"		1110219-24	Soil	11/01/21 13:00	11/02/21 14:15



Will Brewington, President

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: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

OU4-22S-0"6"

1110219-01 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	79		%			1	11/03/21	11/04/21 12:40	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	22.3		mg/kg dry	0.316	0.316	1	11/03/21	11/04/21 09:47	CWK



Will Brewington, President

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All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

OU4-22S-6"24"

1110219-02 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	82		%			1	11/03/21	11/04/21 12:40	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	8.83		mg/kg dry	0.305	0.305	1	11/03/21	11/04/21 09:49	CWK

Will Brewington, President

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

OU3-22N-0"6"

1110219-03 (Soil)
Sample Date: 11/01/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	79		%			1	11/03/21	11/04/21 12:40	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	80.2		mg/kg dry	0.316	0.316	1	11/03/21	11/04/21 09:52	CWK

Will Brewington, President

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

OU3-22N-6"24"

1110219-04 (Soil)
Sample Date: 11/01/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	76		%			1	11/03/21	11/04/21 12:40	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	32.7		mg/kg dry	0.329	0.329	1	11/03/21	11/04/21 09:54	CWK



Will Brewington, President

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

OU3-22S-0"6"

1110219-05 (Soil)
Sample Date: 11/01/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	75		%			1	11/03/21	11/04/21 12:40	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	34.5		mg/kg dry	0.333	0.333	1	11/03/21	11/04/21 09:56	CWK



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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

OU3-22S-6"24"

1110219-06 (Soil)
Sample Date: 11/01/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	75		%			1	11/03/21	11/04/21 12:40	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	8.48		mg/kg dry	0.333	0.333	1	11/03/21	11/04/21 09:59	CWK



Will Brewington, President

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

OU2-22N-0"6"

1110219-07 (Soil)
Sample Date: 11/01/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	79		%			1	11/03/21	11/04/21 12:40	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	65.7		mg/kg dry	0.316	0.316	1	11/03/21	11/04/21 10:01	CWK

Will Brewington, President

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

OU2-22N-6"24"

1110219-08 (Soil)
Sample Date: 11/01/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	81		%			1	11/03/21	11/04/21 12:40	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	11.3		mg/kg dry	0.309	0.309	1	11/03/21	11/04/21 10:03	CWK



Will Brewington, President

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

OU2-22S-0"6"

1110219-09 (Soil)
Sample Date: 11/01/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	76		%			1	11/03/21	11/04/21 12:40	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	41.8		mg/kg dry	0.329	0.329	1	11/03/21	11/04/21 10:06	CWK



Will Brewington, President

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

OU2-22S-6"24"

1110219-10 (Soil)
Sample Date: 11/01/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	78		%			1	11/03/21	11/04/21 12:40	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	37.2		mg/kg dry	0.321	0.321	1	11/03/21	11/04/21 10:13	CWK



Will Brewington, President

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

OU6-22N-0"6"

1110219-11 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	74		%			1	11/03/21	11/04/21 12:40	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	180		mg/kg dry	1.69	1.69	5	11/03/21	11/04/21 11:05	CWK



Will Brewington, President

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

OU6-22S-0"6"

1110219-13 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	65		%			1	11/03/21	11/04/21 12:40	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	134		mg/kg dry	0.385	0.385	1	11/03/21	11/04/21 10:18	CWK



Will Brewington, President

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

OU6-22S-6"24"

1110219-14 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	74		%			1	11/03/21	11/04/21 12:40	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	21.1		mg/kg dry	0.338	0.338	1	11/03/21	11/04/21 10:20	CWK



Will Brewington, President

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

OU5-22N-0"6"

1110219-15 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	77		%			1	11/03/21	11/04/21 12:40	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	140		mg/kg dry	0.325	0.325	1	11/03/21	11/04/21 10:32	CWK



Will Brewington, President

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

OU5-22N-6"24"

1110219-16 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	80		%			1	11/03/21	11/04/21 12:40	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	63.8		mg/kg dry	0.313	0.313	1	11/03/21	11/04/21 10:35	CWK



Will Brewington, President

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

OU5-22S-0"6"

1110219-17 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	79		%			1	11/03/21	11/04/21 12:40	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	117		mg/kg dry	0.316	0.316	1	11/03/21	11/04/21 10:42	CWK



Will Brewington, President

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

OU5-22S-6"24"

1110219-18 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	79		%			1	11/03/21	11/04/21 12:40	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	24.2		mg/kg dry	0.316	0.316	1	11/03/21	11/04/21 10:44	CWK



Will Brewington, President

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

OU4-22N-0"6"

1110219-19 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	86		%			1	11/03/21	11/04/21 12:40	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	104		mg/kg dry	0.291	0.291	1	11/03/21	11/04/21 10:47	CWK



Will Brewington, President

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

OU4-22N-6"24"

1110219-20 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	84		%			1	11/03/21	11/04/21 12:40	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	36.0		mg/kg dry	0.298	0.298	1	11/03/21	11/04/21 10:49	CWK



Will Brewington, President

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

OU1-22S-0"6"

1110219-21 (Soil)
Sample Date: 11/01/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	79		%			1	11/03/21	11/04/21 12:40	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	47.0		mg/kg dry	0.316	0.316	1	11/03/21	11/04/21 10:52	CWK



Will Brewington, President

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

OU1-22S-6"24"

1110219-22 (Soil)
Sample Date: 11/01/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	76		%			1	11/03/21	11/04/21 12:40	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	6.74		mg/kg dry	0.329	0.329	1	11/03/21	11/04/21 10:54	CWK



Will Brewington, President

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

OU1-22N-0"6"

1110219-23 (Soil)
Sample Date: 11/01/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	72		%			1	11/03/21	11/04/21 12:40	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	48.9		mg/kg dry	0.347	0.347	1	11/03/21	11/04/21 10:57	CWK



Will Brewington, President

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

OU1-22N-6"24"

1110219-24 (Soil)
Sample Date: 11/01/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	79		%			1	11/03/21	11/04/21 12:40	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	31.2		mg/kg dry	0.316	0.316	1	11/03/21	11/04/21 10:59	CWK



Will Brewington, President

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C

Project Manager: Mike Bell

Reported:

11/10/21 09:39

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

Maryland Spectral Services

Matrix , Method , Analyte _____



Will Brewington, President

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All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/10/21 09:39

Notes and Definitions

- S-98 Spike recovery outside of established control limits.
- QM-4X The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
- RE Sample reanalyses are done at the laboratory's discretion as a mechanism to improve data quality. Any client requested reanalysis will be identified with a sample qualifier.
- ND Analyte NOT DETECTED at or above the reporting limit
- 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



Will Brewington, President

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Company Name: ECS Mid Atlantic		Project Manager: Mike Bell		Analysis Requested										CHAIN-OF-CUSTODY RECORD			
Project Name: Rails to Trails OU Sampling		Project ID: 47:5784-C												No. of Containers <i>Asenic</i>			Maryland Spectral Services, Inc. 1500 Caton Center Drive, Suite G Baltimore, MD 21227 410-247-7600 • Fax 410-247-7602 labman@mdspectral.com
Sampler(s): Sam Irwin & Seth Brown		P.O. Number:					Preservative: 1+ 1 HCL, H ₂ SO ₄ , Methanol, Na ₂ S ₂ O ₃ , NaHCO ₃			Field pH, Residual Chlorine, QC Request, Trip Blank, Field Blank			MSS Lab ID				
Field Sample ID		Date	Time	Water	Soil	Other											
OU4-22S-0"6"		10/29	1245	X													1110219-01
OU4-22S-6"24"		10/29	1245	X													- 02
OU3-22N-0"6"		11/01	0900	X													- 03
OU3-22N-6"24"		11/01	0900	X													- 04
OU3-22S-0"6"		11/01	1000	X													- 05
OU3-22S-6"24"		11/01	1000	X													- 06
OU2-22N-0"6"		11/01	1030	X													- 07
OU2-22N-6"24"		11/01	1030	X													- 08
OU2-22S-0"6"		11/01	1130	X													- 09
OU2-22S-6"24"		11/01	1130	X													- 10
Relinquished by: <i>(Signature)</i> 		Date/Time		Received by: <i>(Signature)</i>				Relinquished by: <i>(Signature)</i>				Date/Time		Received by: <i>(Signature)</i>			
<i>(Printed)</i> Sam Irwin		11/2 1400		<i>(Printed)</i>				<i>(Printed)</i>						<i>(Printed)</i>			
Relinquished by: <i>(Signature)</i>		Date/Time		Received by Lab: <i>(Signature)</i>				Turn Around Time:				Lab Use:					
<i>(Printed)</i>		14:00 11/2/21		<i>(Printed)</i> Lori Foster				<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: _____ °C <i>8.8</i> <input checked="" type="checkbox"/> Received on Ice <input type="checkbox"/> Received same day <input type="checkbox"/> Preservation Appropriate					
Delivery Method: <input type="checkbox"/> Courier <input checked="" type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> USPS <input type="checkbox"/> Other: _____		Special Instructions/QC Requirements & Comments: <i>7</i>										Sample Disposal: <input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by lab <input type="checkbox"/> Archive for _____ days					

Company Name: ECS Mid Atlantic		Project Manager: Mike Bell		Analysis Requested										CHAIN-OF-CUSTODY RECORD								
Project Name: Rails to Trails OU Sampling		Project ID: 47:5784-C												No. of Containers <i>Arsenic</i>			Maryland Spectral Services, Inc. 1500 Caton Center Drive, Suite G Baltimore, MD 21227 410-247-7600 • Fax 410-247-7602 labman@mdspectral.com					
Sampler(s): Sam Irwin & Seth Brown		P.O. Number:															Matrix Codes: NW (nonpotable water) PW (potable water)					
Field Sample ID		Date	Time														Water	Soil	Other	Preservative: 1+ 1 HCL, H ₂ SO ₄ , Methanol, Na ₂ S ₂ O ₃ , NaHCO ₃	Field pH, Residual Chlorine, QC Request, Trip Blank, Field Blank	MSS Lab ID
OU6-22N-0"6"	10/29	0845		X			1	X					1110219-11									
OU6-22N-6"24"	10/29	0845		X			1	X					-12									
OU6-22S-0"6"	10/29	0900		X			1	X					-13									
OU6-22S-6"24"	10/29	0900		X			1	X					-14									
OU5-22N-0"6"	10/29	1000		X			1	X					-15									
OU5-22N-6"24"	10/29	1000		X			1	X					-16									
OU5-22S-0"6"	10/29	1030		X			1	X					-17									
OU5-22S-6"24"	10/29	1030		X			1	X					-18									
OU4-22N-0"6"	10/29	1130		X			1	X					-19									
OU4-22N-6"24"	10/29	1130		X			1	X					-20									
Relinquished by: (Signature) 		Date/Time		Received by: (Signature)			Relinquished by: (Signature)			Date/Time		Received by: (Signature)										
(Printed) Sam Irwin		11/2 1400		(Printed) 			(Printed)					(Printed)										
Relinquished by: (Signature)		Date/Time		Received by Lab: (Signature)			Turn Around Time:			Lab Use:												
(Printed)		14:15 11/2/11		(Printed) Lori Foster			<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: _____ °C 8.8 <input checked="" type="checkbox"/> Received on Ice <input type="checkbox"/> Received same day <input type="checkbox"/> Preservation Appropriate												
Delivery Method: <input type="checkbox"/> Courier <input checked="" type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> USPS <input type="checkbox"/> Other: _____		Special Instructions/QC Requirements & Comments: 2										Sample Disposal: <input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by lab <input type="checkbox"/> Archive for _____ days										

Company Name: ECS Mid Atlantic		Project Manager: Mike Bell		Analysis Requested										CHAIN-OF-CUSTODY RECORD						
Project Name: Rails to Trails OU Sampling		Project ID: 47:5784-C												No. of Containers <i>Asstoric</i>			Maryland Spectral Services, Inc. 1500 Caton Center Drive, Suite G Baltimore, MD 21227 410-247-7600 • Fax 410-247-7602 labman@mdspectral.com			
Sampler(s): Sam Irwin & Seth Brown		P.O. Number:		Field Sample ID			Date		Time		Water		Soil				Other		Matrix Codes: NW (nonpotable water) PW (potable water)	
																			Preservative: 1+ 1 HCL, H ₂ SO ₄ , Methanol, Na ₂ S ₂ O ₃ , NaHCO ₃	
OU1-22S-0"6"		11/01		1230				X												1110219-21
OU1-22S-6"24"		11/01		1230				X												- 22
OU1-22N-0"6"		11/01		1300				X												- 23
OU1-22N-6"24"		11/01		1300				X												- 24
Relinquished by: (Signature) 		Date/Time		Received by: (Signature)				Relinquished by: (Signature)				Date/Time		Received by: (Signature)						
(Printed) Sam Irwin		11/2 1400		(Printed)				(Printed)						(Printed)						
Relinquished by: (Signature)		Date/Time		Received by Lab: (Signature)				Turn Around Time:				Lab Use:								
(Printed)		14:15 11/2/21		 Lori Foster				<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: ____°C <i>B.B.</i> <input type="checkbox"/> - Received on Ice <input type="checkbox"/> Received same day <input type="checkbox"/> Preservation Appropriate								
Delivery Method:		Special Instructions/QC Requirements & Comments:										Sample Disposal:								
<input type="checkbox"/> Courier <input checked="" type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> USPS <input type="checkbox"/> Other: _____		<i>3</i>										<input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by lab <input type="checkbox"/> Archive for ____ days								

19 November 2021

Mike Bell

ECS-Chantilly

14026 Thunderbolt Place, Suite 100

Chantilly, VA 20151

RE: RAILS TO TRAILS OU SAMPLING

Enclosed are the results of analyses for samples received by the laboratory on 11/12/21 16:13.

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 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: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OU4-32S-0"6"		1111221-01	Soil	10/29/21 00:00	11/12/21 16:13
OU4-32S-6"24"		1111221-02	Soil	10/29/21 00:00	11/12/21 16:13
OU3-32N-0"6"		1111221-03	Soil	11/02/21 00:00	11/12/21 16:13
OU3-32N-6"24"		1111221-04	Soil	11/02/21 00:00	11/12/21 16:13
OU3-32S-0"6"		1111221-05	Soil	11/02/21 00:00	11/12/21 16:13
OU3-32S-6"24"		1111221-06	Soil	11/02/21 00:00	11/12/21 16:13
OU2-32N-0"6"		1111221-07	Soil	11/02/21 00:00	11/12/21 16:13
OU2-32N-6"24"		1111221-08	Soil	11/02/21 00:00	11/12/21 16:13
OU2-32S-0"6"		1111221-09	Soil	11/02/21 00:00	11/12/21 16:13
OU2-32S-6"24"		1111221-10	Soil	11/02/21 00:00	11/12/21 16:13
OU6-32N-0"6"		1111221-11	Soil	10/29/21 00:00	11/12/21 16:13
OU6-32N-6"24"		1111221-12	Soil	10/29/21 00:00	11/12/21 16:13
OU6-32S-0"6"		1111221-13	Soil	10/29/21 00:00	11/12/21 16:13
OU6-32S-6"24"		1111221-14	Soil	10/29/21 00:00	11/12/21 16:13
OU5-32N-0"6"		1111221-15	Soil	10/29/21 00:00	11/12/21 16:13
OU5-32N-6"24"		1111221-16	Soil	10/29/21 00:00	11/12/21 16:13
OU5-32S-0"6"		1111221-17	Soil	10/29/21 00:00	11/12/21 16:13
OU5-32S-6"24"		1111221-18	Soil	10/29/21 00:00	11/12/21 16:13
OU4-32N-0"6"		1111221-19	Soil	10/29/21 00:00	11/12/21 16:13
OU4-32N-6"24"		1111221-20	Soil	10/29/21 00:00	11/12/21 16:13
OU1-32S-0"6"		1111221-21	Soil	11/02/21 00:00	11/12/21 16:13
OU1-32S-6"24"		1111221-22	Soil	11/02/21 00:00	11/12/21 16:13
OU1-32N-0"6"		1111221-23	Soil	11/02/21 00:00	11/12/21 16:13
OU1-32N-6"24"		1111221-24	Soil	11/02/21 00:00	11/12/21 16:13
OU6-22N-6"24"		1111221-25	Soil	10/29/21 00:00	11/12/21 16:13



Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU4-32S-0"6"

1111221-01 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	73		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	25.4		mg/kg dry	0.342	0.342	1	11/15/21	11/16/21 11:47	CWK



Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU4-32S-6"24"

1111221-02 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	66		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	7.21		mg/kg dry	0.379	0.379	1	11/15/21	11/16/21 11:50	CWK



Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU3-32N-0"6"

1111221-03 (Soil)
Sample Date: 11/02/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	76		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	28.1		mg/kg dry	0.329	0.329	1	11/15/21	11/16/21 11:52	CWK

Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU3-32N-6"24"

1111221-04 (Soil)
Sample Date: 11/02/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	78		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	15.1		mg/kg dry	0.321	0.321	1	11/15/21	11/16/21 11:54	CWK



Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU3-32S-0"6"

1111221-05 (Soil)
Sample Date: 11/02/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	73		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	7.77		mg/kg dry	0.342	0.342	1	11/15/21	11/16/21 11:57	CWK



Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU3-32S-6"24"

1111221-06 (Soil)
Sample Date: 11/02/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	70		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	11.3		mg/kg dry	0.357	0.357	1	11/15/21	11/16/21 11:59	CWK

Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU2-32N-0"6"

1111221-07 (Soil)
Sample Date: 11/02/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	72		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	16.5		mg/kg dry	0.347	0.347	1	11/15/21	11/16/21 12:02	CWK



Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU2-32N-6"24"

1111221-08 (Soil)
Sample Date: 11/02/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	81		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	4.83		mg/kg dry	0.309	0.309	1	11/15/21	11/16/21 12:04	CWK



Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU2-32S-0"6"

1111221-09 (Soil)
Sample Date: 11/02/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	72		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	21.6		mg/kg dry	0.347	0.347	1	11/15/21	11/16/21 12:17	CWK



Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU2-32S-6"24"

1111221-10 (Soil)
Sample Date: 11/02/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	79		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	4.49		mg/kg dry	0.316	0.316	1	11/15/21	11/16/21 12:20	CWK



Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU6-32N-0"6"

1111221-11 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	78		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	62.7		mg/kg dry	0.321	0.321	1	11/15/21	11/16/21 12:22	CWK



Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU6-32N-6"24"

1111221-12 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	71		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	21.8		mg/kg dry	0.352	0.352	1	11/15/21	11/16/21 12:25	CWK

Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU6-32S-0"6"

1111221-13 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	67		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	31.4		mg/kg dry	0.373	0.373	1	11/15/21	11/16/21 12:27	CWK



Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU6-32S-6"24"

1111221-14 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	74		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	29.0		mg/kg dry	0.338	0.338	1	11/15/21	11/16/21 12:29	CWK



Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU5-32N-0"6"

1111221-15 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	70		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	54.6		mg/kg dry	0.357	0.357	1	11/15/21	11/16/21 12:32	CWK



Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU5-32N-6"24"

1111221-16 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	67		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	45.5		mg/kg dry	0.373	0.373	1	11/15/21	11/16/21 12:34	CWK



Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU5-32S-0"6"

1111221-17 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	77		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	56.0		mg/kg dry	0.325	0.325	1	11/15/21	11/16/21 12:52	CWK



Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU5-32S-6"24"

1111221-18 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	73		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	11.3		mg/kg dry	0.342	0.342	1	11/15/21	11/16/21 12:54	CWK

Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU4-32N-0"6"

1111221-19 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	78		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	63.6		mg/kg dry	0.321	0.321	1	11/15/21	11/16/21 12:56	CWK

Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU4-32N-6"24"

1111221-20 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	71		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	3.29		mg/kg dry	0.352	0.352	1	11/15/21	11/16/21 12:59	CWK



Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU1-32S-0"6"

1111221-21 (Soil)
Sample Date: 11/02/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	79		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	81.5		mg/kg dry	0.316	0.316	1	11/15/21	11/16/21 13:01	CWK



Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU1-32S-6"24"

1111221-22 (Soil)
Sample Date: 11/02/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	75		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	48.1		mg/kg dry	0.333	0.333	1	11/15/21	11/16/21 13:04	CWK



Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU1-32N-0"6"

1111221-23 (Soil)
Sample Date: 11/02/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	78		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	53.3		mg/kg dry	0.321	0.321	1	11/15/21	11/16/21 13:06	CWK



Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU1-32N-6"24"

1111221-24 (Soil)
Sample Date: 11/02/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	77		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	25.3		mg/kg dry	0.325	0.325	1	11/15/21	11/16/21 13:09	CWK

Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C
Project Manager: Mike Bell

Reported:
11/19/21 12:19

OU6-22N-6"24"

1111221-25 (Soil)
Sample Date: 10/29/21

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	77		%			1	11/15/21	11/16/21 10:51	MH
Total Metals Analysis by EPA 6020B Prepared by 3050B-Metals Digestion									
Arsenic	13.7		mg/kg dry	0.325	0.325	1	11/15/21	11/16/21 13:16	CWK



Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C

Project Manager: Mike Bell

Reported:

11/19/21 12:19

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

Maryland Spectral Services

Matrix , Method , Analyte _____



Rabecka Koons, Quality Assurance Officer

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Analytical Results

Project: RAILS TO TRAILS OU SAMPLING

Project Number: 47:5784-C

Project Manager: Mike Bell

Reported:

11/19/21 12:19

Notes and Definitions

- QM-4X The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
- RE Sample reanalyses are done at the laboratory's discretion as a mechanism to improve data quality. Any client requested reanalysis will be identified with a sample qualifier.
- ND Analyte NOT DETECTED at or above the reporting limit
- 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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Company Name: ECS Mid-Atlantic		Project Manager: Mike Bell		Analysis Requested										CHAIN-OF-CUSTODY RECORD				
Project Name: Rails to Trails OU Sampling		Project ID: 47:5784-C		<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">No. of Containers</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Arsenic</div> </div>										Maryland Spectral Services, Inc. 1500 Caton Center Drive, Suite G Baltimore, MD 21227 410-247-7600 • Fax 410-247-7602 labman@mdspectral.com				
Sampler(s): Sam Irwin & Seth Brown		P.O. Number:												Matrix Codes: NW (nonpotable water) PW (potable water)				
Field Sample ID	Date	Time	Water											Soil	Other	Preservative: 1+ 1 HCL, H ₂ SO ₄ , Methanol, Na ₂ S ₂ O ₃ , NaHCO ₃	Field pH, Residual Chlorine, QC Request, Trip Blank, Field Blank	MSS Lab ID
OU4-32S-0"6"	10/29			X		1	X											111221-01
OU4-32S-6"24"				X		1	X											-02
OU3-32N-0"6"	11/2			X		1	X											-03
OU3-32N-6"24"				X		1	X											-04
OU3-32S-0"6"				X		1	X											-05
OU3-32S-6"24"				X		1	X											-06
OU2-32N-0"6"				X		1	X											-07
OU2-32N-6"24"				X		1	X											-08
OU2-32S-0"6"				X		1	X											-09
OU2-32S-6"24"				X		1	X											-10
Relinquished by: (Signature) 		Date/Time 11/12/21		Received by: (Signature) 			Relinquished by: (Signature)			Date/Time		Received by: (Signature)						
(Printed) Sam Irwin				(Printed) Anna R Traub			(Printed)					(Printed)						
Relinquished by: (Signature)		Date/Time 11/12/21 16:13		Received by Lab: (Signature) 			Turn Around Time:			Lab Use:								
(Printed)				(Printed) Anna R Traub			<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: 3.8°C <input checked="" type="checkbox"/> Received on Ice <input type="checkbox"/> Received same day <input type="checkbox"/> Preservation Appropriate								
Delivery Method: <input type="checkbox"/> Courier <input type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> USPS <input type="checkbox"/> Other: _____		Special Instructions/QC Requirements & Comments:			<input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by lab <input type="checkbox"/> Archive for _____ days													

