

Mountain Consulting Services

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Spokane Valley, WA 99206
509-924-9236 Office
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December 6, 2023

Ms. Kristine Keller
WA Department of Social & Health Services
Facilities, Financial, & Analytics Administration
Office of Capital Programs
Post Office Box 500
Medical Lake, WA 99022

Project Number: 23-043.2

RE: Report of Findings for the Analysis of Leachable RCRA Metals Content by Toxic Characterization Leachable Procedure (*TCLP*) for the Gray Forest Fire Uncovered Old Coal Stockpile located west of Pine Lodge in the Forested Land between West Medical Lake on the Eastern State Hospital Campus in Medical Lake, Washington.

Dear Ms. Keller,

Mountain Consulting Services (*Mountain Consulting*) is pleased to provide this report detailing sample collection & laboratory analysis results for **Leachable RCRA-8 Metals TCLP Content** associated with the Old Building Materials Dump Site Stockpile that has a Large Central Deposit of Coal located west of Pine Lodge on the Eastern State Hospital Campus addressed at 850 Maple Street in Medical Lake, Washington.

PROJECT BACKGROUND

Mountain Consulting conducted Pre-Remediation, Leachable RCRA-8 Metals Content Testing & Analysis of the forest fire uncovered old Coal Dump Site Stockpile on the Eastern State Hospital (ESH) campus in Medical Lake, Washington.

The old building materials dump-site included for investigation is located approximately 1,250' west of Pine Street & Pine Lodge on the ESH Campus; approximately 300' south of Poplar Street at its west end 90-degree bend; and approximately 300' east of West Medical Lake's Shoreline on forested undeveloped land.

The dump site deposit is significant, rapping around and along the south and west sides of a flat shelf. The overall deposit of building materials is approximately 400' long, by approximately 50' wide, by approximately 30' in depth, with an estimated quantity of 600,000 cubic feet of material (*or approximately 22,225 cubic yards*).

The approximate central area of the materials stockpile is mostly a large Coal-Waste Deposit.

Mr. Samuel W. Bailey Jr., Washington State Certified Lead Risk Assessor 0168 collect One (1) Bulk Composite RCRA-8 Metals TCLP waste-stream sample from the central Coal Waste Deposit of the Site on November 21st of 2023.

The collected Coal Material waste-stream sample was submitted by chain of custody procedures to Eurofins Environmental Testing of Spokane Valley Washington.

RCRA-8 METALS TCLP WASTE-STREAM SAMPLING

Mountain Consulting collected a Coal Waste-Stream Sample by filling a 9oz glass sampling jars with teflon lids for official laboratory analysis submission.

The sample was collected by Mr. Samuel W. Bailey Jr., WA State Certified Lead Risk Assessor & HAZWOPER accredited project manager of Mountain Consulting.

The solid waste-stream sample was submitted to Eurofins Environment Testing for analysis by EPA Methods 6010D & 7470A (*for Leachable RCRA-8 Metals Content for analytes: arsenic, barium, cadmium, chromium, lead, selenium, silver & mercury*).

Eurofins is a Washington State Department of Ecology (*WDOE*) Accredited Analytical Testing Laboratory. *Laboratory accreditation is attached for review.*

RCRA-8 Metals TCLP Content Analysis Results

The results of analysis for the RCRA-8 Metals TCLP, Solid Coal Waste-Stream Sample collected from the ESH Old Materials Dump Site are provided in the following Table:

Solid Coal Waste-Stream Sample 23-043.2-RCRA-TCLP1			
Test	EPA Method	Results in mg/L	Threshold Limit in mg/L
TCLP Arsenic	6010D	ND	5.0
TCLP Barium	6010D	0.10	100.0
TCLP Cadmium	6010D	ND	1.0
TCLP Chromium	6010D	ND	5.0
TCLP Lead	6010D	ND	5.0
TCLP Selenium	6010D	ND	0.2
TCLP Silver	6010D	ND	1.0
TCLP Mercury	7470A	ND	5.0

See attached laboratory analysis report & chain of custody; mg/L = milligrams per liter; ND = non detect; Note: mg/L is a direct conversion to parts per million (ppm).

CONCLUSION

The results of analysis for the Coal Waste-Stream Sample, submitted for RCRA-8 Metals TCLP Leachable Content Analysis, produced results below the individual threshold limits for all 8-RCRA metals.



ANALYTICAL REPORT

PREPARED FOR

Attn: Ronald Knutson
Mountain Consulting Services LLC
9922 E Montgomery Avenue
Suite 9
Spokane Valley, Washington 99206

Generated 11/30/2023 5:09:29 PM

JOB DESCRIPTION

ESH Campus Dump Site

JOB NUMBER

590-22332-1

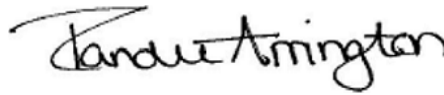
Eurofins Spokane

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northwest, LLC Project Manager.

Authorization



Generated
11/30/2023 5:09:29 PM

Authorized for release by
Randee Arrington, Business Unit Manager
Randee.Arrington@et.eurofinsus.com
(509)924-9200



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Case Narrative

Client: Mountain Consulting Services LLC
Project/Site: ESH Campus Dump Site

Job ID: 590-22332-1

Job ID: 590-22332-1

Laboratory: Eurofins Spokane

Narrative

Job Narrative 590-22332-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method. Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The sample was received on 11/21/2023 1:17 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 20.9°C

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Sample Summary

Client: Mountain Consulting Services LLC
Project/Site: ESH Campus Dump Site

Job ID: 590-22332-1

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Collected</u>	<u>Received</u>
590-22332-1	23-043.2-RCRA-TCLP1	Solid	11/21/23 10:30	11/21/23 13:17

1

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Definitions/Glossary

Client: Mountain Consulting Services LLC
Project/Site: ESH Campus Dump Site

Job ID: 590-22332-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample Results

Client: Mountain Consulting Services LLC
Project/Site: ESH Campus Dump Site

Job ID: 590-22332-1

Client Sample ID: 23-043.2-RCRA-TCLP1

Lab Sample ID: 590-22332-1

Date Collected: 11/21/23 10:30

Matrix: Solid

Date Received: 11/21/23 13:17

Method: SW846 6010D - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.025		mg/L		11/28/23 11:40	11/28/23 16:13	1
Barium	0.10		0.025		mg/L		11/28/23 11:40	11/28/23 16:13	1
Cadmium	ND		0.025		mg/L		11/28/23 11:40	11/28/23 16:13	1
Chromium	ND		0.025		mg/L		11/28/23 11:40	11/28/23 16:13	1
Lead	ND		0.060		mg/L		11/28/23 11:40	11/28/23 16:13	1
Selenium	ND		0.10		mg/L		11/28/23 11:40	11/28/23 16:13	1
Silver	ND		0.025		mg/L		11/28/23 11:40	11/28/23 16:13	1

Method: SW846 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/28/23 11:43	11/28/23 16:06	1

QC Sample Results

Client: Mountain Consulting Services LLC
 Project/Site: ESH Campus Dump Site

Job ID: 590-22332-1

Method: 6010D - Metals (ICP)

Lab Sample ID: LCS 590-44852/1-A
Matrix: Solid
Analysis Batch: 44854

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 44852

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	
Arsenic	2.00	2.03		mg/L		102	80 - 120	
Barium	2.00	1.97		mg/L		99	80 - 120	
Cadmium	1.00	1.04		mg/L		104	80 - 120	
Chromium	1.00	1.03		mg/L		103	80 - 120	
Lead	1.00	1.08		mg/L		108	80 - 120	
Selenium	2.00	2.01		mg/L		100	80 - 120	
Silver	0.100	0.0925		mg/L		93	80 - 120	

Lab Sample ID: LB 590-44820/1-B
Matrix: Solid
Analysis Batch: 44854

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 44852

Analyte	LB LB		RL	MDL	Unit	D	Prepared		Analyzed		Dil Fac
	Result	Qualifier									
Arsenic	ND		0.025		mg/L		11/28/23 11:40	11/28/23 15:22			1
Barium	ND		0.025		mg/L		11/28/23 11:40	11/28/23 15:22			1
Cadmium	ND		0.025		mg/L		11/28/23 11:40	11/28/23 15:22			1
Chromium	ND		0.025		mg/L		11/28/23 11:40	11/28/23 15:22			1
Lead	ND		0.060		mg/L		11/28/23 11:40	11/28/23 15:22			1
Selenium	ND		0.10		mg/L		11/28/23 11:40	11/28/23 15:22			1
Silver	ND		0.025		mg/L		11/28/23 11:40	11/28/23 15:22			1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: LCS 590-44853/8-A
Matrix: Solid
Analysis Batch: 44851

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 44853

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	
Mercury	2.00	1.72		ug/L		86	80 - 120	

Lab Sample ID: LB 590-44820/1-C
Matrix: Solid
Analysis Batch: 44851

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 44853

Analyte	LB LB		RL	MDL	Unit	D	Prepared		Analyzed		Dil Fac
	Result	Qualifier									
Mercury	ND		0.20		ug/L		11/28/23 11:43	11/28/23 15:53			1

Lab Chronicle

Client: Mountain Consulting Services LLC
Project/Site: ESH Campus Dump Site

Job ID: 590-22332-1

Client Sample ID: 23-043.2-RCRA-TCLP1

Lab Sample ID: 590-22332-1

Date Collected: 11/21/23 10:30

Matrix: Solid

Date Received: 11/21/23 13:17

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			100.90 g	2000.19 mL	44820	11/27/23 14:42	AMB	EET SPK
TCLP	Prep	3010A			50 mL	50 mL	44852	11/28/23 11:40	AMB	EET SPK
TCLP	Analysis	6010D		1			44854	11/28/23 16:13	AMB	EET SPK
TCLP	Leach	1311			100.90 g	2000.19 mL	44820	11/27/23 14:42	AMB	EET SPK
TCLP	Prep	7470A			50 mL	50 mL	44853	11/28/23 11:43	AMB	EET SPK
TCLP	Analysis	7470A		1			44851	11/28/23 16:06	AMB	EET SPK

Laboratory References:

EET SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Accreditation/Certification Summary

Client: Mountain Consulting Services LLC
Project/Site: ESH Campus Dump Site

Job ID: 590-22332-1

Laboratory: Eurofins Spokane

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C569	01-07-24

- 1
- 2
- 3
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- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12

Method Summary

Client: Mountain Consulting Services LLC
Project/Site: ESH Campus Dump Site

Job ID: 590-22332-1

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	EET SPK
7470A	Mercury (CVAA)	SW846	EET SPK
1311	TCLP Extraction	SW846	EET SPK
3010A	Preparation, Total Metals	SW846	EET SPK
7470A	Preparation, Mercury	SW846	EET SPK

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200



Login Sample Receipt Checklist

Client: Mountain Consulting Services LLC

Job Number: 590-22332-1

Login Number: 22332

List Source: Eurofins Spokane

List Number: 1

Creator: Morris, Mackenzie 1

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





View of the Upper Flat Shelf Overlooking West Medical Lake; Where the Old Building Materials Dump Site Stockpile is Located to the South & West Sides of the Shelf.



View of the Northwest End Area of the Old Building Materials Stockpile; Proven to be Contaminated with Regulated Asbestos Vermiculite Insulation.



Close-up View of the RACM Vermiculite Insulation Present with the Large Building Materials Debris Pile.



View of the Southern Side Area of the Large Building Materials Debris Stockpile Looking East.



View of the Southeast End Area of the Large Building Materials Stockpile.



View of the South Side West End Corner Area of the Stockpile Where it Starts Wrapping to the North.



View of the Southern Side Central Area; Were the Large Deposit of Coal Waste is Present.



View of the Central Coal Top Shelf Area; Were the Coal is Still Smoldering from the Recent Past Gray Forest Fire Situation.



Close-up View of the Central Area Coal Waste Stockpile.



Typical Side View of a Stockpile; Giving a Representation to the Depth of the Debris.

This certificate verifies that

Sam Bailey


has successfully completed an 8-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) Refresher Training Course in accordance with OSHA 1910.120 and WAC 296-843.

Training Date: February 24, 2023

Expiration Date: February 24, 2024

Training Location: NIC Workforce Training Center
525 South Clearwater Loop
Post Falls, ID 83854

Instructor: Anne M. Bailey

Instructor Signature: 

Student ID#: WDL6NZZ2903B

Course ID#: 230224-031

**Regulatory Compliance Services
40 Hr. "HAZWOPER" TRAINING**

Certifies that

Samuel W. Bailey, Jr.


Has successfully completed a Forty Hour Hazardous Waste Operations and Emergency Response Course to Level "C" based on 29 CFR 1910.120, Off-Site HAZCOM based on 29 CFR 1910.1200, And D.O.T Hazardous Materials Handlers based on 49 CFR 171-172.
presented by

**Regulatory Compliance Services
for**

**Washington Department of Corrections
Spokane, WA**

December 1 - 5, 1997

13012 S.E. 170th Pl.
Renton, WA 98058



William Glaeser, PhD, CET

STATE OF WASHINGTON

Department of Commerce

Lead-Based Paint Activities Program

Samuel Winston Bailey, Jr.

*Has fulfilled the certification requirements of
WAC 365-230
and has been certified to conduct lead based
paint activities as a
Risk Assessor.*

Certification #

0168

Issuance Date

06/14/2023

Expiration Date

04/08/2026

STATE OF WASHINGTON

Department of Commerce

Lead-Based Paint Abatement Firm

Mountain Consulting Services, LLC

*Has fulfilled the certification requirements of
WAC 365-230
and has been certified to conduct lead-based
paint activities.*

Certification #

167

Issuance Date

02/01/2022

Expiration Date

04/02/2025

The State of Department



Washington of Ecology

Eurofins Spokane Spokane Valley, WA

has complied with provisions set forth in Chapter 173-50 WAC and is hereby recognized by the Department of Ecology as an ACCREDITED LABORATORY for the analytical parameters listed on the accompanying Scope of Accreditation.

This certificate is effective January 7, 2023 and shall expire January 6, 2024.

Witnessed under my hand on January 19, 2023.

Rebecca Wood

Lab Accreditation Unit Supervisor

Laboratory ID
C569