

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 26, 2023

Chris Roy

Stantec

410 17th St Suite 1400

Denver, CO 80202

RE: Badger Wash

Work Order #2305082

Enclosed are the results of analyses for samples received by Summit Scientific on 05/03/23 13:26. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Sheely".

Scott Sheely For Paul Shrewsbury
President



Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01	2305082-01	Soil	05/01/23 11:55	05/03/23 13:26
SS02	2305082-02	Soil	05/01/23 12:15	05/03/23 13:26
SS03	2305082-03	Soil	05/01/23 12:40	05/03/23 13:26
SS04	2305082-04	Soil	05/01/23 13:05	05/03/23 13:26
SS05	2305082-05	Soil	05/01/23 13:25	05/03/23 13:26
SS06	2305082-06	Soil	05/01/23 14:05	05/03/23 13:26
SS07	2305082-07	Soil	05/01/23 14:20	05/03/23 13:26
SS08	2305082-08	Soil	05/01/23 14:30	05/03/23 13:26
SS09	2305082-09	Soil	05/01/23 14:45	05/03/23 13:26
SS10	2305082-10	Soil	05/02/23 10:00	05/03/23 13:26
SS-11	2305082-11	Soil	05/02/23 12:40	05/03/23 13:26
SS-12	2305082-12	Soil	05/02/23 15:00	05/03/23 13:26
SS-13	2305082-13	Soil	05/02/23 15:30	05/03/23 13:26
SS-14	2305082-14	Soil	05/02/23 15:50	05/03/23 13:26
SS-15	2305082-15	Soil	05/02/23 16:10	05/03/23 13:26
SS-16	2305082-16	Soil	05/02/23 16:25	05/03/23 13:26
SS-17	2305082-17	Soil	05/02/23 16:45	05/03/23 13:26
SS-18	2305082-18	Soil	05/02/23 17:00	05/03/23 13:26
SS-19	2305082-19	Soil	05/02/23 17:20	05/03/23 13:26
SS-20	2305082-20	Soil	05/02/23 17:50	05/03/23 13:26

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S₂

2305082.1

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310 ♦ 303-374-5933 (f)

Page 1 of 2

Client: Stantec
 Address: 410 17th Street, Suite 1400
 City/State/Zip: Denver, CO 80202
 Phone: 303-829-5763
 Sampler Name: Robert Grover

Project Manager: Chris Roy
 E-Mail: Chris.roy@stantec.com
 Project Name: Beelges Wash
 Project Number: 203723052

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other									
1	SS01	05/01/23	1155	2			x			x											
2	SS02		1215	2			x			x											
3	SS03		1240	2			x			x											
4	SS04		1305	2			x			x											
5	SS05		1325	2			x			x											
6	SS06		1405	2			x			x											
7	SS07		1420	2			x			x											
8	SS08		1430	2			x			x											
9	SS09		1445	2			x			x											
10	SS10	05/02/23	1000	2			x			x											

Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time (Check)	Notes:
				Same Day _____ 72 hours _____	
				24 hours _____ Standard <u>7</u>	
				48 hours _____	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity:	
<u>HL</u>	<u>05-03-23</u>	<u>[Signature]</u>	<u>05-03-23</u>	Temperature Upon Receipt: <u>2.8°C</u>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Samples Intact: Yes No	

Summit Scientific

S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310 ♦ 303-374-5933 (f)

Page 2 of 2

Client: Stantec
 Address: 410 17th Street, Suite 1400
 City/State/Zip: Denver, CO, 80202
 Phone: 303-829-5763
 Sampler Name: Robert Groves

Project Manager: Chris Roy
 E-Mail: Chris.Roy@stantec.com
 Project Name: Bedger Wash
 Project Number: 203723052

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions	
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	CEC 915	EC, pH, SAR	Boron, Cad	915 Metals	Background			
1	SS-11	5/2/23	1240	2			x							x						
2	SS-12		1500	2			x							x						
3	SS-13		1530	2			x							x						
4	SS-14		1550	2			x							x						
5	SS-15		1610	2			x							x						
6	SS-16		1625	2			x							x						
7	SS-17		1645	2			x							x						
8	SS-18		1700	2			x										x	x		HOLD
9	SS-19		1720	2			x										x	x		HOLD
10	SS-20		1750	2			x								x					

Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time (Check)	Notes:
				Same Day _____ 72 hours _____	
				24 hours _____ Standard <u>x</u>	
				48 hours _____	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity:	
<u>KG</u>	<u>05-03-23</u>	<u>[Signature]</u>	<u>05-03-23</u>	Temperature Upon Receipt: <u>2.8 °C</u>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Samples Intact: Yes No	

S₂

2/2

S2 Work Order# 2305082 ^{MS}

Sample Receipt Checklist

Client:

Stanlec

Client Project ID:

Bodger as
Baelges Wash

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other

Airbill #:

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Matrix (Check all that apply)

Air

☐

Soil/Solid

☒

Water

☐

Other

☐

Temp (°C)

2.8

Thermometer #

02

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

Gwen Shuchert
Custodian Printed Name

05-23-23 13:31
Date/Time



Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS01
2305082-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/01/23 11:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGE0182	05/05/23	05/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/01/23 11:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0392	98.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0388	97.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0391	97.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/01/23 11:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0183	05/05/23	05/05/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/01/23 11:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.2	97.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS01
2305082-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/01/23 11:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGE0171	05/05/23	05/06/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/01/23 11:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0155	46.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0138	41.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/01/23 11:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	0.193	0.0100	mg/L	1	BGE0399	05/12/23	05/13/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/01/23 11:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS01
2305082-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.46	0.223	mg/kg dry	1	BGE0249	05/08/23	05/12/23	EPA 6020B
Barium	155	0.445	"	"	"	"	"	"
Cadmium	ND	0.223	"	"	"	"	"	"
Copper	5.03	0.445	"	"	"	"	"	"
Lead	6.18	0.223	"	"	"	"	"	"
Nickel	6.73	0.445	"	"	"	"	"	"
Selenium	0.324	0.260	"	"	"	"	"	"
Silver	0.0387	0.0223	"	"	"	"	"	"
Zinc	21.5	0.445	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/01/23 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGE0253	05/08/23	05/08/23	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/01/23 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	444	0.0556	mg/L dry	1	BGE0308	05/09/23	05/13/23	EPA 6020B	
Magnesium	34.7	0.0556	"	"	"	"	"	"	
Sodium	16.4	0.0556	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/01/23 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.202	0.00100	units	1	BGE0469	05/14/23	05/14/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/01/23 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Stantec
410 17th St Suite 1400
Denver CO, 80202

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Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS01
2305082-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	89.9	%	1	BGE0188	05/05/23	05/07/23	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/01/23 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.48	0.0100	mmhos/cm	1	BGE0341	05/10/23	05/10/23	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/01/23 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.83		pH Units	1	BGE0340	05/10/23	05/10/23	EPA 9045D	

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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS02
2305082-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/01/23 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGE0182	05/05/23	05/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/01/23 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0429	107 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0393	98.3 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0400	100 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/01/23 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0183	05/05/23	05/05/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/01/23 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.8	102 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS02
2305082-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/01/23 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGE0171	05/05/23	05/06/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/01/23 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0215	64.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0194	58.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/01/23 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	0.136	0.0100	mg/L	1	BGE0399	05/12/23	05/13/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/01/23 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS02
2305082-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.48	0.224	mg/kg dry	1	BGE0249	05/08/23	05/12/23	EPA 6020B
Barium	149	0.448	"	"	"	"	"	"
Cadmium	ND	0.224	"	"	"	"	"	"
Copper	4.91	0.448	"	"	"	"	"	"
Lead	5.54	0.224	"	"	"	"	"	"
Nickel	6.44	0.448	"	"	"	"	"	"
Selenium	0.226	0.260	"	"	"	"	"	"
Silver	0.0331	0.0224	"	"	"	"	"	"
Zinc	20.7	0.448	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/01/23 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGE0253	05/08/23	05/08/23	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/01/23 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	461	0.0559	mg/L dry	1	BGE0308	05/09/23	05/13/23	EPA 6020B	
Magnesium	28.9	0.0559	"	"	"	"	"	"	
Sodium	6.27	0.0559	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/01/23 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0766	0.00100	units	1	BGE0469	05/14/23	05/14/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/01/23 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS02
2305082-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	89.4	%	1	BGE0188	05/05/23	05/07/23	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/01/23 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.47	0.0100	mmhos/cm	1	BGE0341	05/10/23	05/10/23	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/01/23 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.63		pH Units	1	BGE0340	05/10/23	05/10/23	EPA 9045D	

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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS03
2305082-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/01/23 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGE0182	05/05/23	05/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/01/23 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0432	108 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0395	98.7 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0404	101 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/01/23 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0183	05/05/23	05/05/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/01/23 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.5	100 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS03
2305082-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/01/23 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGE0171	05/05/23	05/06/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/01/23 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0200	59.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0168	50.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/01/23 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	0.180	0.0100	mg/L	1	BGE0399	05/12/23	05/13/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/01/23 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS03
2305082-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.34	0.227	mg/kg dry	1	BGE0249	05/08/23	05/12/23	EPA 6020B
Barium	162	0.454	"	"	"	"	"	"
Cadmium	ND	0.227	"	"	"	"	"	"
Copper	4.75	0.454	"	"	"	"	"	"
Lead	5.58	0.227	"	"	"	"	"	"
Nickel	6.35	0.454	"	"	"	"	"	"
Selenium	0.332	0.260	"	"	"	"	"	"
Silver	0.0418	0.0227	"	"	"	"	"	"
Zinc	20.4	0.454	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/01/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGE0253	05/08/23	05/08/23	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/01/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	556	0.0568	mg/L dry	1	BGE0308	05/09/23	05/13/23	EPA 6020B	
Magnesium	102	0.0568	"	"	"	"	"	"	
Sodium	20.5	0.0568	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/01/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.210	0.00100	units	1	BGE0469	05/14/23	05/14/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/01/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS03
2305082-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	88.0	%	1	BGE0188	05/05/23	05/07/23	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/01/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.19	0.0100	mmhos/cm	1	BGE0341	05/10/23	05/10/23	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/01/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.63		pH Units	1	BGE0340	05/10/23	05/10/23	EPA 9045D	

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Stantec
410 17th St Suite 1400
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS04
2305082-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/01/23 13:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGE0182	05/05/23	05/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/01/23 13:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0429	107 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0395	98.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0397	99.3 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/01/23 13:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0183	05/05/23	05/05/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/01/23 13:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.2	97.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS04
2305082-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/01/23 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0171	05/05/23	05/06/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/01/23 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0154	46.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0152	45.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/01/23 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.151	0.0100	mg/L	1	BGE0399	05/12/23	05/13/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/01/23 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS04
2305082-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.25	0.214	mg/kg dry	1	BGE0249	05/08/23	05/12/23	EPA 6020B
Barium	145	0.428	"	"	"	"	"	"
Cadmium	0.217	0.214	"	"	"	"	"	"
Copper	5.60	0.428	"	"	"	"	"	"
Lead	7.53	0.214	"	"	"	"	"	"
Nickel	6.62	0.428	"	"	"	"	"	"
Selenium	0.343	0.260	"	"	"	"	"	"
Silver	0.0381	0.0214	"	"	"	"	"	"
Zinc	22.6	0.428	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/01/23 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGE0253	05/08/23	05/08/23	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/01/23 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	541	0.0535	mg/L dry	1	BGE0308	05/09/23	05/13/23	EPA 6020B	
Magnesium	71.5	0.0535	"	"	"	"	"	"	
Sodium	135	0.0535	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/01/23 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.45	0.00100	units	1	BGE0469	05/14/23	05/14/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/01/23 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS04
2305082-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	93.4	%	1	BGE0188	05/05/23	05/07/23	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/01/23 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.93	0.0100	mmhos/cm	1	BGE0341	05/10/23	05/10/23	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/01/23 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.73		pH Units	1	BGE0340	05/10/23	05/10/23	EPA 9045D	

Summit Scientific

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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS05
2305082-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/01/23 13:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGE0182	05/05/23	05/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/01/23 13:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0364	90.9 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0382	95.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0379	94.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/01/23 13:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0183	05/05/23	05/05/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/01/23 13:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.5	99.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS05
2305082-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/01/23 13:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGE0171	05/05/23	05/06/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/01/23 13:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0153	45.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0147	44.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/01/23 13:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	0.159	0.0100	mg/L	1	BGE0399	05/12/23	05/13/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/01/23 13:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS05
2305082-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.39	0.214	mg/kg dry	1	BGE0249	05/08/23	05/12/23	EPA 6020B
Barium	117	0.429	"	"	"	"	"	"
Cadmium	ND	0.214	"	"	"	"	"	"
Copper	6.01	0.429	"	"	"	"	"	"
Lead	7.43	0.214	"	"	"	"	"	"
Nickel	6.78	0.429	"	"	"	"	"	"
Selenium	0.323	0.260	"	"	"	"	"	"
Silver	0.0377	0.0214	"	"	"	"	"	"
Zinc	23.4	0.429	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/01/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGE0253	05/08/23	05/08/23	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/01/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	511	0.0536	mg/L dry	1	BGE0308	05/09/23	05/13/23	EPA 6020B	
Magnesium	62.3	0.0536	"	"	"	"	"	"	
Sodium	61.8	0.0536	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/01/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.687	0.00100	units	1	BGE0469	05/14/23	05/14/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/01/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Stantec
410 17th St Suite 1400
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS05
2305082-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	93.3	%	1	BGE0188	05/05/23	05/07/23	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/01/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.39	0.0100	mmhos/cm	1	BGE0341	05/10/23	05/10/23	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/01/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.77		pH Units	1	BGE0340	05/10/23	05/10/23	EPA 9045D	

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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS06
2305082-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/01/23 14:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGE0182	05/05/23	05/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/01/23 14:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0403	101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0389	97.3 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0401	100 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/01/23 14:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0183	05/05/23	05/05/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/01/23 14:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.6	101 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Stantec
410 17th St Suite 1400
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS06
2305082-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/01/23 14:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGE0171	05/05/23	05/06/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/01/23 14:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0165	49.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0137	41.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/01/23 14:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	0.403	0.0100	mg/L	1	BGE0399	05/12/23	05/13/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/01/23 14:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Stantec
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS06
2305082-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.62	0.221	mg/kg dry	1	BGE0249	05/08/23	05/12/23	EPA 6020B
Barium	82.7	0.442	"	"	"	"	"	"
Cadmium	ND	0.221	"	"	"	"	"	"
Copper	4.48	0.442	"	"	"	"	"	"
Lead	5.11	0.221	"	"	"	"	"	"
Nickel	5.28	0.442	"	"	"	"	"	"
Selenium	0.328	0.260	"	"	"	"	"	"
Silver	0.0265	0.0221	"	"	"	"	"	"
Zinc	18.9	0.442	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/01/23 14:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGE0253	05/08/23	05/08/23	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/01/23 14:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	584	0.0553	mg/L dry	1	BGE0308	05/09/23	05/13/23	EPA 6020B	
Magnesium	103	0.0553	"	"	"	"	"	"	
Sodium	75.1	0.0553	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/01/23 14:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.753	0.00100	units	1	BGE0469	05/14/23	05/14/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/01/23 14:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Stantec
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS06
2305082-06 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	90.5	%	1	BGE0188	05/05/23	05/07/23	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/01/23 14:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.60	0.0100	mmhos/cm	1	BGE0341	05/10/23	05/10/23	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/01/23 14:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.70		pH Units	1	BGE0340	05/10/23	05/10/23	EPA 9045D	

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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS07
2305082-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/01/23 14:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGE0182	05/05/23	05/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/01/23 14:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0428	107 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0396	99.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/01/23 14:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0183	05/05/23	05/05/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/01/23 14:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.1	96.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS07
2305082-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/01/23 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0171	05/05/23	05/06/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/01/23 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0166	49.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0180	54.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/01/23 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.284	0.0100	mg/L	1	BGE0399	05/12/23	05/13/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/01/23 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS07
2305082-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.99	0.220	mg/kg dry	1	BGE0249	05/08/23	05/12/23	EPA 6020B
Barium	96.6	0.440	"	"	"	"	"	"
Cadmium	ND	0.220	"	"	"	"	"	"
Copper	4.98	0.440	"	"	"	"	"	"
Lead	6.50	0.220	"	"	"	"	"	"
Nickel	6.37	0.440	"	"	"	"	"	"
Selenium	0.392	0.260	"	"	"	"	"	"
Silver	0.0326	0.0220	"	"	"	"	"	"
Zinc	22.6	0.440	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/01/23 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGE0253	05/08/23	05/08/23	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/01/23 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	569	0.0550	mg/L dry	1	BGE0308	05/09/23	05/13/23	EPA 6020B	
Magnesium	93.1	0.0550	"	"	"	"	"	"	
Sodium	74.3	0.0550	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/01/23 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.761	0.00100	units	1	BGE0469	05/14/23	05/14/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/01/23 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS07
2305082-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	90.8	%	1	BGE0188	05/05/23	05/07/23	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/01/23 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.47	0.0100	mmhos/cm	1	BGE0341	05/10/23	05/10/23	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/01/23 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.78		pH Units	1	BGE0340	05/10/23	05/10/23	EPA 9045D	

Summit Scientific

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Stantec
410 17th St Suite 1400
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS08
2305082-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/01/23 14:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGE0182	05/05/23	05/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/01/23 14:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0423	106 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0395	98.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/01/23 14:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0183	05/05/23	05/05/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/01/23 14:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	13.1	105 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Stantec
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS08
2305082-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/01/23 14:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGE0171	05/05/23	05/06/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/01/23 14:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0176	52.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0162	48.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/01/23 14:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	0.316	0.0100	mg/L	1	BGE0399	05/12/23	05/13/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/01/23 14:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS08
2305082-08 (Soil)

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Total Metals by EPA 6020B

Arsenic	3.49	0.218	mg/kg dry	1	BGE0249	05/08/23	05/12/23	EPA 6020B
Barium	111	0.435	"	"	"	"	"	"
Cadmium	0.220	0.218	"	"	"	"	"	"
Copper	5.76	0.435	"	"	"	"	"	"
Lead	8.35	0.218	"	"	"	"	"	"
Nickel	7.55	0.435	"	"	"	"	"	"
Selenium	0.503	0.260	"	"	"	"	"	"
Silver	0.0422	0.0218	"	"	"	"	"	"
Zinc	25.5	0.435	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/01/23 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGE0253	05/08/23	05/08/23	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/01/23 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	559	0.0544	mg/L dry	1	BGE0308	05/09/23	05/13/23	EPA 6020B	
Magnesium	106	0.0544	"	"	"	"	"	"	
Sodium	113	0.0544	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/01/23 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.15	0.00100	units	1	BGE0469	05/14/23	05/14/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/01/23 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Badger Wash
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Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS08
2305082-08 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	91.9	%	1	BGE0188	05/05/23	05/07/23	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/01/23 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.84	0.0100	mmhos/cm	1	BGE0341	05/10/23	05/10/23	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/01/23 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.79		pH Units	1	BGE0340	05/10/23	05/10/23	EPA 9045D	

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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS09
2305082-09 (Soil)

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Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/01/23 14:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGE0182	05/05/23	05/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/01/23 14:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0437	109 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0394	98.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/01/23 14:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0183	05/05/23	05/05/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/01/23 14:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.8	102 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project Number: 203723052
Project Manager: Chris Roy

Reported:
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SS09
2305082-09 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **05/01/23 14:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGE0171	05/05/23	05/06/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/01/23 14:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0195	58.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0176	52.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/01/23 14:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	0.264	0.0100	mg/L	1	BGE0399	05/12/23	05/13/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/01/23 14:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Project Number: 203723052
Project Manager: Chris Roy

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2305082-09 (Soil)

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Total Metals by EPA 6020B

Arsenic	3.09	0.221	mg/kg dry	1	BGE0249	05/08/23	05/12/23	EPA 6020B
Barium	84.8	0.441	"	"	"	"	"	"
Cadmium	ND	0.221	"	"	"	"	"	"
Copper	5.00	0.441	"	"	"	"	"	"
Lead	5.51	0.221	"	"	"	"	"	"
Nickel	6.12	0.441	"	"	"	"	"	"
Selenium	0.342	0.260	"	"	"	"	"	"
Silver	0.0318	0.0221	"	"	"	"	"	"
Zinc	21.3	0.441	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/01/23 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGE0253	05/08/23	05/08/23	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/01/23 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	559	0.0552	mg/L dry	1	BGE0308	05/09/23	05/13/23	EPA 6020B	
Magnesium	77.9	0.0552	"	"	"	"	"	"	
Sodium	93.3	0.0552	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/01/23 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.980	0.00100	units	1	BGE0469	05/14/23	05/14/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/01/23 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS09
2305082-09 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	90.6	%	1	BGE0188	05/05/23	05/07/23	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/01/23 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.49	0.0100	mmhos/cm	1	BGE0341	05/10/23	05/10/23	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/01/23 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.76		pH Units	1	BGE0340	05/10/23	05/10/23	EPA 9045D	

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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

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05/26/23 13:26

SS10
2305082-10 (Soil)

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Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/02/23 10:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGE0182	05/05/23	05/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/02/23 10:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0424	106 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0390	97.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0406	102 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/02/23 10:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	270	50	mg/kg	1	BGE0183	05/05/23	05/05/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/02/23 10:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.9	103 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Badger Wash
Project Number: 203723052
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Reported:
05/26/23 13:26

SS10
2305082-10 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/02/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0171	05/05/23	05/16/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.0170	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	0.0252	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.00618	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.00532	0.00500	"	"	"	"	"	"	

Date Sampled: **05/02/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0142	42.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0196	58.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/02/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.742	0.0100	mg/L	1	BGE0399	05/12/23	05/13/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/02/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS10
2305082-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.45	0.231	mg/kg dry	1	BGE0249	05/08/23	05/12/23	EPA 6020B
Barium	46.6	0.461	"	"	"	"	"	"
Cadmium	ND	0.231	"	"	"	"	"	"
Copper	4.40	0.461	"	"	"	"	"	"
Lead	6.20	0.231	"	"	"	"	"	"
Nickel	5.61	0.461	"	"	"	"	"	"
Selenium	0.487	0.260	"	"	"	"	"	"
Silver	ND	0.0231	"	"	"	"	"	"
Zinc	19.8	0.461	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/02/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGE0253	05/08/23	05/08/23	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/02/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	497	0.0576	mg/L dry	1	BGE0308	05/09/23	05/13/23	EPA 6020B	
Magnesium	255	0.0576	"	"	"	"	"	"	
Sodium	218	0.0576	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/02/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.98	0.00100	units	1	BGE0469	05/14/23	05/14/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS10
2305082-10 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/02/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.7		%	1	BGE0188	05/05/23	05/07/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/02/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.96	0.0100	mmhos/cm	1	BGE0341	05/10/23	05/10/23	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/02/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.75		pH Units	1	BGE0340	05/10/23	05/10/23	EPA 9045D	

Summit Scientific

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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-11
2305082-11 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/02/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.0032	0.0020	mg/kg	1	BGE0182	05/05/23	05/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/02/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0411	103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0389	97.3 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0396	98.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/02/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0183	05/05/23	05/05/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/02/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	13.1	105 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-11
2305082-11 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/02/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0171	05/05/23	05/06/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.0213	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	0.00926	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.00544	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.00693	0.00500	"	"	"	"	"	"	

Date Sampled: **05/02/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0164	49.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0162	48.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/02/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0601	0.0100	mg/L	1	BGE0399	05/12/23	05/13/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/02/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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410 17th St Suite 1400
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-11
2305082-11 (Soil)

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Total Metals by EPA 6020B

Arsenic	2.06	0.214	mg/kg dry	1	BGE0249	05/08/23	05/12/23	EPA 6020B
Barium	86.4	0.428	"	"	"	"	"	"
Cadmium	ND	0.214	"	"	"	"	"	"
Copper	5.39	0.428	"	"	"	"	"	"
Lead	4.89	0.214	"	"	"	"	"	"
Nickel	4.73	0.428	"	"	"	"	"	"
Selenium	0.262	0.260	"	"	"	"	"	"
Silver	0.0244	0.0214	"	"	"	"	"	"
Zinc	17.2	0.428	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/02/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGE0253	05/08/23	05/08/23	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/02/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	55.2	0.0535	mg/L dry	1	BGE0308	05/09/23	05/13/23	EPA 6020B	
Magnesium	5.59	0.0535	"	"	"	"	"	"	
Sodium	18.9	0.0535	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/02/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.648	0.00100	units	1	BGE0469	05/14/23	05/14/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/02/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Stantec
410 17th St Suite 1400
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-11
2305082-11 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	93.5	%	1	BGE0188	05/05/23	05/07/23	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/02/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.423	0.0100	mmhos/cm	1	BGE0341	05/10/23	05/10/23	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/02/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.10		pH Units	1	BGE0340	05/10/23	05/10/23	EPA 9045D	

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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-12
2305082-12 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/02/23 15:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGE0182	05/05/23	05/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/02/23 15:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0415	104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0389	97.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0396	99.1 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/02/23 15:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	65	50	mg/kg	1	BGE0183	05/05/23	05/05/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/02/23 15:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.8	103 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-12
2305082-12 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/02/23 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0171	05/05/23	05/06/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.0111	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.0186	0.00500	"	"	"	"	"	"	

Date Sampled: **05/02/23 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0142	42.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0168	50.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/02/23 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.138	0.0100	mg/L	1	BGE0399	05/12/23	05/13/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/02/23 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Stantec
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
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SS-12
2305082-12 (Soil)

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Total Metals by EPA 6020B

Arsenic	3.73	0.234	mg/kg dry	1	BGE0249	05/08/23	05/12/23	EPA 6020B
Barium	143	0.468	"	"	"	"	"	"
Cadmium	0.280	0.234	"	"	"	"	"	"
Copper	6.90	0.468	"	"	"	"	"	"
Lead	9.07	0.234	"	"	"	"	"	"
Nickel	7.89	0.468	"	"	"	"	"	"
Selenium	0.338	0.260	"	"	"	"	"	"
Silver	0.0524	0.0234	"	"	"	"	"	"
Zinc	27.6	0.468	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/02/23 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGE0253	05/08/23	05/08/23	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/02/23 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	88.4	0.0585	mg/L dry	1	BGE0308	05/09/23	05/13/23	EPA 6020B	
Magnesium	11.3	0.0585	"	"	"	"	"	"	
Sodium	19.9	0.0585	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/02/23 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.530	0.00100	units	1	BGE0469	05/14/23	05/14/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/02/23 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Stantec
410 17th St Suite 1400
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
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SS-12
2305082-12 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	85.4	%	1	BGE0188	05/05/23	05/07/23	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/02/23 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.423	0.0100	mmhos/cm	1	BGE0341	05/10/23	05/10/23	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/02/23 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.05		pH Units	1	BGE0340	05/10/23	05/10/23	EPA 9045D	

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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-13
2305082-13 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/02/23 15:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGE0182	05/05/23	05/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.0075	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	0.0039	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/02/23 15:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0420	105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0404	101 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/02/23 15:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	88	50	mg/kg	1	BGE0183	05/05/23	05/05/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/02/23 15:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.5	99.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-13
2305082-13 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/02/23 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0171	05/05/23	05/06/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.0126	0.00500	"	"	"	"	"	"	

Date Sampled: **05/02/23 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0137	41.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0139	41.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/02/23 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0968	0.0100	mg/L	1	BGE0399	05/12/23	05/13/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/02/23 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Stantec
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-13
2305082-13 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.79	0.224	mg/kg dry	1	BGE0249	05/08/23	05/12/23	EPA 6020B
Barium	117	0.448	"	"	"	"	"	"
Cadmium	ND	0.224	"	"	"	"	"	"
Copper	6.41	0.448	"	"	"	"	"	"
Lead	5.79	0.224	"	"	"	"	"	"
Nickel	6.92	0.448	"	"	"	"	"	"
Selenium	0.215	0.260	"	"	"	"	"	"
Silver	0.0484	0.0224	"	"	"	"	"	"
Zinc	21.3	0.448	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/02/23 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGE0253	05/08/23	05/08/23	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/02/23 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	54.1	0.0560	mg/L dry	1	BGE0308	05/09/23	05/13/23	EPA 6020B	
Magnesium	8.06	0.0560	"	"	"	"	"	"	
Sodium	4.69	0.0560	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/02/23 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.157	0.00100	units	1	BGE0469	05/14/23	05/14/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/02/23 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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410 17th St Suite 1400
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-13
2305082-13 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	89.3	%	1	BGE0188	05/05/23	05/07/23	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/02/23 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.401	0.0100	mmhos/cm	1	BGE0341	05/10/23	05/10/23	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/02/23 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.04		pH Units	1	BGE0340	05/10/23	05/10/23	EPA 9045D	

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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-14
2305082-14 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/02/23 15:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGE0182	05/05/23	05/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/02/23 15:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0387	96.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0391	97.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/02/23 15:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	53	50	mg/kg	1	BGE0183	05/05/23	05/06/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/02/23 15:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.8	102 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-14
2305082-14 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/02/23 15:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0171	05/05/23	05/06/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.0147	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.0244	0.00500	"	"	"	"	"	"	

Date Sampled: **05/02/23 15:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0283	85.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0240	71.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/02/23 15:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.960	0.0100	mg/L	1	BGE0399	05/12/23	05/13/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/02/23 15:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
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SS-14
2305082-14 (Soil)

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Total Metals by EPA 6020B

Arsenic	2.85	0.235	mg/kg dry	1	BGE0249	05/08/23	05/12/23	EPA 6020B
Barium	59.0	0.469	"	"	"	"	"	"
Cadmium	ND	0.235	"	"	"	"	"	"
Copper	6.50	0.469	"	"	"	"	"	"
Lead	8.22	0.235	"	"	"	"	"	"
Nickel	6.61	0.469	"	"	"	"	"	"
Selenium	0.548	0.260	"	"	"	"	"	"
Silver	0.0263	0.0235	"	"	"	"	"	"
Zinc	23.1	0.469	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/02/23 15:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGE0253	05/08/23	05/08/23	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/02/23 15:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	546	0.0587	mg/L dry	1	BGE0308	05/09/23	05/13/23	EPA 6020B	
Magnesium	284	0.0587	"	"	"	"	"	"	
Sodium	236	0.0587	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/02/23 15:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.04	0.00100	units	1	BGE0469	05/14/23	05/14/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/02/23 15:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-14
2305082-14 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	85.2	%	1	BGE0188	05/05/23	05/07/23	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/02/23 15:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.99	0.0100	mmhos/cm	1	BGE0341	05/10/23	05/10/23	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/02/23 15:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.86		pH Units	1	BGE0340	05/10/23	05/10/23	EPA 9045D	

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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-15
2305082-15 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/02/23 16:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	0.18	0.0020	mg/kg	1	BGE0182	05/05/23	05/06/23	EPA 8260B	
Toluene	2.2	0.0050	"	"	"	"	"	"	E
Ethylbenzene	0.40	0.0050	"	"	"	"	"	"	
Xylenes (total)	3.6	0.010	"	"	"	"	"	"	E
1,2,4-Trimethylbenzene	0.91	0.0050	"	"	"	"	"	"	E
1,3,5-Trimethylbenzene	0.42	0.0050	"	"	"	"	"	"	
Naphthalene	0.51	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	64	0.50	"	"	"	"	"	"	

Date Sampled: **05/02/23 16:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0447	112 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0385	96.3 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0485	121 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/02/23 16:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	4000	50	mg/kg	1	BGE0183	05/05/23	05/06/23	EPA 8015M	
C28-C36 (ORO)	290	50	"	"	"	"	"	"	

Date Sampled: **05/02/23 16:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	33.5	268 %	30-150		"	"	"	"	S-02

PAH by EPA Method 8270D SIM

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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-15
2305082-15 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/02/23 16:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0171	05/05/23	05/06/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/02/23 16:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0134	40.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0239	71.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/02/23 16:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.523	0.0100	mg/L	1	BGE0399	05/12/23	05/13/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/02/23 16:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-15
2305082-15 (Soil)

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Total Metals by EPA 6020B

Arsenic	3.03	0.220	mg/kg dry	1	BGE0249	05/08/23	05/12/23	EPA 6020B
Barium	147	0.441	"	"	"	"	"	"
Cadmium	0.241	0.220	"	"	"	"	"	"
Copper	5.00	0.441	"	"	"	"	"	"
Lead	5.90	0.220	"	"	"	"	"	"
Nickel	6.47	0.441	"	"	"	"	"	"
Selenium	0.697	0.260	"	"	"	"	"	"
Silver	0.0401	0.0220	"	"	"	"	"	"
Zinc	21.8	0.441	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/02/23 16:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGE0253	05/08/23	05/08/23	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/02/23 16:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	487	0.0551	mg/L dry	1	BGE0308	05/09/23	05/13/23	EPA 6020B	
Magnesium	145	0.0551	"	"	"	"	"	"	
Sodium	121	0.0551	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/02/23 16:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.24	0.00100	units	1	BGE0469	05/14/23	05/14/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/02/23 16:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Stantec
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-15
2305082-15 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	90.8	%	1	BGE0188	05/05/23	05/07/23	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/02/23 16:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.75	0.0100	mmhos/cm	1	BGE0341	05/10/23	05/10/23	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/02/23 16:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.92		pH Units	1	BGE0340	05/10/23	05/10/23	EPA 9045D	

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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-16
2305082-16 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/02/23 16:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGE0182	05/05/23	05/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/02/23 16:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0406	102 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0380	94.9 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0506	127 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/02/23 16:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0183	05/05/23	05/06/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/02/23 16:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	13.4	107 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Stantec
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-16
2305082-16 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/02/23 16:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	0.0188	0.00500	mg/kg	1	BGE0171	05/05/23	05/06/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.0116	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	0.0177	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	0.0907	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	1.07	0.00500	"	"	"	"	"	"	E
2-Methylnaphthalene	1.47	0.00500	"	"	"	"	"	"	E

Date Sampled: **05/02/23 16:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0293	87.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0250	75.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/02/23 16:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.935	0.0100	mg/L	1	BGE0399	05/12/23	05/13/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/02/23 16:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-16
2305082-16 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.29	0.222	mg/kg dry	1	BGE0249	05/08/23	05/12/23	EPA 6020B
Barium	95.6	0.444	"	"	"	"	"	"
Cadmium	ND	0.222	"	"	"	"	"	"
Copper	5.28	0.444	"	"	"	"	"	"
Lead	5.99	0.222	"	"	"	"	"	"
Nickel	7.42	0.444	"	"	"	"	"	"
Selenium	0.821	0.260	"	"	"	"	"	"
Silver	0.0293	0.0222	"	"	"	"	"	"
Zinc	25.0	0.444	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/02/23 16:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGE0253	05/08/23	05/08/23	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/02/23 16:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	509	0.0556	mg/L dry	1	BGE0308	05/09/23	05/13/23	EPA 6020B	
Magnesium	271	0.0556	"	"	"	"	"	"	
Sodium	295	0.0556	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/02/23 16:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.63	0.00100	units	1	BGE0469	05/14/23	05/14/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/02/23 16:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-16
2305082-16 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	90.0	%	1	BGE0188	05/05/23	05/07/23	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/02/23 16:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	5.13	0.0100	mmhos/cm	1	BGE0341	05/10/23	05/10/23	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/02/23 16:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.99		pH Units	1	BGE0340	05/10/23	05/10/23	EPA 9045D	

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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-17
2305082-17 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/02/23 16:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGE0182	05/05/23	05/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/02/23 16:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0417	104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0387	96.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0402	100 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/02/23 16:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0183	05/05/23	05/06/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/02/23 16:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	13.3	106 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
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SS-17
2305082-17 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/02/23 16:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0171	05/05/23	05/06/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.00539	0.00500	"	"	"	"	"	"	

Date Sampled: **05/02/23 16:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0217	65.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0212	63.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/02/23 16:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.197	0.0100	mg/L	1	BGE0399	05/12/23	05/13/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/02/23 16:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Stantec
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
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SS-17
2305082-17 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.75	0.220	mg/kg dry	1	BGE0249	05/08/23	05/12/23	EPA 6020B
Barium	162	0.441	"	"	"	"	"	"
Cadmium	ND	0.220	"	"	"	"	"	"
Copper	5.74	0.441	"	"	"	"	"	"
Lead	5.99	0.220	"	"	"	"	"	"
Nickel	7.00	0.441	"	"	"	"	"	"
Selenium	0.243	0.260	"	"	"	"	"	"
Silver	0.0370	0.0220	"	"	"	"	"	"
Zinc	22.3	0.441	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/02/23 16:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGE0253	05/08/23	05/08/23	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/02/23 16:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	143	0.0551	mg/L dry	1	BGE0308	05/09/23	05/13/23	EPA 6020B	
Magnesium	28.1	0.0551	"	"	"	"	"	"	
Sodium	45.5	0.0551	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/02/23 16:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.911	0.00100	units	1	BGE0469	05/14/23	05/14/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/02/23 16:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Stantec
410 17th St Suite 1400
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-17
2305082-17 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	90.7	%	1	BGE0188	05/05/23	05/07/23	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/02/23 16:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.33	0.0100	mmhos/cm	1	BGE0341	05/10/23	05/10/23	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/02/23 16:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.01		pH Units	1	BGE0340	05/10/23	05/10/23	EPA 9045D	

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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-18
2305082-18 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **05/02/23 17:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	7.39	0.200	mg/kg dry	1	BGE0773	05/22/23	05/25/23	EPA 6020B	
Barium	80.9	0.400	"	"	"	"	"	"	
Selenium	1.39	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/02/23 17:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	89.0		%	1	BGE0814	05/23/23	05/23/23	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **05/02/23 17:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	6.64	0.0100	mmhos/cm	1	BGE0741	05/22/23	05/22/23	EPA 120.1	I-02

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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-19
2305082-19 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **05/02/23 17:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	4.75	0.200	mg/kg dry	1	BGE0773	05/22/23	05/25/23	EPA 6020B	
Barium	140	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/02/23 17:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	94.3		%	1	BGE0814	05/23/23	05/23/23	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **05/02/23 17:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	0.225	0.0100	mmhos/cm	1	BGE0741	05/22/23	05/22/23	EPA 120.1	I-02

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410 17th St Suite 1400
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-20
2305082-20 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/02/23 17:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGE0182	05/05/23	05/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/02/23 17:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0424	106 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0395	98.7 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0401	100 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/02/23 17:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0183	05/05/23	05/06/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/02/23 17:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	13.2	106 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Stantec
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-20
2305082-20 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/02/23 17:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGE0171	05/05/23	05/06/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/02/23 17:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0155	46.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0181	54.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/02/23 17:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	0.341	0.0100	mg/L	1	BGE0399	05/12/23	05/13/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/02/23 17:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-20
2305082-20 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.18	0.219	mg/kg dry	1	BGE0249	05/08/23	05/12/23	EPA 6020B
Barium	118	0.438	"	"	"	"	"	"
Cadmium	0.253	0.219	"	"	"	"	"	"
Copper	6.30	0.438	"	"	"	"	"	"
Lead	6.99	0.219	"	"	"	"	"	"
Nickel	7.72	0.438	"	"	"	"	"	"
Selenium	0.304	0.260	"	"	"	"	"	"
Silver	0.0412	0.0219	"	"	"	"	"	"
Zinc	26.0	0.438	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/02/23 17:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGE0253	05/08/23	05/08/23	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/02/23 17:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	538	0.0547	mg/L dry	1	BGE0308	05/09/23	05/13/23	EPA 6020B	
Magnesium	62.9	0.0547	"	"	"	"	"	"	
Sodium	5.55	0.0547	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/02/23 17:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0603	0.00100	units	1	BGE0469	05/14/23	05/14/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/02/23 17:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

SS-20
2305082-20 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	91.3	%	1	BGE0188	05/05/23	05/07/23	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/02/23 17:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.96	0.0100	mmhos/cm	1	BGE0341	05/10/23	05/10/23	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/02/23 17:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.44		pH Units	1	BGE0340	05/10/23	05/10/23	EPA 9045D	

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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BGE0182 - EPA 5030 Soil MS

Blank (BGE0182-BLK1)

Prepared: 05/05/23 Analyzed: 05/06/23

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0426		"	0.0400		107	50-150			
Surrogate: Toluene-d8	0.0392		"	0.0400		98.0	50-150			
Surrogate: 4-Bromofluorobenzene	0.0397		"	0.0400		99.3	50-150			

LCS (BGE0182-BS1)

Prepared: 05/05/23 Analyzed: 05/06/23

Benzene	0.128	0.0020	mg/kg	0.125		103	70-130			
Toluene	0.120	0.0050	"	0.125		95.8	70-130			
Ethylbenzene	0.130	0.0050	"	0.125		104	70-130			
m,p-Xylene	0.268	0.010	"	0.250		107	70-130			
o-Xylene	0.115	0.0050	"	0.125		91.7	70-130			
1,2,4-Trimethylbenzene	0.123	0.0050	"	0.125		98.4	70-130			
1,3,5-Trimethylbenzene	0.129	0.0050	"	0.125		103	70-130			
Naphthalene	0.110	0.0038	"	0.125		88.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0436		"	0.0400		109	50-150			
Surrogate: Toluene-d8	0.0396		"	0.0400		98.9	50-150			
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.3	50-150			

Matrix Spike (BGE0182-MS1)

Source: 2305082-01

Prepared: 05/05/23 Analyzed: 05/06/23

Benzene	0.130	0.0020	mg/kg	0.125	ND	104	70-130			
Toluene	0.120	0.0050	"	0.125	ND	95.9	70-130			
Ethylbenzene	0.130	0.0050	"	0.125	ND	104	70-130			
m,p-Xylene	0.270	0.010	"	0.250	0.00336	107	70-130			
o-Xylene	0.118	0.0050	"	0.125	ND	94.2	70-130			
1,2,4-Trimethylbenzene	0.124	0.0050	"	0.125	ND	99.2	70-130			
1,3,5-Trimethylbenzene	0.130	0.0050	"	0.125	ND	104	70-130			
Naphthalene	0.118	0.0038	"	0.125	ND	94.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0434		"	0.0400		109	50-150			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.4	50-150			
Surrogate: 4-Bromofluorobenzene	0.0388		"	0.0400		97.0	50-150			

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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BGE0182 - EPA 5030 Soil MS

Matrix Spike Dup (BGE0182-MSD1)	Source: 2305082-01			Prepared: 05/05/23 Analyzed: 05/06/23						
Benzene	0.128	0.0020	mg/kg	0.125	ND	102	70-130	1.74	30	
Toluene	0.118	0.0050	"	0.125	ND	94.3	70-130	1.67	30	
Ethylbenzene	0.135	0.0050	"	0.125	ND	108	70-130	3.67	30	
m,p-Xylene	0.278	0.010	"	0.250	0.00336	110	70-130	2.71	30	
o-Xylene	0.118	0.0050	"	0.125	ND	94.0	70-130	0.255	30	
1,2,4-Trimethylbenzene	0.124	0.0050	"	0.125	ND	99.1	70-130	0.0969	30	
1,3,5-Trimethylbenzene	0.133	0.0050	"	0.125	ND	106	70-130	2.17	30	
Naphthalene	0.0935	0.0038	"	0.125	ND	74.8	70-130	23.3	30	
Surrogate: 1,2-Dichloroethane-d4	0.0381		"	0.0400		95.3	50-150			
Surrogate: Toluene-d8	0.0392		"	0.0400		98.1	50-150			
Surrogate: 4-Bromofluorobenzene	0.0375		"	0.0400		93.7	50-150			

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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BGE0183 - EPA 3550A

Blank (BGE0183-BLK1)

Prepared & Analyzed: 05/05/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	13.6		"	12.5	109		30-150			

LCS (BGE0183-BS1)

Prepared & Analyzed: 05/05/23

C10-C28 (DRO)	539	50	mg/kg	500	108		70-130			
Surrogate: o-Terphenyl	13.4		"	12.5	107		30-150			

Matrix Spike (BGE0183-MS1)

Source: 2305082-01

Prepared & Analyzed: 05/05/23

C10-C28 (DRO)	529	50	mg/kg	500	42.7	97.2	70-130			
Surrogate: o-Terphenyl	12.7		"	12.5	102		30-150			

Matrix Spike Dup (BGE0183-MSD1)

Source: 2305082-01

Prepared & Analyzed: 05/05/23

C10-C28 (DRO)	481	50	mg/kg	500	42.7	87.7	70-130	9.47	20	
Surrogate: o-Terphenyl	12.5		"	12.5	100		30-150			

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Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike		Source		%REC		RPD	
	Result	Limit	Units	Level		Result		%REC	Limits	RPD	Limit
Notes											

Batch BGE0171 - EPA 5030 Soil MS

Blank (BGE0171-BLK1)

Prepared: 05/05/23 Analyzed: 05/06/23

Acenaphthene	ND	0.00500	mg/kg								
Anthracene	ND	0.00500	"								
Benzo (a) anthracene	ND	0.00500	"								
Benzo (a) pyrene	ND	0.00500	"								
Benzo (b) fluoranthene	ND	0.00500	"								
Benzo (k) fluoranthene	ND	0.00500	"								
Chrysene	ND	0.00500	"								
Dibenz (a,h) anthracene	ND	0.00500	"								
Fluoranthene	ND	0.00500	"								
Fluorene	ND	0.00500	"								
Indeno (1,2,3-cd) pyrene	ND	0.00500	"								
Pyrene	ND	0.00500	"								
1-Methylnaphthalene	ND	0.00500	"								
2-Methylnaphthalene	ND	0.00500	"								
Surrogate: 2-Methylnaphthalene-d10	0.0336		"	0.0333		101		40-150			
Surrogate: Fluoranthene-d10	0.0360		"	0.0333		108		40-150			

LCS (BGE0171-BS1)

Prepared: 05/05/23 Analyzed: 05/06/23

Acenaphthene	0.0173	0.00500	mg/kg	0.0333		52.0		31-137			
Anthracene	0.0357	0.00500	"	0.0333		107		30-120			
Benzo (a) anthracene	0.0351	0.00500	"	0.0333		105		30-120			
Benzo (a) pyrene	0.0278	0.00500	"	0.0333		83.4		30-120			
Benzo (b) fluoranthene	0.0297	0.00500	"	0.0333		89.1		30-120			
Benzo (k) fluoranthene	0.0320	0.00500	"	0.0333		95.9		30-120			
Chrysene	0.0333	0.00500	"	0.0333		99.9		30-120			
Dibenz (a,h) anthracene	0.0230	0.00500	"	0.0333		69.0		30-120			
Fluoranthene	0.0356	0.00500	"	0.0333		107		30-120			
Fluorene	0.0317	0.00500	"	0.0333		95.0		30-120			
Indeno (1,2,3-cd) pyrene	0.0354	0.00500	"	0.0333		106		30-120			
Pyrene	0.0378	0.00500	"	0.0333		113		35-142			
1-Methylnaphthalene	0.0293	0.00500	"	0.0333		88.0		35-142			
2-Methylnaphthalene	0.0300	0.00500	"	0.0333		90.1		35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0305		"	0.0333		91.4		40-150			
Surrogate: Fluoranthene-d10	0.0382		"	0.0333		115		40-150			

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410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike Level	Source		%REC		RPD	
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BGE0171 - EPA 5030 Soil MS

Matrix Spike (BGE0171-MS1)			Source: 2305082-01		Prepared: 05/05/23 Analyzed: 05/06/23					
Acenaphthene	0.0183	0.00500	mg/kg	0.0333	ND	54.8	31-137			
Anthracene	0.0194	0.00500	"	0.0333	ND	58.1	30-120			
Benzo (a) anthracene	0.0185	0.00500	"	0.0333	ND	55.5	30-120			
Benzo (a) pyrene	0.0136	0.00500	"	0.0333	ND	40.7	30-120			
Benzo (b) fluoranthene	0.0141	0.00500	"	0.0333	ND	42.2	30-120			
Benzo (k) fluoranthene	0.0151	0.00500	"	0.0333	ND	45.2	30-120			
Chrysene	0.0176	0.00500	"	0.0333	ND	52.7	30-120			
Dibenz (a,h) anthracene	0.0167	0.00500	"	0.0333	ND	50.1	30-120			
Fluoranthene	0.0195	0.00500	"	0.0333	ND	58.6	30-120			
Fluorene	0.0186	0.00500	"	0.0333	ND	55.8	30-120			
Indeno (1,2,3-cd) pyrene	0.0146	0.00500	"	0.0333	ND	43.7	30-120			
Pyrene	0.0232	0.00500	"	0.0333	ND	69.6	35-142			
1-Methylnaphthalene	0.0190	0.00500	"	0.0333	ND	57.1	15-130			
2-Methylnaphthalene	0.0213	0.00500	"	0.0333	ND	63.9	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0201		"	0.0333		60.3	40-150			
Surrogate: Fluoranthene-d10	0.0210		"	0.0333		63.1	40-150			

Matrix Spike Dup (BGE0171-MSD1)			Source: 2305082-01		Prepared: 05/05/23 Analyzed: 05/06/23					
Acenaphthene	0.0209	0.00500	mg/kg	0.0333	ND	62.7	31-137	13.5	30	
Anthracene	0.0216	0.00500	"	0.0333	ND	64.7	30-120	10.8	30	
Benzo (a) anthracene	0.0211	0.00500	"	0.0333	ND	63.2	30-120	13.0	30	
Benzo (a) pyrene	0.0159	0.00500	"	0.0333	ND	47.7	30-120	15.8	30	
Benzo (b) fluoranthene	0.0160	0.00500	"	0.0333	ND	47.9	30-120	12.7	30	
Benzo (k) fluoranthene	0.0170	0.00500	"	0.0333	ND	50.9	30-120	12.0	30	
Chrysene	0.0202	0.00500	"	0.0333	ND	60.7	30-120	14.2	30	
Dibenz (a,h) anthracene	0.0144	0.00500	"	0.0333	ND	43.3	30-120	14.5	30	
Fluoranthene	0.0227	0.00500	"	0.0333	ND	68.0	30-120	14.8	30	
Fluorene	0.0220	0.00500	"	0.0333	ND	65.9	30-120	16.5	30	
Indeno (1,2,3-cd) pyrene	0.0140	0.00500	"	0.0333	ND	42.1	30-120	3.65	30	
Pyrene	0.0254	0.00500	"	0.0333	ND	76.3	35-142	9.16	30	
1-Methylnaphthalene	0.0212	0.00500	"	0.0333	ND	63.7	15-130	10.9	50	
2-Methylnaphthalene	0.0218	0.00500	"	0.0333	ND	65.3	15-130	2.11	50	
Surrogate: 2-Methylnaphthalene-d10	0.0214		"	0.0333		64.3	40-150			
Surrogate: Fluoranthene-d10	0.0235		"	0.0333		70.5	40-150			

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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BGE0399 - EPA 3050B

Blank (BGE0399-BLK1)

Prepared: 05/12/23 Analyzed: 05/13/23

Boron ND 0.0100 mg/L

LCS (BGE0399-BS1)

Prepared: 05/12/23 Analyzed: 05/13/23

Boron 4.08 0.0100 mg/L 5.00 81.7 80-120

Duplicate (BGE0399-DUP1)

Source: 2304512-01

Prepared: 05/12/23 Analyzed: 05/13/23

Boron 0.471 0.0100 mg/L 0.459 2.65 20

Matrix Spike (BGE0399-MS1)

Source: 2304512-01

Prepared: 05/12/23 Analyzed: 05/13/23

Boron 4.62 0.0100 mg/L 5.00 0.459 83.2 75-125

Matrix Spike Dup (BGE0399-MSD1)

Source: 2304512-01

Prepared: 05/12/23 Analyzed: 05/13/23

Boron 5.00 0.0100 mg/L 5.00 0.459 90.8 75-125 7.92 25

Summit Scientific

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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

Total Metals by EPA 6020B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BGE0249 - EPA 3050B

Blank (BGE0249-BLK1)

Prepared: 05/08/23 Analyzed: 05/12/23

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

LCS (BGE0249-BS1)

Prepared: 05/08/23 Analyzed: 05/12/23

Arsenic	43.1	0.200	mg/kg wet	80-120
Barium	34.9	0.400	"	80-120
Cadmium	1.79	0.200	"	80-120
Copper	43.7	0.400	"	80-120
Lead	17.3	0.200	"	80-120
Nickel	43.5	0.400	"	80-120
Selenium	4.62	0.260	"	80-120
Silver	1.84	0.0200	"	80-120
Zinc	43.0	0.400	"	80-120

Duplicate (BGE0249-DUP1)

Source: 2305082-01

Prepared: 05/08/23 Analyzed: 05/12/23

Arsenic	3.32	0.223	mg/kg dry	3.46	3.94	20	
Barium	141	0.445	"	155	9.40	20	
Cadmium	0.175	0.223	"	0.175	0.00	20	
Copper	4.77	0.445	"	5.03	5.12	20	
Lead	5.48	0.223	"	6.18	11.9	20	
Nickel	6.35	0.445	"	6.73	5.86	20	
Selenium	0.251	0.260	"	0.324	25.4	20	QR-04
Silver	0.0289	0.0223	"	0.0387	28.9	20	QR-04
Zinc	20.3	0.445	"	21.5	5.43	20	

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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

Total Metals by EPA 6020B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BGE0249 - EPA 3050B

Matrix Spike (BGE0249-MS1)			Source: 2305082-01		Prepared: 05/08/23 Analyzed: 05/12/23					
Arsenic	27.8	0.223	mg/kg dry		3.46		75-125			
Barium	211	0.445	"		155		75-125			
Cadmium	1.92	0.223	"		0.175		75-125			
Copper	29.7	0.445	"		5.03		75-125			
Lead	22.1	0.223	"		6.18		75-125			
Nickel	32.1	0.445	"		6.73		75-125			
Selenium	3.30	0.260	"		0.324		75-125			
Silver	1.81	0.0223	"		0.0387		75-125			
Zinc	44.1	0.445	"		21.5		75-125			

Matrix Spike Dup (BGE0249-MSD1)			Source: 2305082-01		Prepared: 05/08/23 Analyzed: 05/12/23					
Arsenic	29.6	0.223	mg/kg dry		3.46		75-125	6.07	25	
Barium	199	0.445	"		155		75-125	5.53	25	
Cadmium	1.77	0.223	"		0.175		75-125	8.26	25	
Copper	32.2	0.445	"		5.03		75-125	8.07	25	
Lead	20.7	0.223	"		6.18		75-125	6.27	25	
Nickel	34.4	0.445	"		6.73		75-125	6.88	25	
Selenium	3.80	0.260	"		0.324		75-125	14.3	25	
Silver	1.70	0.0223	"		0.0387		75-125	6.42	25	
Zinc	49.0	0.445	"		21.5		75-125	10.6	25	

Batch BGE0773 - EPA 3050B

Blank (BGE0773-BLK1)			Prepared: 05/22/23 Analyzed: 05/25/23							
Arsenic	ND	0.200	mg/kg wet							
Barium	ND	0.400	"							
Selenium	ND	0.260	"							

Summit Scientific

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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

Total Metals by EPA 6020B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BGE0773 - EPA 3050B

LCS (BGE0773-BS1)

Prepared: 05/22/23 Analyzed: 05/25/23

Arsenic	38.4	0.200	mg/kg wet	40.0	95.9	80-120
Barium	34.1	0.400	"	40.0	85.2	80-120
Selenium	4.14	0.260	"	4.00	103	80-120

Duplicate (BGE0773-DUP1)

Source: 2305082-18

Prepared: 05/22/23 Analyzed: 05/25/23

Arsenic	7.14	0.200	mg/kg dry	7.39	3.45	20
Barium	78.7	0.400	"	80.9	2.71	20
Selenium	1.21	0.260	"	1.39	13.8	20

Matrix Spike (BGE0773-MS1)

Source: 2305082-18

Prepared: 05/22/23 Analyzed: 05/25/23

Arsenic	53.1	0.200	mg/kg dry	44.9	7.39	102	75-125	
Barium	112	0.400	"	44.9	80.9	69.0	75-125	QM-05
Selenium	8.30	0.260	"	4.49	1.39	154	75-125	QM-05

Matrix Spike Dup (BGE0773-MSD1)

Source: 2305082-18

Prepared: 05/22/23 Analyzed: 05/25/23

Arsenic	54.8	0.200	mg/kg dry	44.9	7.39	106	75-125	3.25	25
Barium	118	0.400	"	44.9	80.9	82.6	75-125	5.35	25
Selenium	8.21	0.260	"	4.49	1.39	152	75-125	1.08	25

Summit Scientific

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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BGE0253 - 3060A Mod

Blank (BGE0253-BLK1)

Prepared & Analyzed: 05/08/23

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BGE0253-BS1)

Prepared & Analyzed: 05/08/23

Chromium, Hexavalent 20.6 0.30 mg/kg wet 25.0 82.2 80-120

Duplicate (BGE0253-DUP1)

Source: 2305082-01

Prepared & Analyzed: 05/08/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BGE0253-MS1)

Source: 2305082-01

Prepared & Analyzed: 05/08/23

Chromium, Hexavalent 23.9 0.30 mg/kg dry 27.8 ND 85.8 75-125

Matrix Spike Dup (BGE0253-MSD1)

Source: 2305082-01

Prepared & Analyzed: 05/08/23

Chromium, Hexavalent 24.5 0.30 mg/kg dry 27.8 ND 88.2 75-125 2.76 20

Summit Scientific

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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BGE0308 - General Preparation

Blank (BGE0308-BLK1)

Prepared: 05/09/23 Analyzed: 05/13/23

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (BGE0308-BS1)

Prepared: 05/09/23 Analyzed: 05/13/23

Calcium	5.94	0.0500	mg/L wet	5.00	119	70-130
Magnesium	5.03	0.0500	"	5.00	101	70-130
Sodium	4.37	0.0500	"	5.00	87.4	70-130

Summit Scientific

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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash

Project Number: 203723052

Project Manager: Chris Roy

Reported:
05/26/23 13:26

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BGE0188 - General Preparation

Duplicate (BGE0188-DUP1)		Source: 2305082-01		Prepared: 05/05/23 Analyzed: 05/07/23	
% Solids	89.9		%	89.9	0.0199 20

Summit Scientific



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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BGE0341 - General Preparation

Blank (BGE0341-BLK1)

Prepared & Analyzed: 05/10/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGE0341-BS1)

Prepared & Analyzed: 05/10/23

Specific Conductance (EC) 0.154 0.0100 mmhos/cm 0.150 103 95-105

Duplicate (BGE0341-DUP1)

Source: 2305070-01

Prepared & Analyzed: 05/10/23

Specific Conductance (EC) 1.20 0.0100 mmhos/cm 1.21 0.497 20

Summit Scientific

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.



Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control
Summit Scientific

Analyte	Result	Reporting			Spike	Source	%REC		RPD		
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes	

Batch BGE0340 - General Preparation

LCS (BGE0340-BS1)

Prepared & Analyzed: 05/10/23

pH	9.11	pH Units	9.18	99.2	95-105
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Duplicate (BGE0340-DUP1)

Source: 2305070-01

Prepared & Analyzed: 05/10/23

pH	7.77	pH Units	7.74	0.387	20
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Summit Scientific

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Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013 - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BGE0741 - General Preparation

Blank (BGE0741-BLK1)

Prepared & Analyzed: 05/22/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGE0741-BS1)

Prepared & Analyzed: 05/22/23

Specific Conductance (EC) 0.152 0.0100 mmhos/cm 0.150 102 95-105

Duplicate (BGE0741-DUP1)

Source: 2305082-18

Prepared & Analyzed: 05/22/23

Specific Conductance (EC) 6.68 0.0100 mmhos/cm 6.64 0.571 20

Summit Scientific

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.



Stantec
410 17th St Suite 1400
Denver CO, 80202

Project: Badger Wash
Project Number: 203723052
Project Manager: Chris Roy

Reported:
05/26/23 13:26

Notes and Definitions

S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
QR-04	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
I-02	This sample was analyzed outside of the recommended holding time.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference