

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 03, 2023

Chris Roy

Stantec

410 17th St Suite 1400

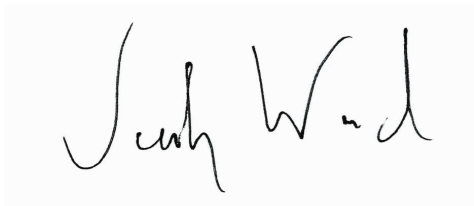
Denver, CO 80202

RE: Badger Wash

Work Order #2305620

Enclosed are the results of analyses for samples received by Summit Scientific on 05/26/23 16:39. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Jacob Wood". The signature is written in a cursive, flowing style.

Jacob Wood For Paul Shrewsbury

President



Stantec  
410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS10@6'	2305620-01	Soil	05/24/23 10:30	05/26/23 16:39
SS10@7'	2305620-02	Soil	05/24/23 10:35	05/26/23 16:39
SS23@1'	2305620-06	Soil	05/25/23 14:05	05/26/23 16:39
SS11@2'	2305620-11	Soil	05/24/23 11:05	05/26/23 16:39
SS12@2'	2305620-16	Soil	05/24/23 11:35	05/26/23 16:39
SS13@2'	2305620-21	Soil	05/24/23 12:30	05/26/23 16:39
SS14@6'	2305620-26	Soil	05/24/23 13:05	05/26/23 16:39
SS14@7'	2305620-27	Soil	05/24/23 13:10	05/26/23 16:39
SS15@6'	2305620-31	Soil	05/25/23 10:05	05/26/23 16:39
SS15@7'	2305620-32	Soil	05/25/23 10:10	05/26/23 16:39
SS16@6'	2305620-36	Soil	05/25/23 10:45	05/26/23 16:39
SS16@7'	2305620-37	Soil	05/25/23 11:00	05/26/23 16:39
SS18@2.5'	2305620-41	Soil	05/25/23 15:05	05/26/23 16:39
SS19@2.5'	2305620-44	Soil	05/25/23 15:40	05/26/23 16:39
SS21@1'	2305620-47	Soil	05/24/23 14:30	05/26/23 16:39
SS21@2'	2305620-48	Soil	05/24/23 14:35	05/26/23 16:39
SS22@1'	2305620-52	Soil	05/24/23 15:05	05/26/23 16:39
SS22@2'	2305620-53	Soil	05/24/23 15:10	05/26/23 16:39
SS24	2305620-57	Soil	05/25/23 11:40	05/26/23 16:39
SS25	2305620-58	Soil	05/25/23 11:45	05/26/23 16:39
SS26	2305620-59	Soil	05/25/23 12:00	05/26/23 16:39
SS27	2305620-60	Soil	05/25/23 12:10	05/26/23 16:39
SS28	2305620-61	Soil	05/25/23 12:20	05/26/23 16:39
SS29	2305620-62	Soil	05/25/23 12:25	05/26/23 16:39
SS30	2305620-63	Soil	05/25/23 12:30	05/26/23 16:39
SS31	2305620-64	Soil	05/25/23 12:35	05/26/23 16:39
SS32	2305620-65	Soil	05/25/23 12:45	05/26/23 16:39

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Stantec  
410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS33	2305620-66	Soil	05/25/23 12:55	05/26/23 16:39

### Case Narrative

Chris Roy took samples SS10@6', SS11@2', SS12@2', SS13@2', SS14@6', SS15@6', SS16@6', SS21@1', SS22@1', SS23@1', SS24, SS25, SS26, SS27, SS28, SS29, SS30, SS31, SS32, and SS33 off hold on 6/1/2023

Chris Roy requested that samples SS10@6' through SS23@1' only have BTEXN, TMBs, TPH, PAH, EC and Selenium reported on 6/9/2023.

Chris Roy requested Selenium & pH be added to SS18@2.5' & SS19@2.5' on 6/21/2023.

Chris Roy requested EC be added to SS18@2.5' & SS19@2.5' on 6/22/2023.

This report includes those results.

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Page 1 of 7

Client: Stantec Project Manager: Chris Roy  
Address: 410 17<sup>th</sup> St. Suite 1400 E-Mail: Chris.Roy@stantec.com  
City/State/Zip: Denver, CO 80202  
Phone: 303-825-5673 Project Name: Budger Vest  
Sampler Name: Kevin Elersholt Project Number: ~~203723052~~ 203723052

					Preservative				Matrix				Analysis Requested								Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	CASC 916									
1	SS10@6'	5/24/23	1030	2			X			X			X									HOLD
2	SS10@7'	↓	1035	2			X			X			X									↓
3	SS10@8'		1040	2			X			X			X									
4	SS10@9'		1045	2			X			X			X									
5	SS40@10'		1050	2			X			X			X									
6	SS23@1'	5/25/23	1405	2			X			X			X									↓
7	SS23@2'	↓	1410	2			X			X			X									
8	SS23@3'	↓	1420	2			X			X			X									
9	SS23@4'	↓	1430	2			X			X			X									
10	SS23@5'	↓	1435	2			X			X			X									
Relinquished by: Kevin Eberhardt		Date/Time: 5/26/23 16:36		Received by: [Signature]		Date/Time: 5/26/23 16:39		Turn Around Time (Check)											Notes:			
Relinquished by:		Date/Time:		Received by:		Date/Time:		Same Day _____ 72 hours _____														
Relinquished by:		Date/Time:		Received by:		Date/Time:		24 hours _____ Standard <input checked="" type="checkbox"/> 48 hours _____														
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity: 12.3														
Relinquished by:		Date/Time:		Received by:		Date/Time:		Temperature Upon Receipt: 12.3														
Relinquished by:		Date/Time:		Received by:		Date/Time:		Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No														

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303-277-9310 ♦ 303-374-5933 (f)

Client: *Stentec*

Project Manager: *Chris Rev*

Address: 410 17<sup>th</sup> St. Suite 1400

E-Mail: Chis.Roy@stentec.com

City/State/Zip: Denver, CO 80202

Phone: 303-829-5673

Project Name: Bodger Wash

Sampler Name: Ken's Eberhardt

Project Number: 203723052

Sample Description					Preservative				Matrix				Analysis Requested								Special Instructions										
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO <sub>3</sub>	None	Other	Water	Soil	Air-Canister #	Other	COC-915																		
1	SS11 @ 2'	5/24/23	1105	2			X			X			X									HOLD ↓									
2	SS11 @ 3'		1110	2			X			X			X																		
3	SS11 @ 4'		1120	2			X			X			X																		
4	SS11 @ 5'		1125	2			X			X			X																		
5	SS11 @ 6'		1130	2			X			X			X																		
6	SS12 @ 2'		1135	2			X			X			X																		
7	SS12 @ 3'		1140	2			X			X			X																		
8	SS12 @ 4'		1200	2			X			X			X																		
9	SS12 @ 5'		1205	2			X			X			X																		
10	SS12 @ 6'		1210	2			X			X			X																		
Relinquished by:		Date/Time:		Received by:		Date/Time:		Turn Around Time		(Check)		Notes:																			
Kevin Eberhardt		5/26/23 16:36		[Signature]		5/26/23 16:39		Same Day		72 hours																					
								24 hours		Standard												X									
Relinquished by:		Date/Time:		Received by:		Date/Time:		48 hours																							
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity:		Temperature Upon Receipt: 12.3																					
								Samples Intact:		(Yes) No																					

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303-277-9310 ♦ 303-374-5933 (f)

Client: Stantec

Project Manager: Chris Ray

Address: 410 17<sup>th</sup> St. Suite 1400

E-Mail: Chris.Roy@stntec.com

City/State/Zip: Denver, CO 80202

Project Name: Bulger Wash

Phone: 303-879-5673

Sampler Name: Ken F. Eberhart

Project Number: 203723052

**www.s2scientific.com**

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Page 4 of 7

Client: Stantec Project Manager: Chris Roy Page 7 of 7  
Address: 410 17th St. Suite 1400 E-Mail: Chris.Roy@Stantec.com  
City/State/Zip: Denver, CO 80202  
Phone: 303-829-5673 Project Name: Bridge Wash  
Sampler Name: Kevin Eberhardt Project Number: 203723052

					Preservative				Matrix				Analysis Requested								Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	CAGC 915								
1	SS1506'	5/25/23	1005	2			X			X			X								HOLD
2	SS1507'		1010	2			X			X			X								↓
3	SS1508'		1020	2			X			X			X								
4	SS1509'		1025	2			X			X			X								
5	SS15010'		1035	2			X			X			X								
6	SS1606'		1045	2			X			X			X								
7	SS1607'		1100	2			X			X			X								
8	SS1608'		1105	2			X			X			X								
9	SS1609'		1110	2			X			X			X								
10	SS16010'	✓	1120	2			X			X			X								
Relinquished by:		Date/Time:		Received by:		Date/Time:		Turn Around Time				(Check)				Notes:					
Kevin Eberhardt		5/26/23 16:37		Jh Wod		5/26/23 16:39		Same Day				72 hours									
								24 hours				Standard X									
Relinquished by:		Date/Time:		Received by:		Date/Time:		48 hours				Sample Integrity:									
												Temperature Upon Receipt: 12.3									
Relinquished by:		Date/Time:		Received by:		Date/Time:		Samples Intact: Yes				No									

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303-277-9310 ♦ 303-374-5933 (f)

Client: Stantec Project Manager: Chris Roy  
Address: 416 17th St. Suite 1400 E-Mail: Chris.Roy@stantec.com  
City/State/Zip: Denver, CO 80202  
Phone: 303-829-5673 Project Name: Bulger Wash  
Sampler Name: Kevin E. Schmitt Project Number: 203723052

[www.s2scientific.com](http://www.s2scientific.com)



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303-277-9310 ♦ 303-374-5933 (f)

Client: Stantec  
Address: 416 17<sup>th</sup> St. Suite 1400  
City/State/Zip: Dover, Co 80202  
Phone: 303-829-5673  
Sampler Name: Kevin Eberhardt

Project Manager: Chris Roy  
E-Mail: Chris.Roy@Skater.com

[www.s2scientific.com](http://www.s2scientific.com)

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S<sub>2</sub>

303-277-9310 ♦ 303-374-5933 (f)

Client: Stantec  
Address: 410 17th St. Suite 1400  
City/State/Zip: Denver, CO 80202  
Phone: 303-829-5673  
Sampler Name: Kevin Eberhardt

Project Manager: Chris Roy  
E-Mail: Chris.Roy@stantec.com

Project Name: Budger Wash  
Project Number: 203723057

				Preservative				Matrix				Analysis Requested								Special Instructions											
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	CAS																		
1	SS24	5/25/23	1140	2			X			X			X										HOLD								
2	SS25		1145	2			X			X			X																		
3	SS26		1200	2			X			X			X																		
4	SS27		1210	2			X			X			X																		
5	SS28		1226	2			X			X			V																		
6	SS29		1225	2			X			X			X																		
7	SS30		1230	2			X			X			X																		
8	SS31		1235	2			X			X			X																		
9	SS32		1245	2			X			X			X																		
10	SS33		1255	2			X			X			X																		
Relinquished by:		Date/Time:		Received by:		Date/Time:		Turn Around Time		(Check)		Notes:																			
Kerri Elbert		5/26/23 16:39		J. H. Wood		5/26/23 16:39		Same Day		72 hours												Standard <input checked="" type="checkbox"/>									
Relinquished by:		Date/Time:		Received by:		Date/Time:		48 hours		Standard																					
Relinquished by:		Date/Time:		Received by:		Date/Time:		Temperature Upon Receipt:		12.3		Samples Intact: <input checked="" type="checkbox"/> Yes No																			

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2305620Client: Stantec Client Project ID: Badger WashShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: \_\_\_\_\_
☒ ☐ ☐ ☐ ☐
Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 12.3Thermometer # 2

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> <b>NOTE:</b> 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? <sup>(1)</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? <sup>(1)</sup> Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> 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):				
<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.				

John Wad  
Custodian Printed Name

5/26/23 16:39  
Date/Time



Stantec  
410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS10@6'**  
**2305620-01 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/24/23 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGF0182	06/06/23	06/07/23	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: **05/24/23 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0389	97.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0387	96.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0383	95.8 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/24/23 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	<b>60</b>	50	mg/kg	1	BGF0188	06/06/23	06/06/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/23 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.8	86.1 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

**Reported:**  
07/03/23 14:10

**SS10@6'**  
**2305620-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/24/23 10:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGF0168	06/06/23	06/06/23	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: **05/24/23 10:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0156	46.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0164	49.1 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B**

Date Sampled: **05/24/23 10:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Selenium	<b>0.399</b>	0.299	mg/kg dry	1	BGF0203	06/06/23	06/11/23	EPA 6020B	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/24/23 10:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS10@6'**  
**2305620-01 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	87.0	%	1	BGF0235	06/07/23	06/07/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **05/24/23 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.94	0.0100	mmhos/cm	1	BGF0377	06/09/23	06/09/23	EPA 120.1	

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

**Reported:**  
07/03/23 14:10

**SS10@7'**  
**2305620-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **05/24/23 10:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Selenium	0.655	0.294		mg/kg dry	1	BGF1045	06/29/23	07/01/23	EPA 6020B	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/24/23 10:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	88.4			%	1	BGF1127	06/30/23	06/30/23	Calculation	

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Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS23@1'**  
**2305620-06 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/25/23 14:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGF0182	06/06/23	06/07/23	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: **05/25/23 14:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0381	95.3 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0378	94.6 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/25/23 14:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	99	50	mg/kg	1	BGF0188	06/06/23	06/07/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/25/23 14:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.0	96.1 %	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:**  
07/03/23 14:10

**SS23@1'**  
**2305620-06 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/25/23 14:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Acenaphthene	ND	0.00500	mg/kg	1	BGF0168	06/06/23	06/06/23	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	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.0208</b>	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.0418</b>	0.00500	"	"	"	"	"	"	

Date Sampled: **05/25/23 14:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 2-Methylnaphthalene-d10	0.0193	57.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0182	54.7 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B**

Date Sampled: **05/25/23 14:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Selenium	ND	0.287	mg/kg dry	1	BGF0203	06/06/23	06/11/23	EPA 6020B	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/25/23 14:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						

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Stantec  
410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS23@1'**  
**2305620-06 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	90.6	%	1	BGF0235	06/07/23	06/07/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **05/25/23 14:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.388	0.0100	mmhos/cm	1	BGF0377	06/09/23	06/09/23	EPA 120.1	

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410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS11@2'**  
**2305620-11 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/24/23 11:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGF0182	06/06/23	06/07/23	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: **05/24/23 11:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0383	95.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0399	99.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0383	95.8 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/24/23 11:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGF0188	06/06/23	06/07/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/23 11:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.8	94.6 %	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:**  
07/03/23 14:10

**SS11@2'**  
**2305620-11 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/24/23 11:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGF0168	06/06/23	06/06/23	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: **05/24/23 11:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0204	61.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0193	57.9 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B**

Date Sampled: **05/24/23 11:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Selenium	ND	0.294	mg/kg dry	1	BGF0203	06/06/23	06/11/23	EPA 6020B	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/24/23 11:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS11@2'**  
**2305620-11 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	88.5	%	1	BGF0235	06/07/23	06/07/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **05/24/23 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.183</b>	0.0100	mmhos/cm	1	BGF0377	06/09/23	06/09/23	EPA 120.1	

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

**Reported:**  
07/03/23 14:10

**SS12@2'**  
**2305620-16 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/24/23 11:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGF0182	06/06/23	06/07/23	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: **05/24/23 11:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0380	94.9 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0386	96.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0381	95.3 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/24/23 11:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGF0188	06/06/23	06/07/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/23 11:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.8	94.3 %	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:**  
07/03/23 14:10

**SS12@2'**  
**2305620-16 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/24/23 11:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGF0168	06/06/23	06/06/23	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: **05/24/23 11:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0177	53.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0163	48.9 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B**

Date Sampled: **05/24/23 11:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Selenium	ND	0.293	mg/kg dry	1	BGF0203	06/06/23	06/11/23	EPA 6020B	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/24/23 11:35**

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:**  
07/03/23 14:10

**SS12@2'**  
**2305620-16 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	88.8	%	1	BGF0235	06/07/23	06/07/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **05/24/23 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.193</b>	0.0100	mmhos/cm	1	BGF0377	06/09/23	06/09/23	EPA 120.1	

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Stantec  
410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS13@2'**  
**2305620-21 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/24/23 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGF0182	06/06/23	06/07/23	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: **05/24/23 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0383	95.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0396	99.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0392	98.0 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/24/23 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGF0188	06/06/23	06/07/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/23 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.9	94.9 %	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:**  
07/03/23 14:10

**SS13@2'**  
**2305620-21 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/24/23 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Acenaphthene	ND	0.00500	mg/kg	1	BGF0168	06/06/23	06/06/23	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: **05/24/23 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 2-Methylnaphthalene-d10	0.0206	61.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0226	67.7 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B**

Date Sampled: **05/24/23 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Selenium	<b>0.207</b>	0.278	mg/kg dry	1	BGF0203	06/06/23	06/11/23	EPA 6020B	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/24/23 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						

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410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS13@2'**  
**2305620-21 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	93.6	%	1	BGF0235	06/07/23	06/07/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **05/24/23 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.665	0.0100	mmhos/cm	1	BGF0377	06/09/23	06/09/23	EPA 120.1	

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:**  
07/03/23 14:10

**SS14@6'**  
**2305620-26 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/24/23 13:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGF0182	06/06/23	06/07/23	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: **05/24/23 13:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0372	93.1 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0388	97.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0385	96.2 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/24/23 13:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGF0188	06/06/23	06/07/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/23 13:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.0	96.4 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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**Reported:**  
07/03/23 14:10

**SS14@6'**  
**2305620-26 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/24/23 13:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Acenaphthene	ND	0.00500	mg/kg	1	BGF0168	06/06/23	06/06/23	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: **05/24/23 13:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 2-Methylnaphthalene-d10	0.0137	41.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0138	41.5 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B**

Date Sampled: **05/24/23 13:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Selenium	<b>0.431</b>	0.313	mg/kg dry	1	BGF0203	06/06/23	06/11/23	EPA 6020B	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/24/23 13:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						

Summit Scientific

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Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS14@6'**  
**2305620-26 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	83.1	%	1	BGF0235	06/07/23	06/07/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **05/24/23 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	7.83	0.0100	mmhos/cm	1	BGF0377	06/09/23	06/09/23	EPA 120.1	

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:**  
07/03/23 14:10

**SS14@7'**  
**2305620-27 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **05/24/23 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Selenium	1.16	0.301		mg/kg dry	1	BGF1045	06/29/23	07/01/23	EPA 6020B	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/24/23 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	86.5			%	1	BGF1127	06/30/23	06/30/23	Calculation	

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

**Reported:**  
07/03/23 14:10

**SS15@6'**  
**2305620-31 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/25/23 10:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGF0182	06/06/23	06/07/23	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: **05/25/23 10:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0386	96.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0378	94.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0379	94.7 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/25/23 10:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGF0188	06/06/23	06/07/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/25/23 10:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.8	94.7 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

**Reported:**  
07/03/23 14:10

**SS15@6'**  
**2305620-31 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/25/23 10:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Acenaphthene	ND	0.00500	mg/kg	1	BGF0168	06/06/23	06/06/23	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: **05/25/23 10:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 2-Methylnaphthalene-d10	0.0204	61.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0200	59.9 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B**

Date Sampled: **05/25/23 10:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Selenium	<b>0.369</b>	0.294	mg/kg dry	1	BGF0203	06/06/23	06/11/23	EPA 6020B	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/25/23 10:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						

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

**Reported:**  
07/03/23 14:10

**SS15@6'**  
**2305620-31 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	88.4	%	1	BGF0235	06/07/23	06/07/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **05/25/23 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	6.82	0.0100	mmhos/cm	1	BGF0377	06/09/23	06/09/23	EPA 120.1	

Summit Scientific

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

**Reported:**  
07/03/23 14:10

**SS15@7'**  
**2305620-32 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **05/25/23 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Selenium	<b>0.886</b>	0.280		mg/kg dry	1	BGF1045	06/29/23	07/01/23	EPA 6020B	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/25/23 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	<b>92.8</b>			%	1	BGF1127	06/30/23	06/30/23	Calculation	

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

**Reported:**  
07/03/23 14:10

**SS16@6'**  
**2305620-36 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/25/23 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGF0182	06/06/23	06/07/23	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: **05/25/23 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0396	99.1 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0387	96.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0391	97.8 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/25/23 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGF0188	06/06/23	06/07/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/25/23 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.2	97.4 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

**Reported:**  
07/03/23 14:10

**SS16@6'**  
**2305620-36 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/25/23 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGF0168	06/06/23	06/06/23	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: **05/25/23 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0172	51.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0169	50.8 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B**

Date Sampled: **05/25/23 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Selenium	1.11	0.299	mg/kg dry	1	BGF0203	06/06/23	06/19/23	EPA 6020B	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/25/23 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS16@6'**  
**2305620-36 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	87.0	%	1	BGF0235	06/07/23	06/07/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **05/25/23 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	5.42	0.0100	mmhos/cm	1	BGF0377	06/09/23	06/09/23	EPA 120.1	

Summit Scientific

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

**Reported:**  
07/03/23 14:10

**SS16@7'**  
**2305620-37 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **05/25/23 11:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Selenium	1.04	0.298		mg/kg dry	1	BGF1045	06/29/23	07/01/23	EPA 6020B	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/25/23 11:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	87.3			%	1	BGF1127	06/30/23	06/30/23	Calculation	

Summit Scientific

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

**Reported:**  
07/03/23 14:10

**SS18@2.5'**  
**2305620-41 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **05/25/23 15:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Selenium	1.09	0.318	mg/kg dry	1	BGF1045	06/29/23	07/01/23	EPA 6020B	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/25/23 15:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	81.9		%	1	BGF1053	06/29/23	06/29/23	Calculation	

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

Date Sampled: **05/25/23 15:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.54		pH Units	1	BGF0803	06/22/23	06/22/23	EPA 9045D	

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

Date Sampled: **05/25/23 15:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	0.304	0.0100	mmhos/cm	1	BGF0915	06/26/23	06/26/23	EPA 120.1	I-02

Summit Scientific

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

**Reported:**  
07/03/23 14:10

**SS19@2.5'**  
**2305620-44 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **05/25/23 15:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Selenium	0.576	0.289		mg/kg dry	1	BGF1045	06/29/23	07/01/23	EPA 6020B	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/25/23 15:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	90.0			%	1	BGF1127	06/30/23	06/30/23	Calculation	

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

Date Sampled: **05/25/23 15:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.77			pH Units	1	BGF0803	06/22/23	06/22/23	EPA 9045D	

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

Date Sampled: **05/25/23 15:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.282	0.0100		mmhos/cm	1	BGF0915	06/26/23	06/26/23	EPA 120.1	I-02

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Stantec  
410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS21@1'**  
**2305620-47 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/24/23 14:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGF0182	06/06/23	06/07/23	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: **05/24/23 14:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0411	103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0396	99.1 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0382	95.5 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/24/23 14:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGF0188	06/06/23	06/07/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/23 14:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.7	93.4 %	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:**  
07/03/23 14:10

**SS21@1'**  
**2305620-47 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/24/23 14:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGF0168	06/06/23	06/06/23	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: **05/24/23 14:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0147	44.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0158	47.5 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B**

Date Sampled: **05/24/23 14:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Selenium	<b>1.34</b>	0.279	mg/kg dry	1	BGF0203	06/06/23	06/11/23	EPA 6020B	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/24/23 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:**  
07/03/23 14:10

**SS21@1'**  
**2305620-47 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	93.2	%	1	BGF0235	06/07/23	06/07/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **05/24/23 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.711	0.0100	mmhos/cm	1	BGF0377	06/09/23	06/09/23	EPA 120.1	

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Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS21@2'**  
**2305620-48 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **05/24/23 14:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Selenium	0.399	0.274		mg/kg dry	1	BGF1045	06/29/23	07/01/23	EPA 6020B	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/24/23 14:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	94.8			%	1	BGF1127	06/30/23	06/30/23	Calculation	

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Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS22@1'**  
**2305620-52 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/24/23 15:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGF0182	06/06/23	06/07/23	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: **05/24/23 15:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0395	98.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0388	97.1 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0398	99.4 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/24/23 15:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGF0188	06/06/23	06/07/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/23 15:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.0	95.9 %	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:**  
07/03/23 14:10

**SS22@1'**  
**2305620-52 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/24/23 15:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGF0168	06/06/23	06/06/23	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: **05/24/23 15:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0147	44.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0148	44.5 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B**

Date Sampled: **05/24/23 15:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Selenium	<b>0.262</b>	0.279	mg/kg dry	1	BGF0203	06/06/23	06/11/23	EPA 6020B	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/24/23 15:05**

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:**  
07/03/23 14:10

**SS22@1'**  
**2305620-52 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	93.2	%	1	BGF0235	06/07/23	06/07/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **05/24/23 15:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.367	0.0100	mmhos/cm	1	BGF0377	06/09/23	06/09/23	EPA 120.1	

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Stantec  
410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS22@2'**  
**2305620-53 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **05/24/23 15:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Selenium	0.520	0.285		mg/kg dry	1	BGF1045	06/29/23	07/01/23	EPA 6020B	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/24/23 15:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	91.3			%	1	BGF1127	06/30/23	06/30/23	Calculation	

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Stantec  
410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS24**  
**2305620-57 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/25/23 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGF0182	06/06/23	06/07/23	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: **05/25/23 11:40**

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	0.0382	95.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0380	95.0 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/25/23 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGF0188	06/06/23	06/07/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/25/23 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.2	97.7 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS24**  
**2305620-57 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/25/23 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGF0168	06/06/23	06/06/23	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: **05/25/23 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0189	56.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0211	63.3 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **05/25/23 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	0.263	0.0100	mg/L	1	BGF0228	06/07/23	06/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/25/23 11:40**

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:**  
07/03/23 14:10

**SS24**  
**2305620-57 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.47	0.217	mg/kg dry	1	BGF0203	06/06/23	06/11/23	EPA 6020B
Barium	155	0.433	"	"	"	"	"	"
Cadmium	0.279	0.217	"	"	"	"	"	"
Copper	2.31	0.433	"	"	"	"	"	"
Lead	9.91	0.217	"	"	"	"	"	"
Nickel	2.68	0.433	"	"	"	"	"	"
Selenium	0.193	0.281	"	"	"	"	"	"
Silver	0.0576	0.0217	"	"	"	"	"	"
Zinc	10.3	0.433	"	"	"	"	"	"
Selenium	ND	0.281	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/25/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGF0430	06/12/23	06/12/23	EPA 7196A	

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

Date Sampled: **05/25/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	422	0.0541	mg/L dry	1	BGF0276	06/08/23	06/12/23	EPA 6020B	
Magnesium	93.3	0.0541	"	"	"	"	"	"	
Sodium	56.3	0.0541	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/25/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.646	0.00100	units	1	BGF0565	06/15/23	06/15/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS24**  
**2305620-57 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/25/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.4		%	1	BGF0235	06/07/23	06/07/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **05/25/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.51	0.0100	mmhos/cm	1	BGF0377	06/09/23	06/09/23	EPA 120.1	

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

Date Sampled: **05/25/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.81		pH Units	1	BGF0378	06/09/23	06/09/23	EPA 9045D	

Summit Scientific

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410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS25**  
**2305620-58 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/25/23 11:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGF0182	06/06/23	06/07/23	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: **05/25/23 11:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0395	98.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0389	97.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0380	95.0 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/25/23 11:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGF0188	06/06/23	06/07/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/25/23 11:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.1	96.4 %	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:**  
07/03/23 14:10

**SS25**  
**2305620-58 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/25/23 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGF0168	06/06/23	06/06/23	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: **05/25/23 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0145	43.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0134	40.3 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **05/25/23 11:45**


Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.363</b>	0.0100	mg/L	1	BGF0228	06/07/23	06/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/25/23 11:45**

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:**  
07/03/23 14:10

**SS25**  
**2305620-58 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.53	0.222	mg/kg dry	1	BGF0203	06/06/23	06/11/23	EPA 6020B
Barium	210	0.444	"	"	"	"	"	"
Cadmium	ND	0.222	"	"	"	"	"	"
Copper	1.97	0.444	"	"	"	"	"	"
Lead	7.79	0.222	"	"	"	"	"	"
Nickel	2.65	0.444	"	"	"	"	"	"
Selenium	0.224	0.288	"	"	"	"	"	"
Silver	0.0417	0.0222	"	"	"	"	"	"
Zinc	9.56	0.444	"	"	"	"	"	"
Selenium	ND	0.288	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/25/23 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGF0430	06/12/23	06/12/23	EPA 7196A	

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

Date Sampled: **05/25/23 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	423	0.0555	mg/L dry	1	BGF0276	06/08/23	06/12/23	EPA 6020B	
Magnesium	86.8	0.0555	"	"	"	"	"	"	
Sodium	152	0.0555	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/25/23 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.76	0.00100	units	1	BGF0565	06/15/23	06/15/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Stantec  
410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS25**  
**2305620-58 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/25/23 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.2		%	1	BGF0235	06/07/23	06/07/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **05/25/23 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.43	0.0100	mmhos/cm	1	BGF0377	06/09/23	06/09/23	EPA 120.1	

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

Date Sampled: **05/25/23 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.78		pH Units	1	BGF0378	06/09/23	06/09/23	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:**  
07/03/23 14:10

**SS26**  
**2305620-59 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/25/23 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGF0182	06/06/23	06/07/23	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: **05/25/23 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0385	96.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0385	96.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0382	95.6 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/25/23 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGF0188	06/06/23	06/07/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/25/23 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.7	93.3 %	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:**  
07/03/23 14:10

**SS26**  
**2305620-59 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/25/23 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGF0168	06/06/23	06/06/23	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: **05/25/23 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0181	54.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0200	60.1 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **05/25/23 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.243</b>	0.0100	mg/L	1	BGF0228	06/07/23	06/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/25/23 12:00**

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

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

**Reported:**  
07/03/23 14:10

**SS26**  
**2305620-59 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.51	0.227	mg/kg dry	1	BGF0203	06/06/23	06/11/23	EPA 6020B
Barium	119	0.454	"	"	"	"	"	"
Cadmium	0.230	0.227	"	"	"	"	"	"
Copper	2.25	0.454	"	"	"	"	"	"
Lead	9.90	0.227	"	"	"	"	"	"
Nickel	2.84	0.454	"	"	"	"	"	"
Selenium	0.319	0.295	"	"	"	"	"	"
Silver	0.0495	0.0227	"	"	"	"	"	"
Zinc	10.7	0.454	"	"	"	"	"	"
Selenium	0.319	0.295	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/25/23 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGF0430	06/12/23	06/12/23	EPA 7196A	

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

Date Sampled: **05/25/23 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	437	0.0567	mg/L dry	1	BGF0276	06/08/23	06/12/23	EPA 6020B	
Magnesium	130	0.0567	"	"	"	"	"	"	
Sodium	116	0.0567	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/25/23 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.25	0.00100	units	1	BGF0565	06/15/23	06/15/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Stantec  
410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS26**  
**2305620-59 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/25/23 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.2		%	1	BGF0235	06/07/23	06/07/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **05/25/23 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.95	0.0100	mmhos/cm	1	BGF0377	06/09/23	06/09/23	EPA 120.1	

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

Date Sampled: **05/25/23 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.84		pH Units	1	BGF0378	06/09/23	06/09/23	EPA 9045D	

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410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS27**  
**2305620-60 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/25/23 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGF0182	06/06/23	06/07/23	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: **05/25/23 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0401	100 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0399	99.7 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0382	95.6 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/25/23 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGF0188	06/06/23	06/07/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/25/23 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.6	93.0 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

**Reported:**  
07/03/23 14:10

**SS27**  
**2305620-60 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/25/23 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGF0168	06/06/23	06/07/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Benzo (a) pyrene</b>	<b>0.0251</b>	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	"	"	"	"	"	"	
<b>Indeno (1,2,3-cd) pyrene</b>	<b>0.0186</b>	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/25/23 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0371	111 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0171	51.3 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **05/25/23 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Boron</b>	<b>0.204</b>	0.0100	mg/L	1	BGF0228	06/07/23	06/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/25/23 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS27**  
**2305620-60 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.39	0.225	mg/kg dry	1	BGF0203	06/06/23	06/11/23	EPA 6020B
Barium	190	0.450	"	"	"	"	"	"
Cadmium	0.230	0.225	"	"	"	"	"	"
Copper	1.92	0.450	"	"	"	"	"	"
Lead	8.27	0.225	"	"	"	"	"	"
Nickel	2.74	0.450	"	"	"	"	"	"
Selenium	0.217	0.293	"	"	"	"	"	"
Silver	0.0419	0.0225	"	"	"	"	"	"
Zinc	9.44	0.450	"	"	"	"	"	"
Selenium	ND	0.293	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/25/23 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGF0430	06/12/23	06/12/23	EPA 7196A	

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

Date Sampled: **05/25/23 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	497	0.0563	mg/L dry	1	BGF0276	06/08/23	06/12/23	EPA 6020B	
Magnesium	102	0.0563	"	"	"	"	"	"	
Sodium	70.4	0.0563	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/25/23 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.752	0.00100	units	1	BGF0565	06/15/23	06/15/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Stantec  
410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS27**  
**2305620-60 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/25/23 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.8		%	1	BGF0235	06/07/23	06/07/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **05/25/23 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.41	0.0100	mmhos/cm	1	BGF0377	06/09/23	06/09/23	EPA 120.1	

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

Date Sampled: **05/25/23 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.80		pH Units	1	BGF0378	06/09/23	06/09/23	EPA 9045D	

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

**Reported:**  
07/03/23 14:10

**SS28**  
**2305620-61 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/25/23 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGF0182	06/06/23	06/07/23	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: **05/25/23 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0373	93.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0388	96.9 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0379	94.8 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/25/23 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGF0188	06/06/23	06/07/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/25/23 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.9	95.1 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS28**  
**2305620-61 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/25/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGF0168	06/06/23	06/07/23	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: **05/25/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0227	68.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0240	72.0 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **05/25/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.243</b>	0.0100	mg/L	1	BGF0228	06/07/23	06/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/25/23 12:20**

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:**  
07/03/23 14:10

**SS28**  
**2305620-61 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.46	0.227	mg/kg dry	1	BGF0203	06/06/23	06/11/23	EPA 6020B
Barium	196	0.453	"	"	"	"	"	"
Cadmium	0.244	0.227	"	"	"	"	"	"
Copper	2.10	0.453	"	"	"	"	"	"
Lead	9.24	0.227	"	"	"	"	"	"
Nickel	2.86	0.453	"	"	"	"	"	"
Selenium	0.272	0.295	"	"	"	"	"	"
Silver	0.0426	0.0227	"	"	"	"	"	"
Zinc	10.1	0.453	"	"	"	"	"	"
Selenium	ND	0.295	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/25/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGF0430	06/12/23	06/12/23	EPA 7196A	

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

Date Sampled: **05/25/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2630	0.0567	mg/L dry	1	BGF0276	06/08/23	06/12/23	EPA 6020B	
Magnesium	126	0.0567	"	"	"	"	"	"	
Sodium	66.6	0.0567	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/25/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.344	0.00100	units	1	BGF0565	06/15/23	06/15/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS28**  
**2305620-61 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/25/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.2		%	1	BGF0235	06/07/23	06/07/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **05/25/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.411	0.0100	mmhos/cm	1	BGF0377	06/09/23	06/09/23	EPA 120.1	

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

Date Sampled: **05/25/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.83		pH Units	1	BGF0378	06/09/23	06/09/23	EPA 9045D	

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

**Reported:**  
07/03/23 14:10

**SS29**  
**2305620-62 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/25/23 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGF0182	06/06/23	06/07/23	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: **05/25/23 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0356	89.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0375	93.7 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/25/23 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGF0188	06/06/23	06/07/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/25/23 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.0	95.9 %	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:**  
07/03/23 14:10

**SS29**  
**2305620-62 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/25/23 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGF0168	06/06/23	06/07/23	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: **05/25/23 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0195	58.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0188	56.5 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **05/25/23 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Boron</b>	<b>0.211</b>	0.0100	mg/L	1	BGF0228	06/07/23	06/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/25/23 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS29**  
**2305620-62 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.65	0.227	mg/kg dry	1	BGF0203	06/06/23	06/11/23	EPA 6020B
Barium	198	0.454	"	"	"	"	"	"
Cadmium	0.247	0.227	"	"	"	"	"	"
Copper	2.24	0.454	"	"	"	"	"	"
Lead	8.90	0.227	"	"	"	"	"	"
Nickel	2.86	0.454	"	"	"	"	"	"
Selenium	ND	0.295	"	"	"	"	"	"
Silver	0.0522	0.0227	"	"	"	"	"	"
Zinc	9.64	0.454	"	"	"	"	"	"
Selenium	ND	0.295	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/25/23 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGF0430	06/12/23	06/12/23	EPA 7196A	

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

Date Sampled: **05/25/23 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	167	0.0567	mg/L dry	1	BGF0276	06/08/23	06/12/23	EPA 6020B	
Magnesium	13.6	0.0567	"	"	"	"	"	"	
Sodium	41.8	0.0567	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/25/23 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.836	0.00100	units	1	BGF0565	06/15/23	06/15/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS29**  
**2305620-62 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/25/23 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.2		%	1	BGF0235	06/07/23	06/07/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **05/25/23 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.371	0.0100	mmhos/cm	1	BGF0377	06/09/23	06/09/23	EPA 120.1	

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

Date Sampled: **05/25/23 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.35		pH Units	1	BGF0378	06/09/23	06/09/23	EPA 9045D	

Summit Scientific

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410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS30**  
**2305620-63 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/25/23 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGF0182	06/06/23	06/07/23	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: **05/25/23 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0383	95.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0390	97.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0374	93.6 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/25/23 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGF0188	06/06/23	06/07/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/25/23 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.9	95.2 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS30**  
**2305620-63 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/25/23 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGF0168	06/06/23	06/07/23	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: **05/25/23 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0182	54.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0209	62.6 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **05/25/23 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	0.191	0.0100	mg/L	1	BGF0228	06/07/23	06/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/25/23 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**SS30**  
**2305620-63 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.48	0.242	mg/kg dry	1	BGF0203	06/06/23	06/11/23	EPA 6020B
Barium	202	0.484	"	"	"	"	"	"
Cadmium	0.255	0.242	"	"	"	"	"	"
Copper	2.25	0.484	"	"	"	"	"	"
Lead	10.2	0.242	"	"	"	"	"	"
Nickel	2.80	0.484	"	"	"	"	"	"
Selenium	ND	0.314	"	"	"	"	"	"
Silver	0.0513	0.0242	"	"	"	"	"	"
Zinc	9.94	0.484	"	"	"	"	"	"
Selenium	ND	0.314	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/25/23 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGF0430	06/12/23	06/12/23	EPA 7196A	

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

Date Sampled: **05/25/23 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	122	0.0605	mg/L dry	1	BGF0276	06/08/23	06/12/23	EPA 6020B	
Magnesium	19.1	0.0605	"	"	"	"	"	"	
Sodium	22.1	0.0605	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/25/23 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.491	0.00100	units	1	BGF0565	06/15/23	06/15/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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

**Reported:**  
07/03/23 14:10

**SS30**  
**2305620-63 (Soil)**

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**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/25/23 12:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	82.7			%	1	BGF0235	06/07/23	06/07/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **05/25/23 12:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.931	0.0100		mmhos/cm	1	BGF0377	06/09/23	06/09/23	EPA 120.1	

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

Date Sampled: **05/25/23 12:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.97			pH Units	1	BGF0378	06/09/23	06/09/23	EPA 9045D	

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

**Reported:**  
07/03/23 14:10

**SS31**  
**2305620-64 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/25/23 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGF0182	06/06/23	06/07/23	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: **05/25/23 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0393	98.3 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0386	96.5 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/25/23 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGF0188	06/06/23	06/07/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/25/23 12:35**

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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**Reported:**  
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**SS31**  
**2305620-64 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/25/23 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGF0168	06/06/23	06/07/23	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: **05/25/23 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0175	52.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0184	55.3 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **05/25/23 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Boron</b>	<b>0.406</b>	0.0100	mg/L	1	BGF0228	06/07/23	06/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/25/23 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Project: Badger Wash  
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Project Manager: Chris Roy

**Reported:**  
07/03/23 14:10

**SS31**  
**2305620-64 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.52	0.226	mg/kg dry	1	BGF0203	06/06/23	06/11/23	EPA 6020B
Barium	175	0.453	"	"	"	"	"	"
Cadmium	ND	0.226	"	"	"	"	"	"
Copper	2.03	0.453	"	"	"	"	"	"
Lead	7.30	0.226	"	"	"	"	"	"
Nickel	2.84	0.453	"	"	"	"	"	"
Selenium	ND	0.294	"	"	"	"	"	"
Silver	0.0426	0.0226	"	"	"	"	"	"
Zinc	9.52	0.453	"	"	"	"	"	"
Selenium	ND	0.294	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/25/23 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGF0430	06/12/23	06/12/23	EPA 7196A	

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

Date Sampled: **05/25/23 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	311	0.0566	mg/L dry	1	BGF0276	06/08/23	06/12/23	EPA 6020B	
Magnesium	90.4	0.0566	"	"	"	"	"	"	
Sodium	16.6	0.0566	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/25/23 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.213	0.00100	units	1	BGF0565	06/15/23	06/15/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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**SS31**  
**2305620-64 (Soil)**

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**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/25/23 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.4		%	1	BGF0235	06/07/23	06/07/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **05/25/23 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.79	0.0100	mmhos/cm	1	BGF0377	06/09/23	06/09/23	EPA 120.1	

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

Date Sampled: **05/25/23 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.84		pH Units	1	BGF0378	06/09/23	06/09/23	EPA 9045D	

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

**Reported:**  
07/03/23 14:10

**SS32**  
**2305620-65 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/25/23 12:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGF0182	06/06/23	06/07/23	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: **05/25/23 12:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0398	99.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0393	98.3 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0388	97.1 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/25/23 12:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGF0188	06/06/23	06/07/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/25/23 12:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.9	95.1 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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**SS32**  
**2305620-65 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/25/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGF0168	06/06/23	06/07/23	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: **05/25/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0147	44.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0154	46.2 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **05/25/23 12:45**


Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.318</b>	0.0100	mg/L	1	BGF0228	06/07/23	06/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/25/23 12:45**

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:**  
07/03/23 14:10

**SS32**  
**2305620-65 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.74	0.224	mg/kg dry	1	BGF0203	06/06/23	06/11/23	EPA 6020B
Barium	198	0.448	"	"	"	"	"	"
Cadmium	ND	0.224	"	"	"	"	"	"
Copper	2.13	0.448	"	"	"	"	"	"
Lead	7.59	0.224	"	"	"	"	"	"
Nickel	2.80	0.448	"	"	"	"	"	"
Selenium	ND	0.291	"	"	"	"	"	"
Silver	0.0448	0.0224	"	"	"	"	"	"
Zinc	9.32	0.448	"	"	"	"	"	"
Selenium	ND	0.291	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/25/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGF0430	06/12/23	06/12/23	EPA 7196A	

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

Date Sampled: **05/25/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	292	0.0560	mg/L dry	1	BGF0276	06/08/23	06/12/23	EPA 6020B	
Magnesium	83.4	0.0560	"	"	"	"	"	"	
Sodium	13.9	0.0560	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/25/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.185	0.00100	units	1	BGF0565	06/15/23	06/15/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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**SS32**  
**2305620-65 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/25/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.3		%	1	BGF0235	06/07/23	06/07/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **05/25/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.59	0.0100	mmhos/cm	1	BGF0377	06/09/23	06/09/23	EPA 120.1	

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

Date Sampled: **05/25/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.87		pH Units	1	BGF0378	06/09/23	06/09/23	EPA 9045D	

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**SS33**  
**2305620-66 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **05/25/23 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGF0182	06/06/23	06/07/23	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: **05/25/23 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0382	95.5 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0384	96.1 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0384	95.9 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/25/23 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGF0188	06/06/23	06/07/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/25/23 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.8	94.3 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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**SS33**  
**2305620-66 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/25/23 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGF0168	06/06/23	06/07/23	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	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.00555</b>	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: **05/25/23 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0182	54.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0161	48.4 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **05/25/23 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Boron</b>	<b>0.237</b>	0.0100	mg/L	1	BGF0228	06/07/23	06/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/25/23 12:55**

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:**  
07/03/23 14:10

**SS33**  
**2305620-66 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.84	0.230	mg/kg dry	1	BGF0203	06/06/23	06/11/23	EPA 6020B
Barium	186	0.460	"	"	"	"	"	"
Cadmium	ND	0.230	"	"	"	"	"	"
Copper	2.05	0.460	"	"	"	"	"	"
Lead	7.67	0.230	"	"	"	"	"	"
Nickel	2.85	0.460	"	"	"	"	"	"
Selenium	ND	0.299	"	"	"	"	"	"
Silver	0.0478	0.0230	"	"	"	"	"	"
Zinc	9.65	0.460	"	"	"	"	"	"
Selenium	ND	0.299	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/25/23 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGF0430	06/12/23	06/12/23	EPA 7196A	

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

Date Sampled: **05/25/23 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	547	0.0574	mg/L dry	1	BGF0276	06/08/23	06/12/23	EPA 6020B	
Magnesium	82.5	0.0574	"	"	"	"	"	"	
Sodium	148	0.0574	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/25/23 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.56	0.00100	units	1	BGF0565	06/15/23	06/15/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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

**Reported:**  
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**SS33**  
**2305620-66 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/25/23 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.0		%	1	BGF0235	06/07/23	06/07/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **05/25/23 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.02	0.0100	mmhos/cm	1	BGF0377	06/09/23	06/09/23	EPA 120.1	

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

Date Sampled: **05/25/23 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.75		pH Units	1	BGF0378	06/09/23	06/09/23	EPA 9045D	

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Project: Badger Wash  
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Project Manager: Chris Roy

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## 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 BGF0182 - EPA 5030 Soil MS

##### Blank (BGF0182-BLK1)

Prepared & Analyzed: 06/06/23

Benzene	ND	0.0020	mg/kg
Toluene	ND	0.0050	"
Ethylbenzene	ND	0.0050	"
m,p-Xylene	ND	0.010	"
o-Xylene	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	0.0366	"	0.0400	91.4	50-150
Surrogate: Toluene-d8	0.0379	"	0.0400	94.7	50-150
Surrogate: 4-Bromofluorobenzene	0.0376	"	0.0400	93.9	50-150

##### LCS (BGF0182-BS1)

Prepared & Analyzed: 06/06/23

Benzene	0.113	0.0020	mg/kg	0.125	90.5	70-130
Toluene	0.114	0.0050	"	0.125	91.5	70-130
Ethylbenzene	0.141	0.0050	"	0.125	113	70-130
m,p-Xylene	0.286	0.010	"	0.250	114	70-130
o-Xylene	0.133	0.0050	"	0.125	107	70-130
1,2,4-Trimethylbenzene	0.151	0.0050	"	0.125	121	70-130
1,3,5-Trimethylbenzene	0.156	0.0050	"	0.125	125	70-130
Naphthalene	0.163	0.0038	"	0.125	130	70-130

Surrogate: 1,2-Dichloroethane-d4	0.0353	"	0.0400	88.4	50-150
Surrogate: Toluene-d8	0.0374	"	0.0400	93.4	50-150
Surrogate: 4-Bromofluorobenzene	0.0377	"	0.0400	94.2	50-150

##### Matrix Spike (BGF0182-MS1)

Source: 2305620-01

Prepared & Analyzed: 06/06/23

Benzene	0.117	0.0020	mg/kg	0.125	ND	93.8	70-130
Toluene	0.118	0.0050	"	0.125	ND	94.4	70-130
Ethylbenzene	0.141	0.0050	"	0.125	ND	113	70-130
m,p-Xylene	0.287	0.010	"	0.250	ND	115	70-130
o-Xylene	0.135	0.0050	"	0.125	ND	108	70-130
1,2,4-Trimethylbenzene	0.155	0.0050	"	0.125	ND	124	70-130
1,3,5-Trimethylbenzene	0.159	0.0050	"	0.125	ND	127	70-130
Naphthalene	0.181	0.0038	"	0.125	ND	145	70-130

Surrogate: 1,2-Dichloroethane-d4	0.0388	"	0.0400	96.9	50-150
Surrogate: Toluene-d8	0.0387	"	0.0400	96.7	50-150

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Project Manager: Chris Roy

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**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 BGF0182 - EPA 5030 Soil MS**

**Matrix Spike (BGF0182-MS1)**

Source: 2305620-01

Prepared & Analyzed: 06/06/23

Surrogate: 4-Bromofluorobenzene	0.0379	mg/kg	0.0400	94.7	50-150
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**Matrix Spike Dup (BGF0182-MSD1)**

Source: 2305620-01

Prepared & Analyzed: 06/06/23

Benzene	0.114	0.0020	mg/kg	0.125	ND	91.5	70-130	2.44	30	
Toluene	0.118	0.0050	"	0.125	ND	94.2	70-130	0.178	30	
Ethylbenzene	0.141	0.0050	"	0.125	ND	113	70-130	0.106	30	
m,p-Xylene	0.287	0.010	"	0.250	ND	115	70-130	0.136	30	
o-Xylene	0.135	0.0050	"	0.125	ND	108	70-130	0.534	30	
1,2,4-Trimethylbenzene	0.158	0.0050	"	0.125	ND	127	70-130	1.95	30	
1,3,5-Trimethylbenzene	0.162	0.0050	"	0.125	ND	130	70-130	2.17	30	
Naphthalene	0.190	0.0038	"	0.125	ND	152	70-130	4.66	30	QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0382	"	0.0400	95.5	50-150					
Surrogate: Toluene-d8	0.0386	"	0.0400	96.4	50-150					
Surrogate: 4-Bromofluorobenzene	0.0391	"	0.0400	97.6	50-150					

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Project Manager: Chris Roy

**Reported:**  
07/03/23 14:10

**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 BGF0188 - EPA 3550A**

**Blank (BGF0188-BLK1)**

Prepared & Analyzed: 06/06/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	12.0		"	12.5		95.8	30-150			

**LCS (BGF0188-BS1)**

Prepared & Analyzed: 06/06/23

C10-C28 (DRO)	441	50	mg/kg	500		88.2	70-130			
Surrogate: o-Terphenyl	12.1		"	12.5		97.1	30-150			

**Matrix Spike (BGF0188-MS1)**

Source: 2305620-01

Prepared & Analyzed: 06/06/23

C10-C28 (DRO)	550	50	mg/kg	500	59.9	98.1	70-130			
Surrogate: o-Terphenyl	11.9		"	12.5		95.0	30-150			


**Matrix Spike Dup (BGF0188-MSD1)**

Source: 2305620-01

Prepared & Analyzed: 06/06/23

C10-C28 (DRO)	587	50	mg/kg	500	59.9	105	70-130	6.44	20	
Surrogate: o-Terphenyl	12.0		"	12.5		96.1	30-150			

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Project: Badger Wash  
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Project Manager: Chris Roy

**Reported:**  
07/03/23 14:10

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

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

#### Batch BGF0168 - EPA 5030 Soil MS

##### Blank (BGF0168-BLK1)

Prepared & Analyzed: 06/06/23

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	0.0142		"	0.0333		42.7	40-150			
Surrogate: Fluoranthene-d10	0.0192		"	0.0333		57.7	40-150			

##### LCS (BGF0168-BS1)

Prepared & Analyzed: 06/06/23

Acenaphthene	0.0164	0.00500	mg/kg	0.0333		49.1	31-137			
Anthracene	0.0144	0.00500	"	0.0333		43.3	30-120			
Benzo (a) anthracene	0.0150	0.00500	"	0.0333		45.0	30-120			
Benzo (a) pyrene	0.0167	0.00500	"	0.0333		50.2	30-120			
Benzo (b) fluoranthene	0.0203	0.00500	"	0.0333		60.9	30-120			
Benzo (k) fluoranthene	0.0205	0.00500	"	0.0333		61.4	30-120			
Chrysene	0.0167	0.00500	"	0.0333		50.0	30-120			
Dibenz (a,h) anthracene	0.0144	0.00500	"	0.0333		43.2	30-120			
Fluoranthene	0.0158	0.00500	"	0.0333		47.3	30-120			
Fluorene	0.0170	0.00500	"	0.0333		50.9	30-120			
Indeno (1,2,3-cd) pyrene	0.0117	0.00500	"	0.0333		35.0	30-120			
Pyrene	0.0187	0.00500	"	0.0333		56.2	35-142			
1-Methylnaphthalene	0.0147	0.00500	"	0.0333		44.1	35-142			
2-Methylnaphthalene	0.0228	0.00500	"	0.0333		68.3	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0222		"	0.0333		66.7	40-150			
Surrogate: Fluoranthene-d10	0.0161		"	0.0333		48.3	40-150			

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

**Reported:**  
07/03/23 14:10

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

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

#### Batch BGF0168 - EPA 5030 Soil MS

Matrix Spike (BGF0168-MS1)			Source: 2305620-01		Prepared & Analyzed: 06/06/23					
Acenaphthene	0.0166	0.00500	mg/kg	0.0333	ND	49.9	31-137			
Anthracene	0.0164	0.00500	"	0.0333	ND	49.1	30-120			
Benzo (a) anthracene	0.0144	0.00500	"	0.0333	ND	43.3	30-120			
Benzo (a) pyrene	0.0196	0.00500	"	0.0333	ND	58.7	30-120			
Benzo (b) fluoranthene	0.0118	0.00500	"	0.0333	ND	35.4	30-120			
Benzo (k) fluoranthene	0.0146	0.00500	"	0.0333	ND	43.7	30-120			
Chrysene	0.0149	0.00500	"	0.0333	0.00209	38.3	30-120			
Dibenz (a,h) anthracene	0.0190	0.00500	"	0.0333	ND	56.9	30-120			
Fluoranthene	0.0157	0.00500	"	0.0333	ND	47.2	30-120			
Fluorene	0.0108	0.00500	"	0.0333	ND	32.5	30-120			
Indeno (1,2,3-cd) pyrene	0.0141	0.00500	"	0.0333	ND	42.4	30-120			
Pyrene	0.0128	0.00500	"	0.0333	ND	38.5	35-142			
1-Methylnaphthalene	0.00960	0.00500	"	0.0333	ND	28.8	15-130			
2-Methylnaphthalene	0.0147	0.00500	"	0.0333	ND	44.2	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0151		"	0.0333		45.3	40-150			
Surrogate: Fluoranthene-d10	0.0173		"	0.0333		52.0	40-150			

Matrix Spike Dup (BGF0168-MSD1)			Source: 2305620-01		Prepared & Analyzed: 06/06/23					
Acenaphthene	0.0164	0.00500	mg/kg	0.0333	ND	49.1	31-137	1.59	30	
Anthracene	0.0155	0.00500	"	0.0333	ND	46.6	30-120	5.15	30	
Benzo (a) anthracene	0.0162	0.00500	"	0.0333	ND	48.5	30-120	11.4	30	
Benzo (a) pyrene	0.0180	0.00500	"	0.0333	ND	54.1	30-120	8.10	30	
Benzo (b) fluoranthene	0.0140	0.00500	"	0.0333	ND	42.0	30-120	17.0	30	
Benzo (k) fluoranthene	0.0196	0.00500	"	0.0333	ND	58.7	30-120	29.2	30	
Chrysene	0.0163	0.00500	"	0.0333	0.00209	42.8	30-120	9.53	30	
Dibenz (a,h) anthracene	0.0148	0.00500	"	0.0333	ND	44.3	30-120	25.0	30	
Fluoranthene	0.0156	0.00500	"	0.0333	ND	46.9	30-120	0.729	30	
Fluorene	0.0145	0.00500	"	0.0333	ND	43.6	30-120	29.0	30	
Indeno (1,2,3-cd) pyrene	0.0114	0.00500	"	0.0333	ND	34.1	30-120	21.8	30	
Pyrene	0.0163	0.00500	"	0.0333	ND	48.9	35-142	23.8	30	
1-Methylnaphthalene	0.0136	0.00500	"	0.0333	ND	40.8	15-130	34.5	50	
2-Methylnaphthalene	0.0214	0.00500	"	0.0333	ND	64.3	15-130	37.1	50	
Surrogate: 2-Methylnaphthalene-d10	0.0185		"	0.0333		55.4	40-150			
Surrogate: Fluoranthene-d10	0.0181		"	0.0333		54.3	40-150			

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

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07/03/23 14:10

**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 BGF0228 - EPA 3050B**

**Blank (BGF0228-BLK1)**

Prepared: 06/07/23 Analyzed: 06/15/23

Boron ND 0.0100 mg/L

**LCS (BGF0228-BS1)**

Prepared: 06/07/23 Analyzed: 06/15/23

Boron 5.39 0.0100 mg/L 5.00 108 80-120

**Duplicate (BGF0228-DUP1)**

**Source: 2305620-01**

Prepared: 06/07/23 Analyzed: 06/15/23

Boron 1.19 0.0100 mg/L 1.16 2.81 20

**Matrix Spike (BGF0228-MS1)**

**Source: 2305620-01**

Prepared: 06/07/23 Analyzed: 06/15/23

Boron 5.81 0.0100 mg/L 5.00 1.16 92.9 75-125

**Matrix Spike Dup (BGF0228-MSD1)**

**Source: 2305620-01**

Prepared: 06/07/23 Analyzed: 06/15/23

Boron 5.83 0.0100 mg/L 5.00 1.16 93.3 75-125 0.345 25

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Project Number: 203723052  
Project Manager: Chris Roy

**Reported:**  
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**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 BGF0203 - EPA 3050B**

**Blank (BGF0203-BLK1)**

Prepared: 06/06/23 Analyzed: 06/11/23

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	"
Selenium	ND	0.260	"

**LCS (BGF0203-BS1)**

Prepared: 06/06/23 Analyzed: 06/11/23

Arsenic	32.0	0.200	mg/kg wet	40.0	80.0	80-120
Barium	32.4	0.400	"	40.0	81.0	80-120
Cadmium	1.99	0.200	"	2.00	99.5	80-120
Copper	32.0	0.400	"	40.0	80.0	80-120
Lead	18.9	0.200	"	20.0	94.5	80-120
Nickel	42.3	0.400	"	40.0	106	80-120
Selenium	4.22	0.260	"	4.00	105	80-120
Silver	1.64	0.0200	"	2.00	81.8	80-120
Zinc	32.7	0.400	"	40.0	81.7	80-120

**Duplicate (BGF0203-DUP1)**

Source: 2305620-01

Prepared: 06/06/23 Analyzed: 06/11/23

Arsenic	1.67	0.230	mg/kg dry	1.57	6.09	20	
Barium	73.9	0.460	"	74.9	1.30	20	
Cadmium	0.350	0.230	"	0.327	6.78	20	
Copper	4.18	0.460	"	2.74	41.8	20	QR-03
Lead	107	0.230	"	38.4	94.4	20	QR-03
Nickel	3.43	0.460	"	2.99	13.7	20	
Selenium	0.403	0.299	"	0.399	0.917	20	
Silver	0.0726	0.0230	"	0.0708	2.56	20	
Zinc	20.4	0.460	"	13.9	38.2	20	QR-03
Selenium	0.403	0.299	"	0.399	0.917	200	

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Stantec  
410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**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 BGF0203 - EPA 3050B**

Matrix Spike (BGF0203-MS1)		Source: 2305620-01			Prepared: 06/06/23		Analyzed: 06/11/23				
Arsenic	14.3	0.230	mg/kg dry	46.0	1.57	27.7	75-125				QM-07
Barium	106	0.460	"	46.0	74.9	67.8	75-125				QM-07
Cadmium	2.43	0.230	"	2.30	0.327	91.7	75-125				
Copper	14.8	0.460	"	46.0	2.74	26.3	75-125				QM-07
Lead	50.2	0.230	"	23.0	38.4	51.5	75-125				QM-07
Nickel	15.5	0.460	"	46.0	2.99	27.1	75-125				QM-07
Selenium	3.49	0.299	"	4.60	0.399	67.2	75-125				QR-03
Silver	2.12	0.0230	"	2.30	0.0708	89.3	75-125				
Zinc	27.4	0.460	"	46.0	13.9	29.4	75-125				QM-07

Matrix Spike Dup (BGF0203-MSD1)		Source: 2305620-01			Prepared: 06/06/23		Analyzed: 06/11/23				
Arsenic	13.8	0.230	mg/kg dry	46.0	1.57	26.7	75-125	3.29	25		QM-07
Barium	123	0.460	"	46.0	74.9	104	75-125	14.5	25		
Cadmium	2.30	0.230	"	2.30	0.327	86.0	75-125	5.55	25		
Copper	14.2	0.460	"	46.0	2.74	25.0	75-125	4.08	25		QM-07
Lead	57.5	0.230	"	23.0	38.4	83.3	75-125	13.6	25		
Nickel	14.6	0.460	"	46.0	2.99	25.4	75-125	5.46	25		QM-07
Selenium	3.22	0.299	"	4.60	0.399	61.3	75-125	8.14	25		QM-07
Silver	2.07	0.0230	"	2.30	0.0708	87.1	75-125	2.37	25		
Zinc	26.8	0.460	"	46.0	13.9	28.1	75-125	2.18	25		QM-07

**Batch BGF1045 - EPA 3050B**

Blank (BGF1045-BLK1)					Prepared: 06/29/23		Analyzed: 07/01/23				
Selenium	ND	0.260	mg/kg wet								

LCS (BGF1045-BS1)					Prepared: 06/29/23		Analyzed: 07/01/23				
Selenium	4.82	0.260	mg/kg wet	4.00		120	80-120				

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Stantec  
410 17th St Suite 1400  
Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

**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 BGF1045 - EPA 3050B**

<b>Duplicate (BGF1045-DUP1)</b>		<b>Source: 2305620-02</b>			Prepared: 06/29/23 Analyzed: 07/01/23					
Selenium	0.844	0.294	mg/kg dry		0.655			25.2	20	QR-01
<b>Matrix Spike (BGF1045-MS1)</b>		<b>Source: 2305620-02</b>			Prepared: 06/29/23 Analyzed: 07/01/23					
Selenium	7.73	0.294	mg/kg dry	4.53	0.655	156	75-125			QM-07
<b>Matrix Spike Dup (BGF1045-MSD1)</b>		<b>Source: 2305620-02</b>			Prepared: 06/29/23 Analyzed: 07/01/23					
Selenium	7.59	0.294	mg/kg dry	4.53	0.655	153	75-125	1.74	25	QM-07

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

**Reported:**  
07/03/23 14:10

**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 BGF0430 - 3060A Mod**

**Blank (BGF0430-BLK1)**

Prepared & Analyzed: 06/12/23

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BGF0430-BS1)**

Prepared & Analyzed: 06/12/23

Chromium, Hexavalent 22.9 0.30 mg/kg wet 25.0 91.6 80-120

**Duplicate (BGF0430-DUP1)**

**Source: 2305620-01**

Prepared & Analyzed: 06/12/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BGF0430-MS1)**

**Source: 2305620-01**

Prepared & Analyzed: 06/12/23

Chromium, Hexavalent 27.0 0.30 mg/kg dry 28.7 ND 94.0 75-125

**Matrix Spike Dup (BGF0430-MSD1)**

**Source: 2305620-01**

Prepared & Analyzed: 06/12/23

Chromium, Hexavalent 24.7 0.30 mg/kg dry 28.7 ND 86.0 75-125 8.89 20

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Denver CO, 80202

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

**Reported:**  
07/03/23 14:10

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

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

**Batch BGF0276 - General Preparation**

**Blank (BGF0276-BLK1)**

Prepared: 06/08/23 Analyzed: 06/12/23

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

**LCS (BGF0276-BS1)**

Prepared: 06/08/23 Analyzed: 06/12/23

Calcium	6.07	0.0500	mg/L wet	5.00	121	70-130
Magnesium	5.54	0.0500	"	5.00	111	70-130
Sodium	5.26	0.0500	"	5.00	105	70-130

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

**Reported:**  
07/03/23 14:10

**Physical Parameters by APHA/ASTM/EPA Methods - Quality Control**  
**Summit Scientific**

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

**Batch BGF0235 - General Preparation**

<b>Duplicate (BGF0235-DUP1)</b>		<b>Source: 2305620-01</b>			Prepared & Analyzed: 06/07/23						
% Solids	87.4		%		87.0			0.454		20	

**Batch BGF1053 - General Preparation**

<b>Duplicate (BGF1053-DUP1)</b>		<b>Source: 2305620-41</b>			Prepared & Analyzed: 06/29/23						
% Solids	81.8		%		81.9			0.0649		20	

**Batch BGF1127 - General Preparation**

<b>Duplicate (BGF1127-DUP1)</b>		<b>Source: 2305620-02</b>			Prepared & Analyzed: 06/30/23						
% Solids	88.2		%		88.4			0.186		20	

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:**  
07/03/23 14:10

**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 BGF0377 - General Preparation**

**Blank (BGF0377-BLK1)**

Prepared & Analyzed: 06/09/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGF0377-BS1)**

Prepared & Analyzed: 06/09/23

Specific Conductance (EC) 0.151 0.0100 mmhos/cm 0.150 101 95-105

**Duplicate (BGF0377-DUP1)**

**Source: 2305620-01**

Prepared & Analyzed: 06/09/23

Specific Conductance (EC) 4.87 0.0100 mmhos/cm 4.94 1.51 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:**  
07/03/23 14:10

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

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

**Batch BGF0378 - General Preparation**

**LCS (BGF0378-BS1)**

Prepared & Analyzed: 06/09/23

pH	9.01		pH Units	9.18	98.1	95-105
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**Duplicate (BGF0378-DUP1)**

**Source: 2305620-01**

Prepared & Analyzed: 06/09/23

pH	7.94		pH Units	7.92	0.252	20
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**Batch BGF0803 - General Preparation**

**LCS (BGF0803-BS1)**

Prepared & Analyzed: 06/22/23

pH	8.99		pH Units	9.18	97.9	95-105
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**Duplicate (BGF0803-DUP1)**

**Source: 2305620-41**

Prepared & Analyzed: 06/22/23

pH	8.55		pH Units	8.54	0.117	20
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Project: Badger Wash  
Project Number: 203723052  
Project Manager: Chris Roy

**Reported:**  
07/03/23 14:10

**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 BGF0915 - General Preparation**

**Blank (BGF0915-BLK1)**

Prepared & Analyzed: 06/26/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGF0915-BS1)**

Prepared & Analyzed: 06/26/23

Specific Conductance (EC) 0.151 0.0100 mmhos/cm 0.150 101 95-105

**Duplicate (BGF0915-DUP1)**

**Source: 2305620-41**

Prepared & Analyzed: 06/26/23

Specific Conductance (EC) 0.302 0.0100 mmhos/cm 0.304 0.627 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:**  
07/03/23 14:10

### Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QR-01	Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
I-02	This sample was analyzed outside of the recommended holding time.
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