

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80401

303.277.9310

September 18, 2023

Martin Eckert III

Eagle Environmental Consulting

8000 W 44th Ave

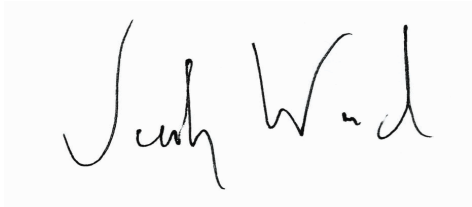
Wheat Ridge, CO 80033

RE: Civitas - Sam 25H-M166

Work Order # 2309134

Enclosed are the results of analyses for samples received by Summit Scientific on 09/08/23 18:49. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Jacob Wood". The signature is written in a cursive style with a large initial "J" and a stylized "W".

Jacob Wood For Paul Shrewsbury

President



Eagle Environmental Consulting
8000 W 44th Ave
Wheat Ridge CO, 80033

Project: Civitas - Sam 25H-M166

Project Number: [none]
Project Manager: Martin Eckert III

Reported:
09/18/23 10:30

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WC-01@4.5'	2309134-01	Soil	09/08/23 11:03	09/08/23 18:49

Summit Scientific

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4653 Table Mountain Drive
Golden, CO 80403
303-277-9310

Lab ID	Page 1 of 1
2309134	

Send Data To:		Send Invoice To:	
Client: Eagle Environmental Consulting	Project Manager: Martin Eckert III	Company: Civitas	
Address: 4000 W 44th Ave	E-Mail: mee3@eagle-enviro.com	Project Name/Location: Sam 25H-Mile	
City/State/Zip: Wheat Ridge, CO 80533		AFE#:	
Phone: 303-432-0479	Project Name: Sam 25H-Mile	PO/Billing Codes:	
Sampler Name: IM139	Project Number:	Contact: Costin	

					Preservative				Matrix				Analysis Requested							Special Instructions								
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Ca, Pb, Tex, NAPH, TMB, SS	DO, 1000, 8015D	FATS 8200D SIM	80120W - DTPM, Saturated	EC, SAP, pH	Table 415 metals	6020B	Cr VI - 719 GF								
1	HC-01 @ 4.51	9-8-23	1103	2			X			X			X	X	X	X	X	X	X	X								EC, SAP, pH = saturated paste prep needed
2																												
3																												MDLs needed
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												
13																												
14																												
15																												

Relinquished by: <u>Adam Weber</u>	Date/Time: <u>9/8/23 18:47</u>	Received by: <u>Adam Weber</u>	Date/Time: <u>9/8/23 18:49</u>	TAT Business Days	Field DO	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day <input checked="" type="checkbox"/>	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Standard	Field Turb.	
Temperature Upon Receipt: <u>1.3</u>	Corrected Temperature	IR gun #: <u>2</u>	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2309134Client: Eagle Environmental Client Project ID: Sam - 254 - MJBShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ ☐ ☐ ☐ ☐ Airbill #: _____Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐

Temp (°C)

1.3

Thermometer #

2

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

AS
Custodian Printed Name

9/8/23
Date/Time



Eagle Environmental Consulting
8000 W 44th Ave
Wheat Ridge CO, 80033

Project: Civitas - Sam 25H-M166

Project Number: [none]

Project Manager: Martin Eckert III

Reported:
09/18/23 10:30

WC-01@4.5'
2309134-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/08/23 11:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020	0.000098	mg/kg	1	BGI0218	09/08/23	09/09/23	EPA 8260B	
Toluene	ND	0.0050	0.00025	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	0.00021	"	"	"	"	"	"	
Xylenes (total)	0.53	0.010	0.00044	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.032	0.0050	0.00024	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.39	0.0050	0.00024	"	"	"	"	"	"	
Naphthalene	0.044	0.0038	0.00036	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	210	5.0		"	10	"	"	"	"	

Date Sampled: **09/08/23 11:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		104 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		80.2 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		158 %		50-150		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/08/23 11:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	5800	50	4.3	mg/kg	1	BGI0217	"	09/09/23	EPA 8015M	
C28-C36 (ORO)	1300	50	4.3	"	"	"	"	"	"	

Date Sampled: **09/08/23 11:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		64.2 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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2309134-01 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **09/08/23 11:03**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	0.108	0.00500	0.000620	mg/kg	1	BGI0221	09/09/23	09/11/23	EPA 8270D SIM	
Anthracene	ND	0.00500	0.000308	"	"	"	"	"	"	
Benzo (a) anthracene	0.328	0.00500	0.000363	"	"	"	"	"	"	E
Benzo (a) pyrene	0.0178	0.00500	0.000234	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.0329	0.00500	0.000433	"	"	"	"	"	"	
Benzo (k) fluoranthene	0.00630	0.00500	0.000423	"	"	"	"	"	"	
Chrysene	0.171	0.00500	0.000237	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	0.00167	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	0.000373	"	"	"	"	"	"	
Fluorene	1.16	0.100	0.00954	"	20	"	"	09/11/23	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	0.00118	"	1	"	"	09/11/23	"	
Pyrene	0.339	0.00500	0.000317	"	"	"	"	"	"	E
1-Methylnaphthalene	7.35	0.100	0.0370	"	20	"	"	09/11/23	"	E
2-Methylnaphthalene	18.3	0.100	0.0378	"	"	"	"	"	"	E

Date Sampled: **09/08/23 11:03**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		199 %		40-150		"	"	09/11/23	"	S-02
Surrogate: Fluoranthene-d10		%		40-150		"	"	"	"	S-04

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/08/23 11:03**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.941	0.0100	0.00690	mg/L	1	BGI0225	09/11/23	09/11/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/08/23 11:03**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Eagle Environmental Consulting
8000 W 44th Ave
Wheat Ridge CO, 80033

Project: Civitas - Sam 25H-M166

Project Number: [none]

Project Manager: Martin Eckert III

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09/18/23 10:30

WC-01@4.5'
2309134-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.81	0.200	0.168	mg/kg dry	1	BGI0231	09/11/23	09/13/23	EPA 6020B	
Barium	145	0.400	0.316	"	"	"	"	"	"	
Cadmium	0.0575	0.200	0.00720	"	"	"	"	"	"	J
Copper	2.54	0.400	0.0209	"	"	"	"	"	"	
Lead	4.72	0.200	0.0550	"	"	"	"	"	"	
Nickel	3.79	0.400	0.0610	"	"	"	"	"	"	
Silver	0.00475	0.0200	0.00267	"	"	"	"	"	"	J
Zinc	12.7	0.400	0.266	"	"	"	"	"	"	
Selenium	ND	0.260	0.175	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/08/23 11:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Chromium, Hexavalent	ND	0.30	0.040	mg/kg dry	1	BGI0245	09/11/23	09/11/23	EPA 7196A	

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

Date Sampled: **09/08/23 11:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	16.2	0.0540		mg/L dry	1	BGI0236	09/11/23	09/13/23	EPA 6020B	
Magnesium	1.62	0.0540		"	"	"	"	"	"	
Sodium	856	0.0540		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/08/23 11:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Sodium Adsorption Ratio	54.3	0.00100		units	1	BGI0380	09/13/23	09/13/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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WC-01@4.5'
2309134-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/08/23 11:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	92.6			%	1	BGI0229	09/11/23	09/11/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/08/23 11:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	4.34	0.0100	0.00100	mmhos/cm	1	BGI0287	09/12/23	09/12/23	EPA 120.1	

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

Date Sampled: **09/08/23 11:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	8.24			pH Units	1	BGI0288	09/12/23	09/12/23	EPA 9045D	

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Project Number: [none]
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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 BGI0218 - EPA 5030 Soil MS

Blank (BGI0218-BLK1)

Prepared: 09/08/23 Analyzed: 09/09/23

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0449		"	0.0400		112	50-150			
Surrogate: Toluene-d8	0.0430		"	0.0400		108	50-150			
Surrogate: 4-Bromofluorobenzene	0.0418		"	0.0400		104	50-150			

LCS (BGI0218-BS1)

Prepared: 09/08/23 Analyzed: 09/09/23

Benzene	0.0998	0.0020	mg/kg	0.100		99.8	70-130			
Toluene	0.105	0.0050	"	0.100		105	70-130			
Ethylbenzene	0.104	0.0050	"	0.100		104	70-130			
m,p-Xylene	0.209	0.010	"	0.200		104	70-130			
o-Xylene	0.0953	0.0050	"	0.100		95.3	70-130			
1,2,4-Trimethylbenzene	0.0933	0.0050	"	0.100		93.3	70-130			
1,3,5-Trimethylbenzene	0.0948	0.0050	"	0.100		94.8	70-130			
Naphthalene	0.0922	0.0038	"	0.100		92.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0430		"	0.0400		108	50-150			
Surrogate: Toluene-d8	0.0415		"	0.0400		104	50-150			
Surrogate: 4-Bromofluorobenzene	0.0393		"	0.0400		98.2	50-150			

Matrix Spike (BGI0218-MS1)

Source: 2309132-02

Prepared: 09/08/23 Analyzed: 09/09/23

Benzene	0.0944	0.0020	mg/kg	0.100	ND	94.4	70-130			
Toluene	0.0961	0.0050	"	0.100	ND	96.1	70-130			
Ethylbenzene	0.0958	0.0050	"	0.100	ND	95.8	70-130			
m,p-Xylene	0.191	0.010	"	0.200	ND	95.5	70-130			
o-Xylene	0.0855	0.0050	"	0.100	ND	85.5	70-130			
1,2,4-Trimethylbenzene	0.0844	0.0050	"	0.100	ND	84.4	70-130			
1,3,5-Trimethylbenzene	0.0860	0.0050	"	0.100	ND	86.0	70-130			
Naphthalene	0.0910	0.0038	"	0.100	ND	91.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0405		"	0.0400		101	50-150			
Surrogate: Toluene-d8	0.0406		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0385		"	0.0400		96.2	50-150			

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Project: Civitas - Sam 25H-M166

Project Number: [none]

Project Manager: Martin Eckert III

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09/18/23 10:30

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 BGI0218 - EPA 5030 Soil MS

Matrix Spike Dup (BGI0218-MSD1)

Source: 2309132-02

Prepared: 09/08/23 Analyzed: 09/09/23

Benzene	0.0902	0.0020	mg/kg	0.100	ND	90.2	70-130	4.65	30	
Toluene	0.0954	0.0050	"	0.100	ND	95.4	70-130	0.689	30	
Ethylbenzene	0.0959	0.0050	"	0.100	ND	95.9	70-130	0.0313	30	
m,p-Xylene	0.193	0.010	"	0.200	ND	96.5	70-130	1.00	30	
o-Xylene	0.0872	0.0050	"	0.100	ND	87.2	70-130	1.98	30	
1,2,4-Trimethylbenzene	0.0866	0.0050	"	0.100	ND	86.6	70-130	2.67	30	
1,3,5-Trimethylbenzene	0.0868	0.0050	"	0.100	ND	86.8	70-130	0.937	30	
Naphthalene	0.0902	0.0038	"	0.100	ND	90.2	70-130	0.861	30	
Surrogate: 1,2-Dichloroethane-d4	0.0422		"	0.0400		105	50-150			
Surrogate: Toluene-d8	0.0416		"	0.0400		104	50-150			
Surrogate: 4-Bromofluorobenzene	0.0390		"	0.0400		97.4	50-150			

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Project: Civitas - Sam 25H-M166

Project Number: [none]

Project Manager: Martin Eckert III

Reported:
09/18/23 10:30

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 BGI0217 - EPA 3550A

Blank (BGI0217-BLK1)

Prepared: 09/08/23 Analyzed: 09/09/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	13.0		"	12.5		104	30-150			

LCS (BGI0217-BS1)

Prepared: 09/08/23 Analyzed: 09/09/23

C10-C28 (DRO)	429	50	mg/kg	500		85.9	70-130			
Surrogate: o-Terphenyl	13.0		"	12.5		104	30-150			

Matrix Spike (BGI0217-MS1)

Source: 2309132-01

Prepared: 09/08/23 Analyzed: 09/09/23

C10-C28 (DRO)	3690	50	mg/kg	500	4880	NR	70-130			QM-05
Surrogate: o-Terphenyl	4.89		"	12.5		39.1	30-150			

Matrix Spike Dup (BGI0217-MSD1)

Source: 2309132-01

Prepared: 09/08/23 Analyzed: 09/09/23

C10-C28 (DRO)	3540	50	mg/kg	500	4880	NR	70-130	4.18	20	QM-05
Surrogate: o-Terphenyl	4.26		"	12.5		34.1	30-150			

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Project Number: [none]
Project Manager: Martin Eckert III

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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 BGI0221 - EPA 5030 Soil MS

Blank (BGI0221-BLK1)

Prepared: 09/09/23 Analyzed: 09/11/23

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	0.0243		"	0.0333		72.9	40-150			
Surrogate: Fluoranthene-d10	0.0341		"	0.0333		102	40-150			

LCS (BGI0221-BS1)

Prepared: 09/09/23 Analyzed: 09/11/23

Acenaphthene	0.0322	0.00500	mg/kg	0.0333		96.5	31-137			
Anthracene	0.0331	0.00500	"	0.0333		99.3	30-120			
Benzo (a) anthracene	0.0301	0.00500	"	0.0333		90.4	30-120			
Benzo (a) pyrene	0.0308	0.00500	"	0.0333		92.3	30-120			
Benzo (b) fluoranthene	0.0306	0.00500	"	0.0333		91.7	30-120			
Benzo (k) fluoranthene	0.0319	0.00500	"	0.0333		95.8	30-120			
Chrysene	0.0316	0.00500	"	0.0333		94.8	30-120			
Dibenz (a,h) anthracene	0.0242	0.00500	"	0.0333		72.5	30-120			
Fluoranthene	0.0335	0.00500	"	0.0333		101	30-120			
Fluorene	0.0312	0.00500	"	0.0333		93.7	30-120			
Indeno (1,2,3-cd) pyrene	0.0234	0.00500	"	0.0333		70.1	30-120			
Pyrene	0.0312	0.00500	"	0.0333		93.7	35-142			
1-Methylnaphthalene	0.0269	0.00500	"	0.0333		80.8	35-142			
2-Methylnaphthalene	0.0374	0.00500	"	0.0333		112	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0284		"	0.0333		85.1	40-150			
Surrogate: Fluoranthene-d10	0.0344		"	0.0333		103	40-150			

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Eagle Environmental Consulting
8000 W 44th Ave
Wheat Ridge CO, 80033

Project: Civitas - Sam 25H-M166

Project Number: [none]

Project Manager: Martin Eckert III

Reported:
09/18/23 10:30

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGI0221 - EPA 5030 Soil MS

Matrix Spike (BGI0221-MS1)

Source: 2309124-01

Prepared: 09/09/23 Analyzed: 09/11/23

Acenaphthene	0.0226	0.00500	mg/kg	0.0333	ND	67.9	31-137				
Anthracene	0.0229	0.00500	"	0.0333	ND	68.8	30-120				
Benzo (a) anthracene	0.0228	0.00500	"	0.0333	ND	68.4	30-120				
Benzo (a) pyrene	0.0221	0.00500	"	0.0333	ND	66.4	30-120				
Benzo (b) fluoranthene	0.0216	0.00500	"	0.0333	ND	64.9	30-120				
Benzo (k) fluoranthene	0.0222	0.00500	"	0.0333	ND	66.6	30-120				
Chrysene	0.0226	0.00500	"	0.0333	ND	67.9	30-120				
Dibenz (a,h) anthracene	0.0174	0.00500	"	0.0333	ND	52.1	30-120				
Fluoranthene	0.0243	0.00500	"	0.0333	ND	72.8	30-120				
Fluorene	0.0226	0.00500	"	0.0333	ND	67.9	30-120				
Indeno (1,2,3-cd) pyrene	0.0171	0.00500	"	0.0333	ND	51.3	30-120				
Pyrene	0.0234	0.00500	"	0.0333	ND	70.1	35-142				
1-Methylnaphthalene	0.0205	0.00500	"	0.0333	ND	61.4	15-130				
2-Methylnaphthalene	0.0232	0.00500	"	0.0333	ND	69.6	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0206		"	0.0333		61.9	40-150				
Surrogate: Fluoranthene-d10	0.0251		"	0.0333		75.4	40-150				

Matrix Spike Dup (BGI0221-MSD1)

Source: 2309124-01

Prepared: 09/09/23 Analyzed: 09/11/23

Acenaphthene	0.0242	0.00500	mg/kg	0.0333	ND	72.5	31-137	6.45	30		
Anthracene	0.0252	0.00500	"	0.0333	ND	75.7	30-120	9.51	30		
Benzo (a) anthracene	0.0242	0.00500	"	0.0333	ND	72.8	30-120	6.18	30		
Benzo (a) pyrene	0.0238	0.00500	"	0.0333	ND	71.3	30-120	7.07	30		
Benzo (b) fluoranthene	0.0232	0.00500	"	0.0333	ND	69.7	30-120	7.21	30		
Benzo (k) fluoranthene	0.0234	0.00500	"	0.0333	ND	70.3	30-120	5.42	30		
Chrysene	0.0237	0.00500	"	0.0333	ND	71.0	30-120	4.53	30		
Dibenz (a,h) anthracene	0.0189	0.00500	"	0.0333	ND	56.6	30-120	8.22	30		
Fluoranthene	0.0260	0.00500	"	0.0333	ND	77.9	30-120	6.77	30		
Fluorene	0.0242	0.00500	"	0.0333	ND	72.5	30-120	6.55	30		
Indeno (1,2,3-cd) pyrene	0.0181	0.00500	"	0.0333	ND	54.4	30-120	6.03	30		
Pyrene	0.0240	0.00500	"	0.0333	ND	72.0	35-142	2.57	30		
1-Methylnaphthalene	0.0217	0.00500	"	0.0333	ND	65.0	15-130	5.66	50		
2-Methylnaphthalene	0.0228	0.00500	"	0.0333	ND	68.4	15-130	1.66	50		
Surrogate: 2-Methylnaphthalene-d10	0.0216		"	0.0333		64.8	40-150				
Surrogate: Fluoranthene-d10	0.0272		"	0.0333		81.6	40-150				

Summit Scientific

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Eagle Environmental Consulting
8000 W 44th Ave
Wheat Ridge CO, 80033

Project: Civitas - Sam 25H-M166

Project Number: [none]

Project Manager: Martin Eckert III

Reported:

09/18/23 10:30

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

Batch BGI0225 - EPA 3050B

Blank (BGI0225-BLK1)

Prepared & Analyzed: 09/11/23

Boron ND 0.0100 mg/L

LCS (BGI0225-BS1)

Prepared & Analyzed: 09/11/23

Boron 5.93 0.0100 mg/L 5.00 119 80-120

Duplicate (BGI0225-DUP1)

Source: 2309117-01

Prepared & Analyzed: 09/11/23

Boron 0.0740 0.0100 mg/L 0.113 42.0 20 QR-01

Matrix Spike (BGI0225-MS1)

Source: 2309117-01

Prepared & Analyzed: 09/11/23

Boron 5.96 0.0100 mg/L 5.00 0.113 117 75-125

Matrix Spike Dup (BGI0225-MSD1)

Source: 2309117-01

Prepared & Analyzed: 09/11/23

Boron 6.41 0.0100 mg/L 5.00 0.113 126 75-125 7.21 25 QM-07

Summit Scientific

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Eagle Environmental Consulting
8000 W 44th Ave
Wheat Ridge CO, 80033

Project: Civitas - Sam 25H-M166

Project Number: [none]
Project Manager: Martin Eckert III

Reported:
09/18/23 10:30

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 BGI0231 - EPA 3050B

Blank (BGI0231-BLK1)

Prepared: 09/11/23 Analyzed: 09/12/23

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

LCS (BGI0231-BS1)

Prepared: 09/11/23 Analyzed: 09/12/23

Arsenic	40.0	0.200	mg/kg wet	40.0	100	80-120
Barium	40.4	0.400	"	40.0	101	80-120
Cadmium	2.39	0.200	"	2.00	119	80-120
Copper	45.8	0.400	"	40.0	115	80-120
Lead	23.9	0.200	"	20.0	120	80-120
Nickel	45.9	0.400	"	40.0	115	80-120
Silver	2.30	0.0200	"	2.00	115	80-120
Zinc	45.2	0.400	"	40.0	113	80-120

Duplicate (BGI0231-DUP1)

Source: 2309117-01

Prepared: 09/11/23 Analyzed: 09/12/23

Arsenic	3.64	0.200	mg/kg dry	4.02	9.95	20	
Barium	111	0.400	"	119	7.57	20	
Cadmium	0.183	0.200	"	0.185	0.757	20	J
Copper	5.37	0.400	"	5.43	1.18	20	
Lead	8.31	0.200	"	8.95	7.51	20	
Nickel	6.48	0.400	"	6.84	5.27	20	
Silver	0.0297	0.0200	"	0.0288	3.17	20	
Zinc	25.1	0.400	"	33.1	27.6	20	QR-04
Selenium	ND	0.260	"	ND		200	

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Eagle Environmental Consulting
8000 W 44th Ave
Wheat Ridge CO, 80033

Project: Civitas - Sam 25H-M166

Project Number: [none]

Project Manager: Martin Eckert III

Reported:

09/18/23 10:30

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 BGI0231 - EPA 3050B

Matrix Spike (BGI0231-MS1)		Source: 2309117-01			Prepared: 09/11/23 Analyzed: 09/12/23					
Arsenic	46.2	0.200	mg/kg dry	46.4	4.02	91.0	75-125			
Barium	165	0.400	"	46.4	119	97.6	75-125			
Cadmium	2.74	0.200	"	2.32	0.185	110	75-125			
Copper	32.1	0.400	"	46.4	5.43	57.5	75-125			QM-07
Lead	33.3	0.200	"	23.2	8.95	105	75-125			
Nickel	33.6	0.400	"	46.4	6.84	57.7	75-125			QM-07
Silver	2.43	0.0200	"	2.32	0.0288	103	75-125			
Zinc	52.8	0.400	"	46.4	33.1	42.4	75-125			QM-07

Matrix Spike Dup (BGI0231-MSD1)		Source: 2309117-01			Prepared: 09/11/23 Analyzed: 09/13/23					
Arsenic	33.3	0.200	mg/kg dry	46.4	4.02	63.2	75-125	32.4	25	QM-07
Barium	145	0.400	"	46.4	119	55.6	75-125	12.6	25	QM-07
Cadmium	2.01	0.200	"	2.32	0.185	78.5	75-125	31.1	25	QM-07
Copper	24.2	0.400	"	46.4	5.43	40.5	75-125	28.0	25	QM-07
Lead	25.4	0.200	"	23.2	8.95	70.8	75-125	27.1	25	QM-07
Nickel	25.6	0.400	"	46.4	6.84	40.6	75-125	26.9	25	QM-07
Silver	1.72	0.0200	"	2.32	0.0288	72.8	75-125	34.2	25	QM-07
Zinc	43.9	0.400	"	46.4	33.1	23.3	75-125	18.3	25	QM-07

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Eagle Environmental Consulting
8000 W 44th Ave
Wheat Ridge CO, 80033

Project: Civitas - Sam 25H-M166

Project Number: [none]

Project Manager: Martin Eckert III

Reported:
09/18/23 10:30

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 BGI0245 - 3060A Mod

Blank (BGI0245-BLK1)

Prepared & Analyzed: 09/11/23

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BGI0245-BS1)

Prepared & Analyzed: 09/11/23

Chromium, Hexavalent 26.2 0.30 mg/kg wet 25.0 105 80-120

Duplicate (BGI0245-DUP1)

Source: 2309125-01

Prepared & Analyzed: 09/11/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BGI0245-MS1)

Source: 2309125-01

Prepared & Analyzed: 09/11/23

Chromium, Hexavalent 35.8 0.30 mg/kg dry 35.0 ND 102 75-125

Matrix Spike Dup (BGI0245-MSD1)

Source: 2309125-01

Prepared & Analyzed: 09/11/23

Chromium, Hexavalent 35.2 0.30 mg/kg dry 35.0 ND 101 75-125 1.77 20

Summit Scientific

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Eagle Environmental Consulting
8000 W 44th Ave
Wheat Ridge CO, 80033

Project: Civitas - Sam 25H-M166

Project Number: [none]

Project Manager: Martin Eckert III

Reported:

09/18/23 10:30

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 BGI0236 - General Preparation

Blank (BGI0236-BLK1)

Prepared: 09/11/23 Analyzed: 09/12/23

Calcium	0.00816	0.0500	mg/L wet							J
Magnesium	0.00518	0.0500	"							J
Sodium	0.0294	0.0500	"							J

LCS (BGI0236-BS1)

Prepared: 09/11/23 Analyzed: 09/12/23

Calcium	4.93	0.0500	mg/L wet	5.00	98.7	70-130
Magnesium	5.26	0.0500	"	5.00	105	70-130
Sodium	5.38	0.0500	"	5.00	108	70-130

Summit Scientific

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Eagle Environmental Consulting
8000 W 44th Ave
Wheat Ridge CO, 80033

Project: Civitas - Sam 25H-M166

Project Number: [none]

Project Manager: Martin Eckert III

Reported:

09/18/23 10:30

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

Summit Scientific

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

Batch BGI0229 - General Preparation

Duplicate (BGI0229-DUP1)

Source: 2309117-01

Prepared & Analyzed: 09/11/23

% Solids	86.2	%	86.2	0.00792	20
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Summit Scientific

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Eagle Environmental Consulting
8000 W 44th Ave
Wheat Ridge CO, 80033

Project: Civitas - Sam 25H-M166

Project Number: [none]

Project Manager: Martin Eckert III

Reported:

09/18/23 10:30

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 BGI0287 - General Preparation

Blank (BGI0287-BLK1)

Prepared & Analyzed: 09/12/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGI0287-BS1)

Prepared & Analyzed: 09/12/23

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

Duplicate (BGI0287-DUP1)

Source: 2309117-01

Prepared & Analyzed: 09/12/23

Specific Conductance (EC) 0.124 0.0100 mmhos/cm 0.124 0.00 20

Summit Scientific

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Eagle Environmental Consulting
8000 W 44th Ave
Wheat Ridge CO, 80033

Project: Civitas - Sam 25H-M166

Project Number: [none]

Project Manager: Martin Eckert III

Reported:

09/18/23 10:30

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

Summit Scientific

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

Batch BGI0288 - General Preparation

LCS (BGI0288-BS1)

Prepared & Analyzed: 09/12/23

pH	9.19	pH Units	9.18	100	95-105
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Duplicate (BGI0288-DUP1)

Source: 2309117-01

Prepared & Analyzed: 09/12/23

pH	8.37	pH Units	8.02	4.27	20
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Summit Scientific

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Eagle Environmental Consulting
8000 W 44th Ave
Wheat Ridge CO, 80033

Project: Civitas - Sam 25H-M166

Project Number: [none]
Project Manager: Martin Eckert III

Reported:
09/18/23 10:30

Notes and Definitions

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