

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

August 24, 2023

Ben Baugh

Entrada Consulting Group

240 Mesa Avenue

Grand Junction., CO 81501

RE: PDC - Nauman Tank Battery

Work Order #2308521

Enclosed are the results of analyses for samples received by Summit Scientific on 08/23/23 17:16. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

DRAFT REPORT

DATA SUBJECT TO CHANGE



Entrada Consulting Group
240 Mesa Avenue
Grand Junction, CO, 81501

Project: PDC - Nauman Tank Battery

Project Number: [none]
Project Manager: Ben Baugh

Reported:
08/24/23 06:49

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EX01@6	2308521-03	Soil	08/23/23 15:00	08/23/23 17:16
EX02@3	2308521-04	Soil	08/23/23 15:10	08/23/23 17:16

DRAFT REPORT

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SUMMIT SCIENTIFIC

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

Lab ID	Page 1 of 1
2308521	

Client: <u>Entrada Consulting Group</u>		Send Data To:		Send Invoice To:	
Address:		Project Manager: <u>Ben Baugh</u>		Company: <u>PDC</u>	
City/State/Zip:		E-Mail: <u>Entrada ? PDC distribution list</u>		Project Name/Location:	
Phone: <u>412-337-5122</u>		Project Name: <u>Nauman Tank Battery</u>		AFE#:	
Sampler Name: <u>Nick Yound</u>		Project Number:		PO/Billing Codes:	
				Contact:	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other					
1	WC01G3	8/23/23	1130	2			X				X						HOLD
2	WC02G3	↓	1400	↓			X				X						HOLD
3	EX01G6	↓	1500	↓			X				X						
4	EX02G3	↓	1510	↓			X				X						
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	

Relinquished by: <u>[Signature]</u>	Date/Time: <u>1715 8/23/23</u>	Received by: <u>[Signature]</u>	Date/Time: <u>8/23/23 17:16</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.	
				Standard	Field Turb.	
Temperature Upon Receipt: <u>31.6</u>	Corrected Temperature	IR gun #:	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2308521

Client: Entrada

Client Project ID: Nauman Tank Battery

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

Airbill #: _____

Matrix (Check all that apply)

Air

Soil/Solid

Water

Other

Temp (°C)

31.4

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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>same day</u>
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"/>	
<u>Additional Comments (if any):</u>				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

AS
Custodian Printed Name

8/23/23
Date/Time



Entrada Consulting Group
240 Mesa Avenue
Grand Junction, CO, 81501

Project: PDC - Nauman Tank Battery

Project Number: [none]
Project Manager: Ben Baugh

Reported:
08/24/23 06:49

EX01@6
2308521-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/23/23 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGH0957	08/23/23	08/23/23	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: **08/23/23 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0483	121 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0467	117 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0513	128 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/23/23 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGH0956	08/23/23	08/23/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/23/23 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.9	95.0 %	30-150		"	"	"	"	

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 240 Mesa Avenue
 Grand Junction, CO, 81501

Project: PDC - Nauman Tank Battery

Project Number: [none]
 Project Manager: Ben Baugh

Reported:
 08/24/23 06:49

EX02@3
2308521-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/23/23 15:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGH0957	08/23/23	08/23/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.0096	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.62	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.028	0.0050	"	"	"	"	"	"	
Naphthalene	0.21	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	8.1	0.50	"	"	"	"	"	"	

Date Sampled: **08/23/23 15:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0527	132 %	50-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	0.0553	138 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0567	142 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/23/23 15:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	330	50	mg/kg	1	BGH0956	08/23/23	08/23/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/23/23 15:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>	14.1	113 %	30-150		"	"	"	"	

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Project: PDC - Nauman Tank Battery

Project Number: [none]
Project Manager: Ben Baugh

Reported:
08/24/23 06:49

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGH0957 - EPA 5030 Soil MS

Blank (BGH0957-BLK1)

Prepared: 08/23/23 Analyzed: 08/24/23

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0256		"	0.0400		63.9	50-150			
<i>Surrogate: Toluene-d8</i>	0.0385		"	0.0400		96.3	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0303		"	0.0400		75.7	50-150			

LCS (BGH0957-BS1)

Prepared: 08/23/23 Analyzed: 08/24/23

Benzene	0.0826	0.0020	mg/kg	0.100		82.6	70-130			
Toluene	0.0958	0.0050	"	0.100		95.8	70-130			
Ethylbenzene	0.0913	0.0050	"	0.100		91.3	70-130			
m,p-Xylene	0.170	0.010	"	0.200		85.0	70-130			
o-Xylene	0.0996	0.0050	"	0.100		99.6	70-130			
1,2,4-Trimethylbenzene	0.103	0.0050	"	0.100		103	70-130			
1,3,5-Trimethylbenzene	0.0960	0.0050	"	0.100		96.0	70-130			
Naphthalene	0.122	0.0038	"	0.100		122	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0269		"	0.0400		67.4	50-150			
<i>Surrogate: Toluene-d8</i>	0.0400		"	0.0400		100	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0314		"	0.0400		78.5	50-150			

Matrix Spike (BGH0957-MS1)

Source: 2308527-01

Prepared: 08/23/23 Analyzed: 08/24/23

Benzene	0.0812	0.0020	mg/kg	0.100	ND	81.2	70-130			
Toluene	0.0713	0.0050	"	0.100	ND	71.3	70-130			
Ethylbenzene	0.0884	0.0050	"	0.100	ND	88.4	70-130			
m,p-Xylene	0.765	0.010	"	0.200	ND	382	70-130			QM-07
o-Xylene	0.206	0.0050	"	0.100	ND	206	70-130			QM-07
1,2,4-Trimethylbenzene	1.13	0.0050	"	0.100	ND	NR	70-130			QM-07
1,3,5-Trimethylbenzene	0.539	0.0050	"	0.100	ND	539	70-130			QM-07
Naphthalene	0.313	0.0038	"	0.100	ND	313	70-130			QM-07
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0356		"	0.0400		89.1	50-150			
<i>Surrogate: Toluene-d8</i>	0.0326		"	0.0400		81.6	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0952		"	0.0400		238	50-150			S-02

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Project: PDC - Nauman Tank Battery

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 08/24/23 06:49

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGH0957 - EPA 5030 Soil MS

Matrix Spike Dup (BGH0957-MSD1)	Source: 2308527-01			Prepared: 08/23/23 Analyzed: 08/24/23						
Benzene	0.0794	0.0020	mg/kg	0.100	ND	79.4	70-130	2.17	30	
Toluene	0.0642	0.0050	"	0.100	ND	64.2	70-130	10.5	30	QM-07
Ethylbenzene	0.0962	0.0050	"	0.100	ND	96.2	70-130	8.42	30	
m,p-Xylene	1.74	0.010	"	0.200	ND	871	70-130	78.0	30	QM-07
o-Xylene	0.461	0.0050	"	0.100	ND	461	70-130	76.5	30	QM-07
1,2,4-Trimethylbenzene	3.00	0.0050	"	0.100	ND	NR	70-130	90.3	30	QM-07
1,3,5-Trimethylbenzene	1.55	0.0050	"	0.100	ND	NR	70-130	96.9	30	QM-07
Naphthalene	0.481	0.0038	"	0.100	ND	481	70-130	42.3	30	QM-07
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0368</i>		<i>"</i>	<i>0.0400</i>		<i>92.1</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0278</i>		<i>"</i>	<i>0.0400</i>		<i>69.4</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.112</i>		<i>"</i>	<i>0.0400</i>		<i>280</i>	<i>50-150</i>			<i>S-02</i>

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Project Number: [none]
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Reported:
08/24/23 06:49

Notes and Definitions

- S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
- 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.
- 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