

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 11, 2023

Brian Humphrey

CGRS Inc.

1301 Academy Ct.

Fort Collins, CO 80524

RE: Chaco Energy - Kindt

Work Order #2308703

Enclosed are the results of analyses for samples received by Summit Scientific on 08/31/23 15:20. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads "Jacob Wood". The signature is written in a cursive style with a large initial "J" and a distinct "W".

Jacob Wood For Paul Shrewsbury

President



CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Tank01@3'	2308703-01	Soil	08/31/23 10:40	08/31/23 15:20
Sep01@3'	2308703-02	Soil	08/31/23 10:45	08/31/23 15:20
BKG01@2'	2308703-03	Soil	08/31/23 11:15	08/31/23 15:20
WH01@2'	2308703-04	Soil	08/31/23 11:15	08/31/23 15:20
BKG02@2'	2308703-05	Soil	08/31/23 11:38	08/31/23 15:20
PWC01@2'	2308703-06	Soil	08/31/23 11:40	08/31/23 15:20
PWN01@1'	2308703-07	Soil	08/31/23 12:05	08/31/23 15:20
PWW01@1'	2308703-08	Soil	08/31/23 12:20	08/31/23 15:20
PWE01@2'	2308703-09	Soil	08/31/23 12:39	08/31/23 15:20
PWS01@3'	2308703-10	Soil	08/31/23 12:54	08/31/23 15:20
BKG03@2'	2308703-11	Soil	08/31/23 13:00	08/31/23 15:20

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

# SUMMIT SCIENTIFIC

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

Lab ID 2308703 Page 1 of 1

Client: <u>Chaco Energy</u>		Send Data To: Project Manager: <u>Brian Humphrey</u>		Send Invoice To: Company: <u>GGRS</u>	
Address:		E-Mail: <u>bhumphrey@GGRS.com</u>		Project Name/Location: <u>Kindt</u>	
City/State/Zip:		<u>Lglazier@GGRS.com</u>		AFE#:	
Phone:		Project Name: <u>Kindt</u>		PO/Billing Codes:	
Sampler Name: <u>L. Glazier + B. Humphrey</u>		Project Number:		Contact: <u>B. Humphrey</u>	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested				Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	CECMC	Table 915-1	Table 915-1 Soil		Table 915-1
1	Tank 01 @ 3'	8/31/23	1040	2			X						X				BKG 01-03 Sample for Table 915-1 Soil Sustainability + metals only
2	Sep 01 @ 3'		1045										X				
3	BKG 01 @ 2'		1115											X	X		
4	Wt 01 @ 2'		1115										X				
5	PKG 02 @ 2'		1138											X	X		
6	PUC 01 @ 2'		1140										X				
7	PWN 01 @ 1'		1205										X				
8	PWN 01 @ 1'		1220										X				
9	PVE 01 @ 2'		1239										X				
10	PJ 501 @ 3'		1254										X				
11	BKG 03 @ 2'		1300											X	X		
12																	
13																	
14																	
15																	

Relinquished by: <u>[Signature]</u> Date/Time: <u>8/31/23 15:20</u>	Received by: <u>[Signature]</u> Date/Time: <u>8/31/23 15:20</u>	TAT Business Days	Field DO	Notes:
		Same Day	Field EC	
Relinquished by: _____ Date/Time: _____	Received by: _____ Date/Time: _____	1 Day	Field ORP	
		2 Days	Field pH	
Relinquished by: _____ Date/Time: _____	Received by: _____ Date/Time: _____	3 Days	Field Temp.	
Temperature Upon Receipt: <u>13.1</u>	Corrected Temperature _____	IR gun #: <u>2</u>	Field Turb. <u>X</u>	HNO3 lot #: _____

S<sub>2</sub>

S2 Work Order# 2308703

Sample Receipt Checklist

Client: Chaco Energy Client Project ID: Kind +

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other  Airbill #: \_\_\_\_\_

Matrix (Check all that apply) Air  Soil/Solid  Water  Other

Temp (°C) 13.1 Thermometer # 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"/>	on ice
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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	PWE01@2' on CoC = PWE01@1' on jars
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"/>	
<u>Additional Comments (if any):</u> <p style="text-align: right;">PWE01@2' on CoC = PWE@2' on jars</p>				
<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.				

Vah Ward  
Custodian Printed Name

8/31/23 15:20  
Date/Time



CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**Tank01@3'**  
**2308703-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/31/23 10:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BGI0016	09/01/23	09/02/23	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: **08/31/23 10:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0355	88.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0401	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0404	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/31/23 10:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BGI0019	09/01/23	09/01/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/31/23 10:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	15.0	120 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**Tank01@3'**  
**2308703-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **08/31/23 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGI0112	09/06/23	09/06/23	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: **08/31/23 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0154	46.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0190	57.0 %	40-150		"	"	"	"	

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

Date Sampled: **08/31/23 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.189</b>	0.0100	mg/L	1	BGI0059	09/05/23	09/06/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/31/23 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**Tank01@3'**  
**2308703-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.910	0.200	mg/kg dry	1	BGI0065	09/05/23	09/06/23	EPA 6020B	
Barium	299	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.12	0.400	"	"	"	"	"	"	
Lead	7.10	0.200	"	"	"	"	"	"	
Nickel	1.43	0.400	"	"	"	"	"	"	
Silver	0.0289	0.0200	"	"	"	"	"	"	
Zinc	4.68	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/31/23 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGI0046	09/02/23	09/05/23	EPA 7196A	

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

Date Sampled: **08/31/23 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	56.0	0.0573	mg/L dry	1	BGI0030	09/01/23	09/05/23	EPA 6020B	
Magnesium	14.9	0.0573	"	"	"	"	"	"	
Sodium	3.61	0.0573	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/31/23 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.111	0.00100	units	1	BGI0110	09/06/23	09/06/23	Calculation	

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

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**Tank01@3'**  
**2308703-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/31/23 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.3		%	1	BGI0022	09/01/23	09/01/23	Calculation	

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

Date Sampled: **08/31/23 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.416	0.0100	mmhos/cm	1	BGI0054	09/04/23	09/05/23	EPA 120.1	

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

Date Sampled: **08/31/23 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.08		pH Units	1	BGI0053	09/04/23	09/05/23	EPA 9045D	

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1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**Sep01@3'**  
**2308703-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/31/23 10:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGI0016	09/01/23	09/02/23	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: **08/31/23 10:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0247	61.6 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0411	103 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0376	94.1 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/31/23 10:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGI0019	09/01/23	09/01/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **08/31/23 10:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	15.4	123 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**Sep01@3'**  
**2308703-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **08/31/23 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGI0112	09/06/23	09/07/23	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: **08/31/23 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0185	55.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0222	66.7 %	40-150		"	"	"	"	

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

Date Sampled: **08/31/23 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>3.53</b>	0.0100	mg/L	1	BGI0059	09/05/23	09/06/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/31/23 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**Sep01@3'**  
**2308703-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.793	0.200	mg/kg dry	1	BGI0065	09/05/23	09/06/23	EPA 6020B	
Barium	187	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.07	0.400	"	"	"	"	"	"	
Lead	6.85	0.200	"	"	"	"	"	"	
Nickel	1.30	0.400	"	"	"	"	"	"	
Silver	0.0227	0.0200	"	"	"	"	"	"	
Zinc	4.59	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/31/23 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGI0046	09/02/23	09/05/23	EPA 7196A	

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

Date Sampled: **08/31/23 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	58.9	0.0567	mg/L dry	1	BGI0030	09/01/23	09/05/23	EPA 6020B	
Magnesium	10.7	0.0567	"	"	"	"	"	"	
Sodium	118	0.0567	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/31/23 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.71	0.00100	units	1	BGI0110	09/06/23	09/06/23	Calculation	

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

Summit Scientific

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**Sep01@3'**  
**2308703-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/31/23 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>88.2</b>		%	1	BGI0022	09/01/23	09/01/23	Calculation	

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

Date Sampled: **08/31/23 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.880</b>	0.0100	mmhos/cm	1	BGI0054	09/04/23	09/05/23	EPA 120.1	

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

Date Sampled: **08/31/23 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>8.58</b>		pH Units	1	BGI0053	09/04/23	09/05/23	EPA 9045D	

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**BKG01@2'**  
**2308703-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/31/23 11:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Boron</b>	<b>0.310</b>	0.0100	mg/L	1	BGI0059	09/05/23	09/06/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/31/23 11:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Arsenic</b>	<b>0.832</b>	0.200	mg/kg dry	1	BGI0065	09/05/23	09/06/23	EPA 6020B	
<b>Barium</b>	<b>243</b>	0.400	"	"	"	"	"	"	
<b>Cadmium</b>	<b>ND</b>	0.200	"	"	"	"	"	"	
<b>Copper</b>	<b>1.35</b>	0.400	"	"	"	"	"	"	
<b>Lead</b>	<b>6.84</b>	0.200	"	"	"	"	"	"	
<b>Nickel</b>	<b>1.57</b>	0.400	"	"	"	"	"	"	
<b>Silver</b>	<b>0.0406</b>	0.0200	"	"	"	"	"	"	
<b>Zinc</b>	<b>4.74</b>	0.400	"	"	"	"	"	"	
<b>Selenium</b>	<b>ND</b>	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/31/23 11:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Chromium, Hexavalent</b>	<b>ND</b>	0.30	mg/kg dry	1	BGI0046	09/02/23	09/05/23	EPA 7196A	

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

Date Sampled: **08/31/23 11:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Calcium</b>	<b>206</b>	0.0558	mg/L dry	1	BGI0030	09/01/23	09/05/23	EPA 6020B	
<b>Magnesium</b>	<b>15.1</b>	0.0558	"	"	"	"	"	"	
<b>Sodium</b>	<b>16.5</b>	0.0558	"	"	"	"	"	"	

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**BKG01@2'**  
**2308703-03 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **08/31/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.299	0.00100	units	1	BGI0110	09/06/23	09/06/23	Calculation	

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

Date Sampled: **08/31/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.6		%	1	BGI0022	09/01/23	09/01/23	Calculation	

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

Date Sampled: **08/31/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.338	0.0100	mmhos/cm	1	BGI0054	09/04/23	09/05/23	EPA 120.1	

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

Date Sampled: **08/31/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.13		pH Units	1	BGI0053	09/04/23	09/05/23	EPA 9045D	

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**WH01@2'**  
**2308703-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/31/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGI0016	09/01/23	09/02/23	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: **08/31/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0342	85.5 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0362	90.6 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/31/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGI0019	09/01/23	09/01/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/31/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	15.3	122 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**WH01@2'**  
**2308703-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **08/31/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGI0112	09/06/23	09/07/23	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: **08/31/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0389	117 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0447	134 %	40-150		"	"	"	"	

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

Date Sampled: **08/31/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.210</b>	0.0100	mg/L	1	BGI0059	09/05/23	09/06/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/31/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**WH01@2'**  
**2308703-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.08	0.200	mg/kg dry	1	BGI0065	09/05/23	09/06/23	EPA 6020B	
Barium	349	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.59	0.400	"	"	"	"	"	"	
Lead	15.4	0.200	"	"	"	"	"	"	
Nickel	1.83	0.400	"	"	"	"	"	"	
Silver	0.0346	0.0200	"	"	"	"	"	"	
Zinc	9.27	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/31/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGI0046	09/02/23	09/05/23	EPA 7196A	

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

Date Sampled: **08/31/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	102	0.0609	mg/L dry	1	BGI0030	09/01/23	09/05/23	EPA 6020B	
Magnesium	26.3	0.0609	"	"	"	"	"	"	
Sodium	38.4	0.0609	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/31/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.877	0.00100	units	1	BGI0110	09/06/23	09/06/23	Calculation	

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

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**WH01@2'**  
**2308703-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/31/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.1		%	1	BGI0022	09/01/23	09/01/23	Calculation	

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

Date Sampled: **08/31/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.867	0.0100	mmhos/cm	1	BGI0054	09/04/23	09/05/23	EPA 120.1	

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

Date Sampled: **08/31/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.71		pH Units	1	BGI0053	09/04/23	09/05/23	EPA 9045D	

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**BKG02@2'**  
**2308703-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/31/23 11:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Boron</b>	<b>0.227</b>	0.0100	mg/L	1	BGI0059	09/05/23	09/06/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/31/23 11:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Arsenic</b>	<b>0.856</b>	0.200	mg/kg dry	1	BGI0065	09/05/23	09/06/23	EPA 6020B	
<b>Barium</b>	<b>413</b>	0.400	"	"	"	"	"	"	
<b>Cadmium</b>	ND	0.200	"	"	"	"	"	"	
<b>Copper</b>	<b>0.967</b>	0.400	"	"	"	"	"	"	
<b>Lead</b>	<b>6.23</b>	0.200	"	"	"	"	"	"	
<b>Nickel</b>	<b>1.32</b>	0.400	"	"	"	"	"	"	
<b>Silver</b>	<b>0.0239</b>	0.0200	"	"	"	"	"	"	
<b>Zinc</b>	<b>4.04</b>	0.400	"	"	"	"	"	"	
<b>Selenium</b>	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/31/23 11:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGI0046	09/02/23	09/05/23	EPA 7196A	

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

Date Sampled: **08/31/23 11:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Calcium</b>	<b>73.8</b>	0.0543	mg/L dry	1	BGI0030	09/01/23	09/05/23	EPA 6020B	
<b>Magnesium</b>	<b>10.4</b>	0.0543	"	"	"	"	"	"	
<b>Sodium</b>	<b>7.56</b>	0.0543	"	"	"	"	"	"	

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**BKG02@2'**  
**2308703-05 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **08/31/23 11:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	<b>0.218</b>	0.00100	units	1	BGI0110	09/06/23	09/06/23	Calculation	

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

Date Sampled: **08/31/23 11:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>92.0</b>		%	1	BGI0022	09/01/23	09/01/23	Calculation	

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

Date Sampled: **08/31/23 11:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.265</b>	0.0100	mmhos/cm	1	BGI0054	09/04/23	09/05/23	EPA 120.1	

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

Date Sampled: **08/31/23 11:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>8.08</b>		pH Units	1	BGI0053	09/04/23	09/05/23	EPA 9045D	

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**PWC01@2'**  
**2308703-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/31/23 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGI0016	09/01/23	09/02/23	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: **08/31/23 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0316	79.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0410	103 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0386	96.4 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/31/23 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGI0019	09/01/23	09/01/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **08/31/23 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	15.3	123 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**PWC01@2'**  
**2308703-06 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **08/31/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGI0112	09/06/23	09/07/23	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: **08/31/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0205	61.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0224	67.1 %	40-150		"	"	"	"	

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

Date Sampled: **08/31/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>25.6</b>	0.0100	mg/L	1	BGI0059	09/05/23	09/06/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/31/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**PWC01@2'**  
**2308703-06 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.604	0.200	mg/kg dry	1	BGI0065	09/05/23	09/06/23	EPA 6020B	
Barium	234	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.23	0.400	"	"	"	"	"	"	
Lead	7.23	0.200	"	"	"	"	"	"	
Nickel	1.26	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.49	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/31/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGI0046	09/02/23	09/05/23	EPA 7196A	

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

Date Sampled: **08/31/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2000	0.0575	mg/L dry	1	BGI0030	09/01/23	09/05/23	EPA 6020B	
Magnesium	51.3	0.0575	"	"	"	"	"	"	
Sodium	915	0.0575	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/31/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.52	0.00100	units	1	BGI0110	09/06/23	09/06/23	Calculation	

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

Summit Scientific

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**PWC01@2'**  
**2308703-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/31/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.0		%	1	BGI0022	09/01/23	09/01/23	Calculation	

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

Date Sampled: **08/31/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.66	0.0100	mmhos/cm	1	BGI0054	09/04/23	09/05/23	EPA 120.1	

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

Date Sampled: **08/31/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.88		pH Units	1	BGI0053	09/04/23	09/05/23	EPA 9045D	

Summit Scientific

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**PWN01@1'**  
**2308703-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/31/23 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGI0016	09/01/23	09/02/23	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: **08/31/23 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0313	78.3 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0410	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0340	85.1 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/31/23 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGI0019	09/01/23	09/01/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/31/23 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.5	91.6 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**PWN01@1'**  
**2308703-07 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **08/31/23 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGI0112	09/06/23	09/07/23	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: **08/31/23 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0164	49.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0176	52.8 %	40-150		"	"	"	"	

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

Date Sampled: **08/31/23 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>3.26</b>	0.0100	mg/L	1	BGI0059	09/05/23	09/06/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/31/23 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**PWN01@1'**  
**2308703-07 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.510	0.200	mg/kg dry	1	BGI0065	09/05/23	09/06/23	EPA 6020B	
Barium	101	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.18	0.400	"	"	"	"	"	"	
Lead	6.33	0.200	"	"	"	"	"	"	
Nickel	1.26	0.400	"	"	"	"	"	"	
Silver	0.0246	0.0200	"	"	"	"	"	"	
Zinc	4.56	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/31/23 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGI0046	09/02/23	09/05/23	EPA 7196A	

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

Date Sampled: **08/31/23 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	310	0.0531	mg/L dry	1	BGI0030	09/01/23	09/05/23	EPA 6020B	
Magnesium	43.4	0.0531	"	"	"	"	"	"	
Sodium	720	0.0531	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/31/23 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	10.1	0.00100	units	1	BGI0110	09/06/23	09/06/23	Calculation	

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

Summit Scientific

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**PWN01@1'**  
**2308703-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/31/23 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.2		%	1	BGI0022	09/01/23	09/01/23	Calculation	

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

Date Sampled: **08/31/23 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	5.12	0.0100	mmhos/cm	1	BGI0054	09/04/23	09/05/23	EPA 120.1	

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

Date Sampled: **08/31/23 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.29		pH Units	1	BGI0053	09/04/23	09/05/23	EPA 9045D	

Summit Scientific

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**PWW01@1'**  
**2308703-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/31/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGI0016	09/01/23	09/02/23	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: **08/31/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0389	97.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0407	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0365	91.3 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/31/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGI0019	09/01/23	09/01/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/31/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	14.6	116 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**PWW01@1'**  
**2308703-08 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **08/31/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGI0112	09/06/23	09/07/23	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: **08/31/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0186	55.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0235	70.4 %	40-150		"	"	"	"	

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

Date Sampled: **08/31/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.618</b>	0.0100	mg/L	1	BGI0059	09/05/23	09/06/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/31/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**PWW01@1'**  
**2308703-08 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.571	0.200	mg/kg dry	1	BGI0065	09/05/23	09/06/23	EPA 6020B	
Barium	110	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.08	0.400	"	"	"	"	"	"	
Lead	6.61	0.200	"	"	"	"	"	"	
Nickel	1.37	0.400	"	"	"	"	"	"	
Silver	0.0272	0.0200	"	"	"	"	"	"	
Zinc	4.53	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/31/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGI0046	09/02/23	09/05/23	EPA 7196A	

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

Date Sampled: **08/31/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	425	0.0549	mg/L dry	1	BGI0030	09/01/23	09/06/23	EPA 6020B	
Magnesium	120	0.0549	"	"	"	"	"	"	
Sodium	431	0.0549	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/31/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.76	0.00100	units	1	BGI0110	09/06/23	09/06/23	Calculation	

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

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**PWW01@1'**  
**2308703-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/31/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.1		%	1	BGI0022	09/01/23	09/01/23	Calculation	

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

Date Sampled: **08/31/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.93	0.0100	mmhos/cm	1	BGI0054	09/04/23	09/05/23	EPA 120.1	

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

Date Sampled: **08/31/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.35		pH Units	1	BGI0053	09/04/23	09/05/23	EPA 9045D	

Summit Scientific

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**PWE01@2'**  
**2308703-09 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/31/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGI0016	09/01/23	09/02/23	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: **08/31/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0337	84.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0420	105 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0381	95.2 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/31/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGI0019	09/01/23	09/01/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/31/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	15.2	121 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**PWE01@2'**  
**2308703-09 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **08/31/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGI0112	09/06/23	09/07/23	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: **08/31/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0197	59.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0192	57.5 %	40-150		"	"	"	"	

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

Date Sampled: **08/31/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.562</b>	0.0100	mg/L	1	BGI0059	09/05/23	09/06/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/31/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**PWE01@2'**  
**2308703-09 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.559	0.200	mg/kg dry	1	BGI0065	09/05/23	09/06/23	EPA 6020B	
Barium	140	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.05	0.400	"	"	"	"	"	"	
Lead	5.48	0.200	"	"	"	"	"	"	
Nickel	1.14	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.06	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/31/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGI0046	09/02/23	09/05/23	EPA 7196A	

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

Date Sampled: **08/31/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	479	0.0537	mg/L dry	1	BGI0030	09/01/23	09/06/23	EPA 6020B	
Magnesium	76.4	0.0537	"	"	"	"	"	"	
Sodium	275	0.0537	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/31/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.08	0.00100	units	1	BGI0110	09/06/23	09/06/23	Calculation	

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

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**PWE01@2'**  
**2308703-09 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/31/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.1		%	1	BGI0022	09/01/23	09/01/23	Calculation	

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

Date Sampled: **08/31/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.59	0.0100	mmhos/cm	1	BGI0054	09/04/23	09/05/23	EPA 120.1	

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

Date Sampled: **08/31/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.05		pH Units	1	BGI0053	09/04/23	09/05/23	EPA 9045D	

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**PWS01@3'**  
**2308703-10 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/31/23 12:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGI0016	09/01/23	09/02/23	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: **08/31/23 12:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0264	66.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0393	98.3 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0367	91.8 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/31/23 12:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGI0019	09/01/23	09/01/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **08/31/23 12:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	14.9	119 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**PWS01@3'**  
**2308703-10 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **08/31/23 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGI0112	09/06/23	09/07/23	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: **08/31/23 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0151	45.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0177	53.0 %	40-150		"	"	"	"	

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

Date Sampled: **08/31/23 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.240</b>	0.0100	mg/L	1	BGI0059	09/05/23	09/06/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/31/23 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**PWS01@3'**  
**2308703-10 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.582	0.200	mg/kg dry	1	BGI0065	09/05/23	09/06/23	EPA 6020B	
Barium	124	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.16	0.400	"	"	"	"	"	"	
Lead	6.53	0.200	"	"	"	"	"	"	
Nickel	1.28	0.400	"	"	"	"	"	"	
Silver	0.0229	0.0200	"	"	"	"	"	"	
Zinc	4.65	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/31/23 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGI0046	09/02/23	09/05/23	EPA 7196A	

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

Date Sampled: **08/31/23 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	876	0.0551	mg/L dry	1	BGI0030	09/01/23	09/06/23	EPA 6020B	
Magnesium	177	0.0551	"	"	"	"	"	"	
Sodium	258	0.0551	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/31/23 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.08	0.00100	units	1	BGI0110	09/06/23	09/06/23	Calculation	

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

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**PWS01@3'**  
**2308703-10 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/31/23 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.8		%	1	BGI0022	09/01/23	09/01/23	Calculation	

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

Date Sampled: **08/31/23 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	6.52	0.0100	mmhos/cm	1	BGI0054	09/04/23	09/05/23	EPA 120.1	

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

Date Sampled: **08/31/23 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.95		pH Units	1	BGI0053	09/04/23	09/05/23	EPA 9045D	

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**BKG03@2'**  
**2308703-11 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/31/23 13:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Boron</b>	<b>0.157</b>	0.0100	mg/L	1	BGI0059	09/05/23	09/06/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/31/23 13:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Arsenic</b>	<b>1.01</b>	0.200	mg/kg dry	1	BGI0065	09/05/23	09/06/23	EPA 6020B	
<b>Barium</b>	<b>187</b>	0.400	"	"	"	"	"	"	
<b>Cadmium</b>	<b>ND</b>	0.200	"	"	"	"	"	"	
<b>Copper</b>	<b>1.71</b>	0.400	"	"	"	"	"	"	
<b>Lead</b>	<b>5.48</b>	0.200	"	"	"	"	"	"	
<b>Nickel</b>	<b>1.83</b>	0.400	"	"	"	"	"	"	
<b>Silver</b>	<b>0.0400</b>	0.0200	"	"	"	"	"	"	
<b>Zinc</b>	<b>5.44</b>	0.400	"	"	"	"	"	"	
<b>Selenium</b>	<b>ND</b>	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/31/23 13:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Chromium, Hexavalent</b>	<b>ND</b>	0.30	mg/kg dry	1	BGI0046	09/02/23	09/05/23	EPA 7196A	

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

Date Sampled: **08/31/23 13:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Calcium</b>	<b>1140</b>	0.0618	mg/L dry	1	BGI0030	09/01/23	09/06/23	EPA 6020B	
<b>Magnesium</b>	<b>407</b>	0.0618	"	"	"	"	"	"	
<b>Sodium</b>	<b>431</b>	0.0618	"	"	"	"	"	"	

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**BKG03@2'**  
**2308703-11 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **08/31/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.79	0.00100	units	1	BGI0110	09/06/23	09/06/23	Calculation	

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

Date Sampled: **08/31/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	81.0		%	1	BGI0022	09/01/23	09/01/23	Calculation	

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

Date Sampled: **08/31/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	8.69	0.0100	mmhos/cm	1	BGI0054	09/04/23	09/05/23	EPA 120.1	

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

Date Sampled: **08/31/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.05		pH Units	1	BGI0053	09/04/23	09/05/23	EPA 9045D	

Summit Scientific

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

### 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 BGI0016 - EPA 5030 Soil MS

##### Blank (BGI0016-BLK1)

Prepared: 09/01/23 Analyzed: 09/02/23

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>	0.0292		"	0.0400		73.1	50-150			
<i>Surrogate: Toluene-d8</i>	0.0398		"	0.0400		99.4	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0360		"	0.0400		90.1	50-150			

##### LCS (BGI0016-BS1)

Prepared & Analyzed: 09/01/23

Benzene	0.154	0.0020	mg/kg	0.150		103	70-130			
Toluene	0.160	0.0050	"	0.150		107	70-130			
Ethylbenzene	0.180	0.0050	"	0.150		120	70-130			
m,p-Xylene	0.347	0.010	"	0.300		116	70-130			
o-Xylene	0.167	0.0050	"	0.150		111	70-130			
1,2,4-Trimethylbenzene	0.158	0.0050	"	0.150		105	70-130			
1,3,5-Trimethylbenzene	0.160	0.0050	"	0.150		107	70-130			
Naphthalene	0.127	0.0038	"	0.150		84.4	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0317		"	0.0400		79.3	50-150			
<i>Surrogate: Toluene-d8</i>	0.0402		"	0.0400		100	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0397		"	0.0400		99.2	50-150			

##### Matrix Spike (BGI0016-MS1)

Source: 2308683-01

Prepared: 09/01/23 Analyzed: 09/02/23

Benzene	0.152	0.0020	mg/kg	0.150	ND	102	70-130			
Toluene	0.164	0.0050	"	0.150	ND	110	70-130			
Ethylbenzene	0.180	0.0050	"	0.150	ND	120	70-130			
m,p-Xylene	0.331	0.010	"	0.300	ND	110	70-130			
o-Xylene	0.172	0.0050	"	0.150	ND	115	70-130			
1,2,4-Trimethylbenzene	0.163	0.0050	"	0.150	ND	109	70-130			
1,3,5-Trimethylbenzene	0.165	0.0050	"	0.150	ND	110	70-130			
Naphthalene	0.136	0.0038	"	0.150	ND	90.3	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0290		"	0.0400		72.4	50-150			
<i>Surrogate: Toluene-d8</i>	0.0392		"	0.0400		98.0	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0383		"	0.0400		95.8	50-150			

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**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		

**Batch BGI0016 - EPA 5030 Soil MS**

Matrix Spike Dup (BGI0016-MSD1)	Source: 2308683-01			Prepared: 09/01/23 Analyzed: 09/02/23						
Benzene	0.145	0.0020	mg/kg	0.150	ND	96.8	70-130	4.80	30	
Toluene	0.156	0.0050	"	0.150	ND	104	70-130	4.90	30	
Ethylbenzene	0.173	0.0050	"	0.150	ND	116	70-130	3.63	30	
m,p-Xylene	0.341	0.010	"	0.300	ND	114	70-130	3.11	30	
o-Xylene	0.170	0.0050	"	0.150	ND	114	70-130	1.10	30	
1,2,4-Trimethylbenzene	0.177	0.0050	"	0.150	ND	118	70-130	8.25	30	
1,3,5-Trimethylbenzene	0.150	0.0050	"	0.150	ND	100	70-130	9.33	30	
Naphthalene	0.139	0.0038	"	0.150	ND	92.6	70-130	2.47	30	
Surrogate: 1,2-Dichloroethane-d4	0.0288		"	0.0400		72.1	50-150			
Surrogate: Toluene-d8	0.0414		"	0.0400		104	50-150			
Surrogate: 4-Bromofluorobenzene	0.0364		"	0.0400		91.0	50-150			

Summit Scientific

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch BGI0019 - EPA 3550A**

**Blank (BGI0019-BLK1)**

Prepared & Analyzed: 09/01/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	15.8		"	12.5		126		30-150			

**LCS (BGI0019-BS1)**

Prepared & Analyzed: 09/01/23

C10-C28 (DRO)	487	50	mg/kg	500		97.5		70-130			
Surrogate: <i>o</i> -Terphenyl	15.9		"	12.5		127		30-150			

**Matrix Spike (BGI0019-MS1)**

Source: 2308683-01

Prepared & Analyzed: 09/01/23

C10-C28 (DRO)	467	50	mg/kg	500	40.0	85.3		70-130			
Surrogate: <i>o</i> -Terphenyl	15.7		"	12.5		126		30-150			

**Matrix Spike Dup (BGI0019-MSD1)**

Source: 2308683-01

Prepared & Analyzed: 09/01/23

C10-C28 (DRO)	472	50	mg/kg	500	40.0	86.5		70-130	1.24	20	
Surrogate: <i>o</i> -Terphenyl	16.0		"	12.5		128		30-150			

Summit Scientific

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

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

**Summit Scientific**

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

**Batch BGI0112 - EPA 5030 Soil MS**

**Blank (BGI0112-BLK1)**

Prepared & Analyzed: 09/06/23

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0274		"	0.0333		82.2	40-150			
<i>Surrogate: Fluoranthene-d10</i>	0.0318		"	0.0333		95.5	40-150			

**LCS (BGI0112-BS1)**

Prepared & Analyzed: 09/06/23

Acenaphthene	0.0309	0.00500	mg/kg	0.0333		92.7	31-137			
Anthracene	0.0298	0.00500	"	0.0333		89.3	30-120			
Benzo (a) anthracene	0.0292	0.00500	"	0.0333		87.5	30-120			
Benzo (a) pyrene	0.0294	0.00500	"	0.0333		88.1	30-120			
Benzo (b) fluoranthene	0.0300	0.00500	"	0.0333		90.1	30-120			
Benzo (k) fluoranthene	0.0317	0.00500	"	0.0333		95.0	30-120			
Chrysene	0.0319	0.00500	"	0.0333		95.6	30-120			
Dibenz (a,h) anthracene	0.0257	0.00500	"	0.0333		77.0	30-120			
Fluoranthene	0.0317	0.00500	"	0.0333		95.0	30-120			
Fluorene	0.0308	0.00500	"	0.0333		92.3	30-120			
Indeno (1,2,3-cd) pyrene	0.0321	0.00500	"	0.0333		96.4	30-120			
Pyrene	0.0333	0.00500	"	0.0333		99.9	35-142			
1-Methylnaphthalene	0.0250	0.00500	"	0.0333		75.0	35-142			
2-Methylnaphthalene	0.0367	0.00500	"	0.0333		110	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0282		"	0.0333		84.5	40-150			
<i>Surrogate: Fluoranthene-d10</i>	0.0314		"	0.0333		94.3	40-150			

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

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

**Summit Scientific**

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

**Batch BGI0112 - EPA 5030 Soil MS**

<b>Matrix Spike (BGI0112-MS1)</b>	<b>Source: 2308662-01</b>			<b>Prepared &amp; Analyzed: 09/06/23</b>						
Acenaphthene	0.0171	0.00500	mg/kg	0.0333	ND	51.3	31-137			
Anthracene	0.0176	0.00500	"	0.0333	ND	52.9	30-120			
Benzo (a) anthracene	0.0169	0.00500	"	0.0333	ND	50.7	30-120			
Benzo (a) pyrene	0.0145	0.00500	"	0.0333	ND	43.4	30-120			
Benzo (b) fluoranthene	0.0162	0.00500	"	0.0333	ND	48.5	30-120			
Benzo (k) fluoranthene	0.0151	0.00500	"	0.0333	ND	45.3	30-120			
Chrysene	0.0183	0.00500	"	0.0333	ND	55.0	30-120			
Dibenz (a,h) anthracene	0.0137	0.00500	"	0.0333	ND	41.2	30-120			
Fluoranthene	0.0205	0.00500	"	0.0333	ND	61.5	30-120			
Fluorene	0.0177	0.00500	"	0.0333	ND	53.2	30-120			
Indeno (1,2,3-cd) pyrene	0.0153	0.00500	"	0.0333	ND	45.8	30-120			
Pyrene	0.0221	0.00500	"	0.0333	ND	66.4	35-142			
1-Methylnaphthalene	0.0147	0.00500	"	0.0333	ND	44.0	15-130			
2-Methylnaphthalene	0.0188	0.00500	"	0.0333	ND	56.3	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0158</i>		<i>"</i>	<i>0.0333</i>		<i>47.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0176</i>		<i>"</i>	<i>0.0333</i>		<i>52.9</i>	<i>40-150</i>			

<b>Matrix Spike Dup (BGI0112-MSD1)</b>	<b>Source: 2308662-01</b>			<b>Prepared &amp; Analyzed: 09/06/23</b>						
Acenaphthene	0.0162	0.00500	mg/kg	0.0333	ND	48.7	31-137	5.20	30	
Anthracene	0.0164	0.00500	"	0.0333	ND	49.3	30-120	7.00	30	
Benzo (a) anthracene	0.0171	0.00500	"	0.0333	ND	51.3	30-120	1.22	30	
Benzo (a) pyrene	0.0171	0.00500	"	0.0333	ND	51.2	30-120	16.5	30	
Benzo (b) fluoranthene	0.0168	0.00500	"	0.0333	ND	50.5	30-120	3.88	30	
Benzo (k) fluoranthene	0.0161	0.00500	"	0.0333	ND	48.4	30-120	6.58	30	
Chrysene	0.0179	0.00500	"	0.0333	ND	53.7	30-120	2.41	30	
Dibenz (a,h) anthracene	0.0113	0.00500	"	0.0333	ND	34.0	30-120	19.1	30	
Fluoranthene	0.0188	0.00500	"	0.0333	ND	56.4	30-120	8.63	30	
Fluorene	0.0182	0.00500	"	0.0333	ND	54.7	30-120	2.72	30	
Indeno (1,2,3-cd) pyrene	0.0167	0.00500	"	0.0333	ND	50.0	30-120	8.69	30	
Pyrene	0.0203	0.00500	"	0.0333	ND	60.9	35-142	8.68	30	
1-Methylnaphthalene	0.0153	0.00500	"	0.0333	ND	45.8	15-130	3.81	50	
2-Methylnaphthalene	0.0220	0.00500	"	0.0333	ND	66.1	15-130	16.0	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0154</i>		<i>"</i>	<i>0.0333</i>		<i>46.3</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0173</i>		<i>"</i>	<i>0.0333</i>		<i>51.8</i>	<i>40-150</i>			

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

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

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

**Batch BGI0059 - EPA 3050B**

**Blank (BGI0059-BLK1)**

Prepared: 09/05/23 Analyzed: 09/06/23

Boron ND 0.0100 mg/L

**LCS (BGI0059-BS1)**

Prepared: 09/05/23 Analyzed: 09/06/23

Boron 5.52 0.0100 mg/L 5.00 110 80-120

**Duplicate (BGI0059-DUP1)**

**Source: 2308703-01**

Prepared: 09/05/23 Analyzed: 09/06/23

Boron 0.0931 0.0100 mg/L 0.189 68.0 20 QR-01

**Matrix Spike (BGI0059-MS1)**

**Source: 2308703-01**

Prepared: 09/05/23 Analyzed: 09/06/23

Boron 5.86 0.0100 mg/L 5.00 0.189 114 75-125

**Matrix Spike Dup (BGI0059-MSD1)**

**Source: 2308703-01**

Prepared: 09/05/23 Analyzed: 09/06/23

Boron 6.20 0.0100 mg/L 5.00 0.189 120 75-125 5.63 25

Summit Scientific

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BGI0065 - EPA 3050B**

**Blank (BGI0065-BLK1)**

Prepared: 09/05/23 Analyzed: 09/06/23

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 (BGI0065-BS1)**

Prepared: 09/05/23 Analyzed: 09/06/23

Arsenic	40.1	0.200	mg/kg wet	40.0	100	80-120				
Barium	39.8	0.400	"	40.0	99.6	80-120				
Cadmium	1.99	0.200	"	2.00	99.6	80-120				
Copper	39.7	0.400	"	40.0	99.3	80-120				
Lead	20.1	0.200	"	20.0	100	80-120				
Nickel	39.2	0.400	"	40.0	98.0	80-120				
Silver	1.99	0.0200	"	2.00	99.3	80-120				
Zinc	39.0	0.400	"	40.0	97.5	80-120				

**Duplicate (BGI0065-DUP1)**

Source: 2308703-01

Prepared: 09/05/23 Analyzed: 09/06/23

Arsenic	0.890	0.200	mg/kg dry	0.910			2.29	20		
Barium	200	0.400	"	299			39.6	20		QR-04
Cadmium	0.121	0.200	"	0.158			26.3	20		QR-01
Copper	1.09	0.400	"	1.12			2.95	20		
Lead	6.12	0.200	"	7.10			14.8	20		
Nickel	1.39	0.400	"	1.43			3.06	20		
Silver	0.0220	0.0200	"	0.0289			27.0	20		QR-01
Zinc	4.56	0.400	"	4.68			2.57	20		
Selenium	ND	0.260	"	ND				200		

Summit Scientific

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BGI0065 - EPA 3050B**

**Matrix Spike (BGI0065-MS1)**

Source: 2308703-01

Prepared: 09/05/23 Analyzed: 09/08/23

Arsenic	17.6	0.200	mg/kg dry	45.8	0.910	36.4	75-125				QM-01
Barium	241	0.400	"	45.8	299	NR	75-125				QM-01
Cadmium	2.75	0.200	"	2.29	0.158	113	75-125				
Copper	16.1	0.400	"	45.8	1.12	32.7	75-125				QM-01
Lead	33.2	0.200	"	22.9	7.10	114	75-125				
Nickel	18.1	0.400	"	45.8	1.43	36.4	75-125				QM-01
Silver	2.63	0.0200	"	2.29	0.0289	114	75-125				
Zinc	21.6	0.400	"	45.8	4.68	36.9	75-125				QM-01

**Matrix Spike Dup (BGI0065-MSD1)**

Source: 2308703-01

Prepared: 09/05/23 Analyzed: 09/08/23

Arsenic	15.2	0.200	mg/kg dry	45.8	0.910	31.1	75-125	14.9	25		QM-01
Barium	269	0.400	"	45.8	299	NR	75-125	11.1	25		QM-01
Cadmium	2.47	0.200	"	2.29	0.158	101	75-125	10.5	25		
Copper	13.9	0.400	"	45.8	1.12	27.9	75-125	14.6	25		QM-01
Lead	27.7	0.200	"	22.9	7.10	89.9	75-125	18.2	25		
Nickel	15.7	0.400	"	45.8	1.43	31.0	75-125	14.5	25		QM-01
Silver	2.34	0.0200	"	2.29	0.0289	101	75-125	11.8	25		
Zinc	19.7	0.400	"	45.8	4.68	32.8	75-125	9.13	25		QM-01

Summit Scientific

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

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

**Batch BGI0046 - 3060A Mod**

**Blank (BGI0046-BLK1)**

Prepared: 09/02/23 Analyzed: 09/05/23

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BGI0046-BS1)**

Prepared: 09/02/23 Analyzed: 09/05/23

Chromium, Hexavalent 25.8 0.30 mg/kg wet 25.0 103 80-120

**Duplicate (BGI0046-DUP1)**

**Source: 2308703-01**

Prepared: 09/02/23 Analyzed: 09/05/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BGI0046-MS1)**

**Source: 2308703-01**

Prepared: 09/02/23 Analyzed: 09/05/23

Chromium, Hexavalent 29.5 0.30 mg/kg dry 28.7 ND 103 75-125

**Matrix Spike Dup (BGI0046-MSD1)**

**Source: 2308703-01**

Prepared: 09/02/23 Analyzed: 09/05/23

Chromium, Hexavalent 29.1 0.30 mg/kg dry 28.7 ND 102 75-125 1.37 20

Summit Scientific

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

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

**Summit Scientific**

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

**Batch BGI0030 - General Preparation**

**Blank (BGI0030-BLK1)**

Prepared: 09/01/23 Analyzed: 09/05/23

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

**LCS (BGI0030-BS1)**

Prepared: 09/01/23 Analyzed: 09/05/23

Calcium	5.34	0.0500	mg/L wet	5.00		107	70-130			
Magnesium	5.00	0.0500	"	5.00		100	70-130			
Sodium	5.20	0.0500	"	5.00		104	70-130			

Summit Scientific

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CGRS Inc.  
 1301 Academy Ct.  
 Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
 Project Manager: Brian Humphrey

**Reported:**  
 09/11/23 09:01

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

**Summit Scientific**

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

**Batch BGI0022 - General Preparation**

**Duplicate (BGI0022-DUP1)**

**Source: 2308698-01**

Prepared & Analyzed: 09/01/23

% Solids	79.2		%		78.4			1.04	20	
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Summit Scientific



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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

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

**Summit Scientific**

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

**Batch BGI0054 - General Preparation**

**Blank (BGI0054-BLK1)**

Prepared: 09/04/23 Analyzed: 09/05/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGI0054-BS1)**

Prepared: 09/04/23 Analyzed: 09/05/23

Specific Conductance (EC) 0.145 0.0100 mmhos/cm 0.150 96.7 95-105

**Duplicate (BGI0054-DUP1)**

Source: 2308703-01

Prepared: 09/04/23 Analyzed: 09/05/23

Specific Conductance (EC) 0.403 0.0100 mmhos/cm 0.416 3.30 20

Summit Scientific

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CGRS Inc.  
 1301 Academy Ct.  
 Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
 Project Manager: Brian Humphrey

**Reported:**  
 09/11/23 09:01

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

**Summit Scientific**

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

**Batch BGI0053 - General Preparation**

**LCS (BGI0053-BS1)**

Prepared: 09/04/23 Analyzed: 09/05/23

pH	9.08		pH Units	9.18		98.9	95-105			
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**Duplicate (BGI0053-DUP1)**

Source: 2308703-01

Prepared: 09/04/23 Analyzed: 09/05/23

pH	8.12		pH Units	8.08		0.494	20			
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Summit Scientific

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CGRS Inc.  
1301 Academy Ct.  
Fort Collins CO, 80524

Project: Chaco Energy - Kindt

Project Number: [none]  
Project Manager: Brian Humphrey

**Reported:**  
09/11/23 09:01

### Notes and Definitions

- 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-01 The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
- 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