

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

August 09, 2021

Max Knop

K.P. Kauffman

1675 Broadway

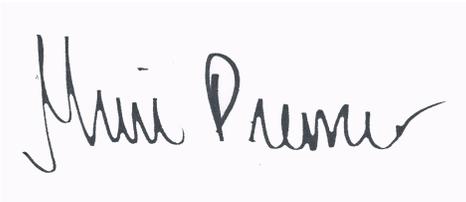
Denver, CO 80202

RE: UPPR 43 Pan Am G Consolidation #2

Work Order #2107352

Enclosed are the results of analyses for samples received by Summit Scientific on 07/23/21 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Muri Premer". The signature is written in a cursive style with a large, stylized 'M' and 'P'.

Muri Premer For Paul Shrewsbury  
President



K.P. Kauffman  
1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
East South	2107352-01	Soil	07/23/21 08:30	07/23/21 16:30
East North	2107352-02	Soil	07/23/21 08:35	07/23/21 16:30
North	2107352-03	Soil	07/23/21 08:40	07/23/21 16:30
West North	2107352-04	Soil	07/23/21 08:50	07/23/21 16:30
West South	2107352-05	Soil	07/23/21 09:00	07/23/21 16:30
Floor	2107352-06	Soil	07/23/21 09:05	07/23/21 16:30

Summit Scientific

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# Summit Scientific

S<sub>2</sub>

2107352

4653 Table Mountain Drive ♦ Golden, Colorado 80403  
303-277-9310 ♦ 303-374-5933 (f)

Page ( of )

Client: RPK Project Manager: Max Knapp  
Address: \_\_\_\_\_ E-Mail: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Project Name: \_\_\_\_\_  
Sampler Name: JR Project Number: UPPR 43 PAN AM G Consol. #2

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions	
					HCl	HNO <sub>3</sub>	None	Other	Water	Soil	Air-Canister #	Other	915 Suite							
1	East South	7/23/21	8:30	3			X							X						
2	East North		8:35	3			X							X						
3	North		8:40	3			X							X						
4	West North		8:50	3			X							X						
5	West South		9:00	3			X							X						
6	Floor		9:05	3										X						
7																				
8																				
9																				
10																				

Relinquished by: <u>[Signature]</u> Date/Time: _____	Received by: <u>[Signature]</u> Date/Time: <u>7/23/21 1630</u>	<b>Turn Around Time</b> (Check) Same Day _____ 72 hours _____ 24 hours _____ Standard _____ 48 hours _____ <b>Sample Integrity:</b> Temperature Upon Receipt: <u>6</u> Samples Intact: <u>Yes</u> No	<b>Notes:</b>
Relinquished by: _____ Date/Time: _____	Received by: _____ Date/Time: _____		
Relinquished by: _____ Date/Time: _____	Received by: _____ Date/Time: _____		

**Sample Receipt Checklist**

S2 Work Order 2107357

Client: K.P. Kauffman Client Project ID: UPPR 43 Pan Am G Consol. #2

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

Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_  
 (Describe)

Temp (°C)	<u>6</u>
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Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	✓			<u>On ice.</u>
Were all samples received intact <sup>(1)</sup> ?	✓			
Was adequate sample volume provided <sup>(1)</sup> ?	✓			
If custody seals are present, are they intact <sup>(1)</sup> ?			✓	
Are samples with holding times due within 48 hours sample due within 48 hours present?			✓	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	✓			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	✓			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	✓			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	✓			
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>			✓	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect			✓	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	

Additional Comments (if any):

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

JB  
Custodian Printed Name or Initials

*Josh B...*  
Signature of Custodian

7/23/21  
Date/Time



K.P. Kauffman  
1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**East South**  
**2107352-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/23/21 08:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BEG0454	07/26/21	07/27/21	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: **07/23/21 08:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		82.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		127 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		131 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/23/21 08:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BEG0455	07/26/21	07/27/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/23/21 08:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		88.0 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

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08/09/21 10:39

**East South**  
**2107352-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/23/21 08:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEG0434	07/26/21	07/27/21	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: **07/23/21 08:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		59.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		70.7 %	40-150		"	"	"	"	

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

Date Sampled: **07/23/21 08:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.323</b>	0.0100	mg/L	1	BEG0467	07/27/21	07/28/21	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/23/21 08:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman  
1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**East South  
2107352-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.48	0.220	mg/kg dry	1	BEG0457	07/26/21	07/28/21	EPA 6020B	
Barium	147	0.440	"	"	"	"	"	"	
Cadmium	0.268	0.220	"	"	"	"	"	"	
Copper	14.6	0.440	"	"	"	"	"	"	
Lead	10.5	0.220	"	"	"	"	"	"	
Nickel	13.6	0.440	"	"	"	"	"	"	
Selenium	1.20	0.286	"	"	"	"	"	"	
Silver	0.0620	0.0220	"	"	"	"	"	"	
Zinc	47.5	0.440	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 07/23/21 08:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEG0531	07/29/21	07/30/21	EPA 7196A	

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

Date Sampled: 07/23/21 08:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	208	0.0551	mg/L dry	1	BEG0469	07/27/21	07/29/21	EPA 6020B	
Magnesium	135	0.0551	"	"	"	"	"	"	
Sodium	570	0.0551	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 07/23/21 08:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	7.56	0.00100	units	1	BEG0539	07/29/21	07/29/21	Calculation	

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

Date Sampled: 07/23/21 08:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

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08/09/21 10:39

**East South  
2107352-01 (Soil)**

**Summit Scientific**

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

% Solids	90.8	%	1	BEG0466	07/27/21	07/28/21	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **07/23/21 08:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.59	0.0100	mmhos/cm	1	BEG0500	07/28/21	07/28/21	EPA 120.1	

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

Date Sampled: **07/23/21 08:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.88		pH Units	1	BEG0499	07/28/21	07/28/21	EPA 9045D	

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Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**East North**  
**2107352-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/23/21 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEG0454	07/26/21	07/27/21	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: **07/23/21 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		91.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		131 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		131 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/23/21 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEG0455	07/26/21	07/27/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/23/21 08:35**

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

**PAH by EPA Method 8270D SIM**

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Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**East North**  
**2107352-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/23/21 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEG0434	07/26/21	08/06/21	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: **07/23/21 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		45.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		47.9 %	40-150		"	"	"	"	

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

Date Sampled: **07/23/21 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.413</b>	0.0100	mg/L	1	BEG0467	07/27/21	07/28/21	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/23/21 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**East North**  
**2107352-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.71	0.232	mg/kg dry	1	BEG0457	07/26/21	07/28/21	EPA 6020B	
Barium	139	0.464	"	"	"	"	"	"	
Cadmium	ND	0.232	"	"	"	"	"	"	
Copper	11.2	0.464	"	"	"	"	"	"	
Lead	9.16	0.232	"	"	"	"	"	"	
Nickel	11.0	0.464	"	"	"	"	"	"	
Selenium	1.06	0.302	"	"	"	"	"	"	
Silver	0.0739	0.0232	"	"	"	"	"	"	
Zinc	39.0	0.464	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **07/23/21 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEG0531	07/29/21	07/30/21	EPA 7196A	

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

Date Sampled: **07/23/21 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	283	0.0580	mg/L dry	1	BEG0469	07/27/21	07/29/21	EPA 6020B	
Magnesium	59.6	0.0580	"	"	"	"	"	"	
Sodium	368	0.0580	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **07/23/21 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.19	0.00100	units	1	BEG0539	07/29/21	07/29/21	Calculation	

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

Date Sampled: **07/23/21 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 1675 Broadway  
 Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
 Project Manager: Max Knop

**Reported:**  
 08/09/21 10:39

**East North**  
**2107352-02 (Soil)**

**Summit Scientific**

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

<b>% Solids</b>	<b>86.2</b>	%	1	BEG0466	07/27/21	07/28/21	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **07/23/21 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>3.31</b>	0.0100	mmhos/cm	1	BEG0500	07/28/21	07/28/21	EPA 120.1	

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

Date Sampled: **07/23/21 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>7.91</b>		pH Units	1	BEG0499	07/28/21	07/28/21	EPA 9045D	

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1675 Broadway  
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Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**North**  
**2107352-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/23/21 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEG0454	07/26/21	07/27/21	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: **07/23/21 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		88.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		130 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		130 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/23/21 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEG0455	07/26/21	07/27/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/23/21 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		89.8 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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K.P. Kauffman  
1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**North**  
**2107352-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/23/21 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEG0434	07/26/21	08/06/21	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: **07/23/21 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		37.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		48.2 %	40-150		"	"	"	"	

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

Date Sampled: **07/23/21 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.397</b>	0.0100	mg/L	1	BEG0467	07/27/21	07/28/21	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/23/21 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman  
1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**North**  
**2107352-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.44	0.241	mg/kg dry	1	BEG0457	07/26/21	07/28/21	EPA 6020B	
Barium	137	0.482	"	"	"	"	"	"	
Cadmium	0.256	0.241	"	"	"	"	"	"	
Copper	13.2	0.482	"	"	"	"	"	"	
Lead	10.4	0.241	"	"	"	"	"	"	
Nickel	12.5	0.482	"	"	"	"	"	"	
Selenium	1.23	0.313	"	"	"	"	"	"	
Silver	0.0605	0.0241	"	"	"	"	"	"	
Zinc	44.5	0.482	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **07/23/21 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEG0531	07/29/21	07/30/21	EPA 7196A	

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

Date Sampled: **07/23/21 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	179	0.0602	mg/L dry	1	BEG0469	07/27/21	07/29/21	EPA 6020B	
Magnesium	48.2	0.0602	"	"	"	"	"	"	
Sodium	497	0.0602	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **07/23/21 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	8.51	0.00100	units	1	BEG0539	07/29/21	07/29/21	Calculation	

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

Date Sampled: **07/23/21 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman  
1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**North**  
**2107352-03 (Soil)**

**Summit Scientific**

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

<b>% Solids</b>	<b>83.1</b>	%	1	BEG0466	07/27/21	07/28/21	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **07/23/21 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>2.81</b>	0.0100	mmhos/cm	1	BEG0500	07/28/21	07/28/21	EPA 120.1	

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

Date Sampled: **07/23/21 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>7.99</b>		pH Units	1	BEG0499	07/28/21	07/28/21	EPA 9045D	

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K.P. Kauffman  
1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**West North  
2107352-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/23/21 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEG0454	07/26/21	07/27/21	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: **07/23/21 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		89.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		129 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		131 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/23/21 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEG0455	07/26/21	07/27/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/23/21 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		87.5 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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K.P. Kauffman  
1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**West North**  
**2107352-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/23/21 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEG0434	07/26/21	08/06/21	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: **07/23/21 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		54.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		94.9 %	40-150		"	"	"	"	

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

Date Sampled: **07/23/21 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.528</b>	0.0100	mg/L	1	BEG0467	07/27/21	07/28/21	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/23/21 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman  
1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**West North  
2107352-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.74	0.247	mg/kg dry	1	BEG0457	07/26/21	07/28/21	EPA 6020B	
Barium	143	0.494	"	"	"	"	"	"	
Cadmium	0.264	0.247	"	"	"	"	"	"	
Copper	15.2	0.494	"	"	"	"	"	"	
Lead	10.9	0.247	"	"	"	"	"	"	
Nickel	14.7	0.494	"	"	"	"	"	"	
Selenium	1.26	0.321	"	"	"	"	"	"	
Silver	0.0593	0.0247	"	"	"	"	"	"	
Zinc	52.4	0.494	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 07/23/21 08:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEG0531	07/29/21	07/30/21	EPA 7196A	

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

Date Sampled: 07/23/21 08:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	196	0.0618	mg/L dry	1	BEG0469	07/27/21	07/29/21	EPA 6020B	
Magnesium	58.3	0.0618	"	"	"	"	"	"	
Sodium	427	0.0618	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 07/23/21 08:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.88	0.00100	units	1	BEG0539	07/29/21	07/29/21	Calculation	

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

Date Sampled: 07/23/21 08:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman  
 1675 Broadway  
 Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
 Project Manager: Max Knop

**Reported:**  
 08/09/21 10:39

**West North  
 2107352-04 (Soil)**

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

<b>% Solids</b>	<b>80.9</b>	%	1	BEG0466	07/27/21	07/28/21	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **07/23/21 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>2.70</b>	0.0100	mmhos/cm	1	BEG0500	07/28/21	07/28/21	EPA 120.1	

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

Date Sampled: **07/23/21 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>7.97</b>		pH Units	1	BEG0499	07/28/21	07/28/21	EPA 9045D	

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1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**West South  
2107352-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/23/21 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEG0454	07/26/21	07/27/21	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: **07/23/21 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		88.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		127 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		129 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/23/21 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEG0455	07/26/21	07/27/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/23/21 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		93.5 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**West South**  
**2107352-05 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/23/21 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEG0434	07/26/21	08/06/21	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: **07/23/21 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		88.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		42.8 %	40-150		"	"	"	"	

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

Date Sampled: **07/23/21 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.550</b>	0.0100	mg/L	1	BEG0467	07/27/21	07/28/21	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/23/21 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman  
1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**West South  
2107352-05 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.23	0.249	mg/kg dry	1	BEG0457	07/26/21	07/28/21	EPA 6020B	
Barium	134	0.499	"	"	"	"	"	"	
Cadmium	0.329	0.249	"	"	"	"	"	"	
Copper	14.4	0.499	"	"	"	"	"	"	
Lead	12.4	0.249	"	"	"	"	"	"	
Nickel	13.7	0.499	"	"	"	"	"	"	
Selenium	1.29	0.324	"	"	"	"	"	"	
Silver	0.0762	0.0249	"	"	"	"	"	"	
Zinc	52.1	0.499	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 07/23/21 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEG0531	07/29/21	07/30/21	EPA 7196A	

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

Date Sampled: 07/23/21 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	52.5	0.0623	mg/L dry	1	BEG0469	07/27/21	07/29/21	EPA 6020B	
Magnesium	22.4	0.0623	"	"	"	"	"	"	
Sodium	191	0.0623	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 07/23/21 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.56	0.00100	units	1	BEG0539	07/29/21	07/29/21	Calculation	

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

Date Sampled: 07/23/21 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman  
1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**West South  
2107352-05 (Soil)**

**Summit Scientific**

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

% Solids	80.2	%	1	BEG0466	07/27/21	07/28/21	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **07/23/21 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.38	0.0100	mmhos/cm	1	BEG0500	07/28/21	07/28/21	EPA 120.1	

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

Date Sampled: **07/23/21 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.13		pH Units	1	BEG0499	07/28/21	07/28/21	EPA 9045D	

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K.P. Kauffman  
1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**Floor**  
**2107352-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/23/21 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEG0454	07/26/21	07/27/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	07/27/21	"	
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	"	"	"	"	07/27/21	"	

Date Sampled: **07/23/21 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		86.6 %	23-173		"	"	07/27/21	"	
Surrogate: Toluene-d8		127 %	20-170		"	"	07/27/21	"	
Surrogate: 4-Bromofluorobenzene		129 %	21-167		"	"	07/27/21	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/23/21 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEG0455	07/26/21	07/27/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/23/21 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		86.0 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**Floor**  
**2107352-06 (Soil)**

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**PAH by EPA Method 8270D SIM**

Date Sampled: **07/23/21 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEG0434	07/26/21	08/06/21	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: **07/23/21 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		54.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		67.3 %	40-150		"	"	"	"	

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

Date Sampled: **07/23/21 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.541</b>	0.0100	mg/L	1	BEG0467	07/27/21	07/28/21	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/23/21 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman  
1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**Floor**  
**2107352-06 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.43	0.266	mg/kg dry	1	BEG0457	07/26/21	07/28/21	EPA 6020B	
Barium	146	0.531	"	"	"	"	"	"	
Cadmium	ND	0.266	"	"	"	"	"	"	
Copper	12.7	0.531	"	"	"	"	"	"	
Lead	9.49	0.266	"	"	"	"	"	"	
Nickel	12.2	0.531	"	"	"	"	"	"	
Selenium	1.27	0.345	"	"	"	"	"	"	
Silver	0.0510	0.0266	"	"	"	"	"	"	
Zinc	44.0	0.531	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **07/23/21 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEG0531	07/29/21	07/30/21	EPA 7196A	

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

Date Sampled: **07/23/21 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	237	0.0664	mg/L dry	1	BEG0469	07/27/21	07/29/21	EPA 6020B	
Magnesium	118	0.0664	"	"	"	"	"	"	
Sodium	903	0.0664	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **07/23/21 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	12.0	0.00100	units	1	BEG0539	07/29/21	07/29/21	Calculation	

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

Date Sampled: **07/23/21 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman  
 1675 Broadway  
 Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
 Project Manager: Max Knop

**Reported:**  
 08/09/21 10:39

**Floor**  
**2107352-06 (Soil)**

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

<b>% Solids</b>	<b>75.3</b>	%	1	BEG0466	07/27/21	07/28/21	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **07/23/21 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>4.50</b>	0.0100	mmhos/cm	1	BEG0500	07/28/21	07/28/21	EPA 120.1	

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

Date Sampled: **07/23/21 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>8.18</b>		pH Units	1	BEG0499	07/28/21	07/28/21	EPA 9045D	

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K.P. Kauffman  
1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**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 BEG0454 - EPA 5030 Soil MS**

**Blank (BEG0454-BLK1)**

Prepared & Analyzed: 07/26/21

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>	<i>0.0341</i>		<i>"</i>	<i>0.0400</i>		<i>85.2</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0497</i>		<i>"</i>	<i>0.0400</i>		<i>124</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0504</i>		<i>"</i>	<i>0.0400</i>		<i>126</i>	<i>21-167</i>			

**LCS (BEG0454-BS1)**

Prepared & Analyzed: 07/26/21

Benzene	0.0961	0.0020	mg/kg	0.100		96.1	70-130			
Toluene	0.101	0.0050	"	0.100		101	70-130			
Ethylbenzene	0.0944	0.0050	"	0.100		94.4	70-130			
m,p-Xylene	0.184	0.010	"	0.200		92.0	70-130			
o-Xylene	0.0923	0.0050	"	0.100		92.3	70-130			
1,2,4-Trimethylbenzene	0.100	0.0050	"	0.100		100	70-130			
1,3,5-Trimethylbenzene	0.0996	0.0050	"	0.100		99.6	70-130			
Naphthalene	0.0835	0.0038	"	0.100		83.5	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0334</i>		<i>"</i>	<i>0.0400</i>		<i>83.6</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0496</i>		<i>"</i>	<i>0.0400</i>		<i>124</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0496</i>		<i>"</i>	<i>0.0400</i>		<i>124</i>	<i>21-167</i>			

**Matrix Spike (BEG0454-MS1)**

Source: 2107333-01

Prepared & Analyzed: 07/26/21

Benzene	0.0917	0.0020	mg/kg	0.100	0.00435	87.3	70-130			
Toluene	0.0940	0.0050	"	0.100	0.00489	89.1	70-130			
Ethylbenzene	0.0921	0.0050	"	0.100	ND	92.1	70-130			
m,p-Xylene	0.180	0.010	"	0.200	0.00315	88.6	70-130			
o-Xylene	0.0894	0.0050	"	0.100	ND	89.4	70-130			
1,2,4-Trimethylbenzene	0.0954	0.0050	"	0.100	ND	95.4	70-130			
1,3,5-Trimethylbenzene	0.0954	0.0050	"	0.100	ND	95.4	70-130			
Naphthalene	0.0855	0.0038	"	0.100	0.00309	82.4	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0331</i>		<i>"</i>	<i>0.0400</i>		<i>82.7</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0488</i>		<i>"</i>	<i>0.0400</i>		<i>122</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0496</i>		<i>"</i>	<i>0.0400</i>		<i>124</i>	<i>21-167</i>			

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K.P. Kauffman  
1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**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 BEG0454 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (BEG0454-MSD1)</b>	<b>Source: 2107333-01</b>			<b>Prepared &amp; Analyzed: 07/26/21</b>						
Benzene	0.0916	0.0020	mg/kg	0.100	0.00435	87.2	70-130	0.0982	30	
Toluene	0.0952	0.0050	"	0.100	0.00489	90.3	70-130	1.27	30	
Ethylbenzene	0.0909	0.0050	"	0.100	ND	90.9	70-130	1.31	30	
m,p-Xylene	0.176	0.010	"	0.200	0.00315	86.2	70-130	2.63	30	
o-Xylene	0.0884	0.0050	"	0.100	ND	88.4	70-130	1.15	30	
1,2,4-Trimethylbenzene	0.0939	0.0050	"	0.100	ND	93.9	70-130	1.55	30	
1,3,5-Trimethylbenzene	0.0940	0.0050	"	0.100	ND	94.0	70-130	1.49	30	
Naphthalene	0.0806	0.0038	"	0.100	0.00309	77.5	70-130	5.89	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0358</i>		<i>"</i>	<i>0.0400</i>		<i>89.6</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0508</i>		<i>"</i>	<i>0.0400</i>		<i>127</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0506</i>		<i>"</i>	<i>0.0400</i>		<i>126</i>	<i>21-167</i>			

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K.P. Kauffman  
1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**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 BEG0455 - EPA 3550A**

**Blank (BEG0455-BLK1)**

Prepared & Analyzed: 07/26/21

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								

**LCS (BEG0455-BS1)**

Prepared & Analyzed: 07/26/21

C10-C28 (DRO)	462	50	mg/kg	500	92.4	70-130					
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**Matrix Spike (BEG0455-MS1)**

Source: 2107333-01

Prepared: 07/26/21 Analyzed: 07/27/21

C10-C28 (DRO)	753	50	mg/kg	500	1050	NR	70-130				QM-07
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**Matrix Spike Dup (BEG0455-MSD1)**

Source: 2107333-01

Prepared: 07/26/21 Analyzed: 07/27/21

C10-C28 (DRO)	1030	50	mg/kg	500	1050	NR	70-130	31.5	20		QM-07
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K.P. Kauffman  
1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**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 BEG0434 - EPA 5030 Soil MS**

**Blank (BEG0434-BLK1)**

Prepared: 07/26/21 Analyzed: 07/27/21

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0190		"	0.0333		57.0	40-150			
Surrogate: Fluoranthene-d10	0.0235		"	0.0333		70.6	40-150			

**LCS (BEG0434-BS1)**

Prepared: 07/26/21 Analyzed: 07/27/21

Acenaphthene	0.0287	0.00500	mg/kg	0.0333		86.2	31-137			
Anthracene	0.0287	0.00500	"	0.0333		86.0	30-120			
Benzo (a) anthracene	0.0289	0.00500	"	0.0333		86.6	30-120			
Benzo (a) pyrene	0.0292	0.00500	"	0.0333		87.5	30-120			
Benzo (b) fluoranthene	0.0296	0.00500	"	0.0333		88.7	30-120			
Benzo (k) fluoranthene	0.0273	0.00500	"	0.0333		81.9	30-120			
Chrysene	0.0287	0.00500	"	0.0333		86.1	30-120			
Dibenz (a,h) anthracene	0.0270	0.00500	"	0.0333		80.9	30-120			
Fluoranthene	0.0284	0.00500	"	0.0333		85.3	30-120			
Fluorene	0.0302	0.00500	"	0.0333		90.7	30-120			
Indeno (1,2,3-cd) pyrene	0.0259	0.00500	"	0.0333		77.8	30-120			
Pyrene	0.0254	0.00500	"	0.0333		76.2	35-142			
1-Methylnaphthalene	0.0313	0.00500	"	0.0333		93.9	35-142			
2-Methylnaphthalene	0.0276	0.00500	"	0.0333		82.9	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0278		"	0.0333		83.3	40-150			
Surrogate: Fluoranthene-d10	0.0307		"	0.0333		92.0	40-150			

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K.P. Kauffman  
1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**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 BEG0434 - EPA 5030 Soil MS**

<b>Matrix Spike (BEG0434-MS1)</b>	<b>Source: 2106415-02</b>			Prepared: 07/26/21 Analyzed: 07/27/21					
Acenaphthene	0.0268	0.00500	mg/kg	0.0333	ND	80.3	31-137		
Anthracene	0.0274	0.00500	"	0.0333	ND	82.1	30-120		
Benzo (a) anthracene	0.0287	0.00500	"	0.0333	ND	86.2	30-120		
Benzo (a) pyrene	0.0284	0.00500	"	0.0333	ND	85.1	30-120		
Benzo (b) fluoranthene	0.0285	0.00500	"	0.0333	ND	85.4	30-120		
Benzo (k) fluoranthene	0.0260	0.00500	"	0.0333	ND	77.9	30-120		
Chrysene	0.0286	0.00500	"	0.0333	ND	85.7	30-120		
Dibenz (a,h) anthracene	0.0260	0.00500	"	0.0333	ND	78.1	30-120		
Fluoranthene	0.0266	0.00500	"	0.0333	ND	79.7	30-120		
Fluorene	0.0280	0.00500	"	0.0333	ND	84.0	30-120		
Indeno (1,2,3-cd) pyrene	0.0249	0.00500	"	0.0333	ND	74.8	30-120		
Pyrene	0.0258	0.00500	"	0.0333	ND	77.4	35-142		
1-Methylnaphthalene	0.0283	0.00500	"	0.0333	ND	84.9	15-130		
2-Methylnaphthalene	0.0266	0.00500	"	0.0333	ND	79.9	15-130		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0272</i>		<i>"</i>	<i>0.0333</i>		<i>81.5</i>	<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0291</i>		<i>"</i>	<i>0.0333</i>		<i>87.4</i>	<i>40-150</i>		

<b>Matrix Spike Dup (BEG0434-MSD1)</b>	<b>Source: 2106415-02</b>			Prepared: 07/26/21 Analyzed: 07/27/21					
Acenaphthene	0.0272	0.00500	mg/kg	0.0333	ND	81.6	31-137	1.59	30
Anthracene	0.0269	0.00500	"	0.0333	ND	80.6	30-120	1.81	30
Benzo (a) anthracene	0.0277	0.00500	"	0.0333	ND	83.0	30-120	3.81	30
Benzo (a) pyrene	0.0271	0.00500	"	0.0333	ND	81.4	30-120	4.41	30
Benzo (b) fluoranthene	0.0270	0.00500	"	0.0333	ND	81.1	30-120	5.14	30
Benzo (k) fluoranthene	0.0246	0.00500	"	0.0333	ND	73.9	30-120	5.32	30
Chrysene	0.0275	0.00500	"	0.0333	ND	82.5	30-120	3.80	30
Dibenz (a,h) anthracene	0.0251	0.00500	"	0.0333	ND	75.3	30-120	3.56	30
Fluoranthene	0.0256	0.00500	"	0.0333	ND	76.7	30-120	3.76	30
Fluorene	0.0282	0.00500	"	0.0333	ND	84.5	30-120	0.530	30
Indeno (1,2,3-cd) pyrene	0.0240	0.00500	"	0.0333	ND	72.1	30-120	3.67	30
Pyrene	0.0247	0.00500	"	0.0333	ND	74.0	35-142	4.42	30
1-Methylnaphthalene	0.0290	0.00500	"	0.0333	ND	87.0	15-130	2.41	50
2-Methylnaphthalene	0.0262	0.00500	"	0.0333	ND	78.5	15-130	1.84	50
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0258</i>		<i>"</i>	<i>0.0333</i>		<i>77.5</i>	<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0280</i>		<i>"</i>	<i>0.0333</i>		<i>84.1</i>	<i>40-150</i>		

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K.P. Kauffman  
1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

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

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

**Batch BEG0467 - EPA 3050B**

**Blank (BEG0467-BLK1)**

Prepared: 07/27/21 Analyzed: 07/28/21

Boron ND 0.0100 mg/L

**LCS (BEG0467-BS1)**

Prepared: 07/27/21 Analyzed: 07/28/21

Boron 4.88 0.0100 mg/L 5.00 97.7 80-120

**Duplicate (BEG0467-DUP1)**

**Source: 2107337-02**

Prepared: 07/27/21 Analyzed: 07/28/21

Boron 0.122 0.0100 mg/L 0.125 2.20 20

**Matrix Spike (BEG0467-MS1)**

**Source: 2107337-02**

Prepared: 07/27/21 Analyzed: 07/28/21

Boron 4.72 0.0100 mg/L 5.00 0.125 91.9 75-125

**Matrix Spike Dup (BEG0467-MSD1)**

**Source: 2107337-02**

Prepared: 07/27/21 Analyzed: 07/28/21

Boron 4.66 0.0100 mg/L 5.00 0.125 90.6 75-125 1.34 25

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K.P. Kauffman  
1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**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 BEG0457 - EPA 3050B**

**Blank (BEG0457-BLK1)**

Prepared: 07/26/21 Analyzed: 07/27/21

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

**LCS (BEG0457-BS1)**

Prepared: 07/26/21 Analyzed: 07/27/21

Arsenic	44.7	0.200	mg/kg wet	40.0		112	80-120			
Barium	42.3	0.400	"	40.0		106	80-120			
Cadmium	2.14	0.200	"	2.00		107	80-120			
Copper	42.5	0.400	"	40.0		106	80-120			
Lead	20.5	0.200	"	20.0		102	80-120			
Nickel	41.3	0.400	"	40.0		103	80-120			
Selenium	4.06	0.260	"	4.00		102	80-120			
Silver	2.10	0.0200	"	2.00		105	80-120			
Zinc	44.2	0.400	"	40.0		110	80-120			

**Duplicate (BEG0457-DUP1)**

Source: 2106415-02

Prepared: 07/26/21 Analyzed: 07/27/21

Arsenic	0.507	0.254	mg/kg dry	0.501		1.10	20			
Barium	26.3	0.509	"	25.4		3.45	20			
Cadmium	0.0877	0.254	"	0.0938		6.78	20			
Copper	23.1	0.509	"	24.6		6.47	20			
Lead	14.3	0.254	"	13.3		6.83	20			
Nickel	8.40	0.509	"	8.57		2.04	20			
Selenium	2.00	0.331	"	2.27		12.6	20			
Silver	0.0443	0.0254	"	0.0468		5.54	20			
Zinc	32.3	0.509	"	32.3		0.0119	20			

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K.P. Kauffman  
1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**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 BEG0457 - EPA 3050B**

**Matrix Spike (BEG0457-MS1)**

Source: 2106415-02

Prepared: 07/26/21 Analyzed: 07/27/21

Arsenic	47.3	0.254	mg/kg dry	50.9	0.501	92.1	75-125		
Barium	64.7	0.509	"	50.9	25.4	77.2	75-125		
Cadmium	2.65	0.254	"	2.54	0.0938	100	75-125		
Copper	75.3	0.509	"	50.9	24.6	99.7	75-125		
Lead	33.3	0.254	"	25.4	13.3	78.6	75-125		
Nickel	55.1	0.509	"	50.9	8.57	91.4	75-125		
Selenium	6.59	0.331	"	5.09	2.27	84.9	75-125		
Silver	2.54	0.0254	"	2.54	0.0468	97.9	75-125		
Zinc	82.1	0.509	"	50.9	32.3	97.7	75-125		

**Matrix Spike Dup (BEG0457-MSD1)**

Source: 2106415-02

Prepared: 07/26/21 Analyzed: 07/28/21

Arsenic	49.5	0.254	mg/kg dry	50.9	0.501	96.3	75-125	4.42	25
Barium	66.1	0.509	"	50.9	25.4	80.0	75-125	2.15	25
Cadmium	2.75	0.254	"	2.54	0.0938	104	75-125	3.61	25
Copper	70.1	0.509	"	50.9	24.6	89.4	75-125	7.16	25
Lead	34.4	0.254	"	25.4	13.3	82.8	75-125	3.14	25
Nickel	55.6	0.509	"	50.9	8.57	92.4	75-125	0.850	25
Selenium	6.33	0.331	"	5.09	2.27	79.9	75-125	3.97	25
Silver	2.62	0.0254	"	2.54	0.0468	101	75-125	3.16	25
Zinc	81.3	0.509	"	50.9	32.3	96.3	75-125	0.925	25

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Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

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

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

**Batch BEG0531 - 3060A Mod**

**Blank (BEG0531-BLK1)**

Prepared: 07/29/21 Analyzed: 07/30/21

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BEG0531-BS1)**

Prepared: 07/29/21 Analyzed: 07/30/21

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

**Duplicate (BEG0531-DUP1)**

**Source: 2107340-13**

Prepared: 07/29/21 Analyzed: 07/30/21

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BEG0531-MS1)**

**Source: 2107340-13**

Prepared: 07/29/21 Analyzed: 07/30/21

Chromium, Hexavalent 31.3 0.30 mg/kg dry 30.6 ND 102 75-125

**Matrix Spike Dup (BEG0531-MSD1)**

**Source: 2107340-13**

Prepared: 07/29/21 Analyzed: 07/30/21

Chromium, Hexavalent 31.1 0.30 mg/kg dry 30.6 ND 102 75-125 0.392 20

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1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

**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 BEG0469 - General Preparation**

**Blank (BEG0469-BLK1)**

Prepared: 07/27/21 Analyzed: 07/29/21

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

**LCS (BEG0469-BS1)**

Prepared: 07/27/21 Analyzed: 07/29/21

Calcium	5.51	0.0500	mg/L wet	5.00	110	70-130				
Magnesium	4.99	0.0500	"	5.00	99.9	70-130				
Sodium	5.09	0.0500	"	5.00	102	70-130				

Summit Scientific

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Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
 Project Manager: Max Knop

**Reported:**  
 08/09/21 10:39

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

**Summit Scientific**

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

**Batch BEG0466 - General Preparation**

Duplicate (BEG0466-DUP1)	Source: 2107352-01		Prepared: 07/27/21 Analyzed: 07/28/21		
% Solids	90.8	%	90.8	0.0475	20

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K.P. Kauffman  
1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

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

**Summit Scientific**

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

**Batch BEG0500 - General Preparation**

**Blank (BEG0500-BLK1)**

Prepared & Analyzed: 07/28/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BEG0500-BS1)**

Prepared & Analyzed: 07/28/21

Specific Conductance (EC) 0.139 0.0100 mmhos/cm 0.150 92.6 90-110

**Duplicate (BEG0500-DUP1)**

Source: 2107352-01

Prepared & Analyzed: 07/28/21

Specific Conductance (EC) 4.58 0.0100 mmhos/cm 4.59 0.0872 20

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K.P. Kauffman  
 1675 Broadway  
 Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
 Project Manager: Max Knop

**Reported:**  
 08/09/21 10:39

**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 BEG0499 - General Preparation**

**LCS (BEG0499-BS1)**

Prepared & Analyzed: 07/28/21

pH	9.30	pH Units	9.21	101	95-105
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**Duplicate (BEG0499-DUP1)**

Source: 2107352-01

Prepared & Analyzed: 07/28/21

pH	7.88	pH Units	7.88	0.00	20
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K.P. Kauffman  
1675 Broadway  
Denver CO, 80202

Project: UPPR 43 Pan Am G Consolidation #2

Project Number: [none]  
Project Manager: Max Knop

**Reported:**  
08/09/21 10:39

### Notes and Definitions

- 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