

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 13, 2024

Andy Sagen
Tasman Geosciences
6855 W. 119th Ave.
Broomfield, CO 80020

RE: Chevron - Hagemeister USX AA-66N63W Tank Battery
Work Order #2410590

Enclosed are the results of analyses for samples received by Summit Scientific on 10/30/24 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Natalie Tessier For Paul Shrewsbury
President



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Hagemeister USX AA-66N63W Tank Battery
Project Number: UWRWE-A4261-AES
Project Manager: Andy Sagen

Reported:
11/13/24 10:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SEP01-FL@4'	2410590-01	Soil	10/30/24 12:51	10/30/24 16:30
SEP01-DL@4'	2410590-02	Soil	10/30/24 12:54	10/30/24 16:30
BKG01@0-6"	2410590-03	Soil	10/30/24 13:30	10/30/24 16:30
BKG01@2.5'	2410590-04	Soil	10/30/24 13:35	10/30/24 16:30
BKG01@5'	2410590-05	Soil	10/30/24 13:40	10/30/24 16:30



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

Lab ID 2410590 Page 1 of 1

Send Data To:		Send Invoice To:	
Client: Chevron	Project Manager: Andy Sagen	Company: Chevron	
Address: 6855 W. 119th Ave.	E-Mail: tas-chevron-1@tasman-geo.com	Project Name/Location: <u>Hasemeister USA 66N63W Tank Battery</u>	
City/State/Zip: Broomfield/CO/ 80020		AFE#: <u>CWRB-174261-AES</u>	
Phone: 970-424-9162	Project Name: <u>Hasemeister USA 66N63W Tank Battery</u>	PO/Billing Codes:	
Sampler Name: David Erwin	Project Number:	Contact: Dan Peterson	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested							Special Instructions				
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS		HOLD			
1	<u>SEPO1-FL @ 4'</u>	<u>10-30-24</u>	<u>12:51</u>	<u>3</u>			<u>X</u>	<u>X</u>		<u>X</u>				<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>				
2	<u>SEPO1-DL @ 4'</u>	<u>10-30-24</u>	<u>12:54</u>	<u>3</u>			<u>X</u>	<u>X</u>		<u>X</u>				<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>				
3	<u>BK601 @ 0-6"</u>	<u>10-30-24</u>	<u>13:30</u>	<u>3</u>			<u>X</u>	<u>X</u>		<u>X</u>				<u>X</u>			<u>X</u>	<u>X</u>	<u>X</u>				
4	<u>BK601 @ 2.5'</u>	<u>10-30-24</u>	<u>13:35</u>	<u>3</u>			<u>X</u>	<u>X</u>		<u>X</u>				<u>X</u>			<u>X</u>	<u>X</u>	<u>X</u>				
5	<u>BK601 @ 5'</u>	<u>10-30-24</u>	<u>13:40</u>	<u>3</u>			<u>X</u>	<u>X</u>		<u>X</u>				<u>X</u>			<u>X</u>	<u>X</u>	<u>X</u>				
6																							
7																							
8																							
9																							
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13																							
14																							
15																							

Relinquished by: <u>[Signature]</u>	Date/Time: <u>10-20-24 16:25</u>	Received by: <u>Tasman Lock Box North Supp</u>	Date/Time:	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: <u>[Signature]</u>	Date/Time: <u>10/30/24 1630</u>	Received by: <u>[Signature]</u>	Date/Time: <u>10/30/24 1630</u>	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	<u>X</u> Field Turb.	
Temperature Upon Receipt: <u>4.7</u>	Corrected Temperature: <u>0</u>	IR gun #: <u>1</u>	HNO3 lot #:			



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Hagemeister USX AA-66N63W Tank Battery
Project Number: UWRWE-A4261-AES
Project Manager: Andy Sagen

Reported:
11/13/24 10:00

SEP01-FL@4'
2410590-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/30/24 12:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHK0146	11/04/24	11/05/24	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: **10/30/24 12:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0416	104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0405	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0394	98.5 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/30/24 12:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0147	11/04/24	11/05/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/30/24 12:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.3	90.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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2410590-01 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **10/30/24 12:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHJ1396	10/31/24	11/01/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	"
Benzo (a) anthracene	0.00570	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	0.0134	0.00500	"	"	"	"	"	"	"
Fluorene	ND	0.00500	"	"	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	"
Pyrene	0.0115	0.00500	"	"	"	"	"	"	"
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	"
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	"

Date Sampled: **10/30/24 12:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0211	63.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0216	64.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/30/24 12:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0402	11/08/24	11/11/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/30/24 12:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Manager: Andy Sagen

Reported:
11/13/24 10:00

SEP01-FL@4'
2410590-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	2.42	0.200	mg/kg dry	1	BHK0488	11/11/24	11/12/24	EPA 6020B
Barium	40.7	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.81	0.400	"	"	"	"	"	"
Lead	4.52	0.200	"	"	"	"	"	"
Nickel	2.96	0.400	"	"	"	"	"	"
Silver	0.0203	0.0200	"	"	"	"	"	"
Zinc	11.9	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/30/24 12:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0569	11/12/24	11/12/24	EPA 7196A	

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

Date Sampled: **10/30/24 12:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	118	0.0500	mg/L dry	1	BHK0306	11/06/24	11/07/24	EPA 6020B	
Magnesium	15.9	0.0500	"	"	"	"	"	"	
Sodium	1.11	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/30/24 12:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0255	0.00100	units	1	BHK0415	11/08/24	11/08/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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11/13/24 10:00

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2410590-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/30/24 12:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	92.6			%	1	BHK0205	11/05/24	11/06/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/30/24 12:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.123	0.0100		mmhos/cm	1	BHK0308	11/06/24	11/08/24	EPA 120.1	

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

Date Sampled: **10/30/24 12:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.53			pH Units	1	BHK0307	11/06/24	11/08/24	EPA 9045D	

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Reported:
11/13/24 10:00

SEP01-DL@4'
2410590-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/30/24 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHK0146	11/04/24	11/05/24	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: **10/30/24 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0407	102 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0401	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0388	97.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/30/24 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0147	11/04/24	11/05/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/30/24 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.4	90.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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SEP01-DL@4'
2410590-02 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **10/30/24 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHJ1396	10/31/24	11/01/24	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: **10/30/24 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0194	58.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0194	58.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/30/24 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0402	11/08/24	11/11/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/30/24 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SEP01-DL@4'
2410590-02 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.60	0.200	mg/kg dry	1	BHK0488	11/11/24	11/12/24	EPA 6020B	
Barium	42.3	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.96	0.400	"	"	"	"	"	"	
Lead	5.15	0.200	"	"	"	"	"	"	
Nickel	2.90	0.400	"	"	"	"	"	"	
Silver	0.0216	0.0200	"	"	"	"	"	"	
Zinc	12.1	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/30/24 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0569	11/12/24	11/12/24	EPA 7196A	

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

Date Sampled: **10/30/24 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	124	0.0500	mg/L dry	1	BHK0306	11/06/24	11/07/24	EPA 6020B	
Magnesium	20.3	0.0500	"	"	"	"	"	"	
Sodium	15.5	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/30/24 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.340	0.00100	units	1	BHK0415	11/08/24	11/08/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Reported:
11/13/24 10:00

SEP01-DL@4'
2410590-02 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/30/24 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.1		%	1	BHK0205	11/05/24	11/06/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/30/24 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.164	0.0100	mmhos/cm	1	BHK0308	11/06/24	11/08/24	EPA 120.1	

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

Date Sampled: **10/30/24 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.70		pH Units	1	BHK0307	11/06/24	11/08/24	EPA 9045D	

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Reported:
11/13/24 10:00

BKG01@0-6"
2410590-03 (Soil)

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Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/30/24 13:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHK0402	11/08/24	11/11/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/30/24 13:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.22	0.200	mg/kg dry	1	BHK0488	11/11/24	11/12/24	EPA 6020B	
Barium	36.4	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.94	0.400	"	"	"	"	"	"	
Lead	5.35	0.200	"	"	"	"	"	"	
Nickel	2.57	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	11.7	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/30/24 13:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0569	11/12/24	11/12/24	EPA 7196A	

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

Date Sampled: **10/30/24 13:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	45.0	0.0500	mg/L dry	1	BHK0306	11/06/24	11/07/24	EPA 6020B	
Magnesium	7.85	0.0500	"	"	"	"	"	"	
Sodium	6.10	0.0500	"	"	"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Hagemeister USX AA-66N63W Tank Battery
Project Number: UWRWE-A4261-AES
Project Manager: Andy Sagen

Reported:
11/13/24 10:00

BKG01@0-6''
2410590-03 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **10/30/24 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.221	0.00100	units	1	BHK0415	11/08/24	11/08/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/30/24 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.7		%	1	BHK0205	11/05/24	11/06/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/30/24 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.356	0.0100	mmhos/cm	1	BHK0308	11/06/24	11/08/24	EPA 120.1	

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

Date Sampled: **10/30/24 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.05		pH Units	1	BHK0307	11/06/24	11/08/24	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Hagemeister USX AA-66N63W Tank Battery
Project Number: UWRWE-A4261-AES
Project Manager: Andy Sagen

Reported:
11/13/24 10:00

BKG01@2.5'
2410590-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/30/24 13:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	3.22	2.00	mg/L	1	BHK0402	11/08/24	11/11/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/30/24 13:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.23	0.200	mg/kg dry	1	BHK0488	11/11/24	11/12/24	EPA 6020B	
Barium	46.3	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.30	0.400	"	"	"	"	"	"	
Lead	3.77	0.200	"	"	"	"	"	"	
Nickel	2.61	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	10.3	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/30/24 13:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0569	11/12/24	11/12/24	EPA 7196A	

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

Date Sampled: **10/30/24 13:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	38.9	0.0500	mg/L dry	1	BHK0306	11/06/24	11/07/24	EPA 6020B	
Magnesium	5.09	0.0500	"	"	"	"	"	"	
Sodium	744	0.0500	"	"	"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Hagemeister USX AA-66N63W Tank Battery
Project Number: UWRWE-A4261-AES
Project Manager: Andy Sagen

Reported:
11/13/24 10:00

BKG01@2.5'
2410590-04 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **10/30/24 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	29.8	0.00100	units	1	BHK0415	11/08/24	11/08/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/30/24 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.2		%	1	BHK0205	11/05/24	11/06/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/30/24 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.18	0.0100	mmhos/cm	1	BHK0308	11/06/24	11/08/24	EPA 120.1	

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

Date Sampled: **10/30/24 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.34		pH Units	1	BHK0307	11/06/24	11/08/24	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Hagemeister USX AA-66N63W Tank Battery
Project Number: UWRWE-A4261-AES
Project Manager: Andy Sagen

Reported:
11/13/24 10:00

BKG01@5'
2410590-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/30/24 13:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHK0402	11/08/24	11/11/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/30/24 13:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.60	0.200	mg/kg dry	1	BHK0488	11/11/24	11/12/24	EPA 6020B	
Barium	42.0	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.19	0.400	"	"	"	"	"	"	
Lead	4.25	0.200	"	"	"	"	"	"	
Nickel	2.77	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	11.9	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/30/24 13:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0569	11/12/24	11/12/24	EPA 7196A	

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

Date Sampled: **10/30/24 13:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	20.9	0.0500	mg/L dry	1	BHK0306	11/06/24	11/07/24	EPA 6020B	
Magnesium	17.8	0.0500	"	"	"	"	"	"	
Sodium	882	0.0500	"	"	"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Hagemeister USX AA-66N63W Tank Battery
Project Number: UWRWE-A4261-AES
Project Manager: Andy Sagen

Reported:
11/13/24 10:00

BKG01@5'
2410590-05 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **10/30/24 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	34.3	0.00100	units	1	BHK0415	11/08/24	11/08/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/30/24 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.3		%	1	BHK0205	11/05/24	11/06/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/30/24 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.46	0.0100	mmhos/cm	1	BHK0308	11/06/24	11/08/24	EPA 120.1	

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

Date Sampled: **10/30/24 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.40		pH Units	1	BHK0307	11/06/24	11/08/24	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Hagemeister USX AA-66N63W Tank Battery
Project Number: UWRWE-A4261-AES
Project Manager: Andy Sagen

Reported:
11/13/24 10:00

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 BHK0146 - EPA 5030 Soil MS

Blank (BHK0146-BLK1)

Prepared & Analyzed: 11/04/24

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0355		"	0.0400		88.6	50-150			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.4	50-150			
Surrogate: 4-Bromofluorobenzene	0.0383		"	0.0400		95.8	50-150			

LCS (BHK0146-BS1)

Prepared & Analyzed: 11/04/24

Benzene	0.102	0.0020	mg/kg	0.100		102	70-130			
Toluene	0.106	0.0050	"	0.100		106	70-130			
Ethylbenzene	0.106	0.0050	"	0.100		106	70-130			
m,p-Xylene	0.214	0.010	"	0.200		107	70-130			
o-Xylene	0.104	0.0050	"	0.100		104	70-130			
1,2,4-Trimethylbenzene	0.101	0.0050	"	0.100		101	70-130			
1,3,5-Trimethylbenzene	0.104	0.0050	"	0.100		104	70-130			
Naphthalene	0.0882	0.0038	"	0.100		88.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0390		"	0.0400		97.5	50-150			
Surrogate: Toluene-d8	0.0402		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		98.1	50-150			

Matrix Spike (BHK0146-MS1)

Source: 2410585-01

Prepared & Analyzed: 11/04/24

Benzene	0.102	0.0020	mg/kg	0.100	ND	102	70-130			
Toluene	0.100	0.0050	"	0.100	ND	100	70-130			
Ethylbenzene	0.0955	0.0050	"	0.100	ND	95.5	70-130			
m,p-Xylene	0.195	0.010	"	0.200	ND	97.4	70-130			
o-Xylene	0.0950	0.0050	"	0.100	ND	95.0	70-130			
1,2,4-Trimethylbenzene	0.0906	0.0050	"	0.100	ND	90.6	70-130			
1,3,5-Trimethylbenzene	0.0933	0.0050	"	0.100	ND	93.3	70-130			
Naphthalene	0.0839	0.0038	"	0.100	ND	83.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0415		"	0.0400		104	50-150			
Surrogate: Toluene-d8	0.0397		"	0.0400		99.2	50-150			
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.6	50-150			

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Hagemeister USX AA-66N63W Tank Battery
Project Number: UWRWE-A4261-AES
Project Manager: Andy Sagen

Reported:
11/13/24 10:00

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 BHK0146 - EPA 5030 Soil MS

Matrix Spike Dup (BHK0146-MSD1)	Source: 2410585-01			Prepared & Analyzed: 11/04/24						
Benzene	0.0944	0.0020	mg/kg	0.100	ND	94.4	70-130	7.90	30	
Toluene	0.0981	0.0050	"	0.100	ND	98.1	70-130	1.94	30	
Ethylbenzene	0.0947	0.0050	"	0.100	ND	94.7	70-130	0.820	30	
m,p-Xylene	0.195	0.010	"	0.200	ND	97.3	70-130	0.139	30	
o-Xylene	0.0952	0.0050	"	0.100	ND	95.2	70-130	0.221	30	
1,2,4-Trimethylbenzene	0.0897	0.0050	"	0.100	ND	89.7	70-130	1.03	30	
1,3,5-Trimethylbenzene	0.0922	0.0050	"	0.100	ND	92.2	70-130	1.26	30	
Naphthalene	0.0865	0.0038	"	0.100	ND	86.5	70-130	3.03	30	
Surrogate: 1,2-Dichloroethane-d4	0.0401		"	0.0400		100	50-150			
Surrogate: Toluene-d8	0.0396		"	0.0400		99.1	50-150			
Surrogate: 4-Bromofluorobenzene	0.0406		"	0.0400		102	50-150			

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Hagemeister USX AA-66N63W Tank Battery
Project Number: UWRWE-A4261-AES
Project Manager: Andy Sagen

Reported:
11/13/24 10:00

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 BHK0147 - EPA 3550A

Blank (BHK0147-BLK1)

Prepared: 11/04/24 Analyzed: 11/05/24

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	14.2		"	12.5		113		30-150			

LCS (BHK0147-BS1)

Prepared: 11/04/24 Analyzed: 11/05/24

C10-C28 (DRO)	431	50	mg/kg	500		86.1		70-130			
Surrogate: <i>o</i> -Terphenyl	12.9		"	12.5		103		30-150			

Matrix Spike (BHK0147-MS1)

Source: 2410585-01

Prepared: 11/04/24 Analyzed: 11/05/24

C10-C28 (DRO)	459	50	mg/kg	500	22.1	87.3		70-130			
Surrogate: <i>o</i> -Terphenyl	13.3		"	12.5		107		30-150			

Matrix Spike Dup (BHK0147-MSD1)

Source: 2410585-01

Prepared: 11/04/24 Analyzed: 11/05/24

C10-C28 (DRO)	433	50	mg/kg	500	22.1	82.2		70-130	5.79	20	
Surrogate: <i>o</i> -Terphenyl	12.1		"	12.5		96.7		30-150			

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Hagemeister USX AA-66N63W Tank Battery
Project Number: UWRWE-A4261-AES
Project Manager: Andy Sagen

Reported:
11/13/24 10:00

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHJ1396 - EPA 5030 Soil MS

Blank (BHJ1396-BLK1)

Prepared: 10/31/24 Analyzed: 11/01/24

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	0.0215		"	0.0333	64.6	40-150				
Surrogate: Fluoranthene-d10	0.0213		"	0.0333	63.8	40-150				

LCS (BHJ1396-BS1)

Prepared: 10/31/24 Analyzed: 11/01/24

Acenaphthene	0.0222	0.00500	mg/kg	0.0333	66.7	31-137				
Anthracene	0.0205	0.00500	"	0.0333	61.4	30-120				
Benzo (a) anthracene	0.0193	0.00500	"	0.0333	58.0	30-120				
Benzo (a) pyrene	0.0189	0.00500	"	0.0333	56.7	30-120				
Benzo (b) fluoranthene	0.0161	0.00500	"	0.0333	48.4	30-120				
Benzo (k) fluoranthene	0.0201	0.00500	"	0.0333	60.3	30-120				
Chrysene	0.0235	0.00500	"	0.0333	70.4	30-120				
Dibenz (a,h) anthracene	0.0229	0.00500	"	0.0333	68.6	30-120				
Fluoranthene	0.0192	0.00500	"	0.0333	57.5	30-120				
Fluorene	0.0205	0.00500	"	0.0333	61.4	30-120				
Indeno (1,2,3-cd) pyrene	0.0233	0.00500	"	0.0333	69.8	30-120				
Pyrene	0.0294	0.00500	"	0.0333	88.1	35-142				
1-Methylnaphthalene	0.0215	0.00500	"	0.0333	64.4	35-142				
2-Methylnaphthalene	0.0227	0.00500	"	0.0333	68.0	35-142				
Surrogate: 2-Methylnaphthalene-d10	0.0223		"	0.0333	66.8	40-150				
Surrogate: Fluoranthene-d10	0.0198		"	0.0333	59.4	40-150				

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Hagemeister USX AA-66N63W Tank Battery
Project Number: UWRWE-A4261-AES
Project Manager: Andy Sagen

Reported:
11/13/24 10:00

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 BHJ1396 - EPA 5030 Soil MS

Matrix Spike (BHJ1396-MS1)		Source: 2410558-01			Prepared: 10/31/24 Analyzed: 11/01/24	
Acenaphthene	0.0198	0.00500	mg/kg	0.0333	ND	59.5 31-137
Anthracene	0.0189	0.00500	"	0.0333	ND	56.6 30-120
Benzo (a) anthracene	0.0182	0.00500	"	0.0333	ND	54.6 30-120
Benzo (a) pyrene	0.0177	0.00500	"	0.0333	ND	53.1 30-120
Benzo (b) fluoranthene	0.0149	0.00500	"	0.0333	ND	44.8 30-120
Benzo (k) fluoranthene	0.0181	0.00500	"	0.0333	ND	54.3 30-120
Chrysene	0.0200	0.00500	"	0.0333	ND	59.9 30-120
Dibenz (a,h) anthracene	0.0234	0.00500	"	0.0333	ND	70.2 30-120
Fluoranthene	0.0185	0.00500	"	0.0333	ND	55.6 30-120
Fluorene	0.0184	0.00500	"	0.0333	ND	55.3 30-120
Indeno (1,2,3-cd) pyrene	0.0226	0.00500	"	0.0333	ND	67.8 30-120
Pyrene	0.0242	0.00500	"	0.0333	ND	72.7 35-142
1-Methylnaphthalene	0.0212	0.00500	"	0.0333	ND	63.6 15-130
2-Methylnaphthalene	0.0214	0.00500	"	0.0333	ND	64.2 15-130
Surrogate: 2-Methylnaphthalene-d10	0.0215		"	0.0333		64.6 40-150
Surrogate: Fluoranthene-d10	0.0186		"	0.0333		55.7 40-150

Matrix Spike Dup (BHJ1396-MSD1)		Source: 2410558-01			Prepared: 10/31/24 Analyzed: 11/01/24	
Acenaphthene	0.0202	0.00500	mg/kg	0.0333	ND	60.7 31-137 1.99 30
Anthracene	0.0188	0.00500	"	0.0333	ND	56.5 30-120 0.0513 30
Benzo (a) anthracene	0.0191	0.00500	"	0.0333	ND	57.2 30-120 4.70 30
Benzo (a) pyrene	0.0174	0.00500	"	0.0333	ND	52.2 30-120 1.64 30
Benzo (b) fluoranthene	0.0186	0.00500	"	0.0333	ND	55.7 30-120 21.6 30
Benzo (k) fluoranthene	0.0211	0.00500	"	0.0333	ND	63.4 30-120 15.4 30
Chrysene	0.0204	0.00500	"	0.0333	ND	61.1 30-120 1.98 30
Dibenz (a,h) anthracene	0.0158	0.00500	"	0.0333	ND	47.5 30-120 38.5 30
Fluoranthene	0.0197	0.00500	"	0.0333	ND	59.0 30-120 6.01 30
Fluorene	0.0194	0.00500	"	0.0333	ND	58.2 30-120 5.10 30
Indeno (1,2,3-cd) pyrene	0.0176	0.00500	"	0.0333	ND	52.7 30-120 25.0 30
Pyrene	0.0200	0.00500	"	0.0333	ND	60.1 35-142 18.9 30
1-Methylnaphthalene	0.0209	0.00500	"	0.0333	ND	62.6 15-130 1.61 50
2-Methylnaphthalene	0.0228	0.00500	"	0.0333	ND	68.5 15-130 6.44 50
Surrogate: 2-Methylnaphthalene-d10	0.0224		"	0.0333		67.1 40-150
Surrogate: Fluoranthene-d10	0.0199		"	0.0333		59.6 40-150

QR-02

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Hagemeister USX AA-66N63W Tank Battery
Project Number: UWRWE-A4261-AES
Project Manager: Andy Sagen

Reported:
11/13/24 10:00

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

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

Batch BHK0402 - EPA 3050B

Blank (BHK0402-BLK1)		Prepared: 11/08/24 Analyzed: 11/11/24								
Boron	ND	2.00	mg/L							
LCS (BHK0402-BS1)		Prepared: 11/08/24 Analyzed: 11/11/24								
Boron	5.07	2.00	mg/L	5.00		101	80-120			
Duplicate (BHK0402-DUP1)		Source: 2410587-03		Prepared: 11/08/24 Analyzed: 11/11/24						
Boron	1.83	2.00	mg/L		1.79			2.49	20	
Matrix Spike (BHK0402-MS1)		Source: 2410587-03		Prepared: 11/08/24 Analyzed: 11/11/24						
Boron	5.48	2.00	mg/L	5.00	1.79	73.8	75-125			QM-05
Matrix Spike Dup (BHK0402-MSD1)		Source: 2410587-03		Prepared: 11/08/24 Analyzed: 11/11/24						
Boron	5.71	2.00	mg/L	5.00	1.79	78.4	75-125	4.14	25	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Hagemeister USX AA-66N63W Tank Battery
Project Number: UWRWE-A4261-AES
Project Manager: Andy Sagen

Reported:
11/13/24 10:00

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHK0488 - EPA 3050B

Blank (BHK0488-BLK1)

Prepared: 11/11/24 Analyzed: 11/12/24

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 (BHK0488-BS1)

Prepared: 11/11/24 Analyzed: 11/12/24

Arsenic	41.0	0.200	mg/kg wet	40.7	101	80-120
Barium	41.9	0.400	"	40.7	103	80-120
Cadmium	1.94	0.200	"	2.03	95.5	80-120
Copper	38.5	0.400	"	40.7	94.8	80-120
Lead	19.6	0.200	"	20.3	96.3	80-120
Nickel	38.6	0.400	"	40.7	94.9	80-120
Silver	1.68	0.0200	"	2.03	82.8	80-120
Zinc	38.0	0.400	"	40.7	93.4	80-120
Selenium	4.22	0.260	"	4.07	104	80-120

Duplicate (BHK0488-DUP1)

Source: 2410575-01

Prepared: 11/11/24 Analyzed: 11/12/24

Arsenic	2.44	0.200	mg/kg dry	2.70	10.4	20
Barium	97.8	0.400	"	109	10.9	20
Cadmium	0.181	0.200	"	0.242	28.9	20
Copper	2.51	0.400	"	2.43	3.42	20
Lead	4.36	0.200	"	4.84	10.5	20
Nickel	2.17	0.400	"	2.22	2.00	20
Silver	0.0144	0.0200	"	0.0167	14.6	20
Zinc	10.8	0.400	"	10.9	1.25	20
Selenium	ND	0.260	"	ND		20

QR-01

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Hagemeister USX AA-66N63W Tank Battery

Project Number: UWRWE-A4261-AES
Project Manager: Andy Sagen

Reported:
11/13/24 10:00

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 BHK0488 - EPA 3050B

Matrix Spike (BHK0488-MS1)

Source: 2410575-01

Prepared: 11/11/24 Analyzed: 11/12/24

Arsenic	43.4	0.200	mg/kg dry	42.3	2.70	96.1	75-125			
Barium	147	0.400	"	42.3	109	90.4	75-125			
Cadmium	2.28	0.200	"	2.12	0.242	96.5	75-125			
Copper	31.1	0.400	"	42.3	2.43	67.8	75-125			QM-05
Lead	24.4	0.200	"	21.2	4.84	92.2	75-125			
Nickel	31.2	0.400	"	42.3	2.22	68.4	75-125			QM-05
Silver	1.78	0.0200	"	2.12	0.0167	83.3	75-125			
Zinc	39.7	0.400	"	42.3	10.9	68.1	75-125			QM-05
Selenium	3.69	0.260	"	4.23	ND	87.2	75-125			

Matrix Spike Dup (BHK0488-MSD1)

Source: 2410575-01

Prepared: 11/11/24 Analyzed: 11/12/24

Arsenic	42.2	0.200	mg/kg dry	40.7	2.70	97.2	75-125	2.75	25	
Barium	120	0.400	"	40.7	109	27.5	75-125	20.2	25	QM-05
Cadmium	2.19	0.200	"	2.03	0.242	95.9	75-125	4.11	25	
Copper	31.6	0.400	"	40.7	2.43	71.8	75-125	1.58	25	QM-05
Lead	23.0	0.200	"	20.3	4.84	89.4	75-125	5.60	25	
Nickel	31.7	0.400	"	40.7	2.22	72.4	75-125	1.53	25	QM-05
Silver	1.70	0.0200	"	2.03	0.0167	82.8	75-125	4.48	25	
Zinc	38.9	0.400	"	40.7	10.9	68.9	75-125	2.06	25	QM-05
Selenium	3.47	0.260	"	4.07	ND	85.4	75-125	6.06	25	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Hagemeister USX AA-66N63W Tank Battery
Project Number: UWRWE-A4261-AES
Project Manager: Andy Sagen

Reported:
11/13/24 10:00

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHK0569 - 3060A Mod

Blank (BHK0569-BLK1)

Prepared & Analyzed: 11/12/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHK0569-BS1)

Prepared & Analyzed: 11/12/24

Chromium, Hexavalent 26.0 0.30 mg/kg wet 25.0 104 80-120

Duplicate (BHK0569-DUP1)

Source: 2410564-01

Prepared & Analyzed: 11/12/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHK0569-MS1)

Source: 2410564-01

Prepared & Analyzed: 11/12/24

Chromium, Hexavalent 30.7 0.30 mg/kg dry 28.5 ND 108 75-125

Matrix Spike Dup (BHK0569-MSD1)

Source: 2410564-01

Prepared & Analyzed: 11/12/24

Chromium, Hexavalent 29.5 0.30 mg/kg dry 28.5 ND 104 75-125 3.79 20

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Hagemeister USX AA-66N63W Tank Battery

Project Number: UWRWE-A4261-AES

Project Manager: Andy Sagen

Reported:
11/13/24 10:00

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

Summit Scientific

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

Batch BHK0306 - General Preparation

Blank (BHK0306-BLK1)

Prepared: 11/06/24 Analyzed: 11/07/24

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

LCS (BHK0306-BS1)

Prepared: 11/06/24 Analyzed: 11/07/24

Calcium	5.68	0.0500	mg/L wet	5.00		114	70-130			
Magnesium	5.17	0.0500	"	5.00		103	70-130			
Sodium	5.14	0.0500	"	5.00		103	70-130			

Summit Scientific

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Tasman Geosciences
 6855 W. 119th Ave.
 Broomfield CO, 80020

Project: Chevron - Hagemeister USX AA-66N63W Tank Battery

Project Number: UWRWE-A4261-AES

Project Manager: Andy Sagen

Reported:
 11/13/24 10:00

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 BHK0205 - General Preparation

Duplicate (BHK0205-DUP1)

Source: 2410572-01

Prepared: 11/05/24 Analyzed: 11/06/24

% Solids	91.1		%		91.0			0.141	20	
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Hagemeister USX AA-66N63W Tank Battery
Project Number: UWRWE-A4261-AES
Project Manager: Andy Sagen

Reported:
11/13/24 10:00

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 BHK0308 - General Preparation

Blank (BHK0308-BLK1)

Prepared: 11/06/24 Analyzed: 11/08/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHK0308-BS1)

Prepared: 11/06/24 Analyzed: 11/08/24

Specific Conductance (EC) 0.150 0.0100 mmhos/cm 0.150 100 95-105

Duplicate (BHK0308-DUP1)

Source: 2410586-01

Prepared: 11/06/24 Analyzed: 11/08/24

Specific Conductance (EC) 0.128 0.0100 mmhos/cm 0.130 1.32 20

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Hagemeister USX AA-66N63W Tank Battery

Project Number: UWRWE-A4261-AES

Project Manager: Andy Sagen

Reported:

11/13/24 10:00

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 BHK0307 - General Preparation

LCS (BHK0307-BS1)

Prepared: 11/06/24 Analyzed: 11/08/24

pH	9.19	pH Units	9.18	100	95-105
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Duplicate (BHK0307-DUP1)

Source: 2410586-01

Prepared: 11/06/24 Analyzed: 11/08/24

pH	7.26	pH Units	7.25	0.138	20
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Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Hagemeister USX AA-66N63W Tank Battery

Project Number: UWRWE-A4261-AES

Project Manager: Andy Sagen

Reported:

11/13/24 10:00

Notes and Definitions

- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- QR-01 Analyses are not controlled on RPD values from sample concentrations below the reporting limit. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- 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