

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

January 21, 2025

Bryce Goldade

Tasman Geosciences

6855 W. 119th Ave.

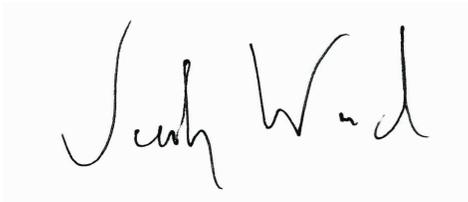
Broomfield, CO 80020

RE: Chevron - Matsushima PMK 2-1 Tank Battery

Work Order #2412038

Enclosed are the results of analyses for samples received by Summit Scientific on 12/03/24 18:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Jacob Wood For Paul Shrewsbury

President



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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB01@2.5'	2412038-01	Soil	12/03/24 10:00	12/03/24 18:30
SB01@6'	2412038-02	Soil	12/03/24 10:04	12/03/24 18:30
SB01@13'	2412038-03	Soil	12/03/24 10:06	12/03/24 18:30
SB01@14'	2412038-04	Soil	12/03/24 10:08	12/03/24 18:30
SB02@2.5'	2412038-06	Soil	12/03/24 09:50	12/03/24 18:30
SB02@6'	2412038-07	Soil	12/03/24 09:52	12/03/24 18:30
SB02@13'	2412038-08	Soil	12/03/24 09:54	12/03/24 18:30
SB02@14'	2412038-09	Soil	12/03/24 09:56	12/03/24 18:30
SB03@2.5'	2412038-11	Soil	12/03/24 09:25	12/03/24 18:30
SB03@6'	2412038-12	Soil	12/03/24 09:32	12/03/24 18:30
SB03@13'	2412038-13	Soil	12/03/24 09:34	12/03/24 18:30
SB03@14'	2412038-14	Soil	12/03/24 09:36	12/03/24 18:30
SB04@2.5'	2412038-16	Soil	12/03/24 10:15	12/03/24 18:30
SB04@6'	2412038-17	Soil	12/03/24 10:22	12/03/24 18:30
SB04@13'	2412038-18	Soil	12/03/24 10:25	12/03/24 18:30
SB04@14'	2412038-19	Soil	12/03/24 10:27	12/03/24 18:30
SB05@2.5'	2412038-21	Soil	12/03/24 10:50	12/03/24 18:30
SB05@6'	2412038-22	Soil	12/03/24 10:53	12/03/24 18:30
SB05@13'	2412038-23	Soil	12/03/24 10:55	12/03/24 18:30
SB05@14'	2412038-24	Soil	12/03/24 10:57	12/03/24 18:30
SB06@2.5'	2412038-26	Soil	12/03/24 10:33	12/03/24 18:30
SB06@6'	2412038-27	Soil	12/03/24 10:36	12/03/24 18:30
SB06@13'	2412038-28	Soil	12/03/24 10:38	12/03/24 18:30
SB06@14'	2412038-29	Soil	12/03/24 10:40	12/03/24 18:30
BKG06@2.5'	2412038-31	Soil	12/03/24 12:38	12/03/24 18:30
BKG06@4'	2412038-32	Soil	12/03/24 12:40	12/03/24 18:30
BKG06@6'	2412038-33	Soil	12/03/24 12:43	12/03/24 18:30

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

ANALYTICAL REPORT FOR SAMPLES

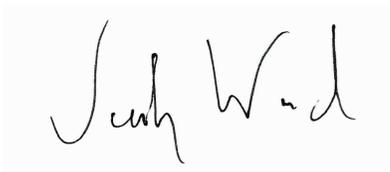
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BKG06@14'	2412038-34	Soil	12/03/24 12:45	12/03/24 18:30
BKG07@2.5'	2412038-35	Soil	12/03/24 12:50	12/03/24 18:30
BKG07@4'	2412038-36	Soil	12/03/24 12:52	12/03/24 18:30
BKG07@6'	2412038-37	Soil	12/03/24 12:54	12/03/24 18:30
BKG07@14'	2412038-38	Soil	12/03/24 12:57	12/03/24 18:30
BKG08@2.5'	2412038-39	Soil	12/03/24 13:06	12/03/24 18:30
BKG08@4'	2412038-40	Soil	12/03/24 13:08	12/03/24 18:30
BKG08@6'	2412038-41	Soil	12/03/24 13:12	12/03/24 18:30
BKG08@14'	2412038-42	Soil	12/03/24 13:14	12/03/24 18:30
BKG09@2.5'	2412038-43	Soil	12/03/24 13:18	12/03/24 18:30
BKG09@4'	2412038-44	Soil	12/03/24 13:20	12/03/24 18:30
BKG09@6'	2412038-45	Soil	12/03/24 13:23	12/03/24 18:30
BKG09@14'	2412038-46	Soil	12/03/24 13:25	12/03/24 18:30

Case Narrative

This project has been renamed per client request on 01/21/2025.

This is a revision of the report originally sent on 01/21/2025 at 08:23 MT.

Summit Scientific



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

Lab ID	Page 3 of 4
2412038.3	

		Send Data To:	Send Invoice To:
Client: Noble/Tasman	Project Manager: Bryce Goldade		Company: Chevron
Address: 6855 W. 119th Ave.	E-Mail: tas-chevron-4@tasman-geo.com		Project Name/Location: Matsushima Pmk 2-1 Tank Battery
City/State/Zip: Broomfield/CO/ 80020	E-Mail: RBUEUF27@chevron.com		AFE#:
Phone:	Project Name: Matsushima Pmk-2-1 Tank Battery		PO/Billing Codes:
Sampler Name: Matt Bush/Tanner Lacy	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	BH606@2.5'	12/3/24	1238	1			X			X							X	X		SAR, EC, pH by saturated paste
2	BH606@4'		1240							X										
3	BH606@6'		1243							X										
4	BH606@14'		1245							X										
5	BH607@2.5'		1250							X										
6	BH607@4'		1252							X										
7	BH607@6'		1254							X										
8	BH607@14'		1257							X										
9	BH608@2.5'		1300							X										
10	BH608@4'		1304							X										
11	BH608@6'		1312							X										
12	BH608@14'		1314							X										
13	BH609@2.5'		1318							X										
14	BH609@4'		1320							X										
15	BH609@6'		1323							X										

Relinquished by: <i>Tanner Lacy</i>	Date/Time: 12/03/24 1555	Received by: Tasman Lock Box	Date/Time: 12/03/24 1555	TAT Business Days	Field DO	Notes:
Relinquished by: <i>Tasman Lock Box</i>	Date/Time: 12/3/24 1830	Received by: <i>[Signature]</i>	Date/Time: 12/3/24 1830	Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
Relinquished by:	Date/Time:	Received by:	Date/Time:	2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
Temperature Upon Receipt: 7.3	Corrected Temperature: 0	IR gun #: 1	HNO3 lot #:	Standard	X	Field Turb.



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

Lab ID	Page 4 of 4
2412038.4	

	Send Data To:	Send Invoice To:
Client: Noble/Tasman	Project Manager: Bryce Goldade	Company: Chevron
Address: 6855 W. 119th Ave.	E-Mail: tas-chevron-4@tasman-geo.com	Project Name/Location: matsushima Palm 2-1 Tank Battery
City/State/Zip: Broomfield/CO/ 80020	E-Mail: RBUEUF27@chevron.com	AFE#:
Phone:	Project Name: matsushima Palm 2-1 Tank Battery	PO/Billing Codes:
Sampler Name: Matt Bush / Tanner Lay	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	BH609 @ 14'	12/3/24	1325	1			X			X							X	X			SAR, EC, pH by saturated paste	
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

Relinquished by: <i>Tanner Lay</i>	Date/Time: 12/03/2024 1535	Received by: Tasman Lock Box	Date/Time: 12/03/2024 1545	TAT Business Days	Field DO	Notes:
Relinquished by: Tasman Lock Box	Date/Time: 12/3/24 1830	Received by: <i>[Signature]</i>	Date/Time: 12/3/24 1830	Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
Relinquished by:	Date/Time:	Received by:	Date/Time:	2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Standard	Field Turb. <input checked="" type="checkbox"/>	
Temperature Upon Receipt: 7.3	Corrected Temperature: 8	IR gun #: 1	HNO3 lot #:			

S₂

4/4

Sample Receipt Checklist

S2 Work Order# 2412038

Client: Nordt Asman / Chevron Client Project ID: Matsushima Tank Battery
Line 2-1

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

-

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

Temp (°C)

Thermometer #

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

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

AS

Custodian Printed Name

12/3/24

Date/Time

3000 0 0



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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB01@2.5'
2412038-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHL0313	12/06/24	12/07/24	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: **12/03/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0441	110 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0398	99.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHL0317	12/06/24	12/07/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/03/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.17	65.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB01@2.5'
2412038-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0441	12/11/24	12/15/24	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: **12/03/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0177	53.2 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0181	54.4 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0700	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB01@2.5'
2412038-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	5.12	0.200	mg/kg dry	1	BIA0620	01/14/25	01/17/25	EPA 6020B
Barium	184	0.400	"	"	"	"	"	"
Cadmium	0.760	0.200	"	"	"	"	"	"
Copper	14.3	0.400	"	"	"	"	"	"
Lead	26.3	0.200	"	"	"	"	"	"
Nickel	6.55	0.400	"	"	"	"	"	"
Silver	0.282	0.0200	"	"	"	"	"	"
Zinc	54.3	0.400	"	"	"	"	"	"
Selenium	0.265	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/03/24 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1339	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: 12/03/24 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	77.8	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	12.1	0.0500	"	"	"	"	"	"	
Sodium	19.1	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/03/24 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.532	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 12/03/24 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB01@2.5'
2412038-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	79.8	%	1	BHL0955	12/19/24	12/19/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.227	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.54		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB01@6'
2412038-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHL0313	12/06/24	12/07/24	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: **12/03/24 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0431	108 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0393	98.3 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0387	96.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHL0317	12/06/24	12/07/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/03/24 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.15	65.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB01@6'
2412038-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0441	12/11/24	12/15/24	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: **12/03/24 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0214	64.3 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0221	66.4 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0700	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB01@6'
2412038-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.57	0.200	mg/kg dry	1	BIA0620	01/14/25	01/17/25	EPA 6020B	
Barium	80.8	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.94	0.400	"	"	"	"	"	"	
Lead	7.15	0.200	"	"	"	"	"	"	
Nickel	3.62	0.400	"	"	"	"	"	"	
Silver	0.0378	0.0200	"	"	"	"	"	"	
Zinc	18.5	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/03/24 10:04

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1339	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: 12/03/24 10:04

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	144	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	64.6	0.0500	"	"	"	"	"	"	
Sodium	28.1	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/03/24 10:04

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.489	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB01@6'
2412038-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 10:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	85.0			%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 10:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.154	0.0100		mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 10:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.06			pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

Summit Scientific



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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB01@13'
2412038-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHL0313	12/06/24	12/07/24	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: **12/03/24 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0412	103 %	50-150	"	"	"	"	"	
Surrogate: Toluene-d8	0.0392	98.0 %	50-150	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0388	97.1 %	50-150	"	"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHL0317	12/06/24	12/07/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/03/24 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	6.75	54.0 %	30-150	"	"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB01@13'
2412038-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0441	12/11/24	12/15/24	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: **12/03/24 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0217	65.2 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0211	63.4 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0700	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB01@13'
2412038-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.411	0.200	mg/kg dry	1	BIA0620	01/14/25	01/17/25	EPA 6020B	
Barium	8.58	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.960	0.400	"	"	"	"	"	"	
Lead	1.09	0.200	"	"	"	"	"	"	
Nickel	0.720	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.17	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/03/24 10:06

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1339	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: 12/03/24 10:06

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	12.2	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	4.34	0.0500	"	"	"	"	"	"	
Sodium	12.4	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/03/24 10:06

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.776	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB01@13'
2412038-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 10:06**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	85.9			%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 10:06**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.100	0.0100		mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 10:06**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.89			pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB01@14'
2412038-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHL0313	12/06/24	12/07/24	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: **12/03/24 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0413	103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0388	97.1 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0403	101 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHL0317	12/06/24	12/07/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/03/24 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.55	60.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB01@14'
2412038-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0441	12/11/24	12/15/24	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: **12/03/24 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0197	59.2 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0201	60.2 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0700	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB01@14'
2412038-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	3.21	0.200	mg/kg dry	1	BIA0620	01/14/25	01/17/25	EPA 6020B
Barium	128	0.400	"	"	"	"	"	"
Cadmium	0.463	0.200	"	"	"	"	"	"
Copper	7.08	0.400	"	"	"	"	"	"
Lead	9.85	0.200	"	"	"	"	"	"
Nickel	7.08	0.400	"	"	"	"	"	"
Silver	0.0711	0.0200	"	"	"	"	"	"
Zinc	37.0	0.400	"	"	"	"	"	"
Selenium	1.72	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/03/24 10:08

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1339	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: 12/03/24 10:08

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	52.0	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	19.8	0.0500	"	"	"	"	"	"	
Sodium	52.1	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/03/24 10:08

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.56	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 12/03/24 10:08

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB01@14'
2412038-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	76.6	%	1	BHL0969	12/19/24	12/20/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.387	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.47		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

Summit Scientific



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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB02@2.5'
2412038-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHL0313	12/06/24	12/07/24	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: **12/03/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0455	114 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0393	98.3 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHL0317	12/06/24	12/07/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/03/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.87	62.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery
Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB02@2.5'
2412038-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0441	12/11/24	12/16/24	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: **12/03/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0209	62.8 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0209	62.6 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0700	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB02@2.5'
2412038-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.38	0.200	mg/kg dry	1	BIA0655	01/15/25	01/15/25	EPA 6020B	
Barium	168	0.400	"	"	"	"	"	"	
Cadmium	0.567	0.200	"	"	"	"	"	"	
Copper	11.9	0.400	"	"	"	"	"	"	
Lead	22.0	0.200	"	"	"	"	"	"	
Nickel	6.10	0.400	"	"	"	"	"	"	
Silver	0.222	0.0200	"	"	"	"	"	"	
Zinc	47.3	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/03/24 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1339	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: 12/03/24 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	59.6	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	10.4	0.0500	"	"	"	"	"	"	
Sodium	10.1	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/03/24 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.317	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 12/03/24 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB02@2.5'
2412038-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	82.6	%	1	BHL0969	12/19/24	12/20/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.222	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.49		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

Summit Scientific



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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB02@6'
2412038-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 09:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHL0313	12/06/24	12/07/24	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: **12/03/24 09:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0443	111 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0396	99.1 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0411	103 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 09:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHL0317	12/06/24	12/07/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **12/03/24 09:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	8.61	68.8 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB02@6'
2412038-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0441	12/11/24	12/16/24	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: **12/03/24 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0223	66.9 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0216	64.7 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0700	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB02@6'
2412038-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.26	0.200	mg/kg dry	1	BIA0655	01/15/25	01/15/25	EPA 6020B
Barium	79.9	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.88	0.400	"	"	"	"	"	"
Lead	6.65	0.200	"	"	"	"	"	"
Nickel	4.04	0.400	"	"	"	"	"	"
Silver	0.0361	0.0200	"	"	"	"	"	"
Zinc	18.2	0.400	"	"	"	"	"	"
Selenium	0.322	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/03/24 09:52

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1339	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: 12/03/24 09:52

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	313	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	140	0.0500	"	"	"	"	"	"	
Sodium	52.4	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/03/24 09:52

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.619	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 12/03/24 09:52

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB02@6'
2412038-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	81.3	%	1	BHL0969	12/19/24	12/20/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.249	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.91		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB02@13'
2412038-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHL0313	12/06/24	12/07/24	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: **12/03/24 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0430	107 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0396	98.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHL0317	12/06/24	12/07/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/03/24 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.27	66.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB02@13'
2412038-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0441	12/11/24	12/16/24	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: **12/03/24 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0223	66.8 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0239	71.8 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0700	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB02@13'
2412038-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	0.320	0.200	mg/kg dry	1	BIA0655	01/15/25	01/15/25	EPA 6020B
Barium	8.32	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.01	0.400	"	"	"	"	"	"
Lead	1.08	0.200	"	"	"	"	"	"
Nickel	0.999	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	5.00	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/03/24 09:54

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1339	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: 12/03/24 09:54

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	40.8	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	14.2	0.0500	"	"	"	"	"	"	
Sodium	27.7	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/03/24 09:54

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.952	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB02@13'
2412038-08 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 09:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	87.3			%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 09:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.217	0.0100		mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 09:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.95			pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB02@14'
2412038-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHL0313	12/06/24	12/07/24	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: **12/03/24 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0420	105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0400	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0388	96.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHL0317	12/06/24	12/07/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/03/24 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.64	61.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB02@14'
2412038-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0441	12/11/24	12/16/24	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: **12/03/24 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0232	69.6 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0243	73.0 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0700	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB02@14'
2412038-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	ND	0.200	mg/kg dry	1	BIA0655	01/15/25	01/15/25	EPA 6020B	
Barium	3.47	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.528	0.400	"	"	"	"	"	"	
Lead	0.631	0.200	"	"	"	"	"	"	
Nickel	0.580	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	2.40	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/03/24 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1339	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: **12/03/24 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	21.6	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	7.87	0.0500	"	"	"	"	"	"	
Sodium	28.9	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **12/03/24 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.35	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB02@14'
2412038-09 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 09:56**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	89.0			%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 09:56**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.236	0.0100		mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 09:56**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.21			pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB03@2.5'
2412038-11 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHL0313	12/06/24	12/07/24	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: **12/03/24 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0453	113 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0392	98.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0407	102 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHL0317	12/06/24	12/08/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/03/24 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	6.83	54.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB03@2.5'
2412038-11 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0441	12/11/24	12/16/24	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: **12/03/24 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0193	57.8 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0194	58.3 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0700	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB03@2.5'
2412038-11 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	4.58	0.200	mg/kg dry	1	BIA0747	01/16/25	01/18/25	EPA 6020B
Barium	162	0.400	"	"	"	"	"	"
Cadmium	0.474	0.200	"	"	"	"	"	"
Copper	12.1	0.400	"	"	"	"	"	"
Lead	19.8	0.200	"	"	"	"	"	"
Nickel	6.14	0.400	"	"	"	"	"	"
Silver	0.186	0.0200	"	"	"	"	"	"
Zinc	46.8	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/03/24 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1339	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: 12/03/24 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	91.2	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	12.3	0.0500	"	"	"	"	"	"	
Sodium	13.3	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/03/24 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.347	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 12/03/24 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB03@2.5'
2412038-11 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	79.3	%	1	BHL0969	12/19/24	12/20/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.210	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.68		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

Summit Scientific



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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB03@6'
2412038-12 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 09:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHL0313	12/06/24	12/07/24	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: **12/03/24 09:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0451	113 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0397	99.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0405	101 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 09:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHL0317	12/06/24	12/08/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/03/24 09:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	9.11	72.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB03@6'
2412038-12 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 09:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0441	12/11/24	12/16/24	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: **12/03/24 09:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0216	64.9 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0207	62.2 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 09:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0700	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 09:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB03@6'
2412038-12 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.73	0.200	mg/kg dry	1	BIA0747	01/16/25	01/20/25	EPA 6020B
Barium	119	0.400	"	"	"	"	"	"
Cadmium	0.241	0.200	"	"	"	"	"	"
Copper	6.79	0.400	"	"	"	"	"	"
Lead	8.80	0.200	"	"	"	"	"	"
Nickel	6.19	0.400	"	"	"	"	"	"
Silver	0.0394	0.0200	"	"	"	"	"	"
Zinc	28.0	0.400	"	"	"	"	"	"
Selenium	0.531	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/03/24 09:32

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1339	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: 12/03/24 09:32

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	192	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	73.8	0.0500	"	"	"	"	"	"	
Sodium	64.8	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/03/24 09:32

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.01	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 12/03/24 09:32

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB03@6'
2412038-12 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	79.5	%	1	BHL0969	12/19/24	12/20/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 09:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.292	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 09:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.90		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

Summit Scientific



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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB03@13'
2412038-13 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 09:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHL0313	12/06/24	12/07/24	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: **12/03/24 09:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0425	106 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0395	98.8 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0398	99.5 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 09:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHL0317	12/06/24	12/08/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **12/03/24 09:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	10.7	85.3 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB03@13'
2412038-13 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 09:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0441	12/11/24	12/16/24	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: **12/03/24 09:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0225	67.4 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0245	73.5 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 09:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0701	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 09:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB03@13'
2412038-13 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.380	0.200	mg/kg dry	1	BIA0747	01/16/25	01/18/25	EPA 6020B	
Barium	4.67	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.923	0.400	"	"	"	"	"	"	
Lead	0.956	0.200	"	"	"	"	"	"	
Nickel	0.893	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.77	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/03/24 09:34

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1339	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: 12/03/24 09:34

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	16.9	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	6.47	0.0500	"	"	"	"	"	"	
Sodium	25.7	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/03/24 09:34

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.35	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB03@13'
2412038-13 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 09:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	88.5			%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 09:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.222	0.0100		mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 09:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.83			pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB03@14'
2412038-14 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHL0313	12/06/24	12/07/24	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: **12/03/24 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0401	100 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0387	96.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0406	102 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHL0317	12/06/24	12/08/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/03/24 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	9.67	77.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB03@14'
2412038-14 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0441	12/11/24	12/16/24	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	0.00919	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.0152	0.00500	"	"	"	"	"	"	

Date Sampled: **12/03/24 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0180	54.1 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0191	57.4 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0701	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB03@14'
2412038-14 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	0.257	0.200	mg/kg dry	1	BIA0747	01/16/25	01/18/25	EPA 6020B
Barium	5.29	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	0.894	0.400	"	"	"	"	"	"
Lead	0.937	0.200	"	"	"	"	"	"
Nickel	0.769	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	3.44	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/03/24 09:36

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1339	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: 12/03/24 09:36

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	29.2	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	10.6	0.0500	"	"	"	"	"	"	
Sodium	36.4	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/03/24 09:36

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.47	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB03@14'
2412038-14 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 09:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	93.3			%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 09:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.313	0.0100		mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 09:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.30			pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB04@2.5'
2412038-16 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHL0313	12/06/24	12/07/24	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: **12/03/24 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0433	108 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0389	97.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0401	100 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHL0317	12/06/24	12/08/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/03/24 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.64	61.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB04@2.5'
2412038-16 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0441	12/11/24	12/16/24	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: **12/03/24 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0228	68.5 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0243	72.9 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0701	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB04@2.5'
2412038-16 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.13	0.200	mg/kg dry	1	BIA0747	01/16/25	01/18/25	EPA 6020B	
Barium	144	0.400	"	"	"	"	"	"	
Cadmium	0.237	0.200	"	"	"	"	"	"	
Copper	7.59	0.400	"	"	"	"	"	"	
Lead	10.5	0.200	"	"	"	"	"	"	
Nickel	5.17	0.400	"	"	"	"	"	"	
Silver	0.0706	0.0200	"	"	"	"	"	"	
Zinc	29.9	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/03/24 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1339	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: 12/03/24 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	58.5	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	9.19	0.0500	"	"	"	"	"	"	
Sodium	19.4	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/03/24 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.622	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 12/03/24 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB04@2.5'
2412038-16 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	90.1	%	1	BHL0969	12/19/24	12/20/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.208	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.64		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

Summit Scientific



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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB04@6'
2412038-17 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHL0313	12/06/24	12/07/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.050	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	0.0090	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.3	0.50	"	"	"	"	"	"	

Date Sampled: **12/03/24 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0423	106 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0415	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0417	104 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHL0317	12/06/24	12/08/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/03/24 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.61	60.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB04@6'
2412038-17 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0441	12/11/24	12/16/24	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: **12/03/24 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0246	73.7 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0261	78.3 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0701	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB04@6'
2412038-17 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.20	0.200	mg/kg dry	1	BIA0747	01/16/25	01/20/25	EPA 6020B
Barium	126	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	4.88	0.400	"	"	"	"	"	"
Lead	9.05	0.200	"	"	"	"	"	"
Nickel	4.62	0.400	"	"	"	"	"	"
Silver	0.0402	0.0200	"	"	"	"	"	"
Zinc	24.1	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/03/24 10:22

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1339	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: 12/03/24 10:22

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	326	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	165	0.0500	"	"	"	"	"	"	
Sodium	92.3	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/03/24 10:22

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.04	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB04@6'
2412038-17 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	78.7		%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.451	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.28		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB04@13'
2412038-18 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHL0313	12/06/24	12/07/24	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: **12/03/24 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0419	105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0387	96.7 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0386	96.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHL0317	12/06/24	12/08/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/03/24 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	9.70	77.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB04@13'
2412038-18 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0441	12/11/24	12/16/24	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: **12/03/24 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0240	71.9 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0247	74.2 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0701	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB04@13'
2412038-18 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	ND	0.200	mg/kg dry	1	BIA0747	01/16/25	01/18/25	EPA 6020B
Barium	5.57	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	0.665	0.400	"	"	"	"	"	"
Lead	0.817	0.200	"	"	"	"	"	"
Nickel	0.691	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	3.31	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/03/24 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1339	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: **12/03/24 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	14.9	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	5.01	0.0500	"	"	"	"	"	"	
Sodium	21.6	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **12/03/24 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.24	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB04@13'
2412038-18 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 10:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	91.7			%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 10:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.176	0.0100		mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 10:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.99			pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB04@14'
2412038-19 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 10:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHL0313	12/06/24	12/07/24	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: **12/03/24 10:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0437	109 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0403	101 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 10:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHL0317	12/06/24	12/08/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/03/24 10:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.15	65.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project Number: [none]
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Reported:
01/21/25 12:25

SB04@14'
2412038-19 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 10:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0441	12/11/24	12/16/24	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: **12/03/24 10:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0206	61.9 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0224	67.2 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 10:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0701	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 10:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB04@14'
2412038-19 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	0.522	0.200	mg/kg dry	1	BIA0747	01/16/25	01/18/25	EPA 6020B
Barium	5.32	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	0.954	0.400	"	"	"	"	"	"
Lead	1.10	0.200	"	"	"	"	"	"
Nickel	1.09	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	4.16	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/03/24 10:27

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1339	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: 12/03/24 10:27

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	16.5	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	5.75	0.0500	"	"	"	"	"	"	
Sodium	22.3	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/03/24 10:27

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.20	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB04@14'
2412038-19 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 10:27**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	88.0			%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 10:27**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.178	0.0100		mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 10:27**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.94			pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

Summit Scientific

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Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB05@2.5'
2412038-21 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHL0313	12/06/24	12/09/24	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: **12/03/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0375	93.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0390	97.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0390	97.5 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHL0317	12/06/24	12/08/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/03/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.04	56.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project Number: [none]
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Reported:
01/21/25 12:25

SB05@2.5'
2412038-21 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0441	12/11/24	12/16/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.00501	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	0.00559	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/03/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0153	45.9 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0162	48.6 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0701	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB05@2.5'
2412038-21 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.08	0.200	mg/kg dry	1	BIA0747	01/16/25	01/18/25	EPA 6020B	
Barium	130	0.400	"	"	"	"	"	"	
Cadmium	0.521	0.200	"	"	"	"	"	"	
Copper	15.4	0.400	"	"	"	"	"	"	
Lead	23.0	0.200	"	"	"	"	"	"	
Nickel	5.41	0.400	"	"	"	"	"	"	
Silver	0.274	0.0200	"	"	"	"	"	"	
Zinc	49.3	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/03/24 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1339	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: 12/03/24 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	127	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	79.0	0.0500	"	"	"	"	"	"	
Sodium	101	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/03/24 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.73	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 12/03/24 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Number: [none]
Project Manager: Bryce Goldade

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01/21/25 12:25

SB05@2.5'
2412038-21 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	84.4	%	1	BHL0969	12/19/24	12/20/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.30	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.11		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

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Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB05@6'
2412038-22 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 10:53**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHL0313	12/06/24	12/09/24	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: **12/03/24 10:53**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0368	92.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0392	98.0 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0377	94.4 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 10:53**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHL0317	12/06/24	12/08/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **12/03/24 10:53**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	8.92	71.3 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB05@6'
2412038-22 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 10:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0441	12/11/24	12/16/24	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: **12/03/24 10:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0149	44.7 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0152	45.7 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 10:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0701	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 10:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB05@6'
2412038-22 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	3.20	0.200	mg/kg dry	1	BIA0747	01/16/25	01/18/25	EPA 6020B
Barium	81.5	0.400	"	"	"	"	"	"
Cadmium	0.373	0.200	"	"	"	"	"	"
Copper	12.5	0.400	"	"	"	"	"	"
Lead	13.9	0.200	"	"	"	"	"	"
Nickel	7.84	0.400	"	"	"	"	"	"
Silver	0.0800	0.0200	"	"	"	"	"	"
Zinc	33.8	0.400	"	"	"	"	"	"
Selenium	0.385	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/03/24 10:53

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1339	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: 12/03/24 10:53

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	226	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	123	0.0500	"	"	"	"	"	"	
Sodium	49.0	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/03/24 10:53

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.652	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 12/03/24 10:53

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB05@6'
2412038-22 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	73.7	%	1	BHL0969	12/19/24	12/20/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 10:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.226	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 10:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.83		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB05@13'
2412038-23 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHL0313	12/06/24	12/09/24	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: **12/03/24 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0375	93.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0385	96.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0385	96.3 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHL0317	12/06/24	12/08/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/03/24 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.67	69.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB05@13'
2412038-23 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0441	12/11/24	12/16/24	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: **12/03/24 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0238	71.5 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0255	76.4 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0701	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB05@13'
2412038-23 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.836	0.200	mg/kg dry	1	BIA0747	01/16/25	01/18/25	EPA 6020B	
Barium	44.6	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.04	0.400	"	"	"	"	"	"	
Lead	3.07	0.200	"	"	"	"	"	"	
Nickel	2.95	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	14.4	0.400	"	"	"	"	"	"	
Selenium	0.460	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/03/24 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1340	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: 12/03/24 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	122	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	45.9	0.0500	"	"	"	"	"	"	
Sodium	38.5	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/03/24 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.754	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB05@13'
2412038-23 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 10:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	89.8			%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 10:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.320	0.0100		mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 10:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.64			pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

Summit Scientific

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Tasman Geosciences
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Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB05@14'
2412038-24 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 10:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHL0313	12/06/24	12/09/24	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: **12/03/24 10:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0372	93.1 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0391	97.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0388	97.1 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 10:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHL0317	12/06/24	12/08/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/03/24 10:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.41	67.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB05@14'
2412038-24 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 10:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0441	12/11/24	12/16/24	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: **12/03/24 10:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0193	58.0 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0202	60.7 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 10:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0701	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 10:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB05@14'
2412038-24 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	0.499	0.200	mg/kg dry	1	BIA0747	01/16/25	01/18/25	EPA 6020B
Barium	17.4	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.04	0.400	"	"	"	"	"	"
Lead	2.20	0.200	"	"	"	"	"	"
Nickel	2.44	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	10.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/03/24 10:57

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1340	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: 12/03/24 10:57

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	42.0	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	14.9	0.0500	"	"	"	"	"	"	
Sodium	36.3	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/03/24 10:57

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.23	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB05@14'
2412038-24 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 10:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	89.9			%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 10:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.298	0.0100		mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 10:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.04			pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB06@2.5'
2412038-26 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 10:33**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHL0314	12/06/24	12/07/24	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: **12/03/24 10:33**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0382	95.6 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0388	97.1 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0378	94.6 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 10:33**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHL0318	12/06/24	12/07/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **12/03/24 10:33**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	9.63	77.0 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB06@2.5'
2412038-26 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0517	12/12/24	12/14/24	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: **12/03/24 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0176	52.7 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0200	60.1 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0701	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB06@2.5'
2412038-26 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	3.44	0.200	mg/kg dry	1	BIA0747	01/16/25	01/18/25	EPA 6020B
Barium	231	0.400	"	"	"	"	"	"
Cadmium	0.355	0.200	"	"	"	"	"	"
Copper	8.44	0.400	"	"	"	"	"	"
Lead	10.0	0.200	"	"	"	"	"	"
Nickel	7.20	0.400	"	"	"	"	"	"
Silver	0.0608	0.0200	"	"	"	"	"	"
Zinc	29.8	0.400	"	"	"	"	"	"
Selenium	0.262	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/03/24 10:33

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1340	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: 12/03/24 10:33

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	42.1	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	27.6	0.0500	"	"	"	"	"	"	
Sodium	101	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/03/24 10:33

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.97	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 12/03/24 10:33

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB06@2.5'
2412038-26 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	76.4	%	1	BHL0969	12/19/24	12/20/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.680	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.04		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB06@6'
2412038-27 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 10:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHL0314	12/06/24	12/07/24	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: **12/03/24 10:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0380	95.1 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0390	97.4 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0376	93.9 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 10:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHL0318	12/06/24	12/07/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **12/03/24 10:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.2	89.3 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB06@6'
2412038-27 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0517	12/12/24	12/14/24	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: **12/03/24 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0197	59.0 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0209	62.8 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0701	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB06@6'
2412038-27 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	0.482	0.200	mg/kg dry	1	BIA0747	01/16/25	01/18/25	EPA 6020B
Barium	7.43	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	0.932	0.400	"	"	"	"	"	"
Lead	1.18	0.200	"	"	"	"	"	"
Nickel	1.11	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	5.41	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/03/24 10:36

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1340	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: 12/03/24 10:36

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	37.8	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	13.2	0.0500	"	"	"	"	"	"	
Sodium	29.9	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/03/24 10:36

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.07	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB06@6'
2412038-27 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 10:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	93.1			%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 10:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.231	0.0100		mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 10:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.52			pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB06@13'
2412038-28 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 10:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHL0314	12/06/24	12/07/24	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: **12/03/24 10:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0376	94.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0386	96.5 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0384	95.9 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 10:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHL0318	12/06/24	12/07/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **12/03/24 10:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.7	93.4 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB06@13'
2412038-28 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0517	12/12/24	12/14/24	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: **12/03/24 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0268	80.4 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0279	83.8 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0701	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB06@13'
2412038-28 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	ND	0.200	mg/kg dry	1	BIA0747	01/16/25	01/18/25	EPA 6020B
Barium	2.61	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	0.711	0.400	"	"	"	"	"	"
Lead	0.771	0.200	"	"	"	"	"	"
Nickel	0.598	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	2.64	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/03/24 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1340	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: **12/03/24 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	10.8	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	3.88	0.0500	"	"	"	"	"	"	
Sodium	17.3	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **12/03/24 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.15	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB06@13'
2412038-28 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.4		%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.143	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.64		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB06@14'
2412038-29 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/24 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHL0314	12/06/24	12/07/24	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: **12/03/24 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0374	93.4 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0388	97.0 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0370	92.5 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/24 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHL0318	12/06/24	12/07/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **12/03/24 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.7	93.2 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB06@14'
2412038-29 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/03/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0517	12/12/24	12/14/24	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: **12/03/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0188	56.4 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0186	55.7 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0701	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB06@14'
2412038-29 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	0.316	0.200	mg/kg dry	1	BIA0747	01/16/25	01/18/25	EPA 6020B
Barium	3.47	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.82	0.400	"	"	"	"	"	"
Lead	1.25	0.200	"	"	"	"	"	"
Nickel	1.64	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	5.42	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/03/24 10:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1340	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: 12/03/24 10:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	8.33	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	2.93	0.0500	"	"	"	"	"	"	
Sodium	15.9	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/03/24 10:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.21	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

SB06@14'
2412038-29 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.0		%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.131	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.46		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG06@2.5'
2412038-31 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 12:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIA0701	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 12:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.927	0.200	mg/kg dry	1	BIA0747	01/16/25	01/18/25	EPA 6020B	
Barium	21.5	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.53	0.400	"	"	"	"	"	"	
Lead	3.37	0.200	"	"	"	"	"	"	
Nickel	2.24	0.400	"	"	"	"	"	"	
Silver	0.0208	0.0200	"	"	"	"	"	"	
Zinc	11.9	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/03/24 12:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1340	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: **12/03/24 12:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	73.0	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	38.8	0.0500	"	"	"	"	"	"	
Sodium	40.4	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG06@2.5'
2412038-31 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/03/24 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.951	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.3		%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.193	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.56		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG06@4'
2412038-32 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIA0701	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.570	0.200	mg/kg dry	1	BIA0747	01/16/25	01/18/25	EPA 6020B	
Barium	13.0	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.57	0.400	"	"	"	"	"	"	
Lead	2.00	0.200	"	"	"	"	"	"	
Nickel	1.14	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	6.09	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/03/24 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1340	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: **12/03/24 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	172	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	78.2	0.0500	"	"	"	"	"	"	
Sodium	28.7	0.0500	"	"	"	"	"	"	

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG06@4'
2412038-32 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/03/24 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.456	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.3		%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.139	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.52		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG06@6'
2412038-33 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 12:43**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIA0701	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 12:43**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.248	0.200	mg/kg dry	1	BIA0747	01/16/25	01/18/25	EPA 6020B	
Barium	6.38	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.17	0.400	"	"	"	"	"	"	
Lead	0.786	0.200	"	"	"	"	"	"	
Nickel	1.97	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.58	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/03/24 12:43**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1340	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: **12/03/24 12:43**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	16.2	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	5.50	0.0500	"	"	"	"	"	"	
Sodium	27.4	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG06@6'
2412038-33 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/03/24 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.50	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.9		%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.238	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.07		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG06@14'
2412038-34 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	ND	2.00		mg/L	1	BIA0701	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	0.398	0.200		mg/kg dry	1	BIA0749	01/16/25	01/18/25	EPA 6020B	
Barium	3.93	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Copper	0.787	0.400		"	"	"	"	"	"	
Lead	0.909	0.200		"	"	"	"	"	"	
Nickel	0.709	0.400		"	"	"	"	"	"	
Silver	ND	0.0200		"	"	"	"	"	"	
Zinc	3.70	0.400		"	"	"	"	"	"	
Selenium	ND	0.260		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/03/24 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BHL1340	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: **12/03/24 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	6.31	0.0500		mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	2.12	0.0500		"	"	"	"	"	"	
Sodium	8.89	0.0500		"	"	"	"	"	"	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG06@14'
2412038-34 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/03/24 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.782	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.9		%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0565	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.03		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG07@2.5'
2412038-35 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 12:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIA0701	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 12:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	3.26	0.200	mg/kg dry	1	BIA0749	01/16/25	01/18/25	EPA 6020B	
Barium	90.4	0.400	"	"	"	"	"	"	
Cadmium	0.298	0.200	"	"	"	"	"	"	
Copper	9.11	0.400	"	"	"	"	"	"	
Lead	13.9	0.200	"	"	"	"	"	"	
Nickel	4.68	0.400	"	"	"	"	"	"	
Silver	0.136	0.0200	"	"	"	"	"	"	
Zinc	31.5	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/03/24 12:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1340	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: **12/03/24 12:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	169	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	68.1	0.0500	"	"	"	"	"	"	
Sodium	182	0.0500	"	"	"	"	"	"	

Summit Scientific

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



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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG07@2.5'
2412038-35 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/03/24 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.99	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.8		%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.92	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.05		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG07@4'
2412038-36 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 12:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIA0701	01/15/25	01/18/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 12:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.921	0.200	mg/kg dry	1	BIA0749	01/16/25	01/18/25	EPA 6020B	
Barium	8.54	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.09	0.400	"	"	"	"	"	"	
Lead	1.36	0.200	"	"	"	"	"	"	
Nickel	0.925	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	5.18	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/03/24 12:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1340	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: **12/03/24 12:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	45.7	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	16.1	0.0500	"	"	"	"	"	"	
Sodium	22.6	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG07@4'
2412038-36 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/03/24 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.732	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.4		%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.140	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.28		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG07@6'
2412038-37 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 12:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIA0828	01/17/25	01/20/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 12:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.905	0.200	mg/kg dry	1	BIA0749	01/16/25	01/18/25	EPA 6020B	
Barium	9.33	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.55	0.400	"	"	"	"	"	"	
Lead	1.28	0.200	"	"	"	"	"	"	
Nickel	1.12	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	5.69	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/03/24 12:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1340	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: **12/03/24 12:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	18.0	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	6.00	0.0500	"	"	"	"	"	"	
Sodium	24.8	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG07@6'
2412038-37 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/03/24 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.29	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.1		%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.202	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.92		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG07@14'
2412038-38 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 12:57**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIA0828	01/17/25	01/20/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 12:57**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.206	0.200	mg/kg dry	1	BIA0749	01/16/25	01/18/25	EPA 6020B	
Barium	3.81	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.902	0.400	"	"	"	"	"	"	
Lead	0.955	0.200	"	"	"	"	"	"	
Nickel	0.685	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.27	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/03/24 12:57**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1340	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: **12/03/24 12:57**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	16.2	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	5.28	0.0500	"	"	"	"	"	"	
Sodium	19.4	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG07@14'
2412038-38 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/03/24 12:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.07	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 12:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.6		%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 12:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.161	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 12:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.01		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG08@2.5'
2412038-39 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 13:06**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	ND	2.00		mg/L	1	BIA0828	01/17/25	01/20/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 13:06**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	1.50	0.200		mg/kg dry	1	BIA0749	01/16/25	01/18/25	EPA 6020B	
Barium	36.6	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Copper	4.35	0.400		"	"	"	"	"	"	
Lead	4.65	0.200		"	"	"	"	"	"	
Nickel	3.05	0.400		"	"	"	"	"	"	
Silver	0.0286	0.0200		"	"	"	"	"	"	
Zinc	17.0	0.400		"	"	"	"	"	"	
Selenium	ND	0.260		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/03/24 13:06**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BHL1340	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: **12/03/24 13:06**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	24.9	0.0500		mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	11.5	0.0500		"	"	"	"	"	"	
Sodium	134	0.0500		"	"	"	"	"	"	

Summit Scientific

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



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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG08@2.5'
2412038-39 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/03/24 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.57	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.1		%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.721	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.80		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG08@4'
2412038-40 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 13:08**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIA0828	01/17/25	01/20/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 13:08**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.96	0.200	mg/kg dry	1	BIA0749	01/16/25	01/20/25	EPA 6020B	
Barium	16.2	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.21	0.400	"	"	"	"	"	"	
Lead	2.55	0.200	"	"	"	"	"	"	
Nickel	1.68	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	7.25	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/03/24 13:08**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1340	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: **12/03/24 13:08**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	38.6	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	12.9	0.0500	"	"	"	"	"	"	
Sodium	15.0	0.0500	"	"	"	"	"	"	

Summit Scientific

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



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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG08@4'
2412038-40 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/03/24 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.534	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.4		%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.107	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.27		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

Summit Scientific

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



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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG08@6'
2412038-41 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 13:12**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIA0828	01/17/25	01/20/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 13:12**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.314	0.200	mg/kg dry	1	BIA0749	01/16/25	01/18/25	EPA 6020B	
Barium	6.30	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.880	0.400	"	"	"	"	"	"	
Lead	1.07	0.200	"	"	"	"	"	"	
Nickel	0.917	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.40	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/03/24 13:12**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1340	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: **12/03/24 13:12**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	11.7	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	4.03	0.0500	"	"	"	"	"	"	
Sodium	18.2	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG08@6'
2412038-41 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/03/24 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.17	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.2		%	1	BHL0969	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.152	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.81		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG08@14'
2412038-42 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 13:14**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIA0828	01/17/25	01/20/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 13:14**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.294	0.200	mg/kg dry	1	BIA0749	01/16/25	01/18/25	EPA 6020B	
Barium	4.94	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.11	0.400	"	"	"	"	"	"	
Lead	1.10	0.200	"	"	"	"	"	"	
Nickel	0.961	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.11	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/03/24 13:14**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1340	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: **12/03/24 13:14**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	29.8	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	10.1	0.0500	"	"	"	"	"	"	
Sodium	45.3	0.0500	"	"	"	"	"	"	

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG08@14'
2412038-42 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/03/24 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.83	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.8		%	1	BHL0981	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.411	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.18		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG09@2.5'
2412038-43 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 13:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	ND	2.00		mg/L	1	BIA0828	01/17/25	01/20/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 13:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	3.83	0.200		mg/kg dry	1	BIA0749	01/16/25	01/18/25	EPA 6020B	
Barium	166	0.400		"	"	"	"	"	"	
Cadmium	0.326	0.200		"	"	"	"	"	"	
Copper	9.83	0.400		"	"	"	"	"	"	
Lead	13.2	0.200		"	"	"	"	"	"	
Nickel	6.79	0.400		"	"	"	"	"	"	
Silver	0.0912	0.0200		"	"	"	"	"	"	
Zinc	31.3	0.400		"	"	"	"	"	"	
Selenium	ND	0.260		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/03/24 13:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BHL1340	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: **12/03/24 13:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	336	0.0500		mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	197	0.0500		"	"	"	"	"	"	
Sodium	898	0.0500		"	"	"	"	"	"	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG09@2.5'
2412038-43 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/03/24 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	9.62	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	78.2		%	1	BHL0981	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	5.12	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.93		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG09@4'
2412038-44 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 13:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	ND	2.00		mg/L	1	BIA0828	01/17/25	01/20/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 13:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	2.19	0.200		mg/kg dry	1	BIA0749	01/16/25	01/18/25	EPA 6020B	
Barium	151	0.400		"	"	"	"	"	"	
Cadmium	0.254	0.200		"	"	"	"	"	"	
Copper	8.47	0.400		"	"	"	"	"	"	
Lead	13.0	0.200		"	"	"	"	"	"	
Nickel	6.79	0.400		"	"	"	"	"	"	
Silver	0.0647	0.0200		"	"	"	"	"	"	
Zinc	35.0	0.400		"	"	"	"	"	"	
Selenium	ND	0.260		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/03/24 13:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BHL1340	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: **12/03/24 13:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	244	0.0500		mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	141	0.0500		"	"	"	"	"	"	
Sodium	57.6	0.0500		"	"	"	"	"	"	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG09@4'
2412038-44 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/03/24 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.727	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	75.4		%	1	BHL0981	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.259	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.87		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG09@6'
2412038-45 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 13:23**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIA0828	01/17/25	01/20/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 13:23**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.17	0.200	mg/kg dry	1	BIA0749	01/16/25	01/18/25	EPA 6020B	
Barium	95.8	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	6.77	0.400	"	"	"	"	"	"	
Lead	7.90	0.200	"	"	"	"	"	"	
Nickel	4.27	0.400	"	"	"	"	"	"	
Silver	0.0468	0.0200	"	"	"	"	"	"	
Zinc	24.7	0.400	"	"	"	"	"	"	
Selenium	0.285	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/03/24 13:23**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1342	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: **12/03/24 13:23**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	189	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	77.7	0.0500	"	"	"	"	"	"	
Sodium	42.0	0.0500	"	"	"	"	"	"	

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG09@6'
2412038-45 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/03/24 13:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.649	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 13:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	77.5		%	1	BHL0981	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 13:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.201	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 13:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.84		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG09@14'
2412038-46 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/03/24 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIA0828	01/17/25	01/20/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/03/24 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.334	0.200	mg/kg dry	1	BIA0749	01/16/25	01/18/25	EPA 6020B	
Barium	8.33	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.33	0.400	"	"	"	"	"	"	
Lead	2.19	0.200	"	"	"	"	"	"	
Nickel	1.05	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	6.65	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/03/24 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL1342	12/30/24	12/31/24	EPA 7196A	

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

Date Sampled: **12/03/24 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	16.6	0.0500	mg/L dry	1	BHL1336	12/30/24	01/08/25	EPA 6020B	
Magnesium	5.87	0.0500	"	"	"	"	"	"	
Sodium	27.7	0.0500	"	"	"	"	"	"	

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

BKG09@14'
2412038-46 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/03/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.49	0.00100	units	1	BIA0361	01/09/25	01/09/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.2		%	1	BHL0981	12/19/24	12/20/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/03/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.228	0.0100	mmhos/cm	1	BHL1341	12/30/24	01/06/25	EPA 120.1	

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

Date Sampled: **12/03/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.64		pH Units	1	BHL1338	12/30/24	01/06/25	EPA 9045D	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

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 BHL0313 - EPA 5030 Soil MS

Blank (BHL0313-BLK1)

Prepared: 12/06/24 Analyzed: 12/07/24

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	0.0434		"	0.0400		108	50-150			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.5	50-150			
Surrogate: 4-Bromofluorobenzene	0.0394		"	0.0400		98.4	50-150			

LCS (BHL0313-BS1)

Prepared: 12/06/24 Analyzed: 12/07/24

Benzene	0.0962	0.0020	mg/kg	0.100		96.2	70-130			
Toluene	0.0963	0.0050	"	0.100		96.3	70-130			
Ethylbenzene	0.0935	0.0050	"	0.100		93.5	70-130			
m,p-Xylene	0.183	0.010	"	0.200		91.3	70-130			
o-Xylene	0.0919	0.0050	"	0.100		91.9	70-130			
1,2,4-Trimethylbenzene	0.0907	0.0050	"	0.100		90.7	70-130			
1,3,5-Trimethylbenzene	0.0901	0.0050	"	0.100		90.1	70-130			
Naphthalene	0.0850	0.0038	"	0.100		85.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0427		"	0.0400		107	50-150			
Surrogate: Toluene-d8	0.0406		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0403		"	0.0400		101	50-150			

Matrix Spike (BHL0313-MS1)

Source: 2412038-01

Prepared: 12/06/24 Analyzed: 12/07/24

Benzene	0.0893	0.0020	mg/kg	0.100	ND	89.3	70-130			
Toluene	0.0835	0.0050	"	0.100	ND	83.5	70-130			
Ethylbenzene	0.0734	0.0050	"	0.100	ND	73.4	70-130			
m,p-Xylene	0.139	0.010	"	0.200	ND	69.7	70-130			QM-05
o-Xylene	0.0706	0.0050	"	0.100	ND	70.6	70-130			
1,2,4-Trimethylbenzene	0.0618	0.0050	"	0.100	ND	61.8	70-130			QM-05
1,3,5-Trimethylbenzene	0.0653	0.0050	"	0.100	ND	65.3	70-130			QM-05
Naphthalene	0.0484	0.0038	"	0.100	ND	48.4	70-130			QM-05
Surrogate: 1,2-Dichloroethane-d4	0.0482		"	0.0400		121	50-150			
Surrogate: Toluene-d8	0.0406		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0407		"	0.0400		102	50-150			

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHL0313 - EPA 5030 Soil MS

Matrix Spike Dup (BHL0313-MSD1)	Source: 2412038-01			Prepared: 12/06/24 Analyzed: 12/07/24						
Benzene	0.0814	0.0020	mg/kg	0.100	ND	81.4	70-130	9.24	30	
Toluene	0.0789	0.0050	"	0.100	ND	78.9	70-130	5.62	30	
Ethylbenzene	0.0745	0.0050	"	0.100	ND	74.5	70-130	1.46	30	
m,p-Xylene	0.142	0.010	"	0.200	ND	70.9	70-130	1.68	30	
o-Xylene	0.0722	0.0050	"	0.100	ND	72.2	70-130	2.10	30	
1,2,4-Trimethylbenzene	0.0638	0.0050	"	0.100	ND	63.8	70-130	3.15	30	QM-05
1,3,5-Trimethylbenzene	0.0664	0.0050	"	0.100	ND	66.4	70-130	1.73	30	QM-05
Naphthalene	0.0516	0.0038	"	0.100	ND	51.6	70-130	6.42	30	QM-05
Surrogate: 1,2-Dichloroethane-d4	0.0449		"	0.0400		112	50-150			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.5	50-150			
Surrogate: 4-Bromofluorobenzene	0.0397		"	0.0400		99.2	50-150			

Batch BHL0314 - EPA 5030 Soil MS

Blank (BHL0314-BLK1)			Prepared: 12/06/24 Analyzed: 12/07/24			
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	0.0371		"	0.0400	92.8	50-150
Surrogate: Toluene-d8	0.0389		"	0.0400	97.2	50-150
Surrogate: 4-Bromofluorobenzene	0.0380		"	0.0400	95.0	50-150

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

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 BHL0314 - EPA 5030 Soil MS

LCS (BHL0314-BS1)

Prepared: 12/06/24 Analyzed: 12/07/24

Benzene	0.0895	0.0020	mg/kg	0.100		89.5	70-130			
Toluene	0.0891	0.0050	"	0.100		89.1	70-130			
Ethylbenzene	0.0939	0.0050	"	0.100		93.9	70-130			
m,p-Xylene	0.179	0.010	"	0.200		89.7	70-130			
o-Xylene	0.0904	0.0050	"	0.100		90.4	70-130			
1,2,4-Trimethylbenzene	0.0887	0.0050	"	0.100		88.7	70-130			
1,3,5-Trimethylbenzene	0.0899	0.0050	"	0.100		89.9	70-130			
Naphthalene	0.0869	0.0038	"	0.100		86.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0361		"	0.0400		90.3	50-150			
Surrogate: Toluene-d8	0.0388		"	0.0400		97.0	50-150			
Surrogate: 4-Bromofluorobenzene	0.0372		"	0.0400		92.9	50-150			

Matrix Spike (BHL0314-MS1)

Source: 2412024-04

Prepared: 12/06/24 Analyzed: 12/07/24

Benzene	0.0619	0.0020	mg/kg	0.100	ND	61.9	70-130			QM-05
Toluene	0.0614	0.0050	"	0.100	ND	61.4	70-130			QM-05
Ethylbenzene	0.0597	0.0050	"	0.100	ND	59.7	70-130			QM-05
m,p-Xylene	0.122	0.010	"	0.200	ND	60.9	70-130			QM-05
o-Xylene	0.0646	0.0050	"	0.100	ND	64.6	70-130			QM-05
1,2,4-Trimethylbenzene	0.0526	0.0050	"	0.100	ND	52.6	70-130			QM-05
1,3,5-Trimethylbenzene	0.0638	0.0050	"	0.100	ND	63.8	70-130			QM-05
Naphthalene	0.0429	0.0038	"	0.100	ND	42.9	70-130			QM-05
Surrogate: 1,2-Dichloroethane-d4	0.0388		"	0.0400		97.0	50-150			
Surrogate: Toluene-d8	0.0390		"	0.0400		97.4	50-150			
Surrogate: 4-Bromofluorobenzene	0.0377		"	0.0400		94.4	50-150			

Matrix Spike Dup (BHL0314-MSD1)

Source: 2412024-04

Prepared: 12/06/24 Analyzed: 12/07/24

Benzene	0.0697	0.0020	mg/kg	0.100	ND	69.7	70-130	11.9	30	QM-05
Toluene	0.0696	0.0050	"	0.100	ND	69.6	70-130	12.5	30	QM-05
Ethylbenzene	0.0726	0.0050	"	0.100	ND	72.6	70-130	19.4	30	
m,p-Xylene	0.139	0.010	"	0.200	ND	69.6	70-130	13.4	30	QM-05
o-Xylene	0.0704	0.0050	"	0.100	ND	70.4	70-130	8.54	30	
1,2,4-Trimethylbenzene	0.0640	0.0050	"	0.100	ND	64.0	70-130	19.6	30	QM-05
1,3,5-Trimethylbenzene	0.0700	0.0050	"	0.100	ND	70.0	70-130	9.33	30	
Naphthalene	0.0577	0.0038	"	0.100	ND	57.7	70-130	29.3	30	QM-05
Surrogate: 1,2-Dichloroethane-d4	0.0386		"	0.0400		96.4	50-150			
Surrogate: Toluene-d8	0.0389		"	0.0400		97.2	50-150			
Surrogate: 4-Bromofluorobenzene	0.0378		"	0.0400		94.5	50-150			

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

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 BHL0317 - EPA 3550A

Blank (BHL0317-BLK1)

Prepared: 12/06/24 Analyzed: 12/07/24

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	11.5		"	12.5		92.3	30-150				

LCS (BHL0317-BS1)

Prepared: 12/06/24 Analyzed: 12/07/24

C10-C28 (DRO)	489	50	mg/kg	500		97.8	70-130				
Surrogate: <i>o</i> -Terphenyl	11.8		"	12.5		94.8	30-150				

Matrix Spike (BHL0317-MS1)

Source: 2412038-01

Prepared: 12/06/24 Analyzed: 12/07/24

C10-C28 (DRO)	474	50	mg/kg	500	26.8	89.4	70-130				
Surrogate: <i>o</i> -Terphenyl	10.7		"	12.5		85.4	30-150				

Matrix Spike Dup (BHL0317-MSD1)

Source: 2412038-01

Prepared: 12/06/24 Analyzed: 12/07/24

C10-C28 (DRO)	483	50	mg/kg	500	26.8	91.3	70-130	1.93	20		
Surrogate: <i>o</i> -Terphenyl	10.0		"	12.5		80.0	30-150				

Batch BHL0318 - EPA 3550A

Blank (BHL0318-BLK1)

Prepared: 12/06/24 Analyzed: 12/07/24

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	13.5		"	12.5		108	30-150				

LCS (BHL0318-BS1)

Prepared: 12/06/24 Analyzed: 12/07/24

C10-C28 (DRO)	593	50	mg/kg	500		119	70-130				
Surrogate: <i>o</i> -Terphenyl	13.6		"	12.5		109	30-150				

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHL0318 - EPA 3550A

Matrix Spike (BHL0318-MS1)

Source: 2412024-04

Prepared: 12/06/24 Analyzed: 12/07/24

C10-C28 (DRO)	572	50	mg/kg	500	32.0	108	70-130			
Surrogate: o-Terphenyl	10.6		"	12.5		84.5	30-150			

Matrix Spike Dup (BHL0318-MSD1)

Source: 2412024-04

Prepared: 12/06/24 Analyzed: 12/07/24

C10-C28 (DRO)	594	50	mg/kg	500	32.0	112	70-130	3.83	20	
Surrogate: o-Terphenyl	10.9		"	12.5		87.3	30-150			

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Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

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 BHL0441 - EPA 5030 Soil MS

Blank (BHL0441-BLK1)

Prepared: 12/11/24 Analyzed: 12/15/24

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0250</i>		"	<i>0.0333</i>		<i>74.9</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0251</i>		"	<i>0.0333</i>		<i>75.4</i>	<i>40-140</i>			

LCS (BHL0441-BS1)

Prepared: 12/11/24 Analyzed: 12/15/24

Acenaphthene	0.0249	0.00500	mg/kg	0.0333		74.6	40-140			
Anthracene	0.0269	0.00500	"	0.0333		80.6	40-140			
Benzo (a) anthracene	0.0260	0.00500	"	0.0333		77.9	40-140			
Benzo (a) pyrene	0.0219	0.00500	"	0.0333		65.6	40-140			
Benzo (b) fluoranthene	0.0218	0.00500	"	0.0333		65.4	40-140			
Benzo (k) fluoranthene	0.0233	0.00500	"	0.0333		69.9	40-140			
Chrysene	0.0266	0.00500	"	0.0333		79.9	40-140			
Dibenz (a,h) anthracene	0.0180	0.00500	"	0.0333		54.0	40-140			
Fluoranthene	0.0252	0.00500	"	0.0333		75.6	40-140			
Fluorene	0.0254	0.00500	"	0.0333		76.3	40-140			
Indeno (1,2,3-cd) pyrene	0.0226	0.00500	"	0.0333		67.9	40-140			
Pyrene	0.0304	0.00500	"	0.0333		91.1	40-140			
1-Methylnaphthalene	0.0245	0.00500	"	0.0333		73.6	40-140			
2-Methylnaphthalene	0.0227	0.00500	"	0.0333		68.1	40-140			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0236</i>		"	<i>0.0333</i>		<i>70.8</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0270</i>		"	<i>0.0333</i>		<i>81.1</i>	<i>40-140</i>			

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

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 BHL0441 - EPA 5030 Soil MS

Matrix Spike (BHL0441-MS1)	Source: 2412038-01			Prepared: 12/11/24 Analyzed: 12/15/24						
Acenaphthene	0.0204	0.00500	mg/kg	0.0333	ND	61.1	40-140			
Anthracene	0.0213	0.00500	"	0.0333	ND	63.9	40-140			
Benzo (a) anthracene	0.0235	0.00500	"	0.0333	ND	70.5	40-140			
Benzo (a) pyrene	0.0193	0.00500	"	0.0333	ND	57.9	40-140			
Benzo (b) fluoranthene	0.0182	0.00500	"	0.0333	ND	54.7	40-140			
Benzo (k) fluoranthene	0.0190	0.00500	"	0.0333	ND	57.1	40-140			
Chrysene	0.0229	0.00500	"	0.0333	ND	68.6	40-140			
Dibenz (a,h) anthracene	0.0145	0.00500	"	0.0333	ND	43.6	40-140			
Fluoranthene	0.0217	0.00500	"	0.0333	ND	65.0	40-140			
Fluorene	0.0207	0.00500	"	0.0333	ND	62.1	40-140			
Indeno (1,2,3-cd) pyrene	0.0181	0.00500	"	0.0333	ND	54.4	40-140			
Pyrene	0.0244	0.00500	"	0.0333	ND	73.1	40-140			
1-Methylnaphthalene	0.0175	0.00500	"	0.0333	ND	52.4	40-140			
2-Methylnaphthalene	0.0182	0.00500	"	0.0333	ND	54.7	40-140			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0176</i>	<i>"</i>	<i>"</i>	<i>0.0333</i>	<i>"</i>	<i>52.8</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0230</i>	<i>"</i>	<i>"</i>	<i>0.0333</i>	<i>"</i>	<i>69.0</i>	<i>40-140</i>			

Matrix Spike Dup (BHL0441-MSD1)	Source: 2412038-01			Prepared: 12/11/24 Analyzed: 12/15/24						
Acenaphthene	0.0200	0.00500	mg/kg	0.0333	ND	60.0	40-140	1.72	30	
Anthracene	0.0215	0.00500	"	0.0333	ND	64.6	40-140	0.995	30	
Benzo (a) anthracene	0.0234	0.00500	"	0.0333	ND	70.1	40-140	0.583	30	
Benzo (a) pyrene	0.0190	0.00500	"	0.0333	ND	57.1	40-140	1.31	30	
Benzo (b) fluoranthene	0.0176	0.00500	"	0.0333	ND	52.8	40-140	3.47	30	
Benzo (k) fluoranthene	0.0181	0.00500	"	0.0333	ND	54.2	40-140	5.20	30	
Chrysene	0.0225	0.00500	"	0.0333	ND	67.5	40-140	1.52	30	
Dibenz (a,h) anthracene	0.0159	0.00500	"	0.0333	ND	47.8	40-140	9.08	30	
Fluoranthene	0.0210	0.00500	"	0.0333	ND	62.9	40-140	3.27	30	
Fluorene	0.0208	0.00500	"	0.0333	ND	62.3	40-140	0.370	30	
Indeno (1,2,3-cd) pyrene	0.0174	0.00500	"	0.0333	ND	52.3	40-140	3.98	30	
Pyrene	0.0239	0.00500	"	0.0333	ND	71.7	40-140	1.90	30	
1-Methylnaphthalene	0.0193	0.00500	"	0.0333	ND	57.9	40-140	10.0	30	
2-Methylnaphthalene	0.0178	0.00500	"	0.0333	ND	53.3	40-140	2.67	30	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0190</i>	<i>"</i>	<i>"</i>	<i>0.0333</i>	<i>"</i>	<i>57.1</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0220</i>	<i>"</i>	<i>"</i>	<i>0.0333</i>	<i>"</i>	<i>65.9</i>	<i>40-140</i>			

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

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 BHL0517 - EPA 5030 Soil MS

Blank (BHL0517-BLK1)

Prepared: 12/12/24 Analyzed: 12/14/24

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0206		"	0.0333		61.7	40-140			
<i>Surrogate: Fluoranthene-d10</i>	0.0209		"	0.0333		62.8	40-140			

LCS (BHL0517-BS1)

Prepared: 12/12/24 Analyzed: 12/14/24

Acenaphthene	0.0238	0.00500	mg/kg	0.0333		71.4	40-140			
Anthracene	0.0249	0.00500	"	0.0333		74.8	40-140			
Benzo (a) anthracene	0.0245	0.00500	"	0.0333		73.5	40-140			
Benzo (a) pyrene	0.0243	0.00500	"	0.0333		73.0	40-140			
Benzo (b) fluoranthene	0.0139	0.00500	"	0.0333		41.7	40-140			
Benzo (k) fluoranthene	0.0197	0.00500	"	0.0333		59.2	40-140			
Chrysene	0.0261	0.00500	"	0.0333		78.3	40-140			
Dibenz (a,h) anthracene	0.0301	0.00500	"	0.0333		90.2	40-140			
Fluoranthene	0.0240	0.00500	"	0.0333		71.9	40-140			
Fluorene	0.0240	0.00500	"	0.0333		72.0	40-140			
Indeno (1,2,3-cd) pyrene	0.0203	0.00500	"	0.0333		60.9	40-140			
Pyrene	0.0282	0.00500	"	0.0333		84.6	40-140			
1-Methylnaphthalene	0.0232	0.00500	"	0.0333		69.5	40-140			
2-Methylnaphthalene	0.0234	0.00500	"	0.0333		70.2	40-140			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0237		"	0.0333		71.1	40-140			
<i>Surrogate: Fluoranthene-d10</i>	0.0243		"	0.0333		72.8	40-140			

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

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 BHL0517 - EPA 5030 Soil MS

Matrix Spike (BHL0517-MS1)	Source: 2412032-02			Prepared: 12/12/24 Analyzed: 12/14/24					
Acenaphthene	0.0196	0.00500	mg/kg	0.0333	ND	58.9	40-140		
Anthracene	0.0195	0.00500	"	0.0333	ND	58.6	40-140		
Benzo (a) anthracene	0.0191	0.00500	"	0.0333	ND	57.2	40-140		
Benzo (a) pyrene	0.0180	0.00500	"	0.0333	ND	54.1	40-140		
Benzo (b) fluoranthene	0.0157	0.00500	"	0.0333	ND	47.1	40-140		
Benzo (k) fluoranthene	0.0168	0.00500	"	0.0333	ND	50.3	40-140		
Chrysene	0.0205	0.00500	"	0.0333	ND	61.5	40-140		
Dibenz (a,h) anthracene	0.0197	0.00500	"	0.0333	ND	59.1	40-140		
Fluoranthene	0.0187	0.00500	"	0.0333	ND	56.0	40-140		
Fluorene	0.0198	0.00500	"	0.0333	ND	59.4	40-140		
Indeno (1,2,3-cd) pyrene	0.0183	0.00500	"	0.0333	ND	54.8	40-140		
Pyrene	0.0211	0.00500	"	0.0333	ND	63.3	40-140		
1-Methylnaphthalene	0.0197	0.00500	"	0.0333	ND	59.1	40-140		
2-Methylnaphthalene	0.0196	0.00500	"	0.0333	ND	58.8	40-140		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0198</i>		<i>"</i>	<i>0.0333</i>		<i>59.3</i>	<i>40-140</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0190</i>		<i>"</i>	<i>0.0333</i>		<i>57.1</i>	<i>40-140</i>		

Matrix Spike Dup (BHL0517-MSD1)	Source: 2412032-02			Prepared: 12/12/24 Analyzed: 12/14/24					
Acenaphthene	0.0170	0.00500	mg/kg	0.0333	ND	51.1	40-140	14.2	30
Anthracene	0.0173	0.00500	"	0.0333	ND	51.9	40-140	12.1	30
Benzo (a) anthracene	0.0166	0.00500	"	0.0333	ND	49.9	40-140	13.7	30
Benzo (a) pyrene	0.0160	0.00500	"	0.0333	ND	48.1	40-140	11.6	30
Benzo (b) fluoranthene	0.0137	0.00500	"	0.0333	ND	41.1	40-140	13.7	30
Benzo (k) fluoranthene	0.0149	0.00500	"	0.0333	ND	44.6	40-140	12.1	30
Chrysene	0.0174	0.00500	"	0.0333	ND	52.3	40-140	16.2	30
Dibenz (a,h) anthracene	0.0165	0.00500	"	0.0333	ND	49.5	40-140	17.7	30
Fluoranthene	0.0167	0.00500	"	0.0333	ND	50.1	40-140	11.0	30
Fluorene	0.0170	0.00500	"	0.0333	ND	51.1	40-140	15.0	30
Indeno (1,2,3-cd) pyrene	0.0170	0.00500	"	0.0333	ND	50.9	40-140	7.42	30
Pyrene	0.0175	0.00500	"	0.0333	ND	52.6	40-140	18.6	30
1-Methylnaphthalene	0.0165	0.00500	"	0.0333	ND	49.4	40-140	17.7	30
2-Methylnaphthalene	0.0164	0.00500	"	0.0333	ND	49.3	40-140	17.6	30
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0168</i>		<i>"</i>	<i>0.0333</i>		<i>50.4</i>	<i>40-140</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0169</i>		<i>"</i>	<i>0.0333</i>		<i>50.7</i>	<i>40-140</i>		

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

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

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

Batch BIA0700 - EPA 3050B

Blank (BIA0700-BLK1)

Prepared: 01/15/25 Analyzed: 01/18/25

Boron ND 2.00 mg/L

LCS (BIA0700-BS1)

Prepared: 01/15/25 Analyzed: 01/18/25

Boron 5.13 2.00 mg/L 5.00 103 80-120

Duplicate (BIA0700-DUP1)

Source: 2412029-01

Prepared: 01/15/25 Analyzed: 01/18/25

Boron 0.203 2.00 mg/L 0.248 19.9 20

Matrix Spike (BIA0700-MS1)

Source: 2412029-01

Prepared: 01/15/25 Analyzed: 01/18/25

Boron 4.87 2.00 mg/L 5.00 0.248 92.5 75-125

Matrix Spike Dup (BIA0700-MSD1)

Source: 2412029-01

Prepared: 01/15/25 Analyzed: 01/18/25

Boron 5.16 2.00 mg/L 5.00 0.248 98.3 75-125 5.69 25

Batch BIA0701 - EPA 3050B

Blank (BIA0701-BLK1)

Prepared: 01/15/25 Analyzed: 01/18/25

Boron ND 2.00 mg/L

LCS (BIA0701-BS1)

Prepared: 01/15/25 Analyzed: 01/18/25

Boron 5.16 2.00 mg/L 5.00 103 80-120

Duplicate (BIA0701-DUP1)

Source: 2412038-13

Prepared: 01/15/25 Analyzed: 01/18/25

Boron 0.141 2.00 mg/L 0.185 27.1 20 QR-01

Matrix Spike (BIA0701-MS1)

Source: 2412038-13

Prepared: 01/15/25 Analyzed: 01/18/25

Boron 4.81 2.00 mg/L 5.00 0.185 92.5 75-125

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

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

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

Batch BIA0701 - EPA 3050B

Matrix Spike Dup (BIA0701-MSD1)

Source: 2412038-13

Prepared: 01/15/25 Analyzed: 01/18/25

Boron	5.11	2.00	mg/L	5.00	0.185	98.5	75-125	6.04	25	
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Batch BIA0828 - EPA 3050B

Blank (BIA0828-BLK1)

Prepared: 01/17/25 Analyzed: 01/20/25

Boron	ND	2.00	mg/L							
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LCS (BIA0828-BS1)

Prepared: 01/17/25 Analyzed: 01/20/25

Boron	5.17	2.00	mg/L	5.00		103	80-120			
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Duplicate (BIA0828-DUP1)

Source: 2412038-37

Prepared: 01/17/25 Analyzed: 01/20/25

Boron	0.123	2.00	mg/L		0.153			21.6	20	QR-01
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Matrix Spike (BIA0828-MS1)

Source: 2412038-37

Prepared: 01/17/25 Analyzed: 01/20/25

Boron	5.31	2.00	mg/L	5.00	0.153	103	75-125			
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Matrix Spike Dup (BIA0828-MSD1)

Source: 2412038-37

Prepared: 01/17/25 Analyzed: 01/20/25

Boron	5.36	2.00	mg/L	5.00	0.153	104	75-125	0.877	25	
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

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 BIA0620 - EPA 3050B

Blank (BIA0620-BLK1)

Prepared: 01/14/25 Analyzed: 01/17/25

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 (BIA0620-BS1)

Prepared: 01/14/25 Analyzed: 01/17/25

Arsenic	36.7	0.200	mg/kg wet	41.7	88.1	80-120
Barium	40.2	0.400	"	41.7	96.4	80-120
Cadmium	2.08	0.200	"	2.08	99.7	80-120
Copper	41.9	0.400	"	41.7	101	80-120
Lead	20.4	0.200	"	20.8	97.8	80-120
Nickel	41.2	0.400	"	41.7	98.8	80-120
Silver	2.06	0.0200	"	2.08	98.7	80-120
Zinc	41.7	0.400	"	41.7	100	80-120
Selenium	3.73	0.260	"	4.17	89.6	80-120

Duplicate (BIA0620-DUP1)

Source: 2412018-20

Prepared: 01/14/25 Analyzed: 01/17/25

Arsenic	4.00	0.200	mg/kg dry	3.63	9.79	20
Barium	85.2	0.400	"	76.3	11.0	20
Cadmium	0.287	0.200	"	0.281	2.39	20
Copper	5.87	0.400	"	5.09	14.1	20
Lead	6.89	0.200	"	6.59	4.42	20
Nickel	6.47	0.400	"	5.99	7.62	20
Silver	0.0325	0.0200	"	0.0270	18.7	20
Zinc	23.6	0.400	"	20.8	12.4	20
Selenium	ND	0.260	"	ND		20

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

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 BIA0620 - EPA 3050B

Matrix Spike (BIA0620-MS1)		Source: 2412018-20			Prepared: 01/14/25 Analyzed: 01/17/25							
Arsenic	41.7	0.200	mg/kg dry	46.0	3.63	82.8	75-125					
Barium	75.3	0.400	"	46.0	76.3	NR	75-125					QM-05
Cadmium	2.41	0.200	"	2.30	0.281	92.5	75-125					
Copper	39.9	0.400	"	46.0	5.09	75.8	75-125					
Lead	24.1	0.200	"	23.0	6.59	76.4	75-125					
Nickel	39.8	0.400	"	46.0	5.99	73.6	75-125					QM-05
Silver	2.19	0.0200	"	2.30	0.0270	94.1	75-125					
Zinc	49.2	0.400	"	46.0	20.8	61.7	75-125					QM-05
Selenium	4.42	0.260	"	4.60	ND	96.2	75-125					

Matrix Spike Dup (BIA0620-MSD1)		Source: 2412018-20			Prepared: 01/14/25 Analyzed: 01/17/25							
Arsenic	44.5	0.200	mg/kg dry	46.0	3.63	88.9	75-125	6.43	25			
Barium	141	0.400	"	46.0	76.3	142	75-125	61.1	25			QM-05
Cadmium	2.59	0.200	"	2.30	0.281	100	75-125	7.36	25			
Copper	35.4	0.400	"	46.0	5.09	65.9	75-125	12.1	25			QM-05
Lead	30.1	0.200	"	23.0	6.59	102	75-125	21.9	25			
Nickel	36.9	0.400	"	46.0	5.99	67.2	75-125	7.68	25			QM-05
Silver	2.25	0.0200	"	2.30	0.0270	96.8	75-125	2.83	25			
Zinc	56.7	0.400	"	46.0	20.8	78.0	75-125	14.2	25			
Selenium	4.24	0.260	"	4.60	ND	92.2	75-125	4.23	25			

Batch BIA0655 - EPA 3050B

Blank (BIA0655-BLK1)		Prepared & Analyzed: 01/15/25										
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	"									

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

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 BIA0655 - EPA 3050B

LCS (BIA0655-BS1)

Prepared & Analyzed: 01/15/25

Arsenic	36.0	0.200	mg/kg wet	41.0		87.8	80-120			
Barium	36.8	0.400	"	41.0		89.7	80-120			
Cadmium	1.86	0.200	"	2.05		90.7	80-120			
Copper	40.3	0.400	"	41.0		98.4	80-120			
Lead	18.3	0.200	"	20.5		89.5	80-120			
Nickel	40.0	0.400	"	41.0		97.5	80-120			
Silver	1.83	0.0200	"	2.05		89.5	80-120			
Zinc	39.5	0.400	"	41.0		96.4	80-120			
Selenium	3.84	0.260	"	4.10		93.8	80-120			

Duplicate (BIA0655-DUP1)

Source: 2412038-06

Prepared & Analyzed: 01/15/25

Arsenic	4.45	0.200	mg/kg dry		4.38			1.45	20	
Barium	165	0.400	"		168			1.61	20	
Cadmium	0.555	0.200	"		0.567			2.05	20	
Copper	12.4	0.400	"		11.9			3.91	20	
Lead	21.5	0.200	"		22.0			2.32	20	
Nickel	6.22	0.400	"		6.10			1.90	20	
Silver	0.217	0.0200	"		0.222			2.30	20	
Zinc	48.5	0.400	"		47.3			2.48	20	
Selenium	0.212	0.260	"		0.197			7.64	20	

Matrix Spike (BIA0655-MS1)

Source: 2412038-06

Prepared & Analyzed: 01/15/25

Arsenic	45.4	0.200	mg/kg dry	48.4	4.38	84.7	75-125			
Barium	205	0.400	"	48.4	168	77.1	75-125			
Cadmium	2.73	0.200	"	2.42	0.567	89.5	75-125			
Copper	35.5	0.400	"	48.4	11.9	48.6	75-125			QM-05
Lead	41.7	0.200	"	24.2	22.0	81.3	75-125			
Nickel	29.9	0.400	"	48.4	6.10	49.0	75-125			QM-05
Silver	2.32	0.0200	"	2.42	0.222	86.6	75-125			
Zinc	71.4	0.400	"	48.4	47.3	49.8	75-125			QM-05
Selenium	3.47	0.260	"	4.84	0.197	67.5	75-125			QM-05

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

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 BIA0655 - EPA 3050B

Matrix Spike Dup (BIA0655-MSD1)		Source: 2412038-06			Prepared & Analyzed: 01/15/25						
Arsenic	45.9	0.200	mg/kg dry	49.2	4.38	84.4	75-125	1.15	25		
Barium	209	0.400	"	49.2	168	83.3	75-125	1.77	25		
Cadmium	2.83	0.200	"	2.46	0.567	92.1	75-125	3.61	25		
Copper	37.2	0.400	"	49.2	11.9	51.3	75-125	4.66	25		QM-05
Lead	41.5	0.200	"	24.6	22.0	79.5	75-125	0.333	25		
Nickel	31.5	0.400	"	49.2	6.10	51.6	75-125	5.41	25		QM-05
Silver	2.35	0.0200	"	2.46	0.222	86.4	75-125	1.26	25		
Zinc	74.2	0.400	"	49.2	47.3	54.7	75-125	3.88	25		QM-05
Selenium	3.63	0.260	"	4.92	0.197	69.8	75-125	4.72	25		QM-05

Batch BIA0747 - EPA 3050B

Blank (BIA0747-BLK1)		Prepared: 01/16/25 Analyzed: 01/18/25									
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 (BIA0747-BS1)		Prepared: 01/16/25 Analyzed: 01/18/25									
Arsenic	33.2	0.200	mg/kg wet	38.8		85.7	80-120				
Barium	34.6	0.400	"	38.8		89.3	80-120				
Cadmium	1.69	0.200	"	1.94		87.3	80-120				
Copper	38.1	0.400	"	38.8		98.4	80-120				
Lead	17.0	0.200	"	19.4		87.6	80-120				
Nickel	37.6	0.400	"	38.8		97.1	80-120				
Silver	1.70	0.0200	"	1.94		87.7	80-120				
Zinc	39.6	0.400	"	38.8		102	80-120				
Selenium	3.60	0.260	"	3.88		92.9	80-120				

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

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 BIA0747 - EPA 3050B

Duplicate (BIA0747-DUP1)

Source: 2412038-11

Prepared: 01/16/25 Analyzed: 01/18/25

Arsenic	4.56	0.200	mg/kg dry		4.58			0.563	20	
Barium	159	0.400	"		162			2.05	20	
Cadmium	0.477	0.200	"		0.474			0.668	20	
Copper	11.9	0.400	"		12.1			1.96	20	
Lead	19.1	0.200	"		19.8			3.53	20	
Nickel	6.11	0.400	"		6.14			0.490	20	
Silver	0.177	0.0200	"		0.186			4.83	20	
Zinc	45.9	0.400	"		46.8			2.10	20	
Selenium	0.197	0.260	"		0.201			2.01	20	

Matrix Spike (BIA0747-MS1)

Source: 2412038-11

Prepared: 01/16/25 Analyzed: 01/18/25

Arsenic	45.6	0.200	mg/kg dry	52.6	4.58	78.0	75-125			
Barium	195	0.400	"	52.6	162	62.9	75-125			QM-05
Cadmium	2.62	0.200	"	2.63	0.474	81.6	75-125			
Copper	40.1	0.400	"	52.6	12.1	53.4	75-125			QM-05
Lead	40.3	0.200	"	26.3	19.8	78.2	75-125			
Nickel	33.9	0.400	"	52.6	6.14	52.9	75-125			QM-05
Silver	2.32	0.0200	"	2.63	0.186	81.3	75-125			
Zinc	74.9	0.400	"	52.6	46.8	53.5	75-125			QM-05
Selenium	3.68	0.260	"	5.26	0.201	66.1	75-125			QM-05

Matrix Spike Dup (BIA0747-MSD1)

Source: 2412038-11

Prepared: 01/16/25 Analyzed: 01/18/25

Arsenic	45.2	0.200	mg/kg dry	49.7	4.58	81.7	75-125	0.938	25	
Barium	200	0.400	"	49.7	162	77.0	75-125	2.64	25	
Cadmium	2.67	0.200	"	2.48	0.474	88.5	75-125	1.98	25	
Copper	39.1	0.400	"	49.7	12.1	54.4	75-125	2.62	25	QM-05
Lead	40.5	0.200	"	24.8	19.8	83.4	75-125	0.439	25	
Nickel	32.6	0.400	"	49.7	6.14	53.3	75-125	4.06	25	QM-05
Silver	2.35	0.0200	"	2.48	0.186	87.0	75-125	1.05	25	
Zinc	75.1	0.400	"	49.7	46.8	56.8	75-125	0.141	25	QM-05
Selenium	3.43	0.260	"	4.97	0.201	65.0	75-125	6.93	25	QM-05

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

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 BIA0749 - EPA 3050B

Blank (BIA0749-BLK1)

Prepared: 01/16/25 Analyzed: 01/18/25

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 (BIA0749-BS1)

Prepared: 01/16/25 Analyzed: 01/18/25

Arsenic	35.1	0.200	mg/kg wet	40.3	87.1	80-120
Barium	36.4	0.400	"	40.3	90.2	80-120
Cadmium	1.81	0.200	"	2.02	90.0	80-120
Copper	40.0	0.400	"	40.3	99.2	80-120
Lead	18.0	0.200	"	20.2	89.2	80-120
Nickel	39.5	0.400	"	40.3	98.0	80-120
Silver	1.82	0.0200	"	2.02	90.3	80-120
Zinc	40.0	0.400	"	40.3	99.1	80-120
Selenium	3.91	0.260	"	4.03	97.0	80-120

Duplicate (BIA0749-DUP1)

Source: 2412038-34

Prepared: 01/16/25 Analyzed: 01/18/25

Arsenic	0.355	0.200	mg/kg dry	0.398	11.3	20
Barium	3.63	0.400	"	3.93	8.16	20
Cadmium	0.0210	0.200	"	0.0201	4.02	20
Copper	0.772	0.400	"	0.787	1.96	20
Lead	0.856	0.200	"	0.909	5.97	20
Nickel	0.935	0.400	"	0.709	27.6	20
Silver	0.00436	0.0200	"	0.00377	14.5	20
Zinc	3.82	0.400	"	3.70	3.10	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 - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

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 BIA0749 - EPA 3050B

Matrix Spike (BIA0749-MS1)

Source: 2412038-34

Prepared: 01/16/25 Analyzed: 01/18/25

Arsenic	37.5	0.200	mg/kg dry	42.6	0.398	87.1	75-125			
Barium	41.4	0.400	"	42.6	3.93	88.0	75-125			
Cadmium	1.94	0.200	"	2.13	0.0201	90.1	75-125			
Copper	40.3	0.400	"	42.6	0.787	92.8	75-125			
Lead	19.9	0.200	"	21.3	0.909	89.2	75-125			
Nickel	39.7	0.400	"	42.6	0.709	91.4	75-125			
Silver	1.91	0.0200	"	2.13	0.00377	89.6	75-125			
Zinc	42.5	0.400	"	42.6	3.70	91.2	75-125			
Selenium	3.93	0.260	"	4.26	ND	92.2	75-125			

Matrix Spike Dup (BIA0749-MSD1)

Source: 2412038-34

Prepared: 01/16/25 Analyzed: 01/18/25

Arsenic	37.8	0.200	mg/kg dry	42.3	0.398	88.5	75-125	0.799	25
Barium	41.2	0.400	"	42.3	3.93	88.2	75-125	0.601	25
Cadmium	1.94	0.200	"	2.11	0.0201	91.0	75-125	0.143	25
Copper	38.7	0.400	"	42.3	0.787	89.8	75-125	4.05	25
Lead	19.8	0.200	"	21.1	0.909	89.4	75-125	0.532	25
Nickel	38.2	0.400	"	42.3	0.709	88.8	75-125	3.62	25
Silver	1.94	0.0200	"	2.11	0.00377	91.6	75-125	1.43	25
Zinc	41.0	0.400	"	42.3	3.70	88.2	75-125	3.71	25
Selenium	3.73	0.260	"	4.23	ND	88.2	75-125	5.18	25

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

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 BHL1339 - 3060A Mod

Blank (BHL1339-BLK1)

Prepared: 12/30/24 Analyzed: 12/31/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHL1339-BS1)

Prepared: 12/30/24 Analyzed: 12/31/24

Chromium, Hexavalent 25.6 0.30 mg/kg wet 25.0 103 80-120

Duplicate (BHL1339-DUP1)

Source: 2412037-01

Prepared: 12/30/24 Analyzed: 12/31/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHL1339-MS1)

Source: 2412037-01

Prepared: 12/30/24 Analyzed: 12/31/24

Chromium, Hexavalent 27.4 0.30 mg/kg dry 27.0 ND 102 75-125

Matrix Spike Dup (BHL1339-MSD1)

Source: 2412037-01

Prepared: 12/30/24 Analyzed: 12/31/24

Chromium, Hexavalent 27.6 0.30 mg/kg dry 27.0 ND 102 75-125 0.784 20

Batch BHL1340 - 3060A Mod

Blank (BHL1340-BLK1)

Prepared: 12/30/24 Analyzed: 12/31/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHL1340-BS1)

Prepared: 12/30/24 Analyzed: 12/31/24

Chromium, Hexavalent 24.3 0.30 mg/kg wet 24.0 101 80-120

Duplicate (BHL1340-DUP1)

Source: 2412038-23

Prepared: 12/30/24 Analyzed: 12/31/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHL1340-MS1)

Source: 2412038-23

Prepared: 12/30/24 Analyzed: 12/31/24

Chromium, Hexavalent 28.1 0.30 mg/kg dry 27.6 ND 102 75-125

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHL1340 - 3060A Mod

Matrix Spike Dup (BHL1340-MSD1)	Source: 2412038-23			Prepared: 12/30/24 Analyzed: 12/31/24						
Chromium, Hexavalent	29.9	0.30	mg/kg dry	28.7	ND	104	75-125	6.17	20	

Batch BHL1342 - 3060A Mod

Blank (BHL1342-BLK1)				Prepared: 12/30/24 Analyzed: 12/31/24						
Chromium, Hexavalent	ND	0.30	mg/kg wet							

LCS (BHL1342-BS1)				Prepared: 12/30/24 Analyzed: 12/31/24						
Chromium, Hexavalent	23.3	0.30	mg/kg wet	24.3		96.0	80-120			

Duplicate (BHL1342-DUP1)	Source: 2412038-45			Prepared: 12/30/24 Analyzed: 12/31/24						
Chromium, Hexavalent	ND	0.30	mg/kg dry		ND				20	

Matrix Spike (BHL1342-MS1)	Source: 2412038-45			Prepared: 12/30/24 Analyzed: 12/31/24		QM-05				
Chromium, Hexavalent	42.2	0.30	mg/kg dry	32.9	ND	128	75-125			

Matrix Spike Dup (BHL1342-MSD1)	Source: 2412038-45			Prepared: 12/30/24 Analyzed: 12/31/24		QM-05				
Chromium, Hexavalent	29.7	0.30	mg/kg dry	32.0	ND	92.8	75-125	35.0	20	

Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

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 BHL1336 - General Preparation

Blank (BHL1336-BLK1)

Prepared: 12/30/24 Analyzed: 01/08/25

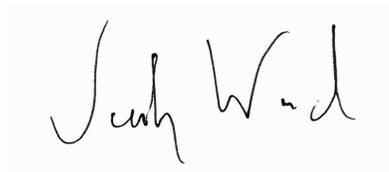
Calcium	ND	0.0500	mg/L wet							
Magnesium	ND	0.0500	"							
Sodium	ND	0.0500	"							

LCS (BHL1336-BS1)

Prepared: 12/30/24 Analyzed: 01/08/25

Calcium	6.26	0.0500	mg/L wet	5.00	125	70-130				
Magnesium	5.29	0.0500	"	5.00	106	70-130				
Sodium	5.54	0.0500	"	5.00	111	70-130				

Summit Scientific



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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

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

Summit Scientific

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

Batch BHL0955 - General Preparation

Duplicate (BHL0955-DUP1)		Source: 2412026-01			Prepared & Analyzed: 12/19/24					
% Solids	89.0		%		89.9			0.938		20

Batch BHL0969 - General Preparation

Duplicate (BHL0969-DUP1)		Source: 2412038-02			Prepared: 12/19/24 Analyzed: 12/20/24					
% Solids	85.8		%		85.0			0.889		20

Batch BHL0981 - General Preparation

Duplicate (BHL0981-DUP1)		Source: 2412038-42			Prepared: 12/19/24 Analyzed: 12/20/24					
% Solids	89.6		%		91.8			2.44		20

Summit Scientific



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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

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

Summit Scientific

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

Batch BHL1341 - General Preparation

Blank (BHL1341-BLK1)

Prepared: 12/30/24 Analyzed: 01/06/25

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHL1341-BS1)

Prepared: 12/30/24 Analyzed: 01/06/25

Specific Conductance (EC) 1.35 0.0100 mmhos/cm 1.41 95.5 95-105

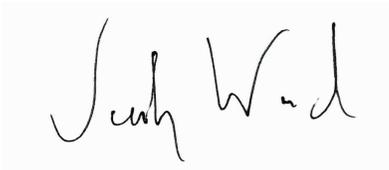
Duplicate (BHL1341-DUP1)

Source: 2412038-01

Prepared: 12/30/24 Analyzed: 01/06/25

Specific Conductance (EC) 0.228 0.0100 mmhos/cm 0.227 0.413 20

Summit Scientific



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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

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 BHL1338 - General Preparation

LCS (BHL1338-BS1)

Prepared: 12/30/24 Analyzed: 01/06/25

pH	9.11	pH Units	9.18	99.3	95-105
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Duplicate (BHL1338-DUP1)

Source: 2412038-01

Prepared: 12/30/24 Analyzed: 01/06/25

pH	8.46	pH Units	8.54	0.943	20
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Summit Scientific

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

Project: Chevron - Matsushima PMK 2-1 Tank Battery

Project Number: [none]
Project Manager: Bryce Goldade

Reported:
01/21/25 12:25

Notes and Definitions

- 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