TABLE 1
FORMER HALL 42-33 WELLHEAD AND TANK BATTERY
SOIL ANALYTICAL RESULTS SUMMARY TABLE
ORGANIC COMPOUNDS

Sample ID	Date Sampled	Depth	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1, 2, 4-TMB (mg/kg)	1, 3, 5-TMB (mg/kg)	Naphthalene (mg/kg)	TPH[4] (mg/kg)
Residential SSL [1,2]			**1.2**	**490**	**5.8**	**58**	**30**	**27**	**2**	**500**
Protection of Groundwater SSL [1,2,3]			**0.0026**	**0.69**	**0.78**	**9.9**	**0.0081**	**0.0087**	**0.0038**	**500**
PWV-01-B @ 2'	3/28/2024	2 ft. bgs	<0.0020	<0.00050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	7.1
WH01 @ 6'	3/28/2024	6 ft. bgs	<0.0020	<0.00050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	0.78
FL01-01 @ 6'	3/28/2024	6 ft. bgs	<0.0020	<0.00050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50

Notes:

1. Compounds referenced from the ECMC 2 CCR 404-1, Table 915-1, effective January 15, 2021.
2. Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.
3. SSLs are applicable if a pathway for communication with groundwater is present.
4. Value calculated by adding TPH-GRO, TPH-DRO, and TPH-ORO concentrations.

ECMC = Colorado Energy & Carbon Management Commission
(<) = Analytical result is less than the indicated laboratory reporting limit.
TPH-GRO = Total petroleum hydrocarbons - gasoline range organics
TPH-DRO = Total petroleum hydrocarbons - diesel range organics
TPH-ORO = Total petroleum hydrocarbons - oil range organics
mg/kg = Milligrams per kilogram
TMB = Trimethylbenzene
ft. = feet
bgs = Below ground surface

TABLE 2
FORMER HALL 42-33 WELLHEAD AND TANK BATTERY
GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
ORGANIC COMPOUNDS

Sample ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Naphthalene (µg/L)	1,2,4-TMB (µg/L)	1,3,5-TMB (µg/L)	Depth to Water [2] (ft.)	Groundwater Elevation (ft. AMSL)
COGCC Table 915-1 Groundwater Standard (µg/L) [1]		**5**	**560**	**700**	**1,400**	**140**	**67**	**67**	**-**	**-**
GW01	3/28/2024	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2	NA
GW02	3/28/2024	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	6	NA
GW03	3/28/2024	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	6	NA

Notes:
1. Groundwater standards referenced from ECMC 2 CCR 404-1, Table 915-1, January 15, 2021.
2. Depth to water measurements were measured from ground surface for excavation samples. Monitoring well measurements were collected from top of casing and adjusted using survey data to reflect depth of water from ground surface.

TMB = Trimethylbenzene
ECMC = Energy & Carbon Management Commission
µg/L = Micrograms per liter
(<) = Analytical result is less than the indicated laboratory reporting limit.
ft. = Feet
AMSL = Above Mean Sea Level
NA = Not applicable

TABLE 3
FORMER HALL 42-33 WELLHEAD AND TANK BATTERY
FIELD DATA SUMMARY TABLE

Sample ID	Date Sampled	Depth	GPS Data [1] Latitude / Longitude		PDOP Value	VOC Concentration [2] (ppm)
PWV01-B @ 2'	3/28/2024	2 ft. bgs	40.533053	-104.776211	NC	6.8
GW01	3/28/2024	2 ft. bgs	40.533053	-104.776211	NC	NA
WH01 @ 6'	3/28/2024	6 ft. bgs	40.533077	-104.776590	NC	1.1
GW02	3/28/2024	6 ft. bgs	40.533077	-104.776590	NC	NA
FL01-01 @ 6'	3/28/2024	6 ft. bgs	40.533198	-104.776458	NC	1.0
GW03	3/28/2024	6 ft. bgs	40.533198	-104.776458	NC	NA

Notes:

1. Global Positioning System (GPS) data is provided in decimal degrees using North American Datum 1983 (NAD83) UTM Zone 13 North.
2. Volatile organic compound (VOC) concentrations are measured in the field using a photoionization detector (PID).

ppm = Parts per million
ft. = Feet
ft. = Feet
bgs = Below ground surface
NC = Data not collected
NA = Not applicable

Attachment A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

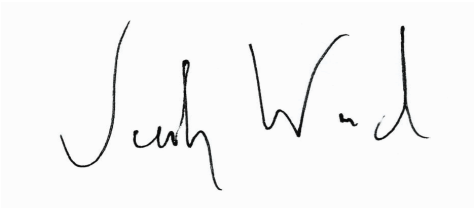
April 08, 2024

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

RE: PDC - Hall 42-33
Work Order #2403459

Enclosed are the results of analyses for samples received by Summit Scientific on 03/28/24 17:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jacob Wood For Paul Shrewsbury
President

S2

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PWV01-B@2'	2403459-01	Soil	03/28/24 12:04	03/28/24 17:55
WH01@6'	2403459-04	Soil	03/28/24 12:23	03/28/24 17:55
FL01-01@6'	2403459-07	Soil	03/28/24 13:50	03/28/24 17:55

Summit Scientific

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

SUMMIT SCIENTIFIC

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

Lab ID	Page 1 of 1
2403459	

	Send Data To:	Send Invoice To:
Client: PDC / Tasman	Project Manager: Karen Olson	Company: PDC Energy
Address: 6855 W 119th Ave	E-Mail: karen.olson@chevron.com	Project Name/Location:
City/State/Zip: Broomfield / CO / 80020		AFE#:
Phone: 303-487-1228	Project Name: Hall 42-33	PO/Billing Codes:
Sampler Name: Shannon Walls	Project Number:	Contact: Karen Olson

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative: HCl	Preservative: HNO3	Preservative: None	Preservative: Other	Matrix: Water	Matrix: Soil	Matrix: Air-Canister #	Matrix: Other	Analysis Requested: BTEXN - 8260B	Analysis Requested: 1,2,4 & 1,3,5-TMB	Analysis Requested: TDS, Cl, SO4	Analysis Requested: MICHOLS-GIS	Analysis Requested: PH-GIS	Analysis Requested: SAR-EC,PH	Analysis Requested: BORON-HWS	Special Instructions
1	PWV01-BH02'	3/28/24	1204	3			X			X						X	X	X	X	
2	PWV01-WA01'	"	1214	"			"			"						"	"	"	"	
3	FLR01@4'	"	1219	"			"			"						"	"	"	"	
4	WH01@6'	"	1223	"			"			"						"	"	"	"	
5	SEP01-FLR@4'	"	1344	"			"			"						"	"	"	"	
6	WHS01-E@0-6'	"	1235	"			"			"						"	"	"	"	
7	FL01@6'	"	1350	"			"			"						"	"	"	"	
8	SEP01-DL@4'	"	1427	"			"			"						"	"	"	"	
9	BHG101@4'	"	1437	"			"			"						"	"	"	"	
10	BHG101@6'	"	1439	"			"			"						"	"	"	"	
11	BHG102@4'	"	1459	"			"			"						"	"	"	"	
12	BHG102@6'	"	1504	"			"			"						"	"	"	"	
13																				
14																				
15																				

Relinquished by:	Date/Time:	Received by:	Date/Time:
Shannon Walls	3/28/24 1730	Tasman lockbox	3/28/24 1730
Tasman lockbox	3/28/24 1755		3/28/24 1755
Relinquished by:	Date/Time:	Received by:	Date/Time:

TAT Business Days	
Same Day	
1 Day	
2 Days	
3 Days	
Standard	X

Field DO	
Field EC	
Field ORP	
Field pH	
Field Temp.	
Field Turb.	

Notes:

Temperature Upon Receipt: 8.8 | Corrected Temperature: 0 | IR gun #: 1 | HNO3 lot #:

S2

Sample Receipt Checklist S2 Work Order# 2403459

Client: Dr Tasman Client Project ID: Hall 42-33

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

[ ] [–] [ ] [ ] [ ]

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

Temp (°C) [8.8] Thermometer # [1]

	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.	–			on ice
If custody seals are present, are they intact? (1)	–			
Are samples due within 48 hours present?		–		
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		–		
Is a chain-of-custody (COC) form present and filled out Completely? (1)	–			
Is the COC properly relinquished by the client w/ date and time recorded? (1)	–			
Were all samples received intact? (1)	✓			
Was adequate sample volume provided? (1)	✓			
Does the COC agree with the number and type of sample bottles received? (1)	✓			
Do the sample IDs on the bottle labels match the COC? (1)		✓		names didn't match
For volatiles in water – is there headspace present? If yes, **contact client and note in narrative.**			✓	
Are samples preserved that require preservation **(excluding cooling)?** (1) Note the type of preservative in the comments column – HCl, H_2SO_4, NaOH, HNO_3, etc.			✓	
If samples are acid preserved for metals, is the pH ≤ 2? (1) Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	
Additional Comments (if any):				
(1) If NO, then contact the client before proceeding with analysis and note in case narrative.				

AS
Custodian Printed Name

3/28/24
Date/Time

S2

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

PWV01-B@2'

2403459-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/28/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHC1092	03/29/24	03/30/24	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	**7.1**	0.50	"	"	"	"	"	"	

Date Sampled: **03/28/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0360	*89.9 %*	*50-150*		"	"	"	"	
Surrogate: Toluene-d8	0.0411	*103 %*	*50-150*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0535	*134 %*	*50-150*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/28/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHC1094	03/29/24	03/30/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/28/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.05	*64.4 %*	*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM

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.

S2

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

PWV01-B@2'

2403459-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/28/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHC1100	03/31/24	04/02/24	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: **03/28/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0161	*48.4 %*	*40-150*		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0157	*47.2 %*	*40-150*		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/28/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHD0132	04/04/24	04/06/24	EPA 6020B	

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

Date Sampled: **03/28/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

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.

S2

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

PWV01-B@2'

2403459-01 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	**21.4**	0.0500	mg/L dry	1	BHC1088	03/29/24	04/01/24	EPA 6020B	
Magnesium	**9.47**	0.0500	"	"	"	"	"	"	
Sodium	**9.01**	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/28/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**0.408**	0.00100	units	1	BHD0083	04/03/24	04/03/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/28/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**84.9**		%	1	BHD0051	04/02/24	04/03/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/28/24 12:04**

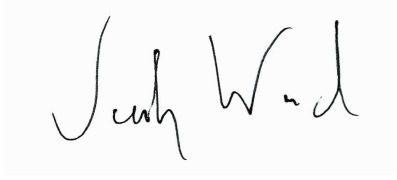
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**0.299**	0.0100	mmhos/cm	1	BHC1089	03/29/24	04/01/24	EPA 120.1	

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

Date Sampled: **03/28/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**7.80**		pH Units	1	BHC1090	03/29/24	04/01/24	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.

S2

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

WH01@6'

2403459-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/28/24 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHC1092	03/29/24	03/30/24	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	**0.78**	0.50	"	"	"	"	"	"	

Date Sampled: **03/28/24 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0393	*98.2 %*	*50-150*		"	"	"	"	
Surrogate: Toluene-d8	0.0423	*106 %*	*50-150*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0383	*95.8 %*	*50-150*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

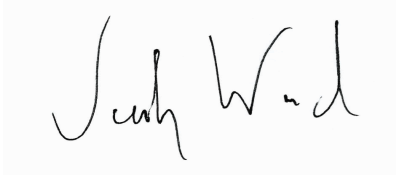
Date Sampled: **03/28/24 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHC1094	03/29/24	03/30/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/28/24 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	6.92	*55.4 %*	*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM



S2

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

WH01@6'

2403459-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/28/24 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHC1100	03/31/24	04/02/24	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	**0.00662**	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	**0.0141**	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/28/24 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0148	*44.4 %*	*40-150*		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0166	*49.8 %*	*40-150*		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/28/24 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHD0132	04/04/24	04/06/24	EPA 6020B	

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

Date Sampled: **03/28/24 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

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.

S2

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

WH01@6'

2403459-04 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	**41.5**	0.0500	mg/L dry	1	BHC1088	03/29/24	04/01/24	EPA 6020B	
Magnesium	**22.8**	0.0500	"	"	"	"	"	"	
Sodium	**22.9**	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/28/24 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**0.709**	0.00100	units	1	BHD0083	04/03/24	04/03/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/28/24 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**79.8**		%	1	BHD0051	04/02/24	04/03/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/28/24 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**0.548**	0.0100	mmhos/cm	1	BHC1089	03/29/24	04/01/24	EPA 120.1	

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

Date Sampled: **03/28/24 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**7.83**		pH Units	1	BHC1090	03/29/24	04/01/24	EPA 9045D	

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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.

S2

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

FL01-01@6'

2403459-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/28/24 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHC1092	03/29/24	03/30/24	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: **03/28/24 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0332	*83.0 %*	*50-150*		"	"	"	"	
Surrogate: Toluene-d8	0.0448	*112 %*	*50-150*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0389	*97.3 %*	*50-150*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/28/24 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHC1094	03/29/24	03/30/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/28/24 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.85	*62.8 %*	*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM

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Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

FL01-01@6'

2403459-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/28/24 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHC1100	03/31/24	04/02/24	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: **03/28/24 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0216	*64.7 %*	*40-150*		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0234	*70.3 %*	*40-150*		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/28/24 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHD0132	04/04/24	04/06/24	EPA 6020B	

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

Date Sampled: **03/28/24 13:50**

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: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

FL01-01@6'

2403459-07 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	**42.7**	0.0500	mg/L dry	1	BHC1088	03/29/24	04/01/24	EPA 6020B	
Magnesium	**20.9**	0.0500	"	"	"	"	"	"	
Sodium	**22.7**	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/28/24 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**0.712**	0.00100	units	1	BHD0083	04/03/24	04/03/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/28/24 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**79.8**		%	1	BHD0051	04/02/24	04/03/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/28/24 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**0.628**	0.0100	mmhos/cm	1	BHC1089	03/29/24	04/01/24	EPA 120.1	

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

Date Sampled: **03/28/24 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**8.10**		pH Units	1	BHC1090	03/29/24	04/01/24	EPA 9045D	

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Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHC1092 - EPA 5030 Soil MS										
Blank (BHC1092-BLK1)				Prepared: 03/29/24 Analyzed: 03/30/24						
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	*0.0307*		*"*	*0.0400*		*76.6*	*50-150*			
Surrogate: Toluene-d8	*0.0442*		*"*	*0.0400*		*110*	*50-150*			
Surrogate: 4-Bromofluorobenzene	*0.0379*		*"*	*0.0400*		*94.8*	*50-150*			
LCS (BHC1092-BS1)				Prepared: 03/29/24 Analyzed: 03/30/24						
Benzene	0.0918	0.0020	mg/kg	0.100		91.8	70-130			
Toluene	0.0914	0.0050	"	0.100		91.4	70-130			
Ethylbenzene	0.106	0.0050	"	0.100		106	70-130			
m,p-Xylene	0.212	0.010	"	0.200		106	70-130			
o-Xylene	0.100	0.0050	"	0.100		100	70-130			
1,2,4-Trimethylbenzene	0.0994	0.0050	"	0.100		99.4	70-130			
1,3,5-Trimethylbenzene	0.101	0.0050	"	0.100		101	70-130			
Naphthalene	0.0818	0.0038	"	0.100		81.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0291*		*"*	*0.0400*		*72.8*	*50-150*			
Surrogate: Toluene-d8	*0.0408*		*"*	*0.0400*		*102*	*50-150*			
Surrogate: 4-Bromofluorobenzene	*0.0379*		*"*	*0.0400*		*94.7*	*50-150*			
Matrix Spike (BHC1092-MS1)		**Source: 2403459-01**		Prepared: 03/29/24 Analyzed: 03/30/24						
Benzene	0.0872	0.0020	mg/kg	0.100	ND	87.2	70-130			
Toluene	0.0873	0.0050	"	0.100	ND	87.3	70-130			
Ethylbenzene	0.0985	0.0050	"	0.100	ND	98.5	70-130			
m,p-Xylene	0.195	0.010	"	0.200	ND	97.4	70-130			
o-Xylene	0.0947	0.0050	"	0.100	ND	94.7	70-130			
1,2,4-Trimethylbenzene	0.0865	0.0050	"	0.100	ND	86.5	70-130			
1,3,5-Trimethylbenzene	0.0926	0.0050	"	0.100	ND	92.6	70-130			
Naphthalene	0.0531	0.0038	"	0.100	ND	53.1	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	*0.0313*		*"*	*0.0400*		*78.2*	*50-150*			
Surrogate: Toluene-d8	*0.0406*		*"*	*0.0400*		*101*	*50-150*			
Surrogate: 4-Bromofluorobenzene	*0.0374*		*"*	*0.0400*		*93.4*	*50-150*			

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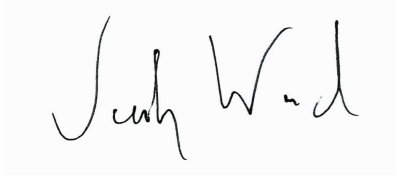
Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHC1092 - EPA 5030 Soil MS										
Matrix Spike Dup (BHC1092-MSD1)	**Source: 2403459-01**			Prepared: 03/29/24 Analyzed: 03/30/24						
Benzene	0.0910	0.0020	mg/kg	0.100	ND	91.0	70-130	4.34	30	
Toluene	0.0888	0.0050	"	0.100	ND	88.8	70-130	1.67	30	
Ethylbenzene	0.0985	0.0050	"	0.100	ND	98.5	70-130	0.00	30	
m,p-Xylene	0.196	0.010	"	0.200	ND	98.2	70-130	0.874	30	
o-Xylene	0.0933	0.0050	"	0.100	ND	93.3	70-130	1.44	30	
1,2,4-Trimethylbenzene	0.0875	0.0050	"	0.100	ND	87.5	70-130	1.24	30	
1,3,5-Trimethylbenzene	0.0944	0.0050	"	0.100	ND	94.4	70-130	1.89	30	
Naphthalene	0.0551	0.0038	"	0.100	ND	55.1	70-130	3.77	30	QM-07
Surrogate: 1,2-Dichloroethane-d4	*0.0323*		*"*	*0.0400*		*80.8*	*50-150*			
Surrogate: Toluene-d8	*0.0401*		*"*	*0.0400*		*100*	*50-150*			
Surrogate: 4-Bromofluorobenzene	*0.0365*		*"*	*0.0400*		*91.2*	*50-150*			
Batch BHD0014 - EPA 5030 Soil MS										
Blank (BHD0014-BLK1)				Prepared: 04/01/24 Analyzed: 04/03/24						
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	*0.0394*		*"*	*0.0400*		*98.4*	*50-150*			
Surrogate: Toluene-d8	*0.0398*		*"*	*0.0400*		*99.4*	*50-150*			
Surrogate: 4-Bromofluorobenzene	*0.0399*		*"*	*0.0400*		*99.8*	*50-150*			



S2

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHD0014 - EPA 5030 Soil MS										
LCS (BHD0014-BS1)				Prepared: 04/01/24 Analyzed: 04/03/24						
Benzene	0.108	0.0020	mg/kg	0.100		108	70-130			
Toluene	0.102	0.0050	"	0.100		102	70-130			
Ethylbenzene	0.109	0.0050	"	0.100		109	70-130			
m,p-Xylene	0.216	0.010	"	0.200		108	70-130			
o-Xylene	0.103	0.0050	"	0.100		103	70-130			
1,2,4-Trimethylbenzene	0.0988	0.0050	"	0.100		98.8	70-130			
1,3,5-Trimethylbenzene	0.101	0.0050	"	0.100		101	70-130			
Naphthalene	0.0854	0.0038	"	0.100		85.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0406*		*"*	*0.0400*		*101*	*50-150*			
Surrogate: Toluene-d8	*0.0400*		*"*	*0.0400*		*100*	*50-150*			
Surrogate: 4-Bromofluorobenzene	*0.0380*		*"*	*0.0400*		*94.9*	*50-150*			
Matrix Spike (BHD0014-MS1)		**Source: 2403450-01**		Prepared: 04/01/24 Analyzed: 04/03/24						
Benzene	0.0985	0.0020	mg/kg	0.100	ND	98.5	70-130			
Toluene	0.0861	0.0050	"	0.100	ND	86.1	70-130			
Ethylbenzene	0.0931	0.0050	"	0.100	ND	93.1	70-130			
m,p-Xylene	0.176	0.010	"	0.200	ND	88.2	70-130			
o-Xylene	0.0922	0.0050	"	0.100	ND	92.2	70-130			
1,2,4-Trimethylbenzene	0.0788	0.0050	"	0.100	ND	78.8	70-130			
1,3,5-Trimethylbenzene	0.0819	0.0050	"	0.100	ND	81.9	70-130			
Naphthalene	0.0652	0.0038	"	0.100	ND	65.2	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	*0.0402*		*"*	*0.0400*		*100*	*50-150*			
Surrogate: Toluene-d8	*0.0408*		*"*	*0.0400*		*102*	*50-150*			
Surrogate: 4-Bromofluorobenzene	*0.0400*		*"*	*0.0400*		*100*	*50-150*			
Matrix Spike Dup (BHD0014-MSD1)		**Source: 2403450-01**		Prepared: 04/01/24 Analyzed: 04/03/24						
Benzene	0.101	0.0020	mg/kg	0.100	ND	101	70-130	2.82	30	
Toluene	0.0883	0.0050	"	0.100	ND	88.3	70-130	2.58	30	
Ethylbenzene	0.0974	0.0050	"	0.100	ND	97.4	70-130	4.60	30	
m,p-Xylene	0.188	0.010	"	0.200	ND	93.8	70-130	6.11	30	
o-Xylene	0.0952	0.0050	"	0.100	ND	95.2	70-130	3.27	30	
1,2,4-Trimethylbenzene	0.0867	0.0050	"	0.100	ND	86.7	70-130	9.54	30	
1,3,5-Trimethylbenzene	0.0892	0.0050	"	0.100	ND	89.2	70-130	8.52	30	
Naphthalene	0.0668	0.0038	"	0.100	ND	66.8	70-130	2.41	30	QM-07
Surrogate: 1,2-Dichloroethane-d4	*0.0399*		*"*	*0.0400*		*99.8*	*50-150*			
Surrogate: Toluene-d8	*0.0398*		*"*	*0.0400*		*99.4*	*50-150*			
Surrogate: 4-Bromofluorobenzene	*0.0407*		*"*	*0.0400*		*102*	*50-150*			

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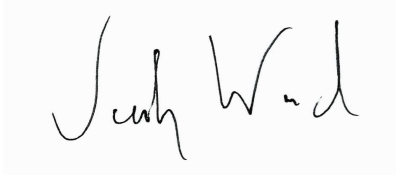
Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

Extractable Petroleum Hydrocarbons by 8015 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHC1094 - EPA 3550A										
Blank (BHC1094-BLK1)				Prepared: 03/29/24 Analyzed: 03/30/24						
C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	*11.8*		*"*	*12.5*		*94.1*	*30-150*			
LCS (BHC1094-BS1)				Prepared: 03/29/24 Analyzed: 03/30/24						
C10-C28 (DRO)	419	50	mg/kg	500		83.7	70-130			
Surrogate: o-Terphenyl	*11.0*		*"*	*12.5*		*87.9*	*30-150*			
Matrix Spike (BHC1094-MS1)	**Source: 2403459-01**			Prepared: 03/29/24 Analyzed: 03/30/24						
C10-C28 (DRO)	481	50	mg/kg	500	13.9	93.4	70-130			
Surrogate: o-Terphenyl	*6.18*		*"*	*12.5*		*49.5*	*30-150*			
Matrix Spike Dup (BHC1094-MSD1)	**Source: 2403459-01**			Prepared: 03/29/24 Analyzed: 03/30/24						
C10-C28 (DRO)	418	50	mg/kg	500	13.9	80.8	70-130	14.0	20	
Surrogate: o-Terphenyl	*7.58*		*"*	*12.5*		*60.7*	*30-150*			
Batch BHD0012 - EPA 3550A										
Blank (BHD0012-BLK1)				Prepared: 04/01/24 Analyzed: 04/02/24						
C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	*14.9*		*"*	*12.5*		*120*	*30-150*			
LCS (BHD0012-BS1)				Prepared: 04/01/24 Analyzed: 04/02/24						
C10-C28 (DRO)	641	50	mg/kg	500		128	70-130			
Surrogate: o-Terphenyl	*13.4*		*"*	*12.5*		*107*	*30-150*			



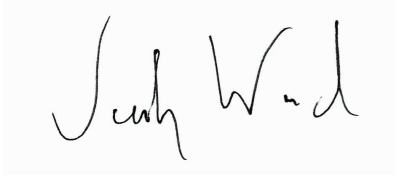
S2

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

Extractable Petroleum Hydrocarbons by 8015 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHD0012 - EPA 3550A										
Matrix Spike (BHD0012-MS1)	**Source: 2403450-01**			Prepared: 04/01/24 Analyzed: 04/02/24						
C10-C28 (DRO)	628	50	mg/kg	500	30.5	119	70-130			
Surrogate: o-Terphenyl	*8.60*		*"*	*12.5*		*68.8*	*30-150*			
Matrix Spike Dup (BHD0012-MSD1)	**Source: 2403450-01**			Prepared: 04/01/24 Analyzed: 04/02/24						
C10-C28 (DRO)	569	50	mg/kg	500	30.5	108	70-130	9.74	20	
Surrogate: o-Terphenyl	*9.18*		*"*	*12.5*		*73.4*	*30-150*			



S2

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHC1100 - EPA 5030 Soil MS										
Blank (BHC1100-BLK1)				Prepared: 03/31/24 Analyzed: 04/01/24						
Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	*0.0293*		*"*	*0.0333*		*88.0*	*40-150*			
Surrogate: Fluoranthene-d10	*0.0307*		*"*	*0.0333*		*92.2*	*40-150*			
LCS (BHC1100-BS1)				Prepared: 03/31/24 Analyzed: 04/01/24						
Acenaphthene	0.0302	0.00500	mg/kg	0.0333		90.5	31-137			
Anthracene	0.0312	0.00500	"	0.0333		93.7	30-120			
Benzo (a) anthracene	0.0303	0.00500	"	0.0333		90.8	30-120			
Benzo (a) pyrene	0.0259	0.00500	"	0.0333		77.7	30-120			
Benzo (b) fluoranthene	0.0274	0.00500	"	0.0333		82.3	30-120			
Benzo (k) fluoranthene	0.0284	0.00500	"	0.0333		85.1	30-120			
Chrysene	0.0307	0.00500	"	0.0333		92.1	30-120			
Dibenz (a,h) anthracene	0.0270	0.00500	"	0.0333		81.0	30-120			
Fluoranthene	0.0301	0.00500	"	0.0333		90.3	30-120			
Fluorene	0.0231	0.00500	"	0.0333		69.2	30-120			
Indeno (1,2,3-cd) pyrene	0.0217	0.00500	"	0.0333		65.2	30-120			
Pyrene	0.0327	0.00500	"	0.0333		98.2	35-142			
1-Methylnaphthalene	0.0280	0.00500	"	0.0333		83.9	35-142			
2-Methylnaphthalene	0.0368	0.00500	"	0.0333		110	35-142			
Surrogate: 2-Methylnaphthalene-d10	*0.0325*		*"*	*0.0333*		*97.6*	*40-150*			
Surrogate: Fluoranthene-d10	*0.0300*		*"*	*0.0333*		*89.9*	*40-150*			

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Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHC1100 - EPA 5030 Soil MS										
Matrix Spike (BHC1100-MS1)	**Source: 2403401-01**			Prepared: 03/31/24 Analyzed: 04/01/24						
Acenaphthene	0.0167	0.00500	mg/kg	0.0333	ND	50.1	31-137			
Anthracene	0.0180	0.00500	"	0.0333	ND	54.0	30-120			
Benzo (a) anthracene	0.0175	0.00500	"	0.0333	ND	52.6	30-120			
Benzo (a) pyrene	0.0139	0.00500	"	0.0333	ND	41.8	30-120			
Benzo (b) fluoranthene	0.0132	0.00500	"	0.0333	ND	39.5	30-120			
Benzo (k) fluoranthene	0.0136	0.00500	"	0.0333	ND	40.7	30-120			
Chrysene	0.0167	0.00500	"	0.0333	ND	50.0	30-120			
Dibenz (a,h) anthracene	0.0213	0.00500	"	0.0333	ND	63.9	30-120			
Fluoranthene	0.0179	0.00500	"	0.0333	ND	53.6	30-120			
Fluorene	0.0174	0.00500	"	0.0333	ND	52.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0169	0.00500	"	0.0333	ND	50.7	30-120			
Pyrene	0.0180	0.00500	"	0.0333	ND	54.0	35-142			
1-Methylnaphthalene	0.0187	0.00500	"	0.0333	ND	56.1	15-130			
2-Methylnaphthalene	0.0212	0.00500	"	0.0333	ND	63.6	15-130			
Surrogate: 2-Methylnaphthalene-d10	*0.0159*		*"*	*0.0333*		*47.7*	*40-150*			
Surrogate: Fluoranthene-d10	*0.0191*		*"*	*0.0333*		*57.2*	*40-150*			
Matrix Spike Dup (BHC1100-MSD1)	**Source: 2403401-01**			Prepared: 03/31/24 Analyzed: 04/01/24						
Acenaphthene	0.0174	0.00500	mg/kg	0.0333	ND	52.2	31-137	4.21	30	
Anthracene	0.0176	0.00500	"	0.0333	ND	52.7	30-120	2.48	30	
Benzo (a) anthracene	0.0153	0.00500	"	0.0333	ND	45.9	30-120	13.7	30	
Benzo (a) pyrene	0.0108	0.00500	"	0.0333	ND	32.5	30-120	24.9	30	
Benzo (b) fluoranthene	0.0104	0.00500	"	0.0333	ND	31.1	30-120	23.9	30	
Benzo (k) fluoranthene	0.0105	0.00500	"	0.0333	ND	31.4	30-120	25.9	30	
Chrysene	0.0150	0.00500	"	0.0333	ND	44.9	30-120	10.8	30	
Dibenz (a,h) anthracene	0.0194	0.00500	"	0.0333	ND	58.2	30-120	9.32	30	
Fluoranthene	0.0173	0.00500	"	0.0333	ND	51.8	30-120	3.43	30	
Fluorene	0.0153	0.00500	"	0.0333	ND	45.9	30-120	12.7	30	
Indeno (1,2,3-cd) pyrene	0.0153	0.00500	"	0.0333	ND	45.9	30-120	9.83	30	
Pyrene	0.0160	0.00500	"	0.0333	ND	47.9	35-142	12.1	30	
1-Methylnaphthalene	0.0179	0.00500	"	0.0333	ND	53.8	15-130	4.02	50	
2-Methylnaphthalene	0.0204	0.00500	"	0.0333	ND	61.1	15-130	3.96	50	
Surrogate: 2-Methylnaphthalene-d10	*0.0150*		*"*	*0.0333*		*44.9*	*40-150*			
Surrogate: Fluoranthene-d10	*0.0182*		*"*	*0.0333*		*54.6*	*40-150*			

Summit Scientific

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Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHD0053 - EPA 5030 Soil MS										
Blank (BHD0053-BLK1)				Prepared: 04/02/24 Analyzed: 04/03/24						
Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	*0.0342*		*"*	*0.0333*		*103*	*40-150*			
Surrogate: Fluoranthene-d10	*0.0228*		*"*	*0.0333*		*68.4*	*40-150*			
LCS (BHD0053-BS1)				Prepared: 04/02/24 Analyzed: 04/03/24						
Acenaphthene	0.0275	0.00500	mg/kg	0.0333		82.5	31-137			
Anthracene	0.0278	0.00500	"	0.0333		83.4	30-120			
Benzo (a) anthracene	0.0202	0.00500	"	0.0333		60.5	30-120			
Benzo (a) pyrene	0.0225	0.00500	"	0.0333		67.5	30-120			
Benzo (b) fluoranthene	0.0191	0.00500	"	0.0333		57.4	30-120			
Benzo (k) fluoranthene	0.0233	0.00500	"	0.0333		70.0	30-120			
Chrysene	0.0272	0.00500	"	0.0333		81.7	30-120			
Dibenz (a,h) anthracene	0.0278	0.00500	"	0.0333		83.4	30-120			
Fluoranthene	0.0243	0.00500	"	0.0333		73.0	30-120			
Fluorene	0.0267	0.00500	"	0.0333		80.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0271	0.00500	"	0.0333		81.2	30-120			
Pyrene	0.0346	0.00500	"	0.0333		104	35-142			
1-Methylnaphthalene	0.0298	0.00500	"	0.0333		89.3	35-142			
2-Methylnaphthalene	0.0314	0.00500	"	0.0333		94.1	35-142			
Surrogate: 2-Methylnaphthalene-d10	*0.0365*		*"*	*0.0333*		*109*	*40-150*			
Surrogate: Fluoranthene-d10	*0.0252*		*"*	*0.0333*		*75.7*	*40-150*			

Summit Scientific

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Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHD0053 - EPA 5030 Soil MS										
Matrix Spike (BHD0053-MS1)	**Source: 2403438-01**			Prepared: 04/02/24 Analyzed: 04/03/24						
Acenaphthene	0.0150	0.00500	mg/kg	0.0333	ND	45.1	31-137			
Anthracene	0.0149	0.00500	"	0.0333	ND	44.7	30-120			
Benzo (a) anthracene	0.0171	0.00500	"	0.0333	ND	51.3	30-120			
Benzo (a) pyrene	0.0181	0.00500	"	0.0333	ND	54.4	30-120			
Benzo (b) fluoranthene	0.0173	0.00500	"	0.0333	ND	51.9	30-120			
Benzo (k) fluoranthene	0.0181	0.00500	"	0.0333	ND	54.4	30-120			
Chrysene	0.0200	0.00500	"	0.0333	ND	60.1	30-120			
Dibenz (a,h) anthracene	0.0171	0.00500	"	0.0333	ND	51.3	30-120			
Fluoranthene	0.0143	0.00500	"	0.0333	ND	42.9	30-120			
Fluorene	0.0152	0.00500	"	0.0333	ND	45.5	30-120			
Indeno (1,2,3-cd) pyrene	0.0176	0.00500	"	0.0333	ND	52.8	30-120			
Pyrene	0.0240	0.00500	"	0.0333	ND	72.0	35-142			
1-Methylnaphthalene	0.0205	0.00500	"	0.0333	ND	61.5	15-130			
2-Methylnaphthalene	0.0208	0.00500	"	0.0333	ND	62.3	15-130			
Surrogate: 2-Methylnaphthalene-d10	*0.0241*		*"*	*0.0333*		*72.3*	*40-150*			
Surrogate: Fluoranthene-d10	*0.0147*		*"*	*0.0333*		*44.1*	*40-150*			
Matrix Spike Dup (BHD0053-MSD1)	**Source: 2403438-01**			Prepared: 04/02/24 Analyzed: 04/03/24						
Acenaphthene	0.0168	0.00500	mg/kg	0.0333	ND	50.3	31-137	10.9	30	
Anthracene	0.0173	0.00500	"	0.0333	ND	51.9	30-120	14.7	30	
Benzo (a) anthracene	0.0152	0.00500	"	0.0333	ND	45.6	30-120	11.7	30	
Benzo (a) pyrene	0.0184	0.00500	"	0.0333	ND	55.2	30-120	1.57	30	
Benzo (b) fluoranthene	0.0139	0.00500	"	0.0333	ND	41.7	30-120	21.8	30	
Benzo (k) fluoranthene	0.0184	0.00500	"	0.0333	ND	55.2	30-120	1.54	30	
Chrysene	0.0168	0.00500	"	0.0333	ND	50.4	30-120	17.5	30	
Dibenz (a,h) anthracene	0.0143	0.00500	"	0.0333	ND	42.9	30-120	17.9	30	
Fluoranthene	0.0162	0.00500	"	0.0333	ND	48.5	30-120	12.2	30	
Fluorene	0.0169	0.00500	"	0.0333	ND	50.6	30-120	10.5	30	
Indeno (1,2,3-cd) pyrene	0.0169	0.00500	"	0.0333	ND	50.8	30-120	3.77	30	
Pyrene	0.0181	0.00500	"	0.0333	ND	54.4	35-142	27.8	30	
1-Methylnaphthalene	0.0153	0.00500	"	0.0333	ND	45.9	15-130	29.0	50	
2-Methylnaphthalene	0.0162	0.00500	"	0.0333	ND	48.5	15-130	25.0	50	
Surrogate: 2-Methylnaphthalene-d10	*0.0229*		*"*	*0.0333*		*68.7*	*40-150*			
Surrogate: Fluoranthene-d10	*0.0170*		*"*	*0.0333*		*51.0*	*40-150*			

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Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHD0132 - EPA 3050B										
Blank (BHD0132-BLK1)				Prepared: 04/04/24 Analyzed: 04/05/24						
Boron	ND	2.00	mg/L							
LCS (BHD0132-BS1)				Prepared: 04/04/24 Analyzed: 04/05/24						
Boron	4.41	2.00	mg/L	5.00		88.3	80-120			
Duplicate (BHD0132-DUP1)		**Source: 2403437-01**		Prepared: 04/04/24 Analyzed: 04/05/24						
Boron	0.104	2.00	mg/L		0.116			11.3	20	
Matrix Spike (BHD0132-MS1)		**Source: 2403437-01**		Prepared: 04/04/24 Analyzed: 04/05/24						
Boron	4.54	2.00	mg/L	5.00	0.116	88.5	75-125			
Matrix Spike Dup (BHD0132-MSD1)		**Source: 2403437-01**		Prepared: 04/04/24 Analyzed: 04/05/24						
Boron	4.69	2.00	mg/L	5.00	0.116	91.4	75-125	3.16	25	

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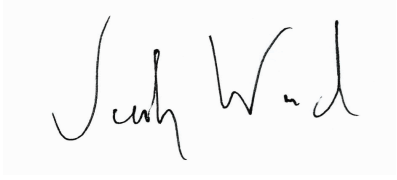

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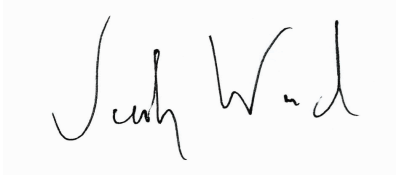
Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHC1088 - General Preparation										
Blank (BHC1088-BLK1)				Prepared: 03/29/24 Analyzed: 04/01/24						
Calcium	ND	0.0500	mg/L wet							
Magnesium	ND	0.0500	"							
Sodium	ND	0.0500	"							
LCS (BHC1088-BS1)				Prepared: 03/29/24 Analyzed: 04/01/24						
Calcium	4.93	0.0500	mg/L wet	5.00		98.6	70-130			
Magnesium	4.84	0.0500	"	5.00		96.8	70-130			
Sodium	4.95	0.0500	"	5.00		99.1	70-130			



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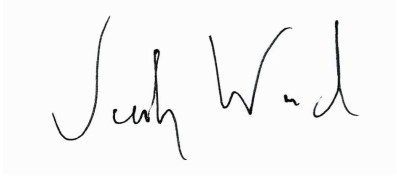
Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHD0051 - General Preparation										
Duplicate (BHD0051-DUP1)		**Source: 2403436-01**		Prepared: 04/02/24 Analyzed: 04/03/24						
% Solids	95.2		%		95.5			0.271	20	



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Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHC1089 - General Preparation										
Blank (BHC1089-BLK1)				Prepared: 03/29/24 Analyzed: 04/01/24						
Specific Conductance (EC)	ND	0.0100	mmhos/cm							
LCS (BHC1089-BS1)				Prepared: 03/29/24 Analyzed: 04/01/24						
Specific Conductance (EC)	0.150	0.0100	mmhos/cm				95-105			
Duplicate (BHC1089-DUP1)		**Source: 2403253-01**		Prepared: 03/29/24 Analyzed: 04/01/24						
Specific Conductance (EC)	0.104	0.0100	mmhos/cm		0.107			2.08	20	

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Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHC1090 - General Preparation										
LCS (BHC1090-BS1)				Prepared: 03/29/24 Analyzed: 04/01/24						
pH	8.99		pH Units	9.18		97.9	95-105			
Duplicate (BHC1090-DUP1)		**Source: 2403253-01**		Prepared: 03/29/24 Analyzed: 04/01/24						
pH	8.65		pH Units		8.95			3.41	20	

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Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/08/24 14:55

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

April 01, 2024

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

RE: PDC - Hall 42-33
Work Order #2403460

Enclosed are the results of analyses for samples received by Summit Scientific on 03/28/24 17:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Paul Shrewsbury
President

S2

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/01/24 06:42

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW01	2403460-01	Water	03/28/24 11:14	03/28/24 17:55
GW02	2403460-02	Water	03/28/24 12:14	03/28/24 17:55
GW03	2403460-03	Water	03/28/24 14:14	03/28/24 17:55

Summit Scientific

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

Lab ID	Page 1 of 1
2403460	

		Send Data To:		Send Invoice To:	
Client:	PDC / Tasman	Project Manager:	Karen Olson	Company:	PDC Energy
Address:	6855 W 119th Ave	E-Mail:	karen.olson@chevron.com	Project Name/Location:	
City/State/Zip:	Broomfield / CO / 80020			AFE#:	
Phone:	303-487-1228	Project Name:	HALL 42-33	PO/Billing Codes:	
Sampler Name:	Shannon Walus	Project Number:		Contact:	Karen Olson

					Preservative				Matrix				Analysis Requested									Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other ___	Water	Soil	Air-Canister #	Other ___	BTEXN - 8260B	1,2,4 & 1,3,5-TMB	TDS, Cl, SO4							
1	GW01	3/28/24	1114	4			X		X				X	X	X							
2	GW02	"	1214	"			"		"				"	"	"							
3	GW03	"	1414	"			"		"				"	"	"							
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

Relinquished by:	Date/Time:	Received by:	Date/Time:	TAT Business Days		Field DO		Notes:
Shannon Walus	3/28/24 1730	Tasman Lockbox	3/28/24 1730	Same Day		Field EC		
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day		Field ORP		
Tasman Lockbox	3/28/24 1735		3/28/24 1735	2 Days		Field pH		
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days		Field Temp.		
				Standard	X	Field Turb.		

Temperature Upon Receipt: 8.8	Corrected Temperature 0	IR gun #: 1	HNO3 lot #:

S2

Sample Receipt Checklist S2 Work Order# 2403460

Client: Bc Foreman Client Project ID: Hall 42-33

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

[ ] [-] [ ] [ ] [ ]

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

Temp (°C) [8.8] Thermometer # [1]

	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.	-			ON ICE
If custody seals are present, are they intact? (1)	-			
Are samples due within 48 hours present?		-		
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		-		
Is a chain-of-custody (COC) form present and filled out Completely? (1)	-			
Is the COC properly relinquished by the client w/ date and time recorded? (1)	-			
Were all samples received intact? (1)	✓			
Was adequate sample volume provided? (1)	✓			
Does the COC agree with the number and type of sample bottles received? (1)	✓			
Do the sample IDs on the bottle labels match the COC? (1)	✓			
For volatiles in water – is there headspace present? **If yes, contact client and note in narrative.**		✓		
Are samples preserved that require preservation **(excluding cooling)?** (1) Note the type of preservative in the comments column – HCl, H_2SO_4, NaOH, HNO_3, etc.		✓		
If samples are acid preserved for metals, is the pH ≤ 2? (1) Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	
Additional Comments (if any):				

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

AB
Custodian Printed Name

3/28/24
Date/Time

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/01/24 06:42

GW01

2403460-01 (Water)

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Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/28/24 11:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	BHC1085	03/29/24	03/30/24	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/28/24 11:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	12.2	*91.8 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8	14.2	*107 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	10.4	*77.8 %*	*21-167*		"	"	"	"	

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Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/01/24 06:42

GW02

2403460-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/28/24 12:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	BHC1085	03/29/24	03/30/24	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/28/24 12:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	11.7	*87.7 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8	14.1	*106 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	10.9	*81.9 %*	*21-167*		"	"	"	"	

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Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/01/24 06:42

GW03

2403460-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/28/24 14:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	BHC1085	03/29/24	03/30/24	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/28/24 14:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	12.3	*92.0 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8	14.4	*108 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	10.6	*79.2 %*	*21-167*		"	"	"	"	

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/01/24 06:42

Volatile Organic Compounds by EPA Method 8260B - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHC1085 - EPA 5030 Water MS										
Blank (BHC1085-BLK1)				Prepared: 03/29/24 Analyzed: 03/30/24						
Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Naphthalene	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	*11.9*		*"*	*13.3*		*89.6*	*23-173*			
Surrogate: Toluene-d8	*14.5*		*"*	*13.3*		*109*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*10.6*		*"*	*13.3*		*79.4*	*21-167*			
LCS (BHC1085-BS1)				Prepared: 03/29/24 Analyzed: 03/30/24						
Benzene	31.9	1.0	ug/l	33.3		95.7	51-132			
Toluene	29.2	1.0	"	33.3		87.5	51-138			
Ethylbenzene	32.4	1.0	"	33.3		97.2	58-146			
m,p-Xylene	65.8	2.0	"	66.7		98.7	57-144			
o-Xylene	30.4	1.0	"	33.3		91.2	53-146			
Naphthalene	29.4	1.0	"	33.3		88.1	70-130			
1,2,4-Trimethylbenzene	29.7	1.0	"	33.3		89.1	70-130			
1,3,5-Trimethylbenzene	23.7	1.0	"	33.3		71.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	*12.6*		*"*	*13.3*		*94.1*	*23-173*			
Surrogate: Toluene-d8	*14.2*		*"*	*13.3*		*107*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*11.1*		*"*	*13.3*		*83.0*	*21-167*			
Matrix Spike (BHC1085-MS1)		**Source: 2403385-01**		Prepared: 03/29/24 Analyzed: 03/30/24						
Benzene	28.9	1.0	ug/l	33.3	ND	86.6	34-141			
Toluene	26.2	1.0	"	33.3	ND	78.6	27-151			
Ethylbenzene	28.3	1.0	"	33.3	ND	84.9	29-160			
m,p-Xylene	56.8	2.0	"	66.7	ND	85.1	20-166			
o-Xylene	26.1	1.0	"	33.3	ND	78.2	33-159			
Naphthalene	16.7	1.0	"	33.3	ND	50.1	70-130			QM-07
1,2,4-Trimethylbenzene	18.2	1.0	"	33.3	ND	54.7	70-130			QM-07
1,3,5-Trimethylbenzene	20.2	1.0	"	33.3	ND	60.7	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	*12.2*		*"*	*13.3*		*91.3*	*23-173*			
Surrogate: Toluene-d8	*14.2*		*"*	*13.3*		*107*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*10.9*		*"*	*13.3*		*81.5*	*21-167*			

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Volatile Organic Compounds by EPA Method 8260B - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHC1085 - EPA 5030 Water MS										
Matrix Spike Dup (BHC1085-MSD1)	**Source: 2403385-01**			Prepared: 03/29/24 Analyzed: 03/30/24						
Benzene	27.6	1.0	ug/l	33.3	ND	82.8	34-141	4.53	30	
Toluene	25.5	1.0	"	33.3	ND	76.6	27-151	2.51	30	
Ethylbenzene	27.6	1.0	"	33.3	ND	83.0	29-160	2.32	30	
m,p-Xylene	54.4	2.0	"	66.7	ND	81.6	20-166	4.21	30	
o-Xylene	25.5	1.0	"	33.3	ND	76.6	33-159	2.09	30	
Naphthalene	15.7	1.0	"	33.3	ND	47.0	70-130	6.30	30	QM-07
1,2,4-Trimethylbenzene	17.6	1.0	"	33.3	ND	52.7	70-130	3.75	30	QM-07
1,3,5-Trimethylbenzene	19.8	1.0	"	33.3	ND	59.4	70-130	2.25	30	QM-07
Surrogate: 1,2-Dichloroethane-d4	*12.5*		*"*	*13.3*		*93.8*	*23-173*			
Surrogate: Toluene-d8	*14.1*		*"*	*13.3*		*105*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*10.9*		*"*	*13.3*		*81.9*	*21-167*			

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Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: PDC - Hall 42-33 Project Number: [none] Project Manager: Karen Olson	**Reported:** 04/01/24 06:42

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference