

TABLE 1
PDC ENERGY, INC - 69175
FORMER HALL 42-33 WELLHEAD & 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
PWV01-B @ 2'	3/28/2024	2 ft. bgs	<0.0020	<0.00050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	7.1
PWV01-W @ 1'	3/28/2024	1 ft. bgs	<0.0020	<0.00050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SEP01-FL @ 4'	3/28/2024	4 ft. bgs	<0.0020	<0.00050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SEP01-DL @ 4'	3/28/2024	4 ft. bgs	<0.0020	<0.00050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
WH01 @ 6'	3/28/2024	6 ft. bgs	<0.0020	<0.00050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	0.78
FLR01 @ 4'	3/28/2024	4 ft. bgs	<0.0020	<0.00050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	1.3
WHS01-E @ 0-6"	3/28/2024	0-6 in. bgs	<0.0020	<0.00050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
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:

- Compounds referenced from the ECMC 2 CCR 404-1, Table 915-1, effective January 15, 2021.
- Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.
- SSLs are applicable if a pathway for communication with groundwater is present.
- 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

in. = Inches

bgs = Below ground surface

TABLE 2
PDC ENERGY, INC - 69175
FORMER HALL 42-33 WELLHEAD & TANK BATTERY
SOIL ANALYTICAL RESULTS SUMMARY TABLE
INORGANIC COMPOUNDS

Sample ID	Date Sampled	Depth	pH (units)	EC (mmhos/cm)	SAR (units)	Boron (mg/L)
Soil Suitability for Reclamation Standard ⁽¹⁾			6-8.3	<4	<6	2
PWV01-B @ 2'	3/28/2024	2 ft. bgs	7.80	0.299	0.408	<2.00
PWV01-W @ 1'	3/28/2024	1 ft. bgs	8.33	0.256	0.541	<2.00
SEP01-FL @ 4'	3/28/2024	4 ft. bgs	8.43	1.14	1.09	<2.00
SEP01-DL @ 4'	3/28/2024	4 ft. bgs	7.77	2.46	2.44	<2.00
WH01 @ 6'	3/28/2024	6 ft. bgs	7.83	0.548	0.709	<2.00
FLR01 @ 4'	3/28/2024	4 ft. bgs	11.4	1.09	1.26	<2.00
WHS01-E @ 0-6"	3/28/2024	0-6 in. bgs	7.43	0.870	1.03	<2.00
FL01-01 @ 6'	3/28/2024	6 ft. bgs	8.10	0.628	0.712	<2.00

Notes:

1. Compounds referenced from the ECMC 2 CCR 404-1, Table 915-1, effective January 15, 2021.

ECMC = Colorado Energy & Carbon Management Commission

EC = Electrical conductivity

SAR = Sodium adsorption ratio

mmhos/cm = millimhos per centimeter

mg/L = milligram per liter

(<) = Analytical result is less than the indicated laboratory reporting limit.

ft. = Feet

in. = Inches

bgs = Below ground surface

NA = Constituent not analyzed

BOLD = Analytical result is in exceedance of applicable standard.

TABLE 3
PDC ENERGY, INC - 69175
FORMER HALL 42-33 WELLHEAD & TANK BATTERY
SOIL ANALYTICAL RESULTS SUMMARY TABLE
ORGANIC COMPOUNDS - PAHs

Sample ID	Date Sampled	Depth	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benz(a) (mg/kg)	Benzo(a) (mg/kg)	Benzo(b) (mg/kg)	Benzo(k) (mg/kg)	Chrysene (mg/kg)	A,H (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)
Residential SSL ^(1,2)			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL ^(1,2,3)			0.55	5.8	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
PWV01-B @ 2'	3/28/2024	2 ft. bgs	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
PWV01-W @ 1'	3/28/2024	1 ft. bgs	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP01-FL @ 4'	3/28/2024	4 ft. bgs	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP01-DL @ 4'	3/28/2024	4 ft. bgs	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
WH01 @ 6'	3/28/2024	6 ft. bgs	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00662	<0.00500	<0.00500	0.0141	<0.00500
FLR01 @ 4'	3/28/2024	4 ft. bgs	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
WHS01-E @ 0-6"	3/28/2024	0-6 in. bgs	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FL01-01 @ 6'	3/28/2024	6 ft. bgs	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

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.

ECMC = Colorado Energy & Carbon Management Commission

(<) = Analytical result is less than the indicated laboratory reporting limit.

PAHs = Polycyclic aromatic hydrocarbons

Benz(a) = Benzanthrane

Benzo(a) = Benzopyrene

Benzo(b) = Benzofluoranthene

Benzo(k) = Benzofluoranthene

A,H = Dibenzoanthracene

1,2,3-CD = Indenopyrene

M = Methylnaphthalene

mg/kg = Milligrams per kilogram

ft. = Feet

in. = Inches

bgs = Below ground surface

BOLD = Analytical result is in exceedance of applicable standard.

TABLE 4
PDC ENERGY, INC - 69175
FORMER HALL 42-33 WELLHEAD & TANK BATTERY
SOIL ANALYTICAL RESULTS SUMMARY TABLE
METALS

Sample ID	Date Sampled	Depth	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
Residential SSL ^(1,2)			0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater SSL ^(1,2,3)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
PWV01-B @ 2'	3/28/2024	2 ft. bgs	2.38	53.0	<0.200	<0.30 ⁽⁴⁾	7.73	5.92	5.90	<0.260	0.0303	25.6
PWV01-W @ 1'	3/28/2024	1 ft. bgs	3.78	49.6	0.219	<0.30 ⁽⁴⁾	7.94	6.74	8.17	<0.260	0.0353	30.8
SEP01-FL @ 4'	3/28/2024	4 ft. bgs	4.96	63.6	0.239	<0.30 ⁽⁴⁾	8.97	7.46	8.30	<0.260	0.0455	32.5
SEP01-DL @ 4'	3/28/2024	4 ft. bgs	6.01	124	0.450	<0.30 ⁽⁴⁾	14.1	11.3	13.6	0.207 ⁽⁵⁾	0.0595	44.5
WH01 @ 6'	3/28/2024	6 ft. bgs	3.96	60.4	0.308	<0.30 ⁽⁴⁾	12.4	17.8	10.3	<0.260	0.0518	41.2
FLR01 @ 4'	3/28/2024	4 ft. bgs	3.77	79.6	0.238	<0.30 ⁽⁴⁾	13.3	15.2	9.74	<0.260	0.0499	39.2
WHS01-E @ 0-6"	3/28/2024	0-6 in. bgs	4.16	73.7	0.371	<0.30 ⁽⁴⁾	15.9	19.0	10.2	0.265	0.0553	44.5
FL01-01 @ 6'	3/28/2024	6 ft. bgs	4.34	75.4	0.403	<0.30 ⁽⁴⁾	13.4	10.4	10.6	0.269	0.0713	50.9
BKG01 @ 4'	3/28/2024	4 ft. bgs	4.13	1,080	0.401	<0.30 ⁽⁴⁾	9.34	8.56	11.7	0.245	0.0451	39.2
BKG01 @ 6'	3/28/2024	6 ft. bgs	3.82	47.4	0.251	<0.30 ⁽⁴⁾	7.08	9.55	8.86	<0.234	0.0363	41.0
BKG02 @ 4'	3/28/2024	4 ft. bgs	5.98	103	0.317	<0.30 ⁽⁴⁾	10.4	6.82	10.1	<0.260	0.0580	29.3
BKG02 @ 6'	3/28/2024	6 ft. bgs	5.02	87.0	0.285	<0.30 ⁽⁴⁾	9.71	5.84	8.85	<0.260	0.0501	25.1
Mean Background Concentration ⁽⁶⁾			4.74	329	0.314	0.30	9.13	7.69	9.88	0.250	0.0474	33.7
1.25x Mean Background Concentration			5.92	412	0.392	0.38	11.4	9.62	12.3	0.313	0.0592	42.1

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. Compound falls within ECMC Table 915-1 Footnote 9.

5. The reported concentration is below than the reporting limit but above the method detection limit and is considered an estimated value.

6. Non-detect background results accounted for in the mean background concentration by using the reporting limit or method detection limit, where applicable.

ECMC = Energy & Carbon Management Commission

(<) = Analytical result is less than the indicated laboratory reporting limit.

mg/kg = Milligrams per kilogram

ft. = Feet

in. = Inches

bgs = Below ground surface

BOLD = Analytical result is in exceedance of applicable standard.

BOLD = Analytical result is in exceedance of applicable standard, but within 1.25x background concentration.

TABLE 5
PDC ENERGY, INC - 69175
FORMER HALL 42-33 WELLHEAD & 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 6
PDC ENERGY, INC - 69175
FORMER HALL 42-33 WELLHEAD & TANK BATTERY
GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
INORGANIC PARAMETERS

Sample ID	Date Sampled	TDS (unit)	Chloride Ion (mg/L)	Sulfate Ion (mg/L)
COGCC Table 915-1 Groundwater Standard (mg/L) ⁽¹⁾		<1.25 x BCKG	250 or <1.25 x BCKG	250 or <1.25 x BCKG
GW01	3/28/2024	685	25.0	295
GW02	3/28/2024	1,060	31.8	676
GW03	3/28/2024	614	24.6	252

Notes:

1. Groundwater standards referenced from ECMC 2 CCR 404-1, Table 915-1, January 15, 2021.

TDS = Total dissolved solids

ECMC = Energy & Carbon Management Commission

BCKG = Background

mg/L = Milligrams per liter

(<) = Analytical result is less than the indicated laboratory reporting limit.

BOLD = Analytical result is in exceedance of applicable standard.

TABLE 7
PDC ENERGY, INC - 69175
FORMER HALL 42-33 WELLHEAD & 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
PWV01-N @ 1'	3/28/2024	1 ft. bgs	40.533059	-104.776236	0.9	0.3
PWV01-E @ 1'	3/28/2024	1 ft. bgs	40.533062	-104.776191	0.9	0.2
PWV01-S @ 1'	3/28/2024	1 ft. bgs	40.533041	-104.776200	0.8	0.6
PWV01-W @ 1'	3/28/2024	1 ft. bgs	40.533044	-104.776228	0.9	1.0
WDL01 @ 0-6"	3/28/2024	0-6 in. bgs	40.533058	-104.776245	0.9	0.1
AST01 @ 0-6"	3/28/2024	0-6 in. bgs	40.533006	-104.776196	1.0	0.4
SEP01-FL @ 4'	3/28/2024	4 ft. bgs	40.533315	-104.776341	NC	8.9
SEP01-DL @ 4'	3/28/2024	4 ft. bgs	40.533352	-104.776274	NC	10.0
ECD01 @ 0-6"	3/28/2024	0-6 in. bgs	40.533373	-104.776220	0.8	0.1
ECD02 @ 0-6"	3/28/2024	0-6 in. bgs	40.533400	-104.776231	0.7	0.0
MH01 @ 0-6"	3/28/2024	0-6 in. bgs	40.533398	-104.776296	0.9	0.0
COMP @ 0-6"	3/28/2024	0-6 in. bgs	40.533378	-104.776344	0.9	0.0
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
FLR01 @ 4'	3/28/2024	4 ft. bgs	40.533090	-104.776589	NC	6.0
WHS01-N @ 0-6"	3/28/2024	0-6 in. bgs	40.533113	-104.776601	NC	0.8
WHS01-E @ 0-6"	3/28/2024	0-6 in. bgs	40.533113	-104.776544	0.9	1.6
WHS01-S @ 0-6"	3/28/2024	0-6 in. bgs	40.533052	-104.776557	NC	1.4
WHS01-W @ 0-6"	3/28/2024	0-6 in. bgs	40.533062	-104.776623	NC	1.3
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
BKG01 @ 4'	3/28/2024	4 ft. bgs	40.533215	-104.776719	NC	0.2
BKG01 @ 6'	3/28/2024	6 ft. bgs	40.533215	-104.776719	NC	0.3
BKG02 @ 4'	3/28/2024	4 ft. bgs	40.532738	-104.776592	0.8	0.2
BKG02 @ 6'	3/28/2024	6 ft. bgs	40.532738	-104.776592	0.8	0.2

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

in = Inches

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

June 25, 2024

Karen Olson

Tasman Geosciences

6855 W. 119th Ave.

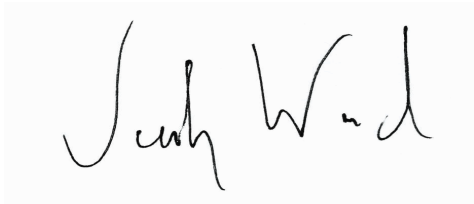
Broomfield, CO 80020

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,

A handwritten signature in black ink, appearing to read "Jacob Wood". The signature is written in a cursive, flowing style.

Jacob Wood For Paul Shrewsbury

President



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

Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

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
PWV01-W@1'	2403459-02	Soil	03/28/24 12:14	03/28/24 17:55
FLR01@4'	2403459-03	Soil	03/28/24 12:19	03/28/24 17:55
WH01@6'	2403459-04	Soil	03/28/24 12:23	03/28/24 17:55
SEP01-FL@4'	2403459-05	Soil	03/28/24 13:44	03/28/24 17:55
WHS01-E@0-6"	2403459-06	Soil	03/28/24 12:35	03/28/24 17:55
FL01-01@6'	2403459-07	Soil	03/28/24 13:50	03/28/24 17:55
SEP01-DL@4'	2403459-08	Soil	03/28/24 14:27	03/28/24 17:55
BKG01@4'	2403459-09	Soil	03/28/24 14:37	03/28/24 17:55
BKG01@6'	2403459-10	Soil	03/28/24 14:39	03/28/24 17:55
BKG02@4'	2403459-11	Soil	03/28/24 14:59	03/28/24 17:55
BKG02@6'	2403459-12	Soil	03/28/24 15:04	03/28/24 17:55

Case Narrative

Hunter Merlo requested COC analyses be modified to include GBTEXN-915 on 6/25/2024.

This is a revision of the report originally sent on 05/24/2024 at 10:45 AM MT.

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 <u>1</u> of <u>1</u>
2403459	

Client: PDC / Tasman		Send Data To: Karen Olson		Send Invoice To:	
Address: 6855 W 119th Ave		Project Manager: Karen Olson		Company: PDC Energy	
City/State/Zip: Broomfield / CO / 80020		E-Mail: karen.olson@chevron.com		Project Name/Location:	
Phone: 303-487-1228		Project Name: Hall 42-33		AFE#:	
Sampler Name: Shannon Walrus		Project Number:		PO/Billing Codes:	
		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	metals-CIS	PAH-CIS	SAEC, PH	Boron-FWS			
1	PWV01-BW2'	3/28/24	1204	2			X			X							X	X	X	X		
2	PWV01-WW1'		1214																			
3	FIRO1@4'		1219																			
4	WHO1@6'		1223																			
5	SEP01-FI@4'		1344																			
6	WHS01-EW0-6'		1235																			
7	FL01@6'		1350																			
8	SEP01-DL@4'		1427																			
9	BHG01@4'		1437																			
10	BHG01@6'		1439																			
11	BHG02@4'		1459																			
12	BHG02@6'		1504																			
13																						
14																						
15																						

Relinquished by: Shannon Walrus	Date/Time: 3/28/24 1730	Received by: Tasman Lockbox	Date/Time: 3/28/24 1730	TAT Business Days	Field DO	Notes:
Relinquished by: Tasman Lockbox	Date/Time: 3/28/24 1730	Received by: [Signature]	Date/Time: 3/28/24 1730	Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Temperature Upon Receipt: 8.56	Corrected Temperature: 8	IR gun #:		Standard	X	Field Turb.
				HNO3 lot #:		

S₂

Sample Receipt Checklist

S2 Work Order# 2403459Client: Dr. TasmanClient Project ID: Wall 42-33Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐Airbill #:

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	-------------------------------------	--------------------------	--------------------------	--------------------------

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.	<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"/>	<u>all OK</u>
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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>names didn't match</u>
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

3/28/24
Date/Time

BAC



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

Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

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		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
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		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0360	89.9 %	50-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	0.0411	103 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0535	134 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

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

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

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

PWV01-B@2'
2403459-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

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

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

Total Metals by EPA 6020B

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:
06/25/24 10:56

PWV01-B@2'
2403459-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

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

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.38	0.200	mg/kg dry	1	BHD0554	04/17/24	04/23/24	EPA 6020B	
Barium	53.0	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	7.73	0.400	"	"	"	"	"	"	
Lead	5.92	0.200	"	"	"	"	"	"	
Nickel	5.90	0.400	"	"	"	"	"	"	
Silver	0.0303	0.0200	"	"	"	"	"	"	
Zinc	25.6	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

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

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0117	04/03/24	04/08/24	EPA 7196A	

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

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

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

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:
06/25/24 10:56

PWV01-B@2'
2403459-01 (Soil)

Summit Scientific

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

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Broomfield CO, 80020

Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

PWV01-W@1'
2403459-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0014	04/01/24	04/03/24	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 12:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0448	112 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0409	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0419	105 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0012	04/01/24	04/02/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.83	78.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

PWV01-W@1'
2403459-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0053	04/02/24	04/04/24	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	"	"	"	"	"	"	
Naphthalene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0264	79.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0182	54.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0343	04/11/24	05/23/24	EPA 6020B	

Total Metals by EPA 6020B

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:
06/25/24 10:56

PWV01-W@1'
2403459-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

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

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	3.78	0.200	mg/kg dry	1	BHD0554	04/17/24	04/23/24	EPA 6020B	
Barium	49.6	0.400	"	"	"	"	"	"	
Cadmium	0.219	0.200	"	"	"	"	"	"	
Copper	7.94	0.400	"	"	"	"	"	"	
Lead	6.74	0.200	"	"	"	"	"	"	
Nickel	8.17	0.400	"	"	"	"	"	"	
Silver	0.0353	0.0200	"	"	"	"	"	"	
Zinc	30.8	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

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

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0344	04/11/24	04/12/24	EPA 7196A	

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

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

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	28.2	0.0500	mg/L dry	1	BHD0418	04/12/24	05/07/24	EPA 6020B	
Magnesium	13.3	0.0500	"	"	"	"	"	"	
Sodium	13.9	0.0500	"	"	"	"	"	"	

Calculated Analysis

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

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	0.541	0.00100	units	1	BHE0268	05/08/24	05/08/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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:
06/25/24 10:56

PWV01-W@1'
2403459-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	80.5		%	1	BHD0051	04/02/24	04/03/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.256	0.0100	mmhos/cm	1	BHD0420	04/12/24	04/16/24	EPA 120.1	

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

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.33		pH Units	1	BHD0419	04/12/24	04/16/24	EPA 9045D	

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:
06/25/24 10:56

FLR01@4'
2403459-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/28/24 12:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHD0014	04/01/24	04/03/24	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	1.3	0.50	"	"	"	"	"	"	

Date Sampled: **03/28/24 12:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0434	109 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0484	121 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/28/24 12:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0012	04/01/24	04/02/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/28/24 12:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.76	62.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

FLR01@4'
2403459-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/28/24 12:19**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0053	04/02/24	04/04/24	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	"	"	"	"	"	"	
Naphthalene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/28/24 12:19**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0251	75.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0172	51.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/28/24 12:19**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0343	04/11/24	05/23/24	EPA 6020B	

Total Metals by EPA 6020B

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:
06/25/24 10:56

FLR01@4'
2403459-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/28/24 12:19**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	3.77	0.200	mg/kg dry	1	BHD0554	04/17/24	04/23/24	EPA 6020B	
Barium	79.6	0.400	"	"	"	"	"	"	
Cadmium	0.238	0.200	"	"	"	"	"	"	
Copper	13.3	0.400	"	"	"	"	"	"	
Lead	15.2	0.200	"	"	"	"	"	"	
Nickel	9.74	0.400	"	"	"	"	"	"	
Silver	0.0499	0.0200	"	"	"	"	"	"	
Zinc	39.2	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/28/24 12:19**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0344	04/11/24	04/12/24	EPA 7196A	

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

Date Sampled: **03/28/24 12:19**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	111	0.0500	mg/L dry	1	BHD0418	04/12/24	05/07/24	EPA 6020B	
Magnesium	0.490	0.0500	"	"	"	"	"	"	
Sodium	48.3	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/28/24 12:19**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	1.26	0.00100	units	1	BHE0268	05/08/24	05/08/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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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:
06/25/24 10:56

FLR01@4'
2403459-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/28/24 12:19**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	80.0			%	1	BHD0051	04/02/24	04/03/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/28/24 12:19**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	1.09	0.0100		mmhos/cm	1	BHD0420	04/12/24	04/16/24	EPA 120.1	

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

Date Sampled: **03/28/24 12:19**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	11.4			pH Units	1	BHD0419	04/12/24	04/16/24	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

WH01@6'
2403459-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

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

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

WH01@6'
2403459-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

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

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

Total Metals by EPA 6020B

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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:
06/25/24 10:56

WH01@6'
2403459-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

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

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	3.96	0.200	mg/kg dry	1	BHD0554	04/17/24	04/23/24	EPA 6020B	
Barium	60.4	0.400	"	"	"	"	"	"	
Cadmium	0.308	0.200	"	"	"	"	"	"	
Copper	12.4	0.400	"	"	"	"	"	"	
Lead	17.8	0.200	"	"	"	"	"	"	
Nickel	10.3	0.400	"	"	"	"	"	"	
Silver	0.0518	0.0200	"	"	"	"	"	"	
Zinc	41.2	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

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

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0117	04/03/24	04/08/24	EPA 7196A	

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

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

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

Physical Parameters by APHA/ASTM/EPA Methods

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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:
06/25/24 10:56

WH01@6'
2403459-04 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

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

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

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

SEP01-FL@4'
2403459-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/28/24 13:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0014	04/01/24	04/03/24	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 13:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0420	105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0399	99.7 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0476	119 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/28/24 13:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0012	04/01/24	04/02/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/28/24 13:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.6	84.9 %	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:
06/25/24 10:56

SEP01-FL@4'
2403459-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/28/24 13:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0053	04/02/24	04/04/24	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	"	"	"	"	"	"	
Naphthalene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/28/24 13:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0256	76.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0212	63.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/28/24 13:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0343	04/11/24	05/23/24	EPA 6020B	

Total Metals by EPA 6020B

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:
06/25/24 10:56

SEP01-FL@4'
2403459-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/28/24 13:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	4.96	0.200	mg/kg dry	1	BHD0554	04/17/24	04/23/24	EPA 6020B	
Barium	63.6	0.400	"	"	"	"	"	"	
Cadmium	0.239	0.200	"	"	"	"	"	"	
Copper	8.97	0.400	"	"	"	"	"	"	
Lead	7.46	0.200	"	"	"	"	"	"	
Nickel	8.30	0.400	"	"	"	"	"	"	
Silver	0.0455	0.0200	"	"	"	"	"	"	
Zinc	32.5	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/28/24 13:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0344	04/11/24	04/12/24	EPA 7196A	

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

Date Sampled: **03/28/24 13:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	86.1	0.0500	mg/L dry	1	BHD0418	04/12/24	05/07/24	EPA 6020B	
Magnesium	41.5	0.0500	"	"	"	"	"	"	
Sodium	49.0	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/28/24 13:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	1.09	0.00100	units	1	BHE0268	05/08/24	05/08/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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:
06/25/24 10:56

SEP01-FL@4'
2403459-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/28/24 13:44**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	77.9			%	1	BHD0051	04/02/24	04/03/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/28/24 13:44**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	1.14	0.0100		mmhos/cm	1	BHD0420	04/12/24	04/16/24	EPA 120.1	

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

Date Sampled: **03/28/24 13:44**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.43			pH Units	1	BHD0419	04/12/24	04/16/24	EPA 9045D	

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

WHS01-E@0-6"
2403459-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/28/24 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0014	04/01/24	04/03/24	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 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0448	112 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0399	99.7 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0419	105 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/28/24 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0012	04/01/24	04/02/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/28/24 12:35**

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: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

WHS01-E@0-6"
2403459-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/28/24 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0053	04/02/24	04/04/24	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	"	"	"	"	"	"	
Naphthalene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/28/24 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0236	70.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0168	50.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/28/24 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0343	04/11/24	05/23/24	EPA 6020B	

Total Metals by EPA 6020B

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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:
06/25/24 10:56

WHS01-E@0-6"
2403459-06 (Soil)

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Total Metals by EPA 6020B

Date Sampled: **03/28/24 12:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	4.16	0.200	mg/kg dry	1	BHD0554	04/17/24	04/23/24	EPA 6020B	
Barium	73.7	0.400	"	"	"	"	"	"	
Cadmium	0.371	0.200	"	"	"	"	"	"	
Copper	15.9	0.400	"	"	"	"	"	"	
Lead	19.0	0.200	"	"	"	"	"	"	
Nickel	10.2	0.400	"	"	"	"	"	"	
Silver	0.0553	0.0200	"	"	"	"	"	"	
Zinc	44.5	0.400	"	"	"	"	"	"	
Selenium	0.265	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/28/24 12:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0344	04/11/24	04/12/24	EPA 7196A	

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

Date Sampled: **03/28/24 12:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	70.4	0.0500	mg/L dry	1	BHD0418	04/12/24	05/07/24	EPA 6020B	
Magnesium	23.2	0.0500	"	"	"	"	"	"	
Sodium	39.0	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/28/24 12:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	1.03	0.00100	units	1	BHE0268	05/08/24	05/08/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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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:
06/25/24 10:56

WHS01-E@0-6"
2403459-06 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/28/24 12:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	91.1			%	1	BHD0051	04/02/24	04/03/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/28/24 12:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.870	0.0100		mmhos/cm	1	BHD0420	04/12/24	04/16/24	EPA 120.1	

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

Date Sampled: **03/28/24 12:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.43			pH Units	1	BHD0419	04/12/24	04/16/24	EPA 9045D	

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Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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:
06/25/24 10:56

FL01-01@6'
2403459-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

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

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

Total Metals by EPA 6020B

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

FL01-01@6'
2403459-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

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

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	4.34	0.180	mg/kg dry	1	BHD0554	04/17/24	04/23/24	EPA 6020B	
Barium	75.4	0.360	"	"	"	"	"	"	
Cadmium	0.403	0.180	"	"	"	"	"	"	
Copper	13.4	0.360	"	"	"	"	"	"	
Lead	10.4	0.180	"	"	"	"	"	"	
Nickel	10.6	0.360	"	"	"	"	"	"	
Silver	0.0713	0.0180	"	"	"	"	"	"	
Zinc	50.9	0.360	"	"	"	"	"	"	
Selenium	0.269	0.234	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

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

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0117	04/03/24	04/08/24	EPA 7196A	

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

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

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

Physical Parameters by APHA/ASTM/EPA Methods

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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:
06/25/24 10:56

FL01-01@6'
2403459-07 (Soil)

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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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6855 W. 119th Ave.
Broomfield CO, 80020

Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

SEP01-DL@4'
2403459-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/28/24 14:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0014	04/01/24	04/03/24	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 14:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0424	106 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0410	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0398	99.5 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/28/24 14:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0012	04/01/24	04/02/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/28/24 14:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	7.62	61.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

SEP01-DL@4'
2403459-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/28/24 14:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHD0053	04/02/24	04/04/24	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	"	"	"	"	"	"	
Naphthalene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/28/24 14:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0187	56.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0150	45.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/28/24 14:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHD0343	04/11/24	05/23/24	EPA 6020B	

Total Metals by EPA 6020B

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

SEP01-DL@4'
2403459-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/28/24 14:27**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	6.01	0.181		mg/kg dry	1	BHD0554	04/17/24	04/23/24	EPA 6020B	
Barium	124	0.362		"	"	"	"	"	"	
Cadmium	0.450	0.181		"	"	"	"	"	"	
Copper	14.1	0.362		"	"	"	"	"	"	
Lead	11.3	0.181		"	"	"	"	"	"	
Nickel	13.6	0.362		"	"	"	"	"	"	
Silver	0.0595	0.0181		"	"	"	"	"	"	
Zinc	44.5	0.362		"	"	"	"	"	"	
Selenium	0.207	0.236	0.159	"	"	"	"	"	"	J

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/28/24 14:27**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BHD0344	04/11/24	04/12/24	EPA 7196A	

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

Date Sampled: **03/28/24 14:27**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	184	0.0500		mg/L dry	1	BHD0418	04/12/24	05/07/24	EPA 6020B	
Magnesium	128	0.0500		"	"	"	"	"	"	
Sodium	176	0.0500		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/28/24 14:27**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Sodium Adsorption Ratio	2.44	0.00100		units	1	BHE0268	05/08/24	05/08/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Broomfield CO, 80020

Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

SEP01-DL@4'
2403459-08 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/28/24 14:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	79.7		%	1	BHD0051	04/02/24	04/03/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/28/24 14:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.46	0.0100	mmhos/cm	1	BHD0420	04/12/24	04/16/24	EPA 120.1	

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

Date Sampled: **03/28/24 14:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.77		pH Units	1	BHD0419	04/12/24	04/16/24	EPA 9045D	

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Broomfield CO, 80020

Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

BKG01@4'
2403459-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/28/24 14:37**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	4.13	0.181	mg/kg dry	1	BHD0554	04/17/24	04/23/24	EPA 6020B	
Barium	1080	0.362	"	"	"	"	"	"	
Cadmium	0.401	0.181	"	"	"	"	"	"	
Copper	9.34	0.362	"	"	"	"	"	"	
Lead	8.56	0.181	"	"	"	"	"	"	
Nickel	11.7	0.362	"	"	"	"	"	"	
Silver	0.0451	0.0181	"	"	"	"	"	"	
Zinc	39.2	0.362	"	"	"	"	"	"	
Selenium	0.245	0.236	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/28/24 14:37**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0344	04/11/24	04/12/24	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/28/24 14:37**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	81.9		%	1	BHD0051	04/02/24	04/03/24	Calculation	

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Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

BKG01@6'
2403459-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/28/24 14:39**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	3.82	0.180	mg/kg dry	1	BHD0554	04/17/24	04/23/24	EPA 6020B	
Barium	47.4	0.360	"	"	"	"	"	"	
Cadmium	0.251	0.180	"	"	"	"	"	"	
Copper	7.08	0.360	"	"	"	"	"	"	
Lead	9.55	0.180	"	"	"	"	"	"	
Nickel	8.86	0.360	"	"	"	"	"	"	
Silver	0.0363	0.0180	"	"	"	"	"	"	
Zinc	41.0	0.360	"	"	"	"	"	"	
Selenium	ND	0.234	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/28/24 14:39**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0344	04/11/24	04/12/24	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/28/24 14:39**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	79.2		%	1	BHD0051	04/02/24	04/03/24	Calculation	

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Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

BKG02@4'
2403459-11 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/28/24 14:59**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	5.98	0.200	mg/kg dry	1	BHD0554	04/17/24	04/23/24	EPA 6020B	
Barium	103	0.400	"	"	"	"	"	"	
Cadmium	0.317	0.200	"	"	"	"	"	"	
Copper	10.4	0.400	"	"	"	"	"	"	
Lead	6.82	0.200	"	"	"	"	"	"	
Nickel	10.1	0.400	"	"	"	"	"	"	
Silver	0.0580	0.0200	"	"	"	"	"	"	
Zinc	29.3	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/28/24 14:59**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0344	04/11/24	04/12/24	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/28/24 14:59**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	85.6		%	1	BHD0051	04/02/24	04/03/24	Calculation	

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Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

BKG02@6'
2403459-12 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/28/24 15:04**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	5.02	0.200	mg/kg dry	1	BHD0554	04/17/24	04/23/24	EPA 6020B	
Barium	87.0	0.400	"	"	"	"	"	"	
Cadmium	0.285	0.200	"	"	"	"	"	"	
Copper	9.71	0.400	"	"	"	"	"	"	
Lead	5.84	0.200	"	"	"	"	"	"	
Nickel	8.85	0.400	"	"	"	"	"	"	
Silver	0.0501	0.0200	"	"	"	"	"	"	
Zinc	25.1	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/28/24 15:04**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0344	04/11/24	04/12/24	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/28/24 15:04**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	85.0		%	1	BHD0051	04/02/24	04/03/24	Calculation	

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Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

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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Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

Volatile Organic Compounds by EPA Method 8260B - Quality Control

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Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	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
<i>Surrogate: 1,2-Dichloroethane-d4</i>										
	0.0323		"	0.0400		80.8	50-150			
<i>Surrogate: Toluene-d8</i>										
	0.0401		"	0.0400		100	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>										
	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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>										
	0.0394		"	0.0400		98.4	50-150			
<i>Surrogate: Toluene-d8</i>										
	0.0398		"	0.0400		99.4	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>										
	0.0399		"	0.0400		99.8	50-150			

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Tasman Geosciences
6855 W. 119th Ave.
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Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	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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6855 W. 119th Ave.
Broomfield CO, 80020

Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

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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:
06/25/24 10:56

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/25/24 10:56

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike		Source		%REC		RPD	
	Result	Limit	Units	Level		Result		%REC	Limits	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	"								
Naphthalene	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			
Naphthalene	0.0331	0.00500	"	0.0333		99.2		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:
06/25/24 10:56

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike		Source		%REC		RPD	
	Result	Limit	Units	Level		Result		%REC	Limits	RPD	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
Naphthalene	0.0183	0.00500	"	0.0333	ND	55.0	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
Naphthalene	0.0159	0.00500	"	0.0333	ND	47.7	30-120	14.1	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		

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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:
06/25/24 10:56

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike		Source		%REC		RPD	
	Result	Limit	Units	Level		Result		%REC	Limits	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	"								
Naphthalene	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			
Naphthalene	0.0281	0.00500	"	0.0333		84.2		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:
06/25/24 10:56

PAH by EPA Method 8270D SIM - Quality Control

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Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	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		
Naphthalene	0.0156	0.00500	"	0.0333	ND	46.7	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
Naphthalene	0.0173	0.00500	"	0.0333	ND	51.9	30-120	10.4	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:
06/25/24 10:56

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

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

Batch BHD0343 - EPA 3050B

Blank (BHD0343-BLK1)

Prepared: 04/11/24 Analyzed: 05/23/24

Boron ND 2.00 mg/L

LCS (BHD0343-BS1)

Prepared: 04/11/24 Analyzed: 05/23/24

Boron 6.41 2.00 mg/L 5.00 128 80-120 QM-05

Duplicate (BHD0343-DUP1)

Source: 2403441-01

Prepared: 04/11/24 Analyzed: 05/23/24

Boron 0.454 2.00 mg/L 0.446 1.74 20

Matrix Spike (BHD0343-MS1)

Source: 2403441-01

Prepared: 04/11/24 Analyzed: 05/23/24

Boron 6.61 2.00 mg/L 5.00 0.446 123 75-125

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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:
06/25/24 10:56

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

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

Batch BHD0343 - EPA 3050B

Matrix Spike Dup (BHD0343-MSD1)				Source: 2403441-01		Prepared: 04/11/24 Analyzed: 05/23/24				
Boron	6.48	2.00	mg/L	5.00	0.446	121	75-125	2.02	25	

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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:
06/25/24 10:56

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHD0554 - EPA 3050B

Blank (BHD0554-BLK1)

Prepared: 04/17/24 Analyzed: 04/23/24

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

LCS (BHD0554-BS1)

Prepared: 04/17/24 Analyzed: 04/23/24

Arsenic	40.0	0.200	mg/kg wet	40.0	100	80-120
Barium	39.7	0.400	"	40.0	99.1	80-120
Cadmium	2.00	0.200	"	2.00	99.9	80-120
Copper	40.2	0.400	"	40.0	100	80-120
Lead	19.4	0.200	"	20.0	96.8	80-120
Nickel	39.7	0.400	"	40.0	99.3	80-120
Silver	1.98	0.0200	"	2.00	99.1	80-120
Zinc	39.5	0.400	"	40.0	98.8	80-120
Selenium	4.60	0.260	"	4.00	115	80-120

Duplicate (BHD0554-DUP1)

Source: 2403449-01

Prepared: 04/17/24 Analyzed: 04/23/24

Arsenic	4.62	0.200	mg/kg dry	4.57	1.12	20
Barium	93.4	0.400	"	91.6	2.03	20
Cadmium	0.233	0.200	"	0.230	1.14	20
Copper	6.52	0.400	"	6.36	2.54	20
Lead	7.46	0.200	"	7.26	2.72	20
Nickel	9.11	0.400	"	8.93	2.03	20
Silver	0.0343	0.0200	"	0.0336	2.11	20
Zinc	31.4	0.400	"	30.6	2.78	20
Selenium	ND	0.260	"	ND		20

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:
06/25/24 10:56

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHD0554 - EPA 3050B

Matrix Spike (BHD0554-MS1)

Source: 2403449-01

Prepared: 04/17/24 Analyzed: 04/23/24

Arsenic	52.7	0.200	mg/kg dry	47.0	4.57	102	75-125
Barium	135	0.400	"	47.0	91.6	93.1	75-125
Cadmium	2.70	0.200	"	2.35	0.230	105	75-125
Copper	54.9	0.400	"	47.0	6.36	103	75-125
Lead	30.4	0.200	"	23.5	7.26	98.5	75-125
Nickel	57.8	0.400	"	47.0	8.93	104	75-125
Silver	2.43	0.0200	"	2.35	0.0336	102	75-125
Zinc	80.5	0.400	"	47.0	30.6	106	75-125
Selenium	5.57	0.260	"	4.70	ND	118	75-125

Matrix Spike Dup (BHD0554-MSD1)

Source: 2403449-01

Prepared: 04/17/24 Analyzed: 04/23/24

Arsenic	51.0	0.200	mg/kg dry	47.0	4.57	98.9	75-125	3.17	25
Barium	132	0.400	"	47.0	91.6	86.8	75-125	2.22	25
Cadmium	2.61	0.200	"	2.35	0.230	101	75-125	3.19	25
Copper	53.0	0.400	"	47.0	6.36	99.2	75-125	3.47	25
Lead	29.6	0.200	"	23.5	7.26	95.2	75-125	2.59	25
Nickel	56.0	0.400	"	47.0	8.93	100	75-125	3.22	25
Silver	2.37	0.0200	"	2.35	0.0336	99.4	75-125	2.58	25
Zinc	77.6	0.400	"	47.0	30.6	100	75-125	3.66	25
Selenium	5.64	0.260	"	4.70	ND	120	75-125	1.28	25

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:
06/25/24 10:56

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHD0117 - 3060A Mod

Blank (BHD0117-BLK1)

Prepared: 04/03/24 Analyzed: 04/08/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHD0117-BS1)

Prepared: 04/03/24 Analyzed: 04/08/24

Chromium, Hexavalent 23.2 0.30 mg/kg wet 25.0 92.6 80-120

Duplicate (BHD0117-DUP1)

Source: 2403410-01

Prepared: 04/03/24 Analyzed: 04/08/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHD0117-MS1)

Source: 2403410-01

Prepared: 04/03/24 Analyzed: 04/08/24

Chromium, Hexavalent 29.1 0.30 mg/kg dry 29.6 ND 98.2 75-125

Matrix Spike Dup (BHD0117-MSD1)

Source: 2403410-01

Prepared: 04/03/24 Analyzed: 04/08/24

Chromium, Hexavalent 29.1 0.30 mg/kg dry 29.6 ND 98.4 75-125 0.203 20

Batch BHD0344 - 3060A Mod

Blank (BHD0344-BLK1)

Prepared: 04/11/24 Analyzed: 04/12/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHD0344-BS1)

Prepared: 04/11/24 Analyzed: 04/12/24

Chromium, Hexavalent 24.4 0.30 mg/kg wet 25.0 97.6 80-120

Duplicate (BHD0344-DUP1)

Source: 2403459-02

Prepared: 04/11/24 Analyzed: 04/12/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHD0344-MS1)

Source: 2403459-02

Prepared: 04/11/24 Analyzed: 04/12/24

Chromium, Hexavalent 28.6 0.30 mg/kg dry 31.0 ND 92.2 75-125

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:
06/25/24 10:56

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHD0344 - 3060A Mod

Matrix Spike Dup (BHD0344-MSD1)		Source: 2403459-02			Prepared: 04/11/24 Analyzed: 04/12/24					
Chromium, Hexavalent	29.5	0.30	mg/kg dry	31.0	ND	95.0	75-125	2.99	20	

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:
06/25/24 10:56

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

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

Batch BHD0418 - General Preparation

Blank (BHD0418-BLK1)

Prepared: 04/12/24 Analyzed: 05/07/24

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

LCS (BHD0418-BS1)

Prepared: 04/12/24 Analyzed: 05/07/24

Calcium	5.97	0.0500	mg/L wet	5.00	119	70-130
Magnesium	4.92	0.0500	"	5.00	98.4	70-130
Sodium	5.00	0.0500	"	5.00	100	70-130

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:
06/25/24 10:56

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

Summit Scientific

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

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:
06/25/24 10:56

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

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

Batch BHD0420 - General Preparation

Blank (BHD0420-BLK1)

Prepared: 04/12/24 Analyzed: 04/16/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHD0420-BS1)

Prepared: 04/12/24 Analyzed: 04/16/24

Specific Conductance (EC) 0.156 0.0100 mmhos/cm 0.150 104 95-105

Duplicate (BHD0420-DUP1)

Source: 2403440-01

Prepared: 04/12/24 Analyzed: 04/16/24

Specific Conductance (EC) 0.229 0.0100 mmhos/cm 0.236 3.23 20

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:
06/25/24 10:56

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

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	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		
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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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Batch BHD0419 - General Preparation

LCS (BHD0419-BS1)

Prepared: 04/12/24 Analyzed: 04/16/24

pH	9.23		pH Units	9.18		101	95-105		
----	------	--	----------	------	--	-----	--------	--	--

Duplicate (BHD0419-DUP1)

Source: 2403440-01

Prepared: 04/12/24 Analyzed: 04/16/24

pH	8.32		pH Units		8.40			0.957	20
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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:
06/25/24 10:56

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.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
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 11, 2024

Karen Olson

Tasman Geosciences

6855 W. 119th Ave.

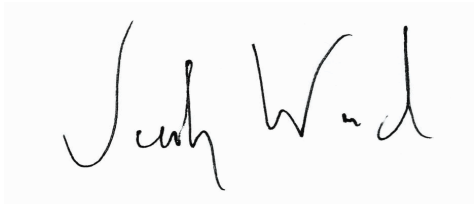
Broomfield, CO 80020

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,

A handwritten signature in black ink, appearing to read "Jacob Wood". The signature is written in a cursive, flowing style.

Jacob Wood For Paul Shrewsbury

President



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

Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
04/11/24 16:19

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

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.

Client: PDC / Tasman		Send Data To: Project Manager: Karen Olson		Send Invoice To: 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	3/28/21	1114	4			X		X				X	X	X						
2	GW02	1	1214	1			1		1				1	1	1						
3	GW03	1	1414	1			1		1				1	1	1						
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Relinquished by: Shannon Walus	Date/Time: 3/28/21 1730	Received by: Tasman Lochbox	Date/Time: 3/28/21 1730	TAT Business Days	Field DO	Notes:
Relinquished by: Tasman Lochbox	Date/Time: 3/28/21 1730	Received by: [Signature]	Date/Time: 3/28/21 1730	Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Temperature Upon Receipt: 8.8	Corrected Temperature: 8	IR gun #:		Standard	X	Field Turb.
				HNO3 lot #:		

S2 Work Order# 2403460

Client: Bob Feldman

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 ($^{\circ}\text{C}$)**Thermometer #**

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature $< 6^{\circ}\text{C}$? ⁽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"/>	once
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 checked="" type="checkbox"/>	<input type="checkbox"/>	
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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.

Custodian Printed Name

Date/Time



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

Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
04/11/24 16:19

GW01
2403460-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
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		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
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		"	"	"	"	

Anions by EPA Method 300.0

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

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chloride	25.0	12.0	mg/L	200	BHD0281	04/09/24	04/10/24	EPA 300.0	
Sulfate	295	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

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

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Total Dissolved Solids	685	10.0	mg/L	1	BHD0045	04/02/24	04/02/24	SM2540C	

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:
04/11/24 16:19

GW02
2403460-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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		"	"	"	"	

Anions by EPA Method 300.0

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	31.8	12.0	mg/L	200	BHD0281	04/09/24	04/10/24	EPA 300.0	
Sulfate	676	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	1060	10.0	mg/L	1	BHD0045	04/02/24	04/02/24	SM2540C	

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:
04/11/24 16:19

GW03
2403460-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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		"	"	"	"	

Anions by EPA Method 300.0

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	24.6	12.0	mg/L	200	BHD0281	04/09/24	04/10/24	EPA 300.0	
Sulfate	252	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	614	10.0	mg/L	1	BHD0045	04/02/24	04/02/24	SM2540C	

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:
04/11/24 16:19

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

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:
04/11/24 16:19

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

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

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:
04/11/24 16:19

Anions by EPA Method 300.0 - Quality Control

Summit Scientific

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

Batch BHD0281 - General Preparation

Blank (BHD0281-BLK1)

Prepared & Analyzed: 04/09/24

Chloride	ND	0.0600	mg/L
Sulfate	ND	0.300	"

LCS (BHD0281-BS1)

Prepared & Analyzed: 04/09/24

Chloride	2.99	0.0600	mg/L	3.00	99.7	90-110
Sulfate	15.0	0.300	"	15.0	100	90-110

Duplicate (BHD0281-DUP1)

Source: 2403384-01

Prepared & Analyzed: 04/09/24

Chloride	37.0	12.0	mg/L	36.4	1.63	20
Sulfate	155	60.0	"	152	1.95	20

Matrix Spike (BHD0281-MS1)

Source: 2403384-01

Prepared & Analyzed: 04/09/24

Chloride	703	12.0	mg/L	600	36.4	111	80-120
Sulfate	3190	60.0	"	3000	152	101	80-120

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: PDC - Hall 42-33

Project Number: [none]
Project Manager: Karen Olson

Reported:
04/11/24 16:19

Total Dissolved Solids by SM2540C - Quality Control
Summit Scientific

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

Batch BHD0045 - General Preparation

Blank (BHD0045-BLK1)

Prepared & Analyzed: 04/02/24

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BHD0045-DUP1)

Source: 2403439-01

Prepared & Analyzed: 04/02/24

Total Dissolved Solids 844 10.0 mg/L 932 9.95 20

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:
04/11/24 16:19

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