

**TABLE 1**  
**FORMER PLUMB 2 & 3 TANK BATTERY**  
**HISTORICAL GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE**

Sample ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth to Water <sup>(2)</sup> (ft.)	Groundwater Elevation (ft. AMSL)
COGCC Table 910-1 Groundwater Standard (µg/L) <sup>(1)</sup>		5	560	700	1,400		
GW01	10/26/2020	<b>150</b>	<b>720</b>	20	290	~ 4.5'	NM
BH01	11/30/2020	<1.0	<1.0	<1.0	<2.0	6.42	4575.25
BH01	2/9/2021	<1.0	<1.0	<1.0	<2.0	7.22	4574.45
BH02	11/30/2020	<1.0	<1.0	<1.0	<2.0	6.61	4575.12
BH02	2/9/2021	<1.0	<1.0	<1.0	<2.0	7.39	4574.34
BH03	11/30/2020	<1.0	<1.0	<1.0	<2.0	6.47	4575.00
BH03	2/9/2021	<1.0	<1.0	<1.0	<2.0	7.25	4574.22
BH04	11/30/2020	<1.0	<1.0	<1.0	<2.0	5.54	4574.99
BH04	2/9/2021	<1.0	<1.0	<1.0	<2.0	6.34	4574.19
BH05	11/30/2020	<1.0	<1.0	<1.0	<2.0	5.26	4575.14
BH05	2/9/2021	<1.0	<1.0	<1.0	<2.0	6.06	4574.34
BH06	11/30/2020	<1.0	<1.0	<1.0	<2.0	5.53	4574.91
BH06	2/9/2021	<1.0	<1.0	<1.0	<2.0	6.10	4574.34
BH07	11/30/2020	<1.0	<1.0	<1.0	<2.0	5.29	4574.97
BH07	2/9/2021	<1.0	<1.0	<1.0	<2.0	5.86	4574.40
BH08	11/30/2020	<1.0	<1.0	<1.0	<2.0	5.21	4575.25
BH08	2/9/2021	<1.0	<1.0	<1.0	<2.0	6.01	4574.45

**Notes:**

1. Groundwater standards referenced from 2 CCR 404-1, Table 910-1, effective May 1, 2018.
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.

COGCC = Colorado Oil and Gas Conservation Commission

µg/L = Micrograms per liter

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

ft. = Feet

AMSL = Above Mean Sea Level

NM = Not measured

**BOLD** = Analytical result is in exceedance of COGCC groundwater standards.

**TABLE 2**  
**FORMER PLUMB 2 & 3 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 <sup>(2)</sup> (ft.)	Groundwater Elevation (ft. AMSL)
<b>COGCC Table 915-1 Groundwater Standard (µg/L) <sup>(1)</sup></b>		<b>5</b>	<b>560</b>	<b>700</b>	<b>1,400</b>	<b>140</b>	<b>67</b>	<b>67</b>	<b>-</b>	<b>-</b>
BH01	6/8/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	4.74	4584.37
BH01	9/17/2021	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	4.78	4583.52
BH02	6/8/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	4.94	4584.29
BH02	9/27/2021	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	NM	NM
BH02R	9/17/2021	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	4.50	4583.47
BH03	6/8/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	4.88	4584.17
BH03	9/27/2021	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	NM	NM
BH03R	9/17/2021	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	4.40	4583.27
BH04	6/8/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.86	4584.13
BH04 <sup>(3)</sup>	9/17/2021	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	4.18	NM
BH05	6/8/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.75	4584.23
BH05 <sup>(3)</sup>	9/17/2021	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	4.31	NM
BH06	6/8/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	3.5	3.76	4584.24
BH06 <sup>(3)</sup>	9/17/2021	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	4.20	NM
BH07	6/8/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.36	4584.24
BH07	9/17/2021	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	4.70	4582.68
BH08	6/8/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.68	4584.33
BH08 <sup>(3)</sup>	9/17/2021	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	3.92	NM

**Notes:**

1. Groundwater standards referenced from 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.
3. Field measured top of casing height used to calculate depth to water.

TMB = Trimethylbenzene

COGCC = Colorado Oil and Gas Conservation Commission

µg/L = Micrograms per liter

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

ft. = Feet

AMSL = Above Mean Sea Level

NM = Not measured

NA = Constituent not analyzed

## Attachment A

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 14, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

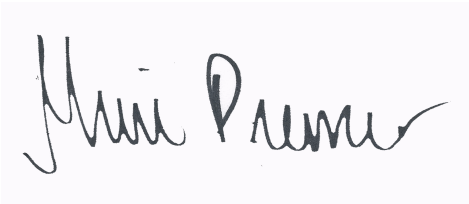
Denver, CO 80203

RE: Plumb 2&3

Work Order #2109294

Enclosed are the results of analyses for samples received by Summit Scientific on 09/17/21 18:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Muri Premer For Paul Shrewsbury  
President



PDC Energy  
1775 Sherman St. STE. 3000  
Denver CO, 80203

Project: Plumb 2&3  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
10/14/21 16:17

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2109294-01	Water	09/17/21 11:43	09/17/21 18:00
BH02R	2109294-02	Water	09/17/21 11:29	09/17/21 18:00
BH03R	2109294-03	Water	09/17/21 11:34	09/17/21 18:00
BH04	2109294-04	Water	09/17/21 11:43	09/17/21 18:00
BH05	2109294-05	Water	09/17/21 11:36	09/17/21 18:00
BH06	2109294-06	Water	09/17/21 11:50	09/17/21 18:00
BH07	2109294-07	Water	09/17/21 11:55	09/17/21 18:00
BH08	2109294-08	Water	09/17/21 11:26	09/17/21 18:00

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

2109294

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 1 of 1

Client: PDC / Tasman Geosciences

Project Manager: MARK LONGHURST

Address: 6855 W. 119th Ave.

E-Mail: mark.longhurst@pdce.com

City/State/Zip: Broomfield / CO / 80020

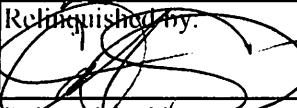
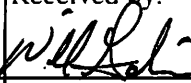
Phone: 303-487-1228

Project Name: PLUMB 2 & 3

Sampler Name: COLETTE BAMEY

Project Number: N/A

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions		
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEX	Naphthalene	1,2,4-TMB	1,3,5-TMB	TDS	Chloride		Sulfate	
1	BH01	9/17/21	1143	3			✓		✓					✓							
2	BH02		1129	1																	
3	BH03		1134	1																	
4	BH04		1143	1																	
5	BH05		1136	1																	
6	BH06		1150	1																	
7	BH07		1155	1																	
8	BH08		1176	1																	
9																					
10																					

Relinquished by: 	Date/Time: <u>9/17/21 15:10</u>	Received by: <u>Tasman's Lock Box</u>	Date/Time: <u>9/17/21 15:10</u>	<b>Turn Around Time (Check)</b> ___ Same Day      ___ 72 hours ___ 24 hours <input checked="" type="checkbox"/> Standard ___ 48 hours      ___ <b>Sample Integrity:</b> Temperature Upon Receipt: <u>10</u> Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	<b>Notes:</b>
Relinquished by: <u>Tasman's Lock Box</u>	Date/Time: <u>9/17/21 1800</u>	Received by: 	Date/Time: <u>9/17/21 1800</u>		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

2109294

Sample Receipt Checklist

S2 Work Order \_\_\_\_\_

Client: PDC/TASMAN Client Project ID: Plumb 2 & 3

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

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

Temp (°C)	10
-----------	----

Thermometer ID: 61857155-K

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

WJ  
Custodian Printed Name or Initials

Will Lohi  
Signature of Custodian

9/17/21  
Date/Time



PDC Energy  
 1775 Sherman St. STE. 3000  
 Denver CO, 80203

Project: Plumb 2&3  
 Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 10/14/21 16:17

**BH01**  
**2109294-01 (Water)**

**Summit Scientific**

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

Date Sampled: **09/17/21 11:43**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEI0451	09/21/21	09/22/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **09/17/21 11:43**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		58.0 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		95.3 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.1 %		21-167		"	"	"	"	

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.*



PDC Energy  
 1775 Sherman St. STE. 3000  
 Denver CO, 80203

Project: Plumb 2&3

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 10/14/21 16:17

**BH02R**

**2109294-02 (Water)**

**Summit Scientific**

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

Date Sampled: **09/17/21 11:29**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEI0451	09/21/21	09/23/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **09/17/21 11:29**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		50.3 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		89.3 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.3 %		21-167		"	"	"	"	

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.*



PDC Energy  
 1775 Sherman St. STE. 3000  
 Denver CO, 80203

Project: Plumb 2&3

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 10/14/21 16:17

**BH03R**  
**2109294-03 (Water)**

**Summit Scientific**

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

Date Sampled: **09/17/21 11:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEI0451	09/21/21	09/23/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **09/17/21 11:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		51.7 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		87.0 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.0 %		21-167		"	"	"	"	

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.*



PDC Energy  
 1775 Sherman St. STE. 3000  
 Denver CO, 80203

Project: Plumb 2&3

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 10/14/21 16:17

**BH04**  
**2109294-04 (Water)**

**Summit Scientific**

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

Date Sampled: **09/17/21 11:43**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEI0451	09/21/21	09/23/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **09/17/21 11:43**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		50.6 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		89.6 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.4 %		21-167		"	"	"	"	

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.*



PDC Energy  
 1775 Sherman St. STE. 3000  
 Denver CO, 80203

Project: Plumb 2&3

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 10/14/21 16:17

**BH05**  
**2109294-05 (Water)**

**Summit Scientific**

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

Date Sampled: **09/17/21 11:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEI0451	09/21/21	09/23/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **09/17/21 11:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		48.7 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		88.1 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.0 %		21-167		"	"	"	"	

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.*



PDC Energy  
 1775 Sherman St. STE. 3000  
 Denver CO, 80203

Project: Plumb 2&3

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 10/14/21 16:17

**BH06**  
**2109294-06 (Water)**

**Summit Scientific**

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

Date Sampled: **09/17/21 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEI0451	09/21/21	09/23/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **09/17/21 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		50.2 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		83.1 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.1 %		21-167		"	"	"	"	

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.*



PDC Energy  
 1775 Sherman St. STE. 3000  
 Denver CO, 80203

Project: Plumb 2&3

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 10/14/21 16:17

**BH07**  
**2109294-07 (Water)**

**Summit Scientific**

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

Date Sampled: **09/17/21 11:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEI0451	09/21/21	09/23/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **09/17/21 11:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		47.7 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		82.8 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.5 %		21-167		"	"	"	"	

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.*



PDC Energy  
 1775 Sherman St. STE. 3000  
 Denver CO, 80203

Project: Plumb 2&3

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 10/14/21 16:17

**BH08**  
**2109294-08 (Water)**

**Summit Scientific**

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

Date Sampled: **09/17/21 11:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEI0451	09/21/21	09/23/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **09/17/21 11:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		51.4 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		89.6 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.7 %		21-167		"	"	"	"	

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.*



PDC Energy  
1775 Sherman St. STE. 3000  
Denver CO, 80203

Project: Plumb 2&3

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
10/14/21 16:17

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

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

#### Batch BEI0451 - EPA 5030 Water MS

##### Blank (BEI0451-BLK1)

Prepared: 09/21/21 Analyzed: 09/22/21

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	12.3		"	13.3		92.0	23-173			
<i>Surrogate: Toluene-d8</i>	11.5		"	13.3		86.5	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	12.3		"	13.3		92.2	21-167			

##### LCS (BEI0451-BS1)

Prepared: 09/21/21 Analyzed: 09/22/21

Benzene	23.1	1.0	ug/l	33.3		69.4	51-132			
Toluene	21.9	1.0	"	33.3		65.8	51-138			
Ethylbenzene	26.4	1.0	"	33.3		79.1	58-146			
m,p-Xylene	53.4	2.0	"	66.7		80.0	57-144			
o-Xylene	26.8	1.0	"	33.3		80.3	53-146			
Naphthalene	33.8	1.0	"	33.3		101	70-130			
1,2,4-Trimethylbenzene	25.3	1.0	"	33.3		75.9	70-130			
1,3,5-Trimethylbenzene	24.5	1.0	"	33.3		73.4	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	12.2		"	13.3		91.1	23-173			
<i>Surrogate: Toluene-d8</i>	11.6		"	13.3		86.7	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	12.2		"	13.3		91.4	21-167			

##### Matrix Spike (BEI0451-MS1)

Source: 2109294-01

Prepared: 09/21/21 Analyzed: 09/22/21

Benzene	22.4	1.0	ug/l	33.3	ND	67.1	34-141			
Toluene	23.1	1.0	"	33.3	ND	69.2	27-151			
Ethylbenzene	28.4	1.0	"	33.3	ND	85.3	29-160			
m,p-Xylene	56.7	2.0	"	66.7	ND	85.0	20-166			
o-Xylene	28.6	1.0	"	33.3	ND	85.7	33-159			
Naphthalene	25.9	1.0	"	33.3	ND	77.7	70-130			
1,2,4-Trimethylbenzene	28.8	1.0	"	33.3	ND	86.4	70-130			
1,3,5-Trimethylbenzene	27.6	1.0	"	33.3	ND	82.7	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	7.97		"	13.3		59.8	23-173			
<i>Surrogate: Toluene-d8</i>	12.2		"	13.3		91.9	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	11.9		"	13.3		89.1	21-167			

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.



PDC Energy  
 1775 Sherman St. STE. 3000  
 Denver CO, 80203

Project: Plumb 2&3

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 10/14/21 16:17


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

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

**Batch BEI0451 - EPA 5030 Water MS**

Matrix Spike Dup (BEI0451-MSD1)	Source: 2109294-01			Prepared: 09/21/21 Analyzed: 09/22/21					
Benzene	24.6	1.0	ug/l	33.3	ND	73.9	34-141	9.71	30
Toluene	24.2	1.0	"	33.3	ND	72.5	27-151	4.66	30
Ethylbenzene	28.4	1.0	"	33.3	ND	85.1	29-160	0.247	30
m,p-Xylene	56.4	2.0	"	66.7	ND	84.6	20-166	0.513	30
o-Xylene	28.5	1.0	"	33.3	ND	85.6	33-159	0.0350	30
Naphthalene	28.9	1.0	"	33.3	ND	86.7	70-130	11.0	30
1,2,4-Trimethylbenzene	27.2	1.0	"	33.3	ND	81.5	70-130	5.93	30
1,3,5-Trimethylbenzene	26.4	1.0	"	33.3	ND	79.3	70-130	4.26	30
Surrogate: 1,2-Dichloroethane-d4	10.7		"	13.3		80.0	23-173		
Surrogate: Toluene-d8	12.3		"	13.3		92.6	20-170		
Surrogate: 4-Bromofluorobenzene	12.0		"	13.3		90.1	21-167		

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.*



PDC Energy  
1775 Sherman St. STE. 3000  
Denver CO, 80203

Project: Plumb 2&3  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
10/14/21 16:17

### Notes and Definitions

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

October 01, 2021

Mark Longhurst  
Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield, CO 80020  
RE: Plumb 2&3  
Work Order #2109397

Enclosed are the results of analyses for samples received by Summit Scientific on 09/27/21 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Muri Premer". The signature is written in a cursive style with a large initial "M" and a long, sweeping underline.

Muri Premer For Paul Shrewsbury  
President



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

Project: Plumb 2&3

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
10/01/21 15:56

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH02	2109397-01	Water	09/27/21 11:31	09/27/21 17:00
BH03	2109397-02	Water	09/27/21 11:30	09/27/21 17:00

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.*

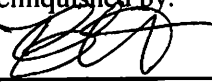
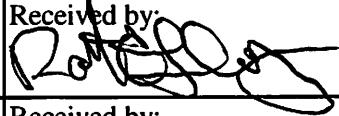
# Summit Scientific 2109397

S<sub>2</sub>

4653 Table Mountain Drive ♦ Golden, Colorado 80403  
303-277-9310

Client: / Tasman Geosciences Project Manager: Mark Longhurst  
 Address: 6855 W. 119th Ave. E-Mail: mark.longhurst@pdce.com  
 City/State/Zip: Broomfield / CO/ 80020  
 Phone: 303-487-1228 Project Name: Plumb 2 + 3  
 Sampler Name: Ben Wagner Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested					Special Instructions			
					HCl	HNO <sub>3</sub>	None	Other	Water	Soil	Air-Canister #	Other	\$260 BTEX	Naphthalene	1,2,4-TMB	1,3,5-TMB		TDS	Chloride	Sulfate
1	BH02	9/27/21	1131	3					X											
2	BH03	9/27/21	1130	3					X											
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished by: 	Date/Time: 9/27/21 1700	Received by: Tasman's Lock Box	Date/Time: 9/27/21 1700	Turn Around Time (Check) <input type="checkbox"/> Same Day 72 hours <input checked="" type="checkbox"/> 24 hours Standard <input type="checkbox"/> 48 hours Sample Integrity: Temperature Upon Receipt: 10.9°C Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Notes:
Relinquished by: Tasman's Lock Box	Date/Time:	Received by: 	Date/Time: 9-27-21		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S<sub>2</sub>

Sample Receipt Checklist

S2 Work Order# \_\_\_\_\_

2109397

Client: TASMAN Client Project ID: plumb 2+3

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

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

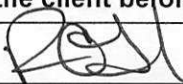
Temp (°C) 10.9°

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ice
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? 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):

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

  
Custodian Printed Name or Initials

9-27-21  
Date/Time



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

Project: Plumb 2&3

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
10/01/21 15:56

**BH02**  
**2109397-01 (Water)**

**Summit Scientific**

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

Date Sampled: **09/27/21 11:31**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEI0588	09/27/21	09/29/21	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: **09/27/21 11:31**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		97.4 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.2 %		21-167		"	"	"	"	

Summit Scientific

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



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

Project: Plumb 2&3

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
10/01/21 15:56

**BH03**  
**2109397-02 (Water)**

**Summit Scientific**

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

Date Sampled: **09/27/21 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BEI0588	09/27/21	09/29/21	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: **09/27/21 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

Summit Scientific

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



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

Project: Plumb 2&3

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
10/01/21 15:56

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

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

#### Batch BEI0588 - EPA 5030 Water MS

##### Blank (BEI0588-BLK1)

Prepared & Analyzed: 09/27/21

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	"								
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.1		"	13.3		98.1		23-173			
<i>Surrogate: Toluene-d8</i>	15.0		"	13.3		113		20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	14.3		"	13.3		107		21-167			

##### LCS (BEI0588-BS1)

Prepared & Analyzed: 09/27/21

Benzene	34.4	1.0	ug/l	33.3		103		51-132			
Toluene	36.2	1.0	"	33.3		109		51-138			
Ethylbenzene	36.4	1.0	"	33.3		109		58-146			
m,p-Xylene	71.7	2.0	"	66.7		108		57-144			
o-Xylene	35.0	1.0	"	33.3		105		53-146			
Naphthalene	26.5	1.0	"	33.3		79.4		70-130			
1,2,4-Trimethylbenzene	36.0	1.0	"	33.3		108		70-130			
1,3,5-Trimethylbenzene	35.7	1.0	"	33.3		107		70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.5		"	13.3		101		23-173			
<i>Surrogate: Toluene-d8</i>	13.1		"	13.3		98.3		20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	13.0		"	13.3		97.3		21-167			

##### Matrix Spike (BEI0588-MS1)

Source: 2109375-02

Prepared & Analyzed: 09/27/21

Benzene	37.7	1.0	ug/l	33.3	ND	113		34-141			
Toluene	34.0	1.0	"	33.3	ND	102		27-151			
Ethylbenzene	39.9	1.0	"	33.3	ND	120		29-160			
m,p-Xylene	77.6	2.0	"	66.7	ND	116		20-166			
o-Xylene	38.7	1.0	"	33.3	ND	116		33-159			
Naphthalene	29.6	1.0	"	33.3	ND	89.0		70-130			
1,2,4-Trimethylbenzene	39.7	1.0	"	33.3	ND	119		70-130			
1,3,5-Trimethylbenzene	39.6	1.0	"	33.3	ND	119		70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.7		"	13.3		103		23-173			
<i>Surrogate: Toluene-d8</i>	13.2		"	13.3		99.2		20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	12.7		"	13.3		95.2		21-167			

Summit Scientific

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



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

Project: Plumb 2&3

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
10/01/21 15:56

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Summit Scientific**

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

**Batch BEI0588 - EPA 5030 Water MS**

Matrix Spike Dup (BEI0588-MSD1)	Source: 2109375-02			Prepared & Analyzed: 09/27/21							
Benzene	37.1	1.0	ug/l	33.3	ND	111	34-141	1.58	30		
Toluene	32.5	1.0	"	33.3	ND	97.5	27-151	4.54	30		
Ethylbenzene	38.4	1.0	"	33.3	ND	115	29-160	3.78	30		
m,p-Xylene	75.5	2.0	"	66.7	ND	113	20-166	2.65	30		
o-Xylene	37.6	1.0	"	33.3	ND	113	33-159	2.80	30		
Naphthalene	23.6	1.0	"	33.3	ND	70.9	70-130	22.6	30		
1,2,4-Trimethylbenzene	38.0	1.0	"	33.3	ND	114	70-130	4.43	30		
1,3,5-Trimethylbenzene	38.0	1.0	"	33.3	ND	114	70-130	4.12	30		
Surrogate: 1,2-Dichloroethane-d4	14.5		"	13.3		109	23-173				
Surrogate: Toluene-d8	13.0		"	13.3		97.6	20-170				
Surrogate: 4-Bromofluorobenzene	12.7		"	13.3		95.3	21-167				

Summit Scientific

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



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

Project: Plumb 2&3

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
10/01/21 15:56

### Notes and Definitions

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