

# Wellhead Closure Checklist

## COGCC Rule 911.a.(4) Environmental Site Closure Assessment Field Form

Additional attachments (optional):		Pit Closure		Tank Battery Closure		Flowline Closure		Partially Buried Vault Closure
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Site Name & COGCC Facility Number: <b>Dechant 24-56</b>	Date: <b>3/4/2021</b>	Remediation Project #
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Associated Wells:	Age of Site:	Number of Photos Attached <b>5</b>
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Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple) <b>40.182825, -104.182825</b>	Estimated Facility Size (acres):
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General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)  
**Good condition - no erosion, corrosion, debris. Healthy vegetation**

USCS Soil Type: <b>SP - Poorly Graded sand</b>	Estimated Depth to Groundwater: <b>76.5'</b>
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Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)  
**none observed**

Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)  
**none observed**

### Wellhead(s)

Well API	Age	Condition of surface around wellhead	PID Readings	Condition of subsurface (staining present)	PID Readings	Sample taken? Location/Sample ID#	Photo Number(s)
<b>123-29714</b>		<b>Good</b>	<b>N/A</b>	<b>Good - no odor no staining</b>	<b>0.0</b>	<b>See below</b>	<b>1-5</b>

Other observations regarding wellheads: **Samples collected from soil at all four sidewells and base of excavation (SS01@4' - SS04@4', FS01@6.5')**

### Summary

Was impacted soil identified?  No Yes - less than 10 cubic yards Yes - more than 10 cubic yards

Total number of samples field screened: <b>5</b>	Total number of samples collected: <b>5</b>
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Highest PID Reading: <b>0.0</b>	Total number of samples submitted to lab for analysis: <b>1</b>
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If more than 10 cubic yards of impacted soil were observed:

Vertical extent:	Estimated spill volume:
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Lateral extent:	Volume of soil removed:
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Is additional investigation required?

Was groundwater encountered during the investigation?  No Yes - not impacted or in contact with impacted soils Yes - groundwater impacted and/or in contact with impacted soils

Measured depth to groundwater:	Was remedial groundwater removal conducted? Yes No
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Date Groundwater was encountered:	Commencement date of removal:
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Sheen on groundwater? Yes No	Volume of groundwater removed prior to sampling:
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Free product observed? Yes No	Volume of groundwater removed post sampling:
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Total number of samples collected:	Total Volume of groundwater removed:
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Total number of samples submitted to lab for analysis:	
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**Photographic Log**



<b>Equipment ID:</b> Dechant 24-36	<b>Equipment Type:</b> Wellhead	
<b>Material:</b> Steel	<b>Volume:</b> N/A	<b>Contents:</b> Oil/Gas/Water

**Notes/Conditions:** View of SS01@4 sample location along northern wellhead excavation sidewall.

<b>Equipment ID:</b> Dechant 24-36	<b>Equipment Type:</b> Wellhead	
<b>Material:</b> Steel	<b>Volume:</b> N/A	<b>Contents:</b> Oil/Gas/Water

**Notes/Conditions:** View of SS02@4' sample location along eastern wellhead excavation sidewall.

**Photographic Log**



<b>Equipment ID:</b> Dechant 24-36		<b>Equipment Type:</b> Wellhead		<b>Equipment ID:</b> Dechant 24-36		<b>Equipment Type:</b> Wellhead	
<b>Material:</b> Steel	<b>Volume:</b> N/A	<b>Contents:</b> Oil/Gas/Water		<b>Material:</b> Steel	<b>Volume:</b> N/A	<b>Contents:</b> Oil/Gas/Water	
<b>Notes/Conditions:</b> View of SS03@4' sample location along southern wellhead excavation sidewall.				<b>Notes/Conditions:</b> View of SS04@4' sample location along western wellhead excavation sidewall.			

**Photographic Log**



<b>Equipment ID:</b> Dechant 24-36		<b>Equipment Type:</b> Wellhead		<b>Equipment ID:</b>		<b>Equipment Type:</b>	
<b>Material:</b> Steel		<b>Volume:</b> N/A		<b>Contents:</b> Oil/Gas/Water		<b>Material:</b>	
<b>Volume:</b>		<b>Contents:</b>		<b>Volume:</b>		<b>Contents:</b>	
<b>Notes/Conditions:</b> View of FS01 @ 6.5' sample location along wellhead excavation base.				<b>Notes/Conditions:</b>			

**TABLE 1**  
**SOIL SAMPLE LOCATIONS**  
**NOBLE ENERGY, INC. - Dechant 24-36**

Soil Sample ID	Date	PID (ppm)	Visual	Olfactory	Sample Type (Grab/Lab)	Latitude <sup>1</sup>	Longitude	PDOP
SS01@4'	03/04/21	0.0	No Staining	No Odor	Grab	40.18284582	-104.6106670	1.3
SS02@4'	03/04/21	0.0	No Staining	No Odor	Grab	40.18283311	-104.6106405	1.4
SS03@4'	03/04/21	0.0	No Staining	No Odor	Grab	40.18281211	-104.6106597	1.4
SS04@4'	03/04/21	0.0	No Staining	No Odor	Grab	40.18282828	-104.6106913	1.3
FS01@6.5'	03/04/21	0.0	No Staining	No Odor	Lab	40.18283116	-104.6106638	1.4

Notes:

PID = Photo-ionization detector

ppm = parts per million

PDOP = Position dilution of precision

HC = Hydrocarbon

1.) Latitude and longitude coordinates will be provided in decimal degrees with an accuracy and precision of 5 decimals of a degree using the North American Datum ("NAD") of 1983

TABLE 2  
SOIL ANALYTICAL DATA  
NOBLE ENERGY, INC. - Dechant 24-36

Soil Sample ID	Date	<sup>1</sup> 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-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	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 <sup>2</sup>		1.2	490	5.8	58	30	27	2	500			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL <sup>2,3</sup>		0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500			0.55	6	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
FS01@6.5'	03/04/21	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00500

Soil Sample ID	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
Residential SSL <sup>2</sup>		6 - 8.3	<6	<4mmhos/cm	2
FS01@6.5	03/04/21	7.95	3.38	3.11	0.147

Notes:

- Compounds referenced from 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.

Definitions:

COGCC = Colorado Oil and Gas Conservation Commission

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

SAR = Sodium Adsorption Ratio

EC = Electrical Conductivity

mmhos/cm = Millimhos per centimeter

mg/L = Milligrams per liter

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

1,2,4 - TMB = 1,2,4 Trimethylbenzene

1,3,5 - TMB = 1,3,5 Trimethylbenzene

Benz(a) = Benzanthracene

Benzo(b) = Benzofluoranthene

Benzo(k) = Benzofluoranthene

Benzo(a) = Benzopyrene

A,H = Dibenzoanthracene

1,2,3-CD = Indenopyrene

1-M = 1-methylnaphthalene

2-M = 2-methylnaphthalene

Highlighted results are equal to or exceed the COGCC Table 915-1 standard



**Legend**

- - - - Excavation Extent
- ⊕ Soil Sample Location – Field Screen (Collected via Trimble GPS)
- ⊕ Soil Sample Location – Lab Analyzed (Collected via Trimble GPS)

**Notes**

- 1) All locations are approximate unless otherwise noted.
- 2) Buried infrastructure has been spatially projected.
- 3) Analytical results below laboratory detection limits or within compliance of COGCC Table 915-1 not shown.
- 4) Concentration in exceedance of COGCC table 915-1 soil standards indicated in **RED**.

GPS – Global Positioning System  
 mg/kg – Milligrams per kilogram



Image Source: Google Earth; Google 2020

DATE:	04/13/2021
DESIGNED BY:	JW
DRAWN BY:	HM



**TASMAN**  
 GEOSCIENCES  
 Tasman Geosciences, Inc.  
 6855 W 119<sup>th</sup> Avenue  
 Broomfield, CO 80020

**Noble Energy, Inc. – DJ Basin**  
**Dechant 24-36**  
 SWNE, Section 36, Township 3 North, Range 65 West  
 Weld County, Colorado

Wellhead Closure & Soil  
 Analytical Results Map  
 (03/04/2021)

**FIGURE**  
**1**

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 12, 2021

Brandon Bruns

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Dechant 24-36

Work Order #2103095

Enclosed are the results of analyses for samples received by Summit Scientific on 03/04/21 17:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury

President



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

Project: Noble - Dechant 24-36

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
03/12/21 15:23

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FS01@6.5'	2103095-01	Soil	03/04/21 09:54	03/04/21 17:30

# Summit Scientific

S<sub>2</sub>

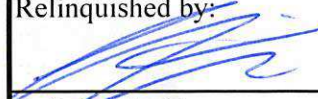
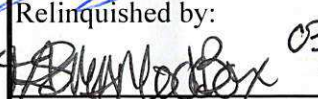
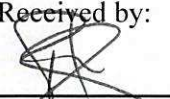
2103095

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

Client: Tasman Geosciences/ Noble Project Manager: Brandon Bruns, Invoice: Mike Montoya  
Address: 6555 119th Ave E-Mail: Tasman/Noble Team (On File)  
City/State/Zip: Broomfield, CO 80020 Project Name: Dechant 24-36  
Phone: 720.616.8383 Project Number:  
Sampler Name: Jacob Whitehouse

Page 1 of 1

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested					Special Instructions		
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS			
1	FSOIC 65'	3-4-2021	0954	3			X			X				X	X	X	X	X		SAR, EC, pH by saturated paste
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished by:  Date/Time: 3/4/21 1616	Received by: Tasman Lockbox Date/Time: 3/4/21 1616	<b>Turn Around Time</b> (Check) Same Day _____ 72 hours _____ 24 hours _____ Standard <input checked="" type="checkbox"/> 48 hours _____ <b>Sample Integrity:</b> Temperature Upon Receipt: 23 Samples Intact: <input checked="" type="checkbox"/> Yes No	<b>Notes:</b>
Relinquished by:  Date/Time: 03/04/2021 1730	Received by:  Date/Time: 03/04/2021 1730		
Relinquished by:	Received by:		

**Sample Receipt Checklist**

S2 Work Order 2103095

Client: Therman/Noble Client Project ID: DE GRANT 24-36

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

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

Temp (°C) 2.3

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

[Signature]  
Custodian Printed Name or Initials

[Signature]  
Signature of Custodian

03/04/2021  
Date/Time



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

Project: Noble - Dechant 24-36

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
03/12/21 15:23

**FS01@6.5'**  
**2103095-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **03/04/21 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEC0140	03/05/21	03/05/21	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: **03/04/21 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		111 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/04/21 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEC0141	03/05/21	03/07/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/04/21 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		88.2 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Dechant 24-36

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
03/12/21 15:23

**FS01@6.5'**  
**2103095-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **03/04/21 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEC0183	03/09/21	03/10/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/04/21 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		63.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		56.3 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **03/04/21 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.147</b>	0.0100	mg/L	1	BEC0230	03/11/21	03/11/21	EPA 6020B	

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

Date Sampled: **03/04/21 09:54**

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

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

Project: Noble - Dechant 24-36

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
03/12/21 15:23

**FS01@6.5'**  
**2103095-01 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	428	0.0566	mg/L dry	1	BEC0216	03/10/21	03/12/21	EPA 6020B	
Magnesium	94.1	0.0566	"	"	"	"	"	"	
Sodium	296	0.0566	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **03/04/21 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.38	0.100	units	1	BEC0254	03/12/21	03/12/21	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **03/04/21 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.3		%	1	BEC0146	03/08/21	03/09/21	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **03/04/21 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.11	0.0100	mmhos/cm	1	BEC0234	03/11/21	03/11/21	EPA 120.1	

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

Date Sampled: **03/04/21 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.95		pH Units	1	BEC0235	03/11/21	03/11/21	EPA 9045D	

Summit Scientific

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

Project: Noble - Dechant 24-36

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
03/12/21 15:23

### 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 BEC0140 - EPA 5030 Soil MS

##### Blank (BEC0140-BLK1)

Prepared & Analyzed: 03/05/21

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	0.0441		"	0.0400		110	23-173			
Surrogate: Toluene-d8	0.0420		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0419		"	0.0400		105	21-167			

##### LCS (BEC0140-BS1)

Prepared & Analyzed: 03/05/21

Benzene	0.0758	0.0020	mg/kg	0.100		75.8	70-130			
Toluene	0.110	0.0050	"	0.100		110	70-130			
Ethylbenzene	0.102	0.0050	"	0.100		102	70-130			
m,p-Xylene	0.205	0.010	"	0.200		102	70-130			
o-Xylene	0.101	0.0050	"	0.100		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0422		"	0.0400		105	23-173			
Surrogate: Toluene-d8	0.0428		"	0.0400		107	20-170			
Surrogate: 4-Bromofluorobenzene	0.0414		"	0.0400		103	21-167			

##### Matrix Spike (BEC0140-MS1)

Source: 2103092-02

Prepared & Analyzed: 03/05/21

Benzene	0.0775	0.0020	mg/kg	0.100	ND	77.5	70-130			
Toluene	0.112	0.0050	"	0.100	ND	112	70-130			
Ethylbenzene	0.105	0.0050	"	0.100	ND	105	70-130			
m,p-Xylene	0.205	0.010	"	0.200	ND	103	70-130			
o-Xylene	0.105	0.0050	"	0.100	ND	105	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0442		"	0.0400		110	23-173			
Surrogate: Toluene-d8	0.0428		"	0.0400		107	20-170			
Surrogate: 4-Bromofluorobenzene	0.0423		"	0.0400		106	21-167			

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

Project: Noble - Dechant 24-36

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
03/12/21 15:23

**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 BEC0140 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (BEC0140-MSD1)</b>	<b>Source: 2103092-02</b>			<b>Prepared &amp; Analyzed: 03/05/21</b>						
Benzene	0.0763	0.0020	mg/kg	0.100	ND	76.3	70-130	1.52	30	
Toluene	0.112	0.0050	"	0.100	ND	112	70-130	0.0269	30	
Ethylbenzene	0.104	0.0050	"	0.100	ND	104	70-130	0.115	30	
m,p-Xylene	0.210	0.010	"	0.200	ND	105	70-130	1.97	30	
o-Xylene	0.104	0.0050	"	0.100	ND	104	70-130	0.660	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0435</i>		<i>"</i>	<i>0.0400</i>		<i>109</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0418</i>		<i>"</i>	<i>0.0400</i>		<i>104</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0413</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>21-167</i>			

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Dechant 24-36

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
03/12/21 15:23

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch BEC0141 - EPA 3550A**

**Blank (BEC0141-BLK1)**

Prepared & Analyzed: 03/05/21

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							

**LCS (BEC0141-BS1)**

Prepared & Analyzed: 03/05/21

C10-C28 (DRO)	412	50	mg/kg	500	82.3	70-130				
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**Matrix Spike (BEC0141-MS1)**

Source: 2103092-02

Prepared & Analyzed: 03/05/21

C10-C28 (DRO)	421	50	mg/kg	500	14.1	81.3	70-130			
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**Matrix Spike Dup (BEC0141-MSD1)**

Source: 2103092-02

Prepared & Analyzed: 03/05/21

C10-C28 (DRO)	397	50	mg/kg	500	14.1	76.7	70-130	5.70	20	
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6855 W. 119th Ave.  
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Project: Noble - Dechant 24-36

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
03/12/21 15:23

**PAH by EPA Method 8270D SIM - Quality Control**

**Summit Scientific**

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

**Batch BEC0183 - EPA 5030 Soil MS**

**Blank (BEC0183-BLK1)**

Prepared & Analyzed: 03/09/21

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0255		"	0.0333		76.5	40-150			
<i>Surrogate: Fluoranthene-d10</i>	0.0207		"	0.0333		62.0	40-150			

**LCS (BEC0183-BS1)**

Prepared & Analyzed: 03/09/21

Acenaphthene	0.0396	0.00500	mg/kg	0.0333		119	31-137			
Anthracene	0.0401	0.00500	"	0.0333		120	30-120			
Benzo (a) anthracene	0.0365	0.00500	"	0.0333		110	30-120			
Benzo (a) pyrene	0.0204	0.00500	"	0.0333		61.2	30-120			
Benzo (b) fluoranthene	0.0256	0.00500	"	0.0333		76.9	30-120			
Benzo (k) fluoranthene	0.0222	0.00500	"	0.0333		66.6	30-120			
Chrysene	0.0378	0.00500	"	0.0333		113	30-120			
Dibenz (a,h) anthracene	0.0374	0.00500	"	0.0333		112	30-120			
Fluoranthene	0.0374	0.00500	"	0.0333		112	30-120			
Fluorene	0.0370	0.00500	"	0.0333		111	30-120			
Indeno (1,2,3-cd) pyrene	0.0376	0.00500	"	0.0333		113	30-120			
Pyrene	0.0335	0.00500	"	0.0333		100	35-142			
1-Methylnaphthalene	0.0371	0.00500	"	0.0333		111	35-142			
2-Methylnaphthalene	0.0415	0.00500	"	0.0333		125	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0257		"	0.0333		77.0	40-150			
<i>Surrogate: Fluoranthene-d10</i>	0.0240		"	0.0333		72.0	40-150			

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

Project: Noble - Dechant 24-36

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
03/12/21 15:23

**PAH by EPA Method 8270D SIM - Quality Control**

**Summit Scientific**

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

**Batch BEC0183 - EPA 5030 Soil MS**

<b>Matrix Spike (BEC0183-MS1)</b>	<b>Source: 2103093-01</b>			Prepared: 03/09/21		Analyzed: 03/10/21				
Acenaphthene	0.0387	0.00500	mg/kg	0.0333	ND	116	31-137			
Anthracene	0.0380	0.00500	"	0.0333	ND	114	30-120			
Benzo (a) anthracene	0.0351	0.00500	"	0.0333	ND	105	30-120			
Benzo (a) pyrene	0.0227	0.00500	"	0.0333	ND	68.0	30-120			
Benzo (b) fluoranthene	0.0243	0.00500	"	0.0333	ND	72.8	30-120			
Benzo (k) fluoranthene	0.0200	0.00500	"	0.0333	ND	60.1	30-120			
Chrysene	0.0362	0.00500	"	0.0333	ND	109	30-120			
Dibenz (a,h) anthracene	0.0363	0.00500	"	0.0333	ND	109	30-120			
Fluoranthene	0.0362	0.00500	"	0.0333	ND	108	30-120			
Fluorene	0.0362	0.00500	"	0.0333	ND	109	30-120			
Indeno (1,2,3-cd) pyrene	0.0366	0.00500	"	0.0333	ND	110	30-120			
Pyrene	0.0337	0.00500	"	0.0333	ND	101	35-142			
1-Methylnaphthalene	0.0384	0.00500	"	0.0333	ND	115	15-130			
2-Methylnaphthalene	0.0396	0.00500	"	0.0333	ND	119	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0227</i>		<i>"</i>	<i>0.0333</i>		<i>68.1</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0226</i>		<i>"</i>	<i>0.0333</i>		<i>68.0</i>	<i>40-150</i>			

<b>Matrix Spike Dup (BEC0183-MSD1)</b>	<b>Source: 2103093-01</b>			Prepared: 03/09/21		Analyzed: 03/10/21				
Acenaphthene	0.0344	0.00500	mg/kg	0.0333	ND	103	31-137	11.8	30	
Anthracene	0.0343	0.00500	"	0.0333	ND	103	30-120	10.1	30	
Benzo (a) anthracene	0.0315	0.00500	"	0.0333	ND	94.4	30-120	10.9	30	
Benzo (a) pyrene	0.0243	0.00500	"	0.0333	ND	72.8	30-120	6.91	30	
Benzo (b) fluoranthene	0.0296	0.00500	"	0.0333	ND	88.7	30-120	19.8	30	
Benzo (k) fluoranthene	0.0224	0.00500	"	0.0333	ND	67.2	30-120	11.2	30	
Chrysene	0.0327	0.00500	"	0.0333	ND	98.0	30-120	10.3	30	
Dibenz (a,h) anthracene	0.0319	0.00500	"	0.0333	ND	95.7	30-120	12.9	30	
Fluoranthene	0.0321	0.00500	"	0.0333	ND	96.4	30-120	11.8	30	
Fluorene	0.0322	0.00500	"	0.0333	ND	96.6	30-120	11.7	30	
Indeno (1,2,3-cd) pyrene	0.0321	0.00500	"	0.0333	ND	96.4	30-120	13.0	30	
Pyrene	0.0282	0.00500	"	0.0333	ND	84.7	35-142	17.6	30	
1-Methylnaphthalene	0.0330	0.00500	"	0.0333	ND	99.0	15-130	15.0	50	
2-Methylnaphthalene	0.0350	0.00500	"	0.0333	ND	105	15-130	12.3	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0223</i>		<i>"</i>	<i>0.0333</i>		<i>66.8</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0199</i>		<i>"</i>	<i>0.0333</i>		<i>59.6</i>	<i>40-150</i>			

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

Project: Noble - Dechant 24-36

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
03/12/21 15:23

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

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

**Batch BEC0230 - EPA 3050B**

**Blank (BEC0230-BLK1)**

Prepared & Analyzed: 03/11/21

Boron ND 0.0100 mg/L

**LCS (BEC0230-BS1)**

Prepared & Analyzed: 03/11/21

Boron 5.21 0.0100 mg/L 5.00 104 80-120

**Duplicate (BEC0230-DUP1)**

Source: 2103092-01

Prepared & Analyzed: 03/11/21

Boron 0.330 0.0100 mg/L 0.314 5.12 20

**Matrix Spike (BEC0230-MS1)**

Source: 2103092-01

Prepared & Analyzed: 03/11/21

Boron 4.92 0.0100 mg/L 5.00 0.314 92.1 75-125

**Matrix Spike Dup (BEC0230-MSD1)**

Source: 2103092-01

Prepared & Analyzed: 03/11/21

Boron 5.09 0.0100 mg/L 5.00 0.314 95.5 75-125 3.46 25

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

Project: Noble - Dechant 24-36

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
03/12/21 15:23

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

**Summit Scientific**

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

**Batch BEC0216 - General Preparation**

**Blank (BEC0216-BLK1)**

Prepared: 03/10/21 Analyzed: 03/12/21

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

**LCS (BEC0216-BS1)**

Prepared: 03/10/21 Analyzed: 03/12/21

Calcium	4.90	0.0500	mg/L wet	5.00	97.9	70-130
Magnesium	5.18	0.0500	"	5.00	104	70-130
Sodium	5.23	0.0500	"	5.00	105	70-130

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

Project: Noble - Dechant 24-36

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
03/12/21 15:23

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

**Summit Scientific**

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

**Batch BEC0146 - General Preparation**

Duplicate (BEC0146-DUP1)	Source: 2103066-06		Prepared: 03/08/21 Analyzed: 03/09/21		
% Solids	85.3	%	83.0	2.73	20

Summit Scientific

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

Project: Noble - Dechant 24-36

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
03/12/21 15:23

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

**Summit Scientific**

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

**Batch BEC0234 - General Preparation**

**Blank (BEC0234-BLK1)**

Prepared & Analyzed: 03/11/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BEC0234-BS1)**

Prepared & Analyzed: 03/11/21

Specific Conductance (EC) 0.148 0.0100 mmhos/cm 0.150 98.5 90-110

**Duplicate (BEC0234-DUP1)**

Source: 2103069-01

Prepared & Analyzed: 03/11/21

Specific Conductance (EC) 0.468 0.0100 mmhos/cm 0.486 3.80 20

Summit Scientific

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

Project: Noble - Dechant 24-36

Project Number: [none]  
 Project Manager: Brandon Bruns

**Reported:**  
 03/12/21 15:23

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

**Summit Scientific**

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

**Batch BEC0235 - General Preparation**

**LCS (BEC0235-BS1)**

Prepared & Analyzed: 03/11/21

pH	9.22	pH Units	9.21	100	95-105
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**Duplicate (BEC0235-DUP1)**

Source: 2103069-01

Prepared & Analyzed: 03/11/21

pH	7.84	pH Units	7.87	0.382	20
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Summit Scientific

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

Project: Noble - Dechant 24-36

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
03/12/21 15:23

### 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