

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
Site Name & COGCC Facility Number: Dechant D07-32	Date: 9/21/21			Remediation Project #: 18776
Associated Wells:	Age of Site:			Number of Photos Attached: 10
Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple) 40.2395870, -104.6018830				Estimated Facility Size (acres):
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.) Good Condition - no erosion, corrosion, waste or debris				
USCS Soil Type: SM		Estimated Depth to Groundwater: 26'		
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	05-123-26911			
Age				
Condition of surface around wellhead	good condition			
PID Readings	NA			
Condition of subsurface (estimate present)	good condition - no stains			
PID Readings	0.0 - 0.1			
Sample taken? Location/Sample ID#	See below			
Photo Number(s)	1-10			
Other observations regarding wellheads: One sample taken from each of 4 sidewalls at 2.5' depth (SS01-SS04), one base sample (FS01) taken at 6', 3 background samples taken at 2.5, 4, and 6 foot depths (BG01). One sample taken at flowline at wellhead (FL01-A) at 4' depth.				
Summary				
Was impacted soil identified? <input checked="" type="radio"/> No Yes - less than 10 cubic yards Yes - more than 10 cubic yards				
Total number of samples field screened: 10		Total number of samples collected: 7		
Highest PID Reading: 0.1		Total number of samples submitted to lab for analysis: 7		
If more than 10 cubic yards of impacted soil were observed:				
Vertical extent:		Estimated spill volume:		
Lateral extent:		Volume of soil removed:		
Is additional investigation required?				
Was groundwater encountered during the investigation? <input checked="" type="radio"/> 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		
Date Groundwater was encountered:		Commencement date of removal:		
Sheen on groundwater? Yes No		Volume of groundwater removed prior to sampling:		
Free product observed? Yes No		Volume of groundwater removed post sampling:		
Total number of samples collected:		Total Volume of groundwater removed:		
Total number of samples submitted to lab for analysis:				

Flowline Closure Checklist

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

Additional Attachments:		Tank Battery Closure		Wellhead Closure		Pit Closure		Partially Buried Vault Closure
Site Name & COGCC Facility Number: <u>Dechlor 007-32</u>		Date: <u>9/21/21</u>		Remediation Project #: <u>18776</u>				
Associated Wells:		Age of Site:		Number of Photos Attached: <u>10</u>				

Starting point: (GPS coordinates and descriptions) 40.2343870, -104.6018830

End point: (GPS coordinates and descriptions) 40.2387333, -104.5947411

USCS Soil Type: SM Estimated Depth to Groundwater: > 6'

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

Flowlines

Flowline type	oil (50) / water						
Depth	<u>3-4'</u>						
Age							
Length	<u>2,110</u>						
Construction Material	<u>steel</u>						
Were flowlines pulled?	<u>No</u>						
Visual Integrity of lines	<u>good</u>						
Visual impacts if trenched	<u>NA</u>						
PID Readings if trenched	<u>NA</u>						
Sample taken? Location/Sample ID#	<u>See below</u>						
Photo Number(s)	<u>6,7</u>						

Other observations regarding on location flowlines: One sample taken from each end of the flowline, FLO1-A @ 4' taken at wellhead and FLO1-B @ 3' taken at the separator.

Summary

Was impacted soil identified?		<input checked="" type="radio"/> No	Yes - less than 10 cubic yards	Yes - more than 10 cubic yards
Total number of samples field screened:		<u>2</u>	Total number of samples collected: <u>2</u>	
Highest PID Reading:		<u>0.0</u>	Total number of samples submitted to lab for analysis: <u>2</u>	
If more than 10 cubic yards of impacted soil were observed:				
Vertical extent:		Estimated spill volume:		
Lateral extent:		Volume of soil removed:		
Is additional investigation required?				
Was groundwater encountered during the investigation?				
<input checked="" type="radio"/> 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		
Date Groundwater was encountered:		Commencement date of removal:		
Sheen on groundwater? Yes No		Volume of groundwater removed prior to sampling:		
Free product observed? Yes No		Volume of groundwater removed post sampling:		
Total number of samples collected:		Total Volume of groundwater removed:		
Total number of samples submitted to lab for analysis:				

Photographic Log



Equipment ID: SS01		Equipment Type: Wellhead		Equipment ID: SS02		Equipment Type: Wellhead	
Material: Steel		Volume:		Contents: Oil/Gas/Water		Material: Steel	
Volume:		Contents: Oil/Gas/Water		Volume:		Contents: Oil/Gas/Water	
Notes/Conditions: SS01 @2.5' north sample location. No hydrocarbon odor or staining.				Notes/Conditions: SS02 @2.5' east sample location. No hydrocarbon odor or staining.			

Photographic Log



Equipment ID: SS03		Equipment Type: Wellhead		Equipment ID: SS04		Equipment Type: Wellhead	
Material: Steel		Volume:		Material: Steel		Volume:	
Contents: Oil/Gas/Water				Contents: Oil/Gas/Water			
Notes/Conditions: SS03@2.5' south sample location. No hydrocarbon odor or staining.				Notes/Conditions: SS04@2.5' west sample location. No hydrocarbon odor or staining.			

Photographic Log


Equipment ID: FS01		Equipment Type: Wellhead		Equipment ID: FL01-A		Equipment Type: Flowline	
Material: Steel		Volume:		Material: Steel		Volume:	
Contents: Oil/Gas/Water		Contents: Oil/Gas/Water		Contents: Oil/Gas/Water		Contents: Oil/Gas/Water	
Notes/Conditions: Base sample FS01 @6' sample location. No hydrocarbon odor or staining.				Notes/Conditions: Flowline sample FL01-A @4' sample location at wellhead. No hydrocarbon odor or staining.			

Photographic Log


Equipment ID: FL01-B		Equipment Type: Flowline		Equipment ID: BG01		Equipment Type:	
Material: Steel		Volume:		Material:		Volume:	
Contents: Oil/Gas/Water		Notes/Conditions: Flowline sample FL01-B@3' sample location at the separator. No hydrocarbon odor or staining.		Contents:		Notes/Conditions: Background sample BG01@2.5 sample location taken NE of well.	

Photographic Log



Equipment ID: BG01		Equipment Type:		Equipment ID: BG01		Equipment Type:	
Material:	Volume:	Contents:		Material:	Volume:	Contents:	
Notes/Conditions: Background sample BG01@4' sample location taken NE of well.				Notes/Conditions: Background sample BG01@6' sample location taken NE of well.			

TABLE 1
SOIL SAMPLE LOCATIONS
NOBLE ENERGY, INC. - DECHANT D07-32

Soil Sample ID	Date	PID (ppm)	Visual	Olfactory	Sample Type (Grab/Lab)	Latitude ¹	Longitude	PDOP
SS01@2.5'	09/21/21	0.1	No Staining	No Odor	Grab	40.23939544	-104.6018839	0.9
SS02@2.5'	09/21/21	0.0	No Staining	No Odor	Grab	40.23938370	-104.6018612	1.0
SS03@2.5'	09/21/21	0.0	No Staining	No Odor	Grab	40.23935945	-104.6018647	1.0
SS04@2.5'	09/21/21	0.0	No Staining	No Odor	Grab	40.23936709	-104.6018925	1.0
FS01@5'	09/21/21	0.1	No Staining	No Odor	Lab	40.23937903	-104.6018827	1.0
FL01-A@4'	09/21/21	0.0	No Staining	No Odor	Lab	40.23936536	-104.6018875	1.0
FL01-B@3'	09/21/21	0.0	No Staining	No Odor	Lab	40.23898013	-104.5944638	0.8
BG01@2.5'	09/21/21	0.0	No Staining	No Odor	Grab	40.23955996	-104.6017737	1.0
BG01@4'	09/21/21	0.0	No Staining	No Odor	Grab	40.23955996	-104.6017737	1.0
BG01@6'	09/21/21	0.0	No Staining	No Odor	Lab	40.23955996	-104.6017737	1.0

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 D07-32

Soil Sample ID	Date	¹ 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 ²		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 ^{2,3}		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'	09/21/21	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067	<0.200	<25.0	<100	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	0.00037 ^J	0.000908
FL01-A@4'	09/21/21	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067	<0.200	<25.0	<100	<0.00067	<0.00067	0.000442 ^J	0.000547 ^J	0.000703	0.000264 ^J	0.000526 ^J	<0.00067	0.00106	<0.00067	0.000494 ^J	0.000847	<0.00067	<0.00067
FL01-B@3'	09/21/21	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067	<0.200	<25.0	<100	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067

Soil Sample ID	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
Residential SSL ²		6 - 8.3	<6	<4mmhos/cm	2
FS01@6'	09/21/21	8.29	6.44	1.18	0.357
FL01-A@4'	09/21/21	7.86	0.159	0.737	<0.200
FL01-B@3'	09/21/21	6.30	0.114	0.125	<0.199
BG01@6'	09/21/21	NA	1.06	NA	NA

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)
- SSLs are applicable if a pathway for communication with groundwater is present.

J. Estimated Value. Analyte below reported quantitation limit.

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

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

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

NA = Not Analyzed



BG01@2.5'
(09/21/2021)
PID = 0.0 ppm

BG01@4'
(09/21/2021)
PID = 0.0 ppm

BG01@6'
(09/21/2021)
PID = 0.0 ppm
SAR = 1.06

SS01@2.5'
(09/21/2021)
PID = 0.1 ppm

FS01@6'
(09/21/2021)
PID = 0.1 ppm
SAR = **6.44**

SS02@2.5'
(09/21/2021)
PID = 0.0 ppm

SS04@2.5'
(09/21/2021)
PID = 0.0 ppm

FL01-A@4'
(09/21/2021)
PID = 0.0 ppm

SS03@2.5'
(09/21/2021)
PID = 0.0 ppm

DATE:	09/29/2021
DESIGNED BY:	JW
DRAWN BY:	JC



TASMAN
GEOSCIENCES

Tasman Geosciences, Inc.
6855 W 119th Avenue
Broomfield, CO 80020

Noble Energy, Inc. – DJ Basin
 Dechant D07-32 Wellhead
 NWSW, Section 7, Township 3 North, Range 64 West
 Weld County, Colorado

Wellhead Closure & Soil
 Analytical Results Map
 (09/21/2021)

FIGURE
1



FL01-B@3'
 (09/21/2021)
 PID = 0.0 ppm

Legend

⊕ 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

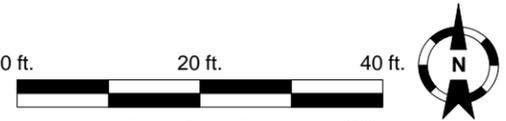


Image Source: Google Earth; Google 2020

DATE:	09/29/2021
DESIGNED BY:	JW
DRAWN BY:	JC



Tasman Geosciences, Inc.
 6855 W 119th Avenue
 Broomfield, CO 80020

Noble Energy, Inc. – DJ Basin
 Dechant D07-32 Wellhead
 NWSW, Section 7, Township 3 North, Range 64 West
 Weld County, Colorado

Wellhead Closure & Soil
 Analytical Results Map
 (09/21/2021)

FIGURE
 2



October 11, 2021

Tasman Geosciences

Jake Whritenour

6855 West 119th Avenue

Broomfield CO 80020

Project Name - Noble - Dechant D07-32

Project Number - 425676206

Attached are your analytical results for Noble - Dechant D07-32 received by Origins Laboratory, Inc. September 21, 2021. This project is associated with Origins project number Y109415-02.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 425676206
Project: Noble - Dechant D07-32

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FS01@6'	Y109415-02	Soil	September 21, 2021 11:08	09/21/2021 15:00
FL01-A@4'	Y109415-03	Soil	September 21, 2021 11:10	09/21/2021 15:00
FL01-B@3'	Y109415-04	Soil	September 21, 2021 11:35	09/21/2021 15:00
BG01@6'	Y109415-07	Soil	September 21, 2021 10:34	09/21/2021 15:00

Origins Laboratory, Inc.



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 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: 425676206
 Project: Noble - Dechant D07-32

www.originslaboratory.com

page 1 of 1

YJWMB

Client: **Noble/Tasman Geosciences**
 Address: **6855 W 119th Ave**

Project Manager: **Jake Whritenour; Invoice: Jeff White**
 Project Name: **Dechant D07-32**

Telephone Number: **303-487-1228, 303-827-1511**
 Email Address: **jwhritenour@tasman-geo.com**

Project Number: **425676206** **INVT: 27037**
 Samples Collected By: **Hunter Naylor**

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis				Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	As Summa #	Other	Vol-915	TRH-915	Beam-Heats	
SSAL@G	9/11/11	1100	2	X				X				X	X	X	PH, EC, SAR by Saturated Paste
Fsol@G		1108	2	X				X				X	X	X	HOLD
Fsol-A@4		1110	2	X				X				X	X	X	
Fsol-B@5		1135	2	X				X				X	X	X	
Bsol@4		1050	2	X				X				X	X	X	
Bsol@4		1052	2	X				X				X	X	X	HOLD
Bsol@G		1054	2	X				X				X	X	X	HOLD
SAR added to Bsol@4 Silicons email on 9/15/11															
Relinquished By: <i>Jake Whritenour</i>	Date: 9/11/11	Time: 1500	Received By: <i>[Signature]</i>		Date: 9/21/11	Time: 1500	Received By:		Date:	Time:	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/>		Standard <input checked="" type="checkbox"/>		

Origins Laboratory, Inc.

Jordan A. Merrill

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: 425676206
 Project: Noble - Dechant D07-32

Origins Laboratory F-012207-01-R1
Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: Y109415 Client: Tasman
 Client Project ID: Dechant D07-32

Checklist Completed by: JM Shipped Via: HD
 Date/time completed: 9/21/21 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
 Airbill #: N/A

Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____

Cooler Number/Temperature: 1, 1846-c _____ °C _____ °C (Describe)

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
<small>If samples require cooling, was the temperature between 0°C to ≤ 5°C⁽¹⁾?</small>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Some Dry</u>
Are custody seals present on cooler? (If so, document in comments if they are signed and dated, broken or intact)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (If so, document in comments if they are signed and dated, broken or intact)	<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"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽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"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH > 10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by: JM (Project Manager) Date/Time Reviewed: 9-22-21

Origins Laboratory, Inc.



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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: 425676206
 Project: Noble - Dechant D07-32

FS01@6'
9/21/2021 11:08:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y109415-02 (Soil)

Boron (DTPA Sorbitol)

Boron	0.357	0.198	mg/L	1	B112330	KAP	09/23/2021	09/24/2021	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B112205	KDK	09/22/2021	09/29/2021	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	KDK	"	"	U

Surrogate: <i>o</i> -Terphenyl	100 %	50-150			"	"	"	"	
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GBTEX+TMBs

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B112204	KDK	09/22/2021	09/26/2021	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	KDK	"	"	U
Benzene	ND	0.00200	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	KDK	"	"	U
Toluene	ND	0.00200	"	"	"	KDK	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.00200	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	89.3 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	106 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	112 %	70-130			"	"	"	"	

Metals by Saturated Paste

Origins Laboratory, Inc.



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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: 425676206
 Project: Noble - Dechant D07-32

FS01@6'
 9/21/2021 11:08:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y109415-02 (Soil)

Metals by Saturated Paste

Calcium	1.25	0.499	meq/L	10	[CALC]	KAP	09/23/2021	09/24/2021	
Magnesium	1.23	0.823	"	"	"	KAP	"	"	
Sodium	7.18	0.435	"	"	"	KAP	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	0.00037	0.00067	mg/Kg	1	L575380		09/22/2021	09/22/2021	J
2-Methylnaphthalene	0.000908	0.00067	"	"	"		"	"	
Acenaphthene	ND	0.00067	"	"	"		"	"	
Anthracene	ND	0.00067	"	"	"		"	"	
Benzo(a)anthracene	ND	0.00067	"	"	"		"	"	
Benzo(a)pyrene	ND	0.00067	"	"	"		"	"	
Benzo(b)fluoranthene	ND	0.00067	"	"	"		"	"	
Benzo(k)fluoranthene	ND	0.00067	"	"	"		"	"	
Chrysene	ND	0.00067	"	"	"		"	"	
Dibenz(a,h)anthracene	ND	0.00067	"	"	"		"	"	
Fluoranthene	ND	0.00067	"	"	"		"	"	
Fluorene	ND	0.00067	"	"	"		"	"	
Indeno(1,2,3-cd)pyrene	ND	0.00067	"	"	"		"	"	
Naphthalene	ND	0.00067	"	"	"		"	"	
Pyrene	ND	0.00067	"	"	"		"	"	

Origins Laboratory, Inc.



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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: 425676206
 Project: Noble - Dechant D07-32

FS01@6'

9/21/2021 11:08:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y109415-02 (Soil)

PAH by 8270D SIM

Surrogate: 2-Fluorobiphenyl	81.9 %	33-115			L5753 80		09/22/2021	09/22/2021	
Surrogate: 4-Terphenyl-d14	89.4 %	33-122			"		"	"	
Surrogate: Nitrobenzene-d5	72.2 %	29-110			"		"	"	

pH in Soil by 9045D

pH	8.29		pH Units	1	B112229	JSM	09/22/2021	09/24/2021	
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SAR by 20B Saturated Paste

SAR	6.44		SAR	1	B112318	KAP	09/23/2021	09/24/2021	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	1.18	0.00500	mmhos/cm	1	B112230	JSM	09/22/2021	09/24/2021	
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Origins Laboratory, Inc.



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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: 425676206
 Project: Noble - Dechant D07-32

FL01-A@4'

9/21/2021 11:10:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y109415-03 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.200	mg/L	1	B112330	KAP	09/23/2021	09/24/2021	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B112205	KDK	09/22/2021	09/29/2021	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	KDK	"	"	U

Surrogate: <i>o</i> -Terphenyl	102 %	50-150				"	"	"	
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GBTEX+TMBs

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B112204	KDK	09/22/2021	09/26/2021	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	KDK	"	"	U
Benzene	ND	0.00200	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	KDK	"	"	U
Toluene	ND	0.00200	"	"	"	KDK	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.00200	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	95.9 %	70-130				"	"	"	
Surrogate: Toluene-d8	90.9 %	70-130				"	"	"	
Surrogate: 4-Bromofluorobenzene	107 %	70-130				"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: 425676206
 Project: Noble - Dechant D07-32

FL01-A@4'
9/21/2021 11:10:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y109415-03 (Soil)

Metals by Saturated Paste

Calcium	4.75	0.499	meq/L	10	[CALC]	KAP	09/23/2021	09/24/2021	
Magnesium	1.41	0.823	"	"	"	KAP	"	"	
Sodium	ND	0.435	"	"	"	KAP	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00067	mg/Kg	1	L575380		09/22/2021	09/22/2021	
2-Methylnaphthalene	ND	0.00067	"	"	"		"	"	
Acenaphthene	ND	0.00067	"	"	"		"	"	
Anthracene	ND	0.00067	"	"	"		"	"	
Benzo(a)anthracene	0.000442	0.00067	"	"	"		"	"	J
Benzo(a)pyrene	0.000547	0.00067	"	"	"		"	"	J
Benzo(b)fluoranthene	0.000703	0.00067	"	"	"		"	"	
Benzo(k)fluoranthene	0.000264	0.00067	"	"	"		"	"	J
Chrysene	0.000526	0.00067	"	"	"		"	"	J
Dibenz(a,h)anthracene	ND	0.00067	"	"	"		"	"	
Fluoranthene	0.00106	0.00067	"	"	"		"	"	
Fluorene	ND	0.00067	"	"	"		"	"	
Indeno(1,2,3-cd)pyrene	0.000494	0.00067	"	"	"		"	"	JB
Naphthalene	ND	0.00067	"	"	"		"	"	
Pyrene	0.000847	0.00067	"	"	"		"	"	

Origins Laboratory, Inc.



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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: 425676206
 Project: Noble - Dechant D07-32

FL01-A@4'

9/21/2021 11:10:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y109415-03 (Soil)

PAH by 8270D SIM

Surrogate: 2-Fluorobiphenyl	82.1 %	33-115			L5753 80		09/22/2021	09/22/2021	
Surrogate: 4-Terphenyl-d14	82.7 %	33-122			"		"	"	
Surrogate: Nitrobenzene-d5	69.9 %	29-110			"		"	"	

pH in Soil by 9045D

pH	7.86		pH Units	1	B112229	JSM	09/22/2021	09/24/2021	
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SAR by 20B Saturated Paste

SAR	0.159		SAR	1	B112318	KAP	09/23/2021	09/24/2021	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.737	0.00500	mmhos/cm	1	B112230	JSM	09/22/2021	09/24/2021	
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Origins Laboratory, Inc.



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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: 425676206
 Project: Noble - Dechant D07-32

FL01-B@3'
9/21/2021 11:35:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y109415-04 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.199	mg/L	1	B112330	KAP	09/23/2021	09/24/2021	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B112205	KDK	09/22/2021	09/29/2021	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	KDK	"	"	U

Surrogate: <i>o</i> -Terphenyl	106 %	50-150				"	"	"	
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GBTEX+TMBs

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B112204	KDK	09/22/2021	09/23/2021	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	KDK	"	"	U
Benzene	ND	0.00200	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	KDK	"	"	U
Toluene	ND	0.00200	"	"	"	KDK	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.00200	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	89.3 %	70-130				"	"	"	
Surrogate: Toluene-d8	101 %	70-130				"	"	"	
Surrogate: 4-Bromofluorobenzene	108 %	70-130				"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: 425676206
 Project: Noble - Dechant D07-32

FL01-B@3'
 9/21/2021 11:35:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y109415-04 (Soil)

Metals by Saturated Paste

Calcium	0.504	0.499	meq/L	10	[CALC]	KAP	09/23/2021	09/24/2021	
Magnesium	ND	0.823	"	"	"	KAP	"	"	
Sodium	ND	0.435	"	"	"	KAP	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00067	mg/Kg	1	L575380		09/22/2021	09/22/2021	
2-Methylnaphthalene	ND	0.00067	"	"	"		"	"	
Acenaphthene	ND	0.00067	"	"	"		"	"	
Anthracene	ND	0.00067	"	"	"		"	"	
Benzo(a)anthracene	ND	0.00067	"	"	"		"	"	
Benzo(a)pyrene	ND	0.00067	"	"	"		"	"	
Benzo(b)fluoranthene	ND	0.00067	"	"	"		"	"	
Benzo(k)fluoranthene	ND	0.00067	"	"	"		"	"	
Chrysene	ND	0.00067	"	"	"		"	"	
Dibenz(a,h)anthracene	ND	0.00067	"	"	"		"	"	
Fluoranthene	ND	0.00067	"	"	"		"	"	
Fluorene	ND	0.00067	"	"	"		"	"	
Indeno(1,2,3-cd)pyrene	ND	0.00067	"	"	"		"	"	
Naphthalene	ND	0.00067	"	"	"		"	"	

Origins Laboratory, Inc.



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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: 425676206
 Project: Noble - Dechant D07-32

FL01-B@3'

9/21/2021 11:35:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y109415-04 (Soil)

PAH by 8270D SIM

Pyrene	ND	0.00067	mg/Kg	1	L575380		09/22/2021	09/22/2021	
Surrogate: 2-Fluorobiphenyl	83.8 %		33-115		"	"	"	"	"
Surrogate: 4-Terphenyl-d14	88.6 %		33-122		"	"	"	"	"
Surrogate: Nitrobenzene-d5	73.3 %		29-110		"	"	"	"	"

pH in Soil by 9045D

pH	6.30		pH Units	1	B112229	JSM	09/22/2021	09/24/2021	
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SAR by 20B Saturated Paste

SAR	0.114		SAR	1	B112318	KAP	09/23/2021	09/24/2021	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.125	0.00500	mmhos/cm	1	B112230	JSM	09/22/2021	09/24/2021	
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Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 425676206
Project: Noble - Dechant D07-32

BG01@6'

9/21/2021 10:34:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y109415-07 (Soil)

Metals by Saturated Paste

Calcium	3.83	0.499	meq/L	10	[CALC]	CJM	10/05/2021	10/07/2021	
Magnesium	2.25	0.823	"	"	"	CJM	"	"	
Sodium	1.85	0.435	"	"	"	CJM	"	"	

SAR by 20B Saturated Paste

SAR	1.06		SAR	1	B1J0507	CJM	"	"	
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Origins Laboratory, Inc.



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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: 425676206
 Project: Noble - Dechant D07-32

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B112204 - EPA 5030 (soil)										
Blank (B112204-BLK1)										
					Prepared: 09/22/2021 Analyzed: 09/24/2021					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
Naphthalene	ND	0.00380	"							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		92.4	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		107	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: 425676206
 Project: Noble - Dechant D07-32

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B112204 - EPA 5030 (soil)

LCS (B112204-BS1)

Prepared: 09/22/2021 Analyzed: 09/24/2021

1,2,4-Trimethylbenzene	0.0432	0.00200	mg/kg	0.0500		86.4	70-130			
Naphthalene	0.0430	0.0100	"	0.0500		86.0	70-130			
1,3,5-Trimethylbenzene	0.0426	0.00200	"	0.0500		85.2	70-130			
Benzene	0.0468	0.00200	"	0.0500		93.6	70-130			
Ethylbenzene	0.0460	0.00200	"	0.0500		92.0	70-130			
m,p-Xylene	0.0911	0.00400	"	0.100		91.1	70-130			
o-Xylene	0.0444	0.00200	"	0.0500		88.8	70-130			
Toluene	0.0431	0.00200	"	0.0500		86.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		94.7	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		105	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: 425676206
 Project: Noble - Dechant D07-32

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B112204 - EPA 5030 (soil)

Matrix Spike (B112204-MS1)	Source: Y109414-03			Prepared: 09/22/2021 Analyzed: 09/24/2021						
1,2,4-Trimethylbenzene	0.0220	0.00200	mg/kg	0.0500	ND	44.0	70-130			QM-07
Naphthalene	0.0178	0.0100	"	0.0500	ND	35.6	70-130			QM-07
1,3,5-Trimethylbenzene	0.0243	0.00200	"	0.0500	ND	48.5	70-130			QM-07
Benzene	0.0289	0.00200	"	0.0500	ND	57.8	70-130			QM-07
Ethylbenzene	0.0284	0.00200	"	0.0500	ND	56.8	70-130			QM-07
m,p-Xylene	0.0524	0.00400	"	0.100	ND	52.4	70-130			QM-07
o-Xylene	0.0279	0.00200	"	0.0500	ND	55.8	70-130			QM-07
Toluene	0.0278	0.00200	"	0.0500	ND	55.6	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		91.2	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.4	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		105	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: 425676206
 Project: Noble - Dechant D07-32

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B112204 - EPA 5030 (soil)

Matrix Spike Dup (B112204-MSD1)	Source: Y109414-03			Prepared: 09/22/2021 Analyzed: 09/24/2021						
1,2,4-Trimethylbenzene	0.0559	0.00200	mg/kg	0.0500	ND	112	70-130	87.1	20	QR-03
Naphthalene	0.0229	0.0100	"	0.0500	ND	45.8	70-130	25.3	20	QM-07, QR-03
1,3,5-Trimethylbenzene	0.0609	0.00200	"	0.0500	ND	122	70-130	86.0	20	QR-03
Benzene	0.0569	0.00200	"	0.0500	ND	114	70-130	65.2	20	QR-03
Ethylbenzene	0.0752	0.00200	"	0.0500	ND	150	70-130	90.4	20	QM-07, QR-03
m,p-Xylene	0.143	0.00400	"	0.100	ND	143	70-130	92.6	20	QM-07, QR-03
o-Xylene	0.0651	0.00200	"	0.0500	ND	130	70-130	80.0	20	QR-03
Toluene	0.0621	0.00200	"	0.0500	ND	124	70-130	76.3	20	QR-03
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		93.4	70-130			
Surrogate: Toluene-d8	0.14		"	0.125		110	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		108	70-130			

Origins Laboratory, Inc.



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 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: 425676206
 Project: Noble - Dechant D07-32

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B112205 - EPA 3550B										
Blank (B112205-BLK1)										
					Prepared: 09/22/2021 Analyzed: 09/29/2021					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	29		"	25.0		114	50-150			

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: 425676206
 Project: Noble - Dechant D07-32

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B112205 - EPA 3550B

LCS (B112205-BS1)

Prepared: 09/22/2021 Analyzed: 09/29/2021

Diesel (C10-C28)	1060	50.0	mg/kg	1000		106	70-130			
Residual Range Organics (C28-C40)	873	200	"	1000		87.3	70-130			
Surrogate: o-Terphenyl	52		"	50.0		104	50-150			

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Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B112205 - EPA 3550B

Matrix Spike (B112205-MS1)	Source: Y109432-01			Prepared: 09/22/2021 Analyzed: 09/29/2021						
Diesel (C10-C28)	1070	50.0	mg/kg	1000	41.1	103	70-130			
Residual Range Organics (C28-C40)	917	200	"	1000	10.1	90.7	70-130			
Surrogate: o-Terphenyl	53		"	50.0		107	50-150			

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Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B112205 - EPA 3550B

Matrix Spike Dup (B112205-MSD1)	Source: Y109432-01			Prepared: 09/22/2021 Analyzed: 09/29/2021						
Diesel (C10-C28)	1050	50.0	mg/kg	1000	41.1	101	70-130	1.80	35	
Residual Range Organics (C28-C40)	884	200	"	1000	10.1	87.4	70-130	3.66	35	
Surrogate: o-Terphenyl	51		"	50.0		102	50-150			

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 Project: Noble - Dechant D07-32

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L575380 - 3550B

MSD (L 90817-MSD-L575380)		Source: 90817			Prepared: 09/22/2021 Analyzed: 09/22/2021					
Chrysene	0.129	0.00027	mg/Kg	0.165	<0.000270	78.1	30-130	0.7	30	
1-Methylnaphthalene	0.135	0.00033	"	0.165	<0.000330	81.8	30-130	1.4	30	
2-Methylnaphthalene	0.114	0.00039	"	0.165	<0.000390	69	30-130	1.7	30	
Acenaphthene	0.12	0.0003	"	0.165	<0.000300	72.7	30-130	0	30	
Anthracene	0.129	0.00033	"	0.165	<0.000330	78.1	30-130	0	30	
Benzo(a)anthracene	0.137	0.00041	"	0.165	<0.000410	83	30-130	2.1	30	
Pyrene	0.131	0.00059	"	0.165	<0.000590	79.3	30-130	0.7	30	
Naphthalene	0.106	0.000467	"	0.165	<0.000467	64.2	30-130	0.9	30	
Indeno(1,2,3-cd)pyrene	0.184	0.00029	"	0.165	<0.000290	112	30-130	2.1	30	
Fluorene	0.123	0.00029	"	0.165	<0.000290	74.5	30-130	0	30	
Fluoranthene	0.136	0.00039	"	0.165	<0.000390	82.4	30-130	0.7	30	
Dibenz(a,h)anthracene	0.181	0.00036	"	0.165	<0.000360	110	30-130	2.8	30	
Benzo(b)fluoranthene	0.134	0.00021	"	0.165	<0.000210	81.2	30-130	0	30	
Benzo(k)fluoranthene	0.124	0.00013	"	0.165	<0.000130	75.1	30-130	1.6	30	
Benzo(a)pyrene	0.15	0.00014	"	0.165	<0.000140	90.9	30-130	4.5	30	
Surrogate: 2-Fluorobiphenyl	80		%	0.33	243	80	33-115			
Surrogate: 4-Terphenyl-d14	89		"	0.33	272	89	33-122			
Surrogate: Nitrobenzene-d5	69		"	0.33	210	69	29-110			

MS (L 90817-MS-L575380)		Source: 90817			Prepared: 09/22/2021 Analyzed: 09/22/2021					
Benzo(a)pyrene	0.157	0.00014	mg/Kg	0.164	<0.000140	95.7	30-130			
Chrysene	0.13	0.00027	"	0.164	<0.000270	79.2	30-130			
Pyrene	0.13	0.00059	"	0.164	<0.000590	79.2	30-130			
Naphthalene	0.107	0.000467	"	0.164	<0.000467	65.2	30-130			
Indeno(1,2,3-cd)pyrene	0.18	0.00029	"	0.164	<0.000290	110	30-130			
Fluorene	0.123	0.00029	"	0.164	<0.000290	75	30-130			
Fluoranthene	0.137	0.00039	"	0.164	<0.000390	83.5	30-130			

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 Project: Noble - Dechant D07-32

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L575380 - 3550B

MS (L 90817-MS-L575380)	Source: 90817			Prepared: 09/22/2021 Analyzed: 09/22/2021						
Dibenz(a,h)anthracene	0.176	0.00036	mg/Kg	0.164	<0.000360	107	30-130			
Benzo(b)fluoranthene	0.134	0.00021	"	0.164	<0.000210	81.7	30-130			
Benzo(a)anthracene	0.14	0.00041	"	0.164	<0.000410	85.3	30-130			
Anthracene	0.129	0.00033	"	0.164	<0.000330	78.6	30-130			
Acenaphthene	0.12	0.0003	"	0.164	<0.000300	73.1	30-130			
2-Methylnaphthalene	0.116	0.00039	"	0.164	<0.000390	70.7	30-130			
Benzo(k)fluoranthene	0.126	0.00013	"	0.164	<0.000130	76.8	30-130			
1-Methylnaphthalene	0.137	0.00033	"	0.164	<0.000330	83.5	30-130			
Surrogate: Nitrobenzene-d5	74		%	0.328	210	74	29-110			
Surrogate: 2-Fluorobiphenyl	83.8		"	0.328	243	83.8	33-115			
Surrogate: 4-Terphenyl-d14	92.3		"	0.328	272	92.3	33-122			

LCS (LCS-L575380)	Prepared: 09/22/2021 Analyzed: 09/22/2021									
Dibenz(a,h)anthracene	0.16	0.00036	mg/Kg	0.167		95.8	30-130			
Fluoranthene	0.135	0.00039	"	0.167		80.8	30-130			
Pyrene	0.128	0.00059	"	0.167		76.6	30-130			
Fluorene	0.124	0.00029	"	0.167		74.2	30-130			
Indeno(1,2,3-cd)pyrene	0.164	0.00029	"	0.167		98.2	30-130			
Chrysene	0.13	0.00027	"	0.167		77.8	30-130			
Naphthalene	0.111	0.000467	"	0.167		66.4	30-130			
Benzo(b)fluoranthene	0.125	0.00021	"	0.167		74.8	30-130			
Benzo(a)pyrene	0.15	0.00014	"	0.167		89.8	30-130			
Benzo(a)anthracene	0.137	0.00041	"	0.167		82	30-130			
Acenaphthene	0.122	0.0003	"	0.167		73	30-130			
2-Methylnaphthalene	0.12	0.00039	"	0.167		71.8	30-130			
1-Methylnaphthalene	0.14	0.00033	"	0.167		83.8	30-130			
Anthracene	0.125	0.00033	"	0.167		74.8	30-130			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L575380 - 3550B										
LCS (LCS-L575380)					Prepared: 09/22/2021 Analyzed: 09/22/2021					
Benzo(k)fluoranthene	0.125	0.00013	mg/Kg	0.167		74.8	30-130			
Surrogate: Nitrobenzene-d5	76.2		%	0.333		76.2	29-110			
Surrogate: 4-Terphenyl-d14	91.2		"	0.333		91.2	33-122			
Surrogate: 2-Fluorobiphenyl	89.7		"	0.333		89.7	33-115			
LRB (LRB-L575380)					Prepared: 09/22/2021 Analyzed: 09/22/2021					
Chrysene	ND	0.00067	mg/Kg				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Fluoranthene	ND	0.00067	"				-			
Fluorene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
Naphthalene	ND	0.00067	"				-			
Indeno(1,2,3-cd)pyrene	0.000355	0.00067	"				-			J
Benzo(b)fluoranthene	ND	0.00067	"				-			
Benzo(a)pyrene	ND	0.00067	"				-			
Benzo(a)anthracene	ND	0.00067	"				-			
Acenaphthene	ND	0.00067	"				-			
2-Methylnaphthalene	ND	0.00067	"				-			
1-Methylnaphthalene	ND	0.00067	"				-			
Pyrene	ND	0.00067	"				-			
Anthracene	ND	0.00067	"				-			
Surrogate: Nitrobenzene-d5	70.2		%	0.333		70.2	29-110			
Surrogate: 4-Terphenyl-d14	90		"	0.333		90	33-122			
Surrogate: 2-Fluorobiphenyl	87.9		"	0.333		87.9	33-115			

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Notes and Definitions

- U Sample is Non-Detect.
- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- JB [Undefined]
- J Estimated Value. Analyte below reported quantitation limit.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- All soil results are reported at a wet weight basis.

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