

**TABLE 1**  
**SOIL SAMPLE LOCATIONS**  
**NOBLE ENERGY, INC. - WATKINS 12-02 FL**

Soil Sample ID	Date	PID (ppm)	Visual	Olfactory	Sample Type (Grab/Lab)	Latitude <sup>1</sup>	Longitude	PDOP
FL01-A@6'	01/24/23	0.1	No Staining	No Odor	Lab	40.32512184	-104.5059371	1.1
FL01-B@4'	01/25/23	0.7	No Staining	No Odor	Grab	40.32509167	-104.5050222	0.9
FL01-C@4'	01/26/23	0.6	No Staining	No Odor	Grab	40.32510483	-104.5039685	0.8
FL01-D@4'	01/27/23	0.8	No Staining	No Odor	Grab	40.32510894	-104.5032246	1.1
FL01-E@4'	01/27/23	0.6	No Staining	No Odor	Grab	40.32510229	-104.5023432	0.9
FL01-F@4'	02/02/23	0.1	No Staining	No Odor	Grab	40.32508491	-104.5014200	1.1
FL01-G@4'	02/03/23	0.0	No Staining	No Odor	Grab	40.32506886	-104.5006118	0.9
FL01-H@4'	02/06/23	0.0	No Staining	No Odor	Grab	40.32506859	-104.5000576	0.9
FL01-I@4'	02/07/23	0.1	No Staining	No Odor	Grab	40.32506028	-104.5000959	0.9
FL01-J@4'	02/07/23	0.2	No Staining	No Odor	Lab	40.32510389	-104.4994493	0.8
FL01-K@1'	02/10/23	0.4	No Staining	No Odor	Lab	40.32562334	-104.4993914	NM

Notes:

PID = Photo-ionization detector    NM = Not Measured

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. - WATKINS 12-02 FL

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
FL01-A@6'	01/24/23	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00201	<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	<0.00201	<0.00201
FL01-J@4'	02/07/23	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	0.0442	<0.200	<25.0	<100	0.0564	0.156	0.125	0.0748	0.0786	0.0356	0.114	0.00803	0.355	0.0675	0.0213	0.272	0.00945	0.0128

Soil Sample ID	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
Residential SSL <sup>2</sup>		6 - 8.3	<6	<4mmhos/cm	2
FL01-A@6'	01/24/23	7.95	3.68	1.57	0.222
FL01-J@4'	02/07/23	8.12	7.26	2.04	0.136

Notes:

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

2. Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.

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

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 = Millmhos 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) = Benzo(a)fluoranthene

Benzo(k) = Benzo(a)fluoranthene

Benzo(a) = Benzopyrene

A,H = Dibenzo(a,h)anthracene



1,2,3-CD = Indeno(1,2,3-cd)pyrene

1-M = 1-methylnaphthalene

2-M = 2-methylnaphthalene





## Photographic Log

					
Equipment ID: FL01-A@6'	Equipment Type: Flowline		Equipment ID: FL01-B@4'	Equipment Type: Flowline	
Material: Steel	Volume:	Contents: Oil/Gas/Water	Material: Steel	Volume:	Contents: Oil/Gas/Water
Notes/Conditions:			Notes/Conditions:		




**Photographic Log**

							
<b>Equipment ID:</b> FL01-C@4'		<b>Equipment Type:</b> Flowline		<b>Equipment ID:</b> FL01-D@4'		<b>Equipment Type:</b> Flowline	
<b>Material:</b> Steel	<b>Volume:</b>	<b>Contents:</b> Oil/Gas/Water		<b>Material:</b> Steel	<b>Volume:</b>	<b>Contents:</b> Oil/Gas/Water	
<b>Notes/Conditions:</b>				<b>Notes/Conditions:</b>			





## Photographic Log

											
<b>Equipment ID:</b> FL01-E@4'		<b>Equipment Type:</b> Flowline		<b>Equipment ID:</b> FL01-F@		<b>Equipment Type:</b> Flowline					
<b>Material:</b> Steel		<b>Volume:</b>		<b>Contents:</b> Oil/Gas/Water		<b>Material:</b> Steel		<b>Volume:</b>		<b>Contents:</b> Oil/Gas/Water	
<b>Notes/Conditions:</b>						<b>Notes/Conditions:</b>					



## Photographic Log

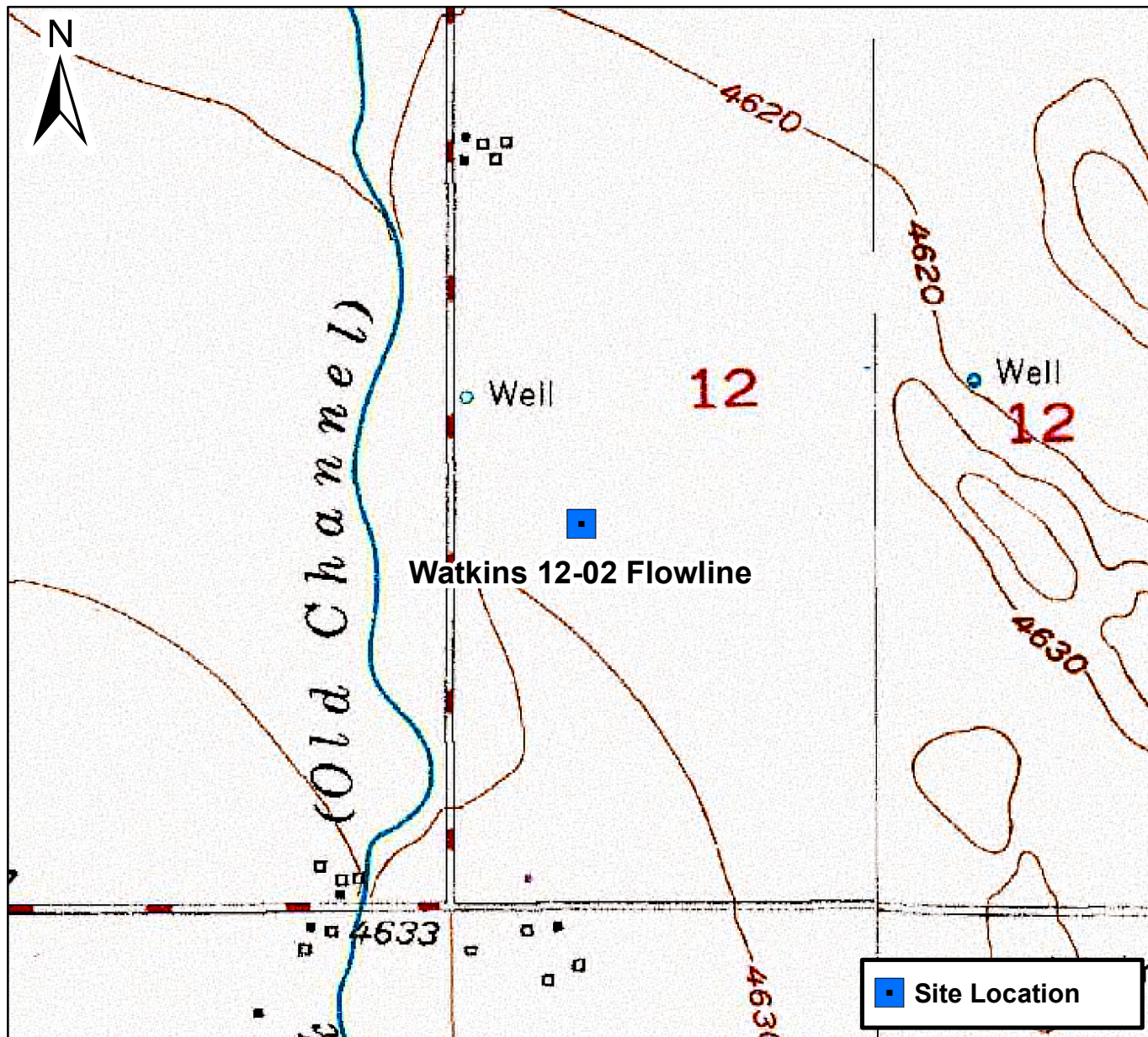
	
<b>Equipment ID:</b> FL01-I@4'	<b>Equipment ID:</b> FL01-J@4'
<b>Equipment Type:</b> Flowline	<b>Equipment Type:</b> Flowline
<b>Material:</b> Steel	<b>Material:</b> Steel
<b>Volume:</b>	<b>Volume:</b>
<b>Contents:</b> Oil/Gas/Water	<b>Contents:</b> Oil/Gas/Water
<b>Notes/Conditions:</b>	<b>Notes/Conditions:</b> PIPE LEFT IN PLACE FOR LATER REMOVAL



## Photographic Log

											
<b>Equipment ID:</b> FL01-K@1'		<b>Equipment Type:</b> Flowline		<b>Equipment ID:</b>		<b>Equipment Type:</b>					
<b>Material:</b> Steel		<b>Volume:</b>		<b>Contents:</b> Oil/Gas/Water		<b>Material:</b>		<b>Volume:</b>		<b>Contents:</b>	
<b>Notes/Conditions:</b>						<b>Notes/Conditions:</b>					





0 1,000 2,000 Feet


## Figure 1

Site Location Map  
Watkins 12-02 Flowline  
NWSW S12 T4N R64W  
Weld County, Colorado







DATE: 2/14/2023	 <b>TASMAN</b> GEOSCIENCES	Tasman Geosciences, Inc. 6855 W 119 <sup>th</sup> Avenue Broomfield, CO 80020	<b>Noble Energy, Inc. – DJ Basin</b> <b>Watkins 12-02</b> NWSW, Section 12, Township 4 North, Range 64 West Weld County, Colorado	Flowline Closure & Soil Analytical Results Map (01/24/2023-01/27/2023, 02/02/2023- 02/07/2023, & 02/10/2023)	<b>FIGURE</b> 2
DESIGNED BY: JW					
DRAWN BY: HM					





January 30, 2023

Tasman Geosciences

Jake Whritenour

6855 West 119th Avenue

Broomfield CO 80020

**Project Name - Noble - Watkins 12-02**

**Project Number - [none]**

Attached are your analytical results for Noble - Watkins 12-02 received by Origins Laboratory, Inc. January 24, 2023. This project is associated with Origins project number Y301396-01.

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: [none]

Project: Noble - Watkins 12-02

### CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01-A@6'	Y301396-01	Soil	January 24, 2023 9:20	01/24/2023 16:30

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.*



Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

# ORIGINS

LABORATORY, INC

www.originslaboratory.com

4301396

page 1 of 1

Client: Noble Tashman  
 Address: \_\_\_\_\_  
 Telephone Number: \_\_\_\_\_  
 Email Address: whitlenour@tashman-geo.com

Project Manager: Julie Whitlenour  
 Project Name: Watkins 12-02  
 Project Number: \_\_\_\_\_  
 Samples Collected By: Dennis Gray

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis				Sample Instructions		
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa Canister #	Other	VOC-915	TPH-915	PAH-915		SAR, EC, PH	Born-HMS
P01-A06	12/23	09:20	3	X					X				X	X	X	X	
Relinquished By: <u>mm</u>	Date: <u>01/24/23</u>	Time: <u>16:30</u>		Received By: <u>EXS</u>				Date: <u>11/24/23</u>				Time: <u>16:30</u>	Turnaround Time: <u>Same Day</u> <input checked="" type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input type="checkbox"/>				
Relinquished By:	Date:	Time:		Received By:				Date:				Time:					

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

Date Results Needed

Date Received

Origins Laboratory, Inc.

Byron

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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: 4301396

Client: Tasman

Client Project ID: Watkins 12-02

Checklist Completed by: EHS

Shipped Via: HD  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 1/24/23

Airbill #: NA

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☐ Water ☐ Other: \_\_\_\_\_

Cooler Number/Temperature: 1 13.1 °C 1 °C 1 °C (Describe) °C

Thermometer ID: 7084

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?	<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"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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"/>	
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) 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 with date and time recorded <sup>(1)</sup> ?	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (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 HNO <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH >10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)	<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 date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Gina Luta  
Reviewed by (Project Manager)

1/24/23  
Date/Time Reviewed

Origins Laboratory, Inc.

J. Bynon

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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

## FL01-A@6'

1/24/2023 9:20:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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## Y301396-01 (Soil) Origins Laboratory, Inc.

### Boron (DTPA Sorbitol)

Boron	0.222	0.0988	mg/L	1	B3A2503	KAP	01/25/2023	01/26/2023	
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### DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3A2401	ADM	01/24/2023	01/24/2023	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	ADM	"	"	U

Surrogate: o-Terphenyl	83.2 %	50-150			"	"	"	
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### GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3A2419	ZZZ	01/24/2023	01/24/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	ZZZ	"	"	U
Benzene	ND	0.00200	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	ZZZ	"	"	U
Toluene	ND	0.00200	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.00200	"	"	"	ZZZ	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4	104 %	70-130			"	"	"
Surrogate: Toluene-d8	99.0 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	70-130			"	"	"

### Metals by Saturated Paste by EPA 6010

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

FL01-A@6'

1/24/2023 9:20:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y301396-01 (Soil)

Origins Laboratory, Inc.

## Metals by Saturated Paste by EPA 6010

Calcium	5.88	0.499	meq/L	10	[CALC]	KAP	01/25/2023	01/26/2023
Magnesium	2.32	0.823	"	"	"	KAP	"	"
Sodium	7.46	0.435	"	"	"	KAP	"	"

## pH in Soil by 9045D

pH	7.95		pH Units	1	B3A2504	HJD	01/25/2023	01/26/2023
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## SAR by 20B Saturated Paste

SAR	3.68		SAR	1	B3A2502	KAP	01/25/2023	01/26/2023
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	1.57	0.00500	mmhos/cm	1	B3A2504	HJD	01/25/2023	01/26/2023
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## Waypoint Analytical, LLC.

## PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00201	mg/Kg	1	L660823		01/27/2023	01/27/2023
2-Methylnaphthalene	ND	0.00201	"	"	"		"	"
Acenaphthene	ND	0.00067	"	"	"		"	"
Anthracene	ND	0.00067	"	"	"		"	"

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

FL01-A@6'

1/24/2023 9:20:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y301396-01 (Soil)

Waypoint Analytical, LLC.

## PAH by 8270D SIM

Benzo(a)anthracene	ND	0.00067	mg/Kg	1	L660823		01/27/2023	01/27/2023	
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	0.00201	"	"	"		"	"	
Pyrene	ND	0.00067	"	"	"		"	"	

Surrogate: 2-Fluorobiphenyl	52 %	33-115		"	"	"
Surrogate: 4-Terphenyl-d14	63.2 %	33-122		"	"	"
Surrogate: Nitrobenzene-d5	52.9 %	29-110		"	"	"

Origins Laboratory, Inc.



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6855 West 119th Avenue  
Broomfield CO 80020

Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

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
Batch B3A2401 - EPA 3580										
Blank (B3A2401-BLK1)					Prepared: 01/24/2023 Analyzed: 01/24/2023					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	23		"	24.9		90.9	50-150			

Origins Laboratory, Inc.



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6855 West 119th Avenue  
Broomfield CO 80020

Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

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
Batch B3A2401 - EPA 3580										
LCS (B3A2401-BS1)					Prepared: 01/24/2023 Analyzed: 01/24/2023					
Diesel (C10-C28)	885	50.0	mg/kg	1000		88.5	70-130			
Residual Range Organics (C28-C40)	851	200	"	1000		85.1	70-130			
Surrogate: o-Terphenyl	41		"	49.8		81.8	50-150			

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

## 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 B3A2401 - EPA 3580

Matrix Spike (B3A2401-MS1)		Source: Y301363-01			Prepared: 01/24/2023 Analyzed: 01/24/2023					
Diesel (C10-C28)	902	50.0	mg/kg	1000	ND	90.2	70-130			
Residual Range Organics (C28-C40)	873	200	"	1000	ND	87.3	70-130			
Surrogate: o-Terphenyl	40		"	49.8		80.1	50-150			

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

## 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 B3A2401 - EPA 3580

Matrix Spike Dup (B3A2401-MSD1)		Source: Y301363-01			Prepared: 01/24/2023 Analyzed: 01/24/2023					
Diesel (C10-C28)	891	50.0	mg/kg	1000	ND	89.1	70-130	1.24	35	
Residual Range Organics (C28-C40)	859	200	"	1000	ND	85.9	70-130	1.62	35	
Surrogate: o-Terphenyl	39		"	49.8		79.3	50-150			

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: [none]  
Project: Noble - Watkins 12-02

## 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
Batch B3A2419 - EPA 5030 (soil)										
Blank (B3A2419-BLK1)					Prepared: 01/24/2023 Analyzed: 01/24/2023					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.00380	"							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		95.2	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.4	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.6	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

**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
<b>Batch B3A2419 - EPA 5030 (soil)</b>										
<b>LCS (B3A2419-BS1)</b>					Prepared: 01/24/2023 Analyzed: 01/24/2023					
1,2,4-Trimethylbenzene	0.0974	0.00200	mg/kg	0.100		97.4	70-130			
1,3,5-Trimethylbenzene	0.0968	0.00200	"	0.100		96.8	70-130			
Benzene	0.0926	0.00200	"	0.100		92.6	70-130			
Ethylbenzene	0.0955	0.00200	"	0.100		95.5	70-130			
Naphthalene	0.0981	0.00380	"	0.100		98.1	70-130			
Toluene	0.0969	0.00200	"	0.100		96.9	70-130			
o-Xylene	0.0956	0.00200	"	0.100		95.6	70-130			
m,p-Xylene	0.225	0.00400	"	0.200		112	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		96.8	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		103	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.3	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

**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
<b>Batch B3A2419 - EPA 5030 (soil)</b>										
<b>Matrix Spike (B3A2419-MS1)</b>		<b>Source: Y301384-01</b>			Prepared: 01/24/2023 Analyzed: 01/24/2023					
1,2,4-Trimethylbenzene	0.0896	0.00200	mg/kg	0.100	0.000800	88.8	70-130			
1,3,5-Trimethylbenzene	0.0883	0.00200	"	0.100	0.000720	87.5	70-130			
Benzene	0.0906	0.00200	"	0.100	ND	90.6	70-130			
Ethylbenzene	0.0880	0.00200	"	0.100	0.000500	87.5	70-130			
Naphthalene	0.0970	0.00380	"	0.100	0.00106	95.9	70-130			
Toluene	0.0879	0.00200	"	0.100	ND	87.9	70-130			
o-Xylene	0.0892	0.00200	"	0.100	0.000540	88.7	70-130			
m,p-Xylene	0.205	0.00400	"	0.200	ND	102	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		102	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.0	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

**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
<b>Batch B3A2419 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (B3A2419-MSD1)</b>		<b>Source: Y301384-01</b>			Prepared: 01/24/2023 Analyzed: 01/24/2023					
1,2,4-Trimethylbenzene	0.0879	0.00200	mg/kg	0.100	0.000800	87.1	70-130	1.89	20	
1,3,5-Trimethylbenzene	0.0861	0.00200	"	0.100	0.000720	85.3	70-130	2.52	20	
Benzene	0.0925	0.00200	"	0.100	ND	92.5	70-130	2.14	20	
Ethylbenzene	0.0849	0.00200	"	0.100	0.000500	84.4	70-130	3.54	20	
Naphthalene	0.112	0.00380	"	0.100	0.00106	111	70-130	14.4	20	
Toluene	0.0863	0.00200	"	0.100	ND	86.3	70-130	1.75	20	
o-Xylene	0.0887	0.00200	"	0.100	0.000540	88.2	70-130	0.562	20	
m,p-Xylene	0.198	0.00400	"	0.200	ND	99.1	70-130	3.24	20	
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		113	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		100	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

## 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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## Classical Chemistry Parameters - 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 B3A2502 - Saturated Paste Metals

##### Blank (B3A2502-BLK1)

Prepared: 01/25/2023 Analyzed: 01/26/2023

SAR	0.00		SAR
Calcium PPM	ND	10.0	mg/L
Magnesium PPM	ND	10.0	"
Sodium PPM	ND	10.0	"

##### Duplicate (B3A2502-DUP1)

Source: Y301362-12

Prepared: 01/25/2023 Analyzed: 01/26/2023

Calcium PPM	150	10.0	mg/L	156	4.16	50
SAR	0.00		SAR	10.6	200	200
Magnesium PPM	90.5	10.0	mg/L	93.8	3.65	50
Sodium PPM	669	10.0	"	678	1.34	50

#### Batch B3A2503 - DTPA Sorbitol Preparation

##### Blank (B3A2503-BLK1)

Prepared: 01/25/2023 Analyzed: 01/26/2023

Boron	ND	0.100	mg/L
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##### Duplicate (B3A2503-DUP1)

Source: Y301382-01

Prepared: 01/25/2023 Analyzed: 01/26/2023

Boron	0.0340	0.100	mg/L	0.0352	3.57	50
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Origins Laboratory, Inc.



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6855 West 119th Avenue  
Broomfield CO 80020

Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

## Saturated Paste - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B3A2504 - Saturated Paste pH/EC</b>										
<b>Blank (B3A2504-BLK1)</b>					Prepared: 01/25/2023 Analyzed: 01/26/2023					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
<b>Duplicate (B3A2504-DUP1)</b>					<b>Source: Y301362-12</b> Prepared: 01/25/2023 Analyzed: 01/26/2023					
pH	7.90		pH Units		8.01			1.38	25	
Specific Conductance (EC)	3.85	0.00500	mmhos/cm		3.96			2.85	25	

Origins Laboratory, Inc.



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Broomfield CO 80020

Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L660823 - 3550B**

MSD (L 98799-MSD-L660823)		Source: Y301396-01			Prepared: 01/27/2023 Analyzed: 01/27/2023					
2-Methylnaphthalene	0.0935	0.00201	mg/Kg	0.165	<0.00194	56.6	30-130	17	30	
Fluorene	0.0946	0.00067	"	0.165	0.000362	57.1	30-130	15.4	30	
Pyrene	0.1	0.00067	"	0.165	<0.000643	60.6	30-130	9.7	30	
Indeno(1,2,3-cd)pyrene	0.0804	0.00067	"	0.165	<0.000627	48.7	30-130	0.2	30	
Fluoranthene	0.107	0.00067	"	0.165	0.000492	64.5	30-130	9.2	30	
Dibenz(a,h)anthracene	0.0921	0.00067	"	0.165	<0.000614	55.8	30-130	0.6	30	
Chrysene	0.0928	0.00067	"	0.165	<0.000624	56.2	30-130	4	30	
Naphthalene	0.0865	0.00201	"	0.165	<0.00145	52.4	30-130	13.3	30	
1-Methylnaphthalene	0.0901	0.00201	"	0.165	<0.00109	54.6	30-130	13.8	30	
Benzo(k)fluoranthene	0.0932	0.00067	"	0.165	<0.000437	56.4	30-130	8.5	30	
Acenaphthene	0.0908	0.00067	"	0.165	<0.000304	55	30-130	15.4	30	
Anthracene	0.0917	0.00067	"	0.165	<0.000334	55.5	30-130	12.1	30	
Benzo(a)anthracene	0.107	0.00067	"	0.165	<0.000493	64.8	30-130	18	30	
Benzo(a)pyrene	0.11	0.00067	"	0.165	<0.000468	66.6	30-130	13.5	30	
Benzo(b)fluoranthene	0.0828	0.00067	"	0.165	<0.000585	50.1	30-130	0.3	30	
Surrogate: 2-Fluorobiphenyl	52.1		"	0.33	171	52.1	33-115			
Surrogate: Nitrobenzene-d5	52.1		"	0.33	174	52.1	29-110			
Surrogate: 4-Terphenyl-d14	60.3		"	0.33	208	60.3	33-122			

MS (L 98799-MS-L660823)		Source: Y301396-01			Prepared: 01/27/2023 Analyzed: 01/27/2023					
Benzo(k)fluoranthene	0.0856	0.00067	mg/Kg	0.166	<0.000437	51.5	30-130			
Acenaphthene	0.0778	0.00067	"	0.166	<0.000304	46.8	30-130			
Naphthalene	0.0757	0.00201	"	0.166	<0.00145	45.6	30-130			
Indeno(1,2,3-cd)pyrene	0.0806	0.00067	"	0.166	<0.000627	48.5	30-130			
Fluorene	0.081	0.00067	"	0.166	0.000362	48.5	30-130			
Fluoranthene	0.0975	0.00067	"	0.166	0.000492	58.4	30-130			
Dibenz(a,h)anthracene	0.0915	0.00067	"	0.166	<0.000614	55.1	30-130			

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L660823 - 3550B**

MS (L 98799-MS-L660823)		Source: Y301396-01			Prepared: 01/27/2023 Analyzed: 01/27/2023					
Chrysene	0.0891	0.00067	mg/Kg	0.166	<0.000624	53.6	30-130			
1-Methylnaphthalene	0.0784	0.00201	"	0.166	<0.00109	47.2	30-130			
Benzo(a)pyrene	0.096	0.00067	"	0.166	<0.000468	57.8	30-130			
Anthracene	0.0812	0.00067	"	0.166	<0.000334	48.9	30-130			
Pyrene	0.0907	0.00067	"	0.166	<0.000643	54.6	30-130			
2-Methylnaphthalene	0.0788	0.00201	"	0.166	<0.00194	47.4	30-130			
Benzo(b)fluoranthene	0.0825	0.00067	"	0.166	<0.000585	49.6	30-130			
Benzo(a)anthracene	0.0893	0.00067	"	0.166	<0.000493	53.7	30-130			
Surrogate: Nitrobenzene-d5	45.6		"	0.331	174	45.6	29-110			
Surrogate: 4-Terphenyl-d14	55.2		"	0.331	208	55.2	33-122			
Surrogate: 2-Fluorobiphenyl	45		"	0.331	171	45	33-115			

LCS (LCS-L660823)		Prepared: 01/27/2023 Analyzed: 01/27/2023								
Chrysene	0.0944	0.00067	mg/Kg	0.167		56.5	30-130			
Dibenz(a,h)anthracene	0.107	0.00067	"	0.167		64	30-130			
Fluoranthene	0.106	0.00067	"	0.167		63.4	30-130			
Fluorene	0.0864	0.00067	"	0.167		51.7	30-130			
Indeno(1,2,3-cd)pyrene	0.097	0.00067	"	0.167		58	30-130			
Naphthalene	0.0833	0.00201	"	0.167		49.8	30-130			
Benzo(k)fluoranthene	0.103	0.00067	"	0.167		61.6	30-130			
Pyrene	0.0997	0.00067	"	0.167		59.7	30-130			
Benzo(a)pyrene	0.106	0.00067	"	0.167		63.4	30-130			
Benzo(a)anthracene	0.104	0.00067	"	0.167		62.2	30-130			
Anthracene	0.089	0.00067	"	0.167		53.2	30-130			
Acenaphthene	0.086	0.00067	"	0.167		51.4	30-130			
2-Methylnaphthalene	0.0855	0.00201	"	0.167		51.1	30-130			
1-Methylnaphthalene	0.0853	0.00201	"	0.167		51	30-130			

Origins Laboratory, Inc.



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Broomfield CO 80020

Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L660823 - 3550B</b>										
<b>LCS (LCS-L660823)</b>					Prepared: 01/27/2023 Analyzed: 01/27/2023					
Benzo(b)fluoranthene	0.0941	0.00067	mg/Kg	0.167		56.3	30-130			
Surrogate: Nitrobenzene-d5	51		"	0.333		51	29-110			
Surrogate: 4-Terphenyl-d14	62.4		"	0.333		62.4	33-122			
Surrogate: 2-Fluorobiphenyl	48		"	0.333		48	33-115			
<b>LRB (LRB-L660823)</b>					Prepared: 01/27/2023 Analyzed: 01/27/2023					
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	0.00201	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
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	0.00201	"				-			
1-Methylnaphthalene	ND	0.00201	"				-			
Pyrene	ND	0.00067	"				-			
Anthracene	ND	0.00067	"				-			
Surrogate: Nitrobenzene-d5	56.1		"	0.333		56.1	29-110			
Surrogate: 4-Terphenyl-d14	68.7		"	0.333		68.7	33-122			
Surrogate: 2-Fluorobiphenyl	54.3		"	0.333		54.3	33-115			

Origins Laboratory, Inc.



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6855 West 119th Avenue  
Broomfield CO 80020

Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

### Notes and Definitions

U Sample is Non-Detect.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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February 14, 2023

Tasman Geosciences

Jake Whritenour

6855 West 119th Avenue

Broomfield CO 80020

**Project Name - Noble - Watkins 12-02**

**Project Number - [none]**

Attached are your analytical results for Noble - Watkins 12-02 received by Origins Laboratory, Inc. February 07, 2023. This project is associated with Origins project number Y302138-01.

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: [none]

Project: Noble - Watkins 12-02

### CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01-J@4'	Y302138-01	Soil	February 7, 2023 14:05	02/07/2023 16:29

Origins Laboratory, Inc.



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Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

**ORIGINS**  
LABORATORY, INC

Client: Noble Tushnet

Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Email Address: j.whrite@tushnet.com

Project Manager: Jake Whrite now

Project Name: Watkins 12-02

Project Number: \_\_\_\_\_

Samples Collected By: M Rindley

Temp Received: 23°

Date Received: 2/7/2023

Relinquished By: [Signature]

Relinquished By: \_\_\_\_\_

Date: 2/7/2023

Time: 16:24

# of Containers: \_\_\_\_\_

Sample ID Description	Date Sampled	Time Sampled	Preservative				Matrix			Analyst	Sample Instructions
			HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa Canister #	Other		
FLOI-Je4'	2/2/23	14:05	X				X		X VCL 415	X BAH-715 X TPBH-915 X SARJL JPH Recon-Hus	1
											2
											3
											4
											5
											6
											7
											8
											9
											10

Turnaround Time:  
Same Day ☐ 24 Hr ☐  
48 Hr ☐ 72 Hr ☒ Standard

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Origins Laboratory, Inc.

Byron

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6855 West 119th Avenue  
Broomfield CO 80020

Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: Y302138

Client: Tasman

Client Project ID: Watkins 12-02

Checklist Completed by: JE/TSN

Shipped Via: HD  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 02/01/2013

Airbill #: NA

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☐ Water ☐ Other: \_\_\_\_\_ (Describe)

Cooler Number/Temperature: 1 / 23 °C 1 / \_\_\_\_\_ °C 1 / \_\_\_\_\_ °C 1 / \_\_\_\_\_ °C

Thermometer ID: T004

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" 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"/>		
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<input checked="" 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"/>	
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (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 HNO <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH > 10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

<sup>(1)</sup> 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 (Project Manager) [Signature]

Date/Time Reviewed 2/18/23

Origins Laboratory, Inc.

[Signature]

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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

FL01-J@4'

2/7/2023 2:05:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y302138-01 (Soil)  
Origins Laboratory, Inc.

**Boron (DTPA Sorbitol)**

Boron	0.136	0.0997	mg/L	1	B3B0803	KAP	02/08/2023	02/09/2023	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3B0801	ZZZ	02/08/2023	02/08/2023	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	U

Surrogate: o-Terphenyl	92.2 %	50-150			"	"	"	
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3B0814	ZZZ	02/08/2023	02/08/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	ZZZ	"	"	U
Benzene	ND	0.00200	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	ZZZ	"	"	U
Toluene	ND	0.00200	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.00200	"	"	"	ZZZ	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4	114 %	70-130			"	"	"	
Surrogate: Toluene-d8	91.0 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.5 %	70-130			"	"	"	

**Metals by Saturated Paste by EPA 6010**

Origins Laboratory, Inc.



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Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

FL01-J@4'

2/7/2023 2:05:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y302138-01 (Soil)  
Origins Laboratory, Inc.

## Metals by Saturated Paste by EPA 6010

Calcium	4.56	0.499	meq/L	10	[CALC]	KAP	02/08/2023	02/09/2023
Magnesium	2.95	0.823	"	"	"	KAP	"	"
Sodium	14.1	0.435	"	"	"	KAP	"	"

## pH in Soil by 9045D

pH	8.12		pH Units	1	B3B0809	HJD	02/08/2023	02/09/2023
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## SAR by 20B Saturated Paste

SAR	7.26		SAR	1	B3B0805	KAP	02/08/2023	02/09/2023
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	2.04	0.00500	mmhos/cm	1	B3B0809	HJD	02/08/2023	02/09/2023
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## Waypoint Analytical, LLC.

## PAH by 8270D SIM

1-Methylnaphthalene	0.00945	0.00201	mg/Kg	1	L663152		02/13/2023	02/13/2023
2-Methylnaphthalene	0.0128	0.00201	"	"	"		"	"
Acenaphthene	0.0564	0.00067	"	"	"		"	"
Anthracene	0.156	0.00067	"	"	"		"	"
Benzo(a)anthracene	0.125	0.00067	"	"	"		"	"

Origins Laboratory, Inc.



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6855 West 119th Avenue  
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Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

FL01-J@4'

2/7/2023 2:05:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y302138-01 (Soil)  
Waypoint Analytical, LLC.

PAH by 8270D SIM

Benzo(a)pyrene	0.0748	0.00067	mg/Kg	1	L663152		02/13/2023	02/13/2023	
Benzo(b)fluoranthene	0.0786	0.00067	"	"	"		"	"	
Benzo(k)fluoranthene	0.0356	0.00067	"	"	"		"	"	
Chrysene	0.114	0.00067	"	"	"		"	"	
Dibenz(a,h)anthracene	0.00803	0.00067	"	"	"		"	"	
Fluoranthene	0.355	0.00067	"	"	"		"	"	
Fluorene	0.0675	0.00067	"	"	"		"	"	
Indeno(1,2,3-cd)pyrene	0.0213	0.00067	"	"	"		"	"	
Naphthalene	0.0442	0.00201	"	"	"		"	"	
Pyrene	0.272	0.00067	"	"	"		"	"	

Surrogate: 2-Fluorobiphenyl	59.5 %	33-115		"	"	"
Surrogate: 4-Terphenyl-d14	68.8 %	33-122		"	"	"
Surrogate: Nitrobenzene-d5	62.2 %	29-110		"	"	"

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Project Number: [none]  
Project: Noble - Watkins 12-02

## 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
Batch B3B0801 - EPA 3580										
Blank (B3B0801-BLK1)					Prepared: 02/08/2023 Analyzed: 02/08/2023					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	26		"	24.9		104	50-150			

Origins Laboratory, Inc.



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Broomfield CO 80020

Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

**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 B3B0801 - EPA 3580**

**LCS (B3B0801-BS1)**

Prepared: 02/08/2023 Analyzed: 02/08/2023

Diesel (C10-C28)	994	50.0	mg/kg	1000		99.4	70-130			
Residual Range Organics (C28-C40)	1140	200	"	1000		114	70-130			
Surrogate: o-Terphenyl	49		"	49.8		98.4	50-150			

Origins Laboratory, Inc.



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Broomfield CO 80020

Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

## 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 B3B0801 - EPA 3580

Matrix Spike (B3B0801-MS1)		Source: Y302121-01			Prepared: 02/08/2023 Analyzed: 02/08/2023					
Diesel (C10-C28)	1120	50.0	mg/kg	1000	ND	112	70-130			
Residual Range Organics (C28-C40)	1300	200	"	1000	ND	130	70-130			
Surrogate: o-Terphenyl	59		"	49.8		119	50-150			

Origins Laboratory, Inc.



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Project Number: [none]  
Project: Noble - Watkins 12-02

## 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
Batch B3B0801 - EPA 3580										
Matrix Spike Dup (B3B0801-MSD1)		Source: Y302121-01			Prepared: 02/08/2023 Analyzed: 02/08/2023					
Diesel (C10-C28)	1050	50.0	mg/kg	1000	ND	105	70-130	6.67	35	
Residual Range Organics (C28-C40)	1180	200	"	1000	ND	118	70-130	9.83	35	
Surrogate: o-Terphenyl	55		"	49.8		111	50-150			

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Project: Noble - Watkins 12-02

## 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
Batch B3B0814 - EPA 5030 (soil)										
Blank (B3B0814-BLK1)					Prepared: 02/08/2023 Analyzed: 02/08/2023					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.00380	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		102	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		103	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		100	70-130			

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Project Number: [none]  
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**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
<b>Batch B3B0814 - EPA 5030 (soil)</b>										
<b>LCS (B3B0814-BS1)</b>					Prepared: 02/08/2023 Analyzed: 02/08/2023					
1,2,4-Trimethylbenzene	0.0905	0.00200	mg/kg	0.100		90.5	70-130			
1,3,5-Trimethylbenzene	0.0935	0.00200	"	0.100		93.5	70-130			
Benzene	0.0934	0.00200	"	0.100		93.4	70-130			
Ethylbenzene	0.0927	0.00200	"	0.100		92.7	70-130			
Naphthalene	0.0911	0.00380	"	0.100		91.1	70-130			
Toluene	0.0971	0.00200	"	0.100		97.1	70-130			
o-Xylene	0.0868	0.00200	"	0.100		86.8	70-130			
m,p-Xylene	0.180	0.00400	"	0.200		90.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		95.6	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.11		"	0.125		90.4	70-130			

Origins Laboratory, Inc.



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Project Number: [none]  
Project: Noble - Watkins 12-02

**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
<b>Batch B3B0814 - EPA 5030 (soil)</b>										
<b>Matrix Spike (B3B0814-MS1)</b>		<b>Source: Y302121-01</b>			Prepared: 02/08/2023 Analyzed: 02/08/2023					
1,2,4-Trimethylbenzene	0.0541	0.00200	mg/kg	0.0500	ND	108	70-130			
1,3,5-Trimethylbenzene	0.0542	0.00200	"	0.0500	ND	108	70-130			
Benzene	0.0636	0.00200	"	0.0500	ND	127	70-130			
Ethylbenzene	0.0560	0.00200	"	0.0500	ND	112	70-130			
Naphthalene	0.0598	0.00380	"	0.0500	ND	120	70-130			
Toluene	0.0581	0.00200	"	0.0500	ND	116	70-130			
o-Xylene	0.0494	0.00200	"	0.0500	ND	98.8	70-130			
m,p-Xylene	0.105	0.00400	"	0.100	ND	105	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		111	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		96.5	70-130			

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Project: Noble - Watkins 12-02

**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
<b>Batch B3B0814 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (B3B0814-MSD1)</b>		<b>Source: Y302121-01</b>			Prepared: 02/08/2023 Analyzed: 02/08/2023					
1,2,4-Trimethylbenzene	0.0656	0.00200	mg/kg	0.0500	ND	131	70-130	19.3	20	QM-07
1,3,5-Trimethylbenzene	0.0649	0.00200	"	0.0500	ND	130	70-130	17.9	20	
Benzene	0.0761	0.00200	"	0.0500	ND	152	70-130	18.0	20	QM-07
Ethylbenzene	0.0677	0.00200	"	0.0500	ND	135	70-130	19.0	20	QM-07
Naphthalene	0.0760	0.00380	"	0.0500	ND	152	70-130	24.0	20	QM-07
Toluene	0.0689	0.00200	"	0.0500	ND	138	70-130	17.0	20	QM-07
o-Xylene	0.0599	0.00200	"	0.0500	ND	120	70-130	19.3	20	
m,p-Xylene	0.128	0.00400	"	0.100	ND	128	70-130	19.6	20	
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		110	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		92.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.11		"	0.125		90.0	70-130			

Origins Laboratory, Inc.



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Project Number: [none]  
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## 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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## Classical Chemistry Parameters - 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 B3B0803 - DTPA Sorbitol Preparation

##### Blank (B3B0803-BLK1)

Prepared: 02/08/2023 Analyzed: 02/09/2023

Boron ND 0.100 mg/L

##### Duplicate (B3B0803-DUP1)

Source: Y302112-01

Prepared: 02/08/2023 Analyzed: 02/09/2023

Boron ND 0.994 mg/L ND 50

#### Batch B3B0805 - Saturated Paste Metals

##### Blank (B3B0805-BLK1)

Prepared: 02/08/2023 Analyzed: 02/09/2023

Calcium PPM ND 10.0 mg/L

SAR 0.00 SAR

Magnesium PPM ND 10.0 mg/L

Sodium PPM ND 10.0 "

##### Duplicate (B3B0805-DUP1)

Source: Y302121-01

Prepared: 02/08/2023 Analyzed: 02/09/2023

SAR 0.00 SAR 2.92 200 200

Calcium PPM 47.3 10.0 mg/L 46.1 2.54 50

Magnesium PPM 10.1 10.0 " 9.65 4.66 50

Sodium PPM 85.5 10.0 " 83.5 2.31 50

Origins Laboratory, Inc.



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## Saturated Paste - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B3B0809 - Saturated Paste pH/EC</b>										
<b>Blank (B3B0809-BLK1)</b>					Prepared: 02/08/2023 Analyzed: 02/09/2023					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
<b>Duplicate (B3B0809-DUP1)</b>					<b>Source: Y302121-01</b> Prepared: 02/08/2023 Analyzed: 02/09/2023					
Specific Conductance (EC)	0.813	0.00500	mmhos/cm		0.770			5.45	25	
pH	8.03		pH Units		7.95			1.00	25	

Origins Laboratory, Inc.



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Project Number: [none]  
Project: Noble - Watkins 12-02

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L663152 - 3550B**

MSD (L 84006-MSD-L663152)		Source: 84006			Prepared: 02/13/2023 Analyzed: 02/13/2023					
2-Methylnaphthalene	0.0965	0.00201	mg/Kg	0.163	<0.00194	59.2	30-130	6	30	
Fluorene	0.109	0.00067	"	0.163	0.000324	66.6	30-130	5.6	30	
Pyrene	0.108	0.00067	"	0.163	<0.000643	66.2	30-130	0.9	30	
Indeno(1,2,3-cd)pyrene	0.0723	0.00067	"	0.163	<0.000627	44.3	30-130	1.6	30	
Fluoranthene	0.117	0.00067	"	0.163	<0.000394	71.7	30-130	2.5	30	
Dibenz(a,h)anthracene	0.0953	0.00067	"	0.163	<0.000614	58.4	30-130	3.5	30	
Chrysene	0.115	0.00067	"	0.163	<0.000624	70.5	30-130	1.7	30	
Naphthalene	0.0933	0.00201	"	0.163	<0.00145	57.2	30-130	4.8	30	
1-Methylnaphthalene	0.0965	0.00201	"	0.163	<0.00109	59.2	30-130	5.7	30	
Benzo(k)fluoranthene	0.0652	0.00067	"	0.163	0.000453	39.7	30-130	1.2	30	
Acenaphthene	0.102	0.00067	"	0.163	<0.000304	62.5	30-130	4.3	30	
Anthracene	0.109	0.00067	"	0.163	<0.000334	66.8	30-130	0	30	
Benzo(a)anthracene	0.115	0.00067	"	0.163	<0.000493	70.5	30-130	0.8	30	
Benzo(a)pyrene	0.112	0.00067	"	0.163	<0.000468	68.7	30-130	1.8	30	
Benzo(b)fluoranthene	0.0874	0.00067	"	0.163	0.000712	53.1	30-130	3.4	30	
Surrogate: 2-Fluorobiphenyl	56.1		"	0.326	174	56.1	33-115			
Surrogate: Nitrobenzene-d5	59.5		"	0.326	171	59.5	29-110			
Surrogate: 4-Terphenyl-d14	63.4		"	0.326	203	63.4	33-122			

MS (L 84006-MS-L663152)		Source: 84006			Prepared: 02/13/2023 Analyzed: 02/13/2023					
Benzo(k)fluoranthene	0.066	0.00067	mg/Kg	0.167	0.000453	39.2	30-130			
Acenaphthene	0.0977	0.00067	"	0.167	<0.000304	58.5	30-130			
Naphthalene	0.0889	0.00201	"	0.167	<0.00145	53.2	30-130			
Indeno(1,2,3-cd)pyrene	0.0711	0.00067	"	0.167	<0.000627	42.5	30-130			
Fluorene	0.103	0.00067	"	0.167	0.000324	61.4	30-130			
Fluoranthene	0.114	0.00067	"	0.167	<0.000394	68.2	30-130			
Dibenz(a,h)anthracene	0.092	0.00067	"	0.167	<0.000614	55	30-130			

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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Jake Whritenour  
Project Number: [none]  
Project: Noble - Watkins 12-02

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L663152 - 3550B**

MS (L 84006-MS-L663152)		Source: 84006			Prepared: 02/13/2023 Analyzed: 02/13/2023					
Chrysene	0.113	0.00067	mg/Kg	0.167	<0.000624	67.6	30-130			
1-Methylnaphthalene	0.0911	0.00201	"	0.167	<0.00109	54.5	30-130			
Benzo(a)pyrene	0.11	0.00067	"	0.167	<0.000468	65.8	30-130			
Anthracene	0.109	0.00067	"	0.167	<0.000334	65.2	30-130			
Pyrene	0.109	0.00067	"	0.167	<0.000643	65.2	30-130			
2-Methylnaphthalene	0.0908	0.00201	"	0.167	<0.00194	54.3	30-130			
Benzo(b)fluoranthene	0.0905	0.00067	"	0.167	0.000712	53.7	30-130			
Benzo(a)anthracene	0.114	0.00067	"	0.167	<0.000493	68.2	30-130			
Surrogate: Nitrobenzene-d5	53.4		"	0.333	171	53.4	29-110			
Surrogate: 4-Terphenyl-d14	59.4		"	0.333	203	59.4	33-122			
Surrogate: 2-Fluorobiphenyl	51.3		"	0.333	174	51.3	33-115			

LCS (LCS-L663152)		Prepared: 02/13/2023 Analyzed: 02/13/2023								
Chrysene	0.122	0.00067	mg/Kg	0.167		73	30-130			
Dibenz(a,h)anthracene	0.103	0.00067	"	0.167		61.6	30-130			
Fluoranthene	0.123	0.00067	"	0.167		73.6	30-130			
Fluorene	0.111	0.00067	"	0.167		66.4	30-130			
Indeno(1,2,3-cd)pyrene	0.0739	0.00067	"	0.167		44.2	30-130			
Naphthalene	0.0952	0.00201	"	0.167		57	30-130			
Benzo(k)fluoranthene	0.0826	0.00067	"	0.167		49.4	30-130			
Pyrene	0.119	0.00067	"	0.167		71.2	30-130			
Benzo(a)pyrene	0.116	0.00067	"	0.167		69.4	30-130			
Benzo(a)anthracene	0.122	0.00067	"	0.167		73	30-130			
Anthracene	0.122	0.00067	"	0.167		73	30-130			
Acenaphthene	0.103	0.00067	"	0.167		61.6	30-130			
2-Methylnaphthalene	0.0973	0.00201	"	0.167		58.2	30-130			
1-Methylnaphthalene	0.0986	0.00201	"	0.167		59	30-130			

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Project Number: [none]  
Project: Noble - Watkins 12-02

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L663152 - 3550B</b>										
<b>LCS (LCS-L663152)</b>					Prepared: 02/13/2023 Analyzed: 02/13/2023					
Benzo(b)fluoranthene	0.0841	0.00067	mg/Kg	0.167		50.3	30-130			
Surrogate: Nitrobenzene-d5	60.3		"	0.333		60.3	29-110			
Surrogate: 4-Terphenyl-d14	68.7		"	0.333		68.7	33-122			
Surrogate: 2-Fluorobiphenyl	57.6		"	0.333		57.6	33-115			
<b>LRB (LRB-L663152)</b>					Prepared: 02/13/2023 Analyzed: 02/13/2023					
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	0.00201	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
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	0.00201	"				-			
1-Methylnaphthalene	ND	0.00201	"				-			
Pyrene	ND	0.00067	"				-			
Anthracene	ND	0.00067	"				-			
Surrogate: Nitrobenzene-d5	56.4		"	0.333		56.4	29-110			
Surrogate: 4-Terphenyl-d14	69		"	0.333		69	33-122			
Surrogate: 2-Fluorobiphenyl	56.1		"	0.333		56.1	33-115			

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### Notes and Definitions

U Sample is Non-Detect.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

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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