



October 02, 2020

Tasman Geosciences

Mike Jahn

6855 West 119th Avenue

Broomfield CO 80020

**Project Name - OXY - Newby 28N-33HZ**

**Project Number - 90267100**

Attached are your analytical results for OXY - Newby 28N-33HZ received by Origins Laboratory, Inc. October 01, 2020. This project is associated with Origins project number Y010019-01.

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

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

**CROSS REFERENCE REPORT**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B01@4'	Y010019-01	Soil	October 1, 2020 12:45	10/01/2020 16:10
B02@5'	Y010019-02	Soil	October 1, 2020 12:47	10/01/2020 16:10
B03@4'	Y010019-03	Soil	October 1, 2020 13:15	10/01/2020 16:10
B04@4'	Y010019-04	Soil	October 1, 2020 13:17	10/01/2020 16:10
N01@3.5'	Y010019-05	Soil	October 1, 2020 12:49	10/01/2020 16:10
N02@3.5'	Y010019-06	Soil	October 1, 2020 12:51	10/01/2020 16:10
N03@4'	Y010019-07	Soil	October 1, 2020 12:53	10/01/2020 16:10
N04@4'	Y010019-08	Soil	October 1, 2020 12:55	10/01/2020 16:10
S01@3.5'	Y010019-09	Soil	October 1, 2020 12:57	10/01/2020 16:10
S02@3.5'	Y010019-10	Soil	October 1, 2020 12:59	10/01/2020 16:10
S03@4'	Y010019-11	Soil	October 1, 2020 13:01	10/01/2020 16:10
E01@3.5'	Y010019-12	Soil	October 1, 2020 13:03	10/01/2020 16:10
E02@4'	Y010019-13	Soil	October 1, 2020 13:05	10/01/2020 16:10
E03@4'	Y010019-14	Soil	October 1, 2020 13:07	10/01/2020 16:10

Origins Laboratory, Inc.



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6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
W01@3.5'	Y010019-15	Soil	October 1, 2020 13:09	10/01/2020 16:10
W02@4'	Y010019-16	Soil	October 1, 2020 13:11	10/01/2020 16:10
W03@4'	Y010019-17	Soil	October 1, 2020 13:13	10/01/2020 16:10

Origins Laboratory, Inc.



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Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

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**ORIGINS** LABORATORY, INC

Client: OXY / Tasman Project Manager: Mike Jahn  
Address: Project Name: OXY Newby 28N-33HZ  
Telephone Number: Project Number: 90267100  
Email Address: m.jahn@tasman-geo.com Samples Collected By: BL

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix		Analysis				Sample Instructions
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	At Summa	Other	PH	EC	
B0104'	10-01-20	1245	2	X				X		X	X	X	X	1
B0205'		1247	1											2
B0304'		015	1											3
B0404'		1317	1											4
N0103.5'		1249	1											5
N0203.5'		1251	1											6
N0304'		1253	1											7
N0404'		1255	1											8
S0103.5'		1257	1											9
S0203.5'		1259	1											10
Relinquished by: <i>W BL</i>	Date: 10-01-20	Time: 1259	Time: 1259	Received By: <i>[Signature]</i>	Date: 10/1/20	Time: 1550	Turnaround Time: <input checked="" type="checkbox"/> Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard							
Relinquished by:	Date:	Time:	Time:	Received By:	Date:	Time:								

Temp Received- 12.6 Date Results Needed

Origins Laboratory, Inc.

*Jefe Pellegrini*

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6855 West 119th Avenue  
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Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

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9010019

ORIGINS LABORATORY, INC

Client: OXY / Tasman

Project Manager: Mike Jahn

Address:

Project Name: OXY Newby 28N-33HZ

Project Number: 90267100

Telephone Number:

Samples Collected By: BL

Email Address: m.jahn@tasman-geo.com

1725 Elk Place | Denver, CO 80211 | Phone: 303.453.1322 | Fax: 303.265.9645

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis		Sample Instructions
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	As Surrogate Contaminant #	Other	6-Br-N	
S030 4'	10-1-20	1301	1	X				X					1
E010 3.5'		1303	1										2
E020 4'		1305	1										3
E030 4'		1307	1										4
W010 3.5'		1309	1										5
W020 4'		1311	1										6
W030 4'		1313	1										7
													8
													9
													10
Relinquished By: [Signature]	Date: 10-01-20	Time: 1550		Received By: [Signature]	Date: 10/1/20	Time: 1550		Turnaround Time: Same Day <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: [Signature]	Date:	Time:		Received By:	Date:	Time:							

Temp Received: 17.6

Date Results Needed

Origins Laboratory, Inc.

Jefe Pellegrini

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6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

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

Sample Receipt Checklist

Origins Work Order: Y010019 Client: Tasman  
Client Project ID: Newby 28-33HZ

Checklist Completed by: JA Shipped Via: HD  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)  
Date/Time completed: 10/1/2020 Airbill #: NTA

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

Cooler Number/Temperature: 1 / 126.0 °C (Describe)      °C

Thermometer ID: T003

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"/>		<u>Same Day</u>
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 sub-contracted 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 Na <sub>2</sub> CO <sub>3</sub> -NaOH, ZnAc <sub>2</sub> -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 be taken in the additional comments (above) and in the case narrative.

Reviewed by (Project Manager) [Signature] Date/Time Reviewed 10/1/20

Origins Laboratory, Inc.

*Jefe Pellegrini*

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Tasman Geosciences  
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Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

B01@4'

10/1/2020 12:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
Y010019-01 (Soil)

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B0J0108	KDK	10/01/2020	10/01/2020	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl 95.2 % 50-150 " " "

**GBTEX + Naphthalene by EPA 8260D**

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B0J0107	ZZZ	10/01/2020	10/01/2020	U
Benzene	ND	0.050	"	"	"	ZZZ	"	"	U
Toluene	ND	0.050	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.050	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.050	"	"	"	ZZZ	"	"	U
Naphthalene	ND	0.200	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4 98.0 % 70-130 " " "  
Surrogate: Toluene-d8 98.4 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 103 % 70-130 " " "

**pH in Soil by EPA 9045D**

pH	8.62		pH Units	1	B0J0109	DJL	10/01/2020	10/01/2020	
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	0.114	0.00500	mmhos/cm	"	B0J0110	DJL	10/01/2020	10/01/2020	
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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

B02@5'

10/1/2020 12:47:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
Y010019-02 (Soil)

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	218	25.0	mg/kg	1	BOJ0108	KDK	10/01/2020	10/01/2020	
Residual Range Organics (C28-C40)	ND	100	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl 104 % 50-150 " " "

**GBTEX + Naphthalene by EPA 8260D**

Gasoline Range Hydrocarbons	290	5.00	mg/kg	25	BOJ0107	KDK	10/01/2020	10/01/2020	
Benzene	0.056	0.050	"	"	"	KDK	"	"	
Toluene	0.818	0.050	"	"	"	KDK	"	"	
Ethylbenzene	0.336	0.050	"	"	"	KDK	"	"	
Xylenes, total	3.82	0.050	"	"	"	KDK	"	"	
Naphthalene	0.226	0.200	"	"	"	KDK	"	"	

Surrogate: 1,2-Dichloroethane-d4 98.2 % 70-130 " " "  
Surrogate: Toluene-d8 107 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 102 % 70-130 " " "

**pH in Soil by EPA 9045D**

pH	8.78		pH Units	1	BOJ0109	DJL	10/01/2020	10/01/2020	
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	0.0737	0.00500	mmhos/cm	"	BOJ0110	DJL	10/01/2020	10/01/2020	
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Tasman Geosciences  
6855 West 119th Avenue  
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Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

**B03@4'**

**10/1/2020 1:15:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y010019-03 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	<b>1370</b>	25.0	mg/kg	1	BOJ0108	KDK	10/01/2020	10/01/2020
Residual Range Organics (C28-C40)	<b>464</b>	100	"	"	"	KDK	"	"

Surrogate: o-Terphenyl 93.9 % 50-150 " " "

**GBTEX + Naphthalene by EPA 8260D**

Gasoline Range Hydrocarbons	<b>814</b>	50.0	mg/kg	250	BOJ0107	KDK	10/01/2020	10/01/2020
Benzene	<b>0.296</b>	0.050	"	25	"	KDK	"	10/01/2020
Toluene	<b>4.82</b>	0.050	"	"	"	KDK	"	"
Ethylbenzene	<b>1.71</b>	0.050	"	"	"	KDK	"	"
Xylenes, total	<b>18.2</b>	0.050	"	"	"	KDK	"	"
Naphthalene	<b>0.641</b>	0.200	"	"	"	KDK	"	"

Surrogate: 1,2-Dichloroethane-d4 97.2 % 70-130 " " "  
Surrogate: Toluene-d8 74.4 % 70-130 " " 10/01/2020  
Surrogate: 4-Bromofluorobenzene 99.2 % 70-130 " " 10/01/2020

**pH in Soil by EPA 9045D**

pH	<b>8.71</b>		pH Units	1	BOJ0109	DJL	10/01/2020	10/01/2020
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	<b>0.100</b>	0.00500	mmhos/cm	"	BOJ0110	DJL	10/01/2020	10/01/2020
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6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

**B04@4'**

**10/1/2020 1:17:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y010019-04 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B0J0108	KDK	10/01/2020	10/01/2020	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl 88.5 % 50-150 " " "

**GBTEX + Naphthalene by EPA 8260D**

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B0J0107	ZZZ	10/01/2020	10/01/2020	U
Benzene	ND	0.050	"	"	"	ZZZ	"	"	U
Toluene	ND	0.050	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.050	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.050	"	"	"	ZZZ	"	"	U
Naphthalene	ND	0.200	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4 98.0 % 70-130 " " "  
Surrogate: Toluene-d8 98.4 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 104 % 70-130 " " "

**pH in Soil by EPA 9045D**

pH	8.59	pH Units	1	B0J0109	DJL	10/01/2020	10/01/2020
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	0.104	0.00500	mmhos/cm	"	B0J0110	DJL	10/01/2020	10/01/2020
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Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

N01@3.5'  
10/1/2020 12:49:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y010019-05 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	1370	25.0	mg/kg	1	BOJ0108	KDK	10/01/2020	10/01/2020	
Residual Range Organics (C28-C40)	761	100	"	"	"	KDK	"	"	

Surrogate: o-Terphenyl	83.3 %	50-150			"	"	"	"	
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**GBTEX + Naphthalene by EPA 8260D**

Gasoline Range Hydrocarbons	293	5.00	mg/kg	25	BOJ0107	ZZZ	10/01/2020	10/01/2020	
Benzene	ND	0.050	"	"	"	ZZZ	"	"	U
Toluene	ND	0.050	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.050	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.050	"	"	"	ZZZ	"	"	U
Naphthalene	ND	0.200	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4	98.2 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	98.6 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	104 %	70-130			"	"	"	"	

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Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

**N02@3.5'**  
**10/1/2020 12:51:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y010019-06 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B0J0108	KDK	10/01/2020	10/01/2020	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl 72.2 % 50-150 " " "

**GBTEX + Naphthalene by EPA 8260D**

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B0J0107	ZZZ	10/01/2020	10/02/2020	U
Benzene	ND	0.050	"	"	"	ZZZ	"	10/01/2020	U
Toluene	ND	0.050	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.050	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.050	"	"	"	ZZZ	"	"	U
Naphthalene	ND	0.200	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4 98.0 % 70-130 " " "  
Surrogate: Toluene-d8 98.4 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 103 % 70-130 " " "

Origins Laboratory, Inc.



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Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

N03@4'

10/1/2020 12:53:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y010019-07 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B0J0108	KDK	10/01/2020	10/01/2020	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl 74.5 % 50-150 " " "

**GBTEX + Naphthalene by EPA 8260D**

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B0J0107	ZZZ	10/01/2020	10/01/2020	U
Benzene	ND	0.050	"	"	"	ZZZ	"	"	U
Toluene	ND	0.050	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.050	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.050	"	"	"	ZZZ	"	"	U
Naphthalene	ND	0.200	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4 97.2 % 70-130 " " "  
Surrogate: Toluene-d8 98.4 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 105 % 70-130 " " "

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6855 West 119th Avenue  
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Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

N04@4'

10/1/2020 12:55:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y010019-08 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B0J0108	KDK	10/01/2020	10/01/2020	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl 84.5 % 50-150 " " "

**GBTEX + Naphthalene by EPA 8260D**

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B0J0107	ZZZ	10/01/2020	10/01/2020	U
Benzene	ND	0.050	"	"	"	ZZZ	"	"	U
Toluene	ND	0.050	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.050	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.050	"	"	"	ZZZ	"	"	U
Naphthalene	ND	0.200	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4 96.4 % 70-130 " " "  
Surrogate: Toluene-d8 98.4 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 104 % 70-130 " " "

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

S01@3.5'

10/1/2020 12:57:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y010019-09 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B0J0108	KDK	10/01/2020	10/01/2020	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl 73.4 % 50-150 " " "

**GBTEX + Naphthalene by EPA 8260D**

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B0J0107	ZZZ	10/01/2020	10/01/2020	U
Benzene	ND	0.050	"	"	"	ZZZ	"	"	U
Toluene	ND	0.050	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.050	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.050	"	"	"	ZZZ	"	"	U
Naphthalene	ND	0.200	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4 96.8 % 70-130 " " "  
Surrogate: Toluene-d8 98.6 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 103 % 70-130 " " "

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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

S02@3.5'

10/1/2020 12:59:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y010019-10 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	422	25.0	mg/kg	1	BOJ0108	KDK	10/01/2020	10/01/2020	
Residual Range Organics (C28-C40)	441	100	"	"	"	KDK	"	"	

Surrogate: o-Terphenyl 87.9 % 50-150 " " "

**GBTEX + Naphthalene by EPA 8260D**

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	BOJ0107	ZZZ	10/01/2020	10/01/2020	U
Benzene	ND	0.050	"	"	"	ZZZ	"	"	U
Toluene	ND	0.050	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.050	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.050	"	"	"	ZZZ	"	"	U
Naphthalene	ND	0.200	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4 97.6 % 70-130 " " "  
Surrogate: Toluene-d8 101 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 106 % 70-130 " " "

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

S03@4'

10/1/2020 1:01:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y010019-11 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	BOJ0108	KDK	10/01/2020	10/01/2020	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl 88.9 % 50-150 " " "

**GBTEX + Naphthalene by EPA 8260D**

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	BOJ0107	ZZZ	10/01/2020	10/01/2020	U
Benzene	ND	0.050	"	"	"	ZZZ	"	"	U
Toluene	ND	0.050	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.050	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.050	"	"	"	ZZZ	"	"	U
Naphthalene	ND	0.200	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4 97.3 % 70-130 " " "  
Surrogate: Toluene-d8 100 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 104 % 70-130 " " "

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

E01@3.5'  
10/1/2020 1:03:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y010019-12 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B0J0108	KDK	10/01/2020	10/01/2020	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl 77.3 % 50-150 " " "

**GBTEX + Naphthalene by EPA 8260D**

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B0J0107	ZZZ	10/01/2020	10/01/2020	U
Benzene	ND	0.050	"	"	"	ZZZ	"	"	U
Toluene	ND	0.050	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.050	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.050	"	"	"	ZZZ	"	"	U
Naphthalene	ND	0.200	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4 98.0 % 70-130 " " "  
Surrogate: Toluene-d8 100 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 103 % 70-130 " " "

Origins Laboratory, Inc.



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6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

E02@4'

10/1/2020 1:05:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y010019-13 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B0J0108	KDK	10/01/2020	10/01/2020	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl 71.8 % 50-150 " " "

**GBTEX + Naphthalene by EPA 8260D**

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B0J0107	ZZZ	10/01/2020	10/01/2020	U
Benzene	ND	0.050	"	"	"	ZZZ	"	"	U
Toluene	ND	0.050	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.050	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.050	"	"	"	ZZZ	"	"	U
Naphthalene	ND	0.200	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4 97.1 % 70-130 " " "  
Surrogate: Toluene-d8 99.2 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 104 % 70-130 " " "

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

E03@4'

10/1/2020 1:07:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y010019-14 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B0J0108	KDK	10/01/2020	10/01/2020	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl 87.9 % 50-150 " " "

**GBTEX + Naphthalene by EPA 8260D**

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B0J0107	ZZZ	10/01/2020	10/01/2020	U
Benzene	ND	0.050	"	"	"	ZZZ	"	"	U
Toluene	ND	0.050	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.050	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.050	"	"	"	ZZZ	"	"	U
Naphthalene	ND	0.200	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4 97.7 % 70-130 " " "  
Surrogate: Toluene-d8 100 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 103 % 70-130 " " "

Origins Laboratory, Inc.



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6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

W01@3.5'  
10/1/2020 1:09:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y010019-15 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B0J0108	KDK	10/01/2020	10/01/2020	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl 75.0 % 50-150 " " "

**GBTEX + Naphthalene by EPA 8260D**

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B0J0107	ZZZ	10/01/2020	10/01/2020	U
Benzene	ND	0.050	"	"	"	ZZZ	"	"	U
Toluene	ND	0.050	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.050	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.050	"	"	"	ZZZ	"	"	U
Naphthalene	ND	0.200	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4 97.7 % 70-130 " " "  
Surrogate: Toluene-d8 99.5 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 105 % 70-130 " " "

Origins Laboratory, Inc.



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6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

W02@4'

10/1/2020 1:11:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y010019-16 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B0J0108	KDK	10/01/2020	10/01/2020	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl 83.9 % 50-150 " " "

**GBTEX + Naphthalene by EPA 8260D**

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B0J0107	ZZZ	10/01/2020	10/01/2020	U
Benzene	ND	0.050	"	"	"	ZZZ	"	"	U
Toluene	ND	0.050	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.050	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.050	"	"	"	ZZZ	"	"	U
Naphthalene	ND	0.200	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4 98.9 % 70-130 " " "  
Surrogate: Toluene-d8 99.7 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

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6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

W03@4'

10/1/2020 1:13:00PM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y010019-17 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	90.1	25.0	mg/kg	1	BOJ0108	KDK	10/01/2020	10/01/2020	
Residual Range Organics (C28-C40)	ND	100	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl 101 % 50-150 " " "

**GBTEX + Naphthalene by EPA 8260D**

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	BOJ0107	ZZZ	10/01/2020	10/01/2020	U
Benzene	ND	0.050	"	"	"	ZZZ	"	"	U
Toluene	ND	0.050	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.050	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.050	"	"	"	ZZZ	"	"	U
Naphthalene	ND	0.200	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4 98.4 % 70-130 " " "  
Surrogate: Toluene-d8 100 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 104 % 70-130 " " "

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

**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 B0J0107 - EPA 5030 (soil)</b>										
<b>Blank (B0J0107-BLK1)</b>					Prepared: 10/01/2020 Analyzed: 10/01/2020					
Gasoline Range Hydrocarbons	ND	0.200	mg/kg							U
Benzene	ND	0.002	"							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Naphthalene	ND	0.008	"							U
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		98.3	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		108	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

**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 B0J0107 - EPA 5030 (soil)</b>										
<b>LCS (B0J0107-BS1)</b>					Prepared: 10/01/2020 Analyzed: 10/01/2020					
Benzene	0.100	0.002	mg/kg	0.100		99.9	70-130			
Toluene	0.098	0.002	"	0.100		98.3	70-130			
Ethylbenzene	0.099	0.002	"	0.100		98.6	70-130			
m,p-Xylene	0.195	0.004	"	0.200		97.5	70-130			
o-Xylene	0.098	0.002	"	0.100		98.3	70-130			
Naphthalene	0.104	0.008	"	0.100		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		104	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		100	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		112	70-130			

Origins Laboratory, Inc.



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6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

**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 B0J0107 - EPA 5030 (soil)**

Matrix Spike (B0J0107-MS1)		Source: Y010019-01			Prepared: 10/01/2020 Analyzed: 10/01/2020					
Benzene	0.099	0.002	mg/kg	0.100	ND	99.3	70-130			
Toluene	0.097	0.002	"	0.100	ND	97.0	70-130			
Ethylbenzene	0.099	0.002	"	0.100	ND	98.7	70-130			
m,p-Xylene	0.194	0.004	"	0.200	ND	97.0	70-130			
o-Xylene	0.097	0.002	"	0.100	ND	97.3	70-130			
Naphthalene	0.087	0.008	"	0.100	0.012	75.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		102	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		110	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

**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 B0J0107 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (B0J0107-MSD1)</b>					<b>Source: Y010019-01</b>					Prepared: 10/01/2020 Analyzed: 10/01/2020
Benzene	0.103	0.002	mg/kg	0.100	ND	103	70-130	3.99	20	
Toluene	0.101	0.002	"	0.100	ND	101	70-130	4.28	20	
Ethylbenzene	0.103	0.002	"	0.100	ND	103	70-130	4.07	20	
m,p-Xylene	0.201	0.004	"	0.200	ND	100	70-130	3.48	20	
o-Xylene	0.102	0.002	"	0.100	ND	102	70-130	4.81	20	
Naphthalene	0.096	0.008	"	0.100	0.012	83.9	70-130	9.28	20	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		103	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		110	70-130			

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6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

**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 B0J0108 - EPA 3550B</b>										
<b>Blank (B0J0108-BLK1)</b>					Prepared: 10/01/2020 Analyzed: 10/01/2020					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	20		"	25.0		80.8	50-150			

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

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 B0J0108 - EPA 3550B

LCS (B0J0108-BS1)

Prepared: 10/01/2020 Analyzed: 10/01/2020

Diesel (C10-C28)	994	50.0	mg/kg	1000		99.4	70-130			
Residual Range Organics (C28-C40)	1100	200	"	1000		110	70-130			
Surrogate: o-Terphenyl	52		"	50.0		104	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

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

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 B0J0108 - EPA 3550B

Matrix Spike (B0J0108-MS1)		Source: Y010019-01			Prepared: 10/01/2020 Analyzed: 10/01/2020					
Diesel (C10-C28)	1060	50.0	mg/kg	1000	ND	106	70-130			
Residual Range Organics (C28-C40)	1100	200	"	1000	ND	110	70-130			
Surrogate: o-Terphenyl	54		"	50.0		108	50-150			

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

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 B0J0108 - EPA 3550B

Matrix Spike Dup (B0J0108-MSD1)		Source: Y010019-01			Prepared: 10/01/2020 Analyzed: 10/01/2020					
Diesel (C10-C28)	957	50.0	mg/kg	1000	ND	95.7	70-130	9.97	35	
Residual Range Organics (C28-C40)	1010	200	"	1000	ND	101	70-130	8.82	35	
Surrogate: o-Terphenyl	46		"	50.0		92.5	50-150			

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

## 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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

## 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 B0J0109 - NO PREP

<b>Duplicate (B0J0109-DUP1)</b>		<b>Source: Y010019-01</b>			Prepared: 10/01/2020 Analyzed: 10/01/2020					
pH	8.52		pH Units		8.62			1.17	25	

#### Batch B0J0110 - NO PREP

<b>Blank (B0J0110-BLK1)</b>		Prepared: 10/01/2020 Analyzed: 10/01/2020								
Specific Conductance (EC)	0.00470	0.00500	mmhos/cm							
<b>Duplicate (B0J0110-DUP1)</b>		<b>Source: Y010019-01</b>			Prepared: 10/01/2020 Analyzed: 10/01/2020					
Specific Conductance (EC)	0.121	0.00503	mmhos/cm		0.114			6.23	25	

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: OXY - Newby 28N-33HZ

### 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.



*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.*



October 07, 2020

Tasman Geosciences

Mike Jahn

6855 West 119th Avenue

Broomfield CO 80020

**Project Name - KMG - Newby 28N-33HZ**

**Project Number - 90267100**

Attached are your analytical results for KMG - Newby 28N-33HZ received by Origins Laboratory, Inc. October 02, 2020. This project is associated with Origins project number Y010050-01.

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

Mike Jahn  
Project Number: 90267100  
Project: KMG - Newby 28N-33HZ

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B05@6'	Y010050-01	Soil	October 2, 2020 15:05	10/02/2020 16:05
B06@6'	Y010050-02	Soil	October 2, 2020 15:07	10/02/2020 16:05
N05@6'	Y010050-03	Soil	October 2, 2020 15:09	10/02/2020 16:05

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.*

Mike Jahn  
Project Number: 90267100  
Project: KMG - Newby 28N-33HZ

# ORIGINS

LABORATORY, INC

Y010050

www.originslaboratory.com

page 1 of 1

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

Client: OSY / TOWN Project Manager: M. M. King  
 Address: \_\_\_\_\_ Project Name: Newby 28N-33W  
 Telephone Number: \_\_\_\_\_ Project Number: 90267100  
 Email Address: mytown@origins-lab.com Samples Collected By: BL

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analyte				Sample Instructions
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	As Summed	Other	As/As/As	As/As/As	As/As/As	
B2586'	10-2-20	1505	2	X				X				X	X	X	1
B2686'	↓	1507	↓	↓				↓				X	X	X	2
N2586'	↓	1509	1	↓				↓				X	X	X	3
															4
															5
															6
															7
															8
															9
															10

  

Relinquished By: <u>BL</u>	Date: <u>10-2-20</u>	Time: <u>1605</u>	Received By: <u>[Signature]</u>	Date: <u>10/2/20</u>	Time: <u>1605</u>
	Date: _____	Time: _____	Received By: _____	Date: _____	Time: _____

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

Temp Received: 16.9

Date Results Needed

Origins Laboratory, Inc.

Intent

*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

Mike Jahn

Project Number: 90267100

Project: KMG - Newby 28N-33HZ

Origins Laboratory

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

Origins Work Order: 70010050

Client: Tasman

Client Project ID: Newby 28N-33HZ

Checklist Completed by: JA

Shipped Via: HD

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 10/2/2020

Airbill #: NTA

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

Cooler Number/Temperature: 1 / 88 °C 1 °C 1 °C (Describe)

Thermometer ID: T003

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"/>		<u>Same Day</u>
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 <sub>2</sub> -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 be taken in the additional comments (above) and the case narrative.

Reviewed by (Project Manager)

10/2/20  
Date/Time Reviewed

Origins Laboratory, Inc.

*Jordan A. Merrill*

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

Mike Jahn  
Project Number: 90267100  
Project: KMG - Newby 28N-33HZ

**B05@6'**  
**10/2/2020 3:05:00PM**

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y010050-01 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B0J0207	KDK	10/02/2020	10/02/2020	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl 101 % 50-150 " " "

**GBTEX + Naphthalene by EPA 8260D**

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B0J0203	ZZZ	10/02/2020	10/02/2020	U
Benzene	ND	0.050	"	"	"	ZZZ	"	"	U
Toluene	ND	0.050	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.050	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.050	"	"	"	ZZZ	"	"	U
Naphthalene	ND	0.200	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4 99.5 % 70-130 " " "  
Surrogate: Toluene-d8 97.8 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 106 % 70-130 " " "

**Metals (Saturated Paste Prep)**

Calcium	2.92	me/L	1	[none]	10/05/2020	10/07/2020
Magnesium	1.66	"	"	"	"	"
Sodium	2.87	"	"	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: KMG - Newby 28N-33HZ

B05@6'

10/2/2020 3:05:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
Y010050-01 (Soil)

**pH in Soil by EPA 9045D**

pH	8.32	pH Units	1	B0J0210	DJL	10/02/2020	10/02/2020
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**SAR by 20B Saturated Paste**

SAR	1.90		1	[none]		10/05/2020	10/07/2020
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	0.128	0.00503	mmhos/cm	1	B0J0211	DJL	10/02/2020	10/02/2020
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Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: KMG - Newby 28N-33HZ

**B06@6'**  
**10/2/2020 3:07:00PM**

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y010050-02 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B0J0207	KDK	10/02/2020	10/02/2020	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl 93.1 % 50-150 " " "

**GBTEX + Naphthalene by EPA 8260D**

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B0J0203	ZZZ	10/02/2020	10/02/2020	U
Benzene	ND	0.050	"	"	"	ZZZ	"	"	U
Toluene	ND	0.050	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.050	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.050	"	"	"	ZZZ	"	"	U
Naphthalene	ND	0.200	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4 99.3 % 70-130 " " "  
Surrogate: Toluene-d8 97.8 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 106 % 70-130 " " "

**Metals (Saturated Paste Prep)**

Calcium	1.54	me/L	1	[none]	10/05/2020	10/07/2020
Magnesium	0.78	"	"	"	"	"
Sodium	7.50	"	"	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences

6855 West 119th Avenue

Broomfield CO 80020

Mike Jahn

Project Number: 90267100

Project: KMG - Newby 28N-33HZ

B06@6'

10/2/2020 3:07:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
Y010050-02 (Soil)

**pH in Soil by EPA 9045D**

pH	8.84	pH Units	1	BOJ0210	DJL	10/02/2020	10/02/2020
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**SAR by 20B Saturated Paste**

SAR	6.96		1	[none]		10/05/2020	10/07/2020
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	0.166	0.00500	mmhos/cm	1	BOJ0211	DJL	10/02/2020	10/02/2020
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Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: KMG - Newby 28N-33HZ

N05@6'  
10/2/2020 3:09:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y010050-03 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B0J0207	KDK	10/02/2020	10/02/2020	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl 72.4 % 50-150 " " "

**GBTEX + Naphthalene by EPA 8260D**

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B0J0203	ZZZ	10/02/2020	10/02/2020	U
Benzene	ND	0.050	"	"	"	ZZZ	"	"	U
Toluene	ND	0.050	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.050	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.050	"	"	"	ZZZ	"	"	U
Naphthalene	ND	0.200	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4 99.2 % 70-130 " " "  
Surrogate: Toluene-d8 98.3 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 102 % 70-130 " " "

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: KMG - Newby 28N-33HZ

**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 B0J0203 - EPA 5030 (soil)</b>										
<b>Blank (B0J0203-BLK1)</b>					Prepared: 10/02/2020 Analyzed: 10/02/2020					
Gasoline Range Hydrocarbons	ND	0.200	mg/kg							U
Benzene	ND	0.002	"							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Naphthalene	ND	0.008	"							U
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		96.7	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		108	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: KMG - Newby 28N-33HZ

**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 B0J0203 - EPA 5030 (soil)</b>										
<b>LCS (B0J0203-BS1)</b>					Prepared: 10/02/2020 Analyzed: 10/02/2020					
Benzene	0.088	0.002	mg/kg	0.100		87.9	70-130			
Toluene	0.086	0.002	"	0.100		85.5	70-130			
Ethylbenzene	0.086	0.002	"	0.100		85.5	70-130			
m,p-Xylene	0.169	0.004	"	0.200		84.7	70-130			
o-Xylene	0.087	0.002	"	0.100		87.4	70-130			
Naphthalene	0.094	0.008	"	0.100		94.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		102	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		110	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: KMG - Newby 28N-33HZ

**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 B0J0203 - EPA 5030 (soil)</b>										
<b>Matrix Spike (B0J0203-MS1)</b>		<b>Source: Y010016-01</b>			Prepared: 10/02/2020 Analyzed: 10/02/2020					
Benzene	0.108	0.002	mg/kg	0.100	ND	108	70-130			
Toluene	0.106	0.002	"	0.100	ND	106	70-130			
Ethylbenzene	0.108	0.002	"	0.100	0.011	97.4	70-130			
m,p-Xylene	0.212	0.004	"	0.200	0.034	89.1	70-130			
o-Xylene	0.108	0.002	"	0.100	ND	108	70-130			
Naphthalene	0.102	0.008	"	0.100	0.154	NR	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		104	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.9	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		111	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: KMG - Newby 28N-33HZ

**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 B0J0203 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (B0J0203-MSD1)</b>					<b>Source: Y010016-01</b>					
										Prepared: 10/02/2020 Analyzed: 10/02/2020
Benzene	0.107	0.002	mg/kg	0.100	ND	107	70-130	1.47	20	
Toluene	0.107	0.002	"	0.100	ND	107	70-130	1.03	20	
Ethylbenzene	0.109	0.002	"	0.100	0.011	97.9	70-130	0.405	20	
m,p-Xylene	0.214	0.004	"	0.200	0.034	90.0	70-130	0.891	20	
o-Xylene	0.109	0.002	"	0.100	ND	109	70-130	1.05	20	
Naphthalene	0.108	0.008	"	0.100	0.154	NR	70-130	5.60	20	QM-07
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		103	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		110	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: KMG - Newby 28N-33HZ

**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 B0J0207 - EPA 3550B</b>										
<b>Blank (B0J0207-BLK1)</b>					Prepared: 10/02/2020 Analyzed: 10/02/2020					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	20		"	25.0		79.8	50-150			

Origins Laboratory, Inc.



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Mike Jahn  
Project Number: 90267100  
Project: KMG - Newby 28N-33HZ

**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 B0J0207 - EPA 3550B

**LCS (B0J0207-BS1)**

Prepared: 10/02/2020 Analyzed: 10/02/2020

Diesel (C10-C28)	913	50.0	mg/kg	1000		91.3	70-130			
Residual Range Organics (C28-C40)	894	200	"	1000		89.4	70-130			
Surrogate: o-Terphenyl	46		"	50.0		91.7	50-150			

Origins Laboratory, Inc.



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Mike Jahn  
Project Number: 90267100  
Project: KMG - Newby 28N-33HZ

## 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 B0J0207 - EPA 3550B

Matrix Spike (B0J0207-MS1)		Source: Y010028-01			Prepared: 10/02/2020 Analyzed: 10/02/2020					
Diesel (C10-C28)	1120	50.0	mg/kg	1000	185	93.9	70-130			
Residual Range Organics (C28-C40)	988	200	"	1000	31.8	95.6	70-130			
Surrogate: o-Terphenyl	50		"	50.0		100	50-150			

Origins Laboratory, Inc.



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Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: KMG - Newby 28N-33HZ

**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 B0J0207 - EPA 3550B**

Matrix Spike Dup (B0J0207-MSD1)		Source: Y010028-01			Prepared: 10/02/2020 Analyzed: 10/02/2020					
Diesel (C10-C28)	1160	50.0	mg/kg	1000	185	97.1	70-130	3.44	35	
Residual Range Organics (C28-C40)	1030	200	"	1000	31.8	99.8	70-130	4.27	35	
Surrogate: o-Terphenyl	53		"	50.0		106	50-150			

Origins Laboratory, Inc.



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Mike Jahn  
Project Number: 90267100  
Project: KMG - Newby 28N-33HZ

## 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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## 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 B0J0210 - NO PREP

##### Duplicate (B0J0210-DUP1)

Source: Y010027-01

Prepared: 10/02/2020 Analyzed: 10/02/2020

pH	8.21		pH Units	8.29		0.970	25
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#### Batch B0J0211 - NO PREP

##### Blank (B0J0211-BLK1)

Prepared: 10/02/2020 Analyzed: 10/02/2020

Specific Conductance (EC)	0.00360	0.00500	mmhos/cm
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##### Duplicate (B0J0211-DUP1)

Source: Y010027-01

Prepared: 10/02/2020 Analyzed: 10/02/2020

Specific Conductance (EC)	0.0359	0.00500	mmhos/cm	0.0359		0.00	25
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Origins Laboratory, Inc.



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6855 West 119th Avenue  
Broomfield CO 80020

Mike Jahn  
Project Number: 90267100  
Project: KMG - Newby 28N-33HZ

### 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.

Origins Laboratory, Inc.



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