

# Wellhead Closure Checklist

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

Additional attachments (optional): <u>      </u>		Pit Closure <u>      </u>		Tank Battery Closure <u>      </u>		Flowline Closure 12/12/23		Partially Buried Vault Closure <u>      </u>
Site Name & COGCC Facility Number: Irvine #2-11		Date: 11/08/23					Remediation Project #: 31260	
Associated Wells: 05-123-24076		Age of Site: years					Number of Photos Attached: 6	
Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple)							40.520860 / -104.623020	
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)								
Good condition								
USCS Soil Type: Clayey SAND					Estimated Depth to Groundwater: ~10-20'			
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)								
None observed								
Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)								
None observed								
Wellhead(s)								
Well API	05-123-24076							
Age	years							
Condition of surface around wellhead	Good - No odor/no staining							
PID Readings	WH-N: 2.7	WH-E: 1.8	WH-S: 3.0	WH-W: 3.1				
Condition of subsurface (staining present)	Good - No odor/no staining							
PID Readings	7.9	4.9	5.9	8.0	8.9			
Sample taken? Location/Sample ID#	WH-SS-01	WH-SS-02	WH-SS-03	WH-SS-04	WH-FS-01			
Photo Number(s)	See photo log							
Other observations regarding wellheads:								
Summary								
Was impacted soil identified?								
<input checked="" type="radio"/> No      Yes - less than 10 cubic yards      Yes - more than 10 cubic yards								
Total number of samples field screened: 9					Total number of samples collected: 9			
Highest PID Reading: 8.9					Total number of samples submitted to lab for analysis: 1			
If more than 10 cubic yards of impacted soil were observed:								
Vertical extent:					Estimated spill volume:			
Lateral extent:					Volume of soil removed:			
Is additional investigation required?								
Was groundwater encountered during the investigation?								
<input checked="" type="radio"/> No      Yes - not impacted or in contact with impacted soils      Yes - groundwater impacted and/or in contact with impacted soils								
Measured depth to groundwater:					Was remedial groundwater removal conducted?      Yes      No			
Date Groundwater was encountered:					Commencement date of removal:			
Sheen on groundwater?      Yes      No					Volume of groundwater removed prior to sampling:			
Free product observed?      Yes      No					Volume of groundwater removed post sampling:			
Total number of samples collected:					Total Volume of groundwater removed:			
Total number of samples submitted to lab for analysis:								

# Flowline Closure Checklist

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

Additional Attachments:	-	Tank Battery Closure	-	Wellhead Closure	11/08/23	-	Pit Closure	-	Partially Buried Vault Closure	-
Site Name & COGCC Facility Number:		Irvine #2-11		Date:		12/12/23		Remediation Project #: 31260		
Associated Wells:		05-123-24076		Age of Site:		years		Number of Photos Attached:		
								1		
Starting point: (GPS coordinates and descriptions)										
At wellhead: 40.520869 / -104.623006										
End point: (GPS coordinates and descriptions)										
At separator: 40.520806/-104.621108										
USCS Soil Type: Clay Sand						Estimated Depth to Groundwater: >20'				
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)										
None										
Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)										
None										
Flowlines										
Flowline type	O,G,W									
Depth	4'									
Age	years									
Length	~555'									
Construction Material	Steel									
Were flowlines pulled?	No									
Visual Integrity of lines	Good									
Visual impacts if trenched	None									
PID Readings if trenched	0.9	1.1								
Sample taken? Location/Sample ID#	FL-SS-01	FL-SS-02								
Photo Number(s)	See photolog									
Other observations regarding on location flowlines:										
Flowline abandoned in place. Sample collected at separator terminus. Gray material (presumed abandonment material) screened to confirm no suspected impacts (FL-SS-01); FL-SS-02 submitted for analysis – higher PID										
Summary										
Was impacted soil identified?										
<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes - less than 10 cubic yards <input type="checkbox"/> Yes - more than 10 cubic yards										
Total number of samples field screened: 2						Total number of samples collected: 2				
Highest PID Reading: 1.1						Total number of samples submitted to lab for analysis: 1				
If more than 10 cubic yards of impacted soil were observed:										
Vertical extent:						Estimated spill volume:				
Lateral extent:						Volume of soil removed:				
Is additional investigation required?										
N/A										
Was groundwater encountered during the investigation?										
<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes - not impacted or in contact with impacted soils <input type="checkbox"/> Yes - groundwater impacted and/or in contact with impacted soils										
Measured depth to groundwater:						Was remedial groundwater removal conducted? Yes <input type="checkbox"/> No <input type="checkbox"/>				
Date Groundwater was encountered:						Commencement date of removal:				
Sheen on groundwater? <input type="checkbox"/> Yes <input type="checkbox"/> No						Volume of groundwater removed prior to sampling:				
Free product observed? <input type="checkbox"/> Yes <input type="checkbox"/> No						Volume of groundwater removed post sampling:				
Total number of samples collected:						Total Volume of groundwater removed:				
Total number of samples submitted to lab for analysis:										



## **FIGURES**

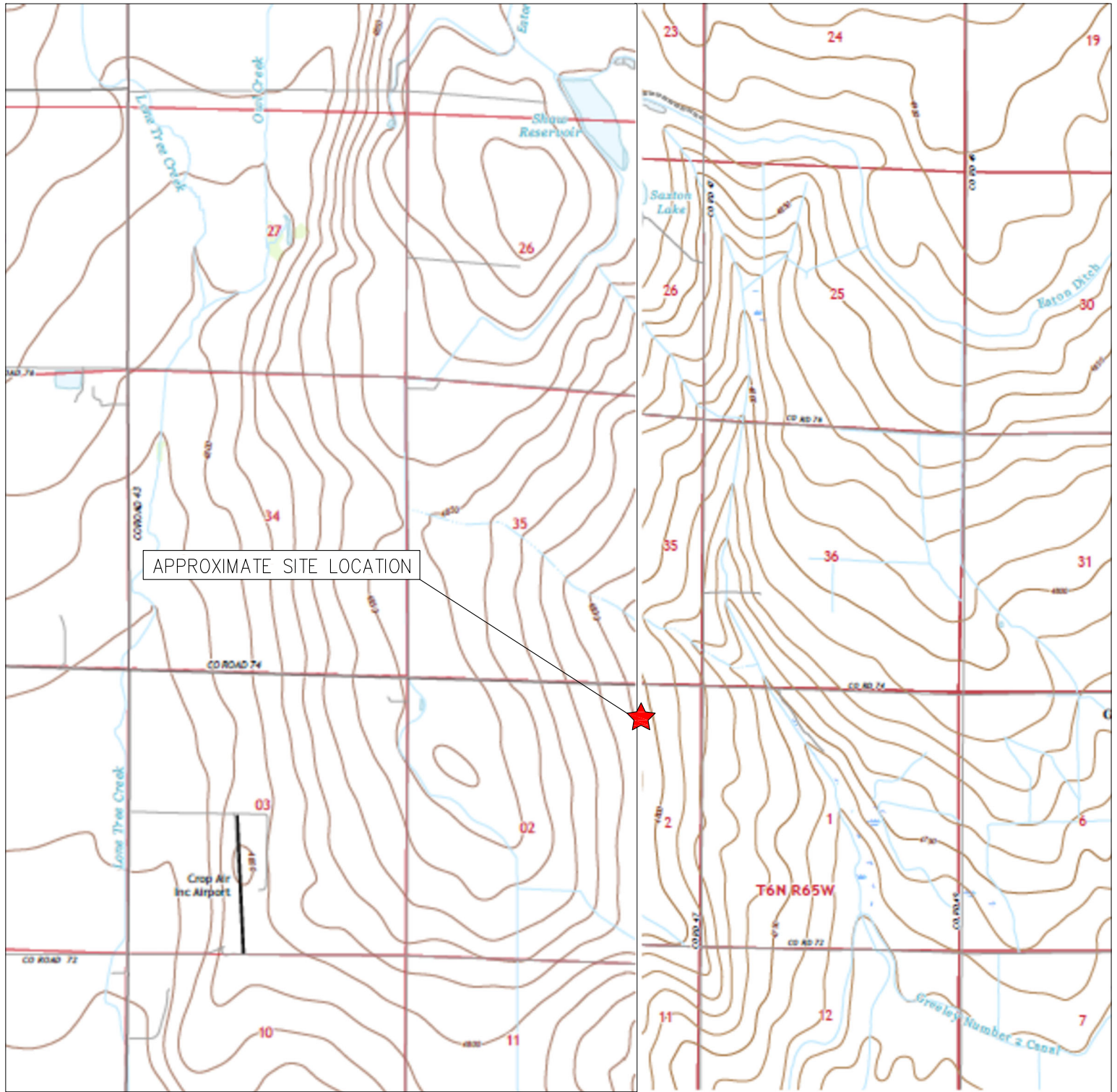
**Figure 1: Topographic Site Location Map**

**Figure 2: Aerial Site Location Map**

**Figure 3: Sample Location Map**

**Figure 4: Soil Analytical Map**

**Figure 5: Metals in Soil Map**



TOPOGRAPHIC SITE LOCATION MAP  
 IRVINE #2-11  
 CLOSURE ASSESSMENT  
 40.520860 / -104.623020  
 NE¼ NE¼ SEC.2 T6N R65W 6PM  
 WELD COUNTY, COLORADO  
 API # 05-123-24076  
 REMEDIATION # 31260



**EAGLE**  
 ENVIRONMENTAL  
 CONSULTING, LLC

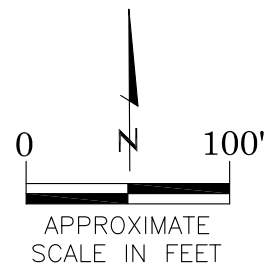
8000 W 44th Ave, Wheat Ridge, CO 80033  
 Ph: 303-433-0479 • F: 303-325-5449





# LEGEND

- FORMER IRVINE #2-11 WELLHEAD (PLUGGED AND ABANDONED)
- ASSOCIATED SEPARATOR
- APPROXIMATE FLOWLINE LOCATION (ABANDONED IN PLACE)



AERIAL SITE LOCATION MAP  
 IRVINE #2-11  
 CLOSURE ASSESSMENT  
 40.520860 / -104.623020  
 NE¼ NE¼ SEC.2 T6N R65W 6PM  
 WELD COUNTY, COLORADO  
 API # 05-123-24076  
 REMEDIATION # 31260

FIGURE NO.  
2

DRAWN BY:  
RS



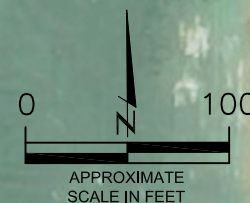
**EAGLE**  
 ENVIRONMENTAL  
 CONSULTING, LLC

8000 W 44th Ave, Wheat Ridge, CO 80033  
 Ph: 303-433-0479 • F: 303-325-5449



# LEGEND

- WELLHEAD ASSESSMENT BOUNDARIES
- APPROXIMATE FLOWLINE LOCATION (ABANDONED)
- **SS-02** APPROXIMATE LOCATION OF SOIL SAMPLES FIELD SCREENED, ONLY, WITH PHOTOIONIZATION DETECTOR
- **SS-02** APPROXIMATE LOCATION OF SOIL SAMPLES SUBMITTED FOR LABORATORY ANALYSIS



SAMPLE LOCATION MAP  
 IRVINE #2-11  
 CLOSURE ASSESSMENT  
 40.520860 / -104.623020  
 NE¼ NE¼ SEC.2 T6N R65W 6PM  
 WELD COUNTY, COLORADO  
 API # 05-123-24076  
 REMEDIATION # 31260

FIGURE NO.  
 3

DRAWN BY:  
 RS



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# LEGEND

- WELLHEAD ASSESSMENT BOUNDARIES
- APPROXIMATE FLOWLINE LOCATION (ABANDONED)
- APPROXIMATE LOCATION OF SOIL SAMPLES SUBMITTED FOR LABORATORY ANALYSIS

## PARAMETERS

SAMPLE LOCATION  
 DATE  
 DEPTH (FEET)  
 B = BENZENE (mg/kg)  
 T = TOLUENE (mg/kg)  
 E = ETHYLBENZENE (mg/kg)  
 X = TOTAL XYLENES (mg/kg)  
 N = NAPHTHALENE (mg/kg)  
 G = TPH-GRO (mg/kg)  
 D = TPH-DRO (mg/kg)  
 R = TPH-RRO (mg/kg)  
 1,2,4-TMB = 1,2,4 TRIMETHYLBENZENE (mg/kg)  
 1,3,5-TMB = 1,3,5 TRIMETHYLBENZENE (mg/kg)  
 Brn= BORON (mg/L)  
 EC = SPECIFIC CONDUCTANCE (mmhos/cm)  
 SAR= SODIUM ADSORPTION RATIO  
 pH = pH (pH UNITS)  
 POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (mg/kg)

mg/kg = MILLIGRAMS PER KILOGRAM  
 mg/L = MILLIGRAMS PER LITER  
 mmhos/cm = MILLIMHOS PER CENTIMETER

(BRL) = ALL VALUES BELOW REGULATORY LIMITS

TPH-GRO = TOTAL PETROLEUM HYDROCARBONS – GASOLINE RANGE ORGANICS  
 TPH-DRO = TOTAL PETROLEUM HYDROCARBONS – DIESEL RANGE ORGANICS  
 TPH-RRO = TOTAL PETROLEUM HYDROCARBONS – RESIDUAL RANGE ORGANICS

NOTES:  
 VALUES PRESENTED IN **BOLD** EXCEED ECMC TABLE 915-1 REGULATORY LIMITS

ECMC = ENERGY & CARBON MANAGEMENT COMMISSION

SOIL ANALYTICAL MAP  
 IRVINE #2-11  
 CLOSURE ASSESSMENT  
 40.520860 / -104.623020  
 NE¼ NE¼ SEC.2 T6N R65W 6PM  
 WELD COUNTY, COLORADO  
 API # 05-123-24076  
 REMEDIATION # 31260

FIGURE NO.  
 4

DRAWN BY:  
 RS



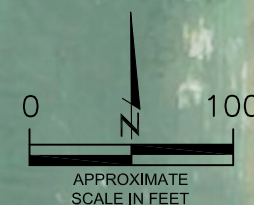
**EAGLE**  
 ENVIRONMENTAL  
 CONSULTING, LLC  
 8000 W 44th Ave, Wheat Ridge, CO 80033  
 Ph: 303-433-0479 • F: 303-325-5449

WH-FS-01@8'  
 11/08/23  
 8'  
 (BRL)

WH-FS-01

FL-SS-02

FL-SS-02@4'  
 12/12/23  
 4'  
 (BRL)





# LEGEND

- WELLHEAD ASSESSMENT BOUNDARIES
- APPROXIMATE FLOWLINE LOCATION (ABANDONED)

- APPROXIMATE LOCATION OF SOIL SAMPLES SUBMITTED FOR LABORATORY ANALYSIS

## PARAMETERS

SAMPLE LOCATION  
DATE SAMPLE COLLECTED  
APPROXIMATE DEPTH  
Arsenic = (mg/kg)  
Barium = (mg/kg)  
Cadmium = (mg/kg)  
Chromium (VI) = (mg/kg)  
Copper = (mg/kg)  
Lead = (mg/kg)  
Nickel = (mg/kg)  
Selenium = (mg/kg)  
Silver = (mg/kg)  
Zinc = (mg/kg)

mg/kg = MILLIGRAMS PER KILOGRAM

NOTES:  
VALUES PRESENTED WITH A LESS THAN SYMBOL (<) DID NOT CONTAIN CONCENTRATIONS AT/OR ABOVE LABORATORY REPORTING LIMITS AND/OR MINIMUM DETECTION LIMITS.

VALUES PRESENTED IN **BOLD** EXCEED ECMC TABLE 915-1 REGULATORY LIMITS AND BACKGROUND COMPARISONS.

\*VALUES EXCEED ECMC TABLE 915-1 PROTECTION OF GROUNDWATER SOIL SCREENING LEVELS, ONLY.

\*\*ACHIEVABLE PRACTICAL QUANTITATIVE LIMITS FOR HEXAVALENT CHROMIUM (Cr VI) IN SOILS IS IN THE RANGE OF 0.1 TO 1 mg/kg.

ELEVATED METALS ARE NATURALLY OCCURRING IN COLORADO. THE LOCAL CLEAN-UP LEVEL IS 1.25\*BACKGROUND, WHERE APPLICABLE.

ECMC = ENERGY & CARBON MANAGEMENT COMMISSION

METALS IN SOIL MAP  
IRVINE #2-11  
CLOSURE ASSESSMENT  
40.520860 / -104.623020  
NE¼ NE¼ SEC.2 T6N R65W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-24076  
REMEDATION # 31260

FIGURE NO.  
5

DRAWN BY:  
RS





## **TABLES**

**Table 1: Photoionization Detector Reading Summary**

**Table 2: Soil Analytical Results Summary**

**TABLE 1**  
**PHOTOIONIZATION DETECTOR READING SUMMARY**  
**IRVINE #2-11**  
**CLOSURE ASSESSMENT**  
**40.520860 / -104.623020**  
**NE¼ NE¼ SEC.2 T6N R65W 6PM**  
**WELD COUNTY, COLORADO**  
**API # 05-123-24076**  
**REMEDIATION # 31260**

<b>Sample Location</b> (Latitude/Longitude)	<b>Date</b>	<b>Approximate Depth</b> (feet)	<b>PID Reading</b> (ppm-v)	<b>Lab Submission</b> (Y/N)
WH-FS-01 @ 8' (40.520863 / -104.623027)	11/08/23	8	8.9	Y
WH-SS-01 @ 7' (40.520880 / -104.623027)	11/08/23	7	7.9	N
WH-SS-02 @ 7' (40.520864 / -104.623004)	11/08/23	7	4.9	N
WH-SS-03 @ 7' (40.520851 / -104.623027)	11/08/23	7	5.9	N
WH-SS-04 @ 7' (40.520865 / -104.623048)	11/08/23	7	8.0	N
WH-N @ 0.5' (40.520897 / -104.623021)	11/08/23	0.5	2.7	N
WH-E @ 0.5' (40.520859 / -104.622977)	11/08/23	0.5	1.8	N
WH-S @ 0.5' (40.520829 / -104.623026)	11/08/23	0.5	3.0	N
WH-W @ 0.5' (40.520871 / -104.623071)	11/08/23	0.5	3.1	N
Background-01 @ 2' (40.520821 / -104.623099)	11/08/23	2	5.5	Y
FL-SS-01 @ 4' (40.520806 / -104.621107)	12/12/23	4	0.9	N
FL-SS-02 @ 4' (40.520806 / -104.621108)	12/12/23	4	1.1	Y
Background-02 @ 2' (40.521006 / -104.621110)	12/12/23	2	0.1	Y

(Y/N) = Yes or No

ppm-v = parts per million by volume

PID = Photoionization Detector





TABLE 2  
SOIL ANALYTICAL RESULTS SUMMARY  
IRVINE #2-11  
CLOSURE ASSESSMENT  
40.520860 / -104.623020  
NE¼ NE¼ SEC.2 T6N R65W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-24076  
REMEDATION # 31260

Sample Location (Latitude / Longitude)					WH-FS-01 @ 8'	Background-01 @ 2'	FL-SS-02 @ 4'	Background-02 @ 2'
					(40.520863 / -104.623027)	(40.520821 / -104.623099)	(40.520863 / -104.621162)	(40.521006 / -104.621110)
Sample Date					11/8/2023	11/8/2023	12/12/2023	12/12/2023
Sample Depth					8	2	4	2
PID Reading (ppm-v)					8.9	5.5	1.1	0.1
Regulatory Limits								
Chemical of Concern	Units	ECMC Table 915-1 RSSLs	ECMC Table 915-1 GSSLs	Local Clean-Up Level				
<b>VOCs</b>								
Benzene	mg/kg	1.2	0.0026	--	<0.00200	NA	<0.00200	NA
Toluene	mg/kg	490	0.69	--	<0.00200	NA	<0.00200	NA
Ethylbenzene	mg/kg	5.8	0.78	--	<0.00200	NA	<0.00200	NA
Total Xylenes	mg/kg	58	9.9	--	<0.00200	NA	<0.00200	NA
Naphthalene	mg/kg	2	0.0038	--	<0.00380	NA	<0.00380	NA
1,2,4-Trimethylbenzene	mg/kg	30	0.0081	--	<0.00200	NA	<0.00200	NA
1,3,5-Trimethylbenzene	mg/kg	27	0.0087	--	<0.00200	NA	<0.00200	NA
<b>TOTAL PETROLEUM HYDROCARBONS</b>								
TPH-GRO	mg/kg	500	--	--	<0.200	NA	<0.200	NA
TPH-DRO	mg/kg	500	--	--	<25.0	NA	<25.0	NA
TPH-RRO	mg/kg	500	--	--	<100	NA	<100	NA
<b>POLYCYCLIC AROMATIC HYDROCARBONS</b>								
1-Methyl-naphthalene	mg/kg	18	0.006	--	<0.002	NA	<0.002	NA
2-Methyl-naphthalene	mg/kg	24	0.019	--	<0.002	NA	<0.002	NA
Acenaphthene	mg/kg	360	0.55	--	<0.020	NA	<0.020	NA
Anthracene	mg/kg	1800	5.8	--	<0.020	NA	<0.020	NA
Benzo(a)-anthracene	mg/kg	1.1	0.011	--	<0.005	NA	<0.005	NA
Benzo(a)-pyrene	mg/kg	0.11	0.24	--	<0.020	NA	<0.020	NA
Benzo(b)-fluoranthene	mg/kg	1.1	0.3	--	<0.020	NA	<0.020	NA
Benzo(k)-fluoranthene	mg/kg	11	2.9	--	<0.020	NA	<0.020	NA
Chrysene	mg/kg	110	9	--	<0.020	NA	<0.020	NA
Dibenzo(a,h)-anthracene	mg/kg	0.11	0.096	--	<0.020	NA	<0.020	NA
Fluoranthene	mg/kg	240	8.9	--	<0.020	NA	<0.020	NA
Fluorene	mg/kg	240	0.54	--	<0.020	NA	<0.020	NA
Indeno(1,2,3-cd)-pyrene	mg/kg	1.1	0.98	--	<0.020	NA	<0.020	NA
Pyrene	mg/kg	180	1.3	--	<0.020	NA	<0.020	NA
<b>SOIL SUITABILITY (Inorganics)</b>								
Boron	mg/L	2	--	--	0.388	NA	0.485	1.48
pH	standard unit	6-8.3	--	--	8.09	NA	8.24	8.28
Sodium Adsorption Ratio (SAR)	--	<6	--	--	1.13	NA	0.527	0.799
Specific Conductance (EC)	mmhos/cm	<4	--	--	2.74	NA	0.356	0.965
<b>METALS</b>								
Arsenic	mg/kg	0.68	0.29	4.9	3.34	3.99	3.77	3.92
Barium	mg/kg	15000	82	110*	63.0	NA	83.4*	88.1*
Cadmium	mg/kg	71	0.38	--	0.204	NA	0.272	0.248
Copper	mg/kg	3100	46	--	11.9	NA	10.3	15
Lead	mg/kg	400	14	--	10.2	NA	9.38	9.61
Nickel	mg/kg	1500	26	--	11.3	NA	10	8.95
Selenium	mg/kg	390	0.26	0.945*	0.194	NA	0.445*	0.756*
Silver	mg/kg	390	0.8	--	<0.0919	NA	0.0569	0.0466
Zinc	mg/kg	23000	370	--	<91.9	NA	43.9	55.5
Hexavalent Chromium	mg/kg	0.3**	0.00067**	0.1 to 1.0**	<0.244**	NA	<0.249**	<0.25**
ECMC = Energy & Carbon Management Commission					VOCs - Volatile Organic Compounds			
mg/kg = milligrams per kilogram								
mmhos/cm = millimhos per centimeter								
PID = Photoionization Detector								
ppm-v = parts per million by volume								
mg/L = milligrams per liter								
SAR = Sodium Adsorption Ratio								
Notes: Values presented with a less than symbol (<) did not contain concentrations at or above the laboratory reporting limit and/or minimum detection limit								
Values presented in <b>BOLD</b> exceed ECMC Table 915-1 Regulatory Limits. Values presented with asterisk (*) exceed ECMC Table 915-1 GSSLs, only.								
Elevated metals are naturally occurring in Colorado. The Local Clean-up Levels are 1.25*Background, where applicable.								



## **ATTACHMENT A**

### **Photo Log**

Irvine #2-11  
API # 05-123-24076  
Remediation # 31260

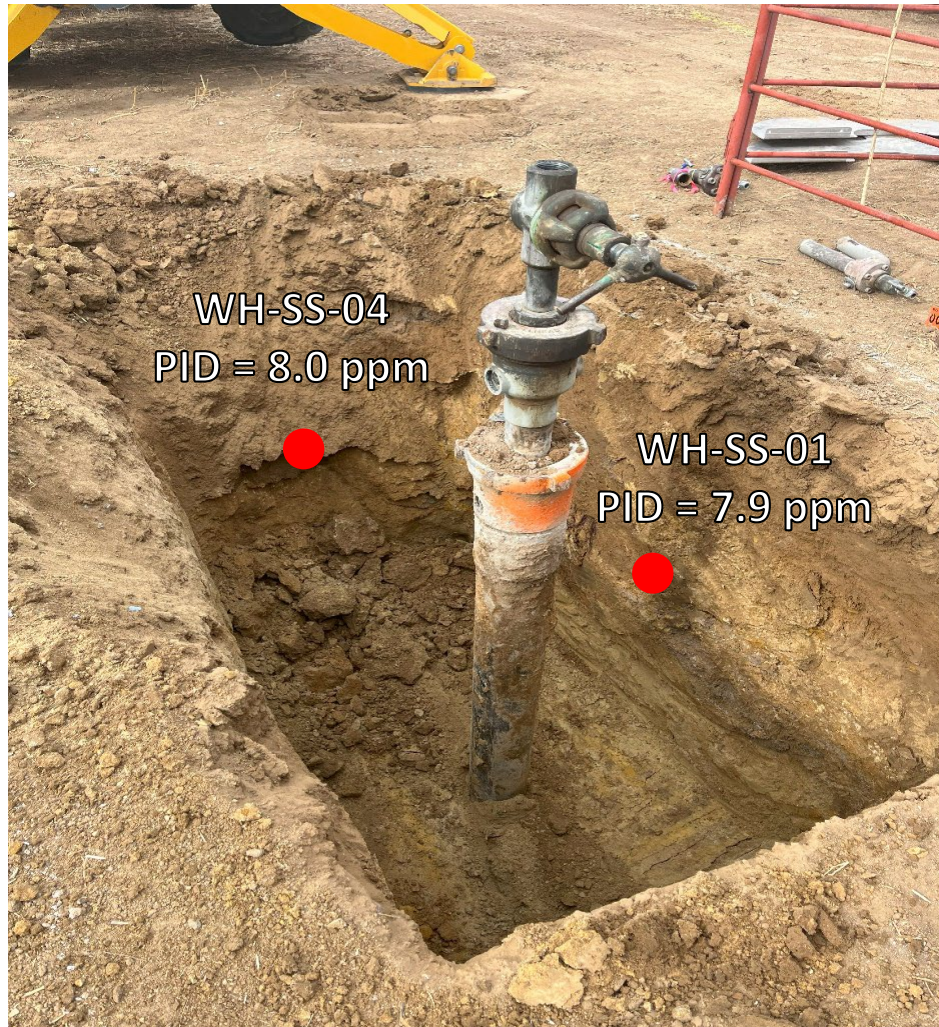
Closure Assessment

November - December 2023



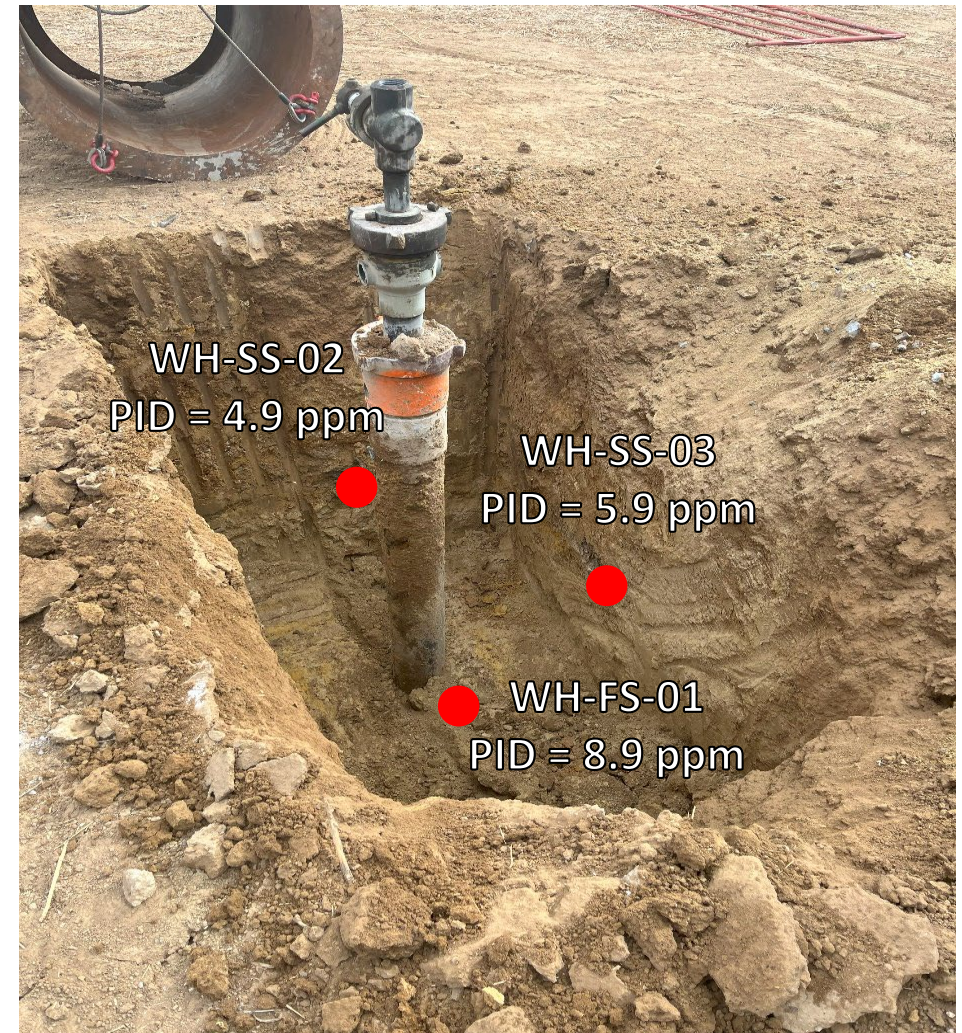


## Wellhead Excavation – 11/08/23



Looking northwest

No petroleum hydrocarbon staining or odor observed



Looking southeast

No petroleum hydrocarbon staining or odor observed



## Wellhead Surface – 11/08/23



Looking north

Site in good condition – no petroleum hydrocarbon staining or odor observed on surface around wellhead

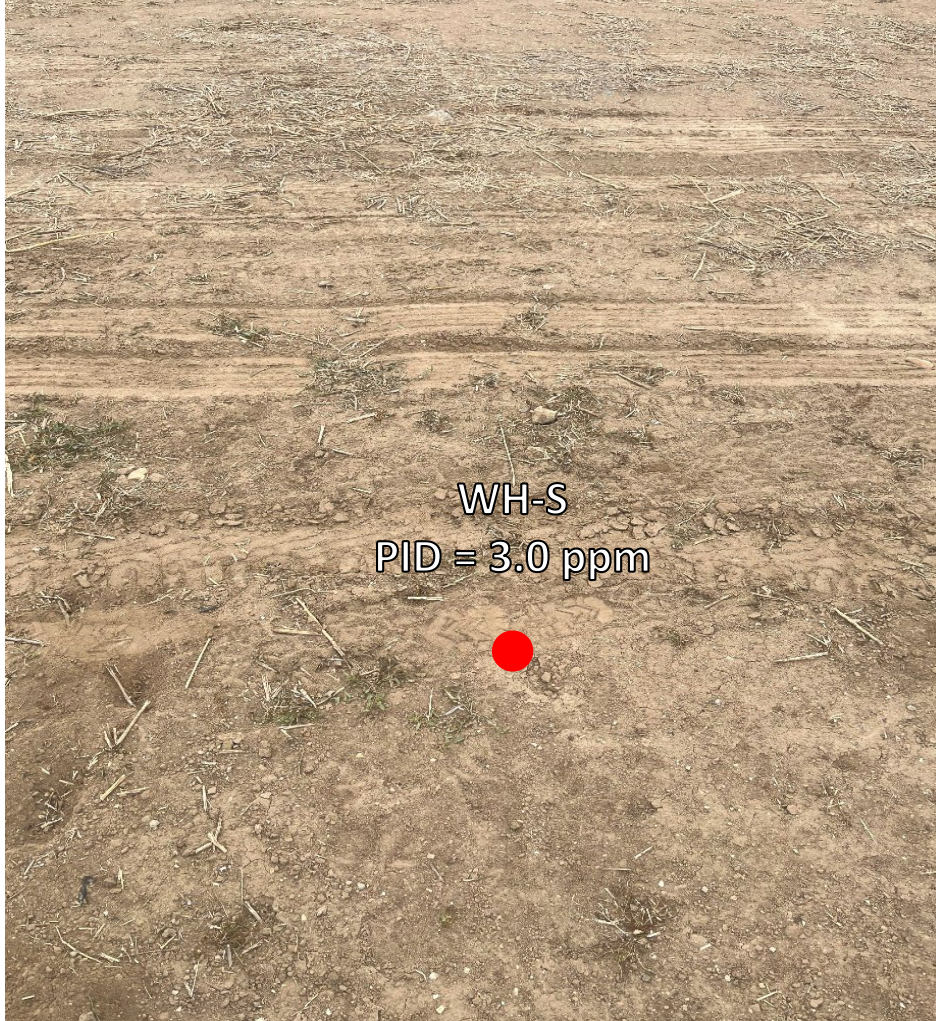


Looking east

Site in good condition – no petroleum hydrocarbon staining or odor observed on surface around wellhead



## Wellhead Surface – 11/08/23



Looking south

Site in good condition – no petroleum hydrocarbon staining or odor observed on surface around wellhead

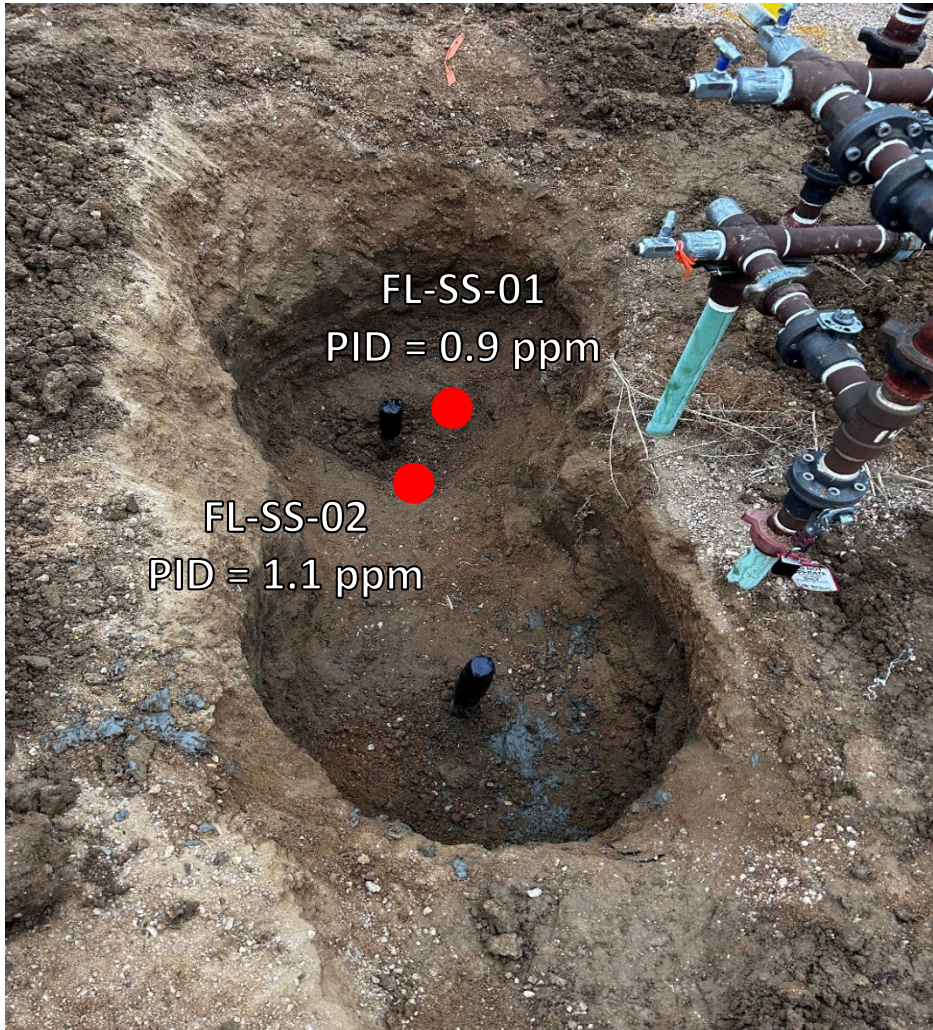


Looking west

Site in good condition – no petroleum hydrocarbon staining or odor observed on surface around wellhead



# Flowline Assessment – 12/12/23



Looking north

Flowline abandoned in place. Sample collected at separator terminus.

Gray material (presumed abandonment material) screened to confirm no suspected impacts (FL-SS-01)

FL-SS-02 submitted for analysis – higher PID

No petroleum hydrocarbon staining or odor observed



## **ATTACHMENT B**

### **Laboratory Analytical Reports**



November 27, 2023

Eagle Environmental Consulting, LLC

Andrew Newberry

8000 W 44th Ave

Wheat Ridge CO 80033

Project Name - Noble - Irvine #2-11

Project Number - [none]

Attached are your analytical results for Noble - Irvine #2-11 received by Origins Laboratory, Inc. November 08, 2023. This project is associated with Origins project number Y311242-01.

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

Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

### CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-FS-01@8'	Y311242-01	Soil	November 8, 2023 11:40	11/08/2023 16:14

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.*

Jordan A. Bynon, Project Manager





Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: 4311242

Client: Eagle  
Client Project ID: Irvine #2-11

Checklist Completed by: EHS

Shipped Via: 410  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 11/8/23

Airbill #: N/A

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

Cooler Number/Temperature: 1 15.6 °C        °C        °C (Describe)        °C

Thermometer ID: 7004

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

11/10/23  
Date/Time Reviewed

Origins Laboratory, Inc.

[Signature]

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Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

WH-FS-01@8'

11/8/2023 11:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y311242-01 (Soil)

## Boron (DTPA Sorbitol)

Boron	0.388	0.100	mg/L	1	B3K1022	11/10/2023	11/14/2023	
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## DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3K1001	11/10/2023	11/13/2023	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	83.5 %	50-150			"	"	"	
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## GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3K0904	11/10/2023	11/10/2023	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

Origins Laboratory, Inc.



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8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

WH-FS-01@8'

11/8/2023 11:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y311242-01 (Soil)

## GBTEX+TMBs by 8260D

Surrogate: 1,2-Dichloroethane-d4	132 %	70-130	B3K09 04	11/10/2023	11/10/2023	GC
Surrogate: Toluene-d8	100 %	70-130	"	"	"	
Surrogate: 4-Bromofluorobenzene	98.2 %	70-130	"	"	"	

## Metals by Saturated Paste by EPA 6010

Calcium	18.6	0.499	meq/L	10	[CALC]	11/10/2023	11/13/2023
Magnesium	11.5	0.823	"	"	"	"	"
Sodium	4.37	0.435	"	"	"	"	"

## PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B3K1031	11/10/2023	11/16/2023	U
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	U
Acenaphthene	ND	0.020	"	"	"	"	"	U
Anthracene	ND	0.020	"	"	"	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	U
Chrysene	ND	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	U

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WH-FS-01@8'

11/8/2023 11:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y311242-01 (Soil)

## PAH by EPA 8270E

Fluoranthene	ND	0.020	mg/kg	1	B3K1031	11/10/2023	11/16/2023	U
Fluorene	ND	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	U
Pyrene	ND	0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	99.2 %	60-130	"	"	"
Surrogate: Anthracene-d10	104 %	60-130	"	"	"
Surrogate: Pyrene-d10	97.8 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	96.2 %	60-130	"	"	"

## pH in Soil by 9045D

pH	8.09	pH Units	1	B3K1026	11/10/2023	11/11/2023
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## SAR by 20B Saturated Paste

SAR	1.13	0.0100	SAR	1	B3K1018	11/10/2023	11/13/2023
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	2.74	0.00500	mmhos/cm	1	B3K1026	11/10/2023	11/11/2023
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## Table 915 metals by EPA 6020B

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Wheat Ridge CO 80033

Andrew Newberry  
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Project: Noble - Irvine #2-11

WH-FS-01@8'

11/8/2023 11:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y311242-01 (Soil)

### Table 915 metals by EPA 6020B

Arsenic	3.34	0.0919	mg/kg	10	B3K1421	11/16/2023	11/17/2023
Barium	63.0	9.19	"	"	"	"	"
Cadmium	0.204	0.0919	"	"	"	"	"
Copper	11.9	9.19	"	"	"	"	"
Lead	10.2	9.19	"	"	"	"	"
Nickel	11.3	9.19	"	"	"	"	"
Selenium	0.194	0.0919	"	"	"	"	"
Silver	ND	0.0919	"	"	"	"	"
Zinc	ND	91.9	"	"	"	"	"

### Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L716849	11/08/2023	11/14/2023
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Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

## Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control

### Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3K0904 - EPA 5030 (soil)										
Blank (B3K0904-BLK1)					Prepared: 11/10/2023 Analyzed: 11/10/2023					
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	0.14		"	0.125	112		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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Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

**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 B3K0904 - EPA 5030 (soil)</b>										
<b>LCS (B3K0904-BS1)</b>					Prepared: 11/10/2023 Analyzed: 11/10/2023					
1,2,4-Trimethylbenzene	0.0947	0.00200	mg/kg	0.100		94.7	70-130			
1,3,5-Trimethylbenzene	0.0950	0.00200	"	0.100		95.0	70-130			
Benzene	0.0827	0.00200	"	0.100		82.7	70-130			
Ethylbenzene	0.0891	0.00200	"	0.100		89.1	70-130			
Naphthalene	0.0887	0.00380	"	0.100		88.7	70-130			
Toluene	0.0883	0.00200	"	0.100		88.3	70-130			
o-Xylene	0.0979	0.00200	"	0.100		97.9	70-130			
m,p-Xylene	0.189	0.00400	"	0.200		94.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		112	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		105	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.0	70-130			

Origins Laboratory, Inc.



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Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

**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 B3K0904 - EPA 5030 (soil)</b>										
<b>Matrix Spike (B3K0904-MS1)</b>		<b>Source: Y311228-01</b>			Prepared: 11/10/2023 Analyzed: 11/10/2023					
1,2,4-Trimethylbenzene	0.0811	0.00200	mg/kg	0.100	ND	81.1	70-130			
1,3,5-Trimethylbenzene	0.0800	0.00200	"	0.100	ND	80.0	70-130			
Benzene	0.0725	0.00200	"	0.100	ND	72.5	70-130			
Ethylbenzene	0.0750	0.00200	"	0.100	ND	75.0	70-130			
Naphthalene	0.123	0.00380	"	0.100	0.0265	96.1	70-130			
Toluene	0.0789	0.00200	"	0.100	ND	78.9	70-130			
o-Xylene	0.0856	0.00200	"	0.100	ND	85.6	70-130			
m,p-Xylene	0.162	0.00400	"	0.200	ND	81.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.17		"	0.125		136	70-130			S-GC
Surrogate: Toluene-d8	0.13		"	0.125		103	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		96.3	70-130			

Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

**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 B3K0904 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (B3K0904-MSD1)</b>		<b>Source: Y311228-01</b>			Prepared: 11/10/2023 Analyzed: 11/10/2023					
1,2,4-Trimethylbenzene	0.0820	0.00200	mg/kg	0.100	ND	82.0	70-130	1.10	20	
1,3,5-Trimethylbenzene	0.0829	0.00200	"	0.100	ND	82.9	70-130	3.63	20	
Benzene	0.0735	0.00200	"	0.100	ND	73.5	70-130	1.40	20	
Ethylbenzene	0.0780	0.00200	"	0.100	ND	78.0	70-130	3.87	20	
Naphthalene	0.127	0.00380	"	0.100	0.0265	100	70-130	3.40	20	
Toluene	0.0791	0.00200	"	0.100	ND	79.1	70-130	0.329	20	
o-Xylene	0.0883	0.00200	"	0.100	ND	88.3	70-130	3.15	20	
m,p-Xylene	0.167	0.00400	"	0.200	ND	83.4	70-130	2.92	20	
Surrogate: 1,2-Dichloroethane-d4	0.17		"	0.125		132	70-130			S-GC
Surrogate: Toluene-d8	0.13		"	0.125		104	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.2	70-130			

Origins Laboratory, Inc.



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8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3K1001 - EPA 3550B										
Blank (B3K1001-BLK1)					Prepared: 11/10/2023 Analyzed: 11/13/2023					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	22		"	24.9		88.0	50-150			

Origins Laboratory, Inc.



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Jordan A. Bynon, Project Manager

Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

## 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 B3K1001 - EPA 3550B										
LCS (B3K1001-BS1)					Prepared: 11/10/2023 Analyzed: 11/13/2023					
Diesel (C10-C28)	992	50.0	mg/kg	1000		99.2	70-130			
Residual Range Organics (C28-C40)	1040	200	"	1000		104	70-130			
Surrogate: o-Terphenyl	44		"	49.8		88.7	50-150			

Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

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 B3K1001 - EPA 3550B

Matrix Spike (B3K1001-MS1)		Source: Y311228-01			Prepared: 11/10/2023 Analyzed: 11/13/2023					
Diesel (C10-C28)	1090	50.0	mg/kg	1000	ND	109	70-130			
Residual Range Organics (C28-C40)	1180	200	"	1000	ND	118	70-130			
Surrogate: o-Terphenyl	59		"	49.8		118	50-150			

Origins Laboratory, Inc.



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Jordan A. Bynon, Project Manager

Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

## 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 B3K1001 - EPA 3550B

Matrix Spike Dup (B3K1001-MSD1)		Source: Y311228-01			Prepared: 11/10/2023 Analyzed: 11/13/2023					
Diesel (C10-C28)	1030	50.0	mg/kg	1000	ND	103	70-130	5.99	35	
Residual Range Organics (C28-C40)	1110	200	"	1000	ND	111	70-130	6.11	35	
Surrogate: o-Terphenyl	55		"	49.8		111	50-150			

Origins Laboratory, Inc.



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Jordan A. Bynon, Project Manager



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8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

## 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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## Metals by EPA 6000/7000 Series Methods - 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 B3K1421 - EPA 3050B

#### Blank (B3K1421-BLK1)

Prepared: 11/16/2023 Analyzed: 11/17/2023

Arsenic	ND	0.000100	mg/kg
Barium	ND	0.0100	"
Cadmium	ND	0.000100	"
Copper	ND	0.0100	"
Lead	ND	0.0100	"
Nickel	ND	0.0100	"
Selenium	ND	0.000100	"
Silver	ND	0.000100	"
Zinc	ND	0.100	"

#### LCS (B3K1421-BS1)

Prepared: 11/16/2023 Analyzed: 11/17/2023

Arsenic	0.0553	0.000100	mg/kg	0.0500	111	80-120
Barium	5.41	0.0100	"	5.00	108	80-120
Cadmium	0.0550	0.000100	"	0.0500	110	80-120
Copper	0.530	0.0100	"	0.500	106	80-120
Lead	0.0534	0.0100	"	0.0500	107	80-120
Nickel	0.0528	0.0100	"	0.0500	106	80-120
Selenium	0.0533	0.000100	"	0.0500	107	80-120
Silver	0.0539	0.000100	"	0.0500	108	80-120
Zinc	0.518	0.100	"	0.500	104	80-120

#### Matrix Spike (B3K1421-MS1)

Source: Y311232-12

Prepared: 11/16/2023 Analyzed: 11/17/2023

Origins Laboratory, Inc.



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8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

## Metals by EPA 6000/7000 Series Methods - Quality Control

### Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B3K1421 - EPA 3050B</b>										
<b>Matrix Spike (B3K1421-MS1)</b>			<b>Source: Y311232-12</b>		Prepared: 11/16/2023 Analyzed: 11/17/2023					
Arsenic	8.96	0.0834	mg/kg	4.17	5.03	94.3	75-125			
Barium	609	8.34	"	417	128	115	75-125			
Cadmium	4.93	0.0834	"	4.17	0.188	114	75-125			
Copper	53.8	8.34	"	41.7	13.2	97.4	75-125			
Lead	15.0	8.34	"	4.17	11.9	74.2	75-125			QM-07
Nickel	16.0	8.34	"	4.17	12.9	73.6	75-125			QM-07
Selenium	4.33	0.0834	"	4.17	0.126	101	75-125			
Silver	4.65	0.0834	"	4.17	0.0538	110	75-125			
Zinc	86.0	83.4	"	41.7	49.5	87.3	75-125			
<b>Matrix Spike Dup (B3K1421-MSD1)</b>			<b>Source: Y311232-12</b>		Prepared: 11/16/2023 Analyzed: 11/17/2023					
Arsenic	10.1	0.0913	mg/kg	4.57	5.03	111	75-125	11.8	20	
Barium	656	9.13	"	457	128	116	75-125	7.47	20	
Cadmium	5.47	0.0913	"	4.57	0.188	116	75-125	10.4	20	
Copper	60.8	9.13	"	45.7	13.2	104	75-125	12.3	20	
Lead	17.0	9.13	"	4.57	11.9	113	75-125	12.9	20	
Nickel	17.7	9.13	"	4.57	12.9	104	75-125	9.96	20	
Selenium	4.70	0.0913	"	4.57	0.126	100	75-125	8.35	20	
Silver	5.13	0.0913	"	4.57	0.0538	111	75-125	9.80	20	
Zinc	95.9	91.3	"	45.7	49.5	102	75-125	11.0	20	

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.

Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

**EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B3K1031 - EPA 3580**

**Blank (B3K1031-BLK1)**

Prepared: 11/10/2023 Analyzed: 11/16/2023

1-Methylnaphthalene	ND	0.002	mg/kg							U
2-Methylnaphthalene	ND	0.002	"							U
Acenaphthene	ND	0.020	"							U
Anthracene	ND	0.020	"							U
Benzo (a) anthracene	ND	0.005	"							U
Benzo (a) pyrene	ND	0.020	"							U
Benzo (b) fluoranthene	ND	0.020	"							U
Benzo (g,h,i) perylene	ND	0.020	"							U
Benzo (k) fluoranthene	ND	0.020	"							U
Chrysene	ND	0.020	"							U
Dibenz (a,h) anthracene	ND	0.020	"							U
Fluoranthene	ND	0.020	"							U
Fluorene	ND	0.020	"							U
Indeno (1,2,3-cd) pyrene	ND	0.020	"							U
Naphthalene	ND	0.002	"							U
Phenanthrene	ND	0.020	"							U
Pyrene	ND	0.020	"							U
Surrogate: Fluorene-d10	200		ug/kg	200		99.8	60-130			
Surrogate: Anthracene-d10	190		"	200		96.2	60-130			
Surrogate: Pyrene-d10	190		"	200		95.0	60-130			
Surrogate: Benzo (a) pyrene-d12	190		"	200		96.4	60-130			

**LCS (B3K1031-BS1)**

Prepared: 11/10/2023 Analyzed: 11/16/2023

1-Methylnaphthalene	0.211	0.002	mg/kg	0.200		105	70-130
2-Methylnaphthalene	0.211	0.002	"	0.200		105	70-130
Acenaphthene	0.208	0.020	"	0.200		104	70-130
Anthracene	0.191	0.020	"	0.200		95.3	70-130

Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

**EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B3K1031 - EPA 3580**

**LCS (B3K1031-BS1)**

Prepared: 11/10/2023 Analyzed: 11/16/2023

Benzo (a) anthracene	0.177	0.005	mg/kg	0.200		88.6	70-130
Benzo (a) pyrene	0.206	0.020	"	0.200		103	70-130
Benzo (b) fluoranthene	0.188	0.020	"	0.200		94.2	70-130
Benzo (g,h,i) perylene	0.219	0.020	"	0.200		110	70-130
Benzo (k) fluoranthene	0.240	0.020	"	0.200		120	70-130
Chrysene	0.192	0.020	"	0.200		95.8	70-130
Dibenz (a,h) anthracene	0.208	0.020	"	0.200		104	70-130
Fluoranthene	0.236	0.020	"	0.200		118	70-130
Fluorene	0.210	0.020	"	0.200		105	70-130
Indeno (1,2,3-cd) pyrene	0.216	0.020	"	0.200		108	70-130
Naphthalene	0.213	0.002	"	0.200		106	70-130
Phenanthrene	0.204	0.020	"	0.200		102	70-130
Pyrene	0.192	0.020	"	0.200		96.2	70-130
Surrogate: Fluorene-d10	200		ug/kg	200		98.6	60-130
Surrogate: Anthracene-d10	210		"	200		104	60-130
Surrogate: Pyrene-d10	190		"	200		94.9	60-130
Surrogate: Benzo (a) pyrene-d12	200		"	200		100	60-130

**Matrix Spike (B3K1031-MS1)**

**Source: Y310740-02**

Prepared: 11/10/2023 Analyzed: 11/16/2023

1-Methylnaphthalene	0.341	0.002	mg/kg	0.200	0.146	97.4	70-130
2-Methylnaphthalene	0.312	0.002	"	0.200	0.118	97.0	70-130
Acenaphthene	0.218	0.020	"	0.200	0.012	103	70-130
Anthracene	0.191	0.020	"	0.200	0.013	89.4	70-130
Benzo (a) anthracene	0.221	0.005	"	0.200	0.005	108	70-130
Benzo (a) pyrene	0.183	0.020	"	0.200	0.005	89.3	70-130
Benzo (b) fluoranthene	0.196	0.020	"	0.200	0.005	95.5	70-130
Benzo (g,h,i) perylene	0.195	0.020	"	0.200	0.008	93.6	70-130

Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

**EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B3K1031 - EPA 3580**

Matrix Spike (B3K1031-MS1)		Source: Y310740-02			Prepared: 11/10/2023 Analyzed: 11/16/2023					
Benzo (k) fluoranthene	0.193	0.020	mg/kg	0.200	0.002	95.8	70-130			
Chrysene	0.218	0.020	"	0.200	0.011	103	70-130			
Dibenz (a,h) anthracene	0.183	0.020	"	0.200	0.001	91.1	70-130			
Fluoranthene	0.282	0.020	"	0.200	0.041	121	70-130			
Fluorene	0.215	0.020	"	0.200	0.008	104	70-130			
Indeno (1,2,3-cd) pyrene	0.183	0.020	"	0.200	0.003	89.9	70-130			
Naphthalene	0.214	0.002	"	0.200	0.006	104	70-130			
Phenanthrene	0.235	0.020	"	0.200	0.068	83.3	70-130			
Pyrene	0.186	0.020	"	0.200	0.055	65.3	70-130			QM-07
Surrogate: Fluorene-d10	200		ug/kg	200		102	60-130			
Surrogate: Anthracene-d10	200		"	200		100	60-130			
Surrogate: Pyrene-d10	160		"	200		80.3	60-130			
Surrogate: Benzo (a) pyrene-d12	190		"	200		94.3	60-130			

Matrix Spike Dup (B3K1031-MSD1)		Source: Y310740-02			Prepared: 11/10/2023 Analyzed: 11/16/2023					
1-Methylnaphthalene	0.370	0.002	mg/kg	0.200	0.146	112	70-130	8.11	20	
2-Methylnaphthalene	0.338	0.002	"	0.200	0.118	110	70-130	8.05	20	
Acenaphthene	0.223	0.020	"	0.200	0.012	106	70-130	1.85	20	
Anthracene	0.196	0.020	"	0.200	0.013	91.9	70-130	2.57	20	
Benzo (a) anthracene	0.217	0.005	"	0.200	0.005	106	70-130	1.74	20	
Benzo (a) pyrene	0.186	0.020	"	0.200	0.005	90.9	70-130	1.78	20	
Benzo (b) fluoranthene	0.200	0.020	"	0.200	0.005	97.3	70-130	1.73	20	
Benzo (g,h,i) perylene	0.191	0.020	"	0.200	0.008	91.7	70-130	1.93	20	
Benzo (k) fluoranthene	0.205	0.020	"	0.200	0.002	102	70-130	6.00	20	
Chrysene	0.218	0.020	"	0.200	0.011	103	70-130	0.135	20	
Dibenz (a,h) anthracene	0.185	0.020	"	0.200	0.001	91.7	70-130	0.645	20	
Fluoranthene	0.288	0.020	"	0.200	0.041	123	70-130	1.84	20	

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Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

**EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B3K1031 - EPA 3580</b>										
<b>Matrix Spike Dup (B3K1031-MSD1)</b>			<b>Source: Y310740-02</b>		Prepared: 11/10/2023 Analyzed: 11/16/2023					
Fluorene	0.212	0.020	mg/kg	0.200	0.008	102	70-130	1.55	20	
Indeno (1,2,3-cd) pyrene	0.182	0.020	"	0.200	0.003	89.1	70-130	0.793	20	
Naphthalene	0.215	0.002	"	0.200	0.006	105	70-130	0.698	20	
Phenanthrene	0.257	0.020	"	0.200	0.068	94.6	70-130	9.20	20	
Pyrene	0.200	0.020	"	0.200	0.055	72.7	70-130	7.63	20	
Surrogate: Fluorene-d10	200		ug/kg	200		101	60-130			
Surrogate: Anthracene-d10	210		"	200		103	60-130			
Surrogate: Pyrene-d10	170		"	200		83.4	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		97.5	60-130			

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8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

## 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 B3K1018 - Saturated Paste Metals

#### Blank (B3K1018-BLK1)

Prepared: 11/10/2023 Analyzed: 11/13/2023

SAR	ND	0.0100	SAR
Calcium PPM	ND	10.0	mg/L
Magnesium PPM	ND	10.0	"
Sodium PPM	ND	10.0	"

#### Duplicate (B3K1018-DUP1)

Source: Y311237-01

Prepared: 11/10/2023 Analyzed: 11/13/2023

Calcium PPM	438	10.0	mg/L	447	2.02	50
SAR	ND	0.0100	SAR	4.21		200
Magnesium PPM	357	10.0	mg/L	333	6.91	50
Sodium PPM	517	10.0	"	483	6.93	50

### Batch B3K1022 - DTPA Sorbitol Preparation

#### Blank (B3K1022-BLK1)

Prepared: 11/10/2023 Analyzed: 11/14/2023

Boron	ND	0.100	mg/L
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#### Duplicate (B3K1022-DUP1)

Source: Y311150-09

Prepared: 11/10/2023 Analyzed: 11/14/2023

Boron	0.702	0.0981	mg/L	0.635	9.93	50
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8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

**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 B3K1026 - Saturated Paste pH/EC</b>										
<b>Blank (B3K1026-BLK1)</b>					Prepared: 11/10/2023 Analyzed: 11/11/2023					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
<b>Duplicate (B3K1026-DUP1)</b>					<b>Source: Y311237-01</b> Prepared: 11/10/2023 Analyzed: 11/11/2023					
pH	8.17		pH Units		8.15			0.245	25	
Specific Conductance (EC)	5.01	0.00500	mmhos/cm		4.91			1.97	25	

Origins Laboratory, Inc.



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Jordan A. Bynon, Project Manager

Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

## Total Metals by 7196A - Quality Control Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L716849 -</b>										
<b>DUP (L 90065-DUP)</b>		<b>Source: Y311242-01</b>			Prepared: Analyzed: 11/14/2023					
Chromium, Hexavalent	ND	0.5	mg/Kg		<0.500	-		0	20	
<b>MS (L 90065-MS)</b>		<b>Source: Y311242-01</b>			Prepared: Analyzed: 11/14/2023					
Chromium, Hexavalent	32.5	2.5	mg/Kg	39.1	<1.22	83	75-125			
<b>LCS (LCS)</b>					Prepared: Analyzed: 11/14/2023					
Chromium, Hexavalent	7.18	0.5	mg/Kg	8		90	75-125			
<b>LRB (LRB)</b>					Prepared: Analyzed: 11/14/2023					
Chromium, Hexavalent	ND	0.5	mg/Kg				-			

Origins Laboratory, Inc.



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Jordan A. Bynon, Project Manager

Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

### Notes and Definitions

U Sample is Non-Detect.

S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

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 on a wet weight basis.

Calculated results may use J-flag data (instead of reported "ND") as part of calculation to provide a more accurate result.

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.*

Jordan A. Bynon, Project Manager





December 26, 2023

Eagle Environmental Consulting, LLC

Andrew Newberry

8000 W 44th Ave

Wheat Ridge CO 80033

Project Name - Noble - Irvine #2-11

Project Number - [none]

Attached are your analytical results for Noble - Irvine #2-11 received by Origins Laboratory, Inc. December 04, 2023. This project is associated with Origins project number Y312076-01.

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

Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

### CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Background-01@2'	Y312076-01	Soil	November 8, 2023 11:35	12/04/2023 16:30

Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

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page | of |

**ORIGINS**  
LABORATORY, INC

Client: Eagle Environmental Consulting  
Address: 8000 W 44th Ave  
Wheat Ridge CO 80033  
Telephone Number: 303-433-0979  
Email Address: anewberry@origins-lab.com

Project Manager: Andrew Newberry  
Project Name: Irvine #2-11  
Project Number: —  
Samples Collected By: RS

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	Aromatic	
Balysound - 01 02'	11/07/13	1:35	1	X				X					MDLs needed
Relinquished By: <u>Don Jari</u>	Date: <u>12/14/13</u>	Time: <u>1:30</u>						Received By: <u>EH5</u>	Date: <u>12/19/13</u>	Time: <u>16:30</u>	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input checked="" type="checkbox"/> Standard		
Relinquished By:	Date:	Time:						Received By:	Date:	Time:			

Temp Received: 6 Date Results Needed: 9 Noble

Origins Laboratory, Inc.

*J. Bynon*

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.

Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: 4312076

Client: Eagle

Client Project ID: Irvine 2-11

Checklist Completed by: EHS

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

Date/time completed: 12/14/12

Airbill #: N/A

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

Cooler Number/Temperature: 116 °C        °C        °C (Describe)        °C

Thermometer ID: 7004

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 checked="" 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 checked="" 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 checked="" 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 checked="" 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 checked="" 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.

Reviewed by JB (Project Manager)

Date/Time Reviewed 12-23

Origins Laboratory, Inc.

*JB*

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Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

**Background-01@2'**

**11/8/2023 11:35:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, LLC.**  
**Y312076-01 (Soil)**

**Total Metals by 6020B**

Arsenic	3.99	0.0855	0.25	mg/Kg	5	L721239	12/07/2023	12/21/2023	
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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.*

Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

## Total Metals by 6020B - Quality Control Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L721239 - 3050B										
<b>MSD (L 88386-MSD-L721239)</b>		<b>Source: 88386</b>			Prepared: 12/07/2023 Analyzed: 12/21/2023					
Arsenic	3.82	0.25	mg/Kg dry	2.47	1.35	100	75-125	5.3	80	
<b>MS (L 88386-MS-L721239)</b>		<b>Source: 88386</b>			Prepared: 12/07/2023 Analyzed: 12/21/2023					
Arsenic	3.62	0.25	mg/Kg dry	2.33	1.35	98	75-125			
<b>LCS (LCS-L721239)</b>					Prepared: 12/07/2023 Analyzed: 12/21/2023					
Arsenic	2.49	0.25	mg/Kg	2.5		100	80-120			
<b>LRB (LRB-L721239)</b>					Prepared: 12/07/2023 Analyzed: 12/21/2023					
Arsenic	ND	0.25	mg/Kg							

Origins Laboratory, Inc.



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Jordan A. Bynon, Project Manager

Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

### Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

Calculated results may use J-flag data (instead of reported "ND") as part of calculation to provide a more accurate result.

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.*

Jordan A. Bynon, Project Manager



January 12, 2024

Eagle Environmental Consulting, LLC

Andrew Newberry

8000 W 44th Ave

Wheat Ridge CO 80033

Project Name - Noble - Irvine #2-11

Project Number - [none]

Attached are your analytical results for Noble - Irvine #2-11 received by Origins Laboratory, Inc. December 12, 2023. This project is associated with Origins project number Y312365-01.

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



Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL-SS-02@4'	Y312365-01	Soil	December 12, 2023 16:12	12/12/2023 18:00
Background-02@2'	Y312365-02	Soil	December 12, 2023 16:06	12/12/2023 18:00

Origins Laboratory, Inc.



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Jordan A. Bynon, Project Manager

Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

www.originslaboratory.com  
page 1 of 1

**ORIGINS**  
LABORATORY, INC

Client: Eagle Environmental Consulting  
Address: 8000 W 44th Ave  
Wheat Ridge, CO, 80033  
Telephone Number: 303-433-0424  
Email Address: andrewnewberry@eagle-enviro.com

Project Manager: Andrew Newberry  
Project Name: Irvine #2-11  
Project Number: SL  
Samples Collected By: SL

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative	Matrix	Analysis	Sample Instructions
FLS-0204	12/12/23	1612	3	X	Soil	X X X X X	1
Baumgardner-0202	12/12/23	1606	2	X	Soil	X X X X X	2
							3
							4
							5
							6
							7
							8
							9
							10
Relinquished By: <i>Andrew Newberry</i>	Date: 12/12/23	Time: 1400		Received By: <i>SL</i>	Date: 12/12/23	Time: 1900	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input checked="" type="checkbox"/> Standard
Relinquished By:	Date:	Time:		Received By:	Date:	Time:	

Temp Received: 3.5  
Date Results Needed: 12/12/23

Origins Laboratory, Inc.

*J. Bynon*

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.

Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

Origins Laboratory

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

### Sample Receipt Checklist

Origins Work Order: B12225

Client: Eagle  
Client Project ID: Irvine 2-11

Checklist Completed by: TAH/EHS

Shipped Via: FID  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)  
Airbill #: N/A

Date/time completed: 12/13/23

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

Cooler Number/Temperature: 1, 3.5 °C \_\_\_\_\_ °C \_\_\_\_\_ °C (Describe)

Thermometer ID: 7004

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.

Reviewed by (Project Manager) [Signature]

Date/Time Reviewed 12/14/23

Origins Laboratory, Inc.

[Signature]

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.

Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

FL-SS-02@4'

12/12/2023 4:12:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y312365-01 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.485	0.0997	mg/L	1	B3L1517	12/15/2023	12/18/2023	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3L1402	12/14/2023	12/15/2023	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	82.9 %	50-150			"	"	"	
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3L1433	12/14/2023	12/18/2023	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

Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

FL-SS-02@4'

12/12/2023 4:12:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y312365-01 (Soil)**

**GBTEX+TMBs by 8260D**

Surrogate: 1,2-Dichloroethane-d4	105 %	70-130	B3L14 33	12/14/2023	12/18/2023
Surrogate: Toluene-d8	96.5 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	93.6 %	70-130	"	"	"

**Metals by Saturated Paste by EPA 6010**

Calcium	1.71	0.499	meq/L	10	[CALC]	12/14/2023	12/15/2023
Magnesium	0.865	0.823	"	"	"	"	"
Sodium	0.599	0.435	"	"	"	"	"

**PAH by EPA 8270E**

1-Methylnaphthalene	ND	0.002	mg/kg	1	B3L1320	12/13/2023	12/16/2023	U
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	U
Acenaphthene	ND	0.020	"	"	"	"	"	U
Anthracene	ND	0.020	"	"	"	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	U
Chrysene	ND	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	U

Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

FL-SS-02@4'

12/12/2023 4:12:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y312365-01 (Soil)**

**PAH by EPA 8270E**

Fluoranthene	ND	0.020	mg/kg	1	B3L1320	12/13/2023	12/16/2023	U
Fluorene	ND	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	U
Pyrene	ND	0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	106 %	60-130	"	"	"
Surrogate: Anthracene-d10	97.2 %	60-130	"	"	"
Surrogate: Pyrene-d10	95.6 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	103 %	60-130	"	"	"

**pH in Soil by 9045D**

pH	8.24	pH Units	1	B3L1416	12/14/2023	12/15/2023
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**SAR by 20B Saturated Paste**

SAR	0.527	0.0100	SAR	1	B3L1413	12/14/2023	12/15/2023
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.356	0.00500	mmhos/cm	1	B3L1416	12/14/2023	12/15/2023
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**Total Metals by 6020B**

Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

FL-SS-02@4'

12/12/2023 4:12:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.  
Y312365-01 (Soil)

## Total Metals by 6020B

Arsenic	3.77	0.0855	0.25	mg/Kg	5	L724030	12/21/2023	01/11/2024	
Barium	83.4	0.042	0.25	"	"	"	"	"	
Cadmium	0.272	0.026	0.25	"	"	"	"	"	
Copper	10.3	0.0805	0.25	"	"	"	"	"	
Lead	9.38	0.031	0.25	"	"	"	"	"	
Nickel	10	0.0635	0.25	"	"	"	"	"	
Selenium	0.445	0.103	0.25	"	"	"	"	"	
Silver	0.0569	0.0067	0.25	"	"	"	"	"	J
Zinc	43.9	0.535	2.5	"	"	"	"	"	

## Total Metals by 7196A

Chromium, Hexavalent	ND	0.249	0.512	mg/Kg	1	L723603	12/12/2023	12/20/2023	
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Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

**Background-02@2'**  
**12/12/2023 4:06:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y312365-02 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	1.48	0.100	mg/L	1	B3L1517	12/15/2023	12/18/2023
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**Metals by Saturated Paste by EPA 6010**

Calcium	2.78	0.499	meq/L	10	[CALC]	12/14/2023	12/15/2023
Magnesium	1.38	0.823	"	"	"	"	"
Sodium	1.15	0.435	"	"	"	"	"

**pH in Soil by 9045D**

pH	8.28		pH Units	1	B3L1416	12/14/2023	12/15/2023
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**SAR by 20B Saturated Paste**

SAR	0.799	0.0100	SAR	1	B3L1413	12/14/2023	12/15/2023
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.965	0.00500	mmhos/cm	1	B3L1416	12/14/2023	12/15/2023
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**Total Metals by 6020B**

Arsenic	3.92	0.0855	0.25	mg/Kg	5	L724030	12/21/2023	01/11/2024
Barium	88.1	0.042	0.25	"	"	"	"	"
Cadmium	0.248	0.026	0.25	"	"	"	"	"
Copper	15	0.0805	0.25	"	"	"	"	"

Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

**Background-02@2'**

**12/12/2023 4:06:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, LLC.**  
**Y312365-02 (Soil)**

**Total Metals by 6020B**

Lead	9.61	0.031	0.25	mg/Kg	5	L724030	12/21/2023	01/11/2024	
Nickel	8.95	0.0635	0.25	"	"	"	"	"	
Selenium	0.756	0.103	0.25	"	"	"	"	"	
Silver	0.0466	0.0067	0.25	"	"	"	"	"	J
Zinc	55.5	0.535	2.5	"	"	"	"	"	

**Total Metals by 7196A**

Chromium, Hexavalent	ND	0.25	0.514	mg/Kg	1	L723603	12/12/2023	12/20/2023	
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Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

## 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 B3L1402 - EPA 3550B										
Blank (B3L1402-BLK1)					Prepared: 12/14/2023 Analyzed: 12/15/2023					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	24		"	24.9		95.1	50-150			

Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

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 B3L1402 - EPA 3550B										
LCS (B3L1402-BS1)					Prepared: 12/14/2023 Analyzed: 12/15/2023					
Diesel (C10-C28)	873	50.0	mg/kg	1000		87.3	70-130			
Residual Range Organics (C28-C40)	944	200	"	1000		94.4	70-130			
Surrogate: o-Terphenyl	45		"	49.8		90.6	50-150			

Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

## 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 B3L1402 - EPA 3550B										
<b>Matrix Spike (B3L1402-MS1)</b>		<b>Source: Y312359-01</b>			Prepared: 12/14/2023 Analyzed: 12/15/2023					
Diesel (C10-C28)	2570	50.0	mg/kg	1000	1180	140	70-130			QM-07
Residual Range Organics (C28-C40)	2040	200	"	1000	788	125	70-130			
Surrogate: o-Terphenyl	45		"	49.8		91.2	50-150			

Origins Laboratory, Inc.



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Jordan A. Bynon, Project Manager



Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

## 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 B3L1402 - EPA 3550B										
<b>Matrix Spike Dup (B3L1402-MSD1)</b>			<b>Source: Y312359-01</b>			Prepared: 12/14/2023 Analyzed: 12/15/2023				
Diesel (C10-C28)	2360	50.0	mg/kg	1000	1180	118	70-130	8.78	35	
Residual Range Organics (C28-C40)	1950	200	"	1000	788	116	70-130	4.47	35	
Surrogate: o-Terphenyl	44		"	49.8		88.5	50-150			

Origins Laboratory, Inc.



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Jordan A. Bynon, Project Manager

Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

## 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 B3L1433 - EPA 5030 (soil)										
Blank (B3L1433-BLK1)					Prepared: 12/14/2023 Analyzed: 12/18/2023					
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		94.6	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		93.7	70-130			

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Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

**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 B3L1433 - EPA 5030 (soil)</b>										
<b>LCS (B3L1433-BS1)</b>					Prepared: 12/14/2023 Analyzed: 12/18/2023					
1,2,4-Trimethylbenzene	0.0879	0.00200	mg/kg	0.100		87.9	70-130			
1,3,5-Trimethylbenzene	0.0882	0.00200	"	0.100		88.2	70-130			
Benzene	0.0917	0.00200	"	0.100		91.7	70-130			
Ethylbenzene	0.0860	0.00200	"	0.100		86.0	70-130			
Naphthalene	0.0837	0.00380	"	0.100		83.7	70-130			
Toluene	0.0846	0.00200	"	0.100		84.6	70-130			
o-Xylene	0.0877	0.00200	"	0.100		87.7	70-130			
m,p-Xylene	0.181	0.00400	"	0.200		90.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		90.8	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.1	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.7	70-130			

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Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

**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 B3L1433 - EPA 5030 (soil)</b>										
<b>Matrix Spike (B3L1433-MS1)</b>		<b>Source: Y312350-01</b>			Prepared: 12/14/2023 Analyzed: 12/18/2023					
1,2,4-Trimethylbenzene	0.0795	0.00200	mg/kg	0.100	ND	79.5	70-130			
1,3,5-Trimethylbenzene	0.0794	0.00200	"	0.100	ND	79.4	70-130			
Benzene	0.0879	0.00200	"	0.100	0.000900	87.0	70-130			
Ethylbenzene	0.0768	0.00200	"	0.100	ND	76.8	70-130			
Naphthalene	0.0816	0.00380	"	0.100	ND	81.6	70-130			
Toluene	0.0791	0.00200	"	0.100	ND	79.1	70-130			
o-Xylene	0.0795	0.00200	"	0.100	ND	79.5	70-130			
m,p-Xylene	0.163	0.00400	"	0.200	ND	81.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		92.6	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		96.3	70-130			

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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
Batch B3L1433 - EPA 5030 (soil)										
Matrix Spike Dup (B3L1433-MSD1)		Source: Y312350-01			Prepared: 12/14/2023 Analyzed: 12/18/2023					
1,2,4-Trimethylbenzene	0.0908	0.00200	mg/kg	0.100	ND	90.8	70-130	13.2	20	
1,3,5-Trimethylbenzene	0.0904	0.00200	"	0.100	ND	90.4	70-130	13.0	20	
Benzene	0.0998	0.00200	"	0.100	0.000900	98.9	70-130	12.7	20	
Ethylbenzene	0.0893	0.00200	"	0.100	ND	89.3	70-130	15.0	20	
Naphthalene	0.0954	0.00380	"	0.100	ND	95.4	70-130	15.7	20	
Toluene	0.0904	0.00200	"	0.100	ND	90.4	70-130	13.3	20	
o-Xylene	0.0912	0.00200	"	0.100	ND	91.2	70-130	13.6	20	
m,p-Xylene	0.188	0.00400	"	0.200	ND	94.1	70-130	14.4	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		93.8	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.1	70-130			

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Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

**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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**EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B3L1320 - EPA 3580**

**Blank (B3L1320-BLK1)**

Prepared: 12/13/2023 Analyzed: 12/16/2023

1-Methylnaphthalene	ND	0.002	mg/kg							U
2-Methylnaphthalene	ND	0.002	"							U
Acenaphthene	ND	0.020	"							U
Anthracene	ND	0.020	"							U
Benzo (a) anthracene	ND	0.005	"							U
Benzo (a) pyrene	ND	0.020	"							U
Benzo (b) fluoranthene	ND	0.020	"							U
Benzo (g,h,i) perylene	ND	0.020	"							U
Benzo (k) fluoranthene	ND	0.020	"							U
Chrysene	ND	0.020	"							U
Dibenz (a,h) anthracene	ND	0.020	"							U
Fluoranthene	ND	0.020	"							U
Fluorene	ND	0.020	"							U
Indeno (1,2,3-cd) pyrene	ND	0.020	"							U
Naphthalene	ND	0.002	"							U
Phenanthrene	ND	0.020	"							U
Pyrene	ND	0.020	"							U
Surrogate: Fluorene-d10	210		ug/kg	200		107	60-130			
Surrogate: Anthracene-d10	190		"	200		92.9	60-130			
Surrogate: Pyrene-d10	200		"	200		99.0	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		104	60-130			

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Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

**EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B3L1320 - EPA 3580**

**LCS (B3L1320-BS1)**

Prepared: 12/13/2023 Analyzed: 12/16/2023

1-Methylnaphthalene	0.211	0.002	mg/kg	0.200		106	70-130
2-Methylnaphthalene	0.210	0.002	"	0.200		105	70-130
Acenaphthene	0.198	0.020	"	0.200		98.9	70-130
Anthracene	0.193	0.020	"	0.200		96.4	70-130
Benzo (a) anthracene	0.219	0.005	"	0.200		109	70-130
Benzo (a) pyrene	0.211	0.020	"	0.200		106	70-130
Benzo (b) fluoranthene	0.191	0.020	"	0.200		95.6	70-130
Benzo (g,h,i) perylene	0.197	0.020	"	0.200		98.6	70-130
Benzo (k) fluoranthene	0.168	0.020	"	0.200		84.2	70-130
Chrysene	0.182	0.020	"	0.200		90.9	70-130
Dibenz (a,h) anthracene	0.214	0.020	"	0.200		107	70-130
Fluoranthene	0.199	0.020	"	0.200		99.6	70-130
Fluorene	0.208	0.020	"	0.200		104	70-130
Indeno (1,2,3-cd) pyrene	0.236	0.020	"	0.200		118	70-130
Naphthalene	0.201	0.002	"	0.200		101	70-130
Phenanthrene	0.184	0.020	"	0.200		91.9	70-130
Pyrene	0.187	0.020	"	0.200		93.5	70-130

Surrogate: Fluorene-d10	210		ug/kg	200		107	60-130
Surrogate: Anthracene-d10	190		"	200		94.8	60-130
Surrogate: Pyrene-d10	190		"	200		94.7	60-130
Surrogate: Benzo (a) pyrene-d12	210		"	200		104	60-130

**Matrix Spike (B3L1320-MS1)**

**Source: Y312293-01**

Prepared: 12/13/2023 Analyzed: 12/16/2023

1-Methylnaphthalene	0.210	0.002	mg/kg	0.200	ND	105	70-130
2-Methylnaphthalene	0.209	0.002	"	0.200	ND	105	70-130
Acenaphthene	0.202	0.020	"	0.200	ND	101	70-130
Anthracene	0.184	0.020	"	0.200	ND	92.1	70-130

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Andrew Newberry  
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Project: Noble - Irvine #2-11

**EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B3L1320 - EPA 3580**

Matrix Spike (B3L1320-MS1)		Source: Y312293-01			Prepared: 12/13/2023 Analyzed: 12/16/2023					
Benzo (a) anthracene	0.197	0.005	mg/kg	0.200	ND	98.4	70-130			
Benzo (a) pyrene	0.221	0.020	"	0.200	ND	110	70-130			
Benzo (b) fluoranthene	0.196	0.020	"	0.200	0.002	97.1	70-130			
Benzo (g,h,i) perylene	0.218	0.020	"	0.200	ND	109	70-130			
Benzo (k) fluoranthene	0.193	0.020	"	0.200	0.004	94.5	70-130			
Chrysene	0.192	0.020	"	0.200	ND	96.2	70-130			
Dibenz (a,h) anthracene	0.213	0.020	"	0.200	ND	107	70-130			
Fluoranthene	0.212	0.020	"	0.200	0.006	103	70-130			
Fluorene	0.212	0.020	"	0.200	ND	106	70-130			
Indeno (1,2,3-cd) pyrene	0.241	0.020	"	0.200	ND	121	70-130			
Naphthalene	0.204	0.002	"	0.200	ND	102	70-130			
Phenanthrene	0.192	0.020	"	0.200	0.003	94.7	70-130			
Pyrene	0.188	0.020	"	0.200	0.005	91.9	70-130			
Surrogate: Fluorene-d10	210		ug/kg	200		106	60-130			
Surrogate: Anthracene-d10	190		"	200		96.6	60-130			
Surrogate: Pyrene-d10	190		"	200		94.8	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		102	60-130			

Matrix Spike Dup (B3L1320-MSD1)		Source: Y312293-01			Prepared: 12/13/2023 Analyzed: 12/16/2023					
1-Methylnaphthalene	0.219	0.002	mg/kg	0.200	ND	110	70-130	4.13	20	
2-Methylnaphthalene	0.216	0.002	"	0.200	ND	108	70-130	3.09	20	
Acenaphthene	0.206	0.020	"	0.200	ND	103	70-130	2.07	20	
Anthracene	0.190	0.020	"	0.200	ND	94.8	70-130	2.86	20	
Benzo (a) anthracene	0.212	0.005	"	0.200	ND	106	70-130	7.48	20	
Benzo (a) pyrene	0.222	0.020	"	0.200	ND	111	70-130	0.461	20	
Benzo (b) fluoranthene	0.194	0.020	"	0.200	0.002	96.0	70-130	1.07	20	
Benzo (g,h,i) perylene	0.222	0.020	"	0.200	ND	111	70-130	1.85	20	

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**EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B3L1320 - EPA 3580**

Matrix Spike Dup (B3L1320-MSD1)		Source: Y312293-01			Prepared: 12/13/2023 Analyzed: 12/16/2023					
Benzo (k) fluoranthene	0.177	0.020	mg/kg	0.200	0.004	86.7	70-130	8.50	20	
Chrysene	0.199	0.020	"	0.200	ND	99.3	70-130	3.15	20	
Dibenz (a,h) anthracene	0.220	0.020	"	0.200	ND	110	70-130	3.14	20	
Fluoranthene	0.210	0.020	"	0.200	0.006	102	70-130	0.862	20	
Fluorene	0.220	0.020	"	0.200	ND	110	70-130	3.65	20	
Indeno (1,2,3-cd) pyrene	0.199	0.020	"	0.200	ND	99.7	70-130	18.9	20	
Naphthalene	0.209	0.002	"	0.200	ND	105	70-130	2.70	20	
Phenanthrene	0.195	0.020	"	0.200	0.003	96.3	70-130	1.68	20	
Pyrene	0.197	0.020	"	0.200	0.005	96.4	70-130	4.64	20	
Surrogate: Fluorene-d10	210		ug/kg	200		107	60-130			
Surrogate: Anthracene-d10	190		"	200		95.4	60-130			
Surrogate: Pyrene-d10	190		"	200		95.9	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		103	60-130			

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Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

## 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 B3L1413 - Saturated Paste Metals

#### Blank (B3L1413-BLK1)

Prepared: 12/14/2023 Analyzed: 12/15/2023

Calcium PPM	ND	10.0	mg/L
SAR	ND	0.0100	SAR
Magnesium PPM	ND	10.0	mg/L
Sodium PPM	ND	10.0	"

#### Duplicate (B3L1413-DUP1)

Source: Y312355-01

Prepared: 12/14/2023 Analyzed: 12/15/2023

Calcium PPM	24.8	10.0	mg/L	24.8	0.00	50
SAR	ND	0.0100	SAR	0.0993		200
Magnesium PPM	4.83	10.0	mg/L	4.93	2.05	50
Sodium PPM	1.96	10.0	"	2.07	5.46	50

### Batch B3L1517 - DTPA Sorbitol Preparation

#### Blank (B3L1517-BLK1)

Prepared: 12/15/2023 Analyzed: 12/18/2023

Boron	ND	0.100	mg/L
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#### Duplicate (B3L1517-DUP1)

Source: Y312365-01

Prepared: 12/15/2023 Analyzed: 12/18/2023

Boron	0.505	0.0989	mg/L	0.485	4.02	50
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Project Number: [none]  
Project: Noble - Irvine #2-11

## 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 B3L1416 - Saturated Paste pH/EC</b>										
<b>Blank (B3L1416-BLK1)</b>					Prepared: 12/14/2023 Analyzed: 12/15/2023					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
<b>Duplicate (B3L1416-DUP1)</b>					<b>Source: Y312355-01</b> Prepared: 12/14/2023 Analyzed: 12/15/2023					
pH	8.26		pH Units		8.25			0.121	25	
Specific Conductance (EC)	0.214	0.00500	mmhos/cm		0.219			2.59	25	

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Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

## Total Metals by 6020B - Quality Control Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L724030 - 3050B</b>										
<b>MSD (L 87161-MSD-L724030)</b>			<b>Source: Y312365-02</b>		Prepared: 12/21/2023 Analyzed: 01/11/2024					
Barium	88.2	0.25	mg/Kg	4.8	88.1	2	75-125	3.1	80	*
Silver	0.523	0.25	"	0.48	0.0466	99	75-125	7.5	80	
Selenium	4.86	0.25	"	4.8	0.756	86	75-125	9	80	
Nickel	10.1	0.25	"	2.4	8.95	48	75-125	12	80	*
Lead	10.7	0.25	"	2.4	9.61	45	75-125	7.2	80	*
Cadmium	0.708	0.25	"	0.48	0.248	96	75-125	196	80	*
Zinc	72.6	2.5	"	24	55.5	71	75-125	10.3	80	*
Arsenic	5.52	0.25	"	2.4	3.92	67	75-125	3.7	80	*
Copper	15.9	0.25	"	2.4	15	38	75-125	12.9	80	*
<b>MS (L 87161-MS-L724030)</b>			<b>Source: Y312365-02</b>		Prepared: 12/21/2023 Analyzed: 01/11/2024					
Copper	18.1	0.25	mg/Kg	2.43	15	127	75-125			*
Silver	0.564	0.25	"	0.487	0.0466	106	75-125			
Zinc	80.5	2.5	"	24.3	55.5	103	75-125			
Selenium	5.32	0.25	"	4.87	0.756	94	75-125			
Nickel	11.4	0.25	"	2.43	8.95	101	75-125			
Lead	11.5	0.25	"	2.43	9.61	78	75-125			
Cadmium	80	0.25	"	0.487	0.248	NR	75-125			*
Arsenic	5.73	0.25	"	2.43	3.92	74	75-125			*
Barium	91	0.25	"	4.87	88.1	60	75-125			*
<b>LCS (LCS-L724030)</b>			Prepared: 12/21/2023 Analyzed: 01/11/2024							
Silver	0.514	0.25	mg/Kg	0.5		103	80-120			
Selenium	5.19	0.25	"	5		104	80-120			
Zinc	25.4	2.5	"	25		102	80-120			
Arsenic	2.58	0.25	"	2.5		103	80-120			
Barium	5.14	0.25	"	5		103	80-120			

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Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

## Total Metals by 6020B - 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 L724030 - 3050B

#### LCS (LCS-L724030)

Prepared: 12/21/2023 Analyzed: 01/11/2024

Cadmium	0.501	0.25	mg/Kg	0.5		100	80-120			
Copper	2.62	0.25	"	2.5		105	80-120			
Lead	2.52	0.25	"	2.5		101	80-120			
Nickel	2.6	0.25	"	2.5		104	80-120			

#### LRB (LRB-L724030)

Prepared: 12/21/2023 Analyzed: 01/11/2024

Barium	ND	0.25	mg/Kg				-			
Silver	ND	0.25	"				-			
Selenium	ND	0.25	"				-			
Nickel	ND	0.25	"				-			
Lead	ND	0.25	"				-			
Cadmium	ND	0.25	"				-			
Arsenic	ND	0.25	"				-			
Zinc	ND	2.5	"				-			
Copper	ND	0.25	"				-			

Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Irvine #2-11

## Total Metals by 7196A - Quality Control Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L723603 -</b>										
<b>DUP (L 87161-DUP)</b>	<b>Source: Y312365-02</b>				Prepared: Analyzed: 12/20/2023					
Chromium, Hexavalent	ND	0.5	mg/Kg		<0.500		-	0	20	
<b>MS (L 87161-MS)</b>	<b>Source: Y312365-02</b>				Prepared: Analyzed: 12/20/2023					
Chromium, Hexavalent	16	2.57	mg/Kg	41.1	<1.25	39	75-125			*
<b>LCS (LCS)</b>					Prepared: Analyzed: 12/20/2023					
Chromium, Hexavalent	7.16	0.5	mg/Kg	8		90	75-125			
<b>LRB (LRB)</b>					Prepared: Analyzed: 12/20/2023					
Chromium, Hexavalent	ND	0.5	mg/Kg				-			

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Jordan A. Bynon, Project Manager

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Andrew Newberry  
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Project: Noble - Irvine #2-11

## 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.

J Estimated Value. Analyte below reported quantitation limit.

\* QC Failure

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

Calculated results may use J-flag data (instead of reported "ND") as part of calculation to provide a more accurate result.

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Jordan A. Bynon, Project Manager