

# Wellhead Closure Checklist

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

Additional attachments (optional):	Pit Closure	Tank Battery Closure	Flowline Closure 1-11-23	Partially Buried Vault Closure
Site Name & COGCC Facility Number: <b>JOHNSON RC #29-2</b>		Date: <b>1-11-23</b>		Remediation Project #: <b>25292</b>
Associated Wells: <b>05-123-18187</b>		Age of Site: <b>YEARS</b>		Number of Photos Attached: <b>2</b>
Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple) <b>40.288960, -104.572320</b>				Estimated Facility Size (acres):
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.) <b>GOOD</b>				
USCS Soil Type: <b>SW</b>		Estimated Depth to Groundwater: <b>&gt; 2.0'</b>		
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) <b>NONE OBSERVED</b>				
Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) <b>NONE OBSERVED</b>				
<b>Wellhead(s)</b>				
Well API	<b>05-123-18187</b>			
Age	<b>YEARS</b>			
Condition of surface around wellhead	<b>GOOD - PER CREW</b>			
PID Readings	<b>N/A - EXCAVATED UPON ARRIVAL</b>			
Condition of subsurface	<b>GOOD</b>			
Estimated PID Readings	<b>2.8</b>	<b>0.6</b>	<b>0.9</b>	<b>0.7</b>
Sample taken? Location/Sample ID	<b>WH-SS-01</b>	<b>WH-SS-02</b>	<b>WH-SS-03</b>	<b>WH-SS-04</b>
Photo Number(s)	<b>SEE PHOTOLG</b>			
Other observations regarding wellheads: <b>WELL CASING CUT/CAPPED FOLLOWING ASSESSMENT.</b>				
<b>Summary</b>				
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: <b>5</b>		Total number of samples collected: <b>5</b>		
Highest PID Reading: <b>3.1</b>		Total number of samples submitted to lab for analysis: <b>1</b>		
If more than 10 cubic yards of impacted soil were observed:				
Vertical extent: <b>N/A</b>		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	1-11-23	Pit Closure		Partially Buried Vault Closure	
Site Name & COGCC Facility Number: <b>JOHNSON R C # 29-2</b>		Date: <b>1-11-23</b>		Remediation Project #: <b>25272</b>					
Associated Wells: <b>05-123-13187</b>		Age of Site: <b>YEARS</b>		Number of Photos Attached: <b>1</b>					
Starting point: (GPS coordinates and descriptions) <b>40.288957, -104.572302 AT WELL</b>									
End point: (GPS coordinates and descriptions) <b>40.290446, -104.573912 AT SEPARATOR</b>									
USCS Soil Type: <b>SW</b>					Estimated Depth to Groundwater: <b>&gt; 20'</b>				
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)									
<b>NONE OBSERVED</b>									
Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)									
<b>NONE OBSERVED</b>									
<b>Flowlines</b>									
Flowline type	<b>G, C, W</b>								
Depth	<b>~ 14'</b>								
Age	<b>YEARS</b>								
Length	<b>~ 710'</b>								
Construction Material	<b>STEEL</b>								
Were flowlines pulled?	<b>NO - ABANDONED IN PLACE</b>								
Visual Integrity of lines	<b>GOOD - PER INTEGRITY TEST</b>								
Visual impacts if trenched	<b>NA</b>								
PID Readings if trenched	<b>1.9</b>								
Sample taken? Location/Sample ID#	<b>FL-SS-01</b>								
Photo Number(s)	<b>SEE PHOTOLOG</b>								
Other observations regarding on location flowlines:									
<b>FLOWLINE ABANDONED IN PLACE. PT 13 @ SEP) ASSESSED.</b>									
<b>Summary</b>									
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: <b>1</b>					Total number of samples collected: <b>1</b>				
Highest PID Reading: <b>1.9</b>					Total number of samples submitted to lab for analysis: <b>1</b>				
If more than 10 cubic yards of impacted soil were observed:									
Vertical extent: <b>N/A</b>					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:									



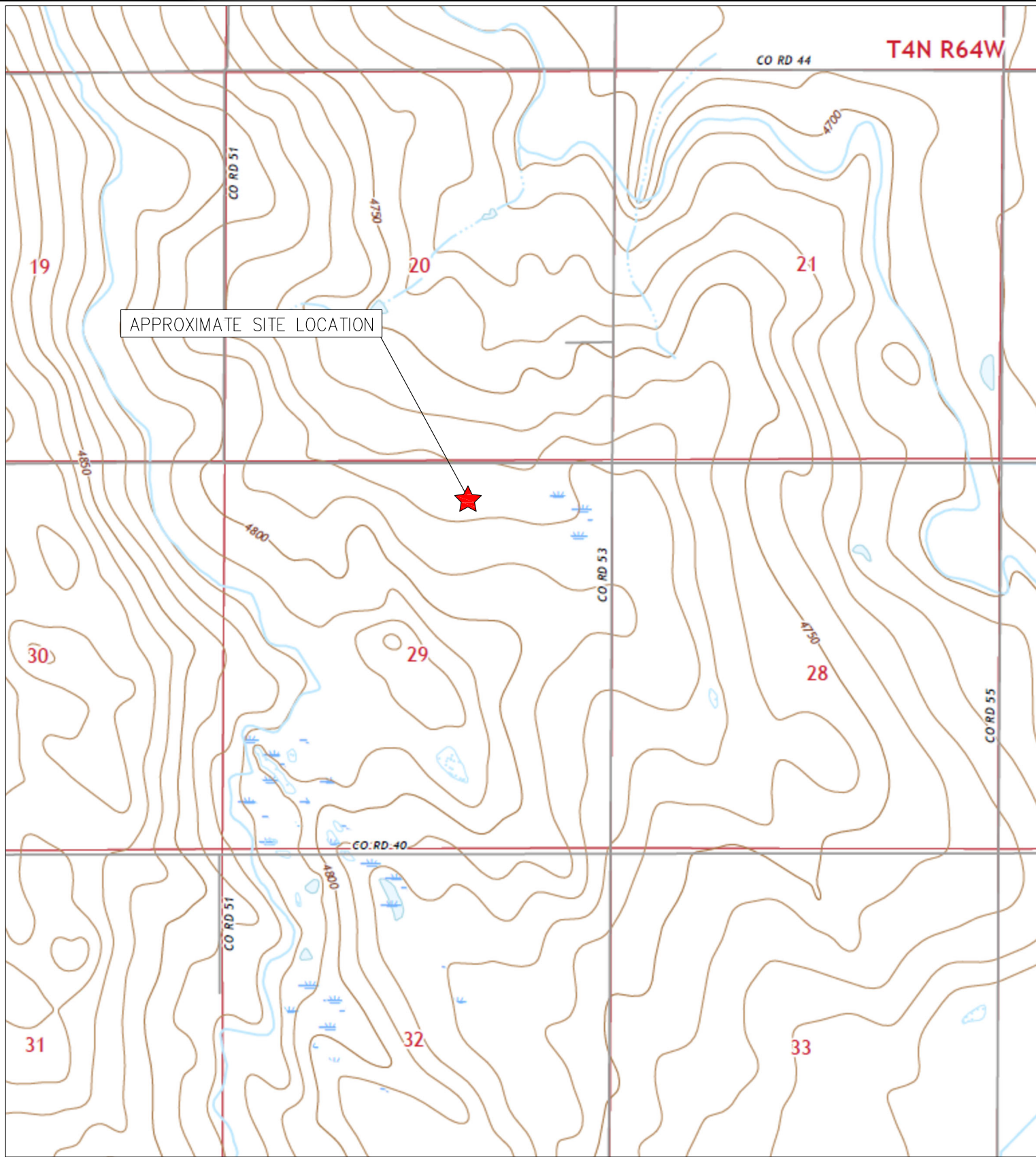
## **FIGURES**

**Figure 1: Topographic Site Location Map**

**Figure 2: Aerial Site Location Map**

**Figure 3: Soil Analytical Map**

**Figure 4: Polycyclic Aromatic Hydrocarbons Map**



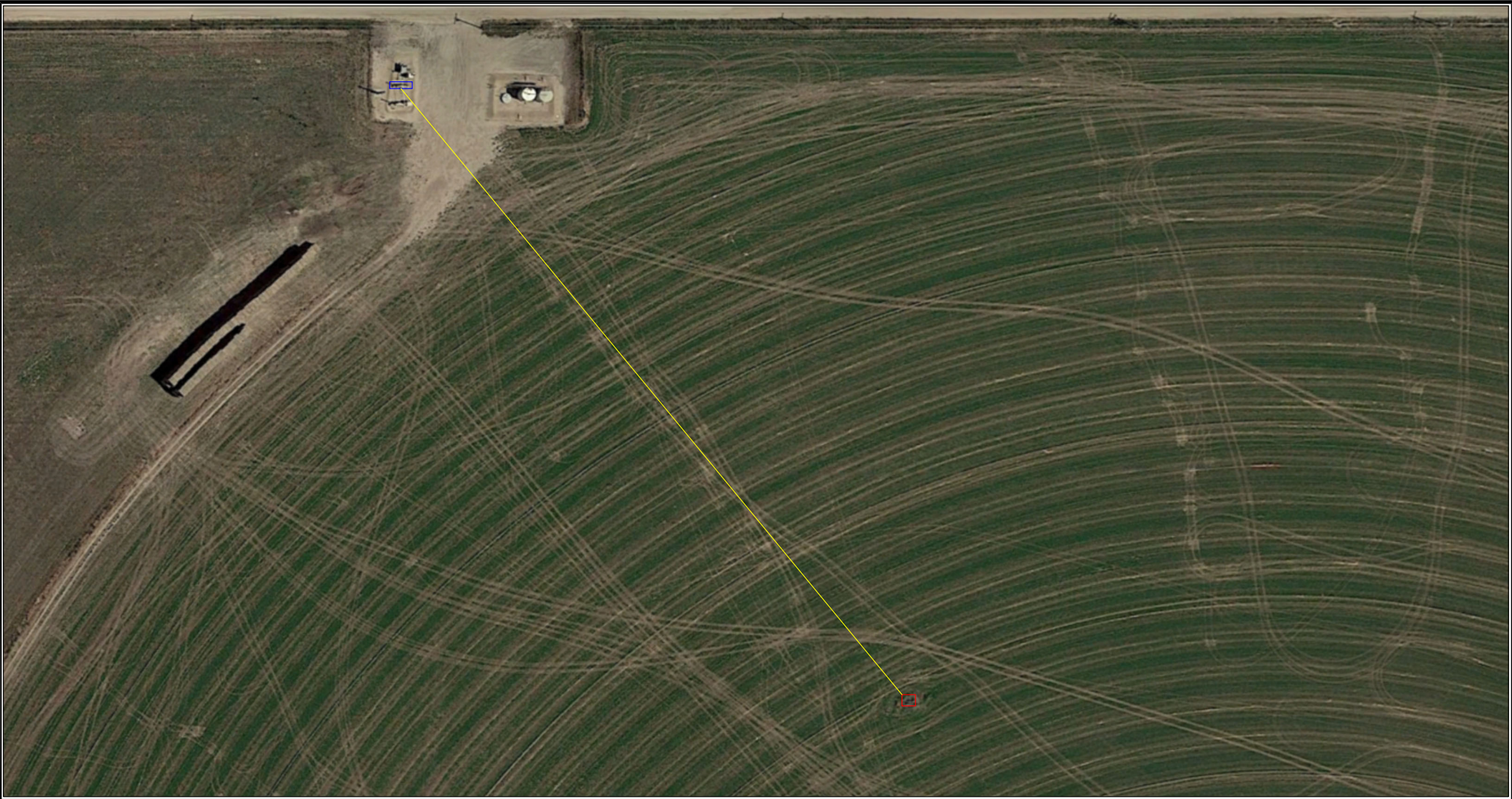
TOPOGRAPHIC SITE LOCATION MAP  
 JOHNSON R C #29-2  
 CLOSURE ASSESSMENT  
 40.288960 / -104.572320  
 NW¼ NE¼ SEC.29 T4N R64W 6PM  
 WELD COUNTY, COLORADO  
 API # 05-123-13187  
 REMEDIATION # 25272






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 ENVIRONMENTAL  
 CONSULTING, LLC

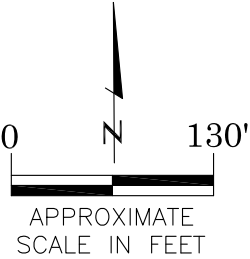
8000 W 44th Ave, Wheat Ridge, CO 80033  
 Ph: 303-433-0479 • F: 303-325-5449





LEGEND

-  FORMER JOHNSON R C #29-2 WELLHEAD (PLUGGED AND ABANDONED)
-  ASSOCIATED SEPARATOR
-  APPROXIMATE FLOWLINE LOCATION (ABANDONED IN PLACE)



AERIAL SITE LOCATION MAP  
JOHNSON R C #29-2  
CLOSURE ASSESSMENT  
40.288960 / -104.572320  
NW¼ NE¼ SEC.29 T4N R64W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-13187  
REMEDATION # 25272

FIGURE NO.  
2

DRAWN BY:  
EL



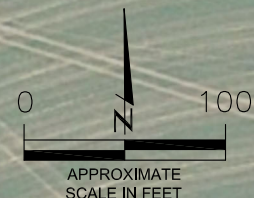
**EAGLE**  
ENVIRONMENTAL  
CONSULTING, LLC  
8000 W 44th Ave, Wheat Ridge, CO 80033  
Ph: 303-433-0479 • F: 303-325-5449



FL-SS-01@4'  
01/11/23  
4'  
B = <0.00200  
T = <0.00200  
E = <0.00200  
X = <0.00200  
G = <0.200  
D = <25.0  
R = <100  
1,2,4-TMB = <0.00200  
1,3,5-TMB = <0.00200  
Brn = <0.100  
EC = 0.251  
SAR = 0.118  
pH = 8.02

WH-FS-01@6'  
01/11/23  
6'  
B = <0.00200  
T = <0.00200  
E = <0.00200  
X = <0.00200  
G = <0.200  
D = <25.0  
R = <100  
1,2,4-TMB = <0.00200  
1,3,5-TMB = <0.00200  
Brn = 0.291  
EC = 0.800  
SAR = 2.59  
pH = 7.97

WH-SS-01  
WH-SS-02  
WH-SS-03  
WH-SS-04  
WH-FS-01



#### LEGEND

- WELLHEAD ASSESSMENT BOUNDARIES
- APPROXIMATE FLOWLINE LOCATION (ABANDONED IN PLACE)
- APPROXIMATE LOCATION OF SOIL SAMPLES FIELD SCREENED, ONLY, WITH PHOTOIONIZATION DETECTOR
- 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)  
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)

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

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 WITH A LESS THAN SYMBOL (<) DID NOT CONTAIN CONCENTRATIONS AT OR ABOVE LABORATORY DETECTION LIMITS.

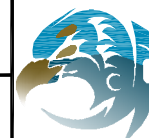
VALUES PRESENTED IN **BOLD** EXCEED COGCC TABLE 915-1 REGULATORY LIMITS.

COGCC = COLORADO OIL AND GAS CONSERVATION COMMISSION

SOIL ANALYTICAL MAP  
JOHNSON R C #29-2  
CLOSURE ASSESSMENT  
40.288960 / -104.572320  
NW¼ NE¼ SEC.29 T4N R64W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-13187  
REMEDIAL # 25272

FIGURE NO.  
3

DRAWN BY:  
GK



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# LEGEND

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

## PARAMETERS

SAMPLE LOCATION  
DATE SAMPLE COLLECTED  
APPROXIMATE DEPTH

POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (mg/kg)

mg/kg = MILLIGRAMS PER KILOGRAM

## NOTES:

VALUES PRESENTED WITH A LESS THAN SYMBOL (<) DID NOT CONTAIN CONCENTRATIONS AT OR ABOVE LABORATORY DETECTION LIMITS.

VALUES PRESENTED IN **BOLD** EXCEED COGCC TABLE 915-1 REGULATORY LIMITS.

COGCC = COLORADO OIL AND GAS CONSERVATION COMMISSION

## POLYCYCLIC AROMATIC HYDROCARBONS MAP

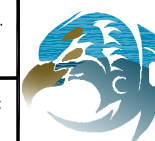
JOHNSON R C #29-2  
CLOSURE ASSESSMENT  
40.288960 / -104.572320  
NW¼ NE¼ SEC.29 T4N R64W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-13187  
REMEDIAL # 25272

FIGURE NO.

4

DRAWN BY:

GK



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FL-SS-01@4'  
01/11/23  
4'

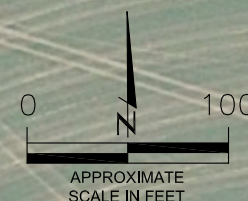
1-Methylnaphthalene = <0.00201  
2-Methylnaphthalene = <0.00201  
Acenaphthene = <0.00067  
Anthracene = <0.00067  
Benzo(a)anthracene = <0.00067  
Benzo(a)pyrene = <0.00067  
Benzo(b)fluoranthene = <0.00067  
Benzo(k)fluoranthene = <0.00067  
Chrysene = 0.000782  
Dibenzo(a,h)anthracene = 0.00111  
Fluoranthene = <0.00067  
Fluorene = <0.00067  
Indeno(1,2,3-CD)pyrene = 0.000775  
Naphthalene = <0.00201  
Pyrene = <0.00067

FL-SS-01

WH-FS-01@6'  
01/11/23  
6'

1-Methylnaphthalene = <0.00201  
2-Methylnaphthalene = <0.00201  
Acenaphthene = <0.00067  
Anthracene = 0.00038  
Benzo(a)anthracene = <0.00067  
Benzo(a)pyrene = <0.00067  
Benzo(b)fluoranthene = <0.00067  
Benzo(k)fluoranthene = <0.00067  
Chrysene = 0.000644  
Dibenzo(a,h)anthracene = 0.00119  
Fluoranthene = <0.00067  
Fluorene = <0.00067  
Indeno(1,2,3-CD)pyrene = 0.001  
Naphthalene = <0.00201  
Pyrene = <0.00067

WH-SS-01  
WH-SS-02  
WH-SS-03  
WH-SS-04  
WH-FS-01





## **TABLES**

**Table 1: Photoionization Detector Reading Summary**

**Table 2: Soil Analytical Results Summary**



**TABLE 1**  
**PHOTOIONIZATION DETECTOR READING SUMMARY**  
**JOHNSON R C #29-2**  
**CLOSURE ASSESSMENT**  
**40.288960 / -104.572320**  
**NW¼ NE¼ SEC.29 T4N R64W 6PM**  
**WELD COUNTY, COLORADO**  
**API # 05-123-13187**  
**REMEDIAION # 25272**

Sample Location (Latitude/Longitude)	Date	Approximate Depth (feet)	PID Reading (ppm-v)	Lab Submission (Y/N)
WH-SS-01 @ 5' (40.288970 / -104.572321)	01/11/23	5	2.8	N
WH-SS-02 @ 5' (40.288959 / -104.572306)	01/11/23	5	0.6	N
WH-SS-03 @ 5' (40.288953 / -104.572323)	01/11/23	5	0.9	N
WH-SS-04 @ 5' (40.288961 / -104.572337)	01/11/23	5	0.7	N
WH-FS-01 @ 6' (40.288962 / -104.572319)	01/11/23	6	3.1	Y
FL-SS-01 @ 4' (40.290446 / -104.573967)	01/11/23	4	1.9	Y
(Y/N) = Yes or No ppm-v = parts per million by volume PID = Photoionization Detector				



TABLE 2  
SOIL ANALYTICAL RESULTS SUMMARY  
JOHNSON R C #29-2  
CLOSURE ASSESSMENT  
40.288960 / -104.572320  
NW¼ NE¼ SEC.29 T4N R64W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-13187  
REMEDIATION # 25272

Sample Location (Latitude / Longitude)				WH-FS-01 @ 6'	FL-SS-01 @ 4'
				(40.288962 / -104.572319)	(40.290446 / -104.573967)
Sample Date				01/11/23	01/11/23
Sample Depth				6'	4'
PID Reading (ppm-v)				3.1	1.9
Regulatory Limits					
Chemical of Concern	Units	COGCC Table 915-1 RSSLs	COGCC Table 915-1 GSSLs		
VOCs					
Benzene	mg/kg	1.2	0.0026	<0.00200	<0.00200
Toluene	mg/kg	490	0.69	<0.00200	<0.00200
Ethylbenzene	mg/kg	5.8	0.78	<0.00200	<0.00200
Total Xylenes	mg/kg	58	9.9	<0.00200	<0.00200
1,2,4-Trimethylbenzene	mg/kg	30	0.0081	<0.00200	<0.00200
1,3,5-Trimethylbenzene	mg/kg	27	0.0087	<0.00200	<0.00200
TOTAL PETROLEUM HYDROCARBONS					
TPH-GRO	mg/kg	500	--	<0.200	<0.200
TPH-DRO	mg/kg	500	--	<25.0	<25.0
TPH-RRO	mg/kg	500	--	<100	<100
POLYCYCLIC AROMATIC HYDROCARBONS					
1-Methyl-naphthalene	mg/kg	18	0.006	<0.00201	<0.00201
2-Methyl-naphthalene	mg/kg	24	0.019	<0.00201	<0.00201
Acenaphthene	mg/kg	360	0.55	<0.00067	<0.00067
Anthracene	mg/kg	1800	5.8	0.00038	<0.00067
Benzo(a)-anthracene	mg/kg	1.1	0.011	<0.00067	<0.00067
Benzo(a)-pyrene	mg/kg	0.11	0.24	<0.00067	<0.00067
Benzo(b)-fluoranthene	mg/kg	1.1	0.3	<0.00067	<0.00067
Benzo(k)-fluoranthene	mg/kg	11	2.9	<0.00067	<0.00067
Chrysene	mg/kg	110	9	0.000644	0.000782
Dibenzo(a,h)-anthracene	mg/kg	0.11	0.096	0.00119	0.00111
Fluoranthene	mg/kg	240	8.9	<0.00067	<0.00067
Fluorene	mg/kg	240	0.54	<0.00067	<0.00067
Indeno(1,2,3-cd)-pyrene	mg/kg	1.1	0.98	0.001	0.000775
Naphthalene	mg/kg	2	0.0038	<0.00201	<0.00201
Pyrene	mg/kg	180	1.3	<0.00067	<0.00067
SOIL SUITABILITY (Inorganics)					
Boron	mg/L	2	--	0.291	<0.100
pH	standard unit	6-8.3	--	7.97	8.02
Sodium Adsorption Ratio (SAR)	--	<6	--	2.59	0.118
Specific Conductance (EC)	mmhos/cm	<4	--	0.800	0.251
COGCC = Colorado Oil and Gas Conservation Commission					
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 COGCC Table 915-1 Regulatory Limits.					
VOCs - Volatile Organic Compounds					
RSSLs = Residential Soil Screening Levels					
GSSLs = Protection of Groundwater Soil Screening Levels					
TPH-GRO = Total Petroleum Hydrocarbons - Gasoline Range Organics					
TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics					
TPH-RRO = Total Petroleum Hydrocarbons - Residual Range Organics					



## **ATTACHMENT A**

### **Photo Log**



Johnson R C #29-2  
API # 05-123-13187  
Remediation # 25272

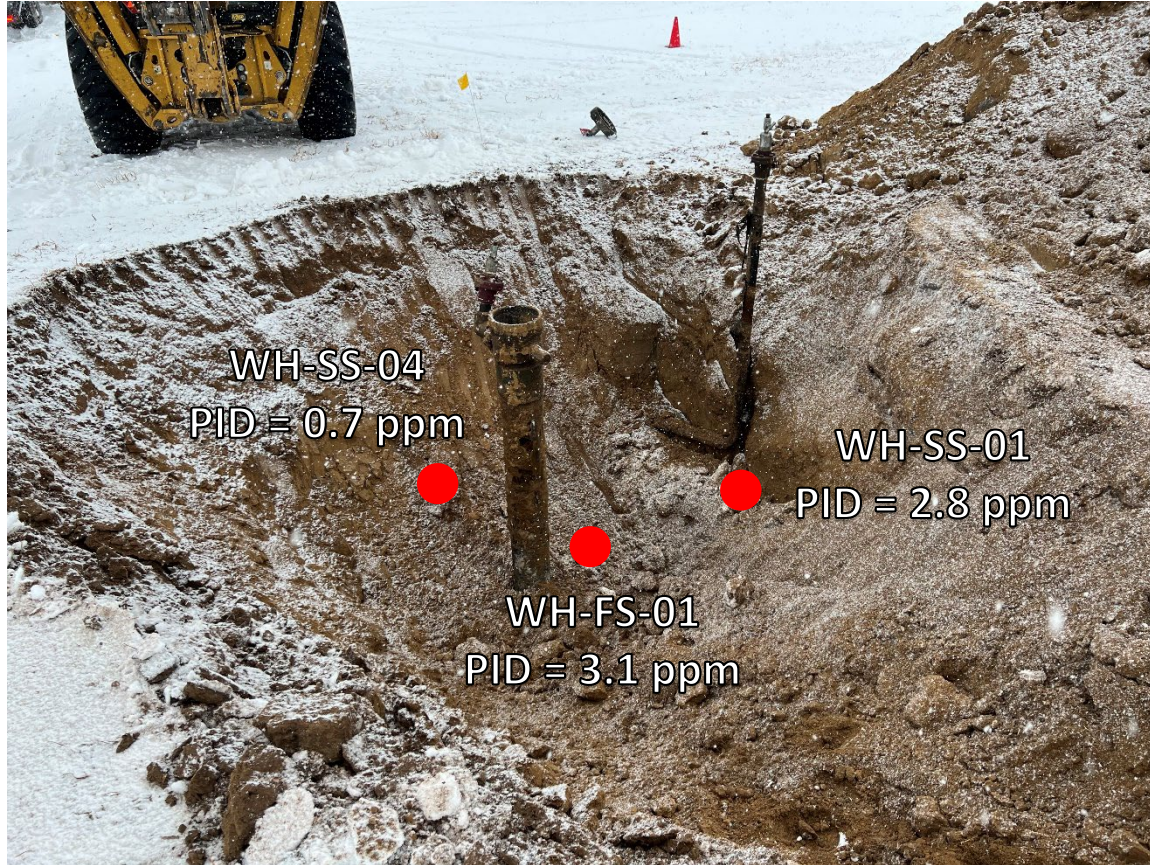
Closure Assessment

January 2023

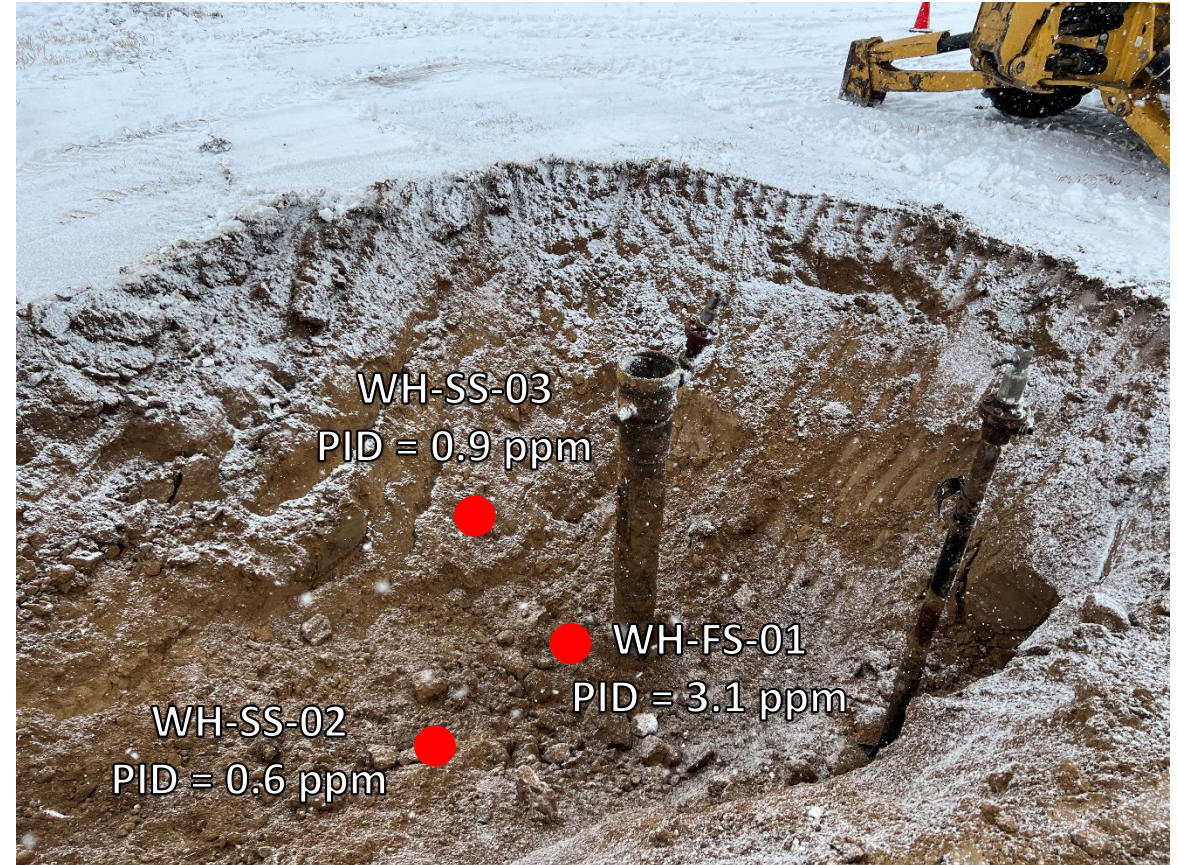




# Wellhead Excavation – 01/11/23



Looking northwest  
No petroleum hydrocarbon staining or odor observed



Looking southwest  
No petroleum hydrocarbon staining or odor observed



# Flowline Assessment – 01/11/23



Looking north  
No petroleum hydrocarbon staining or odor observed





## **ATTACHMENT B**

### **Laboratory Analytical Report**



January 18, 2023

Eagle Environmental Consulting, Inc.

Martin C Eckert III

8000 W 44th Ave

Wheat Ridge CO 80033

Project Name - Noble - Johnson R C #29-2

Project Number - [none]

Attached are your analytical results for Noble - Johnson R C #29-2 received by Origins Laboratory, Inc. January 11, 2023. This project is associated with Origins project number Y301163-01.

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, Inc.

8000 W 44th Ave

Wheat Ridge CO 80033

Martin C Eckert III

Project Number: [none]

Project: Noble - Johnson R C #29-2

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-FS-01@6'	Y301163-01	Soil	January 11, 2023 10:18	01/11/2023 12:20
FL-SS-01@4'	Y301163-02	Soil	January 11, 2023 10:32	01/11/2023 12:20

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, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Johnson R C #29-2

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: 4301163

Client: Eagle

Client Project ID: Johnson R C #29-2

Checklist Completed by: EHS/DE

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

Date/time completed: 1/11/23

Airbill #: NA

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

Cooler Number/Temperature: 1 3.5 °C 1 °C 1 °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 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]

1/11/23  
Date/Time Reviewed

Origins Laboratory, Inc.

[Signature]

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Johnson R C #29-2

WH-FS-01@6'

1/11/2023 10:18:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y301163-01 (Soil)

## Boron (DTPA Sorbitol)

Boron	0.291	0.100	mg/L	1	B3A1207	01/12/2023	01/13/2023	
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## DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3A1201	01/12/2023	01/12/2023	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	89.3 %	50-150			"	"	"	
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## GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3A1123	01/11/2023	01/12/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	97.9 %	70-130			"	"	"	
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Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Johnson R C #29-2

WH-FS-01@6'

1/11/2023 10:18:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y301163-01 (Soil)

## GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	99.5 %	70-130	B3A11 23	01/11/2023	01/12/2023
Surrogate: 4-Bromofluorobenzene	100 %	70-130	"	"	"

## Metals by Saturated Paste by EPA 6010

Calcium	2.42	0.499	meq/L	10	[CALC]	01/12/2023	01/13/2023
Magnesium	0.937	0.823	"	"	"	"	"
Sodium	3.36	0.435	"	"	"	"	"

## PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00109	0.00201	mg/Kg	1	L658359	01/13/2023	01/13/2023
2-Methylnaphthalene	ND	0.00194	0.00201	"	"	"	"	"
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"
Anthracene	0.00038	0.000334	0.00067	"	"	"	"	" J
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	0.000644	0.000624	0.00067	"	"	"	"	" J
Dibenz(a,h)anthracene	0.00119	0.000614	0.00067	"	"	"	"	"
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"
Fluorene	ND	0.000286	0.00067	"	"	"	"	"

Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Johnson R C #29-2

WH-FS-01@6'

1/11/2023 10:18:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.  
Y301163-01 (Soil)

## PAH by 8270D SIM

Indeno(1,2,3-cd)pyrene	0.001	0.000627	0.00067	mg/Kg	1	L658359	01/13/2023	01/13/2023	
Naphthalene	ND	0.00145	0.00201	"	"	"	"	"	
Pyrene	ND	0.000643	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	48.6 %		33-115			"	"	"	
Surrogate: 4-Terphenyl-d14	57.1 %		33-122			"	"	"	
Surrogate: Nitrobenzene-d5	49.8 %		29-110			"	"	"	

## pH in Soil by 9045D

pH	7.97			pH Units	1	B3A1209	01/12/2023	01/13/2023	
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## SAR by 20B Saturated Paste

SAR	2.59			SAR	1	B3A1205	01/12/2023	01/13/2023	
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.800		0.00500	mmhos/cm	1	B3A1209	01/12/2023	01/13/2023	
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Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Johnson R C #29-2

FL-SS-01@4'

1/11/2023 10:32:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y301163-02 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	ND	0.100	mg/L	1	B3A1207	01/12/2023	01/13/2023	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3A1201	01/12/2023	01/12/2023	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	84.3 %	50-150			"	"	"	
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3A1123	01/11/2023	01/12/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	97.8 %	70-130			"	"	"	
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Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Johnson R C #29-2

FL-SS-01@4'

1/11/2023 10:32:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y301163-02 (Soil)

## GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	99.5 %	70-130	B3A11 23	01/11/2023	01/12/2023
Surrogate: 4-Bromofluorobenzene	99.6 %	70-130	"	"	"

## Metals by Saturated Paste by EPA 6010

Calcium	1.66	0.499	meq/L	10	[CALC]	01/12/2023	01/13/2023
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

## PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00109	0.00201	mg/Kg	1	L658359	01/13/2023	01/13/2023
2-Methylnaphthalene	ND	0.00194	0.00201	"	"	"	"	"
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"
Anthracene	ND	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	0.000782	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	0.00111	0.000614	0.00067	"	"	"	"	"
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"

Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Johnson R C #29-2

FL-SS-01@4'

1/11/2023 10:32:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.  
Y301163-02 (Soil)

## PAH by 8270D SIM

Fluorene	ND	0.000286	0.00067	mg/Kg	1	L658359	01/13/2023	01/13/2023
Indeno(1,2,3-cd)pyrene	0.000775	0.000627	0.00067	"	"	"	"	"
Naphthalene	ND	0.00145	0.00201	"	"	"	"	"
Pyrene	ND	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	53 %		33-115			"	"	"
Surrogate: 4-Terphenyl-d14	62.7 %		33-122			"	"	"
Surrogate: Nitrobenzene-d5	54.5 %		29-110			"	"	"

## pH in Soil by 9045D

pH	8.02			pH Units	1	B3A1210	01/12/2023	01/13/2023
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## SAR by 20B Saturated Paste

SAR	0.118			SAR	1	B3A1206	01/12/2023	01/13/2023
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.251		0.00500	mmhos/cm	1	B3A1210	01/12/2023	01/13/2023
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Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Johnson R C #29-2

## 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 B3A1123 - EPA 5030 (soil)										
Blank (B3A1123-BLK1)					Prepared: 01/11/2023 Analyzed: 01/12/2023					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.00380	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		95.6	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		100	70-130			

Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Johnson R C #29-2

**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 B3A1123 - EPA 5030 (soil)</b>										
<b>LCS (B3A1123-BS1)</b>					Prepared: 01/11/2023 Analyzed: 01/12/2023					
1,2,4-Trimethylbenzene	0.0898	0.00200	mg/kg	0.100		89.8	70-130			
1,3,5-Trimethylbenzene	0.0914	0.00200	"	0.100		91.4	70-130			
Benzene	0.0963	0.00200	"	0.100		96.3	70-130			
Ethylbenzene	0.0921	0.00200	"	0.100		92.1	70-130			
Naphthalene	0.0969	0.00380	"	0.100		96.9	70-130			
Toluene	0.0940	0.00200	"	0.100		94.0	70-130			
o-Xylene	0.0937	0.00200	"	0.100		93.7	70-130			
m,p-Xylene	0.181	0.00400	"	0.200		90.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		93.2	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	70-130			

Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Johnson R C #29-2

**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 B3A1123 - EPA 5030 (soil)</b>										
<b>Matrix Spike (B3A1123-MS1)</b>		<b>Source: Y301161-01</b>			Prepared: 01/11/2023 Analyzed: 01/12/2023					
1,2,4-Trimethylbenzene	0.0796	0.00200	mg/kg	0.100	ND	79.6	70-130			
1,3,5-Trimethylbenzene	0.0803	0.00200	"	0.100	ND	80.3	70-130			
Benzene	0.0926	0.00200	"	0.100	ND	92.6	70-130			
Ethylbenzene	0.0852	0.00200	"	0.100	ND	85.2	70-130			
Naphthalene	0.0776	0.00380	"	0.100	0.000600	77.0	70-130			
Toluene	0.0895	0.00200	"	0.100	ND	89.5	70-130			
o-Xylene	0.0859	0.00200	"	0.100	ND	85.9	70-130			
m,p-Xylene	0.167	0.00400	"	0.200	ND	83.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		91.8	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	70-130			

Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Johnson R C #29-2

**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 B3A1123 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (B3A1123-MSD1)</b>					<b>Source: Y301161-01</b>					
										Prepared: 01/11/2023 Analyzed: 01/12/2023
1,2,4-Trimethylbenzene	0.0712	0.00200	mg/kg	0.100	ND	71.2	70-130	11.1	20	
1,3,5-Trimethylbenzene	0.0722	0.00200	"	0.100	ND	72.2	70-130	10.6	20	
Benzene	0.0913	0.00200	"	0.100	ND	91.3	70-130	1.48	20	
Ethylbenzene	0.0803	0.00200	"	0.100	ND	80.3	70-130	5.85	20	
Naphthalene	0.0703	0.00380	"	0.100	0.000600	69.7	70-130	9.93	20	QM-07
Toluene	0.0862	0.00200	"	0.100	ND	86.2	70-130	3.82	20	
o-Xylene	0.0803	0.00200	"	0.100	ND	80.3	70-130	6.76	20	
m,p-Xylene	0.156	0.00400	"	0.200	ND	78.1	70-130	6.91	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		93.4	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		104	70-130			

Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Johnson R C #29-2

**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 B3A1201 - EPA 3580										
Blank (B3A1201-BLK1)					Prepared: 01/12/2023 Analyzed: 01/12/2023					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	23		"	24.9		93.6	50-150			

Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Johnson R C #29-2

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 B3A1201 - EPA 3580										
LCS (B3A1201-BS1)					Prepared: 01/12/2023 Analyzed: 01/12/2023					
Diesel (C10-C28)	880	50.0	mg/kg	1000		88.0	70-130			
Residual Range Organics (C28-C40)	929	200	"	1000		92.9	70-130			
Surrogate: o-Terphenyl	44		"	49.8		88.1	50-150			

Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Johnson R C #29-2

## 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 B3A1201 - EPA 3580

Matrix Spike (B3A1201-MS1)		Source: Y301161-01			Prepared: 01/12/2023 Analyzed: 01/12/2023					
Diesel (C10-C28)	951	50.0	mg/kg	1000	ND	95.1	70-130			
Residual Range Organics (C28-C40)	1020	200	"	1000	ND	102	70-130			
Surrogate: o-Terphenyl	45		"	49.8		91.4	50-150			

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Johnson R C #29-2

## 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 B3A1201 - EPA 3580

Matrix Spike Dup (B3A1201-MSD1)		Source: Y301161-01			Prepared: 01/12/2023 Analyzed: 01/12/2023					
Diesel (C10-C28)	907	50.0	mg/kg	1000	ND	90.7	70-130	4.78	35	
Residual Range Organics (C28-C40)	987	200	"	1000	ND	98.7	70-130	2.78	35	
Surrogate: o-Terphenyl	42		"	49.8		84.7	50-150			

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Martin C Eckert III  
Project Number: [none]  
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## Extractable Petroleum Hydrocarbons by 8015D - Quality Control

### Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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## 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 B3A1205 - Saturated Paste Metals

##### Blank (B3A1205-BLK1)

Prepared: 01/12/2023 Analyzed: 01/13/2023

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

##### Duplicate (B3A1205-DUP1)

Source: Y301143-09

Prepared: 01/12/2023 Analyzed: 01/13/2023

SAR	0.00		SAR	4.13	200	200
Calcium PPM	460	10.0	mg/L	223	69.3	50 QR-DUP
Magnesium PPM	258	10.0	"	159	47.3	50
Sodium PPM	338	10.0	"	331	2.36	50

#### Batch B3A1206 - Saturated Paste Metals

##### Blank (B3A1206-BLK1)

Prepared: 01/12/2023 Analyzed: 01/13/2023

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

##### Duplicate (B3A1206-DUP1)

Source: Y301163-02

Prepared: 01/12/2023 Analyzed: 01/13/2023

SAR	0.00		SAR	0.118	200	200
Calcium PPM	31.9	10.0	mg/L	33.2	4.18	50

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Martin C Eckert III  
Project Number: [none]  
Project: Noble - Johnson R C #29-2

## Classical Chemistry Parameters - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B3A1206 - Saturated Paste Metals</b>										
<b>Duplicate (B3A1206-DUP1)</b>		<b>Source: Y301163-02</b>			Prepared: 01/12/2023 Analyzed: 01/13/2023					
Magnesium PPM	5.43	10.0	mg/L		5.75			5.83	50	
Sodium PPM	2.72	10.0	"		2.80			2.83	50	
<b>Batch B3A1207 - DTPA Sorbitol Preparation</b>										
<b>Blank (B3A1207-BLK1)</b>		Prepared: 01/12/2023 Analyzed: 01/13/2023								
Boron	ND	0.100	mg/L							
<b>Duplicate (B3A1207-DUP1)</b>		<b>Source: Y301159-01</b>			Prepared: 01/12/2023 Analyzed: 01/13/2023					
Boron	0.512	0.0991	mg/L		0.526			2.74	50	

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch B3A1209 - Saturated Paste pH/EC

#### Blank (B3A1209-BLK1)

Prepared: 01/12/2023 Analyzed: 01/13/2023

Specific Conductance (EC) ND 0.00500 mmhos/cm

#### Duplicate (B3A1209-DUP1)

Source: Y301143-09

Prepared: 01/12/2023 Analyzed: 01/13/2023

Specific Conductance (EC) 3.24 0.00500 mmhos/cm

pH 7.69 pH Units

4.11 23.7 25

7.69 0.00 25

### Batch B3A1210 - Saturated Paste pH/EC

#### Blank (B3A1210-BLK1)

Prepared: 01/12/2023 Analyzed: 01/13/2023

Specific Conductance (EC) ND 0.00500 mmhos/cm

#### Duplicate (B3A1210-DUP1)

Source: Y301163-02

Prepared: 01/12/2023 Analyzed: 01/13/2023

pH 7.77 pH Units

Specific Conductance (EC) 0.266 0.00500 mmhos/cm

8.02 3.17 25

0.251 5.53 25

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Martin C Eckert III  
Project Number: [none]  
Project: Noble - Johnson R C #29-2

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L658359 - 3550B**

MSD (L 92573-MSD-L658359)		Source: 92573			Prepared: 01/13/2023 Analyzed: 01/13/2023					
Chrysene	0.105	0.00067	mg/Kg	0.165	0.000741	63.1	30-130	8.5	30	
Pyrene	0.102	0.00067	"	0.165	<0.000643	61.8	30-130	8.2	30	
Naphthalene	0.0843	0.00201	"	0.165	<0.00145	51	30-130	11	30	
Indeno(1,2,3-cd)pyrene	0.0886	0.00067	"	0.165	0.000951	53.1	30-130	37.3	30	*
Fluorene	0.0944	0.00067	"	0.165	<0.000286	57.2	30-130	8.9	30	
Dibenz(a,h)anthracene	0.0949	0.00067	"	0.165	0.00127	56.7	30-130	29.5	30	
Benzo(k)fluoranthene	0.0999	0.00067	"	0.165	<0.000437	60.5	30-130	14.8	30	
2-Methylnaphthalene	0.0953	0.00201	"	0.165	<0.00194	57.7	30-130	10.9	30	
Fluoranthene	0.105	0.00067	"	0.165	<0.000394	63.6	30-130	8.6	30	
Benzo(b)fluoranthene	0.1	0.00067	"	0.165	<0.000585	60.6	30-130	9.9	30	
Acenaphthene	0.0914	0.00067	"	0.165	<0.000304	55.3	30-130	12.6	30	
Anthracene	0.0921	0.00067	"	0.165	<0.000334	55.8	30-130	11.1	30	
Benzo(a)anthracene	0.0966	0.00067	"	0.165	<0.000493	58.5	30-130	7.8	30	
Benzo(a)pyrene	0.106	0.00067	"	0.165	<0.000468	64.2	30-130	9.4	30	
1-Methylnaphthalene	0.0844	0.00201	"	0.165	<0.00109	51.1	30-130	9.8	30	
Surrogate: Nitrobenzene-d5	55.4		"	0.33	181	55.4	29-110			
Surrogate: 2-Fluorobiphenyl	52.4		"	0.33	177	52.4	33-115			
Surrogate: 4-Terphenyl-d14	60.9		"	0.33	208	60.9	33-122			

MS (L 92573-MS-L658359)		Source: 92573			Prepared: 01/13/2023 Analyzed: 01/13/2023					
Benzo(k)fluoranthene	0.0861	0.00067	mg/Kg	0.164	<0.000437	52.5	30-130			
Naphthalene	0.0755	0.00201	"	0.164	<0.00145	46	30-130			
Indeno(1,2,3-cd)pyrene	0.0607	0.00067	"	0.164	0.000951	36.4	30-130			
Fluorene	0.0863	0.00067	"	0.164	<0.000286	52.6	30-130			
Fluoranthene	0.0963	0.00067	"	0.164	<0.000394	58.7	30-130			
Dibenz(a,h)anthracene	0.0705	0.00067	"	0.164	0.00127	42.2	30-130			
Chrysene	0.0964	0.00067	"	0.164	0.000741	58.3	30-130			

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Martin C Eckert III  
Project Number: [none]  
Project: Noble - Johnson R C #29-2

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L658359 - 3550B**

MS (L 92573-MS-L658359)		Source: 92573			Prepared: 01/13/2023 Analyzed: 01/13/2023					
Benzo(b)fluoranthene	0.0905	0.00067	mg/Kg	0.164	<0.000585	55.1	30-130			
Pyrene	0.0939	0.00067	"	0.164	<0.000643	57.2	30-130			
1-Methylnaphthalene	0.0765	0.00201	"	0.164	<0.00109	46.6	30-130			
2-Methylnaphthalene	0.0854	0.00201	"	0.164	<0.00194	52	30-130			
Acenaphthene	0.0805	0.00067	"	0.164	<0.000304	49	30-130			
Anthracene	0.0824	0.00067	"	0.164	<0.000334	50.2	30-130			
Benzo(a)anthracene	0.0893	0.00067	"	0.164	<0.000493	54.4	30-130			
Benzo(a)pyrene	0.0964	0.00067	"	0.164	<0.000468	58.7	30-130			
Surrogate: Nitrobenzene-d5	50		"	0.328	181	50	29-110			
Surrogate: 2-Fluorobiphenyl	47.2		"	0.328	177	47.2	33-115			
Surrogate: 4-Terphenyl-d14	57		"	0.328	208	57	33-122			

LCS (LCS-L658359)		Prepared: 01/13/2023 Analyzed: 01/13/2023								
Pyrene	0.115	0.00067	mg/Kg	0.167		68.8	30-130			
Fluoranthene	0.12	0.00067	"	0.167		71.8	30-130			
Benzo(k)fluoranthene	0.117	0.00067	"	0.167		70	30-130			
Naphthalene	0.0928	0.00201	"	0.167		55.5	30-130			
Fluorene	0.106	0.00067	"	0.167		63.4	30-130			
Dibenz(a,h)anthracene	0.105	0.00067	"	0.167		62.8	30-130			
Chrysene	0.118	0.00067	"	0.167		70.6	30-130			
1-Methylnaphthalene	0.0971	0.00201	"	0.167		58.1	30-130			
Benzo(a)pyrene	0.118	0.00067	"	0.167		70.6	30-130			
Benzo(a)anthracene	0.107	0.00067	"	0.167		64	30-130			
Anthracene	0.103	0.00067	"	0.167		61.6	30-130			
Acenaphthene	0.101	0.00067	"	0.167		60.4	30-130			
2-Methylnaphthalene	0.105	0.00201	"	0.167		62.8	30-130			
Indeno(1,2,3-cd)pyrene	0.093	0.00067	"	0.167		55.6	30-130			

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Martin C Eckert III  
Project Number: [none]  
Project: Noble - Johnson R C #29-2

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L658359 - 3550B</b>										
<b>LCS (LCS-L658359)</b>					Prepared: 01/13/2023 Analyzed: 01/13/2023					
Benzo(b)fluoranthene	0.117	0.00067	mg/Kg	0.167		70	30-130			
Surrogate: Nitrobenzene-d5	62.1		"	0.333		62.1	29-110			
Surrogate: 4-Terphenyl-d14	71.1		"	0.333		71.1	33-122			
Surrogate: 2-Fluorobiphenyl	58.8		"	0.333		58.8	33-115			
<b>LRB (LRB-L658359)</b>					Prepared: 01/13/2023 Analyzed: 01/13/2023					
Chrysene	ND	0.00067	mg/Kg				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Fluoranthene	ND	0.00067	"				-			
Fluorene	ND	0.00067	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
Naphthalene	ND	0.00201	"				-			
Benzo(b)fluoranthene	ND	0.00067	"				-			
Benzo(a)pyrene	ND	0.00067	"				-			
Benzo(a)anthracene	ND	0.00067	"				-			
Acenaphthene	ND	0.00067	"				-			
2-Methylnaphthalene	ND	0.00201	"				-			
1-Methylnaphthalene	ND	0.00201	"				-			
Pyrene	ND	0.00067	"				-			
Anthracene	ND	0.00067	"				-			
Surrogate: Nitrobenzene-d5	58.2		"	0.333		58.2	29-110			
Surrogate: 4-Terphenyl-d14	68.1		"	0.333		68.1	33-122			
Surrogate: 2-Fluorobiphenyl	57		"	0.333		57	33-115			

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### Notes and Definitions

U Sample is Non-Detect.

QR-DUP RPD exceeds QC acceptance criteria, this indicates source sample is not homogenous.

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.

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