talonipe.com = 866.742.0742



Remediation Work Plan

Barr None Federal #001 API# 30-025-32221 Lea County, New Mexico 1RP-2958, 1RP-4574

Prepared For:

Judah Oil, LLC PO Box 568 Artesia, NM 88211

Prepared By:

TALON/LPE 408 W. Texas Avenue Artesia, NM 88210

March 9, 2020

Mr. Mike Bratcher **NMOCD District 2** 811 South First Street Artesia, New Mexico 88210 Mr. Jim Amos Bureau of Land Management 600 E. Greene Street Carlsbad, NM 88220

Subject: Remediation Work Plan Barr None Federal #001 API# 30-025-32221 Lea County, New Mexico 1RP-2958, 1RP-4574

Dear Mr. Bratcher,

Talon/LPE (Talon) has been retained to provide Judah Oil, LLC, with a remediation work plan in order to close out the above referenced historical remediation orders. Enclosed please find the results of our site assessment/characterization, soil sampling results and remediation work plan.

Site Information

The Barr None Federal #001 is located approximately thirty (30) miles west of Eunice, New Mexico. The legal location for this release is Unit Letter E, Section 10, Township 22 South and Range 32 East in Lea County, New Mexico. More specifically the latitude and longitude for the facility is 32.407936 North and - 103.668888 West. Facility location maps are presented in Appendix I.

According to the soil survey provided by the United States Department of Agriculture Natural Resources Conservation Service, the soil in this area is made up of Simona-Upton association which consists of gravely fine sand underlain by fine sandy loam with 0 to 3 percent slopes. The soil survey is presented in Appendix II.

Groundwater and Site Characterization

The New Mexico Office of the State Engineer indicates that the nearest reported depth to groundwater in the area is 360-feet below ground surface (bgs). Drainage courses in this area are well-drained. Additionally, the facility is located in a low potential Karst area. See Appendix II for copies of the referenced data. Karst and FEMA Flood maps are also presented.

Received by OCD: 7/14/2020 12500:059AM

Released to Imaging: 3/23/2021 3:14:12 PM

Approximate Dep	th to Groundwater	360 Feet/BGS
□Yes ⊠No	Within 300 feet of any continuously flowing wa significant watercourse	tercourse or any other
□Yes ⊠No	Within 200 feet of any lakebed, sinkhole or a p	laya lake
□Yes ⊠No	Within 300 feet from an occupied permanent re institution or church	esidence, school, hospital,
□Yes ⊠No	Within 500 feet of a spring or a private, domes by less than five households for domestic or st	
□Yes ⊠No	Within 1000 feet of any freshwater well or sprin	ng
∐Yes ⊠No	Within incorporated municipal boundaries or w freshwater well field covered under a municipa pursuant to Section 3-2703 NMSA 1978	
□Yes ⊠No	Within 300 feet of a wetland	
□Yes ⊠No	Within the area overlying a subsurface mine	
□Yes ⊠No	Within an unstable area	
□Yes ⊠No	Within a 100-year floodplain	

Based on the site characterization data, the releases did not occur in any of these areas and the depth to groundwater exceeds 100-feet bgs. However this remediation plan addresses impacts that are off the well pad consisting of pasture lands. As such, the upper 4-feet of the area southwest of the location will be restored to the following closure criteria levels as if it was less than 50-feet to groundwater.

		Гаble I oils Impacted by a Release	
Minimum depth below any point within the horizontal boundary of the release to groundwater less than 10,000 mg/l TDS	Constituent	Method	Limit
< 50 feet	Total Chlorides	EPA 300.0 or SM4500 CI B	600 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015M	100 mg/kg
	GRO+DRO	EPA SW-846 Method 8015M	100 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg

Incident Descriptions

On July 21, 2013, a hole in a metal flow line southwest of the tank battery released 11 barrels (bbls) of crude oil and 18 bbls of produced water. No fluids were recovered. Remediation activities were conducted by TNT Backhoe Services and Souder Miller Associates completed confirmation sampling and closure reporting for this incident (**1RP-2958**). Closure of this incident was requested at that time. However this remediation order is still open. A copy of the initial C-141 and reports submitted by both of these companies are attached. (Appendix III).

On November 8, 2016, a flow line failure resulted in 12 bbls of crude oil and 30 bbls of produce water to release onto the well pad and flow northward into the reserve drilling pit (**1RP-4574**). Remediation activities on the well pad were supervised by Souder Miller Associates. Approximately 110 cubic yards of impacted material were excavated and disposed of. A closure report was subsequently submitted. BLM approved the closure but the NMOCD did not citing the flow path onto the center of the drilling pit was not addressed; specifically sample location L-7 was not vertically delineated. A copy of the referenced closure report and regulatory correspondence is appended hereto for review (Appendix III).

Site Assessment Activities

On July 9, 2019, Talon personnel mobilized to begin site assessment and sampling activities for the construction of a work plan. Grab soil samples were collected with a hand auger until depths at which refusal was encountered. Results from our initial sampling event are presented on the following data table and the complete laboratory report can be found in Appendix V.

On July 31, 2019, Talon personnel returned to the site to continue vertical delineation sampling utilizing a Geoprobe rig (direct push technology). Grab soil samples were collected with the Geoprobe until depths at which hard rock refusal was encountered. Results from this sampling event are presented on the following data table. All sample point locations are illustrated on the attached site plan (Appendix I) and the complete laboratory report is presented in Appendix V.

On October 8, 2019, an air rotary drilling rig was mobilized to the project location in order to fully delineate the vertical chloride impacts in the reserve drilling pit (samples L-7, S-5 and S-6) and at sample location S-10 immediately south of the tank battery at the locations shown on the site plan (samples collected with the drill rig are notated with an A on the data table and lab report).

Sample ID	Depth (ft.)	Sample Date	BTEX mg/kg	Benzene mg/kg	GRO mg/kg	DRO mg/kg	MRO mg/kg	Total TPH mg/kg	Clorides mg/kg	CL Field Titrations
Closure 19.15. NM	29.12		50 mg/kg	10 mg/kg				100 mg/kg	600 mg/kg	
-	0	7/9/2019	ND	ND	ND	ND	ND	ND	19400	
	1	7/9/2019	NT	NT	NT	NT	NT	NT	18000	
	2	7/9/2019	NT	NT	NT	NT	NT	NT	21400	
	3R	7/9/2019	NT	NT	NT	NT	NT	NT	22200	
L-7	4	7/31/2019	NT	NT	NT	NT	NT	NT	14000	
	8	7/31/2019	NT	NT	NT	NT	NT	NT	NT	4379
	12	7/31/2019	NT	NT	NT	NT	NT	NT	NT	4283
	14	7/31/2019	NT	NT	NT	NT	NT	NT	8400	
	16R	7/31/2019	NT	NT	NT	NT	NT	NT	4300	4144.8
100	20	10/8/2019	NT	NT	NT	NT	NT	NT	1100	1283.6
L-7A	25	10/8/2019	NT	NT	NT	NT	NT	NT	180	241.1
S-1	0	7/31/2019	NT	NT	NT	NT	NT	NT	100	
S-2	0	7/31/2019	NT	NT	NT	NT	NT	NT	ND	
S-3	0	7/31/2019	NT	NT	NT	NT	NT	NT	ND	
S-4	0	7/31/2019	NT	NT	NT	NT	NT	NT	ND	
S-5	11R	7/31/2019	NT	NT	NT	NT	NT	NT	6400	
	15	10/8/2019	NT	NT	NT	NT	NT	NT	NT	4949
	20	10/8/2019	NT	NT	NT	NT	NT	NT	1900	2609.1
S-5A	25	10/8/2019	NT	NT	NT	NT	NT	NT	400	453.8
	30	10/8/2019	NT	NT	NT	NT	NT	NT	NT	482.1
	14	7/31/2019	NT	NT	NT	NT	NT	NT	2200	
S-6	16R	7/31/2019	NT	NT	NT	NT	NT	NT	5300	
	20	10/8/2019	NT	NT	NT	NT	NT	NT	NT	1680.3
	25	10/8/2019	NT	NT	NT	NT	NT	NT	NT	1935.6
S-6A	30	10/8/2019	NT	NT	NT	NT	NT	NT	2100	1695
	35	10/8/2019	NT	NT	NT	NT	NT	NT	280	425.4
	40	10/8/2019	NT	NT	NT	NT	NT	NT	71	99.3
S-7	0-1	7/31/2019	NT	NT	NT	NT	NT	NT	ND	
S-8	0-1	7/31/2019	NT	NT	NT	NT	NT	NT	ND	
S-9	0-1	7/31/2019	NT	NT	NT	NT	NT	NT	ND	
C 10	5	7/31/2019	NT	NT	NT	NT	NT	NT	1400	
S-10	6R	7/31/2019	NT	NT	NT	NT	NT	NT	830	

Page | 5

Sample ID	Depth (ft.)	Sample Date	BTEX mg/kg	Benzene mg/kg	GRO mg/kg	DRO mg/kg	MRO mg/kg	Total TPH mg/kg	Clorides mg/kg	CL Field Titrations
Closure 19.15. NM	29.12		50 mg/kg	10 mg/kg				100 mg/kg	600 mg/kg	
	8	10/8/2019	NT	NT	NT	NT	NT	NT	NT	1566.9
6 104	10	10/8/2019	NT	NT	NT	NT	NT	NT	510	510.5
S-10A	15	10/8/2019	NT	NT	NT	NT	NT	NT	180	
	20	10/8/2019	NT	NT	NT	NT	NT	NT	240	
	0-1	7/31/2019	NT	NT	NT	NT	NT	NT	560	- Service
S-11	3	7/31/2019	NT	NT	NT	NT	NT	NT	620	580.3
	4	7/31/2019	NT	NT	NT	NT	NT	NT	330	158.9
S-12	0-1		NT	NT	NT	NT	NT	NT	380	379.9

R = refusal encountered

ND = analyte not detected

NT = analyte not tested

Proposed Remedial Actions

1RP-2958

- The area immediately south of the tank battery (sample location S-10) will be excavated to a depth of 4-feet bgs. Field titration testing for chlorides will be used to guide the horizonal extent of the excavation. Upon completion, 5-point composite samples will be collected from each side wall and and sent to a certified laboratory for total chloride analysis per EPA Test Method 300.0.
- Upon receipt of total chloride results of 600 mg/kg or less from each side wall, the excavation will be backfilled with like material obtained from a local material pit.
- The backfilled area will be contoured to match the surrounding terrain and seeded with BLM #1 and #2 seed mix utilizing a Culti-Pack seed drill.
- One foot of topsoil will be hauled in from a local material pit to cover the additional non-vegetated areas southwest of the well pad. The area will be contoured and seeded as referenced above to encourage vegetative regrowth.

Proposed Remedial Actions

1RP-4574

- The reserve drilling pit has been horizontally and vertically delineated as requested by the MNOCD. The vertical extent of chloride impacts within the pit extends to 25-feet bgs at sample locations L-7 and S-5; and to 35feet deep at sample location S-6. The nearest depth to groundwater is reported at 360-feet bgs.
- The entire reserve drilling pit will be excavated to a depth of 1-feet deep. The excavated material will be disposed of at a NMOCD approved solid waste disposal facility.
- The drilling pit will be encapsulated with a 20-mil liner to prevent downward leaching of chlorides due to precipitation events. The liner will be keyed in to a depth of 2-feet deep at the edges of the drilling pit to prevent any future movement of the liner.
- Two feet of locally obtained topsoil will be brought in and placed on top of the liner to facilitate regrowth of vegetation. The topsoil will be contoured to match the surrounding terrain and seeded with BLM #1 and #2 seed mix utilizing a Culti-Pack seed drill.
- Erosion control features will be constructed such as upgradient berms and water bars to prevent rainfall sheeting from eroding the newly reclaimed areas
- Photo documentation of all remedial actions will be completed and presented in the closure report along with a Final C-141 for both referenced incidents.

Received by OCD: 7/14/2020 12500:059AM

Closure

Should you have any questions or if further information is required, please do not hesitate to contact our office at 575-746-8768.

Respectfully submitted,

TALON/LPE

35

David J. Adkins District Manager

Attachments:	
Appendix I	Site Maps
Appendix II	Groundwater Data, Soil Survey & FEMA Flood Map
	Site Photographs
Appendix IV	C-141 Forms
Appendix V	Background, previous reports by others
Appendix VI	Laboratory Data

APPENDIX I

SITE MAPS









GROUNDWATER DATA SOIL SURVEY FEMA FLOOD MAP

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer	(R=POD been rep O=orpha	placed,		1.	a lot		. 1 . 1		10 2 2141	4.95)					
serves a water right file.)	C=the fil closed)	e is	(quarters are 1=NW 2=Ni (quarters are smallest to largest)						1	AD83 UTM in r	(16.1	(In feet)			
0.0%		POD Sub-			QG				(iv		neters)	(u) i		Vater	
POD Number C 03717 POD1	Code		County LE		27.17		Tws 225	Rng 32E	X 624094	Y 3586365 🦱	DistanceDe 1139	pthWellDep 650	A DOLLAR STREET, SAN		
C 02096		CUB	ED		2 3	14	225	32E	627204	3584464*	2652	435	360	7	
C 02821		С	LE	2	2 3	14	225	32E	627303	3584563* 🌍	2664	540	340	20	
										Aver	age Depth to V	Vater:	350 fee	ət	
											Minimum De	epth:	340 fee	ət	
											Maximum De	epth:	360 fee	ət	
Record Count:3															
UTMNAD83 Radi	us Search	(in mete	ers):												
Easting (X): 62	5225 116		North	ina	(1):	358	3231			Radius: 3000					

3/9/20 5:53 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

http://nmwrrs.ose.state.nm.us/nmwrrs/ReportProxy?queryData=%7B%22report%22%3A%... 3/9/2020

Lea County, New Mexico

SR—Simona-Upton association

Map Unit Setting

National map unit symbol: dmr3 Elevation: 3,000 to 4,400 feet Mean annual precipitation: 10 to 16 inches Mean annual air temperature: 58 to 62 degrees F Frost-free period: 190 to 205 days Farmland classification: Not prime farmland

Map Unit Composition

Simona and similar soils: 50 percent Upton and similar soils: 35 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Simona

Setting

Landform: Ridges Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Rise Down-slope shape: Convex Across-slope shape: Linear Parent material: Calcareous eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 8 inches: gravelly fine sandy loam Bk - 8 to 16 inches: fine sandy loam Bkm - 16 to 26 inches: cemented material

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 50 percent
Gypsum, maximum in profile: 1 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0

Available water storage in profile: Very low (about 1.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: D Ecological site: Shallow Sandy (R042XC002NM) Hydric soil rating: No

Description of Upton

Setting

Landform: Ridges Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Rise Down-slope shape: Convex Across-slope shape: Linear Parent material: Calcareous eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 8 inches: gravelly loam Bkm - 8 to 18 inches: cemented material BCk - 18 to 60 inches: very gravelly loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.01 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 75 percent
Gypsum, maximum in profile: 1 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: Very low (about 0.9 inches)

Interpretive groups

Land capability classification (irrigated): 6e Land capability classification (nonirrigated): 7s Hydrologic Soil Group: D Ecological site: Shallow (R042XC025NM) Hydric soil rating: No

Minor Components

Kimbrough

Percent of map unit: 6 percent Ecological site: Very Shallow 16-21" PZ (R077CY037TX) Hydric soil rating: No



Stegall

Percent of map unit: 5 percent Ecological site: Limy Upland 16-21" PZ (R077CY028TX) Hydric soil rating: No

Slaughter

Percent of map unit: 4 percent Ecological site: Limy Upland 16-21" PZ (R077CY028TX) Hydric soil rating: No

Data Source Information

Soil Survey Area: Lea County, New Mexico Survey Area Data: Version 15, Sep 12, 2018



B 20.2

17.5

Water Surface Elevation

Cross Sections with 1% Annual Chance

:

Channel, Culvert, or Storm Sewer

Area of Undetermined Flood Hazard Zone

NO SCREEN Area of Minimal Flood Hazard Zone X

Effective LOMRs

6

Area with Flood Risk due to Levee zone D

Levee. See Notes. Zone X

Area with Reduced Flood Risk due to

Chance Flood Hazard Zone X

Future Conditions 1% Annual

areas of less than one square mile Zone J of 1% annual chance flood with average 0.2% Annual Chance Flood Hazard, Area

depth less than one foot or with drainag

Regulatory Floodway

With BFE or Depth Zone AE, AO, AH, VE, AR Without Base Flood Elevation (BFE) Zone A, V, A99

Q

Coastal Transect

Limit of Study

Base Flood Elevation Line (BFE)

X

Unmapped

Digital Data Available

No Digital Data Available

Profile Baseline

Coastal Transect Baseline Jurisdiction Boundary

Hydrographic Feature

an authoritative property location.

point selected by the user and does not represe The pin displayed on the map is an approximate

Received by OCD: 7/14/2020 12:00:05/AM Bas

FIRM panel number, and FIRM effective date. Map images for This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, unmapped and unmodernized areas cannot be used for

APPENDIX III

SITE PHOTOGRAPHS

PHOTO DOCUMENTATION



Location Signage



View of Location from the North



Sample Location L7



Overview Sample Location L7

APPENDIX IV

NMOCD C-141's

State of New Mexico Oil Conservation Division

Incident ID	NOY1703457016
District RP	1RP-2958, 1RP-4574
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>360 (</u> ft bgs)
Did this release impact groundwater or surface water?	🗌 Yes 🛛 No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	🗌 Yes 🛛 No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	🗌 Yes 🛛 No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	🗌 Yes 🛛 No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	🗌 Yes 🛛 No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	🗌 Yes 🛛 No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	🗌 Yes 🛛 No
Are the lateral extents of the release within 300 feet of a wetland?	🗌 Yes 🛛 No
Are the lateral extents of the release overlying a subsurface mine?	🗌 Yes 🛛 No
Are the lateral extents of the release overlying an unstable area such as karst geology?	🗌 Yes 🛛 No
Are the lateral extents of the release within a 100-year floodplain?	🗌 Yes 🛛 No
Did the release impact areas not on an exploration, development, production, or storage site?	⊠ Yes □ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: Each of the following items must be included in the report.

Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells. Field data

- Data table of soil contaminant concentration data
- \square Depth to water determination
- Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps

A/2020 19-00-01 000/ A

2

by OCD:

Received

Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Page 25 of 164	Form C-141 Page 4 (State of New Mexico Dil Conservation Division]	Incident ID District RP Facility ID Application ID	NOY1703457016 1RP-2958, 1RP-4574
	regulations all operators are required to re- public health or the environment. The acc failed to adequately investigate and remed	above is true and complete to the best of m port and/or file certain release notifications eptance of a C-141 report by the OCD does iate contamination that pose a threat to grou ort does not relieve the operator of responsit Title: Distric Date: 3/18/2	and perform correcti not relieve the opera indwater, surface wa ility for compliance t Manager, Talon/I	ve actions for release ator of liability should ter, human health or t with any other federa	s which may endanger I their operations have the environment. In
	email: dadkins@talonlpe.com	Telephone:	107.746.8768		
	OCD Only Received by: Cristina Eads		Date: 03/23/2021		

Form C-141 9 Page 5 **9 Bage**

State of New Mexico Oil Conservation Division

Incident ID	NOY1703457016
District RP	1RP-2958, 1RP-4574
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: Each of the following items must be included in the plan.						
 Detailed description of proposed remediation technique Scaled sitemap with GPS coordinates showing delineation points Estimated volume of material to be remediated Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required) 						
Deferral Requests Only: Each of the following items must be confirmed as part of any request for deferral of remediation.						
Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.						
Extents of contamination must be fully delineated.						
Contamination does not cause an imminent risk to human health, the environment, or groundwater.						
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.						
Printed Name: David J. Adkins Title: District Manager, Talon/LPE						
Signature: Date: 3/18/20						
email: dadkins@talonlpe.com Telephone: 575.746.8768						
OCD Only						
Received by: Cristina Eads Date: 03/23/2021						
Approved with Attached Conditions of Approval Denied Deferral Approved						
Signature: Juitand Date: 03/23/2021						

APPENDIX V

.

LABORATORY REPORTS



July 11, 2019

DAVID ADKINS TALON LPE 408 W. TEXAS AVE. ARTESIA, NM 88210

RE: BARR NONE FED #1

Enclosed are the results of analyses for samples received by the laboratory on 07/10/19 13:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accredited certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Received by OCD: 7/14/2020 12500:052AM

Celeg D.Keine

Celey D, Keene Lab Director/Quality Manager

CARDINAL Laboratories

Analytical Results For:

TALON LPE DAVID ADKINS 408 W. TEXAS AVE. ARTESIA NM, 88210 Fax To: (575) 745-8905

Received:	07/10/2019	Sampling Date:	07/09/2019
Reported:	07/11/2019	Sampling Type:	Soil
Project Name:	BARR NONE FED #1	Sampling Condition:	Cool & Intact
Project Number:	701484.009.01	Sample Received By:	Tamara Oldaker
Project Location:	JUDAH OIL - LEA CO NM		

Sample ID: L- 7 0' (H902358-01)

BTEX 8021B	mg,	/kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0,050	0.050	07/11/2019	ND	2.09	105	2.00	0.678	
Toluene*	<0.050	0.050	07/11/2019	ND	2.09	104	2.00	2.09	
Ethylbenzene*	<0.050	0.050	07/11/2019	NÐ	1.98	98.9	2.00	0.643	
Total Xylenes*	<0.150	0.150	07/11/2019	NÐ	5.96	99.3	6.00	0.617	
Total BTEX	<0.300	0.300	07/11/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE 109 % 73.3-129

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	19400	16.0	07/11/2019	ND	400	100	400	0,00		
TPH 8015M	nıg	mg/kg Analyzed By: MS				x				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC.	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/10/2019	ND	202	101	200	7.22		
DRO >C10-C28*	<10.0	10.0	07/10/2019	ND	202	101	200	5.24		
EXT DRO >C28-C36	<10.0	10.0	07/10/2019	ND						
Surrogate: 1-Chlorooctane	115	% 41-142	?							
Surrogate: 1-Chlorooctadecane	118	% 37.6-14	7							

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PLEXE NOTE: Lubitly and Damages, Cardinal's Fability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be Jimited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatboever shall be deemed walved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without Emilation, business interruptions, loss of use, or loss of profits inturned by client, its substantes, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upone study taiscost or otherwise. Results relate only to the sample identificial above. This report what one vision what affinizes and the claim is based to be study claimed and based to be such as the services of the service settor recommender by Cardinal, regardless of whether such claim is based upon study the above study claimed or otherwise. Results relate only to the sample identified above. This report what constraines of the service settor claims the service of the service settor claims that one to respond to contraine. Results above the service settor claims that the service settor registered in the service settor claims that one to represent the service settor claims that the service settor registered in the service settor settor settor settor settor settors above that the service settor registered in the service settor settor settor settor settors and the settor settor settors and the set of the settor registered in the settor settor settor settor settors and the set of the settor registered in the settor settor settor settor settor settors above the settor registered in the settor settor settor settors above the settor registered in the settor settor settor settor settor settors above above the settor settors above the settor registered in the s

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Celey D. Keene, Lab Director/Quality Manager

Page 2 of 5

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Analytical Results For:

TALON LPE DAVID ADKINS 408 W. TEXAS AVE. ARTESIA NM, 88210 Fax To: (575) 745-8905

Received:	07/10/2019	Sampling Date:	07/09/2019
Reported:	07/11/2019	Sampling Type:	Soil
Project Name:	BARR NONE FED #1	Sampling Condition:	Cool & Intact
Project Number:	701484,009,01	Sample Received By:	Tamara Oldaker
Project Location:	JUDAH OIL - LEA CO NM		

Sample ID: L- 7 1' (H902358-02)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	18000	16.0	07/11/2019	ND	416	104	400	0.00	QM-07

Sample ID: L-7 2' (H902358-03)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	₿S	% Recovery	True Value QC	RPD	Qualifier
Chloride	21400	16.0	07/11/2019	ND	416	104	400	0.00	

Sample ID: L- 7 3' R (H902358-04)

Chloride, SM4500CI-B	 mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	22200	16.0	07/11/2019	ND	416	104	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager

*=Accredited Analyte

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Notes and Definitions

5-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
NÐ	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager

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Page 32 of 164

		es. Please fax written changes to (575) 393-	'/ Cardinal can
		- Other: 0. % Had Dres Dres	Sampler - UPS - Bus
	1	(Circle One) Sample Condition CHECKED BY:	Delivered Sy: (C
	Rust	Time:	
	1	Date: Received By:	Kelinguished Sy:
IND -	REMARKS:	11- TITE:35 Brand. Molater	K NVN
Yes D No [Add] Phone #:	Phone Result:	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	6 111
	ncurred by elient, its subsidiaries, le slated reasons or otherwise.	neo of services hereunder by Con	efficiency of electrons arising out of a related to the performs Refindutished Sv:
	in days after completion of the applicable	ar nagdgenee and any attencauze windepower shall be deemed walved unless made in writing and received by Cardinal within a vice labbo for ineldental or sonzecuental damager, holivitor whow politikar horizontal in writing and received by Cardinal within a	anayses, All dains including lites service, in no event shall Capilital
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	DATE	# CON GROUN WASTE SOIL OIL SLUDG OTHER ACID/B/ ICE / CO OTHER	H902358
<u>н Сн</u>	Ξ×	: ASE: DOL	Lab I.D.
-0R.	SAMPLING		
ι ρξ		Fay	FOR LABUSE ONLY
		COUNTY Phone #:	Project Location: LEA
· · · · · · · · · · · · · · · · · · ·	ם:	Rai Andr FED 1 State: Zip:	Project Name: DARR
		1. Degl. O) Project Owner Junah OIL City:	Project#: 101 484
		275-441-4835 Faxes	r1011e#. 575-4
	SNS	State: NM Zip: 88310	
	δ. ζ.	(A). TEXAS Company: THLOW	166
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ANAI VSIS DEGILEST		7rev (r65	Company vame: TALev
		191 East Mariand, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476	(5
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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

. Released to Imaging: 3/23/2021 3:14:12 PM

Laboratories

Page 5 of 5

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

August 13, 2019

David Adkins Talon Artesia 408 West Texas Ave Artesia, NM 88210 TEL: FAX:

RE: BARR NONE FED 1

OrderNo.: 1908235

Released to Imaging: 3/23/2021 3:14:12 PM

Dear David Adkins:

Hall Environmental Analysis Laboratory received 18 sample(s) on 8/6/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Lab ID:	1908235-001		С	ollecti	on Date	: 7/31/2019 10:30:00 AM
Client Sample ID:					Matrix	: SOIL
Analyses		Result	RL	Qual	Units	DF Date Analyzed Bat
EPA METHOD 300 Chloride	.0: ANIONS	14000	600		mg/Kg	Analyst: 0 200 8/9/2019 11:46:50 PM
Lab ID:	1908235-002		С	ollecti	on Date	: 7/31/2019 11:00:00 AM
Client Sample ID:	L-7 14'				Matrix	: SOIL
Analyses		Result	RL	Qual	Units	DF Date Analyzed Bat
EPA METHOD 300 Chloride	.0: ANIONS	8400	300		mg/Kg	Analyst: 100 8/9/2019 11:59:14 PM
Lab ID:	1908235-003		С	ollecti	on Date	: 7/31/2019 1:00:00 PM
Client Sample ID:	S-6 14'				Matrix	: SOIL
Analyses		Result	RL	Qual	Units	DF Date Analyzed Bat
EPA METHOD 300 Chloride	0.0: ANIONS	2200	60		mg/Kg	Analyst: 20 8/8/2019 1:47:35 PM
Lab ID:	1908235-004		C	ollecti	on Date	: 7/31/2019 1:30:00 PM
Client Sample ID:	S-6 16'				Matrix	: SOIL
Analyses		Result	RL	Qual	Units	DF Date Analyzed Bat
EPA METHOD 300	0.0: ANIONS					Analyst:
Chloride		5300	150		mg/Kg	50 8/10/2019 12:11:39 AM
Lab ID:	1908235-005	n an tha an	C	Collecti		2: 8/1/2019 8:30:00 AM
Client Sample ID:	S-5 11'				Matrix	: SOIL
		Result	RL	Qual	Units	DF Date Analyzed Bat
Analyses						Analyst:

Hall Environmental Analysis Laboratory, Inc.

Analytical Report Lab Order: 1908235

Date Reported: 8/13/2019

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	llon Artesia			<u>t</u>	L	ab O	order: 190	8235	
Project: BA	ARR NONE FED 1								
Lab ID:	1908235-006		\mathbf{C}				/2019 9:00:00 A	М	
Client Sample ID:	S-4 0'				Matrix	: SC	IL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	В	atch ID
EPA METHOD 300.	0: ANIONS						Д	nalyst	: CAS
Chloride		ND	60		mg/Kg	20	8/8/2019 6:32:37	PM	46673
Lab ID:	1908235-007		С	ollecti	on Date	: 8/1	/2019 9:10:00 A	M	
Client Sample ID:	S-3 0'				Matrix	: SC)IL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	B	atch ID
EPA METHOD 300.	0: ANIONS						A	nalys	t: CAS
Chloride		ND	60		mg/Kg	20	8/8/2019 6:45:0	2 PM	46673
Lab ID:	1908235-008		С	ollecti	on Date	: 8/1	l/2019 9:20:00 A	м	
Client Sample ID:	S-2 0'				Matrix	: SC)正		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	B	atch ID
EPA METHOD 300.	0: ANIONS						A	nalys	t: CAS
Chloride		ND	60		mg/Kg	20	8/8/2019 6:57:2	7 PM	46673
Lab ID:	1908235-009		С	ollecti	ion Date	: 8/	1/2019 9:30:00 /	١M	
Client Sample ID:	S-1 0'				Matrix	: S(ML		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	I B	atch ID
EPA METHOD 300	.0: ANIONS						1	Analys	t: CAS
Chloride		100	60		mg/Kg	20	8/8/2019 7:34:4	0 PM	46673
Lab ID:	1908235-010		C	Collecti	ion Date	: 7/	31/2019 11:10:0	0 AM	
	L-7 16' R				Matrix	s: SC	DIL		
Client Sample ID:									

EPA METHOD 300.0: ANIONS Chloride

Qualifiers:

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

150

4300

Value exceeds Maximum Contaminant Level Sample Diluted Due to Matrix D

Hall Environmental Analysis Laboratory, Inc.

Holding times for preparation or analysis exceeded Ħ

Not Detected at the Reporting Limit ND

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix S

Analyte detected in the associated Method Blank в

Value above quantitation range E

Analyte detected below quantitation limits J Sample pH Not In Range

mg/Kg

P RL Reporting Limit

Page 2 of 5

50 8/10/2019 12:36:28 AM 46673

Date Reported: 8/13/2019

Hall Environmental Analysis Laboratory, Inc.				Date Reported: 8/13/2019						
	Falon Artesia BARR NONE FED 1				L	ab O	9rder: 190	8235		
Lab ID:	1908235-011		С	Collection Date: 8/1/2019 10:00:00 AM						
Client Sample ID:	S-10 5'				Matrix	: SC	IL			
Analyses		Result	RL	Qual	Units	DF	Date Analyzed		Batch ID	
EPA METHOD 300	0.0: ANIONS						A	nalys	t: CAS	
Chloride		1400	60		mg/Kg	20	8/8/2019 7:59:29	9 PM	46673	
Lab ID:	1908235-012	Security of the second	Collection Date: 8/1/2019 10:10:00 AM							
Client Sample ID:	S-10 6'		Matrix: SOIL							
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	I I	Batch ID	
EPA METHOD 300 Chloride	D.0: ANIONS	830	60		mg/Kg	20	/ 8/8/2019 8:36:4	-	st: CAS 46673	
Lab ID:	1908235-013		С	ollecti	on Date	: 8/	1/2019 10:35:00	AM		
Client Sample ID:	S-11 3'				Matrix	: SC)IL			
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	1 1	Batch ID	
EPA METHOD 300 Chloride	0.0: ANIONS	620	60		mg/Kg	20		-	st: CAS 46673	
Lab ID:	1908235-014	<u></u>	C	ollecti	on Date	: 8 /	1/2019 10:45:00	AM		
Client Sample ID:	S-11 4'		Matrix: SOIL							
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	1)	Batch ID	
EPA METHOD 30	0.0: ANIONS						,	Analy	st: CAS	
Chloride		330	60		mg/Kg	20	8/8/2019 9:01:3	2 PM	46673	
Lab ID:	1908235-015	איז	C	Collection Date: 8/1/2019 11:00:00 AM						
Client Sample ID:	S-12 0'-1'				Matrix	a: SC	DIL			
Analyses		Result	RL	Qual	Units	DF	Date Analyze	£ £	Batch ID	
EPA METHOD 30	0.0: ANIONS							Analy	st: CAS	
Chloride		380	59		mg/Kg	20	8/8/2019 9:13:5	6 PM	46673	

** -----

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Analyte detected in the associated Method Blank Value exceeds Maximum Contaminant Level. В * Qualifiers: Sample Diluted Due to Matrix Value above quantitation range Ε D Holding times for preparation or analysis exceeded l Analyte detected below quantitation limits Н Sample pH Not In Range Not Detected at the Reporting Linut Practical Quanitative Limit ₽ ND RL Reporting Limit PQL % Recovery outside of range due to dilution or matrix S

Page 3 of 5

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Hall Enviror	ımental Analysis L	aboratory, Inc.					Lab Order: Date Report		/2019	
	Talon Artesia BARR NONE FED 1				ľ	ab C)rder:	19082	35	
Lab ID:	1908235-016		С	Collecti	on Date	: 8/]	1/2019 11:	30:00 AI	M	
Client Sample ID:	: S-7 0'-1'				Matrix	: SC	DIL			
Analyses		Result	RL	Qual	Units	DF	Date An	alyzed	Bat	ch ID
EPA METHOD 30	0.0: ANIONS							Ana	ilyst: (CAS
Chloride		ND	60		mg/Kg	20	8/8/2019	9:26:21 P	M ·	46673
Lab ID:	1908235-017		С	ollecti	on Date	: 8/]	1/2019 12:	00:00 PN	A	and the second
Client Sample ID:	: S-8 0'-1'				Matrix	: SC)IL			
Analyses		Result	RL	Qual	Units	DF	Date An	alyzed	Bat	ch ID
EPA METHOD 30	0.0: ANIONS							Ana	lyst: (CAS
Chloride		ND	60		mg/Kg	20	8/8/2019	9:38:45 P	M 4	46673
Lab ID:	1908235-018		С	lollecti	on Date	: 8/]	1/2019 12:	30:00 PN	Л	
Client Sample ID	: S-9 0'-1'				Matrix	: SC	ЭIL			
Analyses		Result	RL	Qual	Units	DF	Date An	alyzed	Bat	ch ID
EPA METHOD 30	00.0: ANIONS							Ana	alyst: (CAS
Chloride		ND	60		mg/Kg	20	8/8/2019	9:51:10 P	M	46673

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

 Qualifiers:
 *
 Value exceeds Maximum Contaminant Level.

 D
 Sample Diluted Due to Matrix

 H
 Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank

Analytical Report Lab Order: 1908235

- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range RL Reporting Limit

Page 4 of 5

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908235

13-Aug-19

Client: Talon A Project: BARR	Artesia NONE FED 1	
Sample ID: MB-46667	SampType: MBLK TestCode: EPA Method 300.0: Anions	
Client ID: PBS	Batch ID: 46667 RunNo: 61996	
Prep Date: 8/8/2019	Analysis Date: 8/8/2019 SeqNo: 2103915 Units: mg/Kg	
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	
Chloride	ND 1.5	
Sample ID: LCS-46667	SampType: LCS TestCode: EPA Method 300.0: Anions	
Cilent ID: LCSS	Batch ID: 46667 RunNo: 61996	
Prep Date: 8/8/2019	Analysis Date: 8/8/2019 SeqNo: 2103916 Units: mg/Kg	
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	
Chloride	14 1.5 15.00 0 94.1 90 110	
Sample ID: MB-46673	SampType: MBLK TestCode: EPA Method 300.0: Anions	
Client ID: PBS	Batch ID: 46673 RunNo: 61996	
Prep Date: 8/8/2019	Analysis Date: 8/8/2019 SeqNo: 2103945 Units: mg/Kg	
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	
Chloride	ND 1.5	
Sample ID: LCS-46673	SampType: LCS TestCode: EPA Method 300.0: Anions	
Client ID: LCSS	Batch ID: 46673 RunNo: 61996	
Prep Date: 8/8/2019	Analysis Date: 8/8/2019 SeqNo: 2103946 Units: mg/Kg	
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	
Chloride	15 1.5 15.00 0 97.1 90 110	
Sample ID: MB-46669	SampType: mblk TestCode: EPA Method 300.0: Anions	
Client ID: PBS	Batch ID: 46669 RunNo: 61993	
Prep Date: 8/8/2019	Analysis Date: 8/8/2019 SeqNo: 2104085 Units: mg/Kg	
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	
Chloride	ND 1.5	
Sample ID: LCS-46669	SampType: Ics TestCode: EPA Method 300.0: Anions	
Client ID: LCSS	Batch ID: 46669 RunNo: 61993	
Prep Date: 8/8/2019	Analysis Date: 8/8/2019 SeqNo: 2104086 Units: mg/Kg	
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	
Chloride	14 1.5 15.00 0 94.3 90 110	

Value exceeds Maximum Contaminant Level, Sample Diluted Due to Matrix

в Analyte detected in the associated Method Blank Ε Value above quantitation range

- Sample pH Not In Range

Page 5 of 5

Not Detected at the Reporting Limit Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

Holding times for preparation or analysis exceeded

- Analyte detected below quantitation limits J P
 - RL Reporting Limit

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Received by OCD: 7/14/2020 12500:05⁹AM

HALL ENVIRONMENTAL ANALYSIS LABORATORY	TEL: 505-345-397	4901 Hawki buquerque, NM &	ns NE 37109 San -4107	nple Log-In Check List
Client Name: TALON ARTESIA	Work Order Numbe	r: 1908235		ReptNo: 1
Received By: Desiree Dominguez Completed By: Michelle Garcia Reviewed By:	8/6/2019 9:00:00 AM 8/6/2019 11:10:40 AM 8/6//9	Л	TP Minus G	ionus)
 <u>Chain of Custody</u> 1. Is Chain of Custody complete? 2. How was the sample delivered? 		Yes ⊮ <u>Courier</u>	No 🗌	Not Present
Log In 3. Was an attempt made to cool the sample:	s?	Yes 🗹	No 🗌	NA 🗌
4. Were all samples received at a temperatu	re of ≻0° C to 6.0°C	Yes 🔽	No 🗌	NA 🗌
5. Sample(s) in proper container(s)?		Yes 🖌	No 🗌	
6. Sufficient sample volume for indicated test7. Are samples (except VOA and ONG) prop8. Was preservative added to bottles?		Yes ☑ Yes ☑ Yes □	No 🗌 No 🗍 No 🔽	NA 🗆
 9. VOA vials have zero headspace? 10, Were any sample containers received bro 	ken?	Yes 🗌 Yes 🗔	No □ No ☑ [No VOA Vials 🗹
 11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) 12. Are matrices correctly identified on Chain et al. (2019) 	of Custodi 2	Yes 🗹 Yes 🔽	No 🗔	bottles checked for pH: (<2 or \$12 unless noted) Adjusted?
 13. Is it clear what analyses were requested? 14. Were all holding times able to be met? (If no, notify customer for authorization.) 	o datody:	Yes 🗹 Yes 🗹		Checked by: DM 8/4/19
Special Handling (if applicable)				
15. Was client notified of all discrepancies with Person Notified: By Whom: Regarding: Client Instructions: 16. Additional remarks:	Date;	Yes	No	NA ☑
17. <u>Cooler Information</u>	Saul Introf Post No. 1	Sool Datash Re	States 1	

Received by OCD: 7/14/2020 12:00:059AM

. Released to Imaging: 3/23/2021 3:14:12 PM

Received by OCD: 7/14/2020 12500:059AM

ENVIRONMENTAL YSIS LABORATORY lenvironmental.com Albuquerque, NM 87109 Fax 505-345-4107 fax 505-345-4107	Tor Pro C H دولارونده Alir Bubbles (۲ or N)			, ,		1					-			
ENVIROMME YSIS LACOR anvironmental.com Albuquerque, NIM 87109 Fax 505-345-4107 TaxStrenuett	(AOV-ime2) 0728	<u>د</u>	-							2	>			
ALTENVIROMN MALTEINVIROMN www.hallenvironmental.com ns NE - Albuquerque, NM 87 5-3975 Fax 505-345-4107 5-3975 Fax 505-345-4107	(AOV) 80828			— ,							-			
nent 5055.	8081 Pesticides / 8082 PCB's	 												
Viron Viron Flax	Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)									-				
	RCRA 8 Metals													
ANAL ANAL www.hall Hawkins NE - 505-345-3975	(7:200 2011000) 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2					[
11. w wkins -345-	TPH (Method 504.1) EDB (Method 504.1)		<u> </u>										SAL	
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490 490	(Vino as 0) H9T + 38TM + X3T8		"		· _	_							is is in the second sec	
	BTEX + MTBE + TMB's (8021)	-+									┝╼╍┨		Kemarks:	
7 dey - Rush FED I	GULLER GULLER HEAL NO. 41.8-0.3=4.5*	r 00	CV2 .	- 200	1001	002	Cole		UUX PUS		010		8	S/6/19 9700
ONE ONE	ger: <u>مح</u> ه. Yes Preservative Type	ICE COOL							KE COOL					courrer
Project Name: Project Name: Project #: Project #: 701 484, 009, 6	Project Manager: D. ADLINS Sampler: MJ CHALL On foe: B-Yes Sample Temperature: Container Preserv Type and # Type	<u> दि</u> य्तर्ड ।							(1 · 554)7		3	Received hurl	Received	100
Client: Client: TALON LOE Mailing Address: 408. W. TEXAS ANE. ASTESIA NM 89310 Phone #: 575-7440-8768	ge: I Level 4 (Full Validation) Other Matrix Sample Request ID	n Soil L-7 4'	لمراجع المراجع ا		S-2 11	5-5	<u>ک</u>	2 1	. 5-10		L-7 161 .R	Relinguished by:	N	the Milette take courier shella gree
Client: Client: Mailing Address: 408. ARTESIB NM Phone #: 575-7446	CAVAC Package: CAVAC Package: C Standard Accreditation C NELAP C EDD (Type) Date Time	121 14 10:30	11:000			011 19 8:30m	3).00.	9/100	871119 9:30m	1	7 31 39 W. 10m	pațe: Time:		8-5-19 120

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ir necessary, samples submitted to Hall Environmen	H-11 321 2-55	Date: Time: Relinquished by:	Date: Time: Relinquished by:	-	-	12:30pm 5-9 05-1 0	12:00 gr S- S 61-1"	11:30an 5-7 021	11:00am 5-13 0-1"	10:45m 5-11 4"	10:35 S-11 3"	, 01-02 (0, 10 (0,	"11 119 10:00 SETL S-10 5"	Date Time Matrix Sample Request ID			0 1	□ Standard □ Level 4 (Full Validation)	DA/OC Darkaner	email or Earth	ARTESIA NM BBALO	Mailing Address: 400. L.). TEXAS FIVE.		UIBIL TRON JURE	Chain-of-Custody Record
ir necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.	All to the shall a rac	Received by End	Received by Date, Time			Griss 1 read () 8	<u> </u>					012	GLASS 1 105 COOL ()1	Container Type and #		이미 ice: 전 Yes 디 No iie - 0,3:4, 또	1	Validation) D. ADZINS	Project Manager:	101 484, 009.01		BARE NONE FED 1	22	¢KStandard □ Rush	COIRd Turn-Around Time:
possibility. Any sub-contracted data will be clearly notated on the analytical report.	· · · · · · · · · · · · · · · · · · ·		Remarks:											BTEX + MT BTEX + MT TPH 8015B TPH (Metho EDB (Metho EDB (Metho PAH's (8310 RCRA 8 Me Anions (F,Ci 8081 Pestici 8260B (VOA 8270 (Semi- Totte CHu Nir Bubbles (BE (GF (GF) d 50) 0 or tals (,NC des) VO/	+ TI + TI RO / 18.1 04.1 827 03.N / 80 / 80 V) ES	PH (7 DF 1) 1) 70 S 02,1	(Gas c RO / M IMS) PO ₄ ,S	504)		al. 505-345-3975	4901 Hawkins NE - Albuquerque NM 87400			

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August 20, 2019 DAVID ADKINS TALON LPE 408 W. TEXAS AVE. ARTESIA, NM 88210

RE: BARR NONE FED #1

Enclosed are the results of analyses for samples received by the laboratory on 08/19/19 13:38.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celeg D. Keine

Celey D, Keene Lab Director/Quality Manager



TALON LPE DAVID ADKINS 408 W. TEXAS AVE. ARTESIA NM, 88210 Fax To: (575) 745-8905

Received:	08/19/2019	Sampling Date:	08/01/2019
Reported:	08/20/2019	Sampling Type:	Soil
Project Name:	BARR NONE FED #1	Sampling Condition:	Cool & Intact
Project Number:	701484.009.01	Sample Received By:	Tamara Oldaker
Project Location:	JUDAH OIL - LEA CO NM		

Sample ID: S-11 0'-1' (H902837-01)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC				<u> </u>	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	560	16.0	08/20/2019	ND	400	100	400	0,00	

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Lisbility and Damages. Cardinal's liability and client's exclusive remedy for any datim arising, whether based in contract or tort, shall be linkted to the amount paid by client for analyses. All claims, including these for negligence and any other cause whatseever shall be deemd walved unless made in values and received by Cardinal within thirty (30) days after conspletion of the applicable service. In no event shall Cardinal he liable for incidential or consequential damages, including, without fimitation, business interruptions, loss of uses of loss of profils incurred by Client, its subsidiaries, affiliates or successors arising out of or telated to the performance of the services hereunder by Cardinal, regardless of whether such chains based upon any of the bottow stated reasons or otherwise. Results relate only the sample afficiation is post affin on the cardinal Laboratories.

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Celey D. Keene, Lab Director/Quality Manager

Page 2 of 4

CARDINAL Laboratories

Notes and Definitions

RPD Relative Percent Difference *** Samples not received at proper temperature of 6°C or below. *** Insufficient time to reach temperature. - Chloride by SM4500Cl-B does not require samples be received at or below 6°C samples reported on an as received basis (wet) unless otherwise noted on report	ND	Analyte NOT DETECTED at or above the reporting limit
*** Insufficient time to reach temperature. - Chloride by SM4500Cl-B does not require samples be received at or below 6°C	RPD	Relative Percent Difference
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C	**	Samples not received at proper temperature of 6°C or below.
	***	Insufficient time to reach temperature.
Samples reported on an as received basis (wet) unless otherwise noted on report	-	Chloride by SM4500CI-B does not require samples be received at or below 6°C
		Samples reported on an as received basis (wet) unless otherwise noted on report

*=Accredited Analyte

PLEASE NOTE: Uability and Damages. Cardinal's flability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for neglogence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be limited to the indicata or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples klentified above. This report shall not be reproduced except in full with withen approval of Cardinal Laboratories.

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Celey D. Keene, Lab Director/Quality Manager

Page 3 of 4

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GS	Project Name: BARR NONE FED I State: Zip:	Project N
	Project 第一7 014 84.004.01 Project Owner: JWDAH D11 Offic:	Project #
	Phone *: 575 - 441-4835 Fax *: Address:	Phone #
	City: ARTESIA State: NM Zir: 88210 Atm: D. ADENUS	City: A
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- 1		Project I
ANALYSIS REQUEST	Company Name: TALON 100	Compan

Page 4 of 4

Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NBR 88240 (675) 393-2326 FAX (575) 393-2476 Company Name: TALoN したと

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HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX; 505-345-4107 Website; www.hallenvironmental.com

October 23, 2019

David Adkins Talon Artesia 408 West Texas Ave Artesia, NM 88210 TEL: FAX

RE: Barr None Federal 001

OrderNo.: 1910694

Released to Imaging: 3/23/2021 3:14:12 PM

Dear David Adkins:

Hall Environmental Analysis Laboratory received 11 sample(s) on 10/11/2019 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued October 18, 2019.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

	Falon Artesia Barr None Federal 001		Lab Order: 1910694
Lab ID:	1910694-001		Collection Date: 10/8/2019 1:00:00 PM
Client Sample ID:	S-5A 20'		Matrix: SOIL
Analyses		Result	RL Qual Units DF Date Analyzed Batch II
EPA METHOD 300	D.0: ANIONS		Analyst: CJS
Chloride		1900	60 mg/Kg 20 10/17/2019 12:27:37 AM 4820;
Lab ID:	1910694-002		Collection Date: 10/8/2019 1:20:00 PM
Client Sample ID:	S-5A 25'		Matrix: SOIL
Analyses		Result	RL Qual Units DF Date Analyzed Batch II
EPA METHOD 300	0.0: ANIONS		Analyst: CJS
Chloride		400	60 mg/Kg 20 10/17/2019 12:40:01 AM 48202
Lab ID:	1910694-004		Collection Date: 10/8/2019 10:30:00 AM
Client Sample ID:	S-6A 30'		Matrix: SOIL
Analyses		Result	RL Qual Units DF Date Analyzed Batch II
EPA METHOD 300	.0: ANIONS		Analyst: CJS
Chloride		2100	60 mg/Kg 20 10/17/2019 1:04:50 AM 48202
Lab ID:	1910694-005	<u>ġĸĸġĸĸġĸĸġĸĸġĸġġġġġġġġġġġġġġġġġġġġġġġ</u>	Collection Date: 10/8/2019 10:50:00 AM
Client Sample ID:	S-6A 35'		Matrix: SOIL
Analyses		Result	RL Qual Units DF Date Analyzed Batch II
EPA METHOD 300	0.0: ANIONS		Analyst: CJS
Chloride		280	60 mg/Kg 20 10/17/2019 1:42:03 AM 48202
Lab ID:	1910694-006	Čeča s i na provinskom se se samon na na se se sa se	Collection Date: 10/8/2019 11:05:00 AM
Client Sample ID:	S-6A 40'		Matrix: SOIL
Analyses		Result	RL Qual Units DF Date Analyzed Batch II
EPA METHOD 300	0.0: ANIONS		Analyst: MRA
Chloride		71	60 mg/Kg 20 10/17/2019 2:59:04 PM 48223

Hall Environmental Analysis Laboratory, Inc.

Lab Order: 1910694

Analytical Report

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Date Reported: 10/23/2019

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	٠	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank	
-	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	н	Holding times for preparation or analysis exceeded	1	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	D
	PQL	Practical Quanitative Limit	RL	Reporting Limit	Pa
	S	% Recovery outside of range due to dilution or matrix			

Received by OCD: 7/14/2020 12:00:05PAM

Page 1 of 3

	mental Analysis L				1	Date Reported: 10/	23/2019	
	°alon Artesia 3arr None Federal 001				I	lab (Drder: 1910	694
Lab ID:	1910694-007	STATUTE STATUT	C	ollecti	on Date	e; 10	/8/2019 11:30:00	AM
Client Sample ID:	L-7A 20'				Matrix	a se	DIL	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch I
EPA METHOD 300 Chloride	0.0: ANIONS	1100	60		mg/Kg	20		alyst: MR/ 08 PM 4822
Lab D:	1910694-008		Ce	ollecti	on Date	e: 10	/8/2019 11:50:00	AM
Client Sample ID:	L-7A 25'				Matrix	: SC	ML	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch 1
EPA METHOD 300	0.0: ANIONS						An	alyst: MR/
Chloride		180	60		mg/Kg	20	10/17/2019 4:13:3	2 PM 4822
Lab ID:	1910694-009		Ce	ollecti	on Date	e: 10	/8/2019 3:10:00 P	М
Client Sample ID:	S-10A 10'				Matrix	: SC)正	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch 1
EPA METHOD 300 Chloride	0: ANIONS	510	60		mg/Kg	20	An 10/17/2019 4:25:5	alyst: MR/ 8 PM 4822
Lab ID:	1910694-010	BANK MENNING AN	Co	ollecti	on Date	: 10	/8/2019 3:30:00 P	M
Client Sample ID:	S-10A 15'				Matrix			
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch I
EPA METHOD 300 Chloride	.0: ANIONS	180	60		mg/Kg	20	An 10/17/2019 4:38:2	alyst: MR/ 2 PM 4822
Lab ID:	1910694-011	illigijun en nomenon name sonsen en termenonis en diverse.	Ce	ollecti	on Date	: 10	/8/2019 3:50:00 P	M
Client Sample ID:	S-10A 20'				Matrix	: SC	DIL	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch I
EPA METHOD 300	.0: ANIONS						An	alyst: MR/
Chloride		240	60		mg/Kg	20	10/17/2019 4:50:4	•

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Received by OCD: 7/14/2020 12:00:05PAM

Hall Environmental Analysis Laboratory, Inc.

Analytical Report Lab Order: 1910694

Date Reported: 10/23/2019

WO#: 1910694

23-Oct-19

Client:	Talon A	rtesia											
Project:	Barr No	one Federal 001											
Sample ID:	MB-48202	SampType: mt	olk	TestCode: EPA Method 300.0: Anions									
Client ID:	PBS	Batch ID: 48	202	F	RunNo: 6	3729							
Prep Date:	10/16/2019	Analysis Date: 1)/16/2019	S	SeqNo: 2	178963	Units: mg/K	g					
Analyte Chloride		Result PQL ND 1.5	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Sample ID:	LCS-48202	SampType: Ics	<u> </u>	Tes	fCode: El	PA Method	300 0: Anion						
Client ID:		Batch ID: 48			TestCode: EPA Method 300.0: Anions RunNo: 63729								
Prep Date:	10/16/2019	Analysis Date: 10	/16/2019	5	GeqNo: 2	178964	Units: mg/Kg						
Analyte		Result PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Chloride		14 1.5	15.00	0	96.2	90	110						
Sample ID:	MB-48223	SampType: mt	olk	TestCode: EPA Method 300.0: Anions									
Client ID:	PBS	Batch ID: 48	223	F	RunNo: 6:	3756							
Prep Date:	10/17/2019	Analysis Date: 10	/17/2019	S	SeqNo: 2	180412	Units: mg/Kg						
Analyte Chloride	· · · · · ·	Result PQL ND 1.5	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Sample ID:	LCS-48223	SampType: Ics		Tes	tCode: EF	PA Method	300.0: Anions	3					
Client ID:	LCSS	Batch ID: 48	223	F	tunNo: 6	3756							
Prep Date:	10/17/2019	Analysis Date: 10	/17/2019	S	SeqNo: 21	180413	Units: mg/K	g					
Analyte		Result PQL		SPK Ref Val		LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Chloride		14 1.5	15.00	0	94.2	90	110						

Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit

Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

в Analyte detected in the associated Method Blank

E

- Value above quantitation range Analyte detected below quantitation limits J
- Р Sample pH Not In Range
- RL Reporting Limit

Page 3 of 3

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Page 50 of 164	ANAL	Nonmental Ysis Ratory
	Client Name	TALONADTE

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Released to Imaging: 3/23/2021 3:14:12 PM

Client Name:	TALON ARTESIA	Work Order Num	ber: 1910694		RoptNo: 1
Received By:	RIDITINA	10/11/2019 9:20:00	AM		
Completed By:	Anne Thorne	10/11/2019 10:59:4		· A AI	
Reviewed By:	IG	10/11/19		Anne Hr	~
Chain of Cus	tody				
1. Is Chain of C	ustody complete?		Yes 🗹	No 🗌	Not Present
2. How was the	sample delivered?		<u>Courier</u>	•	
Log In					
	pt made to cool the same	les?	Yes 🗹	No 🗌	NA 🗌
4. Were all samp	ples received at a tempera	ture of >0° C to 6.0°C	Yes 🗹	No 🗌	NA 🗌
5. Sample(s) in p	proper container(s)?		Yes 🗹 .	No 🗌	
6, Sufficient sam	ple volume for indicated t	est(s)?	Yes 🖌	No 🗌	
7, Are samples (except VOA and ONG) pr	operly preserved?	Yes 🔽	No 🗌	
8. Was preserva	tive added to bottles?		Yes 🗌	No 🗹	NA 🗌
9. VOA vials hav	e zero headspace?		Yes	No 🗌	No VOA Vials 🔽
10, Were any san	nple containers received h	roken?	Yes 🗆	No 🗹 👔	
•	· · · ·				# of preserved bottles checked
	ork match bottle labels?		Yes 🗹	No 🗌	for pH:
	ancies on chain of custody correctly identified on Chai		Yes 🔽	No 🗌	(<2-or >12 unless noted Adjusted?
	analyses were requested	-	Yes M		
	ng times able to be met?	1	Yes 🗹	No 🗌	Checked by: DAD 10/11/1
	ustomer for authorization.)		,00 (21)		
Special Handl	ing (if applicable)				,
15. Was client no	tified of all discrepancies	with this order?	Yes 🗋	No 🗌	NA 🗹
Person	Notified:	Date			
By Who	m:	Via:	eMail F	hone 🗌 Fax	In Person
Regardi	ng:		· · · · · · · · · · · · · · · · · · ·		eder Hallise the doman area was
Client Ir	structions:	••••••••••••••••••••••••••••••••••••••			Salahala Sa
16. Additional rer	narks:				
17. <u>Cooler Infor</u>	mation				
		Seal Intact Seal No	Seal Date	Signed By	
1	0.1 Good	Yes		~~~***********************************	

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APPENDIX VI

BACKGROUND, PREVIOUS REPORTS

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1RP-2958

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Page	811 S. First St., District III 1000 Rio Braze District IV	os Road, Azic	c, NM 87410	JL 25	1220		ervation Dir th St. Franc		Submit 1 Copy to appropriate District Office accordance with 19.15.29 NM/					
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	Surface Ow	vner BLM	1		Mineral C	Owner	BLM			API No	. 30-025-	32221		
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	Was Immedi	iate Notice (Given?					12:00 pm Whom? Maxey	Brown N	/-22-2013 IMOCD	3 1:30 pm Dist I (Left	message)		
				Yes 🗍	No 🗌 Not Re	quired								
	By Whom? J Was a Water						Date and I	lour 7-22-2013	2:20 pm the Watere					
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orns Descr: Descr: Associates - All Rights Reserved	Deta Barr No UL: E S: 10 T	TOO Feet	
Drawn Checked Approved	Detailed Site and Sample Map Barr None Federal #1 1RP 9-13-2958 UL: E S: 10 T22S R32E Lea County, New Mexico		
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201 South Halaguena Street Carlsbad, New Mexico 88221 (575) 689:7040 www.soudermiller.com www.soudermiller.com Serving the Southwest & Reely Mountains	Figure 3	Legend Closure Samples Excavation Area	

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Sample	Sample	Depth	BTEX	Benzene	GRO	DRÓ	MRO	Total TPH	Cl-
ID	ID Date (feet bg		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
NMO	CD Closure	Criteria	50	10	10	00		2500	20,000
CSW1	10/9/2018	0.5	<0.219	<0.024	<4.9	<10	<50	<64.9	99
CSW2	10/9/2018	0.5	<0.213	<0.024	<4.7	<9.6	<48	<62.3	<30
CSW3	10/9/2018	0.5	<0.220	<0.024	<4.9	<9.7	<48	<62.6	<30
CSW4	10/9/2018	0.5	<0.224	<0.025	<5.0	11	<49	11	<30
CBH1	10/9/2018	0.5	<0.210	<0.023	<4.7	<9.6	<48	<62.3	<30
CBH2	10/9/2018	0.5	<0.216	<0.024	<4.8	<9.8	<49	<63.6	130
CBH3	10/9/2018	0.5	<0.210	<0.023	<4.7	<9.7	<48	<62.4	<30

"--" = Not Analyzed

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New Mexico Office of the State Engineer Water Column/Average Depth to Water

(A CLW###### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)	(R=POD has been replaced O=orphaned, C=the file is closed)	. (•						3=SW 4=SE) gest) (NA) AD83 UTM in me	eters)	(1	n feet)	
	POD Sub-		Q	Q	Q							Depth	Depth	Water
POD Number	Code basin	County	64	16	4	Sec	Tws	Rng	Х	Ϋ́	Distance		•	Column
C 03717 POD1	С	LE	4	4	1	09	22S	32E	624094	3586365 🎧	1069	650		
<u>C 02096</u>	CUB	ED		2	3	14	22S	32E	627204	3584464* 🎡	2843	435	360	75
<u>C 02821</u>	С	LE	2	2	3	14	22S	32E	627303	3584563* 🍚	2849	540	340	200
										Avera	ge Depth to	Water:	350	feet
											Minimum	Depth:	340	feet
											Maximum	Depth:	360	feet
Record Count: 3														

UTMNAD83 Radius Search (in meters):

Easting (X): 625160.84

Northing (Y): 3586441.4

Radius: 3200

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



USGS Home Contact USGS Search USGS

National Water Information System: Web Interface

USGS Water Resources	Data Category: Groundwater	Geographic Area:	-1
	jolouliawater		

Click to hideNews Bulletins

- Please see news on new formats
- Tuesday, October 30, approximately 7.5 percent of USGS streamgages are still not transmitting due to an issue with the telemetry system that records and transmits streamgage data. The USGS continues to work on bringing the streamgages back online as quickly as possible. The data on the streamgages is being preserved for download and has not been lost. Read <u>more</u>
- <u>Full News</u>

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

• 322314103384301

GO

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

USGS 322314103384301 225.32E.14.32322

Available data for this site Groundwater: Field measurements

Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°23'23", Longitude 103°38'53" NAD27 Land-surface elevation 3,717.00 feet above NGVD29

The depth of the well is 435 feet below land surface.

This well is completed in the Santa Rosa Sandstone (231SNRS) local aquifer.

Output formats

<u>Table of data</u>

Tab-separated data

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<u>Graph of data</u>

Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.

Download a presentation-quality graph

Questions about sites/data? Feedback on this web site Automated retrievals Help Data Tips Explanation of terms Subscribe for system changes News

Accessibility Plug-Ins FOIA Privacy Policies and Notices <u>U.S. Department of the Interior</u> | <u>U.S. Geological Survey</u> **Title: Groundwater for USA: Water Levels URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?**

USA.gov

Page Contact Information: <u>USGS Water Data Support Team</u> Page Last Modified: 2018-10-31 12:20:26 EDT 1.06 0.93 nadww01

164	٤)												
Page 60 of 164	District I 1625 N. French	Dr., Hobbs, i	NM 88240	IOBBS (DCD Sta	ate of	f New Mex	ico					Form C-141
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SEP 2 8 2013

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575-746-0807 FAX

8-16-2013 Carlsbad Field Office Bureau of Land Management 620 E. Greene St. Carlsbad, NM 88220 Jennifer VanCuren Jvancuren@blm.gov

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On 8-15-2013 Judah Oil, LLC contact TNT Backhoe service (TNT) concerning a spill at the Barr None Federal #1 – Rural LEA, Township: 22s Range: 32e Section 10, 1980'FNL & 660'FWL, API #30-025-32221.

On 7-21-2013 at 12:00pm a crude oil release was discovered at the Barr None Federal #1 Tank Battery, the leak resulted from a crack in a flow line going into the tank which subsequently has been repaired.

The surface owner, US Bureau of Land Management (BLM) was informed, and subsequently a C-141 was filed with the New Mexico Oil & Division (NMOCD). The estimated quantity of release was reported as eleven barrels oil & thirteen barrels of water, of which none was immediately recovered.

Jennifer VanCuren "BLM" requested that a scope of work be done in writing and that, Geoffrey R Leking:

575-746-0807 FAX

Environmental Engineer, (NMOCD) in Hobbs is informed as well; the location is in Lea County.

If approved; TNT Backhoe Service will set up the time and date the job will began. Mr. Leking and Miss/Mrs. VanCuren will be given the information in case they wish to be present when the work begins.

RE: Remediation of the Judah Oil LLC, Barr Bone Federal #1 pipe line release.

On behalf of Judah Oil LLC, (TNT) is seeking permission to start remediation services at the Barr None Federal #1. The spill came from a broken flow line behind one of the tanks; running through a weak spot on the berm at the south/west corner of the location, "see map and pictures for visual."

The estimated spill is 75'x 176' running south/west, fingering out in different directions. The flow paths average between 3' to 20' in width. (TNT) would like to use a backhoe to remove the majority of the spill to be trucked to Sundance Services, Inc, near Eunice.

Once the majority of the spill is removed, (TNT) would begin to run preliminary sampling to determine how deep

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Received by OCD: 7/14/2020 12500:059AM

575-746-0807 FAX

& wide the spill traveled. Field samples will be taken at various spots to determine the chloride count using "Chloride strips," anything lower than 500 ppm will be sent to Cardinal Laboratories in Hobbs for the final analysis, which will include BTEX, GRO/DRO, and the chloride count. Included background samples taken around the spill.

Once it's determine how deep the spill is, (TNT) Submits two scenarios. The first would depend on the depth of the spill, if it is less than five to six feet, remove all contaminate to this point.

Calichie will be trucked in and used to backfill within a foot of ground level. Native soil will be used to finish bringing the excavated areas to ground level, contoured back into the surrounding area in a way as to promote revegetation, drainage and stop soil erosion.

Native seed approved by (BLM) will be seeded, by "hand broad casting"& raked into the soil. If deemed too late to seed at this time (TNT) would seed the following summer.

The second scenario would be in case the spill goes deeper than six feet, once its determine how deep seepage went, permission to take contaminate down four feet, cover with

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a 20mil liner, backfill within a foot of ground level. Native soil will be used to finish bringing the excavated areas to ground level, contoured back into the surrounding area in a way as to promote re-vegetation, drainage and to discourage soil erosion.

Native seed approved by (BLM) will be seeded, using the "hand broad cast system" then raked into the soil. If it's deemed too late to seed at this time (TNT) would seed the following summer. If you have any question please feel contact Ray Martin at 575-365-7827.

Respectfully Submitted

Gary Smith TNT Backhoe Service Office 575-746-6063 E-mail tntbackhoeservice@pvtn.net

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Released to Imaging: 3/23/2021 3:14:12 PM



Released to Imaging: 3/23/2021 3:14:12 PM



September 24, 2013

GARY SMITH TNT Backhoe Service P.O. Box 133 Artesia, NM 88211

RE: BARR NONE FEDERAL #1

Enclosed are the results of analyses for samples received by the laboratory on 09/18/13 15:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Received by OCD: 7/14/2020 12500:05²AM

Celley D.Keine

Celey D. Keene Lab Director/Quality Manager



TNT Backhoe Service GARY SMITH P.O. Box 133 Artesia NM, 88211 Fax To: (505) 746-1885

Received:	09/18/2013	Sampling Date:	09/18/2013
Reported:	09/24/2013	Sampling Type:	Soil
Project Name:	BARR NONE FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: A-3' DEEP (H302276-01)

BTEX 8021B	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2013	ND	2.11	105	2.00	5.45	
Toluene*	<0.050	0.050	09/20/2013	ND	1.97	98.7	2.00	5.19	
Ethylbenzene*	<0.050	0.050	09/20/2013	ND	1.98	99.2	2.00	4.79	
Total Xylenes*	<0.150	0.150	09/20/2013	ND	6.02	100	6.00	4.72	
Total BTEX	<0.300	0.300	09/20/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	111 9	% 89.4-12	б	· · · ·					
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	09/19/2013	ND	416	104	400	3.77	

12500:05PAM 7/14/2020

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Received:	09/18/2013	Sampling Date:	09/18/2013
Reported:	09/24/2013	Sampling Type:	Soil
Project Name:	BARR NONE FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: B-3' DEEP (H302276-02)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2013	ND	2.11	105	2.00	5.45	
Toluene*	<0.050	0.050	09/20/2013	ND	1.97	98.7	2.00	5.19	
Ethylbenzene*	<0.050	0.050	09/20/2013	ND	1.98	99.2	2.00	4.79	
Total Xylenes*	<0,150	0.150	09/20/2013	ND	6.02	100	6.00	4.72	
Total BTEX	<0.300	0.300	09/20/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	108	% 89.4-12	6						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/19/2013	ND	416	104	400	3.77	

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Received:	09/18/2013	Sampling Date:	09/18/2013
Reported:	09/24/2013	Sampling Type:	Soil
Project Name:	BARR NONE FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: C-3' DEEP (H302276-03)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2013	ND	2.11	105	2.00	5.45	
Toluene*	<0.050	0.050	09/20/2013	ND	1.97	98.7	2.00	5.19	
Ethylbenzene*	<0.050	0.050	09/20/2013	ND	1.98	99.2	2.00	4.79	
Total Xylenes*	<0,150	0.150	09/20/2013	ND	6.02	100	6.00	4.72	
Total BTEX	<0.300	0.300	09/20/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	108	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	09/19/2013	ND	416	104	400	3.77	

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Received:	09/18/2013	Sampling Date:	09/18/2013
Reported:	09/24/2013	Sampling Type:	Soil
Project Name:	BARR NONE FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: D-3' DEEP (H302276-04)

BTEX 8021B	mg,	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2013	ND	2.11	105	2.00	5.45	
Toluene*	<0.050	0.050	09/20/2013	ND	1.97	98.7	2.00	5.19	
Ethylbenzene*	<0.050	0.050	09/20/2013	ND	1.98	99.2	2.00	4.79	
Total Xylenes*	<0.150	0.150	09/20/2013	ND	6.02	100	6.00	4.72	
Total BTEX	<0.300	0.300	09/20/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	107 9	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP				_	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	09/19/2013	ND	416	104	400	3.77	

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Received:	09/18/2013	Sampling Date:	09/18/2013
Reported:	09/24/2013	Sampling Type:	Soil
Project Name:	BARR NONE FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: E-3' DEEP (H302276-05)

BTEX 8021B	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2013	ND	2.11	105	2.00	5.45	
Toluene*	<0.050	0.050	09/20/2013	ND	1.97	98.7	2.00	5.19	
Ethylbenzene*	<0.050	0.050	09/20/2013	ND	1.98	99.2	2.00	4.79	
Total Xylenes*	<0.150	0.150	09/20/2013	ND	6.02	100	6.00	4.72	
Total BTEX	<0.300	0.300	09/20/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	106 9	89.4-12	6						
Chloride, SM4500Cl-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	09/19/2013	ND	416	104	400	3.77	

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Received:	09/18/2013	Sampling Date:	09/18/2013
Reported:	09/24/2013	Sampling Type:	Soil
Project Name:	BARR NONE FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: F-3' DEEP (H302276-06)

BTEX 8021B	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	3S % Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2013	ND	2.11	105	2.00	5.45	
Toluene*	<0.050	0.050	09/20/2013	ND	1.97	98.7	2.00	5.19	
Ethylbenzene*	<0.050	0.050	09/20/2013	ND	1.98	99.2	2.00	4.79	
Total Xylenes*	<0.150	0.150	09/20/2013	ND	6.02	100	6.00	4.72	
Total BTEX	<0.300	0.300	09/20/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIE	105	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	09/19/2013	ND	416	104	400	3.77	

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Received:	09/18/2013	Sampling Date:	09/18/2013
Reported:	09/24/2013	Sampling Type:	Soil
Project Name:	BARR NONE FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: G-3' DEEP (H302276-07)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2013	ND	2.11	105	2.00	5.45	
Toluene*	<0.050	0.050	09/20/2013	ND	1.97	98.7	2.00	5.19	
Ethylbenzene*	<0.050	0.050	09/20/2013	ND	1.98	99.2	2.00	4.79	
Total Xylenes*	<0.150	0.150	09/20/2013	ND	6.02	100	6.00	4.72	
Total BTEX	<0.300	0.300	09/20/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	107 9	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	09/19/2013	ND	416	104	400	3.77	

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Received:	09/18/2013	C	
Reported:	09/24/2013	Sampling Date:	09/18/2013
Project Name:	BARR NONE FEDERAL #1	Sampling Type:	Soil
Project Number:	NONE GIVEN	Sampling Condition:	Cool & Intact
Project Location:	LEA COUNTY, NM	Sample Received By:	Jodi Henson

Sample ID: H-2' DEEP (H302276-08)

BTEX 8021B	mg	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2013	ND	2.11	105	2.00	5.45	Quanner
Toluene*	<0.050	0.050	09/20/2013	ND	1.97	98.7	2.00	5.19	
Ethylbenzene*	< 0.050	0.050	09/20/2013	ND	1.98	99.2	2.00	4.79	
Total Xylenes*	<0.150	0.150	09/20/2013	ND	6.02	100	6,00	4.72	
Total BTEX	<0.300	0.300	09/20/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIE	109 9	16 89.4-120	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	DDD	0 10
Chloride	224	16.0	09/19/2013	ND	416	104	400	RPD 3.77	Qualifier

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Received:	09/18/2013	Sampling Date:	09/18/2013
Reported:	09/24/2013	Sampling Type:	Soil 🦯
Project Name:	BARR NONE FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: NORTH WALL-1 1/2 DEEP (H302276-09)

BTEX 8021B	mg/	kg	Analyze	d By: MS			······		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2013	ND	2.11	105	2.00	5.45	
Toluene*	<0.050	0.050	09/20/2013	ND	1.97	98.7	2.00	5.19	
Ethylbenzene*	<0.050	0.050	09/20/2013	ND	1. 9 8	99.2	2.00	4.79	
Total Xylenes*	<0.150	0.150	09/20/2013	ND	6.02	100	6.00	4.72	
Total BTEX	<0.300	0.300	09/20/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	108	% 89.4-12	6						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP		<u></u>			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	09/19/2013	ND	416	104	400	3.77	

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Received:	09/18/2013	Sampling Date:	09/18/2013
Reported:	09/24/2013	Sampling Type:	Soil
Project Name:	BARR NONE FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SOUTH WALL 1 1/2 DEEP (H302276-10)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2013	ND	2.11	105	2.00	5.45	
Toluene*	<0.050	0.050	09/20/2013	ND	1.97	98.7	2.00	5.19	
Ethylbenzene*	<0.050	0.050	09/20/2013	ND	1.98	99.2	2.00	4.79	
Total Xylenes*	<0.150	0.150	09/20/2013	ND	6.02	100	6.00	4.72	
Total BTEX	<0.300	0.300	09/20/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	106 9	89.4-12	б						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	09/23/2013	ND	432	108	400	0.00	

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Celleg D. Kenne

Celey D. Keene, Lab Director/Quality Manager

Page 11 of 16



TNT Backhoe Service GARY SMITH P.O. Box 133 Artesia NM, 88211 Fax To: (505) 746-1885

Received:	09/18/2013	Sampling Date:	09/18/2013
Reported:	09/24/2013	Sampling Type:	Soil
Project Name:	BARR NONE FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: EAST WALL - 1 1/2 DEEP (H302276-11)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2013	ND	2.11	105	2.00	5.45	
Toluene*	<0.050	0.050	09/20/2013	ND	1.97	98.7	2.00	5.19	
Ethylbenzene*	<0.050	0.050	09/20/2013	ND	1.98	99.2	2.00	4.79	
Total Xylenes*	<0.150	0.150	09/20/2013	ND	6.02	100	6.00	4.72	
Total BTEX	<0.300	0.300	09/20/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	110 9	89.4-12	6						
Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	512	16.0	09/23/2013	ND	432	108	400	0.00	

12500:05PAM 7/14/2020 daim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified apove. This report shall not be reproduced except in full with written approval of Cardinal Laboratories. Received by OCD:

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TNT Backhoe Service GARY SMITH P.O. Box 133 Artesia NM, 88211 Fax To: (505) 746-1885

Received:	09/18/2013	Sampling Date:	09/18/2013
Reported:	09/24/2013	Sampling Type:	Soil
Project Name:	BARR NONE FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: WEST WALL - 1 1/2 DEEP (H302276-12)

mg/	kg	Analyze	d By: MS					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<0.050	0.050	09/20/2013	ND	2.11	105	2.00	5.45	
<0.050	0.050	09/20/2013	ND	1.97	98.7	2.00	5.19	
<0.050	0.050	09/20/2013	ND	1.98	99.2	2.00	4.79	
<0.150	0.150	09/20/2013	ND	6.02	100	6.00	4.72	
<0.300	0.300	09/20/2013	ND					
110 9	% 89.4-12	6						
mg/	kg	Analyze	d By: AP					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<16.0	16.0	09/23/2013	ND	432	108	400	0.00	
	Result <0.050 <0.050 <0.150 <0.300 ///0 % mg/ Result	<0.050 0.050 <0.050 0.050 <0.050 0.050 <0.150 0.150 <0.300 0.300 <i>110 % 89.4-12</i> mg/kg Result Reporting Limit	Result Reporting Limit Analyzed <0.050	Result Reporting Limit Analyzed Method Blank <0.050	Result Reporting Limit Analyzed Method Blank BS <0.050	Result Reporting Limit Analyzed Method Blank BS % Recovery <0.050	Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC <0.050	Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC RPD <0.050

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PLEASE NOTE: Liability and Damages. Cardinal's liability and cleant's exclusive remedy for any daim arising, whether based in contract or tort, shall be limited to the amount paid by cliant for analyses. All daims, including those for negligence and any other cause whatsoever shall be demed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be lable for incidental or consequential damages, including, without limitation, wainess interruptions, loss of use, or loss of profits incurred by Cardinal within thirty (30) days after completion of the applicable services interruptions, loss of use, or loss of profits incurred by claint, its substaines, affiliates or successors arising out of or related to the performance of the services interruption, loss of use, or loss of profits incurred by claint, its substaines, affiliates or successors arising out of or related to the performance of the services interruption by Cardinal, regardless of whether such claim is based used any of the above stated researce or otherwise. Result related above: This report shall not be reported by Cardinal in the technologic decreate in full with writen approval of Cardinal Labovatories.

Celeg D. Kuna

Celey D. Keene, Lab Director/Quality Manager

Page 13 of 16



Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.

Chloride by SM4500CI-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

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Celley D. Keens

Celey D. Keene, Lab Director/Quality Manager

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November 1, 2018

#5E26837-BG4

(575) 689-8801

NMOCD District 1 Ms. Christina Hernandez 1625 N. French Drive Hobbs, New Mexico 88240

SUBJECT: Remediation Closure Report for the Barr None Federal #1 Release (1RP-9-13-2958), Lea County, New Mexico

Souder, Miller & Associates 201 S. Halagueno St. + Carlsbad, NM 88220

Dear Ms. Hernandez:

On behalf of Judah Oil, LLC (Judah), Souder, Miller & Associates (SMA) has prepared this Remediation Closure Report that describes release documentation and confirmation sampling of a release of liquids related to oil and gas production activities at the Barr None Federal #1 site. The site is in Unit E, Section 10, Township 22S, Range 32E, Lea County, New Mexico, on Federal land. Figure 1 illustrates the vicinity and site location on an USGS 7.5 minute quadrangle map.

Table 1 summarizes release information and Closure Criteria.

	Table 1: Release Inform	ation and Closure	e Criteria
Name	Barr None Federal #1	Company	Judah Oil LLC
API Number	30-025-2221	Location	32.4080124 -103.6690445
Incident Number		1RP-9-13-2958	
Estimated Date of Release	July 21, 2013	Date Reported to NMOCD	July 22, 2013
Land Owner	Federal	Reported To	NMOCD District 1
Source of Release	Flowline		
Released Volume	29 bbl	Released Material	11 bbl oil, 18 bbl produce water
Recovered Volume	0 bbl	Net Release	29 bbl
NMOCD Closure Criteria	>100 feet to groundwater		
SMA Response Dates	October 9, 2018		

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Barr None Federal #1 Remediation Closure Report (1RP-9-13-2958) - November 1, 2018

1.0 Background

On July 21, 2013, a release was discovered at the Barr None Federal #1 site due to a hole in a metal 2inch flowline. Figure 1 illustrates the vicinity and site location, Figures 2 and 3 illustrate the release location. The C-141 form is included in Appendix A.

2.0 Site Information and Closure Criteria

The Barr None Federal #1 is located approximately 32 miles east of Carlsbad, New Mexico on Federal (BLM) land at an elevation of approximately 3,804 feet above mean sea level (amsl).

Based upon NMOSE and USGS data (Appendix B), depth to groundwater in the area is estimated to be 437 feet below grade surface (bgs). There are zero (0) known water sources within ½-mile of the location, according to the New Mexico Office of the State Engineer (NMOSE) online water well database (https://gis.ose.state.nm.us/gisapps/ose_pod_locations/; accessed 10/31/2018). The nearest significant watercourse is an unnamed playa, located approximately 885 feet to the southwest. Figure 2 illustrates the site with 200 and 300-foot radii to indicate that it does not lie within a sensitive area as described in 19.15.29.12.C(4) NMAC.

Based on the information presented herein, the applicable NMOCD Closure Criteria for this site is for a groundwater depth of greater than 100 feet bgs. The site has been restored to meet the standards of Table I of 19.15.29.12 NMAC.

Table 2 demonstrates the Closure Criteria applicable to this location. Pertinent well data is attached in Appendix B.

3.0 Release Characterization Activities and Findings

In the workplan dated August 16, 2013, TNT Backhoe Service (TNT) proposed excavating and removing contaminated soil in the impacted area. On September 9, 2013, NMOCD received the workplan. On September 18, 2013, TNT conducted confirmation sampling of the walls and base of the excavation. Sample depths ranged from 1.5 to 3 feet bgs. NMOCD received a copy the Cardinal Laboratories report on September 26, 2013 (included in Appendix C). SMA has not found or received any further documentation regarding this release.

At the request of Judah, SMA collected confirmation samples from the apparent release and excavation area. On October 9, 2018, SMA conducted confirmation sampling of the area of impact. Confirmation samples were comprised of five-point composites.

A total of seven (7) sample locations (composite sidewall samplesCSW1-CSW4, composite bottom-hole samples CBH1-CBH3) were collected using a hand-auger, to depths of six (6) inches bgs. A total of seven (7) samples were collected for laboratory analysis for total chloride using EPA Method 300.0; benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B; and motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D. Locations for all samples are depicted on Figure 3.

Samples were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico (Appendix C).

Figure 3 shows the apparent extent of the excavation and sample locations. Laboratory results are summarized in Table 3. Laboratory reports are included in Appendix C.

SMA recommends no further action for the Barr None Federal release (1RP-9-13-2958).

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4.0 Scope and Limitations

The scope of our services included: assessment sampling; verifying release stabilization; regulatory liaison; remediation; and preparing this closure report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin in New Mexico.

If there are any questions regarding this report, please contact either Austin Weyant at 575-689-8801 or Shawna Chubbuck at 505-325-7535.

Submitted by: SOUDER, MILLER & ASSOCIATES

Reviewed by:

Smean Michdelette

Lucas C. Middleton Staff Scientist

Shauna Chubbuck

Shawna Chubbuck Senior Scientist

ATTACHMENTS:

Figures:

Figure 1: Vicinity and Well Head Protection Map Figure 2: Surface Water Radius Map

Figure 3: Site and Sample Location Map

Tables:

Table 2: NMOCD Closure Criteria Justification Table 3: Summary of Sample Results

Appendices:

Appendix A: Form C141 Appendix B: NMOSE Wells Report Appendix C: Laboratory Analytical Reports

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TABLES

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Table 2: NMOCD Closure Criteria

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Site Information (19.15.29.11.A(2, 3, and 4) NMAC)	1994 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	Source/Notes
Depth to Groundwater (feet bgs)	437	NMOSE, USGS
Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)	885	NMOSE, USGS
Hortizontal Distance to Nearest Significant Watercourse (ft)	885	USGS 7.5 Minute Quadrangle Map

Closure Criteria (19.15.	29.12.B(4) anı	d Table 1 NMAC)			·····	
aktin turna taan taan taan taan turna taan taan taan taan taan taan taan t	ALTERNA DELIVERY OF SUCCESSION OF SUCCESSION	Closi	ure Criteria	a (units in r	ng/kg)	
Depth to Groundwater		Chloride *numericat limit or background, whichever Is greater	трн	GRO + DRO	ВТЕХ	Benzene
< 50' BGS		600	100		50	10
51' to 100'	[10000	2500	1000	50	10
>100'	X	20000	2500	1000	50	10
Surface Water	yes or no		if ye	s, then		
<300' from continuously flowing watercourse or other significant watercourse? <200' from lakebed, sinkhole or playa lake? Water Well or Water Source	No No					
<500 feet from spring or a private, domestic fresh water well used by less than 5 households for domestic or stock watering purposes? <1000' from fresh water well or spring?	No No					
Human and Other Areas		600	100		50	10
<300' from an occupied permanent residence, school, hospital, Institution or church?	No					
within incorporated municipal boundaries or within a defined municipal						
fresh water well field?	No					1
<100' from wetland?	No					
within area overlying a subsurface mine	No					
within an unstable area?	No					
within a 100-year floodplain?	No					

Sample ID	Sample Date	Depth (feet bgs)	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	Total TPH mg/Kg	Cl- mg/Kg
NMO	CD Closure	e Criteria	50	10	10	00		2500	20,000
CSW1	10/9/2018	0.5	<0.219	< 0.024	<4.9	<10	<50	<64.9	99
CSW2	10/9/2018	0.5	<0.213	<0.024	<4.7	<9.6	<48	<62.3	<30
CSW3	10/9/2018	0.5	<0.220	<0.024	<4.9	<9.7	<48	<62.6	<30
CSW4	10/9/2018	0.5	<0.224	<0.025	<5.0	11	<49	11	<30
CBH1	10/9/2018	0.5	<0.210	<0.023	<4.7	<9.6	<48	<62.3	<30
CBH2	10/9/2018	0.5	<0.216	<0.024	<4.8	<9.8	<49	<63.6	130
CBH3	10/9/2018	0.5	<0.210	<0.023	<4.7	<9,7	<48	<62.4	<30

"--" = Not Analyzed

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November 1, 2018

Souder, Miller & Associates*201 S. Halagueno St.*Carlsbad, NM 88220 (575) 689-8801

#5E26837-BG4

NMOCD District 1 Ms. Christina Hernandez 1625 N. French Drive Hobbs, New Mexico 88240

SUBJECT: Remediation Closure Report for the Barr None Federal #1 Release (1RP-9-13-2958), Lea County, New Mexico

Dear Ms. Hernandez:

On behalf of Judah Oil, LLC (Judah), Souder, Miller & Associates (SMA) has prepared this Remediation Closure Report that describes release documentation and confirmation sampling of a release of liquids related to oil and gas production activities at the Barr None Federal #1 site. The site is in Unit E, Section 10, Township 22S, Range 32E, Lea County, New Mexico, on Federal land. Figure 1 illustrates the vicinity and site location on an USGS 7.5 minute quadrangle map.

Table 1 summarizes release information and Closure Criteria.

	Table 1: Release Inform	ation and Closure	e Criteria
Name	Barr None Federal #1	Company	Judah Oil LLC
API Number	30-025-2221	Location	32.4080124 -103.6690445
Incident Number		1RP-9-13-2958	
Estimated Date of Release	July 21, 2013	Date Reported to NMOCD	July 22, 2013
Land Owner	Federal	Reported To	NMOCD District 1
Source of Release	Flowline		
Released Volume	29 bbl	Released Material	11 bbl oil, 18 bbl produce water
Recovered Volume	0 bbl	Net Release	29 bbl
NMOCD Closure Criteria	>100 feet to groundwater		
SMA Response Dates	October 9, 2018		

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						Correspondance dates	Correspondance dates	Closure report submitted	Work Plan Submitted		C141- Initial Resubmitted	C141 - Initial Submitted	Order Date by OCD		Judah Requesting Approval for Remediation	Spill date	API Number	Timeline2
11/20/2018 12/4/2018	11/6/2018	11/4/2018	11/1/2018	10/6/2018	9/26/2013				NA	7/25/2013			9/18/2013	9/9/2013	8/16/2013	7/21/2013	300253221	1RP-2958
Middleton emailed Judah (James Campanella) & Wes @ energy Resources with Closure Reports to re-submit to brad billings at NMOCD. Middleton emailed closure report to Pike Energy	Yu emailed Middleton to advise the release would need to be evaluated by Jim Griswold (Griswold not copied on Yu's email)	Email response from Yu to Engallina's 10-30-2018; 1RP-2958; does not have closure approval from NMOCD or BLM. NMOCD states that the area needs reevaluated for closure.	Closure Report to Christina Hernandez	Middleton emailed OCD (10/8/18) 48 hour notification (closure samples) w/ request to "get an update on closure for other RP on this site. 1RP-4574	NMOCD recieves Cardinal Lab Reports					Received by Habbs OCD			Received by Hobbs OCD		Per TNT Backhoe Service			Explanation (1RP-2958)

APPENDIX B NMOSE & USGS WELLS REPORT

Engineering + Environmental + Surveying

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New Mexico Office of the State Engineer Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)	(R=POD has been replaced O=orphaned, C=the file is closed)	. (•						3=SW 4=SE rgest) (N	i) AD83 UTM in me	eters)	(In feet)	
an a	POD Sub-		Q	Q	ā	in di The second s	e î și Spras	n en stande Stander	a. Latingen	e di Granita di Granda		Donth	Danth	Water
POD Number	Code basin (Tws	Rng	Х	Y	Distance			Column
C 03717 POD1	С	LE	4	4	1	09	22S	32E	624094	3586365 🍥	1069	650		
<u>C 02096</u>	CUB	ED		2	3	14	22S	32E	627204	3584464* 🎧	2843	435	360	75
<u>C 02821</u>	С	LE	2	2	3	14	228	32E	627303	3584563* 🎡	2849	540	340	200
										Avera	ge Depth to	Water:	350	feet
											Minimum	Depth:	340	feet
											Maximum	Depth:	360	feet
Record Count: 3														

UTMNAD83 Radius Search (in meters):

Easting (X): 625160.84

Northing (Y): 3586441.4

Radius: 3200

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



USGS Home Contact USGS Search USGS

National Water Information System: Web Interface

Data Category: Geographic Area: Groundwater V United States V

Click to hideNews Bulletins

- Please see news on new formats
- Tuesday, October 30, approximately 7.5 percent of USGS streamgages are still not transmitting due to an issue with the telemetry system that records and transmits streamgage data. The USGS continues to work on bringing the streamgages back online as quickly as possible. The data on the streamgages is being preserved for download and has not been lost. Read <u>more</u>
- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

322314103384301

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

USGS 322314103384301 22S.32E.14.32322

Available data for this site Groundwater: Field measurements V GO

Lea County, New Mexico Hydrologic Unit Code 13070007 Latitude 32°23'23", Longitude 103°38'53" NAD27 Land-surface elevation 3,717.00 feet above NGVD29 The depth of the well is 435 feet below land surface. This well is completed in the Santa Rosa Sandstone (231SNRS) local aquifer. **Output formats**

Table of data

Tab-separated data

Graph of data

Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.

Download a presentation-quality graph

Questions about sites/data? Feedback on this web site Automated retrievals Help Data Tips Explanation of terms Subscribe for system changes News

Accessibility Plug-Ins FOIA Privacy Policies and Notices U.S. Department of the Interior | U.S. Geological Survey Title: Groundwater for USA: Water Levels URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?



Page Contact Information: <u>USGS Water Data Support Team</u> Page Last Modified: 2018-10-31 12:20:26 EDT 1.06 0.93 nadww01

APPENDIX C LABORATORY ANALYTICAL REPORTS

www.soudermiller.com

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquergue, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

October 18, 2018

Austin Weyant Souder, Miller & Associates 201 S Halagueno Carlsbad, NM 88221 TEL: (575) 689-7040 FAX

OrderNo.: 1810662

Released to Imaging: 3/23/2021 3:14:12 PM

Dear Austin Weyant:

RE: Bar None

Hall Environmental Analysis Laboratory received 7 sample(s) on 10/11/2018 for the analyses presented in the following report.

2

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

may

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analyst: smb

Analyst: Irm

Analyst: RAA

Analyst: RAA

10/16/2018 12:15:50 PM 41028

10/12/2018 2:27:09 PM 40959

10/12/2018 2:27:09 PM 40959

10/12/2018 2:27:09 PM 40959

10/12/2018 5:45:22 PM 40955

Hall Environmental Analysis Laboratory, Inc.

EPA METHOD 8015M/D: DIESEL RANGE ORGANICS

EPA METHOD 300.0: ANIONS

Diesel Range Organics (DRO)

Motor Oil Range Organics (MRO)

Gasoline Range Organics (GRO)

EPA METHOD 8021B: VOLATILES

Surr: 4-Bromofluorobenzene

EPA METHOD 8015D: GASOLINE RANGE

Chloride

Surr: DNOP

Surr: BFB

Benzene

Toluene

Ethylbenzene

Xylenes, Total

x: SOIL Receiv	ed Date: 10/11/2018 8:50:00 AM
Collecti	on Date: 10/9/2018 10:00:00 AM
Client Sa	mple ID: CSW 1
	Collecti

99

ND

ND

74.6

ND

88.9

ND

ND

ND

ND

104

30

10

50

4.9

15-316

0.024

0.049

0.049

0.097

80-120

50.6-138

mg/Kg

mg/Kg

mg/Kg

%Rec

mg/Kg

%Rec

mg/Kg

mg/Kg

mg/Kg

mg/Kg

%Rec

20

1

1

1

1

1

1

1

1

1

1

- Refer to the OC Summary report and sample login checklist for flagged OC data and preservation information	the QC Summary report and sample login checklist for flagged QC data and	I preservation information
--	--	----------------------------

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 12
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Project: Bar None

Client Sample ID: CSW 2 Collection Date: 10/9/2018 10:05:00 AM

Lab ID: 1810662-002	Matrix: SOIL		Received Date	e: 10	/11/2018 8:50:00 AM	
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: smb
Chloride	ND	30	mg/Kg	20	10/16/2018 12:53:05 P	M 41028
EPA METHOD 8015M/D: DIESEL RAI	VGE ORGANICS				Analys	t: Irm
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	10/12/2018 3:56:00 PM	40959
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	10/12/2018 3:56:00 PN	40959
Surr: DNOP	61.3	50.6-138	%Rec	1	10/12/2018 3:56:00 PM	40959
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: RAA
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	10/12/2018 6:53:11 PN	40955
Surr: BFB	93.8	15-316	%Rec	1	10/12/2018 6:53:11 PM	1 40955
EPA METHOD 8021B: VOLATILES					Analys	t: RAA
Benzene	ND	0.024	mg/Kg	1	10/12/2018 6:53:11 PN	40955
Toluene	ND	0.047	mg/Kg	1	10/12/2018 6:53:11 PM	40955
Ethylbenzene	ND	0.047	mg/Kg	1	10/12/2018 6:53:11 PN	40955
Xylenes, Total	ND	0.095	mg/Kg	1	10/12/2018 6:53:11 PN	40955
Surr: 4-Bromofluorobenzene	110	80-120	%Rec	1	10/12/2018 6:53:11 PM	40955

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	в	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 12
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

6437/2 ------

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates		Cl	ient Sample II): CS	SW 3	
Project: Bar None		(Collection Date	e: 10,	/9/2018 11:01:00 AM	
Lab ID: 1810662-003	Matrix: SOIL		Received Date	e: 10	/11/2018 8:50:00 AM	
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: smb
Chloride	ND	30	mg/Kg	20	10/16/2018 1:05:30 PM	41028
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analys	t: Irm
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	10/12/2018 4:18:08 PM	40959
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	10/12/2018 4:18:08 PM	40959
Surr: DNOP	67.2	50.6-138	%Rec	1	10/12/2018 4:18:08 PN	40959
EPA METHOD 8015D: GASOLINE RANG	E				Analys	t: RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	10/12/2018 8:01:04 PM	40955
Surr: BFB	90.3	15-316	%Rec	1	10/12/2018 8:01:04 PM	40955
EPA METHOD 8021B: VOLATILES					Analys	t: RAA
Benzene	ND	0.024	mg/Kg	1	10/12/2018 8:01:04 PM	40955
Toluene	ND	0.049	mg/Kg	1	10/12/2018 8:01:04 PM	40955
Ethylbenzene	ND	0.049	mg/Kg	1	10/12/2018 8:01:04 PM	40955
Xylenes, Total	ND	0.098	mg/Kg	1	10/12/2018 8:01:04 PM	40955
Surr: 4-Bromofluorobenzene	106	80-120	%Rec	1	10/12/2018 8:01:04 PM	40955

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 3 of 12
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report Lab Order 1810662

Analyst: RAA

10/12/2018 8:23:45 PM 40955

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

EPA METHOD 8021B: VOLATILES

Surr: 4-Bromofluorobenzene

Benzene

Toluene

Ethylbenzene Xylenes, Total **Client Sample ID: CSW 4**

Project:	Bar None		(Collection Dat	e: 10	/9/2018 10:15:00 AM	
Lab ID:	1810662-004	Matrix: SOIL		Received Dat	e: 10	/11/2018 8:50:00 AM	
Analyses	3	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA ME	THOD 300.0: ANIONS					Analys	t: smb
Chloride	•	ND	30	mg/Kg	20	10/16/2018 1:17:54 PM	41028
EPA ME	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analys	t: Irm
Diesel R	ange Organics (DRO)	11	9.9	mg/Kg	1	10/12/2018 4:40:13 PN	1 40959
Motor O	il Range Organics (MRO)	ND	49	mg/Kg	1	10/12/2018 4:40:13 PM	40959
Surr:	DNOP	74.5	50.6-138	%Rec	1	10/12/2018 4:40:13 PM	40959
EPA ME	THOD 8015D: GASOLINE R/	ANGE				Analys	t: RAA
Gasoline	e Range Organics (GRO)	ND	5.0	mg/Kg	1	10/12/2018 8:23:45 PM	1 40955
Surr:	BFB	90.9	15-316	%Rec	1	10/12/2018 8:23:45 PM	40955

ND

ND

ND

ND

106

0.025

0.050

0.050

0.099

80-120

mg/Kg

mg/Kg

mg/Kg

mg/Kg

%Rec

1

1

1

1

1

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
-	Ð	Sample Diluted Due to Matrix	Е	Value above quantitation range
	н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 4 of 12
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & AssociatesClient Sample ID: CBH 1Project: Bar NoneCollection Date: 10/9/2018 10:30:00 AMLab ID: 1810662-005Matrix: SOILReceived Date: 10/11/2018 8:50:00 AM

Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	: smb
Chloride	ND	30	mg/Kg	20	10/16/2018 1:30:18 PM	41028
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst	: Irm
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	10/12/2018 5:02:06 PM	40959
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	10/12/2018 5:02:06 PM	40959
Surr: DNOP	83.6	50.6-138	%Rec	1	10/12/2018 5:02:06 PM	40959
EPA METHOD 8015D: GASOLINE RANGE					Analyst	RAA
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	10/12/2018 8:46:23 PM	40955
Surr: BFB	90.7	15-316	%Rec	1	10/12/2018 8:46:23 PM	40955
EPA METHOD 8021B: VOLATILES					Analyst	: RAA
Benzene	ND	0.023	mg/Kg	1	10/12/2018 8:46:23 PM	40955
Toluene	ND	0.047	mg/Kg	1	10/12/2018 8:46:23 PM	40955
Ethylbenzene	ND	0.047	mg/Kg	1	10/12/2018 8:46:23 PM	40955
Xylenes, Total	ND	0.093	mg/Kg	1	10/12/2018 8:46:23 PM	40955
Surr: 4-Bromofluorobenzene	106	80-120	%Rec	1	10/12/2018 8:46:23 PM	40955

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	в	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 5 of 12
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	R1.	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

8662

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QC SUMMARY I	REPOR'	T	
Hall Environmental	*	Laboratory,	

WO#:	1810662
11 0 // 1	1010002

18-Oct-18

Client:Souder, MProject:Bar None	Ailler & Associa	ates							
Sample ID LCS-40959	SampType: I	_CS	Tes	tCode: E	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: LCSS	Batch ID: 4	10959	F	RunNo: 5	4831				
Prep Date: 10/11/2018	Analysis Date:	10/12/2018	5	SeqNo: 1	822521	Units: mg/K	g		
Analyte	Result PQI	. SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO) Surr: DNOP	42 1 4.6	0 50.00 5.000	0	83.7 91.7	70 50.6	130 138			
Sample ID MB-40959	SampType: 1	**************************************	Tes			8015M/D: Die	sel Rang	organics	()))))
Client ID: PBS	Batch ID: 4			RunNo: 5		007011121 21		a organico	
Prep Date: 10/11/2018	Analysis Date:			GegNo: 1		Units: mg/K	a		
				•		-	%RPD	RPDLimit	Qual
Analyte Diesel Range Organics (DRO)		0	SPK Ref Val	MREU	LOWLINE	HighLimit	70KPD	INFUL[[]]][Qual
Motor Oil Range Organics (MRO)	ND 5	0							
Surr: DNOP	8.9	10.00		89.0	50.6	138			
Sample ID 1810662-001AMS	SampType: I	ИS	Tes	tCode: E	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: CSW 1	CSW 1 Batch ID: 40959			RunNo: 54831					
Prep Date: 10/11/2018	Analysis Date:	10/12/2018	5	SeqNo: 1	822526	Units: mg/K	g		
Analyte	Result PQL	. SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48 9.	5 47.53	0	100	53.5	126		· · · · · · · · · · · · · · · · · · ·	····
Surr: DNOP	4.2	4.753		87.7	50.6	138			
Sample ID 1810662-001AMSI	SampType: I	/ISD	Tes	tCode: E	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: CSW 1	Batch ID; 4	10959	F	lunNo: 5	4831				
Prep Date: 10/11/2018	Analysis Date:	10/12/2018	5	SeqNo: 1	822527	Units: mg/K	g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46 9.		0	96.7	53.5	126	4.17	21.7	
Surr: DNOP	3.3	4.713		70.0	50.6	138	0	0	
Sample ID LCS-41021	SampType: I	.cs	Tes	tCode: E	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: LCSS	Batch ID: 4	1021	F	tunNo: 5	4899				
Prep Date: 10/16/2018	Analysis Date:	10/16/2018	8	SegNo: 1	824731	Units: %Re	C		
Analyte	Result PQL	. SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.2	5.000	-	64.4	50.6	138			
Sample ID MB-41021	SampType: I	MBLK	Tes	tCode: E	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: PBS	Batch ID: 4	1021	F	RunNo: 5	4899		•	-	
Prep Date: 10/16/2018	Analysis Date:			eqNo: 1		Units: %Re	C		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

Received by OCD: 7/14/2020 12:00:05PAM

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S=-% Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
 - Page 9 of 12

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC	SUMMARY	REPOR'		
Hall	Environmenta	•	Laboratory,	

Client: Project:	Souder, Miller & A Bar None	Associat	es		102077400400000007077777777					
Sample ID MB-41	D21 Samp	Type: MI	BLK	Tes	lCode: El	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: PBS	Bate	ch ID: 41	021	R	tunNo: 5	4899				
Prep Date: 10/16	2018 Analysis	Date: 1	0/16/2018	S	eqNo: 1	824732	Units: %Re	C		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	7.2		10.00		72.4	50.6	138			

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

1810662 *18-Oct-18*

WO#:

Page 10 of 12

D	QC	SUMMARY	REPOR'		
		Environmenta	•	•	

18-Oct-18

040502

Client:	Souder, N	Ailler & A	ssociate	es							
Project:	Bar None										
Sample ID	1810662-001AMS	SampT	3	TestCode: EPA Method 8015D: Gasoline Range							
Client ID:	CSW 1	Batch ID: 40955			F	RunNo: 5	4829				
Prep Date:	10/11/2018	Analysis D	ate: 1	0/12/2018	S	SeqNo: 1	823257	Units: mg/M	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	26	4.9	24.68	0	104	77.8	128			
Surr: BFB		1100		987.2		114	15	316			
Sample ID	1810662-001AMSE) SampT	ype: M	SD	Tes	tCode: El	PA Method	8015D: Gasc	line Rang	e	07,211,00m, - 40,021,000,000,000,000,00
Client ID:	CSW 1	Batch	1D: 40	955	F	RunNo: 5	4829				
Prep Date:	10/11/2018	Analysis D	ate: 1	0/12/2018	S	SeqNo: 1	823258	Units: mg/M	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimil	Qual
Gasoline Rang	e Organics (GRO)	24	4.9	24.41	0	99.5	77.8	128	5.75	20	
Surr: BFB		1100		976.6		110	. 15	316	0	0	
Sample ID	LCS-40955	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015D: Gasc	line Rang	e	
Client ID:	LCSS	Batch	1D: 40	955	F	RunNo: 5	4829				
Prep Date:	10/11/2018	Analysis D	ate: 1	0/12/2018	8	SeqNo: 1	823271	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	22	5.0	25.00	0	89.4	75.9	131		·	
Surr: BFB		1100		1000		105	15	316			
Sample ID	MB-40955	SampT	ype: MI	BLK	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	e	
Client ID:	PBS	Batch	1D: 40	955	F	RunNo: 5	4829				
Prep Date:	10/11/2018	Analysis D	ate: 1	0/12/2018	S	SeqNo: 1	823272	Units: mg/k	۲g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	e Organics (GRO)	ND	5.0								
Surr: BFB		930		1000		92.7	15	316			

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RŁ Reporting Detection Limit
- w Sample container temperature is out of limit as specified

Page 11 of 12

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Souder, Miller & Associates

Project: Bar None

Sample ID	1810662-002AMS	Samp	Гуре: М	5	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID:	CSW 2	Batch ID: 40955			RunNo: 54829						
Prep Date:	10/11/2018	Analysis Date: 10/12/2018			5	SeqNo: 1823401 Units: mg/Kg					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	**************************************	1.1	0.024	0.9407	0.004290	118	68.5	133	3 VIE-1-1-0		
Toluene		1.1	0.047	0.9407	0.003362	121	75	130			
Ethylbenzene		1.1	0.047	0.9407	0	119	79.4	128			
Xylenes, Total		3.3	0.094	2.822	0	117	77,3	131			
Surr: 4-Bror	nofluorobenzene	1.0		0.9407		108	80	120			
Sample ID	1810662-002AMSE) Samp	Type: MS	3D	Tes	tCode: Ei	PA Method	8021B: Vola	tiles		
Client ID:	CSW 2	Batc	h ID: 40	955	F	lunNo: 5	4829				
Prep Date:	10/11/2018	Analysis [Date: 10)/12/2018	5	SeqNo: 1	823402	Units: mg/ /	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		1.1	0.024	0.9443	0.004290	118	68.5	133	0.0833	20	
Тоіџеле		1.1	0.047	0.9443	0.003362	121	75	130	0.304	20	
Ethylbenzene		1.1	0.047	0,9443	0	118	79.4	128	0.924	20	
Xylenes, Total		3.3	0.094	2.833	0	117	77.3	131	0.774	20	
Surr: 4-Bron	nofluorobenzene	1.0		0.9443		107	80	120	0	0	
Sampte ID	LCS-40955	Samp	Type: LC	S	Tes	Code: E	PA Method	8021B: Vola	tiles		
Client ID:	LCSS	Batc	h ID: 40	955	RunNo: 54829						
Prep Date:	10/11/2018	Analysis [Date: 10)/12/2018	SeqNo: 1823414 Units: mg/Kg				(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		1.1	0.025	1.000	0	108	77.3	128			
Toluene		1.1	໌ 0.050	1.000	0	110	79.2	125			
Ethylbenzene		1.1	0.050	1.000	0	106	80.7	127			
Xylenes, Total		3.1	0.10	3.000	0	104	81.6	129			
Surr: 4-Bron	nofluorobenzene	1.1		1.000		108	80	120			
Sample ID	MB-40955	SampT	Гуре: МЕ	BLK	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID:	PBS	Batc	h ID: 40	955	F	tunNo: 5	4829				
Prep Date:	10/11/2018	Analysis [Date: 10)/12/2018	S	eqNo: 1	823415	Units: mg/h	(g		
		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte		ND	0.025								
			0.000								
Benzene		ND	0.050								
Benzene Toluene		ND ND	0.050								
Analyte Benzene Toluene Ethylbenzene Xylenes, Total											

Qualifiers:

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- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank E
 - Value above quantitation range
- Analyte detected below quantitation limits ł
- Р Sample pH Not in Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Page 12 of 12

WO#: 1810662

18-Oct-18
HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com				Sample Log-In Check List				
Client Name: SNA-CARLSBAD	Work Order Number: 1	810862			ReptNo	: 1			
Received By. Victoria Zellar Completed By: Erin Melendrez Reviewed By: \\	10/11/2018 8:50 00 AM 10/11/2018 10:12:46 AM		Nut K	nia G	Nay T				
LB: IO IO/11/1%	1.1.0								
1. Is Chain of Custody complete?	Ŷ	es 🖌	N	υ 🗍	Not Present				
2. How was the sample delivered?	Q	ourier							
Log In 3. Was an attempt made to cool the samples?	Y	es 🗹	N	• 🗆	NA []				
4, Were all samples received at a temperature of	(>0" C to 6.0"C Y	es 🔽	N	» []					
6. Sample(s) in proper container(s)?	٧	es 🖌	N	o []					
6, Sufficient sample volume for indicated test(s)	i Ye	95 🛛							
7, Are samples (except VOA and ONG) properly					1.000 1				
8, Was preservative added to bottles?	Ye	35	No		NA 🖾				
9. VOA viais have zero headspace?	Yı	as 🗍	No		No VOA Vials 📝				
10. Were any sample containers received broken	? Y	₉₈ 🗍	N		# of preserved bottles objected	- TO			
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yu	is 🗹	No	• []]	for pH:) (<2 0	10/11/18 r<12 uniess noted)			
12. Are matrices correctly identified on Chain of C	•	18 🗹	No		Adjusted?	A CONTRACT OF THE CONTRACT.			
13, Is it clear what analyses were requested?		ns 🗹	No	e		and the second sec			
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Ye	× 1	No		Checked by:	······································			
Special Handling (if applicable)									
15. Was client notified of all discrepancies with th	is order? Y	C S	N	o []	NA V				
Person Notified: Austin Wey By Whom: Oshley Go Regarding: Collection Cilent Instructions: Sampus 16. Additional remarks: 17. Cooler Information Cooler No Temp °C Condition Sec 1 4.6 Good Yes	Oate Dn Jan Were Collu	Mail 🗌	and a White in and	09	□ In Person <u>D9\1D,CDC</u> 17 18	uado 10/09/11			

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Page 110 of	ENVIRONMENTAL YSIS LABORATORY environmental.com Albuquerque, NM 87109 Fax 505-345-4107	(N 10 Y) æ9ldduð 1iA	
	HALL ENVIRONMEN ANALYSIS LABORAT www.hallenvironmental.com kins NE - Albuquerque, NM 87109 45-3975 Fax 505-345-4107	(AOV-Im92) 07S8	
		3 (AOV) 808280 (AOA)	
	Prent SoS-	8081 Pesticides / 8082 PCB's	
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	HALL ANAL www.ha 4901 Hawkins NE Tel. 505-345-3975	(1,816 boileM) H9T	5
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		(Gas only)	
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1RP-4574

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State of New Mexico **Energy Minerals and Natural Resources**

Form C-141 Revised August 8, 2011

Oil Conservation Division 1220 South St. Francis Dr. Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

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Printed Nam	e: James B (Campanella											
Title: Membr	er/ Manager					Approval Dat	e: 2	/3/2017		Expiration I	Date:		
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 From:
 Tucker, Shelly

 To:
 Yu, Olivia, EMNRD

 Cc:
 Lucas Middleton; jbc@iudahoil.com; Oberding, Tomas, EMNRD

 Subject:
 Re: Closure approval request BARR NONE FEDERAL #1, 1RP-4574

 Date:
 Monday, March 13, 2017 1:08:29 PM

 Attachments:
 image001.png

Lucas,

BLM accepts your closure request as written and will close this release in our system.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Shelly 9 Jucker

Environmental Protection Specialist O&G Spill/Release Coordinator

Bureau of Land Management 620 E. Greene St Carlsbad, NM 88220

575.234.5905 - Direct 575.361.0084 - Cellular 575.234.6235 - Emergency Spill Number

stucker@blm.gov

The **BLM acceptance/approval does not** relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that may pose a threat to groundwater, surface water, human health or the environment or if the location fails to reclaim properly. In such an event that the location does not revegetate, or future issues with contaminants are encountered, the operator will be asked to address the issues until the contaminant issues are fully mitigated and the location is successfully reclaimed. In addition, BLM approval does not relieve the operator of responsibility for compliance with any other federal, state or local laws/regulations.

Confidentiality Warning: This message along with any attachments are intended only for use of the individual or entity to which it is addressed and may contain information that is privileged or confidential and exempt from disclosure under applicable law. If the reader of this message is not the intended recipient or the employee or agent responsible for delivering this message to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please notify the sender immediately.

On Tue, Mar 7, 2017 at 3:37 PM, Yu, Olivia, EMNRD <<u>Olivia, Yu@state.nm.us</u>> wrote:

Dear Mr. Middleton:

NMOCD requests that a complete delineation occur at L7, which is in a drill pit. Therefore, this incident 1RP-4574 remains open. NMOCD's position is that any spill, which occurred

Page 114 of 164

From:	Yu, Olivia, EMNRD
To:	"Lucas Middleton"; "ibc@judahoil.com"
Cc:	Oberding, Tomas, EMNRD; "Tucker, Shelly"
Subject:	RE: Closure approval request BARR NONE FEDERAL #1, 1RP-4574
Date:	Tuesday, March 7, 2017 3:37:00 PM
Attachments:	image001.png

Dear Mr. Middleton:

NMOCD requests that a complete delineation occur at L7, which is in a drill pit. Therefore, this incident 1RP-4574 remains open. NMOCD's position is that any spill, which occurred over an existing pit, must be delineated and remediated.

Olivia Yu Environmental Specialist NMOCD, District I <u>Olivia.yu@state.nm.us</u> 575-393-6161 x113

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

From: Yu, Olivia, EMNRD
Sent: Monday, March 6, 2017 11:13 AM
To: 'Lucas Middleton' <lucas.middleton@soudermiller.com>; 'jbc@judahoil.com'
<jbc@judahoil.com>
Cc: Oberding, Tomas, EMNRD <Tomas.Oberding@state.nm.us>; Tucker, Shelly <stucker@blm.gov>
Subject: RE: Closure approval request BARR NONE FEDERAL #1, 1RP-4574

Dear Mr. Middleton:

I have reviewed the closure report for 1RP-4574 although the delineation workplan was not approved beforehand. The report indicated that bottom and sidewall confirmation samples were taken before backfilling. Were the samples sent to a laboratory for analyses? Of particular concern is L7. Please inspect the liner. The Responsible Party needs to provide NMOCD with a concise report of the inspection with affirmation the liner has and will continue to contain liquids.

Thanks,

Olivia Yu Environmental Specialist NMOCD, District I OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

From: Lucas Middleton [mailto:lucas.middleton@soudermiller.com]
Sent: Tuesday, February 14, 2017 9:15 AM
To: Yu, Olivia, EMNRD <<u>Olivia.Yu@state.nm.us</u>>
Cc: Oberding, Tomas, EMNRD <<u>Tomas.Oberding@state.nm.us</u>>; Tucker, Shelly <<u>stucker@blm.gov</u>>
Subject: Closure approval request BARR NONE FEDERAL #1, 1RP-4574

Olivia Yu,

I have attached a closure report for approval on a Judah Oil, LLC location named the BARR NONE FEDERAL #1 , 1RP-4574, API# 30-025-32221, LEA COUNTY, NEW MEXICO .

Call or Email with any question or comments.

Thank you and have a great day

Lucas Middleton Staff Scientist (575) 689-5351 (mobile)

Souder, Miller & Associates Engineering Environmental Surveying 201 S. Halagueno Carlsbad, NM 88220 www.soudermiller.com

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By:

By:

Date Saved: 2/7/2017



FIELD SCREENING RESULTS SUMMARY									
Date	Time	Field Screening Reference	Sample Depth (Feet BGS)	Chlorides Results	Lab Sample Collected Y/N				
12/13/2016	10:00	L1	Surface	256	Y				
12/13/2016	10:00	L2	Surface	244	Y				
12/13/2016	10:00	L3	Surface	632	Y				
12/13/2016	10:00	L5	Surface	575	Y				
12/13/2016	10:00	L7	Surface	2870	Y				
12/12/2016	10:00	D2-3	3 Feet	301	Y				
12/12/2016	10:00	D2-2	2 Feet	313	Y				
12/13/2016	10:00	L4	Surface	667	Y				
12/13/2016	10:00	L6	Surface	530	Y				



Analytical Report- 1612A79	Sample Number on Figure 1 Marz	Samgle Date	Depth	BTEX ppm	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	CI- mg/Kg
1612B63- 001	L1	12/13/2016	Surface	N/A	N/A	N/A	N/A	170
1612B63- 002	L2	12/13/2016	Surface	N/A	N/A	N/A	N/A	210
1612B63- 003	L3	12/13/2016	Surface	NA	N/A	N/A	N/A	290
1612B63- 004	L5	12/13/2016	Surface	N/A	N/A	N/A	N/A	72
1612B63- 005	L.7	12/13/2016	Surface	N/A	N/A	N/A	N/A	4,500
1612B63- 006	D2-3	12/13/2016	3 Feet	<0.055	<0.024	<4.9	<9.2	420
1612B63- 007	D2-2	12/13/2016	2 Feet	N/A	N/A	N/A	N/A	230
1612B63- 008	L4	12/13/2016	Surface	N/A	N/A	N/A	N/A	35
1612B63- 009	L6	12/13/2016	Surface	N/A	N/A	N/A	N/A	600

Table 3: Summary of Laboratory Analyses

Hall	Environmental	Analysis	Laboratory,	Inc.
		~	v)	

Date Reported: 1/6/2017

CLIENT: Souder, Miller & Associates			Client Sampl	e ID: L7				
Project: Barr None		Collection Date: 12/13/2016 10:00:00						
Lab ID: 1612B53-005	Matrix:	SOIL	Received]	Date: 12/20/2016 9:40:00 AN	1			
Analyses	Result	PQL Qu	al Units	DF Date Analyzed	Batch			
EPA METHOD 300.0: ANIONS				Analy	st: MRA			
Chloride	4500	150	mg/Kg	100 1/3/2017 1:32:17 PM	29432			

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	в	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 5 of 13
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	w	Sample container temperature is out of limit as specified

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Photo 1: Location Sign



Photo 2: Release Area over pit





Photo 3: Release Area on pad

Photo 4: Spill Pile







Photo 6: Release Area over pit

Photo 7: Excavation Activity's



Photo 8: Liner Spot 1



Photo 9: Liner Spot 2



February 7, 2017

#5B25501-BG4

NMOCD District I Olivia Yu 1625 N. French Dr. Hobbs, NM 88240

SUBJECT: FINAL CLOSURE REPORT FOR INCIDENT, BARR NONE FEDERAL #1 UNIT E SECTION 10-T22S-R32E NMPM, API# 30-025-32221, LEA COUNTY, NEW MEXICO

Dear Olivia Yu:

On behalf Judah Oil, LLC, Souder Miller & Associates (SMA) is pleased to submit Final Closure Report summarizing the remediation of the release site located at the Barr None Federal #1 in Lea County, New Mexico. The purpose of this Final Closure is to obtain closure from the New Mexico Oil Conservation Division (NMOCD) for the remediation of the release that occurred on Bureau of Land Management land.

SMA responded on December 3, 2016 at the request of Judah Oil, to assess and delineate the release of production fluids associated with the Barr None Federal #1 well location. The release was initially reported to NMOCD by Judah Oil. The table below summarizes information regarding the release. Results of the assessment and delineation are described in the following Soil Remediation Workplan.

Table 1: Rel	ease inform	nation and	Site Ranki	ng			
Name	Barr None Federal #1						
Location	Incident Number	API Number	Section	, Township	, Range		
	1RP- 4574	30-025- 32221	SW/NE (Unit)	Section 10	T22 S, R 32E NMPM		
Estimated Date of Release	January 8	, 2016					
Date Reported to NMOCD	January 23, 2017						
Reported by	James Campanella						
Land Owner	Bureau of Land Management						
Reported To	NM Oil Conservation Division (NMOCD)						
Source of Release	Flowline break						
Released Material	Producted Water and Crude Oil						
Released Volume	30 bbls I	30 bbls Produced Water and 12 bbls Crude Oil					
Recovered Volume	0 bbls Pr	oduced Wa	iter and 0 k	obls Crude	Oil		

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Net Release	30 bbls Produced Water and 12 bbls Crude Oil
Nearest Waterway	18.8 miles west of the location
Depth to Groundwater	Estimated to be 300 feet
Nearest Domestic Water Source	Greater than 1,000 feet
NMOCD Ranking	0
SMA Response Dates	Initial: Mitigation Activities:
Subcontractors	MMX
Disposal Facility	TBD
Estimated Yd ³ Contaminated Soil Excavated and Disposed	110

Attached is a copy of the C-141 initial located in Appendix B. For questions or comments pertaining to the release or the attached work plan please feel free to contact either of us.

Reviewed by:

Submitted by:

SOUDER, MILLER & ASSOCIATES

I. Austr Weyawt

Austin Weyant Project Scientist

Received by OCD: 7/14/2020 12500:052AM

Shawa Chubbuck

Shawna Chubbuck Senior Scientist

SOIL REMEDIATION FINAL CLOSURE REPORT FOR INCIDENT 1RP-TBD

JUDAH OIL, LLC

BARR NONE FEDERAL #1 UL E, SECTION 10, T22S R32E, NMPM API #30-025-32221 LEA COUNTY, NM



Prepared for: Judah Oil, LLC 611 West Mahone Drive # D Artesia, NM 88210 Phone: (575) 746-1280 Prepared by: Souder, Miller & Associates 201 S. Halagueno Carlsbad, NM 88221 575-689-7040

> February 7, 2017 SMA Reference 5B25501-BG4

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2.0	Site Ranking and Land Jurisdiction	3
3.0	Assessment and Initial Results	3
4.0	Soil Remediation Summary	3
5.0	Conclusions and Recommendations Error! Bookmark not define	d.
6.0	Closure and Limitations	4

Figures:

Figure 1: Vicinity Map Figure 2: Detailed Site and Sample Map

Tables:

Table 1: Release Information and Site Ranking Table 2: Summary Chloride Field Screening Results Table 3: Summary of Laboratory Analyses

Appendices:

Appendix A: Laboratory Analytical Reports Appendix B: Form C141 Final

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1.0 Introduction

On behalf of Judah Oil, LLC, Souder, Miller & Associates (SMA) has prepared this report that describes the assessment, initial delineation and remediation actions for a release associated with the Barr None Federal #1 location API# 30-025-32221. The site is located in Section 10, Township 22S, Range 32E NMPM, Lea County, New Mexico, on Bureau of Land Management property. Figure 1 illustrates the vicinity and location of the site.

2.0 Site Ranking and Land Jurisdiction

The release site is located approximately 11.5 miles east of Pecos River, with an elevation of approximately 3,805 feet above sea level. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be 350 feet below ground surface (bgs).

SMA searched the New Mexico State Engineer's Office online water well database for water wells in the vicinity of the release. Zero wells are located within a one-mile radius of the site. Figure 1 depicts the site vicinity and Figure 2 shows the site itself. The physical location of this release is within the jurisdiction of NMOCD.

Based on the NMOCD Guidelines Ranking Criteria, this release location has been assigned a NMOCD ranking of 0 which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 5000 ppm total petroleum hydrocarbons (TPH). Table 1 illustrates site ranking rationale.

3.0 Assessment and Initial Results

On November 9, 2016 after receiving 811 clearance, SMA field personnel assessed the release area with soil samples collected using a gas powered auger. Samples were screened for hydrocarbons using a calibrated Photo Ionization Detector (PID), and for chlorides using a mobile chlorides titration kit (EPA method 9045D) meter. Field screening results are included in Table 2. The potentially affected area was determined to be approximately 140 feet long and 20 feet wide. The site delineation samples were taken to depths of 1.5 feet bgs. In the north area of the spill over the old pit a plastic liner was found at 8 inches bgs. Samples indicate the impacted soil does not appear to extend past one foot bgs. Specific sample locations for all samples are depicted on Figure 2 (Sample Location Map). All samples were collected and processed according to NMOCD soil sampling procedures. The samples were sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analyses of BTEX (EPA Method 8021B), TPH (EPA Method 8015) and/or total chlorides (EPA Method 300.0).

Soil contaminant concentrations found during the initial delineation are included in Table 3. Laboratory reports are included in Appendix A. Photo documentation is available by request.

4.0 Soil Remediation Summary

Judah and its subcontractors excavated the affected soils, with approval from area utilities owners via 81. SMA continuously guide the excavation activities by collecting composite soil samples for field screening with a mobile titration unit (NRCS1:1) and a calibrated PID. Excavation occur to depths to sufficient to delineate the plume, which was estimated to be 1 feet bgs. Excavation on

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the pad was done to remove all the affected soils to 1 foot bgs. Excavation occurred in the north area over the old drill pit no more than 6" bgs to protect the underlying liner for the pit. Closure samples were collected at the final depth of excavation and sidewalls. Approximately 110 cubic yards of contaminated soil was removed and replaced with clean backfill material sufficient to return the contours to surface gradient. The contaminated soil was transported for proper disposal at an NMOCD permitted facility.

5.0 Conclusions and Recommendations

NMOCD Guidelines for Remediation of Leaks, Spills, and Releases have established the following action levels for contaminants of concern with a site ranking of 0: 10 ppm (mg/kg) Benzene, 50 ppm total BTEX, and 5000 ppm TPH.

Laboratory analytical results for the closure sample collected was below NMOCD closure standards for benzene, BTEX, and TPH. Chlorides ranged from below detection limits (30 mg/Kg) to 3,500 mg/Kg. No further remedial activities are recommended. Soil sample locations are illustrated in Figure 2. A summary of laboratory analytical results is included in Table 3. Laboratory reports are included in Appendix A.

6.0 Limitations

The scope of our services consisted of the performance of initial spill assessment sampling, verification of release stabilization, regulatory liaison, and preparation of this Closure Document. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin in New Mexico.

If there are any questions regarding this report, please contact either Austin Weyant at 575-689-7040 or Cindy Gray at 505-325-7535.

Submitted by:

Reviewed by:

SOUDER, MILLER & ASSOCIATES

1 Austr Nevant

Austin Weyant Project Scientist

Sharna Chubbuck

Shawna Chubbuck Senior Scientist

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Figures:

Figure 1: Vicinity Map Figure 2: Detailed Site and Sample Map

Tables:

Table 1: Release Information and Site Ranking Table 2: Summary of Chloride Field Screening Results Table 3: Summary of Laboratory Analyses

Appendices:

Appendix A: Laboratory Analytical Reports Appendix B: Form C141 Final

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FIGURE 1 VICINITY MAP

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FIGURE 2 DETAILED SITE AND SAMPLE MAP

Engineering • Environmental • Surveying



Detailed Site and Sample Map Barr None Federal #1- Judah Oil Loving, New Mexico

-				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	xixenteo	
17	By:	Revisions Date:	Descr:	Drawn Checked	Lucas Middleton	
77/72	Copyright 2015 Sou		es - All Rights Reserved	Approved		-

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Date Saved:

TABLE 1

RELEASE INFORMATION AND SITE RANKING

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Table 1: Release information and Site Ranking					
Name	Barr None Federal #1				
	Incident API Section, Township, Range				
Location	1RP-4574	30-025- 32221	SW/NE (Unit)	Section 10	T22 S, R 32E NMPM
Estimated Date of Release	January 8,	2016			
Date Reported to NMOCD	January 23	, 2017			
Reported by	James Carr	ipanella			
Land Owner	Bureau of	Land Mana	gement		
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Flowline break				
Released Material	Producted Water and Crude Oil				
Released Volume	30 bbls Produced Water and 12 bbls Crude Oil				
Recovered Volume	vered Volume 0 bbls Produced Water and 0 bbls Crude Oil				
Net Release	30 bbls Pi	roduced Wa	ater and 12	bbls Crude	Oil
Nearest Waterway	18.8 miles	west of the	e location		
Depth to Groundwater	Estimated	to be 300 f	eet		
Nearest Domestic Water Source	Greater than 1,000 feet				
NMOCD Ranking	0				
SMA Response Dates	Initial: Mit	tigation Act	ivities:		
Subcontractors	MMX				
Disposal Facility	TBD	1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-		n (na marana ang kanala sa kata kata sa kata s	
Estimated Yd ³ Contaminated Soil Excavated and Disposed	110				

•

TABLE 2 SUMMARY OF CHLORIDE FIELD SCREENING RESULTS

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Table 2: Summary of Chloride Field Screening Results

FIELD SCREENING RESULTS SUMMARY									
Date	Time	Field Screening Reference	Sample Depth (Feet BGS)	Chlorides Results	Lab Sample Collected Y/N				
12/13/2016	10:00	L1	Surface	256	Y				
12/13/2016	10:00	L2	Surface	244	Y				
12/13/2016	10:00	L3	Surface	632	Y				
12/13/2016	10:00	L5	Surface	575	Y				
12/13/2016	10:00	L7	Surface	2870	Y				
12/12/2016	10:00	D2-3	3 Feet	301	Y				
12/12/2016	10:00	D2-2	2 Feet	313	Y				
12/13/2016	10:00	L4	Surface	667	Y				
12/13/2016	10:00	L6	Surface	530	Y				



TABLE 3 SUMMARY OF LABORATORY ANALYSES

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Analytical Report- 1612A79	Sample Number on Figure 1 Map	Sample Date	Depth	BTEX ppm	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	Cl- mg/Kg
1612B63- 001	L.1	12/13/2016	Surface	N/A	N/A	N/A	N/A	170
1612B63- 002	L2	12/13/2016	Surface	N/A	N/A	N/A	N/A	210
1612B63- 003	L3	12/13/2016	Surface	NA	N/A	N/A	N/A	290
1612B63- 004	L5	12/13/2016	Surface	N/A	N/A	N/A	N/A	72
1612B63- 005	L7	12/13/2016	Surface	N/A	N/A	N/A	N/A	4,500
1612B63- 006	D2-3	12/13/2016	3 Feet	<0.055	<0.024	<4.9	<9.2	420
1612B63- 007	D2-2	12/13/2016	2 Feet	N/A	N/A	N/A	N/A	230
1612B63- 008	L4	12/13/2016	Surface	N/A	N/A	N/A	N/A	35
1612B63- 009	L6	12/13/2016	Surface	N/A	N/A	N/A	N/A	600

Table 3: Summary of Laboratory Analyses

APPENDIX A LABORATORY ANALYTICAL REPORTS

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HALL ENVIRONMENTAL ANALYSIS LABORATORY

January 06, 2017

Austin Weyant Souder, Miller & Associates 201 S Halagueno Carlsbad, NM 88221 TEL: (575) 689-7040 FAX

RE: Barr None

Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: <u>www.hallenvironmental.com</u>

OrderNo.: 1612B53

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Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 9 sample(s) on 12/20/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andyl

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

				Analytical Report			
				Lab Order 1612B53			
Hall Environmental Analysi	anan anan anan anan ang ang ang ang ang	Date Reported: 1/6/2017					
CLIENT: Souder, Miller & Associates			Client Samp	le ID: Li			
Project: Barr None	Collection Date: 12/13/2016 10:00:00 AM						
Lab ID: 1612B53-001	Matrix:	SOIL	OIL Received Date: 12/20/2016 9:40:00				
Analyses	Result	PQL Qu	ıl Units	DF Date Analyzed	Batch		
EPA METHOD 300.0: ANIONS				Analy	/st: LGT		
Chloride	170	30	mg/Kg	20 12/28/2016 4:11:45 F	PM 29432		

Qualifiers: ¥ Value exceeds Maximum Contaminant Level. В Analyte detected in the associated Method Blank D Sample Diluted Due to Matrix Е Value above quantitation range Analyte detected below quantitation limits Page 1 of 13 Н Holding times for preparation or analysis exceeded J ND Not Detected at the Reporting Limit P Sample pH Not In Range R RPD outside accepted recovery limits RL Reporting Detection Limit s % Recovery outside of range due to dilution or matrix

				Analytical Report	t		
				Lab Order 1612B53			
Hall Environmental Analysi		Date Reported: 1/6/2017					
CLIENT: Souder, Miller & Associates			Client Samp	le ID: L2			
Project: Barr None	Collection Date: 12/13/2016 10:00:00 AM						
Lab ID: 1612B53-002	Matrix: SOIL Received			Date: 12/20/2016 9:40:00 AM			
Analyses	Result	PQL Qua	l Units	DF Date Analyzed	Batch		
EPA METHOD 300.0: ANIONS				Ana	lyst: LGT		
Chloride	210	30	mg/Kg	20 12/28/2016 4:48:59	PM 29432		

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers: * Value exceeds Maximum Contaminant Level. в Analyte detected in the associated Method Blank Sample Diluted Due to Matrix Value above quantitation range D Е Analyte detected below quantitation limits Page 2 of 13 Н Holding times for preparation or analysis exceeded J ND Not Detected at the Reporting Limit Р Sample pH Not In Range R RPD outside accepted recovery limits RL Reporting Detection Limit

- W Sample container temperature is out of limit as specified

				Analytical Report Lab Order 1612B53			
Hall Environmental Analysi	is Labora	tory, Inc.	an and a state of the state of	Date Reported: 1/6/20	017		
CLIENT: Souder, Miller & Associates	A		Client Sampl	e ID: L3			
Project: Barr None	Collection Date: 12/13/2016 10:00:00 AM						
Lab ID: 1612B53-003	Matrix:	SOIL	Received 1	Received Date: 12/20/2016 9:40:00 AM			
Analyses	Result	PQL Qu	al Units	DF Date Analyzed	Batch		
EPA METHOD 300.0: ANIONS				Analy	/st: LGT		
Chloride	290	30	mg/Kg	20 12/28/2016 5:01:23 F	PM 29432		

Qualifiers:

Received by OCD: 7/14/2020 12:00:05PAM

- Е Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 13 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
Date Reported: 1/6/2017

CLIENT: Souder, Miller & Associates	\$		Client Sampl	e ID: L5			
Project: Barr None			Collection 1	Date: 12/13/2016 10:00:00 A	М		
Lab ID: 1612B53-004	Matrix: S	SOIL	Received Date: 12/20/2016 9:40:00 AM				
Analyses	Result	PQL Qua		DF Date Analyzed	Batch		
EPA METHOD 300.0: ANIONS				Analy	st: LGT		
Chloride	72	30	mg/Kg	20 12/28/2016 5:13:48 F	PM 29432		

Hall Environmental Analysis Laboratory, Inc.

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	в	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 4 of 13
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	w	Sample container temperature is out of limit as specified

Date Reported: 1/6/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates Project: Barr None

1612B53-006

Lab ID:

Client Sample ID: D2-3 Collection Date: 12/13/2016 10:00:00 AM Received Date: 12/20/2016 9:40:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	it: LGT
Chioride	420	30	mg/Kg	20	12/28/2016 5:38:38 PM	/ 29432
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANIC	s			Analys	t: TOM
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	12/28/2016 1:01:51 PM	A 29384
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	12/28/2016 1:01:51 PM	/ 29384
Surr: DNOP	93.8	70-130	%Rec	1	12/28/2016 1:01:51 PM	A 29384
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	12/27/2016 10:25:59 A	M 29391
Surr: BFB	96.3	68.3-144	%Rec	1	12/27/2016 10:25:59 A	M 29391
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.024	mg/Kg	1	12/27/2016 10:25:59 A	M 29391
Toluene	ND	0.049	mg/Kg	1	12/27/2016 10:25:59 A	M 29391
Ethyibenzene	ND	0.049	mg/Kg	1	12/27/2016 10:25:59 A	M 29391
Xylenes, Total	ND	0.098	mg/Kg	1	12/27/2016 10:25:59 A	M 29391
Surr: 4-Bromofluorobenzene	110	80-120	%Rec	1	12/27/2016 10:25:59 A	M 29391

Matrix: SOIL

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	в	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 6 of 13
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	w	Sample container temperature is out of limit as specified

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CLIENT: Souder, Miller & Associates			Client Sampl	e ID: D2-2			
Project: Barr None			Collection 1	Date: 12/13/2016 10:0	00:00 AM		
Lab ID: 1612B53-007	Matrix: S	SOIL	Received Date: 12/20/2016 9:40:00 AM				
Analyses	Result	PQL Qua	l Units	DF Date Analyz	zed Batch		
EPA METHOD 300.0: ANIONS					Analyst: LGT		
Chloride	230	30	mg/Kg	20 12/28/2016 9	35:05 PM 29448		

Hall Environmental Analysis Laboratory, Inc.

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	в	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 7 of 1
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	w	Sample container temperature is out of limit as specified

CLIENT:	Souder, Miller & Associates			Client Samp	le ID: L4			
Project:	Barr None			Collection	Date: 12/13/2016 10:00:00 A	М		
Lab ID:	1612B53-008	Matrix: S	OIL	Received Date: 12/20/2016 9:40:00 AM				
Analyses	un anna - Marco-Mondana Anna an Aona Aonain - Aona Annai	Result	PQL Q	1al Units	DF Date Analyzed	Batch		
EPA MEI	THOD 300.0: ANIONS				Analy	st: LGT		
Chloride		35	30	mg/Kg	20 12/28/2016 10:12:18	PM 29448		

Hall Environmental Analysis Laboratory, Inc.

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	в	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 8 of 13
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	w	Sample container temperature is out of limit as specified

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CLIENT: Souder, Miller & Associates **Client Sample ID: L6 Project:** Barr None Collection Date: 12/13/2016 10:00:00 AM 1612B53-009 Lab ID: Matrix: SOIL Received Date: 12/20/2016 9:40:00 AM Analyses Result **PQL** Qual Units **DF** Date Analyzed Batch **EPA METHOD 300.0: ANIONS** Analyst: LGT Chioride 600 30 mg/Kg 12/28/2016 10:24:42 PM 29448 20

Hall Environmental Analysis Laboratory, Inc.

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 9 of 13
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	w	Sample container temperature is out of limit as specified

WO#: 1612B53

06-Jan-17

Client: Project:	Souder, N Barr Non	/iller & As	sociat	es							
Sample ID	MB-29448	SampTy	/pe: Mi	BLK	TestCode: EPA Method 300.0: Anions						
Client ID:	PBS	Batch	ID: 29	448	F	RunNo: 3	39709				
Prep Date:	12/28/2016	Analysis Da	ate: 1	2/28/2016	8	SeqNo: 1	244207	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID	LCS-29448	SampTy	pe: LC	s	TestCode: EPA Method 300.0: Anions						
Client ID:	LCSS	Batch	ID: 29	448	RunNo: 39709						
Prep Date:	12/28/2016	Analysis Da	ate: 12	2/28/2016	5	SegNo: 1	244208	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14	1.5	15.00	0	92.0	90	110			
Sample ID	MB-29432	SampTy	pe: MI	BLK	Tes	tCode: E	PA Method	300.0: Anion	S	· · · ·	
Client ID:	PBS	Batch	ID: 29	432	F	RunNo: 3	9711				
Prep Date:	12/28/2016	Analysis Da	ate: 1;	2/28/2016	S	SeqNo: 1	244304	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID	LCS-29432	SampTy	pe: LC	s	Tes	tCode: E	PA Method	300.0: Anion:	S		
Client ID:	LCSS	Batch	ID: 29	432	F	RunNo: 3	9711				
Prep Date:	12/28/2016	Analysis Da	ate: 12	2/28/2016	5	SeqNo: 1	244305	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14	1.5	15.00	0	93.5	90	110			

Received by OCD: 7/14/2020 12:00:05/2M

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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WO#: 1612B53

06-Jan-17

Client: Soude Project: Barr N	r, Miller & A lone	ssociat	es							
Sample ID LCS-29384	Sample ID LCS-29384 SampType: LCS			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: LCSS	CSS Batch ID: 29384		F	RunNo: 39672						
Prep Date: 12/23/2016	Analysis [Date: 1	2/28/2016	S	SeqNo: 1243438			(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	89.2	63.8	116			
Surr: DNOP	4.1		5.000		82.6	70	130			
Sample ID MB-29384	Samp	Type: MI	3LK	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: PBS	Batc	h ID: 29	384	F	lunNo: 3	9672				
Prep Date: 12/23/2016	Analysis [Date: 12	2/28/2016	S	eqNo: 1	243440	Units: mg/K	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								

Qualifiers:

D

- Value exceeds Maximum Contaminant Level. *
- В Analyte detected in the associated Method Blank Е
- J Analyte detected below quantitation limits
- Sample pH Not In Range Р
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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Sample Diluted Due to Matrix

- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix S
- Value above quantitation range

WO#: 1612B53

06-Jan-17

Client: Souder Project: Barr N	, Miller & A one	ssociate	es								
Sample ID MB-29391	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8015D: Gase	line Rang	e		
Client ID: PBS	Batch	n ID: 29	391	RunNo: 39665							
Prep Date: 12/23/2016	Analysis Date: 12/27/2016			S	SeqNo: 1242742			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	ND	5.0									
Surr: BFB	950		1000		94.8	68.3	144		-		
Sample ID LCS-29391	SampT	ype: LC	S	Tes	TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch	n ID: 29	391	F	lunNo: 3	9665					
Prep Date: 12/23/2016	Analysis D	ate: 12	2/27/2016	S	eqNo: 1	242743	Units: mg/M	(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	74.6	123				
Sum BFB	1000		1000		99.6	68.3	144				

Qualifiers:

- Value exceeds Maximum Contaminant Level,
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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WO#:	1612B53
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06-Jan-17

	Souder, Miller & A	Associate	es							
Project: F	Barr None		Him							
Sample ID MB-2939	1 Samp	Туре: МІ	BLK	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: PBS	Bate	ch ID: 29	391	F	RunNo: 3	9665				
Prep Date: 12/23/20	016 Analysis	Date: 12	2/27/2016	5	SeqNo: 1	242788	Units: mg/l	<g< td=""><td></td><td></td></g<>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenz	ene 1.1		1.000		109	80	120			
Sample ID LCS-293	91 Samp	Type: LC	s	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Bate	ch ID: 29	391	F	RunNo: 3	9665				
Prep Date: 12/23/20	016 Analysis	Date: 12	2/27/2016	5	SeqNo: 1	242789	Units: mg/ł	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	103	75.2	115			
Toluene	0.96	0.050	1.000	0	96.4	80.7	112			
Ethylbenzene	0.94	0.050	1.000	0	93.6	78.9	117			
Xylenes, Total	2.8	0.10	3.000	0	94.4	79.2	115			
Surr: 4-Bromofluorobenz	ene 1.1		1.000		110	80	120			
Sample ID 1612B53	006AMS Samp	Type: MS	6	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: D2-3	Bate	ch ID: 29	391	F	RunNo: 3	9665				
Prep Date: 12/23/20	016 Analysis	Date: 12	2/27/2016	5	SeqNo: 1	242792	Units: mg/H	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.023	0,9183	0	104	61.5	138			
Toluene	0.88	0.046	0.9183	0	96.2	71.4	127			
Ethylbenzene	0.85	0.046	0.9183	0	92.0	70.9	132			
Xylenes, Total	2.5	0.092	2.755	0	92.1	76.2	123			
Surr: 4-Bromofluorobenz	ene 1.1		0.9183		115	80	120			
Sample ID 1612B53	006AMSD Samp	Type: MS	5D	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: D2-3	Bate	ch ID: 29	391	F	RunNo: 3	9665				
Prep Date: 12/23/20	016 Analysis	Date: 12	2/27/2016	5	SeqNo: 1	242793	Units: mg/H	٢g		
Analyte	Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.023	0.9217	0	91.8	61.5	138	11.7	20	
Toluene	0.84	0.046	0.9217	0	90.8	71.4	127	5.43	20	
Ethylbenzene	0.83	0.046	0.9217	0	90.2	70.9	132	1.64	20	
Xylenes, Total	2.5	0.092	2.765	0	91.0	76.2	123	0.851	20	
Surr: 4-Bromofluorobenz	епе 1.1		0.9217		116	80	120	0	0	

D

Received by OCD: 7/14/2020 12500:059AM

- Value exceeds Maximum Contaminant Level.
 - Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix
- в Analyte detected in the associated Method Blank Ε
 - Value above quantitation range
- J Analyte detected below quantitation limits
- Page 13 of 13
- P Sample pH Not In Range RL Reporting Detection Limit
- w Sample container temperature is out of limit as specified

ENVIRONMENTAL ANALYSIS	ll Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 5L: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com	Sam	ple Log-In Check List
Client Name: SMA-CARLSBAD Work	Order Number: 1612B53		RoptNo: 1
	2016 9:40:00 AM		
	22/16		
Chain of Custody			
1. Custody seals intact on sample bottles?	Yes	No 🗆	Not Present 🔽
2. Is Chain of Custody complete?	Yes 🗹	No 🗌	Not Present 🗔
3. How was the sample delivered?	Courier		
Log In			
4. Was an attempt made to cool the samples?	Yes 🔽	No 🗌	NA 🗌
5. Were all samples received at a temperature of $>0^{\circ}$	C to 6.0°C Yes 🗹	No 🗌	NA 🗌
6. Sample(s) in proper container(s)?	Yes 🔽	No 🗌	
7. Sufficient sample volume for indicated test(s)?	Yes 🗸	No 🗌	
8. Are samples (except VOA and ONG) properly prese	rved? Yes 🗹	No 🗌	
9. Was preservative added to bottles?	Yes 🗍	No 🗹	
10. VOA vials have zero headspace?	Yes	No 🗆	No VOA Vials 🗹
11. Were any sample containers received broken?	Yes	No 🗹	# of preserved bottles checked
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🗹	No 🗆	for pH: (<2 or >12 unless noted)
13, Are matrices correctly identified on Chain of Custody	y? Yes 🗹	No 🗌	Adjusted?
14. Is it clear what analyses were requested?	Yes 🔽	No 🗌	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🗹	No 🗌	Checked by:

Special Handling (if applicable)

Person Notified:	Date			
By Whom:	Via:	🗌 eMali 🔄 F	Phone 🗌 Fax	In Person
Regarding:				
Client Instructions:				

18. <u>Cooler Information</u>

Received by OCD: 7/14/2020 12500:050AM

. <u>c</u>	ooler Inform	ation					
	Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
	1	1.1	Good	Yes			

C	hain	-of-Cı	istody Record	Turn-Around	Time:	99974774777777777777777777777777777777	a [6.	B. AS 1		gan g	8.8B.	e		15. H 10	. Ata Joota		-	_
Client:	SN	VA-C	arlabed	12 Standard	i 🗆 Rusi	'n													ENT AT		
				Project Nam	6:		1 1											IX.	4 1 , 8 1	w R	L V
Mailing	Address	3:		Bar	Nore.			40	പ							tal.c		-			
	. ··	•		Project #:	/***				01 H ∋l. 50									7109 -			
Рһоле	#:			1			-48.412) -	j i	31. UU	0-04	0-01		_		_	-345 U@\$	410	<u></u>	ر اط		
email o	r Fax#:		·····	Project Mana	iger:	<u></u>		2	(j)			Ī	Í								
QA/QC	Package:			1 1	1 -	6. 1-	021	5	E S	1		Î		S,	ŝ						
🗆 Star	idard		Level 4 (Full Validation)	/The	stim 1	Seyant	s (8	(<u>G</u>	Xas/					Q,	ଘ						
Accred				Sampler:			+ TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	£	=	Ŧ		Anions (F,Cl,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	8081 Pesticides / 8082 PCB's						9
	AP (Type)	C) Other	· · · · · · · · · · · · · · · · · · ·	On Ice: Sample Tem	∿s⁄Yes	D No V V O C	+	+	Š	418	2	A	2	ĝ	-) ss		Ś				ō
	(iyhe)	T		ominitestem		Residence of the second	ШB	18	Po	B	질	Α	leta	5	licide	R) Te		il		چ و
Date	Time	Matrix	Sample Request ID	Container	Preservative	HEAL NO	+ 1	+	Ket	(Met	<u>Sec</u>	E	8	s (F	Pes	3 Cr	Ser Ser				pple
				Type and #	Туре	1612853	BTEX + MTBE	Ш <u>а</u>	Ŧ	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	noin	8	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
2-13-16	(n:0)	5.	LI	402		-001	=		┺		<u>"</u>		<u> </u>	Ý	8	8	8	<u> </u>		-+	-
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Date:	Time:	Relinquishe	d by:	Received by:	1.		Ren	arks); ;;				L							l-	
Datas		N . 1		oun/	mi	2.120/16 0940															
Date:	Time:	Relinguishe	a by:	Received by:		Date Time															

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Barr None Federal #1 Closure SMA Ref #5B24624-BG16 2/7/17

APPENDIX B FORM C141 FINAL

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Released to Imaging: 3/23/2021 3:14:12 PM

Engineering
Environmental
Surveying

www.soudermiller.com

Hall Environmental Analysi	s Labora	tory, Inc.	2014-2017000-011/031912/201700010000000	Analytical Report Lab Order 1612B53 Date Reported: 1/6/20)17
CLIENT: Souder, Miller & Associates Project: Barr None			Client Samp Collection	le ID: L6 Date: 12/13/2016 10:00:00 A	 M
Lab ID: 1612B53-009	Matrix:	SOIL	Received	Date: 12/20/2016 9:40:00 AN	1
Analyses	Result	PQL Qua	l Units	DF Date Analyzed	Batch
EPA METHOD 300.0: ANIONS				Analy	st: LGT
Chloride	600	30	mg/Kg	20 12/28/2016 10:24:42	PM 29448

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	в	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 9 of 13
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	w	Sample container temperature is out of limit as specified

Received by OCD: 7/14/2020 12500:050AM

Client: Project:	Souder Barr N	, Miller & Associa	tes		1.277.0 <u>22</u>			_		
•										
Sample ID		SampType: N		Tes	tCode: El	PA Method	300.0: Anion	IS		
Client ID:	PBS	Batch ID: 2	9448	F	RunNo: 3	9709				
Prep Date:	12/28/2016	Analysis Date:	12/28/2016	5	SeqNo: 1	244207	Units: mg/H	(g		
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND 1.1	5	**************************************			· · · · · · · · · · · · · · · · · · ·			
Sample ID	LCS-29448	SampType: L	.CS	Tes	tCode: El	PA Method	300.0: Anion	IS	WORKSPECTRAL CONTRACT OF THE CONTRACT.	
Client ID:	LCSS	Batch ID: 2	9448	F	RunNo: 3	9709				
Prep Date:	12/28/2016	Analysis Date:	12/28/2016	5	SegNo: 1	244208	Units: mg/k	٢g		
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14 1.	5 15.00	0	92.0	90	110			
Sample ID	MB-29432	SampType: N	IBLK	Tes	tCode: El	PA Method	300.0; Anion	S		
Client ID:	PBS	Batch ID: 2	9432	F	RunNo: 3	9711				
Prep Date:	12/28/2016	Analysis Date:	12/28/2016	5	SeqNo: 1	244304	Units: mg/k	(g		
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND 1.4	5							
Sample ID	LCS-29432	SampType: L	.CS	Tes	tCode: El	PA Method	300.0: Anior	IS		
Client ID:	LCSS	Batch ID: 2	9432	F	RunNo: 3	9711				
Prep Date:	12/28/2016	Analysis Date:	12/28/2016	S	SeqNo: 1	244305	Units: mg/k	۲g		
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

14 1.5 15.00 0 93.5 90 110

Qualifiers:

Chloride

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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Client:	Souder, Miller & Associates
Project:	Barr None

Sample ID LCS-29384	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015M/D: Die	esel Rang	e Organics				
Client ID: LCSS	Batch	ID: 29	384	F	RunNo: 3	9672							
Prep Date: 12/23/2016	Analysis D	ate: 12	2/28/2016	S	SeqNo: 1243438 Un				Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Diesel Range Organics (DRO)	45	10	50,00	0	89.2	63,8	116						
Our DNOB	4.1		5.000		82.6	70	130						
Surr: DNOP	4.1		5.000		02.0								
Sample ID MB-29384		ype: MI		Tes			8015M/D: Di	esel Rang	e Organics				
2007-24 Million - Mi	SampT	ype: MB	BLK			PA Method		esel Rang	e Organics	444-4			
Sample ID MB-29384	SampT	ID: 29	BLK	F	tCode: El	PA Method 9672		U	e Organics				
Sample ID MB-29384 Client ID: PBS	SampT Batch	ID: 29	3LK 384 2/28/2016	F	tCode: El RunNo: 3	PA Method 9672	8015M/D: Di	U	e Organics RPDLimit	Qual			
Sample ID MB-29384 Client ID: PBS Prep Date: 12/23/2016 Analyte	SampT Batch Analysis D	ate: 1;	3LK 384 2/28/2016	F	tCode: El RunNo: 39 SeqNo: 12	PA Method 9672 243440	8015M/D: Die Units: mg/M	kg ·	U	Qual			
Sample ID MB-29384 Client ID: PBS Prep Date: 12/23/2016	SampT Batch Analysis D Result	ate: 1:	3LK 384 2/28/2016	F	tCode: El RunNo: 39 SeqNo: 12	PA Method 9672 243440	8015M/D: Die Units: mg/M	kg ·	U	Qual			

Qualifiers:

Received by OCD: 7/14/2020 12500:05⁹AM

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

WO#:

06-Jan-17

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Client: Souder, Project: Barr No	Miller & A	ssociate	2S							
Sample ID MB-29391	SampT	ype: MI	3LK	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	e	*******
Client ID: PBS	Batch	a ID: 29	391	F	RunNo: 3	9665				
Prep Date: 12/23/2016	Analysis D	ate: 12	2/27/2016	S	SeqNo: 1	242742	Units: mg/M	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	950		1000		94.8	68.3	144			
Sample ID LCS-29391	SampT	ype: LC	:S	Tes	tCode: El	PA Method	8015D: Gasc	oline Rang	e	
Client ID: LCSS	Batcl	n ID: 29	391	F	RunNo: 3	9665				
Prep Date: 12/23/2016	Analysis D	ate: 1	2/27/2016	S	SeqNo: 1	242743	Units: mg/#	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25,00	0	103	74.6	123			
Sun: BFB	1000		1000		99,6	68.3	144			

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
 - R RPD outside accepted recovery limits
 - S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

06-Jan-17

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QC SUMMARY REPORT	
Hall Environmental Analysis Laboratory, In-	с.

WO#:	1612B53
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06-Jan-17

	·····										
Client: Project:	Souder, M Barr Non	viiller & A	ssociate	28							
Sample ID	MB-29391	SampT	Type: ME	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID:	PBS	Batc	h ID: 29	391	F	RunNo: 3	9665				
Prep Date:	12/23/2016	Analysis E	Date: 12	2/27/2016	5	SeqNo: 1	242788	Units: mg/k	K g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	0.025								
Toluene		ND	0.050								
Ethylbenzene		ND	0.050								
Xylenes, Total		ND	0.10								
Surr: 4-Bron	nofiuorobenzene	1.1		1.000		109	80	120	TUTT - TUTT	· · · · · · · · · · · · · · · · · · ·	
Sample ID	LCS-29391	Samp	Гуре: LC	s	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID:	LCSS	Batc	h ID: 29	391	F	RunNo: 3	9665				
Prep Date:	12/23/2016	Analysis E	Date: 12	2/27/2016	ę	SeqNo: 1	242789	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		1.0	0.025	1.000	0	103	75.2	115			
Toluene		0.96	0.050	1.000	0	96.4	80.7	112			
Ethylbenzene		0.94	0.050	1.000	0	93.6	78.9	117			
Xylenes, Total		2.8	0,10	3.000	0	94.4	79.2	115			
Surr: 4-Bron	nofluorobenzene	1.1		1.000		110	80	120			****
Sample ID	1612B53-006AMS	Samp	Гуре: М	3	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID:	D2-3	Batc	h ID: 29	3 9 1	F	RunNo: 3	9665				
Prep Date:	12/23/2016	Analysis E	Date: 12	2/27/2016	5	SeqNo: 1	242792	Units: mg/i	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		0.95	0.023	0.9183	0	104	61.5	138			
Toluene		0.88	0.046	0.9183	0	96.2	71.4	127			
Ethylbenzene		0.85	0.046	0.9183	0	92.0	70.9	132			
Xylenes, Total		2.5	0.092	2.755	0	92.1	76.2	123			
Surr: 4-Bron	nofluorobenzene	1.1		0.9183		115	80	120			
Sample ID	1612B53-006AMS	D Samp	Type: MS	SD	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID:	D2-3	Batc	h ID: 29	391	F	RunNo: 3	9665				
Prep Date:	12/23/2016	Analysis I	Date: 12	2/27/2016	:	SeqNo: 1	242793	Units: mg/l	K g		
Analyte		Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		0.85	0.023	0.9217	0	91.8	61.5	138	11.7	20	
Toiuene		0.84	0.046	0.9217	0	90.8	71.4	127	5.43	20	
Ethylbenzene		0.83	0.046	0.9217	0	90.2	70.9	132	1.64	20	
Xylenes, Total		2.5	0.092	2.765	0	91.0	76.2	123	0.851	20	
Surr: 4-Bror	nofluorobenzene	1.1		0.9217		116	80	120	0	0	

Qualifiers:

Received by OCD: 7/14/2020 12:00:05/2M

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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ANALYSIS LABORATORY TEL: 505-34:	nental Analysis Laboratory 4901 Hawkins NE Albuguergue, NM 87109 5-3975 FAX: 505-345-4107 www.hallenvironmental.com	Sample Log-In Check Lis						
Client Name: SMA-CARLSBAD Work Order Nu	Imber: 1612B53		ReptNo: 1					
Received by/date: AJ 12 20 116		<u></u>	<u></u>					
Logged By: LMdSey CUNCha 12/20/2016 9:40:	:00 AM							
completed By: Lindsley Concha 12/21/16								
Reviewed By: QT 12/22/	(6							
Chain of Custody								
1. Custody seals intact on sample bottles?	Yes 🗌	No 🗌	Not Present 🗹					
2. Is Chain of Custody complete?	Yes 🗹	No 🗌	Not Present					
3. How was the sample delivered?	Courier							
Log In								
4. Was an attempt made to cool the samples?	Yes 🗹	No 🗌	NA 🗆					
5. Were all samples received at a temperature of >0° C to 6.0°C	C Yes 🗹	No 🗌						
6. Sample(s) in proper container(s)?	Yes 🔽	No 🗌						
7. Sufficient sample volume for indicated test(s)?	Yes 🗹	No 🗌						
8. Are samples (except VOA and ONG) properly preserved?	Yes 🗹	No 🗌						
9. Was preservative added to bottles?	Yes	No 🔽	NA 🗌					
10.VOA vials have zero headspace?	Yes	No 🗆	No VOA Vials 🔽					
11. Were any sample containers received broken?	Yes	No 🗹	# of preserved					
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🗹	No 🗌	bottles checked for pH: (<2 or >12 ur	lless note				
13. Are matrices correctly identified on Chain of Custody?	Yes 🔽	No 🗌	Adjusted?					

15. Were all holding times able to be met? (If no, notify customer for authorization.)

14. Is it clear what analyses were requested?

Special Handling (if applicable)

16.\	Was client notified of all d	Iscrepancies with this order?	Yes] No 🗌	
	Person Notified:		Date		
	By Whom:		lowed	📄 Phone 🛄 Fax	In Person
	Regarding:				
	Client Instructions:				

No 🗌

No 🗋

Checked by:

Yes 🗹

Yes 🗹

17. Additional remarks:

18. Cooler Information

Received by OCD: 7/14/2020 12500:050AM

Coole	er No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1		1.1	Good	Yes			

Released to Imaging: 3/23/2021 3:14:12 PM

	hain	-of-Cu	istody Record	Turn-Around	Time:					(-			6 21	ne La	me	2 <i>6</i> 71	NI		A	TAI	ł
Cllent:	<u>SM</u>	<u>A- C</u>	arleted	Va Standard																	
				Project Name			ANALYSIS LABORATORY														
Mailing	Address	4		Bur	None,			490	31 H						-		-,	71/10			
				Project #:	<u> </u>		4901 Hawkins NE - Albuquerque, NM 87109 Tel. 505-345-3975 Fax 505-345-4107														
Phone	#:			1								NAMES OF A		REAL STREET, MAR	all designed and	ues	an other states and				
email o	rFaxa#:			Project Mana	iger:	<u>, , , , , , , , , , , , , , , , , , , </u>		ŝ	(js	1				(ř		Γ					T
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🛛 Star			Level 4 (Full Velidation)				3's (<u>Ö</u>	Gas					۲ ۲	ы М						
		D Other		Sampler: /	WYes			+ TPH (Gas only)	5B(Ê	÷	Î		۶ ۲	808						£
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Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	Anterio de Anterio	BTEX + MTBE	BTEX + MTBE	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
2-13-16	17:0)	5.	LI	402		-001			_	Í				Ŷ	<u> </u>	Ĩ	Ĩ		·		\uparrow
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Date:	Time:	Relinquish	ed by:	Received by:		Date Time															

If necessary, samples submitted to Hell Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted deta will be clearly notated on the analytical report.

CONDITIONS

Action 9188

District I 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720

District III 1000 Rio Brazos Rd., Aztec, NM 87410

Phone:(505) 334-6178 Fax:(505) 334-6170 <u>District IV</u> 1220 S. St Francis Dr., Santa Fe, NM 87505

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 S. St Francis Dr. Santa Fe, NM 87505

CONDITIONS OF APPROVAL

Operator:					OGRID:	Action Number:	Action Type:				
	TALON LPE	408 W Texas	Artesia, NM88210		329944	9188	C-141				
OCD	Condition										
Reviewer											
ceads	s Unless data can be provided from previous sampling events that hydrocarbons are not a contaminant of concern, the responsible party will be required to sample for BTEX and TPH, along with Chlorides during confirmation sampling.										
ceads	Additional samples will need to be collected from the release areas to test for BTEX and TPH at a minimum depth of 4' below ground surface. Should the responsible party find BTEX or TPH impact that exceeds Table I Closure Criteria, additional vertical delineation and rememdiation will be required with respect to BTEX and TPH.										
ceads	The nearest well to this site is 3707 POD 1 registered with the NMOSE approximately.65 miles west of the incidents site. The well logs indicate depth to first encountered groundwater is 55'. Unless the responsible party chooses to drill a borehole to confirm depth to water at the incidents site, Table I Closure Criteria for incidents where depth to water is between 51' and 100' will need to be followed.										
ceads	The remediation of the pit area will need to meet Table I Closure Criteria. Unless the pit is still active or used for production activities, 19.15.29.13 NMAC reclamation requirements will need to be followed.										