

**From:** [Sanjari, Melodie \(MRO\)](#)  
**To:** ["Venegas, Victoria, EMNRD"](#); [Bratcher, Mike, EMNRD](#); [Hamlet, Robert, EMNRD](#); [Eads, Cristina, EMNRD](#)  
**Cc:** [Mann, Ryan](#); [Ashley Maxwell](#); [Bratcher, Mike, EMNRD](#)  
**Subject:** RE: NRM2009059361 RICK DECKARD STATE 25 28 4 WXY #012H @ 30-015-45090  
**Date:** Thursday, August 13, 2020 9:00:08 AM

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Ms. Venegas,

I appreciate you taking the time to provide additional details on your denial of this incident and reiterate that the OCD is not taking a blanket approach to deferrals. Below, you state that the denial was actually based on the risk to human health, the environment, or groundwater if the impacted material was to remain in place. Of the 31.22 barrels that was released, all but 1.53 were remediated and/or recovered. The 1.53 bbl. of produced water that sprayed just outside of containment is the only portion on which we are requesting a deferral. This area is underneath and around production equipment as 19.15.29.12(C)2 NMAC details – in this case, underneath three high pressure oil and water lines and on top of one underground, live electric line. The material with elevated chloride levels is (1200-7200 mg/kg) is confined to the top foot of the engineered pad, and is delineated both vertically and horizontally with lab confirmation. The depth to groundwater determination of 42 feet bgs was established using OSE C 01411 and C 01411 POD 2, both of which are within the age and distance criteria in recent NM OCD guidance. This leaves 41 feet of separation between the lowest depth of impact from 1.53 bbls of produced water and groundwater. Our initial remediation plan was to use a hydro excavator to remove the impacted material in and around these lines and file for closure, but the way the pad is constructed doesn't allow any equipment or vehicles to safely access the backside of the pad. This leaves the option of manual excavation, which I discussed at great length with our safety professionals. The risk to human health that would be incurred during the manual digging around these high pressure active lines would be far greater than the probability of the amount of chloride from 1.53 bbls impacting groundwater before the site is abandoned.

If NM OCD's COVID 19 policy's allow it, I would be happy to meet you on location with my safety professionals to show you the area impacted by the 1.53 bbls of produced water and the pad's accessibility issues detailed above. I whole heartedly believe in the spirit of the rule, that this requested portion of this incident is a perfect candidate for deferral and urge you to reconsider your denial. I would be happy to provide you with any additional information you require.

Thank you

**Melodie Sanjari**

Environmental Professional  
Permian Basin  
Mobile: (575) 988-8753



**NRM2009059361 RICK DECKARD STATE 25 28 4 WXY #012H @ 30-015-45090**

Ms. Sanjari,

The OCD has denied the submitted Deferral/Closure Report C-141 for incident # NRM2009059361 RICK DECKARD STATE 25 28 4 WXY #012H @ 30-015-45090 for the following reasons:

- A deferral on a release cannot be granted if the depth to the water is less than 50 feet. The release should be remediated with the strictest closure criteria limits (600 mg / kg, chlorides, 100 mg / kg TPH, etc.). Less than 50 feet depth to groundwater is the depth that OCD has decided will result in an imminent risk to human health, the environment, or groundwater. The Division is no longer approving deferrals for releases that occurred in an area with a groundwater depth of less than 50 bgs.

The Denied C-141 can be found in the online image file. Please review and make the required correction prior to resubmitting through the fee portal.

Thank you,

Victoria Venegas  
State of New Mexico  
Energy, Minerals, and Natural Resources  
Oil Conservation Division  
811 S. First St., Artesia NM 88210  
(575) 748-1283  
[Victoria.Venegas@state.nm.us](mailto:Victoria.Venegas@state.nm.us)

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 groundwater, 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, or local laws and/or regulations.



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

June 18, 2020

#5E28980-BG5

NMOCD District 2  
811 S. First St.  
Artesia, NM 88210

SUBJECT: Deferral Request Report for the Rick Deckard State 25 28 4 WXY #012H Release (NRM2009059361), Eddy County, New Mexico

To Whom it May Concern:

On behalf of Marathon Oil, Permian LLC, Souder, Miller & Associates (SMA) has prepared this Deferral Request Report that describes the remediation of a release of liquids related to oil and gas production activities at the Rick Deckard State 25 28 4 WXY #012H site. The site is in Unit O, Section 04, Township 25S, Range 28E, Eddy County, New Mexico, on State 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 Information and Closure Criteria			
Name	Rick Deckard State 25 28 4 WXY #012H	Company	Marathon Oil, Permian LLC
API Number	30-015-45090	Location	32.15319233 -104.0881436
Incident Number	NRM2009059361		
Estimated Date of Release	3/28/2020	Date Reported to NMOCD	3/29/2020
Land Owner	State Land	Reported To	NMOCD, SLO
Source of Release	Water Transfer Pump		
Released Volume	31.22	Released Material	Produced Water
Recovered Volume	NA	Net Release	31.22
NMOCD Closure Criteria	<50 feet to groundwater		
SMA Response Dates	5/17/2020		

## **1.0 Background**

On March 28, 2020, a release was discovered at the Rick Deckard State 25 28 4 WXY #012H site due to a failed seal on the water transfer pump. Initial response activities were conducted by Marathon Oil, Permian LLC, and included source elimination, and containment activities. Figure 1 illustrates the vicinity and site location, Figure 2 illustrates the release location. The C-141 form is included in Appendix A.

## **2.0 Site Information and Closure Criteria**

The Rick Deckard State 25 28 4 WXY #012H is an active well located approximately 5 miles southwest of Malaga, New Mexico on State land at an elevation of approximately 2969 feet above mean sea level (amsl).

Based upon NMOSE data (Appendix B), depth to groundwater in the area is estimated to be 42 feet below grade surface (bgs). There is one known water source 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/](https://gis.ose.state.nm.us/gisapps/ose_pod_locations/); accessed 6/9/2020). The nearest significant watercourse is Salt Draw, located approximately 1,064 feet to the southwest. Figure 2 illustrates the site with 200 and 300-foot radii to indicate that it does 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 less than 50 feet bgs. On behalf of Marathon, SMA is requesting deferral of remediation for this release, as described below.

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

## **3.0 Release Characterization and Remediation Activities**

On May 17, 2020, SMA personnel arrived on site in response to the release associated with Rick Deckard State 25 28 4 WXY #012H. SMA performed site delineation activities by collecting soil samples around the release site and throughout the visibly stained area. Soil samples were field-screened for chloride using an electrical conductivity (EC) meter.

A total of six (6) sample locations (SL1-SL3, SW1-SW3) were investigated in the overspray area using a hand-auger, to depths up to 1.5 feet bgs. A minimum of two samples were collected at each sampling location and field-screened using the method above. A total of twelve (12) 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. Samples were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to a Hall Environmental representative.

Laboratory results indicate that chloride impacts remain from the surface to approximately one (1) foot below grade surface. Table 3 itemizes the samples and locations for all samples depicted on Figure 3.

Due to access issues, presence of active oil and gas operational equipment and pipelines in the impacted area, SMA is requesting a deferral of remediation for the 1.53 bbl of overspray until equipment and pipelines can be reasonably moved. The release has been laterally and vertically delineated and does not cause imminent risk to human, health, the environment, or groundwater. A liner integrity inspection was also conducted by Marathon and is included at the end of this report.

Figure 3 shows the extend of the release, sample location and requested deferment area.



Rick Deckard State 25 28 4 WXY #012H Deferral Request Report (NMR2009059361)  
June 18, 2020

Page 3 of 3

## **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 Ashley Maxwell at 505-320-8975 or Shawna Chubbuck at 505-325-7535.

Submitted by:  
SOUDER, MILLER & ASSOCIATES



Ashley Maxwell  
Project Manager

Reviewed by:



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:**

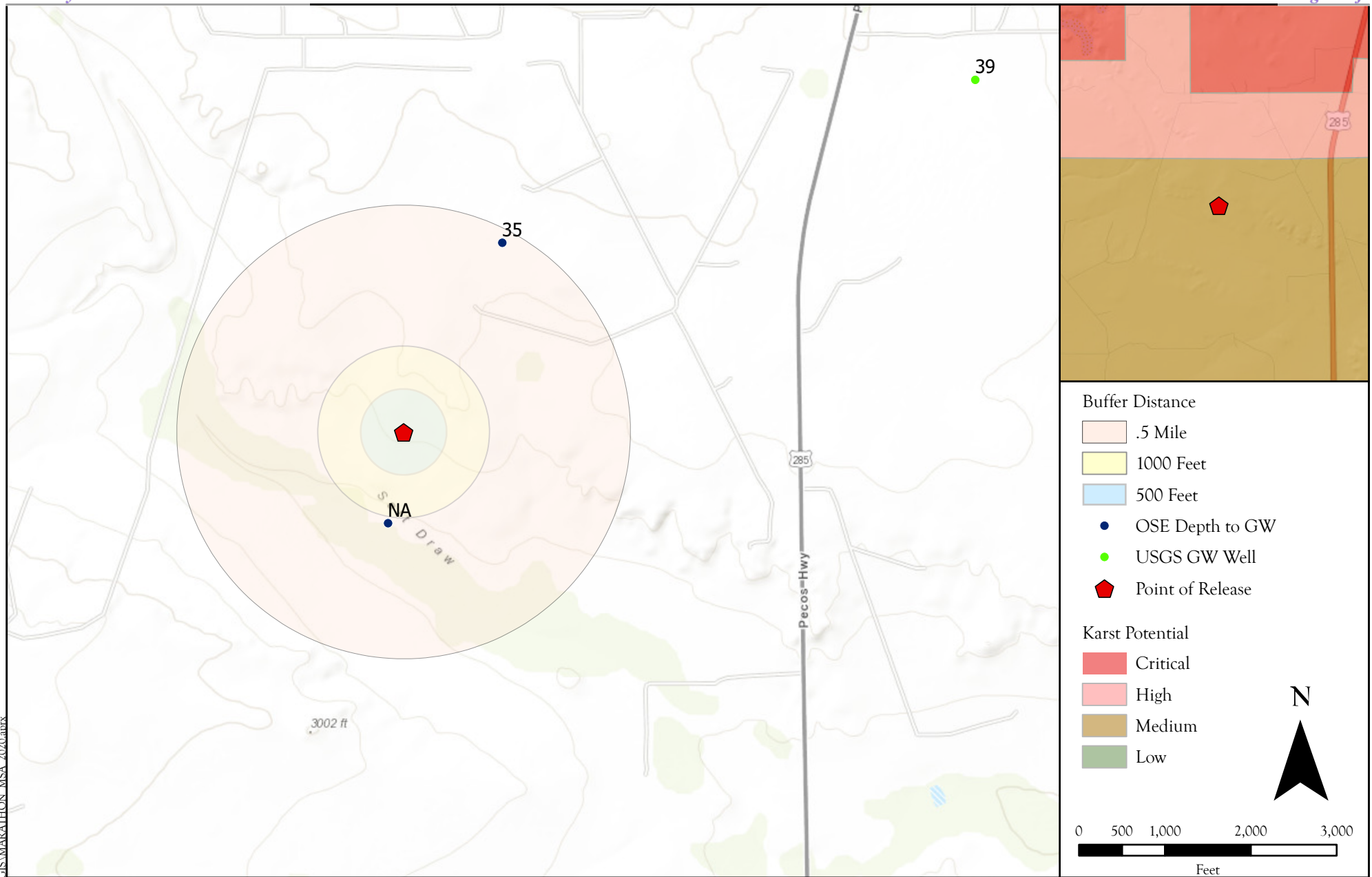
Appendix A: Form C141

Appendix B: NMOSE Wells Report

Appendix C: Sampling Protocol and Field Notes

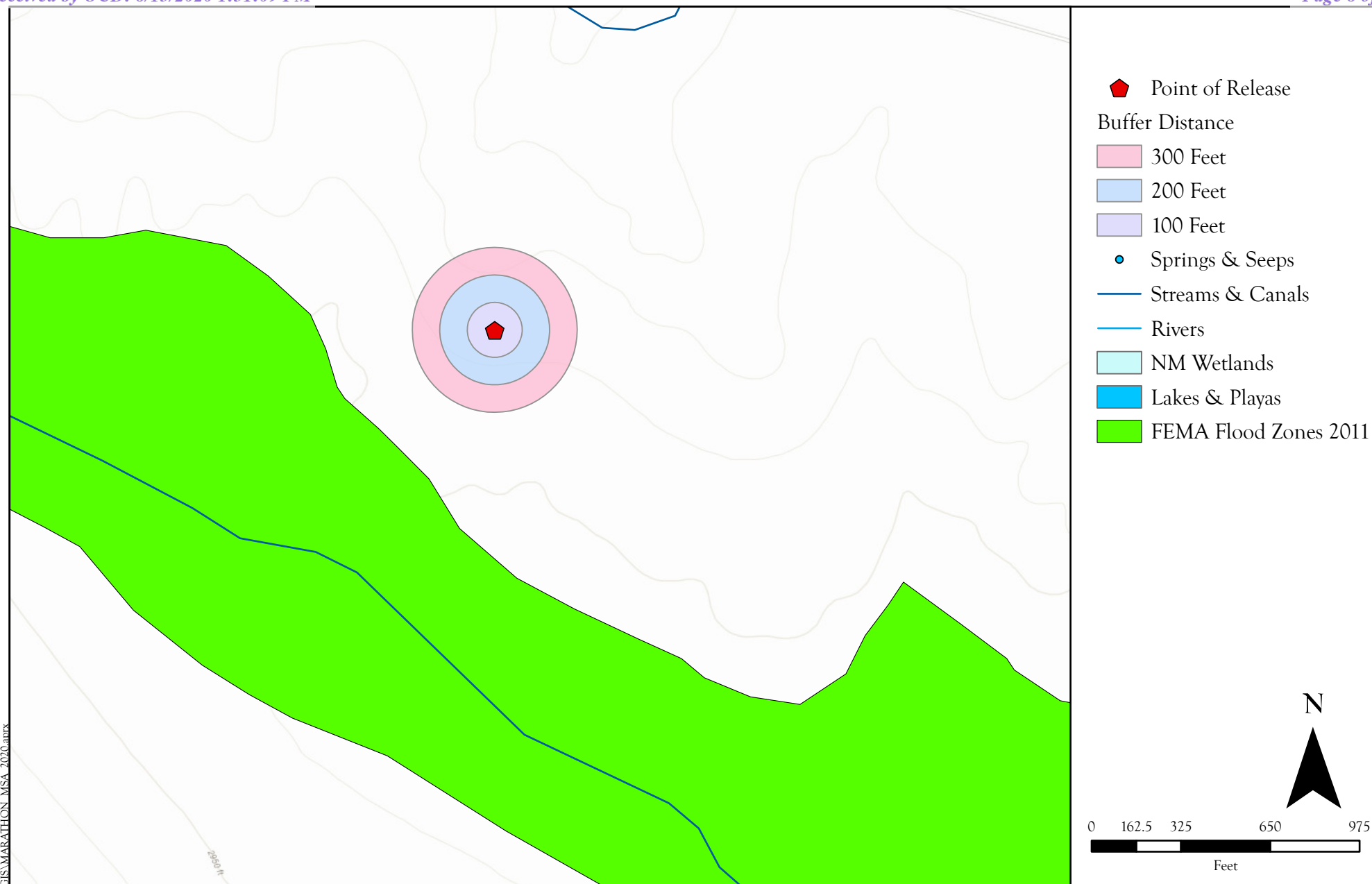
Appendix D: Laboratory Analytical Reports

# FIGURES



Site Map  
Rick Deckard State 25 28 4 WXY #012H- Marathon Oil  
UL: O S: 04 T: 25S R: 28E, Eddy County, New Mexico

Figure 1



- Point of Release
- Buffer Distance
  - 300 Feet
  - 200 Feet
  - 100 Feet
- Springs & Seeps
- Streams & Canals
- Rivers
- NM Wetlands
- Lakes & Playas
- FEMA Flood Zones 2011

Surface Water Protection Map  
 Rick Deckard State 25 28 4 WXY #012H - Marathon Oil  
 UL: O S: 04 T: 25S R: 28E, Eddy County, New Mexico

Figure 2

P:\5-Marathon MSA 2020\GE289801.GIS\MARATHON\_MSA\_2020.auxx  
 Date Saved:  
 4/21/2020

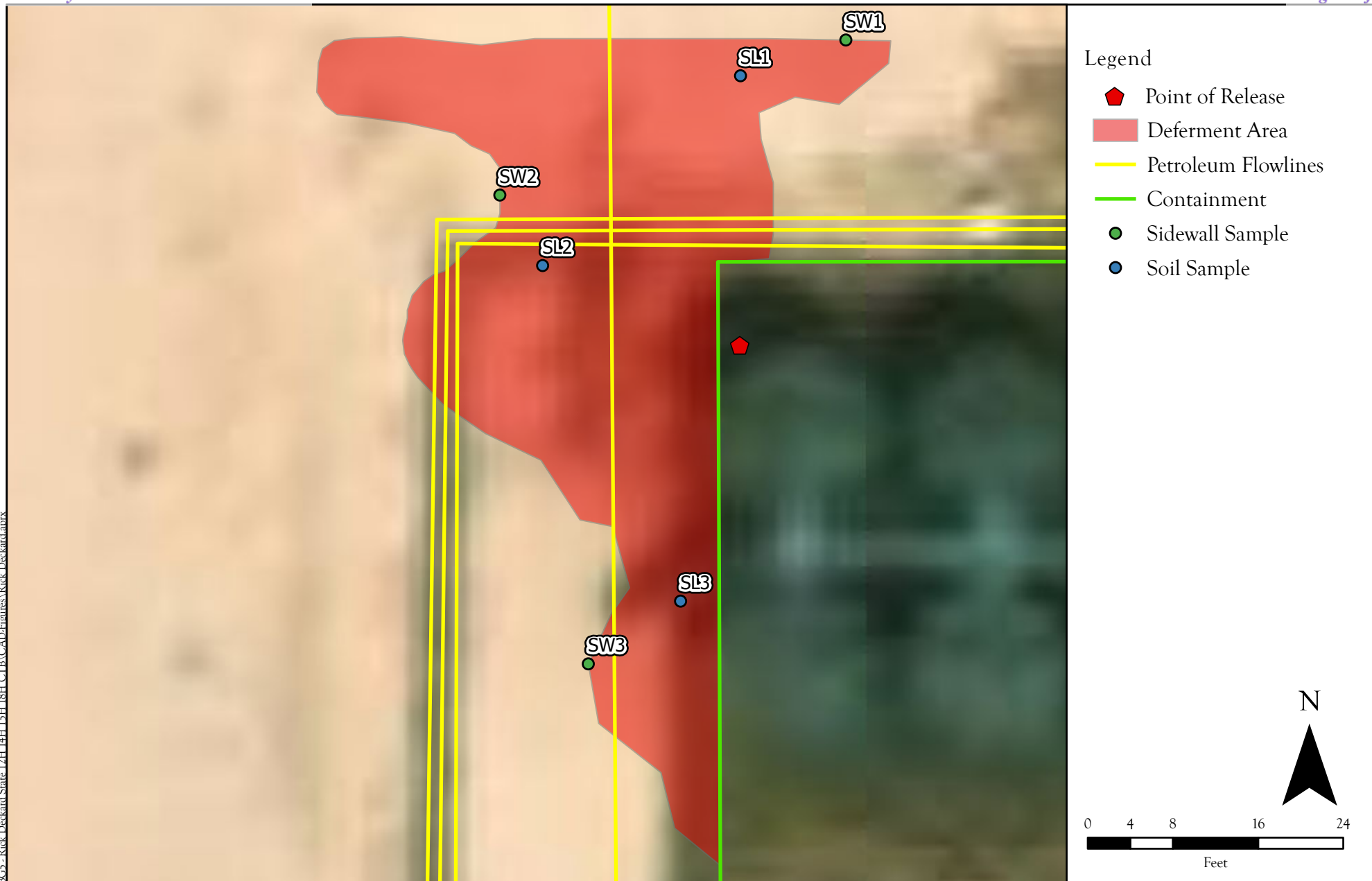
Revisions		
By: _____	Date: _____	Descr: _____
By: _____	Date: _____	Descr: _____

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Drawn	<u>Lynn A. Acosta</u>
Date	<u>4/23/2020</u>
Checked	_____
Approved	_____



201 South Halaguena Street  
 Carlsbad, New Mexico 88221  
 (575) 689-7040  
 Serving the Southwest & Rocky Mountains



Site and Sample Location Map  
 Rick Deckard State 25 28 4 WXY #012H - Marathon Oil  
 UL: O S: 04 T: 25S R: 28E Eddy County, New Mexico

Figure 3

## Revisions

By: \_\_\_\_\_ Date: \_\_\_\_\_ Descr: \_\_\_\_\_  
 By: \_\_\_\_\_ Date: \_\_\_\_\_ Descr: \_\_\_\_\_

Drawn  
 Date  
 Checked  
 Approved

Lynn A. Acosta  
 6/17/2020  
 \_\_\_\_\_  
 \_\_\_\_\_



201 South Halaguena Street  
 Carlsbad, New Mexico 88221  
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# TABLES

Table 2:  
NMOCD Closure Criteria

Marathon Oil, Permian LLC  
Rick Deckard State 25 28 4 WXY #012H  
NRM2009059361

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	42	New Mexico Office of the State Engineer
Horizontal Distance From All Water Sources Within 1/2 Mile (ft)	2, 503	United States Geological Survey Topographic Map
Horizontal Distance to Nearest Significant Watercourse (ft)	1,064	Salt Draw

Closure Criteria (19.15.29.12.B(4) and Table 1 NMAC)						
Depth to Groundwater		Closure Criteria (units in mg/kg)				
		Chloride *numerical limit or background, whichever is greater	TPH	GRO + DRO	BTEX	Benzene
< 50' BGS	X	600	100		50	10
51' to 100'		10000	2500	1000	50	10
>100'		20000	2500	1000	50	10
Surface Water	yes or no	if yes, then				
<300' from continuously flowing watercourse or other significant watercourse?	No	600	100		50	10
<200' from lakebed, sinkhole or playa lake?	No					
Water Well or Water Source						
<500 feet from spring or a private, domestic fresh water well used by less than 5 households for domestic or stock watering purposes?	No					
<1000' from fresh water well or spring?	No					
Human and Other Areas						
<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					
<100' from wetland?	No					
within area overlying a subsurface mine	No					
within an unstable area?	No (Medium)					
within a 100-year floodplain?	No					

SMA #



Table 3:  
Summary of Sample Results

Marathon Oil Permian LLC  
Rick Deckard State 25 28 4 WXY #012H  
NRM2009059361

Sample ID	Sample Date	Depth (feet bgs)	Proposed Action	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	GRO + DRO mg/Kg	MRO mg/Kg	Total TPH mg/Kg	Cl- mg/Kg
NMOCD Closure Criteria				50	10			<del>1000</del>		100	600
SL1	5/17/2020	0.5	Defer	<0.215	<0.024	<4.8	<9.6	<14.4	<48	<62.4	2700
		1	In-Situ	<0.215	<0.024	<4.8	<9.4	<14.2	<47	<61.2	190
		1.5	In-Situ	<0.211	<0.023	<4.7	<9.8	<14.5	<49	<63.5	<60
SL2		0.5	Defer	<0.221	<0.025	<4.9	<9.2	<14.1	<46	<60.1	7200
		1	Defer	<0.221	<0.025	<4.9	<9.3	<14.2	<46	<60.2	5400
		1.5	In-Situ	<0.217	<0.024	<4.8	<9.5	<14.3	<48	<62.3	<60
SL3		0.5	Defer	<0.221	<0.025	<4.9	<8.4	<13	<42	<55	2600
		1	Defer	<0.217	<0.024	<4.8	<9.5	<14	<47	<61	1200
		1.5	In-Situ	<0.217	<0.024	<4.8	<8.9	<13.7	<44	<57.7	<60
SW1		Surface	In-Situ	<0.224	<0.025	<5.0	<9.6	<14.6	<48	<62.6	<60
SW2		Surface	In-Situ	<0.219	<0.024	<4.9	<10	<14.9	<50	<64.9	<60
SW3		Surface	In-Situ	<0.207	<0.023	<4.6	<9.1	<13.7	<45	<58.7	<60

"--" = Not Analyzed

# APPENDIX A FORM C141

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural  
Resources Department

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised August 24, 2018  
Submit to appropriate OCD District office

Incident ID	NRM2009059361
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party Marathon Oil Permian LLC	OGRID 372098
Contact Name Melodie Sanjari	Contact Telephone 575-988-8753
Contact email <a href="mailto:msanjari@marathonoil.com">msanjari@marathonoil.com</a>	Incident # (assigned by OCD)
Contact mailing address 4111 S. Tidwell Rd., Carlsbad, NM 8220	

### Location of Release Source

Latitude 32.15319233 Longitude -104.0881436  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: RICK DECKARD STATE 25 28 4 WXY #012H	Site Type: Oil & Gas Facility
Date Release Discovered: 3/28/2020	API# (if applicable) 30-015-45090

Unit Letter	Section	Township	Range	County
O	04	25S	28E	Eddy

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (Name: \_\_\_\_\_)

### Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 31.22	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

#### Cause of Release

A failed seal on the water transfer pump caused the release of approximately 29.68 bbls of produced water in the lined tank battery containment and approximately 1.53 bbls on the engineered pad next to the containment. A liner inspection will be conducted along with the remediation of the impacted area on the engineered pad.

Incident ID	NRM2009059361
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Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? >25 bbls in volume
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes, to NMOCD & SLO via email by Melodie Sanjari on 3/29/2020	

## Initial Response

*The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury*

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
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: <u>Melodie Sanjari</u>	Title: <u>Environmental Professional</u>
Signature: <u>Melodie Sanjari</u>	Date: <u>3/30/20</u>
email: <u>msanjari@marathonoil.com</u>	Telephone: <u>575-988-8753</u>
<b><u>OCD Only</u></b>	
Received by: <u>Ramona Marcus</u>	Date: <u>3/30/2020</u>

Incident ID	NRM200959361
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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>42</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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
- ☒ 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
- ☒ 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.

State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	NRM200959361
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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: Melodie Sanjari

Title: Environmental Professional

Signature: *Melodie Sanjari*

Date: 6/18/2020

email: [\\_msanjari@marathonoil.com](mailto:_msanjari@marathonoil.com)

Telephone: 575-988-8753

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Incident ID	NRM200959361
District RP	
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: Melodie Sanjari  
Signature: *Melodie Sanjari*  
email: [\\_msanjari@marathonoil.com](mailto:_msanjari@marathonoil.com)

Title: Environmental Professional  
Date: 6/18/2020  
Telephone: 575-988-8753

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: \_\_\_\_\_ Date: \_\_\_\_\_



NRM2009059361



## Spill Calculation Tool

### Standing Liquid Inputs:

	Length (ft.)	Width (ft.)	Avg. Liquid Depth (in.)	% Oil	Total Volume (bbls)	Water Volume (bbls)	Oil Volume (bbls)
Rectangle Area #1	80	50	0.5	0%	29.68	29.68	0.00
Rectangle Area #2					0.00	0.00	0.00
Rectangle Area #3					0.00	0.00	0.00
Rectangle Area #4					0.00	0.00	0.00
Rectangle Area #5					0.00	0.00	0.00
Rectangle Area #6					0.00	0.00	0.00
Rectangle Area #7					0.00	0.00	0.00
Rectangle Area #8					0.00	0.00	0.00
Liquid Volume:					29.68	29.68	0.00

### Saturated Soil Inputs:

Soil Type: Gravel Loam

	Length (ft.)	Width (ft.)	Avg. Saturated Depth (in.)	% Oil	Total Volume (bbls)	Water Volume (bbls)	Oil Volume (bbls)
Rectangle Area #1	41	26	0.5	0%	1.11	1.11	0.00
Rectangle Area #2	5	3	2	0%	0.06	0.06	0.00
Rectangle Area #3	5	5	7	0%	0.36	0.36	0.00
Rectangle Area #4					0.00	0.00	0.00
Rectangle Area #5					0.00	0.00	0.00
Rectangle Area #6					0.00	0.00	0.00
Rectangle Area #7					0.00	0.00	0.00
Rectangle Area #8					0.00	0.00	0.00
Saturated Volume					1.53	1.53	0.00

### Volume Recovered and not included in Standing Liquid Inputs:

% Oil	Total Volume (bbls)	Water Volume (bbls)	Oil Volume (bbls)

	Total Volume (bbls)	Water Volume (bbls)	Oil Volume (bbls)
Total Spill Volume (bbls):	31.22	31.22	0.00

# APPENDIX B

## NMOSE WELLS REPORT



## 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)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
<a href="#">C 02668</a>	C	ED		2	1	2	09	25S	28E	585890	3557525*	324	150		
<a href="#">C 01411 POD2</a>	C	ED		4	2	4	04	25S	28E	586374	3558036	473	90	50	40
<a href="#">C 01411</a>	R	C	ED	4	4	2	04	25S	28E	586289	3558522*	760	69	35	34

Average Depth to Water: **42 feet**

Minimum Depth: **35 feet**

Maximum Depth: **50 feet**

### Record Count:3

#### UTM NAD83 Radius Search (in meters):

**Easting (X):** 585940

**Northing (Y):** 3557846

**Radius:** 806

\*UTM location was derived from PLSS - see Help

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.

4/23/20 7:01 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER



USGS Home  
Contact USGS  
Search USGS

## National Water Information System: Web Interface

USGS Water Resources

Data Category:


Groundwater

Geographic Area:

United States

GO

Click to hide News Bulletins

- **Notice** - The USGS Water Resources Mission Area's priority is to maintain the safety and well-being of our communities, including providing critical situational awareness in times of flooding in all 50 U.S. states and additional territories. Our hydrologic monitoring stations continue to send data in near real-time to NWISWeb, and we are continuing critical water monitoring activities to protect life and property on a case-by-case basis. The health and safety of the public and our employees are our highest priorities, and we continue to follow guidance from the White House, the CDC, and state and local authorities.
- [Introducing The Next Generation of USGS Water Data for the Nation](#)
- [Full News](#) 

Groundwater levels for the Nation

## Search Results -- 1 sites found

Agency code = usgs

site\_no list =

- 320956104040101

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

## USGS 320956104040101 25S.28E.03.22231

Available data for this site

Groundwater: Field measurements

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°09'56.2", Longitude 104°04'04.1" NAD83

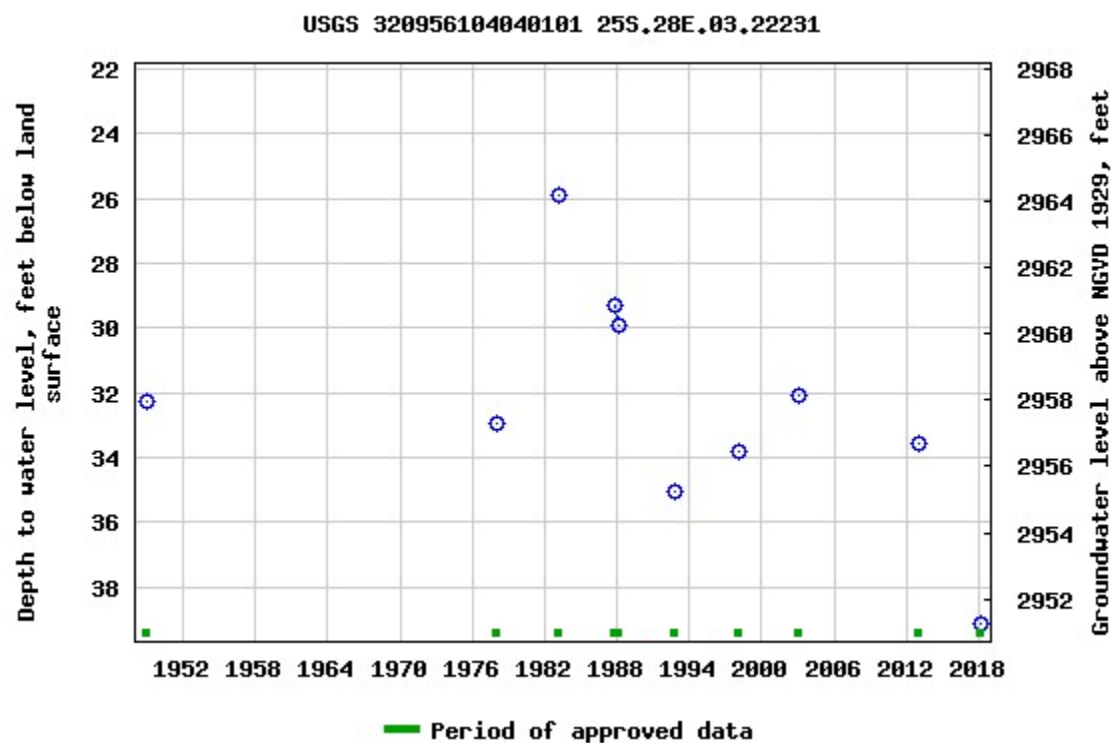
Land-surface elevation 2,990.20 feet above NGVD29

This well is completed in the Rustler Formation (312RSLR) local aquifer.

### Output formats

[Table of data](#)

<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>



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

[Download a presentation-quality graph](#)

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[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: [USGS Water Data Support Team](#)

Page Last Modified: 2020-04-23 08:55:20 EDT

0.7 0.59 nadww01

# APPENDIX C

## SAMPLING PROTOCOL & FIELD NOTES



## Sampling Protocol

Representatives from SMA chose the Judgmental Sampling Method as described in EPA's Final Sampling Guidance for SW-846, 2002 to adequately quantify contaminant concentrations RICK DECKARD STATE 25 28 4 WXY #012H on Location. The utility of this particular method functions on the sufficient knowledge of the contaminant, which we possess. This design is also useful when identifying the composition of a release, which we have documented. In addition, this sampling design was chosen for this project because of the locations uniform soil type, and the several operational considerations (such as the liner within the battery and the construction of a new facility) that precluded the implementation of a different statistical design.

The soil samples were collected in laboratory supplied containers in accordance with this sampling protocol, immediately placed on ice and sent under standard chain-of-custody protocols to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico for analysis. A total of Twelve (12) 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.

## Sampling Analysis Field Quality Assurance Procedures

A unique sample numbering was used to identify each sample collected and designated for on-site and off-site laboratory analysis. The purpose of this numbering scheme was to provide a tracking system for the retrieval of analytical and field data on each sample. Sample identification numbers were recorded on sample labels or tags, field notes, chain-of-custody records (COC) and all other applicable documentation used during the project. Sample labels were affixed to all sample containers during sampling activities. Information was recorded on each sample container label at the time of sample collection. The information recorded on the labels were as follows: sample identification number; sample type (discrete or composite); site name and area/location number; analysis to be performed; type of chemical preservative present in container; date and time of sample collection; and sample collector's name and initials. All samples were packed in ice in an approved rigid body container, custody sealed signed and shipped to the appropriate laboratory via insured carrier service.

COC procedures implemented for the project provided documentation of the handling of each sample from the time of collection until completion of laboratory analysis. A COC form serves as a legal record of possession of the sample. A sample is considered to be under custody if one or more of the following criteria are met: the sample is in the sampler's possession; the sample is in the sampler's view after being in possession; the sample was in the sampler's possession and then was placed into a locked area to prevent tampering; and/or the sample is in a designated secure area. Custody was documented throughout the project field sampling activities by a chain-of custody form initiated each day during which samples are collected. Container custody seals placed on either individual samples or on the rigid body container were used to ensure that no sample tampering occurs between the time the samples are placed into the containers and the time the containers are opened for analysis at the laboratory. Container custody seals were signed and dated by the individual responsible for completing the COC form contained within the container.



5/11/20 Rick Heckard Marathon

- Arrived on site (700)
- Went to go look at spill to develop path forward. It is a small spill on the NW corner of the tank battery.
  - There is electrical and petroleum pipelines underneath and within spill. Will take Safety protocols.
- Whescom was on site on 4/13/20 to spray tanks and clean up containment where spill occurred
- Surface lithology is a coarse to small gravel of caliche for well pad. Caliche layer is dry, fair to well cemented. There is also plenty of gypsum minerals see in soil that is not part of the well pad. The presence of gypsum indicates that soil in this area are aridic, which gives no good use for an electrical conductivity meter.
- Began sampling spill area. Sample location (SL1) was collected to a total depth of 1.5' bgs. collected 0.5' sample and 1' sample. At 1' interval soil changed from caliche to a tan sand w/ gypsum in it. <sup>SL1</sup> Underlying soil seems to be a poorly graded sand w/ gravel and gypsum minerals.
- Sample location (SL2) was collected at 0.5', 1' and 1.5' bgs. Lithology was the same as Sample location 1 (SL1).
- Sample location (SL3) was collected at 0.5', 1' and 1.5' bgs. Lithology has not changed from the two previous borings.
- Began to collect Sidewalls. The area is small and only collected 3 side walls throughout spill.
- Packed samples and left location (1040):





**Location Name:**

Date:

Rick Deckard

5117120

[illegible]

# APPENDIX D

## LABORATORY ANALYTICAL REPORTS



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

May 26, 2020

Ashley Maxwell  
Souder, Miller & Associates  
201 S Halagueno  
Carlsbad, NM 88221  
TEL:  
FAX:

RE: Rick Deckard

OrderNo.: 2005798

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 12 sample(s) on 5/19/2020 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](http://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,

A handwritten signature in black ink, appearing to read "Andy Freeman".

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order 2005798

Date Reported: 5/26/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: SL1- 0.5'

Project: Rick Deckard

Collection Date: 5/17/2020 9:52:00 AM

Lab ID: 2005798-001

Matrix: SOIL

Received Date: 5/19/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	2700	150		mg/Kg	50	5/23/2020 5:58:27 PM	52666
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/21/2020 7:50:46 AM	52570
Surr: BFB	96.6	70-130		%Rec	1	5/21/2020 7:50:46 AM	52570
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/22/2020 9:45:07 AM	52589
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/22/2020 9:45:07 AM	52589
Surr: DNOP	106	55.1-146		%Rec	1	5/22/2020 9:45:07 AM	52589
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.024		mg/Kg	1	5/21/2020 7:50:46 AM	52570
Toluene	ND	0.048		mg/Kg	1	5/21/2020 7:50:46 AM	52570
Ethylbenzene	ND	0.048		mg/Kg	1	5/21/2020 7:50:46 AM	52570
Xylenes, Total	ND	0.095		mg/Kg	1	5/21/2020 7:50:46 AM	52570
Surr: 1,2-Dichloroethane-d4	84.4	70-130		%Rec	1	5/21/2020 7:50:46 AM	52570
Surr: 4-Bromofluorobenzene	91.7	70-130		%Rec	1	5/21/2020 7:50:46 AM	52570
Surr: Dibromofluoromethane	102	70-130		%Rec	1	5/21/2020 7:50:46 AM	52570
Surr: Toluene-d8	94.7	70-130		%Rec	1	5/21/2020 7:50:46 AM	52570

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

## Analytical Report

Lab Order 2005798

Date Reported: 5/26/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: SL1-1'

Project: Rick Deckard

Collection Date: 5/17/2020 9:54:00 AM

Lab ID: 2005798-002

Matrix: SOIL

Received Date: 5/19/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	190	60		mg/Kg	20	5/23/2020 12:49:49 PM	52666
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/21/2020 8:19:26 AM	52570
Surr: BFB	96.4	70-130		%Rec	1	5/21/2020 8:19:26 AM	52570
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	5/22/2020 10:09:12 AM	52589
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/22/2020 10:09:12 AM	52589
Surr: DNOP	84.7	55.1-146		%Rec	1	5/22/2020 10:09:12 AM	52589
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.024		mg/Kg	1	5/21/2020 8:19:26 AM	52570
Toluene	ND	0.048		mg/Kg	1	5/21/2020 8:19:26 AM	52570
Ethylbenzene	ND	0.048		mg/Kg	1	5/21/2020 8:19:26 AM	52570
Xylenes, Total	ND	0.095		mg/Kg	1	5/21/2020 8:19:26 AM	52570
Surr: 1,2-Dichloroethane-d4	87.2	70-130		%Rec	1	5/21/2020 8:19:26 AM	52570
Surr: 4-Bromofluorobenzene	91.0	70-130		%Rec	1	5/21/2020 8:19:26 AM	52570
Surr: Dibromofluoromethane	102	70-130		%Rec	1	5/21/2020 8:19:26 AM	52570
Surr: Toluene-d8	94.5	70-130		%Rec	1	5/21/2020 8:19:26 AM	52570

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

## Analytical Report

Lab Order 2005798

Date Reported: 5/26/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: SL1-1.5'

Project: Rick Deckard

Collection Date: 5/17/2020 9:57:00 AM

Lab ID: 2005798-003

Matrix: SOIL

Received Date: 5/19/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	60		mg/Kg	20	5/23/2020 1:02:10 PM	52666
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/21/2020 8:47:57 AM	52570
Surr: BFB	94.0	70-130		%Rec	1	5/21/2020 8:47:57 AM	52570
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/22/2020 10:33:25 AM	52589
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/22/2020 10:33:25 AM	52589
Surr: DNOP	69.6	55.1-146		%Rec	1	5/22/2020 10:33:25 AM	52589
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.023		mg/Kg	1	5/21/2020 8:47:57 AM	52570
Toluene	ND	0.047		mg/Kg	1	5/21/2020 8:47:57 AM	52570
Ethylbenzene	ND	0.047		mg/Kg	1	5/21/2020 8:47:57 AM	52570
Xylenes, Total	ND	0.094		mg/Kg	1	5/21/2020 8:47:57 AM	52570
Surr: 1,2-Dichloroethane-d4	84.2	70-130		%Rec	1	5/21/2020 8:47:57 AM	52570
Surr: 4-Bromofluorobenzene	90.6	70-130		%Rec	1	5/21/2020 8:47:57 AM	52570
Surr: Dibromofluoromethane	99.8	70-130		%Rec	1	5/21/2020 8:47:57 AM	52570
Surr: Toluene-d8	92.7	70-130		%Rec	1	5/21/2020 8:47:57 AM	52570

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		



## Analytical Report

Lab Order 2005798

Date Reported: 5/26/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: SL2-0.5'

Project: Rick Deckard

Collection Date: 5/17/2020 10:00:00 AM

Lab ID: 2005798-004

Matrix: SOIL

Received Date: 5/19/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	7200	300		mg/Kg	100	5/23/2020 6:10:48 PM	52666
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/21/2020 9:16:34 AM	52570
Surr: BFB	94.4	70-130		%Rec	1	5/21/2020 9:16:34 AM	52570
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	5/22/2020 10:57:32 AM	52589
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/22/2020 10:57:32 AM	52589
Surr: DNOP	88.6	55.1-146		%Rec	1	5/22/2020 10:57:32 AM	52589
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.025		mg/Kg	1	5/21/2020 9:16:34 AM	52570
Toluene	ND	0.049		mg/Kg	1	5/21/2020 9:16:34 AM	52570
Ethylbenzene	ND	0.049		mg/Kg	1	5/21/2020 9:16:34 AM	52570
Xylenes, Total	ND	0.098		mg/Kg	1	5/21/2020 9:16:34 AM	52570
Surr: 1,2-Dichloroethane-d4	86.7	70-130		%Rec	1	5/21/2020 9:16:34 AM	52570
Surr: 4-Bromofluorobenzene	91.8	70-130		%Rec	1	5/21/2020 9:16:34 AM	52570
Surr: Dibromofluoromethane	102	70-130		%Rec	1	5/21/2020 9:16:34 AM	52570
Surr: Toluene-d8	92.2	70-130		%Rec	1	5/21/2020 9:16:34 AM	52570

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

## Analytical Report

Lab Order 2005798

Date Reported: 5/26/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: SL2-1'

Project: Rick Deckard

Collection Date: 5/17/2020 10:02:00 AM

Lab ID: 2005798-005

Matrix: SOIL

Received Date: 5/19/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	5400	150		mg/Kg	50	5/23/2020 6:23:08 PM	52666
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/21/2020 9:45:21 AM	52570
Surr: BFB	94.8	70-130		%Rec	1	5/21/2020 9:45:21 AM	52570
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	5/22/2020 11:21:40 AM	52589
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/22/2020 11:21:40 AM	52589
Surr: DNOP	84.5	55.1-146		%Rec	1	5/22/2020 11:21:40 AM	52589
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.025		mg/Kg	1	5/21/2020 9:45:21 AM	52570
Toluene	ND	0.049		mg/Kg	1	5/21/2020 9:45:21 AM	52570
Ethylbenzene	ND	0.049		mg/Kg	1	5/21/2020 9:45:21 AM	52570
Xylenes, Total	ND	0.098		mg/Kg	1	5/21/2020 9:45:21 AM	52570
Surr: 1,2-Dichloroethane-d4	85.6	70-130		%Rec	1	5/21/2020 9:45:21 AM	52570
Surr: 4-Bromofluorobenzene	92.4	70-130		%Rec	1	5/21/2020 9:45:21 AM	52570
Surr: Dibromofluoromethane	105	70-130		%Rec	1	5/21/2020 9:45:21 AM	52570
Surr: Toluene-d8	92.9	70-130		%Rec	1	5/21/2020 9:45:21 AM	52570

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

## Analytical Report

Lab Order 2005798

Date Reported: 5/26/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: SL2-1.5'

Project: Rick Deckard

Collection Date: 5/17/2020 10:05:00 AM

Lab ID: 2005798-006

Matrix: SOIL

Received Date: 5/19/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	60		mg/Kg	20	5/23/2020 1:39:14 PM	52666
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/21/2020 10:13:52 AM	52570
Surr: BFB	92.4	70-130		%Rec	1	5/21/2020 10:13:52 AM	52570
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	5/22/2020 11:45:52 AM	52589
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/22/2020 11:45:52 AM	52589
Surr: DNOP	72.6	55.1-146		%Rec	1	5/22/2020 11:45:52 AM	52589
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.024		mg/Kg	1	5/21/2020 10:13:52 AM	52570
Toluene	ND	0.048		mg/Kg	1	5/21/2020 10:13:52 AM	52570
Ethylbenzene	ND	0.048		mg/Kg	1	5/21/2020 10:13:52 AM	52570
Xylenes, Total	ND	0.097		mg/Kg	1	5/21/2020 10:13:52 AM	52570
Surr: 1,2-Dichloroethane-d4	85.4	70-130		%Rec	1	5/21/2020 10:13:52 AM	52570
Surr: 4-Bromofluorobenzene	89.7	70-130		%Rec	1	5/21/2020 10:13:52 AM	52570
Surr: Dibromofluoromethane	101	70-130		%Rec	1	5/21/2020 10:13:52 AM	52570
Surr: Toluene-d8	92.6	70-130		%Rec	1	5/21/2020 10:13:52 AM	52570

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

## Analytical Report

Lab Order 2005798

Date Reported: 5/26/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: SL3-0.5'

Project: Rick Deckard

Collection Date: 5/17/2020 10:15:00 AM

Lab ID: 2005798-007

Matrix: SOIL

Received Date: 5/19/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	2600	150		mg/Kg	50	5/23/2020 6:35:00 PM	52666
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	8.4		mg/Kg	1	5/21/2020 4:27:22 PM	52590
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	5/21/2020 4:27:22 PM	52590
Surr: DNOP	109	55.1-146		%Rec	1	5/21/2020 4:27:22 PM	52590
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/20/2020 12:05:04 PM	52573
Surr: BFB	87.2	66.6-105		%Rec	1	5/20/2020 12:05:04 PM	52573
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	5/20/2020 12:05:04 PM	52573
Toluene	ND	0.049		mg/Kg	1	5/20/2020 12:05:04 PM	52573
Ethylbenzene	ND	0.049		mg/Kg	1	5/20/2020 12:05:04 PM	52573
Xylenes, Total	ND	0.098		mg/Kg	1	5/20/2020 12:05:04 PM	52573
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	5/20/2020 12:05:04 PM	52573

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

## Analytical Report

Lab Order 2005798

Date Reported: 5/26/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: SL3-1'

Project: Rick Deckard

Collection Date: 5/17/2020 10:20:00 AM

Lab ID: 2005798-008

Matrix: SOIL

Received Date: 5/19/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	1200	60		mg/Kg	20	5/23/2020 2:28:36 PM	52666
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	5/21/2020 5:39:51 PM	52590
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/21/2020 5:39:51 PM	52590
Surr: DNOP	95.4	55.1-146		%Rec	1	5/21/2020 5:39:51 PM	52590
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/20/2020 1:15:46 PM	52573
Surr: BFB	85.9	66.6-105		%Rec	1	5/20/2020 1:15:46 PM	52573
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	5/20/2020 1:15:46 PM	52573
Toluene	ND	0.048		mg/Kg	1	5/20/2020 1:15:46 PM	52573
Ethylbenzene	ND	0.048		mg/Kg	1	5/20/2020 1:15:46 PM	52573
Xylenes, Total	ND	0.097		mg/Kg	1	5/20/2020 1:15:46 PM	52573
Surr: 4-Bromofluorobenzene	99.2	80-120		%Rec	1	5/20/2020 1:15:46 PM	52573

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

## Analytical Report

Lab Order 2005798

Date Reported: 5/26/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: SL3-1.5'

Project: Rick Deckard

Collection Date: 5/17/2020 10:23:00 AM

Lab ID: 2005798-009

Matrix: SOIL

Received Date: 5/19/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	60		mg/Kg	20	5/23/2020 2:40:55 PM	52666
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	5/21/2020 6:04:01 PM	52590
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	5/21/2020 6:04:01 PM	52590
Surr: DNOP	108	55.1-146		%Rec	1	5/21/2020 6:04:01 PM	52590
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/20/2020 2:26:21 PM	52573
Surr: BFB	83.9	66.6-105		%Rec	1	5/20/2020 2:26:21 PM	52573
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	5/20/2020 2:26:21 PM	52573
Toluene	ND	0.048		mg/Kg	1	5/20/2020 2:26:21 PM	52573
Ethylbenzene	ND	0.048		mg/Kg	1	5/20/2020 2:26:21 PM	52573
Xylenes, Total	ND	0.097		mg/Kg	1	5/20/2020 2:26:21 PM	52573
Surr: 4-Bromofluorobenzene	96.6	80-120		%Rec	1	5/20/2020 2:26:21 PM	52573

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

## Analytical Report

Lab Order 2005798

Date Reported: 5/26/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: SW1

Project: Rick Deckard

Collection Date: 5/17/2020 10:25:00 AM

Lab ID: 2005798-010

Matrix: SOIL

Received Date: 5/19/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	60		mg/Kg	20	5/23/2020 2:53:16 PM	52666
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/21/2020 6:28:23 PM	52590
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/21/2020 6:28:23 PM	52590
Surr: DNOP	107	55.1-146		%Rec	1	5/21/2020 6:28:23 PM	52590
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/20/2020 2:49:53 PM	52573
Surr: BFB	86.8	66.6-105		%Rec	1	5/20/2020 2:49:53 PM	52573
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	5/20/2020 2:49:53 PM	52573
Toluene	ND	0.050		mg/Kg	1	5/20/2020 2:49:53 PM	52573
Ethylbenzene	ND	0.050		mg/Kg	1	5/20/2020 2:49:53 PM	52573
Xylenes, Total	ND	0.099		mg/Kg	1	5/20/2020 2:49:53 PM	52573
Surr: 4-Bromofluorobenzene	99.1	80-120		%Rec	1	5/20/2020 2:49:53 PM	52573

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

## Analytical Report

Lab Order 2005798

Date Reported: 5/26/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: SW2

Project: Rick Deckard

Collection Date: 5/17/2020 10:28:00 AM

Lab ID: 2005798-011

Matrix: SOIL

Received Date: 5/19/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	60		mg/Kg	20	5/23/2020 3:05:36 PM	52666
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/21/2020 6:52:40 PM	52590
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/21/2020 6:52:40 PM	52590
Surr: DNOP	100	55.1-146		%Rec	1	5/21/2020 6:52:40 PM	52590
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/20/2020 3:13:34 PM	52573
Surr: BFB	87.9	66.6-105		%Rec	1	5/20/2020 3:13:34 PM	52573
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	5/20/2020 3:13:34 PM	52573
Toluene	ND	0.049		mg/Kg	1	5/20/2020 3:13:34 PM	52573
Ethylbenzene	ND	0.049		mg/Kg	1	5/20/2020 3:13:34 PM	52573
Xylenes, Total	ND	0.097		mg/Kg	1	5/20/2020 3:13:34 PM	52573
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	5/20/2020 3:13:34 PM	52573

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		



## Analytical Report

Lab Order 2005798

Date Reported: 5/26/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: SW3

Project: Rick Deckard

Collection Date: 5/17/2020 10:31:00 AM

Lab ID: 2005798-012

Matrix: SOIL

Received Date: 5/19/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	60		mg/Kg	20	5/23/2020 3:17:57 PM	52666
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	5/21/2020 7:17:04 PM	52590
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	5/21/2020 7:17:04 PM	52590
Surr: DNOP	97.7	55.1-146		%Rec	1	5/21/2020 7:17:04 PM	52590
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	5/20/2020 4:47:39 PM	52573
Surr: BFB	86.6	66.6-105		%Rec	1	5/20/2020 4:47:39 PM	52573
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.023		mg/Kg	1	5/20/2020 4:47:39 PM	52573
Toluene	ND	0.046		mg/Kg	1	5/20/2020 4:47:39 PM	52573
Ethylbenzene	ND	0.046		mg/Kg	1	5/20/2020 4:47:39 PM	52573
Xylenes, Total	ND	0.092		mg/Kg	1	5/20/2020 4:47:39 PM	52573
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	5/20/2020 4:47:39 PM	52573

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2005798

26-May-20

**Client:** Souder, Miller & Associates**Project:** Rick Deckard

Sample ID: <b>MB-52666</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>52666</b>	RunNo: <b>69130</b>								
Prep Date: <b>5/23/2020</b>	Analysis Date: <b>5/23/2020</b>	SeqNo: <b>2395608</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-52666</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>52666</b>	RunNo: <b>69130</b>								
Prep Date: <b>5/23/2020</b>	Analysis Date: <b>5/23/2020</b>	SeqNo: <b>2395609</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.6	90	110			

**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 Quantitative 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 Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2005798

26-May-20

**Client:** Souder, Miller & Associates**Project:** Rick Deckard

Sample ID: <b>2005798-007AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>SL3-0.5'</b>	Batch ID: <b>52590</b>	RunNo: <b>69011</b>								
Prep Date: <b>5/20/2020</b>	Analysis Date: <b>5/21/2020</b>	SeqNo: <b>2392434</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	9.5	47.44	3.635	103	47.4	136			
Surr: DNOP	4.1		4.744		87.2	55.1	146			

Sample ID: <b>2005798-007AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>SL3-0.5'</b>	Batch ID: <b>52590</b>	RunNo: <b>69011</b>								
Prep Date: <b>5/20/2020</b>	Analysis Date: <b>5/21/2020</b>	SeqNo: <b>2392435</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	9.5	47.53	3.635	106	47.4	136	2.95	43.4	
Surr: DNOP	4.2		4.753		88.1	55.1	146	0	0	

Sample ID: <b>LCS-52589</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>52589</b>	RunNo: <b>69011</b>								
Prep Date: <b>5/20/2020</b>	Analysis Date: <b>5/22/2020</b>	SeqNo: <b>2392465</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	57	10	50.00	0	114	70	130			
Surr: DNOP	5.2		5.000		104	55.1	146			

Sample ID: <b>LCS-52590</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>52590</b>	RunNo: <b>69011</b>								
Prep Date: <b>5/20/2020</b>	Analysis Date: <b>5/21/2020</b>	SeqNo: <b>2392468</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.9	70	130			
Surr: DNOP	3.0		5.000		60.1	55.1	146			

Sample ID: <b>MB-52589</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>52589</b>	RunNo: <b>69011</b>								
Prep Date: <b>5/20/2020</b>	Analysis Date: <b>5/22/2020</b>	SeqNo: <b>2392471</b>	Units: <b>mg/Kg</b>							
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								
Surr: DNOP	12		10.00		122	55.1	146			

**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 Quantitative 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 Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2005798

26-May-20

Client: Souder, Miller & Associates

Project: Rick Deckard

Sample ID: MB-52590	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 52590	RunNo: 69011								
Prep Date: 5/20/2020	Analysis Date: 5/21/2020	SeqNo: 2392474	Units: mg/Kg							
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								
Surr: DNOP	7.1		10.00		71.4	55.1	146			

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 Quantitative 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 Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2005798

26-May-20

**Client:** Souder, Miller & Associates**Project:** Rick Deckard

Sample ID: <b>mb-52573</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>52573</b>	RunNo: <b>69026</b>								
Prep Date: <b>5/19/2020</b>	Analysis Date: <b>5/20/2020</b>	SeqNo: <b>2391242</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	870		1000		87.0	66.6	105			

Sample ID: <b>lcs-52573</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>52573</b>	RunNo: <b>69026</b>								
Prep Date: <b>5/19/2020</b>	Analysis Date: <b>5/20/2020</b>	SeqNo: <b>2391243</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.9	80	120			
Surr: BFB	980		1000		97.7	66.6	105			

Sample ID: <b>2005798-008ams</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>SL3-1'</b>	Batch ID: <b>52573</b>	RunNo: <b>69026</b>								
Prep Date: <b>5/19/2020</b>	Analysis Date: <b>5/20/2020</b>	SeqNo: <b>2391246</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.7	23.74	0	96.9	80	120			
Surr: BFB	890		949.7		93.5	66.6	105			

Sample ID: <b>2005798-008amsd</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>SL3-1'</b>	Batch ID: <b>52573</b>	RunNo: <b>69026</b>								
Prep Date: <b>5/19/2020</b>	Analysis Date: <b>5/20/2020</b>	SeqNo: <b>2391247</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.9	24.34	0	95.3	80	120	0.836	20	
Surr: BFB	930		973.7		95.3	66.6	105	0	0	

**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 Quantitative 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 Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2005798

26-May-20

**Client:** Souder, Miller & Associates**Project:** Rick Deckard

Sample ID: <b>mb-52573</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>52573</b>	RunNo: <b>69026</b>								
Prep Date: <b>5/19/2020</b>	Analysis Date: <b>5/20/2020</b>	SeqNo: <b>2391284</b> Units: <b>mg/Kg</b>								
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-Bromofluorobenzene	1.0		1.000		100	80	120			

Sample ID: <b>LCS-52573</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>52573</b>	RunNo: <b>69026</b>								
Prep Date: <b>5/19/2020</b>	Analysis Date: <b>5/20/2020</b>	SeqNo: <b>2391285</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	91.8	80	120			
Toluene	0.95	0.050	1.000	0	94.5	80	120			
Ethylbenzene	0.95	0.050	1.000	0	95.4	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.9	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID: <b>2005798-007ams</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>SL3-0.5'</b>	Batch ID: <b>52573</b>	RunNo: <b>69026</b>								
Prep Date: <b>5/19/2020</b>	Analysis Date: <b>5/20/2020</b>	SeqNo: <b>2391287</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9681	0	106	78.5	119			
Toluene	1.1	0.048	0.9681	0	111	75.7	123			
Ethylbenzene	1.1	0.048	0.9681	0	114	74.3	126			
Xylenes, Total	3.3	0.097	2.904	0	114	72.9	130			
Surr: 4-Bromofluorobenzene	0.97		0.9681		100	80	120			

Sample ID: <b>2005798-007amsd</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>SL3-0.5'</b>	Batch ID: <b>52573</b>	RunNo: <b>69026</b>								
Prep Date: <b>5/19/2020</b>	Analysis Date: <b>5/20/2020</b>	SeqNo: <b>2391288</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	0.9804	0	106	78.5	119	0.956	20	
Toluene	1.1	0.049	0.9804	0	109	75.7	123	0.438	20	
Ethylbenzene	1.1	0.049	0.9804	0	112	74.3	126	0.526	20	
Xylenes, Total	3.3	0.098	2.941	0	113	72.9	130	0.0834	20	
Surr: 4-Bromofluorobenzene	0.97		0.9804		98.8	80	120	0	0	

**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 Quantitative 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 Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2005798

26-May-20

**Client:** Souder, Miller & Associates**Project:** Rick Deckard

Sample ID: <b>mb-52570</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>PBS</b>	Batch ID: <b>52570</b>	RunNo: <b>69064</b>								
Prep Date: <b>5/19/2020</b>	Analysis Date: <b>5/20/2020</b>	SeqNo: <b>2391817</b>	Units: <b>mg/Kg</b>							
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: 1,2-Dichloroethane-d4	0.44		0.5000		88.0	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.5000		92.4	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		103	70	130			
Surr: Toluene-d8	0.48		0.5000		95.1	70	130			

Sample ID: <b>lcs-52570</b>	SampType: <b>LCS4</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>BatchQC</b>	Batch ID: <b>52570</b>	RunNo: <b>69064</b>								
Prep Date: <b>5/19/2020</b>	Analysis Date: <b>5/20/2020</b>	SeqNo: <b>2391818</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	107	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.1	0.050	1.000	0	109	80	120			
Xylenes, Total	3.2	0.10	3.000	0	107	80	120			
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		87.3	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.5000		92.3	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		103	70	130			
Surr: Toluene-d8	0.47		0.5000		93.4	70	130			

**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 Quantitative 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 Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2005798

26-May-20

**Client:** Souder, Miller & Associates**Project:** Rick Deckard

Sample ID: <b>mb-52570</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>52570</b>	RunNo: <b>69064</b>								
Prep Date: <b>5/19/2020</b>	Analysis Date: <b>5/20/2020</b>	SeqNo: <b>2391843</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	480		500.0		96.1	70	130			

Sample ID: <b>lcs-52570</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>52570</b>	RunNo: <b>69064</b>								
Prep Date: <b>5/19/2020</b>	Analysis Date: <b>5/20/2020</b>	SeqNo: <b>2391844</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	5.0	25.00	0	80.8	70	130			
Surr: BFB	480		500.0		96.2	70	130			

**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 Quantitative 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 Limit





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: **SMA-CARLSBAD**Work Order Number: **2005798**

RcptNo: 1

Received By: **Isaiah Ortiz**

5/19/2020 9:30:00 AM

I-OX

Completed By: **Isaiah Ortiz**

5/19/2020 9:54:58 AM

I-OX

Reviewed By: **DAD 5/19/20**

### Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

### Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. Received at least 1 vial with headspace  $<1/4"$  for AQ VOA? Yes ☐ No ☐ NA ☒
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐

# of preserved  
bottles checked  
for pH:

(<2 or >12 unless noted)

Adjusted? \_\_\_\_\_

Checked by: EM 5/19/20

### Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: \_\_\_\_\_

Date: \_\_\_\_\_

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_

Client Instructions: \_\_\_\_\_

16. Additional remarks:

### 17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Not Present			



## Liner Integrity Inspection (Photos Attached)

Date: 4/24/2020Facility: Rick Deckard State IZH48 Hour Notification Given On: 4/21/2020 - SLO to OCD District II via email

Responsible party has visually inspected the liner

Y/N

Liner remains intact

Y/N

Liner had the ability to contain the leak in question:

Y/N

## Notes:

- no outside impacts from release other than area of overspray between pipes adjacent from WPD.
- containment of liner in good shape.

Company Representative(s)

Melodie Sanjari  
MS



Rick Deckard State 12H 14H 15H 18H CTB

NRM2009059361



Rick Deckard State 12H 14H 15H 18H CTB

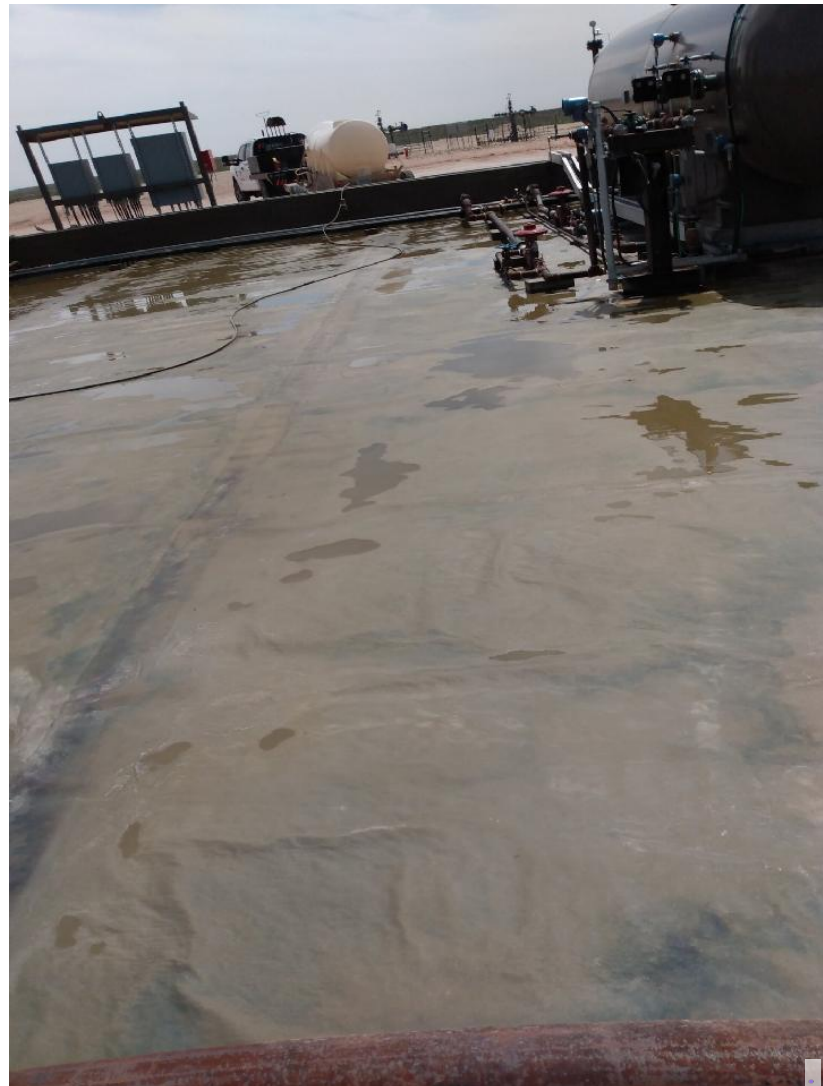
NRM2009059361





Rick Deckard State 12H 14H 15H 18H CTB

NRM2009059361



Rick Deckard State 12H 14H 15H 18H CTB

NRM2009059361

