Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	nAB1904451270
District RP	2RP-5150
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: _____Melodie Sanjari_____ Title: _____HES Professional_____

Signature: *Melodie Sanjari* Date: __5/25/2023_____

email: _msanjari@marathonoil.com_____ Telephone: _____575-988-8753_____

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Brittany Hall Date: 6/2/2023

Printed Name: Brittany Hall Title: Environmental Specialist

Originally submitted via email to Division Staff - resubmission to the portal was requested.

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

January 17, 2019

#5E27499-BG28

NMOCD District 2
Mr. Mike Bratcher
811 S. First St.
Artesia, New Mexico 88210

SUBJECT: Remediation Closure Report for the Fiddle Fee 24 28 23 WD #3H Release (2RP-5150), Malaga, Eddy County, New Mexico

Dear Mr. Bratcher:

On behalf of Marathon Oil Permian LLC (Marathon), Souder, Miller & Associates (SMA) has prepared this Remediation Closure Report that describes the assessment of a potential release of liquids related to oil and gas production activities at the Fiddle Fee 24 28 23 WD #3H site. The site is in Unit E, Section 23, Township 24S, Range 28E, Eddy County, New Mexico, on privately-owned 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	Fiddle Fee 24 28 23 WD #3H	Company	Marathon Oil Permian LLC
API Number	30-015-45035	Location	32.20592046° -104.06605780°
Incident Number	2RP-5150		
Estimated Date of Release	November 30, 2018	Date Reported to NMOCD	December 14, 2018
Land Owner	Private	Reported To	NMOCD
Source of Release	Flare		
Released Volume	N/A Fire	Released Material	N/A Fire
Recovered Volume	N/A Fire	Net Release	N/A Fire
NMOCD Closure Criteria	<50 feet to groundwater (Refer to Section 2.0)		
SMA Response Dates	December 12, 2018		

1.0 Background

On November 30, 2018, during flowback operations, the KimRay pressure control valve to the sales line engaged and directed gas to the flare line. Due to the high winds, the flare flame laid over and the heat caught the grass on fire off the edge of the pad. The flowback crews immediately choked back the wells. They then proceeded to use fire extinguishers to put out the fire. An area approximately 81 feet by 27 feet was burnt. No fluids were released. 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 Fiddle Fee 24 28 23 WD #3H is located approximately one (1) mile south of Malaga, New Mexico on privately-owned land at an elevation of approximately 3,004 feet above mean sea level (amsl).

Based upon water well data (Appendix B), depth to groundwater in the area is estimated to be 371 feet below grade surface (bgs). There are several 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 12/11/2018). The nearest significant watercourse is an unnamed irrigation canal, located approximately 260 feet to the south. 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. 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 and Remediation Activities

On December 12, 2018, SMA conducted sampling of the area impacted by the fire to confirm if a release had occurred. The area measured approximately 81 feet by 27 feet. A total of three (3) surficial soil samples (L1-L3) 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. Laboratory samples were collected in accordance with the sampling protocol included in Appendix C. Samples were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico (Appendix D).

Figure 3 shows the extent of the visually impacted area and sample locations. Laboratory results are summarized in Table 3. Laboratory reports are included in Appendix D. All samples resulted in non-detectable concentrations. SMA recommends no further action for 2RP-5150.

5.0 Scope and Limitations

The scope of our services included: assessment sampling; regulatory liaison; 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:

Ashley Maxwell
Project Scientist

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

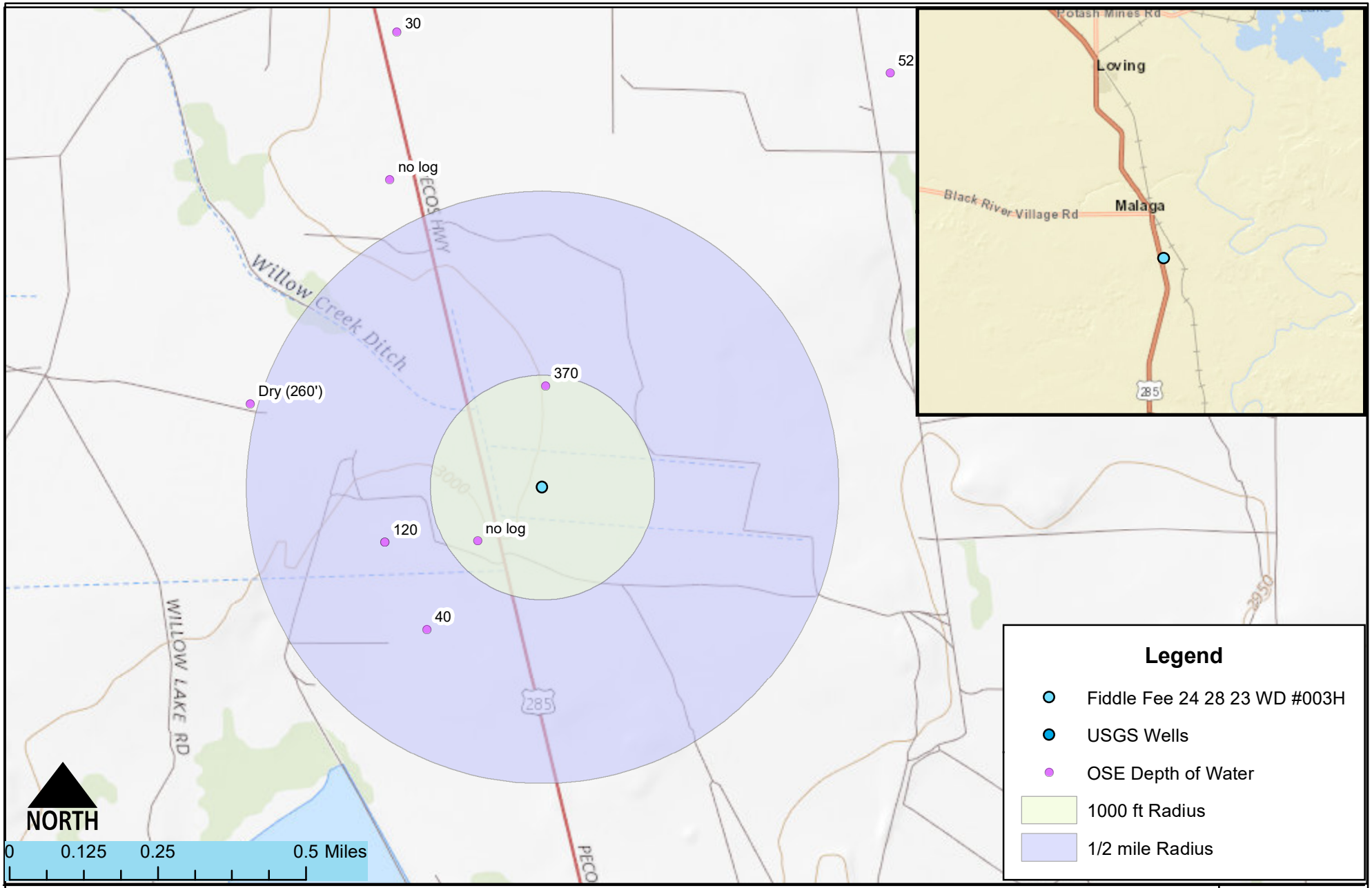
Tables:

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

Appendices:

Appendix A: Form C141
Appendix B: Water Well Data
Appendix C: Field Notes
Appendix D: Laboratory Analytical Reports

FIGURES



Vicinity and Well Head Protection Map
Fiddle Fee 24 28 23 WD 3H - Marathon
S 23-T24S-R28E, New Mexico

Figure 1

Date Saved: 12/11/2018

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

Drawn Heather Patterson
Checked
Approved

SMA
201 South Halagueña Street
Carlsbad, New Mexico 88221
(575) 689-7040
www.soudermiller.com
Serving the Southwest & Rocky Mountains

Surface Water Protection Map
Fiddle Fee 24 28 23 WD 3H - Marathon
S 23-T24S-R28E, New Mexico

Figure 2

Date Saved: 12/11/2018

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

Drawn Heather Patterson
Checked
Approved

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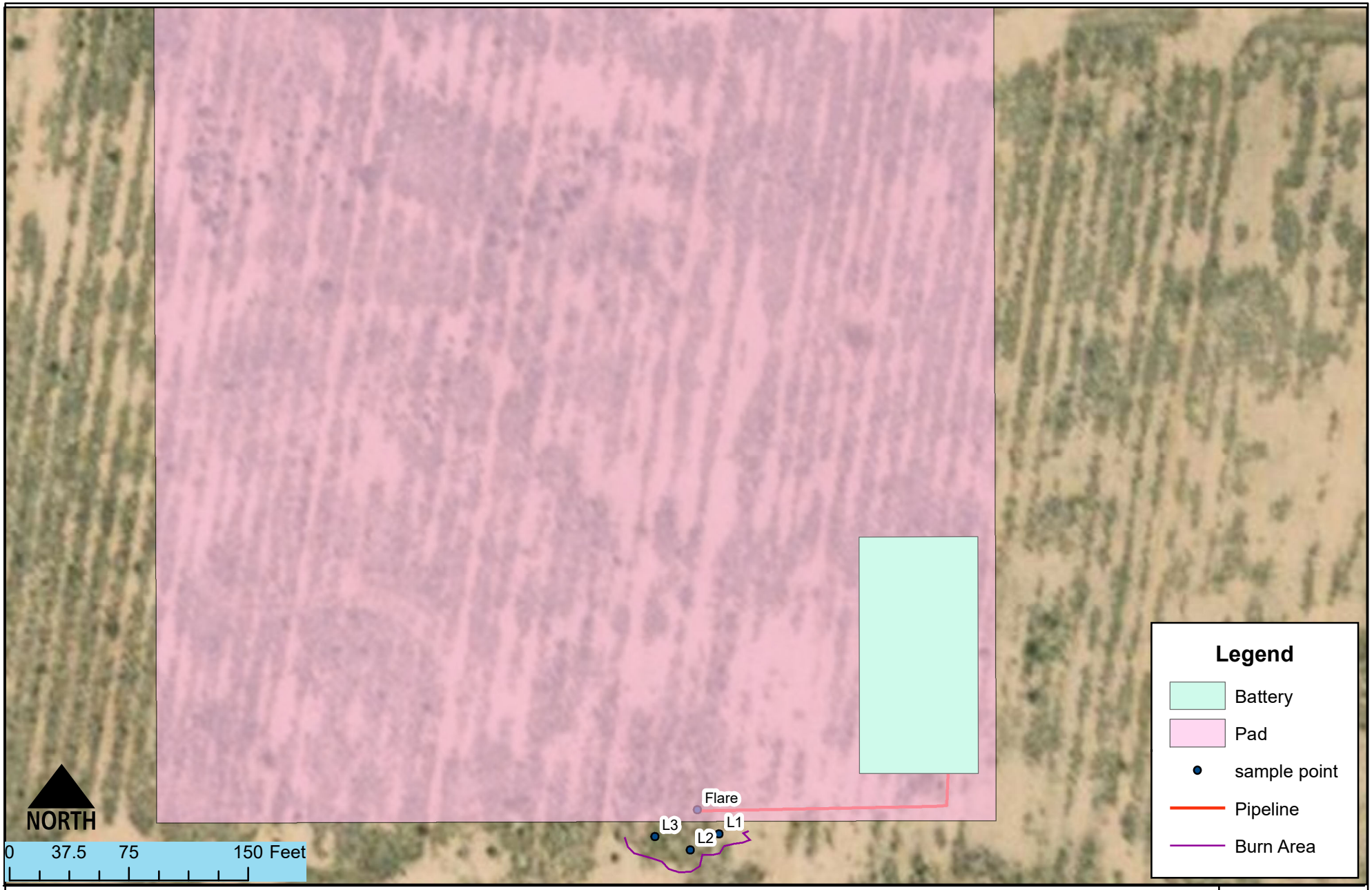

Site and Sample Location Map
Fiddle Fee 24 28 23 WD 3H - Marathon
S 23-T24S-R28E, New Mexico

Figure 3

Date Saved: 12/13/2018

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

Drawn Heather Patterson
Checked
Approved

SMA
201 South Halaguena Street
Carlsbad, New Mexico 88221
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TABLES

Table 2:
NMOCD Closure Criteria

Marathon Oil Permian LLC
Fiddle Fee 24 28 23 WD #3H (2RP-5150)

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	371	OSE
Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)	267	Figure 1
Hortizontal Distance to Nearest Significant Watercourse (ft)	260	Figure1

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	See below	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?	Yes	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					
within a 100-year floodplain?	No					

Table 3:
Summary of Sample Results

Marathon Oil Permian LLC
Fiddle Fee 24 28 23 WD #3H (2RP-5150)

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
NMOCD Closure Criteria			50	10	1000			100	600
L1	12/12/2018	0.5	<0.220	<0.024	<4.9	<9.9	<50	<64.8	<30
L2	12/12/2018	0.5	<0.217	<0.024	<4.8	<9.9	<49	<63.7	<30
L3	12/12/2018	0.5	<0.210	<0.023	<4.7	<10	<50	<64.7	<30

"--" = 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	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # *(assigned by OCD)*
Contact mailing address	

Location of Release Source

Latitude _____ Longitude _____
(NAD 83 in decimal degrees to 5 decimal places)

FIDDLE FEE 24 28 23 WD #003H AB

Site Name	Site Type
Date Release Discovered	API# *(if applicable)*

Unit Letter	Section	Township	Range	County

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)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release		

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

☐ The source of the release has been stopped.

☐ The impacted area has been secured to protect human health and the environment.

☐ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

☐ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not 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: _____ Title: _____

Signature: Callie Karrigan _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Amalia Barrameda _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nAB1904451270
District RP	2RP-5150
Facility ID	
Application ID	pAB1900450639

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?	371 (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
☒ 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

Incident ID	nAB1904451270
District RP	2RP-5150
Facility ID	
Application ID	pAB1900450639

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: __Callie Karrigan_____ Title: _____HES Professional_____

Signature:_____*Callie Karrigan* _____ Date: ___1/25/2019_____

email: ___cnkarrigan@marathonoil.com_____ Telephone: ___575-297-0956_____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nAB1904451270
District RP	2RP-5150
Facility ID	
Application ID	pAB1900450639

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: _____Callie Karrigan_____ Title: _____HES Professional_____

Signature: Callie Karrigan _____ Date: __1/25/2019_____

email: __cnkarrigan@marathonoil.com_____ Telephone: _____575-297-0956_____

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____
__

APPENDIX B
WATER WELL DATA

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 Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 04263 POD1	CUB	ED	3	1	1	23	24S	28E	588026	3563915	267	390	370	20
C 04222 POD2	CUB	ED	1	2	4	22	24S	28E	587707	3563255	504	100	40	60
C 03986 POD1	CUB	ED	3	4	2	22	24S	28E	587505	3563502	539	170	120	50
C 02244	C	LE	3	1	2	22	24S	28E	587224	3563865*	829	260		
C 03132	C	ED	1	2	4	15	24S	28E	587616	3564877*	1295	90	19	71
C 02057	C	ED		1	4	14	24S	28E	588956	3564774*	1461	126	52	74
C 03833 POD1	C	ED	2	1	2	26	24S	28E	589014	3562545	1481	96	55	41

Average Depth to Water: **109 feet**

Minimum Depth: **19 feet**

Maximum Depth: **370 feet**

Record Count: 7

UTMNAD83 Radius Search (in meters):

Easting (X): 588025 **Northing (Y):** 3563648 **Radius:** 1500

***UTM location was derived from PLSS - see Help**

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
C-4222-POD2		

WELL OWNER NAME(S)	PHONE (OPTIONAL)
VL Fresh Water, LLC	575-706-5659

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
910 W. Pierce St. #138	Carlsbad	NM	88220

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	12	8.82	N
	LONGITUDE	104	4	9.88	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

NW/4 NE/4 SE/4 section 22 T-24S R-28E

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD1706	Bryce Wallace	Elite Drillers Corporation

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
05/29/18	05/30/18	100	120	40

COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☑ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): 38

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	10	24	Grade B Steel Schedule 40	N/A	17.7	.280	
0	60	17.5	SDR 17 PVC	Spline-Lock	9.3	SDR 17	
60	100	17.5	SDR 17 PVC	Spline-Lock	9.3	SDR 17	.032

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	10	24	Portland Cement I/II	14	Slurry and Pour
0	25	17.5	Portland Cement I/II	27	Slurry and Pour
25	100	17.5	3/8 Gravel Pack	79	Pour

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO.	C-4222	POD NO.	2	TRN NO.	622777
LOCATION	24S.28E.22.4.2.1	EXPL		WELL TAG ID NO.	N/A

PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	4	4	Brown Sand	Y ✓N	
4	9	5	Tan Caliche	Y ✓N	
9	28	19	Brown Clay	Y ✓N	
28	70	42	Gyp	✓Y N	25.00
70	85	15	Red Clay	Y ✓N	
85	120	35	Broken Tan Limestone	✓Y N	25.00
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☑ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 50.00

5. TEST; RIG SUPERVISION

WELL TEST: TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:

Bryce Wallace — SIGNATURE OF DRILLER / PRINT SIGNEE NAME

07/02/18 — DATE

RECEIVED OCD
2018 JUL 5 P 12:10
STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/30/2017)

FILE NO.	C-4222	POD NO.	2	TRN NO.	622777	
LOCATION	24S.28E.22.4.2.1	EXPL		WELL TAG ID NO.	N/A	PAGE 2 OF 2

Revised June 1972

469225

STATE ENGINEER OFFICE
WELL RECORD

'92 FEB 17 AM 10 35
STATE ENGINEER OFFICE
SANTA FE NEW MEXICO

Section 1. GENERAL INFORMATION

(A) Owner of well Kaiser-Francis Oil Company Owner's Well No.
Street or Post Office Address c/o Glenn's Water Well Servcie
City and State Box 692 Tatum, N.M. 88267

Well was drilled under Permit No. C-2244 and is located in the:

a. ¼ SW ¼ NW ¼ NW ¼ of Section 22 Township 24-S. Range 28-E. N.M.P.M.

b. Tract No. ____ of Map No. ____ of the ____

c. Lot No. ____ of Block No. ____ of the ____
Subdivision, recorded in ____ County.

d. X= ____ feet, Y= ____ feet, N.M. Coordinate System ____ Zone in the ____ Grant.

(B) Drilling Contractor Glenn's Water Well Service, License No. WD 421

Address Box 692 Tatum, N.M. 88267

Drilling Began 1/3/92 Completed 1/3/92 Type tools rotary Size of hole 7 7/8 in.

Elevation of land surface or ____ at well is ____ ft. Total depth of well 260 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well none ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
			no water dry hole	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
			no casing					

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
	hole was back filled with cuttings and dirt.				

Section 5. PLUGGING RECORD

Plugging Contractor ____
Address ____
Plugging Method ____
Date Well Plugged ____
Plugging approved by:
____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 01-14-92

Quad ____ FWL ____ FSL ____

File No. C-2244 Use OWD Location No. 24.28.22.21314

Abandoned and Plugged

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	5	5	soil
5	9	4	caleche
9	15	6	hard red clay
15	33	18	red clay
33	41	8	yellowish clay
41	72	31	red clay
72	135	63	brown shale
135	155	20	lime and gyp rock
155	161	6	blue clay
161	168	7	white lime
168	191	23	red and blue clay
191	245	54	white lime stone
245	260	15	red clay

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except [redacted]on 5, shall be answered as completely an[redacted]ately as possible when any well is drilled, repaired or deepened. When this for[redacted]ed as a plugging record, only Section 1(a) and Section 5 need be comp[redacted]

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

467828

Section 1. GENERAL INFORMATION

(A) Owner of well Draper Brantley, Brantley Brothers Owner's Well No. C-3132
Street or Post Office Address 706 W. Riverside
City and State Carlsbad, NM 88220

Well was drilled under Permit No. WD-1348 and is located in the:

a. ~~SE~~ NW ¼ NE ¼ ~~NW~~ SE ¼ ¼ of Section 15 Township 24S Range 28E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Taylor Water Well Service License No. WD-1348

Address 7317 Etcheverry Rd., Carlsbad, NM 88220

Drilling Began 11-6-04 Completed 11-7-04 Type tools Rotary Size of hole 8 1/2 in.

Elevation of land surface or _____ at well is UK ft. Total depth of well 90 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 19 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
30	35	5	Anhy+Gyp	10
84	90	6	Anhy+Gyp	1-2

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6 5/8	Sch 40	Pvc	+1.5	90	91.5	Cap	70	90
							30	50

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by:
_____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY ~~310410~~

Date Received 11-22-04

Quad _____ FWL _____ FSL _____

File No. C-3132 Use Dom/stock Location No. 24.28.15.421

6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	2	2	Soil
2	20	18	Clay:pnk,off wht,sme sndy
20	35	15	Anhydrite:clr,frstd,wht,vfn-fn xln,msty gyp,water-35'
35	84	49	Clay:rd,sme gry,smth,stky
84	90	6	Anhy:frstd,gry,brn,vfn-fn xln
90	100	10	Clay:brt rd,stky
100	118	18	Mix Of Anhy+Clay:
118	134	16	Anhy:gry,frstd,wht,fn-vfn xln
134	140	6	Clay:rd,sme gyp

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, ex[redacted] Section 5, shall be answered as completely [redacted]d accurately as possible when any well is drilled, repaired or deepened. When this f[redacted] is used as a plugging record, only Section 1([redacted] Section 5 need be completed.

N

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NUMBER (WELL NUMBER): C 3986	OSE FILE NUMBER(S):
WELL OWNER NAME(S): Rustler Hills II LTD	PHONE (OPTIONAL):
WELL OWNER MAILING ADDRESS: 706 W. River Side Drive	CITY: Carlsbad STATE: NM ZIP: 88220

WELL LOCATION (FROM GPS)

	DEGREES	MINUTES	SECONDS	
LATITUDE	32	12	16.9	N
LONGITUDE	104	4	17.5	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

2. DRILLING & CASING INFORMATION

LICENSE NUMBER: ~~1609~~ 1690	NAME OF LICENSED DRILLER: Jason Maley		NAME OF WELL DRILLING COMPANY: Vision Resources
DRILLING STARTED: 1-9-17	DRILLING ENDED: 1-10-17	DEPTH OF COMPLETED WELL (FT): 170	BORE HOLE DEPTH (FT): 200
DEPTH WATER FIRST ENCOUNTERED (FT): 120			
STATIC WATER LEVEL IN COMPLETED WELL (FT): 70'			

COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☑ SHALLOW (UNCONFINED)

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	~~90~~	6	PVC SDR 17	Spline	6"	SDR 17	
~~90~~	170	6	PVC SDR 17	Spline	6"	SDR 17	.055

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	30	12 1/4	Neat Cement	18	Pump
30	170	12 1/4	3/8 pea gravel	84	Tag Line

FOR OSE INTERNAL USE

FILE NUMBER: C-3986	POD NUMBER: 1	WR-20 WELL RECORD & LOG (Version 10/29/15)	
LOCATION: Expl 24S.28E.22.243		TRN NUMBER: 597938	
			PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	35	35	Red Clay	Y (N)	
35	120	85	Red Clay And Gyp	Y (N)	
120	150	30	Conglomerate gravel	(Y) N	500+
150	155	5	Gray Clay	Y N	
155	200	45	Cemented gravels	(Y) N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☑ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

WELL TEST: TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:

Jason Maley — 1-16-17

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE

FILE NUMBER	POD NUMBER	TRN NUMBER
LOCATION		

WR-20 WELL RECORD & LOG (Version 10/29/2015)

PAGE 2 OF 2

APPENDIX C
FIELD NOTES

SUBJECT Fiddle Fee 3H PROJECT PAGE

CLIENT DATE BY

CHECKED BY

Arrived @ 1:40 ~ 35A~

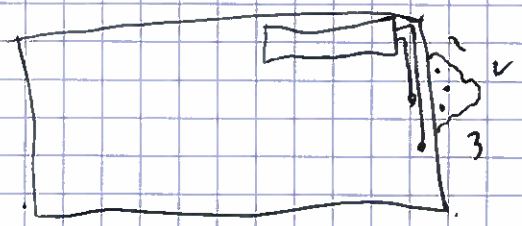
Burn area directly south of Pad

nearest 2 low pressure flares

no visible spill - just burned vegetation

green plants coming thru

off locath @ 2:10



Flare very hot

~65

del @ 6"

1:55 L1

2:00 L2

2:05 L3

APPENDIX D

LABORATORY ANALYTICAL REPORTS

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

December 20, 2018

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

RE: Fiddle Fee 3H OrderNo.: 1812909

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 3 sample(s) on 12/15/2018 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 Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1812909**
Date Reported: **12/20/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-0.5
Project: Fiddle Fee 3H
Collection Date: 12/12/2018 1:55:00 PM
Lab ID: 1812909-001 **Matrix:** SOIL **Received Date:** 12/15/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	30		mg/Kg	20	12/19/2018 9:48:49 PM	42221
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/18/2018 10:55:36 AM	42154
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/18/2018 10:55:36 AM	42154
Surr: DNOP	95.5	50.6-138		%Rec	1	12/18/2018 10:55:36 AM	42154
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/18/2018 6:16:51 PM	42148
Surr: BFB	92.3	73.8-119		%Rec	1	12/18/2018 6:16:51 PM	42148
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	12/18/2018 6:16:51 PM	42148
Toluene	ND	0.049		mg/Kg	1	12/18/2018 6:16:51 PM	42148
Ethylbenzene	ND	0.049		mg/Kg	1	12/18/2018 6:16:51 PM	42148
Xylenes, Total	ND	0.098		mg/Kg	1	12/18/2018 6:16:51 PM	42148
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	12/18/2018 6:16:51 PM	42148

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

Qualifiers:

*	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 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 **1812909**
Date Reported: **12/20/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2-0.5
Project: Fiddle Fee 3H
Collection Date: 12/12/2018 2:00:00 PM
Lab ID: 1812909-002 **Matrix:** SOIL **Received Date:** 12/15/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	30		mg/Kg	20	12/19/2018 10:01:13 PM	42221
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/18/2018 11:19:50 AM	42154
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/18/2018 11:19:50 AM	42154
Surr: DNOP	86.0	50.6-138		%Rec	1	12/18/2018 11:19:50 AM	42154
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/18/2018 6:39:28 PM	42148
Surr: BFB	90.8	73.8-119		%Rec	1	12/18/2018 6:39:28 PM	42148
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	12/18/2018 6:39:28 PM	42148
Toluene	ND	0.048		mg/Kg	1	12/18/2018 6:39:28 PM	42148
Ethylbenzene	ND	0.048		mg/Kg	1	12/18/2018 6:39:28 PM	42148
Xylenes, Total	ND	0.097		mg/Kg	1	12/18/2018 6:39:28 PM	42148
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	12/18/2018 6:39:28 PM	42148

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
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

Analytical Report
Lab Order **1812909**
Date Reported: **12/20/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3-0.5
Project: Fiddle Fee 3H
Collection Date: 12/12/2018 2:05:00 PM
Lab ID: 1812909-003 **Matrix:** SOIL **Received Date:** 12/15/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	30		mg/Kg	20	12/19/2018 10:38:27 PM	42221
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/18/2018 11:44:16 AM	42154
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/18/2018 11:44:16 AM	42154
Surr: DNOP	68.8	50.6-138		%Rec	1	12/18/2018 11:44:16 AM	42154
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/18/2018 7:02:00 PM	42148
Surr: BFB	89.8	73.8-119		%Rec	1	12/18/2018 7:02:00 PM	42148
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	12/18/2018 7:02:00 PM	42148
Toluene	ND	0.047		mg/Kg	1	12/18/2018 7:02:00 PM	42148
Ethylbenzene	ND	0.047		mg/Kg	1	12/18/2018 7:02:00 PM	42148
Xylenes, Total	ND	0.093		mg/Kg	1	12/18/2018 7:02:00 PM	42148
Surr: 4-Bromofluorobenzene	99.1	80-120		%Rec	1	12/18/2018 7:02:00 PM	42148

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

Qualifiers:

*	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 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812909**

20-Dec-18

Client: Souder, Miller & Associates

Project: Fiddle Fee 3H

Sample ID	**MB-42221**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**42221**	RunNo:	**56456**					
Prep Date:	**12/19/2018**	Analysis Date:	**12/19/2018**	SeqNo:	**1889186**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-42221**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**42221**	RunNo:	**56456**					
Prep Date:	**12/19/2018**	Analysis Date:	**12/19/2018**	SeqNo:	**1889187**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.3	90	110			

Qualifiers:

*	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 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812909**

20-Dec-18

Client: Souder, Miller & Associates

Project: Fiddle Fee 3H

Sample ID	**LCS-42154**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**42154**		RunNo:	**56409**				
Prep Date:	**12/17/2018**	Analysis Date:	**12/18/2018**		SeqNo:	**1886087**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	85.5	70	130			
Surr: DNOP	4.1		5.000		81.7	50.6	138			

Sample ID	**MB-42154**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**42154**		RunNo:	**56409**				
Prep Date:	**12/17/2018**	Analysis Date:	**12/18/2018**		SeqNo:	**1886088**	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	8.8		10.00		88.1	50.6	138			

Sample ID	**LCS-42188**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**42188**		RunNo:	**56437**				
Prep Date:	**12/18/2018**	Analysis Date:	**12/19/2018**		SeqNo:	**1887450**	Units:	**%Rec**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.0		5.000		80.3	50.6	138			

Sample ID	**MB-42188**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**42188**		RunNo:	**56437**				
Prep Date:	**12/18/2018**	Analysis Date:	**12/19/2018**		SeqNo:	**1887451**	Units:	**%Rec**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.6		10.00		85.5	50.6	138			

Qualifiers:

*	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 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812909**

20-Dec-18

Client: Souder, Miller & Associates

Project: Fiddle Fee 3H

Sample ID	**MB-42148**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**42148**	RunNo:	**56430**					
Prep Date:	**12/17/2018**	Analysis Date:	**12/18/2018**	SeqNo:	**1886658**	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	880		1000		87.8	73.8	119			

Sample ID	**LCS-42148**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**42148**	RunNo:	**56430**					
Prep Date:	**12/17/2018**	Analysis Date:	**12/18/2018**	SeqNo:	**1886659**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.2	80.1	123			
Surr: BFB	1000		1000		102	73.8	119			

Qualifiers:

*	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 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812909**

20-Dec-18

Client: Souder, Miller & Associates

Project: Fiddle Fee 3H

Sample ID	**MB-42148**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID:	**42148**	RunNo:	**56430**					
Prep Date:	**12/17/2018**	Analysis Date:	**12/18/2018**	SeqNo:	**1886689**	Units:	**mg/Kg**			
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	0.98		1.000		98.1	80	120			

Sample ID	**LCS-42148**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**42148**	RunNo:	**56430**					
Prep Date:	**12/17/2018**	Analysis Date:	**12/18/2018**	SeqNo:	**1886690**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.80	0.025	1.000	0	80.5	80	120			
Toluene	0.90	0.050	1.000	0	90.5	80	120			
Ethylbenzene	0.94	0.050	1.000	0	93.7	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.9	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Qualifiers:

*	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 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

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: **1812909** RcptNo: **1**

Received By: **Erin Melendrez** **12/15/2018 9:40:00 AM**

Completed By: **Erin Melendrez** **12/15/2018 10:41:42 AM**

Reviewed By: JC 12-17-18
LB: DAD 12/17/18

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° C to 6.0°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. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
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: DAD 12/17/18

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 °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Yes			
2	2.7	Good	Yes			

Chain-of-Custody Record

Client: SMA

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day Turn
☐ Standard ☐ Rush

Project Name: Fiddle Fee 3H

Project #:

Project Manager: Austin Weyand

Sampler: C. Parker

On Ice: ☒ Yes ☐ No

# of Coolers: 2 (CF=0)

Cooler Temp(including CF): 1.6°C, 2.7°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1812909	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
12/12/18	1355	Soil	L1-0.5	4oz		-001	X	X					X			
↓	1400	↓	L2-0.5	↓		-002	X	X					X			
↓	1405	↓	L3-0.5	↓		-003	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
		Cole Parker			12/14/18	0820
12/14/18	1900			Courier	12/15/18	0940

Remarks: Marathon

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.

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
District IV
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

Action 220413

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 220413
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bhall	Closure approved. Site will need to meet the requirements of 19.15.29.13 NMAC.	6/2/2023