Form C-141
Page 3

State of New Mexico
Oil Conservation Division

Incident ID	NAB1603649137
District RP	
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?	<50' ~~639~~ (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.

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Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAB1603649137
District RP	
Facility ID	
Application ID	

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: Dale Woodall Title: Environmental Professional

Signature: Dale Woodall Date: 3/24/2023

email: dale.woodall@dvn.com Telephone: 575-748-1839

OCD Only

Received by: Jocelyn Harimon Date: 03/27/2023

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	NAB1603649137
District RP	
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.***

[x] A scaled site and sampling diagram as described in 19.15.29.11 NMAC

[x] 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)

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

[x] 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: Dale Woodall Title: Environmental Professional

Signature: Dale Woodall Date: 3/24/2023

email: dale.woodall@dvn.com Telephone: 575-748-1839

OCD Only

Received by: Jocelyn Harimon Date: 03/27/2023

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: Ashley Maxwell Date: 3/30/2023

Printed Name: Ashley Maxwell Title: Environmental Specialist

Pima Environmental Services
5614 N. Lovington Highway
Hobbs, NM 88240
575-964-7740

March 23rd, 2023

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

Bureau of Land Management
620 East Green Street
Carlsbad, NM 88220

Re: Site Assessment, Remediation, and Closure Report
Tomb Raider 1 Fed 1H
API No. 30-015-42655
GPS: Latitude 32.340580 Longitude -103.729401
UL -- B, Sec. 1, T23S, R31E
Eddy County, NM
NMOCD Ref. No. NAB1603649137

Pima Environmental Services, LLC. (Pima) has been contracted by Devon Energy Production Company, LP (Devon) to perform a spill assessment, remediation activities, and submit this closure report for a crude oil release that occurred at the Tomb Raider 1 Federal 1H (Tomb Raider). The initial C-141 was submitted on February 2nd, 2016 (Appendix C). This incident was assigned Incident ID NAB1603649137 by the New Mexico Oil Conservation Division (NMOCD).

Site Characterization

The Tomb Raider is located approximately twenty-two (22) miles northeast of Loving, NM. This spill site is in Unit B, Section 1, Township 23S, Range 31E, Latitude 32.340580 Longitude -103.729401, Eddy County, NM. Figure 1 references a Location Map.

Per the New Mexico Bureau of Geology and Mineral Resources, the geology is in the eolian and piedmont deposits (Holocene to middle Pleistocene). The soil in this area is made up of Maljamar and Palomas fine sands, 0 to 3 percent slopes, eroded according to the United States Department of Agriculture Natural Resources Conservation Service soil survey (Appendix B). The drainage courses in this area are well-drained. There is a low potential for karst geology to be present in the area of the Tomb Raider (Figure 3).

According to the New Mexico Office of the State Engineer, depth to the nearest groundwater in this area is 639 feet below grade surface (BGS). According to the United States Geological Survey (USGS), the nearest groundwater is greater than 486.60 feet BGS. The closest waterway is an unnamed salt playa, located approximately 12.15 miles to the southwest of this location. See Appendix A for referenced water surveys.

Table 1 NMAC and Closure Criteria 19.15.29					
Depth to Groundwater (Appendix A)	Constituent & Limits				
	Chlorides	Total TPH	GRO+DRO	BTEX	Benzene
<50' (Lack of GW)	600 mg/kg	100 mg/kg		50 mg/kg	10 mg/kg
51-100'	10,000 mg/kg	2,500 mg/kg	1,000 mg/kg	50 mg/kg	10 mg/kg
>100'	20,000 mg/kg	2,500 mg/kg	1,000 mg/kg	50 mg/kg	10 mg/kg

Reference Figure 2 for a Topographic Map.

Release Information

NAB1603649137: On February 2nd, 2016, the three-phase separator oil dump was closed, causing the vessel to swamp out resulting in a release from the vent tank. The pump was immediately shut down via the drive and then the tubing and casing valves were closed at the wellhead to prevent further release. Approximately 15 barrels of crude oil was released from the vent tank into the surrounding lined containment, with high winds blowing some contaminants onto the pad and surrounding equipment. The approximate area affected was 50 feet by 100 feet southeast of the vent tank. Approximately 10 barrels of oil remained in the lined containment and 5 barrels of the released oil escaped containment. All released oil was contained on pad. None of the released fluid left pad. Liner was checked for holes and no holes were found. A vacuum truck recovered approximately 12 barrels of oil, 10 barrels from the lined containment and 2 barrels on location.

Liner Inspection

On May 21, 2020, HRL conducted an inspection to evaluate the integrity of the liner. No tears or holes were observed in the liner. Based on this inspection, HRL has determined that the liner remains intact and had the ability to contain the release (Appendix F, Liner Inspection Form).

Remediation Activities, Site Assessment, and Soil Sampling Results

On April 6th, 2020, HRL conducted and initial site assessment in attempts of delineating the release. Soil samples were collected from 7 different locations (FS1, FS2, FS5, FS9, FS12, FS14, and FS15), and shipped for laboratory analysis. An initial site map can be found in Figure 4.

4-6-2020 Soil Sample Results

HRL Delineation Event						
NMOCD Table 1 Closure Criteria 19.15.29 NMAC (Depth to Groundwater is <50')						
DEVON ENERGY - TOMB RAIDER 1 FED 1H						
Sample Date: 4/6/2020		NM Approved Laboratory Results				
Sample ID	Depth (BGS)	Cl mg/kg	Benzene mg/kg	BTEX mg/kg	GRO + DRO mg/kg	TPH mg/kg
FS1	2”	95	ND	ND	12,000	24,000
	24”	ND	ND	ND	27	27
FS2	1”	ND	ND	ND	ND	ND
FS5	2”	ND	ND	ND	ND	ND
FS9	4”	ND	ND	ND	ND	ND
FS12	1”	ND	ND	ND	30	101
FS14	2”	ND	ND	ND	ND	ND
FS15	4”	ND	ND	ND	ND	ND

ND: Analyte Non-Detect

Remediation Activities:

On June 25th, 2020, HRL guided excavation activities conducted by Wild West Services at the Tomb Raider. Excavation was completed by hand digging the impacted wind-blown sand, approximately one to two inches of the engineered pad was removed. The area excavated was 72 feet by 3 feet by 2 inches deep. Excavated soil was transported off-site for disposal at the R360 halfway facility. Confirmation soil samples were collected in accordance with 19.15.29.12 NMAC, in which one five-point composite soil sample was representative of an area no more than 200-square feet. Two composite soil samples (Tomb-East and Tomb-West) were collected from the final excavation footprint. A confirmation site map can be found in Figure 5.

2-25-2020 Confirmation Sampling Event

HRL Confirmation Sampling Event						
NMOCD Table 1 Closure Criteria 19.15.29 NMAC (Depth to Groundwater is <50')						
DEVON ENERGY - TOMB RAIDER 1 FED 1H						
Sample Date: 6/25/2020		NM Approved Laboratory Results				
Sample ID	Depth (BGS)	Cl mg/kg	Benzene mg/kg	BTEX mg/kg	GRO + DRO mg/kg	TPH mg/kg
Tomb-East	2''	95	ND	ND	170	320
Tomb- West	2''	ND	ND	ND	ND	ND

ND: Analyte Non-Detect

Countermeasures Due to Rejection:

On March 14th, 2023, Pima Environmental returned to the Tomb Raider and reassessed the areas previously sampled by HRL. Pima sampled the areas overlapping soil samples FS1 and FS12. Soil samples S1 and S2 represent HRL sample FS1, soil sample S3 represents HRL sample FS12. A site map can be found in Figure 6.

3-14-23 Soil Sample Results

NMOCD Table 1 Closure Criteria 19.15.29 NMAC (Depth to Groundwater is <100')								
DEVON ENERGY - TOMB RAIDER 1 FED 1H								
Sample Date: 3/14/2023		NM Approved Laboratory Results						
Sample ID	Depth (BGS)	BTEX mg/kg	Benzene mg/kg	GRO mg/kg	DRO mg/kg	MRO mg/kg	Total TPH mg/kg	Cl mg/kg
S-1	1'	ND	ND	ND	ND	ND	0	68
	3'	ND	ND	ND	ND	ND	0	81.5
	4'	ND	ND	ND	ND	ND	0	34.3
S-2	1'	ND	ND	ND	ND	ND	0	ND
	2'	ND	ND	ND	ND	ND	0	ND
	4'	ND	ND	ND	ND	ND	0	ND
S-3	1'	ND	ND	ND	ND	ND	0	ND
	2'	ND	ND	ND	ND	ND	0	ND
	4'	ND	ND	ND	ND	ND	0	ND
SW-1	6"	ND	ND	ND	ND	ND	0	ND
SW-2	6"	ND	ND	ND	ND	ND	0	ND
SW-3	6"	ND	ND	ND	ND	ND	0	ND
SW-4	6"	ND	ND	ND	ND	ND	0	ND

ND: Analyte Non-Detect

Based on the sample results, the bottoms and sidewalls are below NMOCD Closure Criteria 19.15.29 NMAC. See Appendix D for Photographic Documentation.

Closure Request

Due to analytical levels falling below NMOCD closure criteria, no further action is required.

After careful review, Pima requests that this incident, NAB1603649137 be closed. Devon has complied with the applicable closure requirements set forth in rule 19.15.19.12 NMAC.

Should you have any questions or need additional information, please feel free to contact Sebastian Orozco at 619-721-4813 or Sebastian@pimaoil.com.

Respectfully,

Sebastian Orozco

Sebastian Orozco
Environmental Professional
Pima Environment Services, LLC

Attachments

Figures:
1- Location Map
2- Topographic Map
3- Karst Map
4- HRL Initial Delineation Map
5- HRL Confirmation Map
6- Pima Initial Site Map

Appendices:
Appendix A – Referenced Water Surveys
Appendix B – Soil Survey and Geological Data
Appendix C – C-141 Form
Appendix D – Photographic Documentation
Appendix E – Laboratory Reports
Appendix F – Liner Inspection Form
Appendix G – HRL Rejected Closure Report

Pima Environmental Services

Figures:

1-Location Map

2-Topographic Map

3-Karst Map

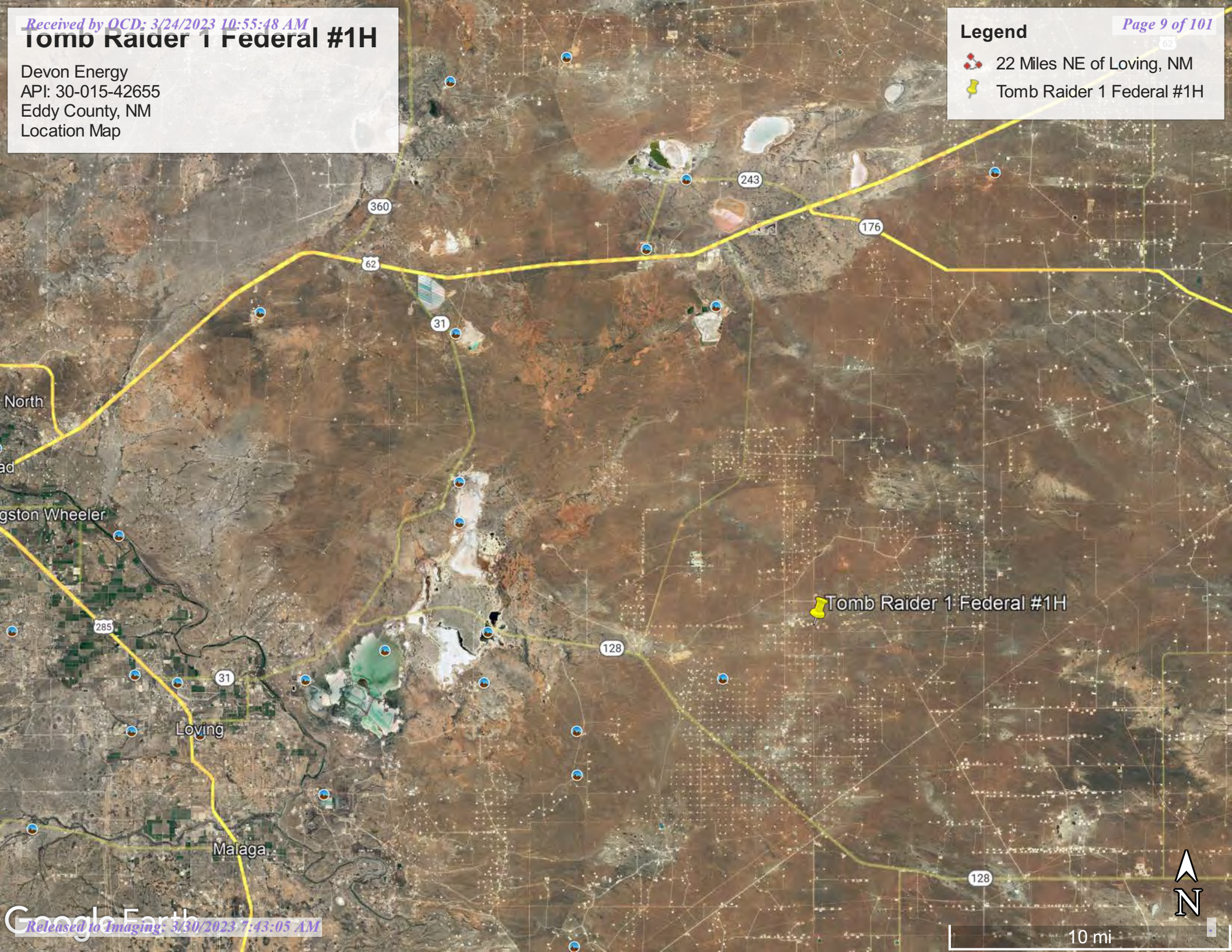
4-HRL Initial Site Map

5- HRL Confirmation Map

6- Pima Initial Site Map

Tomb Raider 1 Federal #1H

Devon Energy
API: 30-015-42655
Eddy County, NM
Location Map

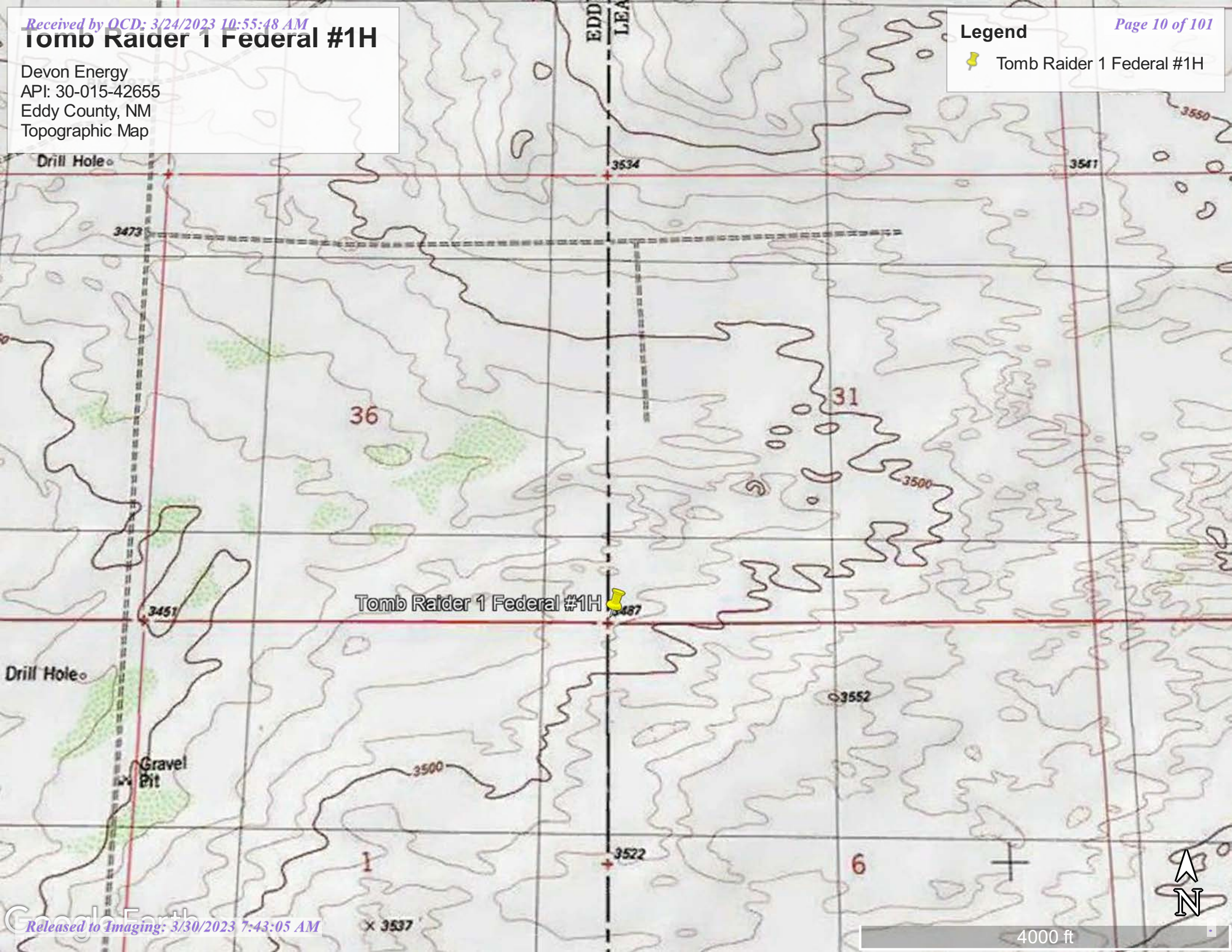


Tomb Raider 1 Federal #1H

Devon Energy
API: 30-015-42655
Eddy County, NM
Topographic Map

Legend

Tomb Raider 1 Federal #1H

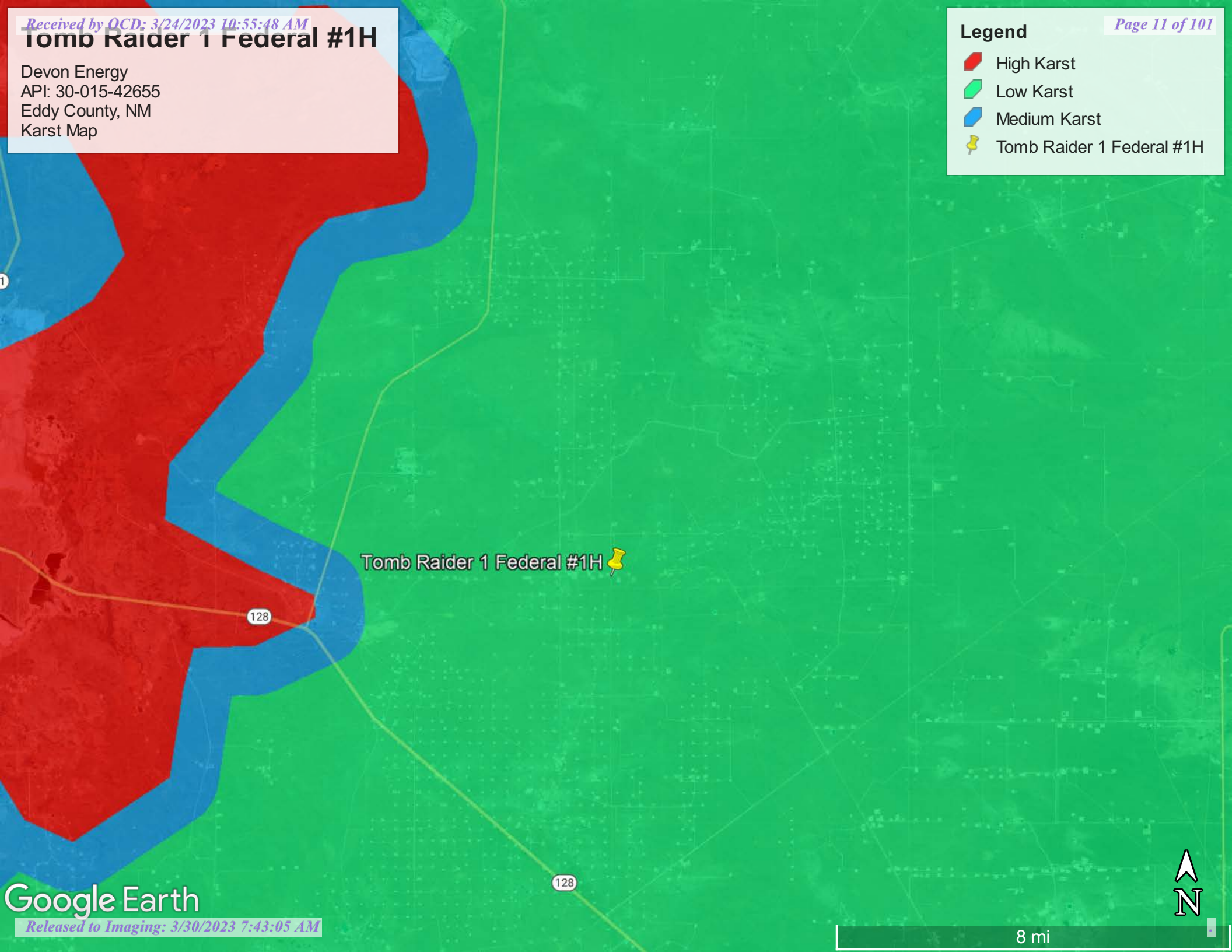


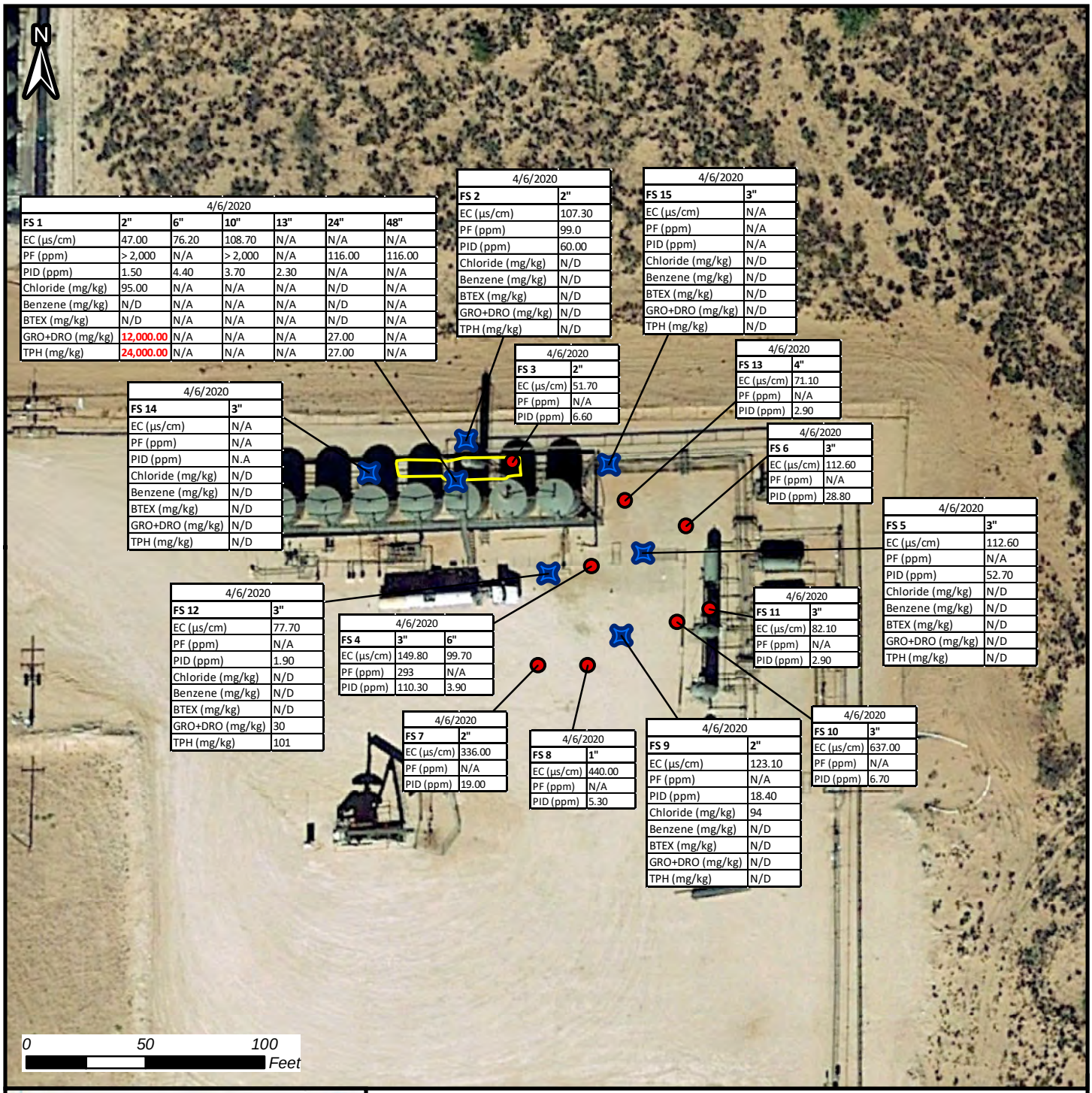
Tomb Raider 1 Federal #1H

Devon Energy
API: 30-015-42655
Eddy County, NM
Karst Map

Legend

- High Karst
- Low Karst
- Medium Karst
- Tomb Raider 1 Federal #1H





4/6/2020						
FS 1	2"	6"	10"	13"	24"	48"
EC (µs/cm)	47.00	76.20	108.70	N/A	N/A	N/A
PF (ppm)	> 2,000	N/A	> 2,000	N/A	116.00	116.00
PID (ppm)	1.50	4.40	3.70	2.30	N/A	N/A
Chloride (mg/kg)	95.00	N/A	N/A	N/A	N/D	N/A
Benzene (mg/kg)	N/D	N/A	N/A	N/A	N/D	N/A
BTEX (mg/kg)	N/D	N/A	N/A	N/A	N/D	N/A
GRO+DRO (mg/kg)	12,000.00	N/A	N/A	N/A	27.00	N/A
TPH (mg/kg)	24,000.00	N/A	N/A	N/A	27.00	N/A

4/6/2020	
FS 2	2"
EC (µs/cm)	107.30
PF (ppm)	99.0
PID (ppm)	60.00
Chloride (mg/kg)	N/D
Benzene (mg/kg)	N/D
BTEX (mg/kg)	N/D
GRO+DRO (mg/kg)	N/D
TPH (mg/kg)	N/D

4/6/2020	
FS 15	3"
EC (µs/cm)	N/A
PF (ppm)	N/A
PID (ppm)	N/A
Chloride (mg/kg)	N/D
Benzene (mg/kg)	N/D
BTEX (mg/kg)	N/D
GRO+DRO (mg/kg)	N/D
TPH (mg/kg)	N/D

4/6/2020	
FS 3	2"
EC (µs/cm)	51.70
PF (ppm)	N/A
PID (ppm)	6.60

4/6/2020	
FS 13	4"
EC (µs/cm)	71.10
PF (ppm)	N/A
PID (ppm)	2.90

4/6/2020	
FS 14	3"
EC (µs/cm)	N/A
PF (ppm)	N/A
PID (ppm)	N.A
Chloride (mg/kg)	N/D
Benzene (mg/kg)	N/D
BTEX (mg/kg)	N/D
GRO+DRO (mg/kg)	N/D
TPH (mg/kg)	N/D

4/6/2020	
FS 6	3"
EC (µs/cm)	112.60
PF (ppm)	N/A
PID (ppm)	28.80

4/6/2020	
FS 5	3"
EC (µs/cm)	112.60
PF (ppm)	N/A
PID (ppm)	52.70
Chloride (mg/kg)	N/D
Benzene (mg/kg)	N/D
BTEX (mg/kg)	N/D
GRO+DRO (mg/kg)	N/D
TPH (mg/kg)	N/D

4/6/2020	
FS 12	3"
EC (µs/cm)	77.70
PF (ppm)	N/A
PID (ppm)	1.90
Chloride (mg/kg)	N/D
Benzene (mg/kg)	N/D
BTEX (mg/kg)	N/D
GRO+DRO (mg/kg)	30
TPH (mg/kg)	101

4/6/2020		
FS 4	3"	6"
EC (µs/cm)	149.80	99.70
PF (ppm)	293	N/A
PID (ppm)	110.30	3.90

4/6/2020	
FS 11	3"
EC (µs/cm)	82.10
PF (ppm)	N/A
PID (ppm)	2.90

4/6/2020	
FS 7	2"
EC (µs/cm)	336.00
PF (ppm)	N/A
PID (ppm)	19.00

4/6/2020	
FS 8	1"
EC (µs/cm)	440.00
PF (ppm)	N/A
PID (ppm)	5.30

4/6/2020	
FS 9	2"
EC (µs/cm)	123.10
PF (ppm)	N/A
PID (ppm)	18.40
Chloride (mg/kg)	94
Benzene (mg/kg)	N/D
BTEX (mg/kg)	N/D
GRO+DRO (mg/kg)	N/D
TPH (mg/kg)	N/D

4/6/2020	
FS 10	3"
EC (µs/cm)	637.00
PF (ppm)	N/A
PID (ppm)	6.70

devon

Figure 3: Sample Location and Results Map

Tomb Raider 1 Federal #1

February 2016 Spill

32.340151, -103.729725

Section 1, Township 23 South, Range 31 East

NOTES / COMMENTS:

The impacted area is approximately 410 square feet.

Results in red exceed closure criteria.

Mapped Features

- Sample Location (Submitted for Analysis)
- Field Screen Sample Location
- Impacted Area

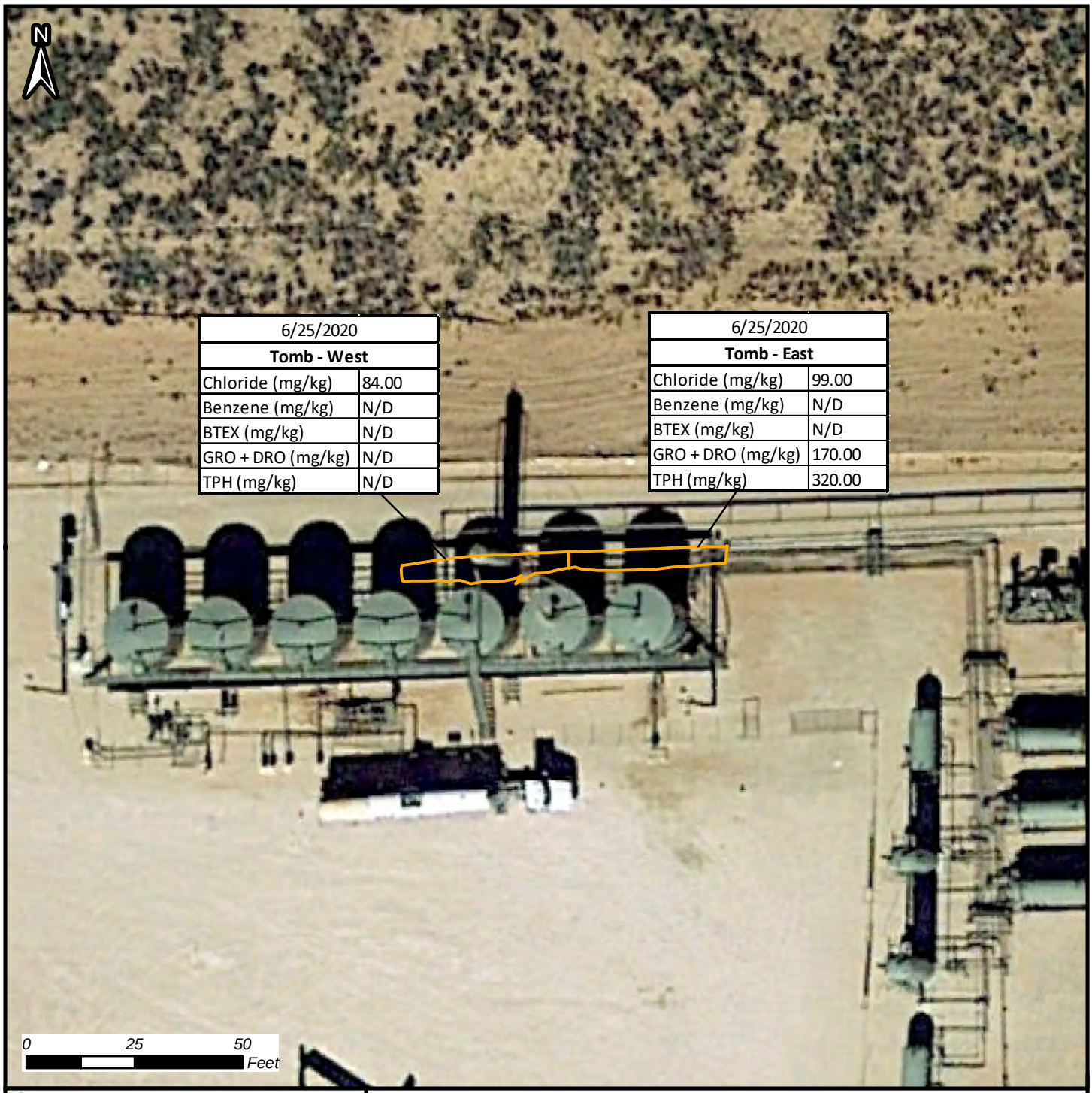
HRL COMPLIANCE SOLUTIONS

Author: A. Asay

Revision: 0

Date: 6/8/2020

T:\CLIENTS\DEVON ENERGY\2020\Tomb Raider 1 Federal #1\Maps\Tomb Raider 1 Federal #1 Sample Location and Results Map (February 2016 Spill) 060820.mxd



devon

Figure 4: Confirmation Sample Location and Results Map

Tomb Raider 1 Federal #1

March 2020 Spill

32.340151, -103.729725

Section 1, Township 23 South, Range 31 East

NOTES / COMMENTS:

The excavated area is approximately 356 square feet.

Results in red exceed closure criteria.

Mapped Features

Excavated Area

HRL COMPLIANCE SOLUTIONS

Author: A. Asay

Revision: 0

Date: 7/14/2020

T:\CLIENTS\DEVON ENERGY\2020\Tomb Raider 1 Federal #1\Maps\Tomb Raider 1 Federal #1 Confirmation Sample Location and Results Map (March 2020 Spill) 071420.mxd

Tomb Raider 1 Federal 1H

Devon Energy
API:30-015-42655
Eddy County, NM
Pima Initial Site Map

Legend

- Excavated Area
- Side Wall Sample
- Soil Sample

Pima Environmental Services

Appendix A

Water Surveys:

OSE

USGS

Surface Water Map

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	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 04663 POD1		CUB	LE	3	1	2	31	22S	32E	621181	3580341	1740	110		
C 02756		CUB	ED	3	4	4	26	22S	31E	618250	3580606*	2564	1998		
C 03152		CUB	ED	3	4	4	26	22S	31E	618250	3580606*	2564	938		
C 04598 POD1		CUB	LE	2	3	1	29	22S	32E	622069	3581570	3256	56		
C 03138		CUB	ED	3	3	3	26	22S	31E	617043	3580591*	3555	750		
C 02939		C	LE	3	3	1	19	22S	32E	620234	3583042*	4124	280		
C 02777		CUB	ED	4	4	4	10	23S	31E	616974	3575662	4569	890		
C 03749 POD1		CUB	ED		2	2	15	23S	31E	616974	3575662	4569	865	639	226
C 02773		CUB	ED	4	1	3	03	23S	31E	615668	3577762*	4658	880		
C 02769 POD2		CUB	ED	4	2	4	33	22S	31E	615261	3579312	4935	753	428	325
C 02687		CUB	ED	4	2	4	33	22S	31E	615246	3579364*	4954	779		
C 02769		CUB	ED	2	2	4	33	22S	31E	615246	3579564*	4976	765		

Average Depth to Water: **533 feet**
Minimum Depth: **428 feet**
Maximum Depth: **639 feet**

Record Count: 12

UTMNAD83 Radius Search (in meters):

Easting (X): 620180.7 **Northing (Y):** 3578917.8 **Radius:** 5000

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

3/7/23 11:21 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: United States | GO

Click to hideNews Bulletins

- Explore the *NEW* USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.
- Full News

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

site_no list =

- 321952103400801

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

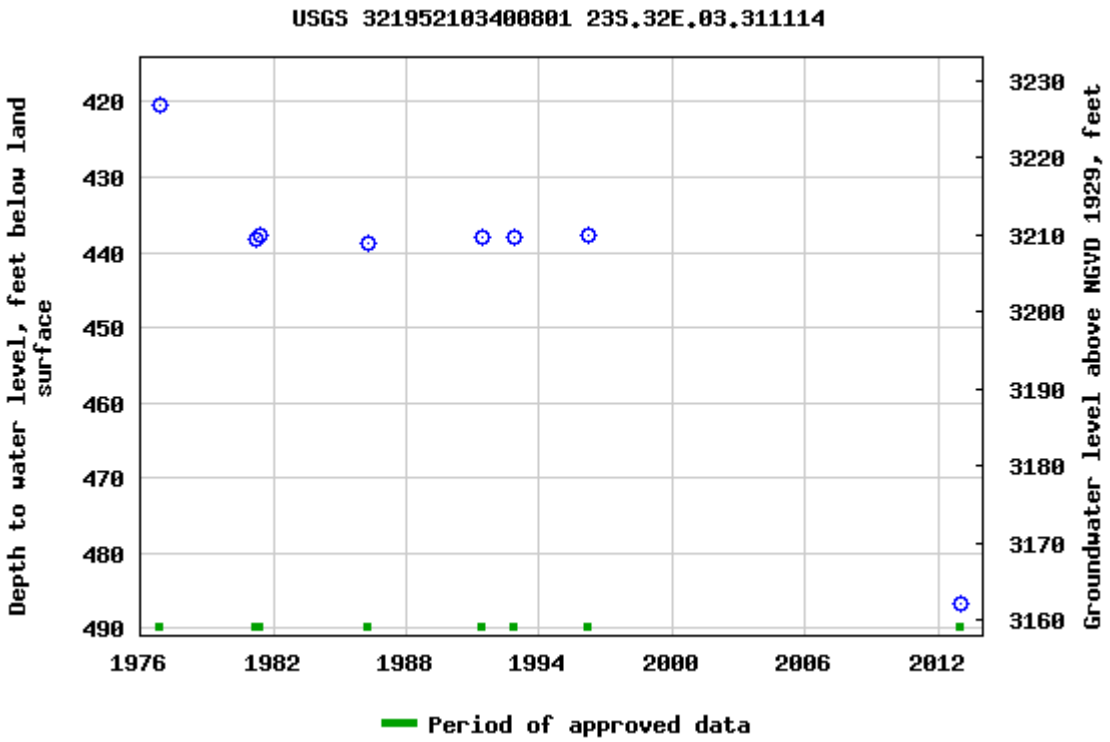
USGS 321952103400801 23S.32E.03.311114

Available data for this site | Groundwater: Field measurements | GO

Lea County, New Mexico
Hydrologic Unit Code 13060011
Latitude 32°19'59.2", Longitude 103°40'12.6" NAD83
Land-surface elevation 3,648.00 feet above NGVD29
The depth of the well is 630 feet below land surface.
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Santa Rosa Sandstone (231SNRS) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

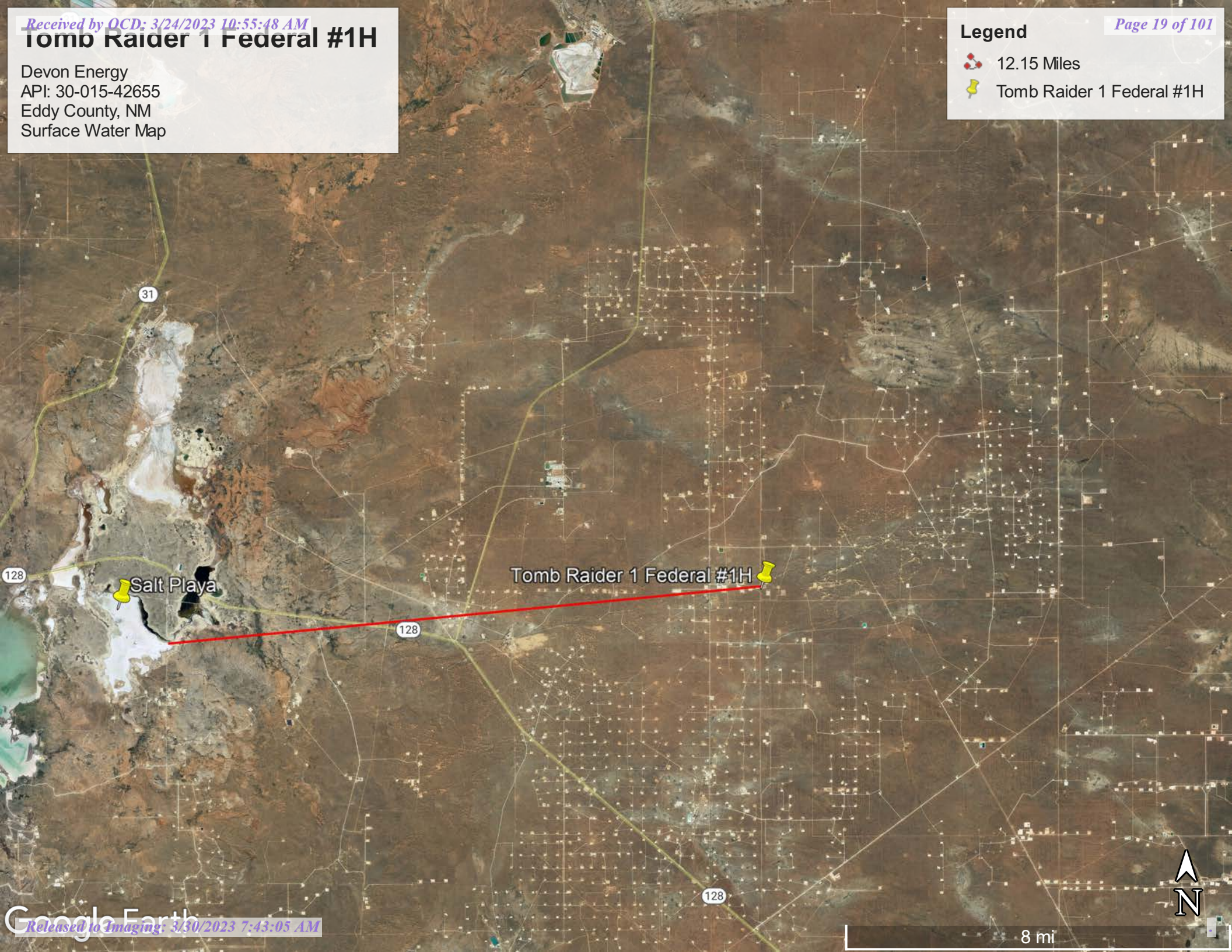
Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

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: 2023-03-07 13:19:41 EST
0.61 0.51 nadww02

Tomb Raider 1 Federal #1H

Devon Energy
API: 30-015-42655
Eddy County, NM
Surface Water Map



Pima Environmental Services

Appendix B

Soil Survey & Geological Data

FEMA Flood Map

Wetlands Map

Lea County, New Mexico

MF—Maljamar and Palomas fine sands, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: dmqb
Elevation: 3,000 to 3,900 feet
Mean annual precipitation: 10 to 15 inches
Mean annual air temperature: 60 to 62 degrees F
Frost-free period: 190 to 205 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Maljamar and similar soils: 46 percent
Palomas and similar soils: 44 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Maljamar

Setting

Landform: Plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 24 inches: fine sand
Bt - 24 to 50 inches: sandy clay loam
Bkm - 50 to 60 inches: cemented material

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 40 to 60 inches to petrocalcic
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): 7e

Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Description of Palomas

Setting

Landform: Plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sandstone

Typical profile

A - 0 to 16 inches: fine sand
Bt - 16 to 60 inches: sandy clay loam
Bk - 60 to 66 inches: sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 45 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Minor Components

Kermit

Percent of map unit: 5 percent
Ecological site: R070BC022NM - Sandhills
Hydric soil rating: No

Wink

Percent of map unit: 5 percent
Ecological site: R070BD003NM - Loamy Sand

Hydric soil rating: No

Data Source Information

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 18, Sep 8, 2022

Soil Survey Area: Lea County, New Mexico
Survey Area Data: Version 19, Sep 8, 2022

National Flood Hazard Layer FIRMette

FEMA

103°43'41"W 32°20'42"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

103°43'4"W 32°20'11"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/7/2023 at 1:39 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

U.S. Fish and Wildlife Service
National Wetlands Inventory

Wetlands Map

March 7, 2023

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Pima Environmental Services

Appendix C

C-141 Form

NM OIL CONSERVATION
ARTESIA DISTRICT
FEB 04 2016
RECEIVED

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

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

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

nAB1603604913 7

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Devon Energy Production Company 6137	**Contact** Ruben Garcia, Assistant Production Foreman
Address 6488 Seven Rivers Hwy Artesia, NM 88210	**Telephone No.** 575-748-5209
Facility Name Tomb Raider 1 Federal #1H	**Facility Type** Oil

Surface Owner Federal	**Mineral Owner** Federal	**API No** 30-015-42655

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	1	23S	31E	200	North	2005	East	Eddy

Latitude: N 32.340710 **Longitude:** W 103.722955

NATURE OF RELEASE

Type of Release Spill Oil	**Volume of Release** 15 BBLS	**Volume Recovered** 12 BBLS
Source of Release Vent tank	**Date and Hour of Occurrence** 2/02/2016 @ 4:50am	**Date and Hour of Discovery** 2/02/2016 @ 4:50am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	**If YES, To Whom?** OCD-Mike Bratcher BLM Shelly Tucker	
By Whom? Brett Fulks, EHS Professional	**Date and Hour** OCD- 2/3/16 @ 4:15pm BLM- 2/4/16 @ 4:00pm	
Was a Watercourse Reached? ☐ Yes ☒ No	**If YES, Volume Impacting the Watercourse** N/A	

If a Watercourse was Impacted, Describe Fully.* N/A

Describe Cause of Problem and Remedial Action Taken.*
The three phase separator oil dump hung closed causing the vessel to swamp out resulting in a release from the vent tank. The pump was immediately shut down via the drive and then the tubing and casing valves were closed at the wellhead to prevent further release.

Describe Area Affected and Cleanup Action Taken.*
15 BBLS of oil was released from the vent tank into the surrounding lined containment and high winds blew some of the released oil onto the pad and surrounding equipment. The approximate area affected was 50ft x 100ft Southeast of the vent tank. Approximately 10 BBLS oil remained in the lined containment and 5 BBLS of the released oil escaped containment. All released oil was contained on pad. None of the released fluid left pad. Liner was checked for holes and no holes were found. Vacuum truck recovered approximately 12 BBLS of oil, 10 BBLS from the lined containment and 2 BBLS on location. Environmental agency will be contacted for remediation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: Sarah Gallegos-Troublefield	OIL CONSERVATION DIVISION Signed By Mike Bratcher
Printed Name: Sarah Gallegos-Troublefield	Approved by Environmental Specialist:
Title: Field Admin Support	Approval Date: 2/5/16 Expiration Date: N/A
E-mail Address: Sarah.Gallegos-Troublefield@dvn.com	Conditions of Approval: Remediation per O.C.D. Rules & Guidelines SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 3/8/16 Attached ☐
Date:2/2/2016 Phone: 575.748.1864	

* Attach Additional Sheets If Necessary

2RP-353A

Bratcher, Mike, EMNRD

From: Gallegos-Troublefield, Sarah <Sarah.Gallegos-Troublefield@dvn.com>
Sent: Thursday, February 04, 2016 4:15 PM
To: jamos@blm.gov; stucker@blm.gov; Bratcher, Mike, EMNRD; Patterson, Heather, EMNRD
Cc: Scrogum, Sandy
Subject: Tomb Raider 1 Federal #1H
Attachments: Tomb Raider 1 Fed 1_15 BBL Oil-2-2-16 Initial C-141.doc; Tomb Raider 1 Fed 1_15 BBL Oil-2-2-16 Pic 1 of 1.jpg; Tomb Raider 1 Fed 1_15 BBL Oil-2-2-16 GIS Image.pdf

Good afternoon,

Attached is the Initial C-141, GIS Image and photo of the 15 BBLS oil release that occurred at the Tomb Raider 1 Federal 1 on 2/02/2016. Please be advised that the blue dot on the GIS Image represents the approximate location of the origin of the release.
Please contact me for any questions you may have.

Thank you very much!

Respectfully,

Sarah Gallegos Troublefield
Field Admin Support
Production

Devon Energy Corporation
P.O. Box 250
Artesia, NM 88211
575 748 1864 Direct Line

devon

Form C-141
Page 3

State of New Mexico
Oil Conservation Division

Incident ID	NAB1603649137
District RP	
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?	639 (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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAB1603649137
District RP	
Facility ID	
Application ID	

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: Dale Woodall Title: Environmental Professional

Signature: Dale Woodall Date: 3/24/2023

email: dale.woodall@dvn.com Telephone: 575-748-1839

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NAB1603649137
District RP	
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.***

[x] A scaled site and sampling diagram as described in 19.15.29.11 NMAC

[x] 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)

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

[x] 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: Dale Woodall Title: Environmental Professional

Signature: Dale Woodall Date: 3/24/2023

email: dale.woodall@dvn.com Telephone: 575-748-1839

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: _____

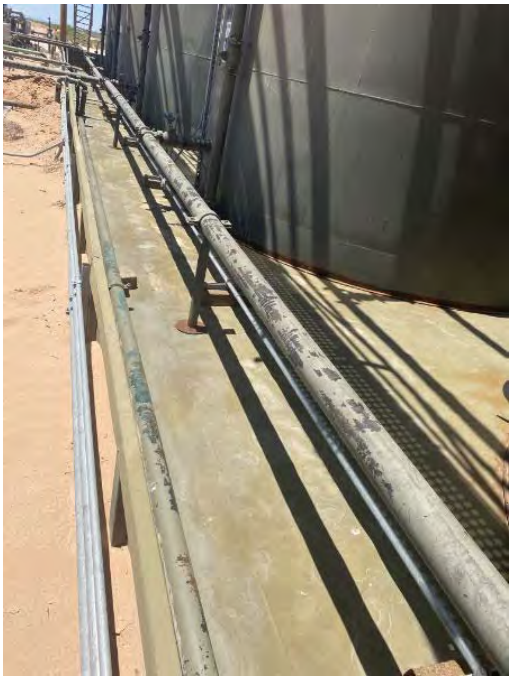
Printed Name: _____ Title: _____

Pima Environmental Services

Appendix D

Photographic Documentation

Liner Integrity Inspection – south side of battery, view to the east



Liner Integrity Inspection – north side of battery, view to the east

Liner Integrity Inspection – south side of battery, view to the east

Area of hydrocarbon impacted soil on north side of battery prior to remediation, view to the east

View of well pad to the east

View of well pad to the north

Post remediation, view to the east

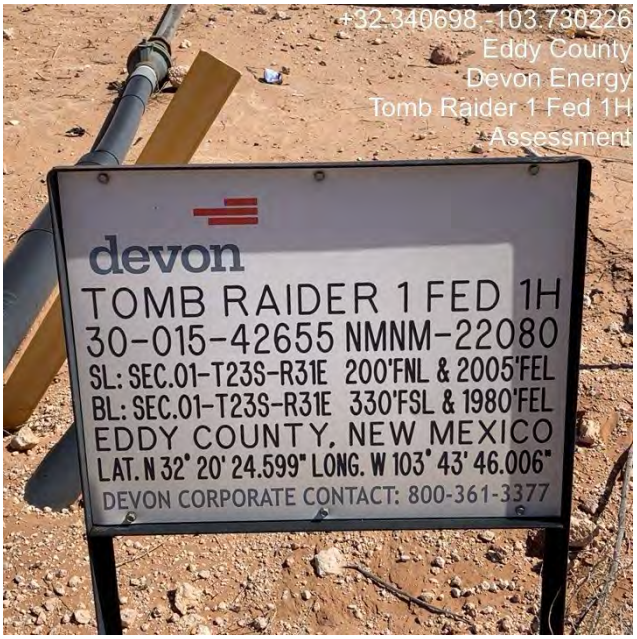
Post remediation, view to the east

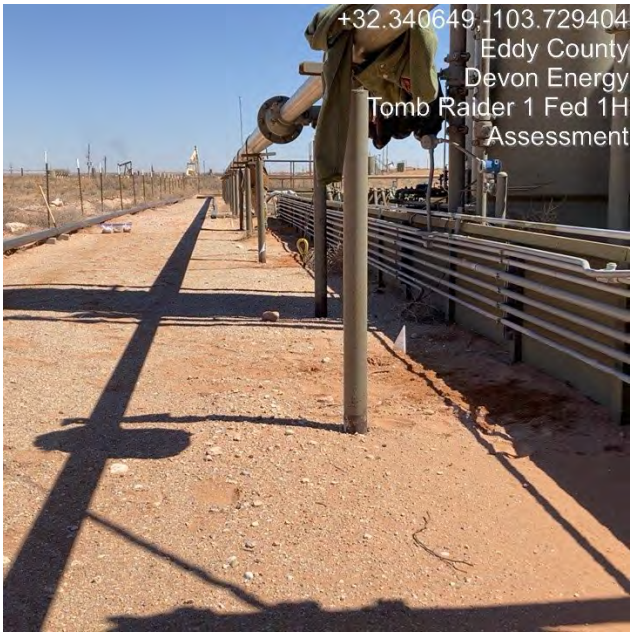
Post remediation, view to the west

Post remediation, close-up of excavated area

SITE PHOTOGRAPHS
DEVON ENERGY
TOMB RAIDER 1 FED 1H

Site Assessment






+32.340683,-103.729303
Eddy County
Devon Energy
Tomb Raider 1 Fed 1H
Assessment


+32.340683,-103.729303
Eddy County
Devon Energy
Tomb Raider 1 Fed 1H
Assessment

Pima Environmental Services

Appendix E

Laboratory Reports

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

April 16, 2020

Tom Bynum
Devon Energy
6488 Seven Rivers Highway
Artesia, NM 88210
TEL: (575) 748-0176
FAX:

RE: Tomb Raider 1 Fed 1H OrderNo.: 2004423

Dear Tom Bynum:

Hall Environmental Analysis Laboratory received 8 sample(s) on 4/9/2020 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 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 **2004423**
Date Reported: **4/16/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Tomb Raider 1 Fed 1H
Lab ID: 2004423-001 **Matrix:** SOIL

Client Sample ID: FS1
Collection Date: 4/6/2020 9:39:00 AM
Received Date: 4/9/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	12000	930		mg/Kg	100	4/11/2020 4:26:21 PM
Motor Oil Range Organics (MRO)	12000	4600		mg/Kg	100	4/11/2020 4:26:21 PM
Surr: DNOP	0	55.1-146	S	%Rec	100	4/11/2020 4:26:21 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	95	60		mg/Kg	20	4/11/2020 10:04:11 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	4/11/2020 11:53:33 AM
Toluene	ND	0.049		mg/Kg	1	4/11/2020 11:53:33 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/11/2020 11:53:33 AM
Xylenes, Total	ND	0.098		mg/Kg	1	4/11/2020 11:53:33 AM
Surr: 1,2-Dichloroethane-d4	89.5	70-130		%Rec	1	4/11/2020 11:53:33 AM
Surr: 4-Bromofluorobenzene	93.7	70-130		%Rec	1	4/11/2020 11:53:33 AM
Surr: Dibromofluoromethane	97.6	70-130		%Rec	1	4/11/2020 11:53:33 AM
Surr: Toluene-d8	93.6	70-130		%Rec	1	4/11/2020 11:53:33 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/11/2020 11:53:33 AM
Surr: BFB	97.6	70-130		%Rec	1	4/11/2020 11:53:33 AM

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 Limit

Analytical Report
Lab Order **2004423**
Date Reported: **4/16/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Tomb Raider 1 Fed 1H
Lab ID: 2004423-002 **Matrix:** SOIL

Client Sample ID: FS1-24
Collection Date: 4/6/2020 1:33:00 PM
Received Date: 4/9/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	27	9.2		mg/Kg	1	4/11/2020 4:50:19 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/11/2020 4:50:19 PM
Surr: DNOP	94.6	55.1-146		%Rec	1	4/11/2020 4:50:19 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	4/11/2020 10:16:31 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	4/11/2020 3:10:35 AM
Toluene	ND	0.048		mg/Kg	1	4/11/2020 3:10:35 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/11/2020 3:10:35 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/11/2020 3:10:35 AM
Surr: 1,2-Dichloroethane-d4	90.1	70-130		%Rec	1	4/11/2020 3:10:35 AM
Surr: 4-Bromofluorobenzene	91.9	70-130		%Rec	1	4/11/2020 3:10:35 AM
Surr: Dibromofluoromethane	98.5	70-130		%Rec	1	4/11/2020 3:10:35 AM
Surr: Toluene-d8	97.8	70-130		%Rec	1	4/11/2020 3:10:35 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/11/2020 3:10:35 AM
Surr: BFB	101	70-130		%Rec	1	4/11/2020 3:10:35 AM

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 Limit

Analytical Report
Lab Order **2004423**
Date Reported: **4/16/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy **Client Sample ID:** FS2
Project: Tomb Raider 1 Fed 1H **Collection Date:** 4/6/2020 9:41:00 AM
Lab ID: 2004423-003 **Matrix:** SOIL **Received Date:** 4/9/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	4/11/2020 5:14:14 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	4/11/2020 5:14:14 PM
Surr: DNOP	93.4	55.1-146		%Rec	1	4/11/2020 5:14:14 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	4/11/2020 10:28:51 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.023		mg/Kg	1	4/11/2020 3:39:19 AM
Toluene	ND	0.046		mg/Kg	1	4/11/2020 3:39:19 AM
Ethylbenzene	ND	0.046		mg/Kg	1	4/11/2020 3:39:19 AM
Xylenes, Total	ND	0.092		mg/Kg	1	4/11/2020 3:39:19 AM
Surr: 1,2-Dichloroethane-d4	89.1	70-130		%Rec	1	4/11/2020 3:39:19 AM
Surr: 4-Bromofluorobenzene	95.4	70-130		%Rec	1	4/11/2020 3:39:19 AM
Surr: Dibromofluoromethane	99.2	70-130		%Rec	1	4/11/2020 3:39:19 AM
Surr: Toluene-d8	95.4	70-130		%Rec	1	4/11/2020 3:39:19 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/11/2020 3:39:19 AM
Surr: BFB	103	70-130		%Rec	1	4/11/2020 3:39:19 AM

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 Limit

Analytical Report
Lab Order **2004423**
Date Reported: **4/16/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy **Client Sample ID:** FS5
Project: Tomb Raider 1 Fed 1H **Collection Date:** 4/6/2020 9:49:00 AM
Lab ID: 2004423-004 **Matrix:** SOIL **Received Date:** 4/9/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/11/2020 5:38:13 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/11/2020 5:38:13 PM
Surr: DNOP	99.7	55.1-146		%Rec	1	4/11/2020 5:38:13 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	4/11/2020 10:41:12 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	4/11/2020 4:08:03 AM
Toluene	ND	0.048		mg/Kg	1	4/11/2020 4:08:03 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/11/2020 4:08:03 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/11/2020 4:08:03 AM
Surr: 1,2-Dichloroethane-d4	87.3	70-130		%Rec	1	4/11/2020 4:08:03 AM
Surr: 4-Bromofluorobenzene	95.2	70-130		%Rec	1	4/11/2020 4:08:03 AM
Surr: Dibromofluoromethane	100	70-130		%Rec	1	4/11/2020 4:08:03 AM
Surr: Toluene-d8	90.0	70-130		%Rec	1	4/11/2020 4:08:03 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/11/2020 4:08:03 AM
Surr: BFB	98.8	70-130		%Rec	1	4/11/2020 4:08:03 AM

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2004423**
Date Reported: **4/16/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: FS9
Project: Tomb Raider 1 Fed 1H
Collection Date: 4/6/2020 10:11:00 AM
Lab ID: 2004423-005 **Matrix:** SOIL
Received Date: 4/9/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/11/2020 6:02:14 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/11/2020 6:02:14 PM
Surr: DNOP	66.8	55.1-146		%Rec	1	4/11/2020 6:02:14 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	94	60		mg/Kg	20	4/11/2020 11:18:14 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	4/11/2020 4:36:49 AM
Toluene	ND	0.048		mg/Kg	1	4/11/2020 4:36:49 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/11/2020 4:36:49 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/11/2020 4:36:49 AM
Surr: 1,2-Dichloroethane-d4	90.3	70-130		%Rec	1	4/11/2020 4:36:49 AM
Surr: 4-Bromofluorobenzene	93.0	70-130		%Rec	1	4/11/2020 4:36:49 AM
Surr: Dibromofluoromethane	96.3	70-130		%Rec	1	4/11/2020 4:36:49 AM
Surr: Toluene-d8	92.1	70-130		%Rec	1	4/11/2020 4:36:49 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/11/2020 4:36:49 AM
Surr: BFB	99.7	70-130		%Rec	1	4/11/2020 4:36:49 AM

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2004423**
Date Reported: **4/16/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: FS12
Project: Tomb Raider 1 Fed 1H
Collection Date: 4/6/2020 10:39:00 AM
Lab ID: 2004423-006 **Matrix:** SOIL
Received Date: 4/9/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	30	10		mg/Kg	1	4/14/2020 10:39:26 AM
Motor Oil Range Organics (MRO)	71	50		mg/Kg	1	4/14/2020 10:39:26 AM
Surr: DNOP	103	55.1-146		%Rec	1	4/14/2020 10:39:26 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	4/15/2020 3:52:43 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	4/11/2020 5:05:32 AM
Toluene	ND	0.048		mg/Kg	1	4/11/2020 5:05:32 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/11/2020 5:05:32 AM
Xylenes, Total	ND	0.095		mg/Kg	1	4/11/2020 5:05:32 AM
Surr: 1,2-Dichloroethane-d4	91.4	70-130		%Rec	1	4/11/2020 5:05:32 AM
Surr: 4-Bromofluorobenzene	98.1	70-130		%Rec	1	4/11/2020 5:05:32 AM
Surr: Dibromofluoromethane	97.9	70-130		%Rec	1	4/11/2020 5:05:32 AM
Surr: Toluene-d8	92.2	70-130		%Rec	1	4/11/2020 5:05:32 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/11/2020 5:05:32 AM
Surr: BFB	103	70-130		%Rec	1	4/11/2020 5:05:32 AM

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 Limit

Analytical Report
Lab Order **2004423**
Date Reported: **4/16/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: FS14
Project: Tomb Raider 1 Fed 1H
Collection Date: 4/6/2020 2:33:00 PM
Lab ID: 2004423-007 **Matrix:** SOIL **Received Date:** 4/9/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/14/2020 11:51:39 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/14/2020 11:51:39 AM
Surr: DNOP	101	55.1-146		%Rec	1	4/14/2020 11:51:39 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	4/13/2020 6:46:18 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	4/11/2020 5:34:01 AM
Toluene	ND	0.048		mg/Kg	1	4/11/2020 5:34:01 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/11/2020 5:34:01 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/11/2020 5:34:01 AM
Surr: 1,2-Dichloroethane-d4	93.1	70-130		%Rec	1	4/11/2020 5:34:01 AM
Surr: 4-Bromofluorobenzene	98.8	70-130		%Rec	1	4/11/2020 5:34:01 AM
Surr: Dibromofluoromethane	98.0	70-130		%Rec	1	4/11/2020 5:34:01 AM
Surr: Toluene-d8	89.8	70-130		%Rec	1	4/11/2020 5:34:01 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/11/2020 5:34:01 AM
Surr: BFB	101	70-130		%Rec	1	4/11/2020 5:34:01 AM

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 Limit

Analytical Report
Lab Order **2004423**
Date Reported: **4/16/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy **Client Sample ID:** FS15
Project: Tomb Raider 1 Fed 1H **Collection Date:** 4/6/2020 2:36:00 PM
Lab ID: 2004423-008 **Matrix:** SOIL **Received Date:** 4/9/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	4/14/2020 12:15:42 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	4/14/2020 12:15:42 PM
Surr: DNOP	103	55.1-146		%Rec	1	4/14/2020 12:15:42 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	4/13/2020 6:58:39 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	4/11/2020 6:02:34 AM
Toluene	ND	0.050		mg/Kg	1	4/11/2020 6:02:34 AM
Ethylbenzene	ND	0.050		mg/Kg	1	4/11/2020 6:02:34 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/11/2020 6:02:34 AM
Surr: 1,2-Dichloroethane-d4	88.5	70-130		%Rec	1	4/11/2020 6:02:34 AM
Surr: 4-Bromofluorobenzene	96.1	70-130		%Rec	1	4/11/2020 6:02:34 AM
Surr: Dibromofluoromethane	97.2	70-130		%Rec	1	4/11/2020 6:02:34 AM
Surr: Toluene-d8	94.0	70-130		%Rec	1	4/11/2020 6:02:34 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/11/2020 6:02:34 AM
Surr: BFB	103	70-130		%Rec	1	4/11/2020 6:02:34 AM

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 Limit
S	% Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004423**
16-Apr-20

Client: Devon Energy
Project: Tomb Raider 1 Fed 1H

Sample ID: **MB-51736** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **51736** RunNo: **68062**
Prep Date: **4/11/2020** Analysis Date: **4/11/2020** SeqNo: **2352424** Units: **mg/Kg**

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

Sample ID: **LCS-51736** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **51736** RunNo: **68062**
Prep Date: **4/11/2020** Analysis Date: **4/11/2020** SeqNo: **2352425** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.4	90	110			

Sample ID: **MB-51761** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **51761** RunNo: **68091**
Prep Date: **4/13/2020** Analysis Date: **4/14/2020** SeqNo: **2353972** Units: **mg/Kg**

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

Sample ID: **LCS-51761** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **51761** RunNo: **68091**
Prep Date: **4/13/2020** Analysis Date: **4/14/2020** SeqNo: **2353973** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.6	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 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 Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004423**
16-Apr-20

Client: Devon Energy
Project: Tomb Raider 1 Fed 1H

Sample ID: **MB-51703** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **51703** RunNo: **68041**
Prep Date: **4/10/2020** Analysis Date: **4/11/2020** SeqNo: **2351310** 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	9.2		10.00		92.4	55.1	146			

Sample ID: **LCS-51703** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **51703** RunNo: **68041**
Prep Date: **4/10/2020** Analysis Date: **4/11/2020** SeqNo: **2351311** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	101	70	130			
Surr: DNOP	4.8		5.000		96.9	55.1	146			

Sample ID: **2004423-006AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **FS12** Batch ID: **51745** RunNo: **68101**
Prep Date: **4/12/2020** Analysis Date: **4/14/2020** SeqNo: **2354218** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	70	9.7	48.26	30.49	81.5	47.4	136			
Surr: DNOP	4.7		4.826		96.7	55.1	146			

Sample ID: **2004423-006AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **FS12** Batch ID: **51745** RunNo: **68101**
Prep Date: **4/12/2020** Analysis Date: **4/14/2020** SeqNo: **2354219** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	64	9.6	48.22	30.49	69.1	47.4	136	9.01	43.4	
Surr: DNOP	4.7		4.822		97.7	55.1	146	0	0	

Sample ID: **LCS-51745** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **51745** RunNo: **68101**
Prep Date: **4/12/2020** Analysis Date: **4/14/2020** SeqNo: **2354222** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	99.6	70	130			
Surr: DNOP	4.6		5.000		92.4	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 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 Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004423**
16-Apr-20

Client: Devon Energy
Project: Tomb Raider 1 Fed 1H

Sample ID: **MB-51745**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **51745**	RunNo: **68101**
Prep Date: **4/12/2020**	Analysis Date: **4/14/2020**	SeqNo: **2354223** 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	7.7		10.00		77.4	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 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 Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004423**
16-Apr-20

Client: Devon Energy
Project: Tomb Raider 1 Fed 1H

Sample ID: **mb-51699** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **51699** RunNo: **68033**
Prep Date: **4/9/2020** Analysis Date: **4/10/2020** SeqNo: **2351013** 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: 1,2-Dichloroethane-d4	0.47		0.5000		93.5	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.5	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		97.6	70	130			
Surr: Toluene-d8	0.47		0.5000		93.6	70	130			

Sample ID: **lcs-51699** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS** Batch ID: **51699** RunNo: **68033**
Prep Date: **4/9/2020** Analysis Date: **4/10/2020** SeqNo: **2351014** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	98.3	70	130			
Toluene	1.0	0.050	1.000	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	0.45		0.5000		89.2	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		95.3	70	130			
Surr: Dibromofluoromethane	0.47		0.5000		94.2	70	130			
Surr: Toluene-d8	0.46		0.5000		91.4	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 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 Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004423**

16-Apr-20

Client: Devon Energy

Project: Tomb Raider 1 Fed 1H

Sample ID: **mb-51699**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **51699**	RunNo: **68033**
Prep Date: **4/9/2020**	Analysis Date: **4/10/2020**	SeqNo: **2351027** 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	510		500.0		101	70	130			

Sample ID: **lcs-51699**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **51699**	RunNo: **68033**
Prep Date: **4/9/2020**	Analysis Date: **4/10/2020**	SeqNo: **2351028** 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	91.4	70	130			
Surr: BFB	510		500.0		103	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 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 Limit

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: DEVON ENERGY | Work Order Number: 2004423 | RcptNo: 1

Received By: Juan Rojas 4/9/2020 8:25:00 AM

Completed By: Juan Rojas 4/9/2020 12:29:51 PM

Reviewed By: LB 4/9/20

Chain of Custody

1. Is Chain of Custody sufficiently 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. 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: SR 4/9/20

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 °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.3	Good				

Chain-of-Custody Record

Client: Devon Energy
Tom Bynum
Mailing Address: 6488 Seven Rivers Highway
Artesia, New Mexico
Phone #: 580-748-1613
email or Fax#: tom.bynum@dvn.com
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: Tomb Raider 1 Fed 1H
Project #: 20848468
Project Manager: Tom Bynum
Sampler: HRL - Annie McCawley
On Ice: ☑ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): 0.6-0.3 = 0.3 (°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. 2004473	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)
4/6/20	9:39	Soil	FS1	4oz Glass	Ice	-001	X	X					X			
4/6/20	13:33	Soil	FS1-24	4oz Glass	Ice	-002	X	X					X			
4/6/20	9:41	Soil	FS2	4oz Glass	Ice	-003	X	X					X			
4/6/20	9:49	Soil	FS5	4oz Glass	Ice	-004	X	X					X			
4/6/20	10:11	Soil	FS9	4oz Glass	Ice	-005	X	X					X			
4/6/20	10:39	Soil	FS12	4oz Glass	Ice	-006	X	X					X			
4/6/20	14:33	Soil	FS14	4oz Glass	Ice	-007	X	X					X			
4/6/20	14:36	Soil	FS15	4oz Glass	Ice	-008	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
4/8/20	0945	Taylor Edwards			4/8/20	0945
4/8/20	1900			courier	4/9/20	8:25

Remarks:
Please also send report to Annie McCawley and Julie Linn at:
AMcCawley@HRLcomp.com
JLinn@HRLcomp.com

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.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

July 07, 2020

Tom Bynum

Devon Energy
6488 Seven Rivers Highway
Artesia, NM 88210
TEL: (575) 748-0176
FAX:

RE: Tomb Raider 1 Fed 1 OrderNo.: 2006E54

Dear Tom Bynum:

Hall Environmental Analysis Laboratory received 2 sample(s) on 6/26/2020 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 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 **2006E54**
Date Reported: **7/7/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: Tomb- East
Project: Tomb Raider 1 Fed 1
Collection Date: 6/25/2020 1:07:00 PM
Lab ID: 2006E54-001 **Matrix:** SOIL **Received Date:** 6/26/2020 4:48:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	170	8.7		mg/Kg	1	7/1/2020 11:17:07 AM
Motor Oil Range Organics (MRO)	150	43		mg/Kg	1	7/1/2020 11:17:07 AM
Surr: DNOP	105	55.1-146		%Rec	1	7/1/2020 11:17:07 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	99	60		mg/Kg	20	7/1/2020 10:07:10 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.024		mg/Kg	1	7/2/2020 3:01:00 AM
Toluene	ND	0.047		mg/Kg	1	7/2/2020 3:01:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	7/2/2020 3:01:00 AM
Xylenes, Total	ND	0.094		mg/Kg	1	7/2/2020 3:01:00 AM
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	7/2/2020 3:01:00 AM
Surr: 4-Bromofluorobenzene	93.7	70-130		%Rec	1	7/2/2020 3:01:00 AM
Surr: Dibromofluoromethane	108	70-130		%Rec	1	7/2/2020 3:01:00 AM
Surr: Toluene-d8	99.0	70-130		%Rec	1	7/2/2020 3:01:00 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/2/2020 3:01:00 AM
Surr: BFB	95.5	70-130		%Rec	1	7/2/2020 3:01:00 AM

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 Limit

Analytical Report
Lab Order **2006E54**
Date Reported: **7/7/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: Tomb- West
Project: Tomb Raider 1 Fed 1
Collection Date: 6/25/2020 1:10:00 PM
Lab ID: 2006E54-002 **Matrix:** SOIL
Received Date: 6/26/2020 4:48:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/1/2020 11:41:07 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/1/2020 11:41:07 AM
Surr: DNOP	96.4	55.1-146		%Rec	1	7/1/2020 11:41:07 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	84	60		mg/Kg	20	7/1/2020 10:19:30 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	7/2/2020 4:26:22 AM
Toluene	ND	0.050		mg/Kg	1	7/2/2020 4:26:22 AM
Ethylbenzene	ND	0.050		mg/Kg	1	7/2/2020 4:26:22 AM
Xylenes, Total	ND	0.099		mg/Kg	1	7/2/2020 4:26:22 AM
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	7/2/2020 4:26:22 AM
Surr: 4-Bromofluorobenzene	93.4	70-130		%Rec	1	7/2/2020 4:26:22 AM
Surr: Dibromofluoromethane	105	70-130		%Rec	1	7/2/2020 4:26:22 AM
Surr: Toluene-d8	105	70-130		%Rec	1	7/2/2020 4:26:22 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/2/2020 4:26:22 AM
Surr: BFB	101	70-130		%Rec	1	7/2/2020 4:26:22 AM

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 Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2006E54**
07-Jul-20

Client: Devon Energy
Project: Tomb Raider 1 Fed 1

Sample ID: **MB-53456**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **53456**	RunNo: **70052**							
Prep Date: **7/1/2020**	Analysis Date: **7/1/2020**	SeqNo: **2434259**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-53456**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **53456**	RunNo: **70052**							
Prep Date: **7/1/2020**	Analysis Date: **7/1/2020**	SeqNo: **2434260**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.3	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 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 Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2006E54**

07-Jul-20

Client: Devon Energy

Project: Tomb Raider 1 Fed 1

Sample ID: **MB-53402**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **53402**	RunNo: **70044**
Prep Date: **6/29/2020**	Analysis Date: **7/1/2020**	SeqNo: **2433514** 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		88.4	55.1	146			

Sample ID: **MB-53438**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **53438**	RunNo: **70044**
Prep Date: **7/1/2020**	Analysis Date: **7/1/2020**	SeqNo: **2433516** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.4		10.00		94.0	55.1	146			

Sample ID: **LCS-53402**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **53402**	RunNo: **70044**
Prep Date: **6/29/2020**	Analysis Date: **7/1/2020**	SeqNo: **2433517** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	99.0	70	130			
Surr: DNOP	4.5		5.000		89.4	55.1	146			

Sample ID: **LCS-53438**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **53438**	RunNo: **70044**
Prep Date: **7/1/2020**	Analysis Date: **7/1/2020**	SeqNo: **2433519** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.2		5.000		83.2	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 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 Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2006E54**
07-Jul-20

Client: Devon Energy
Project: Tomb Raider 1 Fed 1

Sample ID: **mb-53394** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **53394** RunNo: **70075**
Prep Date: **6/29/2020** Analysis Date: **7/1/2020** SeqNo: **2434446** 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: 1,2-Dichloroethane-d4	0.53		0.5000		106	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.3	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		109	70	130			
Surr: Toluene-d8	0.49		0.5000		98.5	70	130			

Sample ID: **lcs-53394** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **53394** RunNo: **70075**
Prep Date: **6/29/2020** Analysis Date: **7/1/2020** SeqNo: **2434447** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	103	80	120			
Toluene	0.94	0.050	1.000	0	94.3	80	120			
Ethylbenzene	0.98	0.050	1.000	0	98.2	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 1,2-Dichloroethane-d4	0.53		0.5000		106	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		93.7	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		105	70	130			
Surr: Toluene-d8	0.51		0.5000		103	70	130			

Sample ID: **2006e54-001ams** SampType: **MS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **Tomb- East** Batch ID: **53394** RunNo: **70075**
Prep Date: **6/29/2020** Analysis Date: **7/2/2020** SeqNo: **2434467** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9718	0	106	71.1	115			
Toluene	0.94	0.049	0.9718	0	96.6	79.6	132			
Ethylbenzene	0.98	0.049	0.9718	0	101	83.8	134			
Xylenes, Total	3.0	0.097	2.915	0	104	82.4	132			
Surr: 1,2-Dichloroethane-d4	0.52		0.4859		106	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.4859		100	70	130			
Surr: Dibromofluoromethane	0.54		0.4859		110	70	130			
Surr: Toluene-d8	0.50		0.4859		103	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 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 Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2006E54**
07-Jul-20

Client: Devon Energy
Project: Tomb Raider 1 Fed 1

Sample ID: **2006e54-001amsd** SampType: **MSD4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **Tomb- East** Batch ID: **53394** RunNo: **70075**
Prep Date: **6/29/2020** Analysis Date: **7/2/2020** SeqNo: **2434468** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.023	0.9217	0	99.1	71.1	115	12.2	20	
Toluene	0.86	0.046	0.9217	0	93.6	79.6	132	8.39	20	
Ethylbenzene	0.89	0.046	0.9217	0	96.9	83.8	134	9.28	20	
Xylenes, Total	2.7	0.092	2.765	0	99.0	82.4	132	10.1	20	
Surr: 1,2-Dichloroethane-d4	0.49		0.4608		106	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.43		0.4608		93.7	70	130	0	0	
Surr: Dibromofluoromethane	0.49		0.4608		106	70	130	0	0	
Surr: Toluene-d8	0.47		0.4608		102	70	130	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 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 Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2006E54**

07-Jul-20

Client: Devon Energy

Project: Tomb Raider 1 Fed 1

Sample ID: **mb-53394**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **53394**	RunNo: **70075**
Prep Date: **6/29/2020**	Analysis Date: **7/1/2020**	SeqNo: **2434472** 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	500		500.0		99.1	70	130			

Sample ID: **lcs-53394**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **53394**	RunNo: **70075**
Prep Date: **6/29/2020**	Analysis Date: **7/1/2020**	SeqNo: **2434473** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	5.0	25.00	0	75.9	70	130			
Surr: BFB	490		500.0		97.9	70	130			

Sample ID: **2006e54-002ams**	SampType: **MS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **Tomb- West**	Batch ID: **53394**	RunNo: **70075**
Prep Date: **6/29/2020**	Analysis Date: **7/2/2020**	SeqNo: **2434494** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	17	4.9	24.46	0	68.8	70	130			S
Surr: BFB	490		489.2		99.6	70	130			

Sample ID: **2006e54-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **Tomb- West**	Batch ID: **53394**	RunNo: **70075**
Prep Date: **6/29/2020**	Analysis Date: **7/2/2020**	SeqNo: **2434495** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	17	4.7	23.39	0	72.2	70	130	3.10	20	
Surr: BFB	470		467.7		101	70	130	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 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 Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Devon Energy Work Order Number: 2006E54 RcptNo: 1

Received By: **Juan Rojas** 6/26/2020 4:48:00 PM

Completed By: **Juan Rojas** 6/29/2020 8:04:25 AM

Reviewed By: LB 6/29/20

Chain of Custody

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

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. 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? NO
Checked by: SPA 6.29.20

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 °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.7	Good				

Chain-of-Custody Record

Client: Devon Energy
attn: Tom Bynum
Mailing Address: 6488 Seven Rivers Hwy
Artesia, NM 88211
Phone #: (580) 748-1613
email or Fax#: tom.bynum@dvn.com
QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: Tomb Raider | Fed #1
Project #:
Project Manager: Tom Bynum, Devon
Sampler: J.Linn, HRL
On Ice: ☑ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): 5.7-0=5.7 (°C)

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2006E54	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)
6/25/20	1307	Soil	Tomb-EAST	4oz. Jar	None	-001	X	X					X			
6/25/20	1310	Soil	Tomb-West	↓	↓	-002	X	X					X			

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
6/26/20	1645	Julie L		CDO	6/26/20	16:48
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks: Please also send copy of report to jlinn@hrlcomp.com

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.

Report to:

Tom Bynum

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com

envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Pima Environmental Services-Carlsbad

Project Name:	Tomb Raider 1 Fed 1H
Work Order:	E303055
Job Number:	01058-0007
Received:	3/16/2023

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
3/20/23

Date Reported: 3/20/23

Tom Bynum
PO Box 247
Plains, TX 79355-0247

Project Name: Tomb Raider 1 Fed 1H
Workorder: E303055
Date Received: 3/16/2023 7:00:00AM

Tom Bynum,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 3/16/2023 7:00:00AM, under the Project Name: Tomb Raider 1 Fed 1H.

The analytical test results summarized in this report with the Project Name: Tomb Raider 1 Fed 1H apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues reguarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
Office: 505-632-1881
Cell: 775-287-1762
whinchman@envirotech-inc.com

Raina Schwanz
Laboratory Administrator
Office: 505-632-1881
rainaschwanz@envirotech-inc.com

Alexa Michaels
Sample Custody Officer
Office: 505-632-1881
labadmin@envirotech-inc.com

Field Offices:

Southern New Mexico Area
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Technical Representative/Client Services
Office: 505-421-LABS(5227)
Cell: 505-320-4759
ljarboe@envirotech-inc.com

West Texas Midland/Odessa Area
Rayny Hagan
Technical Representative
Office: 505-421-LABS(5227)

Envirotech Web Address: www.envirotech-inc.com

Table of Contents

Sample Summary

Pima Environmental Services-Carlsbad	Project Name:	Tomb Raider 1 Fed 1H	**Reported:**
PO Box 247	Project Number:	01058-0007	
Plains TX, 79355-0247	Project Manager:	Tom Bynum	03/20/23 17:07

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
S1 - 1'	E303055-01A	Soil	03/14/23	03/16/23	Glass Jar, 2 oz.
S1 - 3'	E303055-02A	Soil	03/14/23	03/16/23	Glass Jar, 2 oz.
S1 - 4'	E303055-03A	Soil	03/14/23	03/16/23	Glass Jar, 2 oz.
S2 - 1'	E303055-04A	Soil	03/14/23	03/16/23	Glass Jar, 2 oz.
S2 - 2'	E303055-05A	Soil	03/14/23	03/16/23	Glass Jar, 2 oz.
S2 - 4'	E303055-06A	Soil	03/14/23	03/16/23	Glass Jar, 2 oz.
S3 - 1'	E303055-07A	Soil	03/14/23	03/16/23	Glass Jar, 2 oz.
S3 - 2'	E303055-08A	Soil	03/14/23	03/16/23	Glass Jar, 2 oz.
S3 - 4'	E303055-09A	Soil	03/14/23	03/16/23	Glass Jar, 2 oz.
SW1	E303055-10A	Soil	03/14/23	03/16/23	Glass Jar, 2 oz.
SW2	E303055-11A	Soil	03/14/23	03/16/23	Glass Jar, 2 oz.
SW3	E303055-12A	Soil	03/14/23	03/16/23	Glass Jar, 2 oz.
SW4	E303055-13A	Soil	03/14/23	03/16/23	Glass Jar, 2 oz.

Sample Data

Pima Environmental Services-Carlsbad	Project Name:	Tomb Raider 1 Fed 1H	
PO Box 247	Project Number:	01058-0007	**Reported:**
Plains TX, 79355-0247	Project Manager:	Tom Bynum	3/20/2023 5:07:51PM

S1 - 1'

E303055-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Benzene	ND	0.0250	1	03/15/23	03/16/23	
Ethylbenzene	ND	0.0250	1	03/15/23	03/16/23	
Toluene	ND	0.0250	1	03/15/23	03/16/23	
o-Xylene	ND	0.0250	1	03/15/23	03/16/23	
p,m-Xylene	ND	0.0500	1	03/15/23	03/16/23	
Total Xylenes	ND	0.0250	1	03/15/23	03/16/23	
Surrogate: Bromofluorobenzene		*95.7 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: 1,2-Dichloroethane-d4		*102 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: Toluene-d8		*100 %*	*70-130*	*03/15/23*	*03/16/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/15/23	03/16/23	
Surrogate: Bromofluorobenzene		*95.7 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: 1,2-Dichloroethane-d4		*102 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: Toluene-d8		*100 %*	*70-130*	*03/15/23*	*03/16/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2311045
Diesel Range Organics (C10-C28)	ND	25.0	1	03/16/23	03/16/23	
Oil Range Organics (C28-C36)	ND	50.0	1	03/16/23	03/16/23	
Surrogate: n-Nonane		*106 %*	*50-200*	*03/16/23*	*03/16/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2311058
Chloride	**68.0**	20.0	1	03/17/23	03/19/23	

Sample Data

Pima Environmental Services-Carlsbad	Project Name:	Tomb Raider 1 Fed 1H	
PO Box 247	Project Number:	01058-0007	**Reported:**
Plains TX, 79355-0247	Project Manager:	Tom Bynum	3/20/2023 5:07:51PM

S1 - 3'

E303055-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Benzene	ND	0.0250	1	03/15/23	03/16/23	
Ethylbenzene	ND	0.0250	1	03/15/23	03/16/23	
Toluene	ND	0.0250	1	03/15/23	03/16/23	
o-Xylene	ND	0.0250	1	03/15/23	03/16/23	
p,m-Xylene	ND	0.0500	1	03/15/23	03/16/23	
Total Xylenes	ND	0.0250	1	03/15/23	03/16/23	
Surrogate: Bromofluorobenzene		*97.4 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: 1,2-Dichloroethane-d4		*103 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: Toluene-d8		*99.4 %*	*70-130*	*03/15/23*	*03/16/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/15/23	03/16/23	
Surrogate: Bromofluorobenzene		*97.4 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: 1,2-Dichloroethane-d4		*103 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: Toluene-d8		*99.4 %*	*70-130*	*03/15/23*	*03/16/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2311045
Diesel Range Organics (C10-C28)	ND	25.0	1	03/16/23	03/16/23	
Oil Range Organics (C28-C36)	ND	50.0	1	03/16/23	03/16/23	
Surrogate: n-Nonane		*103 %*	*50-200*	*03/16/23*	*03/16/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2311058
Chloride	**81.5**	20.0	1	03/17/23	03/19/23	

Sample Data

Pima Environmental Services-Carlsbad	Project Name:	Tomb Raider 1 Fed 1H	
PO Box 247	Project Number:	01058-0007	**Reported:**
Plains TX, 79355-0247	Project Manager:	Tom Bynum	3/20/2023 5:07:51PM

S1 - 4'

E303055-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Benzene	ND	0.0250	1	03/15/23	03/16/23	
Ethylbenzene	ND	0.0250	1	03/15/23	03/16/23	
Toluene	ND	0.0250	1	03/15/23	03/16/23	
o-Xylene	ND	0.0250	1	03/15/23	03/16/23	
p,m-Xylene	ND	0.0500	1	03/15/23	03/16/23	
Total Xylenes	ND	0.0250	1	03/15/23	03/16/23	
Surrogate: Bromofluorobenzene		*96.4 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: 1,2-Dichloroethane-d4		*105 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: Toluene-d8		*100 %*	*70-130*	*03/15/23*	*03/16/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/15/23	03/16/23	
Surrogate: Bromofluorobenzene		*96.4 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: 1,2-Dichloroethane-d4		*105 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: Toluene-d8		*100 %*	*70-130*	*03/15/23*	*03/16/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2311045
Diesel Range Organics (C10-C28)	ND	25.0	1	03/16/23	03/16/23	
Oil Range Organics (C28-C36)	ND	50.0	1	03/16/23	03/16/23	
Surrogate: n-Nonane		*103 %*	*50-200*	*03/16/23*	*03/16/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2311058
Chloride	**34.3**	20.0	1	03/17/23	03/19/23	

Sample Data

Pima Environmental Services-Carlsbad	Project Name:	Tomb Raider 1 Fed 1H	
PO Box 247	Project Number:	01058-0007	**Reported:**
Plains TX, 79355-0247	Project Manager:	Tom Bynum	3/20/2023 5:07:51PM

S2 - 1'

E303055-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Benzene	ND	0.0250	1	03/15/23	03/16/23	
Ethylbenzene	ND	0.0250	1	03/15/23	03/16/23	
Toluene	ND	0.0250	1	03/15/23	03/16/23	
o-Xylene	ND	0.0250	1	03/15/23	03/16/23	
p,m-Xylene	ND	0.0500	1	03/15/23	03/16/23	
Total Xylenes	ND	0.0250	1	03/15/23	03/16/23	
Surrogate: Bromofluorobenzene		*96.2 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: 1,2-Dichloroethane-d4		*104 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: Toluene-d8		*99.2 %*	*70-130*	*03/15/23*	*03/16/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/15/23	03/16/23	
Surrogate: Bromofluorobenzene		*96.2 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: 1,2-Dichloroethane-d4		*104 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: Toluene-d8		*99.2 %*	*70-130*	*03/15/23*	*03/16/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2311045
Diesel Range Organics (C10-C28)	ND	25.0	1	03/16/23	03/16/23	
Oil Range Organics (C28-C36)	ND	50.0	1	03/16/23	03/16/23	
Surrogate: n-Nonane		*104 %*	*50-200*	*03/16/23*	*03/16/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2311058
Chloride	ND	20.0	1	03/17/23	03/19/23	

Sample Data

Pima Environmental Services-Carlsbad	Project Name:	Tomb Raider 1 Fed 1H	
PO Box 247	Project Number:	01058-0007	**Reported:**
Plains TX, 79355-0247	Project Manager:	Tom Bynum	3/20/2023 5:07:51PM

S2 - 2'

E303055-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Benzene	ND	0.0250	1	03/15/23	03/16/23	
Ethylbenzene	ND	0.0250	1	03/15/23	03/16/23	
Toluene	ND	0.0250	1	03/15/23	03/16/23	
o-Xylene	ND	0.0250	1	03/15/23	03/16/23	
p,m-Xylene	ND	0.0500	1	03/15/23	03/16/23	
Total Xylenes	ND	0.0250	1	03/15/23	03/16/23	
Surrogate: Bromofluorobenzene		*96.0 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: 1,2-Dichloroethane-d4		*101 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: Toluene-d8		*99.4 %*	*70-130*	*03/15/23*	*03/16/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/15/23	03/16/23	
Surrogate: Bromofluorobenzene		*96.0 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: 1,2-Dichloroethane-d4		*101 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: Toluene-d8		*99.4 %*	*70-130*	*03/15/23*	*03/16/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2311045
Diesel Range Organics (C10-C28)	ND	25.0	1	03/16/23	03/16/23	
Oil Range Organics (C28-C36)	ND	50.0	1	03/16/23	03/16/23	
Surrogate: n-Nonane		*106 %*	*50-200*	*03/16/23*	*03/16/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2311058
Chloride	ND	20.0	1	03/17/23	03/19/23	

Sample Data

Pima Environmental Services-Carlsbad	Project Name:	Tomb Raider 1 Fed 1H	
PO Box 247	Project Number:	01058-0007	**Reported:**
Plains TX, 79355-0247	Project Manager:	Tom Bynum	3/20/2023 5:07:51PM

S2 - 4'

E303055-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Benzene	ND	0.0250	1	03/15/23	03/16/23	
Ethylbenzene	ND	0.0250	1	03/15/23	03/16/23	
Toluene	ND	0.0250	1	03/15/23	03/16/23	
o-Xylene	ND	0.0250	1	03/15/23	03/16/23	
p,m-Xylene	ND	0.0500	1	03/15/23	03/16/23	
Total Xylenes	ND	0.0250	1	03/15/23	03/16/23	
Surrogate: Bromofluorobenzene		*96.3 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: 1,2-Dichloroethane-d4		*101 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: Toluene-d8		*100 %*	*70-130*	*03/15/23*	*03/16/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/15/23	03/16/23	
Surrogate: Bromofluorobenzene		*96.3 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: 1,2-Dichloroethane-d4		*101 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: Toluene-d8		*100 %*	*70-130*	*03/15/23*	*03/16/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2311045
Diesel Range Organics (C10-C28)	ND	25.0	1	03/16/23	03/17/23	
Oil Range Organics (C28-C36)	ND	50.0	1	03/16/23	03/17/23	
Surrogate: n-Nonane		*103 %*	*50-200*	*03/16/23*	*03/17/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2311058
Chloride	ND	20.0	1	03/17/23	03/19/23	

Sample Data

Pima Environmental Services-Carlsbad	Project Name:	Tomb Raider 1 Fed 1H	
PO Box 247	Project Number:	01058-0007	**Reported:**
Plains TX, 79355-0247	Project Manager:	Tom Bynum	3/20/2023 5:07:51PM

S3 - 1'

E303055-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Benzene	ND	0.0250	1	03/15/23	03/16/23	
Ethylbenzene	ND	0.0250	1	03/15/23	03/16/23	
Toluene	ND	0.0250	1	03/15/23	03/16/23	
o-Xylene	ND	0.0250	1	03/15/23	03/16/23	
p,m-Xylene	ND	0.0500	1	03/15/23	03/16/23	
Total Xylenes	ND	0.0250	1	03/15/23	03/16/23	
Surrogate: Bromofluorobenzene		*95.8 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: 1,2-Dichloroethane-d4		*104 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: Toluene-d8		*101 %*	*70-130*	*03/15/23*	*03/16/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/15/23	03/16/23	
Surrogate: Bromofluorobenzene		*95.8 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: 1,2-Dichloroethane-d4		*104 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: Toluene-d8		*101 %*	*70-130*	*03/15/23*	*03/16/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2311045
Diesel Range Organics (C10-C28)	ND	25.0	1	03/16/23	03/17/23	
Oil Range Organics (C28-C36)	ND	50.0	1	03/16/23	03/17/23	
Surrogate: n-Nonane		*105 %*	*50-200*	*03/16/23*	*03/17/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2311058
Chloride	ND	20.0	1	03/17/23	03/19/23	

Sample Data

Pima Environmental Services-Carlsbad	Project Name:	Tomb Raider 1 Fed 1H	
PO Box 247	Project Number:	01058-0007	**Reported:**
Plains TX, 79355-0247	Project Manager:	Tom Bynum	3/20/2023 5:07:51PM

S3 - 2'

E303055-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Benzene	ND	0.0250	1	03/15/23	03/16/23	
Ethylbenzene	ND	0.0250	1	03/15/23	03/16/23	
Toluene	ND	0.0250	1	03/15/23	03/16/23	
o-Xylene	ND	0.0250	1	03/15/23	03/16/23	
p,m-Xylene	ND	0.0500	1	03/15/23	03/16/23	
Total Xylenes	ND	0.0250	1	03/15/23	03/16/23	
Surrogate: Bromofluorobenzene		*96.9 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: 1,2-Dichloroethane-d4		*102 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: Toluene-d8		*101 %*	*70-130*	*03/15/23*	*03/16/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/15/23	03/16/23	
Surrogate: Bromofluorobenzene		*96.9 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: 1,2-Dichloroethane-d4		*102 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: Toluene-d8		*101 %*	*70-130*	*03/15/23*	*03/16/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2311045
Diesel Range Organics (C10-C28)	ND	25.0	1	03/16/23	03/17/23	
Oil Range Organics (C28-C36)	ND	50.0	1	03/16/23	03/17/23	
Surrogate: n-Nonane		*108 %*	*50-200*	*03/16/23*	*03/17/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2311058
Chloride	ND	20.0	1	03/17/23	03/19/23	

Sample Data

Pima Environmental Services-Carlsbad	Project Name:	Tomb Raider 1 Fed 1H	
PO Box 247	Project Number:	01058-0007	**Reported:**
Plains TX, 79355-0247	Project Manager:	Tom Bynum	3/20/2023 5:07:51PM

S3 - 4'

E303055-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Benzene	ND	0.0250	1	03/15/23	03/16/23	
Ethylbenzene	ND	0.0250	1	03/15/23	03/16/23	
Toluene	ND	0.0250	1	03/15/23	03/16/23	
o-Xylene	ND	0.0250	1	03/15/23	03/16/23	
p,m-Xylene	ND	0.0500	1	03/15/23	03/16/23	
Total Xylenes	ND	0.0250	1	03/15/23	03/16/23	
Surrogate: Bromofluorobenzene		*96.5 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: 1,2-Dichloroethane-d4		*100 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: Toluene-d8		*100 %*	*70-130*	*03/15/23*	*03/16/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/15/23	03/16/23	
Surrogate: Bromofluorobenzene		*96.5 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: 1,2-Dichloroethane-d4		*100 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: Toluene-d8		*100 %*	*70-130*	*03/15/23*	*03/16/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2311045
Diesel Range Organics (C10-C28)	ND	25.0	1	03/16/23	03/17/23	
Oil Range Organics (C28-C36)	ND	50.0	1	03/16/23	03/17/23	
Surrogate: n-Nonane		*109 %*	*50-200*	*03/16/23*	*03/17/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2311058
Chloride	ND	20.0	1	03/17/23	03/19/23	

Sample Data

Pima Environmental Services-Carlsbad	Project Name:	Tomb Raider 1 Fed 1H	
PO Box 247	Project Number:	01058-0007	**Reported:**
Plains TX, 79355-0247	Project Manager:	Tom Bynum	3/20/2023 5:07:51PM

SW1

E303055-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Benzene	ND	0.0250	1	03/15/23	03/16/23	
Ethylbenzene	ND	0.0250	1	03/15/23	03/16/23	
Toluene	ND	0.0250	1	03/15/23	03/16/23	
o-Xylene	ND	0.0250	1	03/15/23	03/16/23	
p,m-Xylene	ND	0.0500	1	03/15/23	03/16/23	
Total Xylenes	ND	0.0250	1	03/15/23	03/16/23	
Surrogate: Bromofluorobenzene		*94.8 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: 1,2-Dichloroethane-d4		*104 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: Toluene-d8		*99.6 %*	*70-130*	*03/15/23*	*03/16/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/15/23	03/16/23	
Surrogate: Bromofluorobenzene		*94.8 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: 1,2-Dichloroethane-d4		*104 %*	*70-130*	*03/15/23*	*03/16/23*	
Surrogate: Toluene-d8		*99.6 %*	*70-130*	*03/15/23*	*03/16/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2311045
Diesel Range Organics (C10-C28)	ND	25.0	1	03/16/23	03/17/23	
Oil Range Organics (C28-C36)	ND	50.0	1	03/16/23	03/17/23	
Surrogate: n-Nonane		*100 %*	*50-200*	*03/16/23*	*03/17/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2311058
Chloride	ND	20.0	1	03/17/23	03/19/23	

Sample Data

Pima Environmental Services-Carlsbad	Project Name:	Tomb Raider 1 Fed 1H	
PO Box 247	Project Number:	01058-0007	**Reported:**
Plains TX, 79355-0247	Project Manager:	Tom Bynum	3/20/2023 5:07:51PM

SW2

E303055-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Benzene	ND	0.0250	1	03/15/23	03/17/23	
Ethylbenzene	ND	0.0250	1	03/15/23	03/17/23	
Toluene	ND	0.0250	1	03/15/23	03/17/23	
o-Xylene	ND	0.0250	1	03/15/23	03/17/23	
p,m-Xylene	ND	0.0500	1	03/15/23	03/17/23	
Total Xylenes	ND	0.0250	1	03/15/23	03/17/23	
Surrogate: Bromofluorobenzene		*96.5 %*	*70-130*	*03/15/23*	*03/17/23*	
Surrogate: 1,2-Dichloroethane-d4		*101 %*	*70-130*	*03/15/23*	*03/17/23*	
Surrogate: Toluene-d8		*101 %*	*70-130*	*03/15/23*	*03/17/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/15/23	03/17/23	
Surrogate: Bromofluorobenzene		*96.5 %*	*70-130*	*03/15/23*	*03/17/23*	
Surrogate: 1,2-Dichloroethane-d4		*101 %*	*70-130*	*03/15/23*	*03/17/23*	
Surrogate: Toluene-d8		*101 %*	*70-130*	*03/15/23*	*03/17/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2311045
Diesel Range Organics (C10-C28)	ND	25.0	1	03/16/23	03/17/23	
Oil Range Organics (C28-C36)	ND	50.0	1	03/16/23	03/17/23	
Surrogate: n-Nonane		*106 %*	*50-200*	*03/16/23*	*03/17/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2311058
Chloride	ND	20.0	1	03/17/23	03/20/23	

Sample Data

Pima Environmental Services-Carlsbad	Project Name:	Tomb Raider 1 Fed 1H	
PO Box 247	Project Number:	01058-0007	**Reported:**
Plains TX, 79355-0247	Project Manager:	Tom Bynum	3/20/2023 5:07:51PM

SW3

E303055-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Benzene	ND	0.0250	1	03/15/23	03/17/23	
Ethylbenzene	ND	0.0250	1	03/15/23	03/17/23	
Toluene	ND	0.0250	1	03/15/23	03/17/23	
o-Xylene	ND	0.0250	1	03/15/23	03/17/23	
p,m-Xylene	ND	0.0500	1	03/15/23	03/17/23	
Total Xylenes	ND	0.0250	1	03/15/23	03/17/23	
Surrogate: Bromofluorobenzene		*96.9 %*	*70-130*	*03/15/23*	*03/17/23*	
Surrogate: 1,2-Dichloroethane-d4		*103 %*	*70-130*	*03/15/23*	*03/17/23*	
Surrogate: Toluene-d8		*101 %*	*70-130*	*03/15/23*	*03/17/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/15/23	03/17/23	
Surrogate: Bromofluorobenzene		*96.9 %*	*70-130*	*03/15/23*	*03/17/23*	
Surrogate: 1,2-Dichloroethane-d4		*103 %*	*70-130*	*03/15/23*	*03/17/23*	
Surrogate: Toluene-d8		*101 %*	*70-130*	*03/15/23*	*03/17/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2311045
Diesel Range Organics (C10-C28)	ND	25.0	1	03/16/23	03/17/23	
Oil Range Organics (C28-C36)	ND	50.0	1	03/16/23	03/17/23	
Surrogate: n-Nonane		*109 %*	*50-200*	*03/16/23*	*03/17/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2311058
Chloride	ND	20.0	1	03/17/23	03/20/23	

Sample Data

Pima Environmental Services-Carlsbad	Project Name:	Tomb Raider 1 Fed 1H	
PO Box 247	Project Number:	01058-0007	**Reported:**
Plains TX, 79355-0247	Project Manager:	Tom Bynum	3/20/2023 5:07:51PM

SW4

E303055-13

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Benzene	ND	0.0250	1	03/15/23	03/17/23	
Ethylbenzene	ND	0.0250	1	03/15/23	03/17/23	
Toluene	ND	0.0250	1	03/15/23	03/17/23	
o-Xylene	ND	0.0250	1	03/15/23	03/17/23	
p,m-Xylene	ND	0.0500	1	03/15/23	03/17/23	
Total Xylenes	ND	0.0250	1	03/15/23	03/17/23	
Surrogate: Bromofluorobenzene		*94.3 %*	*70-130*	*03/15/23*	*03/17/23*	
Surrogate: 1,2-Dichloroethane-d4		*103 %*	*70-130*	*03/15/23*	*03/17/23*	
Surrogate: Toluene-d8		*99.7 %*	*70-130*	*03/15/23*	*03/17/23*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2311044
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/15/23	03/17/23	
Surrogate: Bromofluorobenzene		*94.3 %*	*70-130*	*03/15/23*	*03/17/23*	
Surrogate: 1,2-Dichloroethane-d4		*103 %*	*70-130*	*03/15/23*	*03/17/23*	
Surrogate: Toluene-d8		*99.7 %*	*70-130*	*03/15/23*	*03/17/23*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2311045
Diesel Range Organics (C10-C28)	ND	25.0	1	03/16/23	03/17/23	
Oil Range Organics (C28-C36)	ND	50.0	1	03/16/23	03/17/23	
Surrogate: n-Nonane		*109 %*	*50-200*	*03/16/23*	*03/17/23*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2311058
Chloride	ND	20.0	1	03/17/23	03/20/23	

QC Summary Data

Pima Environmental Services-Carlsbad	Project Name:	Tomb Raider 1 Fed 1H	**Reported:**
PO Box 247	Project Number:	01058-0007	
Plains TX, 79355-0247	Project Manager:	Tom Bynum	3/20/2023 5:07:51PM

Volatile Organic Compounds by EPA 8260B

Analyst: RKS

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2311044-BLK1)									Prepared: 03/15/23 Analyzed: 03/16/23
Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: Bromofluorobenzene	*0.482*		*0.500*		*96.4*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.519*		*0.500*		*104*	*70-130*			
Surrogate: Toluene-d8	*0.505*		*0.500*		*101*	*70-130*			
LCS (2311044-BS1)									Prepared: 03/15/23 Analyzed: 03/16/23
Benzene	2.25	0.0250	2.50		90.1	70-130			
Ethylbenzene	2.31	0.0250	2.50		92.5	70-130			
Toluene	2.30	0.0250	2.50		91.8	70-130			
o-Xylene	2.41	0.0250	2.50		96.3	70-130			
p,m-Xylene	4.78	0.0500	5.00		95.7	70-130			
Total Xylenes	7.19	0.0250	7.50		95.9	70-130			
Surrogate: Bromofluorobenzene	*0.517*		*0.500*		*103*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.517*		*0.500*		*103*	*70-130*			
Surrogate: Toluene-d8	*0.505*		*0.500*		*101*	*70-130*			
Matrix Spike (2311044-MS1)				**Source: E303055-08**					Prepared: 03/15/23 Analyzed: 03/16/23
Benzene	2.23	0.0250	2.50	ND	89.1	48-131			
Ethylbenzene	2.30	0.0250	2.50	ND	92.0	45-135			
Toluene	2.27	0.0250	2.50	ND	90.8	48-130			
o-Xylene	2.41	0.0250	2.50	ND	96.3	43-135			
p,m-Xylene	4.73	0.0500	5.00	ND	94.7	43-135			
Total Xylenes	7.14	0.0250	7.50	ND	95.2	43-135			
Surrogate: Bromofluorobenzene	*0.515*		*0.500*		*103*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.524*		*0.500*		*105*	*70-130*			
Surrogate: Toluene-d8	*0.504*		*0.500*		*101*	*70-130*			
Matrix Spike Dup (2311044-MSD1)				**Source: E303055-08**					Prepared: 03/15/23 Analyzed: 03/16/23
Benzene	2.30	0.0250	2.50	ND	91.8	48-131	3.01	23	
Ethylbenzene	2.36	0.0250	2.50	ND	94.5	45-135	2.64	27	
Toluene	2.34	0.0250	2.50	ND	93.8	48-130	3.18	24	
o-Xylene	2.46	0.0250	2.50	ND	98.5	43-135	2.20	27	
p,m-Xylene	4.86	0.0500	5.00	ND	97.2	43-135	2.64	27	
Total Xylenes	7.32	0.0250	7.50	ND	97.6	43-135	2.49	27	
Surrogate: Bromofluorobenzene	*0.508*		*0.500*		*102*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.526*		*0.500*		*105*	*70-130*			
Surrogate: Toluene-d8	*0.510*		*0.500*		*102*	*70-130*			

QC Summary Data

Pima Environmental Services-Carlsbad	Project Name:	Tomb Raider 1 Fed 1H	**Reported:**
PO Box 247	Project Number:	01058-0007	
Plains TX, 79355-0247	Project Manager:	Tom Bynum	3/20/2023 5:07:51PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: RKS

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2311044-BLK1)									Prepared: 03/15/23 Analyzed: 03/16/23
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	*0.482*		*0.500*		*96.4*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.519*		*0.500*		*104*	*70-130*			
Surrogate: Toluene-d8	*0.505*		*0.500*		*101*	*70-130*			
LCS (2311044-BS2)									Prepared: 03/15/23 Analyzed: 03/16/23
Gasoline Range Organics (C6-C10)	46.1	20.0	50.0		92.2	70-130			
Surrogate: Bromofluorobenzene	*0.497*		*0.500*		*99.4*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.525*		*0.500*		*105*	*70-130*			
Surrogate: Toluene-d8	*0.505*		*0.500*		*101*	*70-130*			
Matrix Spike (2311044-MS2)				**Source: E303055-08**					Prepared: 03/15/23 Analyzed: 03/16/23
Gasoline Range Organics (C6-C10)	46.8	20.0	50.0	ND	93.7	70-130			
Surrogate: Bromofluorobenzene	*0.492*		*0.500*		*98.4*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.506*		*0.500*		*101*	*70-130*			
Surrogate: Toluene-d8	*0.509*		*0.500*		*102*	*70-130*			
Matrix Spike Dup (2311044-MSD2)				**Source: E303055-08**					Prepared: 03/15/23 Analyzed: 03/16/23
Gasoline Range Organics (C6-C10)	44.9	20.0	50.0	ND	89.8	70-130	4.17	20	
Surrogate: Bromofluorobenzene	*0.502*		*0.500*		*100*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*0.527*		*0.500*		*105*	*70-130*			
Surrogate: Toluene-d8	*0.501*		*0.500*		*100*	*70-130*			

QC Summary Data

Pima Environmental Services-Carlsbad	Project Name:	Tomb Raider 1 Fed 1H	**Reported:**
PO Box 247	Project Number:	01058-0007	
Plains TX, 79355-0247	Project Manager:	Tom Bynum	3/20/2023 5:07:51PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2311045-BLK1)									Prepared: 03/16/23 Analyzed: 03/16/23
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	*55.1*		*50.0*		*110*	*50-200*			
LCS (2311045-BS1)									Prepared: 03/16/23 Analyzed: 03/16/23
Diesel Range Organics (C10-C28)	262	25.0	250		105	38-132			
Surrogate: n-Nonane	*54.7*		*50.0*		*109*	*50-200*			
Matrix Spike (2311045-MS1)				**Source: E303053-05**					Prepared: 03/16/23 Analyzed: 03/16/23
Diesel Range Organics (C10-C28)	276	25.0	250	ND	110	38-132			
Surrogate: n-Nonane	*51.9*		*50.0*		*104*	*50-200*			
Matrix Spike Dup (2311045-MSD1)				**Source: E303053-05**					Prepared: 03/16/23 Analyzed: 03/16/23
Diesel Range Organics (C10-C28)	279	25.0	250	ND	112	38-132	1.03	20	
Surrogate: n-Nonane	*51.9*		*50.0*		*104*	*50-200*			

QC Summary Data

Pima Environmental Services-Carlsbad	Project Name:	Tomb Raider 1 Fed 1H	**Reported:**
PO Box 247	Project Number:	01058-0007	
Plains TX, 79355-0247	Project Manager:	Tom Bynum	3/20/2023 5:07:51PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2311058-BLK1)									Prepared: 03/17/23 Analyzed: 03/19/23
Chloride	ND	20.0							
LCS (2311058-BS1)									Prepared: 03/17/23 Analyzed: 03/19/23
Chloride	250	20.0	250		100	90-110			
Matrix Spike (2311058-MS1)				**Source: E303055-01**					Prepared: 03/17/23 Analyzed: 03/19/23
Chloride	316	20.0	250	68.0	99.0	80-120			
Matrix Spike Dup (2311058-MSD1)				**Source: E303055-01**					Prepared: 03/17/23 Analyzed: 03/19/23
Chloride	312	20.0	250	68.0	97.8	80-120	0.994	20	

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Definitions and Notes

Pima Environmental Services-Carlsbad	Project Name:	Tomb Raider 1 Fed 1H	
PO Box 247	Project Number:	01058-0007	**Reported:**
Plains TX, 79355-0247	Project Manager:	Tom Bynum	03/20/23 17:07

ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference
DNI	Did Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

Project Information

Chain of Custody

Client: Pima Environmental Services
Project: Tomb Raider / Fed 1A
Project Manager: Tom Bynum
Address: 5614 N. Lovington Hwy.
City, State, Zip Hobbs, NM, 88240
Phone: 580-748-1613
Email: tom@pimaoil.com
Report due by:

Bill To
Attention: Devon
Address:
City, State, Zip
Phone:
Email:
Pima Project # 1-272

Lab Use Only
Lab WO# E303055
Job Number 01058-0007

TAT: 1D | 2D | 3D | Standard X

EPA Program: CWA | SDWA | RCRA

State: NM X | CO | UT | AZ | TX

Analysis and Method: DRO/ORO by 8015 | GRO/DRO by 8015 | BTEX by 8021 | VOC by 8260 | Metals 6010 | Chloride 300.0 | BGDOC NM X | BGDOC TX

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	Remarks
8:00 AM	3/14/23	S	1	S1-1'	1	
8:05				S1-3'	2	
8:10				S1-4'	3	
8:15				S2-1'	4	
8:20				S2-2'	5	
8:25				S2-4'	6	
8:30				S3-1'	7	
8:35				S3-2'	8	
8:40				S3-4'	9	
8:45				SW1	10	

Additional Instructions: Billing #: 21134801

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: Ned Rogers

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
AB	2:00	2:00	Michelle Gonzales	3-15-23	1400
Michelle Gonzales	3-15-23	1630		3-15-23	1730
	3-15-23	2400	Kayla R Hall	3-16-23	0700

Lab Use Only
Received on ice: Y / N
T1 T2 T3
AVG Temp °C 4

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other
Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

envirotech

Project Information

Chain of Custody

Client: Pima Environmental Services
Project: Tomb Raider 1 Fed 1H
Project Manager: Tom Bynum
Address: 5614 N. Lovington Hwy.
City, State, Zip Hobbs, NM, 88240
Phone: 580-748-1613
Email: tom@pimaoil.com
Report due by:

Bill To
Attention: Devon
Address:
City, State, Zip
Phone:
Email:
Pima Project # 1-272

Lab Use Only
Lab WO# E303055
Job Number 01058-0007

TAT: 1D | 2D | 3D | Standard X

EPA Program: CWA | SDWA | RCRA

State: NM X | CO | UT | AZ | TX

Analysis and Method

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BGDOC NM	BGDOC TX	Remarks
8:50	3/14/23	S	1	SW2	11							X		
8:55	↓	↓	↓	SW3	12							↓		
9:00	↓	↓	↓	SW4	13							↓		

Additional Instructions: Billing #: 21134801

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: Ned Rogers

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
AB	3-15-23	2:00	Michelle Gamez	3-15-23	1400
Michelle Gamez	3-15-23	1630		3-15-23	1730
	3-15-23	2400	Kaylyn R Hall	3-16-23	0700

Lab Use Only
Received on ice: Y / N
T1 T2 T3
AVG Temp °C 4

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other
Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

envirotech

Envirotech Analytical Laboratory

Printed: 3/16/2023 9:02:55AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.
If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Pima Environmental Services-Carlsbad	Date Received:	03/16/23 07:00	Work Order ID:	E303055
Phone:	(575) 631-6977	Date Logged In:	03/15/23 15:32	Logged In By:	Caitlin Christian
Email:	tom@pimaoil.com	Due Date:	03/22/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC?	Yes	
2. Does the number of samples per sampling site location match the COC	Yes	
3. Were samples dropped off by client or carrier?	Yes	Carrier: Courier
4. Was the COC complete, i.e., signatures, dates/times, requested analyses?	Yes	
5. Were all samples received within holding time? Note: Analysis, such as pH which should be conducted in the field, i.e, 15 minute hold time, are not included in this disucssion.	Yes	

Comments/Resolution

Sample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT?	Yes	

Sample Cooler

7. Was a sample cooler received?	Yes	
8. If yes, was cooler received in good condition?	Yes	
9. Was the sample(s) received intact, i.e., not broken?	Yes	
10. Were custody/security seals present?	No	
11. If yes, were custody/security seals intact?	NA	
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling	Yes	
13. If no visible ice, record the temperature. Actual sample temperature: 4°C		

Sample Container

14. Are aqueous VOC samples present?	No	
15. Are VOC samples collected in VOA Vials?	NA	
16. Is the head space less than 6-8 mm (pea sized or less)?	NA	
17. Was a trip blank (TB) included for VOC analyses?	NA	
18. Are non-VOC samples collected in the correct containers?	Yes	
19. Is the appropriate volume/weight or number of sample containers collected?	Yes	

Field Label

20. Were field sample labels filled out with the minimum information:		
Sample ID?	Yes	
Date/Time Collected?	Yes	
Collectors name?	No	

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved?	No	
22. Are sample(s) correctly preserved?	NA	
24. Is lab filteration required and/or requested for dissolved metals?	No	

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase?	No	
27. If yes, does the COC specify which phase(s) is to be analyzed?	NA	

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory?	No	
29. Was a subcontract laboratory specified by the client and if so who?	NA	Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date

envirotech Inc.

Pima Environmental Services

Appendix F

Liner Inspection Form

HRL COMPLIANCE SOLUTIONS

Liner Inspection Form

Client: Devon

Date of Inspection: 5/21/2020

Site Name: Tomb Raider 1 Federal 1

Latitude: 32.340151

Longitude: -103.729725

Observations	Yes	No	Comments
Is the liner present?	X		
Is the liner torn?		X	
Are there visible holes in the liner?		X	
Is the liner retaining any liquids?		X	
Does it appear the liner had the ability to contain the leak?	X		

Type of Liner: (Poly) Earthen Metal Other (describe below):

Other Concerns or Observations:

Site was clean and in good condition

Inspector Name: Tayler Elwell

Inspector Signature: Tayler Elwell

Pima Environmental Services

Appendix G

HRL Rejected Closure Report

HRL COMPLIANCE SOLUTIONS
P.O. Box 1708 • Artesia, NM 88211
www.hrlcomp.com

August 5, 2020

Mr. Tom Bynum
Devon Energy
6488 Seven Rivers Highway
Artesia, New Mexico 88211
Email: Tom.Bynum@dvn.com

Subject: **Liner Inspection, Site Characterization, and Closure Report**
Tomb Raider 1 Federal #1H
2RP-3534
Eddy County, New Mexico

Dear Mr. Bynum:

HRL Compliance Solutions, Inc. (HRL) is pleased to submit this liner inspection, site characterization, and closure report for the Tomb Raider 1 Federal #1H (Site). The Site is at latitude 32.340151 and longitude -103.729725 in Eddy County, New Mexico (Figure 1).

Site Background

On February 2, 2016, a release of 15 barrels of oil was observed at the Site. The release occurred when the oil dump from a three-phase separator closed causing the vessel to swamp out, resulting in a release from the vent tank. Ten barrels of oil were contained within the lined secondary containment; however, high winds blew five barrels of oil to the southeast onto the well pad surface. The pump was immediately shut down. Ten barrels of oil were recovered from within the lined secondary containment, and two barrels were recovered from the well pad.

Because the volume released was between five and 25 barrels, this is considered a minor release according to the New Mexico Oil Conservation Division (NMOCD). On February 2, 2020, Devon reported the release to the NMOCD on a Release Notification and Corrective Action Form (Form C-141) (Attachment A). The release was assigned Remediation Permit (RP) number 2RP-3534.

Scope of Work

Devon has requested HRL to provide the following deliverables:

- Perform a liner inspection
- Research the information as specified in the Site Characterization on the New Mexico Oil and Conservation Division (NMOCD) Form C-141
- Prepare a map with sample points labeled
- Prepare a table summarizing the results obtained during the site characterization activities

- Prepare a site characterization report including a remediation plan per NMOCD closure requirements and related cost estimates
- Complete remediation activities and collect confirmatory soil samples in accordance with 19.15.29.12 NMAC
- Preparation of this closure request

Liner Inspection

On May 21, 2020, HRL conducted an inspection to evaluate the integrity of the liner (Attachment B, Photographs). No tears or holes were observed in the liner. Based on this inspection, HRL has determined that the liner remains intact and had the ability to contain the release (Attachment C, Liner Inspection Form).

New Mexico Administrative Code (NMAC) Site Characterization Criteria

Title 19, Chapter 15, Part 29, Section 11 of the New Mexico Administrative Code (NMAC) provides requirements for release characterization once the free liquids and recoverable materials have been removed from the Site.

Depth to Groundwater

Depth to groundwater at the release was estimated by evaluating data from the New Mexico Office of the State Engineer (NMOSE) and the United States Geological Survey (USGS) (Figure 2). The nearest groundwater well was approximately 2.27 miles from the Site; the depth to water in this well was 493 feet below ground surface (bgs).

Wellhead Protection Area

There are no sources of water, including springs, wells, or other sources of fresh water, within one-half mile of the release (Figure 2).

Distance to Nearest Significant Watercourse

A significant watercourse is defined as "…a watercourse with a defined bed and bank either named or identified by a dashed blue line on a USGS 7.5-minute quadrangle map or the next lower order tributary with a defined bed and bank" (19.15.17.7 NMAC) (Figure 2). There are no significant watercourses within one-half mile of the lateral extent of the release.

Additional Site Characterization Criteria

The following is additional information related to characterization of the Site.

Site Characterization	Response/Discussion
What is the shallowest depth to groundwater beneath the area affected by the release?	Greater than 100 feet

Site Characterization	Response/Discussion
Did the release impact groundwater or surface water?	No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or other significant watercourse?	No
Are the lateral extents of the release within 200 feet of a lakebed, sinkhole, or playa lake?	No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital institution, or church?	No
Are the lateral extents of the release within 500 feet of a spring or private, domestic fresh water well used by less than five households for domestic or stock watering purposes?	No
Are the lateral extents of the release within 1,000 feet of any fresh water well or spring?	No
Are the lateral extents of the release within any incorporated municipal boundaries?	No
Are the lateral extents of the release within a defined municipal fresh water well field?	No
Are the lateral extents of the release within 300 feet of a wetland?	No
Are the lateral extents of the release overlying a subsurface mine?	No
Are the lateral extents of the release overlying an unstable area such as karst geology?	The Site is in an area of low potential for karst topography
Are the lateral extents of the release within the 100-year floodplain?	No
Did the release impact areas not on an exploration, development, production, or storage site?	No

Site Characterization

Prior to initiating field activities, HRL submitted a mechanical excavation permit to Devon Energy and had subsurface utilities located at the Site. On April 6, 2020, HRL mobilized to the Site to evaluate the release. Soil samples were collected from 15 locations (FS 1 through FS 15). Samples FS 2 through FS 15 were collected from depths ranging from one inch to six inches deep. To fully delineate the vertical extent of impacts, the samples at FS 1 were collected from depths of two inches, six inches, ten inches, 13 inches, 24 inches, and 48 inches (Figure 3). During sampling FS 1, petroleum hydrocarbon odors were noted at depths between three inches and 24 inches. Samples FS 1, FS 2, FS 3, and FS 14 were collected from and beneath wind-blown sand that had accumulated on the north side of the metal secondary containment structure.

Soil samples were collected for analysis in the field (field screening) by one or more of the following methods:

- Chloride was approximated using an electrical conductivity (EC) meter in accordance with methods recommended by the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS)
- Non-specific volatile organic compounds (VOCs) were measured using a photoionization detector (PID) with a 10.6 electron-volt (eV) lamp
- Total petroleum hydrocarbons (TPH) was measured using a PetroFlag® field test kit in accordance with U.S. Environmental Protection Agency (EPA) Method 9074

In addition to the field screening, eight of the soil samples (FS 1, FS1-5, FS 2, FS 5, FS 9, FS 12, FS 14, and FS 15) were placed in laboratory-supplied jars and kept on ice under strict chain of custody protocol. These samples were submitted to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico for analysis of (Attachment D):

- Chloride by United States Environmental Protection Agency (US EPA) Method 300.0
- Benzene, toluene, ethyl benzene, and total xylenes (BTEX) by US EPA Method 8021B
- Total petroleum hydrocarbons (TPH) – gasoline range organics (GRO), diesel range organics (DRO), and oil range organics (ORO) by US EPA Method 8015M

Closure Criteria

Based on the NMAC Site Characterization Criteria, HRL recommends the following NMOCD Closure Criteria to the Site:

Depth to Groundwater	Parameter	Closure Criteria in milligrams per kilogram (mg/kg)
Greater than 100 feet below ground surface	Chloride	20,000 mg/kg or natural background, whichever is greater
	Total Petroleum Hydrocarbons (TPH) *[Gasoline Range Organics (GRO) + Diesel Range Organics (DRO) + Oil Range Organics (ORO)]*	2,500 mg/kg
	Gasoline Range Organics (GRO) + Diesel Range Organics (DRO)	1,000 mg/kg
	Benzene	10 mg/kg
	Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX)	50 mg/kg

Remediation Plan

TPH in addition to GRO plus DRO concentrations at a depth of less than 24 inches in FS 1 exceeded the NMOCD closure criteria specified in 19.15.29.12 NMAC in FS 1 at a depth of two inches, but not at a depth of 24 inches. This sample was collected from stained wind-blown sand that had accumulated on the north

side of the metal secondary containment structure. HRL recommended remediation of the impacted soil by excavation and off-site disposal at an NMOCD approved facility. HRL recommended that excavation oversight and subsequent collection of confirmatory soil samples in accordance with 19.15.29 NMAC be conducted by a qualified environmental consulting firm.

A scaled diagram depicting the area of investigation and nearby significant features, such as roads, site infrastructure, location of borings, sample points, monitoring wells (if present) and subsurface features (if data was available) has been prepared (Figure 4). HRL utilized a Trimble GeoXT global positioning system (GPS) unit to collect latitude and longitude data for the sample locations.

Remediation Activities

Devon retained Wild West Services to conduct the excavation of impacted soil and HRL was retained by Devon to oversee the excavation activities and collect confirmation soil samples. Excavation activities were conducted on June 25, 2020. Excavation was completed by hand digging the impacted wind-blown sand and approximately one to two inches of the well pad. The area excavated was 72 feet by 3 feet. Excavated soil was transported off-site for disposal at the R360 halfway facility. HRL collected soil samples for analysis in the field (field screening) using field instrumentation. Field screening activities were conducted for non-specific volatile organic compounds (VOCs) using a photoionization detector (PID) with a 10.6 electron-volt (eV) lamp.

Confirmatory Soil Samples

Confirmation soil samples were collected in accordance with 19.15.29.12 NMAC, in which one five-point composite soil sample was representative of an area no more than 200-square feet. Two composite soil samples (Tomb-East and Tomb-West) were collected from the final excavation footprint (Figure 4). The samples were submitted to Hall Environmental Analysis Laboratory Inc., Albuquerque, New Mexico for analysis of:

- Chloride by US EPA Method 300.0
- BTEX by US EPA Method 8021B
- TPH – GRO, DRO, and ORO by US EPA Method 8015M

Laboratory results indicate the TPH and GRO + DRO concentrations in soil in the footprint of the excavation were below applicable closure criteria (Table 2, Attachment E).

Conclusions and Recommendations

Site characterization activities indicated that petroleum impacted soil exceeding NMAC closure criteria was present in the wind-blown sand on the north side of the metal secondary containment structure. The impacted soil was removed and disposed of off-Site. Subsequent confirmation soil samples indicated that remaining soil was below the applicable closure criteria; therefore, HRL recommends closure of this release.

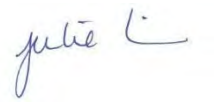
Scope and Limitations

The scope of HRL's services consists of performing a liner inspection, site characterization, remediation, and preparation of this report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin.

We appreciate the opportunity to work with Devon on this project. If you have any questions or concerns, please do not hesitate to contact me at (970) 243-3271 or via email at jlinn@hrlcomp.com.

Sincerely,

HRL Compliance Solutions, Inc.



Julie Linn, PG, RG
Project Manager

Figures:

Figure 1: Site Location
Figure 2: Depth to Groundwater
Figure 3: Site Characterization Sample Locations and Results
Figure 4: Confirmation Sample Locations and Results

Tables:

Table 1: Site Characterization Analytical Results Summary
Table 2: Confirmation Analytical Results Summary

Attachments:

Attachment A: NMOCD Form C-141
Attachment B: Photographs
Attachment C: Liner Inspection Form
Attachment D: Site Characterization Laboratory Analytical Report
Attachment E: Confirmation Samples Laboratory 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 200575

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 200575
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	3/30/2023