

# **Remediation and Closure Report**

Tomb Raider 1-12 Fed 718H API # 30-015-44811, 2RP-5441 Eddy County, New Mexico

# **Prepared For:**

Devon Energy Production Company 6488 Seven Rivers Hwy Artesia, NM 88210

# Prepared By:

TALON/LPE 408 W. Texas Avenue Artesia, New Mexico 88210

March 19, 2020

Mr. Jim Amos BLM Carlsbad Field Office 620 East Greene Street Carlsbad, NM 88220

Mr. Mike Bratcher
NMOCD District 2
811 S. 1st Street
Artesia, NM 88210

Subject:

**Remediation and Closure Report** 

Tomb Raider 1-12 Fed 718H API # 30-015-44811, 2RP-5441 Eddy County, New Mexico

Dear Mr. Amos & Mr. Bratcher,

Devon Energy Production Company (Devon Energy) contracted Talon/LPE (Talon) to perform soil assessment and closure report services at the above-referenced location. The soil sampling results and closure requests are presented herein.

# Site Information

The Tomb Raider 1-12 Fed 718H is located approximately thirty (30) miles southeast of Carlsbad, New Mexico. The legal location for this release is Unit Letter A, Section 1, Township 23 South and Range 31 East in Eddy County, New Mexico. More specifically the latitude and longitude for the release are 32.342719 North and -103.732299 West. A Site Map is presented in Appendix I.

According to the soil survey provided by the United States Department of Agriculture National Resources Conservation Services, the soil in this area is made up of Winky loamy fine sands with 0 to 3 percent slopes. Per the New Mexico Bureau of Geology and Mineral Resources, the local surface and shallow geology is Holocene to middle Pleistocene in age and is comprised of eolian sands and piedmont alluvial deposits. Drainage courses in this area are well drained.

# **Ground Water and Site Ranking**

The New Mexico Office of the State Engineer Database indicates the nearest reported depth to groundwater is 428-feet below ground surface (BGS). See Appendix II for the referenced groundwater depth. This site is located within a low potential Karst area.

If a release occurs within the following areas, the responsible party must treat the release as if it occurred less than 50 feet to the groundwater in Table I, New Mexico Oil Conservation Division (NMOCD) Rule 19.15.29 NMAC.

Approximate Dep	oth to Groundwater 428 Feet/BGS
□Yes ⊠No	Within 300 feet of any continuously flowing watercourse or any other significant watercourse
□Yes ⊠No	Within 200 feet of any lakebed, sinkhole or a playa lake
□Yes ⊠No	Within 300 feet from an occupied permanent residence, school, hospital, institution or church
□Yes ⊠No	Within 500 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	Within 1000 feet of any freshwater well or spring
□Yes ⊠No	Within incorporated municipal boundaries or within a defined municipal freshwater well field covered under a municipal ordinance adopted pursuant to Section 3-2703 NMSA 1978
□Yes ⊠No	Within 300 feet of a wetland
□Yes ⊠No	Within the area overlying a subsurface mine
□Yes ⊠No	Within an unstable area
□Yes ⊠No	Within a 100-year floodplain

		able I oils Impacted by a Release		
Depth below horizontal extents of release to ground water less than 10,000 mg/l TDS	Constituent	Method	Limit	
>100 feet	Total Chlorides	EPA 300.0 or SM4500 CI B	20,000 mg/kg	
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015M	2,500 mg/kg	
	GRO+DRO	EPA SW-846 Method 8015M	1,000 mg/kg	
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg	
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg	

# **Incident Descriptions**

On October 26, 2018, while transferring water for the completion of the Tomb Raider 1-12 Fed 718H well, a contractor inadvertently left one of their valves closed. When the transfer began, the 12" lay flat hose pressure increased and ruptured, releasing approximately 44.6 bbls of water that were a mixture of 50% fresh and 50% produced water. No fluids were recovered. Site maps are presented in Appendix I.

An initial assessment and soil sampling was initially performed by Lowry Environmental company that subsequently submitted a work plan that was approved by the NMOCD. All recorded in the well files on the OCD website.

Others completed the work and Devon Energy subsequently retained Talon LPE for the construction of this closure report.

On February 19, 2020, Talon mobilized personnel to the site to take confirmation samples and to take photos of the area to ensure that the work had been performed. The results of the sampling event are presented in the following data table. The sample locations are shown on the site map.

# Soil Sampling

See Appendix V for the complete report of laboratory results.

2-19-20 Soil Sample Laboratory Results

Sample ID	Sample Date	Depth (BG5)	BTEX mg/kg	Benzene mg/kg	GRO mg/kg	DRO mg/kg	MRO mg/kg	Total TPH mg/kg	CI mg/kg
	Table 1 Closure 19.15.29 NMA		50 mg/kg	10 mg/kg		combined = mg/kg		2500 mg/kg	20,000 mg/kg
		0	ND	ND	ND	ND	ND	ND	32
SP-1	2/19/2020	1	ND	ND	ND	ND	ND	ND	16
		2	ND	ND	ND	ND	ND	ND	ND
SP-2 2/19/2020	1	0	ND	ND	ND	ND	ND	ND	32
	1	ND	ND	ND	ND	ND	ND	32	
	2	ND	ND	ND	ND	ND	ND	128	
	0	ND	ND	ND	ND	ND	ND	32	
SP-3	2/19/2020	1	ND	ND	ND	ND	ND	ND	ND
	2	2	ND	ND	ND	ND	ND	ND	16
	1	0	ND	ND	ND	ND	ND	ND	32
SP-4	2/19/2020	1	ND	ND	ND	ND	ND	ND	48
		2	ND	ND	ND	ND	ND	ND	112
	1	0	ND	ND	ND	ND	ND	ND	96
SP-5	2/19/2020	1	ND	ND	ND	ND	ND	ND	48
		2	ND	ND	ND	ND	ND	ND	112
		0	ND	ND	ND	ND	ND	ND	80
SP-6	2/19/2020	1	ND	ND	ND	ND	ND	ND	32
	5, 2, 3, 4, 1	2	ND	ND	ND	ND	ND	ND	128

ND-Analyte Not Detected

As shown on the above table, none of the analytical results exceed the cleanup criteria for this incident.



# <u>APPENDIX I</u>

SITE MAP

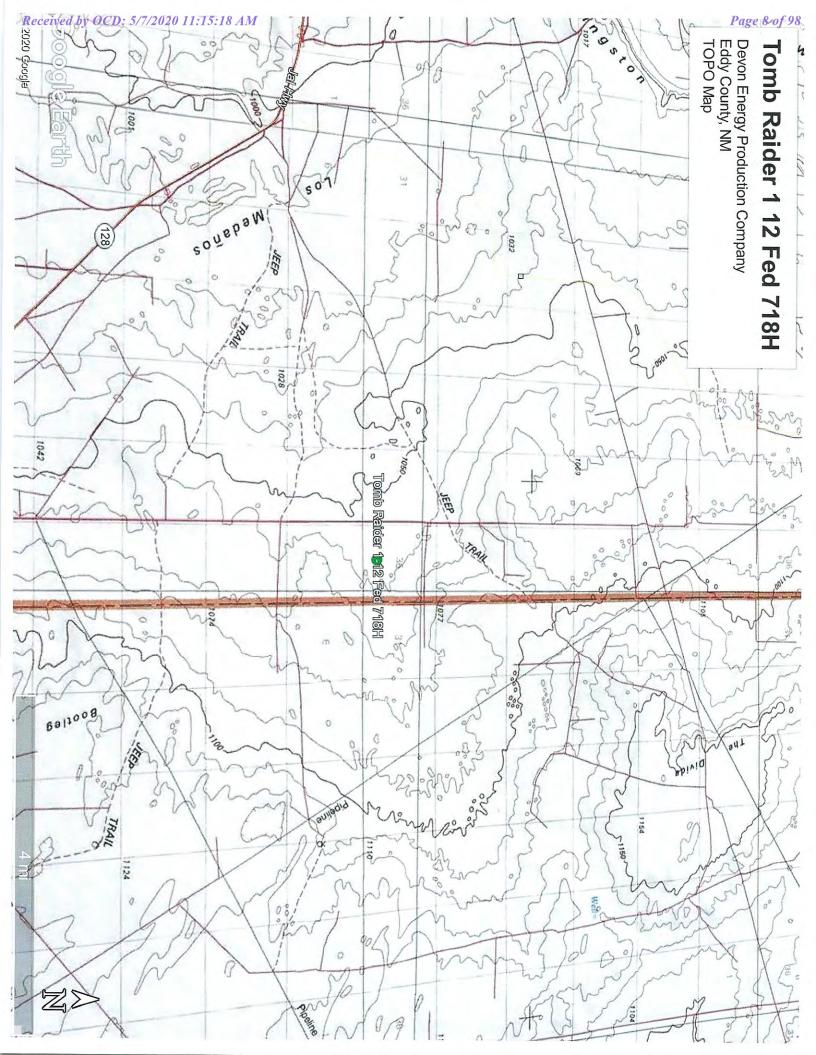
KARST MAP

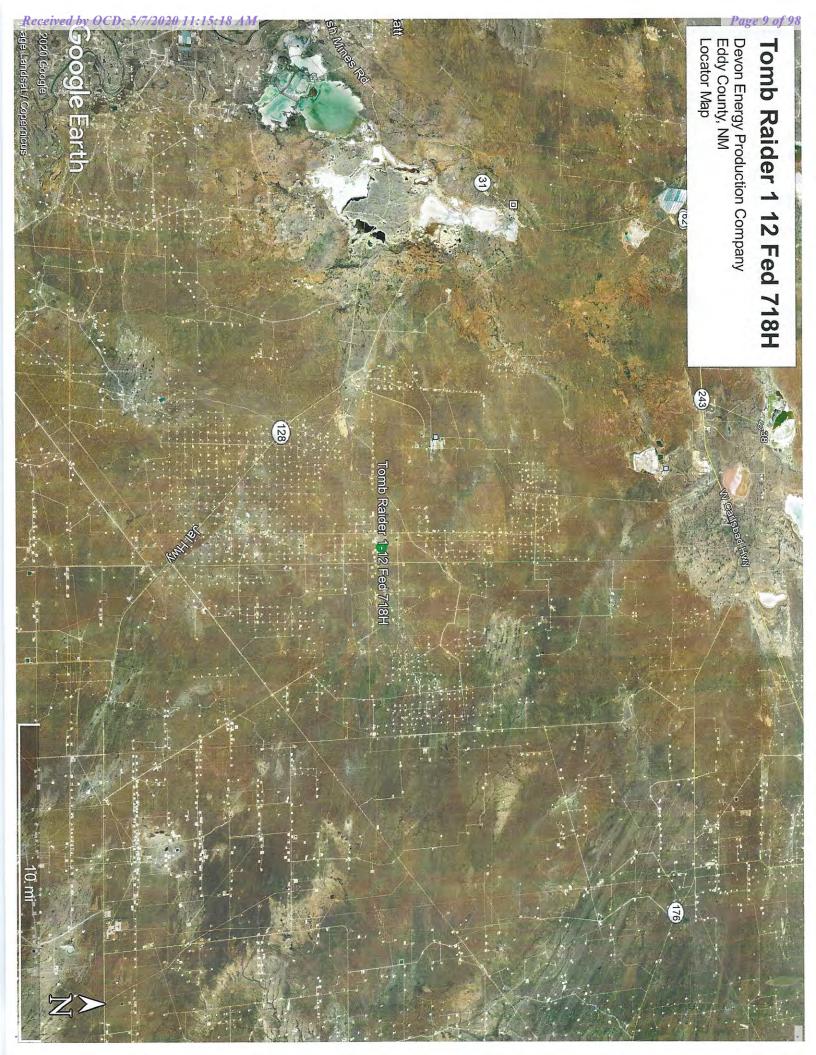
TOPO MAP

LOCATOR MAP











# <u>APPENDIX II</u>

# **GROUNDWATER DATA**

**SOIL SURVEY** 

**FEMA FLOOD ZONE** 



# 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													
POD Number	0.4.	Sub-			Q			4				Extra a service			Vater
C 02756	Code	CUB	County ED		4		26		31E	<b>X</b> 618250	Y 3580606*	Distance D	epthWellDep 1998	thWaterCo	olumn
C 03152		CUB	ED	3	4	4	26	22S	31E	618250	3580606*	1810	938		
C 03138		CUB	ED	3	3	3	26	22S	31E	617043	3580591*	2687	750		
C 02773		CUB	ED	4	1	3	03	23S	31E	615668	3577762*	3879	880		
C 02939		С	LE	3	3	1	19	228	32E	620234	3583042*	4022	280		
C 02769 POD2		CUB	ED	4	2	4	33	228	31E	615261	3579312	4042	753	428	325
C 02687		CUB	ED	4	2	4	33	225	31E	615246	3579364*	4059	779		
C 02769		CUB	ED	2	2	4	33	22S	31E	615246	3579564*	4075	765		
C 02777		CUB	ED	4	4	4	10	23S	31E	616974	3575662	4175	890		
C 03749 POD1		CUB	ED		2	2	15	23S	31E	616974	3575662	4175	865	639	226
C 03140		CUB	ED	4	2	4	04	23S	31E	615266	3577758*	4259	684		
C 02757		CUB	ED	4	4	4	28	22S	31E	615232	3580571*	4314	4057		
C 02767		CUB	ED	4	1	4	33	22S	31E	614844	3579360*	4460	785		
C 02768		CUB	ED	4	1	4	33	22S	31E	614844	3579360*	4460	787		
<u>C 03351</u>		С	ED	4	1	4	04	23S	31E	614917	3577861	4562	320	168	152
C 02416		CUB	ED	3	2	4	28	228	31E	615027	3580973*	4652	800	401	399
C 03150		CUB	ED	2	4	4	14	228	31E	618412	3584025*	4974	981		
C 02685		CUB	ED	2	2	2	28	228	31E	615218	3581978*	4976	900		

Average Depth to Water: 409 feet
Minimum Depth: 168 feet

Maximum Depth: 639 feet

Record Count: 18

UTMNAD83 Radius Search (in meters):

Easting (X): 619298.671

Northing (Y): 3579130

Radius: 5000

\*UTM location was derived from PLSS - see Help

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

3/2/20 12:28 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

# **Eddy Area, New Mexico**

# WK—Wink loamy fine sand, 0 to 3 percent slopes, eroded

## Map Unit Setting

National map unit symbol: 1w6c Elevation: 2,700 to 5,000 feet

Mean annual precipitation: 5 to 14 inches

Mean annual air temperature: 57 to 70 degrees F

Frost-free period: 180 to 250 days

Farmland classification: Not prime farmland

# Map Unit Composition

Wink and similar soils: 98 percent Minor components: 2 percent

Estimates are based on observations, descriptions, and transects of

the mapunit.

# **Description of Wink**

## Setting

Landform: Depressions, swales

Landform position (three-dimensional): Talf

Down-slope shape: Convex Across-slope shape: Convex

Parent material: Mixed alluvium and/or eolian sands

#### Typical profile

H1 - 0 to 8 inches: loamy fine sand H2 - 8 to 38 inches: fine sandy loam H3 - 38 to 60 inches: fine sandy loam

# Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): High

(2.00 to 6.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 30 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0

to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 1.0

Available water storage in profile: Low (about 5.7 inches)

# Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: A

Map Unit Description: Wink loamy fine sand, 0 to 3 percent slopes, eroded---Eddy Area, New Mexico

Ecological site: Loamy Sand (R042XC003NM) Hydric soil rating: No

# **Minor Components**

#### Simona

Percent of map unit: 1 percent Ecological site: Shallow Sandy (R042XC002NM) Hydric soil rating: No

#### Wink

Percent of map unit: 1 percent Ecological site: Sandy (R042XC004NM) Hydric soil rating: No

# **Data Source Information**

Soil Survey Area: Eddy Area, New Mexico Survey Area Data: Version 15, Sep 15, 2019

# National Flood Hazard Layer FIRMette



# Legend

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

SPECIAL FLOOD HAZARD AREAS

Regulatory Floodway With BFE or Depth Zone AE, AO, AH, VE, AR Without Base Flood Elevation (BFE)





0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average

areas of less than one square mile Zone depth less than one foot or with drainag

Area with Reduced Flood Risk due to Chance Flood Hazard Zone X Levee, See Notes, Zone X Future Conditions 1% Annual

Area with Flood Risk due to Levee Zone D

OTHER AREAS OF FLOOD HAZARD



NO SCREEN Area of Minimal Flood Hazard Zone



Area of Undetermined Flood Hazard Zon

OTHER AREAS

Channel, Culvert, or Storm Sewer

STRUCTURES | 1111111 Levee, Dike, or Floodwall GENERAL ----





Limit of Study Base Flood Elevation Line (BFE)



Coastal Transect Baseline Hydrographic Feature Profile Baseline

OTHER









Unmapped

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

was exported on 3/4/2020 at 5:14:42 PM and does not authoritative NFHL web services provided by FEMA. This map become superseded by new data over time. time. The NFHL and effective information may change or reflect changes or amendments subsequent to this date and The flood hazard information is derived directly from the

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





# **APPENDIX III**

INITIAL C-141 & FINAL C-141

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

State of New Mexico Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

# Release Notification

Panana	Party: De	von Energy Produ	uction Co LP	OGRID:	OGRID: 06137		
Contact Nan	ne: Amand	a Davis	314 3440 63 63 63	Contact T	Contact Telephone: 575.748.1867		
Contact ema	il: amand	a.davis@dvn.co	om.		(assigned by OCD)		
Contact mai	ling address	: 6488 Seven I	Rivers Highway				
		. 0100 000011	ravors i figriway	y, Artesia, Mivi	00210		
			Location	of Release S	ource		
atitude 32	.34271	9		Longitude	-103.732299		
			(NAD 83 in deci	imal degrees to 5 deci	mal places)		
Site Name :	Tomb Rai	der 1-12 Fed 71	8H	Site Type	: Oil Well		
Date Release	Discovered	: 10/26/2018	011		API# (if applicable): 30-015-44811		
		. 10/20/2010			7. 30-013-44011		
Unit Letter	Section	Township	Range	Cour	nty		
A 1 23S 31E			EDDY				
Α	1	23S	31E	EDI	YC		
	1				DY		
	r: State	23S Federal Tri			DY	)	
	1 State			ame:		)	
		☐ Federal ☐ Tri	bal Private (N	Volume of	Release	)	
	Materia	☐ Federal ☐ Tri	bal Private (N	Volume of		) w)	
urface Owne	Materia	Federal Tri	hal Private (Nature and that apply and attach cold (bbls)	Volume of	Release  justification for the volumes provided below  Volume Recovered (bbls)	w)	
urface Owne	Materia	Federal Tri	hal Private (Note 1) Pr	Volume of adequations or specific ed solids (TDS)	Release  justification for the volumes provided below	w)	
urface Owne.  Crude Oil  Produced	Materia Water	Federal Tri	Nature and that apply and attach cell (bbls) I (bbls) On of total dissolve evater >10,000 mg/l	Volume of adequations or specific ed solids (TDS)	Release  justification for the volumes provided below Volume Recovered (bbls)  Volume Recovered (bbls)  Yes No	w)	
urface Owne Crude Oil Produced Condensa	Materia Water te	Federal Tri	Nature and that apply and attach cell (bbls) I (bbls) On of total dissolve evater >10,000 mg/l	Volume of adequations or specific ed solids (TDS)	Release  justification for the volumes provided below  Volume Recovered (bbls)  Volume Recovered (bbls)	) w)	
urface Owne.  Crude Oil  Produced	Materia Water te	Federal Tri	Nature and that apply and attach cell (bbls) i (bbls) 44.6 on of total dissolve vater >10,000 mg/li (bbls)	Volume of adequations or specific ed solids (TDS)	Release  justification for the volumes provided below Volume Recovered (bbls)  Volume Recovered (bbls)  Yes No	w)	

Cause of Release While transferring water for the completion of the Tomb Raider 1-12 Fed 718H(API 30-015-44811) well, a contractor inadvertently left one of their valves closed. When the transfer began, the 12" lay flat hose pressure increased and ruptured, releasing approximately 44.6 bbls of water that was a mixture of 50% fresh and 50% produced water. No fluids were recovered. All fluid was released was in the pasture.

# State of New Mexico Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?	If YES, for what reason(s) does the re Release is over 25 barrels	esponsible party consider this a major release?
Yes No		
	Devon emailed Shelly Tucker,	o whom? When and by what means (phone, email, etc)?  Maria Pruett, Mike Bratcher, and Jim Griswold at 4:08
	Initial	Response
The responsible	party must undertake the following actions immed	diately unless they could create a safety hazard that would result in injury
■ The source of the rel	ease has been stopped.	
■ The impacted area ha	as been secured to protect human health	and the environment.
Released materials h	ave been contained via the use of berms	or dikes, absorbent pads, or other containment devices.
All free liquids and r	ecoverable materials have been removed	d and managed appropriately.
has begun, please attach	a narrative of actions to date. If remed	ce remediation immediately after discovery of a release. If remediation dial efforts have been successfully completed or if the release occurred C), please attach all information needed for closure evaluation.
I hereby certify that the info regulations all operators are public health or the environ failed to adequately investig addition, OCD acceptance of and/or regulations.	rmation given above is true and complete to required to report and/or file certain release ment. The acceptance of a C-141 report by t ate and remediate contamination that pose a f a C-141 report does not relieve the operator	the best of my knowledge and understand that pursuant to OCD rules and notifications and perform corrective actions for releases which may endanger the OCD does not relieve the operator of liability should their operations have threat to groundwater, surface water, human health or the environment. In or of responsibility for compliance with any other federal, state, or local laws
Printed Name: Aman		Title: EHS Representative
Signature: AID		Date: 5/21/2019
<sub>email:</sub> Amanda.D	avis@DVN.com	Telephone: 575-748-0176
OCD Only		
Received by:		Date:

✓ Field data

Boring or excavation logs

✓ Topographic/Aerial maps

Data table of soil contaminant concentration data

Photographs including date and GIS information

Laboratory data including chain of custody

# State of New Mexico Oil Conservation Division

Incident ID	
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 discover date.

What is the shallowest depth to groundwater beneath the area affected by the release?		50-10	0 (ft. bgs
Did this release impact groundwater or surface water?		Yes \[ \sigma	
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?		Yes 2	
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 🗸	l No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?		Yes 🗸	
Are the lateral extents of the release within 300 feet of a wetland?		Yes 🗸	l No
Are the lateral extents of the release overlying a subsurface mine?	l	Yes 🗸	
Are the lateral extents of the release overlying an unstable area such as karst geology?		Yes 🗸	
Are the lateral extents of the release within a 100-year floodplain?		Yes 🗸	110
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 vert contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.		xtents of	soil
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 monitorin	g wel	ls.	

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. Than 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 modifies by site- and release-specific parameters.

Determination of water sources and significant watercourses within 1/2-mile of the lateral extents of the release

State of New Mexico
Oil Conservation Division

Incident ID	
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:	Amanda T. Davis	Title:	EHS Representative
Signature:	ATDavis	Date:	5/21/2019
email:	Amanda.Davis@DVN.com	Telephone:	575-748-0176
OCD Only			
Received by:		Date:	

State of New Mexico Oil Conservation Division

Incident ID	E- 11
District RP	
Facility ID	
Application ID	

# Remediation Plan

Remediation Plan	Checklist: Each of the following items mi	ist be included in the re	eport.
✓ Detailed desc	ription of proposed remediation technique		
	up with GPS coordinates showing delineation	points	
	lume of material to be remediated	P-1	
✓ Closure criter	ia is to Table 1 specifications subject to 19.1	5.29.12(C)(4) NMAC	
	edule for remediation (note if remediation pla		90 days OCD approval is required)
Deferral Requests	s Only: Each of the following items must be	e confirmed as part of a	inv request for deferral of remediation
	n must be in areas immediately under or arou		nt where remediation could cause a major facility
☐ Extents of cor	ntamination must be fully delineated.		
☐ Contamination	n does not cause an imminent risk to human h	nealth, the environment.	or groundwater.
surface water, hum	ir operations have failed to adequately investi an health or the environment. In addition, OC ompliance with any other federal, state, or loc Amanda T. Davis	CD acceptance of a C-14	1 report does not relieve the operator of
Signature:	ATDavis	Date:	5/21/2019
email:	Amanda.Davis@DVN.com	Telephone:	575-748-0176
OCD Only			
Received by:		Date:	
☐ Approved	☐ Approved with Attached Condition	ns of Approval	☐ Denied ☐ Deferral Approved
Signature:		Date:	

Page 6

Oil Conservation Division

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

Incident ID	Ŧ
District RP	٦
Facility ID	
Application ID	Ī

# 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.

A scaled site and sampling diagram as described in	19.15.29.11 NMAC
Photographs of the remediated site prior to backfill must be notified 2 days prior to liner inspection)	or photos of the liner integrity if applicable (Note: appropriate OCD District office
☐ Laboratory analyses of final sampling (Note: approp	oriate ODC District office must be notified 2 days prior to final sampling)
Description of remediation activities	
I horoby condificate at the inference of	nd complete to the best of my knowledge and understand that pursuant to OCD rules
may endanger public health or the environment. The accesshould their operations have failed to adequately investigated human health or the environment. In addition, OCD accessompliance with any other federal, state, or local laws and restore, reclaim, and re-vegetate the impacted surface are accordance with 19.15.29.13 NMAC including notification	file certain release notifications and perform corrective actions for releases which eptance of a C-141 report by the OCD does not relieve the operator of liability ate and remediate contamination that pose a threat to groundwater, surface water, ptance of a C-141 report does not relieve the operator of responsibility for d/or regulations. The responsible party acknowledges they must substantially at to the conditions that existed prior to the release or their final land use in on to the OCD when reclamation and re-vegetation are complete.  Title:
OCD Only	
Received by:	Date:
Closure approval by the OCD does not relieve the respon	nsible party of liability should their operations have failed to adequately investigate ndwater, surface water, human health, or the environment nor does not relieve the
responsible party of compliance with any other federal, sta	ate, or local laws and/or regulations.
responsible party of compliance with any other federal, sta	



# **APPENDIX IV**

# PHOTOGRAPHIC DOCUMENTATION

2-19-20 Site Photos











# <u>APPENDIX V</u>

# LABORATORY DATA



February 27, 2020

**CHRIS JONES** 

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: TOMB RAIDER 1-12 FED 718H

Enclosed are the results of analyses for samples received by the laboratory on 02/20/20 13:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accredited certif.html.

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

Method EPA 552.2

Haloacetic Acids (HAA-5)

Method EPA 524.2

Total Trihalomethanes (TTHM)

Method EPA 524.4

Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celeg D. Keine

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



# Analytical Results For:

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

Received:

02/20/2020

Sampling Date:

02/19/2020

Reported:

02/27/2020

Sampling Type:

Soil

Project Name:

TOMB RAIDER 1-12 FED 718H

Sampling Condition:

Cool & Intact

Project Number:

700794.320.01

Sample Received By:

Jodi Henson

Project Location:

**DEVON - LEA COUNTY** 

Sample ID: SP - 1 0' (H000541-01)

BTEX 8021B	mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2020	ND	1.94	96.9	2.00	2.22	
Toluene*	<0.050	0.050	02/25/2020	ND	1.95	97.5	2.00	3.30	
Ethylbenzene*	<0.050	0.050	02/25/2020	ND	1.97	98.5	2.00	2.70	
Total Xylenes*	< 0.150	0.150	02/25/2020	ND	5.72	95.4	6.00	2.53	
Total BTEX	<0.300	0.300	02/25/2020	ND					
Surrogate: 4-Bromofluorobenzene (PIL	97.8	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	'kg	Analyze	ed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	02/24/2020	ND	416	104	400	0.00	
TPH 8015M	mg/	'kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	195	97.6	200	1.88	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	214	107	200	3.72	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: I-Chlorooctane	91.8	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	92.6	% 42.2-15	6						

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Page 2 of 22



# Analytical Results For:

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

Received:

02/20/2020

Sampling Date:

02/19/2020

Reported:

BTEX 8021B

02/27/2020

Sampling Type:

Soil

Project Name:

TOMB RAIDER 1-12 FED 718H

Sampling Condition:

Cool & Intact

Project Number:

700794.320.01

mg/kg

Sample Received By:

Jodi Henson

Project Location:

DEVON - LEA COUNTY

Sample ID: SP - 1 1' (H000541-02)

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2020	ND	1.94	96.9	2.00	2.22	6.00.00
Toluene*	<0.050	0.050	02/25/2020	ND	1.95	97.5	2.00	3.30	
Ethylbenzene*	<0.050	0.050	02/25/2020	ND	1.97	98.5	2.00	2.70	
Total Xylenes*	<0.150	0.150	02/25/2020	ND	5.72	95.4	6,00	2.53	
Total BTEX	<0.300	0.300	02/25/2020	ND					
Surrogate: 4-Bromofluorobenzene (PIE	99.7	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	02/24/2020	ND	416	104	400	0.00	
	20.0	10.0	02/21/2020	IND	410	104	400	0.00	
TPH 8015M	mg/			d By: CK	410	104	400	0.00	
TPH 8015M  Analyte					BS	% Recovery	True Value QC	RPD	Qualifier
Analyte GRO C6-C10*	mg/	/kg	Analyze	d By: CK					Qualifier

ND

Analyzed By: CK

Surrogate: 1-Chlorooctane

EXT DRO >C28-C36

95.9%

<10.0

44.3-144

02/26/2020

10.0

Surrogate: 1-Chlorooctadecane

96.7%

42.2-156

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Page 3 of 22



# Analytical Results For:

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

Received: Reported: 02/20/2020

02/27/2020

TOMB RAIDER 1-12 FED 718H

Project Number: Project Location:

Project Name:

700794.320.01

**DEVON - LEA COUNTY** 

Sampling Date:

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact

02/19/2020

Jodi Henson

Sample ID: SP - 1 2' (H000541-03)

BTEX 8021B	mg/kg		Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2020	ND	1.94	96.9	2.00	2.22	
Toluene*	<0.050	0.050	02/25/2020	ND	1.95	97.5	2.00	3.30	
Ethylbenzene*	<0.050	0.050	02/25/2020	ND	1.97	98.5	2.00	2.70	
Total Xylenes*	<0.150	0.150	02/25/2020	ND	5.72	95.4	6.00	2.53	
Total BTEX	<0.300	0.300	02/25/2020	ND					
Surrogate: 4-Bromofluorobenzene (PIL	99.2	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	02/24/2020	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	195	97.6	200	1.88	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	214	107	200	3.72	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: 1-Chlorooctane	96.45	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	98.5	% 42.2-15	6						

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Celey D. Keene, Lab Director/Quality Manager

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# Analytical Results For:

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

Received:

02/20/2020

Sampling Date:

02/19/2020

Reported:

02/27/2020

Sampling Type:

Soil

Project Name:

TOMB RAIDER 1-12 FED 718H

Sampling Condition:

Cool & Intact

Project Number:

700794.320.01

Sample Received By:

Jodi Henson

Project Location:

**DEVON - LEA COUNTY** 

Sample ID: SP - 2 0' (H000541-04)

BTEX 8021B	mg/kg		Analyze	Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2020	ND	1.94	96.9	2.00	2.22	
Toluene*	<0.050	0.050	02/25/2020	ND	1.95	97.5	2.00	3.30	
Ethylbenzene*	<0.050	0.050	02/25/2020	ND	1.97	98.5	2.00	2.70	
Total Xylenes*	< 0.150	0.150	02/25/2020	ND	5.72	95.4	6.00	2.53	
Total BTEX	<0.300	0.300	02/25/2020	ND					
Surrogate: 4-Bromofluorobenzene (PIE	99.1	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	02/24/2020	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	197	98.4	200	1.60	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	183	91.7	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: 1-Chlorooctane	96.1	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	96.29	% 42.2-15 <sub>0</sub>	5						

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# Analytical Results For:

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

Received: Reported:

02/20/2020

02/27/2020

Project Name: Project Number: TOMB RAIDER 1-12 FED 718H

700794.320.01

Project Location:

**DEVON - LEA COUNTY** 

Sampling Date:

Sampling Type:

Sampling Condition: Sample Received By: 02/19/2020

Soil

Cool & Intact

Jodi Henson

Sample ID: SP - 2 1' (H000541-05)

BTEX 8021B	mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	RPD	Qualifier
Benzene*	< 0.050	0.050	02/25/2020	ND	1.94	96.9	2.00	2.22	Qualifier
Toluene*	<0.050	0.050	02/25/2020	ND	1.95	97.5	2.00	3.30	
Ethylbenzene*	<0.050	0.050	02/25/2020	ND	1.97	98.5	2.00		
Total Xylenes*	<0.150	0.150	02/25/2020	ND	5.72	95.4	6.00	2.70	
Total BTEX	<0.300	0.300	02/25/2020	ND	3.72	33.4	0.00	2.53	
Surrogate: 4-Bromofluorobenzene (PIL	98.3	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	02/24/2020	ND	416	104	400	0.00	Qualifier
TPH 8015M	mg/	kg	Analyze	d By: CK		101	400	0.00	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	197	98.4	200	1.60	Qualifier
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	183	91.7	200		
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND	100	31.7	200	5.62	
Surrogate: 1-Chlorooctane	95.4%	6 44.3-144	ı						
Surrogate: 1-Chlorooctadecane	97.69	6 42.2-156	5						

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Celey D. Keens



# Analytical Results For:

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

Received:

02/20/2020

Reported:

02/27/2020

Project Name: Project Number: TOMB RAIDER 1-12 FED 718H

Project Location:

700794.320.01

93.7%

42.2-156

DEVON - LEA COUNTY

Sampling Date:

Sampling Date: Sampling Type:

02/19/2020 Soil

Sampling Condition: Sample Received By:

Cool & Intact

Jodi Henson

Sample ID: SP - 2 2' (H000541-06)
BTEX 80218

DIEX 802IB	mg	/kg	Analyze	Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2020	ND	1.94	96.9	2.00	2.22	2,000,000
Toluene*	<0.050	0.050	02/25/2020	ND	1.95	97.5	2.00	3.30	
Ethylbenzene*	< 0.050	0.050	02/25/2020	ND	1.97	98.5	2.00	2.70	
Total Xylenes*	<0.150	0.150	02/25/2020	ND	5.72	95.4	6.00	2.53	
Total BTEX	<0.300	0.300	02/25/2020	ND			0.00	2.33	
Surrogate: 4-Bromofluorobenzene (PIL	98.8	% 73.3-12	9		_				
Chloride, SM4500CI-B	mg,	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	RPD	Qualifier
Chloride	128	16.0	02/24/2020	ND	416	104	400	0.00	Qualifici
TPH 8015M	mg/	'kg	Analyze	d By: CK		19.	100	0.00	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	197	98.4	200	1.60	Qualifier
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	183	91.7	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND		32.7	200	5.02	
Surrogate: 1-Chlorooctane	93.4 9	% 44.3-144	1						

# Cardinal Laboratories

Surrogate: 1-Chlorooctadecane

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# Analytical Results For:

TALON LPE CHRIS JONES 408 W. TEXAS AVE. ARTESIA NM, 88210 (575) 745-8905

Fax To:

Received:

02/20/2020

Reported:

Project Name:

Project Number:

Project Location:

02/27/2020

TOMB RAIDER 1-12 FED 718H 700794.320.01

**DEVON - LEA COUNTY** 

Sampling Date:

Sampling Type:

Sampling Condition:

Sample Received By:

02/19/2020

Soil

Cool & Intact

Jodi Henson

## Sample ID: SP - 3 0' (H000541-07) BTEX 8021B

BTEX 8021B	mg/kg		Analyze	Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2020	ND	1.94	96.9	2.00	2.22	
Toluene*	<0.050	0.050	02/25/2020	ND	1.95	97.5	2.00	3,30	
Ethylbenzene*	<0.050	0.050	02/25/2020	ND	1.97	98.5	2.00	2.70	
Total Xylenes*	< 0.150	0.150	02/25/2020	ND	5.72	95.4	6.00	2.53	
Total BTEX	<0.300	0.300	02/25/2020	ND			0.00	2,55	
Surrogate: 4-Bromofluorobenzene (PIL	97.7	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	02/24/2020	ND	416	104	400	0.00	2.4.0051
TPH 8015M	mg/	kg	Analyze	d By: CK			15,50	0.00	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	197	98.4	200	1.60	Qualifici
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	183	91.7	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND			200	3.02	
Surrogate: 1-Chlorooctane	90.15	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	91.9 9	6 42.2-150	5						

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# Analytical Results For:

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

Received:

02/20/2020

Sampling Date:

02/19/2020

Reported:

02/27/2020

Sampling Type:

Soil

Project Name:

TOMB RAIDER 1-12 FED 718H

Sampling Condition:

Cool & Intact

Project Number:

700794.320.01

Sample Received By:

Jodi Henson

Project Location:

DEVON - LEA COUNTY

Sample ID: SP - 3 1' (H000541-08)

BTEX 8021B	mg/kg		Analyze	Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2020	ND	1.94	96.9	2.00	2.22	
Toluene*	<0.050	0.050	02/25/2020	ND	1.95	97.5	2.00	3.30	
Ethylbenzene*	<0.050	0.050	02/25/2020	ND	1.97	98.5	2.00	2.70	
Total Xylenes*	< 0.150	0.150	02/25/2020	ND	5.72	95.4	6.00	2.53	
Total BTEX	<0.300	0.300	02/25/2020	ND					
Surrogate: 4-Bromofluorobenzene (PIL	98.0	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	'kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	02/24/2020	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	197	98.4	200	1.60	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	183	91.7	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND			10/31	7:72	
Surrogate: 1-Chlorooctane	92.9	% 44.3-14-	4						
Surrogate: 1-Chlorooctadecane	94.2	% 42.2-150	6						

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Celeg D. Keens

Celey D. Keene, Lab Director/Quality Manager

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# Analytical Results For:

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

Received:

02/20/2020

Sampling Date:

02/19/2020

Reported:

02/27/2020

Sampling Type:

Soil

Project Name:

TOMB RAIDER 1-12 FED 718H

Sampling Condition:

Cool & Intact

Project Number:

700794.320.01

Sample Received By:

Jodi Henson

Project Location:

**DEVON - LEA COUNTY** 

Sample ID: SP - 3 2' (H000541-09) BTEX 8021B

BTEX 8021B	mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2020	ND	1.94	96.9	2.00	2.22	
Toluene*	<0.050	0.050	02/25/2020	ND	1.95	97.5	2.00	3,30	
Ethylbenzene*	<0.050	0.050	02/25/2020	ND	1.97	98.5	2.00	2.70	
Total Xylenes*	<0.150	0.150	02/25/2020	ND	5.72	95.4	6.00	2.53	
Total BTEX	<0.300	0.300	02/25/2020	ND					
Surrogate: 4-Bromofluorobenzene (PIL	98,8	% 73.3-12	9						
Chloride, SM4500CI-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	02/24/2020	ND	416	104	400	0.00	
TPH 8015M	mg/kg		Analyzed By: CK					021420	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	197	98.4	200	1.60	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	183	91.7	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: 1-Chlorooctane	95.69	% 44.3-14-	4						
Surrogate: 1-Chlorooctadecane	95.1	% 42.2-15 <sub>0</sub>	5						

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Celey D. Keene, Lab Director/Quality Manager

Page 10 of 22



# Analytical Results For:

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

Received: Reported: 02/20/2020

02/27/2020

Project Name: Project Number: TOMB RAIDER 1-12 FED 718H

Project Location:

700794.320.01 **DEVON - LEA COUNTY**  Sampling Date:

Sampling Type:

Sampling Condition:

Sample Received By:

02/19/2020 Soil

Cool & Intact

Jodi Henson

Sample ID: SP - 4 0' (H000541-10) BTEX 8021B

BTEX 8021B	mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Overlife
Benzene*	<0.050	0.050	02/26/2020	ND	1.86	93.0	1-10		Qualifier
Toluene*	< 0.050	0.050	02/26/2020	ND	1.88	94.1	2.00	4.46	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.89	94.1	2.00	4.78	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.47		2.00	4.79	
Total BTEX	<0.300	0,300	02/26/2020	ND	3.4/	91.2	6.00	4.76	
Surrogate: 4-Bromofluorobenzene (PIL	99.79	% 73.3-12	9						
Chloride, SM4500CI-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	02/24/2020	ND	416	104	400		Qualifier
TPH 8015M	mg/kg		Analyzed By: CK		,,,,	104	400	0.00	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	0
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	197	98.4	200		Qualifier
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	183	91.7		1.60	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND	103	31./	200	5.62	
Surrogate: 1-Chlorooctane	90.2 %	44.3-144	t						
Surrogate: 1-Chlorooctadecane	90.1%	42.2-156	i –						

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Clay to Kee



### Analytical Results For:

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

Received:

02/20/2020

Reported:

Project Name: Project Number:

700794.320.01

Project Location:

02/27/2020

TOMB RAIDER 1-12 FED 718H

**DEVON - LEA COUNTY** 

Sampling Date:

02/19/2020 Sampling Type: Soil

Sampling Condition: Sample Received By:

Cool & Intact

Jodi Henson

Sample ID: SP - 4 1' (H000541-11) BTEX 8021B

DILX 6021B	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	RPD	Qualifier
Benzene*	< 0.050	0.050	02/26/2020	ND	1.99	99.5	2.00	5.45	Qualifici
Toluene*	<0.050	0.050	02/26/2020	ND	2.00	99.8	2.00	5.21	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.00	100	2.00	5.12	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.92	98.6	6.00	5.12	
Total BTEX	<0.300	0.300	02/26/2020	ND	-3/47	30.0	0.00	5,10	
Surrogate: 4-Bromofluorobenzene (PIL	99.5	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	02/24/2020	ND	416	104	400	0.00	<u></u>
TPH 8015M	mg/	kg	Analyze	d By: CK			100	0.00	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	197	98.4	200	1.60	Qualifici
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	183	91.7	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND	2.62		200	5.02	
Surrogate: 1-Chlorooctane	96.49	% 44.3-14-	1						
Surrogate: 1-Chlorooctadecane	95,3 9	% 42.2-15¢	5						

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Celey D. Keens



### Analytical Results For:

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

Received:

02/20/2020

Reported:

02/27/2020

Project Name: Project Number:

TOMB RAIDER 1-12 FED 718H

Project Location:

700794.320.01 **DEVON - LEA COUNTY**  Sampling Date:

Sampling Type:

Sampling Condition: Sample Received By: Soil

Cool & Intact Jodi Henson

02/19/2020

Sample ID: SP - 4 2' (H000541-12)

BTEX 8021B	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.99	99.5	2.00	5.45	
Toluene*	<0.050	0.050	02/26/2020	ND	2.00	99.8	2.00	5.21	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.00	100	2.00	5.12	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.92	98.6	6.00	5.18	
Total BTEX	<0.300	0.300	02/26/2020	ND			0.00	5.10	
Surrogate: 4-Bromofluorobenzene (PIL	101 9	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	02/24/2020	ND	416	104	400	0.00	<b>V</b> e.1111-15
TPH 8015M	mg/	kg	Analyze	d By: CK			, 50	0.00	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	197	98.4	200	1.60	- Comman
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	183	91.7	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND			er.	5.52	
Surrogate: 1-Chlorooctane	94.2 9	6 44.3-14	4						
Surrogate: 1-Chlorooctadecane	96.0 9	6 42.2-150	5						

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### Analytical Results For:

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

Received:

02/20/2020

Reported:

02/27/2020

Project Name: Project Number:

TOMB RAIDER 1-12 FED 718H

Project Location:

700794.320.01

**DEVON - LEA COUNTY** 

Sampling Date:

Sampling Type:

Sampling Condition: Sample Received By: Cool & Intact

Soil

02/19/2020

Jodi Henson

Sample ID: SP - 5 0' (H000541-13)

BTEX 8021B	mg	/kg	Analyze	ed By: CK					
Analyte.	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Benzene*	< 0.050	0.050	02/26/2020	ND	1.99	99.5	2.00	5.45	
Toluene*	<0.050	0.050	02/26/2020	ND	2.00	99.8	2.00	5.21	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.00	100	2.00	5.12	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.92	98.6	6.00	5.18	
Total BTEX	<0.300	0.300	02/26/2020	ND			-5170	5110	
Surrogate: 4-Bromofluorobenzene (PIL	99.9	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	kg	Analyze	ed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	02/24/2020	ND	416	104	400	0.00	18,000
TPH 8015M	mg/	kg	Analyze	d By: CK			,,,,	0.00	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	197	98.4	200	1.60	Qualific.
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	183	91.7	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND			200	5.02	
Surrogate: 1-Chlorooctane	89.89	6 44.3-14	4						
O	03.07								

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### Analytical Results For:

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

Received:

02/20/2020

Reported:

02/27/2020

Project Name:

TOMB RAIDER 1-12 FED 718H

Project Number:

Project Location:

700794.320.01

**DEVON - LEA COUNTY** 

Sampling Date:

Sampling Type:

02/19/2020 Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: SP - 5 1' (H000541-14)

BTEX 8021B	mg/	kg	Analyz	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.99	99.5	2.00	5.45	Qualifier
Toluene*	<0.050	0.050	02/26/2020	ND	2.00	99.8	2.00		
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.00	100	2.00	5.21	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.92	98.6		5.12	
Total BTEX	<0.300	0.300	02/26/2020	ND	3.32	50.0	6.00	5.18	
Surrogate: 4-Bromofluorobenzene (PIL	100 %	5 73.3-12	9						
Chloride, SM4500CI-B	mg/l			ed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	2
Chloride	48.0	16.0	02/24/2020	ND	416	104			Qualifier
TPH 8015M	mg/k			d By: CK	110	104	400	0.00	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	200	Turton
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	207	104		RPD	Qualifier
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	220		200	0.537	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND	220	110	200	10.8	
Surrogate: 1-Chlorooctane	95.1 %	44.3-144							
Surrogate: 1-Chlorooctadecane	98.5 %								

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### Analytical Results For:

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

Received:

02/20/2020

Reported:

02/27/2020

Project Name:

Project Number: Project Location:

TOMB RAIDER 1-12 FED 718H

700794.320.01 **DEVON - LEA COUNTY**  Sampling Date:

Sampling Type:

Sample Received By:

02/19/2020

Soil

Sampling Condition:

Cool & Intact

Jodi Henson

Sample ID: SP - 5 2' (H000541-15)

BTEX 8021B	mg	/kg	Analyz	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	0
Benzene*	<0.050	0.050	02/26/2020	ND	1.99	99.5			Qualifier
Toluene*	< 0.050	0.050	02/26/2020	ND	2.00	99.8	2.00	5.45	
Ethylbenzene*	< 0.050	0.050	02/26/2020	ND	2.00	100	2.00	5.21	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.92		2.00	5.12	
Total BTEX	<0.300	0.300	02/26/2020	ND	5.92	98.6	6.00	5.18	
Surrogate: 4-Bromofluorobenzene (PIL	101	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	'kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	RPD	0
Chloride	112	16.0	02/24/2020	ND	416	104			Qualifier
TPH 8015M	mg/	kg	Analyze	d By: CK		104	400	0.00	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	DOD	1000 071
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	207	104		RPD	Qualifier
ORO >C10-C28*	<10.0	10.0	02/27/2020	ND	220		200	0.537	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND	220	110	200	10.8	
Surrogate: 1-Chlorooctane	96.8 %	6 44.3-144							
Surrogate: 1-Chlorooctadecane	101 %	42.2-156							

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### Analytical Results For:

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

Received:

02/20/2020

02/19/2020

Reported:

Sampling Date:

02/27/2020

Sampling Type:

Soil

Project Name: Project Number:

TOMB RAIDER 1-12 FED 718H 700794.320.01

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Project Location:

**DEVON - LEA COUNTY** 

Sample ID: SP - 6 0' (H000541-16) BTEX 8021B

DIEX 8021B	mg/	kg	Analyz	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	< 0.050	0.050	02/26/2020	ND	1.99	99.5			Qualifier
Toluene*	< 0.050	0.050	02/26/2020	ND	2.00	99.8	2.00	5.45	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.00		2.00	5.21	
Total Xylenes*	<0.150	0.150	02/26/2020	ND		100	2.00	5.12	
Total BTEX	<0.300	0.300	02/26/2020	ND	5.92	98.6	6.00	5.18	
Surrogate: 4-Bromofluorobenzene (PIL	99.7 %	6 73.3-12	9						
Chloride, SM4500CI-B	mg/l	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	02/24/2020	ND	416	104	400		Qualifier
TPH 8015M	mg/l	(g	Analyze	d By: CK	3.50	101	400	0.00	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	207	104	200		Qualifier
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	220	110	200	0.537	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND	220	110	200	10.8	
Surrogate: 1-Chlorooctane	91.1 %	44.3-144	i i						
Surrogate: 1-Chlorooctadecane	91.9 %	42.2-150	5						

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Celeg D. Keine



### Analytical Results For:

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

Received:

02/20/2020

Reported:

02/27/2020

Project Name:

TOMB RAIDER 1-12 FED 718H

Project Number:

700794.320.01

Project Location:

**DEVON - LEA COUNTY** 

Sampling Date:

Sampling Type:

Sampling Condition:

Sample Received By:

02/19/2020

Soil

Cool & Intact

Jodi Henson

Sample ID: SP - 6 1' (H000541-17) BTEX 8021B

BTEX 8021B	mg/	kg	Analyz	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	DDD	Section
Benzene*	<0.050	0.050	02/26/2020	ND	1.99	99.5		RPD	Qualifier
Toluene*	< 0.050	0.050	02/26/2020	ND	2.00		2.00	5.45	
Ethylbenzene*	< 0.050	0.050	02/26/2020	ND	2.00	99.8	2.00	5.21	
Total Xylenes*	<0.150	0.150	02/26/2020	ND		100	2.00	5.12	
Total BTEX	<0.300	0.300	02/26/2020	ND	5.92	98.6	6.00	5.18	
Surrogate: 4-Bromofluorobenzene (PIL	99.5 %	6 73.3-129	)						
Chloride, SM4500CI-B	mg/k			d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	200	SZ A
Chloride	32.0	16.0	02/24/2020	ND	416	104		RPD	Qualifier
TPH 8015M	mg/k	g	Analyze	d By: CK	110	104	400	0.00	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	000	not:
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	207		W. 100 C. 100 C.	RPD	Qualifier
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	220	104	200	0.537	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND	220	110	200	10.8	
Surrogate: 1-Chlorooctane	88.2 %	44.3-144							
urrogate: 1-Chlorooctadecane	91.5 %	42.2-156							

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\*=Accredited Analyte

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Celeg & Keene



### Analytical Results For:

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

Received: Reported: 02/20/2020

02/27/2020

Project Name: Project Number:

TOMB RAIDER 1-12 FED 718H

Project Location:

700794.320.01

DEVON - LEA COUNTY

Sampling Date:

Sampling Type:

Sampling Condition: Sample Received By: 02/19/2020

Soil

Cool & Intact

Jodi Henson

Sample ID: SP - 6 2' (H000541-18) BTEX 8021B

BTEX 8021B	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.99	99.5	2.00	5.45	
Toluene*	<0.050	0.050	02/26/2020	ND	2.00	99.8	2.00	5.21	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.00	100	2.00	5.12	
Total Xylenes*	< 0.150	0.150	02/26/2020	ND	5.92	98.6	6.00	5.18	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PIL	1019	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	02/24/2020	ND	416	104	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	207	104	200	0.537	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	220	110	200	10.8	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND				17504	
Surrogate: 1-Chlorooctane	93.5 %	% 44.3-14	4				-		
Surrogate: 1-Chlorooctadecane	98.19	6 42.2-150	5						

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Celeg D. Keens

Celey D. Keene, Lab Director/Quality Manager

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### **Notes and Definitions**

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

Chloride by SM4500Cl-B does not require samples be received at or below 6°C

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

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Celeg & Keine



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

. Pg 1 of 2		Sampler-LIPS - Bus - Other: #15 /5.10 Good Intack (Manual)
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	plimble .	arrelgens. All claims including these for negligeness and any other cause wholesever shall be decimed walved unless mode in willing and received by Cardinal within 30 days where completing of the applicable. In no avanterial Cardinal be folder in Indication of causes wholesever shall be decimed without inflation, business interruptions, local of trees of people in brainest completing of the applicable.  In the complete of the completion of the applicable in the performance of services the completing of which results are interruptions, bear of uses one we of the advance and leaves of whether such data is brained uses one we of the advance and leaves of whether such data is brained uses one whether such data is brained uses one whether such data is brained uses one whether such data is a such as the contraction of the applicable o
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	_	FOR LAB USE ONLY SAMPLING
	_	Sampler Name: Brandon Sinclair
	id	Project Location: Lea County Phone #
	25	Project Name: Tomb Raider 1-12 Fed 718H " State: Zip:
- J		Project 第700794.320.01 Project Owner: De Van Energy City:
· ·		Phone
		State: NM Zip: 882 0
		101
		Project Manager: Chr. 13 Jones P.O. # 700 794, 320.01
REQUEST	ANALYSIS	Company Marie: Talon LPE

Sampler - UPS - Bus - Other: #113

i Cardinal cannot accept verbal changes. Please fax written changes to (576) 354-2326

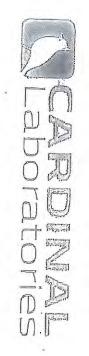
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2012

Delivered By: (Circle One)

Timet



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Address: 408 W Tekas Ave  Gity Artesia State: NM Zip: 882  Phone # 575-746-8768 Faxit:  Project # 700794.320.01 Project Owner: Devon E  Project Name: Tomb Raider 1-12 fed 718H  Project Location: Lea Count	Energy Gits: Zip:	4
SPIND III III III III III III III III III	SOIL OIL SLUDGE OTHER: ACIDIBASE: ICE/COOL OTHER: DATI	TPH EX
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February 27, 2020

**CHRIS JONES** 

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: TOMB RAIDER 1 CTB 3

Enclosed are the results of analyses for samples received by the laboratory on 02/20/20 13:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited certif.html.

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

Method EPA 552.2

Haloacetic Acids (HAA-5)

Method EPA 524.2

Total Trihalomethanes (TTHM)

Method EPA 524.4

Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keine

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



### Analytical Results For:

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

Received:

02/20/2020

Reported:

02/27/2020

Project Name: Project Number:

TOMB RAIDER 1 CTB 3 700794.322.01

Project Location:

LEA COUNTY

Sampling Date:

Sampling Type:

Sampling Condition: Sample Received By: 02/19/2020

Soil Cool & Intact

Jodi Henson

Sample ID: S-1 0-1' (H000540-01) BTEX 8021B

BTEX 8021B	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2020	ND	1.94	96.9	2.00	2.22	
Toluene*	< 0.050	0.050	02/25/2020	ND	1.95	97.5	2.00	3.30	
Ethylbenzene*	< 0.050	0.050	02/25/2020	ND	1.97	98.5	2.00	2.70	
Total Xylenes*	< 0.150	0.150	02/25/2020	ND	5.72	95.4	6.00	2.53	
Total BTEX	<0.300	0.300	02/25/2020	ND			3.00	2.55	
Surrogate: 4-Bromofluorobenzene (PIE	99.5	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	432	16.0	02/24/2020	ND	432	108	400	0.00	Qualific
TPH 8015M	mg/	kg	Analyze	d By: CK			100	0.00	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	195	97.6	200	1.88	Qualific
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	214	107	200	3.72	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND	567	-3/	230	3.1.2	
Surrogate: 1-Chlorooctane	87.8 9	6 44.3-144	t						
Surrogate: 1-Chlorooctadecane	91.29								

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Celeg D. Krene

Celey D. Keene, Lab Director/Quality Manager

Page 2 of 11



### Analytical Results For:

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

Received:

02/20/2020

Reported:

02/27/2020

Project Name: Project Number: TOMB RAIDER 1 CTB 3

Project Location:

700794.322.01 LEA COUNTY

Sampling Date:

Sampling Type:

Sampling Condition: Sample Received By: 02/19/2020

Soil

Cool & Intact

Jodi Henson

Sample ID: S-1 2' (H000540-02) RTEY 9021D

BTEX 8021B	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2020	ND	1.94	96.9	2.00	2.22	
Toluene*	<0.050	0.050	02/25/2020	ND	1.95	97.5	2.00	3.30	
Ethylbenzene*	<0.050	0.050	02/25/2020	ND	1.97	98.5	2.00	2.70	
Total Xylenes*	<0.150	0.150	02/25/2020	ND	5.72	95.4	6.00	2.53	
Total BTEX	<0.300	0.300	02/25/2020	ND				-100	
Surrogate: 4-Bromofluorobenzene (PIL	99.4	% 73.3-12	9			<del></del>			
Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	02/24/2020	ND	432	108	400	0.00	
TPH 8015M	mg/	'kg	Analyze	d By: CK				0.00	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	195	97.6	200	1.88	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	214	107	200	3.72	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND				****	
Surrogate: 1-Chlorooctane	92.6 9	% 44.3-14-	4						
Surrogate: 1-Chlorooctadecane	95.79	% 42.2-150	5						

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Celey D. Keene, Lab Director/Quality Manager

Page 3 of 11



### Analytical Results For:

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

Received:

02/20/2020

Reported:

02/27/2020

Project Name: Project Number:

TOMB RAIDER 1 CTB 3

Project Location:

700794.322.01 LEA COUNTY Sampling Date:

Sampling Type:

Sampling Condition: Sample Received By: 02/19/2020

Soil

Cool & Intact Jodi Henson

Sample ID: S-2 0-1' (H000540-03)

BTEX 8021B	mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	RPD	Qualifier
Benzene*	< 0.050	0.050	02/25/2020	ND	1.94	96.9	2.00	2.22	Qualifici
Toluene*	< 0.050	0.050	02/25/2020	ND	1.95	97.5	2.00	3.30	
Ethylbenzene*	<0.050	0.050	02/25/2020	ND	1.97	98.5	2.00	2,70	
Total Xylenes*	< 0.150	0.150	02/25/2020	ND	5.72	95.4	6.00	2.53	
Total BTEX	<0.300	0.300	02/25/2020	ND			0.00	2.33	
Surrogate: 4-Bromofluorobenzene (PIL	98.7	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	480	16.0	02/24/2020	ND	432	108	400	0.00	- Common
TPH 8015M	mg/	kg	Analyze	d By: CK			100	0.00	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	195	97.6	200	1.88	Qualifici
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	214	107	200	3.72	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND			200	3.72	
Surrogate: 1-Chlorooctane	92.8 9	6 44.3-14	1						
Surrogate: 1-Chlorooctadecane	95.2 9	6 42.2-150	5						

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Celey D. Keene, Lab Director/Quality Manager

Page 4 of 11



### Analytical Results For:

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

Received:

02/20/2020

Reported:

02/27/2020

Project Name: Project Number: TOMB RAIDER 1 CTB 3

Project Location:

700794.322.01 LEA COUNTY Sampling Date:

Sampling Date: Sampling Type: 02/19/2020

Soil

Sampling Condition: Sample Received By; Cool & Intact

Jodi Henson

Sample ID: S-2 2' (H000540-04)

BTEX 8021B	mg/kg		Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	RPD	Qualifier
Benzene*	< 0.050	0.050	02/25/2020	ND	1.94	96.9	2.00	2.22	Qualifici
Toluene*	<0.050	0.050	02/25/2020	ND	1.95	97.5	2.00	3.30	
Ethylbenzene*	<0.050	0.050	02/25/2020	ND	1.97	98.5	2.00	2.70	
Total Xylenes*	<0.150	0.150	02/25/2020	ND	5.72	95.4	6.00	2.53	
Total BTEX	<0.300	0.300	02/25/2020	ND		33,1	0.00	2,33	
Surrogate: 4-Bromofluorobenzene (PIL	97.8	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	02/24/2020	ND	432	108	400	0.00	Qualifici
TPH 8015M	mg/	kg	Analyze	d By: CK			100	0.00	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	195	97.6	200	1.88	Qualifici
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	214	107	200	3.72	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND		20,	200	2.72	
Surrogate: 1-Chlorooctane	92.8 %	6 44.3-144	1						-
Surrogate: 1-Chlorooctadecane	95.0 %	6 42.2-150	5						

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Celeg & Kenne



### Analytical Results For:

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

Received: Reported: 02/20/2020

Project Name: Project Number: 02/27/2020 TOMB RAIDER 1 CTB 3

Project Location:

700794.322.01 LEA COUNTY Sampling Date:

Sampling Type:

Sampling Condition: Sample Received By: 02/19/2020 Soil

Cool & Intact

Jodi Henson

Sample ID: S-3 0-1' (H000540-05)

BTEX 8021B	mg/kg		Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2020	ND	1.94	96.9	2.00	2.22	
Toluene*	< 0.050	0.050	02/25/2020	ND	1.95	97.5	2.00	3.30	
Ethylbenzene*	< 0.050	0.050	02/25/2020	ND	1.97	98.5	2.00	2.70	
Total Xylenes*	< 0.150	0.150	02/25/2020	ND	5.72	95.4	6.00	2.53	
Total BTEX	<0.300	0.300	02/25/2020	ND					
Surrogate: 4-Bromofluorobenzene (PIL	98.9	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	02/24/2020	ND	432	108	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	195	97.6	200	1.88	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	214	107	200	3.72	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: 1-Chlorooctane	90.1	% 44.3-14	4						
Surrogate: 1-Chloroociadecane	92.0	% 42,2-15	6						

Cardinal Laboratories

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Celeg & Keene

Celey D. Keene, Lab Director/Quality Manager

Page 6 of 11



### Analytical Results For:

TALON LPE **CHRIS JONES** 408 W. TEXAS AVE. ARTESIA NM, 88210

Fax To:

(575) 745-8905

Received: Reported: 02/20/2020

02/27/2020

TOMB RAIDER 1 CTB 3

Project Name: Project Number:

700794.322.01

Project Location:

LEA COUNTY

Sampling Date:

Sampling Type:

02/19/2020 Soil

Sampling Condition: Sample Received By:

Cool & Intact

Jodi Henson

Sample ID: S-3 2' (H000540-06)

BTEX 8021B	mg/kg		Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2020	ND	1.94	96.9	2.00	2.22	
Toluene*	< 0.050	0.050	02/25/2020	ND	1.95	97.5	2.00	3.30	
Ethylbenzene*	< 0.050	0.050	02/25/2020	ND	1.97	98.5	2.00	2.70	
Total Xylenes*	<0.150	0.150	02/25/2020	ND	5.72	95.4	6.00	2.53	
Total BTEX	<0.300	0.300	02/25/2020	ND			2,72	2.33	
Surrogate: 4-Bromofluorobenzene (PIL	99.6	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	02/24/2020	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: CK			100	0.00	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	195	97.6	200	1.88	Qualific.
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	214	107	200	3.72	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND			230	2.72	
Surrogate: 1-Chlorooctane	90.3 9	6 44.3-14-	1						
Surrogate: 1-Chlorooctadecane	94.99	6 42.2-150	5						

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\*=Accredited Analyte

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Celeg & Keene

Celey D. Keene, Lab Director/Quality Manager

Page 7 of 11



### Analytical Results For:

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

Received:

02/20/2020

Reported:

RTEY SOOTE

02/27/2020

Project Name: Project Number:

TOMB RAIDER 1 CTB 3

Project Location:

700794.322.01 LEA COUNTY Sampling Date:

Sampling Type:

02/19/2020

Soil

Sampling Condition: Sample Received By: Cool & Intact

Jodi Henson

Sample ID: S-4 0-1' (H000540-07)

BTEX 8021B	mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	< 0.050	0.050	02/25/2020	ND	1.94	96.9	2.00	2.22	C 33 (4)
Toluene*	<0.050	0.050	02/25/2020	ND	1.95	97.5	2.00	3.30	
Ethylbenzene*	<0.050	0.050	02/25/2020	ND	1.97	98.5	2.00	2.70	
Total Xylenes*	0.604	0.150	02/25/2020	ND	5.72	95.4	6.00	2.53	
Total BTEX	0.604	0.300	02/25/2020	ND			4335	_,,,,	
Surrogate: 4-Bromofluorobenzene (PIL	108 %	6 73.3-12	9						
Chloride, SM4500CI-B	mg/	kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	02/24/2020	ND	416	104	400	0.00	
TPH 8015M	mg/l	kg	Analyze	d By: CK			100	0.00	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	RPD	Qualifier
GRO C6-C10*	15.1	10.0	02/26/2020	ND	195	97.6	200	1.88	- Country
DRO >C10-C28*	280	10.0	02/26/2020	ND	214	107	200	3.72	
EXT DRO >C28-C36	35.2	10.0	02/26/2020	ND		770,	200	5.72	
Surrogate: 1-Chlorooctane	97.4%	6 44.3-14	4						
Surrogate: 1-Chlorooctadecane	104 %								

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\*=Accredited Analyte

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Celeg & Keene

Celey D. Keene, Lab Director/Quality Manager

Page 8 of 11



### Analytical Results For:

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

Received:

02/20/2020 02/27/2020

Reported:

Project Name:

Project Number: Project Location:

TOMB RAIDER 1 CTB 3 700794.322.01

LEA COUNTY

Sampling Date:

Sampling Type:

Sampling Condition: Sample Received By: 02/19/2020

Soil Cool & Intact

Jodi Henson

Sample ID: S-4 2' (H000540-08)

BTEX 8021B	mg/kg		Analyz	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Benzene*	<0.050	0.050	02/25/2020	ND	1.94	96.9	2.00	2.22	
Toluene*	<0.050	0.050	02/25/2020	ND	1.95	97.5	2.00	3.30	
Ethylbenzene*	< 0.050	0.050	02/25/2020	ND	1.97	98.5	2.00	2.70	
Total Xylenes*	< 0.150	0.150	02/25/2020	ND	5.72	95.4	6.00	2.53	
Total BTEX	<0.300	0.300	02/25/2020	ND			0.00	2.55	
Surrogate: 4-Bromofluorobenzene (PIL	98.7	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	kg	Analyze	Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	RPD	Qualifie
Chloride	32.0	16.0	02/24/2020	ND	416	104	400	0.00	Qualific
TPH 8015M	mg/	kg	Analyze	Analyzed By: CK			100	0.00	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	195	97.6	200	1.88	Qualifici
DRO >C10-C28*	20.7	10.0	02/26/2020	ND	214	107	200	3.72	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND		-3/	200	3.72	
Surrogate: 1-Chlorooctane	97.7 9	6 44.3-14	1						
Surrogate: 1-Chlorooctadecane	99.5 %	6 42.2-150	5						

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Celeg & Keene



### **Notes and Definitions**

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

Insufficient time to reach temperature.

Chloride by SM4500Cl-B does not require samples be received at or below 6°C

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

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Colog D. Keine

(675) 393-2526 FAX (575) 393-2476 101 East Marland, Hobbs, Nill 88240

Sampler-UPS - Bus - Other: Relinquished By: Kelinguished By: enalyses. All claims including those for negligance and eny other cases/les. In no event shall Carolinal be liable for Incidental ne consequence. Delivered By: (Circle One) Sampler Name: Brandon Project Location: Lea Y Cardinal cannot accept verbal changes. Please fax written changes to (675) 395. 2326 Project Name: Tomb Project Manager: Phone # 575-746-8768 Address: 408 W Company Name: Talon Lab I.D. roject #: 700794.322 o Artesia 5-47 5-40-1 5-3 5-3.0-1 5-1 5-2 0-1 5-Chris Jones Texas Sample I.D. Raider COUNT Simolair 生活 Timet 4110 Fax统 Project Owner: Peven State: WM 15,48 Zip; (G)RAB OR (C)OMP. #CONTAINERS 88210 Cool infact Cool infact Wes 4 fes GROUNDWATER WASTEWATER Energy made in worden on set yet state of winded to the emporth paid by the eight for the made in world and eneated by condition the emporth of the applicable insert interruptions, loss of treat, or loss of practic heatures by eight, the unbedighter, the set was the entry though the set was the eight of the energy o SOIL MATRIX OIL SLUDGE Gliy: OTHER: State: Fax # Phone 数 Address: Attn: Chris Jones P.O. #: 700794.322 -Company: Talon LPE ACID/BASE: CE/COOL OTHER: 2-19-20 10:25 DATE 11:03 10:56 Lh:01 10:44 10:50 10:31 TIME Total Chlorides BTEX ANALYSIS REQUEST

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST



## **APPENDIX VI**

# LOWRY ENVIRONMENTAL WORK PLAN



February 14, 2019

Incident ID pending
District RP pending
Facility ID pending
Application ID pending

Mike Bratcher & Robert Hamlet
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division, District 2
811 S. First Street
Artesia, NM 88210

Ryan Mann Hobbs Field Office New Mexico State Land Office 2827 North Dal Paso Street, Suite 117 Hobbs, NM 88240

Re:

Site Assessment Report and Proposed Remediation Plan

Site Name: Tomb Raider 1-12 Fed 718H

GPS: Latitude: 32.34271 Longitude: -103.73229

Legals: UL "A", Sec. 1, T23S, R31E

EddyCounty, New Mexico NMOCD Ref. No. pending

Lowry Environmental & Associates, LLC (LEA), on behalf of Fluid Delivery Solutions, LLC, has prepared this Site Assessment Report and Proposed Remediation Plan for the Release Site known as the Tomb Raider 1-12 Fed 718H. Details of the release are summarized on the table below:

	Nature and V	olume of Release			
Date Release Discovered	10/26/2018	Source of Release	Lay Flat Hose		
Type of Release	Produced and Fresh Water Mix	Volume Released (bbls)	44.6		
ause of Release		Volume Recovered (bbls)	0		
	to the failure of a lay flat hose as a resu	terre was the contract of the	ciosca.		
Affected Area	-				
	a on the north side of the caliche acces	s road measuring approximately 1,80	00 sq. ft.		
	on the north side of the caliche acces		00 sq. ft.		
The release affected an area	If YES, for what reasons (s) is this				
The release affected an area Was this a major release? Yes	If YES, for what reasons (s) is this	considered a major release?  d release of a volume of liquids excee			

A copy of the Release Notification (NMOCD Form C-141) is provided as Attachment #9.

Incident ID	pending
District RP	pending
Facility ID	pending
Application ID	pending

Site Assessment/Characterization	
What is the shallowest depth to groundwater beneath the area affected by the release?	50-100 Ft
Did this release impact groundwater or surface water?	No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	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)?	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 horizontal feet of a spring or a 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 1000 feet of any other fresh water well or spring?	No
Are the lateral extents of the release within incorporated municipal boundaries or 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?	No.
Are the lateral extents of the release within a 100-year floodplain?	No
Did the release impact areas <b>not</b> on an exploration, development, production or storage site?	Yes

A search of groundwater databases maintained by the New Mexico Office of the State Engineer (NMOSE) and United States Geological Survey was conducted in an effort to determine the average depth to groundwater within a 1 Mile radius of the Site and identify any registered water wells within a 1/2 Mile radius of the Site. If none where identified, or the results were inconclusive, the approximate depth to groundwater was extrapolated from available data including the Depth to Groundwater Map utilized by the NMOCD.

Based on the volume and nature of the release, inferred depth to groundwater and NMOCD Siting Criteria, the NMOCD Closure Criteria for the Site is as follows:

Closure Criteria for Soil Impacted by a Release							
Benzene	10 mg/kg						
Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX)	50 mg/kg						
Total Petroleum Hydrocarbons	2,500 mg/kg						
Combined GRO and DRO	1,000 mg/kg						
Chloride	20,000 mg/kg						

NMOCD Siting Criteria data was gathered from available resources including Bureau of Land Management (BLM) shapefiles; topographic maps; NMOSE and USGS databases; and aerial imagery. The results are depicted on Figures 1 & 2. Depth to groundwater information is provided as Attachment #4. A Photographic Log is provided as Attachment #8.

Incident ID	pending	
District RP	pending	
Facility ID	pending	
Application ID	pending	

### **INITIAL SITE ASSESSMENT**

On January 25, 2019, an initial assessment was conducted at the Site. During the initial assessment, twelve (12) soil samples were collected from within the release margins in an effort to determine if soil was affected above the NMOCD Closure Criteria and/or the vertical and horizontal extent. The collected soil samples were submitted to an NMOCD-approved laboratory for analysis of BTEX, TPH and/or chloride concentrations. Laboratory analytical results indicated BTEX, TPH and/or chloride concentrations were below the NMOCD Closure Criteria in each of the submitted soil samples. Analytical results indicated BTEX, TPH and/or chloride concentrations were below the BLM Reclamation Standards in each of the submitted soil samples with the exception of soil samples SP #3 0-4", SP #3 18", SP #4 0-4", SP #5 0-4" and SP #6 0-4", which exhibited chloride concentrations of 2,080, 656, 768, 1,870, and 1,800 mg/kg, respectively.

A table summarizing laboratory analytical results from soil samples collected during the initial site assessment is provided below:

				SW 846 8021B			4500Cl				
Sample ID	ID Date Depth Soil Status	Benzene (mg/kg)	BTEX (mg/kg)	GRO C <sub>6</sub> -C <sub>10</sub> (mg/kg)	DRO C <sub>10</sub> -C <sub>28</sub> (mg/kg)	GRO + DRO  C <sub>6</sub> -C <sub>28</sub> (mg/kg)	ORO C <sub>28</sub> -C <sub>36</sub> (mg/kg)	TPH C <sub>6</sub> -C <sub>36</sub> (mg/kg)	Chloride (mg/kg)		
SP #1 0-4"	1/25/19	0-4"	In-Situ		_	<u> </u>	-			-	80.0
SP #1 18"	1/25/19	18"	In-Situ	-		1	-	(0)			160
SP #2 0-4"	1/25/19	0-4"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	464
SP #2 18"	1/25/19	18"	In-Situ	-	<u>-</u>	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SP #3 0-4"	1/25/19	0-4"	In-Situ	-		-				-	
SP #3 18"	1/25/19	18"	In-Situ		5 5		-	2 - 1			2,080
SP #4 0-4"	1/25/19	0-4"	In-Situ			<10.0	<10.0	<10.0	<10.0	<10.0	656 768
SP #4 18"	1/25/19	18"	In-Situ	3.71		1 1		-	-	10.0	7.7
SP #5 0-4"	1/25/19	0-4"	In-Situ		_				2		64.0
SP #5 18"	1/25/19	18"	In-Situ	-		-					1,870
SP #6 0-4"	1/25/19	0-4"	In-Situ							-	336
SP #6 18"	1/25/19	18"	In-Situ								1,800
								7	*	-	176
	Closure C	riteria		10	50			1,000	-	2,500	20,000

A "Site & Sample Location Map" is provided as Attachment #3. Field Data, if applicable, is provided as Attachment #5. Soil profile observations are provided on Attachment #6. Laboratory analytical reports are provided as Attachment #7.

Incident ID	pending
District RP	pending
Facility ID	pending
Application ID	pending

### PROPOSED REMEDIATION PLAN

Based on laboratory analytical results, site characteristics and field observations made during the initial site assessment, Fluid Delivery Solutions, LLC proposes the following remediation activities designed to advance the Site toward an approved closure:

- •Utilizing mechanical equipment, excavate impacted soil within the release margins in the area characterized by sample point SP #3 to a depth beyond 18 in. bgs, until laboratory analytical results from confirmation soil samples indicate concentrations of chloride are below the applicable BLM Reclamation Standards. Impacted soil in the areas characterized by sample points SP #4, SP #5 and SP #6 will be excavated to a depth beyond 4 in. bgs, or until laboratory analytical results from confirmation soil samples indicate concentrations of chloride are below the applicable BLM Reclamation Standards.
- Excavated soil will be temporarily stockpiled on-site, pending transportation under manifest to an NMOCD-approved disposal facility.
- Upon receiving favorable laboratory analytical results from confirmation soil samples (below the NMOCD Closure Criteria and BLM Reclamation Standards) excavated areas will be backfilled with locally sourced, non-impacted "like" material. Excavation backfill will be placed at or near original relative positions. The affected area will be contoured and/or compacted to achieve erosion control, stability and preservation of surface water flow to the extent practicable.

### SAMPLING PLAN

Upon completion of excavation activities, representative five-point composite excavation confirmation soil samples will be collected from the excavation sidewalls in each cardinal direction, representing no more than 50 linear ft. A minimum of one (1) representative five-point composite excavation confirmation soil sample will be collected from the base of the excavated area representing every 200 square feet. Additional, "discrete" confirmation soil samples will be collected from wet or visibly stained areas inferred to have been affected by the release, as necessary. Excavation confirmation soil samples will be analyzed for constituents of concern present above the NMOCD Closure Criteria as determined during the Initial Site Assessment.

### TIMELINE AND ESTIMATED VOLUME OF SOIL TO BE REMEDIATED

Remediation activities are expected to be completed within 90 days of receiving necessary approval(s) of this Site Assessment Summary and Proposed Remediation Plan. Based on laboratory analytical results, site characteristics and field observations made during the initial site assessment it is estimated that approximately 200 cubic yards of soil has been affected above the NMOCD Closure Criteria and BLM Reclamation Standards.

Incident ID	pending
District RP	pending
Facility ID	pending
Application ID	pending

### RESTORATION, RECLAMATION AND RE-VEGETATION PLAN

Areas affected by remediation and closure activities will be substantially restored to the condition that existed prior to the release, to the extent practicable. Excavated areas will be backfilled with locally sourced, non-impacted "like" material placed at or near original relative positions. The affected area will be contoured and/or compacted to achieve erosion control, stability and preservation of surface water flow to the extent practicable. Affected areas not on production pads and/or lease roads will be reseeded with a BLM-approved seed mixture during the first favorable growing season following closure of the site.

If you have any questions, or need any additional information, please feel free to contact Jess Foshee or the undersigned by phone or email.

Respectfully,

Joel W. Lowry

**Environmental Professional** 

Lowry Environmental & Associates, LLC

Attachments:

Attachment #1- Figure 1 - Topographic Map

Attachment #2- Figure 2 - Aerial Map

Attachment #3- Figure 3 - Site & Sample Location Map
Attachment #4- Depth to Groundwater Information

Attachment #5 Field Data
Attachment #6- Soil Profile

Attachment #7- Laboratory Analytical Reports

Attachment #8- Photographic Log

Attachment #9- Release Notification (FORM C-141)

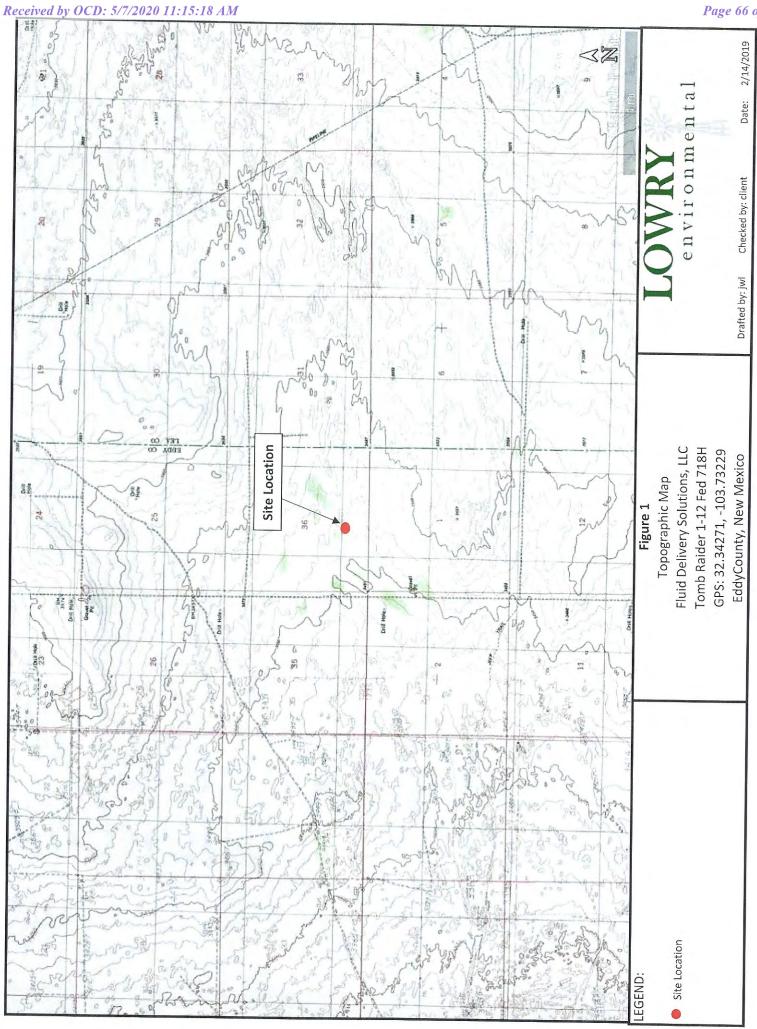
### LIMITATIONS

This document has been prepared on behalf of Fluid Delivery Solutions, LLC. Use of information contained in this report, including exhibits and attachments, by any other party without the consent of LEA and/or Fluid Delivery Solutions, LLC is prohibited.

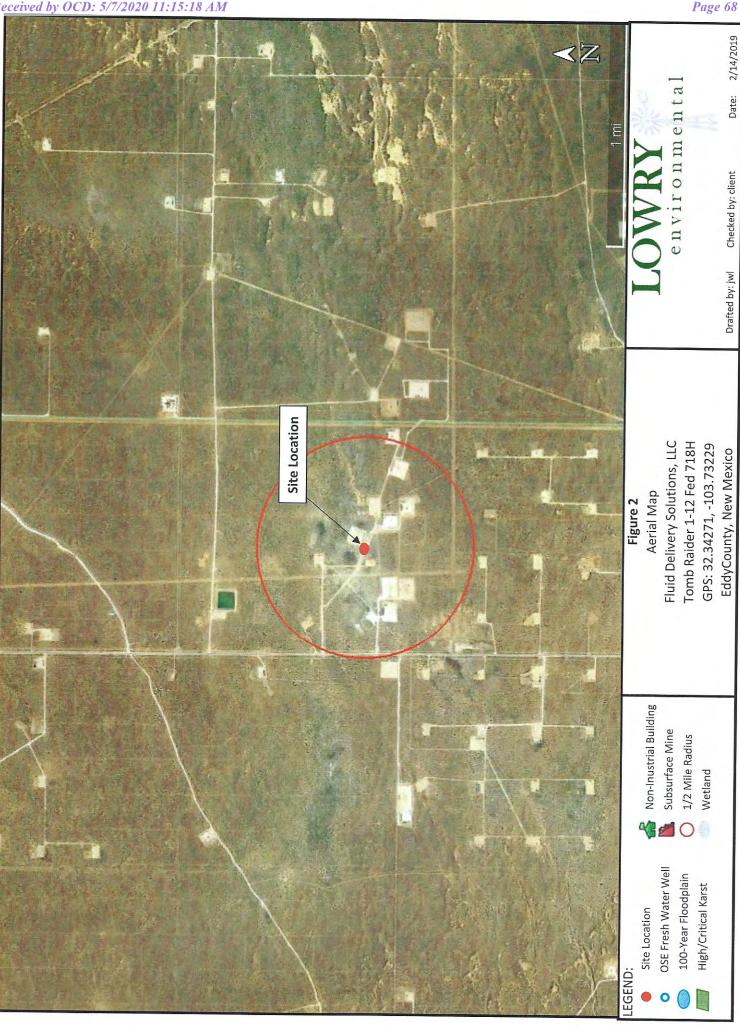
This document has been prepared in a professional manner, using the degree of skill and care exercised by similar environmental professionals. LEA notes that the facts and conditions referenced in this document may change over time and that the conclusions and recommendations are only applicable to the facts and conditions as described at the time this document was prepared.

LEA has prepared this report to the best of its ability. No other warranty, expressed or implied, is made or intended.

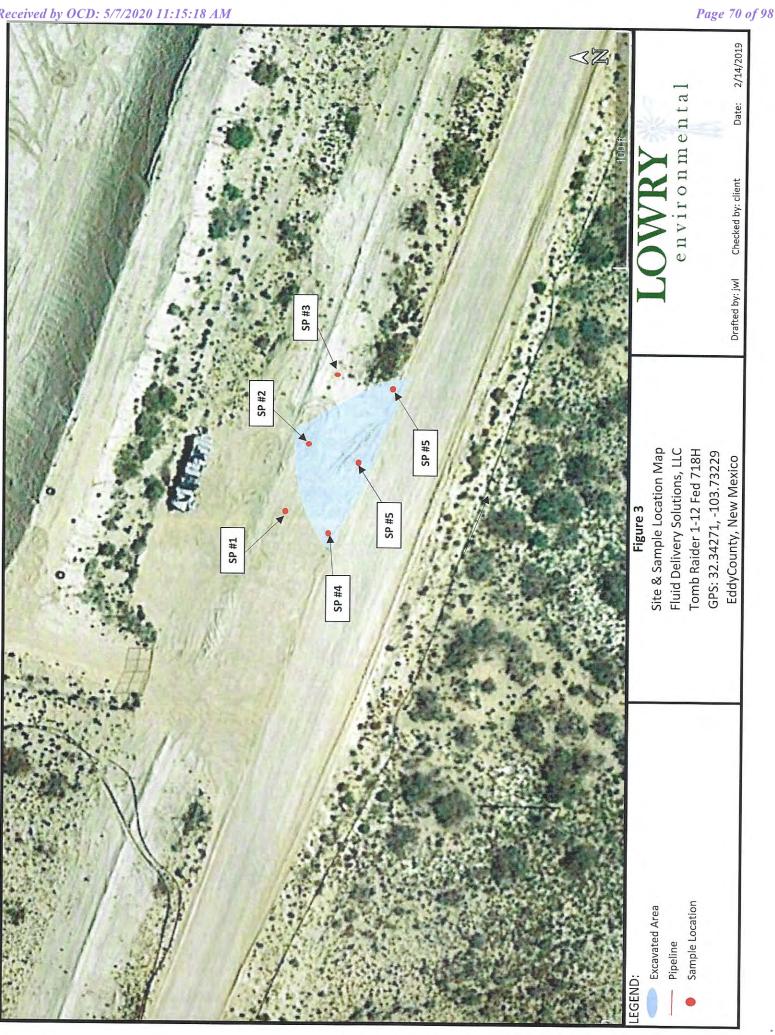
Attachment #1
Figure 1 - Topographic Map



Attachment #2 Figure 2 - Aerial Map



Attachment #3
Figure 3 - Site & Sample Location Map



Attachment #4
Depth to Groundwater Information



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

(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) (NAD83 UTM in meters)

No records found.

UTMNAD83 Radius Search (in meters):

Easting (X): 617248

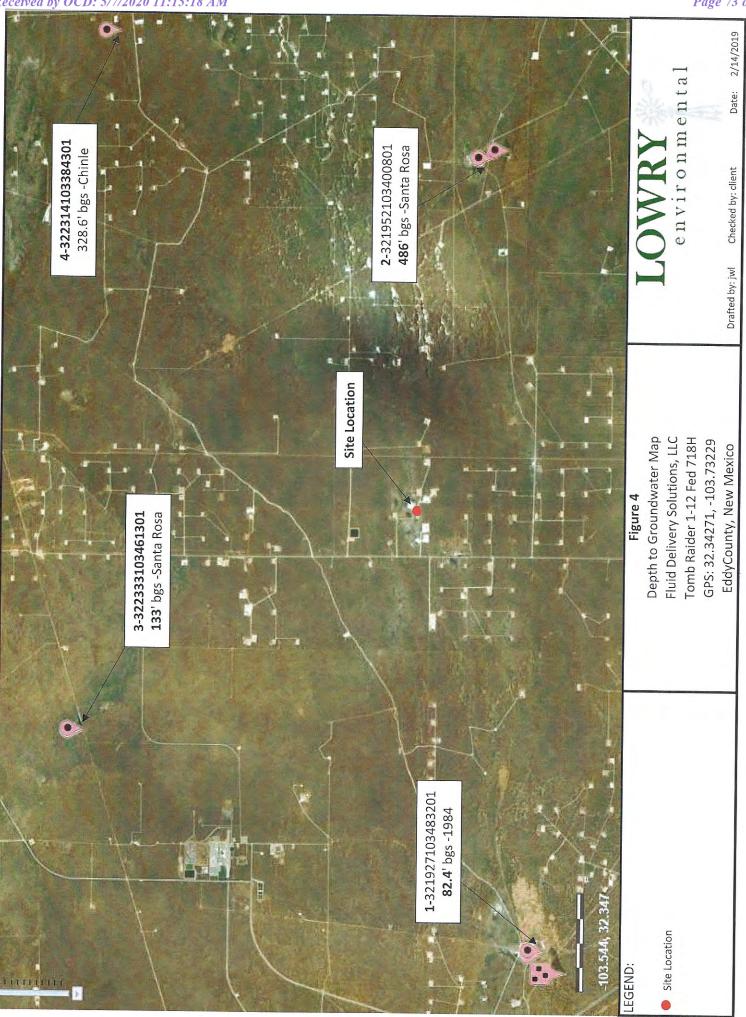
Northing (Y): 3552683

Radius: 1610

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

2/13/19 4:30 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER





National Water Information System: Web Interface

**USGS Water Resources** 

**USGS** Home Contact USGS Search USGS

Data Category: Groundwater Geographic Area:
United States √ GO

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- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs

site\_no list =

• 320643103465002

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

# USGS 320643103465002 25S.31E.21.413314A

Eddy County, New Mexico

Latitude 32°06'46.0", Longitude 103°46'56.3" NAD83

Land-surface elevation 3,374.00 feet above NGVD29

The depth of the well is 400 feet below land surface.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

**Output formats** Table of data Tab-separated data Graph of data Reselect period

Date	Time	? Water- level date- time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water- level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measuren
1959-02-17 2013-01-17	12:40 MST	D m	318.02			2	P	U	USGS	-

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level date-time accuracy m		Date is accurate to the Minute
Water-level accuracy		Not determined
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status	D	Site was dry (no water level was recorded).
Status	P	Site was being pumped.
Method of measurement	S	Steel-tape measurement.
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Measuring agency	USGS	U.S. Geological Survey
Source of measurement	R	Reported by person other than the owner, driller, or another government agency.
Source of measurement U		Source is unknown.
Water-level approval status	А	Approved for publication Processing and review completed.

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Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: <u>USGS Water Data Support Team</u> Page Last Modified: 2019-02-12 18:28:06 EST 0.53 0.49 nadww01

USA.gov



National Water Information System: Web Interface

**USGS Water Resources** 

USGS Home Contact USGS Search USGS

Data Category:	Geographic Area:	
Groundwater	✓ United States	V GO
Toroundwater	VI United States	✓ G0

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- Full News

Table of data

Tab-separated data

Graph of data

Reselect period

Groundwater levels for the Nation

### Search Results -- 1 sites found

Agency code = usgs site\_no list =

• 320932103443801

### Minimum number of levels = 1

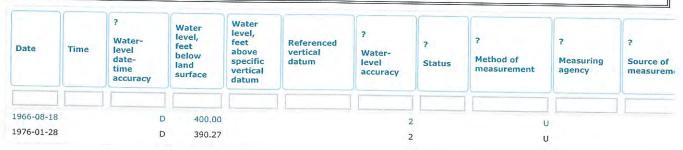
Save file of selected sites to local disk for future upload

## USGS 320932103443801 25S.31E.02.23441

Eddy County, New Mexico Latitude 32°09'37.4", Longitude 103°44'29.6" NAD83 Land-surface elevation 3,460.00 feet above NGVD29 The depth of the well is 1,016 feet below land surface.

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

_	



Explanation	
-------------	--

Section	Code	Description			
Water-level date-time accuracy	D	Date is accurate to the Day			
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot			
Status		The reported water-level measurement represents a static level			
Method of measurement	U	Unknown method.			
Measuring agency		Not determined			
Source of measurement	U	Source is unknown.			
Water-level approval status	Α	Approved for publication Processing and review completed.			

Questions about sites/data?
Feedback on this web site
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U.S. Department of the Interior | U.S. Geological Survey
Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: <u>USGS Water Data Support Team</u> Page Last Modified: 2019-02-12 18:29:11 EST 0.46 0.43 nadww01

USA.gov



**USGS Home** Contact USGS Search USGS

### National Water Information System: Web Interface

USGS Water Resources

Geographic Area: Data Category: V GO Groundwater

Click to hideNews Bulletins

- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

Groundwater levels for the Nation

#### Search Results -- 1 sites found

Agency code = usqs site\_no list = • 321005103402301

 $\label{eq:minimum number of levels} \mbox{ = } 1$ 

Save file of selected sites to local disk for future upload

#### USGS 321005103402301 24S.32E.33.42241

Lea County, New Mexico

Latitude 32°10'21.6", Longitude 103°40'18.9" NAD83 Land-surface elevation 3,499.00 feet above NGVD29

The depth of the well is 367 feet below land surface.

This well is completed in the Chinle Formation (231CHNL) local aquifer.

**Output formats** 

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

Date	Time	? Water- level date- time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water- level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measuren
1959-02-18	Legacitization of the second	D	313.40				2	. I	J.	
1981-06-12		D	304.40				2	1	U	
1986-03-11		D	305.21				2	131	U	
1991-05-29		D	287.45				2	1	U	
1996-03-14		D	285.40				2		S	
2001-02-27		D	288.68				2		S	
	09:30 MST	m	289.69				2		s ı	JSGS

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level date-time accuracy	m	Date is accurate to the Minute
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Method of measurement	S	Steel-tape measurement,
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Measuring agency	USGS	U.S. Geological Survey
Source of measurement	R	Reported by person other than the owner, driller, or another government agency.
Source of measurement	U	Source is unknown.

Explanation

Section Code Description A Approved for publication -- Processing and review completed. Water-level approval status

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U.S. Department of the Interior | U.S. Geological Survey
Title: Groundwater for USA: Water Levels

URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: <u>USGS Water Data Support Team</u> Page Last Modified: 2019-02-12 18:30:00 EST 0.49 0.45 nadww01

News

USA.gov



National Water Information System: Web Interface

**USGS** Water Resources

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Data Category:	Geographic Area:	p
Groundwater V	United States ~	GO

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- Full News 🔊

Groundwater levels for the Nation

#### Search Results -- 1 sites found

Agency code = usgs site\_no list =

• 320424103415401

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

#### USGS 320424103415401 26S.31E.01.421322

Eddy County, New Mexico Latitude 32°04'24", Longitude 103°41'54" NAD27 Land-surface elevation 3,294 feet above NAVD88

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

Date	Time	? Water- level date- time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water- level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measuren
1983-01-26	A A CONTRACTOR OF CONTRACTOR O	C					2			
1983-02-14 1987-10-21							2	į	J	

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Source of measurement	U	Source is unknown.

Approved for publication -- Processing and review completed.

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Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: <u>USGS Water Data Support Team</u> Page Last Modified: 2019-02-13 18:48:10 EST 0.51 0.49 nadww01

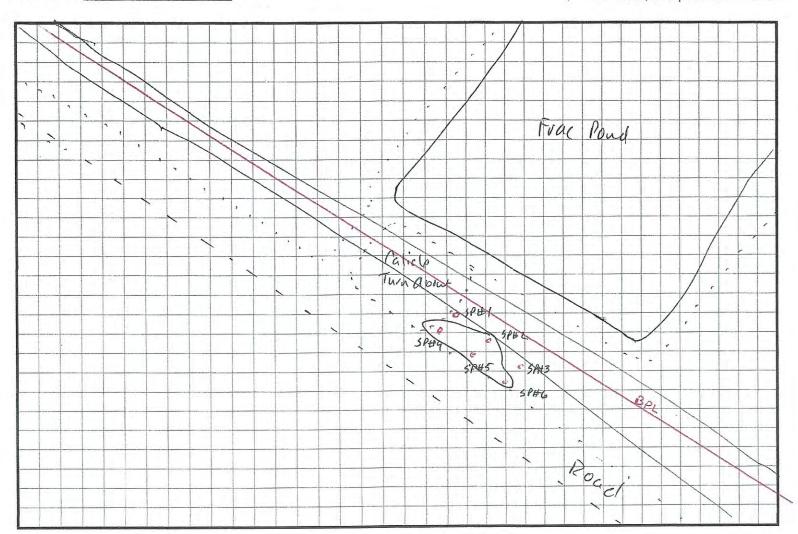
USA.gov

Attachment #5 Field Data

### **FIELD NOTES**

Site Name: Tomb Raider 1-12 Fed 7184

Date: 10/26/2018



Visit Release Site, Surtain Staining visible on East Side of Turnabout, Low away brid Sample to Look for Inputs
Run Phloride field Test

Field ID	Odor/PID	Chloride
SPEI	Nop	6170
5041	-(	4170

588
(170

Field ID	Odor/PID	Chloride
3PHZ	More	436
51H7	16	170
***************************************		

Field ID	Odor/PID	Chloride
3845	Wore	1908
5PH5		144
	-	

Field ID	Odor/PID	Chloride
59#3	luse	1780
5P#3	٠,	564
		a insertante de la companya de la co

Field ID	Odor/PID	Chloride
5P\$6	word	1360
5PH b		1170

Attachment #6
Soil Profile

## SOIL PROFILE

Site Name: Tomb Ruider 1-12 Fed 7181+

Date: 10/26/2018

Description	All Toronto	Depth (ft. bgs)
Road Buss / Caliche		1
Red   Brown Soil		2
		3
	***************************************	4
		5
		6
		7
		8
		9
		0
		1
		2
		3
		4
		5
		6
		7
		8
		9
		0
		i
		2
		3
		4
		5
		6
		7
		8
		9
		0
		1
		2
		3
		4
		5
		6
		7
		8
		9
		0

Attachment #7
Laboratory Analytical Reports



February 01, 2019

JOEL LOWRY
LOWRY ENVIROMENTAL & ASSOCIATES
PO BOX 296
LOVINGTON, NM 88260

RE: TOMB RAIDER 718 PUMP

Enclosed are the results of analyses for samples received by the laboratory on 01/30/19 13:40.

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

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

Method EPA 552.2

Haloacetic Acids (HAA-5)

Method EPA 524.2

Total Trihalomethanes (TTHM)

Method EPA 524.4

Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keens

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



## Analytical Results For:

LOWRY ENVIROMENTAL & ASSOCIATES JOEL LOWRY PO BOX 296 LOVINGTON NM, 88260

Fax To:

Received: Reported: 01/30/2019

02/01/2019

Project Name:

TOMB RAIDER 718 PUMP

Project Number: Project Location: NONE GIVEN

FLUID DELIVERY - LEA CO NM

Sampling Date:

Sampling Type:

Sampling Condition:

Sample Received By:

01/25/2019

Soil

Cool & Intact

Jodi Henson

Sample ID: SP # 1 0-4" (H900329-01)

Chloride, SM4500CI-B

mg/kg

Analyzed By: AC

Analyte

Analyte

Analyte

Result

80.0

Reporting Limit 16.0

Reporting Limit

Reporting Limit

0.050

0.050

0.050

0.150

0.300

Reporting Limit

16.0

Reporting Limit

Analyzed 01/31/2019 Method Blank ND

BS 416 % Recovery 104

True Value QC

400

RPD

0.00

RPD

Qualifier

Sample ID: SP # 1 18" (H900329-02)

Chloride, SM4500CI-B

mg/kg

Analyzed By: AC

Analyzed

Method Blank

% Recovery

True Value QC

Qualifier

Chloride

Chloride

160

Result

< 0.050

< 0.050

< 0.050

< 0.150

< 0.300

Result

Result

Result

01/31/2019 16.0

ND

ND

ND

ND

ND

ND

BS 416

104

400

0.00

Sample ID: SP # 2 0-4" (H900329-03)

BTEX 8021B

Benzene\*

Toluene\*

Ethylbenzene\*

Total Xylenes\*

Total BTEX

Analyzed By: ms

Analyzed

01/31/2019

01/31/2019

01/31/2019

01/31/2019

01/31/2019

Method Blank

BS

2.36

2.24

2.20

6.73

416

BS

% Recovery

118

112

110

112

104

True Value QC

RPD Qualifier

0.804 2.00

2.00 0.837

2.00

1.03

1.10

6.00

Surrogate: 4-Bromofluorobenzene (PIL

Analyte

Analyte

101%

73.3-129

Chloride, SM4500CI-B

mg/kg

Analyzed By: AC Analyzed

01/31/2019

Analyzed

Method Blank

ND

Method Blank

BS % Recovery True Value QC

400

RPD

Qualifier 0.00

Chloride **TPH 8015M**  464 mg/kg

Analyzed By: MS

% Recovery True Value QC

RPD

Cardinal Laboratories

\*=Accredited Analyte

Qualifier

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Celleg the

Celey D. Keene, Lab Director/Quality Manager

Page 2 of 8



## Analytical Results For:

LOWRY ENVIROMENTAL & ASSOCIATES JOEL LOWRY PO BOX 296 LOVINGTON NM, 88260

Fax To:

Received:

01/30/2019

Sampling Date:

01/25/2019

Reported:

02/01/2019

Sampling Type:

Soil

Project Name:

TOMB RAIDER 718 PUMP

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Jodi Henson

Project Location:

FLUID DELIVERY - LEA CO NM

Sample ID: SP # 2 0-4" (H900329-03)

TPH 8015M	mg/l	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/31/2019	ND	171	85.3	200	1.48	
DRO >C10-C28*	<10.0	10.0	01/31/2019	ND	177	88.5	200	1.49	
EXT DRO >C28-C36	<10.0	10.0	01/31/2019	ND					
Surrogate: 1-Chlorooctane	91.1 9	% 41-142	2						
Surrogate: 1-Chlorooctadecane	84.0 9	% 37.6-14	17						

Sample ID: SP # 2 18" (H900329-04)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	01/31/2019	ND	416	104	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/31/2019	ND	171	85.3	200	1.48	
DRO >C10-C28*	<10.0	10.0	01/31/2019	ND	177	88.5	200	1.49	
EXT DRO >C28-C36	<10.0	10.0	01/31/2019	ND					
Surrogate: 1-Chlorooctane	94.0	% 41-142	2						
Surrogate: 1-Chlorooctadecane	83.1	% 37.6-14	17						

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\*=Accredited Analyte

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Celeg D. Keene



## Analytical Results For:

LOWRY ENVIROMENTAL & ASSOCIATES JOEL LOWRY PO BOX 296 LOVINGTON NM, 88260

Fax To:

Received:

01/30/2019

Sampling Date:

01/25/2019

Reported:

02/01/2019

Sampling Type:

Soil

Project Name:

TOMB RAIDER 718 PUMP

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Jodi Henson

Project Location:

FLUID DELIVERY - LEA CO NM

Sample ID: SP # 3 0-4" (H900329-05)

Chloride, SM4500CI-B

mg/kg

Analyzed By: AC

Analyte

Analyte

Reporting Limit Result

Analyzed 01/31/2019 Method Blank ND

BS % Recovery True Value QC 400

Qualifier

Chloride

2080

16.0

416

BS

416

104

0.00

RPD

Sample ID: SP # 3 18" (H900329-06)

Chloride, SM4500CI-B

mg/kg

Analyzed By: AC

% Recovery

104

True Value QC

Qualifier

Chloride

Result 656

16.0

Reporting Limit

Analyzed 01/31/2019

ND

Method Blank

400

RPD

Sample ID: SP # 4 0-4" (H900329-07)

Chloride, SM4500CI-B

Analyzed By: AC

Analyzed Reporting Limit Analyte Result 768 16.0 01/31/2019 Chloride

01/31/2019

01/31/2019

BS Method Blank

% Recovery

104

% Recovery

85.3

88.5

True Value QC

Qualifier

400

RPD

0.00

**TPH 8015M** Analyte

mg/kg Result Reporting Limit Analyzed <10.0 10.0 01/31/2019

Analyzed By: MS Method Blank

ND

ND

ND

ND

416

BS

171

177

True Value QC

200

200

0.00

1.48

1.49

RPD Qualifier

GRO C6-C10\* DRO >C10-C28\*

EXT DRO >C28-C36

<10.0 <10.0

41-142

10.0

10.0

Surrogate: 1-Chlorooctane Surrogate: 1-Chlorooctadecane 82.6 % 72.8 %

37.6-147

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Celey D. Keene, Lab Director/Quality Manager

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### Analytical Results For:

LOWRY ENVIROMENTAL & ASSOCIATES JOEL LOWRY PO BOX 296 LOVINGTON NM, 88260

Fax To:

Received:

01/30/2019

Sampling Date:

01/25/2019

Reported:

02/01/2019

Sampling Type:

Soil

Project Name:

TOMB RAIDER 718 PUMP

Project Number:

NONE GIVEN

Sampling Condition: Sample Received By:

Cool & Intact Jodi Henson

Project Location:

FLUID DELIVERY - LEA CO NM

Reporting Limit

Reporting Limit

16.0

Reporting Limit

Reporting Limit

Reporting Limit

16.0

Sample ID: SP # 4 18" (H900329-08)

Chloride, SM4500CI-B

mg/kg

Analyzed By: AC

Analyte

Analyte

Analyte

Analyte

Analyte

Result

Analyzed

Analyzed

01/31/2019

Analyzed

Analyzed

Analyzed

01/31/2019

Method Blank BS % Recovery

True Value QC 400

400

Qualifier RPD

Chloride

64.0

Result

01/31/2019 16.0

ND

416

BS

416

104

0.00

Sample ID: SP # 5 0-4" (H900329-09)

Chloride, SM4500CI-B

Analyzed By: AC

Method Blank

ND

% Recovery

104

True Value QC

Qualifier

Chloride

1870

Sample ID: SP # 5 18" (H900329-10)

Chloride, SM4500Cl-B

Analyzed By: AC

Method Blank BS % Recovery

Chloride

Result 336

16.0 01/31/2019 ND

Method Blank

ND

416

104 400 RPD 0.00

RPD

0.00

Qualifier

Sample ID: SP # 6 0-4" (H900329-11)

Chloride, SM4500CI-B

Analyzed By: AC

True Value QC

Chloride

Chloride

Result 1800

16.0 01/31/2019 ND

BS 416 % Recovery 104

True Value QC 400

RPD Qualifier 0.00

QM-07

Sample ID: SP # 6 18" (H900329-12)

Chloride, SM4500CI-B

mg/kg

Result

176

Analyzed By: AC

Method Blank

BS 416 % Recovery 104

True Value QC

400

Qualifier RPD

0.00

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Celegit Kees

Celey D. Keene, Lab Director/Quality Manager

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### **Notes and Definitions**

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS

recovery.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

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

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Celeg & Keine

Celey D. Keene, Lab Director/Quality Manager

101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

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Company Name:	Fluid Delivery	ivery										-	0	BILL	L TO					- A	ANALYSIS	12	100	_	I	KEROEU	U	1-	1		1		1		
Project Manager:	Joel Lowry									7	P.O. #:	#										_		-											
Address: PO 896	396									C	mo	Company:	ĭŸ:	-	Lowry Environmental	ental																			
City: Lovington	on	State: NM	Zip	#						D	1	0	0	<u>e</u>	Attn: CO Joel Lowry							_				-									
Phone #: 432-	432-466-4450	Fax #:								D	ddı	Address:																							
Project #:		Project Owner:								0	City:											_													
Project Name:	Tomb Raider 718 Pump	dwr								S	State:	155			Zip:													-							
Project Location:	: Lea County, New Mexico	exico								70	hoi	Phone #:										_		_		***************************************									
Sampler Name:	Joel Lowry									T	Fax #:	#																							
FOR LAB USE ONLY							₹ A	MATRIX	×	1	70	꼾	PRESERV.	?	SAMPLING	ഒ													_						
Lab I.D.	Sample I.D.	Ġ	AB OR (C)OMP	NTAINERS	UNDWATER	TEWATER		)	DGE	ER:		D/BASE:	COOL	ER:	1-10		loride	H 8015	EX 8021							Min. Successions)		11.1							
רשכטטאח	SP #1 0-4"		o (C	<b>→</b> #	G	M	× S	0		-			-	C	1/25/19		× (					+		+		++		+	+		+		+		
THE REAL PROPERTY.	SP #1 18"		G	_			×	71		_			×		1/25/19		×					-		-		+		+	+		+		+		
3	SP #2 0-4"		G	_			×	-	-		_		×		1/25/19		×	×	×			-		+		-		+	+		+		+		
7	SP #2 18"		G				×	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	-	-	_		×		1/25/19		×	×				-		+		+		+	+	1	+		+		
CR	SP #3 0-4"		G				×	^		-	_		×		1/25/19		×					-		+		+		+	-		+		+		
6	SP #3 18"		G				×	^	-	-	_		×		1/25/19		×					-		+		+		-	+		+	1	+		
7	SP #4 0-4"		G		-		×	^	-		_		×		1/25/19		×	×				-		+		+		+	-		+	-	-		
B	SP #4 18"		G				~	×	-	-			×		1/25/19		×					_		+		+		+	+		+		+		
P	SP #5 0-4"		G				×	^	-				×		1/25/19		×					-		+		+		+	+		+		+		
0)	SP #5 18"		G	_	_		-	×	_		_		×		1/25/19	-	×			L				H		-		-	-		-		-		
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FORM-006 R 2.0

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476



(575) 393-2326 FAX (575) 393-2476

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Company Name:		DILL IO		
Project Manager: Joel Lowry		P.O. #:		
Address: PO 896		Company: Lowry Environmental	nental	
ovington State: NM	Zip #	Attn: CO Joel Lowry		
Phone #: 432-466-4450 Fax #:		Address:		
		City:		
ame: Tomb Raider 718 Pu		State: Zip:		
Project Location: Lea County, New Mexico		Phone #:		
		Fax #:		
	MATRIX	PRESERV. SAMPLING	IG	
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PLEASE NOTE: Liability and Damages, Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the splicable analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable of the policy of the polic	claim arising whether based in contract or med waived unless made in writing and re thout limitation, business interruptions, los	or tort, shall be limited to the amount paid by the eceived by Cardinal within 30 days after compiss of use, or loss of profits incurred by client, it is of use, or loss of profits incurred by client, it is besed inon any of the above stated reasons.	e client for the letion of the applicable subsidiaries, or otherwise.	
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Attachment #8
Photographic Log

### **PHOTOLOG**



Photo 1: View of the affected area and sample location, facing Northwest.

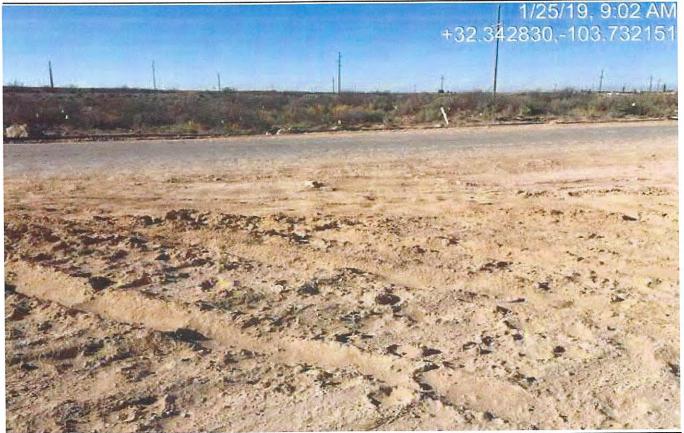


Photo 2: View of the affected area and sample location, facing Southwest.

# **PHOTOLOG**



Photo 3: View of the affected area and sample location, facing Southeast.

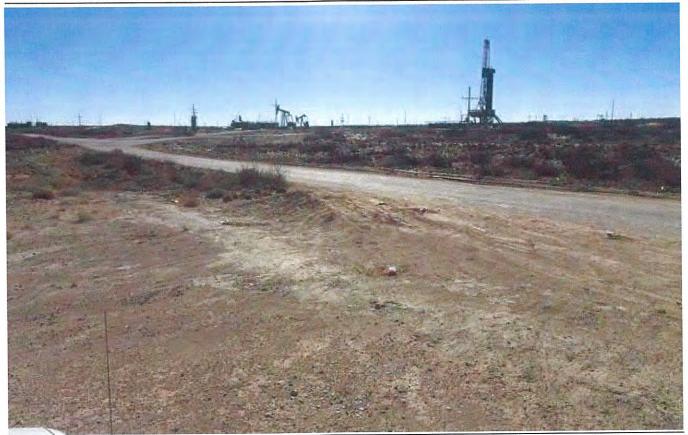


Photo 4: View of the affected area and sample location, facing Southeast.

# **PHOTOLOG**



Photo 5: View of the affected area and sample location, facing Southeast.



Photo 6: View of the affected area and sample location, facing Northwest.