Incident ID	nMAP1826381249
District RP	2RP-4975
Facility ID	N/A
Application ID	pMAP1826380980

February 13, 2019

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

Yolanda Jimenez
United States Department of the Interior
Bureau of Land Management
620 E. Greene Street
Carlsbad, NM 88220

Re: **Site Assessment Report and Proposed Remediation Plan**
Site Name: Lusitano 27-34 Fed Com 235H
GPS: Latitude: 32.55555 Longitude: -103.757353
Legals: UL "H", Sec. 27, T25S, R31E
EddyCounty, New Mexico
NMOCD Ref. No. 2RP-4975

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 Lusitano 27-34 Fed Com 235H. Details of the release are summarized on the table below:

Nature and Volume of Release			
Date Release Discovered	9/5/2018	**Source of Release**	Lay Flat Hose
Type of Release	Treated Produced Water	**Volume Released (bbls)**	325
		Volume Recovered (bbls)	250
Cause of Release The release was attributed to the failure of a coupler on the lay flat hose.			
Affected Area The release affected an area measuring approximately 24,000 sq. ft. within a pipeline right-of-way and adjacent pasture area.			
Was this a major release? Yes	**If YES, for what reasons (s) is this considered a major release?** Unauthorized release of a volume of liquids exceeding 25 bbls.		
If Yes, was immediate notice given to the OCD? By whom? To whom? When and by what means? Brett Fulks (Devon) sent email 9/7/18 at 7:20 AM to Jim Griswold, Mike Bratcher, and Maria Pruett with the OCD and to Shelly Tucker with the BLM.			

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

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Site Assessment/Characterization	
What is the shallowest depth to groundwater beneath the area affected by the release?	>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 **not** 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	nMAP1826381249
District RP	2RP-4975
Facility ID	N/A
Application ID	pMAP1826380980

INITIAL SITE ASSESSMENT

On **January 29, 2019,** an initial assessment was conducted at the Site. During the initial assessment, ten (10) soil samples were collected from within the release margins in an effort to determine the vertical extent of impacted soil affected above the NMOCD Closure Criteria. In addition, fourteen (14) soil samples were collected from the inferred edges of the affected area in an effort to determine the horizontal extent of impacted soil affected above the NMOCD Closure Criteria. 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 and BLM Reclamation Standards in each of the submitted soil samples with the exception of soil sample V1 12"-R, which exhibited a chloride concentration of 1,120 mg/kg. Further advancement of the soil boring was precluded due to refusal being met.

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

Incident ID	nMAP1826381249
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Application ID	pMAP1826380980

Concentrations of BTEX, TPH and/or Chloride in Soil

Sample ID	Date	Depth	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500Cl
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C_6-C_{10} (mg/kg)	DRO C_{10}-C_{28} (mg/kg)	GRO + DRO C_6-C_{28} (mg/kg)	ORO C_{28}-C_{36} (mg/kg)	TPH C_6-C_{36} (mg/kg)	Chloride (mg/kg)
V1 0-4"	1/29/19	0-4"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	512
V1 12"-R	1/29/19	12"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,120
V2 0-4"	1/29/19	0-4"	In-Situ	-	-	-	-	-	-	-	48.0
V2 12"	1/29/19	12"	In-Situ	-	-	-	-	-	-	-	32.0
V3 0-6"	1/29/19	0-6"	In-Situ	-	-	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
V3 16"	1/29/19	16"	In-Situ	-	-	-	-	-	-	-	32.0
V4 0-4"	1/29/19	0-4"	In-Situ	-	-	-	-	-	-	-	48.0
V4 16"	1/29/19	16"	In-Situ	-	-	-	-	-	-	-	48.0
V5 0-4"	1/29/19	0-4"	In-Situ	-	-	-	-	-	-	-	48.0
V5 18"-R	1/29/19	18"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
NH1 0-4"	1/29/19	0-4"	In-Situ	-	-	-	-	-	-	-	160
NH1 12"	1/29/19	12"	In-Situ	-	-	-	-	-	-	-	32.0
EH3 0-4"	1/29/19	0-4"	In-Situ	-	-	-	-	-	-	-	64.0
EH3 12"	1/29/19	12"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
EH4 0-6"	1/29/19	0-6"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144
EH4 12"	1/29/19	12"	In-Situ	-	-	-	-	-	-	-	160
WH3 0-4"	1/29/19	0-4"	In-Situ	-	-	-	-	-	-	-	16.0
WH3 12"	1/29/19	12"	In-Situ	-	-	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
WH4 0-4"	1/29/19	0-4"	In-Situ	-	-	-	-	-	-	-	32.0
WH4 12"	1/29/19	12"	In-Situ	-	-	-	-	-	-	-	32.0
SH1 0-6"	1/29/19	0-6"	In-Situ	-	-	-	-	-	-	-	32.0
SH1 12"	1/29/19	12"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SH5 0-4"	1/29/19	0-4"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SH5 12"	1/29/19	12"	In-Situ	-	-	-	-	-	-	-	32.0
Closure Criteria				**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.

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District RP	2RP-4975
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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 V1 12"-R to a depth beyond one (1) ft. bgs, until laboratory analytical results from confirmation soil samples indicate concentrations of chloride are below the applicable NMOCD Closure Criteria and/or 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 **400 cubic yards** of soil has been affected above the NMOCD Closure Criteria and BLM Reclamation Standards.

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Facility ID	N/A
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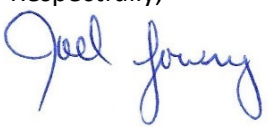
RESTORATION, RECLAMATION AND RE-VEGETATION PLAN

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 an agency and/or landowner-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)

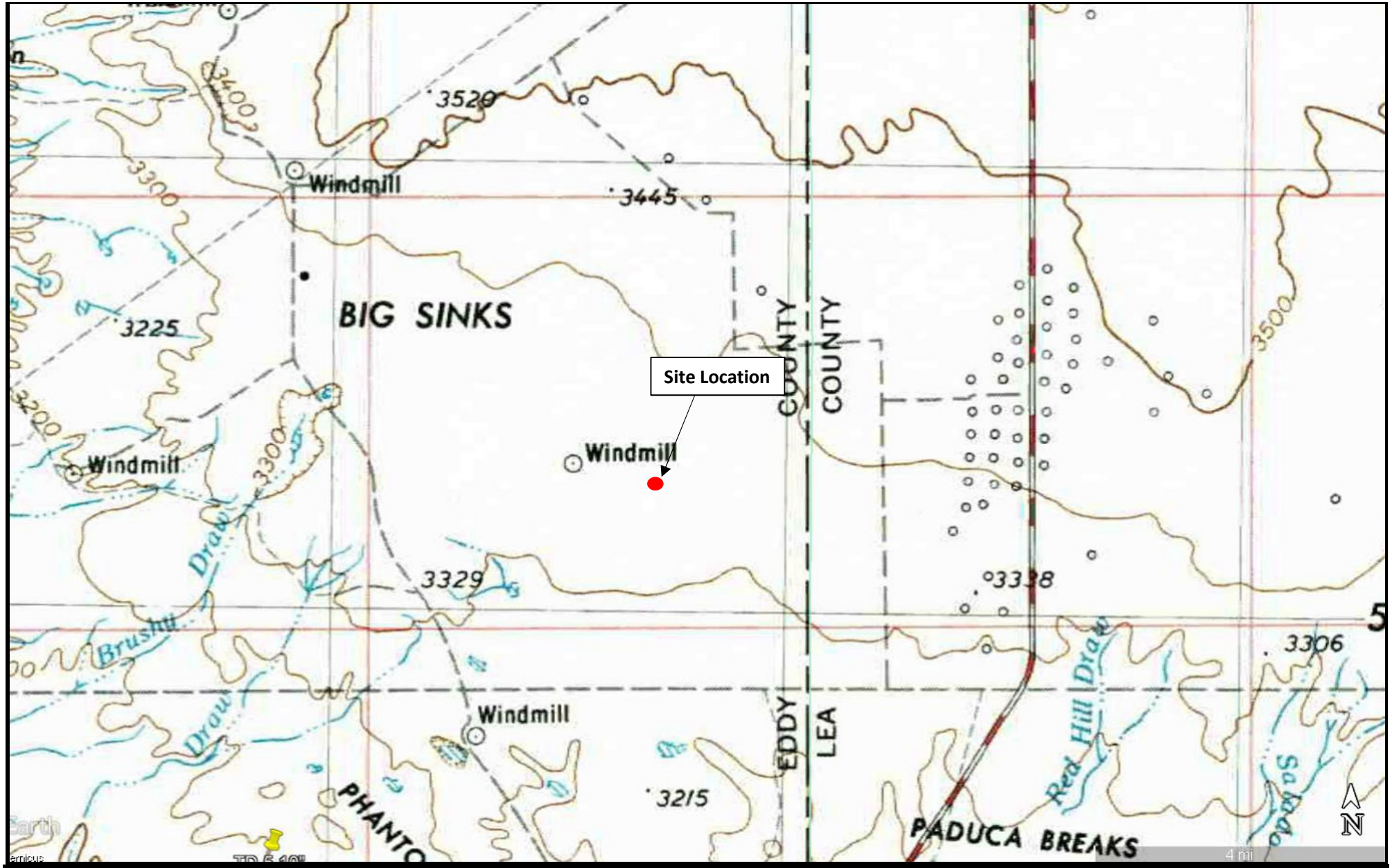
LIMITATIONS

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



LEGEND:

- Site Location

Figure 1

Topographic Map

Fluid Delivery Solutions, LLC

Lusitano 27-34 Fed Com 235H

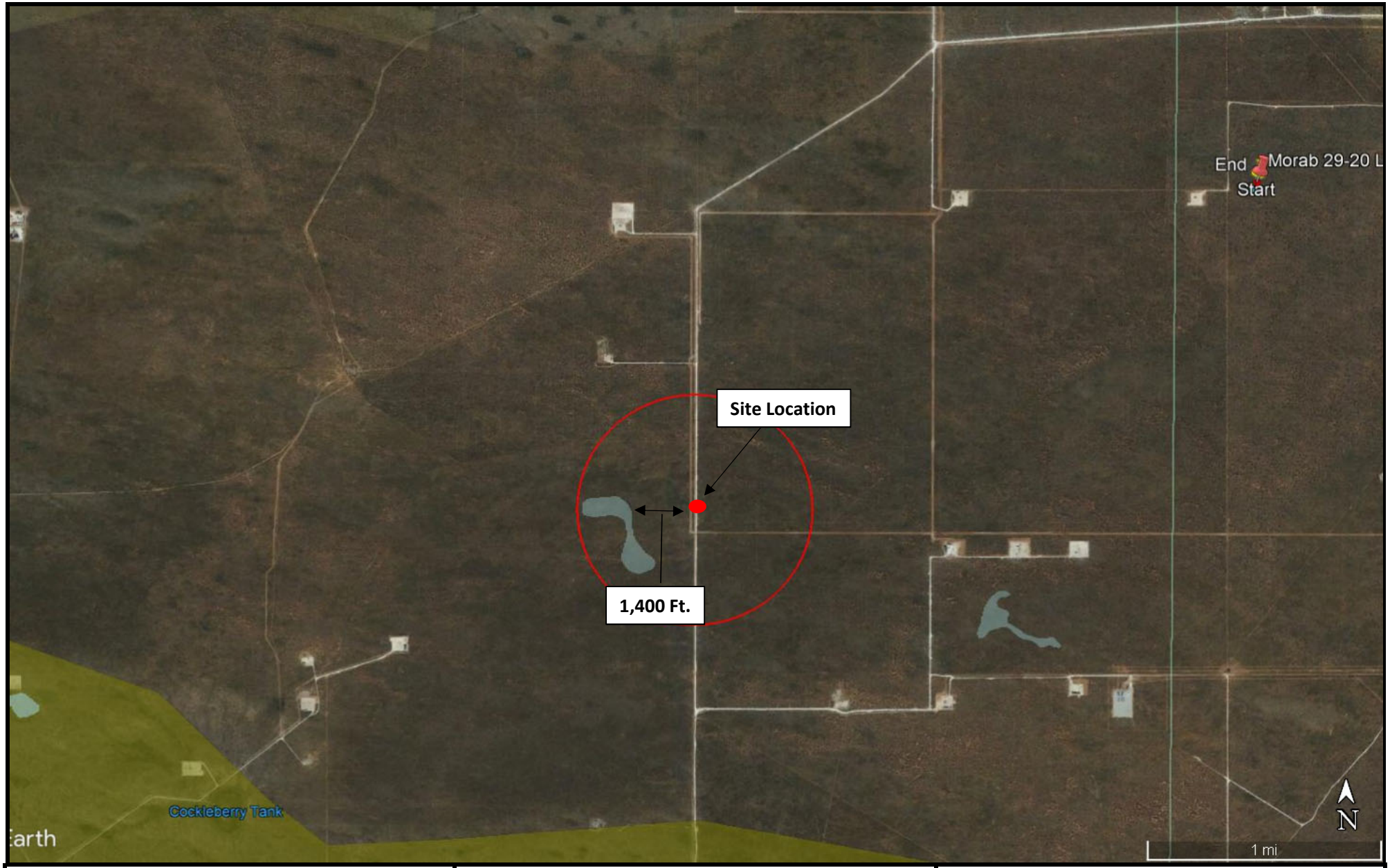
GPS: 32.104407, -103.757353

EddyCounty, New Mexico

LOWRY environmental

Drafted by: jwl Checked by: client Date: 2/13/2019

Attachment #2
Figure 2 - Aerial Map



LEGEND:

- Site Location
- OSE Fresh Water Well
- 100-Year Floodplain
- High/Critical Karst
- Non-Industrial Building
- Subsurface Mine
- 1/2 Mile Radius
- Wetland

Figure 2

Aerial Map

Fluid Delivery Solutions, LLC

Lusitano 27-34 Fed Com 235H

GPS: 32.104407, -103.757353

EddyCounty, New Mexico

LOWRY environmental

Drafted by: jwl Checked by: client Date: 2/13/2019

Attachment #3
Figure 3 - Site & Sample Location Map

LEGEND:

- Excavated Area
- Pipeline
- Sample Location

Figure 3

Site & Sample Location Map

Fluid Delivery Solutions, LLC

Lusitano 27-34 Fed Com 235H

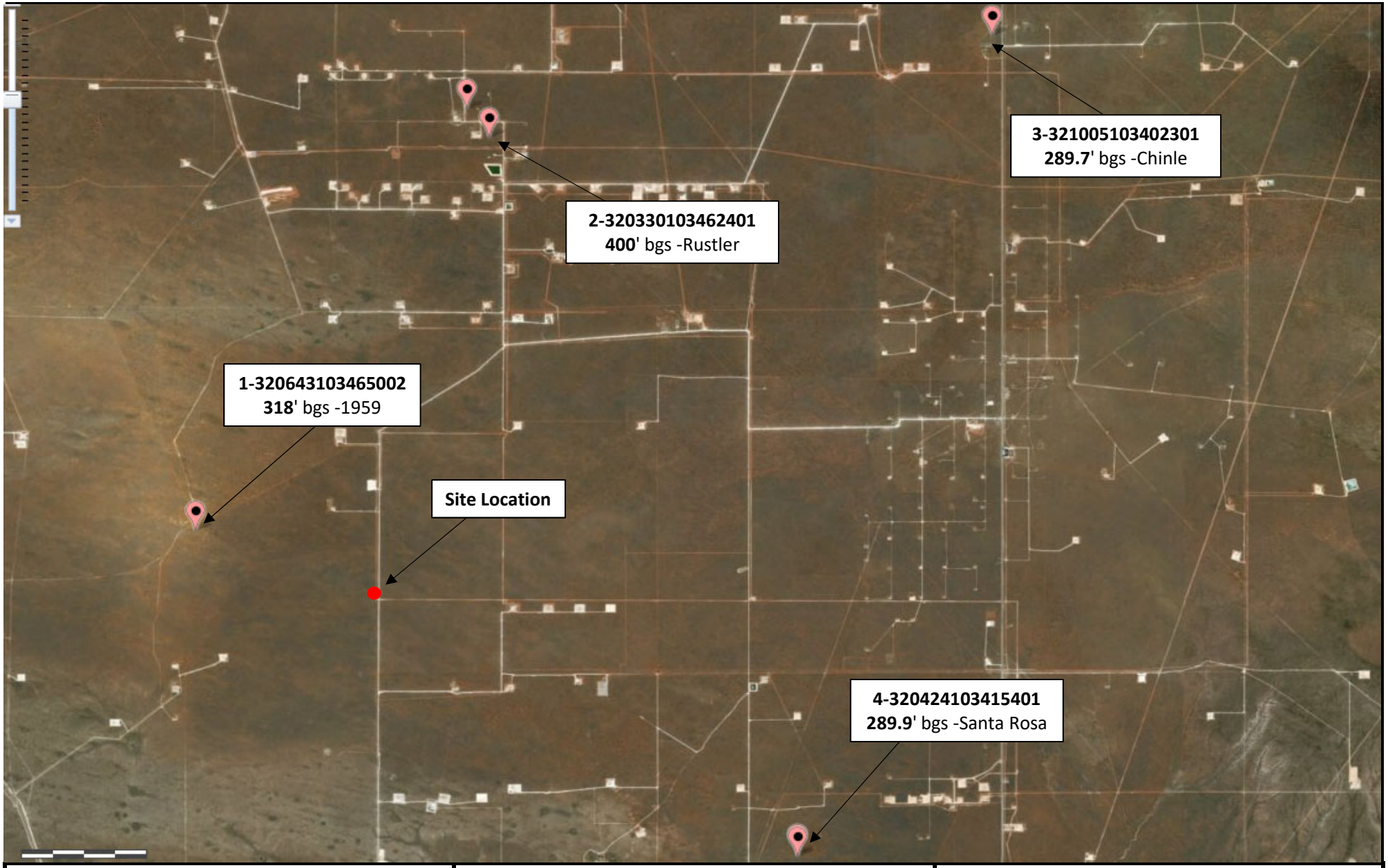
GPS: 32.104407, -103.757353

EddyCounty, New Mexico

LOWRY environmental

Drafted by: jwl Checked by: client Date: 2/13/2019

Attachment #4
Depth to Groundwater Information



LEGEND:

- Site Location

Figure 4

Depth to Groundwater Map
Fluid Delivery Solutions, LLC
Lusitano 27-34 Fed Com 235H
GPS: 32.104407, -103.757353
EddyCounty, New Mexico

LOWRY environmental

Drafted by: jwl Checked by: client Date: 2/13/2019

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

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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 measurem
1959-02-17		D	318.02			2	P	U		
2013-01-17	12:40 MST	m					D	S	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	A	Approved for publication -- Processing and review completed.

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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.

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 measurem
1966-08-18		D	400.00			2		U		
1976-01-28		D	390.27			2		U		

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	A	Approved for publication -- Processing and review completed.

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Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 321005103402301

Minimum number of levels = 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

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 measurem
1959-02-18		D	313.40			2		U		
1981-06-12		D	304.40			2		U		
1986-03-11		D	305.21			2		U		
1991-05-29		D	287.45			2		U		
1996-03-14		D	285.40			2		S		
2001-02-27		D	288.68			2		S		
2013-01-17	09:30 MST	m	289.69			2		S	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	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.

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

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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 measurem
1983-01-26		D	290.12			2		U		
1983-02-14		D	289.42			2		U		
1987-10-21		D	289.90			2		U		

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	A	Approved for publication -- Processing and review completed.

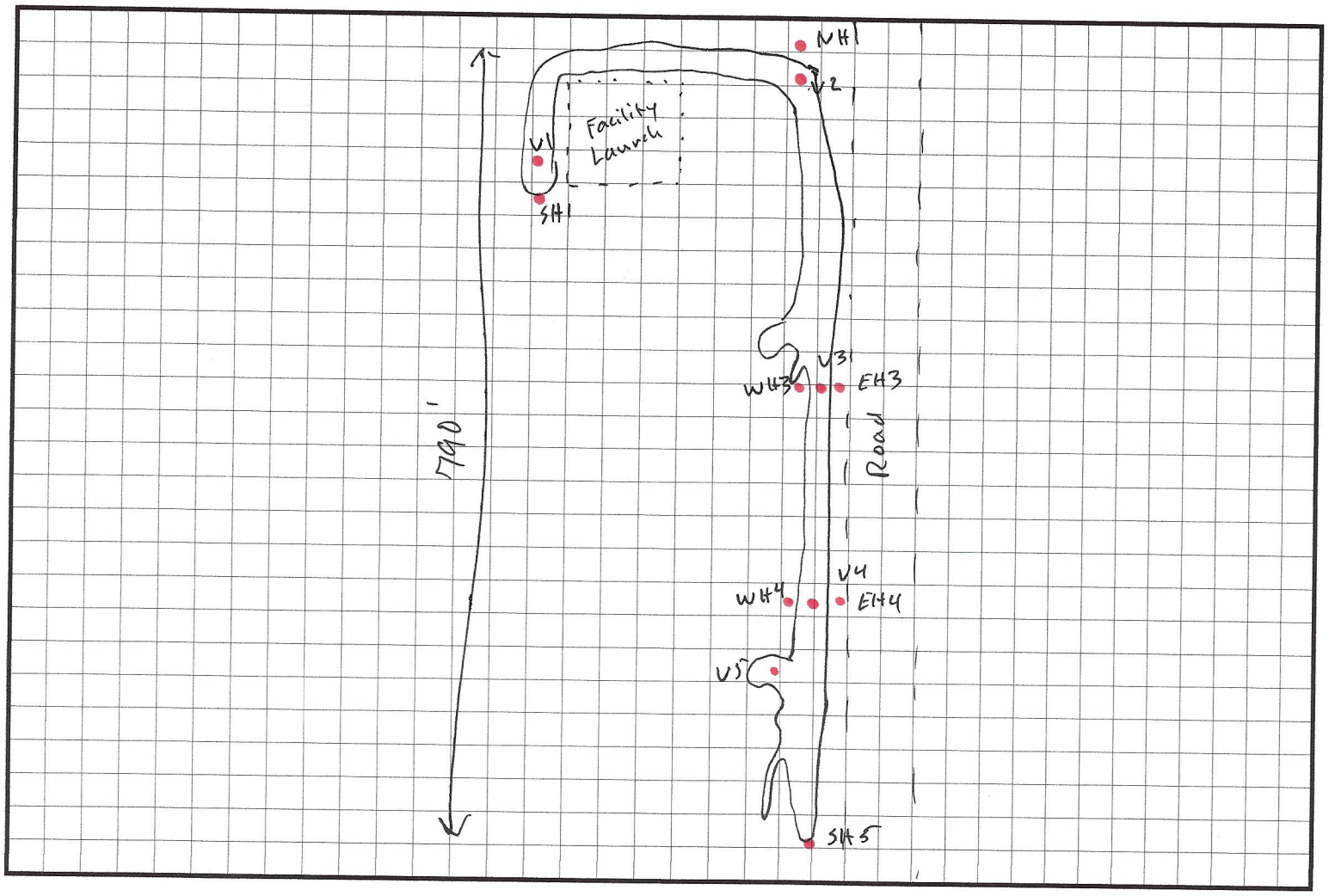
Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Attachment #5
Field Data

FIELD NOTES

Site Name: Lusitano 27-34 Fed Com 23514

Date: 1/29/19



- Map Release, Visible Vegetation Pic off — 22,000 Sq. ft
- Delineate Site, Refusal @ 12" @ V1, Rock 18" @ V-5
- Impacts (Interred) around launcher unidentifiable,

Field ID	Odor/PID	Chloride
V1 0-4"	None	436
V1 12'-R	"	588
V2 0-4	"	<120
V2 12"	"	<120
V3 0-6"	"	<120

Field ID	Odor/PID	Chloride
NH-1 12"	None	<120
EH3 0-4"	"	<120
EH-3 12"	"	<120
EH-4 0-6"	"	<120
EH4 12"	"	<120

Field ID	Odor/PID	Chloride
SH-1 12"	None	<120
SH-5 0-4"	"	<120
SH-5 12"	"	<120

Field ID	Odor/PID	Chloride
V4 0-4"	None	<120
V4 16"	"	<120
V5 0-4	"	<120
V5 18-R	"	<120
NH-1 0-4"	"	<120

Field ID	Odor/PID	Chloride
WH3 0-4"	None	<120
WH3 12"	"	<120
WH4 0-4"	"	<120
WH4 12"	"	<120
SH-1 0-6"	"	<120

Field ID	Odor/PID	Chloride

Attachment #6
Soil Profile

SOIL PROFILE

Site Name: Lusitano 27-34 Fed Com 23511

Date: 1/29/19

Description		Depth (ft. bgs)
Red/Brown Sand		1
	TD	2
Caliche		3
		4
		5
		6
		7
		8
		9
		0
		1
		2
		3
		4
		5
		6
		7
		8
		9
		0
		1
		2
		3
		4
		5
		6
		7
		8
		9
		0
		1
		2
		3
		4
		5
		6
		7
		8
		9
		0

Attachment #7
Laboratory Analytical Reports

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

February 06, 2019

JOEL LOWRY

LOWRY ENVIROMENTAL & ASSOCIATES

PO BOX 296

LOVINGTON, NM 88260

RE: LUSITANO 27-34

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 www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

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

Received:	01/30/2019	Sampling Date:	01/29/2019
Reported:	02/06/2019	Sampling Type:	Soil
Project Name:	LUSITANO 27-34	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	FLUID DELIVERY - LEA CO NM		

Sample ID: V1 0-4'' (H900333-01)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/01/2019	ND	2.19	110	2.00	1.83	
Toluene*	<0.050	0.050	02/01/2019	ND	2.10	105	2.00	2.97	
Ethylbenzene*	<0.050	0.050	02/01/2019	ND	2.06	103	2.00	3.15	
Total Xylenes*	<0.150	0.150	02/01/2019	ND	5.99	99.8	6.00	0.740	
Total BTEX	<0.300	0.300	02/01/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.9 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**512**	16.0	01/31/2019	ND	432	108	400	7.69	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/01/2019	ND	160	80.2	200	9.64	
DRO >C10-C28*	<10.0	10.0	02/01/2019	ND	180	90.1	200	6.28	
EXT DRO >C28-C36	<10.0	10.0	02/01/2019	ND					

Surrogate: 1-Chlorooctane *91.3 %* *41-142*

Surrogate: 1-Chlorooctadecane *88.1 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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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:	01/29/2019
Reported:	02/06/2019	Sampling Type:	Soil
Project Name:	LUSITANO 27-34	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	FLUID DELIVERY - LEA CO NM		

Sample ID: V1 12''-R (H900333-02)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/01/2019	ND	2.19	110	2.00	1.83	
Toluene*	<0.050	0.050	02/01/2019	ND	2.10	105	2.00	2.97	
Ethylbenzene*	<0.050	0.050	02/01/2019	ND	2.06	103	2.00	3.15	
Total Xylenes*	<0.150	0.150	02/01/2019	ND	5.99	99.8	6.00	0.740	
Total BTEX	<0.300	0.300	02/01/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.6 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1120**	16.0	01/31/2019	ND	432	108	400	7.69	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/01/2019	ND	160	80.2	200	9.64	
DRO >C10-C28*	<10.0	10.0	02/01/2019	ND	180	90.1	200	6.28	
EXT DRO >C28-C36	<10.0	10.0	02/01/2019	ND					

Surrogate: 1-Chlorooctane *87.9 %* *41-142*

Surrogate: 1-Chlorooctadecane *84.5 %* *37.6-147*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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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:	01/29/2019
Reported:	02/06/2019	Sampling Type:	Soil
Project Name:	LUSITANO 27-34	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	FLUID DELIVERY - LEA CO NM		

Sample ID: V2 0-4" (H900333-03)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	01/31/2019	ND	432	108	400	7.69	

Sample ID: V2 12" (H900333-04)

Chloride, SM4500Cl-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	01/31/2019	ND	432	108	400	7.69	

Sample ID: V3 0-6" (H900333-05)

Chloride, SM4500Cl-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	01/31/2019	ND	432	108	400	7.69	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/06/2019	ND	210	105	200	4.32	
DRO >C10-C28*	<10.0	10.0	02/06/2019	ND	210	105	200	0.805	
EXT DRO >C28-C36	<10.0	10.0	02/06/2019	ND					

Surrogate: 1-Chlorooctane	*97.2 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*107 %*	*37.6-147*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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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:	01/29/2019
Reported:	02/06/2019	Sampling Type:	Soil
Project Name:	LUSITANO 27-34	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	FLUID DELIVERY - LEA CO NM		

Sample ID: V3 16" (H900333-06)

Chloride, SM4500Cl-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	01/31/2019	ND	432	108	400	7.69	

Sample ID: V4 0-4" (H900333-07)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	01/31/2019	ND	432	108	400	7.69	

Sample ID: V4 16" (H900333-08)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	01/31/2019	ND	432	108	400	7.69	

Sample ID: V5 0-4" (H900333-09)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	01/31/2019	ND	432	108	400	7.69	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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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:	01/29/2019
Reported:	02/06/2019	Sampling Type:	Soil
Project Name:	LUSITANO 27-34	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	FLUID DELIVERY - LEA CO NM		

Sample ID: V5 18''-R (H900333-10)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/01/2019	ND	2.19	110	2.00	1.83	
Toluene*	<0.050	0.050	02/01/2019	ND	2.10	105	2.00	2.97	
Ethylbenzene*	<0.050	0.050	02/01/2019	ND	2.06	103	2.00	3.15	
Total Xylenes*	<0.150	0.150	02/01/2019	ND	5.99	99.8	6.00	0.740	
Total BTEX	<0.300	0.300	02/01/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.3 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	01/31/2019	ND	432	108	400	7.69	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/01/2019	ND	210	105	200	4.32	
DRO >C10-C28*	<10.0	10.0	02/01/2019	ND	210	105	200	0.805	
EXT DRO >C28-C36	<10.0	10.0	02/01/2019	ND					

Surrogate: 1-Chlorooctane *93.0 %* *41-142*

Surrogate: 1-Chlorooctadecane *91.1 %* *37.6-147*

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Analytical Results For:

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JOEL LOWRY
PO BOX 296
LOVINGTON NM, 88260
Fax To:

Received:	01/30/2019	Sampling Date:	01/29/2019
Reported:	02/06/2019	Sampling Type:	Soil
Project Name:	LUSITANO 27-34	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	FLUID DELIVERY - LEA CO NM		

Sample ID: N H1 0-4'' (H900333-11)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	02/01/2019	ND	432	108	400	7.69	

Sample ID: N H1 12'' (H900333-12)

Chloride, SM4500Cl-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	02/01/2019	ND	432	108	400	7.69	

Sample ID: E H3 0-4'' (H900333-13)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	02/01/2019	ND	432	108	400	7.69	

Sample ID: E H3 12'' (H900333-14)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	02/01/2019	ND	432	108	400	7.69	

Sample ID: E H4 0-6'' (H900333-15)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	02/01/2019	ND	432	108	400	7.69	

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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:	01/29/2019
Reported:	02/06/2019	Sampling Type:	Soil
Project Name:	LUSITANO 27-34	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	FLUID DELIVERY - LEA CO NM		

Sample ID: E H4 12'' (H900333-16)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	02/01/2019	ND	432	108	400	7.69	

Sample ID: W H3 0-4'' (H900333-17)

Chloride, SM4500Cl-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	02/01/2019	ND	432	108	400	7.69	

Sample ID: W H3 12'' (H900333-18)

Chloride, SM4500Cl-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	02/01/2019	ND	432	108	400	7.69	

Sample ID: W H4 0-4'' (H900333-19)

Chloride, SM4500Cl-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	02/01/2019	ND	432	108	400	7.69	

Sample ID: W H4 12'' (H900333-20)

Chloride, SM4500Cl-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	02/01/2019	ND	432	108	400	7.69	

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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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:	01/29/2019
Reported:	02/06/2019	Sampling Type:	Soil
Project Name:	LUSITANO 27-34	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	FLUID DELIVERY - LEA CO NM		

Sample ID: S H1 0-6" (H900333-21)

Chloride, SM4500Cl-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	02/01/2019	ND	432	108	400	7.69	

Sample ID: S H1 12" (H900333-22)

Chloride, SM4500Cl-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	02/01/2019	ND	432	108	400	7.69	

Sample ID: S H5 0-4" (H900333-23)

Chloride, SM4500Cl-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	02/01/2019	ND	432	108	400	7.69	

Sample ID: S H5 12" (H900333-24)

Chloride, SM4500Cl-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	02/01/2019	ND	432	108	400	7.69	

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

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CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Fluid Delivery	**BILL TO**	
Project Manager:	Joel Lowry	**P.O. #:**	
Address:	PO 896	**Company:**	Lowry Environmental
City:	Lovington **State:** NM **Zip #**	**Attn:**	CO Joel Lowry
Phone #:	432-466-4450 **Fax #:**	**Address:**	
Project #:	**Project Owner:**	**City:**	
Project Name:	Lusitano 27-34	**State:**	**Zip:**
Project Location:	Lea County, New Mexico	**Phone #:**	
Sampler Name:	Joel Lowry	**Fax #:**	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST										
Lab I.D.	**Sample I.D.**	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	**DATE**	**TIME**	Chloride	TPH 8015	BTEX 8021								
H900333																									
1	V1 0-4"	G	1			x					x		1/29/19		x	x	x								
2	V1 12"-R	G	1			x					x		1/29/19		x	x	x								
3	V2 0-4"	G	1			x					x		1/29/19		x										
4	V2 12"	G	1			x					x		1/29/19		x										
5	V3 0-6"	G	1			x					x		1/29/19		x	x									
6	V3 16"	G	1			x					x		1/29/19		x										
7	V4 0-4"	G	1			x					x		1/29/19		x										
8	V4 16"	G	1			x					x		1/29/19		x										
9	V5 0-4"	G	1			x					x		1/29/19		x										
10	V5 18"-R	G	1			x					x		1/29/19		x	x	x								

Relinquished By: Joel Lowry	**Date:** 1/30/19 **Time:** 13:40	**Received By:** Jodi Henson	**Phone Result:** ☐ Yes ☐ No **Add'l Phone #:**
Relinquished By:	**Date:** **Time:**	**Received By:**	**Fax Result:** ☐ Yes ☐ No **Add'l Fax #:**
			REMARKS: joel@lowryenvironmental.com

Delivered By: (Circle One) Sampler - UPS - Bus - Other: 5.8°C / #97

Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No

CHECKED BY: (Initials) JH

FORM-006 R 2.0

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

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CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	Fluid Delivery	**BILL TO**	
Project Manager:	Joel Lowry	**P.O. #:**	
Address:	PO 896	**Company:**	Lowry Environmental
City:	Lovington **State:** NM **Zip #**	**Attn:**	CO Joel Lowry
Phone #:	432-466-4450 **Fax #:**	**Address:**	
Project #:	**Project Owner:**	**City:**	
Project Name:	Lusitano 27-34	**State:**	**Zip:**
Project Location:	Lea County, New Mexico	**Phone #:**	
Sampler Name:	Joel Lowry	**Fax #:**	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	Chloride	TPH 8015	BTEX 8021
H900333																	
11	NH1 0-4"	G	1			x					x		1/29/19		x		
12	NH1 12"	G	1			x					x		1/29/19		x		
13	EH3 0-4"	G	1			x					x		1/29/19		x		
14	EH3 12"	G	1			x					x		1/29/19		x		
15	EH4 0-6"	G	1			x					x		1/29/19		x		
16	EH4 12"	G	1			x					x		1/29/19		x		
17	WH3 0-4"	G	1			x					x		1/29/19		x		
18	WH3 12"	G	1			x					x		1/29/19		x		
19	WH4 0-4"	G	1			x					x		1/29/19		x		
20	WH4 12"	G	1			x					x		1/29/19		x		

Relinquished By: Joel Lowry	**Date:** 1/30/19 **Time:** 13:40	**Received By:** Jodi Henson	
Relinquished By:	**Date:** **Time:**	**Received By:**	
Delivered By: (Circle One) Sampler - UPS - Bus - Other: 5.8°C / #97	**Sample Condition** Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	**CHECKED BY: (Initials)** JA	

Phone Result: ☐ Yes ☐ No **Add'l Phone #:**
Fax Result: ☐ Yes ☐ No **Add'l Fax #:**
REMARKS: joel@lowryenvironmental.com

FORM-006 R 2.0

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

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CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	Fluid Delivery	**BILL TO**	
Project Manager:	Joel Lowry	**P.O. #:**	
Address:	PO 896	**Company:**	Lowry Environmental
City:	Lovington **State:** NM **Zip #**	**Attn:**	CO Joel Lowry
Phone #:	432-466-4450 **Fax #:**	**Address:**	
Project #:	**Project Owner:**	**City:**	
Project Name:	Lusitano 27-34	**State:**	**Zip:**
Project Location:	Lea County, New Mexico	**Phone #:**	
Sampler Name:	Joel Lowry	**Fax #:**	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	ANALYSIS REQUEST: Chloride	TPH 8015	BTEX 8021
H900333																	
21	SH1 0-6"	G	1			x					x		1/29/19		x		
22	SH1 12"	G	1			x					x		1/29/19		x		
23	SH5 0-4"	G	1			x					x		1/29/19		x		
24	SH5 12"	G	1			x					x		1/29/19		x		

Relinquished By: Joel Lowry	**Date:** 1/30/19 **Time:** 13:40	**Received By:** Jodi Henson	
Relinquished By:	**Date:** **Time:**	**Received By:**	
Delivered By: (Circle One) Sampler - UPS - Bus - Other: 5.8°C / #97	**Sample Condition** Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	**CHECKED BY: (Initials)**	

Phone Result: ☐ Yes ☐ No **Add'l Phone #:**
Fax Result: ☐ Yes ☐ No **Add'l Fax #:**
REMARKS: joel@lowryenvironmental.com

FORM-006 R 2.0

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

Attachment #8
Photographic Log

PHOTOLOG

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

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

PHOTOLOG

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

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

PHOTOLOG

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

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

PHOTOLOG

Photo 7: View of the affected area and sample location, facing North.

Photo 8: View of the affected area and sample location, facing Northeast.

Attachment #9
Release Notification (FORM C-141)

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NMAP1826381249
District RP	2RP-4975
Facility ID	N/A
Application ID	pMAP1826380980

Release Notification

Responsible Party

Responsible Party:	Devon Energy	OGRID:	06137
Contact Name:	Stephen Richards	Contact Telephone:	575-252-3717
Contact email	Stephen.Richards@dvn.com	Incident # *(assigned by OCD)*	**NMAP1826381249**
Contact mailing address:	PO Box 250, Artesia, NM 88211		

Location of Release Source

Latitude 32.104407 N Longitude 103.757353 W

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Lusitano 27-34 Fed Com 235H	Site Type: Off well pad, along side of lease road
Date Release Discovered: 9/5/18, 8:30 PM	API# *(if applicable): 30-015-44424*

Unit Letter	Section	Township	Range	County
H	27	25S	31E	EDDY

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 325	Volume Recovered (bbls) 250
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release
A contractor's lay flat hose coupler failed, releasing approximately 325 barrels of treated produced water on to the ground. The spill traveled north and south along the lease road. The northern most point was 32.105300 N, 103.757290 W and the southern most point was 32.103610N, 103.757290 W. Approximately 250 barrels were recovered.

State of New Mexico
Oil Conservation Division

Incident ID	NMAP1826381249
District RP	2RP-4975
Facility ID	N/A
Application ID	pMAP1826380980

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Spill is over 25 barrels.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Brett Fulks sent email 9/7/18 at 7:20 AM to Jim Griswold, Mike Bratcher, and Maria Pruett with the OCD and to Shelly Tucker with the BLM.

Initial Response

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

☒ The source of the release has been stopped.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: __Denise Menoud_____ Title: _____Field Admin Support_____

Signature: ___ Denise A. Menoud _____ Date: ___9/18/2018_____

email: _ denise.menoud@dvn.com_____ Telephone: ____575-746-5544_____

OCD Only

Received by: _____ Date: __09/20/18_____