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Final Closure Report

Grizzly Energy
Cole State #16
Lea County, New Mexico
Unit Letter "D", Section 16, Township 22 South, Range 37 East
Latitude 32.39811 North, Longitude 103.17327 West
NMOCD Incident # NCH1903360398

Prepared For:

Grizzly Energy
4001 Penbrook, Suite 201
Odessa, TX 79762

Prepared By:

Hungry Horse LLC
4024 Plains Hwy
Lovington, NM 88260

July 2020

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Project Manager

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HUNGRY HORSE, LLC

The following *Final Closure Report* serves as a condensed update on field activities undertaken at the afore referenced Site.

Background:

The site is located in Unit Letter D (NW/NW), Section 16, Township 22 South, Range 37 East, approximately 2.6 miles south west of Eunice, in Lea County, New Mexico. The property is owned by the State of New Mexico.

The release occurred on an active well pad; latitude 32.39811 North, Longitude 103.17327 West. Topographic Map, Water Well Proximity Map, and Site and Sample Map are included as Figure 1, Figure 2, and Figure 3, respectively. The initial NMOC Form C-141 indicated that on December 11, 2018 approximately 1 bbls of crude oil and 22 bbls of produced water were released when the flow line froze, causing it to burst at the seam. A vacuum truck was dispatched to the site and recovered approximately 22 bbls of fluid. A roustabout crew surface scraped the release area and stockpiled the contaminated soil onsite atop plastic. Previously submitted pages of the NMOCD Form C-141 are available on the NMOCD Imaging System. The Remediation and Closure pages of the NMOCD Form C-141 are included as Attachment V.

The fluid spread out to an area measuring approximately 8,000 sq. ft. on the well pad and 1,500 sq. ft. in the pasture area.

NMOCD Site Classification:

A search of the New Mexico Office of the State Engineer (NMOSE) and United States Geological Survey (USGS) groundwater databases was completed in an effort to determine the horizontal distance to known water sources within a half mile radius of the Release Site. Approximate depth to groundwater was determined using maintained and published water well data. Karst mapping indicates the site is located in a Low Karst designated area. Depth to groundwater information is provided as Attachment II and the results are depicted on Figures 1 & 2.

Utilizing this information, the NMOCD Closure Criteria for the Site were determined as follows:

Depth to Groundwater	Constituent	Method	Limit
51' – 100'	Chloride	EPA 300.0 or SM4500 CLB	10,000 mg/kg
	TPH (GRO + DRO + MRO)	EPA SW-846 Method 8015M Ext	2,500 mg/kg
	DRO + GRO	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Methods 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Methods 8021B or 8260B	10 mg/kg

Delineation and Remediation Activities:

On August 20, 2019, remediation activities commenced on location. The release area was scraped of any visible stains, stockpiled on plastic, and the area sampled. During sampling, a series of sample test trenches were advanced throughout the release area in an effort to determine the vertical extent of contamination. In addition, sample test trenches were advanced along the inferred edges of the affected area in an effort to determine the horizontal extent of contamination. During the advancement of the test trenches, soil samples were collected and field screened for chloride concentrations utilizing a LaMotte Chloride Kit (Titration Method).

A total of seven (7) delineation soil samples, SP1 through SP7, and six (6) horizontal soil samples, SW1 through SW6, were submitted to the laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated BTEX, TPH, and chloride concentrations were below the applicable NMOCD Closure Criteria in each of the submitted soil samples and the horizontal extent of the release area was adequately defined.

A Site and Sample Map is provided as Figure 3 and Field data is provided as Attachment III. A Summary of Soil Sample Laboratory Analytical Results is provided as Table 1 and Laboratory Analytical Reports are provided as Attachment IV.

The affected area just off the pad measured approximately 133 ft. in length and 11 ft. in width. The affected area on the pad measured approximately 192 ft. in length and ranged from 17 ft. to 43 ft. in width. During remediation activities approximately 54 cubic yards of impacted soil were hauled to an NMOCD-approved disposal facility.

Restoration, Reclamation, and Re-Vegetation:

The affected areas were contoured to achieve erosion control and preserve surface water flow. Affected areas not on production areas will be reseeded with an approved seed mixture during the first favorable growing season following closure of the site.

Closure Request:

Remediation activities were conducted in accordance with applicable NMOCD Regulations. The affected area was surface scraped and soil transported to an NMOCD-approved disposal facility. Laboratory analytical results from confirmation soil samples indicate concentrations of BTEX, TPH, and chloride are below the NMOCD Closure Criteria.

Based on laboratory analytical results and field activities conducted to date, Hungry Horse recommends Grizzly Energy provide copies of this *Final Closure Report* to the appropriate agencies and request closure be granted to the Cole State #16 Site.

Limitations:

Hungry Horse, LLC, has prepared this Site Assessment and Remediation Work Plan to the best of its ability. No other warranty, expressed or implied, is made or intended. Hungry Horse has examined and relied upon documents referenced in the report and on oral statements made by certain individuals. Hungry Horse has not conducted an independent examination of the facts contained in referenced materials and statements. Hungry Horse has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Hungry Horse has prepared the report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Hungry Horse notes that the facts and conditions referenced in this report may change over time, and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

Distribution:

Grizzly Energy
4001 Penbrook, Suite 201
Odessa, TX 79762

New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division, District 1
1625 N. French Drive
Hobbs, NM 88240

Figures

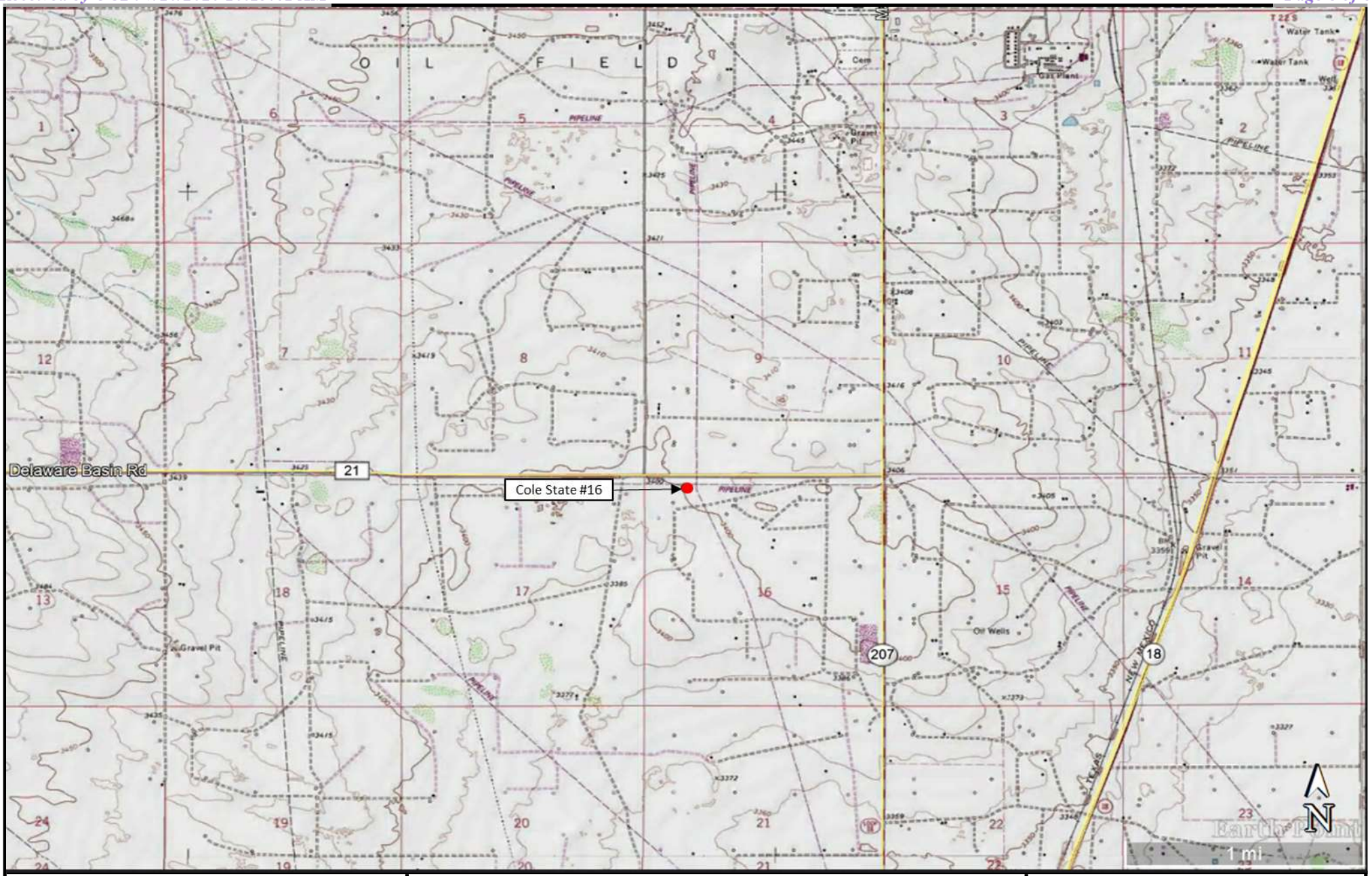

Figure 1
Topographic Map
Grizzly Energy
Cole State #16
GPS: 32.39811, -103.17327
Lea County

Legend:
- Site Location

Drafted: ln
Checked: dd
Date: 6/15/20

Hungry-Horse, LLC
Oil & Gas Services

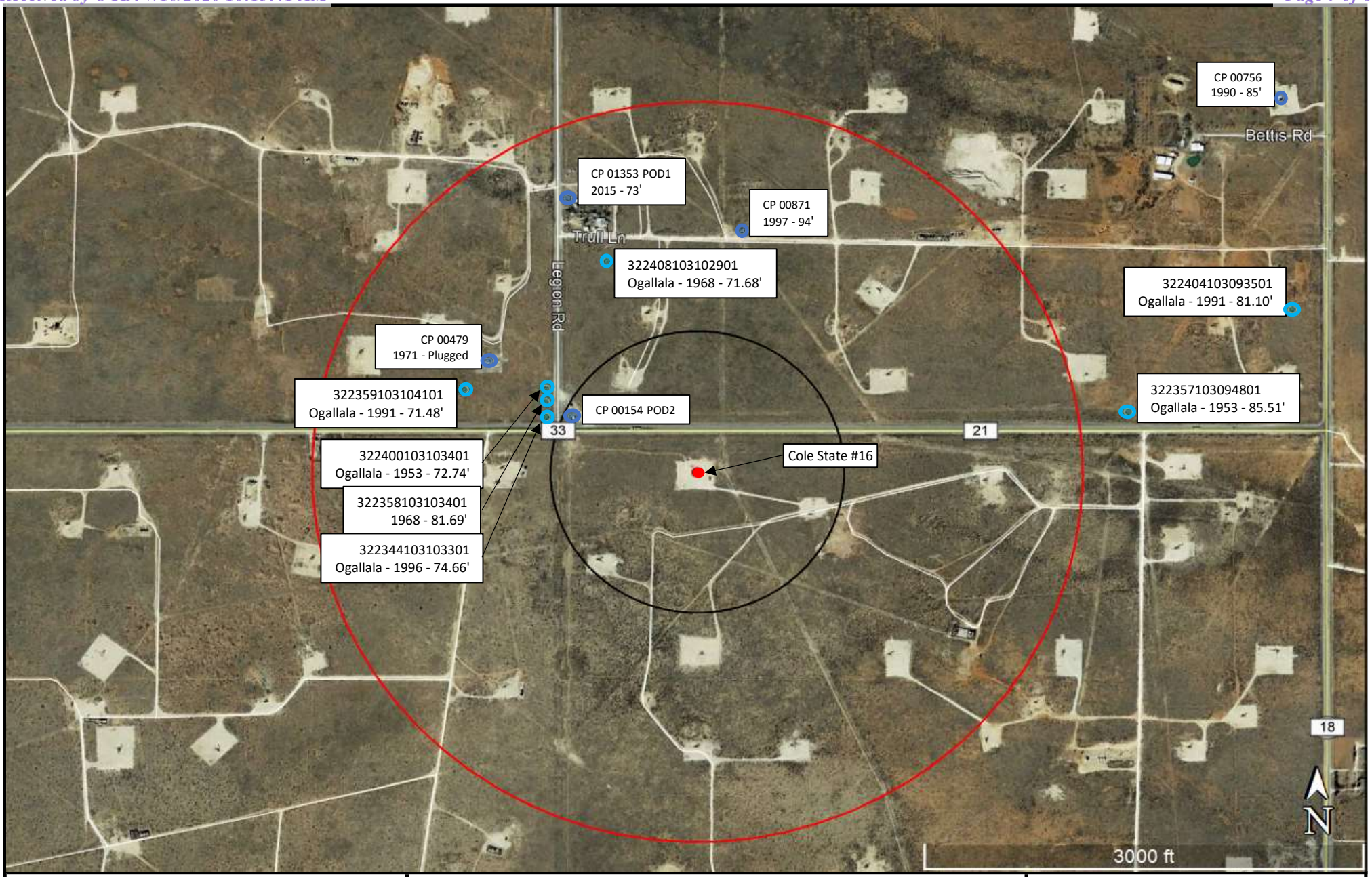

Figure 2
Water Well Proximity Map
Grizzly Energy
Cole State #16
GPS: 32.39811, -103.17327
Lea County

Legend:

- Site Location
- USGS Water Well
- OSE Water Well
- 1,000 foot radius
- Half-mile radius

Drafted: ln
Checked: dd
Date: 6/15/20

Hungry-Horse, LLC
Oil & Gas Services

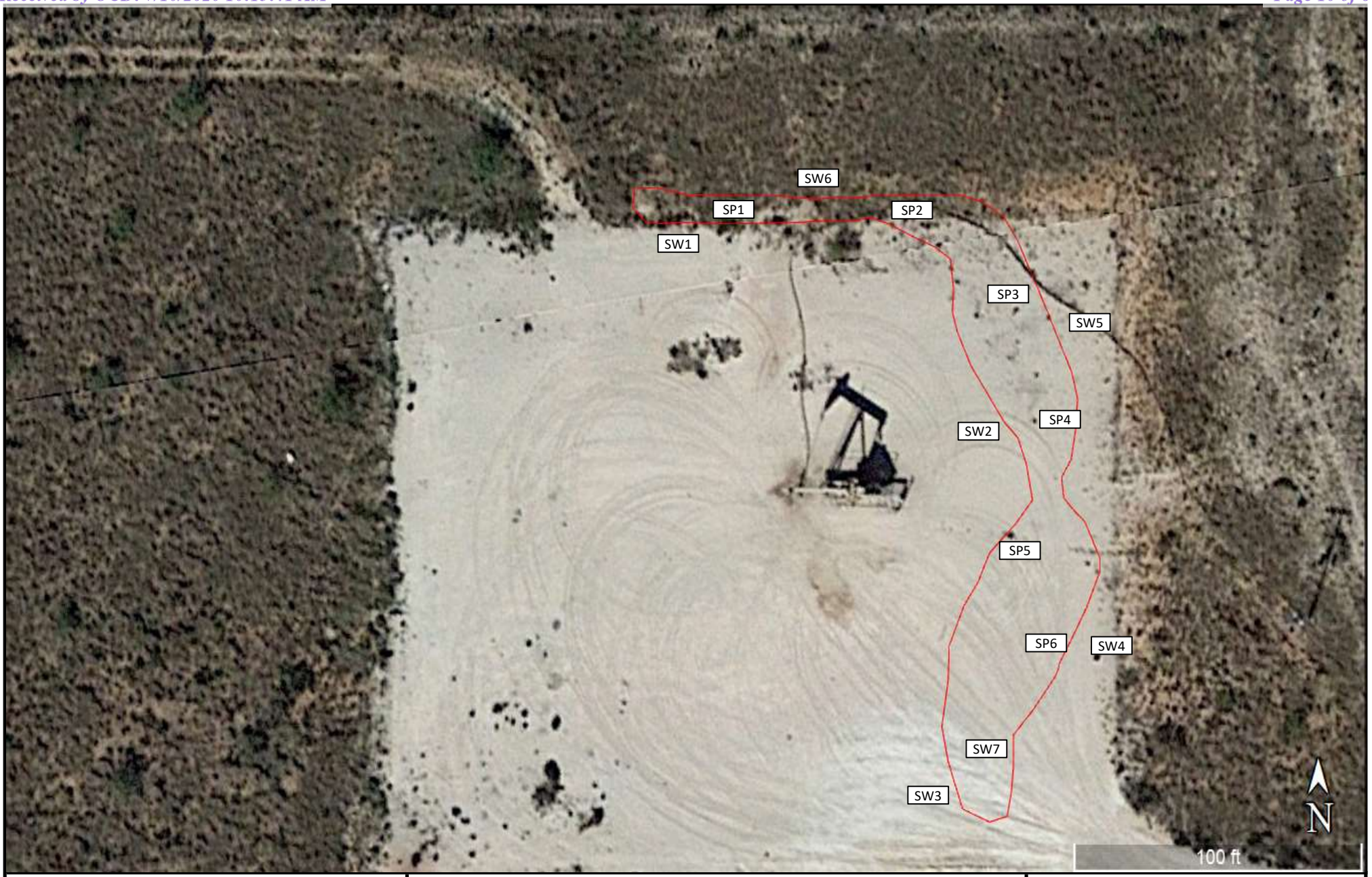

Figure 3

Site and Sample Location Map

Grizzly Energy

Cole State #16

GPS: 32.39811, -103.17327

Lea County

Legend:

SP1 Sample Location

Affected Area

Drafted: ln

Checked: dd

Date: 6/15/20

Hungry-Horse, LLC
Oil & Gas Services

Tables

TABLE 1
Summary of Soil Sample Field and Laboratory Analytical Results
Grizzly Energy
Cole State #16
NMOCD Ref. #: NCH1903360398

Sample ID	Date	Depth	Soil Status	Field Chloride (mg/kg)	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)
SP1-2	8/21/19	1'	In-Situ	80	<0.050	<0.300	<10.0	47.5	47.5	10.4	57.9	16
SP2-2	8/22/19	2'	In-Situ	160	<0.050	<0.300	<10.0	18.9	18.9	10.4	29.3	176
SP3-2	8/21/19	2'	In-Situ	160	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	64
SP4-2	8/21/19	2'	In-Situ	160	<0.050	<0.300	<10.0	874	874	260	1,134	144
SP5-2	8/21/19	2'	In-Situ	760	<0.050	<0.300	<10.0	158	158	55.1	213.1	224
SP6-3	8/21/19	3'	In-Situ	160	<0.050	<0.300	<10.0	296	296	63	359	64
SP7-2	8/22/19	2'	In-Situ	160	<0.050	<0.300	<50.0	910	910	149	1,059	64
SW1-2'	8/22/19	2'	In-Situ	160	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32
SW2-2'	8/22/19	2'	In-Situ	600	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	480
SW3-2'	8/22/19	2'	In-Situ	240	<0.050	<0.300	<10.0	20.1	20.1	<10.0	20.1	112
SW4-2'	8/22/19	2'	In-Situ	240	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16
SW5-2'	8/22/19	2'	In-Situ	400	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SW6-2'	8/22/19	2'	In-Situ	480	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
NMOCD Closure Criteria				-	**10**	**50**	-	-	**1,000**	-	**2,500**	**10,000**

NOTES:
- = Sample not analyzed for that constituent.
Bold text denotes a concentration that exceeds the NMOCD Closure Criteria

Attachment I
Site Photographs

Photographic Log

Photo Number: #1	
Photo Direction: North	
Photo Description: Looking across release area	

Photo Number: #2	
Photo Direction: East	
Photo Description: Looking across release area	

Photographic Log

Photo Number: #3 **Photo Direction:** Northwest **Photo Description:** During surface scrape	

Photo Number: #4 **Photo Direction:** North **Photo Description:** During surface scrape	

Photographic Log

Photo Number: #5 **Photo Direction:** North **Photo Description:** During surfce scrape	

Photo Number: #6 **Photo Direction:** East **Photo Description:** After surfce scrape	

Attachment II
Depth to Groundwater Information

New Mexico Office of the State Engineer
Wells with Well Log Information

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(in feet)

POD Number	POD Sub-basin Code	County	Source	q 64	q 16	q 4	Sec	Tws	Rng	X	Y	Distance	Start Date	Finish Date	Log File Date	Depth Well	Depth Water	Driller	License Number
CP 00479	CP	LE	Shallow	4	4	4	08	22S	37E	671398	3586231*	444			03/18/1971			UNKNOWN	
CP 00871	CP	LE	Shallow			3	09	22S	37E	671902	3586541*	516	09/29/1997	09/29/1997	11/04/1997	167	94	EADES, ALAN	1044
CP 01353 POD1	CP	LE	Shallow	3	1	3	09	22S	37E	671514	3586640	667	05/04/2015	05/18/2015	05/28/2015	93	73	BENTLE, BILLY L.	1292

Record Count: 3

UTMNAD83 Radius Search (in meters):

Easting (X): 671797.34 **Northing (Y):** 3586035.68 **Radius:** 880

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

New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	CP 00154 POD2	3	3	3	09	22S	37E	671600	3586239*

Driller License:		**Driller Company:**			
Driller Name:	ED BURKE				
Drill Start Date:	01/31/1946	**Drill Finish Date:**	01/31/1946	**Plug Date:**	
Log File Date:		**PCW Rcv Date:**	03/12/1992	**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	34 GPM
Casing Size:		**Depth Well:**	172 feet	**Depth Water:**	

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

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: CP 00479 **Subbasin:** CP **Cross Reference:** -

Primary Purpose: PRO 72-12-1 PROSPECTING OR DEVELOPMENT OF NATURAL RESOURCE

Primary Status: PMT PERMIT

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 0 **Cause/Case:** -

Owner: MORAN OIL PROD & DRILLING CORP

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	473485	72121	1969-10-02	EXP	EXP	CP 00479	T		3	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q16	Q4	Sec	Tws	Rng	X	Y	Other Location Desc
CP 00479		Shallow	4	4	4	08	22S	37E	671398	3586231*	

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	CP 00756	2	2	4	09	22S	37E	672999	3586863*

Driller License:	208	**Driller Company:**	VAN NOY, W.L.		
Driller Name:	VAN NOY, W.L.				
Drill Start Date:	10/26/1990	**Drill Finish Date:**	10/30/1990	**Plug Date:**	
Log File Date:	11/05/1990	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	5.00	**Depth Well:**	125 feet	**Depth Water:**	85 feet

Water Bearing Stratifications:	Top	Bottom	Description
	80	125	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	106	121

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

New Mexico Office of the State Engineer
Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	CP 00871			3	09	22S	37E	671902	3586541*

Driller License:	1044	**Driller Company:**	EADES WELL DRILLING & PUMP SERVICE		
Driller Name:	EADES, ALAN				
Drill Start Date:	09/29/1997	**Drill Finish Date:**	09/29/1997	**Plug Date:**	
Log File Date:	11/04/1997	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	5.75	**Depth Well:**	167 feet	**Depth Water:**	94 feet

Water Bearing Stratifications:	Top	Bottom	Description
	124	145	Sandstone/Gravel/Conglomerate
	145	164	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	147	167

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

New Mexico Office of the State Engineer
Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Twn	Rng	(NAD83 UTM in meters) X	Y
	CP 01353 POD1	3	1	3	09	22S	37E	671514	3586640

Driller License:	1292	**Driller Company:**	BENTLE WATER WELL SERVICE		
Driller Name:	BENTLE, BILLY L.				
Drill Start Date:	05/04/2015	**Drill Finish Date:**	05/18/2015	**Plug Date:**	
Log File Date:	05/28/2015	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	9 GPM
Casing Size:	6.00	**Depth Well:**	93 feet	**Depth Water:**	73 feet

Water Bearing Stratifications:	Top	Bottom	Description
	83	93	Other/Unknown

Casing Perforations:	Top	Bottom
	73	93

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USGS Water Resources

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

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Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 322344103103301

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 322344103103301 22S.37E.09.33333

Lea County, New Mexico
Latitude 32°23'57", Longitude 103°10'34" NAD27
Land-surface elevation 3,400.70 feet above NGVD29
The depth of the well is 172 feet below land surface.
This well is completed in the Ogallala Formation (121OGLL) 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
1970-12-03		D	74.09			2		U		
1976-01-22		D	73.98			2		U		
1986-02-28		D	74.33			2		U		
1991-05-01		D	74.03			2		U		
1996-03-08		D	74.66			2		S		

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	S	Steel-tape measurement.
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.

Questions about sites/data?
Feedback on this web site

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USGS Water Resources

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

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Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 322357103094801

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 322357103094801 22S.37E.09.423331

Lea County, New Mexico
Latitude 32°23'57", Longitude 103°09'48" NAD27
Land-surface elevation 3,410 feet above NAVD88
The depth of the well is 115 feet below land surface.
This well is completed in the Ogallala Formation (121OGLL) 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
1953-09-29		D	85.51			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.

Questions about sites/data?
Feedback on this web site
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USGS Water Resources

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

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Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 322358103103401

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 322358103103401 22S.37E.09.313

Lea County, New Mexico
Latitude 32°23'58", Longitude 103°10'34" NAD27
Land-surface elevation 3,399 feet above NAVD88

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
1968-03-07		D	81.69			2	R	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	R	Site had been pumped recently.
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.

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: USGS Water Data Support Team
Page Last Modified: 2020-06-29 13:33:56 EDT
0.29 0.26 nadww01

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Agency code = usgs
site_no list =
- 322359103104101

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 322359103104101 22S.37E.08.424134

Lea County, New Mexico
Latitude 32°23'59", Longitude 103°10'41" NAD27
Land-surface elevation 3,402 feet above NAVD88
The depth of the well is 168 feet below land surface.
This well is completed in the Ogallala Formation (121OGLL) 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
1966-04-21		D	75.80			2		U		
1970-12-03		D	71.95			2		U		
1976-01-22		D	71.85			2		U		
1981-03-17		D	71.69			2		U		
1986-02-28		D	71.77			2		U		
1991-05-02		D	71.48			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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U.S. Department of the Interior | U.S. Geological Survey

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

National Water Information System: Web Interface

USGS Water Resources

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

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Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 322400103103401

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 322400103103401 22S.37E.09.31313

Lea County, New Mexico
Latitude 32°24'00", Longitude 103°10'34" NAD27
Land-surface elevation 3,400 feet above NAVD88
The depth of the well is 140 feet below land surface.
This well is completed in the Ogallala Formation (121OGLL) 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
1953-09-29		D	72.74			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.

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

National Water Information System: Web Interface

USGS Water Resources

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

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Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 322404103093501

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 322404103093501 22S.37E.09.422431

Lea County, New Mexico
Latitude 32°24'04", Longitude 103°09'35" NAD27
Land-surface elevation 3,412 feet above NAVD88
The depth of the well is 140 feet below land surface.
This well is completed in the Ogallala Formation (121OGLL) 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
1968-03-11		D	83.84			2		U		
1970-12-08		D	86.83			2		U		
1986-02-27		D	81.99			2		U		
1991-05-02		D	81.10			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.

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help

Data Tips
Explanation of terms
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News

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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: USGS Water Data Support Team
Page Last Modified: 2020-07-07 15:07:37 EDT
0.27 0.25 nadww01

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Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 322408103102901

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 322408103102901 22S.37E.09.313331

Lea County, New Mexico
Latitude 32°24'08", Longitude 103°10'29" NAD27
Land-surface elevation 3,402 feet above NAVD88
The depth of the well is 215 feet below land surface.
This well is completed in the Ogallala Formation (121OGLL) 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
1968-03-07		D	71.68			2	R	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	R	Site had been pumped recently.
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.

Attachment III
Field Data

Vanguard

8-20-19

Cde State #016

Sp1 - surf	10:01	6x20 =	120
Sp1 - 1'	10:20	4x20 =	80
Sp1 - 2'	10:37	4x20 =	80
Sp2 - surf	10:45	18x20 =	360
Sp2 - 1'	10:53	8x20 =	160
Sp2 - 2'	11:07	8x20 =	160
Sp2 - surf	11:20	8x20 =	160
Sp3 - 1'	11:27	8x20 =	160
Sp3 - 2'	11:35	8x20 =	160
Sp4 - surf	11:43	8x20 =	160
Sp4 - 1'	11:50	8x20 =	160
Sp4 - 2'	11:57	8x20 =	160

Cole St 016

8-21-19

Sp 5 - surf	7:57	20x20 = 400
Sp 5 - 1'	8:04	20x20 = 400
Sp 5 - 2'	8:20	38x20 = 760
Sp 6 - surf	8:52	60x20 = 1200
Sp 6 - 1', TPH	8:57	34x20 = 680
Sp 6 - 2' TPH	9:00	8x20 = 160
Sp 6 - 3' TPH	9:37	8x20 = 160

need trackhoe will go deeper tomorrow

Sp 7 - surf

Sp 7 - 1',

Sp 7 - 2'

Cole St 016 8-22-19

SW1 - Surf	8:49	12x20 = 240
SW1 - 1'	8:51	8x20 = 160
SW1 - 2'	8:54	8x20 = 160
SW2 - Surf	9:06	24x20 = 480
SW2 - 1'	9:08	24x20 = 480
SW2 2'	9:10	30x20 = 600
SW3 - Surf	9:40	12x20 = 240
SW3 - 1'	9:43	16x20 = 320
SW3 - 2'	9:47	12x20 = 240
SW4 - Surf	9:57	12x20 = 240
SW4 - 1'	10:01	12x20 240
SW4 - 2'	10:07	12x20 = 240
SW5 - Surf	10:15	24x20 = 480
SW5 - 1'	10:20	24x20 = 480
SW5 - 2	10:27	20x20 = 400
SW 6 - Surf	10:37	28x20 560
SW 6 - 1'	10:41	28 x 20 = 560
SW 6 - 2'	10:49	24x 20 = 480

Attachment IV
Laboratory Analytical Reports

CARDINAL Laboratories

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

August 26, 2019

NATALIE GLADDEN

Hungry Horse Environmental

P.O. Box 1058

Hobbs, NM 88240

RE: COLE STATE #16

Enclosed are the results of analyses for samples received by the laboratory on 08/22/19 10:40.

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

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Hungry Horse Environmental
NATALIE GLADDEN
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	08/22/2019	Sampling Date:	08/21/2019
Reported:	08/26/2019	Sampling Type:	Soil
Project Name:	COLE STATE #16	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	VANGUARD/ GRIZZLY		

Sample ID: SP 1 - 2 (H902887-01)

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	08/23/2019	ND	1.69	84.6	2.00	7.56	
Toluene*	<0.050	0.050	08/23/2019	ND	1.83	91.3	2.00	8.61	
Ethylbenzene*	<0.050	0.050	08/23/2019	ND	1.94	97.0	2.00	8.57	
Total Xylenes*	<0.150	0.150	08/23/2019	ND	5.84	97.4	6.00	8.47	
Total BTEX	<0.300	0.300	08/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *92.0 %* *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	**16.0**	16.0	08/26/2019	ND	432	108	400	0.00	

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	08/24/2019	ND	191	95.6	200	3.67	
DRO >C10-C28*	**47.5**	10.0	08/24/2019	ND	189	94.4	200	6.47	
EXT DRO >C28-C36	**10.4**	10.0	08/24/2019	ND					

Surrogate: 1-Chlorooctane *104 %* *41-142*

Surrogate: 1-Chlorooctadecane *113 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

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:

Hungry Horse Environmental
NATALIE GLADDEN
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	08/22/2019	Sampling Date:	08/21/2019
Reported:	08/26/2019	Sampling Type:	Soil
Project Name:	COLE STATE #16	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	VANGUARD/ GRIZZLY		

Sample ID: SP 3 - 2 (H902887-02)

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	08/23/2019	ND	1.69	84.6	2.00	7.56	
Toluene*	<0.050	0.050	08/23/2019	ND	1.83	91.3	2.00	8.61	
Ethylbenzene*	<0.050	0.050	08/23/2019	ND	1.94	97.0	2.00	8.57	
Total Xylenes*	<0.150	0.150	08/23/2019	ND	5.84	97.4	6.00	8.47	
Total BTEX	<0.300	0.300	08/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *91.5 %* *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	**64.0**	16.0	08/26/2019	ND	432	108	400	0.00	

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	08/24/2019	ND	191	95.6	200	3.67	
DRO >C10-C28*	<10.0	10.0	08/24/2019	ND	189	94.4	200	6.47	
EXT DRO >C28-C36	<10.0	10.0	08/24/2019	ND					

Surrogate: 1-Chlorooctane *110 %* *41-142*

Surrogate: 1-Chlorooctadecane *118 %* *37.6-147*

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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:

Hungry Horse Environmental
NATALIE GLADDEN
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	08/22/2019	Sampling Date:	08/21/2019
Reported:	08/26/2019	Sampling Type:	Soil
Project Name:	COLE STATE #16	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	VANGUARD/ GRIZZLY		

Sample ID: SP 4 - 2 (H902887-03)

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	08/23/2019	ND	1.69	84.6	2.00	7.56	
Toluene*	<0.050	0.050	08/23/2019	ND	1.83	91.3	2.00	8.61	
Ethylbenzene*	<0.050	0.050	08/23/2019	ND	1.94	97.0	2.00	8.57	
Total Xylenes*	<0.150	0.150	08/23/2019	ND	5.84	97.4	6.00	8.47	
Total BTEX	<0.300	0.300	08/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *90.8 %* *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	**144**	16.0	08/26/2019	ND	432	108	400	3.77	

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	08/24/2019	ND	191	95.6	200	3.67	
DRO >C10-C28*	**874**	10.0	08/24/2019	ND	189	94.4	200	6.47	
EXT DRO >C28-C36	**260**	10.0	08/24/2019	ND					

Surrogate: 1-Chlorooctane *111 %* *41-142*

Surrogate: 1-Chlorooctadecane *142 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Hungry Horse Environmental
NATALIE GLADDEN
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	08/22/2019	Sampling Date:	08/21/2019
Reported:	08/26/2019	Sampling Type:	Soil
Project Name:	COLE STATE #16	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	VANGUARD/ GRIZZLY		

Sample ID: SP 5 - 2 (H902887-04)

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	08/23/2019	ND	1.69	84.6	2.00	7.56	
Toluene*	<0.050	0.050	08/23/2019	ND	1.83	91.3	2.00	8.61	
Ethylbenzene*	<0.050	0.050	08/23/2019	ND	1.94	97.0	2.00	8.57	
Total Xylenes*	<0.150	0.150	08/23/2019	ND	5.84	97.4	6.00	8.47	
Total BTEX	<0.300	0.300	08/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *89.4 %* *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	**224**	16.0	08/26/2019	ND	432	108	400	3.77	

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	08/24/2019	ND	191	95.6	200	3.67	
DRO >C10-C28*	**158**	10.0	08/24/2019	ND	189	94.4	200	6.47	
EXT DRO >C28-C36	**55.1**	10.0	08/24/2019	ND					

Surrogate: 1-Chlorooctane *113 %* *41-142*

Surrogate: 1-Chlorooctadecane *134 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Hungry Horse Environmental
NATALIE GLADDEN
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	08/22/2019	Sampling Date:	08/21/2019
Reported:	08/26/2019	Sampling Type:	Soil
Project Name:	COLE STATE #16	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	VANGUARD/ GRIZZLY		

Sample ID: SP 2 - 2 (H902887-05)

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	08/23/2019	ND	1.69	84.6	2.00	7.56	
Toluene*	<0.050	0.050	08/23/2019	ND	1.83	91.3	2.00	8.61	
Ethylbenzene*	<0.050	0.050	08/23/2019	ND	1.94	97.0	2.00	8.57	
Total Xylenes*	<0.150	0.150	08/23/2019	ND	5.84	97.4	6.00	8.47	
Total BTEX	<0.300	0.300	08/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *92.1 %* *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	**176**	16.0	08/26/2019	ND	432	108	400	3.77	

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	08/24/2019	ND	191	95.6	200	3.67	
DRO >C10-C28*	**18.9**	10.0	08/24/2019	ND	189	94.4	200	6.47	
EXT DRO >C28-C36	<10.0	10.0	08/24/2019	ND					

Surrogate: 1-Chlorooctane *102 %* *41-142*

Surrogate: 1-Chlorooctadecane *113 %* *37.6-147*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Hungry Horse Environmental
NATALIE GLADDEN
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	08/22/2019	Sampling Date:	08/21/2019
Reported:	08/26/2019	Sampling Type:	Soil
Project Name:	COLE STATE #16	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	VANGUARD/ GRIZZLY		

Sample ID: SP 6 - 3 (H902887-06)

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	08/23/2019	ND	1.69	84.6	2.00	7.56	
Toluene*	<0.050	0.050	08/23/2019	ND	1.83	91.3	2.00	8.61	
Ethylbenzene*	<0.050	0.050	08/23/2019	ND	1.94	97.0	2.00	8.57	
Total Xylenes*	<0.150	0.150	08/23/2019	ND	5.84	97.4	6.00	8.47	
Total BTEX	<0.300	0.300	08/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *92.0 %* *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	**64.0**	16.0	08/26/2019	ND	432	108	400	3.77	

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	08/24/2019	ND	191	95.6	200	3.67	
DRO >C10-C28*	**296**	10.0	08/24/2019	ND	189	94.4	200	6.47	
EXT DRO >C28-C36	**63.0**	10.0	08/24/2019	ND					

Surrogate: 1-Chlorooctane *104 %* *41-142*

Surrogate: 1-Chlorooctadecane *123 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Hungry Horse Environmental
NATALIE GLADDEN
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	08/22/2019	Sampling Date:	08/21/2019
Reported:	08/26/2019	Sampling Type:	Soil
Project Name:	COLE STATE #16	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	VANGUARD/ GRIZZLY		

Sample ID: SP 7 - 2 (H902887-07)

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	08/26/2019	ND	1.69	84.6	2.00	7.56	
Toluene*	<0.050	0.050	08/26/2019	ND	1.83	91.3	2.00	8.61	
Ethylbenzene*	<0.050	0.050	08/26/2019	ND	1.94	97.0	2.00	8.57	GC-NC
Total Xylenes*	<0.150	0.150	08/26/2019	ND	5.84	97.4	6.00	8.47	
Total BTEX	<0.300	0.300	08/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *111 %* *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	**64.0**	16.0	08/26/2019	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	08/24/2019	ND	191	95.6	200	3.67	
DRO >C10-C28*	**910**	50.0	08/24/2019	ND	189	94.4	200	6.47	
EXT DRO >C28-C36	**149**	50.0	08/24/2019	ND					

Surrogate: 1-Chlorooctane *120 %* *41-142*

Surrogate: 1-Chlorooctadecane *165 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
GC-NC	8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are reported as ND.
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

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Vanguard / Grizzly	**BILL TO**	P.O. #:	
Project Manager:		Company:	
Address:		Attn:	
City: State: Zip:		Address:	
Phone #: Fax #:		City:	
Project #: Project Owner:		State: Zip:	
Project Name:		Phone #:	
Project Location: Cole State #16		Fax #:	
Sampler Name: C. Salgado			

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	Chlorides	BTEX	TPH
H902887																	
1	SP1-2	G	1			X					X		8-21-19	10:37	X	X	X
2	SP3-2	G	1			X					X			11:35			
3	SP4-2	G	1			X					X			11:57			
4	SP5-2	G	1			X					X			8:20			
5	SP2-2	G	1			X					X			11:07			
6	SP6-3	G	1			X					X			9:37			
7	SP7-2	G	1			X					X			10:00			

Relinquished By: Katy m Montenez	Date: 8/22/19 Time: 10:40	Received By: Jodi Henson	Phone Result: ☐ Yes ☐ No	Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	Fax Result: ☐ Yes ☐ No	Add'l Fax #:
Delivered By: (Circle One) 1.8°c #197	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)	REMARKS: kmontenez@Hungry-Horse.com nGladden@Hungry-Horse.com	
Sampler - UPS - Bus - Other: Corrected 2.2°c				

CARDINAL Laboratories

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

September 03, 2019

NATALIE GLADDEN

Hungry Horse Environmental

P.O. Box 1058

Hobbs, NM 88240

RE: COLE STATE #16

Enclosed are the results of analyses for samples received by the laboratory on 08/27/19 12:10.

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:

Hungry Horse Environmental
NATALIE GLADDEN
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	08/27/2019	Sampling Date:	08/22/2019
Reported:	09/03/2019	Sampling Type:	Soil
Project Name:	COLE STATE #16	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	VANGUARD/ GRIZZLY		

Sample ID: SW 1 - 2' (H902943-01)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2019	ND	1.62	81.1	2.00	1.90	
Toluene*	<0.050	0.050	08/29/2019	ND	1.81	90.5	2.00	0.851	
Ethylbenzene*	<0.050	0.050	08/29/2019	ND	1.97	98.7	2.00	0.544	
Total Xylenes*	<0.150	0.150	08/29/2019	ND	5.90	98.3	6.00	0.679	
Total BTEX	<0.300	0.300	08/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *91.8 %* *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	**32.0**	16.0	08/29/2019	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	216	108	200	1.12	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	218	109	200	2.28	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane *124 %* *41-142*

Surrogate: 1-Chlorooctadecane *130 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

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:

Hungry Horse Environmental
NATALIE GLADDEN
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	08/27/2019	Sampling Date:	08/22/2019
Reported:	09/03/2019	Sampling Type:	Soil
Project Name:	COLE STATE #16	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	VANGUARD/ GRIZZLY		

Sample ID: SW 2 - 2' (H902943-02)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2019	ND	1.62	81.1	2.00	1.90	
Toluene*	<0.050	0.050	08/29/2019	ND	1.81	90.5	2.00	0.851	
Ethylbenzene*	<0.050	0.050	08/29/2019	ND	1.97	98.7	2.00	0.544	
Total Xylenes*	<0.150	0.150	08/29/2019	ND	5.90	98.3	6.00	0.679	
Total BTEX	<0.300	0.300	08/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *92.2 %* *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	**480**	16.0	08/29/2019	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	216	108	200	1.12	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	218	109	200	2.28	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane *120 %* *41-142*

Surrogate: 1-Chlorooctadecane *125 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

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:

Hungry Horse Environmental
NATALIE GLADDEN
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	08/27/2019	Sampling Date:	08/22/2019
Reported:	09/03/2019	Sampling Type:	Soil
Project Name:	COLE STATE #16	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	VANGUARD/ GRIZZLY		

Sample ID: SW 3 - 2' (H902943-03)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2019	ND	1.62	81.1	2.00	1.90	
Toluene*	<0.050	0.050	08/29/2019	ND	1.81	90.5	2.00	0.851	
Ethylbenzene*	<0.050	0.050	08/29/2019	ND	1.97	98.7	2.00	0.544	
Total Xylenes*	<0.150	0.150	08/29/2019	ND	5.90	98.3	6.00	0.679	
Total BTEX	<0.300	0.300	08/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *92.3 %* *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	**112**	16.0	08/29/2019	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	216	108	200	1.12	
DRO >C10-C28*	**20.1**	10.0	08/31/2019	ND	218	109	200	2.28	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane *118 %* *41-142*

Surrogate: 1-Chlorooctadecane *128 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Hungry Horse Environmental
NATALIE GLADDEN
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	08/27/2019	Sampling Date:	08/22/2019
Reported:	09/03/2019	Sampling Type:	Soil
Project Name:	COLE STATE #16	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	VANGUARD/ GRIZZLY		

Sample ID: SW 4 - 2' (H902943-04)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2019	ND	1.62	81.1	2.00	1.90	
Toluene*	<0.050	0.050	08/29/2019	ND	1.81	90.5	2.00	0.851	
Ethylbenzene*	<0.050	0.050	08/29/2019	ND	1.97	98.7	2.00	0.544	
Total Xylenes*	<0.150	0.150	08/29/2019	ND	5.90	98.3	6.00	0.679	
Total BTEX	<0.300	0.300	08/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *93.6 %* *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	**16.0**	16.0	08/29/2019	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	216	108	200	1.12	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	218	109	200	2.28	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane *122 %* *41-142*

Surrogate: 1-Chlorooctadecane *129 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

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:

Hungry Horse Environmental
NATALIE GLADDEN
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	08/27/2019	Sampling Date:	08/22/2019
Reported:	09/03/2019	Sampling Type:	Soil
Project Name:	COLE STATE #16	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	VANGUARD/ GRIZZLY		

Sample ID: SW 5 - 2' (H902943-05)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2019	ND	1.62	81.1	2.00	1.90	
Toluene*	<0.050	0.050	08/29/2019	ND	1.81	90.5	2.00	0.851	
Ethylbenzene*	<0.050	0.050	08/29/2019	ND	1.97	98.7	2.00	0.544	
Total Xylenes*	<0.150	0.150	08/29/2019	ND	5.90	98.3	6.00	0.679	
Total BTEX	<0.300	0.300	08/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *93.4 %* *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	<16.0	16.0	08/29/2019	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	216	108	200	1.12	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	218	109	200	2.28	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane *129 %* *41-142*

Surrogate: 1-Chlorooctadecane *136 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

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:

Hungry Horse Environmental
NATALIE GLADDEN
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	08/27/2019	Sampling Date:	08/22/2019
Reported:	09/03/2019	Sampling Type:	Soil
Project Name:	COLE STATE #16	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	VANGUARD/ GRIZZLY		

Sample ID: SW 6 - 2' (H902943-06)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2019	ND	1.62	81.1	2.00	1.90	
Toluene*	<0.050	0.050	08/29/2019	ND	1.81	90.5	2.00	0.851	
Ethylbenzene*	<0.050	0.050	08/29/2019	ND	1.97	98.7	2.00	0.544	
Total Xylenes*	<0.150	0.150	08/29/2019	ND	5.90	98.3	6.00	0.679	
Total BTEX	<0.300	0.300	08/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *93.0 %* *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	<16.0	16.0	08/29/2019	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	216	108	200	1.12	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	218	109	200	2.28	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane *120 %* *41-142*

Surrogate: 1-Chlorooctadecane *127 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Hungry Horse	**BILL TO**
Project Manager:	P.O. #:
Address: 4024 Plains Hwy	Company: Grizzly
City: Lovington State: NM Zip: 88260	Attn: Carmen Pitt
Phone #: Fax #:	Address: 4001 Penbrook Suit 201
Project #: Project Owner:	City: Odessa
Project Name: Cole State #116	State: TX Zip: 79762
Project Location:	Phone #: 432 247 8145
Sampler Name:	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	Chlorides	B-TEX	TPH (extended)
H902943																	
1	SW1 -2'	G				/					/		8/22	8:50	/	/	/
2	SW2 - 2'	G				/					/		8/22	9:10	/	/	/
3	SW3 - 2'	G				/					/		8/22	9:47	/	/	/
4	SW4 -2'	G				/					/		8/22	10:07	/	/	/
5	SW5 - 2'	G				/					/		8/22	10:27	/	/	/
6	SW6 - 2'	G				/					/		8/22	10:49	/	/	/

Relinquished By: Deborah Montano	Date: 8/27/19	Received By: Jodi Henson	Phone Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 12:10		Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: CPitt@Grizzlyenergyllc.com Kmontano2@Hungry-Horse.com Ngladden@Hungry-Horse.com
	Time: +1 Corrected		
Delivered By: (Circle One) Sampler - UPS - Bus - Other: 3.6°C 4.0°C #97		Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)

Attachment V
NMOCD Form C-141 Remediation and Closure Pages

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	NCH1903360398
District RP	1RP-5316
Facility ID	
Application ID	pCH1903360786

Release Notification

Responsible Party

Responsible Party Vanguard Operating, LLC	OGRID 258350
Contact Name Brent White	Contact Telephone 505-918-0669
Contact email bwhite@vnrenergy.com	Incident # NCH1903360398 COLE STATE #016 @ 30-025-37721
Contact mailing address 4001 Penbrook Suite 201 Odessa, TX 79762	

Location of Release Source

Latitude 32.3981171 Longitude -103.1732788

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Cole State #016	Site Type Well Site
Date Release Discovered 12-11-2018	API# *30-025-37721*

Unit Letter	Section	Township	Range	County
D	16	22S	37E	Lea

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) 1	Volume Recovered (bbls) 0
Produced Water	Volume Released (bbls) 22	Volume Recovered (bbls) 20
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	X 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)

The flow line froze busing at the seam. An estimated 22 bbls of produced water and one bbl of oil leaked from the flow line on to the location. A vacuum truck recovered 20 bbls and hauled to the disposal.

White Buffalo Environmental secured the area and will begin sampling.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NCH1903360398
District RP	1RP-5316
Facility ID	
Application ID	pCH1903360786

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

Initial Response

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

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

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

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

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

Printed Name: Chuck Johnston Title: EHS Operations Specialist

Signature: Date: 12-19-2018

email: cjohnston@vnrenergy.com Telephone: 432-202-4771

OCD Only

Received by: Date:

RECEIVED
By CHernandez at 4:41 pm, Feb 02, 2019

State of New Mexico
Oil Conservation Division

Incident ID	NCH1903360398
District RP	1RP-5316
Facility ID	
Application ID	pCH1903360786

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	51'-100' (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☒ Yes ☐ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
☒ Field data
☒ Data table of soil contaminant concentration data
☒ Depth to water determination
☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
☒ Boring or excavation logs
☒ Photographs including date and GIS information
☒ Topographic/Aerial maps
☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

Incident ID	NCH1903360398
District RP	1RP-5316
Facility ID	
Application ID	pCH1903360786

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: Carmen E Pitt Title: Senior EHS Specialist

Signature: Carmen E Pitt Date: 7/10/2020

email: cpitt@grizzlyenergyllc.com Telephone: 432-248-8145

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NCH1903360398
District RP	1RP-5316
Facility ID	
Application ID	pCH19033660786

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

☒ Detailed description of proposed remediation technique
☒ Scaled sitemap with GPS coordinates showing delineation points
☒ Estimated volume of material to be remediated
☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated.

☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Carmen E Pitt Title: Senior EHS Specialist

Signature: Carmen E Pitt Date: 7/10/2020

email: cpitt@grizzlyenergyllc.com Telephone: 432-248-8145

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Received by: _____ Date: _____

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

Signature: _____ Date: _____

Incident ID	NCH1903360398
District RP	1RP-5316
Facility ID	
Application ID	pCH19033660786

Closure

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

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

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

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

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

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Carmen E Pitt Title: Senior EHS Specialist

Signature: Carmen E Pitt Date: 7/10/2020

email: cpitt@grizzlyenergyllc.com Telephone: 432-248-8145

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____