APPROVED
By Olivia Yu at 2:15 pm, Apr 12, 2018

November 13, 2017 Reference No. 088210-50

NMOCD approves of the confirmatory data provided for 1RP-3378. Closure is granted.

Mr. Zane Kurtz
Sr. Safety and Environmental Representative
5509 Champions Dr.
Midland, TX 79706
VIA E-Mail: zane_kurtz@eogresources.com

Dear Mr. Kurtz:

Re: Assessment Summary Report
Lotus 'ALT' State #3
(API-30-025-36005)
EOG Resources, Inc.
Site Location: Unit C, Sec. 32, T 22-S, R 32-E
(Lat 32.35323°, Long -103.69841°)
Lea County, New Mexico

GHD Services, Inc. (GHD) is pleased to present this report for the above referenced site. Assessment activities were performed at the Lotus 'ALT' State #3 (hereafter referred to as the "Site"), on August 22, 2017 by GHD. The Site is located within Unit C, Section 32, Township 22 South, Range 32 East, in Lea County, New Mexico (Figure 1). The property is owned by the New Mexico State Land Office (NMSLO).

The Site is an active well site located approximately 31 miles east, southeast of Carlsbad, New Mexico. According to EOG supplied Site information, a release of approximately 7 barrels (bbls) of oil and 53 bbls of produced water occurred within the pad area when a weak spot on a poly flow line ruptured. None of the fluids were recovered. The release was discovered on August 17, 2011 and a C-141 Form was submitted to the New Mexico Oil Conservation Division (NMOCD) on August 18, 2011. There is no indication that a remediation permit (RP) number was assigned on NMOCD Online.

Initial delineation samples were collected on August 22, 2011 in five sections within the release area by Yates Petroleum Corporation (Yates). One soil sample was collected and submitted for laboratory analysis in each section at a depth of 1 foot below ground surface (ft. bgs). The samples were submitted to Xenco Laboratories (Xenco) in Odessa, Texas for benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8021B, total petroleum hydrocarbons (TPH) gasoline and diesel range organics by EPA Method 8015M, and chlorides by EPA Method 300 analysis.

BTEX concentrations ranged from below the laboratory reporting limits (LRLs) to 0.0461 milligrams per kilogram (mg/kg) and total TPH concentrations ranged from below the LRL to 530 mg/kg. Chloride concentrations ranged from 111 to 17,900 mg/kg.

Per a status report enclosed in the EOG supplied Site information, Yates excavated contaminated soil to a depth of 3 ft. bgs.

Additional delineation samples were collected on September 14, 2011 by Yates. Three samples were collected from 3 ft. bgs within the release area and were submitted to Xenco for chloride analysis by EPA Method 300. Chloride concentrations ranged from 2,598 to 3,810 mg/kg.

1. Recommended Remediation Action Limits

There are relatively few groundwater wells in the area of the Site with which to obtain a depth to groundwater. Based on information available from the New Mexico Office of the State Engineer New Mexico Water Rights Reporting System website, the closest well with a recorded depth to water is approximately 3.9 miles from the site. The depth to groundwater measured in this well was 360 (ft. bgs).

Based on information available from the United States Geological Survey (USGS) website, the closest USGS gauging site, approximately 2.0 miles southeast of the site, indicates groundwater at a depth of approximately 197 feet below ground surface (bgs) in 1986. Copies of the well information is included in Appendix A.

There do not appear to be any well head protection areas and no surface water bodies within 200 to 1000 ft. of the Site. Therefore, the preliminary total ranking score for the Site is 0 (see table below).

Based on this score, the applicable NMOCD Site-specific Recommended Remediation Action Limits (RRALs) are 10 mg/kg for benzene, 50 mg/kg for total BTEX, 5,000 mg/kg for TPH, and 600 mg/kg for chlorides.

In a telephone conversation between Bernard Bockisch of GHD and Jim Griswold, NMOCD Environmental Bureau Chief on August 28, 2017, GHD was informed that the NMOCD is accepting chloride concentrations of 600 mg/kg for assessment clean up levels.

New Mexico Oil Conservation Division Site Assessment	
Ranking Criteria	Score
Depth to Ground Water (> 100 ft. bgs)	0
Wellhead Protection Area (> 1000 ft. from water source, > 200 ft. from domestic source)	0
Distance to Surface Body Water (200-1000 ft.)	0
Ranking Criteria Total Score	**0***
*Because the ranking criteria total score is 0, NMOCD established RRALs are 10 mg/kg for benzene, 50 mg/kg for total BTEX, 5,000 mg/kg for TPH[1], and 600 mg/kg for chlorides.	

1. NMOCD Guidelines for Remediation of Leaks, Spills and Releases, August 13, 1993

2. Assessment Activities

GHD performed additional delineation on August 22, 2017 that included the collection of two soil samples from two test pits. Soil samples were collected from a depth of 2 ft. bgs in each test pit and submitted to Hall Environmental Analysis Laboratory (HEAL) located in Albuquerque, New Mexico. The samples were submitted for BTEX analysis by EPA Method 8021B, TPH full range by 8015D, and chloride analysis by EPA 300.0.

None of the constituents analyzed for were detected above the LRLs. The laboratory analytical report is included in Appendix B and the results are summarized on Figure 2 and in Table 1.

3. Summary and Recommendations

Based on the GHD assessment of the chloride concentrations and contaminated soils previously being excavated by Yates, GHD recommends the following:

- Requesting closure for this release.

Should you have any questions, or require additional information regarding this submittal, please feel free to contact Bernie Bockisch or myself at (505) 884-0672 or Bernard.Bockisch@ghd.com.

Sincerely,

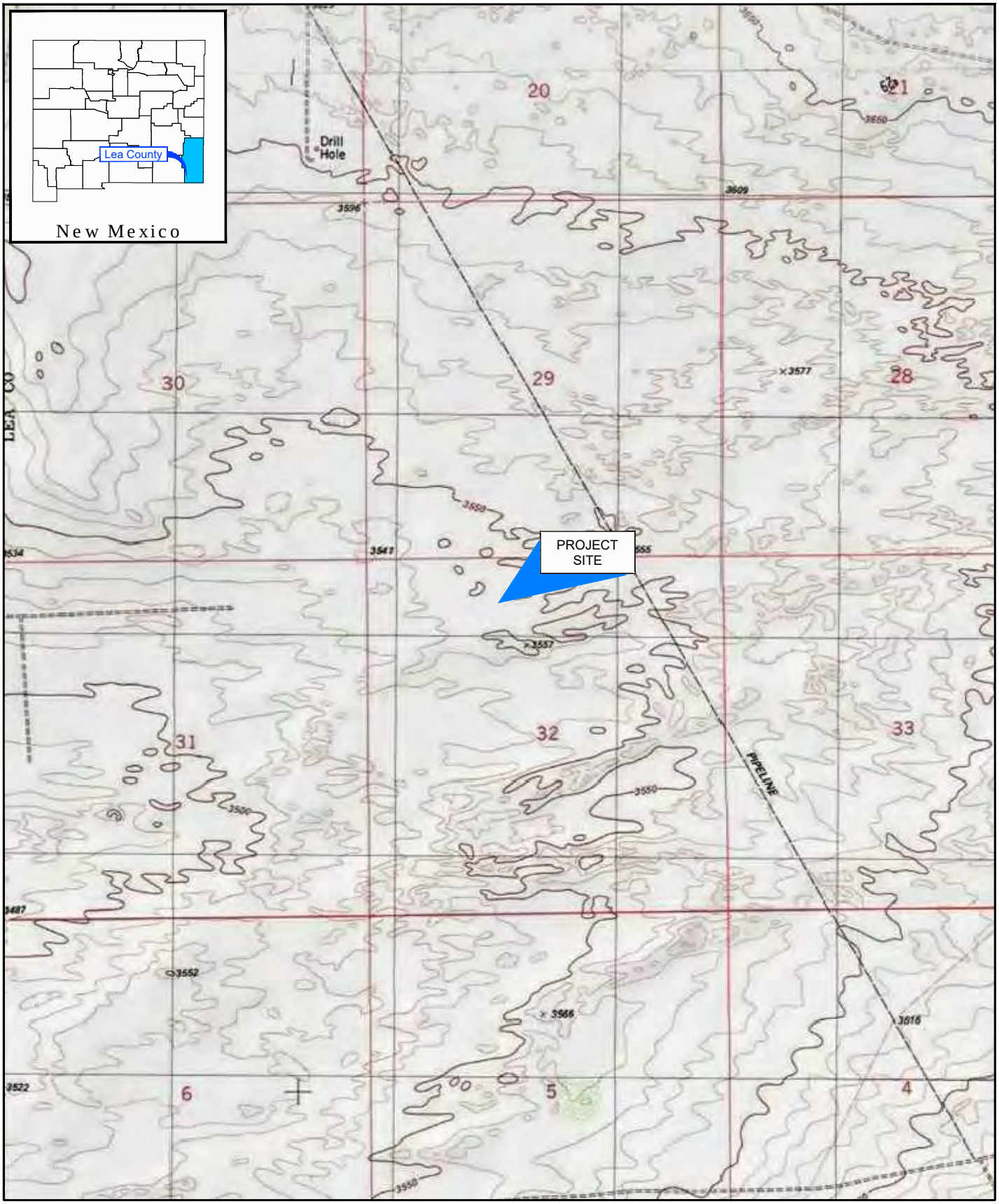
GHD

Alan Brandon
Senior Project Manager

Bernard Bockisch
Albuquerque Operations Manager

BB/mc/30

Figures



Source: USGS 7.5 Minute Quad "Bootleg Ridge, New Mexico"

Lat/Long: 32.353405° North, 103.698920° West

0 1000 2000ft

Coordinate System:
NAD 1983 (2011) StatePlane-
New Mexico East (US Feet)

EOG RESOURCES
LEA COUNTY, NEW MEXICO
LOTUS 'ALT' STATE No.3

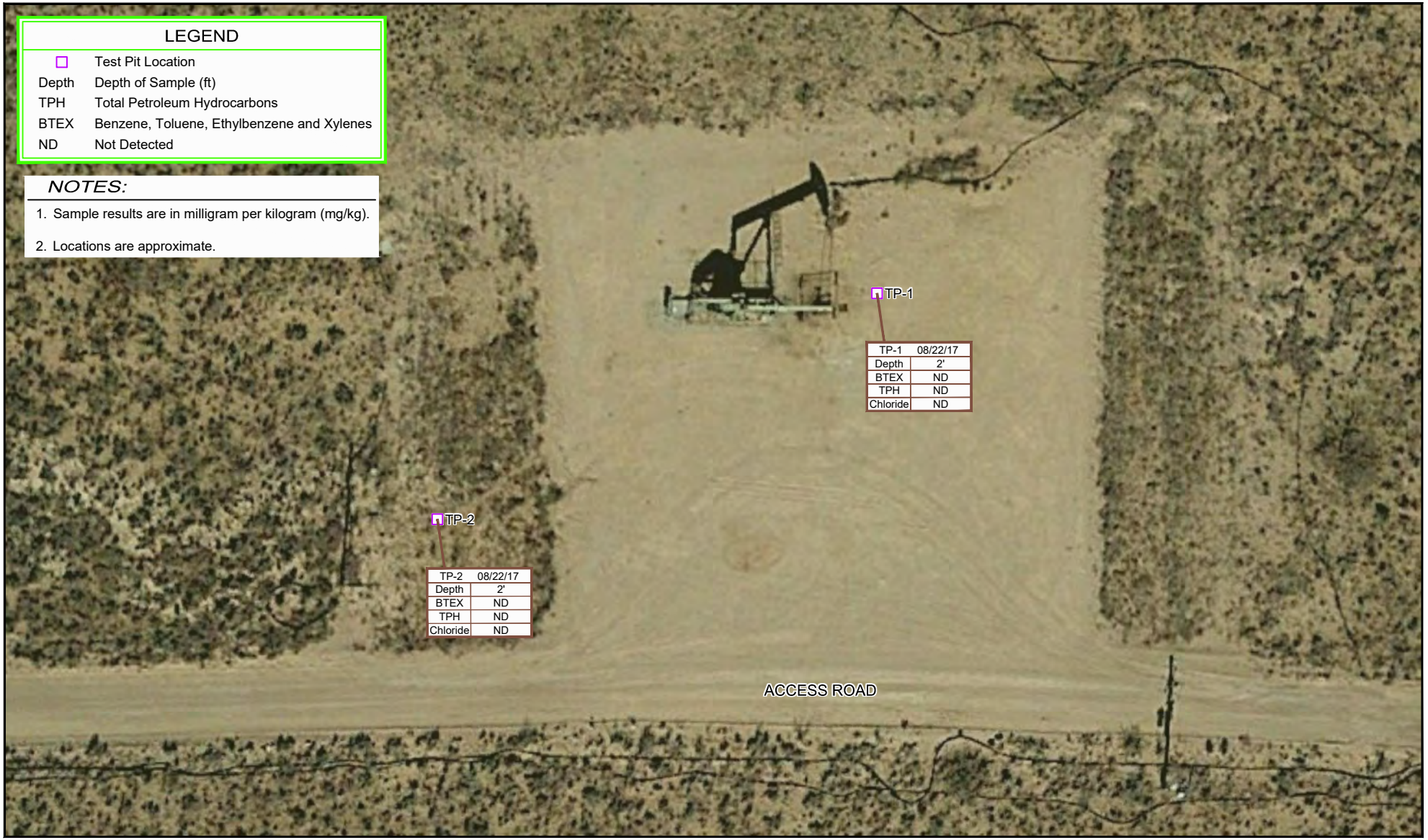
088210-50

Sep 12, 2017

SITE LOCATION MAP

FIGURE 1

CAD File: I:\CAD\Files\08----\088---\088210-EOG-Madera Ridge 25-1\088210-50(000)GN-DL001.dwg



Source: Image © 2016 Google - Imagery Date: February 1, 2017

Lat/Long: 32.353405° North, 103.698920° West

0 20 40ft

Coordinate System:
NAD 1983 (2011) StatePlane-
New Mexico East (US Feet)

EOG RESOURCES
LEA COUNTY, NEW MEXICO
LOTUS 'ALT' STATE No.3

088210-50

Sep 12, 2017

SAMPLE LOCATION MAP

FIGURE 2

CAD File: I:\CAD\Files\08----\088---\088210-EOG-Madera Ridge 25-1\088210-50(000)GN-DL001.dwg

Tables

Table 1

Lotus 'ALT' State #3 - Summary of Soil Analytical Data

Sample ID	Depth (feet)	Date	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	TPH (GRO)	TPH (DRO)	TPH (MRO)	Total TPH	Chloride
S-088210-50-082217-MG-TP-1-2	2	08/22/2017	<0.023	<0.047	<0.047	<0.094	<0.211	<4.7	<9.8	<49	<63.5	<30
S-088210-50-082217-MG-TP-2-2	2	08/22/2017	<0.023	<0.047	<0.047	<0.094	<0.211	<4.7	<9.9	<50	<64.6	<30
NMOCD RRALs (Total Ranking Score = 20)			**10**	**50**				**Total TPH: 5,000**				**600**

Notes:

All sample results are in milligrams per kilogram
NMOCD = New Mexico Oil Conservation Division
RRALs = Recommended Remediation Action Limits

Appendices

Appendix A
Well Information

Lots

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

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

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

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

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 02939		C	LE	3	3	1	19	22S	32E	620234	3583042*	3471	280		
C 02349			ED		2	3	03	23S	32E	625678	3578004*	4010	525		
C 02756			ED	3	4	4	26	22S	31E	618250	3580606*	4183	1998		
C 03152			ED	3	4	4	26	22S	31E	618250	3580606*	4183	938		
C 03138			ED	3	3	3	26	22S	31E	617043	3580591*	5387	750		
C 03150			ED	2	4	4	14	22S	31E	618412	3584025*	5441	981		
C 03717 POD1		C	LE	4	4	1	09	22S	32E	624094	3586365	6243	650		
C 02096			ED		2	3	14	22S	32E	627204	3584464*	6305	435	360	75
C 02821		C	LE	2	2	3	14	22S	32E	627303	3584563*	6445	540	340	200

Average Depth to Water: **350 feet**

Minimum Depth: **340 feet**

Maximum Depth: **360 feet**

Record Count: 9

UTMNAD83 Radius Search (in meters):

Easting (X): 622425.4 **Northing (Y):** 3580349.77 **Radius:** 7000

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

9/14/17 11:58 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

USGS Home
Contact USGS
Search USGS

National Water Information System: Web Interface

USGS Water Resources

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

Well 2

2 miles SE

Click to hideNews Bulletins

- Please see news on new formats
- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

- 321950103400601

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

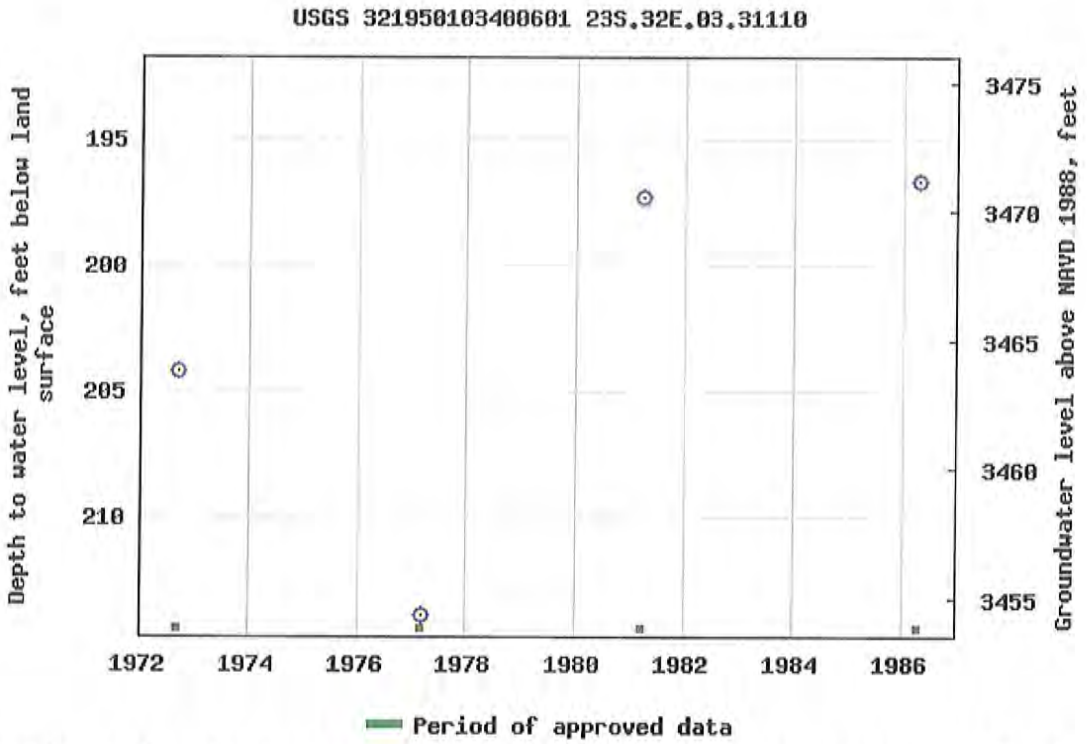
USGS 321950103400601 23S.32E.03.31110

Available data for this site Groundwater: Field measurements | GO

Lea County, New Mexico
Hydrologic Unit Code --
Latitude 32°19'50", Longitude 103°40'06" NAD27
Land-surface elevation 3,668 feet above NAVD88
This well is completed in the Chinle Formation (231CHNL) local aquifer.

Output formats

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



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

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

Accessibility Plug-Ins FOIA Privacy Policies and Notices

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: 2017-08-11 15:28:04 EDT
0.57 0.49 nadww02

Appendix B
Laboratory Analytical Reports

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

September 08, 2017

Bernie Bockish

GHD
6121 Indian School Road, NE #200
Albuquerque, NM 87110
TEL: (505) 884-0672
FAX

RE: Lotus OrderNo.: 1708F83

Dear Bernie Bockish:

Hall Environmental Analysis Laboratory received 2 sample(s) on 8/29/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD
Project: Lotus

Lab Order: 1708F83

Lab ID: 1708F83-001 **Collection Date:** 8/22/2017 9:35:00 AM
Client Sample ID: S-088210-50-082217-MG-TP-1-2' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	9/5/2017 3:40:20 PM	33703
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/31/2017 4:46:11 PM	33628
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/31/2017 4:46:11 PM	33628
Surr: DNOP	104	70-130		%Rec	1	8/31/2017 4:46:11 PM	33628
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/30/2017 2:16:23 PM	33607
Surr: BFB	83.1	54-150		%Rec	1	8/30/2017 2:16:23 PM	33607
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	8/30/2017 2:16:23 PM	33607
Toluene	ND	0.047		mg/Kg	1	8/30/2017 2:16:23 PM	33607
Ethylbenzene	ND	0.047		mg/Kg	1	8/30/2017 2:16:23 PM	33607
Xylenes, Total	ND	0.094		mg/Kg	1	8/30/2017 2:16:23 PM	33607
Surr: 4-Bromofluorobenzene	120	66.6-132		%Rec	1	8/30/2017 2:16:23 PM	33607

Lab ID: 1708F83-002 **Collection Date:** 8/22/2017 10:15:00 AM
Client Sample ID: S-088210-50-082217-MG-TP-2-2' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	9/5/2017 4:17:34 PM	33703
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/31/2017 5:08:26 PM	33628
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/31/2017 5:08:26 PM	33628
Surr: DNOP	101	70-130		%Rec	1	8/31/2017 5:08:26 PM	33628
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/30/2017 2:40:28 PM	33607
Surr: BFB	80.4	54-150		%Rec	1	8/30/2017 2:40:28 PM	33607
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	8/30/2017 2:40:28 PM	33607
Toluene	ND	0.047		mg/Kg	1	8/30/2017 2:40:28 PM	33607
Ethylbenzene	ND	0.047		mg/Kg	1	8/30/2017 2:40:28 PM	33607
Xylenes, Total	ND	0.094		mg/Kg	1	8/30/2017 2:40:28 PM	33607
Surr: 4-Bromofluorobenzene	117	66.6-132		%Rec	1	8/30/2017 2:40:28 PM	33607

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1708F83**

08-Sep-17

Client: GHD

Project: Lotus

Sample ID	**MB-33703**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**33703**	RunNo:	**45437**					
Prep Date:	**9/5/2017**	Analysis Date:	**9/5/2017**	SeqNo:	**1439611**	Units:	**mg/Kg**			

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

Sample ID	**LCS-33703**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**33703**	RunNo:	**45437**					
Prep Date:	**9/5/2017**	Analysis Date:	**9/5/2017**	SeqNo:	**1439613**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.4	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1708F83**

08-Sep-17

Client: GHD

Project: Lotus

Sample ID	**MB-33628**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**33628**		RunNo:	**45329**				
Prep Date:	**8/30/2017**	Analysis Date:	**8/31/2017**		SeqNo:	**1437148**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.2		10.00		91.7	70	130			

Sample ID	**LCS-33628**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**33628**		RunNo:	**45329**				
Prep Date:	**8/30/2017**	Analysis Date:	**8/31/2017**		SeqNo:	**1437221**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.4	73.2	114			
Surr: DNOP	4.7		5.000		93.2	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1708F83**

08-Sep-17

Client: GHD

Project: Lotus

Sample ID	**MB-33607**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**33607**	RunNo:	**45303**					
Prep Date:	**8/29/2017**	Analysis Date:	**8/30/2017**	SeqNo:	**1435534**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	790		1000		78.6	54	150			

Sample ID	**LCS-33607**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**33607**	RunNo:	**45303**					
Prep Date:	**8/29/2017**	Analysis Date:	**8/30/2017**	SeqNo:	**1435535**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.4	76.4	125			
Surr: BFB	880		1000		87.8	54	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1708F83**

08-Sep-17

Client: GHD

Project: Lotus

Sample ID	**MB-33607**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID:	**33607**	RunNo:	**45303**					
Prep Date:	**8/29/2017**	Analysis Date:	**8/30/2017**	SeqNo:	**1435551**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.2		1.000		115	66.6	132			

Sample ID	**LCS-33607**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**33607**	RunNo:	**45303**					
Prep Date:	**8/29/2017**	Analysis Date:	**8/30/2017**	SeqNo:	**1435552**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	112	80	120			
Toluene	1.1	0.050	1.000	0	112	80	120			
Ethylbenzene	1.1	0.050	1.000	0	111	80	120			
Xylenes, Total	3.4	0.10	3.000	0	113	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		118	66.6	132			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: GHD | Work Order Number: 1708F83 | RcptNo: 1

Received By: Isaiah Ortiz 8/29/2017 9:20:00 AM

Completed By: Ashley Gallegos 8/29/2017 10:50:19 AM

Reviewed By: 8/29/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: ____ (<2 or >12 unless noted)

Adjusted? ____

Checked by: ____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: ____ Date ____

By Whom: ____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: ____

Client Instructions: ____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.9	Good	Yes			

Chain-of-Custody Record

Client: GHD Services, Inc

Mailing Address: 6121 Indian School Rd St 200 NE Albuquerque, NM 87110

Phone #: 505 884 0672

email or Fax#: Bernard.Bockisch@ghd.com

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: Lotus

Project #: 088210.50

Project Manager: Bernard Bockisch

Sampler: Michael Gant

On Ice: ☒ Yes ☐ No

Sample Temperature: 4.9

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1708F83	BTEX + ~~MTBE~~ + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F^-,Cl^-,NO_3^-,NO_2^-,PO_4^{3-},SO_4^{2-})	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (300)				Air Bubbles (Y or N)
8/22	0935	S	S-08821050-082217-MG-TP1-2	4oz Soil Jar	ICE	-001	X		X									X				
8/22	1015	S	S-08821050-082217-MG-TP2-2	1	1	-002	X		X									X				

Date	Time	Relinquished by	Received by	Date	Time
8/28/17	0845	Michael Gant		8/28/17	0845
8/28/17	1900		I. Ortiz	8/29/17	9:20

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.