August 16, 2017 Reference No. 11135250-6

Mr. Dean Ericson
ETC Field Services LLC
600 N. Marienfeld
Suite 700
Midland, TX 79701

Dear Mr. Ericson:

Re: Remediation Summary Report
TD-5 10" (1 RP-4499)
ETC Field Services LLC
2RP-4273
Site Location: Unit B, Sec. 23, T 26-S, R 30-E
(Lat 32.032164N°, Long -103.849038W°)
Eddy County, New Mexico

GHD Services, Inc. (GHD) is pleased to present this report for the above referenced site. The TD-5 10" (hereafter referred to as the "Site") is located within Unit B, Section 23, Township 26 South, Range 30 East, in Eddy County, New Mexico (see Figure 1).

A release of approximately 11.68 barrels (bbls) of oil and water was reported to the State of New Mexico Oil Conservation Division (NMOCD) On June 23, 2017 via Form C-141. Corrosion caused an approximate 0.25-inch hole to develop on a section of the pipeline. None of the fluids were recovered. Contaminated soils were excavated and stockpiled on site (see Figure 2). NMOCD release number 2RP-4273 was assigned.

1. Introduction

The release at this site occurred on land owned by the Bureau of Land Management. Following the release, GHD's Site assessment activities began with initial background soil sampling and analysis and limited excavation on July 24, 2017. Initial assessment activities were performed by excavating test pits and field screening the soil utilizing a photoionization detector and a Hach chloride field kit. Six test pits were excavated and soil samples were collected for laboratory analysis. Excavation activities were performed by Diamond Back of Hobbs, New Mexico. Observation of the excavation and soil sampling was performed by GHD. Soil samples were analyzed by Hall Environmental Analysis Laboratory (HEAL) of Albuquerque, New Mexico.

Based on information available from the United States Geologic Survey National Water Information System, the depth to groundwater at the Site is approximately 117 ft below ground surface (bgs). This is based on a water well that is located approximately 1 mile southwest of the Site (see Appendix A, Water

Well Reports for depth to water). There are no well head protection areas or surface water bodies within 1000 feet of the Site. Therefore, the preliminary total ranking score is 0 (see table below).

Based on this score, the applicable NMOCD Site Specific Recommended Remediation Action Limits (RRALs) are 10 milligrams per kilogram (mg/kg) for benzene, 50 mg/kg for total benzene, toluene, ethylbenzene, and xylenes (BTEX), 5,000 mg/kg for total petroleum hydrocarbons (TPH), and 250 mg/kg for chlorides.

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 (>1000 ft)	0
Ranking Criteria Total Score	**0***
*Because the ranking criteria total score is 20, NMOCD established RRALs are 10 mg/kg for benzene, 50 mg/kg for total BTEX, 5,000 mg/kg for total TPH and 250 ppm for chlorides[1].	

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

2. Assessment Activities

The impacted areas had initially been excavated to a depth of approximately 6.5 ft bgs and soil samples were collected by ETC Field Services LLC personnel for laboratory analysis. Two samples (West Hole Vertical) and (East Hole Vertical) were collected from the bottom of the western and eastern excavations at a depth of approximately 7 ft bgs and on June 22, 2017 (see Figure 2). The samples were submitted to Cardinal Laboratories in Hobbs, New Mexico and analyzed for BTEX by EPA Method 8021B, TPH by EPA Method 8015M, and chloride by SM4500Cl-B. The analytical results for these samples were:

West Hole Vertical

- Benzene: 0.211 mg/kg
- Total BTEX: 11.47 mg/kg
- TPH: 316.1 mg/kg
- Chloride: 5,440 mg/kg

East Hole Vertical

- Benzene: <0.050 mg/kg
- Total BTEX: 5.56 mg/kg
- TPH: 267.5 mg/kg

- Chloride: 2,760 mg/kg

Excavation activities to assess the horizontal and vertical extent of impacted soil from the release occurred on July 24, 2017 by GHD. Field screening of soil for petroleum hydrocarbons and chloride was performed to assess the horizontal and vertical extent of contaminated soil. Test pits were excavated in the bottom of both excavations.

Soil samples were collected and submitted to HEAL for laboratory analysis. Samples were collected from the base of the excavations and four test pits (see Figure 2) at depths ranging from four to twelve ft bgs. The soil samples were analyzed for BTEX by EPA Method 8260B, TPH by EPA Method 8015 full range and chloride by EPA Method 300.0(Table 1). Laboratory analytical data can be found in Appendix B.

One sample (S-1113520-072417-MG-TP-5-4) contained a chloride concentration of 300 that exceeds the RRAL.

3. Summary and Recommendations

Soil samples collected from test pits dug in the base of the excavations at a depth of 12 ft bgs (see Figure 2) were submitted for laboratory analysis. The laboratory analytical results are below the RRALs for the constituents that were analyzed. Based on the laboratory results, GHD recommends the following:

- Remove contaminated soil from the base and sidewalls of the excavations and collect confirmation samples for laboratory analysis. If laboratory results indicate concentrations below the RRALs, backfill the excavations with clean fill material and wheel compact to grade.
- Remove contaminated soil from the spill area and collect confirmation samples. If laboratory results are below the RRALs, backfill the area with clean fill material and wheel compact to grade.

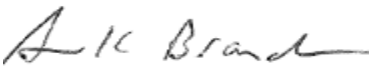
Following completion of the backfilling, revegetation of the site will be performed. Disturbed areas associated with the remediation efforts will be re-seeded. If after one growing season the vegetation has not taken hold, seeding may need to be repeated until revegetation is successful, as determined by the State Land Office. The seed will be planted utilizing a drill. The proposed seed mix will consist of Bureau of Land Management mix #2 with no love grass.

The site will be visited on a quarterly basis to assess the establishment of vegetative growth. Staff personnel performing the site visit will also look for the presence of noxious weeds at the site as indicated on the New Mexico Noxious Weeds List specified on the United States Department of Agriculture website. If a noxious weed is observed at the site, the New Mexico State Land Office will be contacted to determine the most effective manner to eradicate it.

Following completion of the above activities a request for no further action will be made for the Site. Should you have any questions, or require additional information regarding this submittal, please feel free to contact myself or Bernie Bockisch at (505) 884-0672.

Sincerely,

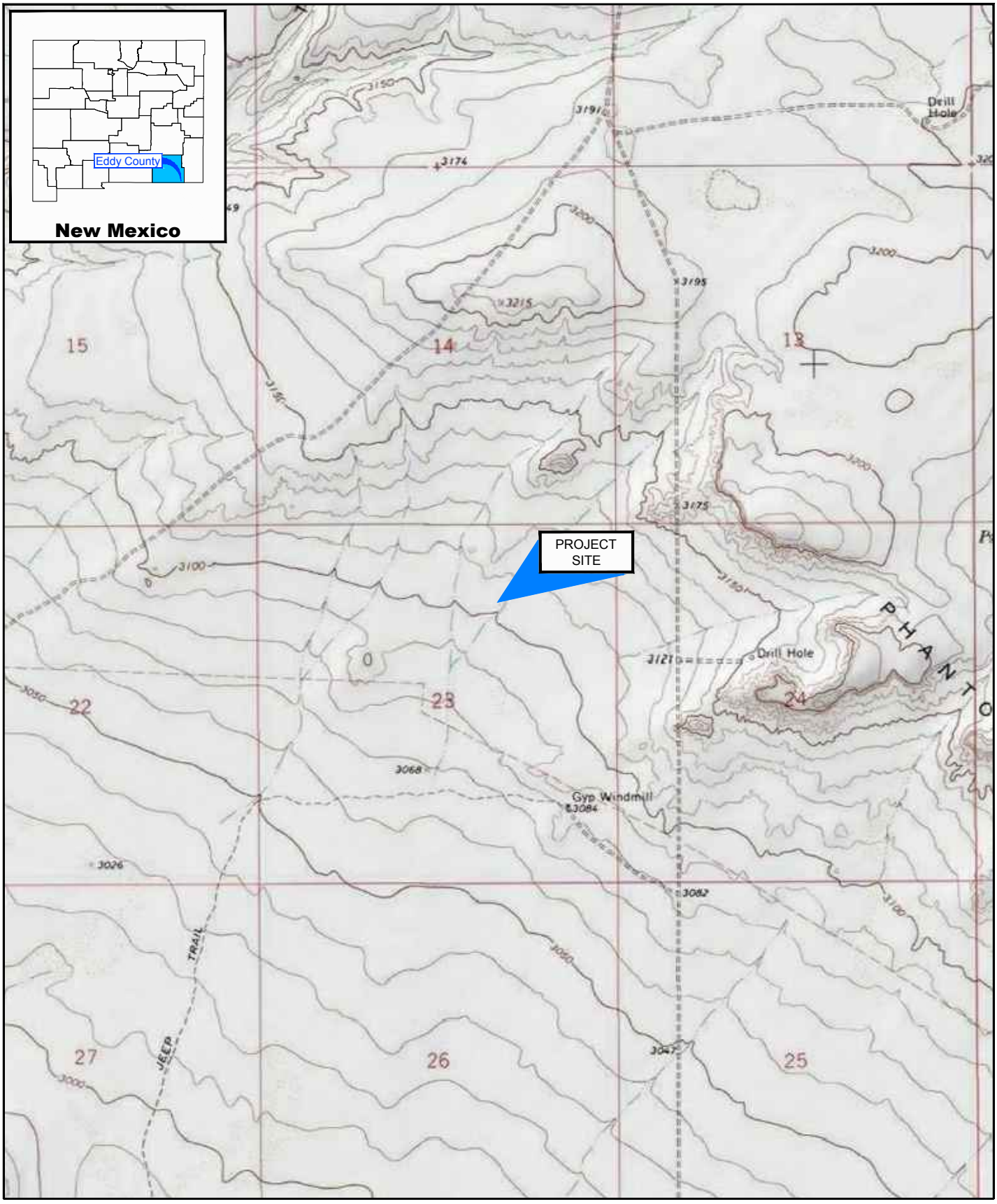
GHD



Alan Brandon
Senior Project Manager

Bernard Bockisch
New Mexico Operations Manager

AB/lb/01



Source: USGS 7.5 Minute Quad "Phatom Banks and Ross Ranch, New Mexico"

Lat/Long: 32.032164° North, 103.849038° West

0 1000 2000ft

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

ETC FIELD SERVICES
EDDY COUNTY, NEW MEXICO
TD-5 10"

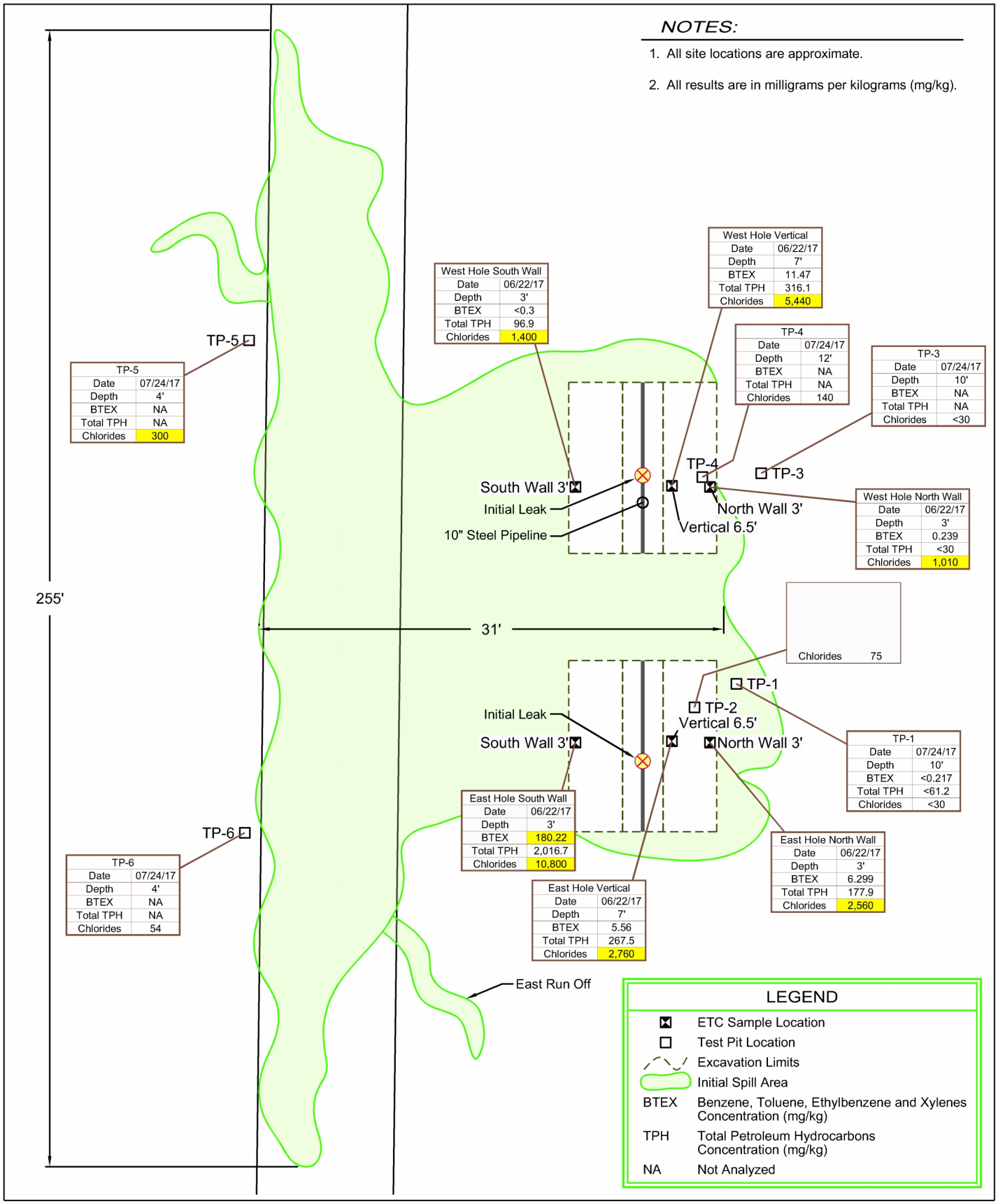
11135250-06

Aug 14, 2017

SITE LOCATION MAP

FIGURE 1

CAD File: I:\CAD\Files\Eight Digit Job Numbers\1113----\11135250-ETC Field Services\11135250-06(000)GN-DL001.dwg



Not to Scale

ETC FIELD SERVICES
EDDY COUNTY, NEW MEXICO
TD-5 10"

11135250-06

Aug 16, 2017

SOIL SAMPLE LOCATION

FIGURE 2

CAD File: I:\CAD\Files\Eight Digit Job Numbers\1113----\11135250-ETC Field Services\11135250-06(000)GN-DL001.dwg

Table 1

Soil Analytical Results Summary
ETC Field Services LLC - TD-5 10"
Section 23, Township 26 South, Range 30 East
Eddy County, New Mexico
Soil Analytical Results Summary

Sample ID	Date	Sample Depth (ft.)	Chlorides (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (C6-C-10) (mg/kg)	TPH DRO (C10-C28) (mg/kg)	TPH EXT DRO (C28-C36) (mg/kg)	Total TPH GRO/DRO (mg/kg)
NMOCD Remediation Action Levels			**250**	**10**	**NE**	**NE**	**NE**	**50**	**NE**	**NE**	**NE**	**5,000**
						EXCAVATION SAMPLES						
Spill Area #1 *	6/22/2017	0.5	6,000	<0.050	<0.050	<0.050	<0.15	<0.3	<10	11	22.6	33.2
Spill Area #2*	6/22/2017	0.5	9,860	3.16	53.9	8.31	152	217.37	1,990.0	2,590.0	35.3	4,615.3
Spill Area #3*	6/22/2017	0.5	4,400	<0.050	<0.050	<0.050	<0.15	<0.3	<10	13.9	<10	**13.9**
North Horizontal *	6/22/2017	0.5	32.0	<0.050	0.075	<0.050	0.365	0.44	<10	<10	14.6	14.6
South Horizontal *	6/22/2017	0.5	<16	<0.050	0.48	0.064	1.06	1.6	<10	<10	<10	<30
East Horizontal*	6/22/2017	0.5	3,120	<0.050	<0.050	<0.050	<0.15	<0.3	<10	38.2	<10	38.2
West Horizontal*	6/22/2017	0.5	96.0	<0.050	0.101	<0.050	<0.15	0.101	<10	<10	<10	<30
West Hole Vertical*	6/22/2017	7	5,440	0.211	2.56	0.46	8.24	11.47	90.1	226.0	<10	316.1
West Hole North Wall*	6/22/2017	3	1,010	<0.050	0.073	<0.050	0.166	0.239	<10	<10	<10	<30
West Hole South Wall*	6/22/2017	3	1,400	<0.050	<0.050	<0.050	<0.15	<0.3	15.3	81.6	<10	96.9
East Hole Vertical*	6/22/2017	7	2,760	<0.050	0.553	0.248	4.76	5.56	11.5	125.0	131.0	267.5
East Hole North Wall*	6/22/2017	3	2,560	<0.050	0.872	0.267	5.16	6.299	24.3	134.0	19.6	177.9
East Hole South Wall*	6/22/2017	3	10,800	1.83	37.5	6.89	134	180.22	608.0	1,340.0	68.7	2,016.7
S11135250-072417MG-TP-1-10	7/24/2017	10	<30	<0.024	<0.048	<0.048	<0.097	<0.217	<4.8	<9.4	<47	<61.2
S11135250-072417MG-TP-2-12	7/24/2017	12	75	<0.024	<0.048	<0.048	<0.096	<0.216	<4.8	<9.8	<49	<63.6
S11135250-072417MG-TP-3-10	7/24/2017	10	<30	NA	NA	NA	NA	NA	NA	NA	NA	NA
S11135250-072417MG-TP-4-12	7/24/2017	12	140	NA	NA	NA	NA	NA	NA	NA	NA	NA
S11135250-072417MG-TP-5-4	7/24/2017	4	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
S11135250-072417MG-TP-6-4	7/24/2017	4	54	NA	NA	NA	NA	NA	NA	NA	NA	NA

Note: Concentrations in yellow exceed the NMOCD Remediation Action Level

* Samples taken by ETC Field Services and Analyzed by Cardinal Laboratories of Hobbs, NM
NE = Not Established
mg/Kg = milligrams per Kilogram
-- = Not Applicable
NA = Not Analyzed

Appendices

Appendix A
Well Water Reports

TD-5 10" ~ 1 mile SW

National Water Information System: Web Interface

USGS Water Resources

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

Click to hideNews Bulletins

Please see news on new formats
- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 320125103514701

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

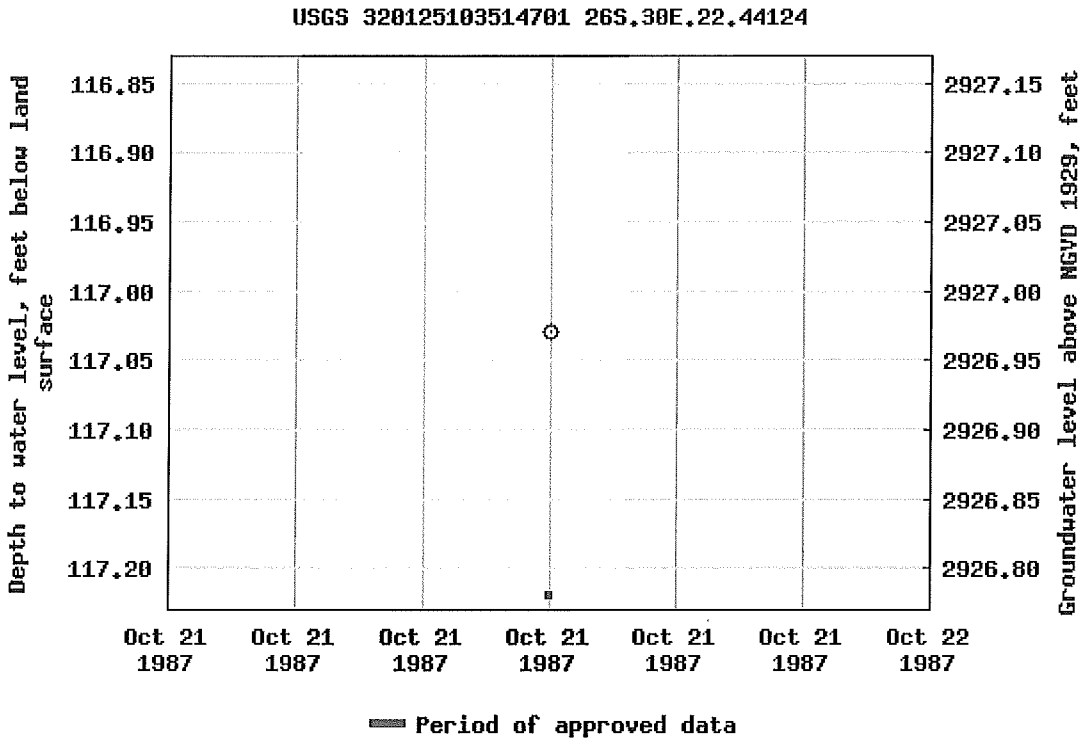
USGS 320125103514701 26S.30E.22.44124

Available data for this site Groundwater: Field measurements | GO

Eddy County, New Mexico
Hydrologic Unit Code 13070001
Latitude 32°01'25", Longitude 103°51'47" NAD27
Land-surface elevation 3,044 feet above NGVD29

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: 2017-06-30 08:49:40 EDT
0.57 0.48 nadww01

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	Twp	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 02165		C	ED				24	26S	30E	610036	3544121*	1410	440	180	260

Average Depth to Water: **180 feet**

Minimum Depth: **180 feet**

Maximum Depth: **180 feet**

Record Count: 1

Basin/County Search:

County: Eddy

UTMNAD83 Radius Search (in meters):

Easting (X): 608694.11 Northing (Y): 3544555.67 Radius: 2000

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

8/16/17 8:48 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Appendix B
Laboratory Analytical Data

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

August 15, 2017

Bernie Bockish

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

RE: 11135250 TD-5 OrderNo.: 1707D31

Dear Bernie Bockish:

Hall Environmental Analysis Laboratory received 6 sample(s) on 7/26/2017 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued August 02, 2017.

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. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD
Client Sample ID: S11135250-072417MG-TP-2-12
Project: 11135250 TD-5
Collection Date: 7/24/2017 11:00:00 AM
Lab ID: 1707D31-001 **Matrix:** SOIL **Received Date:** 7/26/2017 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	75	30		mg/Kg	20	7/28/2017 3:11:53 PM	33064
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/31/2017 5:08:51 PM	33074
Surr: BFB	86.9	70-130		%Rec	1	7/31/2017 5:08:51 PM	33074
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/31/2017 6:40:04 PM	33062
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/31/2017 6:40:04 PM	33062
Surr: DNOP	88.3	70-130		%Rec	1	7/31/2017 6:40:04 PM	33062
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	0.024		mg/Kg	1	7/31/2017 5:08:51 PM	33074
Toluene	ND	0.048		mg/Kg	1	7/31/2017 5:08:51 PM	33074
Ethylbenzene	ND	0.048		mg/Kg	1	7/31/2017 5:08:51 PM	33074
Xylenes, Total	ND	0.096		mg/Kg	1	7/31/2017 5:08:51 PM	33074
Surr: 1,2-Dichloroethane-d4	80.6	70-130		%Rec	1	7/31/2017 5:08:51 PM	33074
Surr: 4-Bromofluorobenzene	86.3	70-130		%Rec	1	7/31/2017 5:08:51 PM	33074
Surr: Dibromofluoromethane	82.7	70-130		%Rec	1	7/31/2017 5:08:51 PM	33074
Surr: Toluene-d8	90.3	70-130		%Rec	1	7/31/2017 5:08:51 PM	33074

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD
Client Sample ID: S11135250-072417MG-TP-1-10
Project: 11135250 TD-5
Collection Date: 7/24/2017 11:15:00 AM
Lab ID: 1707D31-002
Matrix: SOIL
Received Date: 7/26/2017 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	ND	30		mg/Kg	20	7/28/2017 3:24:18 PM	33064
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/31/2017 5:38:21 PM	33074
Surr: BFB	84.4	70-130		%Rec	1	7/31/2017 5:38:21 PM	33074
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/31/2017 7:08:51 PM	33062
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/31/2017 7:08:51 PM	33062
Surr: DNOP	84.4	70-130		%Rec	1	7/31/2017 7:08:51 PM	33062
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	0.024		mg/Kg	1	7/31/2017 5:38:21 PM	33074
Toluene	ND	0.048		mg/Kg	1	7/31/2017 5:38:21 PM	33074
Ethylbenzene	ND	0.048		mg/Kg	1	7/31/2017 5:38:21 PM	33074
Xylenes, Total	ND	0.097		mg/Kg	1	7/31/2017 5:38:21 PM	33074
Surr: 1,2-Dichloroethane-d4	81.7	70-130		%Rec	1	7/31/2017 5:38:21 PM	33074
Surr: 4-Bromofluorobenzene	84.1	70-130		%Rec	1	7/31/2017 5:38:21 PM	33074
Surr: Dibromofluoromethane	80.6	70-130		%Rec	1	7/31/2017 5:38:21 PM	33074
Surr: Toluene-d8	89.6	70-130		%Rec	1	7/31/2017 5:38:21 PM	33074

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD
Client Sample ID: S11135250-072417MG-TP-6-4
Project: 11135250 TD-5
Collection Date: 7/24/2017 11:30:00 AM
Lab ID: 1707D31-003
Matrix: SOIL
Received Date: 7/26/2017 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	54	30		mg/Kg	20	7/28/2017 3:36:42 PM	33064

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD
Client Sample ID: S11135250-072417MG-TP-5-4
Project: 11135250 TD-5
Collection Date: 7/24/2017 11:45:00 AM
Lab ID: 1707D31-004
Matrix: SOIL
Received Date: 7/26/2017 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	300	30		mg/Kg	20	7/28/2017 3:49:07 PM	33064

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD
Client Sample ID: S11135250-072417MG-TP-4-12
Project: 11135250 TD-5
Collection Date: 7/24/2017 12:20:00 PM
Lab ID: 1707D31-005
Matrix: SOIL
Received Date: 7/26/2017 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	140	30		mg/Kg	20	7/28/2017 4:01:32 PM	33064

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD
Client Sample ID: S11135250-072417MG-TP-3-10
Project: 11135250 TD-5
Collection Date: 7/24/2017 12:35:00 PM
Lab ID: 1707D31-006
Matrix: SOIL
Received Date: 7/26/2017 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	ND	30		mg/Kg	20	7/28/2017 4:13:56 PM	33064

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#: **1707D31**

15-Aug-17

Client: GHD

Project: 11135250 TD-5

Sample ID	**MB-33064**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**33064**	RunNo:	**44581**					
Prep Date:	**7/28/2017**	Analysis Date:	**7/28/2017**	SeqNo:	**1410134**	Units:	**mg/Kg**			

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

Sample ID	**LCS-33064**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**33064**	RunNo:	**44581**					
Prep Date:	**7/28/2017**	Analysis Date:	**7/28/2017**	SeqNo:	**1410135**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.8	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#: **1707D31**

15-Aug-17

Client: GHD

Project: 11135250 TD-5

Sample ID	**LCS-33062**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**33062**		RunNo:	**44604**				
Prep Date:	**7/28/2017**	Analysis Date:	**7/31/2017**		SeqNo:	**1410369**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	95.0	73.2	114			
Surr: DNOP	4.6		5.000		91.5	70	130			

Sample ID	**MB-33062**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**33062**		RunNo:	**44604**				
Prep Date:	**7/28/2017**	Analysis Date:	**7/31/2017**		SeqNo:	**1410370**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.7		10.00		87.4	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#: **1707D31**

15-Aug-17

Client: GHD

Project: 11135250 TD-5

Sample ID **mb-33074**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **33074**	RunNo: **44623**
Prep Date: **7/28/2017**	Analysis Date: **7/31/2017**	SeqNo: **1410839** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.40		0.5000		79.4	70	130			
Surr: 4-Bromofluorobenzene	0.43		0.5000		85.3	70	130			
Surr: Dibromofluoromethane	0.41		0.5000		81.6	70	130			
Surr: Toluene-d8	0.46		0.5000		92.2	70	130			

Sample ID **lcs-33074**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS**	Batch ID: **33074**	RunNo: **44623**
Prep Date: **7/28/2017**	Analysis Date: **7/31/2017**	SeqNo: **1410840** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	105	70	130			
Toluene	1.1	0.050	1.000	0	111	70	130			
Ethylbenzene	1.0	0.050	1.000	0	101	70	130			
Xylenes, Total	2.9	0.10	3.000	0	96.1	70	130			
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		81.3	70	130			
Surr: 4-Bromofluorobenzene	0.43		0.5000		86.7	70	130			
Surr: Dibromofluoromethane	0.41		0.5000		82.8	70	130			
Surr: Toluene-d8	0.45		0.5000		90.5	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#: **1707D31**

15-Aug-17

Client: GHD

Project: 11135250 TD-5

Sample ID	**mb-33074**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D Mod: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**33074**		RunNo:	**44623**					
Prep Date:	**7/28/2017**	Analysis Date:	**7/31/2017**		SeqNo:	**1410804**	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		430		500.0		86.9	70	130			

Sample ID	**lcs-33074**	SampType:	**LCS**		TestCode:	**EPA Method 8015D Mod: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**33074**		RunNo:	**44623**					
Prep Date:	**7/28/2017**	Analysis Date:	**7/31/2017**		SeqNo:	**1410805**	Units:	**mg/Kg**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		30	5.0	25.00	0	120	70	130			
Surr: BFB		460		500.0		92.7	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

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: 1707D31 | RcptNo: 1

Received By: **Richie Eriacho** 7/26/2017 9:50:00 AM

Completed By: **Anne Thorne** 7/26/2017 12:03:47 PM

Reviewed By: ENM 7/26/17

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 ☑	# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
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 ☐	Adjusted? _____
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 ☐	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	2.3	Good	Yes			

Chain-of-Custody Record

Client: GHD Services, Inc

Mailing Address: 6121 Indian School Rd Ste 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: 11135250 TD-5

Project #: 11135250

Project Manager: Bernard Bockisch

Sampler: Michael Gant

On Ice: ☒ Yes ☐ No

Sample Temperature: 3-3-1-0 = 2-3

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. 1707D31	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 ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (300)				Air Bubbles (Y or N)
7/24	1100	S	S-11135250-072417-MG-TP-2-12	4oz Jar	ICE	-001	X		X									X				
7/24	1115	S	S-11135250-072417-MG-TP-1-16			-002	X		X									X				
7/24	1130	S	S-11135250-072417-MG-TP-6-4			-003												X				
7/24	1145	S	S-11135250-072417-MG-TP-5-4			-004												X				
7/24	1220	S	S-11135250-072417-MG-TP-4-12			-005												X				
7/24	1235	S	S-11135250-072417-MG-TP-3-16			-006												X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
7/25	1450			7/25/17	1450
7/26/17	190			7/26/17	0950

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.