March 26, 2018 Reference No. 11135250-11

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

Dear Mr. Ericson:

Re: Site Assessment Summary and Remediation Work Plan
James Ranch Compressor Station
2RP-
ETC Field Services LLC
Site Location: Unit E, Sec. 16, T 23-S, R 31-E
(Lat 32.30538N°, Long -103.78808W°)
Eddy County, New Mexico

GHD Services, Inc. (GHD) is pleased to present this summary of assessment activities and recommendations for remediation for the above referenced site to ETC Field Services, LLC (ETC). The James Ranch Compressor Station (hereafter referred to as the "Site") is located within Unit E, Section 16, Township 23 South, Range 31 East, in Eddy County, New Mexico (see Figure 1). The site is owned by the New Mexico State Land Office (NMSLO).

On December 18, 2017, a release of approximately 13.7 barrels of water/condensate was reported to the State of New Mexico Oil Conservation Division (NMOCD) and the NMSLO via Form C-141. A pipeline relief valve failed due to low fuel header pressure. Release number 2RP- was assigned by NMOCD for this event. The affected pad area was scraped with earth moving equipment to an approximate depth of 1 foot and the soils stockpiled on site.

1. Recommended Remediation Action Limits

Based on information available from the United States Geologic Survey National Water Information System, the depth to groundwater at the Site is approximately 110 ft. below ground surface (bgs). This is based on a water well located approximately 1.1 mile west-south west of the Site (see Attachment A, Water Well Reports for depth to water). Additionally, there are no wellhead protection areas or surface water bodies within 1,000 feet (ft.) 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 defined as follows:

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***

Notes:

* 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 total TPH and 600 ppm for chlorides[1].

[1] NMOCD Guidelines for Remediation of Leaks, Spills and Releases, August 13, 1993 and recent discussions with Mr. Jim Griswold with the NMOCD.

2. Assessment Activities

Ms. Amber Groves with the NMSLO, in an email communication dated December 18, 2017, granted permission to begin remediation activities before a NMSLO issued Right of Entry permit had been obtained. ETC initiated remediation activities within the pad area that included scraping and stockpiling stained soil. GHD submitted an application for a Right of Entry permit on January 9, 2018.

GHD personnel performed limited soil sampling at the site on January 5, 2018. The Site assessment included the collection of soil samples within the scraped pad area and in the pasture (off-pad area) for field screening and laboratory analyses for petroleum hydrocarbons and chloride (see Figure 2 for locations). Eleven soil samples were collected from 10 hand augured locations (HA-1 through HA-10) Samples were collected from a depth of 6 inches at all of the locations, and a sample was also collected from a depth of one foot in HA-1. The samples were submitted to Hall Environmental Analysis Laboratory located in Albuquerque, New Mexico. The samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8021, total petroleum hydrocarbons (TPH) by EPA Method 8015, and chloride by EPA 300.0 analysis.

Toluene and ethylbenzene were detected in sample HA-1 6” at a concentration of 3.5 milligrams per kilogram (mg/kg) and xylenes were detected in this sample at a concentration of 20 mg/kg. BTEX constituents were not detected above the laboratory reporting limits (LRLs) in the remainder of the samples. Total TPH concentrations ranged from below LRLs to 3,270 mg/kg, and chloride concentrations ranged from below the LRL to 460 mg/kg. The laboratory report is included in Appendix B and the results are summarized on Figure 2 and in Table 1.

The only sample that contained concentrations above the LRLs was collected from HA-1 at a depth of 6 inches. The sample collected at a depth of one foot from HA-1 did not contain any of the analytes above the LRLs. None of the detected concentrations exceeded the RRALs.

3. Summary and Recommendations

Soil samples were collected from the release area within the pad and from the adjoining pasture (see Figure 2) and submitted for laboratory analyses. Based on the laboratory results, the vertical and horizontal extent of petroleum hydrocarbons and chloride impacted soil has been assessed to below the RRALs in both areas.

Based on the results of the assessment activities, GHD proposes the following remedial action:

- Micro-Blaze® will be applied to the pasture area to remediate any residual petroleum hydrocarbon contamination. Micro-Blaze® contains a proprietary blend of wetting agents, nutrients, and several strains of safe, non-pathogenic Bacillus bacteria. When applied to a hydrocarbon-based or organic spill or contaminant, the wetting agent begins breaking down the contaminants into smaller molecules for more efficient degradation by the microbes, into harmless byproducts including carbon dioxide, water, and trace salts.

Following completion of the above activities, a request for no further action will be submitted to the NMOCD 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 or Bernard.Bockisch@ghd.com.

Sincerely,

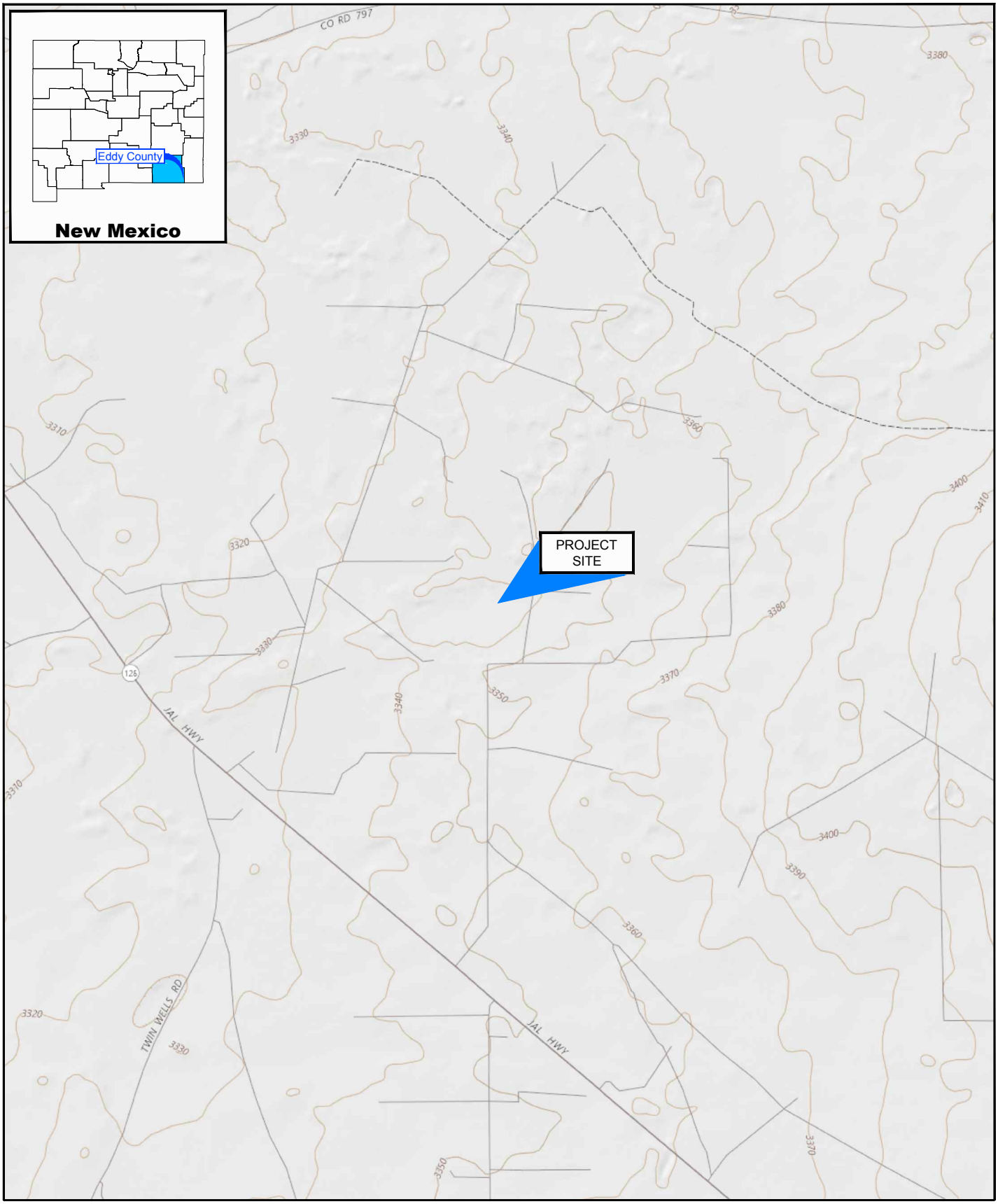
GHD

Alan Brandon
Senior Project Manager

Jeffrey Walker
Senior Project Manager

AB/md/1

Encl.



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

Lat/Long: 32.304726° North, 103.790291° West

0 1000 2000ft

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

ETC FIELD SERVICES, LLC
EDDY COUNTY, NEW MEXICO
JAMES RANCH COMPRESSOR STATION

11135250-11

Feb 1, 2018

SITE LOCATION MAP

FIGURE 1

CAD File: I:\CAD\Files\Eight Digit Job Numbers\1113----\11135250-ETC Field Services\11135250-11(000)GN-DL001.dwg

HA-1	01/05/18	
Depth	0.5'	1'
Benzene	ND	ND
Toluene	3.5	ND
Ethylbenzene	3.5	ND
Xylenes	20	ND
Total TPH	3,270	ND
Chlorides	460	ND

HA-2	01/05/18
Depth	0.5'
Benzene	ND
Toluene	ND
Ethylbenzene	ND
Xylenes	ND
Total TPH	ND
Chlorides	ND

HA-3	01/05/18
Depth	0.5'
Benzene	ND
Toluene	ND
Ethylbenzene	ND
Xylenes	ND
Total TPH	ND
Chlorides	ND

HA-4	01/05/18
Depth	0.5'
Benzene	ND
Toluene	ND
Ethylbenzene	ND
Xylenes	ND
Total TPH	ND
Chlorides	ND

HA-5	01/05/18
Depth	0.5'
Benzene	ND
Toluene	ND
Ethylbenzene	ND
Xylenes	ND
Total TPH	ND
Chlorides	ND

HA-6	01/05/18
Depth	0.5'
Benzene	ND
Toluene	ND
Ethylbenzene	ND
Xylenes	ND
Total TPH	ND
Chlorides	ND

HA-7	01/05/18
Depth	0.5'
Benzene	ND
Toluene	ND
Ethylbenzene	ND
Xylenes	ND
Total TPH	ND
Chlorides	ND

HA-8	01/05/18
Depth	0.5'
Benzene	ND
Toluene	ND
Ethylbenzene	ND
Xylenes	ND
Total TPH	ND
Chlorides	ND

HA-9	01/05/18
Depth	0.5'
Benzene	ND
Toluene	ND
Ethylbenzene	ND
Xylenes	ND
Total TPH	ND
Chlorides	ND

HA-10	01/05/18
Depth	0.5'
Benzene	ND
Toluene	ND
Ethylbenzene	ND
Xylenes	ND
Total TPH	ND
Chlorides	ND

HA-1
HA-2
HA-3
HA-4
HA-5
HA-6
HA-7
HA-8
HA-9
HA-10

James Ranch
Compressor Station

Access Road

Access Road

NOTES:

1. All site locations are approximate.
2. All results are in milligrams per kilogram (mg/kg).

LEGEND

	Hand Auger Location
	Approximate Spray Area
Depth	Depth of Sample (feet)
TPH	Total Petroleum Hydrocarbons Concentration (mg/kg)
ND	Not Detected

Source: Image © 2017 Google - Imagery Date: November 2, 2017

Lat/Long: 32.304726° North, 103.790291° West

0 75 150ft

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

GHD

ETC FIELD SERVICES, LLC
EDDY COUNTY, NEW MEXICO
JAMES RANCH COMPRESSOR STATION

11135250-11

Feb 26, 2018

SOIL SAMPLE LOCATION

FIGURE 2

CAD File: I:\CAD\Files\Eight Digit Job Numbers\1113----\11135250-ETC Field Services\11135250-11(000)GN-DL001.dwg

Table 1

ETC Field Services LLC - James Ranch Compressor Station
Section 16, Township 23 South, Range 31 East
Eddy County, New Mexico
Soil Analytical Results Summary

Sample ID	Date	Sample Depth	Chlorides	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX	TPH GRO (C6-C-10)	TPH DRO (C10-C28)	TPH EXT DRO (C28-C36)	Total TPH GRO/DRO
		(ft.)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
NMOCD Remediation Action Levels			***600***	***10***	***NE***	***NE***	***NE***	***50***	***NE***	***NE***	***NE***	***5,000***
	ASSESSMENT SOIL SAMPLES											
S-11135250-11-010518-MG-HA-1-6"	1/5/2018	0.5	460	<0.23	3.5	3.5	20	27	420	2,100	750	3,270
S-11135250-11-010518-MG-HA-1-12"	1/5/2018	1	<30	<0.023	<0.046	<0.046	<0.092	<0.207	<4.6	<10	<51	<65.6
S-11135250-11-010518-MG-HA-2-6"	1/5/2018	0.5	<30	<0.024	<0.048	<0.048	<0.097	<0.217	<4.8	<9.5	<48	<62.3
S-11135250-11-010518-MG-HA-3-6"	1/5/2018	0.5	<30	<0.025	<0.050	<0.050	<0.099	<0.224	<5.0	<9.7	<48	<62.7
S-11135250-11-010518-MG-HA-4-6"	1/5/2018	0.5	<30	<0.023	<0.047	<0.047	<0.093	<0.210	<4.7	<9.9	<49	<63.6
S-11135250-11-010518-MG-HA-5-6"	1/5/2018	0.5	<30	<0.025	<0.050	<0.050	<0.099	<0.224	<5.0	<9.2	<46	<60.2
S-11135250-11-010518-MG-HA-6-6"	1/5/2018	0.5	<30	<0.023	<0.046	<0.046	<0.092	<0.207	<4.6	<9.4	<47	<61.0
S-11135250-11-010518-MG-HA-7-6"	1/5/2018	0.5	<30	<0.024	<0.047	<0.047	<0.094	<0.212	<4.7	<9.1	<46	<59.8
S-11135250-11-010518-MG-HA-8-6"	1/5/2018	0.5	<30	<0.024	<0.048	<0.048	<0.096	<0.216	<4.8	<9.7	<48	<62.5
S-11135250-11-010518-MG-HA-9-6"	1/5/2018	0.5	<30	<0.024	<0.049	<0.049	<0.097	<0.219	<4.9	<9.4	<47	<61.3
S-11135250-11-010518-MG-HA-10-6"	1/5/2018	0.5	<30	<0.024	<0.048	<0.048	<0.095	<0.215	<4.8	<9.5	<48	<62.3

Note:

Concentrations in yellow exceed the NMOCD Remediation Action Level
NE = Not Established
mg/Kg = milligrams per Kilogram
TPH = Total Petroleum Hydrocarbons
GRO = Gasoline Range Organics
DRO = Diesel Range Organics
MRO = Motor Oil Range Organics
NMOCD = New Mexico Oil Conservation Division

Attachment A
Water Well Reports

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 =
- 321809103481801

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

USGS 321809103481801 23S.31E.17.31141

Eddy County, New Mexico
Latitude 32°18'11.3", Longitude 103°48'23.4" NAD83
Land-surface elevation 3,326.00 feet above NGVD29
The depth of the well is 354 feet below land surface.
This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

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

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurem
1959-02-04		D	110.84			2	P	U		
1987-10-15		D	111.20			2		U		
1992-11-04		D	109.68			2		S		
2013-01-16	16:30 MST	m	128.64			2	R	S	USGS	

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level date-time accuracy	m	Date is accurate to the Minute
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Status	P	Site was being pumped.
Status	R	Site had been pumped recently.
Method of measurement	S	Steel-tape measurement.
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Measuring agency	USGS	U.S. Geological Survey
Source of measurement	S	Measured by personnel of reporting agency.
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

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: 2017-12-18 10:11:14 EST
0.74 0.66 nadww01

Attachment B
Certified Laboratory Reports

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

January 15, 2018

Bernie Bockisch

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

RE: James Ranch OrderNo.: 1801310

Dear Bernie Bockisch:

Hall Environmental Analysis Laboratory received 11 sample(s) on 1/6/2018 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: James Ranch
Lab Order: 1801310

Lab ID: 1801310-001 **Collection Date:** 1/5/2018 10:20:00 AM
Client Sample ID: S-11135250-11-010518-MG-HA-1-6" **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	460	30		mg/Kg	20	1/14/2018 9:41:41 PM	36012
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	2100	94		mg/Kg	10	1/10/2018 12:45:32 PM	35932
Motor Oil Range Organics (MRO)	750	470		mg/Kg	10	1/10/2018 12:45:32 PM	35932
Surr: DNOP	0	70-130	S	%Rec	10	1/10/2018 12:45:32 PM	35932
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	420	47		mg/Kg	10	1/10/2018 12:45:11 PM	35910
Surr: BFB	265	15-316		%Rec	10	1/10/2018 12:45:11 PM	35910
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.23		mg/Kg	10	1/10/2018 12:45:11 PM	35910
Toluene	3.5	0.47		mg/Kg	10	1/10/2018 12:45:11 PM	35910
Ethylbenzene	3.5	0.47		mg/Kg	10	1/10/2018 12:45:11 PM	35910
Xylenes, Total	20	0.93		mg/Kg	10	1/10/2018 12:45:11 PM	35910
Surr: 4-Bromofluorobenzene	132	80-120	S	%Rec	10	1/10/2018 12:45:11 PM	35910

Lab ID: 1801310-002 **Collection Date:** 1/5/2018 10:22:00 AM
Client Sample ID: S-11135250-11-010518-MG-HA-1-12" **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	1/14/2018 9:54:06 PM	36012
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/10/2018 1:09:49 PM	35932
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	1/10/2018 1:09:49 PM	35932
Surr: DNOP	104	70-130		%Rec	1	1/10/2018 1:09:49 PM	35932
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/10/2018 1:56:46 PM	35910
Surr: BFB	91.6	15-316		%Rec	1	1/10/2018 1:56:46 PM	35910
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	1/10/2018 1:56:46 PM	35910
Toluene	ND	0.046		mg/Kg	1	1/10/2018 1:56:46 PM	35910
Ethylbenzene	ND	0.046		mg/Kg	1	1/10/2018 1:56:46 PM	35910
Xylenes, Total	ND	0.092		mg/Kg	1	1/10/2018 1:56:46 PM	35910
Surr: 4-Bromofluorobenzene	112	80-120		%Rec	1	1/10/2018 1:56:46 PM	35910

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
Project: James Ranch
Lab Order: 1801310

Lab ID: 1801310-003 **Collection Date:** 1/5/2018 10:30:00 AM
Client Sample ID: S-11135250-11-010518-MG-HA-2-6" **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	1/14/2018 10:31:21 PM	36012
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	1/10/2018 1:34:12 PM	35932
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/10/2018 1:34:12 PM	35932
Surr: DNOP	103	70-130		%Rec	1	1/10/2018 1:34:12 PM	35932
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/10/2018 3:08:18 PM	35910
Surr: BFB	90.8	15-316		%Rec	1	1/10/2018 3:08:18 PM	35910
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	1/10/2018 3:08:18 PM	35910
Toluene	ND	0.048		mg/Kg	1	1/10/2018 3:08:18 PM	35910
Ethylbenzene	ND	0.048		mg/Kg	1	1/10/2018 3:08:18 PM	35910
Xylenes, Total	ND	0.097		mg/Kg	1	1/10/2018 3:08:18 PM	35910
Surr: 4-Bromofluorobenzene	114	80-120		%Rec	1	1/10/2018 3:08:18 PM	35910

Lab ID: 1801310-004 **Collection Date:** 1/5/2018 10:32:00 AM
Client Sample ID: S-11135250-11-010518-MG-HA-3-6" **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	1/14/2018 11:08:35 PM	36012
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/10/2018 1:58:25 PM	35932
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/10/2018 1:58:25 PM	35932
Surr: DNOP	102	70-130		%Rec	1	1/10/2018 1:58:25 PM	35932
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/10/2018 3:32:01 PM	35910
Surr: BFB	90.1	15-316		%Rec	1	1/10/2018 3:32:01 PM	35910
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	1/10/2018 3:32:01 PM	35910
Toluene	ND	0.050		mg/Kg	1	1/10/2018 3:32:01 PM	35910
Ethylbenzene	ND	0.050		mg/Kg	1	1/10/2018 3:32:01 PM	35910
Xylenes, Total	ND	0.099		mg/Kg	1	1/10/2018 3:32:01 PM	35910
Surr: 4-Bromofluorobenzene	111	80-120		%Rec	1	1/10/2018 3:32:01 PM	35910

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
Project: James Ranch
Lab Order: 1801310

Lab ID: 1801310-005 **Collection Date:** 1/5/2018 10:35:00 AM
Client Sample ID: S-11135250-11-010518-MG-HA-4-6" **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	1/14/2018 11:20:59 PM	36012
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/10/2018 2:22:51 PM	35932
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/10/2018 2:22:51 PM	35932
Surr: DNOP	100	70-130		%Rec	1	1/10/2018 2:22:51 PM	35932
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/10/2018 3:55:55 PM	35910
Surr: BFB	89.4	15-316		%Rec	1	1/10/2018 3:55:55 PM	35910
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	1/10/2018 3:55:55 PM	35910
Toluene	ND	0.047		mg/Kg	1	1/10/2018 3:55:55 PM	35910
Ethylbenzene	ND	0.047		mg/Kg	1	1/10/2018 3:55:55 PM	35910
Xylenes, Total	ND	0.093		mg/Kg	1	1/10/2018 3:55:55 PM	35910
Surr: 4-Bromofluorobenzene	110	80-120		%Rec	1	1/10/2018 3:55:55 PM	35910

Lab ID: 1801310-006 **Collection Date:** 1/5/2018 10:50:00 AM
Client Sample ID: S-11135250-11-010518-MG-HA-5-6" **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	1/14/2018 11:33:24 PM	36012
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	1/10/2018 2:47:07 PM	35932
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	1/10/2018 2:47:07 PM	35932
Surr: DNOP	90.6	70-130		%Rec	1	1/10/2018 2:47:07 PM	35932
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/10/2018 4:19:47 PM	35910
Surr: BFB	90.5	15-316		%Rec	1	1/10/2018 4:19:47 PM	35910
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	1/10/2018 4:19:47 PM	35910
Toluene	ND	0.050		mg/Kg	1	1/10/2018 4:19:47 PM	35910
Ethylbenzene	ND	0.050		mg/Kg	1	1/10/2018 4:19:47 PM	35910
Xylenes, Total	ND	0.099		mg/Kg	1	1/10/2018 4:19:47 PM	35910
Surr: 4-Bromofluorobenzene	110	80-120		%Rec	1	1/10/2018 4:19:47 PM	35910

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
Project: James Ranch
Lab Order: 1801310

Lab ID: 1801310-007 **Collection Date:** 1/5/2018 10:52:00 AM
Client Sample ID: S-11135250-11-010518-MG-HA-6-6" **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	1/14/2018 11:45:49 PM	36012
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	1/10/2018 3:11:40 PM	35932
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/10/2018 3:11:40 PM	35932
Surr: DNOP	97.2	70-130		%Rec	1	1/10/2018 3:11:40 PM	35932
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/10/2018 4:43:30 PM	35910
Surr: BFB	89.8	15-316		%Rec	1	1/10/2018 4:43:30 PM	35910
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	1/10/2018 4:43:30 PM	35910
Toluene	ND	0.046		mg/Kg	1	1/10/2018 4:43:30 PM	35910
Ethylbenzene	ND	0.046		mg/Kg	1	1/10/2018 4:43:30 PM	35910
Xylenes, Total	ND	0.092		mg/Kg	1	1/10/2018 4:43:30 PM	35910
Surr: 4-Bromofluorobenzene	109	80-120		%Rec	1	1/10/2018 4:43:30 PM	35910

Lab ID: 1801310-008 **Collection Date:** 1/5/2018 10:55:00 AM
Client Sample ID: S-11135250-11-010518-MG-HA-7-6" **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	1/14/2018 11:58:14 PM	36012
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	1/10/2018 3:35:50 PM	35932
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	1/10/2018 3:35:50 PM	35932
Surr: DNOP	98.3	70-130		%Rec	1	1/10/2018 3:35:50 PM	35932
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/10/2018 5:07:24 PM	35910
Surr: BFB	90.8	15-316		%Rec	1	1/10/2018 5:07:24 PM	35910
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	1/10/2018 5:07:24 PM	35910
Toluene	ND	0.047		mg/Kg	1	1/10/2018 5:07:24 PM	35910
Ethylbenzene	ND	0.047		mg/Kg	1	1/10/2018 5:07:24 PM	35910
Xylenes, Total	ND	0.094		mg/Kg	1	1/10/2018 5:07:24 PM	35910
Surr: 4-Bromofluorobenzene	110	80-120		%Rec	1	1/10/2018 5:07:24 PM	35910

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
Project: James Ranch
Lab Order: 1801310

Lab ID: 1801310-009 **Collection Date:** 1/5/2018 11:05:00 AM
Client Sample ID: S-11135250-11-010518-MG-HA-8-6" **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	1/15/2018 12:10:38 AM	36012
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/10/2018 4:00:16 PM	35932
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/10/2018 4:00:16 PM	35932
Surr: DNOP	96.5	70-130		%Rec	1	1/10/2018 4:00:16 PM	35932
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/10/2018 7:53:48 PM	35910
Surr: BFB	90.4	15-316		%Rec	1	1/10/2018 7:53:48 PM	35910
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	1/10/2018 7:53:48 PM	35910
Toluene	ND	0.048		mg/Kg	1	1/10/2018 7:53:48 PM	35910
Ethylbenzene	ND	0.048		mg/Kg	1	1/10/2018 7:53:48 PM	35910
Xylenes, Total	ND	0.096		mg/Kg	1	1/10/2018 7:53:48 PM	35910
Surr: 4-Bromofluorobenzene	109	80-120		%Rec	1	1/10/2018 7:53:48 PM	35910

Lab ID: 1801310-010 **Collection Date:** 1/5/2018 11:10:00 AM
Client Sample ID: S-11135250-11-010518-MG-HA-9-6" **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	1/15/2018 12:23:03 AM	36012
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	1/10/2018 4:24:37 PM	35932
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/10/2018 4:24:37 PM	35932
Surr: DNOP	94.8	70-130		%Rec	1	1/10/2018 4:24:37 PM	35932
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/10/2018 8:17:35 PM	35910
Surr: BFB	89.0	15-316		%Rec	1	1/10/2018 8:17:35 PM	35910
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	1/10/2018 8:17:35 PM	35910
Toluene	ND	0.049		mg/Kg	1	1/10/2018 8:17:35 PM	35910
Ethylbenzene	ND	0.049		mg/Kg	1	1/10/2018 8:17:35 PM	35910
Xylenes, Total	ND	0.097		mg/Kg	1	1/10/2018 8:17:35 PM	35910
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	1/10/2018 8:17:35 PM	35910

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
Project: James Ranch

Lab Order: 1801310

Lab ID: 1801310-011
Collection Date: 1/5/2018 11:15:00 AM
Client Sample ID: S-11135250-11-010518-MG-HA-10-6"
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	1/15/2018 1:00:16 AM	36012
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	1/10/2018 4:48:56 PM	35932
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/10/2018 4:48:56 PM	35932
Surr: DNOP	97.3	70-130		%Rec	1	1/10/2018 4:48:56 PM	35932
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/10/2018 8:41:25 PM	35910
Surr: BFB	90.7	15-316		%Rec	1	1/10/2018 8:41:25 PM	35910
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	1/10/2018 8:41:25 PM	35910
Toluene	ND	0.048		mg/Kg	1	1/10/2018 8:41:25 PM	35910
Ethylbenzene	ND	0.048		mg/Kg	1	1/10/2018 8:41:25 PM	35910
Xylenes, Total	ND	0.095		mg/Kg	1	1/10/2018 8:41:25 PM	35910
Surr: 4-Bromofluorobenzene	110	80-120		%Rec	1	1/10/2018 8:41:25 PM	35910

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#: **1801310**

15-Jan-18

Client: GHD

Project: James Ranch

Sample ID	**MB-36012**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**36012**	RunNo:	**48434**					
Prep Date:	**1/14/2018**	Analysis Date:	**1/14/2018**	SeqNo:	**1556984**	Units:	**mg/Kg**			

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

Sample ID	**LCS-36012**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**36012**	RunNo:	**48434**					
Prep Date:	**1/14/2018**	Analysis Date:	**1/14/2018**	SeqNo:	**1556985**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	98.1	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#: **1801310**

15-Jan-18

Client: GHD

Project: James Ranch

Sample ID	**LCS-35932**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**35932**		RunNo:	**48338**				
Prep Date:	**1/9/2018**	Analysis Date:	**1/10/2018**		SeqNo:	**1552552**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.2	70	130			
Surr: DNOP	4.5		5.000		89.7	70	130			

Sample ID	**MB-35932**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**35932**		RunNo:	**48338**				
Prep Date:	**1/9/2018**	Analysis Date:	**1/10/2018**		SeqNo:	**1552553**	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	9.5		10.00		94.8	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#: **1801310**

15-Jan-18

Client: GHD

Project: James Ranch

Sample ID	**MB-35910**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**PBS**	Batch ID:	**35910**		RunNo:	**48355**				
Prep Date:	**1/8/2018**	Analysis Date:	**1/10/2018**		SeqNo:	**1553192**	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	890		1000		89.4	15	316			

Sample ID	**LCS-35910**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**LCSS**	Batch ID:	**35910**		RunNo:	**48355**				
Prep Date:	**1/8/2018**	Analysis Date:	**1/10/2018**		SeqNo:	**1553221**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.1	75.9	131			
Surr: BFB	980		1000		97.7	15	316			

Sample ID	**1801310-002AMS**	SampType:	**MS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**S-11135250-11-0105**	Batch ID:	**35910**		RunNo:	**48355**				
Prep Date:	**1/8/2018**	Analysis Date:	**1/10/2018**		SeqNo:	**1553224**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.7	23.54	0	102	77.8	128			
Surr: BFB	930		941.6		99.0	15	316			

Sample ID	**1801310-002AMSD**	SampType:	**MSD**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**S-11135250-11-0105**	Batch ID:	**35910**		RunNo:	**48355**				
Prep Date:	**1/8/2018**	Analysis Date:	**1/10/2018**		SeqNo:	**1553225**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.9	24.63	0	97.9	77.8	128	0.0920	20	
Surr: BFB	990		985.2		100	15	316	0	0	

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#: **1801310**

15-Jan-18

Client: GHD

Project: James Ranch

Sample ID	**MB-35910**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID:	**35910**	RunNo:	**48355**					
Prep Date:	**1/8/2018**	Analysis Date:	**1/10/2018**	SeqNo:	**1553249**	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	1.1		1.000		109	80	120			

Sample ID	**LCS-35910**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**35910**	RunNo:	**48355**					
Prep Date:	**1/8/2018**	Analysis Date:	**1/10/2018**	SeqNo:	**1553250**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	1.000	0	96.9	77.3	128			
Toluene	0.97	0.050	1.000	0	97.4	79.2	125			
Ethylbenzene	0.96	0.050	1.000	0	95.7	80.7	127			
Xylenes, Total	2.8	0.10	3.000	0	94.7	81.6	129			
Surr: 4-Bromofluorobenzene	1.1		1.000		112	80	120			

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: 1801310 | RcptNo: 1

Received By: Anne Thorne 1/6/2018 10:30:00 AM

Completed By: Sophia Campuzano 1/8/2018 9:22:05 AM

Reviewed By: JMO 1/8/18

Chain of Custody

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

Log In

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

15. 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: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.8	Good	Yes			

Chain-of-Custody Record

Client: GHD

Mailing Address: 6121 Indian School Rd NE, Suite 200, 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: James Ranch

Project #: 11136250-11

Project Manager: Bernard Bockisch

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.8

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1801310	BTEX (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)
01/05/18	1020	S	S-11135250-11-010518-MG-HA-1-6"	4oz Gloss Jar	ICE	-001	X		X									X				
	1022		S-11135250-11-010518-MG-HA-1-12"			-002	X		X									X				
	1030		S-11135250-11-010518-MG-HA-2-6"			-003	X		X									X				
	1032		S-11135250-11-010518-MG-HA-3-6"			-004	X		X									X				
	1035		S-11135250-11-010518-MG-HA-4-6"			-005	X		X									X				
	1050		S-11135250-11-010518-MG-HA-5-6"			-006	X		X									X				
	1052		S-11135250-11-010518-MG-HA-6-6"			-007	X		X									X				
	1055		S-11135250-11-010518-MG-HA-7-6"			-008	X		X									X				
	1105		S-11135250-11-010518-MG-HA-8-6"			-009	X		X									X				
	1110		S-11135250-11-010518-MG-HA-9-6"			-010	X		X									X				
	1115		S-11135250-11-010518-MG-HA-10-6"			-011	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
1/5/18	1330			1/5/18	1330
1/5/18	1900			01/06/18	1030

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.

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