APPROVED

Ensure BLM concurrence/approval.

May 31, 2016 Reference No. 088210-20

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

Dear Mr. Kurtz:

Re: Assessment Summary Report
North Young Fed 12-1 near Shinnery Federal No. 1 (API #30-025-30247)
1RP-3849
EOG Resources, Inc.
Site Location: Unit K, Sec. 13, T 18-S, R 32-E
(Lat 32.7444°, Long -103.7217°)
Lea County, New Mexico

GHD Services, Inc. is pleased to present this report for the above referenced site. Assessment activities were performed on February 29 and April 25, 2016 at the North Young Fed 12-1 (hereafter referred to as the "Site"). A historical release occurred at this Site that was known as the Shinnery Federal No. 1. The Site is located within Unit K, Section 13, Township 18 South, Range 32 East, in Lea County, New Mexico (Figure 1).

The Site is an active oil and gas well site approximately 12 miles south of Maljamar, New Mexico. According to EOG personnel, a release of approximately 120 barrels (bbls) of produced water occurred when a three inch poly line ruptured at a fuse weld. The release was discovered on September 9, 2015 and none of the fluids were recovered. A C-141 Form was submitted to the New Mexico Oil Conservation Division (NMOCD) on September 9, 2015 and remediation permit (RP) number 1RP-3849 was assigned. The location of the September 9, 2015 release was the same as a former release associated with the Shinnery Federal No. 1 that occurred on February 28, 2014.

The February 28, 2014 release was approximately 20 bbls of produced water all of which were unrecoverable. From February 28, 2014 and January 13, 2015 a third party contractor and CH2M Hill of Dallas, TX performed assessment and remedial activities in response to the Shinnery Federal No. 1 release. The horizontal extent of the release was delineated, impacted soils from the horizontal release footprint were excavated, a 20 millimeter (mm) liner was placed within the excavation and covered with clean fill. Approximately 712 cubic yards (yd^3) of impacted soil were removed from the excavation and disposed of at the Lea Land Landfill in Carlsbad, NM. Approximately 1,008 yd^3 of clean fill from Canvas Ranch were placed over top of the liner. All remedial efforts were performed by Watson Construction and overseen by CH2M Hill. Details of remedial activities were reported to the

NMOCD and the Bureau of Land Management (BLM) in a report dated August 19, 2015 that was submitted by CH2M Hill. Remedial closure for the Shinnery Federal No. 1 release was not granted by the NMOCD since the vertical extent of soil impacts had not been fully assessed.

The second release at the Site, associated with the North Young Fed 12-1, occurred on September 9, 2015. Soil impacts were localized to the area in and around the previous Shinnery Federal No. 1 lined and backfilled excavation. Due to the volume of the North Young Fed 12-1 release (120 bbls) the horizontal extent of impacted soils extended beyond the previously lined area. A work plan dated September 28, 2015 proposed by CH2M Hill was submitted to and approved by the NMOCD and BLM. The work plan detailed the horizontal and vertical delineation, excavation, and subsequent backfilling and lining of the newly impacted area. From October 1, 2015 through December 18, 2015 CH2M Hill performed the following assessment activities:

- Soil samples were collected from around the edge of the visibly impacted area.
- Impacted soils were excavated from on top of and around the previously lined area to and extent of approximately 100 feet by 100 feet.
- The previous placed liner was removed for further excavation of soil to a depth of approximately five feet bgs.
- Two soil borings were advanced in order to assess the vertical extent of chloride impacts in the area.

Consulting responsibilities were transferred to GHD prior to installation of a replacement liner and backfilling of the excavation.

Due to the uncertainty of the sample locations and the horizontal extent assessed by CH2M Hill, GHD completed additional soil sampling at the North Young Fed 12-1 release. Sampling was performed by GHD on February 29, 2016 and April 25, 2016 and discussed further in this report.

1. Introduction

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 Tech Pit Portal website, the closest USGS gauging site is located approximately 2.75 miles northwest of the site. The data from this website indicates groundwater at a depth of approximately 84 feet below ground surface (bgs). It was also observed by CH2M Hill during drilling activities on December 17 and 18, 2015 that groundwater was not present in two soil borings advanced to 50 feet bgs.

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 10 (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), 1000 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 (>50 ft bgs,< 100 ft bgs)	10
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	**10***
*Because the ranking criteria total score is 10, NMOCD established RRALs are 10 mg/kg for benzene, 50 mg/kg for total BTEX, 1,000 mg/kg for TPH[1], and 250 mg/kg for chlorides.	

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

2. Assessment Activities

Site assessment activities were initially performed by CH2M Hill of Dallas, Texas between October 1 and December 18, 2015. Soil assessment activities (excavation and drilling) were performed and soil samples were analyzed by TraceAnalysis, Inc. (TraceAnalysis) of Lubbock, Texas.

The analytical data obtained from the soil samples collected by CH2M Hill indicated that the horizontal extent of chloride concentrations had been delineated to below the RRAL. However, the exact locations of the collected samples were unknown to EOG or GHD at the time of the transfer of consulting responsibilities in February of 2016. The vertical extent of chloride concentrations were delineated by the advancement of two soil borings overseen by CH2M Hill in December of 2015. The results of the soil boring analytical data can be referenced on Figure 2.

Further soil sampling to confirm the horizontal extent of chloride impacts to soil was performed by GHD on February 29, 2016 and April 25, 2016. A total of eight soil samples were collected using a hand auger at a depth of approximately 4.5 feet bgs in each location on February 29, 2016. The samples were submitted to Hall Environmental Analysis Laboratory (HEAL) of Albuquerque, New Mexico for analysis of chloride by EPA Method 300. The results of the samples indicated that the horizontal extent of the chloride was assessed except for the southern end of the site (sample number S-088210-20-022916-SP-02). Three additional soil samples were collected in this area on April 25 and analyzed for chloride by EPA Method 300 by HEAL. The results of these samples were below the laboratory reporting limit.

The impacted soil located at the southern portion of the excavation (indicated by sample S-088210-20-022916-SP-02) was excavated on May 20, 2016. Laboratory analytical results from the February and April 2016 sampling indicate that chloride concentrations in the samples that were submitted were below the RRAL for chloride (Figure 2). Based on this, it appears that the vertical and horizontal extent of chloride has been fully assessed at the site.

3. Summary and Recommendations

Based on the assessment of the petroleum hydrocarbon and chloride concentrations, GHD recommends the following:

- Placement of a 20 mil polyethylene liner in the bottom of the excavation at a depth of 4.5 to 5 ft bgs.
- Backfilling of the excavation with clean fill material and wheel compacting to grade.
- Fertilizing and reseeding of the disturbed area with a BLM-approved seed mix.

Following completion of the above activities EOG will request that no further action be required 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.

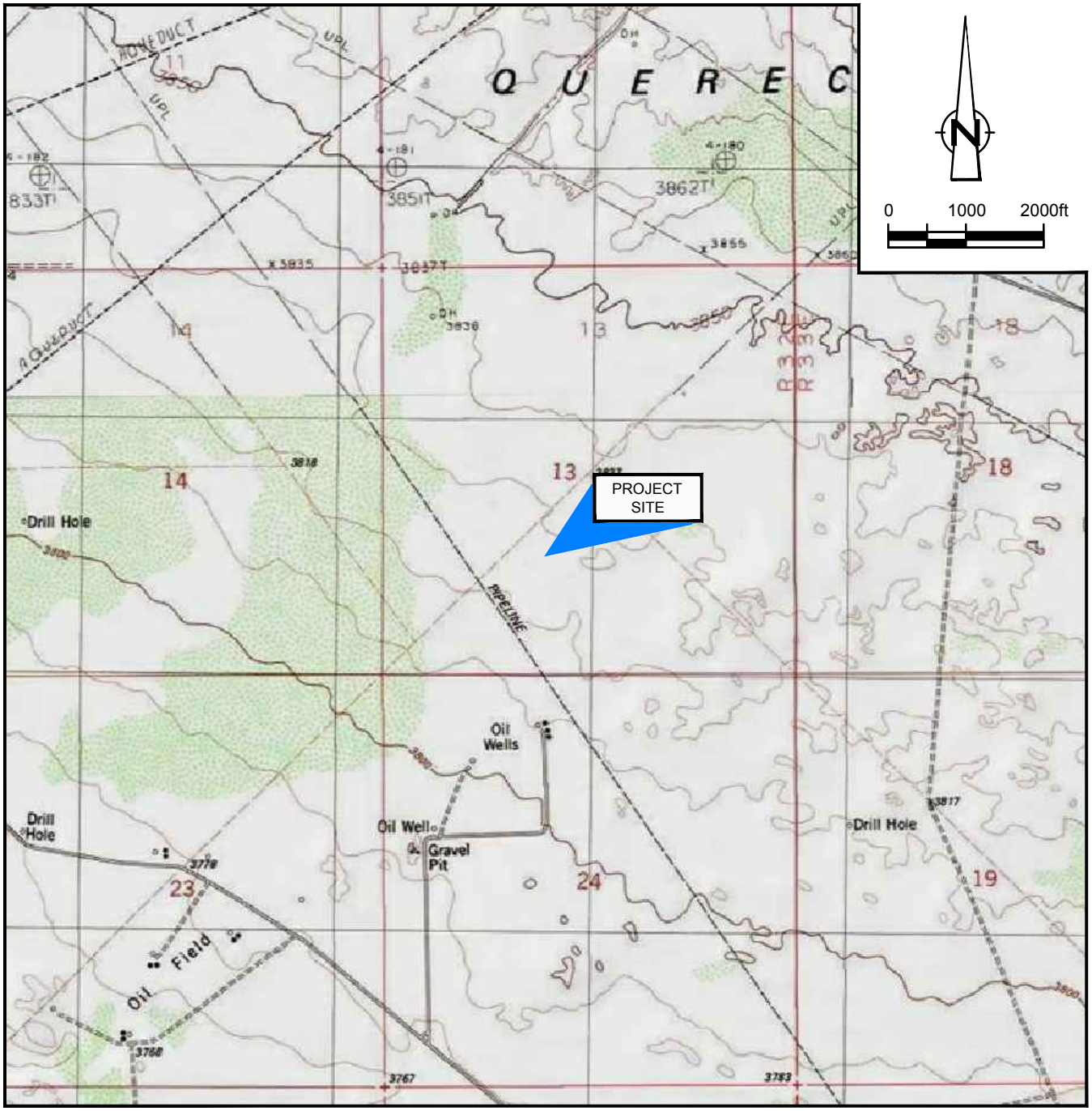
Sincerely,

GHD

Bernard Bockisch
Senior Project Manager

Christine Mathews,
Staff Scientist

BB/mc/02



SOURCE: USGS 7.5 MINUTE QUAD
"LAGUNA GATUNA NW, DOG LAKE, GREENWOOD LAKE, AND MALJAMAR, NEW MEXICO"

LAT/LONG: 32.7444° NORTH, 103.7217° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO EAST

Figure 1

SITE LOCATION MAP
NORTH YOUNG FED 12-1
LEA COUNTY, NEW MEXICO
EOG Resources

GHD

088210-20(000)GN-DL001 MAY 26/2016

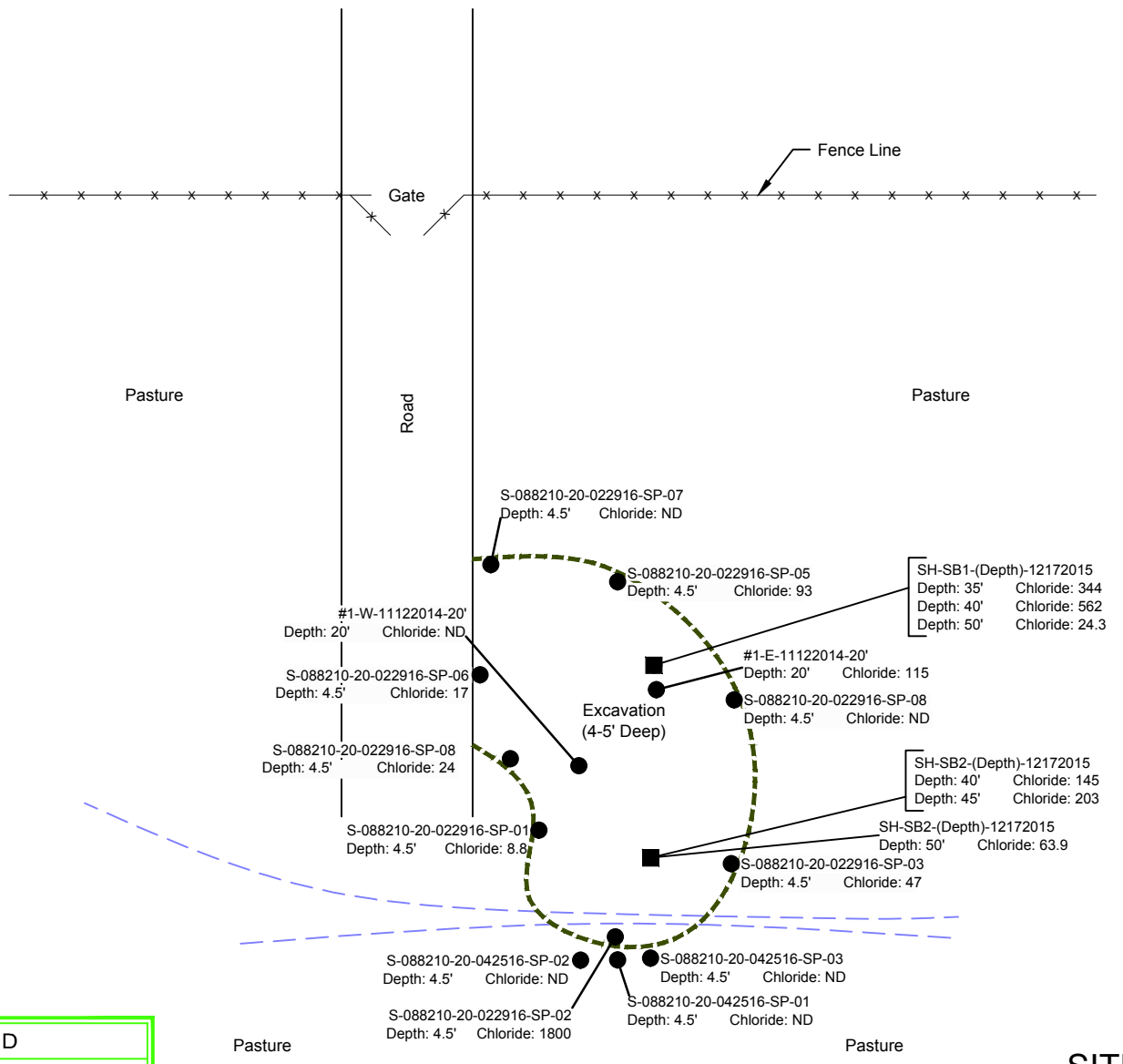


Figure 2

SITE DETAIL MAP
NORTH YOUNG FED 12-1
LEA COUNTY, NEW MEXICO
EOG Resources

088210-20(000)GN-DL001 MAY 26/2016

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

March 11, 2016

Bernie Bockish

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

RE: North Young Fed 12-1 OrderNo.: 1603190

Dear Bernie Bockish:

Hall Environmental Analysis Laboratory received 8 sample(s) on 3/3/2016 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 qualifers 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: North Young Fed 12-1

Lab Order: 1603190

Lab ID: 1603190-001 **Collection Date:** 2/29/2016 3:30:00 PM
Client Sample ID: S-088210-20-022916-SP-01 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	8.8	7.5		mg/Kg	5	3/8/2016 11:43:33 PM	24147

Lab ID: 1603190-002 **Collection Date:** 2/29/2016 3:40:00 PM
Client Sample ID: S-088210-20-022916-SP-02 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	1800	75		mg/Kg	50	3/10/2016 3:52:37 AM	24147

Lab ID: 1603190-003 **Collection Date:** 2/29/2016 3:45:00 PM
Client Sample ID: S-088210-20-022916-SP-03 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	47	7.5		mg/Kg	5	3/9/2016 12:58:01 AM	24147

Lab ID: 1603190-004 **Collection Date:** 2/29/2016 3:50:00 PM
Client Sample ID: S-088210-20-022916-SP-04 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	1.5		mg/Kg	1	3/9/2016 1:47:40 AM	24147

Lab ID: 1603190-005 **Collection Date:** 2/29/2016 4:00:00 PM
Client Sample ID: S-088210-20-022916-SP-05 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	93	7.5		mg/Kg	5	3/9/2016 2:12:29 AM	24147

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
R	RPD outside accepted recovery limits	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: North Young Fed 12-1

Lab Order: 1603190

Lab ID: 1603190-006 **Collection Date:** 2/29/2016 4:05:00 PM
Client Sample ID: S-088210-20-022916-SP-06 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	17	7.5		mg/Kg	5	3/9/2016 2:37:18 AM	24147

Lab ID: 1603190-007 **Collection Date:** 2/29/2016 4:10:00 PM
Client Sample ID: S-088210-20-022916-SP-07 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	7.5		mg/Kg	5	3/9/2016 3:02:08 AM	24147

Lab ID: 1603190-008 **Collection Date:** 2/29/2016 4:15:00 PM
Client Sample ID: S-088210-20-022916-SP-08 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	24	7.5		mg/Kg	5	3/9/2016 3:26:57 AM	24147

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
R	RPD outside accepted recovery limits	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#: **1603190**

11-Mar-16

Client: GHD

Project: North Young Fed 12-1

Sample ID	**MB-24147**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**24147**	RunNo:	**32667**					
Prep Date:	**3/8/2016**	Analysis Date:	**3/8/2016**	SeqNo:	**999625**	Units:	**mg/Kg**			

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

Sample ID	**LCS-24147**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**24147**	RunNo:	**32667**					
Prep Date:	**3/8/2016**	Analysis Date:	**3/8/2016**	SeqNo:	**999626**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.0	90	110			

Sample ID	**1603190-001AMS**	SampType:	**MS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**S-088210-20-022916**	Batch ID:	**24147**	RunNo:	**32667**					
Prep Date:	**3/8/2016**	Analysis Date:	**3/8/2016**	SeqNo:	**999650**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	21	7.5	15.00	8.790	79.2	64.2	131			

Sample ID	**1603190-001AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**S-088210-20-022916**	Batch ID:	**24147**	RunNo:	**32667**					
Prep Date:	**3/8/2016**	Analysis Date:	**3/9/2016**	SeqNo:	**999651**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	23	7.5	15.00	8.790	93.6	64.2	131	9.98	20	

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
R	RPD outside accepted recovery limits	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: 1603190 | RcptNo: 1

Received by/date: MG 03/03/16

Logged By: Ashley Gallegos 3/3/2016 9:50:00 AM AG

Completed By: Ashley Gallegos 3/3/2016 1:50:15 PM AG

Reviewed By: JO 03/03/16

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	1.4	Good	Yes			

Chain-of-Custody Record

Client: GHD - Albuquerque

Mailing Address: 6121 Indian School Rd NE Ste 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: North Young Fed 12-1

Project #: 088210/20

Project Manager: Bernard Bockisch
505-280-0572

Sampler: Steve Perez

On Ice: ☑ Yes ☐ No

Sample Temperature: 24+1.0 = 1.4°c

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. 1603190	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)	Chlorides 300.0				Air Bubbles (Y or N)
2-29-16	1530	Soil	S-088210-20-022916-SP-01	4oz glass-1	Ice	-001												X				
	1540		S-088210-20-022916-SP-02			-002																
	1545		S-088210-20-022916-SP-03			-003																
	1550		S-088210-20-022916-SP-04			-004																
	1600		S-088210-20-022916-SP-05			-005																
	1605		S-088210-20-022916-SP-06			-006																
	1610		S-088210-20-022916-SP-07			-007																
	1615		S-088210-20-022916-SP-08			-008																

Date:	Time:	Relinquished by:	Received by:	Date	Time
2-29-16	8:20	Steve Perez		3/2/16	0820
Date:	Time:	Relinquished by:	Received by:	Date	Time
				03/03/16	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.

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

April 29, 2016

Bernie Bockish

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

RE: North Young Fed 12-1 OrderNo.: 1604B57

Dear Bernie Bockish:

Hall Environmental Analysis Laboratory received 3 sample(s) on 4/27/2016 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 qualifers 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

Analytical Report
Lab Order: **1604B57**
Date Reported: **4/29/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD
Project: North Young Fed 12-1
Lab Order: 1604B57

Lab ID: 1604B57-001 **Collection Date:** 4/25/2016 4:00:00 PM
Client Sample ID: S-088210-20-042516-SP-01 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	ND	30		mg/Kg	20	4/28/2016 12:51:47 PM	25067

Lab ID: 1604B57-002 **Collection Date:** 4/25/2016 4:05:00 PM
Client Sample ID: S-088210-20-042516-SP-02 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	ND	30		mg/Kg	20	4/28/2016 1:29:02 PM	25067

Lab ID: 1604B57-003 **Collection Date:** 4/25/2016 4:10:00 PM
Client Sample ID: S-088210-20-042516-SP-03 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **SRM**	
Chloride	ND	30		mg/Kg	20	4/28/2016 2:06:15 PM	25067

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
R	RPD outside accepted recovery limits	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#: **1604B57**

29-Apr-16

Client: GHD

Project: North Young Fed 12-1

Sample ID	**MB-25067**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**25067**	RunNo:	**33881**					
Prep Date:	**4/28/2016**	Analysis Date:	**4/28/2016**	SeqNo:	**1043530**	Units:	**mg/Kg**			

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

Sample ID	**LCS-25067**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**25067**	RunNo:	**33881**					
Prep Date:	**4/28/2016**	Analysis Date:	**4/28/2016**	SeqNo:	**1043531**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.5	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
R	RPD outside accepted recovery limits	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: 1604B57 RcptNo: 1

Received by/date: RM 04/27/16

Logged By: **Ashley Gallegos** 4/27/2016 9:30:00 AM AG

Completed By: **Ashley Gallegos** 4/27/2016 10:05:22 AM AG

Reviewed By: JA 04/27/16

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	1.4	Good	Yes			

Chain-of-Custody Record

Client: GHD - Albuquerque

Mailing Address: 6121 Indian School Rd NE Ste 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 48hr

Project Name: North Young Fed 12-1

Project #: 088210/20

Project Manager: Bernard Bockisch 505-280-0572

Sampler: Steve Perez

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.4

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. 1604B57	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)					Air Bubbles (Y or N)
4/25/16	1600	Soil	S-088210-20-042516-SP-01	4oz glass-1	Ice	-001												X Chloride 300.0				
	1605	Soil	S-088210-20-042516-SP-02			-002																
	1610	Soil	S-088210-20-042516-SP-03			-003																

Date:	Time:	Relinquished by:	Received by:	Date	Time	Remarks:
4/26/16	0730	Steve Perez		4/26/16	0730	
4/26/16	1900			04/27/16	0930	

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.