

May 30, 2017 Reference No. 088210-21

Ms. Olivia Yu New Mexico Oil Conservation Division Energy, Minerals and Natural Resources Department 1625 N. French Dr. Hobbs, NM 88240

Ms. Amber Groves New Mexico State Land Office Field Operations Division 2827 N. Dal Paso, Suite 117 Hobbs. NM 88260

Dear Ms. Yu and Ms. Tucker:

Re: Closure Request
Jolly Roger 16 State No. 1 (API #30-025-41665)
1RP-3541
EOG Resources, Inc.
Site Location: Unit C, Sec. 16, T 24-S, R 34-E
(Lat 32.2244°, Long -103.4762°)
Lea County, New Mexico

GHD Services, Inc. (GHD), on behalf of EOG Resources (EOG) is requesting that no further action status be granted for the Jolly Roger State 16 State No.1 (hereafter referred to as the "Site").

In an Assessment Report dated November 14, 2016 (attached) GHD recommended the following scope items be completed following delineation of the soil impacts in order to achieve no further action;

- Blend the on-site stockpile with clean soil to reduce chloride concentrations to below 600 milligrams per kilograms (mg/kg). Re-sample the blended stockpile to confirm concentrations are below 600 mg/kg then use the soil for backfill material.
- Placement of a 20 mil polyethylene liner in the bottom of the excavation at a depth of 4 ft bgs at the location indicated on Figure 2.
- Backfilling of the excavation with the blended backfill material and wheel compacting to grade.
- Fertilizing and reseeding of the disturbed area with BLM seed mix no. 2 without lovegrass.

The work scope was approved by Ms. Kristen Lynch with the New Mexico Oil Conservation Division on December 1, 2016. The New Mexico State Land Office approved the report on January 27, 2017. As of the date of this letter, the above scope items have been completed and are documented in the attached completion photos and final C-141 for the Site; therefore, No Further Action is being requested.

Your timely response to this requested is greatly appreciated. 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

AIC Brand

AB/mc/03

Bernard Bockisch Senior Project Manager <u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 District II District III
1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Form C-141

Revised August 8, 2011

			Kele	ease Notific	catior	and Co	orrective A	ction	1				
						OPERA	al Report	П	Final	Report			
Name of Co	mpany E	OG Resource	es, Inc.			OPERATOR ☑ Initial Report ☐ Final Report Contact Zane Kurtz							1
Address 55	09 Champ	ions Drive, l	Midland,	TX 79706	,	Telephone No. 432-425-2023							
Facility Nar	ne Jolly R	Roger 16 Stat	te #1			Facility Typ	e active well						
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			Yes 🗵	No Not Re	equired								
By Whom?	By Whom?						Iour						
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☐ Yes ⊠ No													
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	OIL CONSERVATION DIVISION												
Signature:	Signature: 11 Manufaciat												
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Printed Name	e: Zane Kur	lz /	Δ			Approved by	Environmental S	рестанз	ι.				
Title: Sr En	rironmental	Panracantation				Approval Des	te: 02/20/2015		Expiration	Date: 04/	20/201	5	
Tiue, SI, Ell	nomnental	Representativ	/ C			Approval Date: 02/20/2015 Expiration			гурнацоп	Date. 04/	<u> 20/201</u>	<i></i>	
E-mail Addre	ess: zane_k	urtz@eogreso	urces.com	1		Conditions of Approval:				Attached			
Doto: 0/16	2/2015		D1	. 422 425 2022		City consults as a size of Daling state and associated							
	3/2015 tional She	ate If Nacass		: 432-425-2023		as per NMC		att diid	remediate	1RP-354	11		7377
* Attach Additional Sheets If Necessary as per NMO						- Daimes.							

Photo 1

- Liner placement



Photo 2 Liner placement





Site Photographs

- Backfilled excavation and wheel compacted Photo 3



- Backfilled excavation and wheel compacted Photo 4





Site Photographs



APPROVED

By Kristen Lynch at 11:20 am, Dec 01, 2016

November 14, 2016 Reference No. 088210-21

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

Dear Mr. Kurtz:

Re: Assessment Summary Report

Jolly Roger 16 State No. 1 (API #30-025-41665)

1RP-3541

EOG Resources, Inc.

Site Location: Unit C, Sec. 16, T 24-S, R 34-E

(Lat 32.2244°, Long -103.4762°)

Lea County, New Mexico

GHD Services, Inc. (GHD) is pleased to present this report for the above referenced site. Assessment activities were performed at the Jolly Roger 15 State No. 1 (hereafter referred to as the "Site"), from February 16, 2015 through May 20, 2015 by CH2M Hill and March 31, 2016 through August 11, 2016 by GHD. The Site is located within Unit C, Section 16, Township 24 South, Range 34 East, in Lea County, New Mexico (Figure 1).

The Site is an active well site approximately 20 miles west-northwest of Jal, New Mexico. According to EOG personnel, a release of approximately 50 barrels (bbls) of produced water occurred when a 3 inch valve was left in the open position. The release was discovered on February 10, 2015. A C-141 Form was submitted to the New Mexico Oil Conservation Division (NMOCD) on February 18, 2015 and remediation permit (RP) number 1RP-3541 was assigned.

Initial soil sampling of the release area was performed by CH2M Hill on February 16 and 17 and May 20, 2015. Four of 16 soil samples collected by CH2M Hill returned chloride concentrations in soil exceeding the 250 mg/kg the Recommended Remediation Action Limit (RRAL) for chloride. Subsequent soil sampling was performed by GHD beginning in March through October of 2016 and is discussed further in this report.

1. Introduction

A C-141 Form was submitted to the New Mexico Oil Conservation Division (NMOCD) and remediation permit (RP) number 1RP-3541 was assigned.

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 United States Geological Survey, two wells are located within Section 10, approximately 1 mile northeast of the Site. The depth to groundwater in these



wells ranged from 69.73 ft bgs to 71.91 ft bgs (see Appendix A). Based on this, the depth to groundwater in the vicinity of the site appears to be between 50 and 100 ft 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 (200-1000 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 TPH¹, 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 February 16 and 17 and May 20, 2015. Excavation activities were performed by SDR Enterprises, LLC of Hobbs, New Mexico. 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 petroleum hydrocarbon and chloride concentrations had been delineated to below RRALs. However, the vertical extent of chloride concentrations in an area denoted as the impacted area exceeded RRALs. The CH2M Hill sample results are summarized in Table 1.

Further soil sampling was performed by GHD on February 29, 2016 to assess the vertical extent of chloride concentrations in the soil in the impacted area. Nine additional soil samples were collected using a hand auger at depths of 2.5 ft bgs, 3.5 ft bgs, and 4.0 ft bgs. The samples were submitted to Xenco Laboratories of Odessa, Texas for analysis of chloride by EPA Method 300, BTEX by EPA Method 8021, and gasoline and diesel range organics TPH by EPA Method 8015 (see Appendix B).

Laboratory analytical results from this event indicate that chloride concentrations in three samples along the north berm were above the RRAL for chloride; the remaining samples that were submitted were below the RRAL for chloride (Table 1). A total of approximately 456 cubic yards of impacted soil were excavated



and transported to Lea Land for landfill disposal. Waste manifests will be provided with the final closure request.

After excavation was completed, 15 confirmation soil samples were collected on June 10, 2016 in the area of excavation. The samples were submitted to Xenco Laboratories of Odessa, Texas for analysis of chloride by EPA Method 300. Laboratory analytical results from this event indicate that chloride concentrations in the west half of the excavation area were above the RRAL. Based on this, additional soil sampling was performed.

On August 10 and 11, 2016, an additional 12 soil samples were collected to the west and south of the excavation. Based on field screening, additional impacted soil was removed from the end of the excavation. Three confirmation soil samples were collected after this soil removal. The samples were submitted to Xenco Laboratories of Odessa, Texas for analysis of chloride by EPA Method 300. Laboratory analytical results from this event indicated that chloride concentrations were below the RRAL for chloride for all sample locations, except one in the center of the excavation toward the east end (Table 1).

On October 7, 2016, additional impacted soil was removed from the southwest end of the excavation and the east end of the excavation, where previously high chloride levels were detected. Three confirmation soil samples were collected after this soil removal. The samples were submitted to Xenco Laboratories of Odessa, Texas for analysis of chloride by EPA Method 300. Laboratory analytical results from this event indicate that chloride concentrations were below the RRAL for chloride (Table 1). Based on this, it appears that the vertical and horizontal extent of chloride has been fully assessed as shown on Figure 2.

Two soil samples were collected from the stockpile soil removed during the excavation process to assess if the stockpiled soil could be used to backfill the excavation. The analytical results indicated chloride concentrations of 390 mg/kg and 610 mg/kg (Table 1). These soil samples will be blended with clean soil and resampled.

3. Summary and Recommendations

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

- Blend the on-site stockpile with clean soil so that chloride concentrations are below 600 mg/kg. The
 blended stockpile will be resampled prior to make sure it is below 600 mg/kg prior to placing it in the
 excavation.
- Placement of a 20 mil polyethylene liner in the bottom of the excavation at a depth of 4 ft bgs.
- Use the existing stockpiled soil and blend with clean soil to backfill the excavation. The backfill material will be wheel-rolled with on-site equipment and brought up to grade.



Following completion of liner placement and excavation backfill, revegetation of the site will be performed. Disturbed areas associated with the remediation efforts will be reseeded. 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 spread using a hand held broadcaster and the area raked or dragged to cover the seed. Because the seed will be broadcast, the pounds per acre will be doubled. The seed mix will be provided by the NMSLO.

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 NMSLO will be contacted to determine the most effective manner to eradicate it.

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

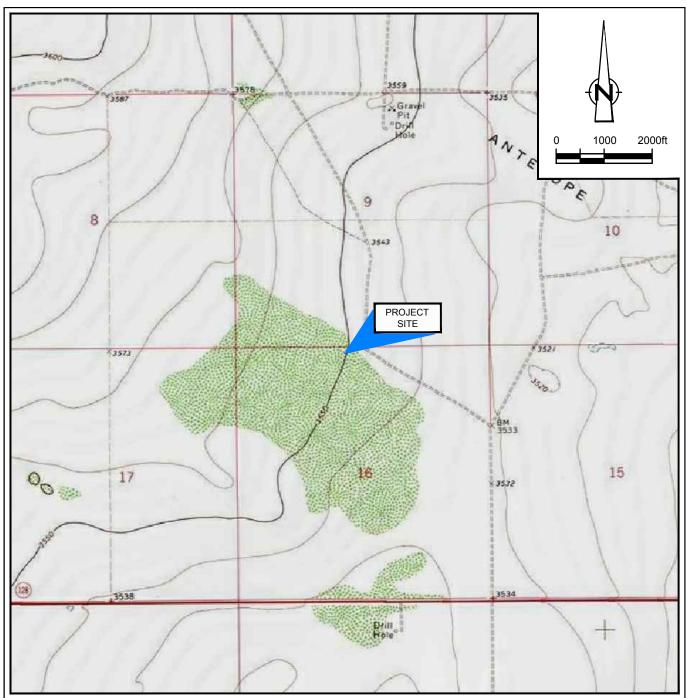
Betsy Gerwig
Senior Project Manager

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BB/mc/21

Bernard Bockisch Senior Project Manager

Figures

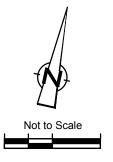


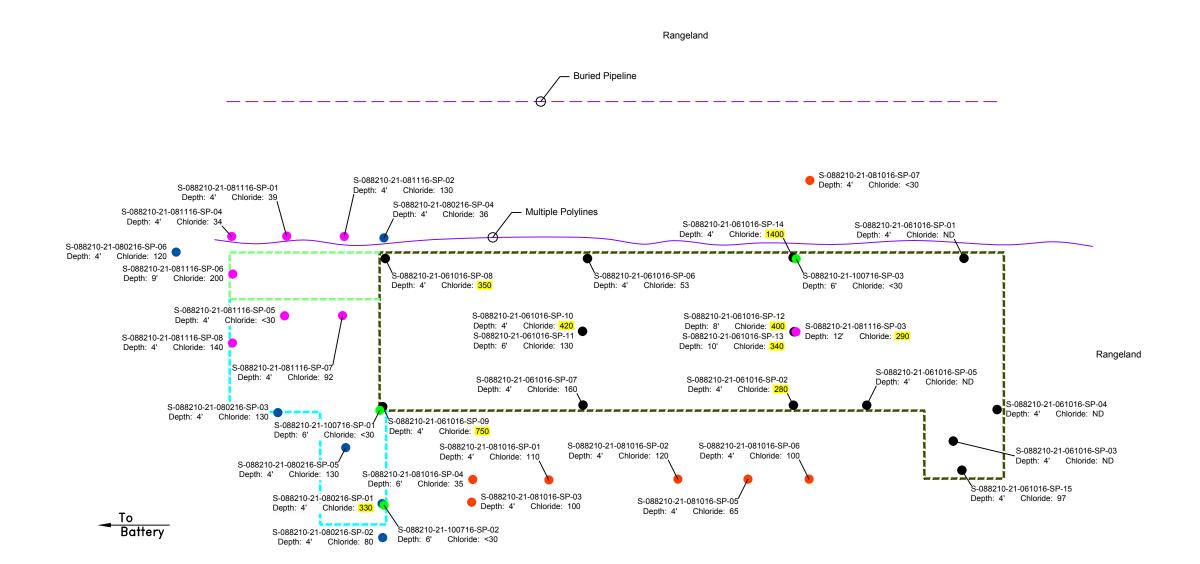
SOURCE: USGS 7.5 MINUTE QUAD
"WOODLEY FLAT AND BELL LAKE, NEW MEXICO"

LAT/LONG: 32.2244° NORTH, 103.4762° WEST COORDINATE: NAD83 DATUM, U.S. FOOT STATE PLANE ZONE - NEW MEXICO EAST



Figure 1
SITE LOCATION MAP
JOLLY ROGER 16 STATE 1
LEA COUNTY, NEW MEXICO
EOG Resources





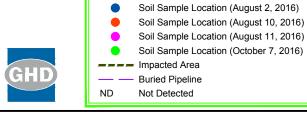


Figure 2
SITE DETAIL MAP
JOLLY ROGER 16 STATE 1
LEA COUNTY, NEW MEXICO
EOG Resources

LEGEND

Soil Sample Location (June 2016)

Tables

Table 1 Jolly Roger 16 State No. 1 Soil Analytical Data

NEW HIT SERVING Collection	Sample ID	Depth (ft. bgs)	Date	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	TPH (GRO)	TPH (DRO)	Total TPH	Chlorid
JRS-04-06172916	CH2M Hill Sample Collection								•			
JR-91-02172915 1.0 21772915 -0.0200	JR2-0-1-02172015	1.0	2/17/2015	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<4.00	<50.0	<50.0	6,640
JARS-01-02172915 1.0 21772015 0.02001	JR2-3-4-02172015	4.0	2/17/2015	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<4.00	<50.0	<50.0	117
JARS-01-02172915 1.0 21772015 0.02001	JR3-01-02172015	1.0	2/17/2015	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<4.00	<50.0	<50.0	50.7
JRS-16-02172015												
JREST-202172015 2.0 217/2015 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.000000 0.000000 0.00000000												
Morthages Specialis Specialis Morthages Specialis Spec												
Northward Stockylor												
Comparison Com	31(1-02102013	1.0	2/10/2013	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	V4.00	07.5	07.5	1,100
Minted-00-25-0PE-05/20015	(JR16-NESP-05202015)	4-part comp	5/20/2015	<0.00491	<0.00505	<0.00842	<0.00406	<0.02244	<0.708	40.1	40.1	634
North Stock Part of the Common Part of the Co		0.25	5/20/2015	-	-	-	=	-	-	-	-	<21.0
Care	(JR16-0.0-0.25-OPN-05202015)	0.25	5/20/2015	-	-	-	-	-	-	-	-	5,680
GR150.0.6.5-C6202015		4-part comp	5/20/2015	<0.00502	<0.00516	<0.00861	<0.00415	<0.02294	<0.724	8.88	8.88	<21.8
Security	(JR16-0.0-0.5-C-05202015)	0.5	5/20/2015	-	-	-	-	-	-	-	-	212
South of JR2		0.5	5/20/2015	-	-	-	-	-	-	-	-	215
Total of JR2	5' South of JR2	0.5	5/20/2015	-	-	-	-	-	-	-	-	368
Winds-13022115 Winds-13022115 Winds-1302215 Wi	10' East of JR2	0.5	5/20/2015	-	-	-	-	_	-	_	_	110
Margine Carelon Margine Margin				_	_		_	_	_			
S-088210-21-033116-SP-1	(JR16-0.0-0.5-W-05202015)	0.5	3/20/2013	-	-	-	-	-	-	-	-	110
S-088210-21-033116-SP-2	GHD Sample Collection					_		_		_		
S-088210-21-033116-SP-4										<9.9		1,400
S-088210-21-033116-SP-4	S-088210-21-033116-SP-2	4.0	31/03/2016	< 0.025	< 0.049	< 0.049	< 0.099	< 0.222	<4.9	<9.3	<14.2	<30
S-088210-21-033116-SP-4	S-088210-21-033116-SP-3	2.5	31/03/2016	< 0.024	<0.048	<0.048	< 0.096	< 0.216	<4.8	<9.7	<14.5	1,700
\$0.0821021-03116SP-5	S-088210-21-033116-SP-4	2.5	31/03/2016	< 0.024	< 0.049	< 0.049	< 0.097	< 0.219	<4.9	<9.4	<14.3	<30
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S-088210-21-033116-SP-8												
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\$-088210-21-08016-SP-01												
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S-088210-21-061016 S-P-02 4.0 10062016	S-088210-21-033116-SP-9	2.5	31/03/2016	<0.025	<0.050	<0.050	<0.10	<0.225	<5.0	<9.2	<14.2	<30
S-088210-21-061016-SP-04 4.0 1006/2016	S-088210-21-061016-SP-01	4.0	10/06/2016	-	-	-	-	-	-	-	-	<30
S-088210-21-061016-SP-04	S-088210-21-061016-SP-02	4.0	10/06/2016	-	-	-	-	-	-	-	-	280
S-088210-21-061016-SP-04	S-088210-21-061016-SP-03	4.0	10/06/2016	-	_	-	-	-	-	-	-	<30
S-088210-21-061016-SP-05		4.0		_	_	_	_	_	_	_	_	
S-088210-21-061016-SP-06				_	_	_	_	_	_	_	_	
S-088210-21-061016-SP-07												
\$-088210-21-061016-SP-08				-	-	-	-	-	-	-	-	
\$-888210-21-061016-SP-09				-	-	=	-	-	-	-	-	
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S-088210-21-061016-SP-12	S-088210-21-061016-SP-10	4.0	10/06/2016	-	-	-	-	-	-	-	-	420
S-88210-21-061016-SP-13 10.0 10/06/2016	S-088210-21-061016-SP-11	6.0	10/06/2016	-	-	-	-	-	-	-	-	130
S-88210-21-061016-SP-13 10.0 10/06/2016	S-088210-21-061016-SP-12	8.0	10/06/2016	-	_	-	-	-	-	_	-	400
\$-088210-21-061016-SP-14				_	_	_	_	_	_	_	_	
\$-088210-21-080216-\$P-01												
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S-088210-21-080216-SP-02	S-088210-21-061016-SP-15	4.0	10/06/2016	-	-	-	-	-	-	-	-	97
\$-088210-21-080216-\$P-03				-	-	-	-	-	-	-	-	
\$-088210-21-080216-\$P-04	S-088210-21-080216-SP-02	4.0	2/08/2016	-	-	-	-	-	-	-	-	80
\$-088210-21-080216-\$P-04	S-088210-21-080216-SP-03	4.0	2/08/2016	-	-	-	-	-	-	-	-	130
\$-088210-21-080216-\$P-05				-	-	-	-	-	-	_	-	
\$-088210-21-081016-\$P-01						-		-	-	-	-	
\$-088210-21-081016-SP-02				-	-	-	-	-	-	-	-	
\$-088210-21-081016-SP-02	S_088210_21_081016_SD_04	4.0	10/08/2016									110
S-088210-21-081016-SP-03				-	-	-	-	-	-	-	-	
\$-088210-21-081016-\$P-04					-	-	-	-	-	-	-	
\$-088210-21-081016-\$P-05				-	-	-	-	-	-	-	-	
\$-088210-21-081016-\$P-06				-	-	-	-	-	-	-	-	
\$-088210-21-081116-\$P-07				-	-	-	-	-	-	-	-	
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S-088210-21-081116-SP-02 4.0 11/08/2016	S-088210-21-081116-SP-01	4.0	11/08/2016	-	-	-	-	-	-	-	-	39
S-088210-21-081116-SP-03 12.0 11/08/2016 290 S-088210-21-081116-SP-04 4.0 11/08/2016 34 S-088210-21-081116-SP-05 4.0 11/08/2016 34 S-088210-21-081116-SP-06 9.0 11/08/2016 300 S-088210-21-081116-SP-07 4.0 11/08/2016 92 S-088210-21-081116-SP-08 4.0 11/08/2016 92 S-088210-21-081116-SP-09 stockpile 11/08/2016 300 S-088210-21-081116-SP-01 stockpile 11/08/2016 610 S-088210-21-081116-SP-01 stockpile 11/08/2016 610 S-088210-21-100716-SP-01 6.0 7/10/2016				-	-	-	-	-	-	_	-	130
S-088210-21-081116-SP-04 4.0 11/08/2016				_	_	_	_	_	_	_	_	
S-088210-21-081116-SP-05				-	-	-	-	-	-	-	-	
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S-088210-21-081116-SP-07				-	-	-	-	-	-	-	-	
S-088210-21-081116-SP-08 4.0 11/08/2016 - - - - - 140 S-088210-21-081116-SP-09 stockpile 11/08/2016 - - - - - 390 S-088210-21-081116-SP-010 stockpile 11/08/2016 - - - - - - 610 S-088210-21-100716-SP-01 6.0 7/10/2016 -				-	-	=	-	-	-	-	-	
S-088210-21-081116-SP-09 stockpile 11/08/2016 390 S-088210-21-081116-SP-010 stockpile 11/08/2016 610 S-088210-21-100716-SP-01 6.0 7/10/2016	S-088210-21-081116-SP-07	4.0	11/08/2016	-	-	-	-	-	-	-	-	92
S-088210-21-081116-SP-010 stockpile 11/08/2016 610 S-088210-21-100716-SP-01 6.0 7/10/2016	S-088210-21-081116-SP-08	4.0	11/08/2016	-	-	-	-	-	-	-	-	140
S-088210-21-081116-SP-010 stockpile 11/08/2016 610 S-088210-21-100716-SP-01 6.0 7/10/2016		stockpile		-	-	-	-	-	-	_	-	390
\$-088210-21-100716-\$P-02 6.0 7/10/2016				-	-	-	-	-	-	-	-	610
\$-088210-21-100716-\$P-02 6.0 7/10/2016	0.000040.04.400011.5.55.5		7/40/0									_
				-	-	-	-	-	-	-		<30
				-	-	-	-	-	-	-	-	<30 <30
	2 2002.0 2007 10 07 00	0.0	.,	-	•	-	-	-	-			~00

Notes:
All samples are in milligrams per kilogram
Bolded numbers are above the RRAL
TraceAnalysis, Inc. completed analysy of CH2M Hill samples.
Hall Environmental Analysis Laboratory completed the analysis for GHD samples.



Appendix A Water Well Records



USGS Home Contact USGS Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category:		Geographic Area:		
Groundwater	~	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 =

• 321402103274801

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

USGS 321402103274801 24S.34E.10.11221

Lea County, New Mexico Latitude 32°14'02", Longitude 103°27'48" NAD27 Land-surface elevation 3,535 feet above NAVD88

This well is completed in the Ogallala Formation (1210GLL) 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 measurema
1968-06-12		ſ	71.42			2		U		
1970-12-08		[69.73			2		U		

Explanation								
Section	Code	Description						
Water-level date-time accuracy	D	Date is accurate to the Day						
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot						
Status		The reported water-level measurement represents a static level						
Method of measurement	U	Unknown						
Measuring agency		Not determined						
Source of measurement	U	Source is unknown.						
Water-level approval status	A	Approved for publication Processing and review completed.						

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

USGS Home



Contact USGS Search USGS

National Water Information System: Web Interface

USGS Water Resources

 Data Category:
 Geographic Area:

 Groundwater
 ✓

 United States
 ✓

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 =

• 321402103275001

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

USGS 321402103275001 24S.34E.10.11212

Lea County, New Mexico Latitude 32°14'02", Longitude 103°27'50" NAD27 Land-surface elevation 3,536 feet above NAVD88 The depth of the well is 83 feet below land surface.

This well is completed in the Ogallala Formation (1210GLL) 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 measurema
				1,000,000						
1953-04-27		, D	71.75			2		U		
1955-06-03		D	71.91			2		U		

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Method of measurement	U	Unknown
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	Α	Approved for publication Processing and review completed.

Questions about sites/data? Feedback on this web site Automated retrievals Help Data Tips Explanation of terms

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

April 15, 2016

Bernie Bockish

GHD

6121 Indian School Road, NE #200

Albuquerque, NM 87110 TEL: (505) 884-0672

FAX

RE: Jolly Roger 16 State #1 OrderNo.: 1604273

Dear Bernie Bockish:

Hall Environmental Analysis Laboratory received 9 sample(s) on 4/6/2016 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

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Date Reported: 4/15/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD **Client Sample ID:** S-088210-21-033116-SP-01

 Project:
 Jolly Roger 16 State #1
 Collection Date: 3/31/2016 3:25:00 PM

 Lab ID:
 1604273-001
 Matrix: SOIL
 Received Date: 4/6/2016 9:40:00 AM

PQL Qual Units Analyses Result **DF** Date Analyzed Batch Analyst: LGT **EPA METHOD 300.0: ANIONS** 50 4/13/2016 2:47:54 PM Chloride 1400 75 mg/Kg 24742 **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: KJH Diesel Range Organics (DRO) ND mg/Kg 4/11/2016 2:27:07 PM 24685 9.9 Surr: DNOP 78.3 70-130 %Rec 4/11/2016 2:27:07 PM 24685 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) 4/8/2016 10:34:57 AM ND 4.8 mg/Kg 24681 Surr: BFB 103 66.2-112 %Rec 4/8/2016 10:34:57 AM 24681 **EPA METHOD 8021B: VOLATILES** Analyst: NSB Benzene ND mg/Kg 4/8/2016 10:34:57 AM 24681 0.024 Toluene ND 0.048 mg/Kg 1 4/8/2016 10:34:57 AM 24681 Ethylbenzene ND 0.048 mg/Kg 4/8/2016 10:34:57 AM 24681 1 Xylenes, Total ND 0.097 mg/Kg 4/8/2016 10:34:57 AM 24681 Surr: 4-Bromofluorobenzene 107 80-120 %Rec 4/8/2016 10:34:57 AM 24681

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 14
	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

Date Reported: 4/15/2016

4/8/2016 11:45:26 AM

24681

Hall Environmental Analysis Laboratory, Inc.

Lab ID:

1604273-002

Surr: 4-Bromofluorobenzene

CLIENT: GHD Client Sample ID: S-088210-21-033116-SP-02

Project: Jolly Roger 16 State #1 Collection Date: 3/31/2016 3:45:00 PM Received Date: 4/6/2016 9:40:00 AM

Matrix: SOIL

102

PQL Qual Units Analyses Result **DF** Date Analyzed Batch Analyst: LGT **EPA METHOD 300.0: ANIONS** 20 4/11/2016 6:57:35 PM Chloride ND 30 mg/Kg 24742 **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: KJH Diesel Range Organics (DRO) 4/11/2016 3:31:33 PM ND mg/Kg 24685 9.3 Surr: DNOP 77.1 70-130 %Rec 4/11/2016 3:31:33 PM 24685 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) 4/8/2016 11:45:26 AM ND 4.9 mg/Kg 24681 Surr: BFB 98.9 66.2-112 %Rec 4/8/2016 11:45:26 AM 24681 **EPA METHOD 8021B: VOLATILES** Analyst: NSB Benzene ND mg/Kg 4/8/2016 11:45:26 AM 24681 0.025 Toluene ND 0.049 mg/Kg 1 4/8/2016 11:45:26 AM 24681 Ethylbenzene ND 0.049 mg/Kg 1 4/8/2016 11:45:26 AM 24681 Xylenes, Total ND 0.099 mg/Kg 4/8/2016 11:45:26 AM 24681

80-120

%Rec

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	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			Analyte detected below quantitation limits Page 2 of 14
	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

Date Reported: 4/15/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD **Client Sample ID:** S-088210-21-033116-SP-03

 Project:
 Jolly Roger 16 State #1
 Collection Date: 3/31/2016 4:05:00 PM

 Lab ID:
 1604273-003
 Matrix: SOIL
 Received Date: 4/6/2016 9:40:00 AM

PQL Qual Units Analyses Result **DF** Date Analyzed Batch Analyst: LGT **EPA METHOD 300.0: ANIONS** 50 4/13/2016 3:00:18 PM Chloride 1700 75 mg/Kg 24742 **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: KJH Diesel Range Organics (DRO) ND 9.7 mg/Kg 4/11/2016 3:53:05 PM 24685 Surr: DNOP 72.6 70-130 %Rec 4/11/2016 3:53:05 PM 24685 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) 4/8/2016 12:55:56 PM ND 4.8 mg/Kg 24681 Surr: BFB 101 66.2-112 %Rec 4/8/2016 12:55:56 PM 24681 **EPA METHOD 8021B: VOLATILES** Analyst: NSB Benzene ND mg/Kg 4/8/2016 12:55:56 PM 24681 0.024 Toluene ND 0.048 mg/Kg 1 4/8/2016 12:55:56 PM 24681 Ethylbenzene ND 0.048 mg/Kg 4/8/2016 12:55:56 PM 24681 1 Xylenes, Total ND 0.096 mg/Kg 4/8/2016 12:55:56 PM 24681 Surr: 4-Bromofluorobenzene 105 80-120 %Rec 4/8/2016 12:55:56 PM 24681

od Blank
nits Page 3 of 14
1 age 3 of 14
limit as specified
1

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 4/15/2016

CLIENT: GHD **Client Sample ID:** S-088210-21-033116-SP-04

 Project:
 Jolly Roger 16 State #1
 Collection Date: 3/31/2016 4:30:00 PM

 Lab ID:
 1604273-004
 Matrix: SOIL
 Received Date: 4/6/2016 9:40:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	: LGT
Chloride	ND	30	mg/Kg	20	4/11/2016 7:22:23 PM	24742
EPA METHOD 8015M/D: DIESEL RANGE	ORGANIC	S			Analyst	: KJH
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	4/11/2016 4:14:28 PM	24685
Surr: DNOP	79.8	70-130	%Rec	1	4/11/2016 4:14:28 PM	24685
EPA METHOD 8015D: GASOLINE RANG	E				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	4/8/2016 1:19:25 PM	24681
Surr: BFB	101	66.2-112	%Rec	1	4/8/2016 1:19:25 PM	24681
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.024	mg/Kg	1	4/8/2016 1:19:25 PM	24681
Toluene	ND	0.049	mg/Kg	1	4/8/2016 1:19:25 PM	24681
Ethylbenzene	ND	0.049	mg/Kg	1	4/8/2016 1:19:25 PM	24681
Xylenes, Total	ND	0.097	mg/Kg	1	4/8/2016 1:19:25 PM	24681
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	4/8/2016 1:19:25 PM	24681

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

Qualifiers: Value exceeds Maximum Contaminant Level. Analyte detected in the associated Method Blank D Sample Diluted Due to Matrix Е Value above quantitation range Analyte detected below quantitation limits Page 4 of 14 Н Holding times for preparation or analysis exceeded J ND Not Detected at the Reporting Limit P Sample pH Not In Range R RPD outside accepted recovery limits RL Reporting Detection Limit

8 % Recovery outside of range due to dilution or matrix W Sample container temperature is out of limit as specified

Date Reported: 4/15/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD **Client Sample ID:** S-088210-21-033116-SP-05

 Project:
 Jolly Roger 16 State #1
 Collection Date: 3/31/2016 4:50:00 PM

 Lab ID:
 1604273-005
 Matrix: SOIL
 Received Date: 4/6/2016 9:40:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	: LGT
Chloride	1200	75	mg/Kg	50	4/13/2016 3:12:43 PM	24742
EPA METHOD 8015M/D: DIESEL RANGE	ORGANIC	S			Analyst	: KJH
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	4/11/2016 4:36:01 PM	24685
Surr: DNOP	76.7	70-130	%Rec	1	4/11/2016 4:36:01 PM	24685
EPA METHOD 8015D: GASOLINE RANG	E				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	4/8/2016 1:42:52 PM	24681
Surr: BFB	101	66.2-112	%Rec	1	4/8/2016 1:42:52 PM	24681
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.023	mg/Kg	1	4/8/2016 1:42:52 PM	24681
Toluene	ND	0.047	mg/Kg	1	4/8/2016 1:42:52 PM	24681
Ethylbenzene	ND	0.047	mg/Kg	1	4/8/2016 1:42:52 PM	24681
Xylenes, Total	ND	0.094	mg/Kg	1	4/8/2016 1:42:52 PM	24681
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	4/8/2016 1:42:52 PM	24681

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

Qualifiers: Value exceeds Maximum Contaminant Level. Analyte detected in the associated Method Blank D Sample Diluted Due to Matrix Е Value above quantitation range Analyte detected below quantitation limits Page 5 of 14 Н Holding times for preparation or analysis exceeded J ND Not Detected at the Reporting Limit P Sample pH Not In Range R RPD outside accepted recovery limits RL Reporting Detection Limit % Recovery outside of range due to dilution or matrix Sample container temperature is out of limit as specified

Date Reported: 4/15/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD **Client Sample ID:** S-088210-21-033116-SP-06

 Project:
 Jolly Roger 16 State #1
 Collection Date: 3/31/2016 5:10:00 PM

 Lab ID:
 1604273-006
 Matrix: SOIL
 Received Date: 4/6/2016 9:40:00 AM

Analyses	Result	PQL Qu	al Units	DF I	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	: LGT
Chloride	36	30	mg/Kg	20	4/11/2016 7:47:12 PM	24742
EPA METHOD 8015M/D: DIESEL RANGE	ORGANIC	S			Analyst	: KJH
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	4/11/2016 4:57:29 PM	24685
Surr: DNOP	76.0	70-130	%Rec	1	4/11/2016 4:57:29 PM	24685
EPA METHOD 8015D: GASOLINE RANG	E				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	4/8/2016 2:06:16 PM	24681
Surr: BFB	102	66.2-112	%Rec	1	4/8/2016 2:06:16 PM	24681
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.023	mg/Kg	1	4/8/2016 2:06:16 PM	24681
Toluene	ND	0.046	mg/Kg	1	4/8/2016 2:06:16 PM	24681
Ethylbenzene	ND	0.046	mg/Kg	1	4/8/2016 2:06:16 PM	24681
Xylenes, Total	ND	0.093	mg/Kg	1	4/8/2016 2:06:16 PM	24681
Surr: 4-Bromofluorobenzene	105	80-120	%Rec	1	4/8/2016 2:06:16 PM	24681

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 6 of 14
	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

Date Reported: 4/15/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD **Client Sample ID:** S-088210-21-033116-SP-07

 Project:
 Jolly Roger 16 State #1
 Collection Date: 3/31/2016 5:30:00 PM

 Lab ID:
 1604273-007
 Matrix: SOIL
 Received Date: 4/6/2016 9:40:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	: LGT
Chloride	190	30	mg/Kg	20	4/11/2016 8:24:26 PM	24742
EPA METHOD 8015M/D: DIESEL RANG	E ORGANIC	S			Analys	:: KJH
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	4/12/2016 8:39:13 AM	24685
Surr: DNOP	72.2	70-130	%Rec	1	4/12/2016 8:39:13 AM	24685
EPA METHOD 8015D: GASOLINE RAN	GE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	4/8/2016 2:29:45 PM	24681
Surr: BFB	102	66.2-112	%Rec	1	4/8/2016 2:29:45 PM	24681
EPA METHOD 8021B: VOLATILES					Analys	: NSB
Benzene	ND	0.024	mg/Kg	1	4/8/2016 2:29:45 PM	24681
Toluene	ND	0.048	mg/Kg	1	4/8/2016 2:29:45 PM	24681
Ethylbenzene	ND	0.048	mg/Kg	1	4/8/2016 2:29:45 PM	24681
Xylenes, Total	ND	0.096	mg/Kg	1	4/8/2016 2:29:45 PM	24681
Surr: 4-Bromofluorobenzene	104	80-120	%Rec	1	4/8/2016 2:29:45 PM	24681

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 7 of 14
	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

Date Reported: 4/15/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD **Client Sample ID:** S-088210-21-033116-SP-08

 Project:
 Jolly Roger 16 State #1
 Collection Date: 3/31/2016 5:50:00 PM

 Lab ID:
 1604273-008
 Matrix: SOIL
 Received Date: 4/6/2016 9:40:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	:: LGT
Chloride	43	30	mg/Kg	20	4/11/2016 8:36:50 PM	24742
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANIC	S			Analyst	: KJH
Diesel Range Organics (DRO)	ND	9.3	mg/Kg	1	4/12/2016 9:00:42 AM	24685
Surr: DNOP	71.8	70-130	%Rec	1	4/12/2016 9:00:42 AM	24685
EPA METHOD 8015D: GASOLINE R	ANGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	4/8/2016 2:53:12 PM	24681
Surr: BFB	102	66.2-112	%Rec	1	4/8/2016 2:53:12 PM	24681
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.024	mg/Kg	1	4/8/2016 2:53:12 PM	24681
Toluene	ND	0.047	mg/Kg	1	4/8/2016 2:53:12 PM	24681
Ethylbenzene	ND	0.047	mg/Kg	1	4/8/2016 2:53:12 PM	24681
Xylenes, Total	ND	0.094	mg/Kg	1	4/8/2016 2:53:12 PM	24681
Surr: 4-Bromofluorobenzene	104	80-120	%Rec	1	4/8/2016 2:53:12 PM	24681

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 8 of 14
	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

Date Reported: 4/15/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD **Client Sample ID:** S-088210-21-033116-SP-09

 Project:
 Jolly Roger 16 State #1
 Collection Date: 3/31/2016 6:00:00 PM

 Lab ID:
 1604273-009
 Matrix: SOIL
 Received Date: 4/6/2016 9:40:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	: LGT
Chloride	ND	30	mg/Kg	20	4/11/2016 8:49:15 PM	24742
EPA METHOD 8015M/D: DIESEL RA	ANGE ORGANIC	S			Analyst	: KJH
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	4/11/2016 6:02:08 PM	24685
Surr: DNOP	72.9	70-130	%Rec	1	4/11/2016 6:02:08 PM	24685
EPA METHOD 8015D: GASOLINE F	RANGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	4/8/2016 3:16:38 PM	24681
Surr: BFB	102	66.2-112	%Rec	1	4/8/2016 3:16:38 PM	24681
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.025	mg/Kg	1	4/8/2016 3:16:38 PM	24681
Toluene	ND	0.050	mg/Kg	1	4/8/2016 3:16:38 PM	24681
Ethylbenzene	ND	0.050	mg/Kg	1	4/8/2016 3:16:38 PM	24681
Xylenes, Total	ND	0.10	mg/Kg	1	4/8/2016 3:16:38 PM	24681
Surr: 4-Bromofluorobenzene	104	80-120	%Rec	1	4/8/2016 3:16:38 PM	24681

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 9 of 14
	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.

WO#: **1604273**

15-Apr-16

Client: GHD

Project: Jolly Roger 16 State #1

Sample ID MB-24742 SampType: MBLK TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 24742 RunNo: 33467

Prep Date: 4/11/2016 Analysis Date: 4/11/2016 SeqNo: 1029376 Units: mg/Kg

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

Chloride ND 1.5

Sample ID LCS-24742 SampType: LCS TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 24742 RunNo: 33467

Prep Date: 4/11/2016 Analysis Date: 4/11/2016 SeqNo: 1029377 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 94.0 90 110

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

D G 1 HN I D

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Page 10 of 14

Hall Environmental Analysis Laboratory, Inc.

SampType: MSD

WO#: **1604273**

15-Apr-16

Client: GHD

Sample ID 1604273-001AMSD

Project: Jolly Roger 16 State #1

Sample ID 1604273-001AMS SampType: MS TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: S-088210-21-033116 Batch ID: 24685 RunNo: 33431 Prep Date: 4/7/2016 Analysis Date: 4/11/2016 SeqNo: 1028302 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 10 O 90.5 46 50.51 31.2 162 Surr: DNOP 3.9 5.051 77.1 130

S-088210-21-033116 Batch ID: 24685 RunNo: 33431 Prep Date: 4/7/2016 Analysis Date: 4/11/2016 SeqNo: 1028303 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 48 9.8 48.92 97.3 31.2 162 4.06 31.7 Surr: DNOP 130 3.9 4.892 79.8 70 0

TestCode: EPA Method 8015M/D: Diesel Range Organics

TestCode: EPA Method 8015M/D: Diesel Range Organics Sample ID LCS-24685 SampType: LCS Client ID: LCSS Batch ID: 24685 RunNo: 33431 Prep Date: 4/7/2016 Analysis Date: 4/11/2016 SeqNo: 1028306 Units: mg/Kg PQL %RPD **RPDLimit** Analyte Result SPK value SPK Ref Val %REC LowLimit HighLimit Qual Diesel Range Organics (DRO) 48 10 50.00 95.9 65.8 136 Surr: DNOP 82.1 70 4.1 5.000 130

Sample ID MB-24685 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: PBS Batch ID: 24685 RunNo: 33431 Prep Date: 4/7/2016 Analysis Date: 4/11/2016 SeqNo: 1028307 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) ND 10 Surr: DNOP 7.9 10.00 79.4 70 130

Sample ID LCS-24721 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics LCSS Batch ID: 24721 Client ID: RunNo: 33451 Prep Date: 4/11/2016 Analysis Date: 4/12/2016 SeqNo: 1028810 Units: %Rec SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte Result LowLimit HighLimit Qual 70 Surr: DNOP 3.9 5.000 78.3 130

Sample ID MB-24721 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: PBS Batch ID: 24721 RunNo: 33451 Prep Date: Analysis Date: 4/12/2016 SeqNo: 1028811 4/11/2016 Units: %Rec Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 8.1 10.00 80.7 70 130 Surr: DNOP

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

D C----1- ----II N-+ I-- D-----

Page 11 of 14

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: **1604273**

15-Apr-16

Client: GHD

Project: Jolly Roger 16 State #1

Sample ID LCS-24759 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: LCSS Batch ID: 24759 RunNo: 33451

Prep Date: 4/12/2016 Analysis Date: 4/13/2016 SeqNo: 1030989 Units: %Rec

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

Surr: DNOP 3.7 5.000 73.6 70 130

Sample ID MB-24759 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: PBS Batch ID: 24759 RunNo: 33451

Prep Date: 4/12/2016 Analysis Date: 4/13/2016 SeqNo: 1030990 Units: %Rec

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

Surr: DNOP 7.5 10.00 74.8 70 130

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Page 12 of 14

Hall Environmental Analysis Laboratory, Inc.

WO#: **1604273**

15-Apr-16

Client: GHD

Project: Jolly Roger 16 State #1

Sample ID MB-24681 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS Batch ID: 24681 RunNo: 33413

Prep Date: 4/7/2016 Analysis Date: 4/8/2016 SeqNo: 1027435 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 990 1000 98.8 66.2 112

Sample ID LCS-24681 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS Batch ID: 24681 RunNo: 33413

Prep Date: 4/7/2016 Analysis Date: 4/8/2016 SeqNo: 1027436 Units: mg/Kg

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

 Gasoline Range Organics (GRO)
 20
 5.0
 25.00
 0
 82.0
 80
 120

 Surr: BFB
 1100
 1000
 109
 66.2
 112

Sample ID 1604273-002AMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range

Client ID: S-088210-21-033116 Batch ID: 24681 RunNo: 33413

Prep Date: 4/7/2016 Analysis Date: 4/8/2016 SeqNo: 1027439 Units: mg/Kg

SPK value SPK Ref Val %RPD **RPDLimit** Analyte Result **PQL** %REC LowLimit HighLimit Qual Gasoline Range Organics (GRO) 19 23.02 82.5 59.3 143

 Gasoline Range Organics (GRO)
 19
 4.6
 23.02
 0
 82.5
 59.3
 143

 Surr: BFB
 1000
 920.8
 111
 66.2
 112

Sample ID 1604273-002AMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range

Client ID: S-088210-21-033116 Batch ID: 24681 RunNo: 33413

Prep Date: 4/7/2016 Analysis Date: 4/8/2016 SeqNo: 1027440 Units: mg/Kg

Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 19 4.7 23.63 78.7 59.3 143 2.15 20 Surr: BFB 1000 945.2 111 66.2 112 0 0

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 13 of 14

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: 1604273

15-Apr-16

Client: GHD

Project: Jolly Roger 16 State #1

Sample ID MB-24681 SampType: MBLK TestCode: EPA Method 8021B: Volatiles

Client ID: PBS Batch ID: 24681 RunNo: 33413

Prep Date: 4/7/2016 Analysis Date: 4/8/2016 SeqNo: 1027450 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 1.0 1.000 103 80 120

Sample ID LCS-24681 SampType: LCS TestCode: EPA Method 8021B: Volatiles Client ID: LCSS Batch ID: 24681 RunNo: **33413**

Prep Date: 4/7/2016	Analysis [Date: 4/	/8/2016	8	SeqNo: 1	027451	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.025	1.000	0	87.0	75.3	123			
Toluene	0.83	0.050	1.000	0	83.3	80	124			
Ethylbenzene	0.81	0.050	1.000	0	81.4	82.8	121			S
Xylenes, Total	2.4	0.10	3.000	0	81.4	83.9	122			S
Surry 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Sample ID 1604273-001AMS TestCode: EPA Method 8021B: Volatiles SampType: MS

Client ID: S-088210-21-033116 Batch ID: 24681 RunNo: 33413

Prep Date: 4/7/2016	Analysis [Date: 4/	8/2016	8	SeqNo: 1	027453	Units: mg/K	ζg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9671	0	103	71.5	122			
Toluene	1.0	0.048	0.9671	0.01361	103	71.2	123			
Ethylbenzene	1.0	0.048	0.9671	0	105	75.2	130			
Xylenes, Total	3.0	0.097	2.901	0	105	72.4	131			
Surr: 4-Bromofluorobenzene	1.1		0.9671		112	80	120			

Sample ID 1604273-001AMSD SampType: MSD TestCode: EPA Method 8021B: Volatiles

Client ID: S-088210-21-033116 Batch ID: 24681 RunNo: 33413

Prep Date: 4/7/2016	Analysis Date: 4/8/2016			S	SeqNo: 1	027454	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	PK value SPK Ref Val		LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.024	0.9785	0	94.7	71.5	122	7.37	20	
Toluene	0.96	0.049	0.9785	0.01361	96.5	71.2	123	5.28	20	
Ethylbenzene	0.99 0.049 0.978			0	102	75.2	130	2.01	20	
Xylenes, Total	3.0 0.098 2.935 0		101	72.4	131	2.70	20			
Surr: 4-Bromofluorobenzene	1.1		0.9785		111	80	120	0	0	

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded Η

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

Е Value above quantitation range

Analyte detected below quantitation limits J

P Sample pH Not In Range

RLReporting Detection Limit

Sample container temperature is out of limit as specified

Page 14 of 14



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

Work Order Number: 1604273 RcptNo: 1 Client Name: GHD Received by/date/ Logged By: Ashley Gallegos 4/6/2016 9:40:00 AM Completed By: **Ashley Gallegos** 4/7/2016 11:02:23 AM Reviewed By: Chain of Custody Yes Not Present 🗹 1 Custody seals intact on sample bottles? No 🗌 Yes 🔽 Not Present 2. Is Chain of Custody complete? 3. How was the sample delivered? Client Log In No \square NA 🗌 Yes 🗹 4. Was an attempt made to cool the samples? NA 🗌 5. Were all samples received at a temperature of >0° C to 6.0°C Yes 🗸 No 🗆 Yes 🗸 6. Sample(s) in proper container(s)? Yes 🗸 No 🗍 7. Sufficient sample volume for indicated test(s)? Yes 🗹 Nο 8. Are samples (except VOA and ONG) properly preserved? Yes No 🔽 NA 🗍 9. Was preservative added to bottles? Yes 🗌 No 🗆 No VOA Vials 10.VOA vials have zero headspace? Yes No 🗹 11. Were any sample containers received broken? # of preserved bottles checked for pH: Yes 🗸 No □ 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? No 🗌 Yes 🔽 13. Are matrices correctly identified on Chain of Custody? Yes 🗹 No 🗔 14. Is it clear what analyses were requested? No 🗆 Checked by: Yes 🗸 15. Were all holding times able to be met? (If no, notify customer for authorization.) Special Handling (if applicable) Yes No 🗌 NA 🗹 16. Was client notified of all discrepancies with this order? Person Notified: Date By Whom: Via: eMail Phone Fax In Person Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Seal Intact | Seal No Temp °C | Condition | Seal Date Cooler No 1.7 Good Yes

Chain-of-Custody Record		Turn-Around Time:						-		_		et e					~ _ 1			
Slient: GHD - Albuquerque		☐ Standard ☐ Rush															CAL			
		Project Name:				ANALYSIS LABORATORY www.hallenvironmental.com														
/lailing	Address	6121	Toda a School Rd 18	- della I	Bocar 16	State#1		40/	74 LL								7400			
Pailing Address: 6121 Indian School RdM Fe 200, Albuquerque, NM, 87110		Project #:				4901 Hawkins NE - Albuquerque, NM 87109 Tel. 505-345-3975 Fax 505-345-4107														
Phone #: 505-884-0672		088210/21				Analysis Request														
mail c	r Fax#: Ĭ	<u> au / e</u> Zerner	d. Bockisch Bghd.com	Project Mana	ader			ζ	<u> </u>					100						
2A/QC Package:			Bernard Bockisch					MR				os	s.s					8		
☐ Standard ☐ Level 4 (Full Validation)			505-884-0672				TPH (Gas only)	/ DRO / MRO)		SIMS)		Anions (F,Cl,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	PCB'	ł		0		GRYPAC		
ccred	itation				teva Rerez		TMB's (8021)) H	H.				O ₂ ,	8082			300.		्ष	
] NEL	AP	□ Othe	er	On Ice: ✓ Yes □ No				 	õ	418.1)	8270		3,N	_		8	4	21	1	Z
] EDD (Type)		Sample Temperature:				Ш	9	<u>8</u> -	o o	tals	N,	ides	اء				<u>S</u>	≥		
				Cantain	 D===================================		+ MTBE	BTEX + MTBE	TPH 8015B (GRO	TPH (Method	EDD (IVIELTION 304.1) PAH's (8310 or 8270	RCRA 8 Metals	(F,C	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)	13	<u> </u>	TP+1 BC	Air Bubbles (Y or N)
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	$ \overset{+}{\times} $	$\dot{\star}$	8	<u>Σ</u>	(w	\$	suc	1 Pe) B(S) 0	Š	田	_	Ja Se
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31-16	1525	Soil	S-088210-21-033116-59-01	402668-1	tce	-DD)											X	又	XI.	
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June 24, 2016

Bernie Bockish
GHD
6121 Indian School Road, NE #200

Albuquerque, NM 87110 TEL: (505) 884-0672

FAX

RE: Jolly Roger 16 State 1 OrderNo.: 1606765

Dear Bernie Bockish:

Hall Environmental Analysis Laboratory received 15 sample(s) on 6/14/2016 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

Indest

4901 Hawkins NE

Lab Order: **1606765**

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 6/24/2016

CLIENT: GHD Lab Order: 1606765 Project: Jolly Roger 16 State 1 1606765-001 **Collection Date:** 6/10/2016 9:23:00 AM Lab ID: Client Sample ID: S-088210-21-061016-SP-01 Matrix: SOIL **Analyses** Result **PQL Qual Units DF** Date Analyzed **Batch ID EPA METHOD 300.0: ANIONS** Analyst: LGT Chloride ND 30 mg/Kg 20 6/16/2016 10:20:14 PM 25913 Lab ID: 1606765-002 **Collection Date:** 6/10/2016 10:13:00 AM Client Sample ID: S-088210-21-061016-SP-02 Matrix: SOIL Result **PQL Qual Units DF** Date Analyzed **Batch ID** Analyses **EPA METHOD 300.0: ANIONS** Analyst: **LGT** 20 6/16/2016 10:57:29 PM 25913 Chloride 280 30 mg/Kg Lab ID: **Collection Date:** 6/10/2016 10:44:00 AM 1606765-003 Client Sample ID: S-088210-21-061016-SP-03 Matrix: SOIL **PQL Qual Units DF** Date Analyzed Analyses Result **Batch ID EPA METHOD 300.0: ANIONS** Analyst: LGT 20 6/16/2016 11:34:43 PM 25913 Chloride ND 30 mg/Kg 1606765-004 Lab ID: **Collection Date:** 6/10/2016 11:18:00 AM Client Sample ID: S-088210-21-061016-SP-04 Matrix: SOIL **POL Qual Units** Analyses Result **DF Date Analyzed Batch ID EPA METHOD 300.0: ANIONS** Analyst: LGT Chloride ND 30 mg/Kg 20 6/16/2016 11:47:08 PM 25913 Lab ID: 1606765-005 **Collection Date:** 6/10/2016 12:07:00 PM Client Sample ID: S-088210-21-061016-SP-05 Matrix: SOIL **PQL Qual Units** Analyses Result **DF Date Analyzed Batch ID EPA METHOD 300.0: ANIONS** Analyst: LGT

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

30

mg/Kg

ND

Qualifiers: * Value exceeds Maximum Contaminant Level.

Chloride

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits Page 1 of 4

20 6/16/2016 11:59:33 PM 25913

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Lab Order: **1606765**

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 6/24/2016

	GHD olly Roger 16 State 1				Lab Order: 1606	765
Lab ID:	1606765-006			Collection	Date: 6/10/2016 12:10:00	PM
Client Sample ID:	S-088210-21-061016-3	SP-06		M	atrix: SOIL	
Analyses		Result	PQL Qual	Units	DF Date Analyzed	Batch ID
EPA METHOD 300	.0: ANIONS				An	alyst: LGT
Chloride		53	30	mg/Kg	20 6/17/2016 12:11:5	7 AM 25913
Lab ID:	1606765-007			Collection	Date: 6/10/2016 12:42:00	PM
Client Sample ID:	S-088210-21-061016-3	SP-07		M	atrix: SOIL	
Analyses		Result	PQL Qual	Units	DF Date Analyzed	Batch ID
EPA METHOD 300	.0: ANIONS				An	alyst: LGT
Chloride		160	30	mg/Kg	20 6/17/2016 12:24:2	2 AM 25913
Lab ID:	1606765-008			Collection	Date: 6/10/2016 2:48:00 P	M
Client Sample ID:	S-088210-21-061016-5	SP-08		M	atrix: SOIL	
Analyses		Result	PQL Qual	Units	DF Date Analyzed	Batch ID
EPA METHOD 300	.0: ANIONS				An	alyst: LGT
Chloride		350	30	mg/Kg	20 6/17/2016 12:36:4	7 AM 25913
Lab ID:	1606765-009			Collection	Date: 6/10/2016 2:53:00 P	M
Client Sample ID:	S-088210-21-061016-3	SP-09		M	atrix: SOIL	
Analyses		Result	PQL Qual	Units	DF Date Analyzed	Batch ID
EPA METHOD 300	.0: ANIONS				An	alyst: LGT
Chloride		750	30	mg/Kg	20 6/17/2016 12:49:1	2 AM 25913
Lab ID:	1606765-010			Collection	Date: 6/10/2016 3:15:00 P	M
Client Sample ID:	S-088210-21-061016-3	SP-10		M	atrix: SOIL	
Analyses		Result	PQL Qual	Units	DF Date Analyzed	Batch ID
EPA METHOD 300 Chloride	.0: ANIONS	420	30	mg/Kg	An 20 6/17/2016 1:01:36	alyst: LGT AM 25913

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

Qualifiers: * Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits Page 2 of 4

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Lab Order: 1606765

Date Reported: 6/24/2016

Hall Environmental Analysis Laboratory, Inc.

Lab Order: 1606765

DF Date Analyzed

DF Date Analyzed

DF Date Analyzed

Batch ID

Batch ID

Batch ID

GHD Project: Jolly Roger 16 State 1

CLIENT:

Analyses

Analyses

Analyses

1606765-011 **Collection Date:** 6/10/2016 3:17:00 PM Lab ID:

Client Sample ID: S-088210-21-061016-SP-11 Matrix: SOIL Result

EPA METHOD 300.0: ANIONS Analyst: LGT Chloride 130 30 mg/Kg 20 6/17/2016 1:14:00 AM 25913

PQL Qual Units

Lab ID: 1606765-012 **Collection Date:** 6/10/2016 3:20:00 PM

Client Sample ID: S-088210-21-061016-SP-12 Matrix: SOIL

Result **PQL Qual Units DF** Date Analyzed **Batch ID** Analyses

EPA METHOD 300.0: ANIONS Analyst: **LGT** Chloride 400 30 mg/Kg 20 6/17/2016 1:26:25 AM 25913

Lab ID: **Collection Date:** 6/10/2016 3:25:00 PM 1606765-013

Client Sample ID: S-088210-21-061016-SP-13 Matrix: SOIL

PQL Qual Units DF Date Analyzed Analyses Result **Batch ID EPA METHOD 300.0: ANIONS**

Analyst: LGT 20 6/17/2016 2:03:38 AM Chloride 340 30 mg/Kg 25913

1606765-014 Lab ID: **Collection Date:** 6/10/2016 3:52:00 PM

Client Sample ID: S-088210-21-061016-SP-14 Matrix: SOIL

Result

EPA METHOD 300.0: ANIONS Analyst: LGT

POL Qual Units

PQL Qual Units

Chloride 1400 75 mg/Kg 50 6/18/2016 5:32:27 AM 25913

Lab ID: 1606765-015 **Collection Date:** 6/10/2016 4:00:00 PM

Client Sample ID: S-088210-21-061016-SP-15 Matrix: SOIL

Result

EPA METHOD 300.0: ANIONS Analyst: LGT Chloride 97 30 mg/Kg 20 6/17/2016 2:28:28 AM 25913

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

Qualifiers: Value exceeds Maximum Contaminant Level.

- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range Ε
- Analyte detected below quantitation limits Page 3 of 4
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1606765**

24-Jun-16

Client: GHD

Project: Jolly Roger 16 State 1

Sample ID MB-25913 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 25913 RunNo: 34989

Prep Date: 6/16/2016 Analysis Date: 6/16/2016 SeqNo: 1081418 Units: mg/Kg

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

Chloride ND 1.5

Sample ID LCS-25913 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 25913 RunNo: 34989

Prep Date: 6/16/2016 Analysis Date: 6/16/2016 SeqNo: 1081419 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 93.6 90 110

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Page 4 of 4



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:	16067	35		RcptNo:	1
Received by/date: Logged By: Lindsay Mangin	05 14 10 00:00 AM			Jouly Henge		
	8/14/2016 3:17:56 PM			Jimby Hengo		!
Reviewed By:	6/15/16					į
Chain of Custody	0/13/16					
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?		Couri	<u>er</u>			
<u>Log In</u>						
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 \square	
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) proper	y 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 broke	en?	Yes		No 🗹	# of preserved	
			.	No 🗌	bottles checked for pH:	
12.Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes	**	NO 🗀		or >12 unless noted)
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:	□eM	ail	Phone Fax	In Person	
Regarding:						:
Client Instructions:	A STATE OF THE STA					
17. Additional remarks:						I
18. Cooler Information						
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August 10, 2016

Bernie Bockish

GHD

6121 Indian School Road, NE #200

Albuquerque, NM 87110 TEL: (505) 884-0672

FAX

RE: Jolly Roger 16 State #1 OrderNo.: 1608310

Dear Bernie Bockish:

Hall Environmental Analysis Laboratory received 6 sample(s) on 8/4/2016 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

andyl

4901 Hawkins NE

DF Date Analyzed

DF Date Analyzed

Batch ID

Batch ID

Lab Order: 1608310

Date Reported: 8/10/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Lab Order: 1608310

Project: Jolly Roger 16 State #1

Analyses

1608310-001 **Collection Date:** 8/2/2016 3:24:00 PM Lab ID:

Client Sample ID: S-088210-21-080216-SP-01 Matrix: SOIL Result

Analyses EPA METHOD 300.0: ANIONS Analyst: MRA

PQL Qual Units

Chloride 330 30 mg/Kg 20 8/8/2016 1:50:22 PM 26851

Lab ID: 1608310-002 **Collection Date:** 8/2/2016 3:27:00 PM

Client Sample ID: S-088210-21-080216-SP-02 Matrix: SOIL

Result **PQL Qual Units DF** Date Analyzed **Batch ID** Analyses **EPA METHOD 300.0: ANIONS** Analyst: MRA

Chloride 80 30 mg/Kg 8/8/2016 2:27:34 PM 26851

Lab ID: 1608310-003 **Collection Date:** 8/2/2016 3:31:00 PM

Client Sample ID: S-088210-21-080216-SP-03 Matrix: SOIL

POL Qual Units Analyses Result **DF Date Analyzed Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA

Chloride 130 30 mg/Kg 20 8/8/2016 2:39:58 PM 26851

1608310-004 Lab ID: **Collection Date:** 8/2/2016 3:35:00 PM

Client Sample ID: S-088210-21-080216-SP-04 Matrix: SOIL

Result

EPA METHOD 300.0: ANIONS Analyst: MRA

POL Qual Units

Chloride 36 30 mg/Kg 20 8/8/2016 2:52:22 PM 26851

Lab ID: 1608310-005 **Collection Date:** 8/2/2016 3:38:00 PM

Client Sample ID: S-088210-21-080216-SP-05 Matrix: SOIL

PQL Qual Units Analyses Result **DF Date Analyzed Batch ID**

EPA METHOD 300.0: ANIONS Analyst: MRA

Chloride 130 30 mg/Kg 20 8/8/2016 3:04:47 PM 26851

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

Qualifiers: Value exceeds Maximum Contaminant Level.

> D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank

Value above quantitation range Ε

Analyte detected below quantitation limits Page 1 of 3

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

Lab Order: 1608310

Date Reported: 8/10/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Lab Order: 1608310

Project: Jolly Roger 16 State #1

Lab ID: 1608310-006 **Collection Date:** 8/2/2016 3:42:00 PM

Client Sample ID: S-088210-21-080216-SP-06 Matrix: SOIL

 Analyses
 Result
 PQL
 Qual
 Units
 DF
 Date Analyzed
 Batch ID

 EPA METHOD 300.0: ANIONS
 Analyst: MRA

 Chloride
 120
 30
 mg/Kg
 20
 8/8/2016 3:17:12 PM
 26851

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 3
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#:

1608310

10-Aug-16

Client: GHD

Project: Jolly Roger 16 State #1

Sample ID MB-26851 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: **PBS** Batch ID: 26851 RunNo: 36324

Prep Date: 8/8/2016 Analysis Date: 8/8/2016 SeqNo: 1125060 Units: mg/Kg

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Chloride ND 1.5

Sample ID LCS-26851 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 26851 RunNo: 36324

Prep Date: 8/8/2016 Analysis Date: 8/8/2016 SeqNo: 1125061 Units: mg/Kg

Result SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Analyte Qual

Chloride 14 1.5 15.00 0 92.9 110

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Η Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix В Analyte detected in the associated Method Blank

Е Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

Page 3 of 3



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

RcptNo: 1 Work Order Number: 1608310 **GHD** Client Name: Received by/date: 8/4/2016 9:30:00 AM **Ashley Gallegos** Logged By: 8/4/2016 7:20:58 PM **Ashley Gallegos** Completed By: 08/05/16 IO Reviewed By: Chain of Custody Not Present * 1. Custody seals intact on sample bottles? Not Present 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log in No ... NA ... 4. Was an attempt made to cool the samples? NA Li 5. Were all samples received at a temperature of >0° C to 6.0°C No L. Sample(s) in proper container(s)? No 7. Sufficient sample volume for indicated test(s)? No i 8. Are samples (except VOA and ONG) properly preserved? No 🛷 9. Was preservative added to bottles? No VOA Vials 🦃 No Yes 10. VOA vials have zero headspace? Yes 📙 No 11. Were any sample containers received broken? # of preserved bottles checked for pH: 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? No 13. Are matrices correctly identified on Chain of Custody? Nο 14. Is it clear what analyses were requested? Checked by: No ... 15. Were all holding times able to be met? (If no, notify customer for authorization.) Special Handling (if applicable) Yes No ... 16. Was client notified of all discrepancies with this order? Person Notified: Date Phone Fax Via: eMail By Whom: Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Temp °C | Condition | Seal Intact | Seal No Seal Date Good

Interpretation Sample Request Dottor Sample Reservative Type and # Type Sample Request Dottor Sample Record by Sample Record by	Chain-	of-Cu	stody Record	Turn-Around	Time:					н	ALI	LE	NV	/IR	201	NN	1EN	ITAL	
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Project Manager Boncol Bock (1788 1888 1	Sto 200.	Albugne	1940. NM, 87/10	Project #:	221010			Те	1. 50	5-345	-397	5	Fax	505-	345-	4107	7		and the same of th
Project Manager Boncol Bock (1788 1888 1	one #: 50	7-88-	1-0677	00	1610/2				5 51		•	Anal	ysis	Req	uest				麵
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1 march march	16 0816	Sty	ven Heres	20	1	8/3/16 0810	Re	mark	is:										
If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted date will be clearly notated on the analytical report.	16 /960	v. samples si	shmitted to Hall Environmental may be sub	contracted to other	acdredited laborator	ries. This serves as notice of th	is poss	sibility.	Any s	ub-cont	racted o	ata will	be de	arly no	tated o	on the	analytical	report.	



August 19, 2016

Bernie Bockish GHD 6121 Indian School Road, NE #200

Albuquerque, NM 87110 TEL: (505) 884-0672

FAX

RE: Jolly Roger 16 State #1 OrderNo.: 1608776

Dear Bernie Bockish:

Hall Environmental Analysis Laboratory received 7 sample(s) on 8/12/2016 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

Indest

4901 Hawkins NE

Lab Order: **1608776**

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 8/19/2016

CLIENT: GHD Lab Order: 1608776 Project: Jolly Roger 16 State #1 1608776-001 **Collection Date:** 8/10/2016 3:40:00 PM Lab ID: Client Sample ID: S-088210-21-081016-SP-01 Matrix: SOIL **Analyses** Result **PQL Qual Units DF** Date Analyzed **Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride 110 30 mg/Kg 20 8/17/2016 11:42:53 AM 27036 Lab ID: 1608776-002 **Collection Date:** 8/10/2016 3:43:00 PM Client Sample ID: S-088210-21-081016-SP-02 Matrix: SOIL Result **PQL Qual Units DF** Date Analyzed **Batch ID** Analyses **EPA METHOD 300.0: ANIONS** Analyst: MRA 20 8/17/2016 12:20:07 PM 27036 Chloride 120 30 mg/Kg Lab ID: **Collection Date:** 8/10/2016 3:46:00 PM 1608776-003 Client Sample ID: S-088210-21-081016-SP-03 Matrix: SOIL **PQL Qual Units** Analyses Result **DF Date Analyzed Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA 20 8/17/2016 12:57:21 PM 27036 Chloride 100 30 mg/Kg 1608776-004 Lab ID: **Collection Date:** 8/10/2016 3:51:00 PM Client Sample ID: S-088210-21-081016-SP-04 Matrix: SOIL **POL Qual Units** Analyses Result **DF Date Analyzed Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride 35 30 mg/Kg 20 8/17/2016 1:09:46 PM 27036 Lab ID: 1608776-005 **Collection Date:** 8/10/2016 3:56:00 PM Client Sample ID: S-088210-21-081016-SP-05 Matrix: SOIL **PQL Qual Units** Analyses Result **DF Date Analyzed Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride 65 30 mg/Kg 20 8/17/2016 1:22:10 PM 27036

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

Qualifiers: * Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits Page 1 of 2

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Lab Order: 1608776

Date Reported: 8/19/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Lab Order: 1608776

Project: Jolly Roger 16 State #1

Lab ID: 1608776-006 **Collection Date:** 8/10/2016 4:00:00 PM

Client Sample ID: S-088210-21-081016-SP-06 Matrix: SOIL

 Analyses
 Result
 PQL
 Qual
 Units
 DF
 Date Analyzed
 Batch ID

 EPA METHOD 300.0: ANIONS
 Analyst: MRA

 Chloride
 100
 30
 mg/Kg
 20
 8/17/2016 1:34:35 PM
 27036

Lab ID: 1608776-007 **Collection Date:** 8/10/2016 4:05:00 PM

Client Sample ID: S-088210-21-081016-SP-07 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 8/17/2016 1:46:59 PM 27036

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 2
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

Sample Log-In Check List

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Client Name: GHD	Work Order Number:	1608776		RcptNo:	1
Received by/date:	18/12/10				į
Logged By: Ashley Gallegos	8/12/2016 9:40:00 AM		A		
Completed By: Ashley Gallegos	8/12/2016 2:27:32 PM		A		1
	08/12/110		_ , 0		
	00112116				
Chain of Custody		Yes 🗌	No 🗌	Not Present	
Custody seals intact on sample bottles? On the Chair of Custody complete?		Yes 🐼	No \square	Not Present	
2. Is Chain of Custody complete?			• _		
3. How was the sample delivered?		<u>Courier</u>			
<u>Log In</u>					
4. Was an attempt made to cool the samples?	?	Yes	No 🕏	na 🗆	
		Not red			
5. Were all samples received at a temperature	e of >0° C to 6.0°C	Yes 🗌	No 🐼	na 🗆	
6. Sample(s) in proper container(s)?		<u>Not req</u> Yes ℯ	<u>uired</u> No □		
O. Sample(s) in proper container(s):		100 🖭	—		
7. Sufficient sample volume for indicated test(s)?	Yes 🕏	No 🗀		
8. Are samples (except VOA and ONG) prope	rly 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 brok	en?	Yes	No 🙋		
11. Were any sample containers received store		. •••		# of preserved bottles checked	
12. Does paperwork match bottle labels?		Yes 🖈	No 🗌	for pH:	
(Note discrepancies on chain of custody)			N. 🗆	(<2 c Adjusted?	or >12 unless noted)
13. Are matrices correctly identified on Chain o	f Custody?	Yes 🙋	No ∐ No □	. iajaotoa :	
14. Is it clear what analyses were requested?		Yes 🗹	No □ No □	Checked by:	
15. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🗹	140 🗀 .	Ç	
(ii ii o ji ii o ii o ii o ii o ii o ii					
Special Handling (if applicable)					
16. Was client notified of all discrepancies with	this order?	Yes 🗌	No 🗆	NA 🐼	
Person Notified:	Date	MACATI S NOT SECUL OF THE SECURIOR			:
By Whom:	Via:	□ eMail □	Phone Fax	☐ In Person	!
Regarding:				CONTROL OF A PARTICULAR OF A PARTICULAR OF THE P	:
Client Instructions:			KARSONASSIA SASTANIAN M		i İ
17. Additional remarks:					1
18. Cooler Information Cooler No Temp °C Condition S	Seal Intact Seal No	Seal Date	Signed By		
	ot Present				

C	Chain-of-Custody Record			Turn-Around	Time:			,		L			mil.	/TC	·^	RIE		NT	A I	
lient:	CHI)	-A150	quotque	Standard				<u> </u>										TO		r
/lailing			Todion School Rd NE	Jolly		6 State#1		490)1 Ha	w awkins	ww.ha						'109			
	1A, OC		ove, NM. 87110	Project #:	18210/21			Te	l. 50	5-345				505- Req			7			
mail o	r Fax#:			Project Mana	ger:	ايدن (_	n ^k y)	<u>@</u>				04)	, ,						
≀A/QC 〕Star	Package: idard		☐ Level 4 (Full Validation)	<u> </u>	3emard 5 505-281	Bodhisch 0-0572	TMB's (8021)	+ TPH (Gas only)	/ DRO / MRO)		SIMS)		,PO ₄ ,S	2 PCB's			Ð			
ccred	itation .AP	□ Othe	er	Sampler: C	true fere ∃Yes	1 / No -] + [+ TPH	RO / DI	418.1)			O ₃ ,NO ₂	s / 808;)A)	300.0			or N)
] EDD	(Type)	1	1	Sample Tem	perature:	22.800	ᆲ	胎	9	9 po	S O	etals	Z,	cide	₹	i-VC	اھ			\\ \chi_{\sigma}
Date	Time Matrix Sample Request 540 5-088210-21-081016-5			Container Type and #	Preservative Type	HEALNO.	BTEX + MTBE	BTEX + MTBE	TPH 8015B (GRO	TPH (Method	PAH's (8310 or 8270	RCRA 8 Metals	Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)	Chloside		!	Air Bubbles (Y or N)
10-16	1540	Soil	5-088210-21-081016-58-01	Hozaless-1	TEE	-001											X			Г
t	_	1	5-088210-21-0810165A-02	1	1	-002														Т
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	ISSI		5-088210-21-08101651-04			-104												\top	+	T
	1556		5-088210-21-081016-59-05			-005													\dagger	T
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ate:	Time:	Kelinguish	ed by:	Received by:	Mm	08 112 116 094c														
* 1 W	If necessary.	samples sub	emitted to Hall Environmental may be subc	ontracted to other a	ccredited laboratori	es. This serves as notice of this	possit	oility. A	Anv sul	b-contra	ted data	a will b	e clear	rly nota	ited or	the a	nalytica	l report.		



August 22, 2016

Bernie Bockish

GHD

6121 Indian School Road, NE #200

Albuquerque, NM 87110 TEL: (505) 884-0672

FAX

RE: Jolly Roger 16 State #1 OrderNo.: 1608927

Dear Bernie Bockish:

Hall Environmental Analysis Laboratory received 10 sample(s) on 8/16/2016 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

andyl

4901 Hawkins NE

Lab Order: **1608927**

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 8/22/2016

CLIENT: GHD Lab Order: 1608927 Project: Jolly Roger 16 State #1 1608927-001 **Collection Date:** 8/11/2016 10:28:00 AM Lab ID: Client Sample ID: S-088210-21-081116-SP-01 Matrix: SOIL **Analyses** Result **PQL Qual Units DF** Date Analyzed **Batch ID EPA METHOD 300.0: ANIONS** Analyst: LGT 39 Chloride 30 mg/Kg 20 8/19/2016 3:06:19 PM 27084 Lab ID: 1608927-002 **Collection Date:** 8/11/2016 10:33:00 AM Client Sample ID: S-088210-21-081116-SP-02 Matrix: SOIL Result **PQL Qual Units DF** Date Analyzed **Batch ID** Analyses **EPA METHOD 300.0: ANIONS** Analyst: **LGT** 20 8/19/2016 3:43:33 PM Chloride 130 30 mg/Kg Lab ID: 1608927-003 **Collection Date:** 8/11/2016 10:38:00 AM Client Sample ID: S-088210-21-081116-SP-03 Matrix: SOIL **PQL Qual Units DF** Date Analyzed Analyses Result **Batch ID EPA METHOD 300.0: ANIONS** Analyst: LGT 20 8/19/2016 3:55:57 PM Chloride 290 30 mg/Kg 27084 1608927-004 Lab ID: **Collection Date:** 8/11/2016 10:42:00 AM Client Sample ID: S-088210-21-081116-SP-04 Matrix: SOIL **POL Qual Units** Analyses Result **DF Date Analyzed Batch ID EPA METHOD 300.0: ANIONS** Analyst: LGT Chloride 34 30 mg/Kg 20 8/19/2016 4:08:22 PM Lab ID: 1608927-005 **Collection Date:** 8/11/2016 2:28:00 PM Client Sample ID: S-088210-21-081116-SP-05 Matrix: SOIL **PQL Qual Units** Analyses Result **DF Date Analyzed Batch ID EPA METHOD 300.0: ANIONS** Analyst: LGT Chloride ND 30 mg/Kg 20 8/19/2016 4:20:47 PM 27084

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

Qualifiers: * Value exceeds Maximum Contaminant Level.

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 3
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order: 1608927

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 8/22/2016

	GHD olly Roger 16 State #1				Lab Order: 1608	3927
Lab ID:	1608927-006			Collection 1	Date: 8/11/2016 2:32:00 I	PM
Client Sample ID:	S-088210-21-081116-	-SP-06		Ma	atrix: SOIL	
Analyses		Result	PQL Qual	Units	DF Date Analyzed	Batch ID
EPA METHOD 300	.0: ANIONS				Ar	nalyst: LGT
Chloride		200	30	mg/Kg	20 8/19/2016 4:33:1	1 PM 27084
Lab ID:	1608927-007			Collection 1	Date: 8/11/2016 2:36:00 I	PM
Client Sample ID:	S-088210-21-081116-	-SP-07		Ma	atrix: SOIL	
Analyses		Result	PQL Qual	Units	DF Date Analyzed	Batch ID
EPA METHOD 300	.0: ANIONS				Ar	nalyst: LGT
Chloride		92	30	mg/Kg	20 8/19/2016 5:10:29	5 PM 27084
Lab ID:	1608927-008			Collection 1	Date: 8/11/2016 2:40:00 I	PM
Client Sample ID:	S-088210-21-081116-	-SP-08		Ma	atrix: SOIL	
Analyses		Result	PQL Qual	Units	DF Date Analyzed	Batch ID
EPA METHOD 300	.0: ANIONS				Ar	nalyst: LGT
Chloride		140	30	mg/Kg	20 8/19/2016 5:22:49	9 PM 27084
Lab ID:	1608927-009			Collection 1	Date: 8/11/2016 2:45:00 I	PM
Client Sample ID:	S-088210-21-081116-	-SP-09		Ma	atrix: SOIL	
Analyses		Result	PQL Qual	Units	DF Date Analyzed	Batch ID
EPA METHOD 300	.0: ANIONS				Ar	nalyst: LGT
Chloride		390	30	mg/Kg	20 8/19/2016 5:35:14	4 PM 27084
Lab ID:	1608927-010			Collection 1	Date: 8/11/2016 3:10:00 I	PM
Client Sample ID:	S-088210-21-081116-	-SP-010		Ma	atrix: SOIL	
Analyses		Result	PQL Qual	Units	DF Date Analyzed	Batch ID
EPA METHOD 300 Chloride	.0: ANIONS	610	30	mg/Kg	Ar 20 8/19/2016 5:47:3	nalyst: LGT 8 PM 27084

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

Qualifiers: * Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits Page 2 of 3

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1608927

22-Aug-16

Client: GHD

Project: Jolly Roger 16 State #1

Sample ID MB-27084 SampType: MBLK TestCode: EPA Method 300.0: Anions

Client ID: **PBS** Batch ID: 27084 RunNo: 36654

Prep Date: 8/19/2016 Analysis Date: 8/19/2016 SeqNo: 1135391 Units: mg/Kg

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Chloride ND 1.5

Sample ID LCS-27084 SampType: LCS TestCode: EPA Method 300.0: Anions

Batch ID: 27084 Client ID: LCSS RunNo: 36654

Prep Date: 8/19/2016 Analysis Date: 8/19/2016 SeqNo: 1135392 Units: mg/Kg

Result SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Analyte Qual

Chloride 14 1.5 15.00 0 93.1 110

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Η Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix В Analyte detected in the associated Method Blank

E Value above quantitation range

J

Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

Page 3 of 3



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 Numbe	er: 1608927		RcptNo:	1
Received by/	date:	08/16/14				
Logged By:	Anne Thor	rne 8/16/2016 9:15:00 Al	И	anne Am	_	
Completed B	y: Anne Tho	rne 8/16/2016		Aone Sh	_	
Reviewed By		18/11/16		Olivia yyr area		į
Chain of C	ustody	001101.4				
	seals intact on s	ample bottles?	Yes 🗌	No 🗆	Not Present 🗹	
	of Custody comp		Yes 🗹	No 🗌	Not Present	
3. How was	the sample deliv	vered?	<u>Courier</u>			
Log In						
	attempt made to	cool the samples?	Yes 🗹	No 🗆	na 🗆	
5. Were all	samples receive	ed at a temperature of >0° C to 6.0°C	Yes 🗸	No 🗆	NA \square	
6. Sample(s) in proper cont	tainer(s)?	Yes 🗸	No 🗌		
7. Sufficient	sample volume	for indicated test(s)?	Yes 🗹	No 🗆		
8. Are samp	oles (except VOA	A and ONG) properly preserved?	Yes 🗹	No 🗆		
9. Was pres	servative added (to bottles?	Yes 🗌	No 🗹	NA \square	
10.VOA vial	s have zero head	dspace?	Yes 🗌	No 🗆	No VOA Vials	
11. Were an	y sample contair	ners received broken?	Yes	No 🗹	# of preserved	
40 -			🗖	N. D	bottles checked	
	perwork match be crepancies on cl		Yes 🗹	No 🗀	for pH: (<2 o	r >12 unless noted)
		entified on Chain of Custody?	Yes 🗸	No 🗆	Adjusted?	
14. Is it clear	what analyses w	were requested?	Yes 🗹	No 🗆		
	holding times ab tify customer for		Yes 🗹	No 🗌	Checked by:	·
Special Ha	ndling (if ap	plicable)				
16. Was clie	nt notified of all o	discrepancies with this order?	Yes 🗌	No 🗆	NA 🗹	7
Pe	rson Notified:	Date		THE SCHOOL STREET, AND A STREE		
Ву	Whom:	Via:	eMail [Phone Fax	In Person	
Re	garding:		- Allen III CONTEN CHE CON LINEA LINEA I - NI E CONTEN	and the second district the first the second district to the second seco		
Cli	ent Instructions:	and the second of the second o			<u> </u>	
17. Addition	al remarks:					
18. <u>Cooler</u>				•		
Coole 1			Seal Date	Signed By		
Ľ	1.3	Good Yes			l	

			stody Record	Turn-Around	Time:	/				Н	IΔ	LL	E	NV	TF	10	NP	1E	NT	AL	_
Client:	allo.	Aldre	wrque	Standard	Gray To				_											DR'	
	_لابات	., - (•	Project Name	e:							v.hal									
Mailing	Address	:		l Jolly R	105er 165 88510/2	state#		490	11 H								м 87	109			
			*****	Project #	80210/1	1				5-34				-			-4107				
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email o	Fax# Y	Be Mar	-0672 d. Bochisch Oghd.com	Project Mana	ager:	:		(<u>y</u>	(lei					(4)					\Box	\top	
	Package:	OCT HO!	O'L SOCIAL STATE	B	ornard E	sechisch	021	s on	Dies					S,4	PCB's						
□ Stan	-		☐ Level 4 (Full Validation)	"	\$78.6	Sochisch 280-0572	8) s	(Ga	(Gas/Diesel)					ا ا	2 PC			Q	Ì		
Accredi		-		Sampler:	rave to	re	TMB's (8021)	+ TPH (Gas only)		(-	7	Ŧ		Anions (F,CI,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082				Ì		î
□ NEL		☐ Othe	er	On Ice:	☑ /Yes	□ No	+		25	418	504	PA	<u>8</u>	ဇ္နီ	es /		8	20			jo
	(Type) ₋	<u> </u>	<u> </u>	Sample Tem	perature:	13°C	BTEX + MTBE	BTEX + MTBE	TPH Method 8015B	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	2,	ticid	8260B (VOA)	8270 (Semi-VOA)	hlorida		Ì	Air Bubbles (Y or N)
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_\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	f necessary	, samples sub	omitted to Hall Environmental may be subc	contracted to other a	accredited laboratori	es. This serves as notice of this	s possi	bility.	Any s	ub-con	tracte	d data	will b	e clea	rly not	ated o	n the a	nalytic	al repo	rt.	



October 13, 2016

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

FAX

RE: Jolly Roger 16 State #1 OrderNo.: 1610435

Dear Bernie Bockish:

Hall Environmental Analysis Laboratory received 3 sample(s) on 10/11/2016 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

andyl

4901 Hawkins NE

Lab Order: 1610435

DF Date Analyzed

DF Date Analyzed

Date Reported: 10/13/2016

Batch ID

Batch ID

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Lab Order: 1610435

Project: Jolly Roger 16 State #1

Analyses

Analyses

Lab ID: 1610435-001 **Collection Date:** 10/7/2016 9:22:00 AM

Client Sample ID: S-088210-21-100716-SP-01 Matrix: SOIL

Result

EPA METHOD 300.0: ANIONS Analyst: LGT

PQL Qual Units

PQL Qual Units

Chloride ND 30 mg/Kg 20 10/12/2016 12:10:50 PM 28035

Lab ID: 1610435-002 **Collection Date:** 10/7/2016 10:40:00 AM

Client Sample ID: S-088210-21-100716-SP-02 Matrix: SOIL

Result

 EPA METHOD 300.0: ANIONS
 Analyst: LGT

 Chloride
 ND
 30
 mg/Kg
 20
 10/12/2016 12:48:04 PM 28035

Lab ID: 1610435-003 **Collection Date:** 10/7/2016 10:45:00 AM

Client Sample ID: S-088210-21-100716-SP-03 Matrix: SOIL

Analyses Result PQL Qual Units DF Date Analyzed Batch ID

EPA METHOD 300.0: ANIONS

Analyst: LGT

Chloride ND 30 mg/Kg 20 10/12/2016 1:00:29 PM 28035

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

Qualifiers: * Value e

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 2
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610435**

13-Oct-16

Client: GHD

Project: Jolly Roger 16 State #1

Sample ID MB-28035 SampType: MBLK TestCode: EPA Method 300.0: Anions

Client ID: **PBS** Batch ID: **28035** RunNo: **37905**

Prep Date: 10/12/2016 Analysis Date: 10/12/2016 SeqNo: 1180837 Units: mg/Kg

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

Chloride ND 1.5

Sample ID LCS-28035 SampType: LCS TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 28035 RunNo: 37905

Prep Date: 10/12/2016 Analysis Date: 10/12/2016 SeqNo: 1180838 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 94.8 90 110

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Page 2 of 2



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107

Sample Log-In Check List

Website: www.hallenvironmental.com

Client Name: GHD Work	Order Number: 1610435		RcptNo:	1
Received by/date:	0/11/10			-
Logged By: Ashley Gallegos 10/11/20	۱ 016 9:00:00 AM	A		
Completed By: Ashley Gallegos 10/11/20	016 9:46:15 AM	A		·
Reviewed By: at 101	11/16	V		
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?	<u>FedEx</u>			
<u>Log In</u>				
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 \square	
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 present	ved? 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	
40 -	🗖	,	bottles checked	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🗹	No 📙	for pH:(<2 or	>12 unless noted)
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:	<u></u>
Special Handling (if applicable)				
16. Was client notified of all discrepancies with this order	? Yes 🗌	No 🗆	NA 🗹	
Person Notified:	Date			
By Whom:	Vate Via: □ eMail [Phone Fax	☐ In Person	
Regarding:	via civian [
Client Instructions:				
17. Additional remarks:				
18. Cooler Information				
Cooler No Temp °C Condition Seal Intact	Seal No Seal Date	Signed By	1	
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C	Chain-of-Custody Record 11: 640-Albuquerque			Turn-Around	*					I			=	NIX/	7 T IC	. ^	RIR	a E	NIT	'AL	
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ate	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	* *	+	TPH Method 8015B	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,CI,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloside	,		Air Bubbles (Y or N)
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