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16 September 2020

David Bounds
Hilcorp
382 Road 3100
Aztec, NM 87410
RE: Braden Head

Enclosed are the results of analyses for samples received by the laboratory on 09/09/20 12:00.
If you need any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Debbie Zufelt'.

Debbie Zufelt
Reports Manager

All accredited analytes contained in this report are denoted by an asterisk (*). For a complete list of accredited analytes please do not hesitate to contact us via any of the contact information contained in this report. All of our certifications can be viewed at <http://greenanalytical.com/certifications/>

Green Analytical Laboratories is NELAP accredited through the Texas Commission on Environmental Quality. Accreditation applies to drinking water and non-potable water matrices for trace metals and a variety of inorganic parameters. Green Analytical Laboratories is also accredited through the Colorado Department of Public Health and Environment and EPA region 8 for trace metals, Cyanide, Fluoride, Nitrate, and Nitrite in drinking water.

Our affiliate laboratory, Cardinal Laboratories, is also NELAP accredited through the Texas Commission on Environmental Quality for a variety of organic constituents in drinking water, non-potable water and solid matrices. Cardinal is also accredited for regulated VOCs, TTHM, and HAA-5 in drinking water through the Colorado Department of Public Health and Environment and EPA region 8.



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Hilcorp
382 Road 3100
Aztec NM, 87410

Project: Braden Head
Project Name / Number: South
Project Manager: David Bounds

Reported:
09/16/20 07:25

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
Rock Island 1 - Intermediate	2009100-01	Water	09/08/20 10:00	09/09/20 12:00	
Rock Island 1 - Bradenhead	2009100-02	Water	09/08/20 11:00	09/09/20 12:00	

Green Analytical Laboratories

A handwritten signature in black ink that reads 'Debbie Zufelt'.

Debbie Zufelt, Reports Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. In no event shall Green Analytical Laboratories be liable for incidental or consequential damages. GALs liability, and clients exclusive remedy for any claim arising, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever, shall be deemed waived unless made in writing and received within thirty days after completion of the applicable service.



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09/16/20 07:25

Rock Island 1 - Intermediate

2009100-01 (Produced Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Chloride*	135	200	17.7	mg/L	200	09/11/20 20:32	EPA300.0		AES
pH*	9.24			pH Units	1	09/10/20 09:00	EPA150.1		VJW
Total Dissolved Solids*	13900	20.0		mg/L	2	09/10/20 10:47	EPA160.1		VJW
Sulfate*	9910	200	30.5	mg/L	200	09/11/20 20:32	EPA300.0		AES

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Rock Island 1 - Bradenhead

2009100-02 (Produced Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Chloride*	135	200	17.7	mg/L	200	09/11/20 20:52	EPA300.0		AES
pH*	10.0			pH Units	1	09/10/20 14:30	EPA150.1	H3	VJW
Total Dissolved Solids*	12400	20.0		mg/L	2	09/10/20 10:49	EPA160.1		VJW
Sulfate*	7450	200	30.5	mg/L	200	09/11/20 20:52	EPA300.0		AES

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Notes and Definitions

H3	Initial analysis performed within hold-time but not reportable due to QC failure or other issue. Sample was subsequently re-analyzed past hold time specified by method.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis *Results reported on as received basis unless designated as dry.
RPD	Relative Percent Difference
LCS	Laboratory Control Sample (Blank Spike)
RL	Report Limit
MDL	Method Detection Limit

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Client: **Hilcorp** Asset: **South** Phone# **505-419-3410** Contact **David Bounds**
 Address: 9A CR# 5793, Farmington NM 87401 E-Mail Address dbounds@hilcorp.com



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CHAIN OF CUSTODY RECORD

GAL Work Order # **2009-100**

PO#

Project Name:

Sample Location:

(1) Bumper Spring, (2) Compressor Discharge, (3) Flowline, (4) Meter, (5) Oil Tank
 (6) Pig Launcher, (7) Pig Receiver, (8) Pipeline, (9) Pit Tank, (10) Post Filter, (11) Pre Filter
 (12) Separator Inlet, (13) Separator Outlet, (14) Separator Dump, (15) SWD Inlet
 (16) SWD Outlet, (17) Transfer Pump, (18) Valve Can, (19) Water Tank, (20) Wellhead
 (21) Other

Sample Type:

(1) Casing, (2) CO2 Gas Tube, (3) Coupon, (4) Water, (5) H2S Gas Tube, (6) Metals
 (7) O2 Gas Tube, (8) Pipe Section, (9) Residual, (10) Sludge, (11) Solid, (12) Tubing, (13) Other

9.30
 on: u

Collection

Preservative

Analyses Required

Well Name (Sample Name)	Area	Date	Time	Collected By: (Init.)	Sample Location	Sample Type	No. of Containers	Filtered: Y / N	Unpreserved	H2SO4	Other:	Iron and Manganese	Phosphate	Full Water API	Bradenhead
01 1. Rock Island 1-Intermediate		9/8	10:00	RS	20	4	1	N	✓						X
02 3. Rock Island 1-bradenhead		9/8	11:00	RS	20	4	1	N	✓						X
03 5. Albright 18A-bradenhead		9/8	13:00	RS	20	4	1	N	✓						X
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20.															

Relinquished by:

Date:

Time:

Received By:

Date:

Time:

Relinquished by: *Paul Bunk* Date: *9-9-20* Time: *12:00*
Christina 9/9/20 11:55
Kangaroo 09.10.20 09:00
 Received By: *Justin Clark* Date: *9/9/20* Time: *12:00*
Kangaroo 9/9/20 11:55
Dellin Zupfett 09.10.20 11:55
4.7/4.8% #1 Laser On Ice 09:00