



jeremy.allen@greenanalytical.com p: 970.247.4220 f: 970.247.4227 75 Suttle Street Durango, CO 81303

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Hilcorp 382 CR 3100 Aztec NM, 87410	Project: Braden Head Project Name / Number: South Project Manager: David Bounds	Reported: 07/24/23 08:21
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## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
Grambling 1 A - Produced water from Separator	2307183-04	Water	07/18/23 13:30	07/18/23 16:47	

DRAFT REPORT

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Hilcorp  
382 CR 3100  
Aztec NM, 87410

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

**Reported:**  
07/24/23 08:21

**Grambling 1 A - Produced water from Separator****2307183-04 (Produced Water)****Sampled Date: 07/18/23 13:30**

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

<b>Chloride*</b>	<b>10700</b>	200	11.1	mg/L	200	07/20/23 23:34	EPA300.0		AWG
<b>pH*</b>	<b>7.09</b>			pH Units	1	07/20/23 10:49	EPA150.1		KRW
<b>pH Temperature, degrees C</b>	<b>24.0</b>			pH Units	1	07/20/23 10:49	EPA150.1		KRW
<b>Sulfate*</b>	<b>86.6</b>	200	24.8	mg/L	200	07/20/23 23:34	EPA300.0	J	AWG
<b>Total Dissolved Solids*</b>	<b>17400</b>	40.0		mg/L	4	07/20/23 15:48	EPA160.1		CAI

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382 CR 3100  
Aztec NM, 87410

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

**Reported:**  
07/13/23 15:11

**Grambling 1-A - Braden Head****2307024-02 (Produced Water)****Sampled Date: 06/25/23 10:00**

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

<b>Chloride*</b>	<b>55.3</b>	50.0	2.78	mg/L	50	07/10/23 18:40	EPA300.0		AWG
<b>pH*</b>	<b>9.35</b>			pH Units	1	07/07/23 14:45	EPA150.1	H4	KRW
<b>pH Temperature, degrees C</b>	<b>21.7</b>			pH Units	1	07/07/23 14:45	EPA150.1	H4	KRW
<b>Sulfate*</b>	<b>7230</b>	50.0	6.20	mg/L	50	07/10/23 18:40	EPA300.0		AWG
<b>Total Dissolved Solids*</b>	<b>10600</b>	10.0		mg/L	1	07/07/23 10:14	EPA160.1	H1	CAI

Green Analytical Laboratories

A handwritten signature in blue ink that reads 'Veronica J. Wells'.

Veronica Wells, Project Manager

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

Reported:  
07/24/23 08:21

## General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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## Batch B232088 - General Prep - Wet Chem

## Blank (B232088-BLK1)

Prepared &amp; Analyzed: 07/20/23

Total Dissolved Solids	ND	10.0	mg/L
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## Reference (B232088-SRM1)

Prepared &amp; Analyzed: 07/20/23

Total Dissolved Solids	400	10.0	mg/L	400	100	85-115
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## Batch B232090 - IC- Ion Chromatograph

## Blank (B232090-BLK1)

Prepared &amp; Analyzed: 07/20/23

Chloride	ND	1.00	mg/L
Sulfate	ND	1.00	mg/L

## LCS (B232090-BS1)

Prepared &amp; Analyzed: 07/20/23

Chloride	25.8	1.00	mg/L	25.0	103	90-110
Sulfate	24.8	1.00	mg/L	25.0	99.1	90-110

## LCS Dup (B232090-BSD1)

Prepared &amp; Analyzed: 07/20/23

Chloride	25.9	1.00	mg/L	25.0	103	90-110	0.0813	20
Sulfate	24.8	1.00	mg/L	25.0	99.4	90-110	0.282	20

## Batch B232094 - General Prep - Wet Chem

## Reference (B232094-SRM1)

Prepared &amp; Analyzed: 07/20/23

pH	7.01		pH Units	7.00	100	98.57-101.42
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### Notes and Definitions

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

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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# Project Information

Printed: 07/20/2023 9:54 am

**Hilcorp**

382 CR 3100

Aztec, NM 87410

Laboratory PM: Veronica Wells

**Hilcorp**

Phone: (505) 599-4005

Fax: (505) 599-4005

**Project Name:** Braden Head  
**Project Number:**  
**Client PM:** Kevin Fredrickson  
**Comments:**

**Analysis****Comment**

Chloride [IC]

pH

Sulfate [IC]

Total Dissolved Solids [TDS]

**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS

Action 243572

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 243572
	Action Type: [UF-GA] Gas Analysis (GAS ANALYSIS)

CONDITIONS

Created By	Condition	Condition Date
mkuehling	TDS 10600 - bradenhead has produced water	9/20/2023