



February 27, 2015

Mr. Jim Griswold  
New Mexico Energy, Minerals, & Natural Resources  
Oil Conservation Division, Environmental Bureau  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

**RE: 2014 Annual Groundwater Monitoring Report  
South Four Lakes #13 Site (AP-76)  
T12S-R34E-Section 1, Unit Letter L, Lea County, New Mexico**

Dear Mr. Griswold:

As agent for Pride Energy Company, Trident Environmental submits this *2014 Annual Groundwater Monitoring Report* for the above-referenced site.

*Groundwater Sampling Procedures*

During each quarterly sampling event the two monitoring wells (MW-1 and MW-2) were gauged for depth to groundwater using an electronic water level indicator immediately prior to purging operations. A minimum of three well volumes of groundwater was purged from each monitoring well using a 3-stage submersible pump which was decontaminated using an Alconox solution and a distilled water rinse between sampling points. Groundwater parameters (pH, temperature, and conductivity) were measured using a Hanna Model 98130 multimeter and recorded on a well sample data form. At the end of purging, water samples for each monitoring well were transferred into 500 milliliter (ml) plastic containers for laboratory analysis of chloride using EPA Method E300.1 and TDS using EPA Method 160.1. For each set of samples, chain of custody forms documenting sample identification numbers, collection times, and delivery times to the laboratory were completed. All water samples were placed in an ice-filled cooler immediately after collection and transported to Permian Basin Environmental Lab (Midland, Texas) for analysis.

*Groundwater Monitoring Results*

Groundwater monitoring activities have been performed at the site on a quarterly basis since January 2008 as summarized in Table 1. A site map showing the most recent groundwater elevation and the chloride/TDS concentrations in monitoring wells MW-1 and MW-2 is presented as Figure 1.

Groundwater Depth, Elevations, Hydraulic Gradient and Flow Direction

Depth to groundwater at the site is approximately 27 feet (ft) below ground surface with a groundwater gradient direction trending towards the southeast and a hydraulic gradient of approximately 0.002 ft/ft (Figure 1). As displayed in Figure 2, which graphs the change in groundwater elevation since 2008 at monitoring wells MW-1 and MW-2, the water table elevation has been steadily declining about 0.4 ft/year up until the latter part of 2014 in which an approximate increase of 0.6 ft/yr is observed. A decline in water table is expected to resume as the more normally dry years characteristic of southeast New Mexico climate continue. Groundwater depths and gradient patterns are consistent with the prevailing water table conditions in the area.

Groundwater Quality Conditions

The constituents of concern in groundwater are chloride and TDS as they are above the New Mexico's Water Quality Control Commission (WQCC) standards, of 250 mg/L and 1,000 mg/L, respectively. Benzene, toluene, ethylbenzene, and xylenes (BTEX) are not a constituent of concern as concentrations remained below laboratory detection limits and WQCC standards for two years; therefore, analysis for these constituents has been discontinued. The site groundwater monitoring map (Figure 1) includes the most recent chloride and TDS concentrations. Graphs depicting chloride and TDS concentrations at monitoring wells MW-1 and MW-2 since 2008 are presented in Figures 3 and 4, respectively.

Pride Energy Company plans to continue quarterly ground water monitoring activities and submit an annual groundwater monitoring report next year.

We look forward to working with you on this project. If you have any questions or comments you may contact me at 432.638.8740 (gil@trident-environmental.com) or Matt Pride at 918.524.9200 (mattp@pride-energy.com).

Respectfully,

Gilbert Van Deventer, REM, PG  
Trident Environmental

cc: Matt Pride (Pride Energy Co., Tulsa, OK)  
Tomas Oberding (NMOCD -District 1, Hobbs, NM)

Attachments: *Table, Figures, well sampling data form, and laboratory analytical reports*

**TABLE 1**  
**Summary of Groundwater Monitoring Results**

**FIGURE 1**  
**Site Map with Groundwater Monitoring Results**

**FIGURE 2**  
**Groundwater Elevations versus Time Graph**

**FIGURE 3**  
**Chloride Concentrations Versus Time Graph**

**FIGURE 4**  
**TDS Concentrations Versus Time Graph**

**WELL SAMPLING DATA FORM**

**Table 1**  
**Summary of Groundwater Monitoring Results**  
**South Four Lakes #13 Site (AP-76)**

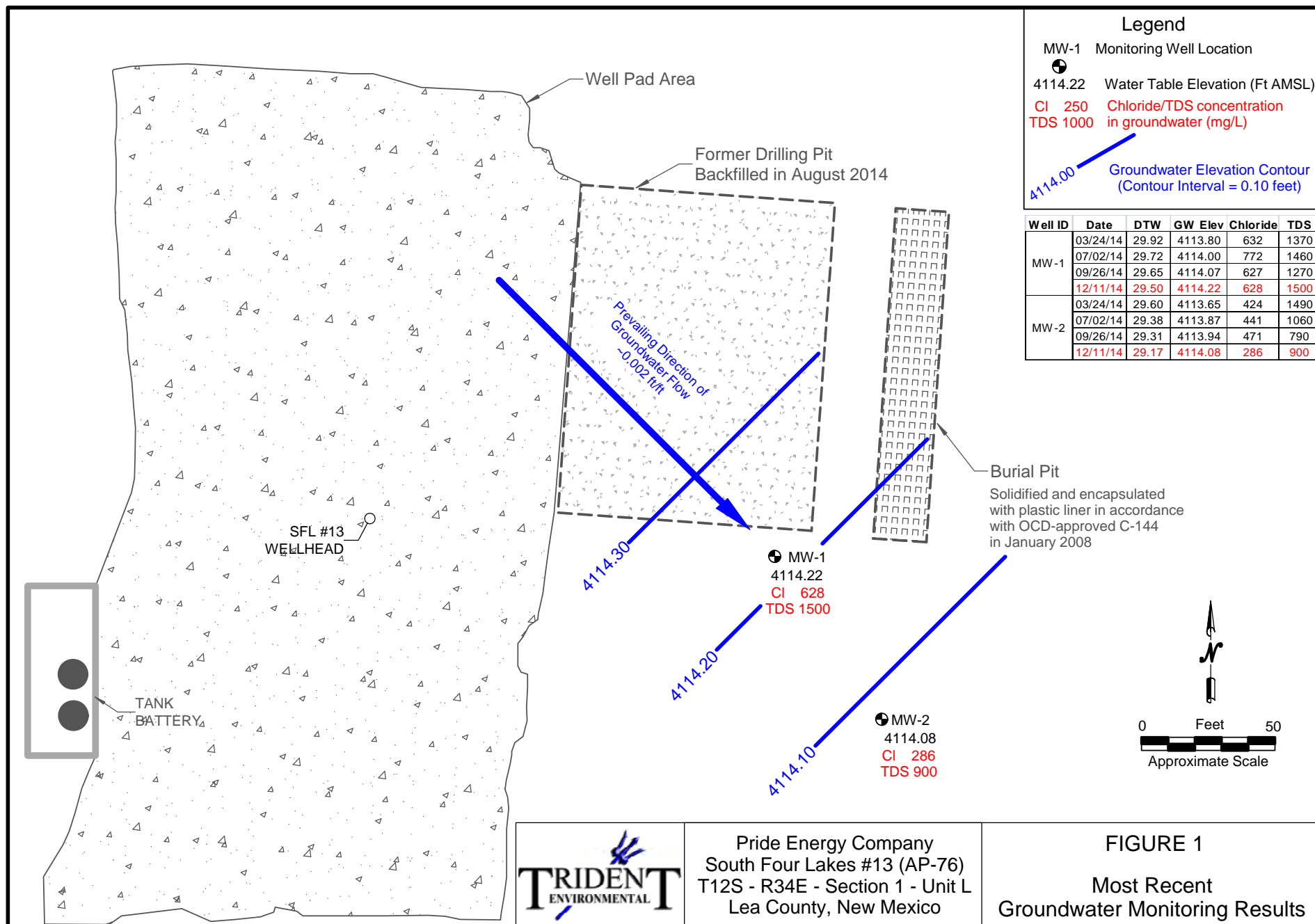
Monitoring Well	Sample Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet AMSL)	Chloride (mg/L)	TDS (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylene (mg/L)
MW-1	01/23/08	27.5	4116.22	<b>1,330</b>	NA	---	---	---	---
	03/13/08	27.63	4116.09	<b>665</b>	<b>1,461</b>	<0.001	<0.002	<0.001	<0.003
	06/19/08	27.88	4115.84	<b>736</b>	<b>1,560</b>	---	---	---	---
	09/09/08	28.05	4115.67	<b>760</b>	<b>1,790</b>	<0.001	<0.001	<0.001	<0.003
	12/08/08	28.11	4115.61	<b>710</b>	<b>1,720</b>	<0.001	<0.001	<0.001	<0.003
	03/18/09	28.28	4115.44	<b>750</b>	<b>1,770</b>	<0.001	<0.001	<0.001	<0.003
	06/17/09	28.46	4115.26	<b>760</b>	<b>1,830</b>	<0.001	<0.001	<0.001	<0.003
	09/21/09	28.49	4115.23	<b>1,040</b>	<b>2,220</b>	<0.001	<0.001	<0.001	<0.003
	12/11/09	28.55	4115.17	<b>820</b>	<b>1,930</b>	<0.001	<0.001	<0.001	<0.003
	03/24/10	28.65	4115.07	<b>780</b>	<b>1,820</b>	---	---	---	---
	06/15/10	28.75	4114.97	<b>940</b>	<b>2,150</b>	---	---	---	---
	09/13/10	28.82	4114.90	<b>1080</b>	<b>2,280</b>	---	---	---	---
	12/13/10	28.88	4114.84	<b>813</b>	<b>2,170</b>	---	---	---	---
	03/17/11	28.97	4114.75	<b>1110</b>	<b>3,220</b>	---	---	---	---
	06/29/11	29.12	4114.60	<b>994</b>	<b>2,260</b>	---	---	---	---
	09/28/11	29.19	4114.53	<b>1170</b>	<b>2,630</b>	---	---	---	---
	12/13/11	29.25	4114.47	<b>1170</b>	<b>2,290</b>	---	---	---	---
	03/29/12	29.32	4114.40	<b>1040</b>	<b>2,560</b>	---	---	---	---
	06/19/12	29.38	4114.34	<b>1280</b>	<b>1,820</b>	---	---	---	---
	09/26/12	29.53	4114.19	<b>935</b>	<b>1,930</b>	---	---	---	---
	12/27/12	29.59	4114.13	<b>636</b>	<b>1,630</b>	---	---	---	---
	03/18/13	29.64	4114.08	<b>800</b>	<b>1,590</b>	---	---	---	---
	06/12/13	29.72	4114.00	<b>789</b>	<b>1,690</b>	---	---	---	---
	09/23/13	29.80	4113.92	<b>696</b>	<b>1,520</b>	---	---	---	---
	12/30/13	29.88	4113.84	<b>753</b>	<b>1,290</b>	---	---	---	---
	03/24/14	29.92	4113.80	<b>632</b>	<b>1,370</b>	---	---	---	---
	07/02/14	29.72	4114.00	<b>772</b>	<b>1,460</b>	---	---	---	---
	09/26/14	29.65	4114.07	<b>627</b>	<b>1,270</b>	---	---	---	---
	12/11/14	29.50	4114.22	<b>628</b>	<b>1,500</b>	---	---	---	---
MW-2	06/19/08	27.54	4115.71	<b>320</b>	976	---	---	---	---
	09/09/08	27.71	4115.54	172	848	<0.001	<0.001	<0.001	<0.003
	12/08/08	27.80	4115.45	164	732	<0.001	<0.001	<0.001	<0.003
	03/18/09	27.95	4115.30	168	720	<0.001	<0.001	<0.001	<0.003
	06/17/09	28.19	4115.06	188	769	<0.001	<0.001	<0.001	<0.003
	09/21/09	28.15	4115.10	240	747	<0.001	<0.001	<0.001	<0.003
	12/11/09	28.21	4115.04	220	866	<0.001	<0.001	<0.001	<0.003
	03/24/10	28.30	4114.95	232	842	---	---	---	---
	06/15/10	28.41	4114.84	220	870	---	---	---	---
	09/13/10	28.50	4114.75	<b>260</b>	935	---	---	---	---
	12/13/10	28.54	4114.71	173	876	---	---	---	---
	03/17/11	28.62	4114.63	217	980	---	---	---	---
	06/29/11	28.76	4114.49	234	860	---	---	---	---
	09/28/11	28.85	4114.40	<b>280</b>	922	---	---	---	---
	12/13/11	28.90	4114.35	<b>313</b>	<b>1,230</b>	---	---	---	---
	03/29/12	28.98	4114.27	<b>320</b>	<b>1,350</b>	---	---	---	---
	06/19/12	29.04	4114.21	<b>373</b>	970	---	---	---	---
	09/26/12	29.19	4114.06	<b>365</b>	<b>1,310</b>	---	---	---	---
	12/27/12	29.24	4114.01	<b>358</b>	<b>1,240</b>	---	---	---	---
	03/18/13	29.30	4113.95	<b>423</b>	<b>1,490</b>	---	---	---	---
	06/12/13	29.38	4113.87	<b>445</b>	<b>1,290</b>	---	---	---	---
	09/23/13	29.47	4113.78	<b>366</b>	<b>1,280</b>	---	---	---	---
	12/30/13	29.54	4113.71	<b>448</b>	<b>1,070</b>	---	---	---	---
	03/24/14	29.60	4113.65	<b>424</b>	<b>1,490</b>	---	---	---	---
	07/02/14	29.38	4113.87	<b>441</b>	<b>1,060</b>	---	---	---	---
	09/26/14	29.31	4113.94	<b>471</b>	<b>790</b>	---	---	---	---
	12/11/14	29.17	4114.08	<b>286</b>	<b>900</b>	---	---	---	---
WQCC Standards				250	1,000	0.01	0.75	0.75	0.62

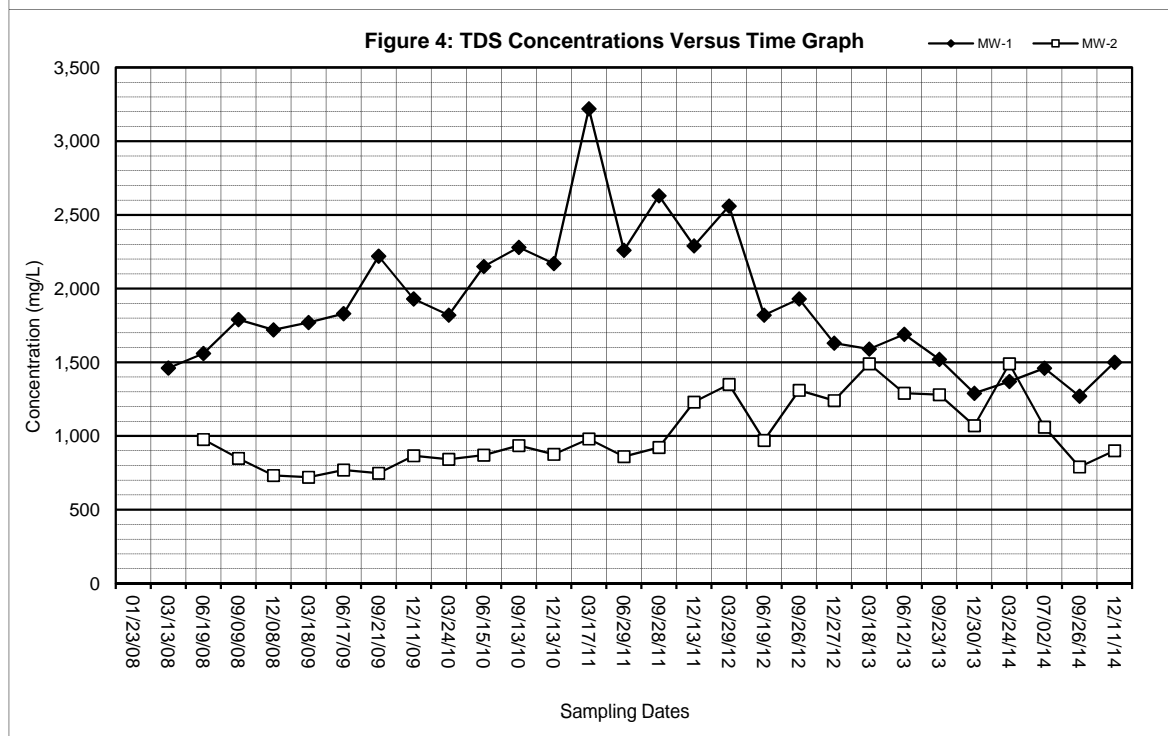
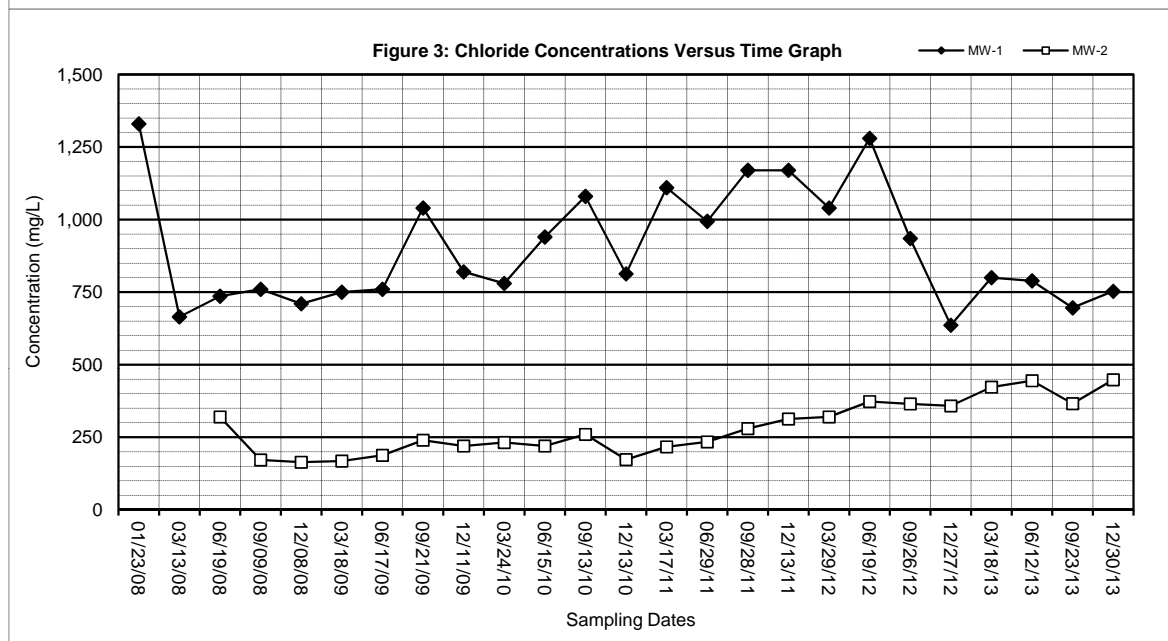
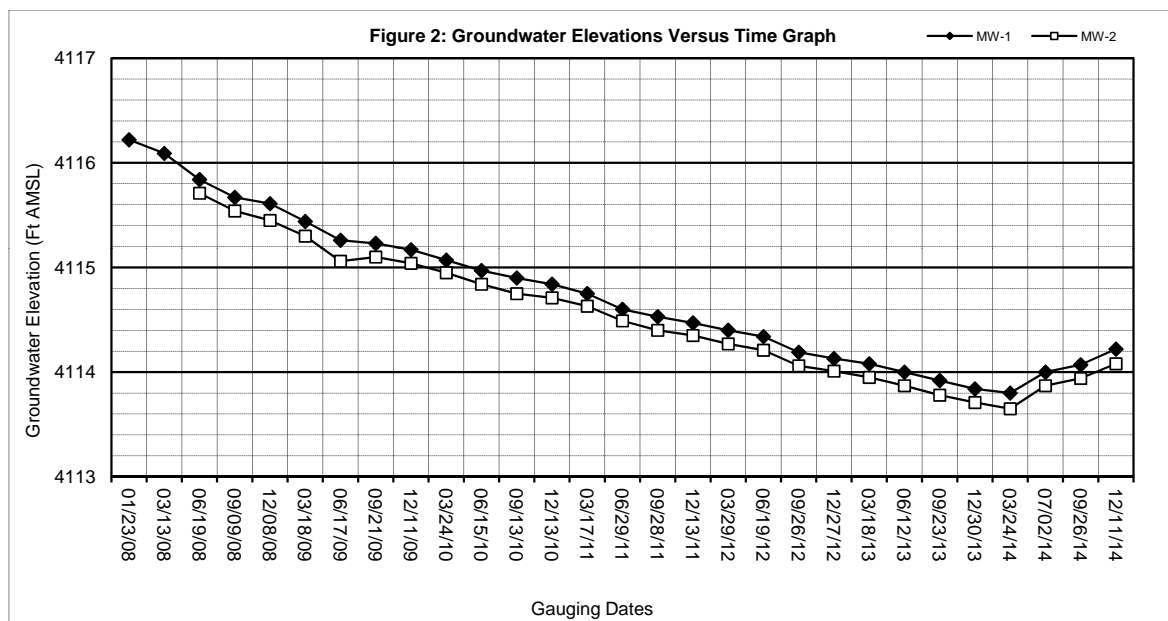
Total Dissolved Solids (TDS), chloride, sulfate, and BTEX concentrations listed in milligrams per liter (mg/L)

Values in boldface type indicate concentrations exceed New Mexico Water Quality Commission (WQCC) standards.

BTOC - Below Top of Casing; Elevations and relative eastings/northings surveyed by Trident Environmental

NA Indicates parameter was not analyzed for this constituent.





## WELL SAMPLING DATA FORM



CLIENT: Pride Energy Company

SITE NAME: South Four Lakes #13

SITE LOCATION: T12S-R34E-Sec1 Unit Letter L ~ Lea County, NM

SAMPLER: Gil Van Deventer

PURGING METHOD: ☐ Hand Bailed ☒ Pump, Type: Whaler Model WP-9012 Mega Purger (12-volt submersible pump)

SAMPLING METHOD: ☐ Disposable Bailer ☒ Direct from Discharge Hose ☐ Other: \_\_\_\_\_

DISPOSAL METHOD OF PURGE WATER: ☐ On-site Drum ☐ Drums ☒ SWD Disposal Facility

Quarter	Date	Time	Monitoring Well No.	Depth to Water (ft btoc)	Total Depth (ft)	Water Column Height (ft)	Well Factor 2"=.16 4"=.65	Calc. Well Vol. (gal)	Volume Purged (gal)	No. of Well Volumes Purged	Temp. °F	Cond. mS/cm	pH	PHYSICAL APPEARANCE AND REMARKS
First	03/24/14	13:55	MW-1	29.92	43.26	13.34	0.16	2.1	15	7.0	18.4	2.39	7.02	Cloudy but cleared during purge
	03/24/14	13:26	MW-2	29.60	42.10	12.50	0.16	2.0	15	7.5	19.3	1.75	6.91	Cloudy but cleared during purge
Second	07/02/14	13:40	MW-1	29.72	43.26	13.54	0.16	2.2	10	19.0	2.2	7.51	7.02	Cloudy but cleared during purge
	07/02/14	13:10	MW-2	29.38	42.10	12.72	0.16	2.0	10	19.8	1.5	7.54	6.91	Cloudy but cleared during purge
Third	09/26/14	12:30	MW-1	29.65	43.26	13.61	0.16	2.2	10	19.0	21.0	2.51	7.11	Cloudy but cleared during purge
	09/26/14	11:50	MW-2	29.31	42.10	12.79	0.16	2.0	10	19.8	21.0	1.64	6.80	Cloudy but cleared during purge
Fourth	12/11/14	11:45	MW-1	29.50	43.26	13.76	0.16	2.2	10	18.5	2.5	7.41	7.11	Cloudy but cleared during purge
	12/11/14	11:05	MW-2	29.17	42.10	12.93	0.16	2.1	10	18.7	1.4	7.45	6.80	Cloudy but cleared during purge

COMMENTS: Equipment decontamination consists of gloves, Alconox, and Distilled Water Rinse.

Hanna Model 98130 instrument used to obtain pH, conductivity, and temperature measurements.

Delivered samples to the analytical laboratory for chloride and TDS analysis.

LABORATORY ANALYTICAL REPORTS  
AND  
CHAINS OF CUSTODY



**PERMIAN BASIN  
ENVIRONMENTAL LAB, LP  
10014 SCR 1213  
Midland, TX 79706**



# Analytical Report

**Prepared for:**

Matt Pride  
Pride Energy Company  
P.O. BOX 701950  
Tulsa, OK 74170-1950

Project: Pride Energy Company  
Project Number: South Four Lakes #13 (AP-76)  
Location: T12S-R34E-Sec1 Unit Letter L ~ Lea County, NM  
Lab Order Number: 4C26013



**NELAP/TCEQ # T104704156-13-3**

Report Date: 04/09/14

Pride Energy Company  
P.O. BOX 701950  
Tulsa OK, 74170-1950

Project: Pride Energy Company  
Project Number: South Four Lakes #13 (AP-76)  
Project Manager: Matt Pride

Fax: (918) 524-9292

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	4C26013-01	Water	03/24/14 14:10	03-26-2014 11:55
MW-2	4C26013-02	Water	03/24/14 13:50	03-26-2014 11:55

Pride Energy Company  
P.O. BOX 701950  
Tulsa OK, 74170-1950

Project: Pride Energy Company  
Project Number: South Four Lakes #13 (AP-76)  
Project Manager: Matt Pride

Fax: (918) 524-9292

**MW-1**  
**4C26013-01 (Water)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>632</b>	25.0	mg/L	50	P4C2703	03/27/14	03/28/14	EPA 300.0
<b>Total Dissolved Solids</b>	<b>1370</b>	20.0	mg/L	1	P4D0203	03/28/14	04/02/14	EPA 160.1

Pride Energy Company  
P.O. BOX 701950  
Tulsa OK, 74170-1950

Project: Pride Energy Company  
Project Number: South Four Lakes #13 (AP-76)  
Project Manager: Matt Pride

Fax: (918) 524-9292

**MW-2**  
**4C26013-02 (Water)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	424	12.5	mg/L	25	P4C2703	03/27/14	03/28/14	EPA 300.0
Total Dissolved Solids	1490	20.0	mg/L	1	P4D0203	03/28/14	04/02/14	EPA 160.1

Pride Energy Company  
P.O. BOX 701950  
Tulsa OK, 74170-1950

Project: Pride Energy Company  
Project Number: South Four Lakes #13 (AP-76)  
Project Manager: Matt Pride

Fax: (918) 524-9292

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch P4C2703 - *** DEFAULT PREP ***</b>										
<b>Blank (P4C2703-BLK1)</b>				Prepared & Analyzed: 03/27/14						
Chloride	ND	0.500	mg/L							
<b>LCS (P4C2703-BS1)</b>				Prepared & Analyzed: 03/27/14						
Chloride	10.5	0.500	mg/L	10.0		105	80-120			
<b>LCS Dup (P4C2703-BSD1)</b>				Prepared & Analyzed: 03/27/14						
Chloride	10.5	0.500	mg/L	10.0		105	80-120	0.00952	20	
<b>Duplicate (P4C2703-DUP1)</b>				<b>Source: 4C26012-01</b>		Prepared: 03/27/14 Analyzed: 03/28/14				
Chloride	2920	100	mg/L		2920			0.164	20	
<b>Matrix Spike (P4C2703-MS1)</b>				<b>Source: 4C26012-01</b>		Prepared: 03/27/14 Analyzed: 03/28/14				
Chloride	5360	100	mg/L	2500	2920	97.8	80-120			
<b>Batch P4D0203 - *** DEFAULT PREP ***</b>										
<b>Blank (P4D0203-BLK1)</b>				Prepared: 03/28/14 Analyzed: 04/02/14						
Total Dissolved Solids	ND	20.0	mg/L							
<b>Duplicate (P4D0203-DUP1)</b>				<b>Source: 4C26014-04</b>		Prepared: 03/28/14 Analyzed: 04/02/14				
Total Dissolved Solids	1580	20.0	mg/L		1600			1.01	20	

Pride Energy Company  
P.O. BOX 701950  
Tulsa OK, 74170-1950

Project: Pride Energy Company  
Project Number: South Four Lakes #13 (AP-76)  
Project Manager: Matt Pride

Fax: (918) 524-9292

### Notes and Definitions

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  
RPD Relative Percent Difference  
LCS Laboratory Control Spike  
MS Matrix Spike  
Dup Duplicate

Report Approved By:



Date: 4/9/2014

Brent Barron, Laboratory Director/Technical Director

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-686-7235.

PBM LAB

Permian Basin Environmental Lab, LP  
10014 S. County Road 1213  
Midland, Texas 79706  
Phone: 432-661-4184

Page 1 of 1  
COC No.: AP76-032414

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID #

Company Name:

Trident Environmental

BILL TO Company:

Pride Energy Company / Attention: Matt Pride

Project Manager:

Gil Van Deventer / Trident Environmental

Address: (Street, City, Zip)

PO Box 710950, Tulsa, OK 74170-1950

Address: (Street, City, Zip)

PO Box 12177, Odessa TX 79768

Phone#:

(918) 524-9200

Fax#:

(918) 524-9292

Phone #:

(432) 638-8740

Fax #:

(413) 403-9968

Project #:

South Four Lakes #13 (AP-76)

Project Name:

Pride Energy Company

Project Location:

T12S-R34E-Sec1 Unit Letter L ~ Lea County, NM

Sampler Signature:

4026013

FIELD CODE

LAB #  
(LAB USE ONLY)

-01

-02

(G)rab or (C)omp

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**PERMIAN BASIN  
ENVIRONMENTAL LAB, LP  
10014 SCR 1213  
Midland, TX 79706**



# Analytical Report

**Prepared for:**

Gilbert Vandeventer  
Trident Environmental  
P.O. Box 12177  
Odessa, TX 79768

Project: Pride Energy Company  
Project Number: South Four Lakes #13 (AP-76)  
Location: T12S-R34E-Sec1 Unit Letter L ~ Lea County, NM  
Lab Order Number: 4G07003



**NELAP/TCEQ # T104704156-13-3**

Report Date: 07/21/14



Trident Environmental  
P.O. Box 12177  
Odessa TX, 79768

Project: Pride Energy Company  
Project Number: South Four Lakes #13 (AP-76)  
Project Manager: Gilbert Vandeventer

Fax: (432) 413-9968

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	4G07003-01	Water	07/02/14 13:40	07-04-2014 13:30
MW-2	4G07003-02	Water	07/02/14 13:10	07-04-2014 13:30

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P.O. Box 12177  
Odessa TX, 79768

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Project Manager: Gilbert Vandeventer

Fax: (432) 413-9968

**MW-1**  
**4G07003-01 (Water)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	772	12.5	mg/L	25	P4G1703	07/14/14	07/17/14	EPA 300.0
Total Dissolved Solids	1460	20.0	mg/L	1	P4G1509	07/08/14	07/15/14	EPA 160.1

Trident Environmental  
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Odessa TX, 79768

Project: Pride Energy Company  
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Fax: (432) 413-9968

**MW-2**

**4G07003-02 (Water)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>441</b>	12.5	mg/L	25	P4G1703	07/14/14	07/17/14	EPA 300.0
<b>Total Dissolved Solids</b>	<b>1060</b>	20.0	mg/L	1	P4G1509	07/08/14	07/15/14	EPA 160.1

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Project: Pride Energy Company  
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**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P4G1509 - \*\*\* DEFAULT PREP \*\*\***

**Blank (P4G1509-BLK1)**

Prepared & Analyzed: 07/15/14

Total Dissolved Solids ND 20.0 mg/L

**Duplicate (P4G1509-DUP1)**

Source: 4G03014-01

Prepared & Analyzed: 07/15/14

Total Dissolved Solids 815 20.0 mg/L 815 0.00 20

**Duplicate (P4G1509-DUP2)**

Source: 4G07004-04

Prepared & Analyzed: 07/15/14

Total Dissolved Solids 1660 20.0 mg/L 1700 2.38 20

**Batch P4G1703 - \*\*\* DEFAULT PREP \*\*\***

**Blank (P4G1703-BLK1)**

Prepared: 07/14/14 Analyzed: 07/17/14

Chloride ND 0.500 mg/L

**LCS (P4G1703-BS1)**

Prepared: 07/14/14 Analyzed: 07/17/14

Chloride 9.85 0.500 mg/L 10.0 98.5 80-120

**LCS Dup (P4G1703-BSD1)**

Prepared: 07/14/14 Analyzed: 07/17/14

Chloride 9.36 0.500 mg/L 10.0 93.6 80-120 5.06 20

Trident Environmental  
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Odessa TX, 79768

Project: Pride Energy Company  
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Project Manager: Gilbert Vandeventer

Fax: (432) 413-9968

### Notes and Definitions

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  
RPD Relative Percent Difference  
LCS Laboratory Control Spike  
MS Matrix Spike  
Dup Duplicate

Report Approved By:

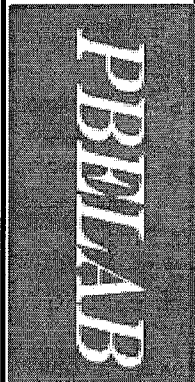


Date: 7/21/2014

Brent Barron, Laboratory Director/Technical Director

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Permian Basin Environmental Lab, LP  
10014 S. County Road 1213  
Midland, Texas 79706  
Phone: 432-661-4184

Page 1 of 1  
COC No.: AP76-0714

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID #

Company Name: Trident Environmental		BILL TO Company: Pride Energy Company / Attention: Matt Pride		PO#	
Project Manager: Gill Van Deventer / Trident Environmental		Address: (Street, City, Zip) PO Box 710950, Tulsa, OK 74170-1950		(Street, City, Zip)	
Address: (Street, City, Zip) PO Box 12177, Odessa TX 79768		Phone#: (918) 524-9200		Fax#: (918) 524-9292	
Phone #: (432) 638-8740		Fax #: (413) 403-9968			
Project #: South Four Lakes #13 (AP-76)		Project Name: Pride Energy Company			
Project Location: T12S-R34E-Sec1 Unit Letter L ~ Lea County, NM		Sampler Signature: 			
LAB # (LAB USE ONLY)		FIELD CODE			
(G)rab or (C)omp		# CONTAINERS			
MATRIX		PRESERVATIVE METHOD		SAMPLING	
WATER		HCL (BTEX only)		DATE	
SOIL		HNO <sub>3</sub>		TIME	
AIR		NaHSO <sub>4</sub>			
SLUDGE		H <sub>2</sub> SO <sub>4</sub>			
ICE		NONE			
7/2/14		7/2/14		1340	
7/2/14		7/2/14		1310	
MTBE 8021B/602		BTEX 8021 B		TPH 418.1/TX1005 / TX1005 Extended (C35)	
PAH 8270C		Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7		TCLP Metals Ag As Ba Cd Cr Pb Se Hg	
TCLP Volatiles		TCLP Semi Volatiles		TCLP Pesticides	
RCI		GC/MS Vol. 8260B/624		GC/MS Semi. Vol. 8270C/625	
Moisture Content		Cations (Ca, Mg, Na, K)		Anions (Cl, SO <sub>4</sub> , CO <sub>3</sub> , HCO <sub>3</sub> )	
Total Dissolved Solids (160.1 or SM2540C)		Chloride / Cl <sup>-</sup> (SM4500 B or 300.1)		Turn Around Time ~ 24 Hours	
Relinquished by: 		Date: 7/4/14		Time: 1:30p	
Received by: 		Date: 7/4/14		Time: 1330	
Relinquished by: 		Date: 7/4/14		Time: 1330	
Delivered By: (Circle One) Sampler		Sample Condition Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>		CHECKED BY: (Initials)	
UPS - Bus - Other:		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
REMARKS: Email Results to: gill@trident-environmental.com mattp@pride-energy.com		Phone Results Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Fax Results Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
		Additional Fax Number:			

**PERMIAN BASIN  
ENVIRONMENTAL LAB, LP  
10014 SCR 1213  
Midland, TX 79706**



# Analytical Report

**Prepared for:**

Gilbert Vandeventer  
Trident Environmental  
P.O. Box 12177  
Odessa, TX 79768

Project: Pride Energy Company  
Project Number: South Four Lakes #13 (AP-76)  
Location: T12S-R34E-Sec1 Unit Letter L ~ Lea County, NM  
Lab Order Number: 4J02016



**NELAP/TCEQ # T104704156-13-3**

Report Date: 10/15/14

Trident Environmental  
P.O. Box 12177  
Odessa TX, 79768

Project: Pride Energy Company  
Project Number: South Four Lakes #13 (AP-76)  
Project Manager: Gilbert Vandeventer

Fax: (432) 413-9968

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	4J02016-01	Water	09/26/14 12:30	10-02-2014 14:19
MW-2	4J02016-02	Water	09/26/14 11:50	10-02-2014 14:19

Revised report. TDS on sample -01 was initially entered incorrectly.



Trident Environmental  
P.O. Box 12177  
Odessa TX, 79768

Project: Pride Energy Company  
Project Number: South Four Lakes #13 (AP-76)  
Project Manager: Gilbert Vandeventer

Fax: (432) 413-9968

**MW-1**  
**4J02016-01 (Water)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	627	12.5	mg/L	25	P4J1002	10/10/14	10/10/14	EPA 300.0
Total Dissolved Solids	1270	20.0	mg/L	1	P4J0702	10/03/14	10/03/14	EPA 160.1

Trident Environmental  
P.O. Box 12177  
Odessa TX, 79768

Project: Pride Energy Company  
Project Number: South Four Lakes #13 (AP-76)  
Project Manager: Gilbert Vandeventer

Fax: (432) 413-9968

**MW-2**  
**4J02016-02 (Water)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>471</b>	5.00	mg/L	10	P4J1002	10/10/14	10/10/14	EPA 300.0
<b>Total Dissolved Solids</b>	<b>790</b>	20.0	mg/L	1	P4J0702	10/03/14	10/03/14	EPA 160.1

Trident Environmental  
P.O. Box 12177  
Odessa TX, 79768

Project: Pride Energy Company  
Project Number: South Four Lakes #13 (AP-76)  
Project Manager: Gilbert Vandeventer

Fax: (432) 413-9968

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P4J0702 - \*\*\* DEFAULT PREP \*\*\***

**Blank (P4J0702-BLK1)**

Prepared & Analyzed: 10/03/14

Total Dissolved Solids ND 20.0 mg/L

**Duplicate (P4J0702-DUP1)**

Source: 4H28001-01

Prepared & Analyzed: 10/03/14

Total Dissolved Solids 400 20.0 mg/L 372 7.25 20

**Duplicate (P4J0702-DUP2)**

Source: 4H28002-01

Prepared & Analyzed: 10/03/14

Total Dissolved Solids 164 20.0 mg/L 160 2.47 20

**Batch P4J1002 - \*\*\* DEFAULT PREP \*\*\***

**Blank (P4J1002-BLK1)**

Prepared & Analyzed: 10/10/14

Chloride ND 0.500 mg/L

**LCS (P4J1002-BS1)**

Prepared & Analyzed: 10/10/14

Chloride 9.93 0.500 mg/L 10.0 99.3 80-120

**LCS Dup (P4J1002-BSD1)**

Prepared & Analyzed: 10/10/14

Chloride 9.89 0.500 mg/L 10.0 98.9 80-120 0.383 20

**Duplicate (P4J1002-DUP1)**

Source: 4J02015-01

Prepared & Analyzed: 10/10/14

Chloride 2040 50.0 mg/L 2030 0.373 20

**Matrix Spike (P4J1002-MS1)**

Source: 4J02015-01

Prepared & Analyzed: 10/10/14

Chloride 3110 50.0 mg/L 1000 2030 108 80-120

Trident Environmental  
P.O. Box 12177  
Odessa TX, 79768

Project: Pride Energy Company  
Project Number: South Four Lakes #13 (AP-76)  
Project Manager: Gilbert Vandeventer

Fax: (432) 413-9968

### Notes and Definitions

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  
RPD Relative Percent Difference  
LCS Laboratory Control Spike  
MS Matrix Spike  
Dup Duplicate

Report Approved By:



Date: 10/15/2014

Brent Barron, Laboratory Director/Technical Director

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**COC No.: AP76-0914**

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID #

[illegible]

**PERMIAN BASIN  
ENVIRONMENTAL LAB, LP  
10014 SCR 1213  
Midland, TX 79706**



## Analytical Report

**Prepared for:**

Gilbert Vandeventer  
Trident Environmental  
P.O. Box 12177  
Odessa, TX 79768

Project: Pride Energy Company  
Project Number: South Four Lakes #13 (AP-76)  
Location: T12S-R34E-Sec1 Unit Letter L ~ Lea County, NM  
Lab Order Number: 4L15009



**NELAP/TCEQ # T104704156-13-3**

Report Date: 12/24/14

Trident Environmental  
P.O. Box 12177  
Odessa TX, 79768

Project: Pride Energy Company  
Project Number: South Four Lakes #13 (AP-76)  
Project Manager: Gilbert Vandeventer

Fax: (432) 413-9968

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	4L15009-01	Water	12/11/14 11:45	12-15-2014 15:40
MW-2	4L15009-02	Water	12/12/14 11:05	12-15-2014 15:40

Trident Environmental  
P.O. Box 12177  
Odessa TX, 79768

Project: Pride Energy Company  
Project Number: South Four Lakes #13 (AP-76)  
Project Manager: Gilbert Vandeventer

Fax: (432) 413-9968

**MW-1**  
**4L15009-01 (Water)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>628</b>	25.0	mg/L	50	P4L1807	12/16/14	12/18/14	EPA 300.0
<b>Total Dissolved Solids</b>	<b>1500</b>	20.0	mg/L	1	P4L1902	12/19/14	12/19/14	EPA 160.1



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Project Manager: Gilbert Vandeventer

Fax: (432) 413-9968

**MW-2**

**4L15009-02 (Water)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	286	12.5	mg/L	25	P4L1807	12/16/14	12/18/14	EPA 300.0
Total Dissolved Solids	900	20.0	mg/L	1	P4L1902	12/19/14	12/19/14	EPA 160.1

Trident Environmental  
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Project: Pride Energy Company  
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Project Manager: Gilbert Vandeventer

Fax: (432) 413-9968

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch P4L1807 - *** DEFAULT PREP ***</b>										
<b>Blank (P4L1807-BLK1)</b>				Prepared: 12/16/14 Analyzed: 12/18/14						
Chloride	ND	0.500	mg/L							
<b>LCS (P4L1807-BS1)</b>				Prepared: 12/16/14 Analyzed: 12/18/14						
Chloride	20.5	0.500	mg/L	20.0		102	80-120			
<b>LCS Dup (P4L1807-BSD1)</b>				Prepared: 12/16/14 Analyzed: 12/18/14						
Chloride	20.4	0.500	mg/L	20.0		102	80-120	0.597	20	
<b>Duplicate (P4L1807-DUP1)</b>				<b>Source: 4L15007-01</b>		Prepared: 12/16/14 Analyzed: 12/18/14				
Chloride	2650	100	mg/L		2640			0.514	20	
<b>Matrix Spike (P4L1807-MS1)</b>				<b>Source: 4L15007-01</b>		Prepared: 12/16/14 Analyzed: 12/18/14				
Chloride	4380	100	mg/L	2000	2640	87.2	80-120			
<b>Batch P4L1902 - *** DEFAULT PREP ***</b>										
<b>Blank (P4L1902-BLK1)</b>				Prepared & Analyzed: 12/19/14						
Total Dissolved Solids	ND	20.0	mg/L							
<b>Duplicate (P4L1902-DUP1)</b>				<b>Source: 4L15010-04</b>		Prepared & Analyzed: 12/19/14				
Total Dissolved Solids	1500	20.0	mg/L		1530			1.98	20	

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### Notes and Definitions

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  
RPD Relative Percent Difference  
LCS Laboratory Control Spike  
MS Matrix Spike  
Dup Duplicate

Report Approved By:



Date: 12/24/2014

Brent Barron, Laboratory Director/Technical Director

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# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]