# **AP-78**

## Pride Energy South Four Lakes #15

# Annual Report 2013

RECEIVE RIDENT

March 24, 2014

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: 2013 Annual Groundwater Monitoring Report South Four Lakes #15 Site (AP-78) T12S-R34E-Section 2, Unit Letter G, Lea County, New Mexico

Dear Mr. von Gonten:

As agent for Pride Energy Company (Pride), Trident Environmental submits this 2013 Annual Groundwater Monitoring Report for the above-referenced site.

#### Groundwater Sampling Procedures

During each quarterly sampling event the on-site monitoring well (MW-1) was 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 the 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 the monitoring well were transferred into 500 milliliter (ml) plastic containers for laboratory analysis of chloride and sulfate using EPA Method E300 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 plan showing the most recent groundwater elevation and the chloride/TDS concentrations in monitoring well MW-1 is shown in Figure 1. Figure 2 is a graph depicting chloride and TDS concentrations and groundwater elevation versus time at monitoring well MW-1.

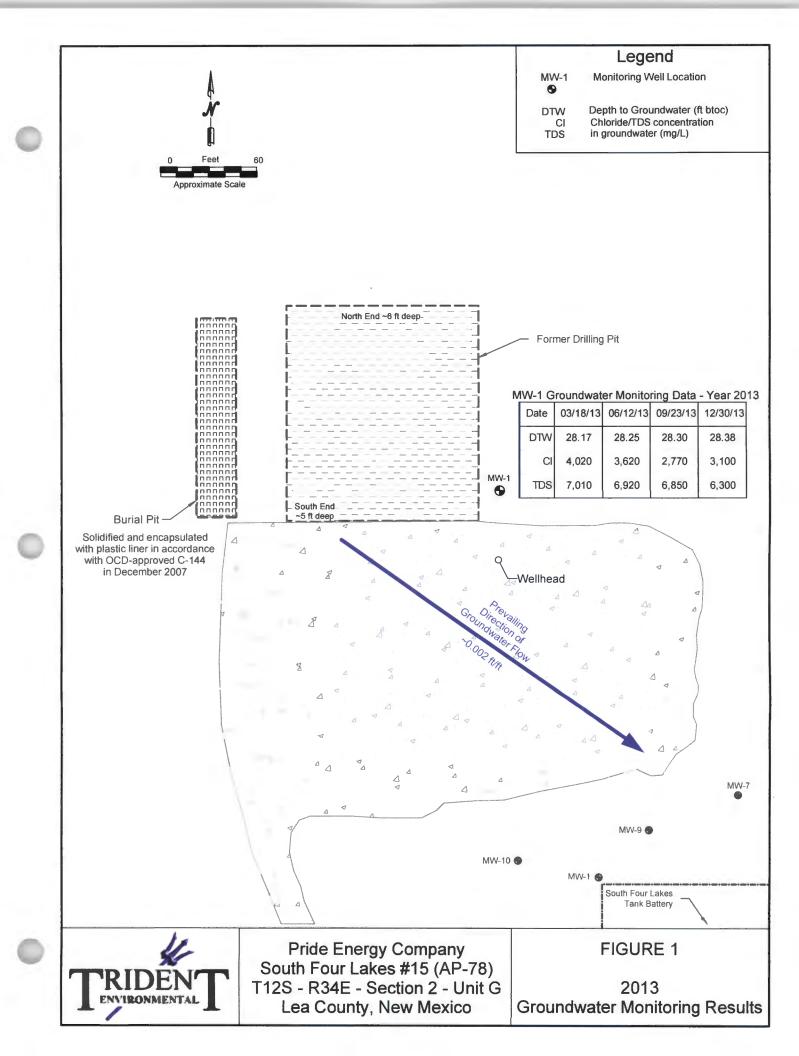


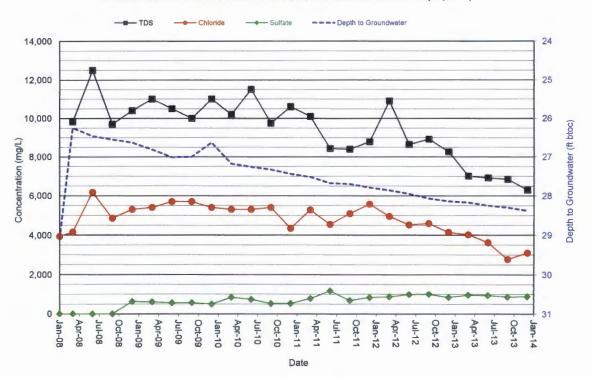
Table 1
Summary of Groundwater Monitorling Results (MW-1)
South Four Lakes #15 Site (AP-78)

Sample Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet AMSL)	Chloride (mg/L)	Sulfate (mg/L)	TDS (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylene (mg/L)
1/23/2008	29.10	4122.05	3,930					-	
3/13/2008	26.25	4124.90	4,150	-	9,820	< 0.001	< 0.001	<0.001	< 0.003
6/20/2008	26.46	4124.69	6,180		12,500	-		-	_
9/9/2008	26.55	4124.60	4,850	-	9,700	<0.001	< 0.001	< 0.001	< 0.003
12/8/2008	26.63	4124,52	5,300	632	10,400	< 0.001	< 0.001	< 0.001	< 0.003
3/18/2009	26.81	4124.34	5,400	611	11,000	< 0.001	< 0.001	< 0.001	< 0.003
6/17/2009	27.01	4124.14	5,700	568	10,500	< 0.001	< 0.001	< 0.001	< 0.003
9/21/2009	27.00	4124.15	5,700	568	10,000	< 0.001	< 0.001	< 0.001	< 0.003
12/9/2009	26.63	4124.52	5,400	499	11,000	< 0.001	< 0.001	< 0.001	< 0.003
3/24/2010	27.18	4123.97	5,300	844	10,200	_			
6/15/2010	27.26	4123.89	5,300	742	11,500	- 1			
9/13/2010	27.33	4123.82	5,400	528	9,750		-		
12/13/2010	27.44	4123.71	4,340	536	10,600	_			
3/17/2011	27.52	4123.63	5,280	790	10,100				
6/29/2011	27.68	4123.47	4,540	1,170	8,430				
9/27/2011	27.70	4123.45	5,090	688	8,400			_	
12/13/2011	27.79	4123.36	5,570	844	8,780				
3/29/2012	27.86	4123.29	4,950	878	10,900			_	
6/19/2012	27.95	4123.20	4,520	996	8,640			- 1	***
9/26/2012	28.07	4123.08	4,590	1,010	8,920			_	
12/27/2012	28.14	4123.01	4,140	851	8,260			-	***
3/18/2013	28.17	4122.98	4,020	968	7,010	_			
6/12/2013	28.25	4122.90	3,620	947	6,920	_	-		
9/23/2013	28.30	4122.85	2,770	870	6,850	_			
12/30/2013	28.38	4122.77	3,100	888	6,300				
	1	WQCC Standards	250	600	1,000	0.01	0.75	0.75	0.62

Total Dissolved Soilds (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 state plane coordinates surveyed by Basin Surveys, Hobbs, NM. ---- Indicates parameter was not analyzed.

FIGURE 2

Chloride/TDS Concentrations and Groundwater Elevation Versus Time Graph (MW-1)



#### Groundwater Depth, Elevations, Hydraulic Gradient and Flow Direction

Depth to groundwater at the site is approximately 26 feet (ft) below ground surface. The water table elevation has been steadily declining about 0.4 ft/year as displayed in Figure 2, which graphs the change in groundwater elevation since 2008 at monitoring well MW-1. Based on data from nearby sites, the prevailing groundwater gradient direction trends towards the southeast with a relatively flat hydraulic gradient of approximately 0.002 ft/ft (Figure 1). 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 remain 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 was discontinued.

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 please 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)

Geoffry Leking (NMOCD -District 1, Hobbs, NM)

Attachments: Well sampling data form and laboratory analytical reports

#### WELL SAMPLING DATA FORM

**AND** 

LABORATORY ANALYTICAL REPORTS

#### 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 #15 (AP-78)

Location: T12S-R34E-Sec 2 Unit Letter G ~ Lea County, NM

Lab Order Number: 3C20002



NELAP/TCEQ # T104704156-12-1

Report Date: 03/29/13

Trident Environmental

P.O. Box 12177

Odessa TX, 79768

Project: Pride Energy Company

Project Number: South Four Lakes #15 (AP-78)

Project Manager: Gilbert Vandeventer

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	3C20002-01	Water	03/18/13 13:00	03-20-2013 12:30

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

#### Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (3C20002-01) Water	•					32			
Chloride	4020	100	mg/L	200	EC32601	03/26/13	03/26/13	EPA 300.0	
Total Dissolved Solids	7010	10.0	**	1	EC32703	03/25/13	03/25/13	EPA 160.1	
Sulfate	968	200	97	200	EC32601	03/26/13	03/26/13	EPA 300.0	

Fax: (432) 413-9968

#### WELL SAMPLING DATA FORM (MW-1)

	CLIENT:	Pride Ene	ergy Con	npany								•	TRIDENT
SITE	NAME:	South Fo	ur Lakes	#15 (A	P-78)								RIDEN
SITE LO	CATION:	T12S-R3	4E-Sec 2	Unit L	etter G	Lea C	County	, NM					1
SA	MPLER:	Gil Van D	eventer										•
	1	PURGING N	METHOD:		Hand Ba	iled	☑ Pu	mp, Type:	Whaler Mo	odel WP-	9012 Me	ga Purg	er (12-volt submersible pump)
	SA	AMPLING N	ETHOD:		Disposal	ole Bailer	r	Direct fro	om Dischar	rge Hose		Other:	
DISPOSAL	METHOD	OF PURGE	WATER:		On-site D	Drum [	☐ Drun	ns	SWD D	isposal F	acility		
Quarter	Date	Time	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.	Cond. mS/cm	рН	PHYSICAL APPEARANCE AND REMARKS
First	03/18/13	13:00	28.17	49.80	21.63	0.16	3.5	20	5.8	67.9	12.18	7.21	Cloudy but cleared quickly during purge
Second	06/12/13	11:30	28.25	49.80	21.55	0.16	3.4	20	5.8	73.6	10.99	7.53	Cloudy but cleared quickly during purge
Third	09/26/13	11:00	28.30	49.80	21.50	0.16	3.4	15	4.4	67.8	9.88	7.67	Cloudy but cleared quickly during purge
Fourth	12/30/13	13:00	28.38	49.80	21.42	0.16	3.4	20	5.8	62.4	10.02	7.04	Cloudy but cleared quickly during purge
COMMEN	TS:	Equipment	decontam	ination c	onsists of	gloves,	Alcono	x, and Dis	tilled Water	r Rinse.			
Hanna Mo	del 98130 i	nstrument u	sed to obt	ain pH, c	onductivit	y, and te	empera	ture meas	urements.				
Delivered s	samples to	Permian Ba	sin Enviro	nmental	Laborator	y (Midla	nd TX)	for chlorid	e, sulfate,	and TDS	analysis		

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

Project: Pride Energy Company

Project Number: South Four Lakes #15 (AP-78)

Project Manager: Gilbert Vandeventer

Fax: (432) 413-9968

## General Chemistry Parameters by EPA / Standard Methods - Quality Control Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
nuaye	result	/	Omts	ricket	Veanit	/ercec	Lumits	KrD	Luill	140163
Batch EC32601 - *** DEFAULT PREP ***										
Blank (EC32601-BLK1)				Prepared &	Analyzed:	03/26/13				
Sulfate	ND	1.00	mg/L							
Chloride	ND	0.500	"							
LCS (EC32601-BS1)				Prepared &	Analyzed:	03/26/13				
Sulfate	11.7		mg/L	10.0		117	80-120			
Chloride	10.9		11	10.0		109	80-120			
LCS Dup (EC32601-BSD1)				Prepared &	Analyzed:	03/26/13				
Sulfate	11.8		mg/L	10.0		118	80-120	0.434	20	
Chloride	11.0		**	10.0		110	80-120	0.621	20	
Duplicate (EC32601-DUP1)	Sou	rce: 3C20001-	01	Prepared &	Analyzed:	03/26/13				
Sulfate	230	25.0	mg/L		232			0.802	20	
Chloride	801	12.5	**		800			0.137	20	
Matrix Spike (EC32601-MS1)	Sou	rce: 3C20001-	01	Prepared &	Analyzed:	03/26/13				
Sulfate	547	25.0	mg/L	300	232	105	80-120			_
Chloride	1100	12.5	**	300	800	102	80-120			
Batch EC32703 - *** DEFAULT PREP ***										
Blank (EC32703-BLK1)				Prepared &	Analyzed:	03/25/13				
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (EC32703-DUP1)	Sou	rce: 3C20001-	01	Prepared & Analyzed: 03/25/13						
Total Dissolved Solids	1580	10.0	mg/L		1590			1.01	20	

Trident Environmental P.O. Box 12177 Odessa TX, 79768 Project: Pride Energy Company

Project Number: South Four Lakes #15 (AP-78)

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 Laboratory Control Spike LCS MS Matrix Spike Dup Duplicate

	Dun	Darron			
Report Approved By:			Date:	3/29/2013	

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 432-661-4184.

of 1



Sampler - UPS - Bus - Other:

Permian Basin Environmental Lab, LP 10014 S. County Road 1213 Midland, Texas 79706

COC No.: AP78-0313

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1

Phone: 432-661-4184 LAB Order ID# BILL TO Company: Company Name: **ANALYSIS REQUEST** Pride Energy Company / Attention: Matt Pride Trident Environmental (Circle or Specify Method No.) Project Manager: (Street, City, Zip) PO Box 710950, Tulsa, OK 74170-1950 Gil Van Deventer / Trident Environmental otal Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7 CLP Metals Ag As Ba Cd Cr Pb Se Hg (Street, City, Zip) PO Box 12177, Odessa TX 79768 (918) 524-9200 (918) 524-9292 418.1/TX1005 / TX1005 Extended (C35) SM2540C) (432) 638-8740 (413) 403-9968 Project Name: **Pride Energy Company** Chloride / Cl (SM4500 B or 300.1) South Four Lakes #15 (AP-78) Total Dissolved Solids (160.1 or Sampler Signature T12S-R34E-Sec 2 Unit Letter G ~ Lea County, NM **PRESERVATIVE** Cations (Ca, Mg, Na, K) MATRIX SAMPLING METHOD GC/MS Semi. Vol. # CONTAINERS only) Moisture Content G)rab or (C)omp **FCLP** Pesticides LAB# BTEX 8021 B FIELD CODE **PAH 8270C** GC/MS Vol. HCL (BTEX SLUDGE WATER NaHSO, LAB USE H<sub>2</sub>SO<sub>4</sub> NONE ONLY SOIL AIR CE RCI 3020002 X 1300 10-MW-1 G 3/18/13 X No Time: Received by: Phone Results Yes Date: Date: Time: Fax Results Additional Fax Number. Received By: (Laboratory Staff) Date: REMARKS: Date: Time: Samples not field filtered Relinquished by: 20/13 17:30 am **Email Results to:** 43 WOF gil@trident-environmental.com CHECKED BY: (Circle One) Sample Condition Delivered By: mattp@pride-energy.com (Initials)

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

## PBELAB

## **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 #15 (AP78)

Location: T12S-R34E-Sec 2 Unit Letter G ~ Lea County, NM

Lab Order Number: 3F14004



NELAP/TCEQ # T104704156-12-1

Report Date: 06/24/13

Project: Pride Energy Company

Project Number: South Four Lakes #15 (AP78)

Project Manager: Matt Pride

Fax: (918) 524-9292

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	
MW-1	3F14004-01	Water	06/12/13 11:30	06-14-2013 14:18	

Project: Pride Energy Company

Project Number: South Four Lakes #15 (AP78)

Project Manager: Matt Pride

Fax: (918) 524-9292

MW-1 3F14004-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
General Chemistry Parameters by		nian Basin E	nvironme	ntal Lab, l	L.P.				
Chloride	3620	100	mg/L	200	P3F1901	06/17/13	06/19/13	EPA 300.0	
Total Dissolved Solids	6920	10.0	mg/L	1	P3F2107	06/18/13	06/21/13	EPA 160.1	
Sulfate	947	200	mg/L	200	P3F1901	06/17/13	06/19/13	EPA 300.0	

Project: Pride Energy Company

Project Number: South Four Lakes #15 (AP78)

Project Manager: Matt Pride

Fax: (918) 524-9292

Troject Manager. That The

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source		%REC Limits	RPD	RPD Limit	Notes
Batch P3F1901 - *** DEFAULT PREP ***										
Blank (P3F1901-BLK1)				Prepared: (	06/17/13	Analyzed: 06	5/19/13			
Sulfate	ND	1.00	mg/L							
Chloride	ND	0.500	*							
LCS (P3F1901-BS1)				Prepared: (	06/17/13	Analyzed: 06	5/19/13			
Sulfate	10.3		mg/L	10.0		103	80-120			
Chloride	9.84		"	10.0		98.4	80-120			
LCS Dup (P3F1901-BSD1)		<i>f</i>		Prepared: (	06/17/13	Analyzed: 06	5/19/13			
Sulfate	10.3		mg/L	10.0		103	80-120	0.0968	20 .	
Chloride	9.75		н	10.0		97.5	80-120	0.970	20	
Duplicate (P3F1901-DUP1)	Sou	rce: 3F14001-	01	Prepared:	06/17/13	Analyzed: 06	5/19/13			
Sulfate	105	5.00	mg/L		105			0.366	20	
Chloride	250	2.50	n		255			2.10	20	
Matrix Spike (P3F1901-MS1)	Sou	rce: 3F14001-	01	Prepared: (	06/17/13	Analyzed: 06	5/19/13			
Sulfate	154	5.00	mg/L	42,5	105	113	80-120			
Chloride	300	2.50	*	42.5	255	106	80-120			
Matrix Spike (P3F1901-MS2)	Sou	rce: 3F14001-	11	Prepared: (	06/17/13	Analyzed: 06	5/19/13			
Sulfate	264	25.0	mg/L	250	60.2	81.3	80-120			
Chloride	539	12.5	н	250	323	86.3	80-120			
Batch P3F2107 - *** DEFAULT PREP ***										
Blank (P3F2107-BLK1)				Prepared: (	06/18/13	Analyzed: 06	5/21/13			
Total Dissolved Solids	ND	10.0	mg/L							

Project: Pride Energy Company

Project Number: South Four Lakes #15 (AP78)

Project Manager: Matt Pride

Fax: (918) 524-9292

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

	Reporting			Spike Source			%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch P3F2107 - \*\*\* DEFAULT PREP \*\*\*

Duplicate (P3F2107-DUP1)	Source	3F14001-	01	Prepared: 06/18/13 Analyzed: 06/21/13			
Total Dissolved Solids	770	10.0	mg/L	815	5.68	20	

Project: Pride Energy Company

Project Number: South Four Lakes #15 (AP78)

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

Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

dry

	1 Dun =	gover C	
Report Approved By:		Date:	6/24/2013

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.



Permian Basin Environmental Lab, LP

10014 S. County Road 1213

Midland, Texas 79706

Phone: 432-661-4184

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Page		OI_	1

COC No.: AP78-0613

#### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID#\_

Company Name: Trident Env Project Manager:	ironmental		Pride		nerg		om	pany	/ A					Pride		I				Al (Circ					QU etho			ъ				
Address: (Str PO Box 121	venter / Trident Environm reet, City, Zip) 177, Odessa TX 79768		PO (		Pho	ne#:		ulsa,	Oł	(74	170	Fax	<b>#</b> :	524-9292				35)		10B/200.7												
Phone #: (432) 638-8 Project #: South Fou	740 r Lakes #15 (AP-78)	Fax#: (413)	403- Project	Nan	ne:	gy (	Con	npar	ıy							-		xtended (C:		Se Hg 60	D Se LIG								00,10	(160.1 or SMZ540C)	(1.1)	
Project Location:	-Sec 2 Unit Letter G ~ Le	a Col					Signa									1		1005 E		A C' P	5					8270C/625			HC03)	(160.1 or SI	s or 300	~ 24 Hours
			0	L	M	ATR	EIX				RVA THO		E	SAMP	LING			XT/30		s Ba C	AS Da	les	-		8260B/624			Na, K)			3/2	8~24
LAB# (LAB USE ONLY)	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	WATER	SOIL	AIR	SLUDGE	HCI (RTEY only)	HNO3	NaHSO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>	ICE	NONE	DATE	TIME	MTBE 8021B/602		TPH 418.1/TX1005 / TX1005 Extended (C35)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCI D Volatilos	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260	GC/MS Semi. Vol.	Moisture Content	(Ca, Mg,	Anions (CI, SO4,		Chloride / Cl (SM Stuffate / SO4 (37)	Turn Around Time ~
-01	MW-1	G	1	X				1				х		6-n-13	1/30	-					+	+								X		
Relip (uished/by	Date: Time: 6/14/12 19:18	Receiv								Dat			Time	•		Fa	one x Re	sult	s	1	ļ	es es	х	No No		-	NAME OF TAXABLE PARTY.	nal l	Fax	Nun	ber	:
	Date: Time: (Circle One)  JPS - Bus - Other:	Sample	1	1	2	Intac	1	6	HECH	ED	3	4	ime	14:18		RI	En	-,-,-		ults		gi	il@	trid	ent-	env	/iro				om	

#### 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 #15 (AP78)

Location: T12S-R34E-Sec 2 Unit Letter G ~ Lea County, NM

Lab Order Number: 3I24005



NELAP/TCEQ # T104704156-13-3

Report Date: 10/02/13

Pride Energy Company

Project: Pride Energy Company

Fax: (918) 524-9292

P.O. BOX 701950

Project Number: South Four Lakes #15 (AP78)

Tulsa OK, 74170-1950

Project Manager: Matt Pride

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	3I24005-01	Water	09/23/13 11:00	09-24-2013 13:25

Project: Pride Energy Company

Project Number: South Four Lakes #15 (AP78)

Project Manager: Matt Pride

Fax: (918) 524-9292

MW-1 3I24005-01 (Water)

	-	Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
General Chemistry Parameters by		nian Basin E	nvironme	ntal Lab, l	L.P.				
Chloride	2770	100	mg/L	200	P3I2603	09/26/13	09/26/13	EPA 300.0	
Total Dissolved Solids	6850	20.0	mg/L	1	P3J0104	09/25/13	10/01/13	EPA 160.1	
Sulfate	870	200	mg/L	200	P3I2603	09/26/13	09/26/13	EPA 300.0	

Project: Pride Energy Company

Project Number: South Four Lakes #15 (AP78)

Project Manager: Matt Pride

Fax: (918) 524-9292

110joet Manager. Matt 111de

## 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
Batch P3I2603 - *** DEFAULT PREP ***										
Blank (P3I2603-BLK1)				Prepared &	Analyzed	09/26/13				
Sulfate	ND	1.00	mg/L					d		
Chloride	ND	0.500	*							
LCS (P312603-BS1)				Prepared &	Analyzed:	09/26/13				
Sulfate	11.3		mg/L	10.0		113	80-120			
Chloride	10.5		**	10.0		105	80-120			
LCS Dup (P312603-BSD1)				Prepared &	Analyzed:	09/26/13				
Sulfate	11.8		mg/L	10.0		118	80-120	4.43	20	
Chloride	10.6		n	10.0		106	80-120	0.837	20	
Duplicate (P3I2603-DUP1)	Sou	rce: 3I24004-0	)1	Prepared &	Analyzed	09/26/13				
Sulfate	216	25.0	mg/L		217			0.415	20	
Chloride	697	12.5	*		696			0.147	20	
Batch P3J0104 - *** DEFAULT PREP ***										
Blank (P3J0104-BLK1)				Prepared:	09/25/13 A	nalyzed: 10	/01/13			
Total Dissolved Solids	10.0	10.0	mg/L							

Project: Pride Energy Company

Project Number: South Four Lakes #15 (AP78)

Project Manager: Matt Pride

Fax: (918) 524-9292

#### Notes and Definitions

DET Analyte DETECTED ND Analyte NOT DETECTED at or above the reporting limit Not Reported NR Sample results reported on a dry weight basis dry RPD Relative Percent Difference LCS Laboratory Control Spike MS Matrix Spike Duplicate Dup

	1 Drew	Darror		
Report Approved By:			Date:	10/2/2013

Brent Barron, Laboratory Director/Technical Director

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## **PBELAB**

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

Page\_ 1 of 1

COC No.: AP78-0913

#### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID #\_\_\_\_

Company Name: Trident Env Project Manager:	vironmental		Pride			y C	omp	any	/ At					Pride			,							RE ify M								
Address: (S PO Box 12	eventer / Trident Environmenteet, City, Zip) 177, Odessa TX 79768		PO E (918		Pho	ne#:		isa,	OK	74	170	Fax	#:	524-9292				(2)		6010B/200.7												
Project Location:	8740 <b>Ir Lakes #15 (AP-78)</b> E-Sec 2 Unit Letter G ~ Le		Project	e E	ne: nerç		Com		у									418.1/TX1005 / TX1005 Extended (C35)		Se Hg	d Cr Pb Se Hg					3/625			(800	30.1 or SM2540C)	(SM4500 B or 300.1)	ours
	3124005				M	ATR	IX		PRE		RVA HO		E	SAMPL	ING			5/TX1		Ba Cd	s Ba C	00	3		8260B/624	8270C/625		Na, K)	соз, нсоз)	Solids (160.1	4500 B	
LAB# (LAB USE ONLY)	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	WATER	SOIL	AIR	SLUDGE	HCL (BTEX only)	HNO3	NaHSO <sub>4</sub>	H₂SO₄	ICE	NONE	DATE	TIME	MTBE 8021B/602	BTEX 8021 B	TPH 418.1/TX100	PAH 8270C	Total Metals Ag As	TCLP Metals Ag As Ba Cd Cr Pb	TCLP Volatiles	TCI D Destloides	RCI resudues	MS Vol.	1 -	Moisture Content	Cations (Ca, Mg, P	Anions (Cl, SO4, C	Solve	Chloride / Cl. (SMA	Sulfate / SO4 (375.4) Turn Around Time ~ "
~01	MW-1	G	1	X		F		F	-			X		9/23/13	1100	F	F				-	+	F	F	F	F	F	F		X	X	X
Relinguished by	/: D / Date: Time:	Recei	ved by:							Pate		Ti	me:			Pr	one	Res	ults			Yes		K No								
Relinquished by	let 1/24/13 1:25		ved By		abor	ator	y Staff	7		ate:		Tir	me:	1325		Fa	x Re	RKS	s		San	Yes	1	X No	0	_		onal	Fax	Nur	nbe	r:
Delivered By: Sampler -	(Circle One)  UPS - Bus - Other:	Sample	Yes	Coo	Yes No	Intac		-	HECH			,												trid tp@							con	,

#### 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 #15 (AP78)

Location: T12S-R34E-Sec 2 Unit Letter G ~ Lea County, NM

Lab Order Number: 3L31003



NELAP/TCEQ # T104704156-13-3

Report Date: 01/07/14

Project: Pride Energy Company

Project Number: South Four Lakes #15 (AP78)

Project Manager: Matt Pride

Fax: (918) 524-9292

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	3L31003-01	Water	12/30/13 13:00	12-31-2013 13:30

Project: Pride Energy Company

Project Number: South Four Lakes #15 (AP78)

Project Manager: Matt Pride

Fax: (918) 524-9292

MW-1 3L31003-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
General Chemistry Parameters by E		n Basin Er	vironme	ntal Lab, I	L.P.				
Chloride	3100	100	mg/L	200	P4A0604	01/06/14	01/06/14	EPA 300,0	
Total Dissolved Solids	6300	20.0	mg/L	1	P4A0701	01/03/14	01/07/14	EPA 160.1	
Total Dissolved Solids	0500	20.0	8	-		O AI ODI A T	01/0//14		

Project: Pride Energy Company

Project Number: South Four Lakes #15 (AP78)

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
Batch P4A0604 - *** DEFAULT PREP ***										
Blank (P4A0604-BLK1)				Prepared &	Analyzed:	01/06/14				
Suifate	ND	1.00	mg/L							
Chloride	ND	0.500	-							
LCS (P4A0604-BS1)				Prepared &	Analyzed:	01/06/14				
Sulfate	9.89		mg/L	10.0		98.9	80-120			
Chloride	10.4		n	10.0		104	80-120			
LCS Dup (P4A0604-BSD1)				Prepared &	Analyzed:	01/06/14				
Sulfate	9.89		mg/L	10.0	,	98.9	80-120	0.0101	20	
Chloride	9.86		n	10.0		98.6	80-120	5.47	20	
Duplicate (P4A0604-DUP1)	Sou	rce: 3L31002-	01	Prepared &	Analyzed:	01/06/14				
Sulfate	207	25.0	mg/L		209			1.14	20	
Chloride	753	12.5	19	1	753			0.0797	20	
Matrix Spike (P4A0604-MS1)	Sou	rce: 3L31002-	01	Prepared &	k Analyzed	01/06/14		ø		
Sulfate	378	25.0	mg/L	150	209	112	80-120			
Chloride	899	12.5	#	150	753	97.0	80-120			
Batch P4A0701 - *** DEFAULT PREP ***										
Blank (P4A0701-BLK1)				Prepared:	01/03/14 A	nalyzed: 01	/07/14			
Total Dissolved Solids	ND	20.0	mg/L							
Duplicate (P4A0701-DUP1)	Sou	rce: 3L31002	-01	Prepared:	01/03/14 A	nalyzed: 01	/07/14			
Total Dissolved Solids	1340	20.0	mg/L		1290			3.80	20	

Duplicate

Dup

Project: Pride Energy Company

Project Number: South Four Lakes #15 (AP78)

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 regorted on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

	ρ	Dun	Durion			
Report Approved By:			f	Date:	1/7/2014	

Brent Barron, Laboratory Director/Technical Director

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**PBELAB** 

Permian Basin Environmental Lab, LP 10014 S. County Road 1213

Midland, Texas 79706 Phone: 432-661-4184 Page 1

COC No.: AP78-123013

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: BILL TO Company: **ANALYSIS REQUEST** Trident Environmental Pride Energy Company / Attention: Matt Pride (Circle or Specify Method No.) Project Manager: (Street, Clty, Zip) PO Box 710950, Tulsa, OK 74170-1950 Gil Van Deventer / Trident Environmental otal Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7 CLP Metals Ag As Ba Cd Cr Pb Se Hg (Street, City, Zip) PO Box 12177, Odessa TX 79768 (918) 524-9200 (918) 524-9292 IPH 418.1/TX1005 / TX1005 Extended (C35) (432) 638-8740 (413) 403-9968 Project #: Project Name: South Four Lakes #15 (AP-78) **Pride Energy Company** Chloride / Cl (SM4500 B or 300.1) Sampler Signature: 8270C/625 T12S-R34E-Sec 2 Unit Letter G ~ Lea County, NM **PRESERVATIVE** 31003 8260B/624 MATRIX SAMPLING METHOD GC/MS Semi. Vol. # CONTAINERS MTBE 8021B/602 HCL (BTEX only G)rab or (C)omp *ICLP Pesticides* LAB # FIELD CODE GC/MS Vol. SLUDGE WATER NaHSO4 LAB USE H2SO4 NONE ONLY SOIL S - 101 X **MW-1** G 12/30/13 1300 Relinquished by Time: Received by: Date: Time: Phone Results Yes X No 1:30pm Fax Results No Additional Fax Number: Relinquished by: Received By: (Laboratory Staff) Date: Time: REMARKS: Samples not field filtered **Email Results to:** Bample Condition gil@trident-environmental.com Delivered By: (Circle One) CHECKED BY: mattp@pride-energy.com (Initials) Sampler - UPS - Bus - Other: