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ENVIRONMENTAL

February 21, 2012

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

RE: 2011 Annual Groundwater Monitoring Report

South Four Lakes #13 Site (AP-76)

T12S-R34E-Section 1, Unit Letter L, Lea County, New Mexico

Dear Mr. von Gonten:

... سود وعدد العرا As agent for Pride Energy Company (Pride), Trident Environmental submits this 2011 Annual Groundwater Monitoring Report for the above-referenced site.

### **Groundwater Monitoring Results**

Groundwater monitoring activities have been performed at the site on a quarterly basis since January 2008 as summarized in the following tables. A site plan showing the most recent groundwater elevation and the chloride/TDS concentrations in monitoring wells MW-1 and MW-2 is shown in Figure 1. Figure 2 is a graph depicting chloride and TDS concentrations and groundwater elevation versus time at monitoring wells MW-1 and MW-2.

#### **Summary of Groundwater Monitoring Results (MW-1)**

Monitoring Well	Sample Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet AMSL)	Chloride (mg/L)	TDS (mg/L)	BTEX (mg/L)
	01/23/08	27.5	4116.22	1,330	NA	< 0.003
	03/13/08	27.63	4116.09	665	1,461	< 0.003
	06/19/08	27.88	4115.84	736	1,560	< 0.003
	09/09/08	28.05	4115.67	760	1,790	< 0.003
	12/08/08	28.11	4115.61	710	1,720	< 0.003
	03/18/09	28.28	4115.44	750	1,770	< 0.003
	06/17/09	28.46	4115.26	760	1830	< 0.003
	09/21/09	28.49	4115.23	1040	2220	< 0.003
MW-1	12/11/09	28.55	4115.17	820	1930	< 0.003
	03/24/10	28.65	4115.07	780	1820	
	06/15/10	28.75	4114.97	940	2150	
	09/13/10	28.82	4114.90	1080	2280	
}	12/13/10	28.88	4114.84	813	2170	
	03/17/11	28.97	4114.75	1110	3220	
	06/29/11	29.12	4114.60	994	2260	
1	09/28/11	29.19	4114.53	1170	2630	
	12/13/11	29.25	4114.47	1170	2290	
MW-2	Continued on	next page				

Summary of	Groundwater	Monitoring	Doculte	$(MW_{-2})$
Summary of	Groundwater	Monitoring	Resums	[[V] VV -2]

Monitoring Well	Sample Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet AMSL)	Chloride (mg/L)	TDS (mg/L)	BTEX (mg/L)
	06/19/08	27.54	4115.71	320	976	< 0.003
	09/09/08	27.71	4115.54	172	848	< 0.003
	12/08/08	27.80	4115.45	164	732	< 0.003
	03/18/09	27.95	4115.30	168	720	< 0.003
	06/17/09	28.19	4115.06	188	769	< 0.003
MW-2	09/21/09	28.15	4115.10	240	747	<0.003
	12/11/09	28.21	4115.04	220	866	< 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	260	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	280	922	
	12/13/11	28.90	4114.35	313	1,230	

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

Values in boldface type indicate concentrations exceed WQCC standards.

BTOC - Below Top of Casing; AMSL - Above Mean Sea Level

NA Indicates parameter was not analyzed for this constituent.

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; however, horizontal dispersion of the chloride and TDS in groundwater does not extend beyond approximately 100 feet downgradient (southeast) of the southeast corner of the pit as evidenced by the results of monitoring well MW-2 where background chloride and TDS levels are observed in groundwater. 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 suspended. Quarterly ground water sampling and monitoring will continue.

We look forward to working with you on this project. If you have any questions please call me at 432-638-8740 or Matt Pride at 918-524-9200.

Sincerely,

Gilbert Van Deventer, REM, PG

Trident Environmental

cc: Matt Pride (Pride Energy Co., Tulsa, OK)

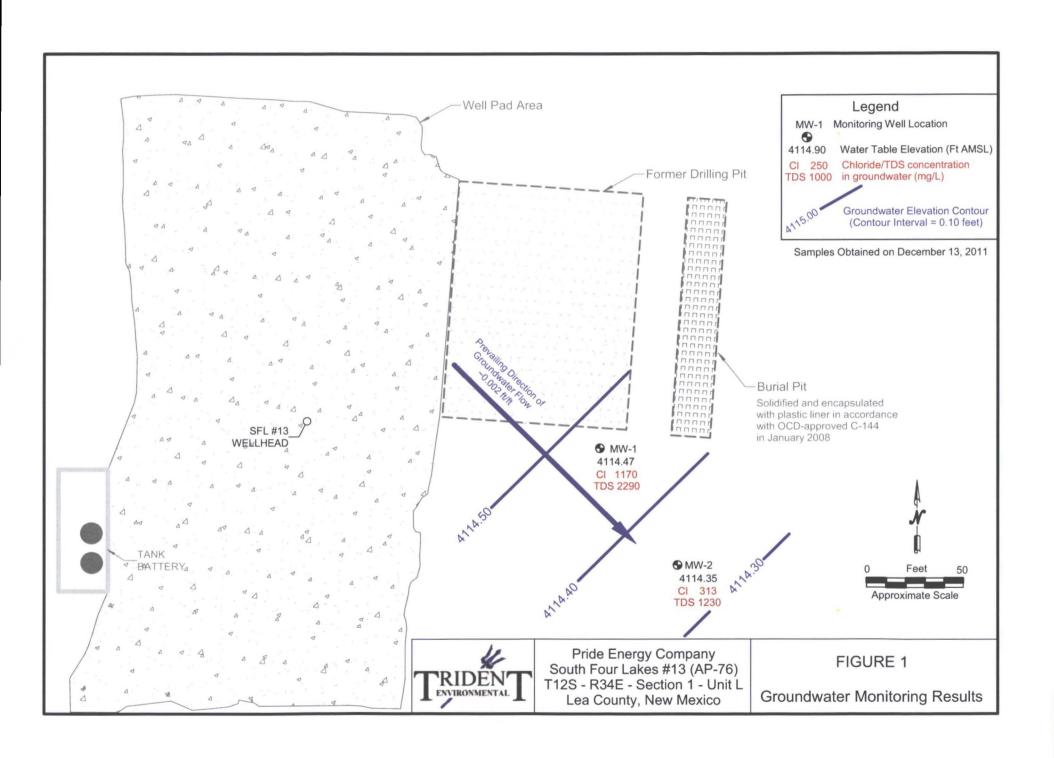
Geoffry Leking (NMOCD -District 1, Hobbs, NM)

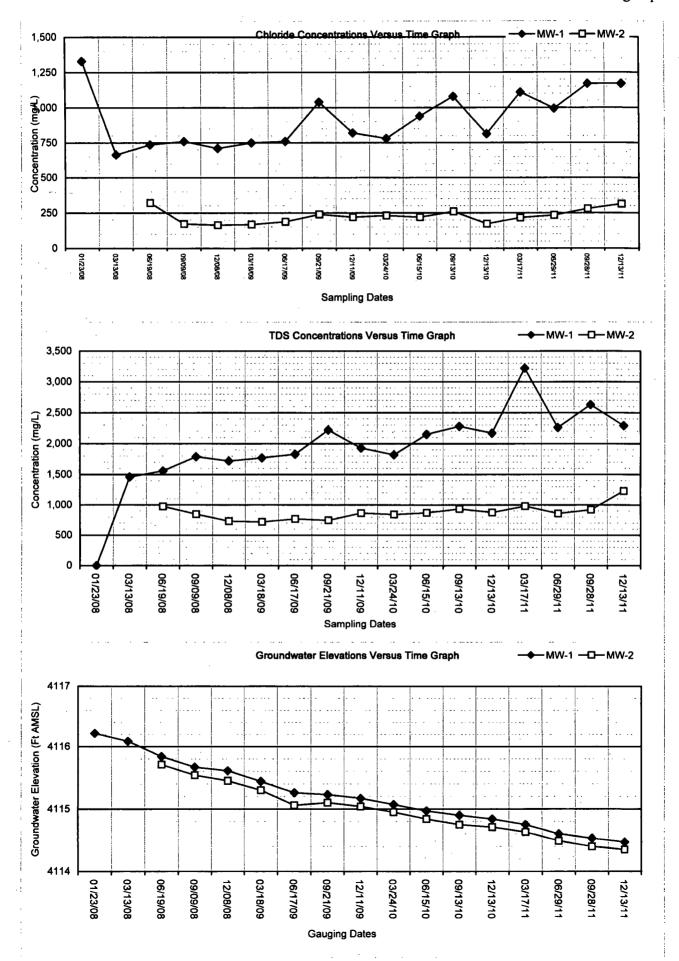
Attachments: Figures, well sampling data form, and laboratory analytical reports

# FIGURE 1

**GRAPHS** 

WELL SAMPLING DATA FORM





## WELL SAMPLING DATA FORM

	CI	_IENT:	Pride Ene	rgy Con	npany									
	SITE	NAME:	South For	ur Lakes	#13									TRIDENT
S	ITE LOCA	ATION:	T12S-R34	4E-Sec1	Unit Le	etter L ~	Lea Co	ounty,	NM					TRIDEN ENVIRONMENTAL
			Gil Van D			· <u>-</u>				•				ENVIRONMENTAL
								-	. ~					
		1	PURGING M	IETHOD:		Hand Ba	iled	☑ Pu	тр, Туре:	Proactive	SuperTw	rister (3-s	tage Su	bmersible Pump)
		S	AMPLING M	ETHOD:		Disposal	ble Baile	r 🗸	Direct fro	om Dischai	rge Hose		Other:	
D	SPOSAL N	IETHOD	OF PURGE	WATER:		On-site [	Orum [	Drur	ns	☑SWD D	isposal F	acility		
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.	Cond. mS/cm	рН	PHYSICAL APPEARANCE AND REMARKS
First	03/24/10	13:40	MW-1	28.97	43.26	14.29	0.16	2.3	15	6.6	19.1	4.22	7.00	Whitish then cleared during purge
Fii	03/24/10	14:00	MW-2	28.62	42.10	13.48	0.16	2.2	15	7.0	19.3	1.40	7.23	Pinkish/tan then cleared during purge
													_	
Second	06/29/11	10:45	MW-1	29.12	43.26	14.14	0.16	2.3	14	6.2	19.5	4.28	7.13	Whitish then cleared during purge
Sec	06/29/11	9:45	MW-2	28.76	42.10	13.34	0.16	2.1	14	6.6	19.9	1.55	6.96	Whitish then cleared during purge
Third	09/28/11	13:40	MW-1	29.19	43.26	14.07	0.16	2.3	12	5.3	19.5	4.29	7.15	Whitish then cleared during purge
Ë	09/28/11	14:10	MW-2	28.85	42.10	13.25	0.16	2.1	12	5.7	20.4	1.55	7.10	Whitish then cleared during purge
	· · · · ·													
Fourth	12/13/11	16:00	MW-1	29.25	43.26	14.01	0.16	2.2	14	6.2	16.4	3.54	7.13	Whitish then cleared during purge
Ŗ.	12/13/11	15:30	MW-2	28.90	42.10	13.20	0.16	2.1	15	7.1	17.6	0.82	7.11	Whitish then cleared during purge
	COMMENT	ΓS:	Equipment of	decontam	ination co	onsists of	gloves,	Alcono	k, and Dis	tilled Water	Rinse.			
lanna	Model 981	30 instru	ıment used t	o obtain p	H, condu	ictivity, ar	nd tempe	rature <u>i</u>	measurem	ents.				
elive	red sample	s to Xen	co Laboratori	ies in Ode	ssa TX f	or chlorid	e, sulfate	e, and 1	DS analy	sis.				

LABORATORY ANALYTICAL REPORTS

# **Analytical Report 410330**

## for Trident Environmental

Project Manager: Gil Van Deventer

**Pride Energy Company** 

South Four Lakes #13 (AP-76)

22-MAR-11



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)





22-MAR-11

Project Manager: Gil Van Deventer Trident Environmental P.O. Box 7624 Midland, TX 79708

Reference: XENCO Report No: 410330
Pride Energy Company

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

#### Gil Van Deventer:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 410330. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 410330 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II

**Odessa Laboratory Manager** 

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

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# **Sample Cross Reference 410330**



# Trident Environmental, Midland, TX

Pride Energy Company

Sample Id	Matrix	Date Collected Sample Depth	Lab Sample Id
MW-I	W	Mar-17-11 13:40	410330-001
MW-2	W	Mar-17-11 14:00	410330-002

## CASE NARRATIVE



Client Name: Trident Environmental Project Name: Pride Energy Company



Project ID:

South Four Lakes #13 (AP

Work Order Number: 410330

Report Date: 22-MAR-11

Date Received: 03/18/2011

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None



# Certificate of Analy Summary 410330

## Trident Environmental, Midland, TX

Project Name: Pride Energy Company

Contact: Gil Van Deventer

Project Location: T12S-R34E-Sec1 Unit Letter L ~ Lea Cou

Project Id: South Four Lakes #13 (AP-76)

Date Received in Lab: Fri Mar-18-11 01:17 pm

Report Date: 22-MAR-11

Project Manager: Brent Barron, II

			Froject Wanager: Blent Barron, 11
Lab Id:	410330-001	410330-002	
Field Id:	MW-1	MW-2	
Depth:		•	
Matrix:	WATER	WATER	
Sampled:	Mar-17-11 13:40	Mar-17-11 14:00	
Extracted:			
Analyzed:	Mar-21-11 10:52	Mar-21-11 10:52	
Units/RL:	mg/L RL	mg/L RL	
	1110 25.0	217 5.00	
Extracted:		:	
Analyzed:	Mar-21-11 15:00	Mar-21-11 15:00	
Units/RL:	mg/L RL	mg/L RL	
	3220 5.00	980 5.00	
	Field Id: Depth: Matrix: Sampled: Extracted: Analyzed: Units/RL: Extracted: Analyzed:	Field Id: MW-1  Depth:  Matrix: WATER  Sampled: Mar-17-11 13:40  Extracted:  Analyzed: Mar-21-11 10:52  Units/RL: mg/L RL  1110 25.0  Extracted:  Analyzed: Mar-21-11 15:00  Units/RL: mg/L RL	Field Id:         MW-1         MW-2           Depth:         WATER         WATER           Matrix:         WATER         WATER           Sampled:         Mar-17-11 13:40         Mar-17-11 14:00           Extracted:         Analyzed:         Mar-21-11 10:52         Mar-21-11 10:52           Units/RL:         mg/L         RL         mg/L         RL           Extracted:         Analyzed:         Mar-21-11 15:00         Mar-21-11 15:00         Mar-21-11 15:00           Units/RL:         mg/L         RL         mg/L         RL

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Brent Barron, II Odessa Laboratory Manager



## Flagging Criteria

- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte.

  The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.

**JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

MDL Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St. Miami Lakes. FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116
042 Cantwell Lane, Corpus Christi, 17 70400	()	(,



# BS / BSD Recoveries



Project Name: Pride Energy Company

Work Order #: 410330

Analyst: LATCOR

Date Prepared: 03/21/2011

Project ID: South Four Lakes #13 (AP-76)

Date Analyzed: 03/21/2011

Lab Batch ID: 848684

Sample: 848684-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L		BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY									
Anions by E300	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Bik. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
Chloride	<0.500	10.0	9.91	99	10.0	9.94	99	0	80-120	20	

Analyst: WRU

Date Prepared: 03/21/2011

Date Analyzed: 03/21/2011

Lab Batch ID: 848683

Sample: 848683-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY					Y						
TDS by SM2540C	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Bik. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
Total dissolved solids	<5.00	1000	958	96	1000	914	91	5	80-120	30	

Relative Percent Difference RPD = 200\*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100\*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100\*(F)/[E]
All results are based on MDL and Validated for QC Purposes



## Form 3 - MS Recoveries

**Project Name: Pride Energy Company** 



Work Order #: 410330

Lab Batch #: 848684

Date Prepared: 03/21/2011

Project ID: South Four Lakes #13 (AP-76)

Date Analyzed: 03/21/2011

Analyst: LATCOR

QC- Sample ID: 410286-001 S

Batch #:

Matrix: Water

Reporting Units: mg/L	MATI	MATRIX / MATRIX SPIKE RECOVERY STUDY							
Inorganic Anions by EPA 300  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag			
Chloride	531 ·	200	.749	109	80-120				

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B Relative Percent Difference [E] = 200\*(C-A)/(C+B)
All Results are based on MDL and Validated for QC Purposes

**BRL** - Below Reporting Limit



# **Sample Duplicate Recovery**



Project Name: Pride Energy Company

Work Order #: 410330

Lab Batch #: 848684

Date Prepared: 03/21/2011

Project ID: South Four Lakes #13 (AP-76)

Date Analyzed: 03/21/2011 10:52

Analyst: LATCOR

QC-Sample ID: 410286-001 D

Batch #:

Matrix: Water

Reporting Units: mg/L	SAMPLE	SAMPLE / SAMPLE DUPLICATE RECOVERY						
Anions by E300	Parent Sample Result [A]	Duplicate Result	RPD	Control Limits %RPD	Flag			
Analyte		[B]		l	<u> </u>			
Chloride	531	517	3	20				

Lab Batch #: 848683

Date Analyzed: 03/21/2011 15:00

Date Prepared: 03/21/2011

Analyst: WRU

QC-Sample ID: 410286-001 D

Batch #:

Matrix: Water

Reporting Units: mg/I

SAMPLE / SAMPLE DUPLICATE RECOVERY

Reporting Units: mg/L	SAMI LE	SAMILE SAMILE DUILICATE RECOVERT							
TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag				
Analyte		[B]							
Total dissolved solids	1490	1520	2	30					

Delivered By:	Velliquestor	To a series		Relinoons				T							( LAB USE	LAB **		Project Location T12S-R34	South	Project #:	(432)	PO Bo	Address:	Gil Va	Trident En	Company Name:	797658 (43 Fax (	12600 West
By: (Circle One)	Çaş	Date: Time	1/8/1	ed by: // Date: Time:									MW-2	WW-1	· šii	FIELD CODE		4E-Sec1 Unit Letter L ~	South Four Lakes #13 (AP-76)		(432) 638-8740	PO Box 12177, Odessa IX /9/68	(Street, City, Zip)	Gil Van Deventer / Trident Environmental	Trident Environmental	ame:	(432) 563-1800 Fax (432) 563-1713	12600 West I-20 East - Odessa TX
Sample	Jun 1	Recei		Recei									ဝ	ဝ	(G)rab or	(C)omp		a Cou		ľ	(413	Tax #		ental			>	•
Sample Condition Co Yes No	<b>3</b>	Received By:		Received by:					1	1			_	1	# CONT	AINER	s	Lea County, NM	Pride Energy Company	Project Name:	413) 403-9968	(918) 524-9200		PO Box 710950,	Pride Energy Company / Matt Pride Address: (Street, City	OT TIB	Aenco	·
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Page 1 of



#### XENCO Laboratories

Atlanta, Boca Raion, Corpus Christi. Dalies Houston, Mianti, Odessa, Philadelphia. Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 8/1/2010 Page 1 of 1

## Preiogin / Nonconformance Report - Sample Log-In

Client Trident Environmental		•		
Date/Time: 3-18-11 1:17				
Lab 10#: 410350				•
initials: LM				
Sample Receipt Checki	let			
Gainble Macaibt Orional				
1. Samples on ice?	Bitue	Wester	No	
2. Shipping container in good condition?	Yes	No	None	
3. Custody seeis intact on shipping container (cooler) and bottles?	Yes	No	N/A	
4. Chain of Custody present?	Yes	No		
5. Sample instructions complete on chain of custody?	788	No		
6. Any missing / extra examples?	Yes	(NO)		
7. Chain of custody signed when relinquished / received?	70	No		·
8. Chain of custody agrees with sample lebel(s)?	You	No		
9. Container labels legible and intact?	Yes	No		
10. Sample metrix / properties agree with chain of custody?	Yes	No .		
11. Semples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	Yes	No	N/A	
13. Sample container intact?	Yes	No	<u> </u>	·
14. Sufficient sample amount for indicated test(s)?	Yes	No		·
16. All samples received within sufficient hold time?	راسوي	No		
16. Subcontract of sample(s)?	Yes	ONO	N/A	
17. VOC sample have zero head space?	Yes	No	CNA	
18. Cooler 1 No. Cooler 2 No. Cooler 3 No.	Cooler 4 N	٥	Cooler 5 No.	
be 3.6 °C lbe °C lbe °C		, °c	ibs	<u>°c</u>
Nonconformance Docume	ntation			
Contact: Contacted by:		Date/Time:		
Regarding:				
	<del> </del>			
Corrective Action Taken:				
Check all that apply: □Cooling process has begun shortly after sampling	مرودة فجودة	ant of terms	entura	
condition acceptable by NELAC 5.5.8.3.1.a.1	i.			٠
□ Initial and Backup Temperature confirm out of ten □ Client understands and would like to proceed will	nperature c h analysis	onditions	•	

Final 1.000

# **Analytical Report 421884**

for Trident Environmental

Project Manager: Gil Van Deventer
Pride Energy Company
South Four Lakes #13 (AP-76)
06-JUL-11

Collected By: Client



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)





06-JUL-11

Project Manager: Gil Van Deventer Trident Environmental P.O. Box 7624 Midland, TX 79708

Reference: XENCO Report No: 421884
Pride Energy Company

Project Address: T12S-R34E-Sec 1 Unit Letter L-Lea County, NM

#### Gil Van Deventer:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 421884. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 421884 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II

Odessa Laboratory Manager

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# **Sample Cross Reference 421884**

# Trident Environmental, Midland, TX

Pride Energy Company

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	Jun-29-11 09:45		421884-001
MW-2	W	Jun-29-11 10:45		421884-002

### CASE NARRATIVE



Client Name: Trident Environmental Project Name: Pride Energy Company



Project ID:

South Four Lakes #13 (AP

Work Order Number: 421884

Report Date: 06-JUL-11 Date Received: 07/01/2011

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



# Certificate of Analys Summary 421884

## Trident Environmental, Midland, TX



Project Id: South Four Lakes #13 (AP-76)

Contact: Gil Van Deventer

Project Location: T12S-R34E-Sec 1 Unit Letter L-Lea Coun

Date Received in Lab: Fri Jul-01-11 05:05 pm

Report Date: 06-JUL-11

Project Manager: Brent Barron, II

ì	Lab Id:	421884-001	421884-002				,
Anglysis Pagyastad	Field Id:	MW-1	MW-2		1		
Analysis Requested	Depth:				. :		
	Matrix:	WATER	WATER		÷	!	
·	Sampled:	Jun-29-11 09:45	Jun-29-11 10:45	<u>:</u>	•	1	
Anions by E300	Extracted:				:		
	Analyzed:	Jui-05-11 19:10	Jul-05-11 19:10				•
	Units/RL:	mg/L RL	mg/L RI				
Chloride		994 100	234 50.	0			
TDS by SM2540C	Extracted:		:	:	:	ı	
	Analyzed:	Jul-05-11 15:30	Jul-05-11 15:30		:		
<u> </u>	Units/RL:	mg/L RL	mg/L RI				;
Total dissolved solids		2260 5.00	860 5.0	0	:		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Brent Barron, II Odessa Laboratory Manager



## Flagging Criteria

- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MOL and above the SOL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- **BRL** Below Reporting Limit.
- **RL** Reporting Limit
- MDL Method Detection Limit
- PQL Practical Quantitation Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- **DL** Method Detection Limit
- NC Non-Calculable
- + Outside XENCO's scope of NELAC Accreditation.

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9701 Harry Hines Blvd, Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116
3725 E. Atlanta Ave. Phoenix, AZ 85040	(602) 437-0330	



## **BS / BSD Recoveries**



Project Name: Pride Energy Company

Work Order #: 421884

Analyst: BRB

Date Prepared: 07/05/2011

**Project ID:** South Four Lakes #13 (AP-76)

Date Analyzed: 07/05/2011

Lab Batch ID: 862643

Sample: 862643-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L		BLAN	K/BLANK S	SPIKE / E	BLANK S	PIKE DUPL	ICATE	RECOVE	ERY STUD	Y	
Anions by E300	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Bik. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
Chloride	<0.500	10.0	9.33	93	10.0	9.09	91	3	80-120	20	

Analyst: WRU

Date Prepared: 07/05/2011

Date Analyzed: 07/05/2011

Lab Batch ID: 862675

Sample: 862675-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L		BLAN	K/BLANK S	SPIKE / E	BLANK S	PIKE DUPL	ICATE 1	RECOVE	RY STUD	Y	
TDS by SM2540C	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	}	[B]	[C]	{D}	(E)	Result [F]	[G)		. *	* . '	
Total dissolved solids	<5.00	1000	930	93	1000	944	94	1	80-120	30	

Relative Percent Difference RPD = 200\*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100\*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100\*(F)/[E]
All results are based on MDL and Validated for QC Purposes



## Form 3 - MS Recoveries

Project Name: Pride Energy Company

Work Order #: 421884

Lab Batch #: 862643

Date Analyzed: 07/05/2011

**Date Prepared:** 07/05/2011

Project ID: South Four Lakes #13 (AP-76).

Analyst: BRB

QC- Sample ID: 421830-001 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L	MATI	RIX / MA	TRIX SPIKE	RECOV	VERY STU	DY
Inorganic Anions by EPA 300  Analytes	Parent Sample Result {A}	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	46.9	500	507	92	80-120	

Matrix Spike Percent Recovery  $\{D\} = 100*(C-A)/B$ Relative Percent Difference [E] = 200\*(C-A)/(C+B)All Results are based on MDL and Validated for QC Purposes

**BRL** - Below Reporting Limit



## Sample Duplicate Recovery



Project Name: Pride Energy Company

Work Order #: 421884

Lab Batch #: 862643

Project ID: South Four Lakes #13 (AP-76)

Date Analyzed: 07/05/2011 19:10

Date Prepared: 07/05/2011

Analyst: BRB

QC- Sample ID: 421830-001 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L	SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
Anions by E300	Parent Sample Result [A]	Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		[B]			
Chloride	. 46.9	42.1	11	20	

Lab Batch #: 862675

Date Analyzed: 07/05/2011 15:30

Date Prepared: 07/05/2011

Analyst: WRU

QC-Sample ID: 421830-001 D

Batch #:

Matrix: Water

Reporting Units: mg/L	SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
TDS by SM2540C  Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Total dissolved solids	2260	2200	3	30	

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### **XENCO** Laboratories

Atlanta, Boca Raton, Corpus Christi, Dallas Houston, Miami, Odessa, Philadelphia Phoenix, San Antonio, Tampa Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

# Prelogin / Nonconformance Report - Sample Log-In

Client: Pride Energy					
Date/Time: 7-1-11 5:09				•	
Lab ID#: 421884	_				
Initials:					
Sample Rece	ipt Checki	ist			
d Comples on ice?	<del></del>	Blue	(Water)	No	
Samples on ice?  2. Shipping container in good condition?		(es)	No	None	
3. Custody seals intact on shipping container (cooler) and bott	les?	Yes	No	N/A	
4. Chain of Custody present?	1001	(Va)	No		
5. Sample instructions complete on chain of custody?		Yes	No		
6. Any missing / extra samples?		Yes	(NO)		<del></del>
7. Chain of custody signed when relinquished / received?		Yes	No		
8. Chain of custody agrees with sample label(s)?		(Yes)	No		
9. Container labels legible and intact?		Yeso	No		
10. Sample matrix / properties agree with chain of custody?		(Yes)	No .		
11. Samples in proper container / bottle?	_	Yes	No		
12. Samples properly preserved?		(105)	No	N/A	
13. Sample container intact?		(Yes)	No	·	
14. Sufficient sample amount for indicated test(s)?		Yes	No		
15. All samples received within sufficient hold time?		Yes	No		
16. Subcontract of sample(s)?		Yes	No	N/A	
17. VOC sample have zero head space?		Yes	No	N/A)	
18. Cooler 1 No. Cooler 2 No. Cooler 3 No.		Cooler 4 No	•	Cooler 5 No.	
ibs .4 °C ibs °C ii	bs °C	lbs	°C	lbs	°c
Nonconformanc	e Docume	ntation			
Contact:Contacted by:			Date/Time:_		
John Street, Springer		<del></del>			<del></del>
Regarding:					
Corrective Action Taken:			•		
Check all that apply: □Cooling process has begun shortly a	fter sampling	event and o	ut of tempe	rature	
condition acceptable by NELAC	5.5.8.3.1.a.1.	•	·	<del></del> -	
☐ Initial and Backup Temperature confi ☐ Client understands and would like to			nditions		

# **Analytical Report 428779**

## for Trident Environmental

Project Manager: Gil Van Deventer
Pride Energy Company
South Four Lakes # 13 (AP-76)
10-OCT-11

Collected By: Client



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)





10-OCT-11

Project Manager: Gil Van Deventer Trident Environmental P.O. Box 7624 Midland, TX 79708

Reference: XENCO Report No: 428779
Pride Energy Company

Project Address: T12S-R34E-Sec 1 Unit Leter L ~ Lea County, NM

#### Gil Van Deventer:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 428779. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 428779 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

**Brent Barron II** 

Odessa Laboratory Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

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# **Sample Cross Reference 428779**

# Trident Environmental, Midland, TX

Pride Energy Company

Sample Id	Matrix	Date Collected Sample Depth	Lab Sample Id		
MW-I	· <b>W</b>	09-28-11 15:40	428779-001		
MW-2	W	09-28-11 16:10	428779-002		

### CASE NARRATIVE



Client Name: Trident Environmental Project Name: Pride Energy Company



Project ID:

South Four Lakes # 13 (A)

Work Order Number: 428779

Report Date: 10-OCT-11
Date Received: 09/30/2011

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-871512 Anions by E300

The RPD between the sample and sample duplicate was above the QC limit for Chloride. This is most likely due to sample non-homogeniety.

Batch: LBA-871899 TDS by SM2540C

The RPD between the Sample and Sample Duplicate for this batch was above the QC limits.

This is most likely due to sample non-homogeneity (excess particles.)



Project Id: South Four Lakes # 13 (AP-76)

Project Location: T12S-R34E-Sec 1 Unit Leter L ~ Lea Cou

Contact: Gil Van Deventer

#### **Certificate of Analys Jummary 428779**

### Trident Environmental, Midland, TX



Date Received in Lab: Fri Sep-30-11 03:01 pm

Report Date: 10-OCT-11

Project Manager: Brent Barron II

				I Toject Manager.	Divini Bulion II
	Lab Id:	428779-001	428779-002		
Annature Day and d	Field Id:	MW-1	MW-2		
Analysis Requested	Depth:	:		* ,	
	Matrix:	WATER	WATER		
	Sampled:	Sep-28-11 15:40	Sep-28-11 16:10	•	
Anions by E300	Extracted:				
	Analyzed:	Oct-03-11 14:31	Oct-03-11 14:31	:	
	Units/RL:	mg/L RL	mg/L RL	·	
Chloride		1170 25.0	280 10.0	;	· ·
TDS by SM2540C	Extracted:				
	Analyzed:	Oct-05-11 13:30	Oct-05-11 13:30		
	Units/RL:	mg/L RL	mg/L RL		
Total dissolved solids		2630 5.00	922 5.00		;

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi



## **Flagging Criteria**

- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantiation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- **BRL** Below Reporting Limit.
- **RL** Reporting Limit

MDL Method Detection Limit

SDL Sample Detection Limit

LOD Limit of Detection

PQL Practical Quantitation Limit

**MOL** Method Quantitation Limit

LOQ Limit of Quantitation

**DL** Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation.

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4143 Greenbriar Dr, Stafford, Tx 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	



# **BS / BSD Recoveries**



Project Name: Pride Energy Company

Work Order #: 428779

Analyst: BRB

Date Prepared: 10/03/2011

**Project ID:** South Four Lakes # 13 (AP-76)

Date Analyzed: 10/03/2011

Lab Batch ID: 871512

Sample: 871512-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L		BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY									
Anions by E300	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		<b>[B]</b>	[C]	[D]	[E]	Result [F]	[G]		<u> </u>		
Chloride	<0.500	10.0	10.6	106	10.0	10.6	106	0	80-120	20	

Analyst: BRB

Date Prepared: 10/05/2011

Date Analyzed: 10/05/2011

Lab Batch ID: 871899

Sample: 871899-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
TDS by SM2540C	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		(B)	[C]	[D]	[E]	Result [F]	[G]				
Total dissolved solids	<5.00	1000	886	89	1000	854	85	4	80-120	30 .	

Relative Percent Difference RPD = 200\*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100\*(C)/[B]Blank Spike Duplicate Recovery [G] = 100\*(F)/[E]All results are based on MDL and Validated for QC Purposes



### Form 3 - MS Recoveries

Project Name: Pride Energy Company

Work Order #: 428779

Lab Batch #: 871512

Date Analyzed: 10/03/2011

Project ID: South Four Lakes # 13 (AP-7)

Date Prepared: 10/03/2011

Analyst: BRB

QC- Sample ID: 428778-001 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L	MATRIX / MATRIX SPIKE RECOVERY STUDY											
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag						
Analytes	(44)	[10]			l							
Chloride	5090	5000	10600	110	80-120							

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B Relative Percent Difference  $[E] = 200 \cdot (C-A)/(C+B)$ All Results are based on MDL and Validated for QC Purposes

**BRL** - Below Reporting Limit



## **Sample Duplicate Recovery**



**Project Name: Pride Energy Company** 

Work Order #: 428779

Lab Batch #: 871512

Project ID: South Four Lakes # 13 (AP-76)

Date Analyzed: 10/03/2011 14:31

Anions by E300

**Analyte** 

Date Prepared: 10/03/2011

Analyst: BRB

QC-Sample ID: 428605-001 D

Batch #:

Matrix: Water

Reporting Units: mg/L

SAMI	PLE / SAMPLI	E DUPLIC	CATE REC	OVERY
Parent Sa Resul [A]	• I·	RPD	Control Limits %RPD	Flag
210	246			

Lab Batch #: 871512

Date Analyzed: 10/03/2011 14:31

Chloride

Date Prepared: 10/03/2011

Analyst: BRB

QC-Sample ID: 428778-001 D

Batch #:

Matrix: Water

Reporting Units: mg/L

SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Parent Sample Result	Sample Duplicate	RPD	Control Limits	Flag

Anions by E300	Parent Sample Result [A]	Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		[B]			
Chloride	5090	5070	0	20	

Lab Batch #: 871899

Date Analyzed: 10/05/2011 13:30

Date Prepared: 10/05/2011

Analyst: BRB

QC-Sample ID: 428777-001 D

Batch #:

Matrix: Water

Reporting Units: mg/L

SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
Parent Sample	Sample		Control	

reporting outsitg -	OZRIVII EBY	O'RIVIE DID	DOI LIC	THE REC	OVERT
TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		[B]			
Total dissolved solids	770	1240	47	30	F

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	-				M	ATR	X		P			AVS HOI	TIVE D		SAMPL	ING			35 / T)		s Ba	Ba Ba	9	2		B/624	8270C/825		Na, K	g	) spilo	8		~ 24
LAB#	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/TX1005 / TX1005 Extended (C35)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag /	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B/624	GC/MS Semi. Vol.	Moisture Content	Cations (Ca, Mg, Na, K)	Anions (CI, SO4, CO3, HCO3)	Total Dissolved Solids (160.1 or SM2540C)	Chloride / Cl (SM4500 B or 300.1)		Turn Around Time ~ 24 Hours
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02	MW-2	G	1	x	•	П	一	$\neg$	7		7	_	x	┪	9/28/11	1410	1				7	十	+	+	十	+	†	T	H	1	_	x	寸	_
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Delivered By:	(Circle One)	Sample 7.40		on Cool	Yes	Intact,			HE	CKE	D B'	<b>Y</b> :																	emn o.yp			om	٠.	
Sampler -	UPS - Bus - Other:		No	ᆸ	No	丝	$\perp$	,,		~,								50	Qu	۱.	C	10	1_						•					



#### XENCO Laboratories

Atlanta, Boca Raton, Corpus Christi, Dallas Houston, Miami, Odessa, Philadelphia Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010

## Prelogin / Nonconformance Report - Sample Log-In

client: Trident Env			•		
	5:01	•			
Lab ID#: 4297779					
Initials:					
	Sample Receipt Ch	ecklist			
1. Samples on ice?		Blue	Water	No	
2. Shipping container in good condition?		400	No	None	,
3. Custody seals intact on shipping container	(cooler) and bottles?	Yes	No	(NA)	
4. Chain of Custody present?		(Yes)	No		
5. Sample instructions complete on chain of c	ustody?	Yes	No		
6. Any missing / extra samples?		Yes	(NO)		
7. Chain of custody signed when relinquished	/ received?	Yes	No		
8. Chain of custody agrees with sample label(	s)?	(Yes)	No		
9. Container labels legible and intact?		CX93	No		
10. Sample matrix / properties agree with chai	n of custody?	Yes	No		
11. Samples in proper container / bottle?		(Tes)	No		
12. Samples properly preserved?		(Yes)	No	N/A	
13. Sample container intact?		(Tes	No		
14. Sufficient sample amount for indicated tes	t(s)? `	Yes	No		
15. All samples received within sufficient hold	time?	(Yeso	No		
16. Subcontract of sample(s)?		Yes	No	(NA)	
17. VOC sample have zero head space?		Yes	No	(NA)	
18. Cooler 1 No. Cooler 2 No.	Cooler 3 No.	Cooler 4 No	).	Cooler 5 No.	
ibs 7. 0 °c lbs	°C lbs	°C lbs	%ر	ibs	°C
No	nconformance Doc	umentation			
Contact: Contacted		<u>.</u>	Date/Time:		
Regarding:			<del></del>		
Corrective Action Taken:					
					*
Check all that apply: □ Cooling process has	begun shortly after sam	pling event and o	ut of tempe	rature	

☐ Initial and Backup Temperature confirm out of temperature conditions

Dictient understands and would like to proceed with analysis

# **Analytical Report 400566**

for Trident Environmental

Project Manager: Gil Van Deventer

**Pride Energy Company** 

South Four Lakes # 13 (AP-76)

20-DEC-10



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)

Xenco-Boca Raton (EPA Lab Code: FL01273):

Florida(E86240), South Carolina(96031001), Louisiana(04154), Georgia(917) North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):

Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)





20-DEC-10

Project Manager: Gil Van Deventer Trident Environmental P.O. Box 7624

P.O. Box 7624 Midland, TX 79708

Reference: XENCO Report No: 400566
Pride Energy Company

Project Address: T12S-R34E-Sec 1 Unit Letter L - Lea County, NM

#### Gil Van Deventer:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 400566. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 400566 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II

Odessa Laboratory Manager

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## **Sample Cross Reference 400566**



# Trident Environmental, Midland, TX

Pride Energy Company

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
MW-1	W	Dec-13-10 13:47		400566-001
MW-2	W	Dec-13-10 14:07	. •	400566-002



#### CASE NARRATIVE

Client Name: Trident Environmental Project Name: Pride Energy Company



Project ID:

South Four Lakes # 13 (A)

Work Order Number: 400566

Report Date: 20-DEC-10 Date Received: 12/14/2010

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-835912 Anions by E300

E300MI

Batch 835912, Chloride recovered above QC limits in the Matrix Spike.

Samples affected are: 400566-001, -002.

The Laboratory Control Sample for Chloride is within laboratory Control Limits

Batch: LBA-835988 TDS by SM2540C



## Certificate of Analy Summary 400566

### Trident Environmental, Midland, TX

Project Name: Pride Energy Company

Contact: Gil Van Deventer

Project Id: South Four Lakes # 13 (AP-76)

Project Location: T12S-R34E-Sec 1 Unit Letter L - Lea Cou

VOOV

Date Received in Lab: Tue Dec-14-10 12:30 pm

Report Date: 20-DEC-10

Project Manager: Brent Barron, II

	Lab Id:	400566-001	400566-002			
Analysis Requested	Field Id:	MW-1	MW-2			
Anatysis Requesteu	Depth:	•				
	Matrix:	WATER	WATER			
	Sampled:	Dec-13-10 13:47	Dec-13-10 14:07		\$	
Anions by E300	Extracted:					
	Analyzed:	Dec-14-10 15:10	Dec-14-10 15:10	• [	i	
	Units/RL:	mg/L RL	mg/L RL			
Chloride		813 25.0	173 5.00			
TDS by SM2540C	Extracted:	:				4 .
	Analyzed:	Dec-14-10 16:00	Dec-14-10 16:00			
	Units/RL:	mg/L RL	mg/L RL		· · · · · · · · · · · · · · · · · · ·	
Total dissolved solids		2170 5.00	876 5.00		:	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Brent Barron, II Odessa Laboratory Manager



# **Flagging Criteria**

- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte.

  The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- **BRL** Below Reporting Limit.
- **RL** Reporting Limit
- MDL Method Detection Limit
- **PQL** Practical Quantitation Limit
- \* Outside XENCO's scope of NELAC Accreditation.

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9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116
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## BS / BSD Recoveries



Project Name: Pride Energy Company

Work Order #: 400566

Analyst: LATCOR

Date Prepared: 12/14/2010

**Project ID:** South Four Lakes # 13 (AP-76)

Date Analyzed: 12/14/2010

Lab Batch ID: 835912

Sample: 835912-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L		BLAN	K/BLANK	SPIKE / I	BLANK S	PIKE DUPI	ICATE	RECOVI	ERY STUD	Y	
Anions by E300	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				<u> </u>
Chloride	ND	10.0	9.33	93	10	9.44	94	1	80-120	20	

Analyst: WRU

Date Prepared: 12/14/2010

Date Analyzed: 12/14/2010

Lab Batch ID: 835988

Sample: 835988-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY										
TDS by SM2540C	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
Total dissolved solids	<	1000	940	94	1000	954	95	1	80-120	30	

Relative Percent Difference RPD = 200\*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100\*(C)/[B]Blank Spike Duplicate Recovery [G] = 100\*(F)/[E]All results are based on MDL and Validated for QC Purposes



### Form 3 - MS Recoveries

**Project Name: Pride Energy Company** 



Work Order #: 400566

Lab Batch #: 835912

Date Analyzed: 12/14/2010

Project ID: South Four Lakes # 13 (AP-76)

Analyst: LATCOR

Date Prepared: 12/14/2010

Batch #: 1

Matrix: Water

QC- Sample ID: 400475-001 S Reporting Units: mg/L

Reporting Units: mg/L	MATRIX / MATRIX SPIKE RECOVERY STUDY											
Inorganic Anions by EPA 300  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag						
Chloride	129	100	262	133	80-120	х						

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B Relative Percent Difference [E] = 200\*(C-A)/(C+B) All Results are based on MDL and Validated for QC Purposes

**BRL** - Below Reporting Limit



## Sample Duplicate Recovery



Project Name: Pride Energy Company

Work Order #: 400566

Lab Batch #: 835912

Project ID: South Four Lakes # 13 (AP-76)

Date Prepared: 12/14/2010

QC- Sample ID: 400475-001 D

Date Analyzed: 12/14/2010 15:10

Batch #: 1 Matrix: Water

Analyst: LATCOR

Reporting Units: mg/L	SAMPLE / SAMPLE DUPLICATE RECOVERY											
Anions by E300  Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag							
Chloride	129	130	1	20								

Lab Batch #: 835988

Date Analyzed: 12/14/2010 16:00

Date Prepared: 12/14/2010

Analyst: WRU

QC-Sample ID: 400564-001 D

Batch #:

Matrix: Water

Reporting Units: mg/L	SAMPLE/SAMPLE DUPLICATE RECOVERY											
TDS by SM2540C  Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag							
Total dissolved solids	10600	11100	5	30								

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(432) 563- Fax (432) 56	1800	X	en	C	D .	L	d I	D(	Ji	ra	u	U	rı	e	S		LAB Order ID#																	
Company Name: Trident Env			BILL TO Company: PO# Pride Energy Company / Matt Pride											ANALYSIS REQUEST (Circle or Specify Method No.)																				
Project Manager. Gil Van De	venter / Trident Environm	ental	PO E	Address: (Street, City, Zip) PO Box 710950, Tulsa, OK 74170-1950											1	1	l	l l:	: l	1	1	ĺ	1			İ	I	Γ	Т	٦	1			
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LAB#  (LAB USE ONLY  UD05566	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	WATER	SOIL	AIR	SLUDGE		ICL (BTEX only	HNO <sub>3</sub>	VaHSO.	H <sub>2</sub> SO <sub>4</sub>	ICE	NONE	DATE	TIME	MTBE 8021B/602	BTEX 8021 B	TPH 418.1/TX1005 / TX1005 Extended (C35)	PAH 8270C	TCL P 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, I	Anions (Cl. SO4, CO3, HCO3)	Total Dissolved Solids (160.1 or	Chloride / CI (SM4500 B or 300.1)	Tim Amind Time 2 M House	
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#### XENCO Laboratories

Atlanta, Boca Raton, Corpus Christi, Dallas Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010

Page 1 of 1

# Prelogin / Nonconformance Report - Sample Log-In

Client Trident Env.		•		
Date/Time: 17 14-10 17:30				
Lab ID#: 400566				
Initials: AE				
Sample Receipt Che	ckiist			
1. Samples on ice?	Blue	Water	No	
2. Shipping container in good condition?	(Yes	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	N/A	
4. Chain of Custody present?	(Yes	No		
5. Sample instructions complete on chain of custody?	(Yes	No		
6. Any missing / extra samples?	Yes	( No)		
7. Chain of custody signed when relinquished / received?	< Yes>	No		
8. Chain of custody agrees with sample label(s)?	Yes	No		
9. Container labels legible and intact?	Yes	No		
10. Sample matrix / properties agree with chain of custody?	Yes	No ·		
11. Samples in proper container / bottle?	Yes	No		
12. Samples property preserved?	Yes	No	NA	
13. Sample container intact?	Yes	No_		
14. Sufficient sample amount for indicated test(s)?	(Yes	No		
15. All samples received within sufficient hold time?	Yes	No		
16. Subcontract of sample(s)?	Yes	No	(NA)	
17. VOC sample have zero head space?	Yes	No	(N/A)	
18. Cooler 1 No. Cooler 2 No. Cooler 3 No.	Cooler 4 No.		Cooler 5 No.	
ibs Z. ( oc ibs oc ibs	°C lbs	°C	lbs	°C
Nonconformance Docu	mentation			
		Sata (Times		
Contact:Contacted by:		Date/Time:_		
Regarding:		<del> </del>	·	
Corrective Action Taken:				
	·			
Check all that apply:   Cooling process has begun shortly after samp condition acceptable by NELAC 5.5.8.3.1	ling event and o	ut of tempe	rature	

□ Initial and Backup Temperature confirm out of temperature conditions

☐ Client understands and would like to proceed with analysis