GW - 007

ANNUAL REPORTS

ANNUAL LPG WELL REPORT

OPERATOR: Western Refining Company

UIC CLASS LPG STORAGE WELLS API NUMBER

31055 WELL 1: 30-025-35954
31055 WELL 2: 30-025-35955
31055 WELL 3: 30-025-35956
31055 WELL 4: 30-025-35957

WESTERN REFINING JAL STORAGE FACILITY

Company Representative: Ken Parker

Date: 1-29-19

Annual LPG Well Report Date: 1-29-19

Well Summary

Well 1

Well one was utilized in 2018 for storing Isobutane. Total barrels injecting throughout the year was 51,317 barrels. Well was operated within the OCD guidelines without any issues. Injecting rate were between 230 & 250 barrels per hour with a maximum injecting pressure of 780 psig.

In 2018 the annual Isobutane withdrawn from the well was 33,593 barrels. Withdraw rate was 214 barrels per hour. Operating pressure of the well was between 440 & 550 psig.

In 2018 well one stored product 12 months out of the year. The maximum volume stored in the well was 27,463 barrels or 14% of well capacity.

Well 2

Well two was utilized in 2018 injecting 53,031 barrels of normal butane into storage. Well was operated within the OCD guidelines without any issues. Injecting rate was between 230 & 250 barrels per hour with a maximum injecting pressure of 710 psig. Injection pressures were slightly higher than last year due to salt block in the tubing.

In 2018 82,253 barrels of normal butane was withdrawn from the well. Withdraw rate was 214 barrels per hour. Operating pressure of the well was between 400 & 500 psig.

In 2018 well two stored product 12 months out of the year. The maximum volume stored in the well was 62,756 barrels or 43% of well capacity.

Well 3

Well three was utilized in 2018 injecting 46,376 barrels of LPG butane into storage. Well was operated within the OCD guidelines without any issues. Injecting rate was 187 barrels per hour with a maximum injecting pressure of 780 psig.

In 2018 32,288 barrels of LPG was withdrawn from the well. Withdraw rate was 214 barrels per hour. Operating pressure of the well was between 600 to 680 psig.

In 2018 well three stored product 11 months out of the year. The maximum volume stored in the well was 25,541 barrels or 32% of well capacity.

Well 4

Well four was utilized in 2018 injecting 46,161 barrels of normal butane into storage. Well was operated within the OCD guidelines without any issues. Injecting rate was between 184-187 barrels per hour with a maximum injecting pressure of 790 psig.

In 2018 58,688 barrels of normal butane was withdrawn from the well. Withdraw rate was 214 barrels per hour. Operating pressure of the well was between 600 to 680 psig.

In 2018 well four stored product 12 months out of the year. The maximum volume stored in the well was 46,984 barrels or 34% of well capacity.

Production Volumes
See Attachments
Well 1 Annual C-131B
Well 2 Annual C-131B
Well 3 Annual C-131B
Well 4 Annual C-131B

Injecting Fluid Analysis
See Attachment 610293
Report

Deviation from Normal Production Method
N/A

Leak and Spill Report
N/A

Ground Water Monitoring
N/A

Cavity Subsidence
See Attachment

Area of Review
No activity in the year 2018

Pursuant to all applicable parts of the Water Quality Control Commission (WQCC) Regulations 20.6.2 NMAC and more specifically 20.6.2.5101. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information. I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Western Refining Terminals, LLC
Company Name

Ken Parker
Company Representative

Company Representative Signature

Title: Facility Manager

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-131B
Revised June 10, 2003

Submit one copy to Santa Fe and one copy to appropriate District Office postmarked by 24th Day of succeeding month. See Rule 1131.

ANNUAL LPG STORAGE REPORT

Western Refining Terminals, LLC (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-18

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 4 30-025-35957	**M32-23S-37E**	**790**	**46,161**	**58,688**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 967

TOTAL CAPACITY (BBLS) 136,626 Barrels

BEGINNING STORAGE (BBLS) 28,480

NET CHANGE (BBLS) 12,527

ENDING STORAGE (BBLS) 15,953

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature _____

Printed Name & Title Ken Parker, Manager

E-mail Address Kenneth.J.Parker@andeavor.com

Date 1-29-19 Telephone No. 575-395-2632

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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1000 Rio Brazos Road, Aztec, NM 87410
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ANNUAL LPG STORAGE REPORT

Western Refining Terminals, LLC (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-18

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 1 30-025-35954	**M32-23S-37E**	**780**	**51,317**	**33,593**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 875

TOTAL CAPACITY (BBLS) 201,013 Barrels

BEGINNING STORAGE (BBLS) 9,324

NET CHANGE (BBLS) 17,724

ENDING STORAGE (BBLS) 27,048

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature _____

Printed Name & Title Ken Parker, Manager

E-mail Address Kenneth.J.Parker@andeavor.com

Date 1-29-19 Telephone No. 575-395-2632

District I
1625 N. French Dr., Hobbs, NM 88240
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1301 W. Grand Avenue, Artesia, NM 88210
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Form C-131B
Revised June 10, 2003

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ANNUAL LPG STORAGE REPORT

Western Refining Terminals, LLC (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-18

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 2 30-025-35955	**M32-23S-37E**	**710**	**53,031**	**82,253**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 888

TOTAL CAPACITY (BBLS) 144,443 Barrels

BEGINNING STORAGE (BBLS) 63,398

NET CHANGE (BBLS) 29,222

ENDING STORAGE (BBLS) 34,176

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature _____

Printed Name & Title Ken Parker, Manager

E-mail Address Kenneth.J.Parker@andeavor.com

Date 1-29-19 Telephone No. 575-395-2632

District I
1625 N. French Dr., Hobbs, NM 88240
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Form C-131B
Revised June 10, 2003

Submit one copy to Santa Fe and one copy to appropriate District Office postmarked by 24th Day of succeeding month. See Rule 1131.

ANNUAL LPG STORAGE REPORT

Western Refining Terminals, LLC (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-18

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 3 30-025-35956	**M32-23S-37E**	**780**	**46,376**	**33,288**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 987

TOTAL CAPACITY (BBLS) 79,692 Barrels

NET CHANGE (BBLS) 13,088

BEGINNING STORAGE (BBLS) 5,608

ENDING STORAGE (BBLS) 18,696

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature ______________________

Printed Name & Title Ken Parker, Manager

E-mail Address Kenneth.J.Parker@andeavor.com

Date 1-29-19 Telephone No. 575-395-2632

Certificate of Analysis Summary 610293

Western Refining, Jal, NM

Project Name: South Brine Pond

Project Id:
Contact: Ken Parker
Project Location:

Date Received in Lab: Fri Jan-04-19 02:04 pm
Report Date: 14-JAN-19
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	610293-001					
	Field Id:	South Pond					
	Depth:	1 ft					
	Matrix:	WATER					
	Sampled:	Jan-04-19 10:30					
Alkalinity by SM2320B SUB: T104704215-18-28	***Extracted:***	Jan-07-19 11:30					
	Analyzed:	Jan-07-19 14:11					
	Units/RL:	mg/L	RL				
Alkalinity, Total (CaCO3)		126	4.00				
BTEX by EPA 8021B	***Extracted:***	Jan-09-19 16:30					
	Analyzed:	Jan-10-19 10:15					
	Units/RL:	mg/L	RL				
Benzene		<0.00200	0.00200				
Toluene		<0.00200	0.00200				
Ethylbenzene		<0.00200	0.00200				
m,p-Xylenes		<0.00400	0.00400				
o-Xylene		<0.00200	0.00200				
Total Xylenes		<0.00200	0.00200				
Total BTEX		<0.00200	0.00200				
Chloride by EPA 300	***Extracted:***	Jan-04-19 15:54					
	Analyzed:	Jan-04-19 17:48					
	Units/RL:	mg/L	RL				
Chloride		151000	1000				
Mercury, Total by EPA 245.1 SUB: T104704215-18-28	***Extracted:***	Jan-07-19 09:10					
	Analyzed:	Jan-07-19 13:11					
	Units/RL:	mg/L	RL				
Mercury		<0.000200	0.000200				

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.%

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 610293

Western Refining, Jal, NM

Project Name: South Brine Pond

Project Id:
Contact: Ken Parker
Project Location:

Date Received in Lab: Fri Jan-04-19 02:04 pm
Report Date: 14-JAN-19
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	610293-001					
	Field Id:	South Pond					
	Depth:	1 ft					
	Matrix:	WATER					
	Sampled:	Jan-04-19 10:30					
Recoverable Metals by EPA 200.8 SUB: T104704215-18-28	*Extracted:*	Jan-07-19 09:25					
	Analyzed:	Jan-07-19 17:42					
	Units/RL:	mg/L	RL				
Arsenic		0.0565	0.0400				
Barium		0.0921	0.0400				
Cadmium		<0.0200	0.0200				
Chromium		<0.0400	0.0400				
Lead		<0.0200	0.0200				
Selenium		<0.0200	0.0200				
Silver		<0.0200	0.0200				
Recoverable Metals per ICP by EPA 200.7 SUB: T104704215-18-28	*Extracted:*	Jan-08-19 03:00					
	Analyzed:	Jan-08-19 13:45					
	Units/RL:	mg/L	RL				
Calcium		386 D	10.0				
Magnesium		1920 D	20.0				
Potassium		5250 D	25.0				
Sodium		73500	1250				
TDS by SM2540C	*Extracted:*						
	Analyzed:	Jan-04-19 16:30					
	Units/RL:	mg/L	RL				
Total Dissolved Solids		251000	5.00				
pH by SM4500-H	*Extracted:*						
	Analyzed:	Jan-04-19 15:45					
	Units/RL:	Deg C	RL				
Temperature		16.1 K					

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.%

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 610293

Western Refining, Jal, NM

Project Name: South Brine Pond

Project Id:
Contact: Ken Parker
Project Location:

Date Received in Lab: Fri Jan-04-19 02:04 pm
Report Date: 14-JAN-19
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	610293-001					
	Field Id:	South Pond					
	Depth:	1 ft					
	Matrix:	WATER					
	Sampled:	Jan-04-19 10:30					
pH by SM4500-H	***Extracted:***						
	Analyzed:	Jan-04-19 15:45					
	Units/RL:	SU RL					
pH		7.70 K					

Analytical Report 610293

for

Western Refining

Project Manager: Ken Parker

South Brine Pond

14-JAN-19

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

14-JAN-19

Project Manager: **Ken Parker**
Western Refining
P.O. Box 1345
Jal, NM 88252

Reference: XENCO Report No(s): **610293**
South Brine Pond
Project Address:

Ken Parker:

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(s) 610293. 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. The uncertainty of measurement associated with the results of analysis reported is available upon request. 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. 610293 will be filed for 45 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,

Kelsey Brooks
Project Manager

Sample Cross Reference 610293

Western Refining, Jal, NM

South Brine Pond

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
South Pond	W	01-04-19 10:30	1 ft	610293-001

CASE NARRATIVE

Client Name: Western Refining
Project Name: South Brine Pond

Project ID:
Work Order Number(s): *610293*

Report Date: *14-JAN-19*
Date Received: *01/04/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3075007 Total Recoverable Lead per ICP/MS by EPA 200.8
Sample diluted because of sample matrix leading to the failure of internal standard and QC samples

Certificate of Analytical Results 610293

Western Refining, Jal, NM

South Brine Pond

Sample Id: **South Pond** Matrix: Water Date Received:01.04.19 14.04
Lab Sample Id: 610293-001 Date Collected: 01.04.19 10.30 Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: OJS % Moisture:
Analyst: OJS Date Prep: 01.04.19 15.54
Seq Number: 3074814

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**151000**	1000	mg/L	01.04.19 17.48		2000

Analytical Method: TDS by SM2540C
Tech: OJS % Moisture:
Analyst: OJS
Seq Number: 3074971

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Total Dissolved Solids	1642222	**251000**	5.00	mg/L	01.04.19 16.30		1

Analytical Method: pH by SM4500-H
Tech: OJS % Moisture:
Analyst: OJS
Seq Number: 3074956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
pH	12408-02-5	**7.70**		SU	01.04.19 15.45	K	1
Temperature	TEMP	**16.1**		Deg C	01.04.19 15.45	K	1

Western Refining, Jal, NM

South Brine Pond

Sample Id:	**South Pond**	Matrix:	Water	Date Received:	01.04.19 14.04
Lab Sample Id:	610293-001	Date Collected:	01.04.19 10.30	Sample Depth:	1 ft

Analytical Method:	Recoverable Metals by EPA 200.8			Prep Method:	E200.8P
Tech:	AHI			% Moisture:	
Analyst:	DEP	Date Prep:	01.07.19 09.25		
Seq Number:	3075007			SUB:	T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Arsenic	7440-38-2	**0.0565**	0.0400	mg/L	01.07.19 17.42		10
Barium	7440-39-3	**0.0921**	0.0400	mg/L	01.07.19 17.42		10
Cadmium	7440-43-9	<0.0200	0.0200	mg/L	01.07.19 17.42	U	10
Chromium	7440-47-3	<0.0400	0.0400	mg/L	01.07.19 17.42	U	10
Lead	7439-92-1	<0.0200	0.0200	mg/L	01.07.19 17.42	U	10
Selenium	7782-49-2	<0.0200	0.0200	mg/L	01.07.19 17.42	U	10
Silver	7440-22-4	<0.0200	0.0200	mg/L	01.07.19 17.42	U	10

Analytical Method:	Recoverable Metals per ICP by EPA 200.7			Prep Method:	E200.7P
Tech:	AHI			% Moisture:	
Analyst:	DEP	Date Prep:	01.08.19 03.00		
Seq Number:	3075130			SUB:	T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Calcium	7440-70-2	**386**	10.0	mg/L	01.08.19 14.06	D	50
Magnesium	7439-95-4	**1920**	20.0	mg/L	01.08.19 14.06	D	50
Potassium	7440-09-7	**5250**	25.0	mg/L	01.08.19 14.06	D	50
Sodium	7440-23-5	**73500**	1250	mg/L	01.08.19 19.41		2500

Analytical Method:	Alkalinity by SM2320B			Prep Method:	SM2320P
Tech:	YAV			% Moisture:	
Analyst:	YAV	Date Prep:	01.07.19 11.30		
Seq Number:	3075062			SUB:	T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Alkalinity, Total (CaCO3)	1640192	**126**	4.00	mg/L	01.07.19 14.11		1

Western Refining, Jal, NM

South Brine Pond

Sample Id:	**South Pond**	Matrix:	Water	Date Received:	01.04.19 14.04
Lab Sample Id:	610293-001	Date Collected:	01.04.19 10.30	Sample Depth:	1 ft

Analytical Method: Mercury, Total by EPA 245.1 — Prep Method: E245.1P
Tech: MLI — % Moisture:
Analyst: ANJ — Date Prep: 01.07.19 09.10
Seq Number: 3074996 — SUB: T104704215-18-28

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Mercury	7439-97-6	<0.000200	0.000200	mg/L	01.07.19 13.11	U	1

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Tech: SCM — % Moisture:
Analyst: SCM — Date Prep: 01.09.19 16.30
Seq Number: 3075319

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	01.10.19 10.15	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	01.10.19 10.15	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	01.10.19 10.15	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	01.10.19 10.15	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	01.10.19 10.15	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	01.10.19 10.15	U	1
Total BTEX		<0.00200	0.00200	mg/L	01.10.19 10.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	114	%	70-130	01.10.19 10.15	
4-Bromofluorobenzene	460-00-4	86	%	70-130	01.10.19 10.15	

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 quantitation 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.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 610293

Western Refining

South Brine Pond

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3074814 — Matrix: Water — Date Prep: 01.04.19
MB Sample Id: 7669199-1-BLK — LCS Sample Id: 7669199-1-BKS — LCSD Sample Id: 7669199-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.500	25.0	23.6	94	23.2	93	90-110	2	20	mg/L	01.04.19 12:11	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3074814 — Matrix: Drinking Water — Date Prep: 01.04.19
Parent Sample Id: 610224-001 — MS Sample Id: 610224-001 S — MSD Sample Id: 610224-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	20.7	25.0	43.5	91	45.6	100	90-110	5	20	mg/L	01.04.19 12:34	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3074814 — Matrix: Drinking Water — Date Prep: 01.04.19
Parent Sample Id: 610228-001 — MS Sample Id: 610228-001 S — MSD Sample Id: 610228-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	7.47	25.0	31.9	98	31.9	98	90-110	0	20	mg/L	01.04.19 17:33	

Analytical Method: TDS by SM2540C
Seq Number: 3074971 — Matrix: Water
MB Sample Id: 3074971-1-BLK — LCS Sample Id: 3074971-1-BKS — LCSD Sample Id: 3074971-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Total Dissolved Solids	<5.00	1000	983	98	974	97	80-120	1	10	mg/L	01.04.19 16:30	

Analytical Method: TDS by SM2540C
Seq Number: 3074971 — Matrix: Water
Parent Sample Id: 610325-001 — MD Sample Id: 610325-001 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Total Dissolved Solids	5690	5560	2	10	mg/L	01.04.19 16:30	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 610293

Western Refining

South Brine Pond

Analytical Method: **pH by SM4500-H**
Seq Number: 3074956 Matrix: Water
Parent Sample Id: 610293-001 MD Sample Id: 610293-001 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
pH	7.70	7.70	0	20	SU	01.04.19 15:45	
Temperature	16.1	16.0	1	20	Deg C	01.04.19 15:45	

Analytical Method: **Recoverable Metals by EPA 200.8** Prep Method: E200.8P
Seq Number: 3075007 Matrix: Water Date Prep: 01.07.19
MB Sample Id: 7669276-1-BLK LCS Sample Id: 7669276-1-BKS LCSD Sample Id: 7669276-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Arsenic	<0.000396	0.100	0.0996	100	0.0985	99	85-115	1	20	mg/L	01.07.19 14:53	
Barium	<0.000472	0.100	0.101	101	0.0986	99	85-115	2	20	mg/L	01.07.19 14:53	
Cadmium	<0.000115	0.100	0.102	102	0.101	101	85-115	1	20	mg/L	01.07.19 14:53	
Chromium	<0.000283	0.100	0.104	104	0.102	102	85-115	2	20	mg/L	01.07.19 14:53	
Lead	<0.000152	0.100	0.103	103	0.101	101	85-115	2	20	mg/L	01.07.19 14:53	
Selenium	<0.000368	0.100	0.102	102	0.101	101	85-115	1	20	mg/L	01.07.19 14:53	
Silver	<0.000159	0.0500	0.0503	101	0.0500	100	85-115	1	20	mg/L	01.07.19 14:53	

Analytical Method: **Recoverable Metals by EPA 200.8** Prep Method: E200.8P
Seq Number: 3075007 Matrix: Water Date Prep: 01.07.19
Parent Sample Id: 610031-001 MS Sample Id: 610031-001 S MSD Sample Id: 610031-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Arsenic	0.00249	0.100	0.103	101	0.104	102	70-130	1	20	mg/L	01.07.19 15:04	
Barium	0.129	0.100	0.235	106	0.236	107	70-130	0	20	mg/L	01.07.19 15:04	
Cadmium	<0.000115	0.100	0.0990	99	0.0997	100	70-130	1	20	mg/L	01.07.19 15:04	
Chromium	0.00127	0.100	0.104	103	0.103	102	70-130	1	20	mg/L	01.07.19 15:04	
Lead	<0.000152	0.100	0.102	102	0.102	102	70-130	0	20	mg/L	01.07.19 15:04	
Selenium	0.00131	0.100	0.103	102	0.103	102	70-130	0	20	mg/L	01.07.19 15:04	
Silver	<0.000159	0.0500	0.0476	95	0.0478	96	70-130	0	20	mg/L	01.07.19 15:04	

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

QC Summary 610293

Western Refining

South Brine Pond

Analytical Method: Recoverable Metals by EPA 200.8 — Prep Method: E200.8P
Seq Number: 3075007 — Matrix: Waste Water — Date Prep: 01.07.19
Parent Sample Id: 610208-001 — MS Sample Id: 610208-001 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Arsenic	<0.00400	0.100	0.0976	98	70-130	mg/L	01.07.19 15:47	
Barium	<0.000472	0.100	0.107	107	70-130	mg/L	01.07.19 15:47	
Cadmium	<0.00200	0.100	0.0940	94	70-130	mg/L	01.07.19 15:47	
Chromium	<0.00400	0.100	0.106	106	70-130	mg/L	01.07.19 15:47	
Lead	<0.00200	0.100	0.101	101	70-130	mg/L	01.07.19 15:47	
Selenium	<0.00200	0.100	0.0969	97	70-130	mg/L	01.07.19 15:47	
Silver	<0.00200	0.0500	0.0468	94	70-130	mg/L	01.07.19 15:47	

Analytical Method: Recoverable Metals per ICP by EPA 200.7 — Prep Method: E200.7P
Seq Number: 3075130 — Matrix: Water — Date Prep: 01.08.19
MB Sample Id: 7669332-1-BLK — LCS Sample Id: 7669332-1-BKS — LCSD Sample Id: 7669332-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Calcium	<0.0293	25.0	24.8	99	24.8	99	85-115	0	20	mg/L	01.08.19 12:17	
Magnesium	<0.0500	25.0	25.2	101	25.4	102	85-115	1	20	mg/L	01.08.19 12:17	
Potassium	<0.107	10.0	10.3	103	10.3	103	85-115	0	20	mg/L	01.08.19 12:17	
Sodium	<0.0667	25.0	25.4	102	25.5	102	85-115	0	20	mg/L	01.08.19 12:17	

Analytical Method: Recoverable Metals per ICP by EPA 200.7 — Prep Method: E200.7P
Seq Number: 3075130 — Matrix: Water — Date Prep: 01.08.19
Parent Sample Id: 610163-001 — MS Sample Id: 610163-001 S — MSD Sample Id: 610163-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Calcium	5.61	25.0	31.0	102	31.0	102	70-130	0	20	mg/L	01.08.19 12:30	
Magnesium	0.0685	25.0	26.0	104	26.1	104	70-130	0	20	mg/L	01.08.19 12:30	
Potassium	0.148	10.0	10.8	107	10.8	107	70-130	0	20	mg/L	01.08.19 12:30	
Sodium	0.107	25.0	26.3	105	26.4	105	70-130	0	20	mg/L	01.08.19 12:30	

Analytical Method: Recoverable Metals per ICP by EPA 200.7 — Prep Method: E200.7P
Seq Number: 3075130 — Matrix: Water — Date Prep: 01.08.19
Parent Sample Id: 610310-001 — MS Sample Id: 610310-001 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Calcium	14.2	25.0	39.5	101	70-130	mg/L	01.08.19 13:28	
Magnesium	0.465	25.0	26.2	103	70-130	mg/L	01.08.19 13:28	
Potassium	2.40	10.0	13.0	106	70-130	mg/L	01.08.19 13:28	
Sodium	0.661	25.0	26.8	105	70-130	mg/L	01.08.19 13:28	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 610293

Western Refining

South Brine Pond

Analytical Method: Alkalinity by SM2320B — Prep Method: SM2320P
Seq Number: 3075062 — Matrix: Water — Date Prep: 01.07.19
MB Sample Id: 7669274-1-BLK — LCS Sample Id: 7669274-1-BKS — LCSD Sample Id: 7669274-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Alkalinity, Total (CaCO3)	<4.00	250	248	99	250	100	80-120	1	20	mg/L	01.07.19 12:09	

Analytical Method: Alkalinity by SM2320B — Prep Method: SM2320P
Seq Number: 3075062 — Matrix: Water — Date Prep: 01.07.19
Parent Sample Id: 610188-001 — MD Sample Id: 610188-001 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Alkalinity, Total (CaCO3)	370	372	1	20	mg/L	01.07.19 13:52	

Analytical Method: Alkalinity by SM2320B — Prep Method: SM2320P
Seq Number: 3075062 — Matrix: Drinking Water — Date Prep: 01.07.19
Parent Sample Id: 610194-001 — MD Sample Id: 610194-001 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Alkalinity, Total (CaCO3)	247	248	0	20	mg/L	01.07.19 12:29	

Analytical Method: Mercury, Total by EPA 245.1 — Prep Method: E245.1P
Seq Number: 3074996 — Matrix: Water — Date Prep: 01.07.19
MB Sample Id: 7669264-1-BLK — LCS Sample Id: 7669264-1-BKS — LCSD Sample Id: 7669264-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Mercury	<0.0000263	0.00200	0.00187	94	0.00193	97	85-115	3	20	mg/L	01.07.19 12:22	

Analytical Method: Mercury, Total by EPA 245.1 — Prep Method: E245.1P
Seq Number: 3074996 — Matrix: Water — Date Prep: 01.07.19
Parent Sample Id: 610163-001 — MS Sample Id: 610163-001 S — MSD Sample Id: 610163-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Mercury	<0.0000263	0.00200	0.00207	104	0.00220	110	70-130	6	20	mg/L	01.07.19 12:28	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 610293

Western Refining

South Brine Pond

Analytical Method: Mercury, Total by EPA 245.1 — Prep Method: E245.1P
Seq Number: 3074996 — Matrix: Water — Date Prep: 01.07.19
Parent Sample Id: 610275-001 — MS Sample Id: 610275-001 S — MSD Sample Id: 610275-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Mercury	<0.0000263	0.00200	0.00196	98	0.00184	92	70-130	6	20	mg/L	01.07.19 12:55	

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3075319 — Matrix: Water — Date Prep: 01.09.19
MB Sample Id: 7669478-1-BLK — LCS Sample Id: 7669478-1-BKS — LCSD Sample Id: 7669478-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.111	111	0.110	110	70-130	1	25	mg/L	01.10.19 04:44	
Toluene	<0.000367	0.100	0.0996	100	0.0965	97	70-130	3	25	mg/L	01.10.19 04:44	
Ethylbenzene	<0.00200	0.100	0.0920	92	0.0891	89	70-130	3	25	mg/L	01.10.19 04:44	
m,p-Xylenes	<0.000630	0.200	0.183	92	0.177	89	70-130	3	25	mg/L	01.10.19 04:44	
o-Xylene	<0.00200	0.100	0.0917	92	0.0893	89	70-130	3	25	mg/L	01.10.19 04:44	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		107		109		70-130	%	01.10.19 04:44
4-Bromofluorobenzene	88		88		92		70-130	%	01.10.19 04:44

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3075319 — Matrix: Water — Date Prep: 01.09.19
Parent Sample Id: 610579-001 — MS Sample Id: 610579-001 S — MSD Sample Id: 610579-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.122	122	0.110	110	70-130	10	25	mg/L	01.10.19 05:22	
Toluene	<0.000367	0.100	0.105	105	0.0969	97	70-130	8	25	mg/L	01.10.19 05:22	
Ethylbenzene	<0.00200	0.100	0.0974	97	0.0900	90	70-130	8	25	mg/L	01.10.19 05:22	
m,p-Xylenes	<0.000630	0.200	0.193	97	0.179	90	70-130	8	25	mg/L	01.10.19 05:22	
o-Xylene	<0.00200	0.100	0.0971	97	0.0906	91	70-130	7	25	mg/L	01.10.19 05:22	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		110		70-130	%	01.10.19 05:22
4-Bromofluorobenzene	91		93		70-130	%	01.10.19 05:22

MS/MSD Percent Recovery — [D] = 100*(C-A) / B
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery — [D] = 100 * (C) / [B]
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

Final 1.000

Chain of Custody

XENCO LABORATORIES

Work Order No: 610293

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

www.xenco.com Page _____ of _____

Project Manager:	Ken Parker	Bill to: (if different)	
Company Name:	Western Refining Terminals	Company Name:	
Address:	PO Box 1345	Address:	
City, State ZIP:	Jal, NM 88252	City, State ZIP:	
Phone:	575-395-2632	Email:	

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	South Pine Pond	Turn Around	
Project Number:	1	Routine	☑
P.O. Number:	Credit Card	Rush:	
Sampler's Name:	Ken Parker	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	0.5/0.4	Thermometer ID:	108	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.1	
Sample Custody Seals:	Yes (No) N/A	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	BTEX 8021	RCRA 8 Metals	Cations	Chlorides	pH	TDS	Alkalinity								Work Order Notes
South Pond	BW	1-4-19	10:30AM	1ft.	6	X	X	X	X	X	X	X								TAT starts the day received by the lab, if received by 4:30pm
																				Sample Comments

ANALYSIS REQUEST

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Ken Parker		1/9/19 1404	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Inter-Office Shipment

IOS Number : 120091

Date/Time:	01/04/19 14:17	Created by:	Brianna Teel	Please send report to:	Kelsey Brooks
Lab# From:	**Midland**	Delivery Priority:		Address:	1211 W. Florida Ave, Midland TX 79701
Lab# To:	**Houston**	Air Bill No.:	774120422777	E-Mail:	kelsey.brooks@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
610293-001	W	South Pond	01/04/19 10:30	E200.7	Recoverable Metals per ICP by EPA 200.7	01/10/19	07/03/19	KEB	CA K MG NA	
610293-001	W	South Pond	01/04/19 10:30	E245.1	Mercury, Total by EPA 245.1	01/10/19	02/01/19	KEB	HG	
610293-001	W	South Pond	01/04/19 10:30	E200.8	Recoverable Metals by EPA 200.8	01/10/19	07/03/19	KEB	AG AS BA CD CR PB SE	
610293-001	W	South Pond	01/04/19 10:30	SM2320B	Alkalinity by SM2320B	01/10/19	01/11/19	KEB	ALK	

Inter Office Shipment or Sample Comments:

Relinquished By: Brianna Teel
Brianna Teel

Date Relinquished: 01/04/2019

Received By:
Taha Hedib

Date Received: 01/05/2019 10:00

Cooler Temperature: 3.7

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Houston
IOS #: 120091

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : hou-068

Sent By: Brianna Teel **Date Sent:** 01/04/2019 02:17 PM
Received By: Taha Hedib **Date Received:** 01/05/2019 10:00 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	3.7	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received with appropriate temperature?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	Yes	
#5 *Custody Seals Signed and dated for Containers/coolers	Yes	
#6 *IOS present?	Yes	
#7 Any missing/extra samples?	No	
#8 IOS agrees with sample label(s)/matrix?	Yes	
#9 Sample matrix/ properties agree with IOS?	Yes	
#10 Samples in proper container/ bottle?	Yes	
#11 Samples properly preserved?	Yes	
#12 Sample container(s) intact?	Yes	
#13 Sufficient sample amount for indicated test(s)?	Yes	
#14 All samples received within hold time?	Yes	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ **Contacted by :** _____ **Date:** _____

Checklist reviewed by: _____ Date: 01/05/2019
Taha Hedib

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: Western Refining

Date/ Time Received: 01/04/2019 02:04:00 PM

Work Order #: 610293

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	.4	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	N/A	
#5 Custody Seals intact on sample bottles?	N/A	
#6*Custody Seals Signed and dated?	N/A	
#7 *Chain of Custody present?	Yes	
#8 Any missing/extra samples?	No	
#9 Chain of Custody signed when relinquished/ received?	Yes	
#10 Chain of Custody agrees with sample labels/matrix?	Yes	
#11 Container label(s) legible and intact?	Yes	
#12 Samples in proper container/ bottle?	Yes	
#13 Samples properly preserved?	Yes	
#14 Sample container(s) intact?	Yes	
#15 Sufficient sample amount for indicated test(s)?	Yes	
#16 All samples received within hold time?	Yes	
#17 Subcontract of sample(s)?	Yes	Xenco Stafford
#18 Water VOC samples have zero headspace?	Yes	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: BT

PH Device/Lot#: A032690

Checklist completed by: Brianna Teel (Brianna Teel) Date: 01/04/2019

Checklist reviewed by: Kelsey Brooks (Kelsey Brooks) Date: 01/04/2019

PETTIGREW
& ASSOCIATES PA
ENGINEERING SURVEYING TESTING

Ken Parker, Western Refining
PO Box 1345
Jal, New Mexico, 88252
575-392-2632

17 December, 2018

RE: GW-7 Jal LPG Storage Facility
Annual Subsidence Survey Report

SUBSIDENCE MONUMENT MONITORING

On December 17, 2018 a field survey was conducted to check for changes in monitoring location elevations at the Western Refining Facility located at the intersection of NM18 and Deep Wells Road near Jal, NM.

This survey was conducted using a Trimble DiNi digital level, which reads a bar code off of a special rod in order to determine difference in elevation from a known control point. This level is very accurate and the use helps to eliminate human reading errors. The data is stored onboard and may be transferred directly into the computer software at the office for analysis of results, ensuring greater accuracy.

Control Point CP2 (elevation 3297.82 above mean sea level (MSL)) has historically been the Reference Primary Elevation Point for determining elevations on this project. As in the past, a level loop was run thru the project with side shots as needed to check the different monuments, benchmarks, and control points at this site.

Observations were made on all available points and tabulated to compare the elevations to the base elevations established on May 13, 2009. See Table A for these results. Additionally, the results for the last 9 years have been tabulated and appear in Table B. Each monitoring point has also been plotted on a trend chart to aid in visually monitoring the changes in elevation of the monitoring points.

Prior to this survey, the elevations on the monitoring points were determined utilizing an automatic level, which is more prone to instrument operator reading errors than the DiNi that will now be used for all future monitoring at this site. See site map attached.

The surveyed elevations along with deltas from established values as follows:

NAME	BASE ELEVATION 5/13/2009	ELEVATION 12/7/2018	CHANGE IN ELEVATION
CP-1	3293.47	3293.47	No Change
CP-2	3297.82	3297.82	No Change
CP-3	3293.56	3293.56	No Change
SM-1	3292.27	3292.29	0.02
SM-2	3294.56	3294.54	-0.02
SM-3	3294.85	3294.87	0.02
SM-4	3294.86	3294.86	No Change
SMF-1 (Mid Flange)	3295.62	3295.65	0.03
SMF-1 (Lower Flange)	3293.67	3293.71	0.04
SMF-2 (Mid Flange)	3297.42	3297.43	0.01
SMF-2 (Lower Flange)	3295.52	3295.53	0.01
SMF-3 (Mid Flange)	3298.18	3298.18	0.01
SMF-3 (Lower Flange)	3296.44	3296.45	0.01
SMF-4 (Lower Flange)	3295.99	3296.01	0.02
BM-1	3294.30	3294.30	No Change
BM-2	3296.62	3296.64	0.02
BM-3	3297.73	3297.74	0.01

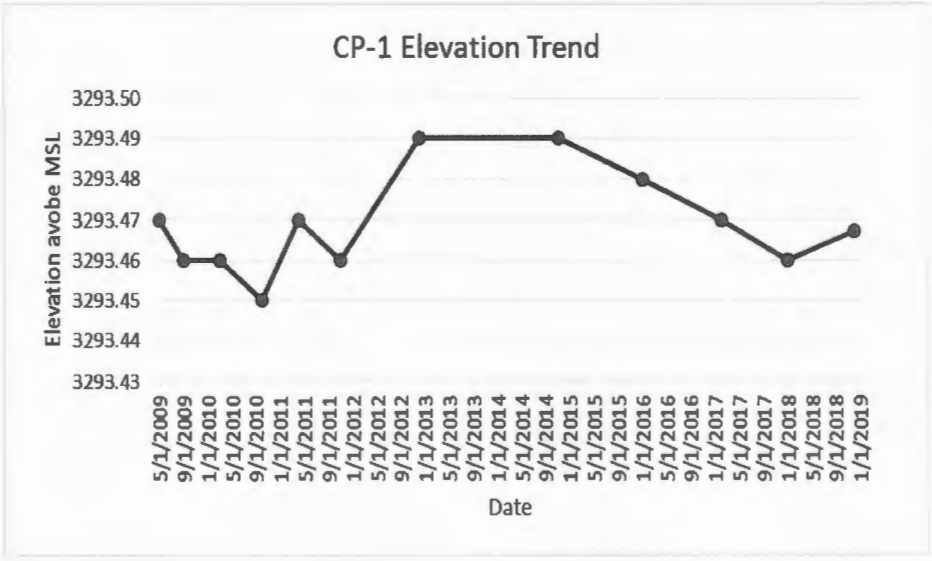
Table A: Monitoring Points and Elevations

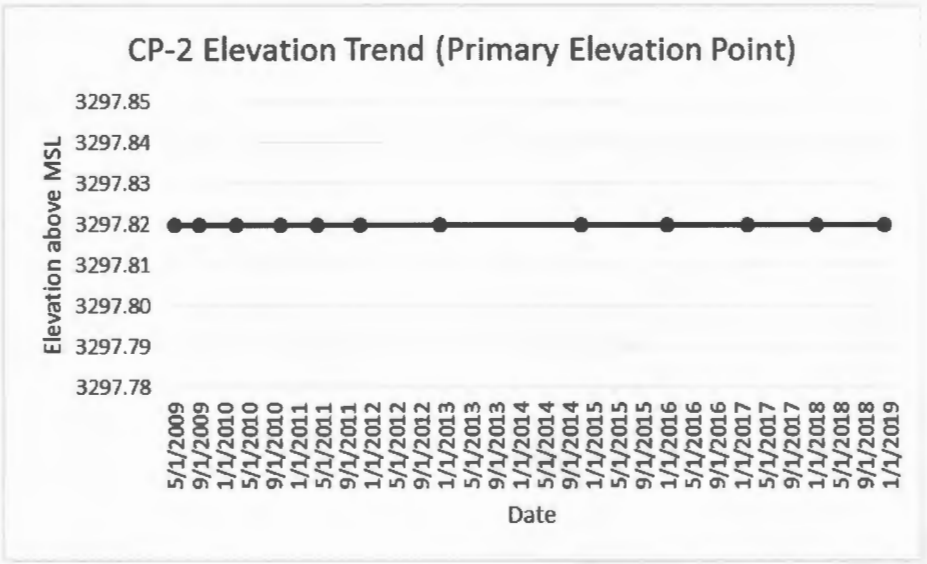
Point	5/13/2009	9/25/2009	3/9/2010	10/29/2010	4/15/2011	11/10/2011	12/21/2012	11/12/2014	1/14/2016	2/15/2017	1/18/2018	12/17/2018
CP-1	3293.47	3293.46	3293.46	3293.45	3293.47	3293.46	3293.49	3293.49	3293.48	3293.47	3293.46	3293.47
CP-2 *	3297.82	3297.82	3297.82	3297.82	3297.82	3297.82	3297.82	3297.82	3297.82	3297.82	3297.82	3297.82
CP-3	3293.56	3293.54	3293.55	3293.56	3293.56	3293.55	3293.57	3293.57	3293.55	3293.56	3293.54	3293.56
SM-1	3292.27	3292.26	3292.27	3292.27	3292.28	3292.26	3292.29	3292.29	3292.27	3292.27	3292.26	3292.29
SM-2	3294.56	3294.56	3294.56	3294.56	3294.56	3294.56	3294.57	3294.57	3294.57	3294.54	3294.54	3294.54
SM-3	3294.85	3294.83	3294.85	3294.84	3294.86	3294.85	3294.86	3294.86	3294.86	3294.86	3294.84	3294.87
SM-4	3294.86	3294.84	3294.86	3294.86	3294.87	3294.85	3294.87	3294.87	3294.89	3294.87	3294.84	3294.86
SMF-1 MID	3295.62	3295.62	3295.61	3295.64	3295.64	3295.61	3295.65	3295.65	3295.63	3295.62	3295.60	3295.65
SMF-1 LOW	3293.67	3293.67	3293.66	3293.69	3293.70	3293.66	3293.71	3293.71	3293.70	3293.67	3293.66	3293.71
SMF-2 MID	3297.42	3297.43	3297.42	3297.43	3297.43	3297.43	3297.45	3297.45	3297.43	3297.42	3297.42	3297.43
SMF-2 LOW	3295.52	3295.53	3295.52	3295.53	3295.53	3295.53	3295.55	3295.55	3295.51	3295.53	3295.52	3295.53
SMF-3 MID	3298.17	3298.17	3298.16	3298.16	3298.19	3298.17	3298.17	3298.17	3298.18	3298.17	3298.16	3298.18
SMF-3 LOW	3296.44	3296.43	3296.43	3296.42	3296.44	3296.43	3296.44	3296.44	3296.44	3296.43	3296.42	3296.45
SMF-4 MID	3297.73	3297.72	3297.73	3297.73	3297.74	3297.72	3297.74	3297.74				
SMF-4 LOW	3295.99	3295.98	3295.99	3296.00	3296.00	3295.98	3296.00	3296.00	3296.00	3296.00	3295.96	3296.01
BM-1	3294.30	3294.30	3294.30	3294.31	3294.31	3294.30	3294.33	3294.33	3294.31	3294.30	3294.30	3294.30
BM-2	3296.62	3296.62	3296.62	3296.63	3296.63	3296.63	3296.64	3296.64	3296.61	3296.64	3296.63	3296.64
BM-3	3297.73	3297.73	3297.73	3297.73	3297.73	3297.73	3297.73	3297.73	3297.74	3297.73	3297.73	3297.74

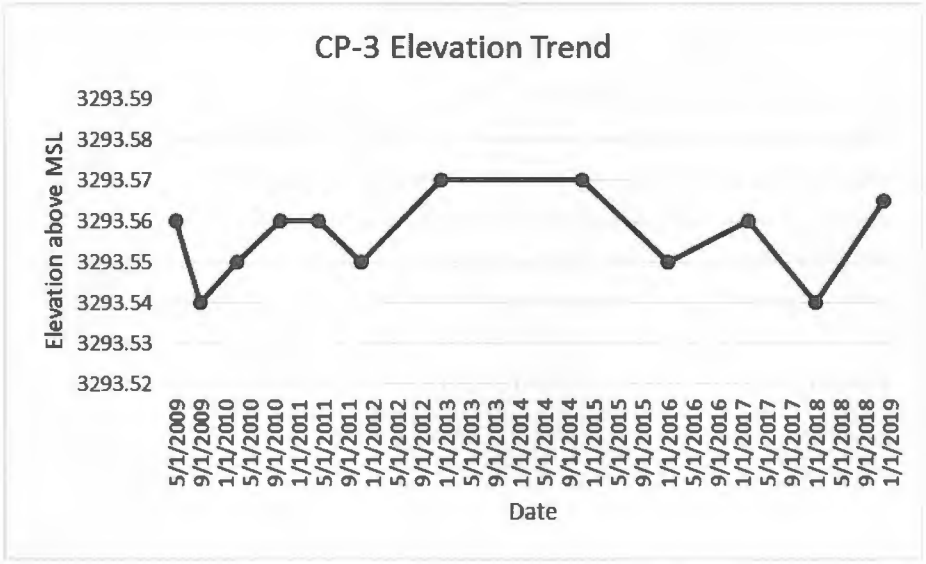
Conclusions

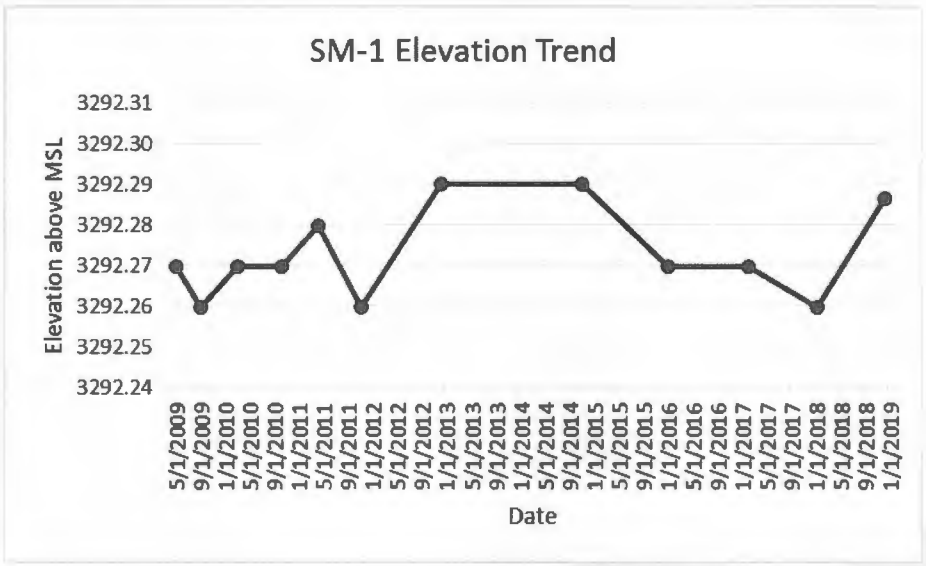
The survey was conducted and results analyzed, using the elevations originally established on May 13, 2009 as the base elevations for each point. The readings were consistent with a stable surface as there was little to no difference in elevations of any monitoring point, the most being on SMF-1 LOW with a change of 0.04 feet upward. The next highest change being on SMF-1 MID with a change of 0.03 feet upward. Similar deviations were found in SM-1, SM-3, SMF-4 LOW, and BM-2 all with a change of 0.02 feet upward. SM-2 experienced a deviation of 0.02 feet downward. The rest of the points were within tolerance of the readings for the DiNi level, showing 0.01 feet of difference or less, which is an unremarkable elevation change.

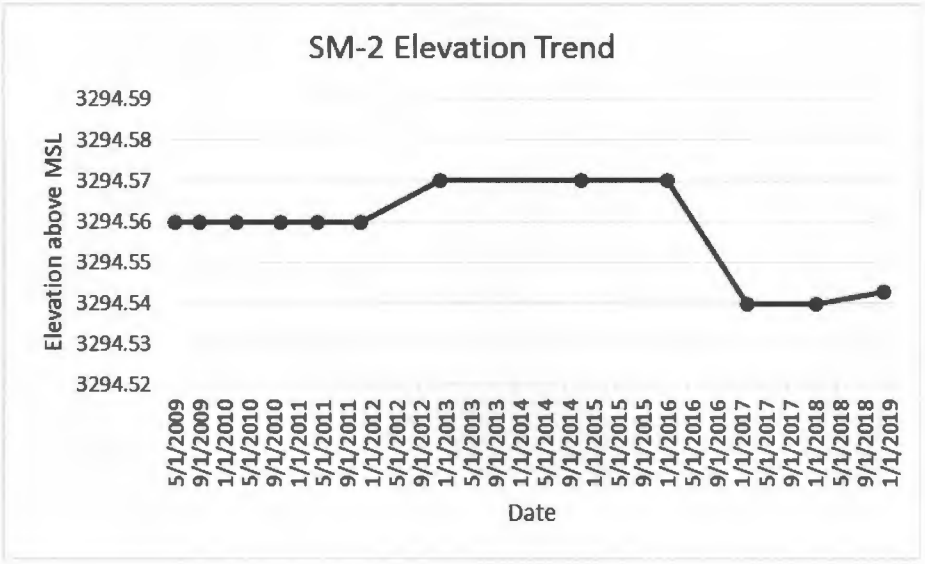
The area appears stable with little movement either up or downward over the past 9 years of monitoring. The greatest deviations in elevation at the SM-4 and SMF-1 LOW locations are around 0.05 feet, or about ½ inch from observed low elevation to observed high elevation, some of which was likely due to instrument, operator reading error, and procedural preferences. Most differences were 0.03 feet (about 3/8 inch) or less over the 9 year monitoring period. Trend charts for each monitoring, control, and bench mark point are attached as Exhibits herein.

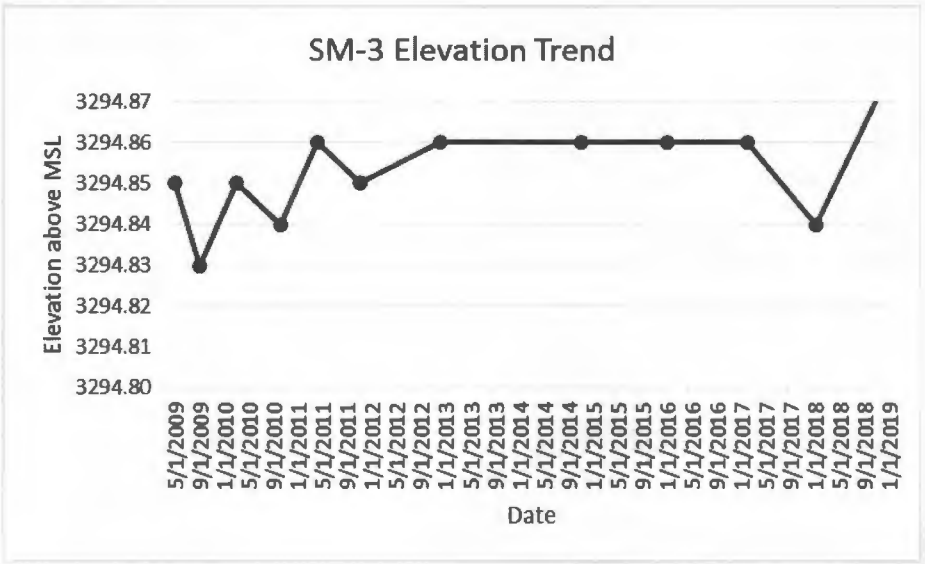

CP-1 Elevation Trend
Elevation avobe MSL
3293.50
3293.49
3293.48
3293.47
3293.46
3293.45
3293.44
3293.43
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
5/1/2018
9/1/2018
1/1/2019
Date

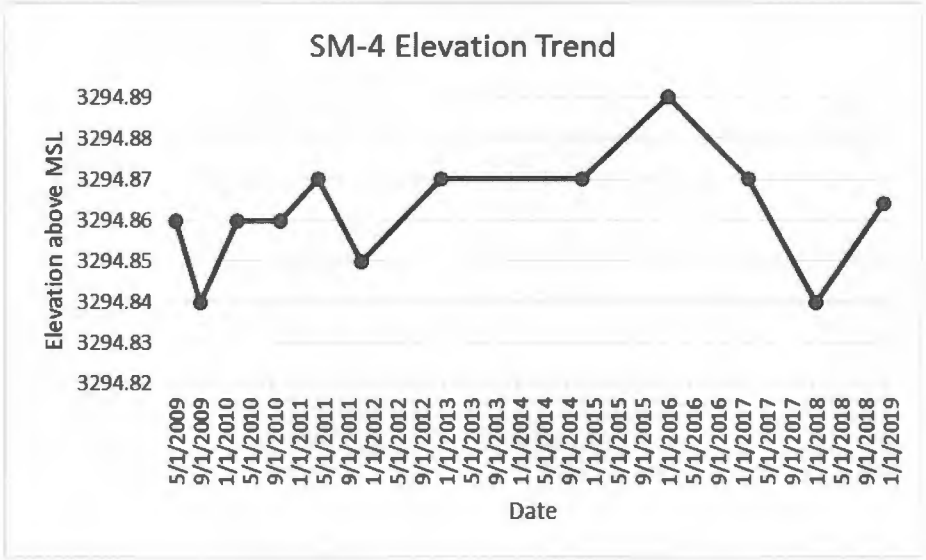

CP-2 Elevation Trend (Primary Elevation Point)
Elevation above MSL
3297.85
3297.84
3297.83
3297.82
3297.81
3297.80
3297.79
3297.78
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
5/1/2018
9/1/2018
1/1/2019
Date


CP-3 Elevation Trend
Elevation above MSL
3293.59
3293.58
3293.57
3293.56
3293.55
3293.54
3293.53
3293.52
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
5/1/2018
9/1/2018
1/1/2019
Date


SM-1 Elevation Trend
Elevation above MSL
3292.31
3292.30
3292.29
3292.28
3292.27
3292.26
3292.25
3292.24
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
5/1/2018
9/1/2018
1/1/2019
Date


SM-2 Elevation Trend
Elevation above MSL
3294.59
3294.58
3294.57
3294.56
3294.55
3294.54
3294.53
3294.52
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
5/1/2018
9/1/2018
1/1/2019
Date


SM-3 Elevation Trend
Elevation above MSL
3294.87
3294.86
3294.85
3294.84
3294.83
3294.82
3294.81
3294.80
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
5/1/2018
9/1/2018
1/1/2019
Date


SM-4 Elevation Trend
Elevation above MSL
3294.89
3294.88
3294.87
3294.86
3294.85
3294.84
3294.83
3294.82
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
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5/1/2016
9/1/2016
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5/1/2018
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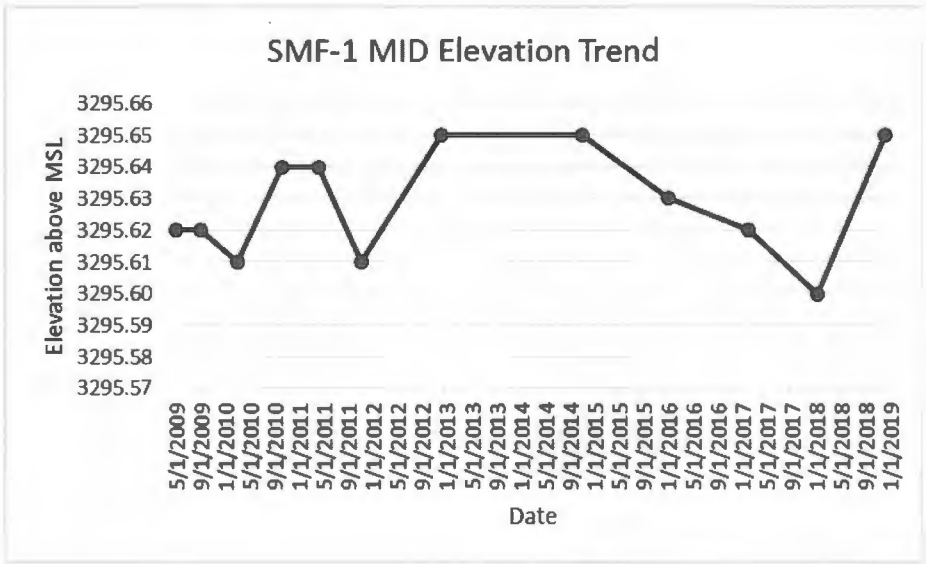
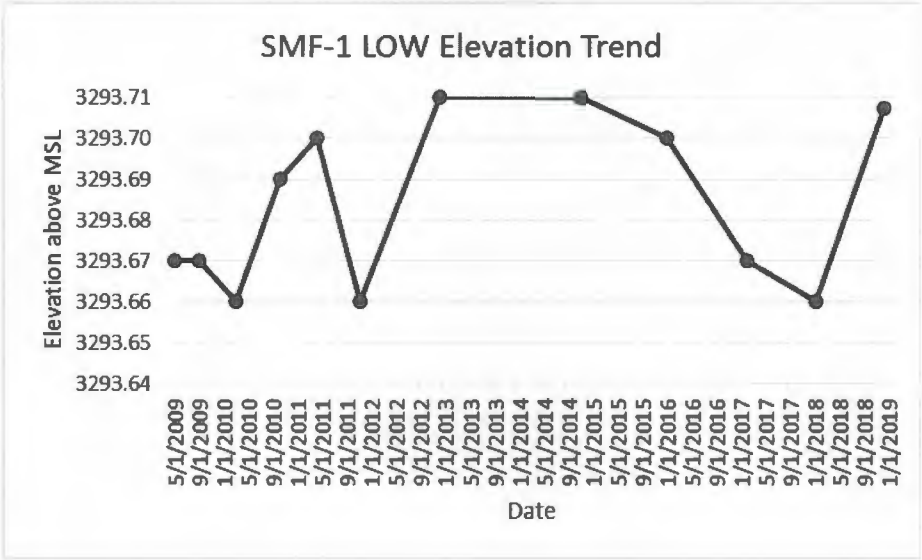
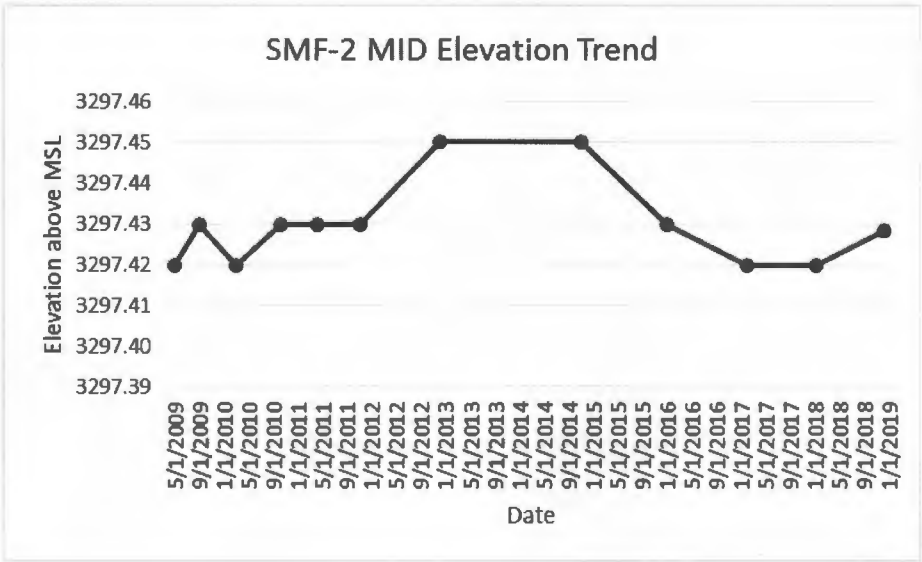
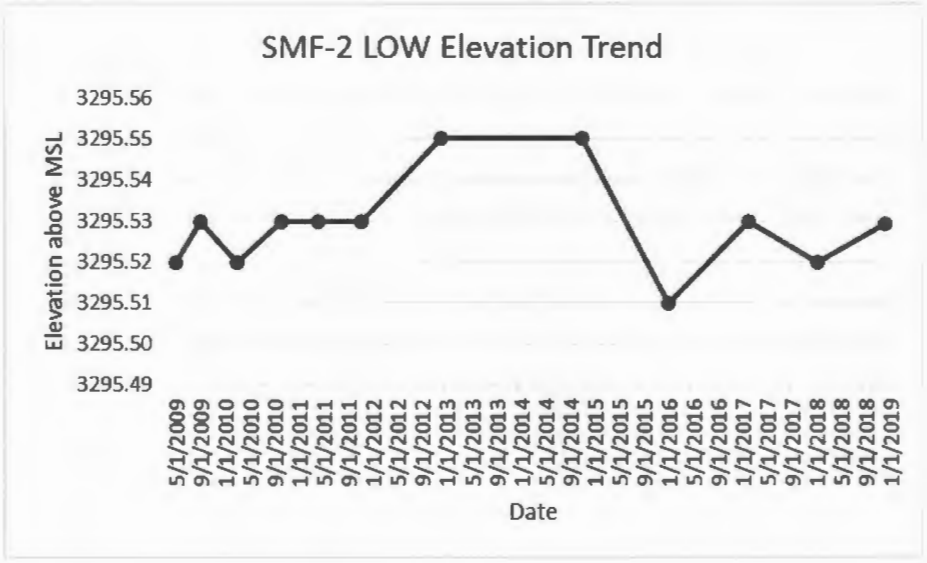
1/1/2019
Date


SMF-1 MID Elevation Trend
Elevation above MSL
3295.66
3295.65
3295.64
3295.63
3295.62
3295.61
3295.60
3295.59
3295.58
3295.57
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
5/1/2018
9/1/2018
1/1/2019
Date


SMF-1 LOW Elevation Trend
Elevation above MSL
3293.71
3293.70
3293.69
3293.68
3293.67
3293.66
3293.65
3293.64
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
5/1/2018
9/1/2018
1/1/2019
Date


SMF-2 MID Elevation Trend
Elevation above MSL
3297.46
3297.45
3297.44
3297.43
3297.42
3297.41
3297.40
3297.39
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
5/1/2018
9/1/2018
1/1/2019
Date


SMF-2 LOW Elevation Trend
Elevation above MSL
3295.56
3295.55
3295.54
3295.53
3295.52
3295.51
3295.50
3295.49
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
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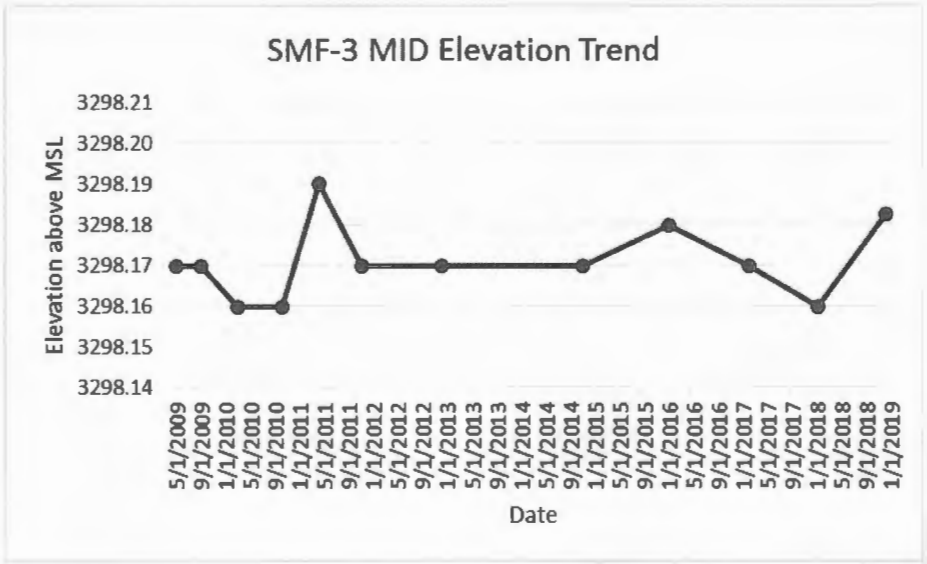
5/1/2017
9/1/2017
1/1/2018
5/1/2018
9/1/2018
1/1/2019
Date


SMF-3 MID Elevation Trend
Elevation above MSL
3298.21
3298.20
3298.19
3298.18
3298.17
3298.16
3298.15
3298.14
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
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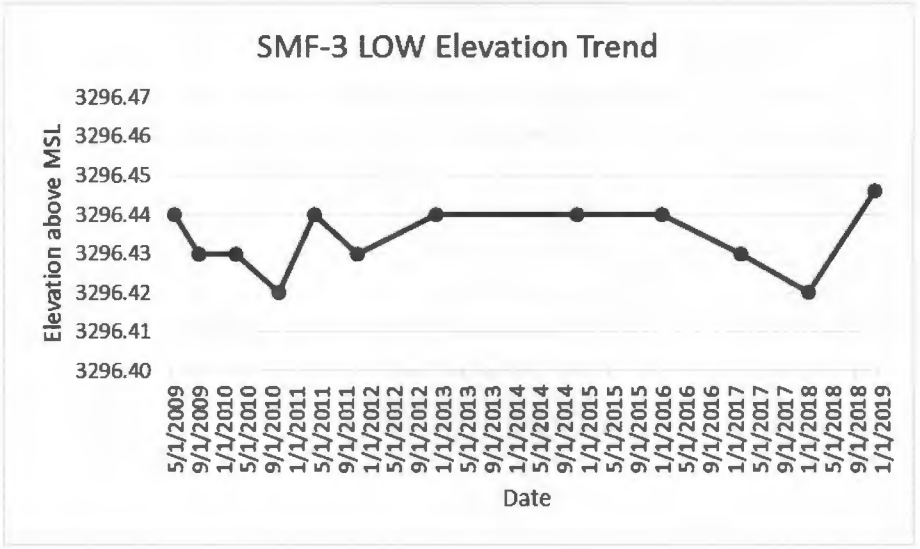
9/1/2017
1/1/2018
5/1/2018
9/1/2018
1/1/2019
Date


SMF-3 LOW Elevation Trend
Elevation above MSL
3296.47
3296.46
3296.45
3296.44
3296.43
3296.42
3296.41
3296.40
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
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5/1/2014
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5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
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5/1/2017
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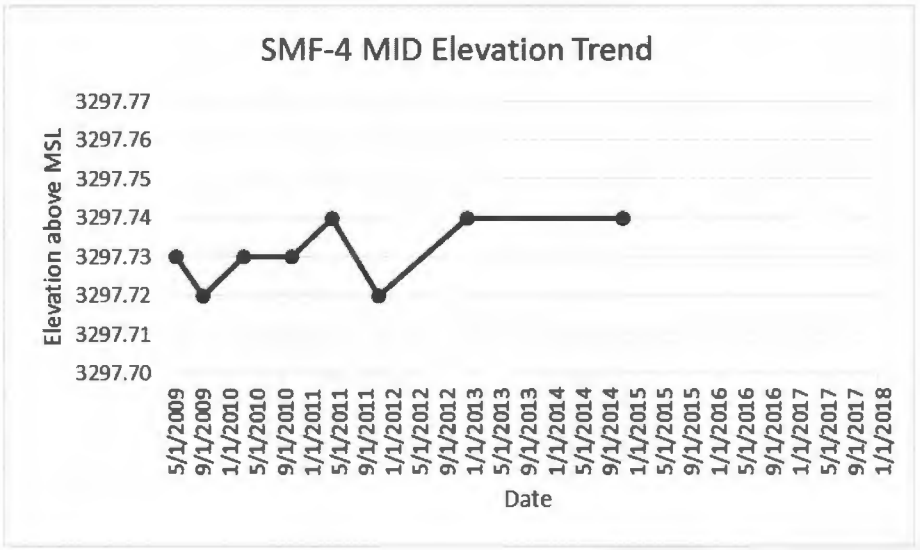
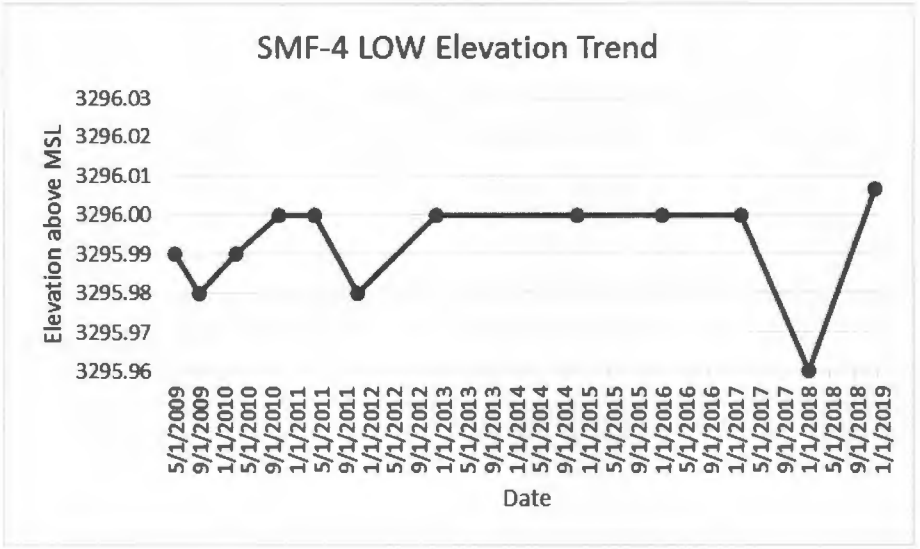
5/1/2018
9/1/2018
1/1/2019
Date


SMF-4 MID Elevation Trend
Elevation above MSL
3297.77
3297.76
3297.75
3297.74
3297.73
3297.72
3297.71
3297.70
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
Date


SMF-4 LOW Elevation Trend
Elevation above MSL
3296.03
3296.02
3296.01
3296.00
3295.99
3295.98
3295.97
3295.96
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
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9/1/2013
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5/1/2014
9/1/2014
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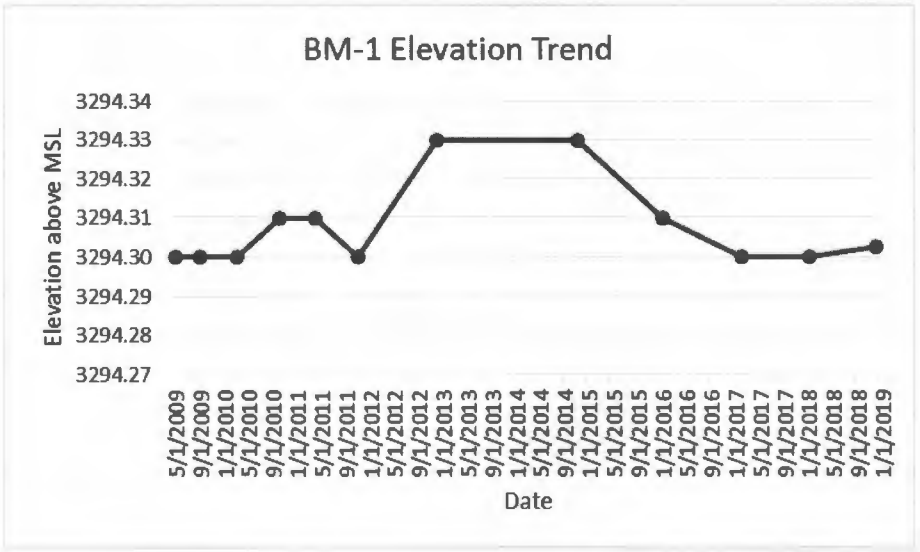
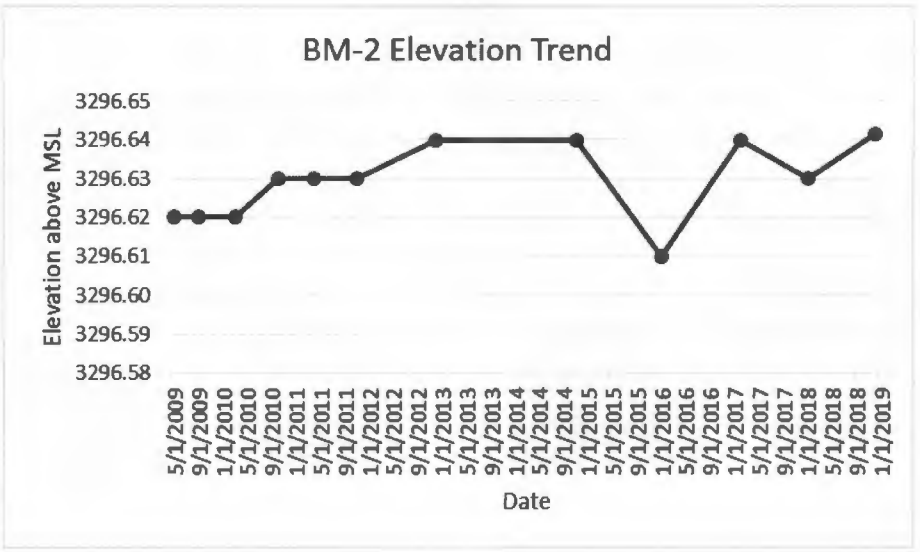
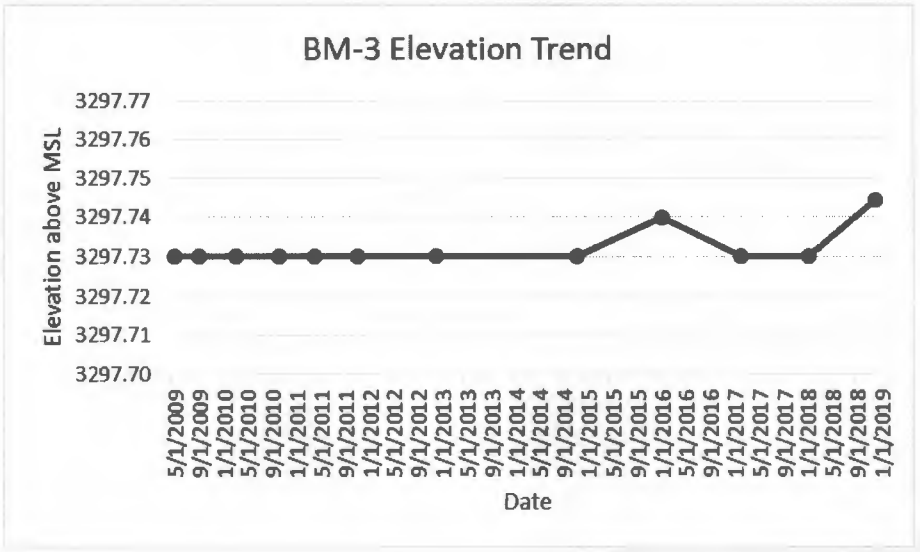
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
5/1/2018
9/1/2018
1/1/2019
Date


BM-1 Elevation Trend
Elevation above MSL
3294.34
3294.33
3294.32
3294.31
3294.30
3294.29
3294.28
3294.27
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
5/1/2018
9/1/2018
1/1/2019
Date


BM-2 Elevation Trend
Elevation above MSL
3296.65
3296.64
3296.63
3296.62
3296.61
3296.60
3296.59
3296.58
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
5/1/2018
9/1/2018
1/1/2019
Date


BM-3 Elevation Trend
Elevation above MSL
3297.77
3297.76
3297.75
3297.74
3297.73
3297.72
3297.71
3297.70
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
5/1/2018
9/1/2018
1/1/2019
Date

PETTIGREW
& ASSOCIATES PA
ENGINEERING | SURVEYING | TESTING
DEFINING QUALITY SINCE 1965

Ken Parker, Western Refining
PO Box 1345
Jal, New Mexico, 88252
575-392-2632

18 January, 2018

RE: GW-7 Jal LPG Storage Facility
Annual Subsidence Survey Report

SUBSIDENCE MONUMENT MONITORING

On January 18, 2018 a field survey was conducted to check for changes in monitoring location elevations at the Western Refining Facility located at the intersection of NM18 and Deep Wells Road near Jal, NM.

This survey was conducted using a Trimble DiNi digital level, which reads a bar code off of a special rod in order to determine difference in elevation from a known control point. This level is very accurate and the use helps to eliminate human reading errors. The data is stored onboard and may be transferred directly into the computer software at the office for analysis of results, ensuring greater accuracy.

Control Point CP2 (elevation 3297.82 above mean sea level (MSL)) has historically been the Reference Primary Elevation Point for determining elevations on this project. As in the past, a level loop was run thru the project with side shots as needed to check the different monuments, benchmarks, and control points at this site.

Observations were made on all available points and tabulated to compare the elevations to the base elevations established on May 13, 2009. See Table A for these results. Additionally, the results for the last 9 years have been tabulated and appear in Table B. Each monitoring point has also been plotted on a trend chart to aid in visually monitoring the changes in elevation of the monitoring points.

Prior to this survey, the elevations on the monitoring points were determined utilizing an automatic level, which is more prone to instrument operator reading errors than the DiNi that will now be used for all future monitoring at this site. See site map attached.

The surveyed elevations along with deltas from established values as follows:

NAME	BASE ELEVATION 5/13/2009	ELEVATION 01/18/2018	CHANGE IN ELEVATION
CP-1	3293.47	3293.46	-0.01
CP-2	3297.82	3297.82	No Change
CP-3	3293.56	3293.54	-0.02
SM-1	3292.27	3292.26	-0.01
SM-2	3294.56	3294.54	-0.02
SM-3	3294.85	3294.84	-0.01
SM-4	3294.86	3294.84	-0.02
SMF-1 (Mid Flange)	3295.62	3295.60	-0.02
SMF-1 (Lower Flange)	3293.67	3293.66	-0.01
SMF-2 (Mid Flange)	3297.42	3297.42	No Change
SMF-2 (Lower Flange)	3295.52	3295.52	No Change
SMF-3 (Mid Flange)	3298.18	3298.16	-0.01
SMF-3 (Lower Flange)	3296.44	3296.42	-0.02
SMF-4 (Lower Flange)	3295.99	3295.96	-0.03
BM-1	3294.30	3294.30	No Change
BM-2	3296.62	3296.63	0.01
BM-3	3297.73	3297.73	No Change

Table A

Monitoring Points and Elevations

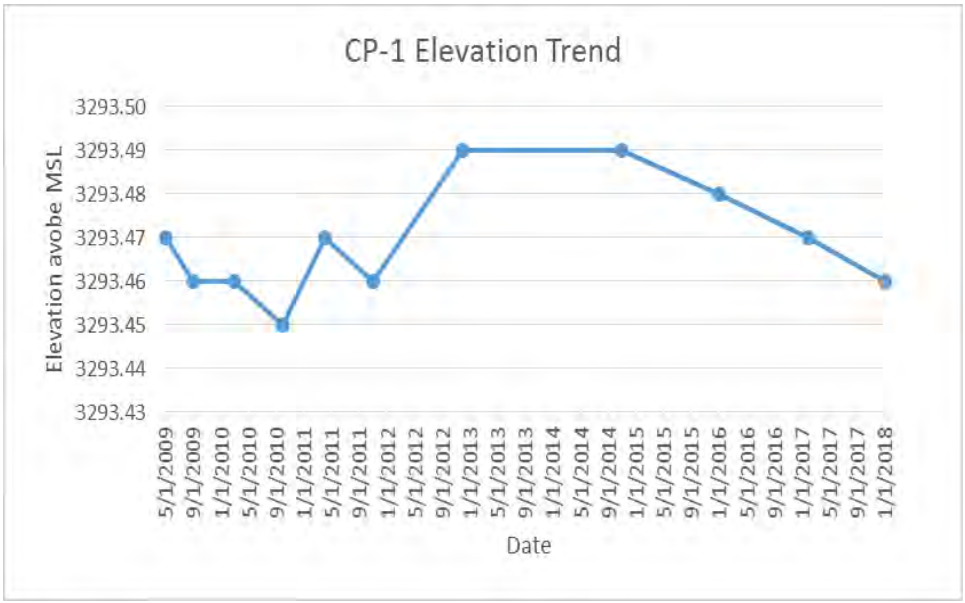
Point	5/13/2009	9/25/2009	3/9/2010	10/29/2010	4/15/2011	11/10/2011	12/21/2012	11/12/2014	1/14/2016	2/15/2017	1/18/2018
CP-1	3293.47	3293.46	3293.46	3293.45	3293.47	3293.46	3293.49	3293.49	3293.48	3293.47	3293.46
CP-2 *	3297.82	3297.82	3297.82	3297.82	3297.82	3297.82	3297.82	3297.82	3297.82	3297.82	3297.82
CP-3	3293.56	3293.54	3293.55	3293.56	3293.56	3293.55	3293.57	3293.57	3293.55	3293.56	3293.54
SM-1	3292.27	3292.26	3292.27	3292.27	3292.28	3292.26	3292.29	3292.29	3292.27	3292.27	3292.26
SM-2	3294.56	3294.56	3294.56	3294.56	3294.56	3294.56	3294.57	3294.57	3294.57	3294.54	3294.54
SM-3	3294.85	3294.83	3294.85	3294.84	3294.86	3294.85	3294.86	3294.86	3294.86	3294.86	3294.84
SM-4	3294.86	3294.84	3294.86	3294.86	3294.87	3294.85	3294.87	3294.87	3294.89	3294.87	3294.84
SMF-1 MID	3295.62	3295.62	3295.61	3295.64	3295.64	3295.61	3295.65	3295.65	3295.63	3295.62	3295.60
SMF-1 LOW	3293.67	3293.67	3293.66	3293.69	3293.70	3293.66	3293.71	3293.71	3293.70	3293.67	3293.66
SMF-2 MID	3297.42	3297.43	3297.42	3297.43	3297.43	3297.43	3297.45	3297.45	3297.43	3297.42	3297.42
SMF-2 LOW	3295.52	3295.53	3295.52	3295.53	3295.53	3295.53	3295.55	3295.55	3295.51	3295.53	3295.52
SMF-3 MID	3298.17	3298.17	3298.16	3298.16	3298.19	3298.17	3298.17	3298.17	3298.18	3298.17	3298.16
SMF-3 LOW	3296.44	3296.43	3296.43	3296.42	3296.44	3296.43	3296.44	3296.44	3296.44	3296.43	3296.42
SMF-4 MID	3297.73	3297.72	3297.73	3297.73	3297.74	3297.72	3297.74	3297.74			
SMF-4 LOW	3295.99	3295.98	3295.99	3296.00	3296.00	3295.98	3296.00	3296.00	3296.00	3296.00	3295.96
BM-1	3294.30	3294.30	3294.30	3294.31	3294.31	3294.30	3294.33	3294.33	3294.31	3294.30	3294.30
BM-2	3296.62	3296.62	3296.62	3296.63	3296.63	3296.63	3296.64	3296.64	3296.61	3296.64	3296.63
BM-3	3297.73	3297.73	3297.73	3297.73	3297.73	3297.73	3297.73	3297.73	3297.74	3297.73	3297.73

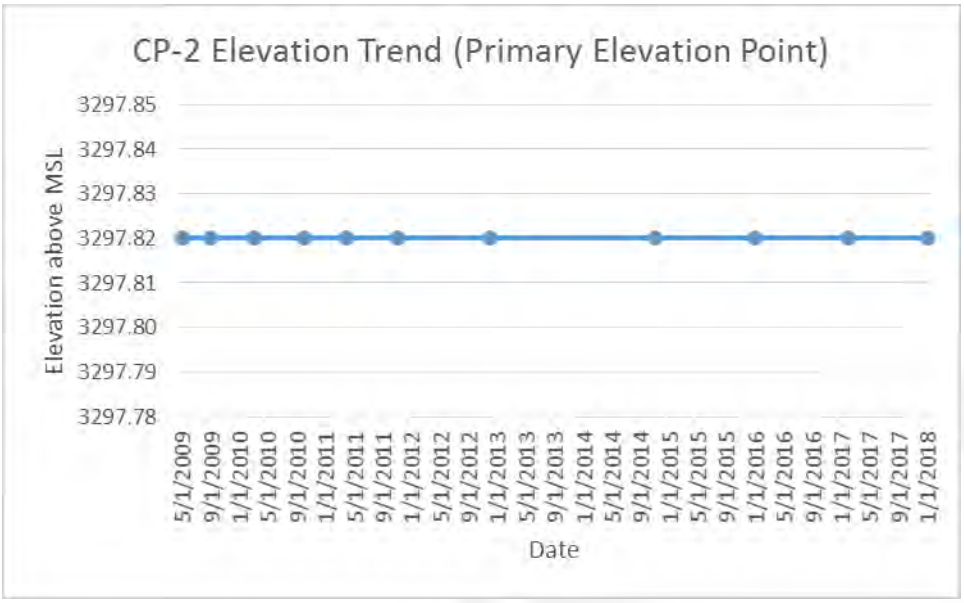
Table B

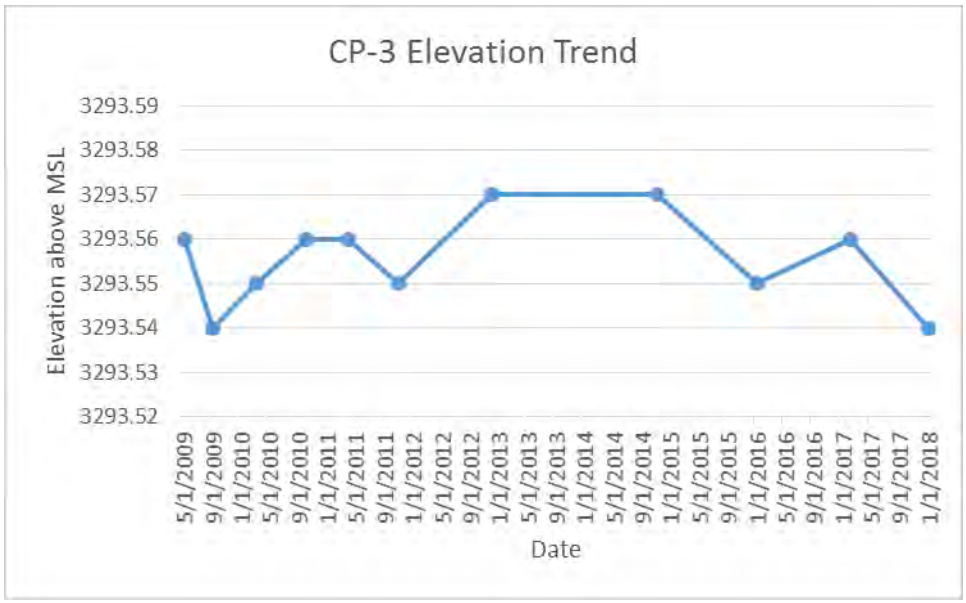
Conclusions

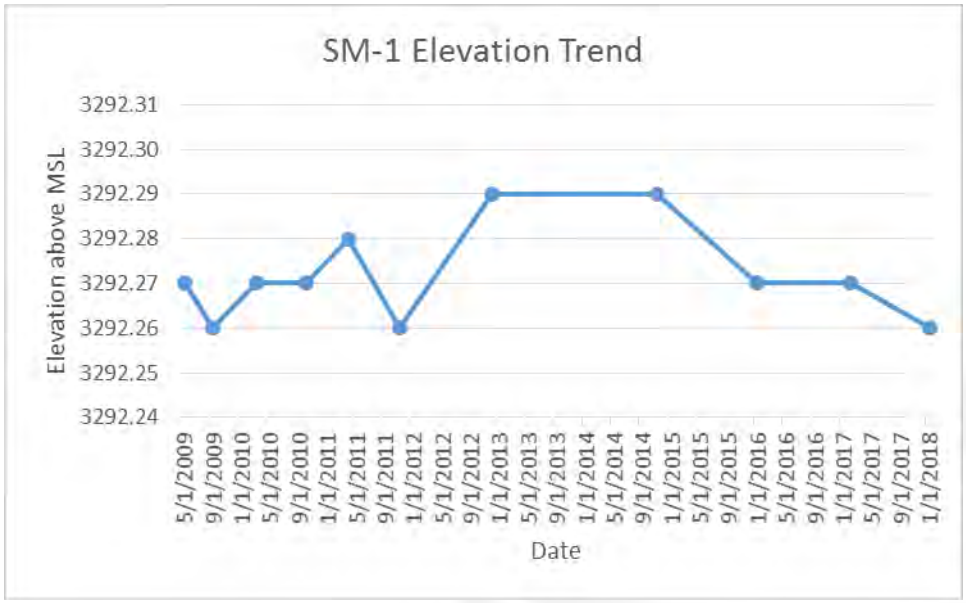
The survey was conducted and results analyzed, using the elevations originally established on May 13, 2009 as the base elevations for each point. The readings were consistent with a stable surface as there was little to no difference in elevations of any monitoring point, the most being on SMF-4 LOW with a change of 0.03 feet downward. Similar deviations were found in CP-3, SM-4, SMF-1 MID, and SMF-3 LOW all with a change of 0.02 feet downward. The rest of the points were within tolerance of the readings for the DiNi level, showing 0.01 feet of difference or less, which is an unremarkable elevation change.

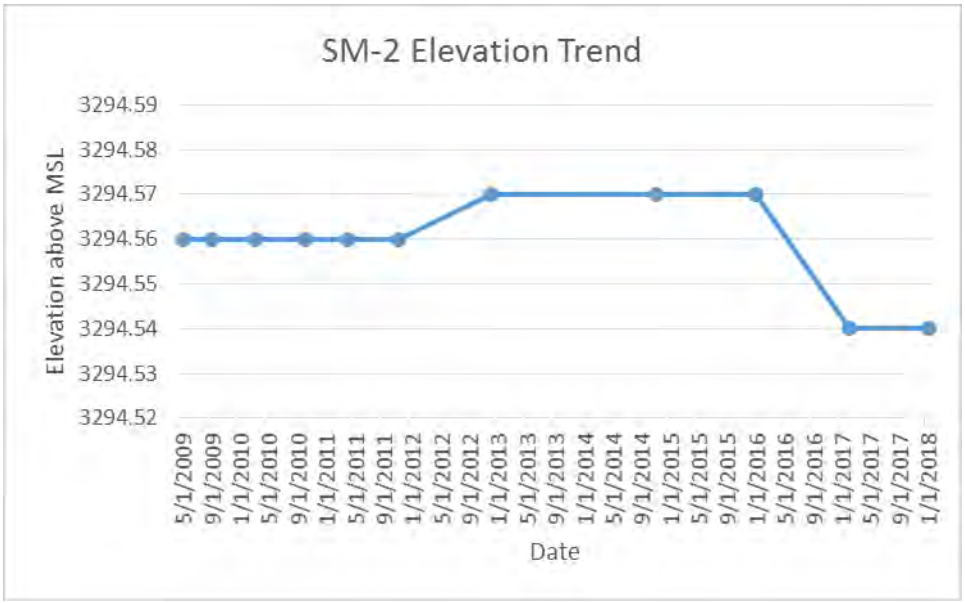
The area appears stable with little movement either up or downward over the past 9 years of monitoring. The greatest deviations in elevation at the SM-4 and SMF-1 LOW locations are around 0.05 feet, or about ½ inch from observed low elevation to observed high elevation, some of which was likely due to instrument, operator reading error, and procedural preferences. Most differences were 0.03 feet (about 3/8 inch) or less over the 9 year monitoring period. Trend charts for each monitoring, control, and bench mark point are attached as Exhibits herein.

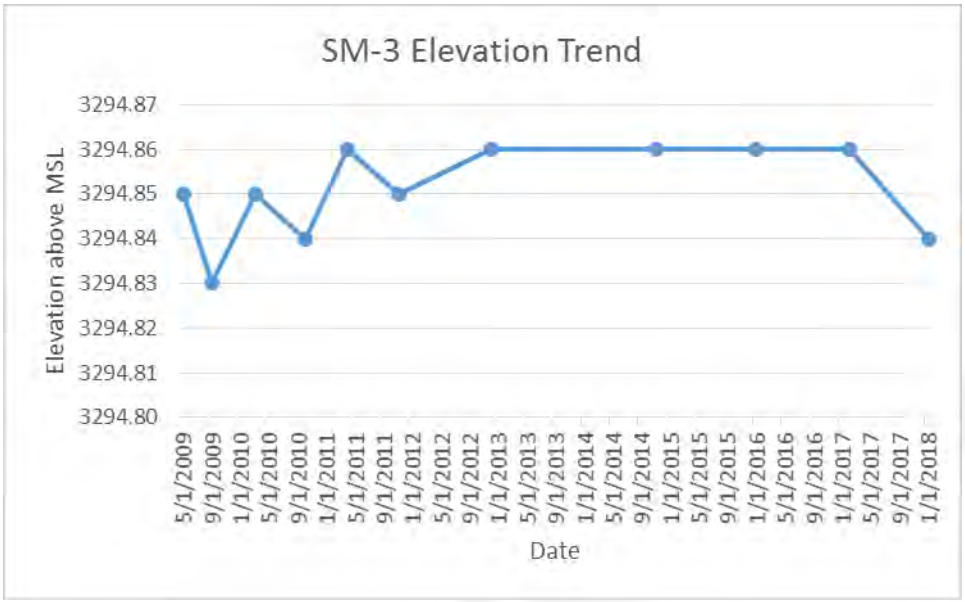

CP-1 Elevation Trend
Elevation avobe MSL
3293.50
3293.49
3293.48
3293.47
3293.46
3293.45
3293.44
3293.43
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
Date


CP-2 Elevation Trend (Primary Elevation Point)
Elevation above MSL
3297.85
3297.84
3297.83
3297.82
3297.81
3297.80
3297.79
3297.78
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
Date


CP-3 Elevation Trend
Elevation above MSL
3293.59
3293.58
3293.57
3293.56
3293.55
3293.54
3293.53
3293.52
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
Date


SM-1 Elevation Trend
Elevation above MSL
3292.31
3292.30
3292.29
3292.28
3292.27
3292.26
3292.25
3292.24
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
Date


SM-2 Elevation Trend
Elevation above MSL
3294.59
3294.58
3294.57
3294.56
3294.55
3294.54
3294.53
3294.52
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
Date


SM-3 Elevation Trend
Elevation above MSL
3294.87
3294.86
3294.85
3294.84
3294.83
3294.82
3294.81
3294.80
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
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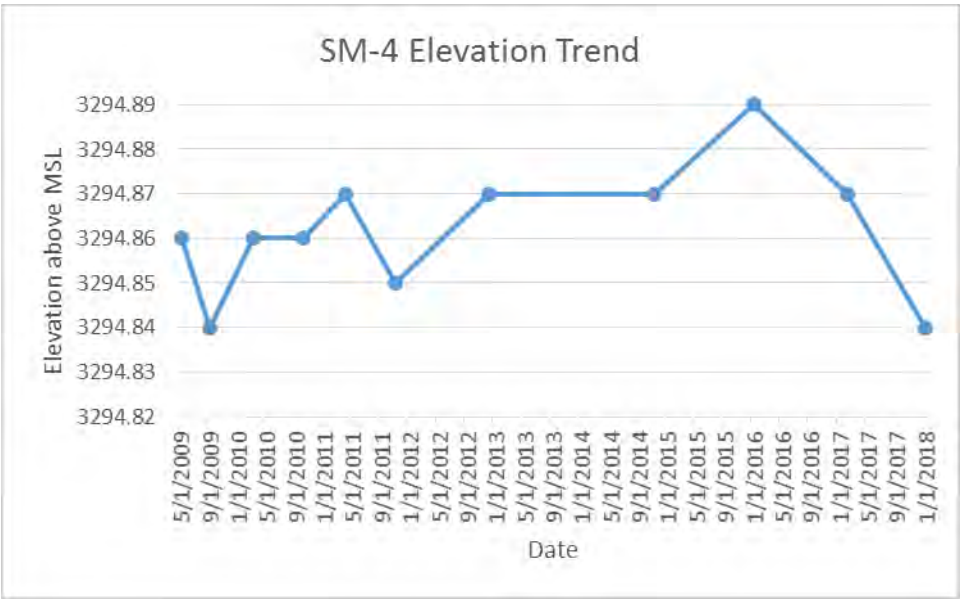
1/1/2017
5/1/2017
9/1/2017
1/1/2018
Date


SM-4 Elevation Trend
Elevation above MSL
3294.89
3294.88
3294.87
3294.86
3294.85
3294.84
3294.83
3294.82
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
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1/1/2015
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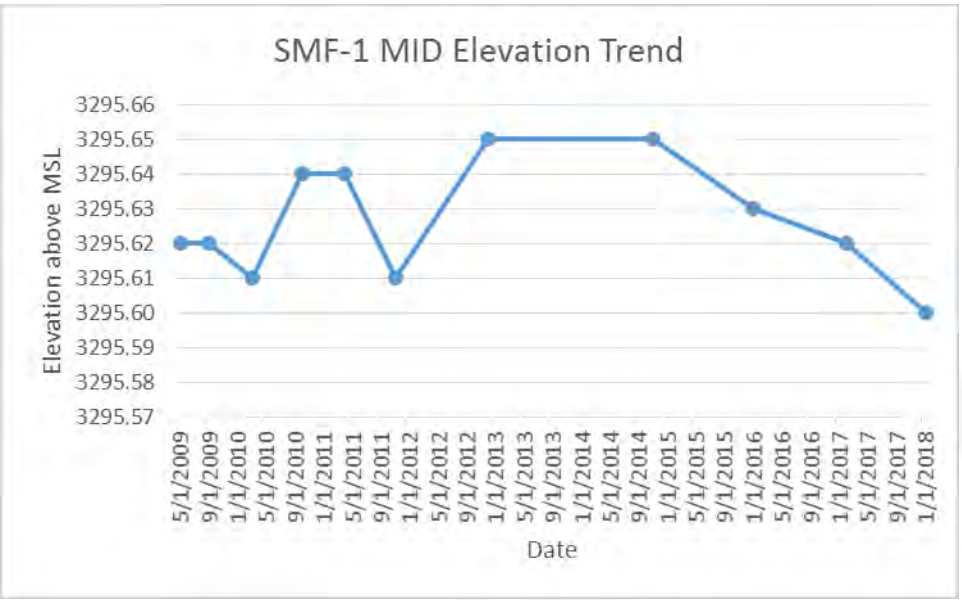
9/1/2017
1/1/2018
Date


SMF-1 MID Elevation Trend
Elevation above MSL
3295.66
3295.65
3295.64
3295.63
3295.62
3295.61
3295.60
3295.59
3295.58
3295.57
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
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1/1/2017
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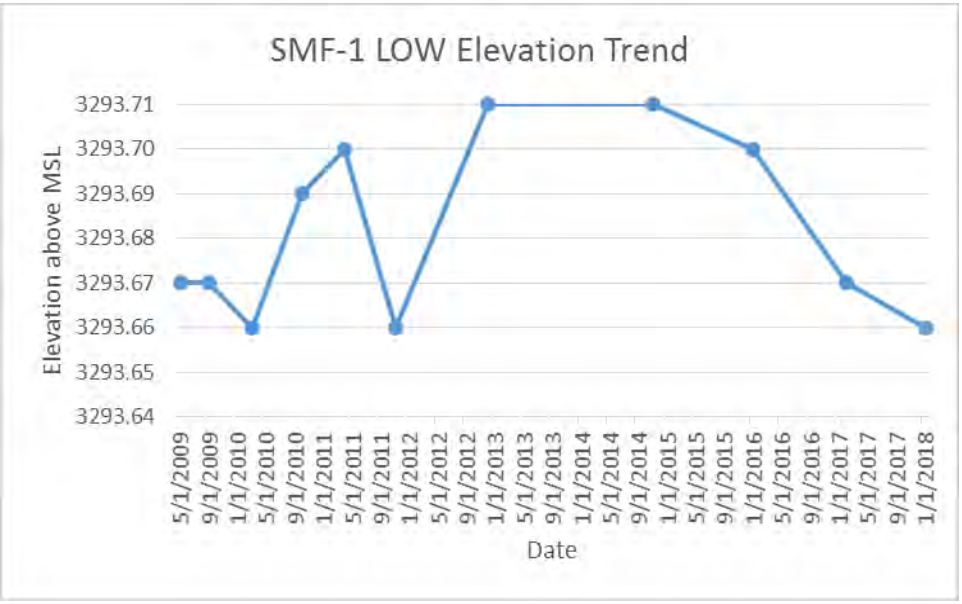
9/1/2017
1/1/2018
Date


SMF-1 LOW Elevation Trend
Elevation above MSL
3293.71
3293.70
3293.69
3293.68
3293.67
3293.66
3293.65
3293.64
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
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5/1/2014
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5/1/2015
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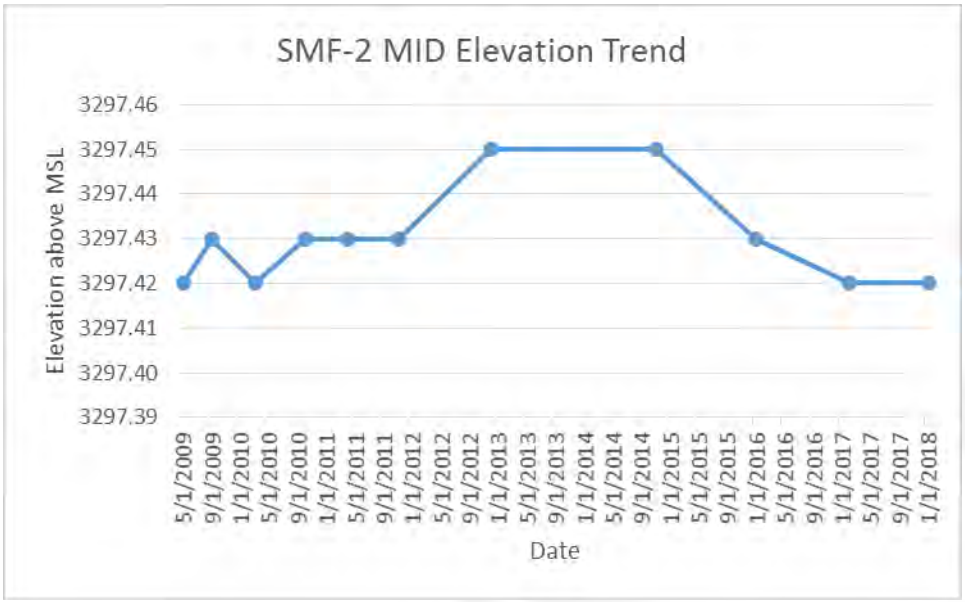
1/1/2018
Date


SMF-2 MID Elevation Trend
Elevation above MSL
3297.46
3297.45
3297.44
3297.43
3297.42
3297.41
3297.40
3297.39
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
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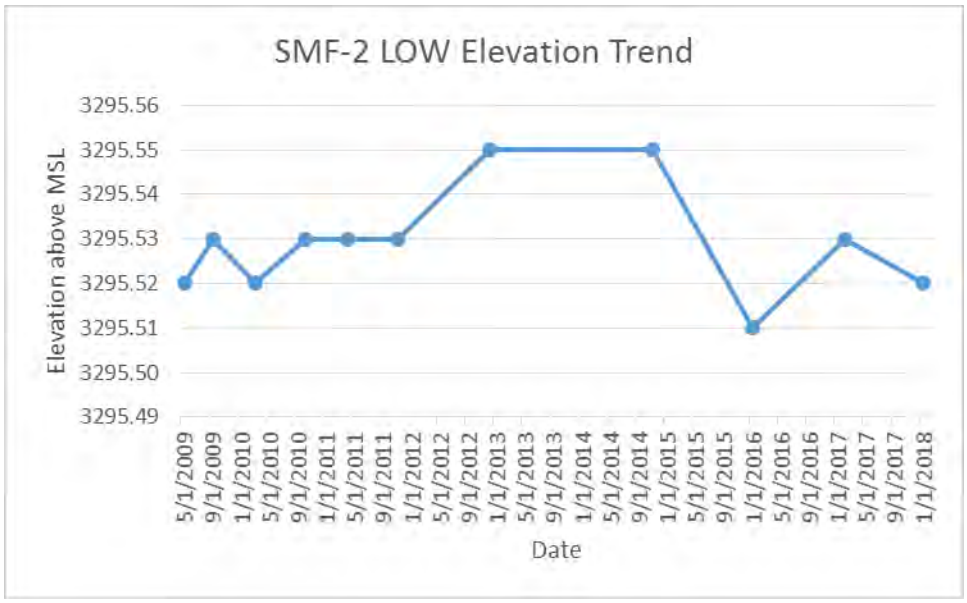
Date


SMF-2 LOW Elevation Trend
Elevation above MSL
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3295.54
3295.53
3295.52
3295.51
3295.50
3295.49
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
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5/1/2013
9/1/2013
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5/1/2014
9/1/2014
1/1/2015
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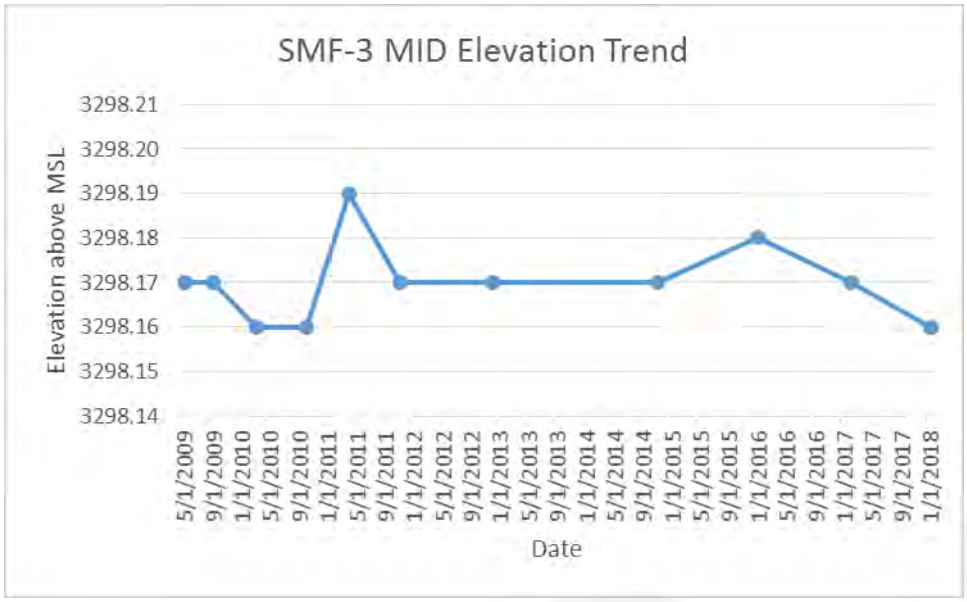
5/1/2017
9/1/2017
1/1/2018
Date


SMF-3 MID Elevation Trend
Elevation above MSL
3298.21
3298.20
3298.19
3298.18
3298.17
3298.16
3298.15
3298.14
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
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5/1/2013
9/1/2013
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5/1/2014
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5/1/2015
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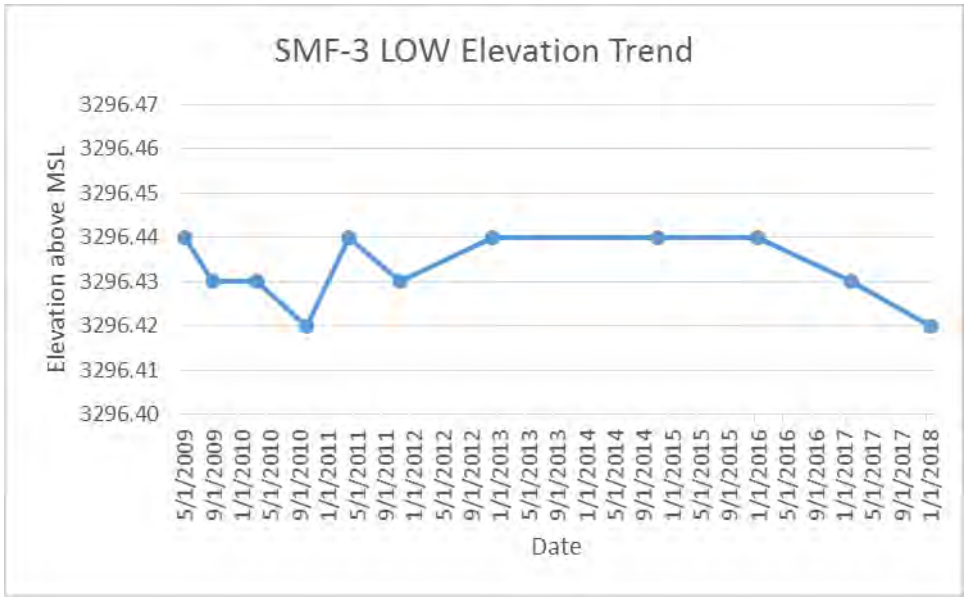
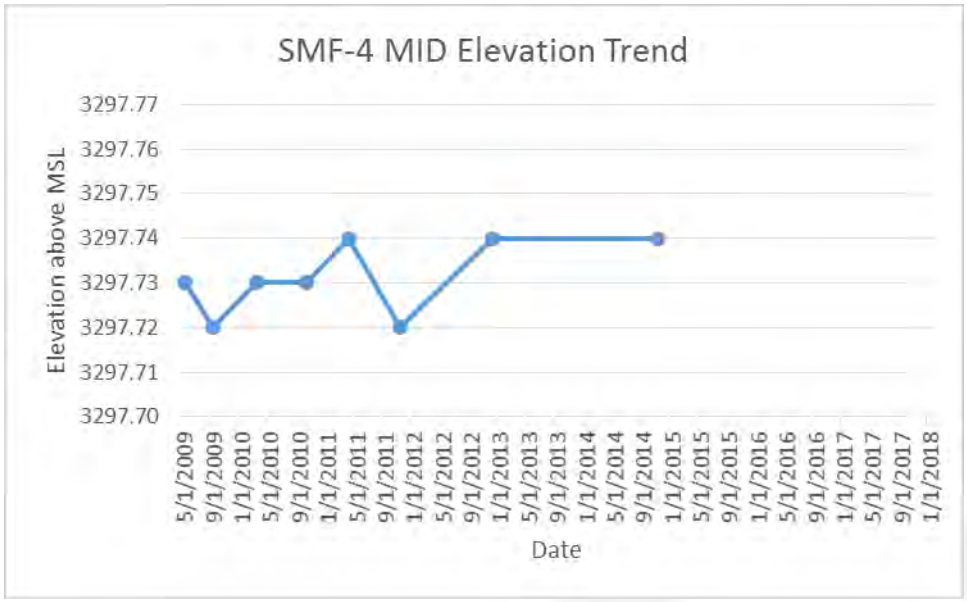
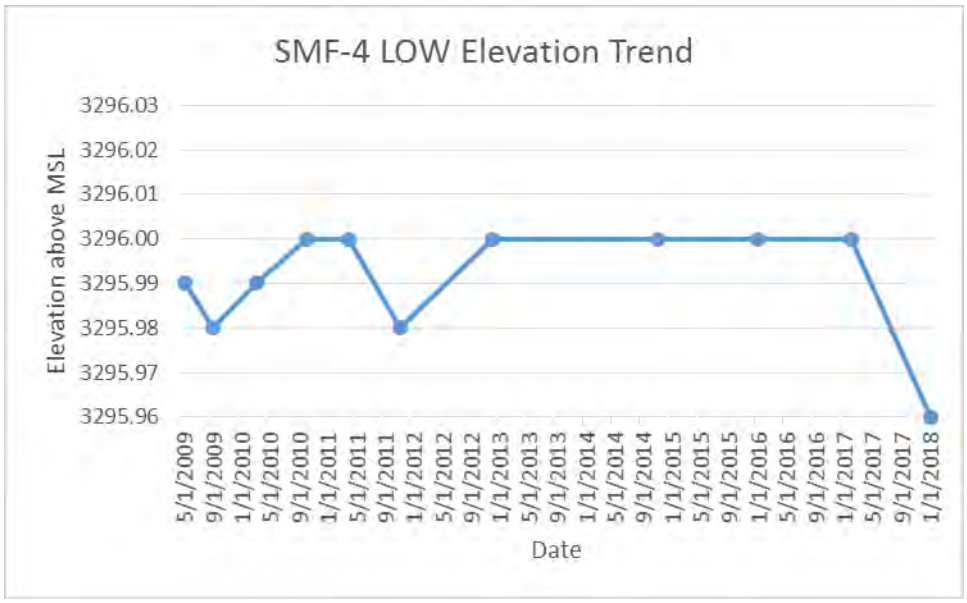
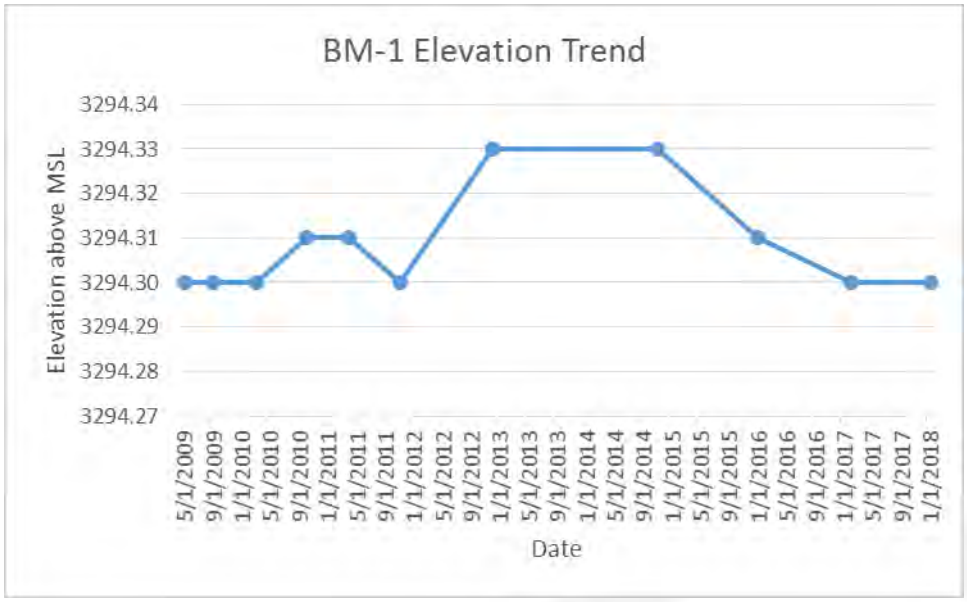
1/1/2018
Date


SMF-3 LOW Elevation Trend
Elevation above MSL
3296.47
3296.46
3296.45
3296.44
3296.43
3296.42
3296.41
3296.40
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
Date


SMF-4 MID Elevation Trend
Elevation above MSL
3297.77
3297.76
3297.75
3297.74
3297.73
3297.72
3297.71
3297.70
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
Date


SMF-4 LOW Elevation Trend
Elevation above MSL
3296.03
3296.02
3296.01
3296.00
3295.99
3295.98
3295.97
3295.96
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
5/1/2013
9/1/2013
1/1/2014
5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
Date


BM-1 Elevation Trend
Elevation above MSL
3294.34
3294.33
3294.32
3294.31
3294.30
3294.29
3294.28
3294.27
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
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9/1/2015
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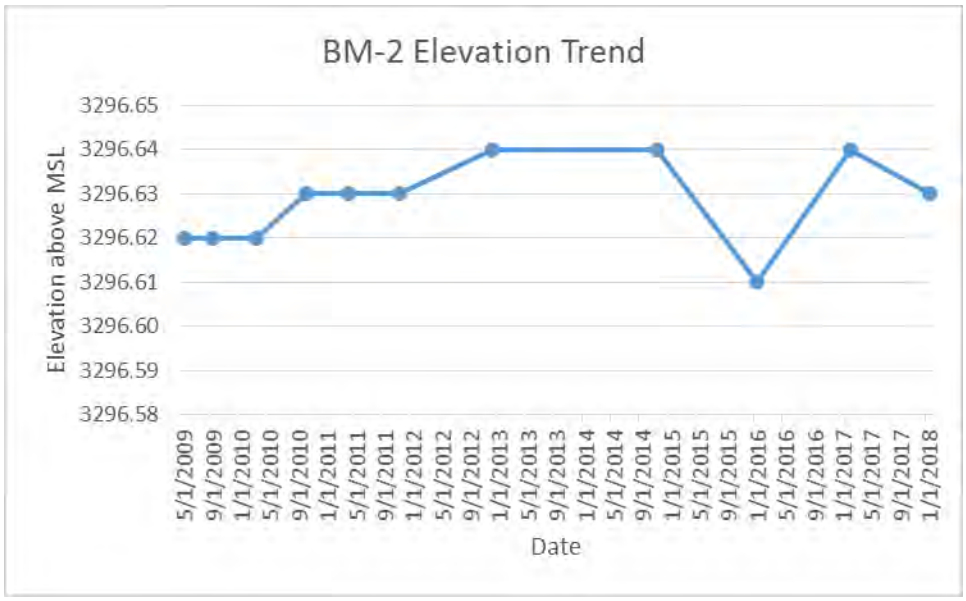
1/1/2017
5/1/2017
9/1/2017
1/1/2018
Date


BM-2 Elevation Trend
Elevation above MSL
3296.65
3296.64
3296.63
3296.62
3296.61
3296.60
3296.59
3296.58
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
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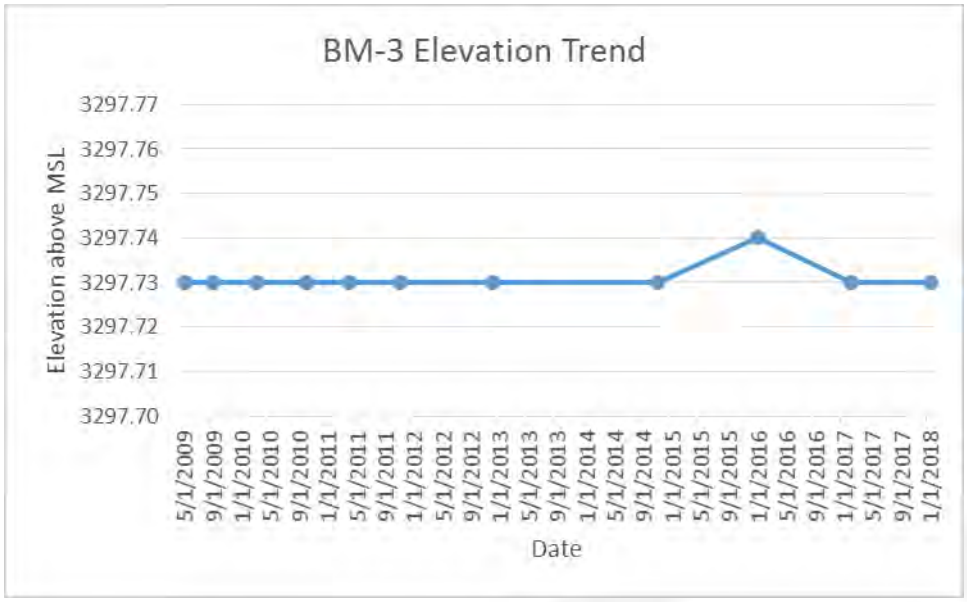
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
Date


BM-3 Elevation Trend
Elevation above MSL
3297.77
3297.76
3297.75
3297.74
3297.73
3297.72
3297.71
3297.70
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
9/1/2012
1/1/2013
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5/1/2014
9/1/2014
1/1/2015
5/1/2015
9/1/2015
1/1/2016
5/1/2016
9/1/2016
1/1/2017
5/1/2017
9/1/2017
1/1/2018
Date

ANNUAL LPG WELL REPORT

OPERATOR: Western Refining Company

UIC CLASS LPG STORAGE WELLS API NUMBER

31055 WELL 1: 30-025-35954
31055 WELL 2: 30-025-35955
31055 WELL 3: 30-025-35956
31055 WELL 4: 30-025-35957

WESTERN REFINING JAL STORAGE FACILITY

Company Representative: Ken Parker

Date: 1-30-18

Annual LPG Well Report Date: 1-30-18

Well Summary

Well 1

Well one was utilized in 2017 for storing Isobutane. Total barrels injecting throughout the year was 44,500 barrels. Well was operated within the OCD guidelines without any issues. Injecting rate were between 230 & 250 barrels per hour with a maximum injecting pressure of 740 psig.

In 2017 the annual Isobutane withdrawn from the well was 48,668 barrels. Withdraw rate was 214 barrels per hour. Operating pressure of the well was between 440 & 550 psig.

In 2017 well one stored product 12 months out of the year. The maximum volume stored in the well was 34,742 barrels or 17% of well capacity.

Well 2

Well two was utilized in 2017 injecting 364,738 barrels of normal butane into storage. Well was operated within the OCD guidelines without any issues. Injecting rate was between 230 & 250 barrels per hour with a maximum injecting pressure of 820 psig. Injection pressures were slightly higher than last year due to salt block in the tubing. Fresh water was injected downhole removing the salt block and reducing injection pressure back to normal.

In 2017 351,445 barrels of normal butane was withdrawn from the well. Withdraw rate was 214 barrels per hour. Operating pressure of the well was between 400 & 500 psig.

In 2017 well two stored product 12 months out of the year. The maximum volume stored in the well was 83,124 barrels or 58% of well capacity.

Well 3

Well three was utilized in 2017 injecting 10,785 barrels of LPG (butane/propane) into storage. Well was operated within the OCD guidelines without any issues. Injecting rate was 187 barrels per hour with a maximum injecting pressure of 740 psig.

In 2017 18,844 barrels of LPG was withdrawn from the well. Withdraw rate was 214 barrels per hour. Operating pressure of the well was between 600 to 680 psig.

In 2017 well three stored product 6 months out of the year. The maximum volume stored in the well was 11,414 barrels or 14% of well capacity.

Well 4

Well four was utilized in 2017 injecting 194,927 barrels of normal butane into storage. Well was operated within the OCD guidelines without any issues. Injecting rate was between 184-187 barrels per hour with a maximum injecting pressure of 790 psig.

In 2017 215,264 barrels of normal butane was withdrawn from the well. Withdraw rate was 214 barrels per hour. Operating pressure of the well was between 600 to 680 psig.

In 2017 well four stored product 6 months out of the year. The maximum volume stored in the well was 63,322 barrels or 46% of well capacity.

Production Volumes
See Attachments
Well 1 Annual C-131B
Well 2 Annual C-131B
Well 3 Annual C-131B
Well 4 Annual C-131B

Injecting Fluid Analysis
See Attachment 573320
Report

Deviation From Normal Production Method
N/A

Leak and Spill Report
N/A

Ground Water Monitoring
N/A

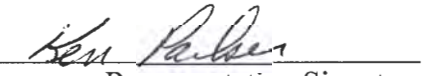
Cavity Subsidence
Report is being generated and the report will be submitted separately no later than February 28, 2018.

Area of Review
No activity in the year 2017

Pursuant to all applicable parts of the Water Quality Control Commission (WQCC) Regulations 20.6.2 NMAC and more specifically 20.6.2.5101. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information. I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Western Refining Company
Company Name

Ken Parker
Company Representative



Company Representative Signature

Title: Facility Manager

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-131B
Revised June 10, 2003

Submit one copy to Santa Fe and one copy to appropriate District Office postmarked by 24th Day of succeeding month. See Rule 1131.

ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-17

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 1 30-025-35954	**M32-23S-37E**	**740**	**44,500**	**48,668**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 855

TOTAL CAPACITY (BBLS) 201,013 Barrels

BEGINNING STORAGE (BBLS) 13,492

NET CHANGE (BBLS) 4,168

ENDING STORAGE (BBLS) 9,324

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature _____

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-29-18 Telephone No. 575-395-2632

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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Energy Minerals and Natural Resources

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Revised June 10, 2003

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ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) — PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-17

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 2 30-025-35955	**M32-23S-37E**	**820**	**364,738**	**351,445**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 1,008

TOTAL CAPACITY (BBLS) 144,443 Barrels

BEGINNING STORAGE (BBLS) 50,105

NET CHANGE (BBLS) 13,293

ENDING STORAGE (BBLS) 63,398

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature [signature]

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-29-18 Telephone No. 575-395-2632

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
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Santa Fe, NM 87505

Form C-131B
Revised June 10, 2003

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ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-17

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 3 30-025-35956	**M32-23S-37E**	**740**	**10,785**	**18,844**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 1,007

TOTAL CAPACITY (BBLS) 79,692 Barrels

BEGINNING STORAGE (BBLS) 13,667

NET CHANGE (BBLS) 8,059

ENDING STORAGE (BBLS) 5,608

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature Ken Parker

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-29-18 Telephone No. 575-395-2632

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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1220 South St. Francis Dr.
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Form C-131B
Revised June 10, 2003

Submit one copy to Santa Fe and one copy to appropriate District Office postmarked by 24th Day of succeeding month. See Rule 1131.

ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-17

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 4 30-025-35957	**M32-23S-37E**	**790**	**194,927**	**215,264**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 1,127

TOTAL CAPACITY (BBLS) 136,626 Barrels

BEGINNING STORAGE (BBLS) 48,817

NET CHANGE (BBLS) 20,337

ENDING STORAGE (BBLS) 28,480

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-29-18 Telephone No. 575-395-2632

Certificate of Analysis Summary 573320

Western Refining, Jal, NM

Project Name: South Brine Pond

Project Id:
Contact: Ken Parker
Project Location: Jal, NM

Date Received in Lab: Thu Jan-11-18 02:50 pm
Report Date: 19-JAN-18
Project Manager: Kelsey Brooks

Analysis Requested		*Lab Id:* 573320-001					
		Field Id: South Pond					
		Depth: 1 ft					
		Matrix: WATER					
		Sampled: Jan-11-18 10:30					
Alkalinity by SM2320B SUB: TX104704215-17-23	*Extracted:*						
	Analyzed:	Jan-16-18 10:00					
	Units/RL:	mg/L	RL				
Alkalinity, Total (CaCO3)		113	4.00				
BTEX by EPA 8021B	*Extracted:*	Jan-16-18 10:00					
	Analyzed:	Jan-16-18 19:49					
	Units/RL:	mg/L	RL				
Benzene		<0.00200	0.00200				
Toluene		<0.00200	0.00200				
Ethylbenzene		<0.00200	0.00200				
m,p-Xylenes		<0.00400	0.00400				
o-Xylene		<0.00200	0.00200				
Total Xylenes		<0.00200	0.00200				
Total BTEX		<0.00200	0.00200				
Chloride by EPA 300	*Extracted:*	Jan-17-18 12:00					
	Analyzed:	Jan-17-18 13:29					
	Units/RL:	mg/L	RL				
Chloride		143000	1000				
Mercury, Total by EPA 245.1 SUB: TX104704215-17-23	*Extracted:*	Jan-15-18 10:20					
	Analyzed:	Jan-15-18 15:50					
	Units/RL:	mg/L	RL				
Mercury		<0.00200	0.00200				

Certificate of Analysis Summary 573320

Western Refining, Jal, NM

Project Name: South Brine Pond

Project Id:
Contact: Ken Parker
Project Location: Jal, NM

Date Received in Lab: Thu Jan-11-18 02:50 pm
Report Date: 19-JAN-18
Project Manager: Kelsey Brooks

Analysis Requested		*Lab Id:* 573320-001					
		Field Id: South Pond					
		Depth: 1 ft					
		Matrix: WATER					
		Sampled: Jan-11-18 10:30					
Metals by EPA 200.8 SUB: TX104704215-17-23	*Extracted:*	Jan-15-18 10:05					
	Analyzed:	Jan-16-18 23:00					
	Units/RL:	mg/L	RL				
Arsenic		0.0300	0.0100				
Barium		0.101	0.0800				
Cadmium		<0.0100	0.0100				
Chromium		<0.0200	0.0200				
Selenium		<0.0100	0.0100				
Silver		<0.0100	0.0100				
Metals per ICP by EPA 200.7 SUB: TX104704215-17-23	*Extracted:*	Jan-15-18 10:05					
	Analyzed:	Jan-18-18 16:05					
	Units/RL:	mg/L	RL				
Calcium		676	20.0				
Magnesium		2290	40.0				
Potassium		6150	50.0				
Sodium		107000	2500				
TDS by SM2540C SUB: TX104704215-17-23	*Extracted:*						
	Analyzed:	Jan-16-18 11:32					
	Units/RL:	mg/L	RL				
Total Dissolved Solids		229000	5.00				
pH by SM4500-H SUB: TX104704215-17-23	*Extracted:*						
	Analyzed:	Jan-12-18 09:00					
	Units/RL:	Deg C	RL				
Temperature		19.2 K					

Certificate of Analysis Summary 573320

Western Refining, Jal, NM

Project Name: South Brine Pond

Project Id:
Contact: Ken Parker
Project Location: Jal, NM

Date Received in Lab: Thu Jan-11-18 02:50 pm
Report Date: 19-JAN-18
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	573320-001					
	Field Id:	South Pond					
	Depth:	1 ft					
	Matrix:	WATER					
	Sampled:	Jan-11-18 10:30					
pH by SM4500-H	***Extracted:***						
SUB: TX104704215-17-23	***Analyzed:***	Jan-12-18 09:00					
	Units/RL:	SU RL					
pH		7.71 K					

Analytical Report 573320

for

Western Refining

Project Manager: Ken Parker

South Brine Pond

19-JAN-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-15), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-17-13)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

19-JAN-18

Project Manager: **Ken Parker**
Western Refining
P.O. Box 1345
Jal, NM 88252

Reference: XENCO Report No(s): **573320**
South Brine Pond
Project Address: Jal, NM

Ken Parker:

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(s) 573320. 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. The uncertainty of measurement associated with the results of analysis reported is available upon request. 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. 573320 will be filed for 45 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,

Kelsey Brooks
Project Manager

Sample Cross Reference 573320

Western Refining, Jal, NM

South Brine Pond

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
South Pond	W	01-11-18 10:30	1 ft	573320-001

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analytical Results 573320

Western Refining, Jal, NM

South Brine Pond

Sample Id:	**South Pond**	Matrix:	Water	Date Received:	01.11.18 14.50
Lab Sample Id:	573320-001	Date Collected:	01.11.18 10.30	Sample Depth:	1 ft

Analytical Method: Chloride by EPA 300 — Prep Method: E300P

Tech: OJS — % Moisture:

Analyst: OJS — Date Prep: 01.17.18 12.00

Seq Number: 3038656

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**143000**	1000	mg/L	01.17.18 13.29		2000

Analytical Method: TDS by SM2540C

Tech: YAV — % Moisture:

Analyst: YAV

Seq Number: 3038357 — SUB: TX104704215-17-23

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Total Dissolved Solids	1642222	**229000**	5.00	mg/L	01.16.18 11.32		1

Analytical Method: pH by SM4500-H

Tech: MJP — % Moisture:

Analyst: MJP

Seq Number: 3038125 — SUB: TX104704215-17-23

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
pH	12408-02-5	**7.71**		SU	01.12.18 09.00	K	1
Temperature	TEMP	**19.2**		Deg C	01.12.18 09.00	K	1

Certificate of Analytical Results 573320

Western Refining, Jal, NM

South Brine Pond

Sample Id:	**South Pond**	Matrix:	Water	Date Received:	01.11.18 14.50
Lab Sample Id:	573320-001	Date Collected:	01.11.18 10.30	Sample Depth:	1 ft

Analytical Method: Metals by EPA 200.8 — Prep Method: E200.8P
Tech: AVM — % Moisture:
Analyst: DEP — Date Prep: 01.15.18 10.05
Seq Number: 3038425 — SUB: TX104704215-17-23

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Arsenic	7440-38-2	**0.0300**	0.0100	mg/L	01.18.18 01.56		5
Barium	7440-39-3	**0.101**	0.0800	mg/L	01.19.18 00.35		20
Cadmium	7440-43-9	<0.0100	0.0100	mg/L	01.18.18 01.56	U	5
Chromium	7440-47-3	<0.0200	0.0200	mg/L	01.18.18 01.56	U	5
Selenium	7782-49-2	<0.0100	0.0100	mg/L	01.18.18 01.56	U	5
Silver	7440-22-4	<0.0100	0.0100	mg/L	01.18.18 01.56	U	5

Analytical Method: Metals per ICP by EPA 200.7 — Prep Method: E200.7P
Tech: AVM — % Moisture:
Analyst: DEP — Date Prep: 01.15.18 10.05
Seq Number: 3038561 — SUB: TX104704215-17-23

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Calcium	7440-70-2	**676**	20.0	mg/L	01.18.18 16.05		100
Magnesium	7439-95-4	**2290**	40.0	mg/L	01.18.18 16.05		100
Potassium	7440-09-7	**6150**	50.0	mg/L	01.18.18 16.05		100
Sodium	7440-23-5	**107000**	2500	mg/L	01.18.18 15.57		5000

Analytical Method: Alkalinity by SM2320B
Tech: DHE — % Moisture:
Analyst: DHE
Seq Number: 3038441 — SUB: TX104704215-17-23

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Alkalinity, Total (CaCO3)	1640192	**113**	4.00	mg/L	01.16.18 10.00		1

Final 1.000

Western Refining, Jal, NM

South Brine Pond

Sample Id: **South Pond** Matrix: Water Date Received:01.11.18 14.50

Lab Sample Id: 573320-001 Date Collected: 01.11.18 10.30 Sample Depth: 1 ft

Analytical Method: Mercury, Total by EPA 245.1 Prep Method: E245.1P

Tech: AHI % Moisture:

Analyst: ELW Date Prep: 01.15.18 10.20

Seq Number: 3038298 SUB: TX104704215-17-23

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Mercury	7439-97-6	<0.00200	0.00200	mg/L	01.15.18 15.56	U	1

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: ALJ % Moisture:

Analyst: ALJ Date Prep: 01.16.18 10.00

Seq Number: 3038417

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	01.16.18 19.49	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	01.16.18 19.49	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	01.16.18 19.49	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	01.16.18 19.49	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	01.16.18 19.49	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	01.16.18 19.49	U	1
Total BTEX		<0.00200	0.00200	mg/L	01.16.18 19.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	80-120	01.16.18 19.49	
4-Bromofluorobenzene	460-00-4	95	%	80-120	01.16.18 19.49	

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 quantitation 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.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

\+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 573320

Western Refining
South Brine Pond

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3038656 — Matrix: Water — Date Prep: 01.17.18
MB Sample Id: 7637622-1-BLK — LCS Sample Id: 7637622-1-BKS — LCSD Sample Id: 7637622-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.500	25.0	25.9	104	26.1	104	90-110	1	20	mg/L	01.17.18 15:14	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3038656 — Matrix: Ground Water — Date Prep: 01.17.18
Parent Sample Id: 573507-006 — MS Sample Id: 573507-006 S — MSD Sample Id: 573507-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	39.3	25.0	63.5	97	63.5	97	90-110	0	20	mg/L	01.17.18 17:12	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3038656 — Matrix: Drinking Water — Date Prep: 01.17.18
Parent Sample Id: 573644-001 — MS Sample Id: 573644-001 S — MSD Sample Id: 573644-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	22.8	25.0	48.7	104	48.3	102	90-110	1	20	mg/L	01.17.18 15:35	

Analytical Method: TDS by SM2540C
Seq Number: 3038357 — Matrix: Water
MB Sample Id: 3038357-1-BLK — LCS Sample Id: 3038357-1-BKS — LCSD Sample Id: 3038357-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Total Dissolved Solids	<5.00	1000	1100	110	1090	109	80-120	1	10	mg/L	01.16.18 11:32	

Analytical Method: TDS by SM2540C
Seq Number: 3038357 — Matrix: Water
Parent Sample Id: 573363-003 — MD Sample Id: 573363-003 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Total Dissolved Solids	470	514	9	10	mg/L	01.16.18 11:32	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

Final 1.000

QC Summary 573320

Western Refining

South Brine Pond

Analytical Method: pH by SM4500-H
Seq Number: 3038125 Matrix: Water
Parent Sample Id: 573053-001 MD Sample Id: 573053-001 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
pH	8.12	8.12	0	20	SU	01.12.18 09:00	
Temperature	19.6	19.7	1	20	Deg C	01.12.18 09:00	

Analytical Method: Metals by EPA 200.8 Prep Method: E200.8P
Seq Number: 3038425 Matrix: Water Date Prep: 01.15.18
MB Sample Id: 7637462-1-BLK LCS Sample Id: 7637462-1-BKS LCSD Sample Id: 7637462-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Arsenic	<0.00200	0.100	0.102	102	0.102	102	85-115	0	20	mg/L	01.16.18 22:32	
Barium	<0.00400	0.100	0.103	103	0.102	102	85-115	1	20	mg/L	01.16.18 22:32	
Cadmium	<0.00200	0.100	0.103	103	0.103	103	85-115	0	20	mg/L	01.16.18 22:32	
Chromium	<0.00400	0.100	0.103	103	0.103	103	85-115	0	20	mg/L	01.16.18 22:32	
Selenium	<0.00200	0.100	0.102	102	0.103	103	85-115	1	20	mg/L	01.16.18 22:32	
Silver	<0.00200	0.0500	0.0495	99	0.0494	99	85-115	0	20	mg/L	01.16.18 22:32	

Analytical Method: Metals by EPA 200.8 Prep Method: E200.8P
Seq Number: 3038425 Matrix: Water Date Prep: 01.15.18
Parent Sample Id: 573291-001 MS Sample Id: 573291-001 S MSD Sample Id: 573291-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Arsenic	0.0208	0.100	0.125	104	0.125	104	70-130	0	20	mg/L	01.16.18 22:43	
Barium	0.0296	0.100	0.135	105	0.133	103	70-130	1	20	mg/L	01.16.18 22:43	
Cadmium	<0.00200	0.100	0.0990	99	0.100	100	70-130	1	20	mg/L	01.16.18 22:43	
Chromium	<0.00400	0.100	0.104	104	0.104	104	70-130	0	20	mg/L	01.16.18 22:43	
Selenium	0.0132	0.100	0.114	101	0.115	102	70-130	1	20	mg/L	01.16.18 22:43	
Silver	<0.00200	0.0500	0.0478	96	0.0478	96	70-130	0	20	mg/L	01.16.18 22:43	

Analytical Method: Metals by EPA 200.8 Prep Method: E200.8P
Seq Number: 3038425 Matrix: Water Date Prep: 01.15.18
Parent Sample Id: 573393-009 MS Sample Id: 573393-009 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Arsenic	0.0102	0.100	0.114	104	70-130	mg/L	01.16.18 23:32	
Barium	0.216	0.100	0.338	122	70-130	mg/L	01.16.18 23:32	
Cadmium	<0.00200	0.100	0.0932	93	70-130	mg/L	01.16.18 23:32	
Chromium	<0.00400	0.100	0.108	108	70-130	mg/L	01.16.18 23:32	
Selenium	0.00327	0.100	0.104	101	70-130	mg/L	01.16.18 23:32	
Silver	<0.00200	0.0500	0.0454	91	70-130	mg/L	01.16.18 23:32	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

Final 1.000

QC Summary 573320

Western Refining

South Brine Pond

Analytical Method: **Metals per ICP by EPA 200.7** Prep Method: E200.7P
Seq Number: 3038561 Matrix: Water Date Prep: 01.15.18
MB Sample Id: 7637463-1-BLK LCS Sample Id: 7637463-1-BKS LCSD Sample Id: 7637463-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Calcium	<0.200	25.0	26.1	104	26.2	105	85-115	0	20	mg/L	01.17.18 13:20	
Magnesium	<0.400	25.0	26.0	104	26.1	104	85-115	0	20	mg/L	01.17.18 13:20	
Potassium	<0.500	10.0	10.5	105	10.5	105	85-115	0	20	mg/L	01.17.18 13:20	
Sodium	<0.500	25.0	26.3	105	26.3	105	85-115	0	20	mg/L	01.17.18 13:20	

Analytical Method: **Metals per ICP by EPA 200.7** Prep Method: E200.7P
Seq Number: 3038561 Matrix: Ground Water Date Prep: 01.15.18
Parent Sample Id: 573227-003 MS Sample Id: 573227-003 S MSD Sample Id: 573227-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Calcium	91.5	25.0	119	110	119	110	70-130	0	20	mg/L	01.17.18 13:37	
Magnesium	2.16	25.0	28.1	104	28.1	104	70-130	0	20	mg/L	01.17.18 13:37	
Potassium	<0.500	10.0	11.0	110	10.9	109	70-130	1	20	mg/L	01.17.18 13:37	
Sodium	9.55	25.0	36.4	107	36.3	107	70-130	0	20	mg/L	01.17.18 13:37	

Analytical Method: **Alkalinity by SM2320B**
Seq Number: 3038441 Matrix: Water
MB Sample Id: 3038441-1-BLK LCS Sample Id: 3038441-1-BKS LCSD Sample Id: 3038441-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Alkalinity, Total (CaCO3)	<4.00	250	253	101	256	102	80-120	1	20	mg/L	01.16.18 10:00	

Analytical Method: **Alkalinity by SM2320B**
Seq Number: 3038441 Matrix: Water
Parent Sample Id: 573310-001 MD Sample Id: 573310-001 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Alkalinity, Total (CaCO3)	<4.00	<4.00	0	20	mg/L	01.16.18 10:00	U

Analytical Method: **Alkalinity by SM2320B**
Seq Number: 3038441 Matrix: Water
Parent Sample Id: 573444-001 MD Sample Id: 573444-001 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Alkalinity, Total (CaCO3)	482	481	0	20	mg/L	01.16.18 10:00	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 573320

Western Refining

South Brine Pond

Analytical Method: Mercury, Total by EPA 245.1 — Prep Method: E245.1P
Seq Number: 3038298 — Matrix: Water — Date Prep: 01.15.18
MB Sample Id: 7637477-1-BLK — LCS Sample Id: 7637477-1-BKS — LCSD Sample Id: 7637477-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Mercury	<0.000200	0.00200	0.00205	103	0.00201	101	85-115	2	20	mg/L	01.15.18 14:50	

Analytical Method: Mercury, Total by EPA 245.1 — Prep Method: E245.1P
Seq Number: 3038298 — Matrix: Water — Date Prep: 01.15.18
Parent Sample Id: 573090-001 — MS Sample Id: 573090-001 S — MSD Sample Id: 573090-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Mercury	<0.000200	0.00200	0.00196	98	0.00193	97	70-130	2	20	mg/L	01.15.18 15:13	

Analytical Method: Mercury, Total by EPA 245.1 — Prep Method: E245.1P
Seq Number: 3038298 — Matrix: Storm Water — Date Prep: 01.15.18
Parent Sample Id: 573419-002 — MS Sample Id: 573419-002 S — MSD Sample Id: 573419-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Mercury	<0.000200	0.00200	0.00205	103	0.00209	105	70-130	2	20	mg/L	01.15.18 14:57	

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3038417 — Matrix: Water — Date Prep: 01.16.18
MB Sample Id: 7637568-1-BLK — LCS Sample Id: 7637568-1-BKS — LCSD Sample Id: 7637568-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0894	89	0.0999	100	70-125	11	25	mg/L	01.16.18 10:35	
Toluene	<0.00200	0.100	0.0920	92	0.0997	100	70-125	8	25	mg/L	01.16.18 10:35	
Ethylbenzene	<0.00200	0.100	0.0939	94	0.102	102	71-129	8	25	mg/L	01.16.18 10:35	
m,p-Xylenes	<0.00400	0.200	0.185	93	0.201	101	70-131	8	25	mg/L	01.16.18 10:35	
o-Xylene	<0.00200	0.100	0.0933	93	0.103	103	71-133	10	25	mg/L	01.16.18 10:35	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		101		86		80-120	%	01.16.18 10:35
4-Bromofluorobenzene	95		113		114		80-120	%	01.16.18 10:35

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
E = MSD/LCSD Result

QC Summary 573320

Western Refining

South Brine Pond

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3038417 Matrix: Water Date Prep: 01.16.18

Parent Sample Id: 573473-001 MS Sample Id: 573473-001 S MSD Sample Id: 573473-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0905	91	0.0985	99	70-125	8	25	mg/L	01.16.18 11:12	
Toluene	<0.00200	0.100	0.0954	95	0.104	104	70-125	9	25	mg/L	01.16.18 11:12	
Ethylbenzene	<0.00200	0.100	0.0981	98	0.107	107	71-129	9	25	mg/L	01.16.18 11:12	
m,p-Xylenes	0.00509	0.200	0.199	97	0.216	105	70-131	8	25	mg/L	01.16.18 11:12	
o-Xylene	<0.00200	0.100	0.0969	97	0.105	105	71-133	8	25	mg/L	01.16.18 11:12	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		104		80-120	%	01.16.18 11:12
4-Bromofluorobenzene	98		116		80-120	%	01.16.18 11:12

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

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Xenco Quote #

Xenco Job # 573320

Client / Reporting Information

Company Name / Branch: Western Refining

Company Address: PO Box 1345 Jal, NM 88252

Email: Kenneth.J.Parker@andeavor.com

Phone No:

Project Contact: Ken Parker

Samplers's Name

Project Information

Project Name/Number: South Brine Pond

Project Location: Jal, NM

Invoice To:

PO Number:

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW = Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW = Ocean/Sea Water
WI = Wipe
O = Oil
WW = Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Analytical Information: BTEX 8021	RCRA 8 Metals	Cations	Chloride	pH	TDS	Alkalinity	Field Comments
1	South Pond	1ft	1-11-18	10:30 AM	BW	6	3		1					2	X	X	X	X	X	X	X	
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						

Turnaround Time (Business days)

- [ ] Same Day TAT
- [x] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

Temp: 4.6 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 4.4

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Ken Parker	1-11-18 2:50 PM		2		2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
			3	4		4
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
			5			

Inter-Office Shipment

IOS Number **1054510**

Date/Time: 01/11/18 15:19
Lab# From: **Midland**
Lab# To: **Houston**

Created by: Shawnee Smith
Delivery Priority:
Air Bill No.: 771200896771

Please send report to: Kelsey Brooks
Address: 1211 W. Florida Ave, Midland TX 79701
Phone:
E-Mail: kelsey.brooks@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
573320-001	W	South Pond	01/11/18 10:30	E200.7	Metals per ICP by EPA 200.7	01/17/18	07/10/18	KEB	CA K MG NA	
573320-001	W	South Pond	01/11/18 10:30	E200.8	Metals by EPA 200.8	01/17/18	02/08/18	KEB	AG AS BA CD CR HG SE	
573320-001	W	South Pond	01/11/18 10:30	E245.1	Mercury, Total by EPA 245.1	01/17/18	02/08/18	KEB	HG	
573320-001	W	South Pond	01/11/18 10:30	SM2320B	Alkalinity by SM2320B	01/17/18	01/18/18	KEB	ALK	
573320-001	W	South Pond	01/11/18 10:30	SM2540C	TDS by SM2540C	01/17/18	01/18/18	KEB	TDS	
573320-001	W	South Pond	01/11/18 10:30	SM4500-H	pH by SM4500-H	01/17/18	01/11/18	KEB		

Inter Office Shipment or Sample Comments:

Relinquished By: Shawnee Smith

Received By: Rene Vandenberghe

Date Relinquished: 01/11/2018

Date Received: 01/12/2018 09:55

Cooler Temperature: 1.2

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 1054510

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : hou-068

Sent By: Shawnee Smith **Date Sent:** 01/11/2018 03:19 PM

Received By: Rene Vandenberghe **Date Received:** 01/12/2018 09:55 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	1.2	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**No**	
#5 *Custody Seals Signed and dated for Containers/coolers	**N/A**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ **Contacted by :** _____ **Date:** _____

Checklist reviewed by: R C Vandenberghe Date: 01/12/2018

Rene Vandenberghe

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Western Refining

Date/ Time Received: 01/11/2018 02:50:00 PM

Work Order #: 573320

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	4.4	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	Houston
#18 Water VOC samples have zero headspace?	**Yes**	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: ss

PH Device/Lot#: 213315

Checklist completed by: Shawnee Smith Date: 01/11/2018

Checklist reviewed by: Kelsey Brooks Date: 01/11/2018

RECEIVED OCD
2013 FEB -1 P 1:49

ANNUAL LPG WELL REPORT

OPERATOR: Western Refining Company

GW PERMIT NUMBER: GW-007

UIC CLASS LPG STORAGE WELLS API NUMBER

31055 WELL 1: 30-025-35954
31055 WELL 2: 30-025-35955
31055 WELL 3: 30-025-35956
31055 WELL 4: 30-025-35957

WESTERN REFINING JAL STORAGE FACILITY

Company Representative: Ken Parker

Date: 1-31-13

Annual LPG Well Report Date: 1-31-13

Well Summary

Well 1

This well wasn't utilized until April 2012. During this past year 83,489 barrel of isobutane was injected and stored. Operating pressure were within the OCD guidelines. This well was trouble free and without mechanical issues. Well pressure was recorded daily and at no time was there a pressure loss when shut in.

Well 2

At the beginning of 2012, there was 68,526 barrels of normal butane being stored in well 2. During the year an additional 389,134 barrels was injected and 390,137 barrels were withdrawn. Well was operated within the OCD guidelines without issues. Well pressure was recorded daily and at no time was there a pressure loss when shut in.

Well 3

This well was taken out of service to make ready for the 5 year MIT. In late September well work began. There were issues with running the tubing down hole and pipe was lost.

Western is now entertaining new ideas on how to remove the fish and get the well back into service. Western will submit to OCD a scope of work plan at a later date.

Well 4

This well was taken out of service to make ready for the 5 year MIT. In late September well work began. There were issues with running the tubing down hole and pipe was lost.

Western is now entertaining new ideas on how to remove the fish and get the well back into service. Western will submit to OCD a scope of work plan at a later date.

Production Volumes
See Attachments
Well 1 Annual C-131B
Well 2 Annual C-131B
Well 3 Annual C-131B
Well 4 Annual C-131B

Injecting Fluid Analysis
See Attachment
Report 456094

Deviation From Normal Production Method
N/A

Leak and Spill Report
N/A

Ground Water Monitoring
N/A

Cavity Subsidence
See Attachment

Area of Review
No activity in the year 2012.

Pursuant to all applicable parts of the Water Quality Control Commission (WQCC) Regulations 20.6.2 NMAC and more specifically 20.6.2.5101. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information. I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Western Refining Company
Company Name

Ken Parker
Company Representative

Company Representative Signature

Title: Facility Manager

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-131B
Revised June 10, 2003

Submit one copy to Santa Fe and one copy to appropriate District Office postmarked by 24th Day of succeeding month. See Rule 1131.

ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-12

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 1 30-025-35954	**M32-23S-37E**	**720**	**83,489**	**50,548**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 855

TOTAL CAPACITY (BBLS) 201,013 Barrels

BEGINNING STORAGE (BBLS) 0

NET CHANGE (BBLS) 32,941

ENDING STORAGE (BBLS) 32,941

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature Ken Parker

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-31-13 Telephone No. 575-395-2632

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
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ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-12

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 2 30-025-35955	**M32-23S-37E**	**720**	**389,134**	**390,137**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 868

TOTAL CAPACITY (BBLS) 130,201 Barrels

BEGINNING STORAGE (BBLS) 68,526

NET CHANGE (BBLS) 1,003

ENDING STORAGE (BBLS) 67,523

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature Ken Parker

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-31-13 Telephone No. 575-395-2632

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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1000 Rio Brazos Road, Aztec, NM 87410
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ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-12

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 3 30-025-35956	**M32-23S-37E**	**760**	**45,279**	**98,261**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 367

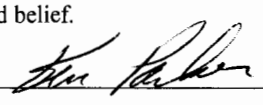
TOTAL CAPACITY (BBLS) 79,692 Barrels

BEGINNING STORAGE (BBLS) 52,982

NET CHANGE (BBLS) 52,982

ENDING STORAGE (BBLS) 0

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature 

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-31-13 Telephone No. 575-395-2632

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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Energy Minerals and Natural Resources

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Santa Fe, NM 87505

Form C-131B
Revised June 10, 2003

Submit one copy to Santa Fe and one copy to appropriate District Office postmarked by 24th Day of succeeding month. See Rule 1131.

ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-12

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 4 30-025-35957	**M32-23S-37E**	**740**	**13,414**	**41,218**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 367

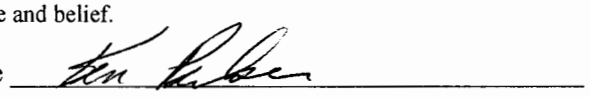
TOTAL CAPACITY (BBLS) 136,626 Barrels

BEGINNING STORAGE (BBLS) 27,804

NET CHANGE (BBLS) 27,804

ENDING STORAGE (BBLS) 0

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature 

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-31-13 Telephone No. 575-395-2632

Analytical Report 456094

for

Western Refining

Project Manager: Ken Parker

South Brine Pond

29-JAN-13

Collected By: Client

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), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
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)

29-JAN-13

Project Manager: **Ken Parker**
Western Refining
P.O. Box 1345
Jal, NM 88252

Reference: XENCO Report No(s): **456094**
South Brine Pond
Project Address:

Ken Parker:

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(s) 456094. 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. The uncertainty of measurement associated with the results of analysis reported is available upon request. 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. 456094 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,

Nicholas Straccione
Project Manager

Sample Cross Reference 456094

Western Refining, Jal, NM

South Brine Pond

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
South Pond	W	01-21-13 09:41		456094-001

CASE NARRATIVE

XENCO Laboratories

Client Name: Western Refining
Project Name: South Brine Pond

Project ID:
Work Order Number(s): *456094*

Report Date: *29-JAN-13*
Date Received: *01/21/2013*

Sample receipt non conformances and comments:
None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:
Batch: LBA-905187 Alkalinity by SM2320B
SM2320B

Batch 905187, Alkalinity, Total (as CaCO3) recovered below QC limits
Samples affected are: 456094-001.
The Laboratory Control Sample for Alkalinity, Total (as CaCO3) is within laboratory Control Limits

Batch: LBA-905595 Mercury, Total by EPA 245.1
E245.1

Batch 905595, Mercury recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.
Samples affected are: 456094-001.
The Laboratory Control Sample for Mercury is within laboratory Control Limits

456094 inteference matrix affected ms-msd

Certificate of Analysis Summary 456094

Western Refining, Jal, NM

Project Name: South Brine Pond

Project Id:
Contact: Ken Parker
Project Location:

Date Received in Lab: Mon Jan-21-13 12:54 pm
Report Date: 29-JAN-13
Project Manager: Nicholas Straccione

Analysis Requested								
	Lab Id:	456094-001						
	Field Id:	South Pond						
	Depth:							
	Matrix:	WATER						
	Sampled:	Jan-21-13 09:41						
Alkalinity by SM2320B SUB: TX104704215	*Extracted:*							
	Analyzed:	Jan-22-13 11:28						
	Units/RL:	mg/L	RL					
Alkalinity, Total (as CaCO3)		183	4.00					
BTEX by SW 8260B SUB: TX104704215	*Extracted:*	Jan-25-13 11:18						
	Analyzed:	Jan-25-13 13:24						
	Units/RL:	mg/L	RL					
Benzene		0.0114	0.00100					
Toluene		0.00454	0.00100					
Ethylbenzene		ND	0.00100					
m,p-Xylenes		ND	0.00200					
o-Xylene		ND	0.00100					
Total Xylenes		ND	0.00100					
Total BTEX		0.0159	0.00100					
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	*Extracted:*	Jan-22-13 14:53						
	Analyzed:	Jan-22-13 14:53						
	Units/RL:	mg/L	RL					
Chloride		187000	1000					
Mercury, Total by EPA 245.1 SUB: TX104704215	*Extracted:*	Jan-28-13 08:45						
	Analyzed:	Jan-28-13 12:39						
	Units/RL:	mg/L	RL					
Mercury		ND	0.000200					

Nicholas Straccione
Project Manager

Certificate of Analysis Summary 456094

Western Refining, Jal, NM

Project Name: South Brine Pond

Project Id:
Contact: Ken Parker
Project Location:

Date Received in Lab: Mon Jan-21-13 12:54 pm
Report Date: 29-JAN-13
Project Manager: Nicholas Straccione

Analysis Requested								
	Lab Id:	456094-001						
	Field Id:	South Pond						
	Depth:							
	Matrix:	WATER						
	Sampled:	Jan-21-13 09:41						
Metals per ICP by EPA 200.7 SUB: TX104704215	*Extracted:*	Jan-24-13 12:00						
	Analyzed:	Jan-25-13 18:28						
	Units/RL:	mg/L	RL					
Arsenic		ND	0.200					
Barium		ND	0.200					
Cadmium		ND	0.100					
Calcium		426	100					
Chromium		ND	0.200					
Lead		ND	0.200					
Magnesium		1250	100					
Potassium		3360	250					
Selenium		ND	0.600					
Silver		ND	0.400					
Sodium		65400	250					
TDS by SM2540C SUB: TX104704215	*Extracted:*							
	Analyzed:	Jan-23-13 17:42						
	Units/RL:	mg/L	RL					
Total dissolved solids		315000	5.00					
pH, Electrometric by EPA 150.2	*Extracted:*							
	Analyzed:	Jan-22-13 16:05						
	Units/RL:	Deg C	RL					
Temperature		23.8 K						
pH, Electrometric by EPA 150.2	*Extracted:*							
	Analyzed:	Jan-22-13 16:05						
	Units/RL:	SU	RL					
pH		7.28 K						

Nicholas Straccione
Project Manager

XENCO Laboratories

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.

***** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: South Brine Pond

Work Orders : 456094, **Project ID:**

Lab Batch #: 905472 **Sample:** 456094-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/25/13 13:24

BTEX by SW 8260B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0535	0.0500	107	75-131	
1,2-Dichloroethane-D4	0.0572	0.0500	114	63-144	
Toluene-D8	0.0494	0.0500	99	80-117	
4-Bromofluorobenzene	0.0502	0.0500	100	74-124	

Lab Batch #: 905472 **Sample:** 632896-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/25/13 11:18

BTEX by SW 8260B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0523	0.0500	105	75-131	
1,2-Dichloroethane-D4	0.0509	0.0500	102	63-144	
Toluene-D8	0.0464	0.0500	93	80-117	
4-Bromofluorobenzene	0.0503	0.0500	101	74-124	

Lab Batch #: 905472 **Sample:** 632896-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/25/13 10:24

BTEX by SW 8260B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0477	0.0500	95	75-131	
1,2-Dichloroethane-D4	0.0481	0.0500	96	63-144	
Toluene-D8	0.0481	0.0500	96	80-117	
4-Bromofluorobenzene	0.0534	0.0500	107	74-124	

Lab Batch #: 905472 **Sample:** 456094-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/25/13 14:41

BTEX by SW 8260B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0535	0.0500	107	75-131	
1,2-Dichloroethane-D4	0.0560	0.0500	112	63-144	
Toluene-D8	0.0521	0.0500	104	80-117	
4-Bromofluorobenzene	0.0524	0.0500	105	74-124	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: South Brine Pond

Work Orders : 456094,

Project ID:

Lab Batch #: 905472 **Sample:** 456094-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/25/13 15:06

BTEX by SW 8260B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0497	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0526	0.0500	105	63-144	
Toluene-D8	0.0494	0.0500	99	80-117	
4-Bromofluorobenzene	0.0523	0.0500	105	74-124	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

XENCO Laboratories

Blank Spike Recovery

Project Name: South Brine Pond

Work Order #: 456094 **Project ID:**

Lab Batch #: 905472 **Sample:** 632896-1-BKS **Matrix:** Water

Date Analyzed: 01/25/2013 **Date Prepared:** 01/25/2013 **Analyst:** SAD

Reporting Units: mg/L **Batch #:** 1

BTEX by SW 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
	BLANK /BLANK SPIKE RECOVERY STUDY					
Benzene	<0.00100	0.100	0.0878	88	66-142	
Toluene	<0.00100	0.100	0.0824	82	59-139	
Ethylbenzene	<0.00100	0.100	0.0871	87	75-125	
m,p-Xylenes	<0.00200	0.200	0.174	87	75-125	
o-Xylene	<0.00100	0.100	0.0913	91	75-125	

Lab Batch #: 905259 **Sample:** 632738-1-BKS **Matrix:** Water

Date Analyzed: 01/22/2013 **Date Prepared:** 01/22/2013 **Analyst:** RKO

Reporting Units: mg/L **Batch #:** 1

Inorganic Anions by EPA 300/300.1 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
	BLANK /BLANK SPIKE RECOVERY STUDY					
Chloride	<1.00	50.0	51.4	103	90-110	

Lab Batch #: 905595 **Sample:** 632910-1-BKS **Matrix:** Water

Date Analyzed: 01/28/2013 **Date Prepared:** 01/28/2013 **Analyst:** ANS

Reporting Units: mg/L **Batch #:** 1

Mercury, Total by EPA 245.1 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
	BLANK /BLANK SPIKE RECOVERY STUDY					
Mercury	<0.000200	0.00400	0.00395	99	85-115	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

XENCO Laboratories

BS / BSD Recoveries

Project Name: South Brine Pond

Work Order #: 456094 **Project ID:**

Analyst: ALA **Date Prepared:** 01/22/2013 **Date Analyzed:** 01/22/2013

Lab Batch ID: 905187 **Sample:** 905187-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Alkalinity by SM2320B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Alkalinity, Total (as CaCO3)	<4.00	250	261	104	250	261	104	0	80-120	20	

Analyst: MKO **Date Prepared:** 01/24/2013 **Date Analyzed:** 01/25/2013

Lab Batch ID: 905572 **Sample:** 632834-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Metals per ICP by EPA 200.7 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	<0.0100	1.00	0.880	88	1.00	0.907	91	3	85-115	20	
Barium	<0.0100	1.00	0.947	95	1.00	0.974	97	3	85-115	20	
Cadmium	<0.00500	1.00	0.932	93	1.00	0.961	96	3	85-115	20	
Calcium	<0.200	25.0	23.8	95	25.0	24.4	98	2	85-115	20	
Chromium	<0.0100	1.00	0.939	94	1.00	0.960	96	2	85-115	20	
Lead	<0.0100	1.00	0.981	98	1.00	1.01	101	3	85-115	20	
Magnesium	<0.200	25.0	23.2	93	25.0	24.1	96	4	85-115	20	
Potassium	<0.500	10.0	9.21	92	10.0	9.51	95	3	85-115	20	
Selenium	<0.0300	1.00	0.994	99	1.00	1.02	102	3	85-115	20	
Silver	<0.0200	0.500	0.452	90	0.500	0.464	93	3	85-115	20	
Sodium	<0.500	25.0	24.4	98	25.0	24.9	100	2	85-115	20	

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

XENCO Laboratories

BS / BSD Recoveries

Project Name: South Brine Pond

Work Order #: 456094 **Project ID:**

Analyst: KUG **Date Prepared:** 01/23/2013 **Date Analyzed:** 01/23/2013

Lab Batch ID: 905310 **Sample:** 905310-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TDS by SM2540C Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Total dissolved solids	<5.00	1000	990	99	1000	992	99	0	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

XENCO Laboratories

Form 3 - MS Recoveries

Project Name: South Brine Pond

Work Order #: 456094
Lab Batch #: 905572
Date Analyzed: 01/25/2013
QC- Sample ID: 456230-002 S
Reporting Units: mg/L

Project ID:
Date Prepared: 01/24/2013
Analyst: MKO
Batch #: 1
Matrix: Water

Metals per ICP by EPA 200.7	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Arsenic	<0.0100	1.00	0.923	92	70-130	
Barium	<0.0100	1.00	0.942	94	70-130	
Cadmium	<0.00500	1.00	0.935	94	70-130	
Calcium	<0.200	25.0	23.3	93	70-130	
Chromium	<0.0100	1.00	0.935	94	70-130	
Lead	<0.0100	1.00	0.973	97	70-130	
Magnesium	<0.200	25.0	23.1	92	70-130	
Potassium	<0.500	10.0	9.16	92	70-130	
Selenium	<0.0300	1.00	0.983	98	70-130	
Silver	<0.0200	0.500	0.444	89	70-130	
Sodium	<0.500	25.0	24.0	96	70-130	

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

XENCO Laboratories

Form 3 - MS / MSD Recoveries

Project Name: South Brine Pond

Work Order # : 456094 **Project ID:**

Lab Batch ID: 905472 **QC- Sample ID:** 456094-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 01/25/2013 **Date Prepared:** 01/25/2013 **Analyst:** SAD

Reporting Units: mg/L

BTEX by SW 8260B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	0.0114	0.100	0.0989	88	0.100	0.0935	82	6	66-142	20	
Toluene	0.00454	0.100	0.0916	87	0.100	0.0828	78	10	59-139	20	
Ethylbenzene	<0.00100	0.100	0.0831	83	0.100	0.0803	80	3	75-125	20	
m,p-Xylenes	<0.00200	0.200	0.174	87	0.200	0.161	81	8	75-125	20	
o-Xylene	<0.00100	0.100	0.0890	89	0.100	0.0848	85	5	75-125	20	

Lab Batch ID: 905259 **QC- Sample ID:** 455685-024 S **Batch #:** 1 **Matrix:** Surface Water

Date Analyzed: 01/22/2013 **Date Prepared:** 01/22/2013 **Analyst:** RKO

Reporting Units: mg/L

Inorganic Anions by EPA 300/300.1 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	13.2	50.0	67.5	109	50.0	67.0	108	1	80-120	20	

Lab Batch ID: 905595 **QC- Sample ID:** 455881-001 S **Batch #:** 1 **Matrix:** Waste Water

Date Analyzed: 01/28/2013 **Date Prepared:** 01/28/2013 **Analyst:** ANS

Reporting Units: mg/L

Mercury, Total by EPA 245.1 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Mercury	<0.000200	0.00100	0.000897	90	0.00100	0.000880	88	2	70-130	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

XENCO Laboratories

Form 3 - MS / MSD Recoveries

Project Name: South Brine Pond

Work Order # : 456094 **Project ID:**

Lab Batch ID: 905595 **QC- Sample ID:** 456094-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 01/28/2013 **Date Prepared:** 01/28/2013 **Analyst:** ANS

Reporting Units: mg/L

Mercury, Total by EPA 245.1 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Mercury	<0.000200	0.00100	<0.000200	0	0.00100	<0.000200	0	NC	70-130	20	X

Lab Batch ID: 905572 **QC- Sample ID:** 455923-002 S **Batch #:** 1 **Matrix:** Drinking Water

Date Analyzed: 01/25/2013 **Date Prepared:** 01/24/2013 **Analyst:** MKO

Reporting Units: mg/L

Metals per ICP by EPA 200.7 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	<0.0100	1.00	0.901	90	1.00	0.907	91	1	70-130	20	
Barium	0.147	1.00	1.11	96	1.00	1.11	96	0	70-130	20	
Cadmium	<0.00500	1.00	0.946	95	1.00	0.953	95	1	70-130	20	
Calcium	88.4	25.0	109	82	25.0	107	74	2	70-130	20	
Chromium	<0.0100	1.00	0.947	95	1.00	0.955	96	1	70-130	20	
Lead	<0.0100	1.00	0.975	98	1.00	0.993	99	2	70-130	20	
Magnesium	36.5	25.0	59.0	90	25.0	58.6	88	1	70-130	20	
Potassium	3.86	10.0	13.5	96	10.0	13.4	95	1	70-130	20	
Selenium	<0.0300	1.00	1.01	101	1.00	1.02	102	1	70-130	20	
Silver	<0.0200	0.500	0.461	92	0.500	0.467	93	1	70-130	20	
Sodium	65.1	25.0	87.3	89	25.0	86.2	84	1	70-130	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

XENCO Laboratories

Sample Duplicate Recovery

Project Name: South Brine Pond

Work Order #: 456094

Lab Batch #: 905187 **Project ID:**

Date Analyzed: 01/22/2013 10:52 **Date Prepared:** 01/22/2013 **Analyst:** ALA

QC- Sample ID: 455995-001 D **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

Alkalinity by SM2320B Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Alkalinity, Total (as CaCO3)	191	192	1	20	

Lab Batch #: 905187

Date Analyzed: 01/22/2013 11:31 **Date Prepared:** 01/22/2013 **Analyst:** ALA

QC- Sample ID: 456094-001 D **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

Alkalinity by SM2320B Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Alkalinity, Total (as CaCO3)	183	172	6	20	

Lab Batch #: 905310

Date Analyzed: 01/23/2013 17:42 **Date Prepared:** 01/23/2013 **Analyst:** KUG

QC- Sample ID: 455830-003 D **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

TDS by SM2540C Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Total dissolved solids	961	961	0	30	

Lab Batch #: 905615

Date Analyzed: 01/22/2013 16:05 **Date Prepared:** 01/22/2013 **Analyst:** WRU

QC- Sample ID: 456094-001 D **Batch #:** 1 **Matrix:** Water

Reporting Units: Deg C

pH, Electrometric by EPA 150.2 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Temperature	23.8	23.8	0	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

XENCO Laboratories

Sample Duplicate Recovery

Project Name: South Brine Pond

Work Order #: 456094

Lab Batch #: 905615 **Project ID:**

Date Analyzed: 01/22/2013 16:05 **Date Prepared:** 01/22/2013 **Analyst:** WRU

QC- Sample ID: 456094-001 D **Batch #:** 1 **Matrix:** Water

Reporting Units: SU

	SAMPLE / SAMPLE DUPLICATE RECOVERY				
pH, Electrometric by EPA 150.2 **Analyte**	**Parent Sample Result [A]**	**Sample Duplicate Result [B]**	**RPD**	**Control Limits %RPD**	**Flag**
pH	7.28	7.29	0	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

XENCO Laboratories

ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

☐ 4143 Greenbriar Drive, Stafford, TX 77477 281-240-4200
☐ 5332, Blackberry Drive, San Antonio, TX 78238 210-509-3334
☐ 9701 Harry Hines Blvd., Dallas, TX 75220 214-902-0300
☑ 12600 West I-20 East, Odessa, TX 79765 432-563-1800
☐ 842 Cantwell, Corpus Christi, TX 78408 361-8840371

Serial #: 307930 Page of

Company-City: Western Refining Phone:

Lab Only: 456094

Project Name-Location: South Brine Pond ☐ Previously done at XENCO Project ID:

TAT: ASAP 5h 12h 24h 48h 3d (5d) 7d 10d 21d Standard TAT is project specific. It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.

Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other

Proj. Manager (PM): Ken Parker

E-mail Results to ☐ PM and: Ken.Parker@wnr.com Fax No: 575-395-2260

Invoice to ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.

Bill to: Western Refining PO Box 1345 Jal NM 88252

Quote/Pricing: P.O. No: ☐ Call for P.O.

Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:

Special DLs (GW DW QAPP MDLs RLs See Lab PM Included Call PM)

Sampler Name: Ken Parker Signature: Ken Parker

Analyses: VCOs: Full-List (BTEX-MTBE) EtOH Oxyg VOHs VOAs; VCO's PP TCL DW Appdx-1 Appdx-2 CALL Other; PAHs SIM; TX-1005 DRO GRO MA EPH MA VPH; SVOCs: Full-List DW BN&AE TCL PP Appdx-2 CALL; OC Pesticides PCBs Herbicides OP Pesticides; Metals: (RCRA-8) RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2; SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs); EDB / DBCP; Cations (CA, MG, NA, K); CL Alkalinity; TDS; PH; TATASAP 5h 12h 24h 48h 3d (5d) 7d 10d 21d; Addn: PAH above mg/L W, mg/Kg S Highest Hit; Hold Samples (Surcharges will apply and are pre-approved); Sample Clean-ups are pre-approved as needed

#	Sample ID	Sampling Date	Time	Depth ft' in" m	Matrix	Composite	Grab	# Containers	Container Size	Container Type	Preservatives	VCOs (BTEX)	VCO's	PAHs	TX-1005	SVOCs	OC Pesticides	Metals (RCRA-8)	SPLP-TCLP	EDB/DBCP	Cations	CL Alkalinity	TDS	PH	TAT	Addn	Hold	Clean-ups	Remarks	#
1	South Pond	1-21-13	9:41AM		W			7				X						X			X	X	X	X						1
2																														2
3																														3
4																														4
5																														5
6																														6
7																														7
8																														8
9																														9
10																														10

	Relinquished by (Initials and Sign)	Date & Time	Relinquished to (Initials and Sign)	Date & Time
1	1) Ken Parker	1-21-13 12:54	2) [signature]	1/21/13 12:54
2	3)		4)	
3	5)		6)	

Total Containers per COC: 7 Cooler Temp: 0 °C

Otherwise agreed on writing. Reports are the Intellectual Property of XENCO until paid. Samples will be held 30 days after final report is e-mailed unless hereby requested. Rush Charges and Collection Fees are pre-approved if needed.

Preservatives: Various (**V**), HCl pH<2 (**H**), H2SO4 pH<2 (**S**), HNO3 pH<2 (**N**), Asbc Acid&NaOH (**A**), ZnAc&NaOH (**Z**), (Cool, <4C) (**C**), None (**NA**), See Label (**L**), Other (**O**)

Cont. Size: 4oz (**4**), 8oz (**8**), 32oz (**32**), 40ml VOA (**40**), 1L (**1**), 500ml (**5**), Tedlar Bag (**B**), Various (**V**), Other **Cont. Type:** Glass Amb (**A**), Glass Clear (**C**), Plastic (**P**), Various (**V**)

Matrix: Air (**A**), Product (**P**), Solid (**S**), Water (**W**), Liquid (**L**)

Committed to Excellence in Service and Quality www.xenco.com

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Western Refining

Date/ Time Received: 01/21/2013 12:54:00 PM

Work Order #: 456094

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	0
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	Yes

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:	PH Device/Lot#:

Checklist completed by: Date: 01/21/2013

Checklist reviewed by: Date: 01/21/2013

PETTIGREW
& ASSOCIATES PA
ENGINEERING | SURVEYING | TESTING
DEFINING QUALITY SINCE 1965

Ken Parker, Western Refining
PO Box 1345
Jal, New Mexico, 88252
575-392-2632

21 December, 2012

RE: Survey Report
Western Refining Subsidence Monitoring

Dear Mr. Parker,

Please review this report of survey findings for the subject project. Please comment as necessary.

SUBSIDENCE MONUMENT MONITORING

The surveyed elevations along with deltas from established values as follows:

NAME	BASE ELEVATION 5/13/2009	ELEVATION 12/21/2012	CHANGE IN ELEVATION
CP-1	3293.47	3293.49	+ 0.02'
CP-2	3297.82	3297.82	No Change
CP-3	3293.56	3293.57	+ 0.01'
SM-1	3292.27	3292.29	+ 0.02'
SM-2	3294.56	3294.57	+ 0.01'
SM-3	3294.85	3294.86	+ 0.01'
SM-4	3294.86	3294.87	+ 0.01'
SMF-1 (Mid Flange)	3295.62	3295.65	+ 0.03'
SMF-1 (Lower Flange)	3293.67	3293.71	+ 0.04'
SMF-2 (Mid Flange)	3297.42	3297.45	+ 0.03'
SMF-2 (Lower Flange)	3295.52	3295.55	+ 0.03'
SMF-3 (Mid Flange)	3298.18	3298.17	- 0.01'
SMF-3 (Lower Flange)	3296.44	3296.44	No Change
SMF-4 (Mid Flange)	3297.73	3297.74	+ 0.01'
SMF-4 (Lower Flange)	3295.99	3296.00	+ 0.01'
BM-1	3294.30	3294.33	+ 0.03'
BM-2	3296.62	3296.64	+ 0.02'
BM-3	3297.73	3297.73	No Change

ANNUAL LPG WELL REPORT

OPERATOR: Western Refining Company

UIC CLASS LPG STORAGE WELLS API NUMBER

31055 WELL 1: 30-025-35954
31055 WELL 2: 30-025-35955
31055 WELL 3: 30-025-35956
31055 WELL 4: 30-025-35957

WESTERN REFINING JAL STORAGE FACILITY

Company Representative: Ken Parker

Date: 1-19-17

Annual LPG Well Report Date: 1-20-17

Well Summary

Well 1

Well one was utilized 2016 injecting 128,629 barrels of LPG into storage. Well was operated within the OCD guidelines without any issues. Injecting rate was between 230 & 250 barrels per hour with a maximum injecting pressure of 750 psig.

In 2016 133,626 barrels of LPG was withdrawn from the well. Withdraw rate was 214 barrels per hour. Operating pressure of the well was between 440 & 600 psig.

In 2016 well one stored product 12 months out of the year. The maximum volume stored in the well reached 20% capacity.

Well 2

Well two was utilized in 2016 injecting 513,033 barrels of LPG into storage. Well was operated within the OCD guidelines without any issues. Injecting rate was between 230 & 250 barrels per hour with a maximum injecting pressure of 790 psig.

In 2016 503,946 barrels of LPG was withdrawn from the well. Withdraw rate was 214 barrels per hour. Operating pressure of the well was between 400 & 600 psig.

In 2016 well two stored product 12 months out of the year. The maximum volume stored in the well reached 62% capacity.

Well 3

Well three was utilized in 2016 injecting 62,613 barrels of LPG into storage. Well was operated within the OCD guidelines without any issues. Injecting rate was between 187 barrels per hour with a maximum injecting pressure of 750 psig.

In 2016 48,946 barrels of LPG was withdrawn from the well. Withdraw rate was 214 barrels per hour. Operating pressure of the well was between 600 to 680 psig.

In 2016 well three stored product 12 months out of the year. The maximum volume stored in the well reached 45% capacity.

Well 4

Well four was utilized in 2016 injecting 192,439 barrels of LPG into storage. Well was operated within the OCD guidelines without any issues. Injecting rate was between 190-194 barrels per hour with a maximum injecting pressure of 800 psig.

In 2016 170,780 barrels of LPG was withdrawn from the well. Withdraw rate was 214 barrels per hour. Operating pressure of the well was between 600 to 680 psig.

In 2016 well four stored product 9 months out of the year. The maximum volume stored in the well reached 49% capacity.

Production Volumes
See Attachments
Well 1 Annual C-131B
Well 2 Annual C-131B
Well 3 Annual C-131B
Well 4 Annual C-131B

Injecting Fluid Analysis
See Attachment 543728
Report

Deviation From Normal Production Method
N/A

Leak and Spill Report
N/A

Ground Water Monitoring
N/A

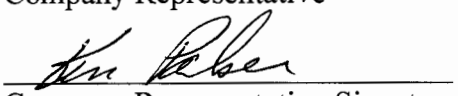
Cavity Subsidence
See Attachment

Area of Review
No activity in the year 2016

Pursuant to all applicable parts of the Water Quality Control Commission (WQCC) Regulations 20.6.2 NMAC and more specifically 20.6.2.5101. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information. I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Western Refining Company
Company Name

Ken Parker
Company Representative



Company Representative Signature

Title: Facility Manager

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-131B
Revised June 10, 2003

Submit one copy to Santa Fe and one copy to appropriate District Office postmarked by 24th Day of succeeding month. See Rule 1131.

ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-16

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 1 30-025-35954	**M32-23S-37E**	**750**	**128,629**	**133,626**

TOTALS

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 855

TOTAL CAPACITY (BBLS) 201,013 Barrels

BEGINNING STORAGE (BBLS) 18,489

NET CHANGE (BBLS) 4,997

ENDING STORAGE (BBLS) 13,492

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature [signature]

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-21-17 Telephone No. 575-395-2632

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-16

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 2 30-025-35955	**M32-23S-37E**	**790**	**513,033**	**503,946**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 908

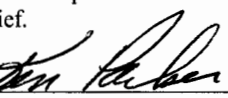
TOTAL CAPACITY (BBLS) 144,443 Barrels

BEGINNING STORAGE (BBLS) 41,018

NET CHANGE (BBLS) 9,087

ENDING STORAGE (BBLS) 50,105

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature 

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-21-17 Telephone No. 575-395-2632

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ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-16

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 3 30-025-35956	**M32-23S-37E**	**750**	**62,613**	**48,946**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 467

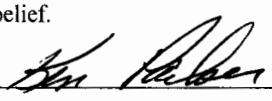
TOTAL CAPACITY (BBLS) 79,692 Barrels

BEGINNING STORAGE (BBLS) 0

NET CHANGE (BBLS) 13,667

ENDING STORAGE (BBLS) 13,667

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature 

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-21-17 Telephone No. 575-395-2632

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1625 N. French Dr., Hobbs, NM 88240
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ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-16

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 4 30-025-35957	**M32-23S-37E**	**800**	**192,439**	**170,780**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 1,007

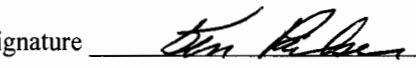
TOTAL CAPACITY (BBLS) 136,626 Barrels

BEGINNING STORAGE (BBLS) 27,158

NET CHANGE (BBLS) 21,659

ENDING STORAGE (BBLS) 48,817

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature 

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-21-17 Telephone No. 575-395-2632

Analytical Report 543728

for

Western Refining

Project Manager: Ken Parker

South Brine Pond

17-JAN-17

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

17-JAN-17

Project Manager: **Ken Parker**
Western Refining
P.O. Box 1345
Jal, NM 88252

Reference: XENCO Report No(s): **543728**
South Brine Pond
Project Address: Jal, NM

Ken Parker:

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(s) 543728. 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. The uncertainty of measurement associated with the results of analysis reported is available upon request. 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. 543728 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,

Kelsey Brooks
Project Manager

Sample Cross Reference 543728

Western Refining, Jal, NM

South Brine Pond

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
South Pond	W	01-10-17 13:00	- 1 ft	543728-001

CASE NARRATIVE

Client Name: Western Refining
Project Name: South Brine Pond

Project ID:
Work Order Number(s): *543728*

Report Date: *17-JAN-17*
Date Received: *01/10/2017*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:
Batch: LBA-3007540 Metals by EPA 200.8
Sample diluted because of high Sodium leading to the failure of internal standard. DEP 011717

Certificate of Analysis Summary 543728

Western Refining, Jal, NM

Project Name: South Brine Pond

Project Id:
Contact: Ken Parker
Project Location: Jal, NM

Date Received in Lab: Tue Jan-10-17 04:48 pm
Report Date: 17-JAN-17
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	543728-001					
	Field Id:	South Pond					
	Depth:	-1 ft					
	Matrix:	WATER					
	Sampled:	Jan-10-17 13:00					
Alkalinity by SM2320B SUB: TX104704215	***Extracted:***						
	Analyzed:	Jan-12-17 11:27					
	Units/RL:	mg/L	RL				
Alkalinity, Total (as CaCO3)		122	4.00				
BTEX by EPA 8021B	***Extracted:***	Jan-11-17 16:00					
	Analyzed:	Jan-11-17 21:40					
	Units/RL:	mg/L	RL				
Benzene		ND	0.00200				
Toluene		ND	0.00200				
Ethylbenzene		ND	0.00200				
m_p-Xylenes		ND	0.00200				
o-Xylene		ND	0.00200				
Total Xylenes		ND	0.00200				
Total BTEX		ND	0.00200				
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jan-11-17 21:08					
	Analyzed:	Jan-11-17 21:08					
	Units/RL:	mg/L	RL				
Chloride		189000	500				
Mercury, Total by EPA 245.1 SUB: TX104704215	***Extracted:***	Jan-13-17 10:00					
	Analyzed:	Jan-13-17 15:22					
	Units/RL:	mg/L	RL				
Mercury		ND	0.00200				

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 543728

Western Refining, Jal, NM

Project Name: South Brine Pond

Project Id:
Contact: Ken Parker
Project Location: Jal, NM

Date Received in Lab: Tue Jan-10-17 04:48 pm
Report Date: 17-JAN-17
Project Manager: Kelsey Brooks

Analysis Requested								
	Lab Id:	543728-001						
	Field Id:	South Pond						
	Depth:	-1 ft						
	Matrix:	WATER						
	Sampled:	Jan-10-17 13:00						
Metals by EPA 200.8 SUB: TX104704215	*Extracted:*	Jan-13-17 10:30						
	Analyzed:	Jan-13-17 17:20						
	Units/RL:	mg/L	RL					
Arsenic		ND	0.0200					
Barium		0.0858	0.0400					
Cadmium		ND	0.0200					
Chromium		ND	0.0400					
Lead		ND	0.0400					
Selenium		ND	0.0200					
Silver		ND	0.0200					
Metals per ICP by EPA 200.7 SUB: TX104704215	*Extracted:*	Jan-13-17 10:35						
	Analyzed:	Jan-16-17 14:33						
	Units/RL:	mg/L	RL					
Calcium		575	10.0					
Magnesium		1810	20.0					
Potassium		4460	500					
Sodium		93200	500					
TDS by SM2540C SUB: TX104704215	*Extracted:*							
	Analyzed:	Jan-12-17 10:55						
	Units/RL:	mg/L	RL					
Total Dissolved Solids		310000	5.00					
pH by SM4500-H SUB: TX104704215	*Extracted:*							
	Analyzed:	Jan-12-17 13:25						
	Units/RL:	Deg C	RL					
Temperature		19.0 K						

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 543728

Western Refining, Jal, NM

Project Name: South Brine Pond

Project Id:
Contact: Ken Parker
Project Location: Jal, NM

Date Received in Lab: Tue Jan-10-17 04:48 pm
Report Date: 17-JAN-17
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	543728-001					
	Field Id:	South Pond					
	Depth:	-1 ft					
	Matrix:	WATER					
	Sampled:	Jan-10-17 13:00					
pH by SM4500-H	***Extracted:***						
SUB: TX104704215	***Analyzed:***	Jan-12-17 13:25					
	Units/RL:	SU RL					
pH		7.44 K					

Kelsey Brooks
Project 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 quantitation 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.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Form 2 - Surrogate Recoveries

Project Name: South Brine Pond

Work Orders : 543728,

Project ID:

Lab Batch #: 3007394 **Sample:** 543728-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/11/17 21:40

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0267	0.0300	89	80-120	
4-Bromofluorobenzene	0.0320	0.0300	107	80-120	

Lab Batch #: 3007394 **Sample:** 718351-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/11/17 21:56

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0257	0.0300	86	80-120	
4-Bromofluorobenzene	0.0257	0.0300	86	80-120	

Lab Batch #: 3007394 **Sample:** 718351-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/11/17 17:38

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 3007394 **Sample:** 718351-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/11/17 17:54

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0304	0.0300	101	80-120	
4-Bromofluorobenzene	0.0312	0.0300	104	80-120	

Lab Batch #: 3007394 **Sample:** 543688-001 S / MS **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 01/11/17 18:10

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0331	0.0300	110	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: South Brine Pond

Work Orders : 543728,
Project ID:
Lab Batch #: 3007394 **Sample:** 543688-001 SD / MSD **Batch:** 1 **Matrix:** Ground Water
Units: mg/L **Date Analyzed:** 01/11/17 18:27

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0337	0.0300	112	80-120	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: South Brine Pond

Work Order #: 543728 **Project ID:**

Analyst: MJP **Date Prepared:** 01/12/2017 **Date Analyzed:** 01/12/2017

Lab Batch ID: 3007474 **Sample:** 3007474-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Alkalinity by SM2320B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Alkalinity, Total (as CaCO3)	<4.00	250	263	105	250	267	107	2	80-120	20	

Analyst: ALJ **Date Prepared:** 01/11/2017 **Date Analyzed:** 01/11/2017

Lab Batch ID: 3007394 **Sample:** 718351-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.100	0.125	125	0.100	0.122	122	2	70-125	25	
Toluene	<0.00200	0.100	0.117	117	0.100	0.113	113	3	70-125	25	
Ethylbenzene	<0.00200	0.100	0.118	118	0.100	0.126	126	7	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.253	127	0.200	0.246	123	3	70-131	25	
o-Xylene	<0.00200	0.100	0.117	117	0.100	0.115	115	2	71-133	25	

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

BS / BSD Recoveries

Project Name: South Brine Pond

Work Order #: 543728 **Project ID:**

Analyst: MNR **Date Prepared:** 01/11/2017 **Date Analyzed:** 01/11/2017

Lab Batch ID: 3007405 **Sample:** 718362-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.500	25.0	26.6	106	25.0	26.7	107	0	90-110	20	

Analyst: DHE **Date Prepared:** 01/13/2017 **Date Analyzed:** 01/13/2017

Lab Batch ID: 3007542 **Sample:** 718425-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Mercury, Total by EPA 245.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Mercury	<0.000200	0.00200	0.00203	102	0.00200	0.00196	98	4	85-115	20	

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

BS / BSD Recoveries

Project Name: South Brine Pond

Work Order #: 543728 **Project ID:**

Analyst: DEP **Date Prepared:** 01/13/2017 **Date Analyzed:** 01/13/2017

Lab Batch ID: 3007540 **Sample:** 718443-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Metals by EPA 200.8 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	<0.00200	0.100	0.0974	97	0.100	0.103	103	6	85-115	20	
Barium	<0.00400	0.100	0.0994	99	0.100	0.105	105	5	85-115	20	
Cadmium	<0.00200	0.100	0.0997	100	0.100	0.106	106	6	85-115	20	
Chromium	<0.00400	0.100	0.101	101	0.100	0.106	106	5	85-115	20	
Lead	<0.00200	0.100	0.0992	99	0.100	0.105	105	6	85-115	20	
Selenium	<0.00200	0.100	0.101	101	0.100	0.107	107	6	85-115	20	
Silver	<0.00200	0.0500	0.0494	99	0.0500	0.0521	104	5	85-115	20	

Analyst: DEP **Date Prepared:** 01/13/2017 **Date Analyzed:** 01/13/2017

Lab Batch ID: 3007616 **Sample:** 718444-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Metals per ICP by EPA 200.7 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Calcium	<0.200	25.0	24.0	96	25.0	23.9	96	0	85-115	20	
Magnesium	<0.400	25.0	24.1	96	25.0	23.9	96	1	85-115	20	
Potassium	<0.500	10.0	9.59	96	10.0	9.43	94	2	85-115	20	
Sodium	<0.500	25.0	22.9	92	25.0	22.7	91	1	85-115	20	

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

BS / BSD Recoveries

Project Name: South Brine Pond

Work Order #: 543728 **Project ID:**

Analyst: YAV **Date Prepared:** 01/12/2017 **Date Analyzed:** 01/12/2017

Lab Batch ID: 3007401 **Sample:** 3007401-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TDS by SM2540C Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Total Dissolved Solids	<5.00	1000	1020	102	1000	1030	103	1	80-120	10	

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: South Brine Pond

Work Order #: 543728

Lab Batch #: 3007540

Project ID:

Date Analyzed: 01/13/2017 **Date Prepared:** 01/13/2017 **Analyst:** DEP

QC- Sample ID: 543700-001 S **Batch #:** 1 **Matrix:** Waste Water

Reporting Units: mg/L

Metals by EPA 200.8 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Arsenic	<0.00200	0.100	0.0901	90	70-130	
Barium	<0.00400	0.100	0.107	107	70-130	
Cadmium	<0.00200	0.100	0.0922	92	70-130	
Chromium	<0.00400	0.100	0.0987	99	70-130	
Lead	<0.00200	0.100	0.103	103	70-130	
Selenium	<0.00200	0.100	0.0908	91	70-130	
Silver	<0.00200	0.0500	0.0463	93	70-130	

Lab Batch #: 3007616

Date Analyzed: 01/13/2017 **Date Prepared:** 01/13/2017 **Analyst:** DEP

QC- Sample ID: 543798-006 S **Batch #:** 1 **Matrix:** Ground Water

Reporting Units: mg/L

Metals per ICP by EPA 200.7 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Calcium	6.33	25.0	29.8	94	70-130	
Magnesium	1.16	25.0	24.6	94	70-130	
Potassium	<0.500	10.0	9.94	99	70-130	
Sodium	7.94	25.0	30.6	91	70-130	

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

Form 3 - MS / MSD Recoveries

Project Name: South Brine Pond

Work Order # : 543728 **Project ID:**

Lab Batch ID: 3007394 **QC- Sample ID:** 543688-001 S **Batch #:** 1 **Matrix:** Ground Water

Date Analyzed: 01/11/2017 **Date Prepared:** 01/11/2017 **Analyst:** ALJ

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.100	0.0971	97	0.100	0.0967	97	0	70-125	25	
Toluene	<0.00200	0.100	0.0939	94	0.100	0.0929	93	1	70-125	25	
Ethylbenzene	<0.00200	0.100	0.100	100	0.100	0.0988	99	1	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.196	98	0.200	0.193	97	2	70-131	25	
o-Xylene	<0.00200	0.100	0.0909	91	0.100	0.0887	89	2	71-133	25	

Lab Batch ID: 3007405 **QC- Sample ID:** 543787-001 S **Batch #:** 1 **Matrix:** Drinking Water

Date Analyzed: 01/11/2017 **Date Prepared:** 01/11/2017 **Analyst:** MNR

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	39.7	25.0	64.5	99	25.0	62.2	90	4	90-110	20	

Lab Batch ID: 3007542 **QC- Sample ID:** 543554-001 S **Batch #:** 1 **Matrix:** Storm Water

Date Analyzed: 01/13/2017 **Date Prepared:** 01/13/2017 **Analyst:** DHE

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Mercury, Total by EPA 245.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Mercury	<0.000200	0.00200	0.00200	100	0.00200	0.00205	103	2	70-130	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: South Brine Pond

Work Order # : 543728 **Project ID:**

Lab Batch ID: 3007542 **QC- Sample ID:** 543700-001 S **Batch #:** 1 **Matrix:** Waste Water

Date Analyzed: 01/13/2017 **Date Prepared:** 01/13/2017 **Analyst:** DHE

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Mercury, Total by EPA 245.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Mercury	<0.000200	0.00200	0.00212	106	0.00200	0.00210	105	1	70-130	20	

Lab Batch ID: 3007540 **QC- Sample ID:** 543969-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 01/13/2017 **Date Prepared:** 01/13/2017 **Analyst:** DEP

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Metals by EPA 200.8 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	<0.00200	0.100	0.0903	90	0.100	0.0916	92	1	70-130	20	
Barium	0.165	0.100	0.269	104	0.100	0.270	105	0	70-130	20	
Cadmium	<0.00200	0.100	0.0928	93	0.100	0.0948	95	2	70-130	20	
Chromium	0.00485	0.100	0.0975	93	0.100	0.0988	94	1	70-130	20	
Lead	<0.00200	0.100	0.103	103	0.100	0.104	104	1	70-130	20	
Selenium	0.00360	0.100	0.0935	90	0.100	0.0932	90	0	70-130	20	
Silver	<0.00200	0.0500	0.0462	92	0.0500	0.0469	94	2	70-130	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: South Brine Pond

Work Order # : 543728 **Project ID:**

Lab Batch ID: 3007616 **QC- Sample ID:** 543690-001 S **Batch #:** 1 **Matrix:** Drinking Water

Date Analyzed: 01/13/2017 **Date Prepared:** 01/13/2017 **Analyst:** DEP

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Metals per ICP by EPA 200.7 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Calcium	223	25.0	240	68	25.0	239	64	0	70-130	20	X
Magnesium	95.5	25.0	118	90	25.0	117	86	1	70-130	20	
Potassium	14.1	10.0	25.4	113	10.0	25.8	117	2	70-130	20	
Sodium	193	25.0	218	100	25.0	216	92	1	70-130	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Sample Duplicate Recovery

Project Name: South Brine Pond

Work Order #: 543728

Lab Batch #: 3007474 **Project ID:**
Date Analyzed: 01/12/2017 11:16 **Date Prepared:** 01/12/2017 **Analyst:** MJP
QC- Sample ID: 543616-001 D **Batch #:** 1 **Matrix:** Water
Reporting Units: mg/L

Alkalinity by SM2320B	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Alkalinity, Total (as CaCO3)	79.6	80.0	1	20	

Lab Batch #: 3007474
Date Analyzed: 01/12/2017 12:36 **Date Prepared:** 01/12/2017 **Analyst:** MJP
QC- Sample ID: 543854-002 D **Batch #:** 1 **Matrix:** Water
Reporting Units: mg/L

Alkalinity by SM2320B	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Alkalinity, Total (as CaCO3)	421	418	1	20	

Lab Batch #: 3007401
Date Analyzed: 01/12/2017 10:55 **Date Prepared:** 01/12/2017 **Analyst:** YAV
QC- Sample ID: 543684-001 D **Batch #:** 1 **Matrix:** Drinking Water
Reporting Units: mg/L

TDS by SM2540C	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Total Dissolved Solids	665	684	3	10	

Lab Batch #: 3007495
Date Analyzed: 01/12/2017 13:25 **Date Prepared:** 01/12/2017 **Analyst:** YAV
QC- Sample ID: 543690-001 D **Batch #:** 1 **Matrix:** Drinking Water
Reporting Units: Deg C

pH by SM4500-H	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Temperature	19.1	19.1	0	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: South Brine Pond

Work Order #: 543728

Lab Batch #: 3007495 **Project ID:**
Date Analyzed: 01/12/2017 13:25 **Date Prepared:** 01/12/2017 **Analyst:** YAV
QC- Sample ID: 543690-001 D **Batch #:** 1 **Matrix:** Drinking Water
Reporting Units: SU

pH by SM4500-H	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
pH	7.65	7.67	0	20	

Lab Batch #: 3007495
Date Analyzed: 01/12/2017 13:25 **Date Prepared:** 01/12/2017 **Analyst:** YAV
QC- Sample ID: 543728-001 D **Batch #:** 1 **Matrix:** Water
Reporting Units: Deg C

pH by SM4500-H	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Temperature	19.0	19.1	1	20	

Lab Batch #: 3007495
Date Analyzed: 01/12/2017 13:25 **Date Prepared:** 01/12/2017 **Analyst:** YAV
QC- Sample ID: 543728-001 D **Batch #:** 1 **Matrix:** Water
Reporting Units: SU

pH by SM4500-H	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
pH	7.44	7.45	0	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

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Xenco Quote # | Xenco Job # 543728

Client / Reporting Information

Company Name / Branch: Western Refining

Company Address: PO Box 1345 Jal, NM 88252

Email: Ken.Parker@wnr.com Phone No: 575-395-2632

Project Contact: Ken Parker

Samplers's Name: Ken Parker

Project Information

Project Name/Number: South Brine Pond

Project Location: Jal, NM

Invoice To:

PO Number:

Analytical Information

Matrix Codes

A= Air
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
WW= Waste Water
W = Wipe
O = Oil

WW= Waste Water

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX	Metals E200.8 (Sr)	Metals E200.7	Chlorides	pH	TDS	Alkalinity				Field Comments
1	South Pond	1 ft.	1-10-17	1:00 PM	DW	6	3		1					X	X	X	X	X	X	X	X				
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									

Turnaround Time (Business days)

- ☐ Same Day TAT
- ☑ 5 Day TAT
- ☐ Next Day EMERGENCY
- ☐ 7 Day TAT
- ☐ 2 Day EMERGENCY
- ☐ Contract TAT
- ☐ 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 3:00 pm

Data Deliverable Information

- ☐ Level II Std QC
- ☐ Level IV (Full Data Pkg /raw data)
- ☐ Level III Std QC+ Forms
- ☐ TRRP Level IV
- ☐ Level 3 (CLP Forms)
- ☐ UST / RG -411
- ☐ TRRP Checklist

Notes: Chilling in progress

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Ken Parker	1-10-17	1	2	1-10-17 16:48	2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable ☐	On Ice ☑

Temp: IR ID:R-8
CF:+ 0.1 14.2°C
Corrected Temp: 14.3°C

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to XENCO Laboratories and its affiliates, subcontractors and assigns XENCO's standard terms and conditions of service unless previously negotiated under a fully executed client contract.

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: Western Refining

Date/ Time Received: 01/10/2017 04:48:00 PM

Work Order #: 543728

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	14.3	
#2 *Shipping container in good condition?	N/A	
#3 *Samples received on ice?	Yes	chilling in progress
#4 *Custody Seal present on shipping container/ cooler?	N/A	
#5 *Custody Seals intact on shipping container/ cooler?	N/A	
#6 Custody Seals intact on sample bottles?	N/A	
#7 *Custody Seals Signed and dated?	N/A	
#8 *Chain of Custody present?	Yes	
#9 Sample instructions complete on Chain of Custody?	Yes	
#10 Any missing/extra samples?	No	
#11 Chain of Custody signed when relinquished/ received?	Yes	
#12 Chain of Custody agrees with sample label(s)?	Yes	
#13 Container label(s) legible and intact?	Yes	
#14 Sample matrix/ properties agree with Chain of Custody?	Yes	
#15 Samples in proper container/ bottle?	Yes	
#16 Samples properly preserved?	Yes	
#17 Sample container(s) intact?	Yes	
#18 Sufficient sample amount for indicated test(s)?	Yes	
#19 All samples received within hold time?	Yes	
#20 Subcontract of sample(s)?	Yes	Houston
#21 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes	
#22 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	Yes	
#23 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: JKR

PH Device/Lot#: 213315

Checklist completed by: Jessica Kramer
Jessica Kramer
Date: 01/11/2017

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks
Date: 01/11/2017

PETTIGREW
& ASSOCIATES PA

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Ken Parker, Western Refining
PO Box 1345
Jal, New Mexico, 88252
575-392-2632

14 January, 2016

RE: Survey Report
Western Refining Subsidence Monitoring

Dear Mr. Parker,

Please review this report of survey findings for the subject project. Please comment as necessary.

SUBSIDENCE MONUMENT MONITORING

The surveyed elevations along with deltas from established values as follows:

NAME	BASE ELEVATION 5/13/2009	ELEVATION 12/21/2012	CHANGE IN ELEVATION
CP-1	3293.47	3293.48	+ 0.01'
CP-2	3297.82	3297.82	No Change
CP-3	3293.56	3293.55	- 0.01'
SM-1	3292.27	3292.27	No Change
SM-2	3294.56	3294.57	+ 0.01'
SM-3	3294.85	3294.86	+ 0.01'
SM-4	3294.86	3294.89	+ 0.02'
SMF-1 (Mid Flange)	3295.62	3295.63	+ 0.01'
SMF-1 (Lower Flange)	3293.67	3293.70	+ 0.03'
SMF-2 (Mid Flange)	3297.42	3297.43	+ 0.01'
SMF-2 (Lower Flange)	3295.52	3295.51	- 0.01'
SMF-3 (Mid Flange)	3298.18	3298.18	No Change
SMF-3 (Lower Flange)	3296.44	3296.44	No Change
SMF-4 (Lower Flange)	3295.99	3296.00	+ 0.01'
BM-1	3294.30	3294.31	+ 0.01'
BM-2	3296.62	3296.61	- 0.01'
BM-3	3297.73	3297.74	+ 0.01'

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DEFINING QUALITY SINCE 1965

Ken Parker, Western Refining
PO Box 1345
Jal, New Mexico, 88252
575-392-2632

14 January, 2016

RE: Survey Report
Western Refining Subsidence Monitoring

Dear Mr. Parker,

Please review this report of survey findings for the subject project. Please comment as necessary.

SUBSIDENCE MONUMENT MONITORING

The surveyed elevations along with deltas from established values as follows:

NAME	BASE ELEVATION 5/13/2009	ELEVATION 12/21/2012	CHANGE IN ELEVATION
CP-1	3293.47	3293.48	+ 0.01'
CP-2	3297.82	3297.82	No Change
CP-3	3293.56	3293.55	- 0.01'
SM-1	3292.27	3292.27	No Change
SM-2	3294.56	3294.57	+ 0.01'
SM-3	3294.85	3294.86	+ 0.01'
SM-4	3294.86	3294.89	+ 0.02'
SMF-1 (Mid Flange)	3295.62	3295.63	+ 0.01'
SMF-1 (Lower Flange)	3293.67	3293.70	+ 0.03'
SMF-2 (Mid Flange)	3297.42	3297.43	+ 0.01'
SMF-2 (Lower Flange)	3295.52	3295.51	- 0.01'
SMF-3 (Mid Flange)	3298.18	3298.18	No Change
SMF-3 (Lower Flange)	3296.44	3296.44	No Change
SMF-4 (Lower Flange)	3295.99	3296.00	+ 0.01'
BM-1	3294.30	3294.31	+ 0.01'
BM-2	3296.62	3296.61	- 0.01'
BM-3	3297.73	3297.74	+ 0.01'

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, February 03, 2012 7:25 AM
To: 'Parker, Ken'
Cc: Gonzales, Elidio L, EMNRD; Griswold, Jim, EMNRD
Subject: Western Refining Jal Storage Facility (GW-007) Annual Report

Ken:

Good morning. The OCD is in receipt of your Annual LPG Well Report.

Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/
"Why not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward with the Rest of the Nation?" To see how, go to "Pollution Prevention & Waste Minimization" at:
http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental)

ANNUAL LPG WELL REPORT

OPERATOR: Western Refining Company

GW PERMIT NUMBER: GW-007

UIC CLASS LPG STORAGE WELLS API NUMBER

31055 WELL 1: 30-025-35954
31055 WELL 2: 30-025-35955
31055 WELL 3: 30-025-35956
31055 WELL 4: 30-025-35957

WESTERN REFINING JAL STORAGE FACILITY

Company Representative: Ken Parker

Date: 1-31-2012

Annual LPG Well Report Date: 1-31-12

Well Summary

Well 1

Well one wasn't in service in 2011. In the past this well was used to store mix butane and was on standby to receive mix if necessary.

In the last quarter of this year well one passed its annual cavern pressure test. All test results were filed with OCD and well one was approved for service.

Well 2

Well two was in normal butane service in 2011. Within the year 226,606 barrels of normal butane was injected into the well and 163,017 was withdrawn. The well operating pressures were within the guidelines set by OCD and therefore there was no need for any remedial work.

In the last quarter of this year well two passed its annual cavern pressure test. All test results were filed with OCD and well two was approved for service.

Well 3

Normal butane was stored in this cavern this past year. Moving product in and out of this well has been continuous and trouble free. Operating pressures are within the OCD guidelines for this well. Approximately 179,476 barrels was injected into well three and 202,856 barrels were withdrawn in 2011.

In the last quarter of this year well three passed the annual cavern pressure test. All test results were filed with OCD and well three was approved for service.

Well 4

Iso-butane was stored in this cavern this past year. Approximately 112,103 barrels was injected into well four and 92,279 barrels was withdrawn. Well four operating pressures were with in the guidelines set by OCD and therefore trouble free.

In the last quarter of this year well four passed the annual cavern pressure test. All test results were filed with OCD and well four was approved for service.

Production Volumes
See Attachments
Well 1 Annual C-131B
Well 2 Annual C-131B
Well 3 Annual C-131B
Well 4 Annual C-131B

Injecting Fluid Analysis
See Attachment
Report 435161

Deviation From Normal Production Method
N/A

Leak and Spill Report
N/A

Ground Water Monitoring
N/A

Cavity Subsidence
See Attachment

Area of Review
No activity in the year 2011.

Pursuant to all applicable parts of the Water Quality Control Commission (WQCC) Regulations 20.6.2 NMAC and more specifically 20.6.2.5101. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information. I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Western Refining Company
Company Name

Ken Parker
Company Representative

Company Representative Signature

Title: Facility Manager

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-131B
Revised June 10, 2003

Submit one copy to Santa Fe and one copy to appropriate District Office postmarked by 24th Day of succeeding month. See Rule 1131.

ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-11

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 1 30-025-35954	**M32-23S-37E**	**0**	**0**	**0**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 795

TOTAL CAPACITY (BBLS) 201,013 Barrels

BEGINNING STORAGE (BBLS) 0

NET CHANGE (BBLS) 0

ENDING STORAGE (BBLS) 0

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature Ken Parker

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-31-12 Telephone No. 575-395-2632

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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1000 Rio Brazos Road, Aztec, NM 87410
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Form C-131B
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ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-11

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 2 30-025-35955	**M32-23S-37E**	**760**	**226,606**	**163,017**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 868

TOTAL CAPACITY (BBLS) 130,201 Barrels

BEGINNING STORAGE (BBLS) 4,937

NET CHANGE (BBLS) 63,589

ENDING STORAGE (BBLS) 68,526

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature Ken Parker

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-31-12 Telephone No. 575-395-2632

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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1000 Rio Brazos Road, Aztec, NM 87410
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Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-131B
Revised June 10, 2003

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ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-11

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 3 30-025-35956	**M32-23S-37E**	**760**	**179,476**	**202,856**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 967

TOTAL CAPACITY (BBLS) 79,692 Barrels

BEGINNING STORAGE (BBLS) 76,362

NET CHANGE (BBLS) 23,380

ENDING STORAGE (BBLS) 52,982

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature Ken Parker

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-31-12 Telephone No. 575-395-2632

District I
1625 N. French Dr., Hobbs, NM 88240
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1301 W. Grand Avenue, Artesia, NM 88210
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1220 South St. Francis Dr.
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Form C-131B
Revised June 10, 2003

Submit one copy to Santa Fe and one copy to appropriate District Office postmarked by 24th Day of succeeding month. See Rule 1131.

ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-11

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 4 30-025-35957	**M32-23S-37E**	**740**	**112,103**	**92,279**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 1,017

TOTAL CAPACITY (BBLS) 136,626 Barrels

BEGINNING STORAGE (BBLS) 7,980

NET CHANGE (BBLS) 19,824

ENDING STORAGE (BBLS) 27,804

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature Ken Parker

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-31-12 Telephone No. 575-395-2632

Analytical Report 435161

for

Western Refining

Project Manager: Ken Parker

North Brine Pond Water

26-JAN-12

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)

26-JAN-12

Project Manager: **Ken Parker**
Western Refining
P.O. Box 1345
Jal, NM 88252

Reference: XENCO Report No: **435161**
North Brine Pond Water
Project Address:

Ken Parker:

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 435161. 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. 435161 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

Sample Cross Reference 435161

Western Refining, Jal, NM

North Brine Pond Water

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
North Pond	W	01-17-12 10:18		435161-001

CASE NARRATIVE

Client Name: Western Refining
Project Name: North Brine Pond Water

Project ID:
Work Order Number: 435161

Report Date: 26-JAN-12
Date Received: 01/17/2012

Sample receipt non conformances and comments:
None

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-879495 Anions by E300
E300MI

Batch 879495, Chloride recovered above QC limits in the Matrix Spike.
Samples affected are: 435161-001.
The Laboratory Control Sample for Chloride is within laboratory Control Limits

Batch: LBA-879550 BTEX-MTBE by SW 8260B
SW8260BTX

Batch 879550, Ethylbenzene, m,p-Xylenes, o-Xylene recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate.
Samples affected are: 435161-001.
The Laboratory Control Sample for m,p-Xylenes; Ethylbenzene, o-Xylene is within laboratory Control Limits

Batch: LBA-879835 Metals per ICP by SW846 6010B
SW6010B_IC

Batch 879835, Calcium, Magnesium recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Sodium recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate.
Samples affected are: 435161-001.
The Laboratory Control Sample for Magnesium, Calcium, Sodium is within laboratory Control Limits

Certificate of Analysis Summary 435161

Western Refining, Jal, NM

Project Name: North Brine Pond Water

Project Id:

Contact: Ken Parker

Project Location:

Date Received in Lab: Tue Jan-17-12 02:16 pm

Report Date: 26-JAN-12

Project Manager: Brent Barron II

Analysis Requested							
	Lab Id:	435161-001					
	Field Id:	North Pond					
	Depth:						
	Matrix:	WATER					
	Sampled:	Jan-17-12 10:18					
Alkalinity by SM2320B SUB: E871002	*Extracted:*						
	Analyzed:	Jan-20-12 16:54					
	Units/RL:	mg/L	RL				
Alkalinity, Total (as CaCO3)		ND	4.00				
Anions by E300	*Extracted:*						
	Analyzed:	Jan-20-12 09:57					
	Units/RL:	mg/L	RL				
Chloride		167000 D	5000				
BTEX by SW 8260B SUB: E871002	*Extracted:*	Jan-20-12 13:46					
	Analyzed:	Jan-20-12 18:53					
	Units/RL:	mg/L	RL				
Benzene		ND	0.00100				
Toluene		ND	0.00100				
Ethylbenzene		ND	0.00100				
m,p-Xylenes		ND	0.00200				
o-Xylene		ND	0.00100				
Total Xylenes		ND	0.00100				
Total BTEX		ND	0.00100				
Mercury by EPA 7470A SUB: E871002	*Extracted:*	Jan-20-12 11:00					
	Analyzed:	Jan-20-12 14:45					
	Units/RL:	mg/L	RL				
Mercury		ND	0.000100				

Brent Barron II
Odessa Laboratory Manager

Certificate of Analysis Summary 435161

Western Refining, Jal, NM

Project Name: North Brine Pond Water

Project Id:

Contact: Ken Parker

Project Location:

Date Received in Lab: Tue Jan-17-12 02:16 pm

Report Date: 26-JAN-12

Project Manager: Brent Barron II

Analysis Requested								
	Lab Id:	435161-001						
	Field Id:	North Pond						
	Depth:							
	Matrix:	WATER						
	Sampled:	Jan-17-12 10:18						
Metals per ICP by SW846 6010B SUB: T104704295-TX	*Extracted:*	Jan-26-12 06:00						
	Analyzed:	Jan-26-12 10:27						
	Units/RL:	mg/L	RL					
Arsenic		ND	0.500					
Barium		ND	0.500					
Cadmium		ND	0.250					
Calcium		693	5.00					
Chromium		ND	0.250					
Lead		ND	0.600					
Magnesium		1410	5.00					
Potassium		3780	25.0					
Selenium		ND	0.500					
Silver		ND	0.200					
Sodium		132000 D	1250					
TDS by SM2540C SUB: E871002	*Extracted:*							
	Analyzed:	Jan-23-12 13:00						
	Units/RL:	mg/L	RL					
Total dissolved solids		329000	5.00					
pH, Electrometric by EPA 150.2	*Extracted:*							
	Analyzed:	Jan-17-12 17:30						
	Units/RL:	SU	RL					
pH		1.60	1.00					
Temperature		10.2	2.00					

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 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.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation. ^ NELAC or State program does not offer Accreditation at this time.

Form 2 - Surrogate Recoveries

Project Name: North Brine Pond Water

Work Orders : 435161,

Project ID:

Lab Batch #: 879550 **Sample:** 435161-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/20/12 18:53

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0520	0.0500	104	74-124	
Dibromofluoromethane	0.0606	0.0500	121	75-131	
1,2-Dichloroethane-D4	0.0569	0.0500	114	63-144	
Toluene-D8	0.0480	0.0500	96	80-117	

Lab Batch #: 879550 **Sample:** 616840-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/20/12 13:02

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0520	0.0500	104	74-124	
Dibromofluoromethane	0.0493	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0457	0.0500	91	63-144	
Toluene-D8	0.0547	0.0500	109	80-117	

Lab Batch #: 879550 **Sample:** 616840-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/20/12 12:11

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0537	0.0500	107	74-124	
Dibromofluoromethane	0.0462	0.0500	92	75-131	
1,2-Dichloroethane-D4	0.0393	0.0500	79	63-144	
Toluene-D8	0.0491	0.0500	98	80-117	

Lab Batch #: 879550 **Sample:** 435211-010 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/20/12 14:29

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0528	0.0500	106	74-124	
Dibromofluoromethane	0.0537	0.0500	107	75-131	
1,2-Dichloroethane-D4	0.0472	0.0500	94	63-144	
Toluene-D8	0.0526	0.0500	105	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Brine Pond Water

Work Orders : 435161,

Project ID:

Lab Batch #: 879550 **Sample:** 435211-010 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/20/12 14:53

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0538	0.0500	108	74-124	
Dibromofluoromethane	0.0514	0.0500	103	75-131	
1,2-Dichloroethane-D4	0.0447	0.0500	89	63-144	
Toluene-D8	0.0519	0.0500	104	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Blank Spike Recovery

Project Name: North Brine Pond Water

Work Order #: 435161 **Project ID:**

Lab Batch #: 879550 **Sample:** 616840-1-BKS **Matrix:** Water

Date Analyzed: 01/20/2012 **Date Prepared:** 01/20/2012 **Analyst:** ROL

Reporting Units: mg/L **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by SW 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<0.00100	0.100	0.0822	82	66-142	
Toluene	<0.00100	0.100	0.0957	96	59-139	
Ethylbenzene	<0.00100	0.100	0.110	110	75-125	
m,p-Xylenes	<0.00200	0.200	0.215	108	75-125	
o-Xylene	<0.00100	0.100	0.116	116	75-125	

Lab Batch #: 879486 **Sample:** 616776-1-BKS **Matrix:** Water

Date Analyzed: 01/20/2012 **Date Prepared:** 01/20/2012 **Analyst:** KKO

Reporting Units: mg/L **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

Mercury by EPA 7470A Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Mercury	<0.000100	0.00400	0.00410	103	80-120	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

BS / BSD Recoveries

Project Name: North Brine Pond Water

Work Order #: 435161

Project ID:

Analyst: MAB **Date Prepared:** 01/20/2012 **Date Analyzed:** 01/20/2012

Lab Batch ID: 879524 **Sample:** 879524-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Alkalinity by SM2320B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Alkalinity, Total (as CaCO3)	<4.00	250	254	102	250	254	102	0	80-120	20	

Analyst: BRB **Date Prepared:** 01/20/2012 **Date Analyzed:** 01/20/2012

Lab Batch ID: 879495 **Sample:** 879495-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Anions by E300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.500	10.0	10.2	102	10.0	9.99	100	2	80-120	20	

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

BS / BSD Recoveries

Project Name: North Brine Pond Water

Work Order #: 435161

Analyst: DAT **Date Prepared:** 01/26/2012 **Project ID:** **Date Analyzed:** 01/26/2012

Lab Batch ID: 879835 **Sample:** 616972-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Metals per ICP by SW846 6010B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	<0.0100	1.00	1.05	105	1.00	1.03	103	2	85-115	20	
Barium	<0.0100	1.00	1.04	104	1.00	1.03	103	1	85-115	20	
Cadmium	<0.00500	1.00	1.05	105	1.00	1.04	104	1	85-115	20	
Calcium	<0.100	1.00	1.06	106	1.00	1.06	106	0	85-115	20	
Chromium	<0.00500	1.00	1.01	101	1.00	1.01	101	0	85-115	20	
Lead	<0.0120	1.00	1.03	103	1.00	1.02	102	1	85-115	20	
Magnesium	<0.0100	1.00	0.992	99	1.00	0.969	97	2	85-115	20	
Potassium	<0.500	10.0	10.3	103	10.0	10.2	102	1	85-115	20	
Selenium	<0.0100	1.00	1.03	103	1.00	1.01	101	2	85-115	20	
Silver	<0.00400	1.00	1.02	102	1.00	1.01	101	1	85-115	20	
Sodium	<0.500	11.0	11.5	105	11.0	11.3	103	2	85-115	20	

Analyst: MAB **Date Prepared:** 01/23/2012 **Date Analyzed:** 01/23/2012

Lab Batch ID: 879609 **Sample:** 879609-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TDS by SM2540C Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Total dissolved solids	<5.00	1000	1010	101	1000	1020	102	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: North Brine Pond Water

Work Order #: 435161

Lab Batch #: 879495 **Project ID:**

Date Analyzed: 01/20/2012 **Date Prepared:** 01/20/2012 **Analyst:** BRB

QC- Sample ID: 435359-001 S **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	500	200	769	135	80-120	X

Lab Batch #: 879495

Date Analyzed: 01/20/2012 **Date Prepared:** 01/20/2012 **Analyst:** BRB

QC- Sample ID: 435372-006 S **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	459	250	729	108	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

Form 3 - MS / MSD Recoveries

Project Name: North Brine Pond Water

Work Order # : 435161 **Project ID:**

Lab Batch ID: 879550 **QC- Sample ID:** 435211-010 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 01/20/2012 **Date Prepared:** 01/20/2012 **Analyst:** ROL

Reporting Units: mg/L

BTEX by SW 8260B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.117	117	0.100	0.114	114	3	66-142	20	
Toluene	<0.00100	0.100	0.134	134	0.100	0.132	132	2	59-139	20	
Ethylbenzene	<0.00100	0.100	0.134	134	0.100	0.134	134	0	75-125	20	X
m,p-Xylenes	<0.00200	0.200	0.274	137	0.200	0.280	140	2	75-125	20	X
o-Xylene	<0.00100	0.100	0.142	142	0.100	0.141	141	1	75-125	20	X

Lab Batch ID: 879486 **QC- Sample ID:** 435352-001 S **Batch #:** 1 **Matrix:** Ground Water

Date Analyzed: 01/20/2012 **Date Prepared:** 01/20/2012 **Analyst:** KKO

Reporting Units: mg/L

Mercury by EPA 7470A Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Mercury	<0.000100	0.00100	0.00110	110	0.00100	0.00110	110	0	75-125	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Form 3 - MS / MSD Recoveries

Project Name: North Brine Pond Water

Work Order # : 435161 **Project ID:**

Lab Batch ID: 879835 **QC- Sample ID:** 435372-006 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 01/26/2012 **Date Prepared:** 01/26/2012 **Analyst:** DAT

Reporting Units: mg/L

Metals per ICP by SW846 6010B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	0.0226	1.00	1.13	111	1.00	1.12	110	1	75-125	20	
Barium	0.0304	1.00	1.09	106	1.00	1.08	105	1	75-125	20	
Cadmium	<0.00500	1.00	1.04	104	1.00	1.02	102	2	75-125	20	
Calcium	140	1.00	140	0	1.00	139	0	1	75-125	20	X
Chromium	<0.00500	1.00	1.01	101	1.00	0.997	100	1	75-125	20	
Lead	<0.0120	1.00	1.06	106	1.00	1.05	105	1	75-125	20	
Magnesium	95.2	1.00	94.8	0	1.00	94.1	0	1	75-125	20	X
Potassium	13.4	10.0	24.2	108	10.0	24.2	108	0	75-125	20	
Selenium	0.0247	1.00	1.11	109	1.00	1.09	107	2	75-125	20	
Silver	<0.00400	1.00	1.03	103	1.00	1.03	103	0	75-125	20	
Sodium	233	11.0	247	127	11.0	247	127	0	75-125	20	X

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = Sec Narrative, EQL = Estimated Quantitation Limit

Sample Duplicate Recovery

Project Name: North Brine Pond Water

Work Order #: 435161

Lab Batch #: 879524 **Project ID:**
Date Analyzed: 01/20/2012 16:57 **Date Prepared:** 01/20/2012 **Analyst:** MAB
QC- Sample ID: 435161-001 D **Batch #:** 1 **Matrix:** Water
Reporting Units: mg/L

Alkalinity by SM2320B	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Alkalinity, Total (as CaCO3)	<4.00	<4.00	0	20	U

Lab Batch #: 879524
Date Analyzed: 01/20/2012 15:39 **Date Prepared:** 01/20/2012 **Analyst:** MAB
QC- Sample ID: 435188-001 D **Batch #:** 1 **Matrix:** Water
Reporting Units: mg/L

Alkalinity by SM2320B	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Alkalinity, Total (as CaCO3)	219	218	0	20	

Lab Batch #: 879495
Date Analyzed: 01/20/2012 09:57 **Date Prepared:** 01/20/2012 **Analyst:** BRB
QC- Sample ID: 435359-001 D **Batch #:** 1 **Matrix:** Water
Reporting Units: mg/L

Anions by E300	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	500	515	3	20	

Lab Batch #: 879609
Date Analyzed: 01/23/2012 13:00 **Date Prepared:** 01/23/2012 **Analyst:** MAB
QC- Sample ID: 435159-004 D **Batch #:** 1 **Matrix:** Water
Reporting Units: mg/L

TDS by SM2540C	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Total dissolved solids	988	986	0	30	

Spike Relative Difference RPD 200 * |(B-A)/(B+A)|
All Results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: North Brine Pond Water

Work Order #: 435161

Lab Batch #: 879609 **Project ID:**

Date Analyzed: 01/23/2012 13:00 **Date Prepared:** 01/23/2012 **Analyst:** MAB

QC- Sample ID: 435161-001 D **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

TDS by SM2540C Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Total dissolved solids	329000	331000	1	30	

Lab Batch #: 879224

Date Analyzed: 01/17/2012 17:30 **Date Prepared:** 01/17/2012 **Analyst:** BRB

QC- Sample ID: 435159-001 D **Batch #:** 1 **Matrix:** Water

Reporting Units: SU

pH, Electrometric by EPA 150.2 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Temperature	16.7	17.8	6	20	
pH	7.74	7.73	0	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ken Parker
Company Name: Western Refining
Company Address: PO Box 1345
City/State/Zip: JAL, NM 88252
Telephone No: 575-395-2632
Sampler Signature:

Fax No: 575-395-2260
e-mail: Ken.Parker@wnr.com

Project Name: North Brine Pond Water
Project #:
Project Loc:
PO #:
Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #: 435161

Preservation & # of Containers: HNO₃ 500 mL; HCl 3 VOAs

Analyze For: TCLP: / TOTAL:

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	DW=Drinking Water SL=Sludge	GW = Groundwater S=Soil/Solid	NP=Non-Potable Specify Other	TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions ([✓ Cl], SO4, [✓ Alkalinity])	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or [✓ BTEX 8260]	RCI	N.O.R.M.	TDS	PH		RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	North Pond	-	-	1-17-12	10:18AM		5										W				✓	✓		✓			✓			✓	✓			✓

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
[illegible]	1-17-12	2:14PM			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: H Hernandez	1/17/12	2:16

Laboratory Comments:
Sample Containers Intact? [✓ Y] N
VOCs Free of Headspace? [✓ Y] N
Labels on container(s) [✓ Y] N
Custody seals on container(s) Y [✓ N]
Custody seals on cooler(s) Y [✓ N]
Sample Hand Delivered [✓ Y] N
by Sampler/Client Rep. ? [✓ Y] N
by Courier? UPS DHL FedEx Lone Star
500mL / 1 Liter / 3 VOA's
Temperature Upon Receipt: 0 °C

XENCO Laboratories	Document Title: Sample Receipt Checklist
Atlanta, Boca Raton, Corpus Christi, Dallas	Document No.: SYS-SRC
Houston, Miami, Odessa, Philadelphia	Revision/Date: No. 01, 5/27/2010
Phoenix, San Antonio, Tampa	Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Western Refining
Date/Time: 1/17/12 2:16
Lab ID #: 435161
Initials: AH

Sample Receipt Checklist

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 properly preserved?	(Yes)	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.	
lbs	0 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

Corrective Action Taken: Sub, Metals, cations, BTEX 8260 + TDS to Xenco Houston

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Pettigrew & Associates, P.A.
ENGINEERING · SURVEYING · MATERIALS TESTING

1110 N Grimes St
Hobbs, NM 88240

575.393.9827 Ph
575.393.1543 Fx

www.pettigrew.us

Ken Parker
Western Refining
PO Box 1345
Jal, New Mexico, 88252
575-392-2632

18 May, 2011

RE: Survey Report
Western Refining Subsidence Monitoring

Dear Mr. Parker,

Please review this report of survey findings for the subject project.

SUBSIDENCE MONUMENT MONITORING

The surveyed elevations along with deltas from the previous survey values, letter dated 17 November 2010 and as surveyed on 29 October 2010, are as follows:

NAME	SURVEY ELEVATIONS AS OF 10/29/2010	SURVEY ELEVATIONS AS OF 04/15/2011	DELTA ELEVATION
CP-1	3293.45	3293.47	+0.02'
CP-2	3297.82	3297.82	NO CHANGE
CP-3	3293.56	3293.56	NO CHANGE
SM-1	3292.27	3292.28	+0.01'
SM-2	3294.56	3294.56	NO CHANGE
SM-3	3294.84	3294.86	+0.02'
SM-4	3294.86	3294.87	+0.01'
SMF-1 (Middle Flange)	3295.64	3295.64	NO CHANGE
SMF-1 (Lower Flange)	3293.69	3293.70	+0.01'
SMF-2 (Middle Flange)	3297.43	3297.43	NO CHANGE
SMF-2 (Lower Flange)	3295.53	3295.53	NO CHANGE
SMF-3 (Middle Flange)	3298.16	3298.19	+0.03'
SMF-3 (Lower Flange)	3296.42	3296.44	+0.02'
SMF-4 (Middle Flange)	3297.73	3297.74	+0.01'
SMF-4 (Lower Flange)	3296.00	3296.00	NO CHANGE
BM-1	3294.31	3294.31	NO CHANGE
BM-2	3296.63	3296.63	NO CHANGE
BM-3	3297.73	3297.73	NO CHANGE

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1110 N Grimes St
Hobbs, NM 88240

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www.pettigrew

Please feel free to call me anytime if you have any questions or comments.

Sincerely,

Robert M. Howett

Robert Michael Howett, PS
NM 19680
Survey Manager
(575)393-7881
bhowett@pettigrew.us

Pelugrew & Associates, P.A.

Jal, New Mexico, 88252
575-392-2632

14 November, 2011

RE: Survey Report
Western Refining Subsidence Monitoring

Dear Mr. Parker,

Please review this report of survey findings for the subject project.

SUBSIDENCE MONUMENT MONITORING

The surveyed elevations along with deltas from the previous survey values, letter dated 18 May 2011 and as surveyed on 15 April 2011, are as follows:

NAME	SURVEY ELEVATIONS AS OF 04/15/2011	SURVEY ELEVATIONS AS OF 11/10/2011	DELTA ELEVATION
CP-1	3293.47	3293.46	-0.01'
CP-2	3297.82	3297.82	NO CHANGE
CP-3	3293.56	3293.55	-0.01'
SM-1	3292.28	3292.26	-0.02'
SM-2	3294.56	3294.56	NO CHANGE
SM-3	3294.86	3294.85	-0.01'
SM-4	3294.87	3294.85	-0.02'
SMF-1 (Middle Flange)	3295.64	3295.61	-0.03'
SMF-1 (Lower Flange)	3293.70	3293.66	+0.04'
SMF-2 (Middle Flange)	3297.43	3297.43	NO CHANGE
SMF-2 (Lower Flange)	3295.53	3295.53	NO CHANGE
SMF-3 (Middle Flange)	3298.19	3298.17	-0.02'
SMF-3 (Lower Flange)	3296.44	3296.43	-0.01'
SMF-4 (Middle Flange)	3297.74	3297.72	-0.02'
SMF-4 (Lower Flange)	3296.00	3295.98	-0.02'
BM-1	3294.31	3294.30	-0.01'
BM-2	3296.63	3296.63	NO CHANGE
BM-3	3297.73	3297.73	NO CHANGE

Pettigrew & Associates, P.A.
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1110 N Grimes St
Hobbs, NM 88240

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Please feel free to call me anytime if you have any questions or comments.
Sincerely,

Robert M. Howett

Robert Michael Howett, PS
NM 19680
Professional Surveyor
(575)393-7881
bhowett@pettigrew.us

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, February 02, 2011 1:52 PM
To: 'Parker, Ken'
Cc: Hill, Larry, EMNRD
Subject: Western Refining Company Jal LPG Storage Facility (GW-007) Annual Report

Mr. Parker:

The OCD is in receipt of your Annual Report.

You will be contacted if we have questions or need additional information.

Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

File: OCD *Online* "GW-7 Annual Reports"

ANNUAL LPG WELL REPORT

OPERATOR: Western Refining Company

GW PERMIT NUMBER: GW-007

UIC CLASS LPG STORAGE WELLS API NUMBER

31055 WELL 1: 30-025-35954
31055 WELL 2: 30-025-35955
31055 WELL 3: 30-025-35956
31055 WELL 4: 30-025-35957

WESTERN REFINING JAL STORAGE FACILITY

Company Representative: Ken Parker

Date: 1-31-2011

Annual LPG Well Report Date: 1-31-11

Well Summary

Well 1

Well no.1 was used sparingly in 2010. Only 6,194 barrels of mix butane was stored for the year and the operating pressures are within the guidelines set by OCD.

In the last quarter of this year well no.1 passed the MIT. All test results were filed with OCD and well no. 1 was approved for use.

Well 2

Well no. 2 was used sparingly in 2010. Only 4,937 barrels of normal butane was stored for the year and the operating pressures are within the guidelines set by OCD.

In the last quarter of this year well no. 2 passed the MIT. All test results were filed with OCD and well no. 2 was approved for use.

.Well 3

Normal butane was stored in this cavern this past year. Moving product in and out of this well has been continuous and trouble free. Operating pressures are within the OCD guidelines for this well. Approximately 349,350 barrels was injected into well no.3 and 297,943 barrels were withdrawn in 2010.

In the last quarter of this year well no. 3 passed the MIT. All test results were filed with OCD and well no. 3 was approved for use.

Well 4

Iso-butane was stored in this cavern this past year. Approximately 119,028 barrels was injected into well no.4 and 146,208 barrels was withdrawn. Well no. 4 operating pressures were with in the guidelines set by OCD.

In the last quarter of this year well no. 4 passed the MIT. All test results were filed with OCD and well no. 4 was approved for use.

Production Volumes
See Attachments
Well 1 Annual 10
Well 2 Annual 10
Well 3 Annual 10
Well 4 Annual 10

Injecting Fluid Analysis
See Attachment
Report 403710

Deviation From Normal Production Method
N/A

Leak and Spill Report
N/A

Ground Water Monitoring
N/A

Cavity Subsidence
See Attachment

Area of Review
No activity in the year 2010.

Pursuant to all applicable parts of the Water Quality Control Commission (WQCC) Regulations 20.6.2 NMAC and more specifically 20.6.2.5101. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information. I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Western Refining Company
Company Name

Ken Parker
Company Representative

Ken Parker
Company Representative Signature

Title: Facility Manager

Date: 1-31-11

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-131B
Revised June 10, 2003

Submit one copy to Santa Fe and one copy to appropriate District Office postmarked by 24th Day of succeeding month. See Rule 1131.

ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) — PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-10

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 1 30-025-35954	**M32-23S-37E**	**600**	**3,067**	**6,194**

TOTALS

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 845

TOTAL CAPACITY (BBLS) 201,013 Barrels

BEGINNING STORAGE (BBLS) 3,127

NET CHANGE (BBLS) 3,127

ENDING STORAGE (BBLS) 0

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature Ken Parker

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-31-11 Telephone No. 575-395-2632

District I
1625 N. French Dr., Hobbs, NM 88240
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1301 W. Grand Avenue, Artesia, NM 88210
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ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-10

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 2 30-025-35955	**M32-23S-37E**	**790**	**4,937**	**0**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 1,018

TOTAL CAPACITY (BBLS) 130,201 Barrels

BEGINNING STORAGE (BBLS) 0

NET CHANGE (BBLS) 4,937

ENDING STORAGE (BBLS) 4,937

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature Ken Parker

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-31-11 Telephone No. 575-395-2632

District I
1625 N. French Dr., Hobbs, NM 88240
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1301 W. Grand Avenue, Artesia, NM 88210
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Form C-131B
Revised June 10, 2003

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ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-10

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 3 30-025-35956	**M32-23S-37E**	**780**	**349,350**	**297,943**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 1,067

TOTAL CAPACITY (BBLS) 79,692 Barrels

BEGINNING STORAGE (BBLS) 24,955

NET CHANGE (BBLS) 51,407

ENDING STORAGE (BBLS) 76,362

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature Ken Parker

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-31-11 Telephone No. 575-395-2632

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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1000 Rio Brazos Road, Aztec, NM 87410
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State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-131B
Revised June 10, 2003

Submit one copy to Santa Fe and one copy to appropriate District Office postmarked by 24th Day of succeeding month. See Rule 1131.

ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-10

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 4 30-025-35957	**M32-23S-37E**	**790**	**119,028**	**146,208**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 997

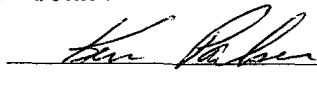
TOTAL CAPACITY (BBLS) 136,626 Barrels

BEGINNING STORAGE (BBLS) 35,160

NET CHANGE (BBLS) 27,180

ENDING STORAGE (BBLS) 7,980

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature 

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-31-11 Telephone No. 575-395-2632

Analytical Report 403710

for

Western Refining

Project Manager: Ken Parker

Brine Pond Water

26-JAN-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)

26-JAN-11

Project Manager: **Ken Parker**
Western Refining
P.O. Box 1345
Jal, NM 88252

Reference: XENCO Report No: **403710**
Brine Pond Water
Project Address: Jal, Terminal

Ken Parker:

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 403710. 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. 403710 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

Sample Cross Reference 403710

Western Refining, Jal, NM

Brine Pond Water

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
North Pond	W	Jan-13-11 10:30		403710-001

CASE NARRATIVE

Client Name: Western Refining
Project Name: Brine Pond Water

Project ID:
Work Order Number: 403710

Report Date: 26-JAN-11
Date Received: 01/14/2011

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-839872 Anions by E300
E300MI

Batch 839872, Chloride recovered below QC limits in the Matrix Spike.
Samples affected are: 403710-001.
The Laboratory Control Sample for Chloride is within laboratory Control Limits

Batch: LBA-839904 Mercury by EPA 7470A

Batch: LBA-840198 TDS by SM2540C

Batch: LBA-840288 BTEX-MTBE by SW 8260B

Batch: LBA-840396 Select Metals by SW-846 6010B

Batch: LBA-840813 Total RCRA Metals by SW6020A

Certificate of Analysis Summary 403710

Western Refining, Jal, NM

Project Name: Brine Pond Water

Project Id:
Contact: Ken Parker
Project Location: Jal, Terminal

Date Received in Lab: Fri Jan-14-11 02:09 pm
Report Date: 26-JAN-11
Project Manager: Brent Barron, II

Analysis Requested								
	Lab Id:	403710-001						
	Field Id:	North Pond						
	Depth:							
	Matrix:	WATER						
	Sampled:	Jan-13-11 10:30						
Alkalinity by SM2320B	*Extracted:*							
	Analyzed:	Jan-17-11 10:45						
	Units/RL:	mg/L	RL					
Alkalinity, Total (as CaCO3)		900	4.00					
Anions by E300	*Extracted:*							
	Analyzed:	Jan-14-11 16:43						
	Units/RL:	mg/L	RL					
Chloride		180000	5000					
BTEX by SW 8260B	*Extracted:*	Jan-18-11 11:12						
	Analyzed:	Jan-18-11 14:44						
	Units/RL:	mg/L	RL					
Benzene		0.0088	0.0010					
Toluene		0.0021	0.0010					
Ethylbenzene		ND	0.0010					
m,p-Xylenes		ND	0.0020					
o-Xylene		ND	0.0010					
Total Xylenes		ND	0.0010					
Total BTEX		0.0109	0.0010					
Mercury by EPA 7470A	*Extracted:*	Jan-17-11 07:45						
	Analyzed:	Jan-17-11 11:25						
	Units/RL:	mg/L	RL					
Mercury		ND	0.0003					

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Certificate of Analysis Summary 403710

Western Refining, Jal, NM

Project Name: Brine Pond Water

Project Id:
Contact: Ken Parker
Project Location: Jal, Terminal

Date Received in Lab: Fri Jan-14-11 02:09 pm
Report Date: 26-JAN-11
Project Manager: Brent Barron, II

Analysis Requested							
	Lab Id:	403710-001					
	Field Id:	North Pond					
	Depth:						
	Matrix:	WATER					
	Sampled:	Jan-13-11 10:30					
Select Metals by SW-846 6010B SUB: E87429	*Extracted:*	Jan-19-11 07:14					
	Analyzed:	Jan-19-11 12:38					
	Units/RL:	mg/L	RL				
Calcium		722 D	500				
Magnesium		1390 D	500				
Potassium		4950 D	500				
Sodium		103000 D	10000				
TDS by SM2540C	*Extracted:*						
	Analyzed:	Jan-17-11 16:00					
	Units/RL:	mg/L	RL				
Total dissolved solids		97100	5.00				
Total RCRA Metals by SW6020A SUB: T104704215-TX	*Extracted:*	Jan-19-11 10:25					
	Analyzed:	Jan-19-11 17:32					
	Units/RL:	mg/L	RL				
Arsenic		ND	0.0200				
Barium		0.1170 D	0.0500				
Cadmium		ND	0.0060				
Chromium		ND	0.0300				
Lead		ND	0.0200				
Selenium		ND	0.0300				
Silver		ND	0.0200				
pH, Electrometric by EPA 150.2 SUB: T104704400-TX	*Extracted:*						
	Analyzed:	Jan-17-11 08:15					
	Units/RL:	SU	RL				
pH		7.54	2.00				

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

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.

Form 2 - Surrogate Recoveries

Project Name: Brine Pond Water

Work Orders : 403710,

Project ID:

Lab Batch #: 840288 **Sample:** 593740-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/18/11 10:12

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0476	0.0500	95	74-124	
Dibromofluoromethane	0.0504	0.0500	101	75-131	
1,2-Dichloroethane-D4	0.0485	0.0500	97	63-144	
Toluene-D8	0.0501	0.0500	100	80-117	

Lab Batch #: 840288 **Sample:** 593740-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/18/11 11:26

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0490	0.0500	98	74-124	
Dibromofluoromethane	0.0491	0.0500	98	75-131	
1,2-Dichloroethane-D4	0.0508	0.0500	102	63-144	
Toluene-D8	0.0475	0.0500	95	80-117	

Lab Batch #: 840288 **Sample:** 403835-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/18/11 13:04

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0477	0.0500	95	74-124	
Dibromofluoromethane	0.0502	0.0500	100	75-131	
1,2-Dichloroethane-D4	0.0481	0.0500	96	63-144	
Toluene-D8	0.0479	0.0500	96	80-117	

Lab Batch #: 840288 **Sample:** 403835-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/18/11 13:29

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0476	0.0500	95	74-124	
Dibromofluoromethane	0.0495	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0498	0.0500	100	63-144	
Toluene-D8	0.0498	0.0500	100	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Brine Pond Water

Work Orders : 403710,

Project ID:

Lab Batch #: 840288 **Sample:** 403710-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/18/11 14:44

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0480	0.0500	96	74-124	
Dibromofluoromethane	0.0514	0.0500	103	75-131	
1,2-Dichloroethane-D4	0.0582	0.0500	116	63-144	
Toluene-D8	0.0481	0.0500	96	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Blank Spike Recovery

Project Name: Brine Pond Water

Work Order #: 403710 **Project ID:**

Lab Batch #: 839923 **Sample:** 839923-1-BKS **Matrix:** Water
Date Analyzed: 01/17/2011 **Date Prepared:** 01/17/2011 **Analyst:** WRU
Reporting Units: mg/L **Batch #:** 1

Alkalinity by SM2320B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
		BLANK /BLANK SPIKE RECOVERY STUDY				
Alkalinity, Total (as CaCO3)	<4.00	200	172	86	80-120	

Lab Batch #: 840288 **Sample:** 593740-1-BKS **Matrix:** Water
Date Analyzed: 01/18/2011 **Date Prepared:** 01/18/2011 **Analyst:** MCH
Reporting Units: mg/L **Batch #:** 1

BTEX by SW 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
		BLANK /BLANK SPIKE RECOVERY STUDY				
Benzene	<0.0010	0.1000	0.0888	89	66-142	
Toluene	<0.0010	0.1000	0.0875	88	59-139	
Ethylbenzene	<0.0010	0.1000	0.0888	89	75-125	
m,p-Xylenes	<0.0020	0.2000	0.1821	91	75-125	
o-Xylene	<0.0010	0.1000	0.1019	102	75-125	

Lab Batch #: 840813 **Sample:** 593708-1-BKS **Matrix:** Water
Date Analyzed: 01/19/2011 **Date Prepared:** 01/19/2011 **Analyst:** HAT
Reporting Units: mg/L **Batch #:** 1

Total RCRA Metals by SW6020A Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
		BLANK /BLANK SPIKE RECOVERY STUDY				
Arsenic	<0.0020	0.0500	0.0478	96	75-125	
Barium	<0.0050	0.0500	0.0446	89	75-125	
Cadmium	<0.0006	0.0200	0.0190	95	75-125	
Chromium	<0.0030	0.0500	0.0560	112	75-125	
Lead	<0.0020	0.0500	0.0527	105	75-125	
Selenium	<0.0030	0.0500	0.0482	96	75-125	
Silver	<0.0020	0.0200	0.0211	106	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

BS / BSD Recoveries

Project Name: Brine Pond Water

Work Order #: 403710 **Project ID:**

Analyst: LATCOR **Date Prepared:** 01/14/2011 **Date Analyzed:** 01/14/2011

Lab Batch ID: 839872 **Sample:** 839872-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

Anions by E300	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.200	10.0	10.2	102	10	10.3	103	1	80-120	20	

Analyst: LATCOR **Date Prepared:** 01/17/2011 **Date Analyzed:** 01/17/2011

Lab Batch ID: 839904 **Sample:** 593495-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

Mercury by EPA 7470A	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Mercury	<0.0003	0.0010	0.0010	100	0.001	0.0011	110	10	75-125	20	

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

BS / BSD Recoveries

Project Name: Brine Pond Water

Work Order #: 403710 **Project ID:**

Analyst: 4150 **Date Prepared:** 01/19/2011 **Date Analyzed:** 01/19/2011

Lab Batch ID: 840396 **Sample:** 593671-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

Select Metals by SW-846 6010B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Calcium	<5.00	9.00	9.21	102	9	9.12	101	1	75-125	20	
Magnesium	<5.00	9.00	9.39	104	9	9.36	104	0	75-125	20	
Potassium	<5.00	18.0	19.0	106	18	18.6	103	2	75-125	20	
Sodium	<5.00	9.00	9.26	103	9	9.30	103	0	75-125	20	

Analyst: WRU **Date Prepared:** 01/17/2011 **Date Analyzed:** 01/17/2011

Lab Batch ID: 840198 **Sample:** 840198-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

TDS by SM2540C Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Total dissolved solids	<5.00	1000	918	92	1000	930	93	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

Final 1.000

Form 3 - MS Recoveries

Project Name: Brine Pond Water

Work Order #: 403710

Lab Batch #: 839872

Project ID:

Date Analyzed: 01/14/2011

Date Prepared: 01/14/2011

Analyst: LATCOR

QC- Sample ID: 403647-001 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	73.4	100	140	67	80-120	X

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

Form 3 - MS / MSD Recoveries

Project Name: Brine Pond Water

Work Order # : 403710 **Project ID:**

Lab Batch ID: 840288 **QC- Sample ID:** 403835-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 01/18/2011 **Date Prepared:** 01/18/2011 **Analyst:** MCH

Reporting Units: mg/L

BTEX by SW 8260B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.0010	0.1000	0.0847	85	0.1000	0.0838	84	1	66-142	20	
Toluene	<0.0010	0.1000	0.0804	80	0.1000	0.0873	87	8	59-139	20	
Ethylbenzene	<0.0010	0.1000	0.0906	91	0.1000	0.0907	91	0	75-125	20	
m,p-Xylenes	<0.0020	0.2000	0.1791	90	0.2000	0.1902	95	6	75-125	20	
o-Xylene	<0.0010	0.1000	0.0946	95	0.1000	0.1018	102	7	75-125	20	

Lab Batch ID: 840396 **QC- Sample ID:** 403731-008 S **Batch #:** 1 **Matrix:** Ground Water

Date Analyzed: 01/19/2011 **Date Prepared:** 01/19/2011 **Analyst:** 4150

Reporting Units: mg/L

Select Metals by SW-846 6010B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Calcium	8.72	9.00	17.4	96	9.00	17.5	98	1	75-125	20	
Magnesium	5.96	9.00	15.2	103	9.00	15.9	110	5	75-125	20	
Potassium	10.6	18.0	28.8	101	18.0	30.0	108	4	75-125	20	
Sodium	7.15	9.00	17.0	109	9.00	17.1	111	1	75-125	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected. J = Present Below Reporting Limit, B = Present in Blank. NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Form 3 - MS / MSD Recoveries

Project Name: Brine Pond Water

Work Order # : 403710 **Project ID:**

Lab Batch ID: 840813 **QC- Sample ID:** 403956-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 01/19/2011 **Date Prepared:** 01/19/2011 **Analyst:** HAT

Reporting Units: mg/L

Total RCRA Metals by SW6020A Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	0.0113	0.0500	0.0547	87	0.0500	0.0538	85	2	75-125	25	
Barium	0.0239	0.0500	0.0687	90	0.0500	0.0683	89	1	75-125	25	
Cadmium	<0.0006	0.0200	0.0156	78	0.0200	0.0155	78	1	75-125	25	
Chromium	<0.0030	0.0500	0.0529	106	0.0500	0.0523	105	1	75-125	25	
Lead	0.0207	0.0500	0.0706	100	0.0500	0.0711	101	1	75-125	25	
Selenium	0.0194	0.0500	0.0573	76	0.0500	0.0578	77	1	75-125	25	
Silver	<0.0020	0.0200	0.0181	91	0.0200	0.0181	91	0	75-125	25	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Sample Duplicate Recovery

Project Name: Brine Pond Water

Work Order #: 403710

Lab Batch #: 839923 **Project ID:**
Date Analyzed: 01/17/2011 10:45 **Date Prepared:** 01/17/2011 **Analyst:** WRU
QC- Sample ID: 403718-001 D **Batch #:** 1 **Matrix:** Water
Reporting Units: mg/L

Alkalinity by SM2320B Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Alkalinity, Total (as CaCO3)	160	164	2	20	

Lab Batch #: 839872
Date Analyzed: 01/14/2011 14:01 **Date Prepared:** 01/14/2011 **Analyst:** LATCOR
QC- Sample ID: 403647-001 D **Batch #:** 1 **Matrix:** Water
Reporting Units: mg/L

Anions by E300 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	73.4	73.9	1	20	

Lab Batch #: 839904
Date Analyzed: 01/17/2011 11:25 **Date Prepared:** 01/17/2011 **Analyst:** LATCOR
QC- Sample ID: 403710-001 D **Batch #:** 1 **Matrix:** Water
Reporting Units: mg/L

Mercury by EPA 7470A Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Mercury	<0.0003	<0.0003	NC	20	

Lab Batch #: 840396
Date Analyzed: 01/19/2011 12:18 **Date Prepared:** 01/19/2011 **Analyst:** 4150
QC- Sample ID: 403731-008 D **Batch #:** 1 **Matrix:** Ground Water
Reporting Units: mg/L

Select Metals by SW-846 6010B Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Calcium	8.72	8.72	0	20	
Magnesium	5.96	5.96	0	20	
Potassium	10.6	10.6	0	20	
Sodium	7.15	7.11	1	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: Brine Pond Water

Work Order #: 403710

Lab Batch #: 840198 **Project ID:**
Date Analyzed: 01/17/2011 16:00 **Date Prepared:** 01/17/2011 **Analyst:** WRU
QC- Sample ID: 403646-001 D **Batch #:** 1 **Matrix:** Water
Reporting Units: mg/L

TDS by SM2540C Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Total dissolved solids	2440	2500	2	30	

Lab Batch #: 840813
Date Analyzed: 01/19/2011 16:52 **Date Prepared:** 01/19/2011 **Analyst:** HAT
QC- Sample ID: 403956-001 D **Batch #:** 1 **Matrix:** Water
Reporting Units: mg/L

Total RCRA Metals by SW6020A Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Arsenic	0.0113	0.0109	4	20	
Barium	0.0239	0.0245	2	20	
Cadmium	<0.0006	<0.0006	NC	20	
Chromium	<0.0030	<0.0030	NC	20	
Lead	0.0207	0.0209	1	20	
Selenium	0.0194	0.0170	13	20	
Silver	<0.0020	<0.0020	NC	20	

Lab Batch #: 839877
Date Analyzed: 01/17/2011 08:15 **Date Prepared:** 01/17/2011 **Analyst:** LATCOR
QC- Sample ID: 403646-001 D **Batch #:** 1 **Matrix:** Water
Reporting Units: SU

pH, Electrometric by EPA 150.2 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
pH	7.64	7.63	0	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ken Parker
Company Name: Western Refining
Company Address: PO Box 1345
City/State/Zip: JAL, NM 88252
Telephone No: 575-395-2718
Fax No: 575-395-2260
Sampler Signature: [illegible]
e-mail: Ken.Parker@wnr.com

Project Name: Brine Pond water
Project #:
Project Loc: JAL, Terminal
PO #:
Report Format: [✓ Standard] ☐ TRRP ☐ NPDES

(lab use only)
ORDER #: 403710

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO_3 500mL	HCl 3 VOAs	H_2SO_4	NaOH	$Na_2S_2O_3$	None 2-1L	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	TDS	pH	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
	North Pond	-	-	1-13-11	10:30 AM		6							X		W			✓	✓		✓			✓			✓	✓		✓

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
[illegible]	1-14-11	2:09PM			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Lisa Murdock	1-14-11	2:09

Laboratory Comments:
Sample Containers Intact? [✓ Y] N
VOCs Free of Headspace? [✓ Y] N
Labels on container(s) [✓ Y] N
Custody seals on container(s) Y [✓ N]
Custody seals on cooler(s) [✓ Y] N
Sample Hand Delivered [✓ Y] N
by Sampler/Client Rep. ?
by Courier? UPS DHL FedEx Lone Star
VOA 500mL L
Temperature Upon Receipt: 17.6 °C

Final 1.000

Prelogin / Nonconformance Report - Sample Log-In

Client: Western Refining
Date/Time: 1-14-11 2:09
Lab ID # : 403710
Initials: LM

Sample Receipt Checklist

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 properly preserved?	Yes	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.	
lbs	17.6 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Pettigrew & Associates, P.A.
ENGINEERING · SURVEYING · MATERIALS TESTING

1110 N Grimes St | 575.393.9557 Ph
Hobbs, NM 88240 | 575.393.1543 Fx | www.pettigrew

Ken Parker
Western Refining
PO Box 1345
Jal, New Mexico, 88252
575-392-2632

01 April, 2010

RE: Survey Report
Western Refining Subsidence Monitoring

Dear Mr. Parker,

Please review this report of survey findings for the subject project.

SUBSIDENCE MONUMENT MONITORING

The surveyed elevations along with deltas from the previous survey values, letter dated 9 October 2009 and as surveyed on 25 September 2009, are as follows:

NAME	ELEVATION 9/25/2009	ELEVATION 3/09/2010	DELTA ELEVATION
CP-1	3293.46	3293.46	NO CHANGE
CP-2	3297.82	3297.82	NO CHANGE
CP-3	3293.54	3293.55	+0.01'
SM-1	3292.26	3292.27	+0.01'
SM-2	3294.56	3294.56	NO CHANGE
SM-3	3294.83	3294.85	+0.02'
SM-4	3294.84	3294.86	+0.02'
SMF-1 (Middle Flange)	3295.62	3295.61	-0.01'
SMF-1 (Lower Flange)	3293.67	3293.66	-0.01'
SMF-2 (Middle Flange)	3297.43	3297.42	-0.01'
SMF-2 (Lower Flange)	3295.53	3295.52	-0.01'
SMF-3 (Middle Flange)	3298.17	3298.16	-0.01'
SMF-3 (Lower Flange)	3296.43	3296.43	NO CHANGE
SMF-4 (Middle Flange)	3297.72	3297.73	+0.01'
SMF-4 (Lower Flange)	3295.98	3295.99	+0.01'
BM-1	3294.30	3294.30	NO CHANGE
BM-2	3296.62	3296.62	NO CHANGE
BM-3	3297.73	3297.73	NO CHANGE

Pettigrew & Associates, P.A.
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1112 N. Grimes St
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575.393.9827 Ph
575.393.1543 Fx

www.pettigrew.us

Ken Parker
Western Refining
PO Box 1345
Jal, New Mexico. 88252
575-392-2632

17 November, 2010

RE: Survey Report
Western Refining Subsidence Monitoring

Dear Mr. Parker,

Please review this report of survey findings for the subject project.

SUBSIDENCE MONUMENT MONITORING

The surveyed elevations along with deltas from the previous survey values, letter dated 01 April 2010 and as surveyed on 09 March 2010, are as follows:

NAME	SURVEY ELEVATIONS AS OF 3/09/2010	SURVEY ELEVATIONS AS OF 10/29/2010	DELTA ELEVATION
CP-1	3293.46	3293.45	-0.01'
CP-2	3297.82	3297.82	NO CHANGE
CP-3	3293.55	3293.56	+0.01'
SM-1	3292.27	3292.27	NO CHANGE
SM-2	3294.56	3294.56	NO CHANGE
SM-3	3294.85	3294.84	-0.01'
SM-4	3294.86	3294.86	NO CHANGE
SMF-1 (Middle Flange)	3295.61	3295.64	+0.03'
SMF-1 (Lower Flange)	3293.66	3293.69	+0.03'
SMF-2 (Middle Flange)	3297.42	3297.43	+0.01'
SMF-2 (Lower Flange)	3295.52	3295.53	+0.01'
SMF-3 (Middle Flange)	3298.16	3298.16	NO CHANGE
SMF-3 (Lower Flange)	3296.43	3296.42	-0.01'
SMF-4 (Middle Flange)	3297.73	3297.73	NO CHANGE
SMF-4 (Lower Flange)	3295.99	3296.00	+0.01'
BM-1	3294.30	3294.31	+0.01'
BM-2	3296.62	3296.63	+0.01'
BM-3	3297.73	3297.73	NO CHANGE

RECEIVED
2010 FEB 1 PM 2 00

ANNUAL LPG WELL REPORT

OPERATOR: Western Refining Company

GW PERMIT NUMBER: GW-007

UIC CLASS LPG STORAGE WELLS API NUMBER

31055 WELL 1: 30-025-35954
31055 WELL 2: 30-025-35955
31055 WELL 3: 30-025-35956
31055 WELL 4: 30-025-35957

WESTERN REFINING JAL STORAGE FACILITY

Company Representative: Ken Parker

Date: 1-29-2010

Annual LPG Well Report Date: 1-29-10

Well Summary

Well 1

Well one was utilized for storing mix butane in 2009. Maximum injecting pressure was 750 pounds and normal operating pressure was 500 pounds.

It wasn't until product was being recovered that we had an operating issue. The well would not take water with the onsite equipment. We discovered that the drill bit was attached to the bottom of the tubing and the well wouldn't operate under this condition. The water flow wasn't enough to maintain the operating pressure to load trucks or railcars. The well was perforated and the issue was resolved.

Well 2

Different gravities of LPG product were stored in this cavern the first half of 2009. The products were injected into the cavern without any operating issues with this well. The last half of the year the well wasn't needed. We maintained the cavern pressure between 250 and 450 pounds.

Well 3

Normal butane was stored in this cavern this past year. Moving product in and out of this well has been continuous and trouble free. Operating pressures are within the OCD guidelines for this well.

Well 4

Iso-butane was stored in this cavern in 2009. This well is operating within the OCD guidelines and has been trouble free.

Production Volumes
See Attachments
Well 1 Annual 09
Well 2 Annual 09
Well 3 Annual 09
Well 4 Annual 09

Injecting Fluid Analysis
See Attachment
359452

Deviation From Normal Production Method
N/A

Leak and Spill Report
N/A

Ground Water Monitoring
N/A

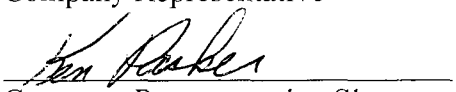
Cavity Subsidence
See Attachment

Area of Review
No activity in the year 2009.

Pursuant to all applicable parts of the Water Quality Control Commission (WQCC) Regulations 20.6.2 NMAC and more specifically 20.6.2.5101. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information. I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Western Refining Company
Company Name

Ken Parker
Company Representative



Company Representative Signature

Title: Facility Manager

Date: 1-29-10

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-131B
Revised June 10, 2003

Submit one copy to Santa Fe and one copy to appropriate District Office postmarked by 24th Day of succeeding month. See Rule 1131.

ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-09

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 1 30-025-35954	**M32-23S-37E**	**750**	**23,924**	**210,180**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 635

TOTAL CAPACITY (BBLS) 201,013 Barrels

BEGINNING STORAGE (BBLS) 189,383

NET CHANGE (BBLS) 186,256

ENDING STORAGE (BBLS) 3,127

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature _____

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-29-10 Telephone No. 575-395-2632

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
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ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-09

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 2 30-025-35955	**M32-23S-37E**	**700**	**34,944**	**36,696**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 468

TOTAL CAPACITY (BBLS) 130,201 Barrels

BEGINNING STORAGE (BBLS) 1,752

NET CHANGE (BBLS) 1,752

ENDING STORAGE (BBLS) 0

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature _____

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-29-10 Telephone No. 575-395-2632

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-131B
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ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-09

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 3 30-025-35956	**M32-23S-37E**	**730**	**150,556**	**146,274**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 1,007

TOTAL CAPACITY (BBLS) 79,692 Barrels

BEGINNING STORAGE (BBLS) 20,673

NET CHANGE (BBLS) 4,282

ENDING STORAGE (BBLS) 24,955

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature _____

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-29-10 Telephone No. 575-395-2632

District I
1625 N. French Dr., Hobbs, NM 88240
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1301 W. Grand Avenue, Artesia, NM 88210
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Revised June 10, 2003

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ANNUAL LPG STORAGE REPORT

Western Refining Company (Company) PO Box 1345 Jal, New Mexico (Address)

NAME OF STORAGE PROJECT Jal Terminal COUNTY Lea Month/Year 12-09

WELL NAME AND NUMBER	LOCATION UNIT SEC. TWP. RANGE	MAXIMUM INJECTION PRESSURE	INJECTION (BBLS)	WITHDRAWAL (BBLS)
31055 State LPG Storage Well No. 4 30-025-35957	**M32-23S-37E**	**760**	**80,324**	**75,789**
TOTALS				

CALCULATED RESERVOIR PRESSURE @ END OF YEAR 1,027

TOTAL CAPACITY (BBLS) 136,626 Barrels

BEGINNING STORAGE (BBLS) 30,625

NET CHANGE (BBLS) 4,535

ENDING STORAGE (BBLS) 35,160

I hereby certify that this report is true and complete to the best of my knowledge and belief.

Signature _____

Printed Name & Title Ken Parker, Manager

E-mail Address ken.parker@wnr.com

Date 1-29-10 Telephone No. 575-395-2632

Analytical Report 359452

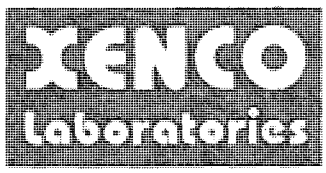
for

Western Refining

Project Manager: Ken Parker

Brine Pond Water

29-JAN-10



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-08-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 (LAO00308), 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 (T104704400-08-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)
Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240),
South Carolina(96031001), Louisiana(04154), Georgia(917)

29-JAN-10

Project Manager: **Ken Parker**
Western Refining
P.O. Box 1345
Jal, NM 88252

Reference: XENCO Report No: **359452**
Brine Pond Water
Project Address: Jal Terminal

Ken Parker:

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 359452. 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. 359452 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

Sample Cross Reference 359452

Western Refining, Jal, NM

Brine Pond Water

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
South Pond	W	Jan-21-10 10:00		359452-001

CASE NARRATIVE

Client Name: Western Refining
Project Name: Brine Pond Water

Project ID:
Work Order Number: 359452

Report Date: 29-JAN-10
Date Received: 01/21/2010

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-790632 Anions by E300
None

Batch: LBA-790717 BTEX by SW 8260B
None

Batch: LBA-790721 Mercury by EPA 7470A
None

Batch: LBA-790731 pH, Electrometric by EPA 150.2
None

Batch: LBA-790843 Total RCRA Metals by SW6020A
SW6020

Batch 790843, Arsenic, Barium, Cadmium, Chromium, Selenium, Silver recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.
Samples affected are: 359452-001.
The Laboratory Control Sample for Silver, Chromium, Arsenic, Selenium, Barium, Cadmium is within laboratory Control Limits

Batch: LBA-790910 Metals per ICP by SW846 6010B
None

Batch: LBA-790914 TDS by SM2540C
None

Batch: LBA-791431 Alkalinity by SM2320B
None

Certificate of Analysis Summary 359452

Western Refining, Jal, NM

Project Name: Brine Pond Water

Project Id:
Contact: Ken Parker
Project Location: Jal Terminal

D R A F T

Date Received in Lab: Thu Jan-21-10 04:05 pm
Report Date: 29-JAN-10
Project Manager: Brent Barron, II

Analysis Requested							
	Lab Id:	359452-001					
	Field Id:	South Pond					
	Depth:						
	Matrix:	WATER					
	Sampled:	Jan-21-10 10:00					
Alkalinity by SM2320B	***Extracted:***						
	Analyzed:	Jan-28-10 15:20					
	Units/RL:	mg/L	RL				
Alkalinity, Total (as CaCO3) *		212	4.00				
Anions by E300	***Extracted:***						
	Analyzed:	Jan-22-10 14:35					
	Units/RL:	mg/L	RL				
Chloride		119000	5000				
BTEX by SW 8260B	***Extracted:***	Jan-23-10 13:00					
SUB: T104704215-08B-TX	***Analyzed:***	Jan-23-10 23:36					
	Units/RL:	mg/L	RL				
Benzene		ND	0.0010				
Toluene		ND	0.0010				
Ethylbenzene		ND	0.0010				
m,p-Xylenes		ND	0.0020				
o-Xylene		ND	0.0010				
Total Xylenes		ND	0.001				
Total BTEX		ND	0.001				
Mercury by EPA 7470A	***Extracted:***	Jan-22-10 10:30					
	Analyzed:	Jan-25-10 10:45					
	Units/RL:	mg/L	RL				
Mercury		ND	0.0001				

Brent Barron, II
Odessa Laboratory Manager

Certificate of Analysis Summary 359452

Western Refining, Jal, NM

Project Name: Brine Pond Water

Project Id:

Contact: Ken Parker

Project Location: Jal Terminal

DRAFT

Date Received in Lab: Thu Jan-21-10 04:05 pm

Report Date: 29-JAN-10

Project Manager: Brent Barron, II

Analysis Requested							
	Lab Id:	359452-001					
	Field Id:	South Pond					
	Depth:						
	Matrix:	WATER					
	Sampled:	Jan-21-10 10:00					
Metals per ICP by SW846 6010B	***Extracted:***						
	Analyzed:	Jan-26-10 13:56					
	Units/RL:	mg/L	RL				
Calcium		4860	2000				
Magnesium		2500	200				
Potassium		ND	10000				
Sodium		108000	10000				
TDS by SM2540C	***Extracted:***						
	Analyzed:	Jan-25-10 16:50					
	Units/RL:	mg/L	RL				
Total dissolved solids		189000	5.00				
Total RCRA Metals by SW6020A SUB: T104704215-08B-TX	***Extracted:***	Jan-26-10 09:20					
	Analyzed:	Jan-26-10 12:20					
	Units/RL:	mg/L	RL				
Arsenic		EDU	0.010				
Barium		0.093 D	0.025				
Cadmium		EDU	0.005				
Chromium		0.052 D	0.015				
Lead		0.014 D	0.010				
Selenium		EDU	0.015				
Silver		EDU	0.010				
pH, Electrometric by EPA 150.2	***Extracted:***						
	Analyzed:	Jan-25-10 13:00					
	Units/RL:	SU	RL				
pH		7.60					

Brent Barron, II
Odessa Laboratory Manager

Draft Ver. 1.000

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

* Outside XENCO's scope of NELAC Accreditation.

Form 2 - Surrogate Recoveries

Project Name: Brine Pond Water

Work Orders : 359452,

Project ID:

Lab Batch #: 790717 **Sample:** 548422-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/23/10 21:32

BTEX by SW 8260B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0492	0.0500	98	74-124	
Dibromofluoromethane	0.0515	0.0500	103	75-131	
1,2-Dichloroethane-D4	0.0454	0.0500	91	63-144	
Toluene-D8	0.0504	0.0500	101	80-117	

Lab Batch #: 790717 **Sample:** 548422-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/23/10 21:57

BTEX by SW 8260B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0484	0.0500	97	74-124	
Dibromofluoromethane	0.0551	0.0500	110	75-131	
1,2-Dichloroethane-D4	0.0507	0.0500	101	63-144	
Toluene-D8	0.0498	0.0500	100	80-117	

Lab Batch #: 790717 **Sample:** 548422-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/23/10 23:11

BTEX by SW 8260B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0481	0.0500	96	74-124	
Dibromofluoromethane	0.0518	0.0500	104	75-131	
1,2-Dichloroethane-D4	0.0478	0.0500	96	63-144	
Toluene-D8	0.0515	0.0500	103	80-117	

Lab Batch #: 790717 **Sample:** 359452-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/23/10 23:36

BTEX by SW 8260B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0490	0.0500	98	74-124	
Dibromofluoromethane	0.0545	0.0500	109	75-131	
1,2-Dichloroethane-D4	0.0541	0.0500	108	63-144	
Toluene-D8	0.0505	0.0500	101	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Brine Pond Water

Work Orders : 359452,

Project ID:

Lab Batch #: 790717 **Sample:** 359452-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/24/10 04:05

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0497	0.0500	99	74-124	
Dibromofluoromethane	0.0561	0.0500	112	75-131	
1,2-Dichloroethane-D4	0.0524	0.0500	105	63-144	
Toluene-D8	0.0504	0.0500	101	80-117	

Lab Batch #: 790717 **Sample:** 359452-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/24/10 04:30

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0502	0.0500	100	74-124	
Dibromofluoromethane	0.0574	0.0500	115	75-131	
1,2-Dichloroethane-D4	0.0547	0.0500	109	63-144	
Toluene-D8	0.0504	0.0500	101	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Blank Spike Recovery

Project Name: Brine Pond Water

Work Order #: 359452 **Project ID:**

Lab Batch #: 791431 **Sample:** 791431-1-BKS **Matrix:** Water
Date Analyzed: 01/28/2010 **Date Prepared:** 01/28/2010 **Analyst:** WRU
Reporting Units: mg/L **Batch #:** 1

Alkalinity by SM2320B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
		BLANK /BLANK SPIKE RECOVERY STUDY				
Alkalinity, Total (as CaCO3) *	ND	200	175	88	80-120	

Lab Batch #: 790632 **Sample:** 790632-1-BKS **Matrix:** Water
Date Analyzed: 01/22/2010 **Date Prepared:** 01/22/2010 **Analyst:** LATCOR
Reporting Units: mg/L **Batch #:** 1

Anions by E300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
		BLANK /BLANK SPIKE RECOVERY STUDY				
Chloride	ND	11.0	11.4	104	90-110	

Lab Batch #: 790843 **Sample:** 548500-1-BKS **Matrix:** Water
Date Analyzed: 01/26/2010 **Date Prepared:** 01/26/2010 **Analyst:** HAT
Reporting Units: mg/L **Batch #:** 1

Total RCRA Metals by SW6020A Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
		BLANK /BLANK SPIKE RECOVERY STUDY				
Arsenic	ND	0.050	0.050	100	75-125	
Barium	ND	0.050	0.050	100	75-125	
Cadmium	ND	0.020	0.020	100	75-125	
Chromium	ND	0.050	0.049	98	75-125	
Lead	ND	0.050	0.049	98	75-125	
Selenium	ND	0.050	0.050	100	75-125	
Silver	ND	0.020	0.020	100	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

BS / BSD Recoveries

Project Name: Brine Pond Water

Work Order #: 359452 **Project ID:**

Analyst: MCH **Date Prepared:** 01/23/2010 **Date Analyzed:** 01/23/2010

Lab Batch ID: 790717 **Sample:** 548422-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BTEX by SW 8260B	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0898	90	0.1	0.0913	91	2	66-142	20	
Toluene	ND	0.1000	0.1071	107	0.1	0.1031	103	4	59-139	20	
Ethylbenzene	ND	0.1000	0.0952	95	0.1	0.0999	100	5	75-125	20	
m,p-Xylenes	ND	0.2000	0.1531	77	0.2	0.1634	82	7	75-125	20	
o-Xylene	ND	0.1000	0.0913	91	0.1	0.0878	88	4	75-125	20	

Analyst: LATCOR **Date Prepared:** 01/22/2010 **Date Analyzed:** 01/25/2010

Lab Batch ID: 790721 **Sample:** 548378-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

Mercury by EPA 7470A	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Mercury	ND	0.0010	0.0010	100	0.001	0.0010	100	0	75-125	20	

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

BS / BSD Recoveries

Project Name: Brine Pond Water

Work Order #: 359452
Analyst: WRU
Date Prepared: 01/25/2010
Project ID:
Date Analyzed: 01/25/2010
Lab Batch ID: 790914
Sample: 790914-1-BKS
Batch #: 1
Matrix: Water
Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TDS by SM2540C Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Total dissolved solids	ND	1000	928	93	1000	930	93	0	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: Brine Pond Water

Work Order #: 359452
Lab Batch #: 790632
Date Analyzed: 01/22/2010
QC- Sample ID: 359452-001 S
Reporting Units: mg/L

Date Prepared: 01/22/2010
Batch #: 1

Project ID:
Analyst: LATCOR
Matrix: Water

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	119000	100000	213000	94	90-110	

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

Form 3 - MS / MSD Recoveries

Project Name: Brine Pond Water

Work Order # : 359452 **Project ID:**

Lab Batch ID: 790717 **QC- Sample ID:** 359452-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 01/24/2010 **Date Prepared:** 01/23/2010 **Analyst:** MCH

Reporting Units: mg/L

BTEX by SW 8260B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0990	99	0.1000	0.0938	94	5	66-142	20	
Toluene	ND	0.1000	0.1137	114	0.1000	0.1077	108	5	59-139	20	
Ethylbenzene	ND	0.1000	0.1012	101	0.1000	0.0970	97	4	75-125	20	
m,p-Xylenes	ND	0.2000	0.1619	81	0.2000	0.1573	79	3	75-125	20	
o-Xylene	ND	0.1000	0.0965	97	0.1000	0.0950	95	2	75-125	20	

Lab Batch ID: 790721 **QC- Sample ID:** 357625-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/25/2010 **Date Prepared:** 01/22/2010 **Analyst:** LATCOR

Reporting Units: mg/L

Mercury by EPA 7470A Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Mercury	ND	0.0010	0.0010	100	0.0010	0.0010	100	0	75-125	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Form 3 - MS / MSD Recoveries

Project Name: Brine Pond Water

Work Order # : 359452 **Project ID:**

Lab Batch ID: 790843 **QC- Sample ID:** 359452-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 01/26/2010 **Date Prepared:** 01/26/2010 **Analyst:** HAT

Reporting Units: mg/L

Total RCRA Metals by SW6020A	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	ND	0.050	ND	0	0.050	ND	0	NC	75-125	25	X
Barium	0.054	0.050	0.069	30	0.050	0.070	32	1	75-125	25	X
Cadmium	ND	0.020	0.007	35	0.020	0.008	40	13	75-125	25	X
Chromium	0.039	0.050	0.043	8	0.050	0.043	8	0	75-125	25	X
Lead	0.010	0.050	0.055	90	0.050	0.058	96	5	75-125	25	
Selenium	ND	0.050	ND	0	0.050	ND	0	NC	75-125	25	X
Silver	ND	0.020	0.007	35	0.020	0.007	35	0	75-125	25	X

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Sample Duplicate Recovery

Project Name: Brine Pond Water

Work Order #: 359452

Lab Batch #: 791431 **Project ID:**
Date Analyzed: 01/28/2010 **Date Prepared:** 01/28/2010 **Analyst:** WRU
QC- Sample ID: 359452-001 D **Batch #:** 1 **Matrix:** Water
Reporting Units: mg/L

Alkalinity by SM2320B	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Alkalinity, Total (as CaCO3) *	212	208	2	20	

Lab Batch #: 790632
Date Analyzed: 01/22/2010 **Date Prepared:** 01/22/2010 **Analyst:** LATCOR
QC- Sample ID: 359452-001 D **Batch #:** 1 **Matrix:** Water
Reporting Units: mg/L

Anions by E300	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	119000	121000	2	20	

Lab Batch #: 790914
Date Analyzed: 01/25/2010 **Date Prepared:** 01/25/2010 **Analyst:** WRU
QC- Sample ID: 359452-001 D **Batch #:** 1 **Matrix:** Water
Reporting Units: mg/L

TDS by SM2540C	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Total dissolved solids	189000	206000	9	30	

Lab Batch #: 790843
Date Analyzed: 01/26/2010 **Date Prepared:** 01/26/2010 **Analyst:** HAT
QC- Sample ID: 359452-001 D **Batch #:** 1 **Matrix:** Water
Reporting Units: mg/L

Total RCRA Metals by SW6020A	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Arsenic	ND	ND	NC	25	
Barium	0.054	0.043	23	25	
Cadmium	ND	ND	NC	25	
Chromium	0.039	0.047	19	25	
Lead	0.010	0.010	0	25	
Selenium	ND	ND	NC	25	
Silver	ND	ND	NC	25	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: Brine Pond Water

Work Order #: 359452

Lab Batch #: 790731 **Project ID:**

Date Analyzed: 01/25/2010 **Date Prepared:** 01/25/2010 **Analyst:** LATCOR

QC- Sample ID: 359452-001 D **Batch #:** 1 **Matrix:** Water

Reporting Units: SU

pH, Electrometric by EPA 150.2	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
pH	7.60	7.61	0	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ken Parker
Company Name: Western Refining
Company Address: PO Box 1345
City/State/Zip: Jal, NM 88252
Telephone No: 575-395-2632 Fax No: 575-395-2260
Sampler Signature: Ken L Parker e-mail: Ken.Parker@WNR.com

Project Name: Brine Pond Water
Project #:
Project Loc: JAL Terminal
PO #:
Report Format: ☑ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #: 359452

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge	GW=Groundwater S=Soil/Solid	NP=Non-Potable Specify Other	Analyze For: TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	TDS	PH	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	South Pond	-	-	1-21-10	10:00AM		5	✓	✓	✓						W					✓	✓		✓			✓			✓	✓		✓

TCLP:
TOTAL: ✓

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Ken Parker	1-21-10	4:05PM			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Andrea Sam	1.21.10	16:05

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: not frozen .1 °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Western Refining

Date/ Time: 1.21.10 16:05

Lab ID # : 359452

Initials: AL

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	0 °C	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	(Not Present)	
#5	Chain of Custody present?	(Yes)	No		
#6	Sample instructions complete of Chain of Custody?	(Yes)	No		
#7	Chain of Custody signed when relinquished/ received?	(Yes)	No		
#8	Chain of Custody agrees with sample label(s)?	(Yes)	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	(Yes)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See Below	
#18	All samples received within sufficient hold time?	(Yes)	No	See Below	
#19	Subcontract of sample(s)?	(Yes)	No	Not Applicable	
#20	VOC samples have zero headspace?	(Yes)	No	Not Applicable	

Variance Documentation

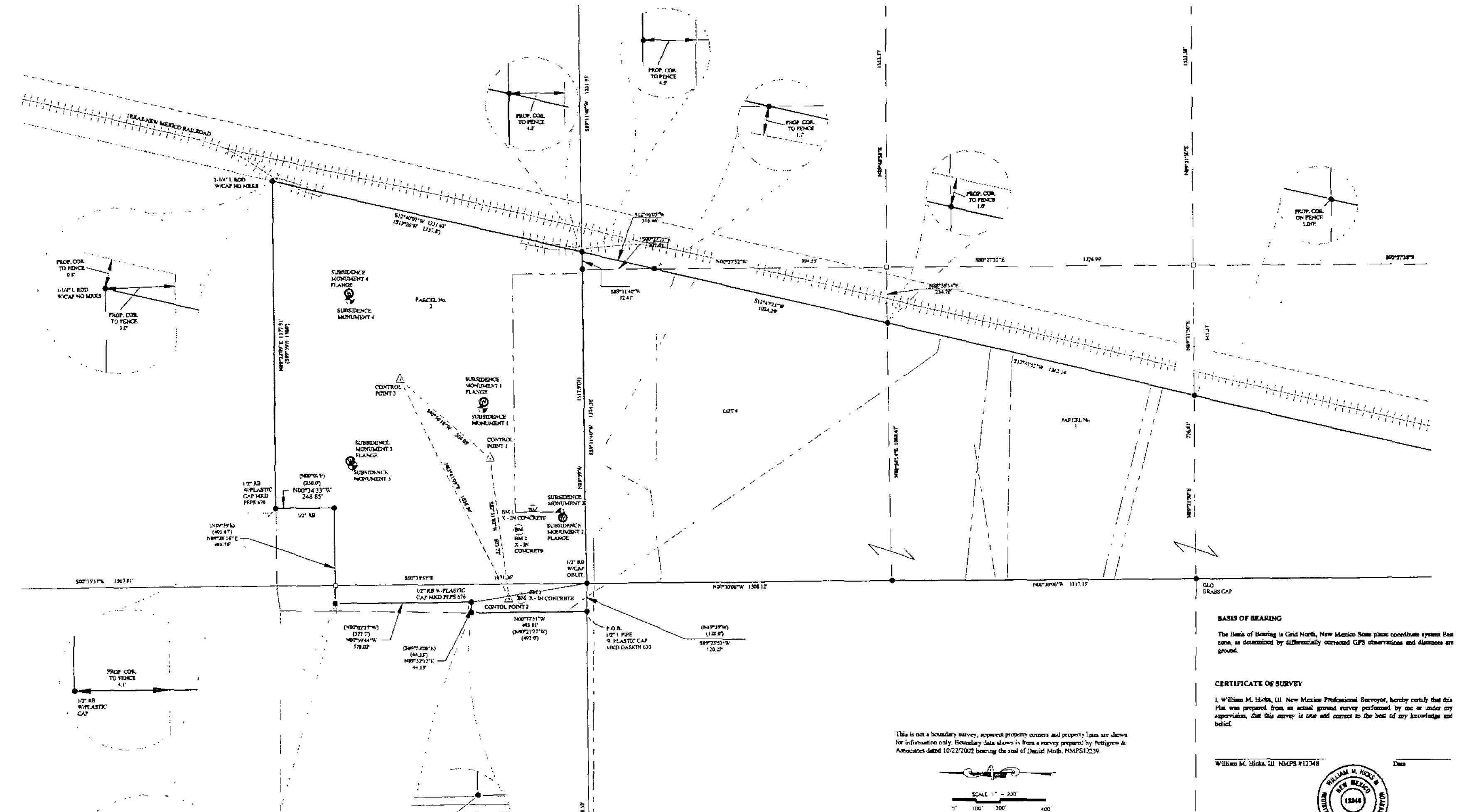
Contact: _____ Contacted by: _____ Date/ Time: _____

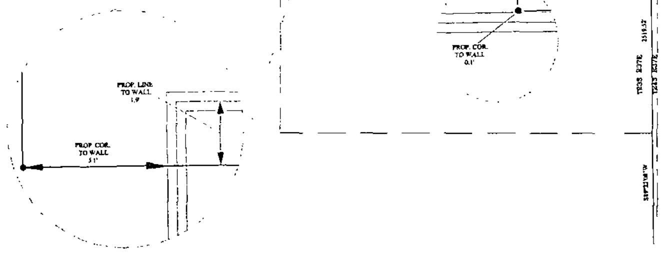
Regarding: 6020 Total 7 metals subbed to Xenco- Houston

Corrective Action Taken:

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event





This is not a boundary survey, apparent property corners and property lines are shown for information only. Boundary data shown is from a survey prepared by Pettigrew & Associates dated 10/22/2002 bearing the seal of Daniel Muth, NMPS12239.

SCALE 1" = 200'

0' 100' 200' 400'

NAME	LAT	LONG	ELEVATION (NOT HEIGHT)	DESCRIPTION
CP-1	32°15'17.29664"N	103°11'30.24052"W	3293.45	3" ALUMINUM CAP IN 14" DIAMETER CONCRETE MONUMENT MARKED CP-1
CP-2	32°15'16.85182"N	103°11'37.21909"W	3297.81	3" ALUMINUM CAP IN 14" DIAMETER CONCRETE MONUMENT MARKED CP-2
CP-3	32°15'21.02878"N	103°11'26.34824"W	3293.55	3" ALUMINUM CAP IN 14" DIAMETER CONCRETE MONUMENT MARKED CP-3
SM-1	32°15'17.58125"N	103°11'27.76727"W	3292.25	3" ALUMINUM CAP IN 14" DIAMETER CONCRETE MONUMENT MARKED SM-1
SM-2	32°15'14.34590"N	103°11'32.96920"W	3294.54	3" ALUMINUM CAP IN 14" DIAMETER CONCRETE MONUMENT MARKED SM-2
SM-3	32°15'23.07023"N	103°11'30.55344"W	3294.84	3" ALUMINUM CAP IN 14" DIAMETER CONCRETE MONUMENT MARKED SM-3
SM-4	32°15'23.10898"N	103°11'22.42205"W	3294.85	3" ALUMINUM CAP IN 14" DIAMETER CONCRETE MONUMENT MARKED SM-4
SMF-1	32°15'17.55020"N	103°11'37.45531"W	3295.64	TOP OF FLANGE ON WELL WEST SIDE
SMF-2	32°15'14.25196"N	103°11'33.22058"W	3297.41	TOP OF FLANGE ON WELL NORTH SIDE
SMF-3	32°15'23.17531"N	103°11'30.32484"W	3296.45	TOP OF FLANGE ON WELL WEST SIDE
SMF-4	32°15'23.18624"N	103°11'22.17225"W	3297.71	TOP OF FLANGE ON WELL WEST SIDE
BM-1	32°15'15.51232"N	103°11'32.84660"W	3294.28	"X" MARK IN CONCRETE
BM-2	32°15'16.13214"N	103°11'33.80238"W	3296.59	"X" MARK IN CONCRETE
BM-3	32°15'16.04792"N	103°11'37.17860"W	3297.73	"X" MARK IN CONCRETE

LEGEND

SET 5/8" REBAR WITH ALUMINUM CAP MARKED "WM HICKS NMPS 12348"	○
FOUND MONUMENT AS NOTED	●
SUBSIDENCE MONUMENT FLANGE	
CALCULATED POINT	□
SUBSIDENCE MONUMENT	
CONTROL POINT	△
CHAIN LINK FENCE	
BENCH MARK	BM

BASIS OF BEARING

The Basis of Bearing is Grid North, New Mexico State plane coordinate system East zone, as determined by differentially corrected GPS observations and distances are ground.

CERTIFICATE OF SURVEY

I, William M. Hicks, III New Mexico Professional Surveyor, hereby certify that this Plat was prepared from an actual ground survey performed by me or under my supervision, that this survey is true and correct to the best of my knowledge and belief.

William M. Hicks, III NMPS #12348 Date

WILLIAM M. HICKS III NEW MEXICO 12348 REGISTERED PROFESSIONAL SURVEYOR

State of New Mexico, County of ________, I here by certify that this instrument was filed for record on:

The ______ Day of ________,

20 ______ A.D.

At ______ O'Clock ______M.

Cabinet ______ Slide ______

Book ______ Page ______

By ______________________,
County Clerk

By ______________________.
Deputy

PLAT OF SUBSIDENCE MONITORING STATIONS FOR
WESTERN REFINING COMPANY

MONITOR STATION LOCATION

SHEET NO. S101

SEQUENCE NO. 1 OF 1

INDEXING INFO FOR COUNTY CLERK

OWNER: WESTERN REFINING

LOC: PART OF SECTION 5, T24S, R37E, PART OF SECTIONS 31 & 32, T23S, R37E, N.M.P.M., LEA, NEW MEXICO

Pettigrew & Associates, P.A.
A Professional Engineering, Surveying & Testing Company
1110 N. Grimes Hobbs, N.M. 88240
(505) 393-9827
www.pettigrew.us

DATE: 09/02/2008

DRAWN BY:

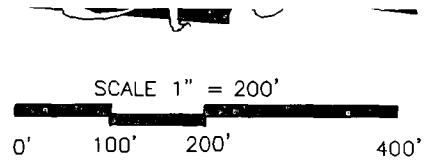
APPROVED BY:

PROJECT NO: 2008.1061

FILE PATH:

REVISIONS

Symbol	Description	Date	Appr
1	Revise to correct subsidence monitoring elevations	9/16/2008	



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Pettigrew & Associates, P.A.
ENGINEERING · SURVEYING · MATERIALS TESTING

1110 N Grimes St | 575.393.9627 Ph
Hobbs, NM 88240 | 575.393.1543 Fx | www.pettigrew.us

Ken Parker
Western Refining
PO Box 1345
Jal, New Mexico, 88252
575-392-2632

09 October, 2009

RE: Survey Report
Western Refining Subsidence Monitoring

Dear Mr. Parker,

Please review this report of survey findings for the subject project.

SUBSIDENCE MONUMENT MONITORING

The surveyed elevations along with deltas from the previous survey values, letter dated 14 August 2009 and as surveyed on 13 May 2009, are as follows:

NAME	ELEVATION 5/13/2009	ELEVATION 9/25/2009	DELTA ELEVATION
CP-1	3293.47	3293.46	-0.01'
CP-2	3297.82	3297.82	NO CHANGE
CP-3	3293.56	3293.54	-0.02'
SM-1	3292.27	3292.26	-0.01'
SM-2	3294.56	3294.56	NO CHANGE
SM-3	3294.85	3294.83	-0.02'
SM-4	3294.86	3294.84	-0.02'
SMF-1 (Middle Flange)	3295.62	3295.62	NO CHANGE
SMF-1 (Lower Flange)	3293.67	3293.67	NO CHANGE
SMF-2 (Middle Flange)	3297.42	3297.43	+0.01'
SMF-2 (Lower Flange)	3295.52	3295.53	+0.01'
SMF-3 (Middle Flange)	3298.18	3298.17	-0.01'
SMF-3 (Lower Flange)	3296.44	3296.43	-0.01'
SMF-4 (Middle Flange)	3297.73	3297.72	-0.01'
SMF-4 (Lower Flange)	3295.99	3295.98	-0.01'
BM-1	3294.30	3294.30	NO CHANGE
BM-2	3296.62	3296.62	NO CHANGE
BM-3	3297.73	3297.73	NO CHANGE

ANNUAL LPG WELL REPORT

OPERATOR: Western Refining Company

GW PERMIT NUMBER: GW-007

UIC CLASS LPG STORAGE WELLS API NUMBER

31055 WELL 1: 30-025-35954
31055 WELL 2: 30-025-35955
31055 WELL 3: 30-025-35956
31055 WELL 4: 30-025-35957

WESTERN REFINING JAL STORAGE FACILITY

Company Representative: Ken Parker

Date: 1-30-09

Annual LPG Well Report Date 1-30-09

Well Summary

Well 1:

In 2008 well one was due an MIT. In early spring the well was emptied and made ready. The tubing was pulled and the well head was replaced. The 2-7/8 tubing was replaced with 3-1/2 so that we could sonar the well. The well passed the MIT.

There was an attempt to sonar the cavern but the sonar tool couldn't drop below 1750 feet due to a bend in the pipe. Sonar was completed to 1750 feet and we know that the cavern to this point holds about 29,049.5 barrels and the maximum radius is 35.6 feet. Between 1750 feet and 1796 feet the caver holds 171,963.5 barrels of product and is estimated to have a radius of 81.76 feet.

The cavern was filled to 96 percent of its capacity this year. According to the reading taken by plant employee's pressure reading are within the standards set by the Discharge Plan.

Well 2:

In 2008 well two was due an MIT. The well was made ready and the tubing was pulled. The well head was designed for 2-7/8 tubing and was replaced to accept 3-1/2 tubing. The well passed the MIT and was made ready for service.

The sonar was run on the well and all data was filed on the C-103. The cavern holds 144,443 barrels of product and has a max radius of 70.2 feet.

The cavern was filled to 31 percent of its capacity and has been emptied twice this year. This well is being operated within its pressure ranges set by the Discharge Plan.

Well 3:

The MIT on well three was completed in 2007. The C-103 was filed in October 2007. This well is operating within the pressure limits set by the Discharge Plan and as of this date without issues.

Well 4:

The MIT on well four was completed in 2007. The C-103 was filed in September 2007. The well is operating within the limits set by the Discharge Plan and as of this date without issues.

Production Volumes
See Attachments
Well 1 Annual 08
Well 2 Annual 08
Well 3 Annual 08
Well 4 Annual 08

Injection Fluid Analysis:
See Attachment
2009-323008

MIT 2008
Well 1 C-103 submitted on July 15, 2008
Well 2 C-103 submitted on July 9, 2008

MIT 2007
Well 3 C-103 submitted on October 31, 2007
Well 4 C-103 submitted on September 14, 2007

Deviation From Normal Production Method
NA

Leak and Spill Report
See Attachment
C-141, 5-20-08

Ground Water Monitoring
See Attachment
Monitor Well analysis 081212

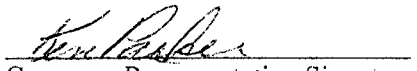
Cavity Subsidence
See Attachment
Subsidence, Jal
Second set of reading scheduled for
February 2009.

Area of Review
No activity in the year 2008

Pursuant to all applicable parts of the Water Quality Control Commission (WQCC) Regulations 20.6.2 NMAC and more specifically 20.6.2.5101. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Western Refining Company
Company Name

Ken Parker
Company Representative


Company Representative Signature

Title: Facility Manager

Date: 1-30-09

Analytical Report 323008

for

Western Refining

Project Manager: Ken Parker

Western Refining Inj. Line

28-JAN-09

12600 West I-20 East Odessa, Texas 79765

Texas certification numbers:
Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX

Florida certification numbers:
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675
Norcross(Atlanta), GA E87429

South Carolina certification numbers:
Norcross(Atlanta), GA 98015

North Carolina certification numbers:
Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Tampa - Miami - Latin America
Midland - Corpus Christi - Atlanta

28-JAN-09

Project Manager: **Ken Parker**
Western Refining
P.O. Box 1345
Jal, NM 88252

Reference: XENCO Report No: **323008**
Western Refining Inj. Line
Project Address: #4 Plant

Ken Parker:

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 323008. 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. 323008 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

Sample Cross Reference 323008

Western Refining, Jal, NM

Western Refining Inj. Line

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Inj. Pump	W	Jan-20-09 13:30		323008-001

Certificate of Analysis Summary 323008
Western Refining, Jal, NM

Project Name: Western Refining Inj. Line

Project Id:
Contact: Ken Parker
Project Location: #4 Plant

Date Received in Lab: Jan-21-09 01:08 pm
Report Date: 28-JAN-09
Project Manager: Brent Barron, II

Analysis Requested						
	Lab Id:	323008-001				
	Field Id:	Inj. Pump				
	Depth:					
	Matrix:	WATER				
	Sampled:	Jan-20-09 13:30				
Alkalinity by SM2320B	*Extracted:*					
	Analyzed:	Jan-26-09 11:10				
	Units/RL:	mg/L	RL			
Alkalinity, Total (as CaCO3)		180	4.00			
Alkalinity, phenolphthalein		ND	4.00			
Alkalinity, Carbonate		ND	4.00			
Alkalinity, Bicarbonate		180	4.00			
Anions by EPA 300	*Extracted:*					
	Analyzed:	Jan-21-09 15:51				
	Units/RL:	mg/L	RL			
Chloride		63.8	2.50			
BTEX by SW 8260B	*Extracted:*	Jan-23-09 10:10				
	Analyzed:	Jan-23-09 14:21				
	Units/RL:	mg/L	RL			
Benzene		ND	0.0010			
Toluene		ND	0.0010			
Ethylbenzene		ND	0.0010			
m,p-Xylene		ND	0.0020			
o-Xylene		ND	0.0010			
Total Xylenes		ND				
Total BTEX		ND				
Mercury by EPA 7470A	*Extracted:*	Jan-23-09 08:00				
	Analyzed:	Jan-23-09 11:19				
	Units/RL:	mg/L	RL			
Mercury		ND	0.0001			
Metals per ICP by SW846 6010B	*Extracted:*	Jan-27-09 06:15				
	Analyzed:	Jan-27-09 11:21				
	Units/RL:	mg/L	RL			
Calcium		51.0	0.100			
Magnesium		7.86	0.010			
Potassium		5.30	0.500			
Sodium		65.6	0.500			
TDS by SM2540C	*Extracted:*					
	Analyzed:	Jan-21-09 16:05				
	Units/RL:	mg/L	RL			
Total dissolved solids		338	5.00			

Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 323008
Western Refining, Jal, NM

Project Name: Western Refining Inj. Line

Project Id:
Contact: Ken Parker
Project Location: #4 Plant

Date Received in Lab: Jan-21-09 01:08 pm
Report Date: 28-JAN-09
Project Manager: Brent Barron, II

Analysis Requested						
	Lab Id:	323008-001				
	Field Id:	Inj. Pump				
	Depth:					
	Matrix:	WATER				
	Sampled:	Jan-20-09 13:30				
Total RCRA Metals by SW6020A	*Extracted:*	Jan-26-09 10:30				
	Analyzed:	Jan-26-09 15:28				
	Units/RL:	mg/L	RL			
Arsenic		0.007	0.002			
Barium		0.073	0.005			
Cadmium		ND	0.001			
Chromium		ND	0.003			
Lead		ND	0.002			
Selenium		ND	0.003			
Silver		ND	0.002			
pH, Electrometric by EPA 150.2	*Extracted:*					
	Analyzed:	Jan-21-09 16:00				
	Units/RL:	SU	RL			
pH		7.46				

Brent Barron
Odessa Laboratory Director

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.

* Outside XENCO's scope of NELAC Accreditation.

Form 2 - Surrogate Recoveries

Project Name: Western Refining Inj. Line

Work Orders : 323008,

Project ID:

Lab Batch #: 747515 **Sample:** 323008-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0519	0.0500	104	70-130	
Dibromofluoromethane	0.0504	0.0500	101	70-130	
1,2-Dichloroethane-D4	0.0492	0.0500	98	70-130	
Toluene-D8	0.0488	0.0500	98	70-130	

Lab Batch #: 747515 **Sample:** 323008-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0483	0.0500	97	70-130	
Dibromofluoromethane	0.0488	0.0500	98	70-130	
1,2-Dichloroethane-D4	0.0498	0.0500	100	70-130	
Toluene-D8	0.0485	0.0500	97	70-130	

Lab Batch #: 747515 **Sample:** 323008-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0493	0.0500	99	70-130	
Dibromofluoromethane	0.0483	0.0500	97	70-130	
1,2-Dichloroethane-D4	0.0502	0.0500	100	70-130	
Toluene-D8	0.0482	0.0500	96	70-130	

Lab Batch #: 747515 **Sample:** 523580-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0500	0.0500	100	70-130	
Dibromofluoromethane	0.0490	0.0500	98	70-130	
1,2-Dichloroethane-D4	0.0507	0.0500	101	70-130	
Toluene-D8	0.0497	0.0500	99	70-130	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Western Refining Inj. Line

Work Orders : 323008,

Project ID:

Lab Batch #: 747515 **Sample:** 523580-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0515	0.0500	103	70-130	
Dibromofluoromethane	0.0497	0.0500	99	70-130	
1,2-Dichloroethane-D4	0.0467	0.0500	93	70-130	
Toluene-D8	0.0500	0.0500	100	70-130	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Blank Spike Recovery

Project Name: Western Refining Inj. Line

Work Order #: 323008 **Project ID:**

Lab Batch #: 747693 **Sample:** 747693-1-BKS **Matrix:** Water
Date Analyzed: 01/26/2009 **Date Prepared:** 01/26/2009 **Analyst:** WRU
Reporting Units: mg/L **Batch #:** 1

Alkalinity by SM2320B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
		BLANK /BLANK SPIKE RECOVERY STUDY				
Alkalinity, Total (as CaCO3)	ND	200	170	85	80-120	

Lab Batch #: 747515 **Sample:** 523580-1-BKS **Matrix:** Water
Date Analyzed: 01/23/2009 **Date Prepared:** 01/23/2009 **Analyst:** JEA
Reporting Units: mg/L **Batch #:** 1

BTEX by SW 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
		BLANK /BLANK SPIKE RECOVERY STUDY				
Benzene	ND	0.1000	0.0935	94	66-142	
Toluene	ND	0.1000	0.0912	91	59-139	
Ethylbenzene	ND	0.1000	0.0970	97	75-125	
m,p-Xylene	ND	0.2000	0.1946	97	75-125	
o-Xylene	ND	0.1000	0.1010	101	75-125	

Lab Batch #: 747182 **Sample:** 747182-1-BKS **Matrix:** Water
Date Analyzed: 01/21/2009 **Date Prepared:** 01/21/2009 **Analyst:** LATCOR
Reporting Units: mg/L **Batch #:** 1

Anions by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
		BLANK /BLANK SPIKE RECOVERY STUDY				
Chloride	ND	10.0	10.1	101	90-110	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.

Blank Spike Recovery

Project Name: Western Refining Inj. Line

Work Order #: 323008 **Project ID:**

Lab Batch #: 747489 **Sample:** 523564-1-BKS **Matrix:** Water

Date Analyzed: 01/26/2009 **Date Prepared:** 01/26/2009 **Analyst:** HAT

Reporting Units: mg/L **Batch #:** 1

		BLANK /BLANK SPIKE RECOVERY STUDY				
Total RCRA Metals by SW6020A **Analytes**	**Blank Result [A]**	**Spike Added [B]**	**Blank Spike Result [C]**	**Blank Spike %R [D]**	**Control Limits %R**	**Flags**
Arsenic	ND	0.050	0.051	102	85-115	
Barium	ND	0.050	0.056	112	85-115	
Cadmium	ND	0.020	0.022	110	85-115	
Chromium	ND	0.050	0.052	104	85-115	
Lead	ND	0.050	0.050	100	85-115	
Selenium	ND	0.050	0.051	102	85-115	
Silver	ND	0.020	0.021	105	85-115	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: Western Refining Inj. Line

Work Order #: 323008

Project ID:

Analyst: DAT **Date Prepared:** 01/23/2009 **Date Analyzed:** 01/23/2009

Lab Batch ID: 747299 **Sample:** 523446-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Mercury by EPA 7470A Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Mercury	ND	0.0050	0.0051	102	0.005	0.0049	98	4	75-125	20	

Analyst: DAT **Date Prepared:** 01/27/2009 **Date Analyzed:** 01/27/2009

Lab Batch ID: 747613 **Sample:** 523593-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Metals per ICP by SW846 6010B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Calcium	ND	1.00	1.01	101	1	1.00	100	1	75-125	25	
Magnesium	ND	1.00	0.994	99	1	0.989	99	1	75-125	25	
Potassium	ND	10.0	9.53	95	10	9.60	96	1	75-125	25	
Sodium	ND	11.0	10.1	92	11	10.3	94	2	75-125	25	

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: Western Refining Inj. Line

Work Order #: 323008
Lab Batch #: 747182
Date Analyzed: 01/21/2009
QC- Sample ID: 323008-001 S
Reporting Units: mg/L

Date Prepared: 01/21/2009
Batch #: 1

Project ID:
Analyst: LATCOR
Matrix: Water

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	63.8	50.0	122	116	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

Form 3 - MS / MSD Recoveries

Project Name: Western Refining Inj. Line

Work Order # : 323008 **Project ID:**

Lab Batch ID: 747515 **QC- Sample ID:** 323008-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 01/23/2009 **Date Prepared:** 01/23/2009 **Analyst:** JEA

Reporting Units: mg/L

BTEX by SW 8260B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0934	93	0.1000	0.0959	96	3	66-142	20	
Toluene	ND	0.1000	0.0926	93	0.1000	0.0937	94	1	59-139	20	
Ethylbenzene	ND	0.1000	0.0983	98	0.1000	0.1001	100	2	75-125	20	
m,p-Xylene	ND	0.2000	0.2030	102	0.2000	0.2040	102	0	75-125	20	
o-Xylene	ND	0.1000	0.1045	105	0.1000	0.1052	105	0	75-125	20	

Lab Batch ID: 747299 **QC- Sample ID:** 322651-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 01/23/2009 **Date Prepared:** 01/23/2009 **Analyst:** DAT

Reporting Units: mg/L

Mercury by EPA 7470A Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Mercury	0.0005	0.0050	0.0039	68	0.0050	0.0042	74	8	75-125	20	X

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Form 3 - MS / MSD Recoveries

Project Name: Western Refining Inj. Line

Work Order # : 323008 **Project ID:**

Lab Batch ID: 747613 **QC- Sample ID:** 323177-002 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 01/27/2009 **Date Prepared:** 01/27/2009 **Analyst:** DAT

Reporting Units: mg/L

Metals per ICP by SW846 6010B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Calcium	45.6	1.00	44.7	0	1.00	45.9	30	200	75-125	20	XF
Magnesium	69.5	1.00	67.2	0	1.00	68.2	0	NC	75-125	20	X
Potassium	21.9	10.0	34.1	122	10.0	34.7	128	5	75-125	20	X
Sodium	348	11.0	345	0	11.0	355	64	200	75-125	20	XF

Lab Batch ID: 747489 **QC- Sample ID:** 322865-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 01/26/2009 **Date Prepared:** 01/26/2009 **Analyst:** HAT

Reporting Units: mg/L

Total RCRA Metals by SW6020A Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	0.003	0.050	0.051	96	0.050	0.055	104	8	85-115	20	
Barium	0.064	0.050	0.117	106	0.050	0.122	116	9	85-115	20	X
Cadmium	ND	0.020	0.020	100	0.020	0.021	105	5	85-115	20	
Chromium	0.004	0.050	0.056	104	0.050	0.060	112	7	85-115	20	
Lead	0.007	0.050	0.060	106	0.050	0.060	106	0	85-115	20	
Selenium	ND	0.050	0.043	86	0.050	0.051	102	17	85-115	20	
Silver	ND	0.020	0.020	100	0.020	0.020	100	0	85-115	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Sample Duplicate Recovery

Project Name: Western Refining Inj. Line

Work Order #: 323008

Lab Batch #: 747693 **Project ID:**
Date Analyzed: 01/26/2009 **Date Prepared:** 01/26/2009 **Analyst:** WRU
QC- Sample ID: 323008-001 D **Batch #:** 1 **Matrix:** Water
Reporting Units: mg/L

Alkalinity by SM2320B	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Alkalinity, Total (as CaCO3)	180	184	2	20	
Alkalinity, Bicarbonate	180	184	2	20	
Alkalinity, Carbonate	ND	ND	NC	20	
Alkalinity, phenolphthalein	ND	ND	NC	20	

Lab Batch #: 747182
Date Analyzed: 01/21/2009 **Date Prepared:** 01/21/2009 **Analyst:** LATCOR
QC- Sample ID: 323008-001 D **Batch #:** 1 **Matrix:** Water
Reporting Units: mg/L

Anions by EPA 300	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	63.8	64.0	0	20	

Lab Batch #: 747236
Date Analyzed: 01/21/2009 **Date Prepared:** 01/21/2009 **Analyst:** WRU
QC- Sample ID: 322927-001 D **Batch #:** 1 **Matrix:** Water
Reporting Units: mg/L

TDS by SM2540C	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Total dissolved solids	528	538	2	30	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.

Sample Duplicate Recovery

Project Name: Western Refining Inj. Line

Work Order #: 323008

Lab Batch #: 747489 **Project ID:**

Date Analyzed: 01/26/2009 **Date Prepared:** 01/26/2009 **Analyst:** HAT

QC- Sample ID: 322865-001 D **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

Total RCRA Metals by SW6020A	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Arsenic	0.003	0.004	29	20	F
Barium	0.064	0.064	0	20	
Cadmium	ND	ND	NC	20	
Chromium	0.004	0.004	0	20	
Lead	0.007	0.007	0	20	
Selenium	ND	ND	NC	20	
Silver	ND	ND	NC	20	

Lab Batch #: 747186

Date Analyzed: 01/21/2009 **Date Prepared:** 01/21/2009 **Analyst:** LATCOR

QC- Sample ID: 323008-001 D **Batch #:** 1 **Matrix:** Water

Reporting Units: SU

pH, Electrometric by EPA 150.2	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
pH	7.46	7.49	0	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: KEN PARKER
Company Name: WESTERN REFINING
Company Address: P.O.Box # 1345
City/State/Zip: JAL, N.M. 88252
Telephone No: 575-395-2632
Fax No:
Sampler Signature: Don Green
e-mail:

Project Name: WESTERN REFINING INJ. LINE
Project #:
Project Loc: #4 PLANT
PO #:
Report Format: ☑ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #: 323008

Preservation & # of Containers: Ice, HNO_3, HCl, H_2SO_4, NaOH, $Na_2S_2O_3$, None, Other (Specify)
Matrix: DW = Drinking Water, SL = Sludge; GW = Groundwater, S = Soil/Solid; NP = Non-Potable, Specify Other
Analyze For: TCLP / TOTAL (X under Metals and BTEX)

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix	TPH 418.1 8015M 8015B	TPH TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	TDS	PH	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	INJ. PUMP	—	—	1-20-09	1:30		2	✓			1					GW/NP			✓	✓		✓			✓			✓	✓		✓

Special Instructions:

Relinquished by	Date	Time	Received by	Date	Time
Don Green	1-21-09	1308			
			Received by ELOT: [illegible]	[illegible]	1309

Laboratory Comments:
Sample Containers Intact? (Y) N
VOCs Free of Headspace? Y (N)
Labels on container(s) (Y) N
Custody seals on container(s) Y (N)
Custody seals on cooler(s) Y N
Sample Hand Delivered (Y) N
by Sampler/Client Rep ? Y N
by Courier? UPS DHL FedEx Lone Star
Temperature Upon Receipt: 4.0 °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Western Refining

Date/ Time: 05-01-09 @ 1305

Lab ID # : 323008

Initials: JMF

Sample Receipt Checklist

#	Item	Yes	No		Client Initials
#1	Temperature of container/ cooler?	Yes (circled)	No	4.0 °C	
#2	Shipping container in good condition?	Yes	No	[illegible]	
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present (circled)	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present (circled)	
#5	Chain of Custody present?	Yes (circled)	No		
#6	Sample instructions complete of Chain of Custody?	Yes (circled)	No		
#7	Chain of Custody signed when relinquished/ received?	Yes (circled)	No		
#8	Chain of Custody agrees with sample label(s)?	Yes (circled)	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	Yes (circled)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	Yes (circled)	No		
#11	Containers supplied by ELOT?	Yes (circled)	No		
#12	Samples in proper container/ bottle?	Yes	No	See Below *	[illegible]
#13	Samples properly preserved?	Yes	No	See Below *	[illegible]
#14	Sample bottles intact?	Yes (circled)	No		
#15	Preservations documented on Chain of Custody?	Yes (circled)	No		
#16	Containers documented on Chain of Custody?	Yes (circled)	No		
#17	Sufficient sample amount for indicated test(s)?	Yes (circled)	No	See Below	
#18	All samples received within sufficient hold time?	Yes	No	See Below *	[illegible]
#19	Subcontract of sample(s)?	Yes	No	Not Applicable (circled)	
#20	VOC samples have zero headspace?	Yes	No (circled)	Not Applicable	

Variance Documentation

Contact: [illegible] Contacted by: [illegible] Date/ Time: 05-21-09 @ 13[illegible]

Regarding: Sample preservation (pH [illegible])

Corrective Action Taken: [illegible]

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☒ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event