

GW-007

REPORT

Well No. 4 Form C-103

YEAR(S):

Sept. 14, 2007

AUSTIN
3345 Bee Cave Road
Suite 201
Austin, Texas 78746 USA
Tel 512.732.9812
Fax 512.732.9816



HOUSTON
1001 McKinney
Suite 1445
Houston, Texas 77002 USA
Tel 713.559.9950
Fax 713.559.9959

September 14, 2007

Mr. Carl J. Chavez
Oil Conservation District
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Western Refining Company, LP – Well No. 4 (30-025-35957) Form C-103

Dear Mr. Chavez:

Lonquist Field Service, LLC (LFS) has recently completed the workover and testing of Well No. 4, API No. 30-025-35957, on September 8, 2007. This transmittal letter includes the following attachments:

- Form C-103
 - (3) Copies to be submitted to District I Office
- Pressure recorder charts from casing pressure test
- Digital Vertilog and Cement Bond Log – 9 5/8" Casing
- Cement Report – 7" Liner
- Wellbore Schematic

A sonar survey was completed on Well No. 4 and the results are summarized as follows:

- Cavern TD – 2616'
- Cavern Roof – 1666'
- Cavern Volume – 134,721 bbls
- Cavern Cross Sections are attached to this letter

The complete sonar survey will be submitted to NMOCD upon completion of the final sonar report.

The Mechanical Integrity Test was also completed using the Nitrogen-Brine Interface Test Method. The test results are summarized as follows:

- Test Gradient – 0.76 psi/ft
- Minimum Detectable Leak Rate – 615.76 bbls/year
- Calculated Leak Rate – 245.19 bbls/year
- MIT Executive Summary is attached to this letter

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The complete MIT report will be submitted upon completion and receipt of MIT logs.

Please feel free to contact me (832-216-0785) or via email (eric@lonquist.com) if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric Busch".

Eric Busch
Operations Manager

Cc: NM OCD – District I, Hobbs, NM
Bruce Davis – Western Refining, El Paso, TX
Ken Parker – Western Refining, Jal, NM
LFS – Project Files

Submit 3 Copies To Appropriate District
Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
May 27, 2004

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO. 30-025-35957
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. 30055
7. Lease Name or Unit Agreement Name 30055
8. Well Number 4
9. OGRID Number 248440
10. Pool name or Wildcat Salado

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)	
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other LPG STORAGE WELL	
2. Name of Operator Western Refining Company, LP	
3. Address of Operator PO Box 1345 Jal, NM 88252	
4. Well Location Unit Letter <u>M</u> : <u>1000</u> feet from the <u>SOUTH</u> line and <u>1230</u> feet from the <u>WEST</u> line Section <u>32</u> Township <u>23S</u> Range <u>37E</u> NMPM County <u>LEA</u>	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3311' - KB 3304' - GL	
Pit or Below-grade Tank Application <input type="checkbox"/> or Closure <input type="checkbox"/>	
Pit type _____ Depth to Groundwater _____ Distance from nearest fresh water well _____ Distance from nearest surface water _____	
Pit Liner Thickness: _____ mil Below-Grade Tank: Volume _____ bbls; Construction Material _____	

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input checked="" type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input checked="" type="checkbox"/>	
OTHER: <input checked="" type="checkbox"/>		OTHER: <input type="checkbox"/>	

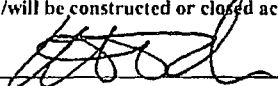
13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

The following activities were completed on Well No. 4:

- 07/13/2007 - Pull 4 1/2" Tubing
 - 2,566.83' - 4 1/2", 16.60 lb/ft, FH Drill Pipe
- 07/14/2007 - Complete casing and cement bond logs
 - See attached logs
- 08/07/2007 - Run 7" Casing Liner @ 1582'
 - 7" Casing - 23 lb/ft, K-55, LT&C
 - Set @ 1528'
 - Cement Liner - 225 sks of Premium Plus Class C Cement - 14.8 ppg/Yield - 1.33
 - Circulated to surface with 10.5 sks
- 08/10/2007 - Pressure test 7" casing for OCD
 - Pressure test based on NMOCD Rules
 - See attached pressure chart - OCD approved pressure chart
 - Pressure tested to 360 psig
- 08/10/2007 - Completion and testing of 7" liner installation
- 08/12/2007 - Run 4 1/2" Casing
 - 4 1/2" Casing - 11.6 lb/ft, K-55, LT&C - W/MULE SHOE
 - Run casing to 2568'
- 08/15-19/2007 - Complete Nitrogen-Brine MIT
 - Test Results
 - Pressure Gradient - 0.76 psi/ft
 - Minimum Detectable Leak Rate (MDLR) - 615.76 bbls/year
 - Calculated Leak Rate (CLR) - 245.19 bbls/year
 - Test successful - MIT Report to be submitted under separate cover
- 08/21/2007 - Pull 4 1/2" casing and lay down bent pipe

- 08/22 – 30/2007 – Run a mixed string of 4 ½" casing and tubing
 - 4 ½", 15.50 lb/ft, PH-6, (2670' – 1666')
 - 6 ¼" drill bit on bottom
 - 4 ½", 11.6 lb/ft, LT&C (1666' – SURFACE)
- 08/31/2007 – Run deviation survey
- 08/31/2007 – Cut off drill bit with casing cutter
- 09/01/2007 – Complete Sonar Survey
 - Measured Cavern TD – 2616'
 - Cavern Roof - 1666'
 - Cavern Volume – 134,721 bbls
- 09/08/2007 – Make final casing cut
 - Cut 4 ½" casing @ 2,607'
 - Storage Volume – 133,285 bbls
- Final Sonar Survey will be submitted upon completion of final logs
- Final Cavern MIT to be submitted upon completion of final logs
- Attached Schematic includes all pertinent data

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE  TITLE Operations Manager – Lonquist Field Service DATE 09/13/2007

Type or print name Eric Busch

E-mail address: eric@lonquist.com Telephone No.: 713.559.9953

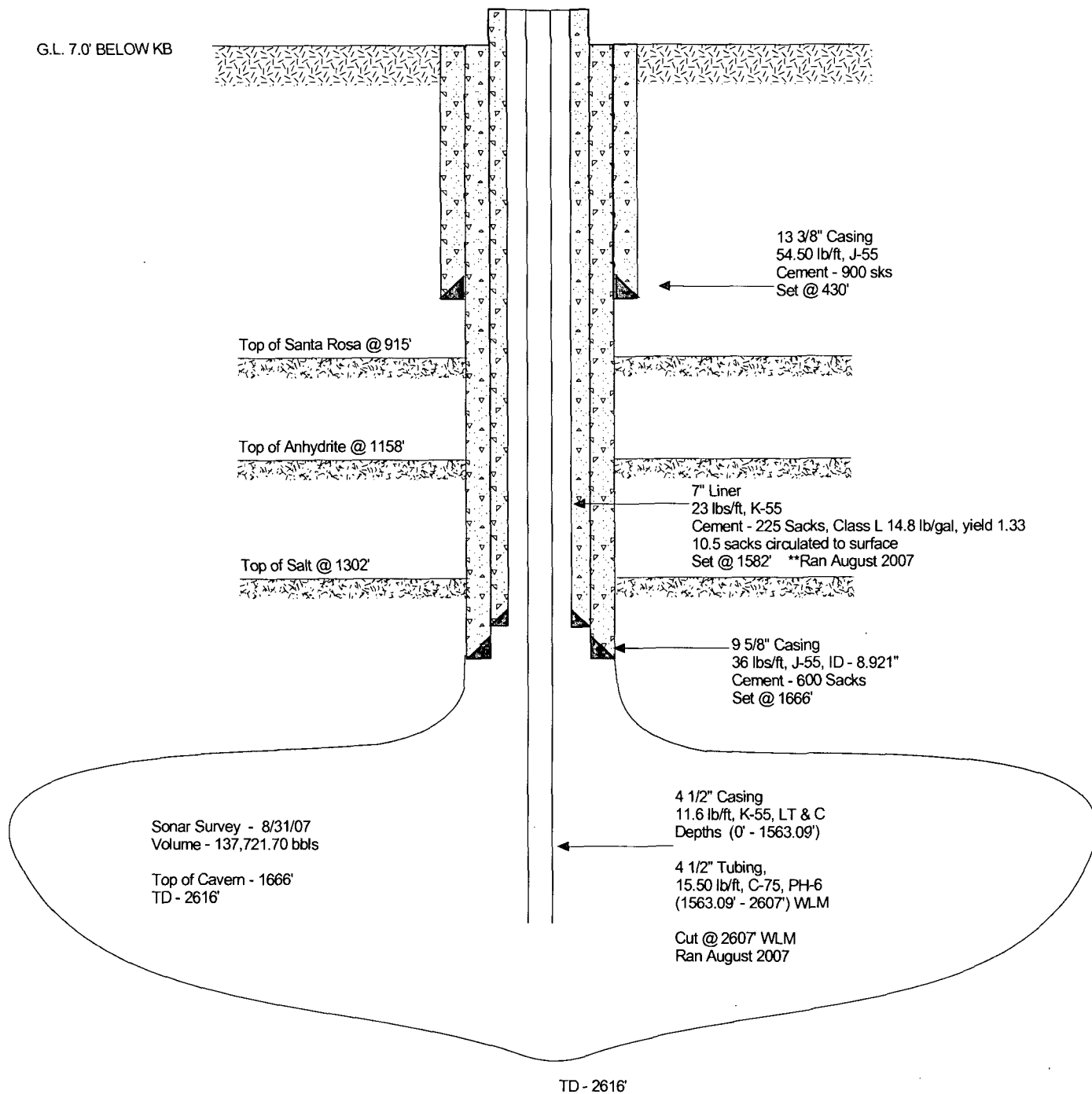
For State Use Only

APPROVED BY: _____ TITLE _____ DATE _____

Conditions of Approval (if any):

Well Information
Well Name: State LPG Well No. 4
API #: 30-025-35957
County: Lea

G.L. 7.0' BELOW KB



Note: All measurements are from KB

LONQUIST

Well No. 4 - 2007 Well Schematic

FIELD SERVICE

JAL Storage Facility

PROJECT NUMBER:

F143

DRAWN:
TJB

REVIEWED:
ETB

APPROVAL:
NONE

SCALE:
NONE

DATE:
AUGUST 2007

DRAWING NUMBER:



HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 347563		Ship To #: 2590896		Quote #:		Sales Order #: 5281995	
Customer: LONQUIST FIELD SERVICE LLC				Customer Rep: LINDT, JERRY			
Well Name: WESTERN REFINING			Well #: 4		API/UWI #:		
Field:		City (SAP): HOBBS		County/Parish: Lea		State: New Mexico	
Contractor: LFS			Rig/Platform Name/Num: Basic Energy				
Job Purpose: Cement Liner							
Well Type: Storage Well				Job Type: Cement Liner			
Sales Person: THORNTON, PAUL				Srv Supervisor: EDWARDS, CHARLIE MBU ID Emp #: 325233			
Job Personnel							
HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs
EDWARDS, CHARLIE L	5.5	325233	GONZALEZ, HERBER Perez	5.5	305567	PORTEE, FREDERICK D	5.5
THIGPEN, WARREN Marshall	5.5	406135					
Equipment							
HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10565349	20 mile	10708073	20 mile	10804553	20 mile	10830674	20 mile
77960C	20 mile						
Job Hours							
Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours
8/7/07	5.5	3					
TOTAL		Total is the sum of each column separately					
Job				Job Times			
Formation Name				Date			
Formation Depth (MD) Top				Time			
Bottom				Time Zone			
Form Type				Called Out			
BHST				07 - Aug - 2007			
Job depth MD				On Location			
1600. ft				07 - Aug - 2007			
Water Depth				Job Started			
Wk Ht Above Floor				07 - Aug - 2007			
30. ft				Job Completed			
Perforation Depth (MD) From				07 - Aug - 2007			
To				Departed Loc			
				07 - Aug - 2007			
				00:00			
				CST			
Well Data							
Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade
LINER 7"	Used		7.	6.366	23.		
SURFACE CASING	Used		9.625	8.921	36.		
Sales/Rental/3rd Party (HES)							
Description						Qty	Qty uom
PLUG,CMTG,TOP,7,HWE,5.66 MIN/6.54 MAX CS						1	EA
Tools and Accessories							
Type	Size	Qty	Make	Depth	Type	Size	Qty
Guide Shoe					Packer		
Float Shoe					Bridge Plug		
Float Collar					Retainer		
Insert Float							
Stage Tool							
Miscellaneous Materials							
Gelling Agt		Conc		Surfactant		Conc	
Treatment Fld		Conc		Inhibitor		Conc	
				Acid Type			
				Qty			
				Conc			
				%			
				Sand Type			
				Size			
				Qty			

Fluid Data										
Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft ³ /sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk	
1	PREMIUM PLUS	CMT - PREMIUM PLUS CEMENT (100012205)	225.0	sacks	14.8	1.33	6.34		6.34	
94 lbm		CMT - PREMIUM PLUS - CLASS C REG OR TYPE III, BULK (100012205)								
6.336 Gal		FRESH WATER								
Calculated Values		Pressures		Volumes						
Displacement		Shut In: Instant		Lost Returns		Cement Slurry		Pad		
Top Of Cement		5 Min		Cement Returns		Actual Displacement		Treatment		
Frac Gradient		15 Min		Spacers		Load and Breakdown		Total Job		
Rates										
Circulating		Mixing	3	Displacement	3	Avg. Job	3			
Cement Left In Pipe	Amount	38.6 ft	Reason	Shoe Joint						
Frac Ring # 1 @	ID	Frac ring # 2 @	ID	Frac Ring # 3 @	ID	Frac Ring # 4 @	ID			
The Information Stated Herein Is Correct				Customer Representative Signature						

HALLIBURTON

Cementing Job Log

The Road to Excellence Starts with Safety

Sold To #: 347563	Ship To #: 2590896	Quote #:	Sales Order #: 5281995
Customer: LONQUIST FIELD SERVICE LLC		Customer Rep: LINDT, JERRY	
Well Name: WESTERN REFINING	Well #: 4	API/UWI #:	
Field:	City (SAP): HOBBS	County/Parish: Lea	State: New Mexico
Legal Description:			
Lat:		Long:	
Contractor: ???		Rig/Platform Name/Num: ???	
Job Purpose: Cement Liner		Ticket Amount:	
Well Type: Development Well		Job Type: Cement Liner	
Sales Person: THORNTON, PAUL		Srv Supervisor: EDWARDS, CHARLIE MBU ID Emp #: 325233	

Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Call Out	08/07/2007 06:30							CALL CREW AND INFORM THEM THAT WE HAD A JOB PENDING
Pre-Convoy Safety Meeting	08/07/2007 08:15							INFORM CREW TO BE SAFE WHILE ENROUTE TO LOCATION AND TO OBEY ALL TRAFFIC LAWS
Depart from Service Center or Other Site	08/07/2007 08:30							
Arrive at Location from Service Center	08/07/2007 09:30							ARRIVED AT LOCATION WITHOUT INCIDENT, ACCIDENT OR INJURY
Assessment Of Location Safety Meeting	08/07/2007 09:45							CHECK LOCATION FOR ANY HAZZARDS THAT MIGHT INTERFERE WITH HES PERSONNEL IN THE PERFORMANCE OF THEIR DUTIES
Rig-Up Equipment	08/07/2007 10:00							INFORM CREW TO BE SAFE AND AWARE OF THEIR SURROUNDING WHILE ASSISTING IN RIGGING UP EQUIPMENT
Rig-Up Completed	08/07/2007 11:00							RIGUP COMPLETED WITHOUT INCIDENT OR INJURY

Sold To #: 347563

Ship To #: 2590896

Quote # :

Sales Order # :

5281995

SUMMIT Version: 7.20.130

Tuesday, August 07, 2007 03:59:00

HALLIBURTON

Cementing Job Log

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Pre-Job Safety Meeting	08/07/2007 14:20							INFORM CREW OF JOB PROCEDURE AND JOB TASKS AND ALSO TO BE AWARE OF THEIR SURROUNDING
Start Job	08/07/2007 14:34							
Test Lines	08/07/2007 14:36		3		3		3200.0	TESTLINES TO 3200PSI AND HELD
Pump Spacer 1	08/07/2007 14:37		3		30		150.0	PUMP 30BBL OF FRESHWATER AHEAD OF CEMENT
Pump Cement	08/07/2007 14:50		3		53		168.0	PUMP 225SKS OF PREMIUM PLUS CLASS "C" CEMENT MIXED AT 14.8PPG
Drop Plug	08/07/2007 15:08							DROP PLUG ON FLY
Pump Displacement	08/07/2007 15:09		3		59.5			PUMP 59.5BBL OF FRESHWATER AND CIRCULATED 10.5SKS OF CEMENT TO STEEL PIT
Check Floats	08/07/2007 15:23							FLOAT HELD
Bump Plug	08/07/2007 15:23						850.0	BUMP PLUG AT 850PSI AND PRESSURE UP TO 1180PSI LEFT HEAD ON LOCATION AND WELL HEAD CLOSE
End Job	08/07/2007 15:27							
Post-Job Safety Meeting (Pre Rig-Down)	08/07/2007 15:35							INFORM CREW TO BE SAFE WHILE ASSISTING IN RIGGING DOWN AND TO USE THE BUDDY SYSTEM WHENEVER NECESSARY
Rig-Down Equipment	08/07/2007 15:40							
Rig-Down Completed	08/07/2007 16:40							RIG DOWN COMPLETED WITHOUT INJURY OR INCIDENT

Sold To # : 347563

Ship To # :2590896

Quote # :

Sales Order # :

5281995

SUMMIT Version: 7.20.130

Tuesday, August 07, 2007 03:59:00

HALLIBURTON

Cementing Job Log

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Pre-Convoy Safety Meeting	08/07/2007 16:50							INFORM CREW TO BE SAFE ENROUTE BACK TO SERVICE CENTER OR ANOTHER LOCATION
Depart Location for Service Center or Other Site	08/07/2007 17:00							
Crew Return Yard	08/07/2007 18:00							

Sold To # : 347563

Ship To # :2590896

Quote # :

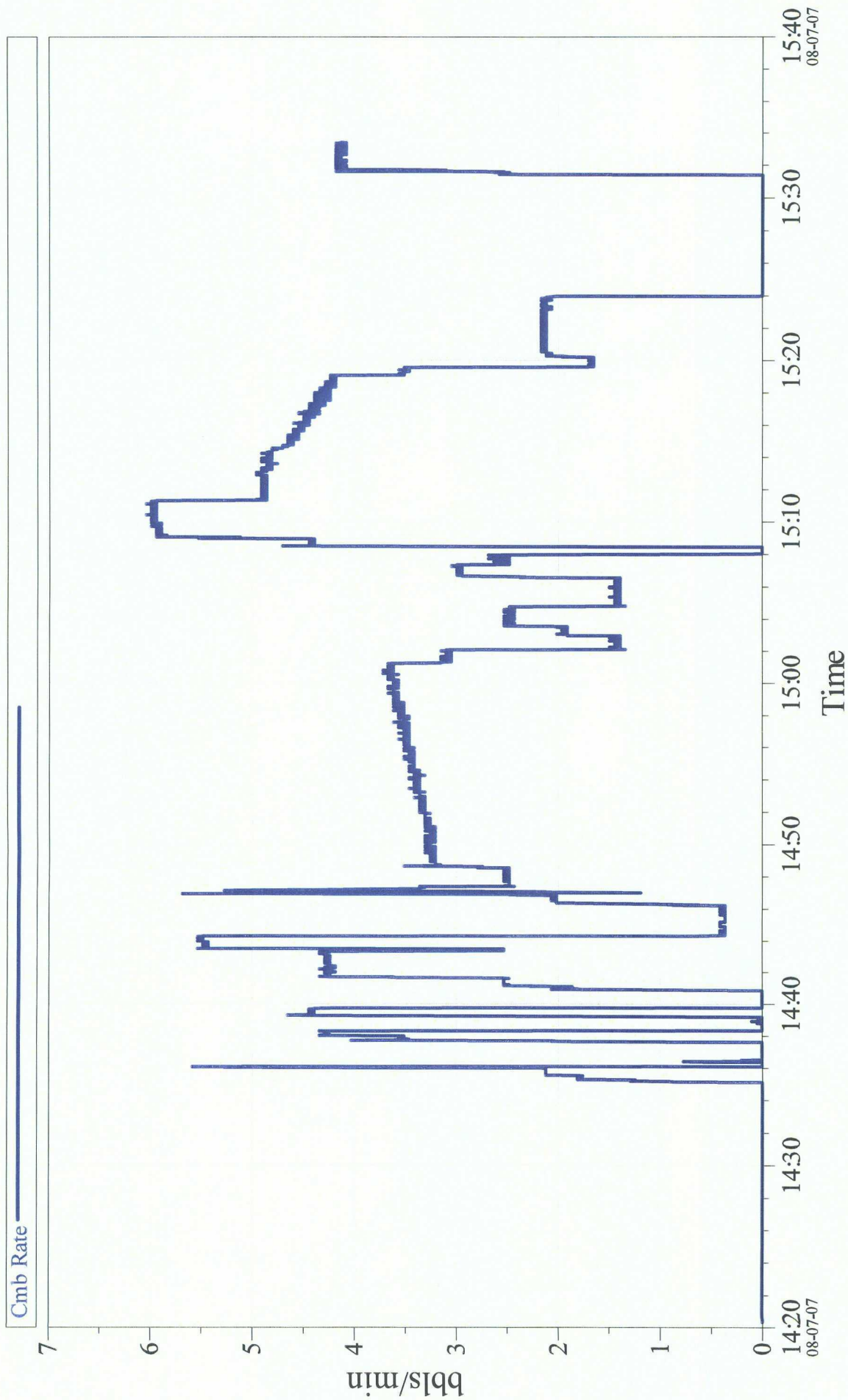
Sales Order # :

5281995

SUMMIT Version: 7.20.130

Tuesday, August 07, 2007 03:59:00

Treatment Data



HALLIBURTON
CemWin v1.7.0
15-Aug-07 13:00

Ticket #:

Job Date: 08-07-2007

Job Type: 7 inch Liner

Customer: Longquist Field Service

Well Desc: Western Refining #4

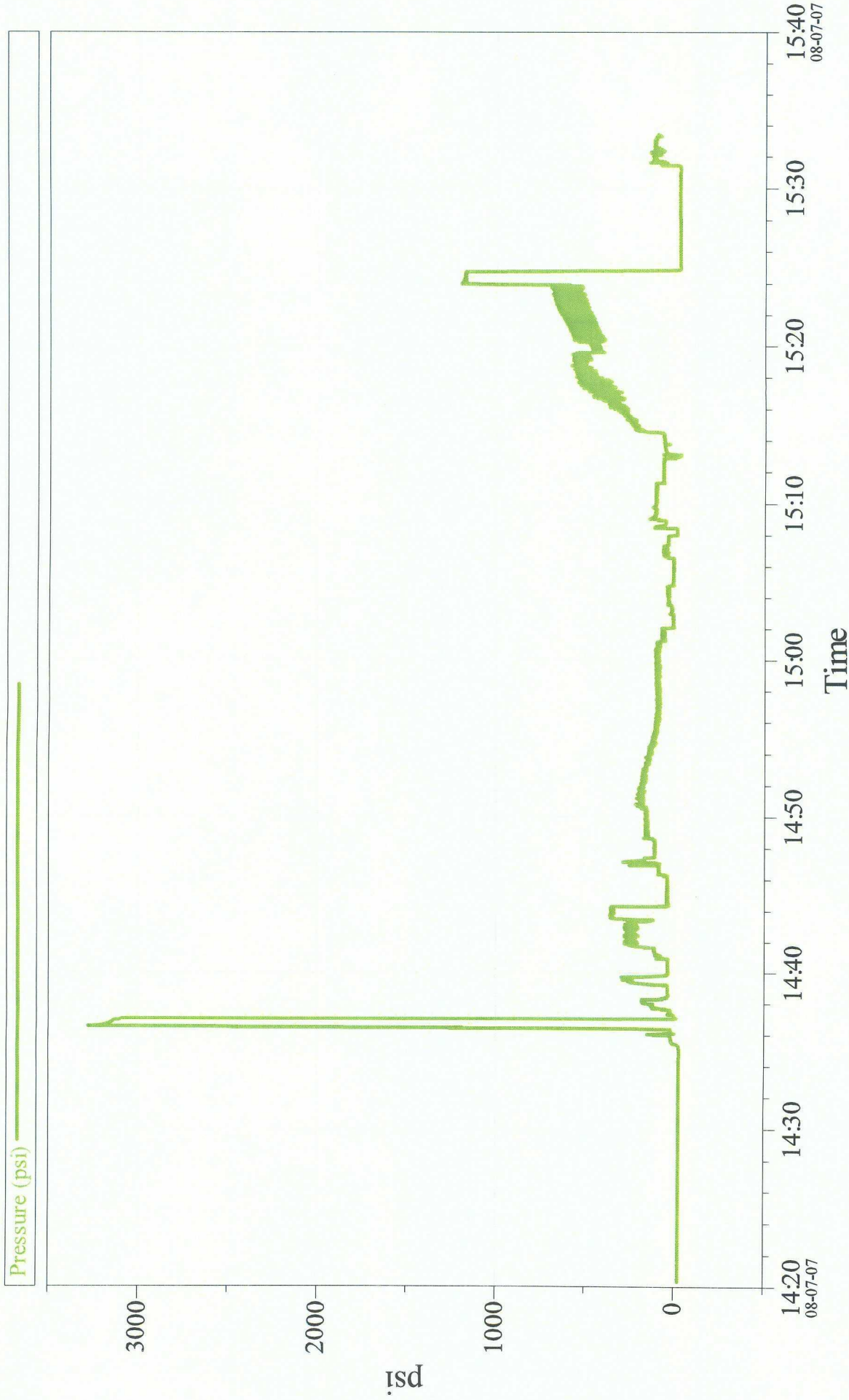
Treatment Data



HALLIBURTON
 CemWin v1.7.0
 15-Aug-07 13:02

Customer: Lonquist Field Service	Job Date: 08-07-2007	Ticket #:
Well Desc: Western Refining #4	Job Type: 7 inch Liner	

Treatment Data

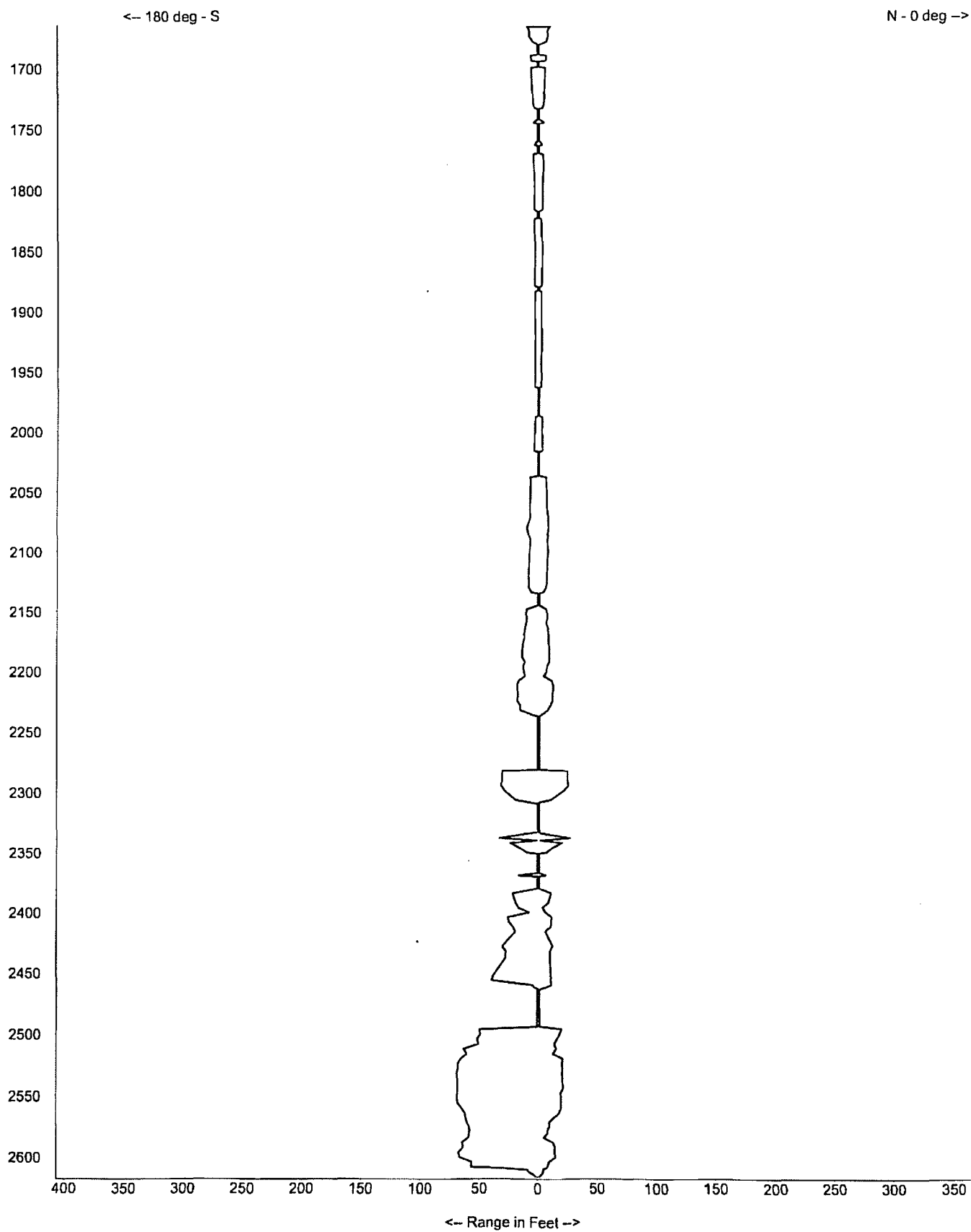


Customer: Lonquist Field Service Well Desc: Western Refining #4	Job Date: 08-07-2007 Job Type: 7 inch Liner	Ticket #:	HALLIBURTON CemWin v1.7.0 15-Aug-07 13:06
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WESTERN REFINING
JAL, NM

SONARWIRE, INC
Vertical Cross Section

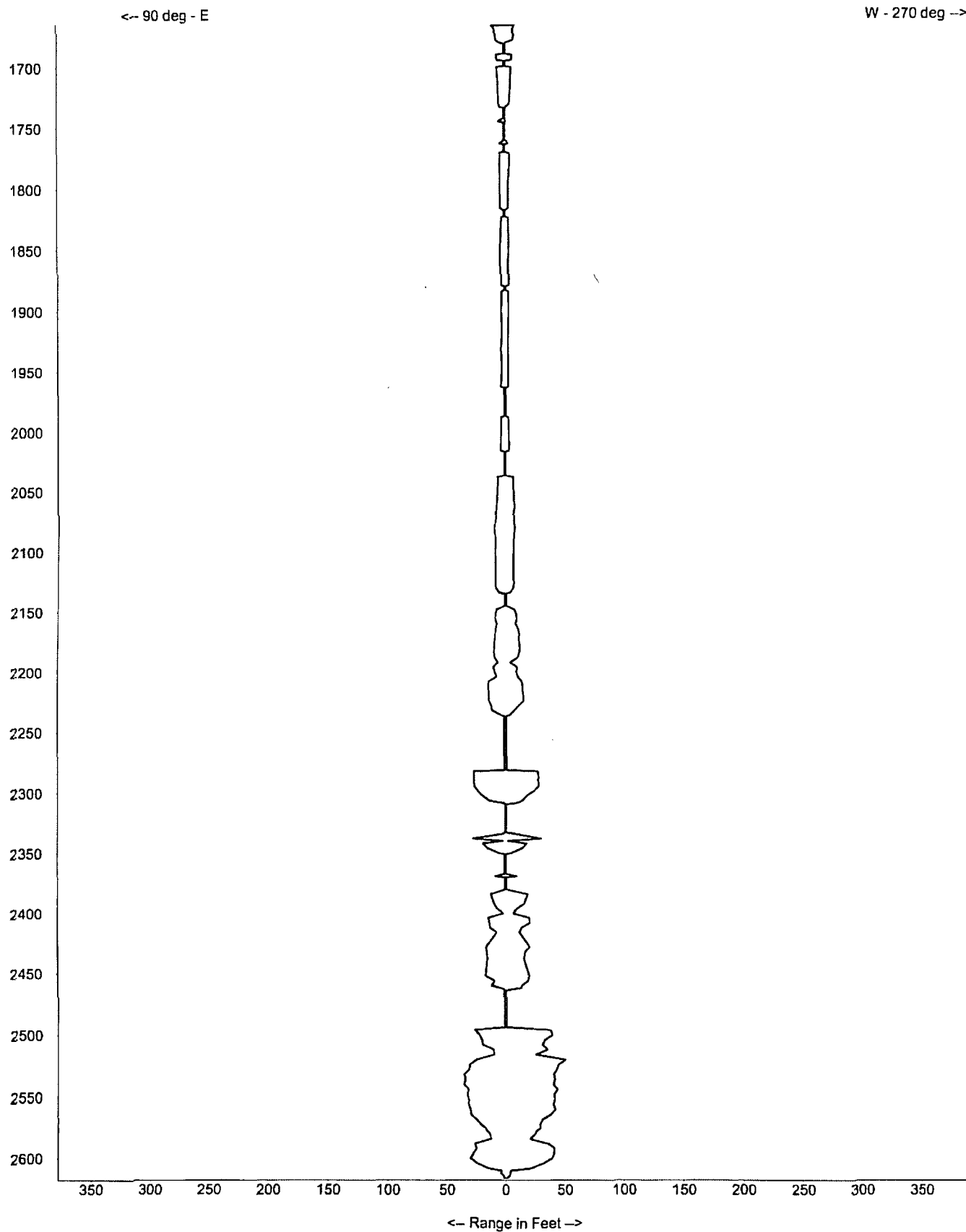
STATE LPG WELL NO. 4
WR-JAL-4-0708 Fri, Aug 31, 2007



WESTERN REFINING
JAL, NM

SONARWIRE, INC
Vertical Cross Section

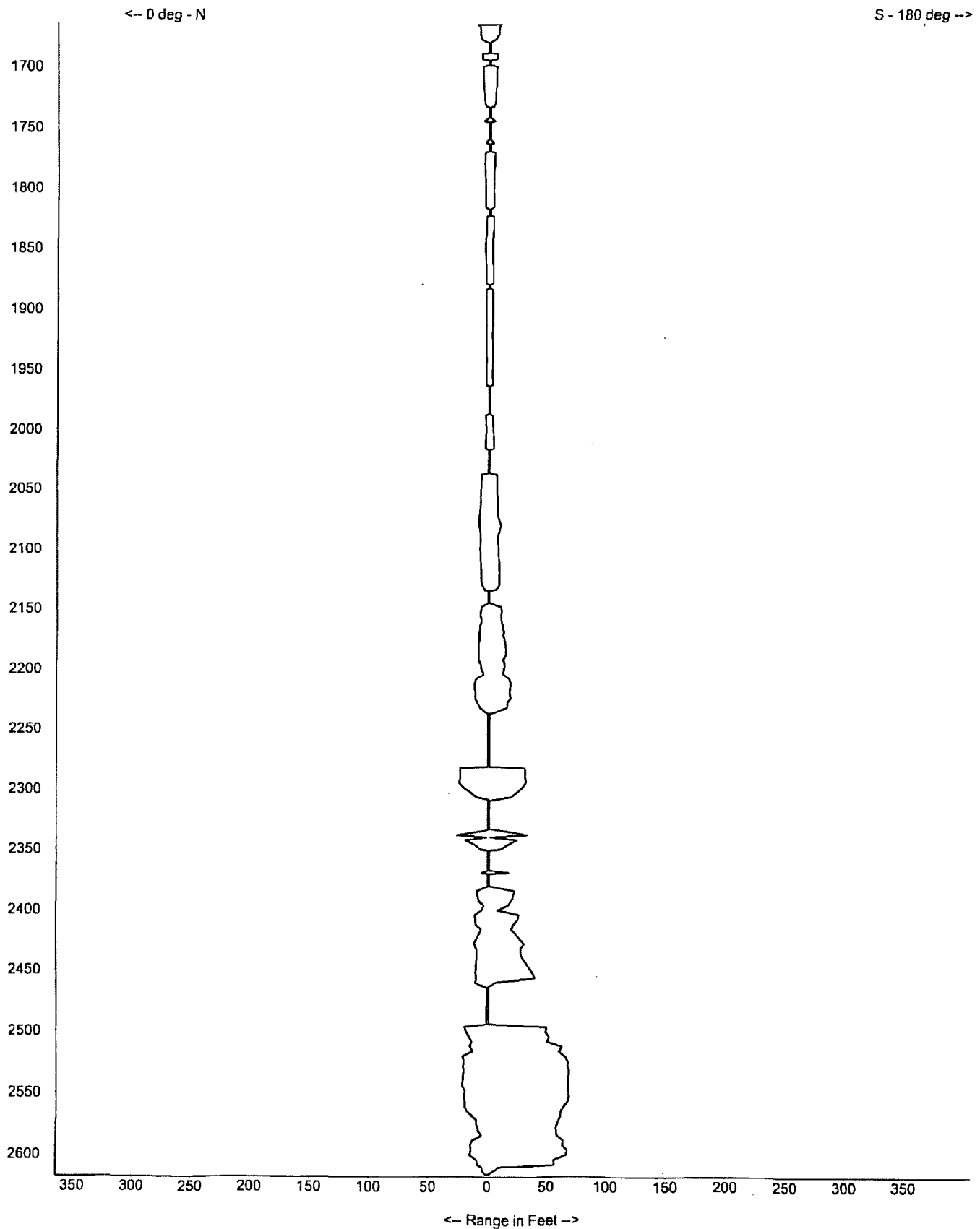
STATE LPG WELL NO. 4
WR-JAL-4-0708 Fri, Aug 31, 2007



WESTERN REFINING
JAL, NM

SONARWIRE, INC
Vertical Cross Section

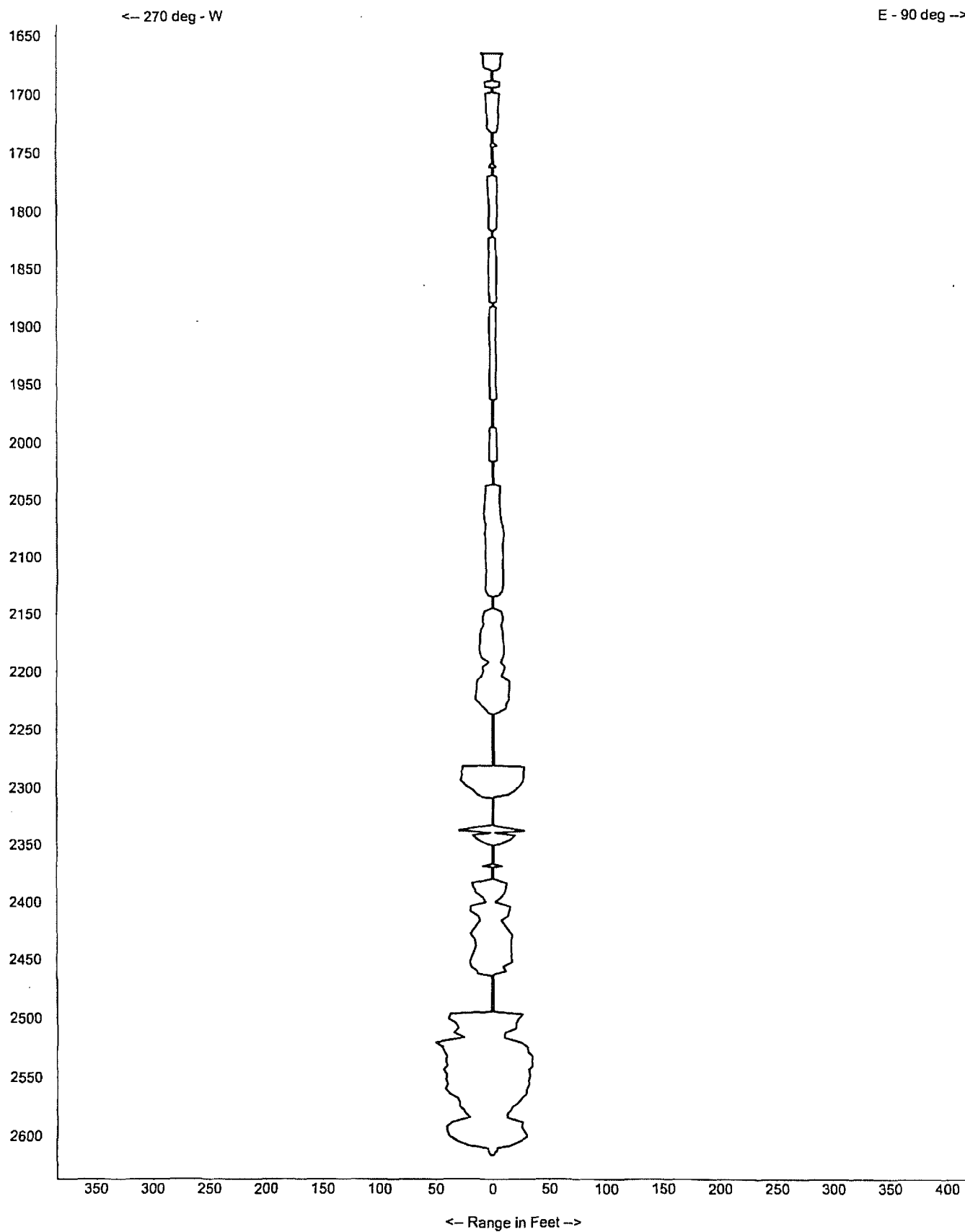
STATE LPG WELL NO. 4
WR-JAL-4-0708 Fri, Aug 31, 2007



WESTERN REFINING
JAL, NM

SONARWIRE, INC
Vertical Cross Section

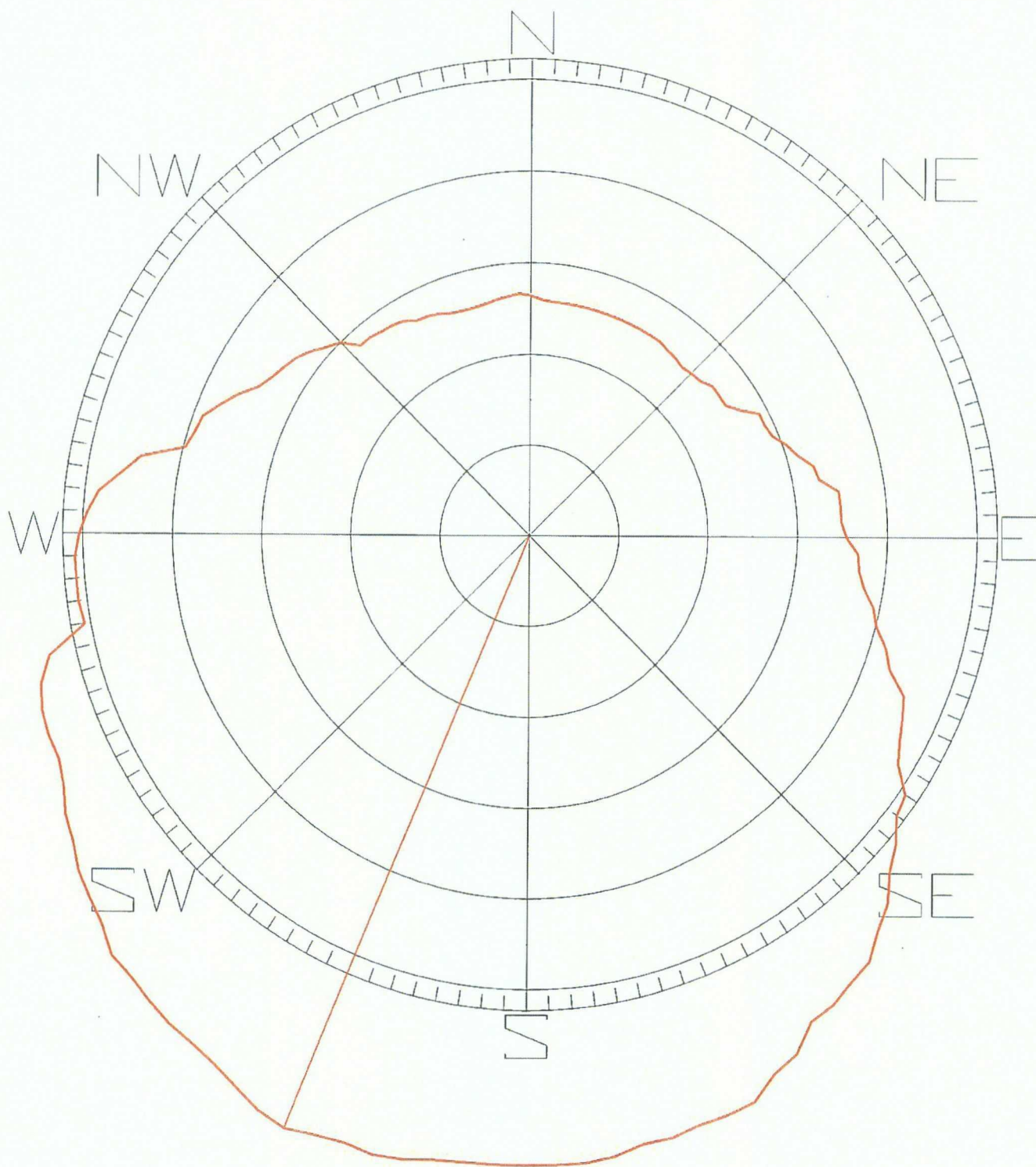
STATE LPG WELL NO. 4
WR-JAL-4-0708 Fri, Aug 31, 2007



WESTERN REFINING
STATE LPG WELL NO. 4 WR-JAL-4-0708
JAL, NM

SONARWIRE, INC
Max Range vs Bearing

Max Radius= 70.4 ft @ 202.5 deg
Depth= 2596 ft. Fri, Aug 31, 2007



1 inch = 16.0 ft.

50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50

Executive Summary

Lonquist Field Service, LLC. (LFS) was contracted to conduct a Mechanical Integrity Test on Well No. 4 for Western Refining Company, LP (Western Refining) from August 13-19, 2007. A nitrogen-interface test method was used for this test. Nitrogen was injected into Well No. 4 on August 15, 2006 and there was a stabilization period until August 17, 2007. The well was then shut in for a period of 48 hours to conduct the actual test. After observing the change in the nitrogen interface depth the total volume change was calculated. Using an average temperature and pressure across the effected well depth and by extrapolating the time an annual net loss could be calculated. This calculation yielded a loss of 254.19 bbls of nitrogen per year and a Minimum Detectable Leak Rate (MDLR) 615.76 bbls/year. The well was tested to a test gradient of 0.76 psi/ft at the 9 5/8" casing shoe. Considering these results and the guidelines set forth by the Oil Conservation Division, Well No. 4, at the time of this test, demonstrated the mechanical integrity required for LPG storage.