



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1238417  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed  
Form must be Signed  
All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic       Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

- Deepening       Re-perf.       Conv. to ENHR       Conv. to SWD
- Plug Back       Conv. to GSW       Conv. to Producer
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx)      (e.g. -xxx.xxxxx)

Datum:  NAD27       NAD83       WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

Drilling Fluid Management Plan

*(Data must be collected from the Reserve Pit)*

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_



1238417

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
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Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	L. D. Drilling, Inc.
Well Name	SHUMWAY AA 3
Doc ID	1238417

Tops

Name	Top	Datum
ANHYDRITE	616	+1227
BASE ANHYDRITE	636	+1207
HEEBNER	3109	-1266
TORONTO	3133	-1290
DOUGLAS	3141	-1298
BROWN LIME	3240	-1397
LANSING	3255	-1412
BASE KANSAS CITY	3490	-1647
VIOLA	3506	-1663
SIMPSON SHALE	3552	-1709
REWORKED ARBUCKLE	3615	-1772
SOLID ARBUCKLE	3636	-1793

# DIAMOND TESTING GENERAL REPORT

**Jake Fahrenbruch, Tester**

Cell: (620) 282-8977 / Office: (800) 542-7313



## TEST INFORMATION

<b>Well Name</b>	Shumway AA #3
<b>Company Name</b>	LD Drilling Inc.
<b>Formation</b>	Lansing "A-F" 3269'-3350'
<b>Test Type</b>	Bottom-Hole w/J&J
<b>Surface Location</b>	Sec 27-21s-12w-Stafford Co.-KS
<b>KB Elevation (SL)</b>	1843.000
<b>Gauge Name</b>	Inside 5584
<b>Start Test Date</b>	2014/12/07
<b>Start Test Time</b>	15:48:00
<b>Final Test Date</b>	2014/12/07
<b>Final Test Time</b>	22:40:00
<b>Job Number</b>	F354
<b>Contact</b>	LD Davis
<b>Site Contact</b>	Kurt Talbott

## TEST RESULTS

Initial flow, strong blow, BOB in 1.5 minutes. GTS while bleeding off, no blowback.  
 Final flow, strong blow, BOB in 10 seconds. GTS TSTM. Blowback @ 1".

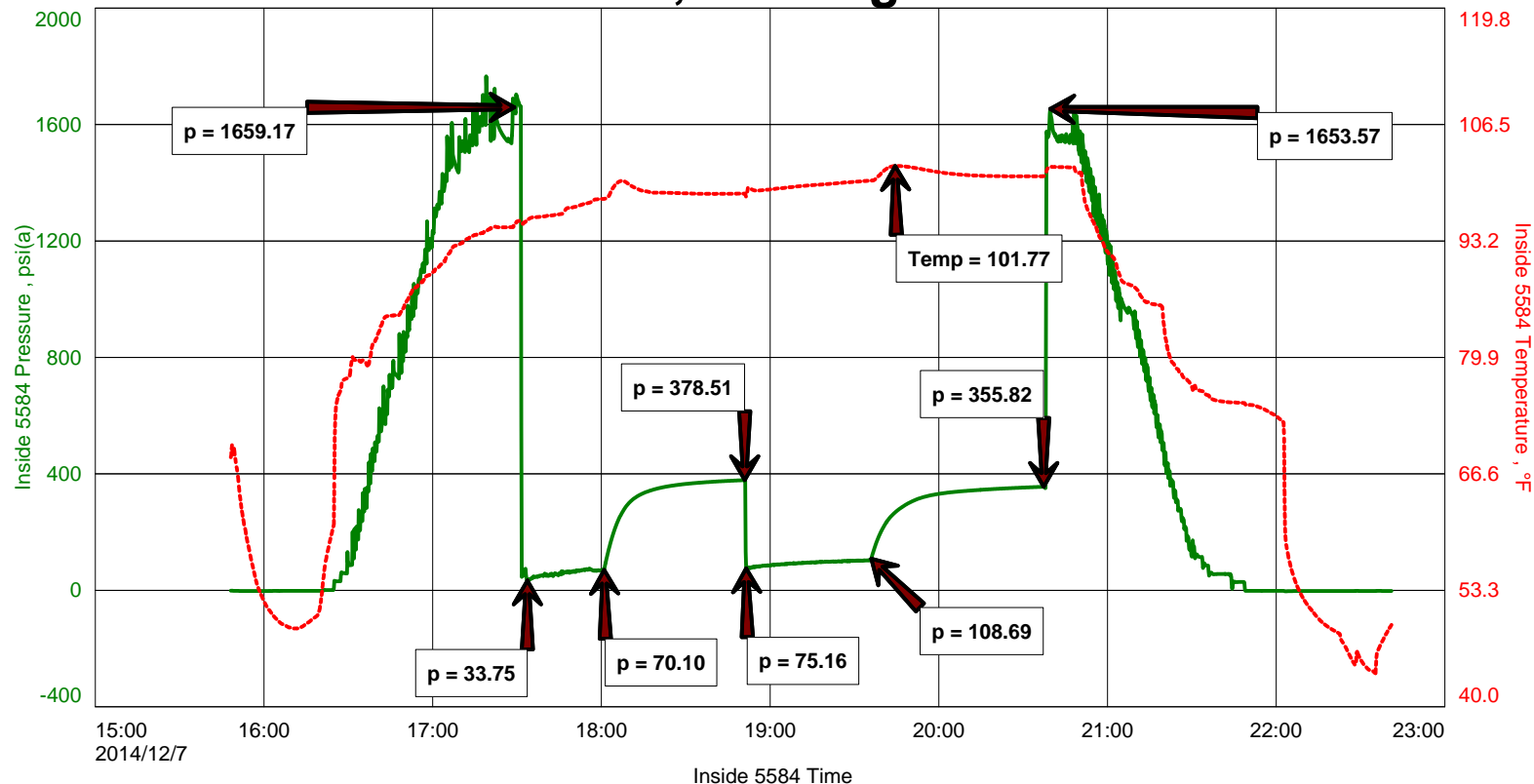
**TOTAL RECOVERED FLUID: 275'**

- 120' Gassy OS WCM                      20% gas, 2% oil, 15% wtr, 63% mud
- 155' SGC SOC WM                      5% gas, 5% oil, 40% wtr, 50% mud
- Gas In All Fluid-Free Pipe
- Chlorides: 38,000 PPM ---- RW: .31 ohm @ 44 F ---- PH: 7.0

LD Drilling Inc.  
 Start Test Date: 2014/12/07  
 Final Test Date: 2014/12/07

Shumway AA #3  
 Formation: Lansing "A-F" 3269'-3350'  
 Job Number: F354

## DST #1, Lansing "A-F"





**DIAMOND TESTING**  
 P.O. Box 157  
 HOISINGTON, KANSAS 67544  
 (800) 542-7313  
**DRILL-STEM TEST TICKET**  
 FILE: SHUM3 DST1

ON LOCATION:	<u>10:40</u>
START RECORDERS:	<u>15:48</u>
STOP RECORDERS:	<u>22:40</u>

Company LD DRLG, INC. Lease & Well No. SHUMWAY AA #3  
 Contractor PETROMARK DRLG, LLC #2 Charge to LD DRLG, INC  
 Elevation 1843' KB Formation LANSING "A-F" Effective Pay \_\_\_\_\_ Ft. Ticket No. F354  
 Date 12-7-14 Sec. 27 Twp. 21s Range 12 W County STAFFORD State KANSAS  
 Test Approved By KURT TALBOTT Diamond Representative JAKE FAHRENBRUCH

Formation Test No. 1 Interval Tested from 3269 ft. to 3350 ft. Total Depth 3350 ft.  
 Packer Depth 3264 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
 Packer Depth 3269 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
 Depth of Selective Zone Set \_\_\_\_\_

Top Recorder Depth (Inside) 3250 ft. Recorder Number 5584 Cap. 5000 P.S.I.  
 Bottom Recorder Depth (Outside) 3336 ft. Recorder Number 5951 Cap. 5000 P.S.I.  
 Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type CHEMICAL Viscosity 56 Drill Collar Length 123 ft. I.D. 2 1/4 in.  
 Weight 9.5 Water Loss 10.8 cc. Weight Pipe Length \_\_\_\_\_ ft. I.D. 2 7/8 in.  
 Chlorides \_\_\_\_\_ P.P.M. Drill Pipe Length 3113 ft. I.D. 3 1/2 in.  
 Jars: Make STERLING Serial Number #5 J&J Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
 Did Well Flow? G.T.S. Reversed Out \_\_\_\_\_ Anchor Length 81 ft. Size 4 1/2-FH in.  
 Main Hole Size 7 7/8 Tool Joint Size 4 1/2" XH in. 16' PERF IN ANCHOR Surface Choke Size \_\_\_\_\_ in. Bottom Choke Size 5/8 in.

Blow: 1st Open: STRONG BLOW, B.O.B. 1 1/2 MIN, G.T.S. WHILE BLEEDING OFF. NO BB  
 2nd Open: STRONG BLOW, B.O.B. 10 SECONDS. GTS TSTM. BB @ 1"

Recovered \_\_\_\_\_ ft. of TOTAL RECOVERED FLUID: 275'  
 Recovered 120 ft. of GSSY OS WCM 20% gas, 2% oil, 15% wtr, 63% mud  
 Recovered 155 ft. of SGC SOC WCM 5% gas, 5% oil, 40% wtr, 50% mud  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_

Recovered _____ ft. of <u>GAS IN ALL FLUID-FREE PIPE</u>	Price Job
Recovered _____ ft. of _____	Other Charges
Remarks: <u>CHLORIDES: 38,000 PPM</u>	<u>J&amp;J</u>
<u>RW: .31 OHM @ 44°F</u>	<u>96 MRT (PRAT)</u>
<u>PH: 7.0</u>	Total

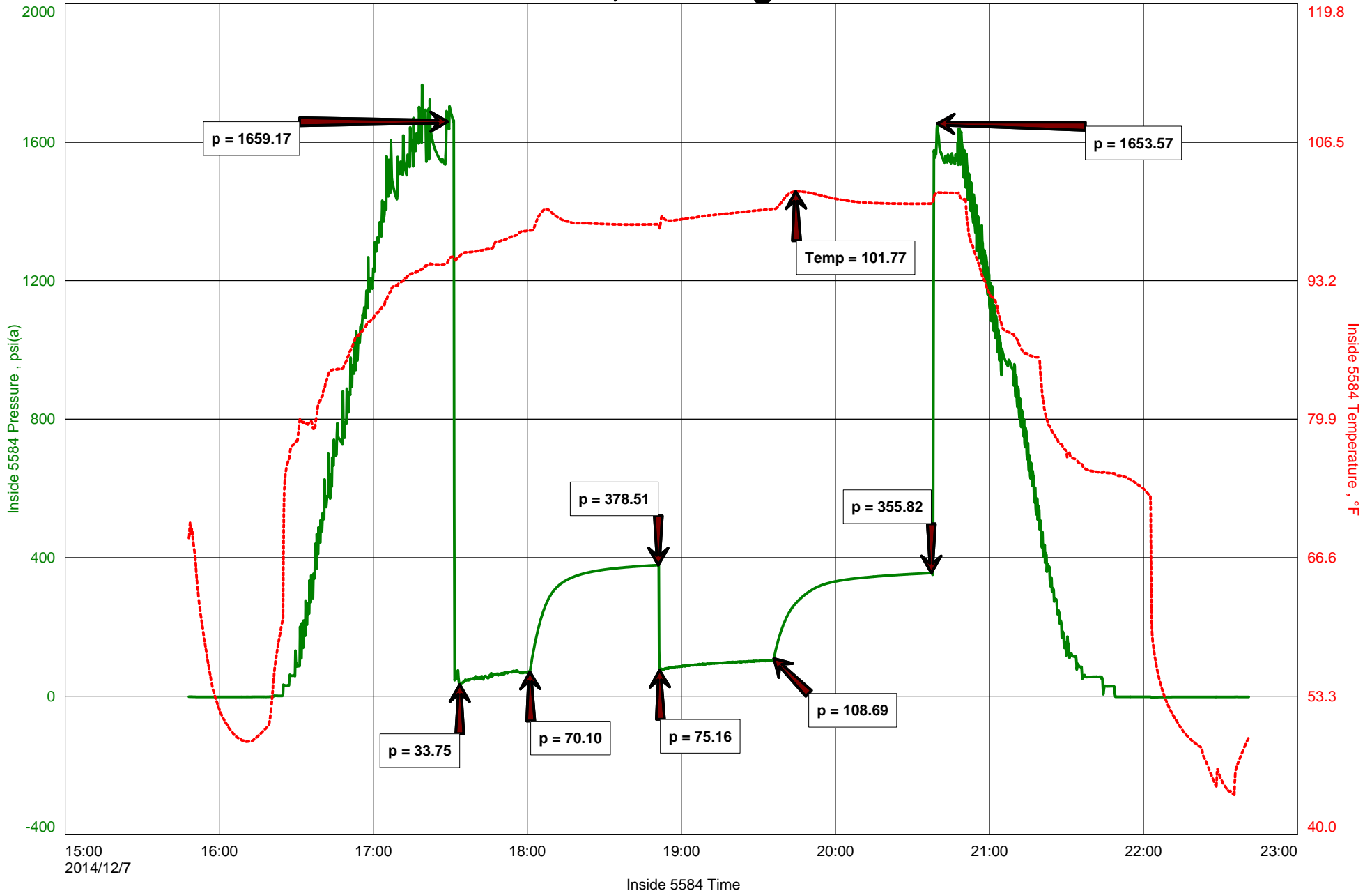
Time Set Packer(s) 5:30 AM / PM Time Started Off Bottom 8:30 AM / PM Maximum Temperature 102°F  
 Initial Hydrostatic Pressure..... (A) 1659 P.S.I.  
 Initial Flow Period..... Minutes 30 (B) 34 P.S.I. to (C) 70 P.S.I.  
 Initial Closed In Period..... Minutes 45 (D) 379 P.S.I.  
 Final Flow Period..... Minutes 45 (E) 75 P.S.I. to (F) 109 P.S.I.  
 Final Closed In Period..... Minutes 60 (G) 356 P.S.I. Thanks!  
 Final Hydrostatic Pressure..... (H) 1654 P.S.I. Jake Fahrenbruch

Diamond Testing shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly, through the use of its equipment, or its statement or opinion concerning the result of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

LD Drilling Inc.  
Start Test Date: 2014/12/07  
Final Test Date: 2014/12/07

Shumway AA #3  
Formation: Lansing "A-F" 3269'-3350'  
Job Number: F354

# DST #1, Lansing "A-F"





**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: SHUM3DST1

TIME ON: 15:48  
TIME OFF: 22:40

Company LD Drilling Inc. Lease & Well No. Shumway AA #3  
Contractor Petromark Drilling LLC Rig #2 Charge to LD Drilling Inc.  
Elevation 1843' KB Formation Lansing "A-F" Effective Pay \_\_\_\_\_ Ft. Ticket No. F354  
Date 12-7-14 Sec. 27 Twp. \_\_\_\_\_ 21s S Range \_\_\_\_\_ 12w W County Stafford State KANSAS  
Test Approved By Kurt Talbott Diamond Representative Jake Fahrenbruch

Formation Test No. 1 Interval Tested from 3269 ft. to 3350 ft. Total Depth 3350 ft.  
Packer Depth 3264 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
Packer Depth 3269 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
Depth of Selective Zone Set \_\_\_\_\_

Top Recorder Depth (Inside) 3250 ft. Recorder Number 5951 Cap. 5000 P.S.I.  
Bottom Recorder Depth (Outside) 3336 ft. Recorder Number 5584 Cap. 5000 P.S.I.  
Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type Chemical Viscosity 56 Drill Collar Length 123 ft. I.D. 2 1/4 in.  
Weight 9.5 Water Loss 10.8 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.  
Chlorides 5,000 P.P.M. Drill Pipe Length 3,113 ft. I.D. 3 1/2 in.  
Jars: Make STERLING Serial Number #5 J&J Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
Did Well Flow? NO Reversed Out NO Anchor Length 81 ft. Size 4 1/2-FH in.  
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. <sup>16' PERF IN ANCHOR</sup> Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: Strong blow, BOB 1.5 minutes. GTS while bleeding off. No blowback.  
2nd Open: Strong blow, BOB in 10 seconds. GTS TSTM. Blowback @ 1".

Recovered \_\_\_\_\_ ft. of TOTAL RECOVERED FLUID: 275'  
Recovered 120 ft. of Gassy OS WCM 20% gas, 2% oil, 15% wtr, 63% mud  
Recovered 155 ft. of SGC SOC WM 5% gas, 5% oil, 40% wtr, 50% mud

Recovered _____ ft. of <u>Gas In All Fluid-Free Pipe</u>	
Recovered _____ ft. of <u>Chlorides: 38,000 PPM</u>	Price Job
Recovered _____ ft. of <u>RW: .31 ohm @ 44 F</u>	Other Charges
Remarks: <u>PH: 7.0</u>	Insurance
	Total

Time Set Packer(s) 5:30 PM A.M. P.M. Time Started Off Bottom 8:30 PM A.M. P.M. Maximum Temperature 102 F

Initial Hydrostatic Pressure..... (A) 1659 P.S.I.  
Initial Flow Period..... Minutes 30 (B) 34 P.S.I. to (C) 70 P.S.I.  
Initial Closed In Period..... Minutes 45 (D) 379 P.S.I.  
Final Flow Period..... Minutes 45 (E) 75 P.S.I. to (F) 109 P.S.I.  
Final Closed In Period..... Minutes 60 (G) 356 P.S.I.  
Final Hydrostatic Pressure..... (H) 1654 P.S.I.

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# DIAMOND TESTING GENERAL REPORT

**Jake Fahrenbruch, Tester**

Cell: (620) 282-8977 / Office: (800) 542-7313



## TEST INFORMATION

<b>Well Name</b>	Shumway AA #3
<b>Company Name</b>	LD Drilling Inc.
<b>Formation</b>	Lansing "H-J" 3383'-3480'
<b>Test Type</b>	Bottom-Hole w/J&J
<b>Surface Location</b>	Sec 27-21s-12w-Stafford Co.-KS
<b>KB Elevation (SL)</b>	1843.000
<b>Gauge Name</b>	INSIDE 5951
<b>Start Test Date</b>	2014/12/08
<b>Start Test Time</b>	12:35:00
<b>Final Test Date</b>	2014/12/08
<b>Final Test Time</b>	18:50:00
<b>Job Number</b>	F355
<b>Contact</b>	LD Davis
<b>Site Contact</b>	Kurt Talbott

## TEST RESULTS

Initial flow, fair blow, BOB 29 minutes. No blowback.  
 Final flow, fair blow, BOB 10 seconds. No blowback.

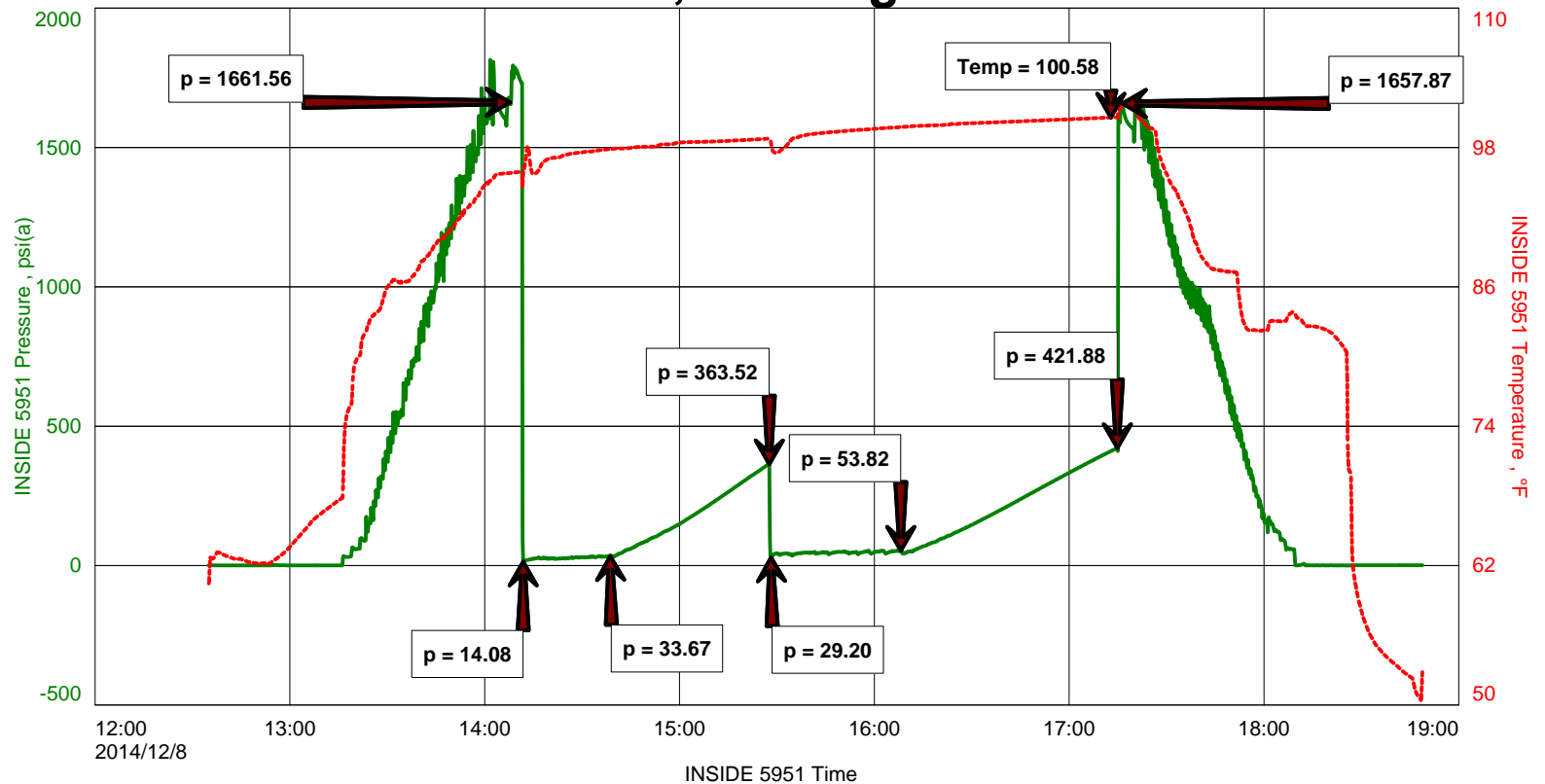
**TOTAL RECOVERED FLUID: 90'**

60'	DRLG MUD	100% mud
30'	SGC OCM	10% gas, 25% oil, 65% mud
----	+/- 500' GIP	

LD Drilling Inc.  
 Start Test Date: 2014/12/08  
 Final Test Date: 2014/12/08

Shumway AA #3  
 Formation: Lansing "H-J" 3383'-3480'  
 Job Number: F355

## DST #2, Lansing "H-J"







**DIAMOND TESTING**  
 P.O. Box 157  
 HOISINGTON, KANSAS 67544  
 (800) 542-7313  
**DRILL-STEM TEST TICKET**  
 FILE: SHUM3DST2

ON LOCATION:	<u>12:15</u>
START RECORDERS:	<u>12:35</u>
STOP RECORDERS:	<u>18:50</u>

Company LD DRILLING INC. Lease & Well No. SHUMWAY AA #3  
 Contractor PETROMARK DRUG. LLC RIG #2 Charge to LD DRUG INC  
 Elevation 1843' KB Formation LANSING "H-J" Effective Pay \_\_\_\_\_ Ft. Ticket No. F355  
 Date 12-8-14 Sec. 27 Twp. 21S Range 12W County STAFFORD State KANSAS  
 Test Approved By KURT TALBOTT Diamond Representative JAKE FAHRENBRUCH

Formation Test No. 2 Interval Tested from 3383 ft. to 3480 ft. Total Depth 3480 ft.  
 Packer Depth 3378 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
 Packer Depth 3383 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
 Depth of Selective Zone Set \_\_\_\_\_

Top Recorder Depth (Inside) 3361 ft. Recorder Number 5951 Cap. 5000 P.S.I.  
 Bottom Recorder Depth (Outside) 3450 ft. Recorder Number 5584 Cap. 5000 P.S.I.  
 Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type CHEMICAL Viscosity 57 Drill Collar Length 123 ft. I.D. 2 1/4 in.  
 Weight 9.4 Water Loss 10.2 cc. Weight Pipe Length \_\_\_\_\_ ft. I.D. 2 7/8 in.  
 Chlorides 7000 P.P.M. Drill Pipe Length 3350 ft. I.D. 3 1/2 in.  
 Jars: Make STERLING Serial Number #5 J&J Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
 Did Well Flow? \_\_\_\_\_ Reversed Out \_\_\_\_\_ Anchor Length 97 ft. Size 4 1/2-FH in.  
 Main Hole Size 7 7/8 Tool Joint Size 4 1/2" XH in. 32' PERF IN ANCHOR Surface Choke Size \_\_\_\_\_ in. Bottom Choke Size 5/8 in.

Blow: 1st Open: FAIR BLOW, BOB 29 MINUTES. NO BB  
 2nd Open: FAIR BLOW, BOB 10 SECONDS.

Recovered \_\_\_\_\_ ft. of TOTAL FLUID @ 90'  
 Recovered 60 ft. of MUD 100" mud  
 Recovered 30 ft. of SGC BM 10% gas, 25% oil, 65% mud  
 Recovered \_\_\_\_\_ ft. of +/- 500' GIP

Recovered _____ ft. of _____	Price Job
Recovered _____ ft. of _____	Other Charges
Remarks: _____	<u>J&amp;J</u>
	<u>96 MRT (PRATT)</u>
	Total

Time Set Packer(s) 2:15 (P.M.) Time Started Off Bottom 5:15 (P.M.) Maximum Temperature 101°F

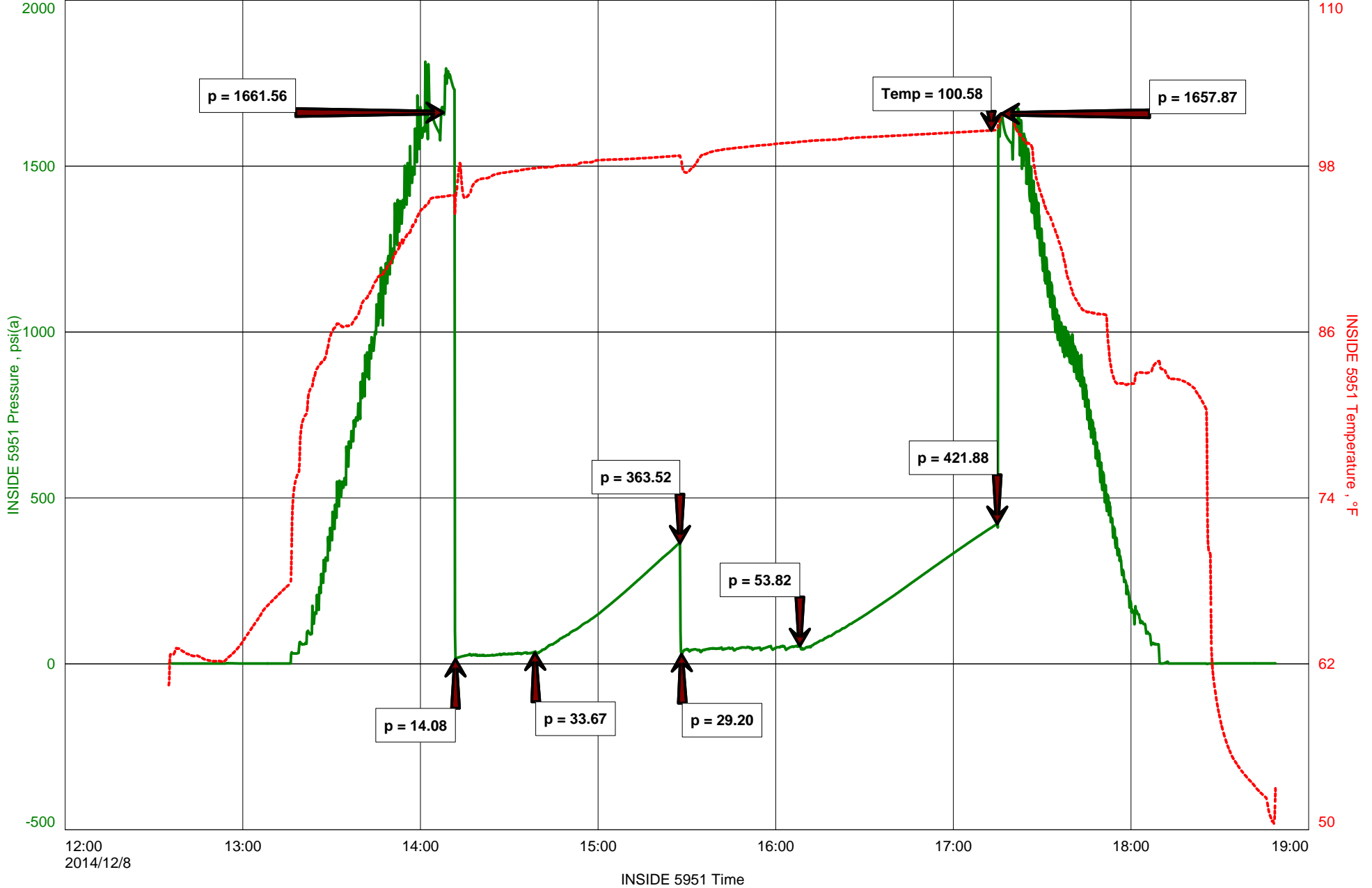
Initial Hydrostatic Pressure..... (A) 1662 P.S.I.  
 Initial Flow Period..... Minutes 30 (B) 14 P.S.I. to (C) 34 P.S.I.  
 Initial Closed In Period..... Minutes 45 (D) 364 P.S.I.  
 Final Flow Period..... Minutes 45 (E) 29 P.S.I. to (F) 53 P.S.I.  
 Final Closed In Period..... Minutes 60 (G) 422 P.S.I. THANKS!  
 Final Hydrostatic Pressure..... (H) 1658 P.S.I. Jake Fahrenbruch

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LD Drilling Inc.  
Start Test Date: 2014/12/08  
Final Test Date: 2014/12/08

Shumway AA #3  
Formation: Lansing "H-J" 3383'-3480'  
Job Number: F355

# DST #2, Lansing "H-J"





**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: SHUM3DST2

TIME ON: 12:35  
TIME OFF: 18:50

Company LD Drilling Inc. Lease & Well No. Shumway AA #3  
Contractor Petromark Drilling LLC Rig #2 Charge to LD Drilling Inc.  
Elevation 1843' KB Formation Lansing "H-J" Effective Pay \_\_\_\_\_ Ft. Ticket No. F355  
Date 12-8-14 Sec. 27 Twp. \_\_\_\_\_ 21s S Range 12w W County Stafford State KANSAS  
Test Approved By Kurt Talbott Diamond Representative Jake Fahrenbruch

Formation Test No. 2 Interval Tested from 3383 ft. to 3480 ft. Total Depth 3480 ft.  
Packer Depth 3378 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
Packer Depth 3383 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
Depth of Selective Zone Set \_\_\_\_\_

Top Recorder Depth (Inside) 3361 ft. Recorder Number 5951 Cap. 5000 P.S.I.  
Bottom Recorder Depth (Outside) 3450 ft. Recorder Number 5584 Cap. 5000 P.S.I.  
Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type Chemical Viscosity 57 Drill Collar Length 123 ft. I.D. 2 1/4 in.  
Weight 9.4 Water Loss 10.2 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.  
Chlorides 7,000 P.P.M. Drill Pipe Length 3,350 ft. I.D. 3 1/2 in.  
Jars: Make STERLING Serial Number #5 J&J Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
Did Well Flow? NO Reversed Out NO Anchor Length 97 ft. Size 4 1/2-FH in.  
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. <sup>32' PERF IN ANCHOR</sup> Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: Fair blow, BOB 29 minutes. No blowback.  
2nd Open: Fair blow, BOB 10 seconds. No blowback.

Recovered \_\_\_\_\_ ft. of **TOTAL FLUID: 90'**  
Recovered 60 ft. of **DRLG MUD** 100% mud  
Recovered 30 ft. of **SGC OM** 10% gas, 25% oil, 65% mud  
Recovered \_\_\_\_\_ ft. of **+/- 500' GIP**

Recovered _____ ft. of _____	Price Job
Recovered _____ ft. of _____	Other Charges
Remarks: _____	Insurance
_____	Total

Time Set Packer(s) 2:15 PM A.M. P.M. Time Started Off Bottom 5:15 PM A.M. P.M. Maximum Temperature 101 F

Initial Hydrostatic Pressure..... (A) 1622 P.S.I.  
Initial Flow Period..... Minutes 30 (B) 14 P.S.I. to (C) 34 P.S.I.  
Initial Closed In Period..... Minutes 45 (D) 364 P.S.I.  
Final Flow Period..... Minutes 45 (E) 29 P.S.I. to (F) 53 P.S.I.  
Final Closed In Period..... Minutes 60 (G) 422 P.S.I.  
Final Hydrostatic Pressure..... (H) 1658 P.S.I.

Diamond Testing shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statement or opinion concerning the result of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

# DIAMOND TESTING GENERAL REPORT

**Jake Fahrenbruch, Tester**

Cell: (620) 282-8977 / Office: (800) 542-7313



## TEST INFORMATION

<b>Well Name</b>	Shumway AA #3
<b>Company Name</b>	LD Drilling, Inc.
<b>Formation</b>	Simpson Sand & Arbuckle 3545'-3630'
<b>Test Type</b>	Bottom-Hole DST w/J&J
<b>Surface Location</b>	Sec 27-21s-12w-Stafford Co-KS
<b>KB Elevation (SL)</b>	1843.000
<b>Gauge Name</b>	Inside 5951
<b>Start Test Date</b>	2014/12/09
<b>Start Test Time</b>	15:04:00
<b>Final Test Date</b>	2014/12/09
<b>Final Test Time</b>	21:00:00
<b>Job Number</b>	F356
<b>Contact</b>	LD Davis
<b>Site Contact</b>	Kurt Talbott

## TEST RESULTS

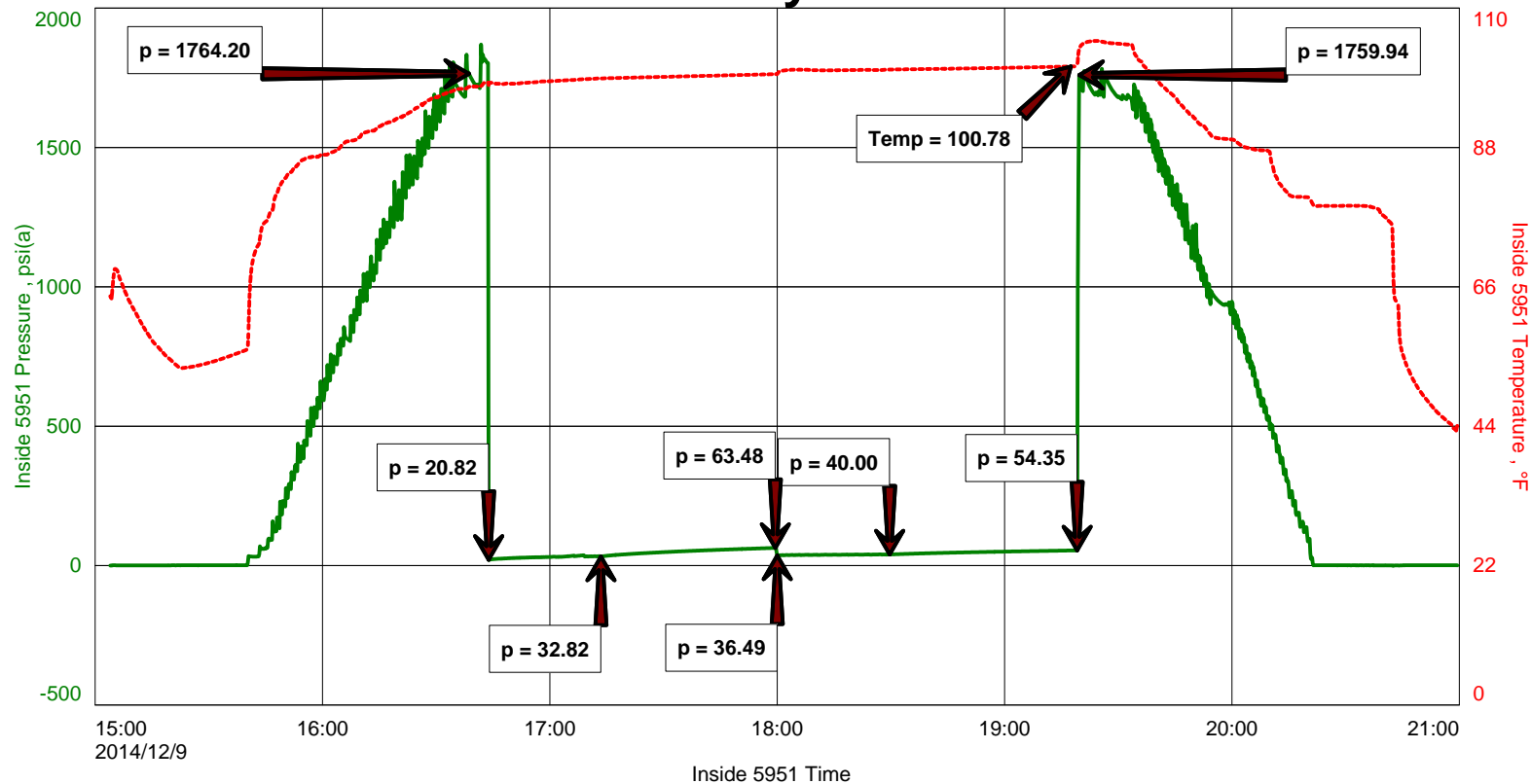
Initial flow, weak blow, increased to 2.5"  
Final flow, surface blow, blow died

Recovered 30' of drilling mud  
(Oil spots in tool.)

LD Drilling, Inc.  
Start Test Date: 2014/12/09  
Final Test Date: 2014/12/09

Shumway AA #3  
Formation: Simpson Sand & Arbuckle 3545'-3630'  
Job Number: F356

## Shumway AA #3





**DIAMOND TESTING**  
 P.O. Box 157  
 HOISINGTON, KANSAS 67544  
 (800) 542-7313  
**DRILL-STEM TEST TICKET**  
 FILE: SHUM3DST3

ON LOCATION:	<u>11:45</u>
START RECORDERS:	<u>15:04</u>
STOP RECORDERS:	<u>21:00</u>

Company LD DRILLING INC. Lease & Well No. SHUMWAY AA #3  
 Contractor PETROMARK DRUG. LLC RIG #2 Charge to LD DRILLING INC.  
 Elevation 1843' KB Formation SIMPSON SAND & ARBUCKLE Ticket No. F356  
 Date 12-9-14 Sec. 27 Twp. 21 S Range 12 W County STAFFORD State KANSAS  
 Test Approved By KURT TALBOTT Diamond Representative JAKE FAHRENBRUCH

Formation Test No. 3 Interval Tested from 3545 ft. to 3630 ft. Total Depth 3630 ft.  
 Packer Depth 3540 ft. Size 6 3/4 in. Packer depth          ft. Size 6 3/4 in.  
 Packer Depth 3545 ft. Size 6 3/4 in. Packer depth          ft. Size 6 3/4 in.  
 Depth of Selective Zone Set         

Top Recorder Depth (Inside) 3523 ft. Recorder Number 5951 Cap. 5000 P.S.I.  
 Bottom Recorder Depth (Outside) 3612 ft. Recorder Number 5584 Cap. 5000 P.S.I.  
 Below Straddle Recorder Depth          ft. Recorder Number          Cap.          P.S.I.

Mud Type CHEMICAL Viscosity 44 Drill Collar Length 123 ft. I.D. 2 1/4 in.  
 Weight 9.5 Water Loss 12.8 cc. Weight Pipe Length          ft. I.D. 2 7/8 in.  
 Chlorides 8000 P.P.M. Drill Pipe Length 3512 ft. I.D. 3 1/2 in.  
 Jars: Make STERLING Serial Number #5 JJJ Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
 Did Well Flow?          Reversed Out          Anchor Length 85 ft. Size 4 1/2-FH in.  
 Main Hole Size 7 7/8 Tool Joint Size 4 1/2" XH Surface Choke Size 20' PERF IN ANCHOR in. Bottom Choke Size 5/8 in.

Blow: 1st Open: WEAK BLOW, INCREASED TO 2 1/2". NBR  
 2nd Open: SURFACE BLOW, BLOW DEED.

Recovered 30 ft. of DRUG MUD 100" MUD  
 Recovered          ft. of           
 Recovered          ft. of           
 Recovered          ft. of         

Recovered <u>        </u> ft. of <u>        </u>	Price Job
Recovered <u>        </u> ft. of <u>        </u>	Other Charges
Remarks: <u>OIL SPOTS IN TOOL</u>	<u>JJJ</u>
	<u>96 MRT (PRATT)</u>
	Total

Time Set Packer(s) 4:45 AM PM Time Started Off Bottom 7:15 AM PM Maximum Temperature 101' F

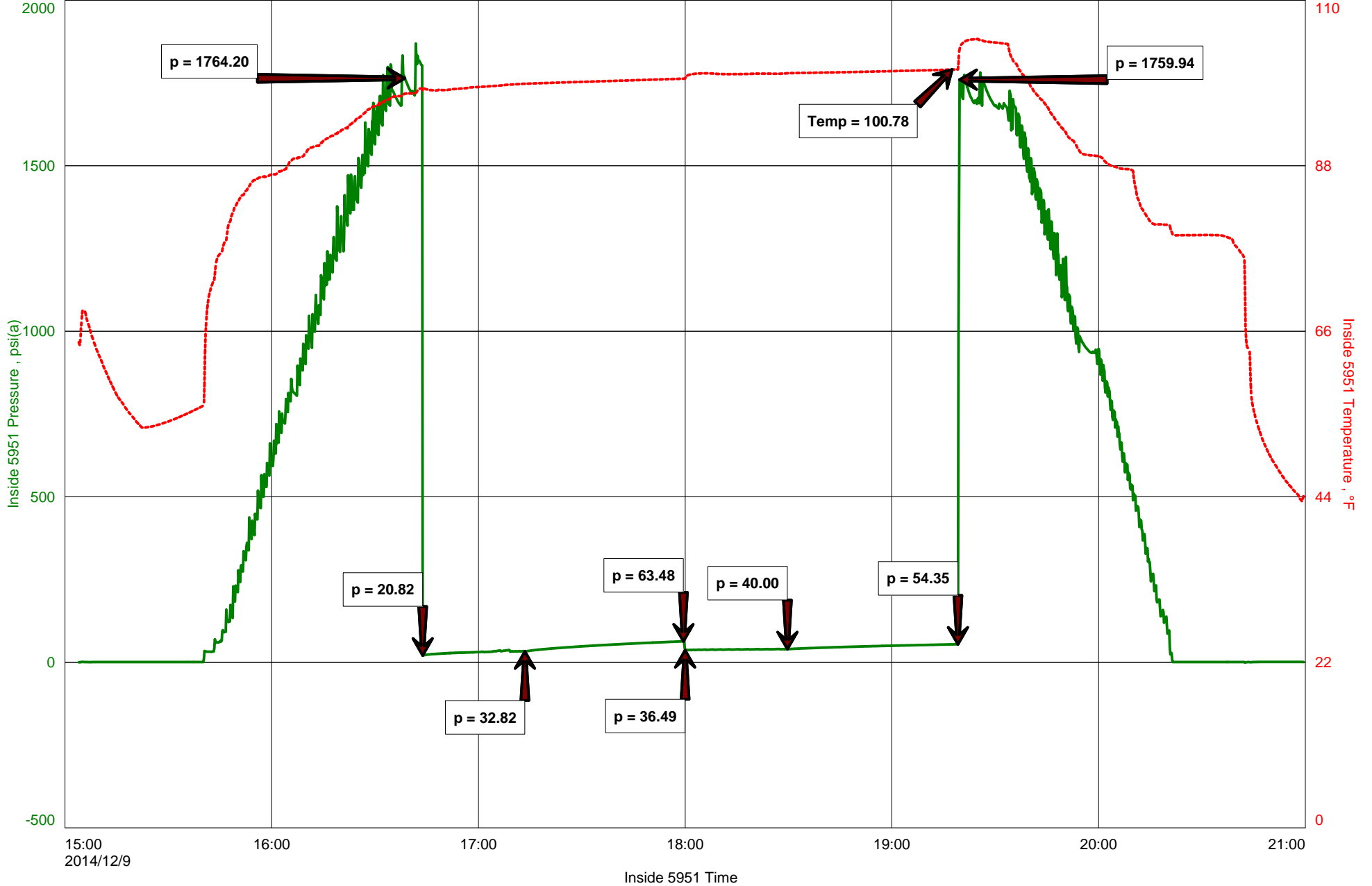
Initial Hydrostatic Pressure..... (A) 1764 P.S.I.  
 Initial Flow Period..... Minutes 30 (B) 21 P.S.I. to (C) 33 P.S.I.  
 Initial Closed In Period..... Minutes 45 (D) 63 P.S.I.  
 Final Flow Period..... Minutes 30 (E) 36 P.S.I. to (F) 40 P.S.I.  
 Final Closed In Period..... Minutes 45 (G) 54 P.S.I. THANKS!  
 Final Hydrostatic Pressure..... (H) 1760 P.S.I. Jake Fahrenbruch

Diamond Testing shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statement or opinion concerning the result of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

LD Drilling, Inc.  
Start Test Date: 2014/12/09  
Final Test Date: 2014/12/09

Shumway AA #3  
Formation: Simpson Sand & Arbuckle 3545'-3630'  
Job Number: F356

# Shumway AA #3





**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: SHUM3DST3

TIME ON: 15:04  
TIME OFF: 21:00

Company LD Drilling Inc. Lease & Well No. Shumway AA #3  
Contractor Petromark Drilling LLC Rig #2 Charge to LD Drilling Inc.  
Elevation 1843' KB Formation Simpson / Arbuckle Effective Pay \_\_\_\_\_ Ft. Ticket No. F356  
Date 12-9-14 Sec. 27 Twp. 21s S Range 12w W County Stafford State KANSAS  
Test Approved By Kurt Talbott Diamond Representative Jake Fahrenbruch

Formation Test No. 3 Interval Tested from 3545 ft. to 3630 ft. Total Depth 3630 ft.  
Packer Depth 3540 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
Packer Depth 3545 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
Depth of Selective Zone Set \_\_\_\_\_

Top Recorder Depth (Inside) 3523 ft. Recorder Number 5951 Cap. 5000 P.S.I.  
Bottom Recorder Depth (Outside) 3612 ft. Recorder Number 5584 Cap. 5000 P.S.I.  
Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type Chemical Viscosity 44 Drill Collar Length 123 ft. I.D. 2 1/4 in.  
Weight 9.5 Water Loss 12.8 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.  
Chlorides 8,000 P.P.M. Drill Pipe Length 3,512 ft. I.D. 3 1/2 in.  
Jars: Make STERLING Serial Number #5 J&J Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
Did Well Flow? NO Reversed Out NO Anchor Length 85 ft. Size 4 1/2-FH in.  
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. 20' PERF IN ANCHOR Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: Weak blow, increased to 2.5"  
2nd Open: Surface blow, blow died

Recovered 30 ft. of Drilling Mud 100% mud  
Recovered \_\_\_\_\_ ft. of (oil spots in tool.)  
Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
Recovered \_\_\_\_\_ ft. of \_\_\_\_\_

Recovered _____ ft. of _____	Price Job
Recovered _____ ft. of _____	Other Charges
Remarks: _____	Insurance
_____	Total

Time Set Packer(s) 4:45 PM A.M. P.M. Time Started Off Bottom 7:15 PM A.M. P.M. Maximum Temperature 101 F

Initial Hydrostatic Pressure..... (A) 1764 P.S.I.  
Initial Flow Period..... Minutes 30 (B) 21 P.S.I. to (C) 33 P.S.I.  
Initial Closed In Period..... Minutes 45 (D) 63 P.S.I.  
Final Flow Period..... Minutes 30 (E) 36 P.S.I. to (F) 40 P.S.I.  
Final Closed In Period..... Minutes 45 (G) 54 P.S.I.  
Final Hydrostatic Pressure..... (H) 1760 P.S.I.

Diamond Testing shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statement or opinion concerning the result of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

# DIAMOND TESTING GENERAL REPORT

**Jake Fahrenbruch, Tester**

Cell: (620) 282-8977 / Office: (800) 542-7313



## TEST INFORMATION

<b>Well Name</b>	Shumway AA #3
<b>Company Name</b>	LD Drilling Inc
<b>Formation</b>	Arbuckle 3630'-3640'
<b>Test Type</b>	Bottom-Hole w/J&J
<b>Surface Location</b>	Sec 27-21s-12w-Stafford Co.-KS
<b>KB Elevation (SL)</b>	1843.000
<b>Gauge Name</b>	Inside 5951
<b>Start Test Date</b>	2014/12/10
<b>Start Test Time</b>	05:43:00
<b>Final Test Date</b>	2014/12/10
<b>Final Test Time</b>	09:55:00
<b>Job Number</b>	F357
<b>Contact</b>	LD Davis
<b>Site Contact</b>	Kurt Talbott

## TEST RESULTS

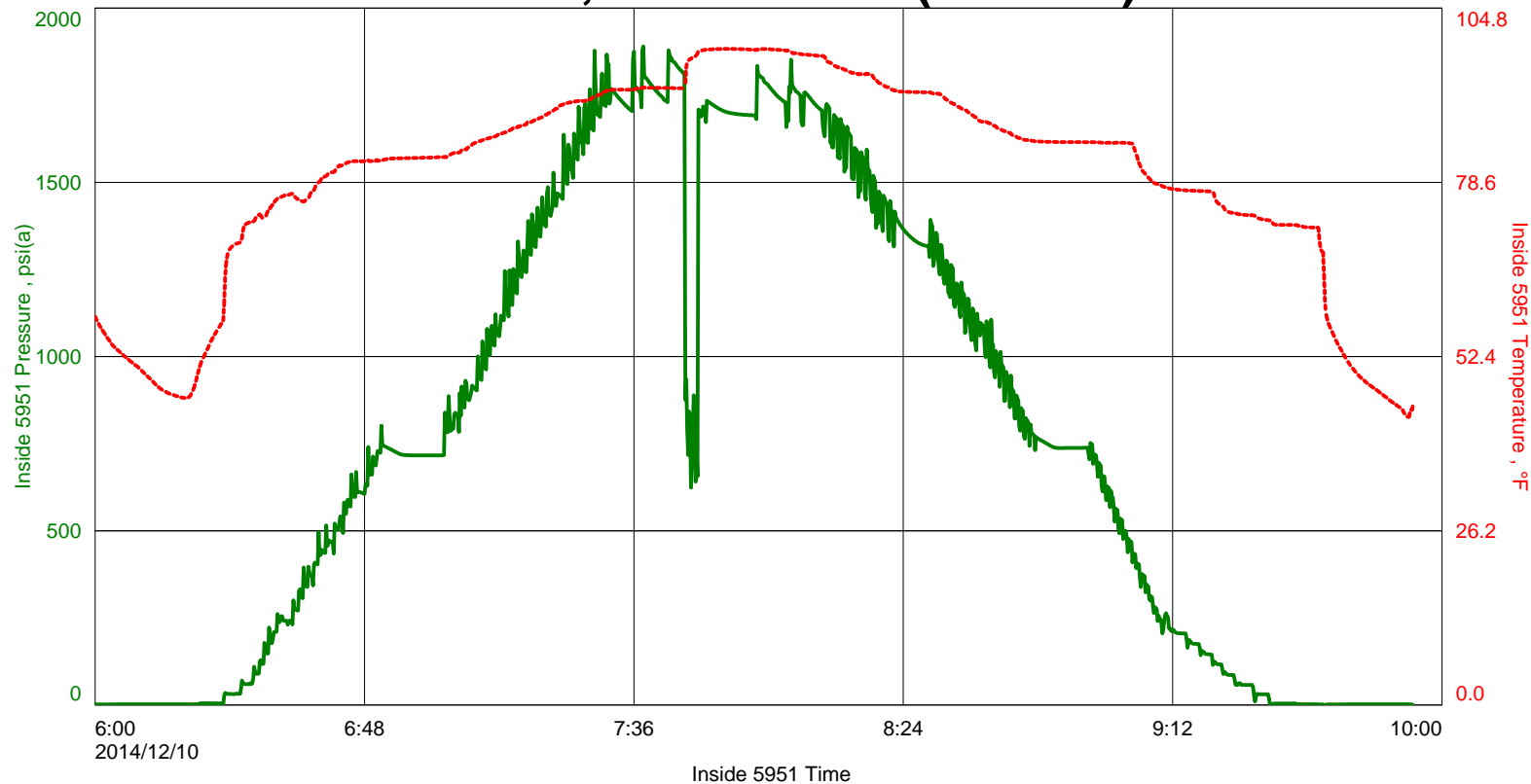
**MIS-RUN DUE TO PACKER FAILURE**

Recovered 420' of drilling mud.  
(Packers were un-harmed)

LD Drilling Inc  
Start Test Date: 2014/12/10  
Final Test Date: 2014/12/10

Shumway AA #3  
Formation: Arbuckle 3630'-3640'  
Job Number: F357

## DST #4, ARBUCKLE (mis-run)







**DIAMOND TESTING**  
 P.O. Box 157  
 HOISINGTON, KANSAS 67544  
 (800) 542-7313  
**DRILL-STEM TEST TICKET**  
 FILE: SHUM3DST4

ON LOCATION:	<u>05:30</u>
START RECORDERS:	<u>05:43</u>
STOP RECORDERS:	<u>09:55</u>

Company LD DRILLING INC. Lease & Well No. SHUMWAY AA #3  
 Contractor PETROMARK DRUG. LLC #2 Charge to LD DRILLING INC.  
 Elevation 1843' NB Formation ARBUCKLE Effective Pay \_\_\_\_\_ Ft. Ticket No. F357  
 Date 12-10-14 Sec. 27 Twp. 21S Range 12W County STAFFORD State KANSAS  
 Test Approved By KURT TALBOTT Diamond Representative JAKE FAHRENBRUCH

Formation Test No. 4 Interval Tested from 3630 ft. to 3640 ft. Total Depth 3640 ft.  
 Packer Depth 3625 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
 Packer Depth 3630 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
 Depth of Selective Zone Set \_\_\_\_\_

Top Recorder Depth (Inside) 3608 ft. Recorder Number 5951 Cap. 5000 P.S.I.  
 Bottom Recorder Depth (Outside) 3631 ft. Recorder Number 5584 Cap. 5000 P.S.I.  
 Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type CHEMICAL Viscosity 59 Drill Collar Length 123 ft. I.D. 2 1/4 in.  
 Weight 9.3 Water Loss 12.8 cc. Weight Pipe Length \_\_\_\_\_ ft. I.D. 2 7/8 in.  
 Chlorides 8,000 P.P.M. Drill Pipe Length 3475 ft. I.D. 3 1/2 in.  
 Jars: Make STERLING Serial Number #5 J&J Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
 Did Well Flow? \_\_\_\_\_ Reversed Out \_\_\_\_\_ Anchor Length 10 ft. Size 4 1/2-FH in.  
 Main Hole Size 7 7/8 Tool Joint Size 4 1/2" XH in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: MIS-RUN DUE TO PACKER FAILURE  
 2nd Open: \_\_\_\_\_

Recovered 420 ft. of DRUG MUD  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_

Price Job	<u>MIS-RUN</u>
Other Charges	_____
J&J	_____
96 MRT (FRAT)	_____
Total	_____

Remarks: (PACKERS WERE NOT HARMED)

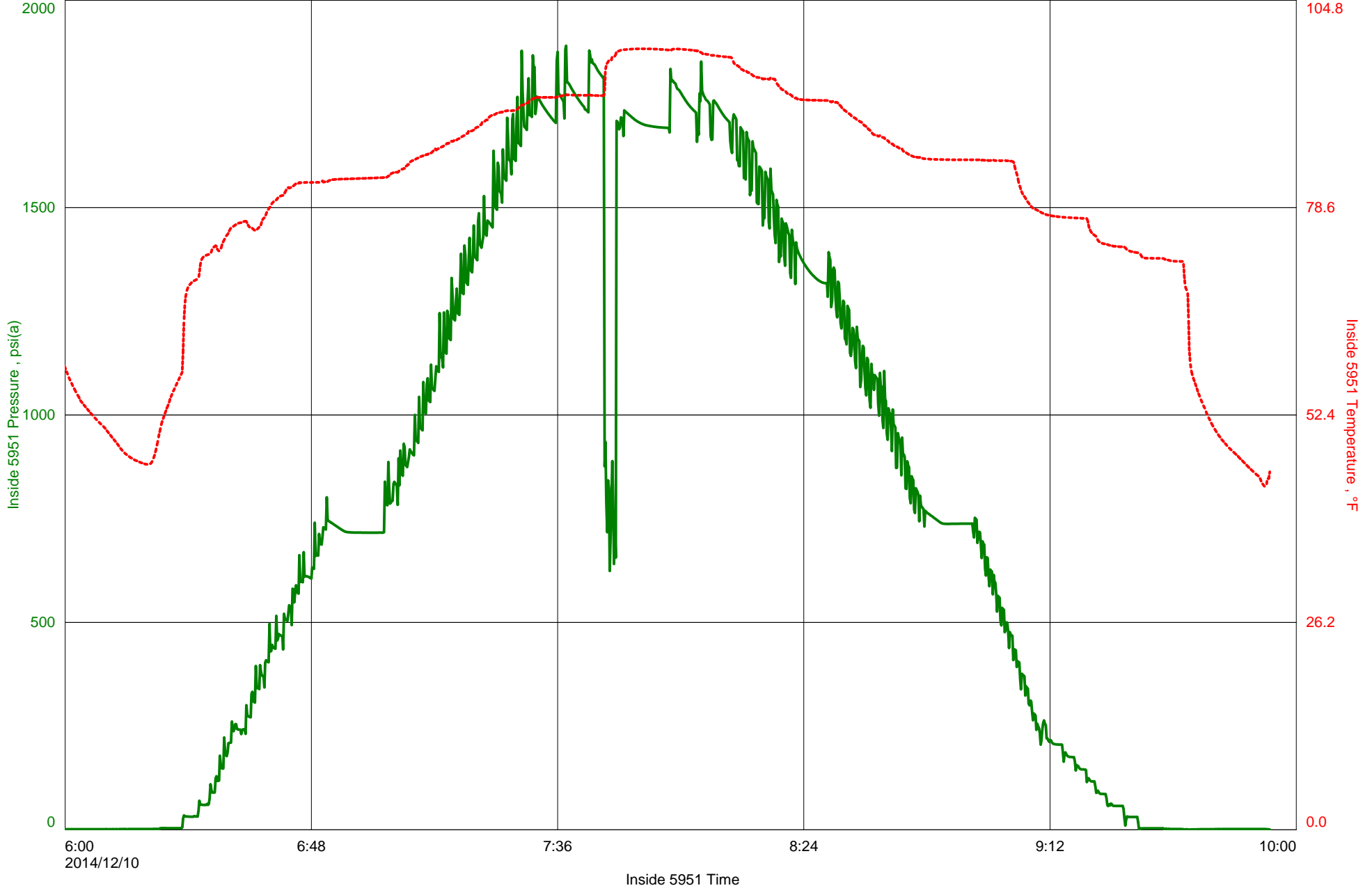
Time Set Packer(s) 7:45 <sup>A.M.</sup> P.M. Time Started Off Bottom 7:47 <sup>A.M.</sup> P.M. Maximum Temperature \_\_\_\_\_  
 Initial Hydrostatic Pressure..... (A) \_\_\_\_\_ P.S.I.  
 Initial Flow Period..... Minutes 2 (B) \_\_\_\_\_ P.S.I. to (C) \_\_\_\_\_ P.S.I.  
 Initial Closed In Period..... Minutes \_\_\_\_\_ (D) \_\_\_\_\_ P.S.I.  
 Final Flow Period..... Minutes \_\_\_\_\_ (E) \_\_\_\_\_ P.S.I. to (F) \_\_\_\_\_ P.S.I.  
 Final Closed In Period..... Minutes \_\_\_\_\_ (G) \_\_\_\_\_ P.S.I. Thanks!  
 Final Hydrostatic Pressure..... (H) \_\_\_\_\_ P.S.I. Jacob's Signature

Diamond Testing shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statement or opinion concerning the result of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

LD Drilling Inc  
Start Test Date: 2014/12/10  
Final Test Date: 2014/12/10

Shumway AA #3  
Formation: Arbuckle 3630'-3640'  
Job Number: F357

# DST #4, ARBUCKLE (mis-run)





**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: SHUM3DST4

TIME ON: 05:43  
TIME OFF: 09:55

Company LD Drilling Inc. Lease & Well No. Shumway AA #3  
Contractor Petromark Drilling LLC Rig #2 Charge to LD Drilling Inc.  
Elevation 1843' KB Formation Arbuckle Effective Pay \_\_\_\_\_ Ft. Ticket No. F357  
Date 12-10-14 Sec. 27 Twp. 21s S Range 12w W County Stafford State KANSAS  
Test Approved By Kurt Talbott Diamond Representative Jake Fahrenbruch

Formation Test No. 4 Interval Tested from 3630 ft. to 3640 ft. Total Depth 3640 ft.  
Packer Depth 3625 ft. Size 6 3/4 in. Packer depth ----- ft. Size 6 3/4 in.  
Packer Depth 3630 ft. Size 6 3/4 in. Packer depth ----- ft. Size 6 3/4 in.  
Depth of Selective Zone Set -----

Top Recorder Depth (Inside) 3608 ft. Recorder Number 5951 Cap. 5000 P.S.I.  
Bottom Recorder Depth (Outside) 3631 ft. Recorder Number 5584 Cap. 5000 P.S.I.  
Below Straddle Recorder Depth ----- ft. Recorder Number ----- Cap. ----- P.S.I.

Mud Type Chemical Viscosity 59 Drill Collar Length 123 ft. I.D. 2 1/4 in.  
Weight 9.3 Water Loss 12.8 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.  
Chlorides 8,000 P.P.M. Drill Pipe Length 3,475 ft. I.D. 3 1/2 in.  
Jars: Make STERLING Serial Number #5 J&J Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
Did Well Flow? NO Reversed Out NO Anchor Length 10 ft. Size 4 1/2-FH in.  
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: MIS-RUN DUE TO PACKER FAILURE  
2nd Open: \_\_\_\_\_

Recovered 420 ft. of Drilling Mud 100% mud  
Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
Recovered \_\_\_\_\_ ft. of \_\_\_\_\_

Recovered _____ ft. of _____	Price Job
Recovered _____ ft. of _____	Other Charges
Remarks: <u>No packers were harmed during the operation of this mis-run.</u>	Insurance
_____	Total

Time Set Packer(s) 7:45 AM A.M. P.M. Time Started Off Bottom 7:47 AM A.M. P.M. Maximum Temperature \_\_\_\_\_

Initial Hydrostatic Pressure..... (A) \_\_\_\_\_ P.S.I.  
Initial Flow Period..... Minutes 2 (B) \_\_\_\_\_ P.S.I. to (C) \_\_\_\_\_ P.S.I.  
Initial Closed In Period..... Minutes \_\_\_\_\_ (D) \_\_\_\_\_ P.S.I.  
Final Flow Period..... Minutes \_\_\_\_\_ (E) \_\_\_\_\_ P.S.I. to (F) \_\_\_\_\_ P.S.I.  
Final Closed In Period..... Minutes \_\_\_\_\_ (G) \_\_\_\_\_ P.S.I.  
Final Hydrostatic Pressure..... (H) \_\_\_\_\_ P.S.I.

Diamond Testing shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statement or opinion concerning the result of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

# DIAMOND TESTING GENERAL REPORT

**Jake Fahrenbruch, Tester**

Cell: (620) 282-8977 / Office: (800) 542-7313



## TEST INFORMATION

<b>Well Name</b>	Shumway AA #3
<b>Company Name</b>	LD Drilling Inc.
<b>Formation</b>	Arbuckle 3545'-3640'
<b>Test Type</b>	Bottom-Hole w/J&J
<b>Surface Location</b>	Swc 27-21s-12w-Stafford Co.-KS
<b>KB Elevation (SL)</b>	1843.000
<b>Gauge Name</b>	Inside 5951
<b>Start Test Date</b>	2014/12/10
<b>Start Test Time</b>	10:01:00
<b>Final Test Date</b>	2014/12/10
<b>Final Test Time</b>	16:00:00
<b>Job Number</b>	F358
<b>Contact</b>	LD Davis
<b>Site Contact</b>	Kurt Talbott

## TEST RESULTS

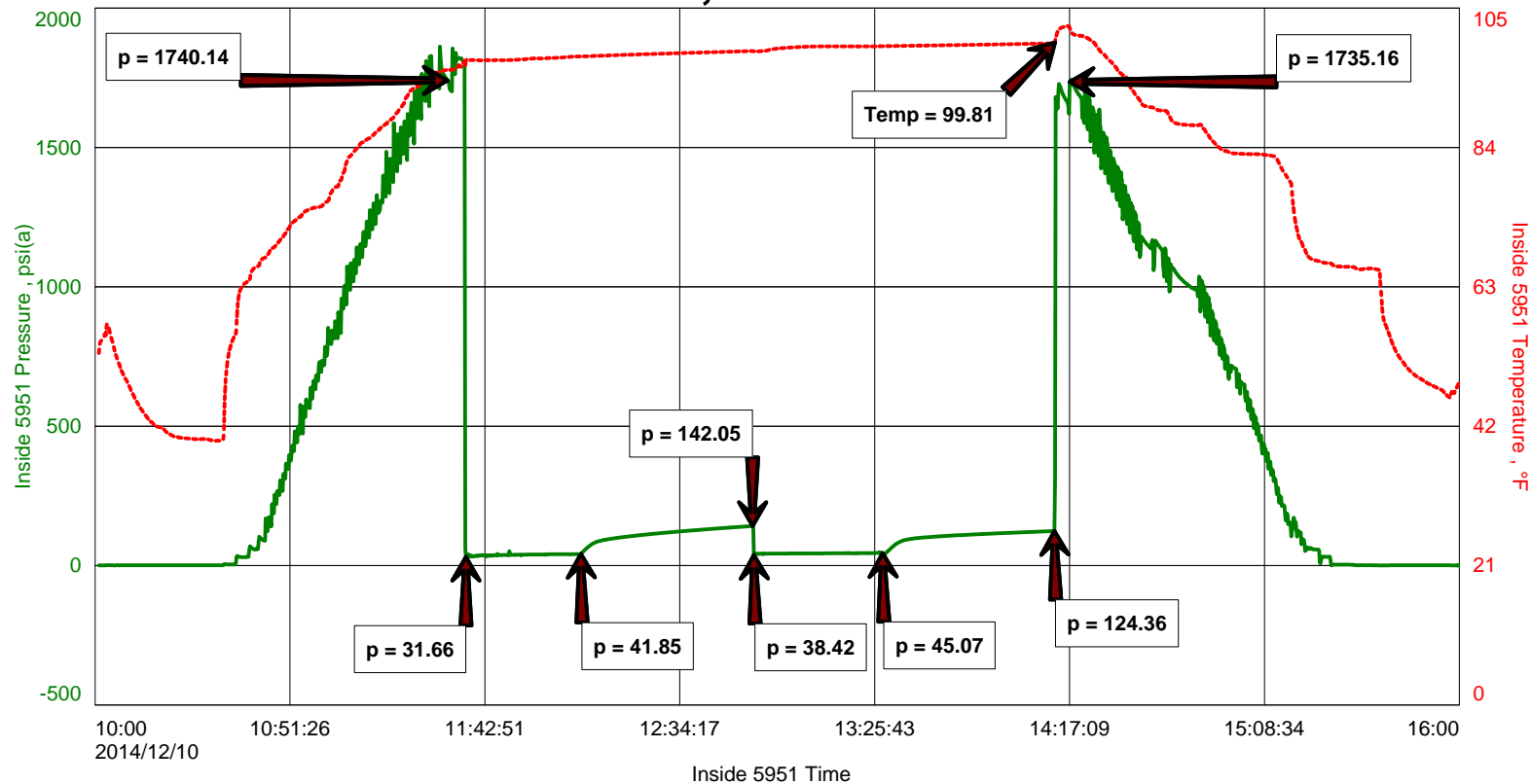
Initial flow, weak blow, increased to 3.5"  
Final flow, surface blow, blow died

recovered 60' of drilling mud.  
(Oil spots in tool.)

LD Drilling Inc.  
Start Test Date: 2014/12/10  
Final Test Date: 2014/12/10

Shumway AA #3  
Formation: Arbuckle 3545'-3640'  
Job Number: F358

## DST #5, ARBUCKLE





**DIAMOND TESTING**  
 P.O. Box 157  
 HOISINGTON, KANSAS 67544  
 (800) 542-7313  
**DRILL-STEM TEST TICKET**  
 FILE: SHUM3DST5

ON LOCATION: 09:55  
 START RECORDERS: 10:01  
 STOP RECORDERS: 16:00

Company LD DRILLING INC. Lease & Well No. SHUMWAY AA #3  
 Contractor PETROMARK DRUG LLC REG #2 Charge to LD DRILLING INC.  
 Elevation 1843' KB Formation ARBUCKLE Effective Pay \_\_\_\_\_ Ft. Ticket No. F358  
 Date 12-10-14 Sec. 27 Twp. 21s Range 12w County STAFFORD State KANSAS  
 Test Approved By KURT TALBOTT Diamond Representative JAKE FAHRENBRUCH

Formation Test No. 5 Interval Tested from 3545 ft. to 3640 ft. Total Depth 3640 ft.  
 Packer Depth 3540 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
 Packer Depth 3545 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
 Depth of Selective Zone Set \_\_\_\_\_

Top Recorder Depth (Inside) 3523 ft. Recorder Number 5951 Cap. 5000 P.S.I.  
 Bottom Recorder Depth (Outside) 3612 ft. Recorder Number 5584 Cap. 5000 P.S.I.  
 Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type CHEMICAL Viscosity 59 Drill Collar Length 123 ft. I.D. 2 1/4 in.  
 Weight 9.3 Water Loss 12.8 cc. Weight Pipe Length \_\_\_\_\_ ft. I.D. 2 7/8 in.  
 Chlorides 8000 P.P.M. Drill Pipe Length 3389 ft. I.D. 3 1/2 in.

Jars: Make STERLING Serial Number #5 J&J Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
 Did Well Flow? \_\_\_\_\_ Reversed Out \_\_\_\_\_ Anchor Length 95 ft. Size 4 1/2-FH in.  
 Main Hole Size 7 7/8 Tool Joint Size 4 1/2" XH in. Surface Choke Size \_\_\_\_\_ in. Bottom Choke Size 5/8 in.

Blow: 1st Open: WEAR BLOW, INCREASED TO 3 1/2"  
 2nd Open: SURFACE BLOW, BLOW DEEP

Recovered 60 ft. of DRUG MUD  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
 Recovered \_\_\_\_\_ ft. of (OAL SPOTS IN TOOL)  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_

Recovered _____ ft. of _____	Price Job
Recovered _____ ft. of _____	Other Charges
Remarks: _____	<u>J&amp;J</u>
_____	<u>NO MILEAGE</u>
_____	Total

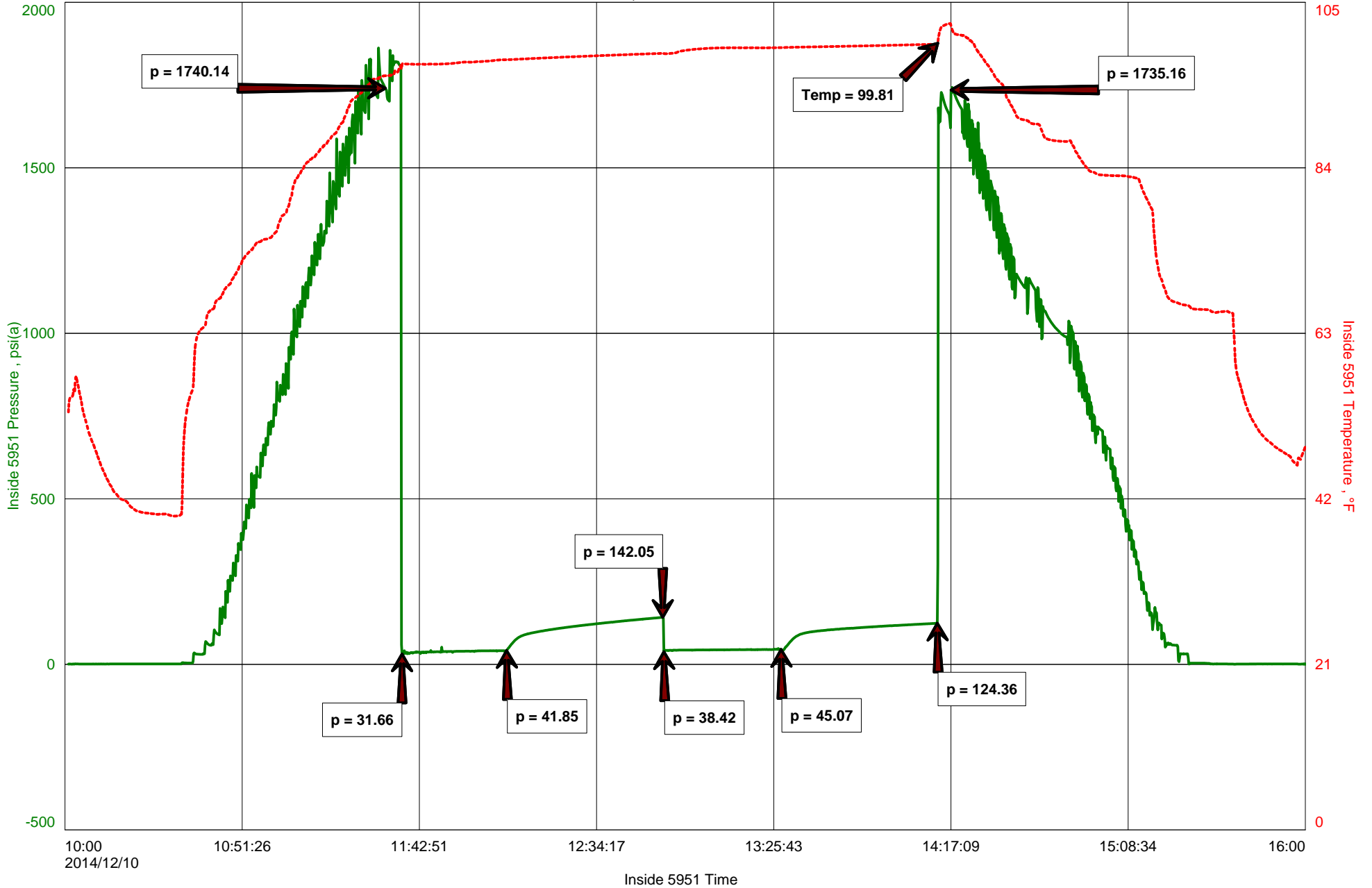
Time Set Packer(s) 11:40 <sup>A.M.</sup> P.M. Time Started Off Bottom 2:10 <sup>A.M.</sup> P.M. Maximum Temperature 100°F  
 Initial Hydrostatic Pressure..... (A) 1740 P.S.I.  
 Initial Flow Period..... Minutes 30 (B) 32 P.S.I. to (C) 42 P.S.I.  
 Initial Closed In Period..... Minutes 45 (D) 142 P.S.I.  
 Final Flow Period..... Minutes 30 (E) 38 P.S.I. to (F) 45 P.S.I.  
 Final Closed In Period..... Minutes 45 (G) 124 P.S.I. Thank You!  
 Final Hydrostatic Pressure..... (H) 1735 P.S.I. Jake Fahrenbruch

Diamond Testing shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statement or opinion concerning the result of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

LD Drilling Inc.  
Start Test Date: 2014/12/10  
Final Test Date: 2014/12/10

Shumway AA #3  
Formation: Arbuckle 3545'-3640'  
Job Number: F358

# DST #5, ARBUCKLE





**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: SHUM3DST5

TIME ON: 10:01  
TIME OFF: 16:00

Company LD Drilling Inc. Lease & Well No. Shumway AA #3  
Contractor Petromark Drilling LLC Rig # 2 Charge to LD Drilling Inc.  
Elevation 1843' KB Formation Arbuckle Effective Pay \_\_\_\_\_ Ft. Ticket No. F358  
Date 12-10-14 Sec. 27 Twp. 21s S Range 12w W County Stafford State KANSAS  
Test Approved By Kurt Talbott Diamond Representative Jake Fahrenbruch

Formation Test No. 5 Interval Tested from 3545 ft. to 3640 ft. Total Depth 3640 ft.  
Packer Depth 3540 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
Packer Depth 3545 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
Depth of Selective Zone Set \_\_\_\_\_

Top Recorder Depth (Inside) 3523 ft. Recorder Number 5951 Cap. 5000 P.S.I.  
Bottom Recorder Depth (Outside) 3612 ft. Recorder Number 5584 Cap. 5000 P.S.I.  
Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type Chemical Viscosity 59 Drill Collar Length 123 ft. I.D. 2 1/4 in.  
Weight 9.3 Water Loss 12.8 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.  
Chlorides 8,000 P.P.M. Drill Pipe Length 3,389 ft. I.D. 3 1/2 in.  
Jars: Make STERLING Serial Number #5 J&J Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
Did Well Flow? NO Reversed Out NO Anchor Length 95 ft. Size 4 1/2-FH in.  
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. 30' PERF IN ANCHOR Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: Weak blow, increased to 3.5"  
2nd Open: Surface blow, blow died

Recovered 60 ft. of Drilling Mud  
Recovered \_\_\_\_\_ ft. of (Oil spots in tool. (<1% oil))  
Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
Remarks: \_\_\_\_\_

	Price Job
	Other Charges
	Insurance
	Total

Time Set Packer(s) 11:40 AM A.M. P.M. Time Started Off Bottom 2:10 PM A.M. P.M. Maximum Temperature 100 F  
Initial Hydrostatic Pressure..... (A) 1740 P.S.I.  
Initial Flow Period..... Minutes 30 (B) 32 P.S.I. to (C) 42 P.S.I.  
Initial Closed In Period..... Minutes 45 (D) 142 P.S.I.  
Final Flow Period..... Minutes 30 (E) 38 P.S.I. to (F) 45 P.S.I.  
Final Closed In Period..... Minutes 45 (G) 124 P.S.I.  
Final Hydrostatic Pressure..... (H) 1735 P.S.I.

Diamond Testing shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statement or opinion concerning the result of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

# DIAMOND TESTING GENERAL REPORT

**Jake Fahrenbruch, Tester**

Cell: (620) 282-8977 / Office: (800) 542-7313



## TEST INFORMATION

<b>Well Name</b>	Shumway AA #3
<b>Company Name</b>	LD Drilling Inc.
<b>Formation</b>	Arbuckle 3548'-3655'
<b>Test Type</b>	Bottom-Hole w/J&J
<b>Surface Location</b>	Sec 27-21s-12w-Stafford Co.-KS
<b>KB Elevation (SL)</b>	1843.000
<b>Gauge Name</b>	Inside 5951
<b>Start Test Date</b>	2014/12/11
<b>Start Test Time</b>	00:06:00
<b>Final Test Date</b>	2014/12/11
<b>Final Test Time</b>	07:05:00
<b>Job Number</b>	F359
<b>Contact</b>	LD Davis
<b>Site Contact</b>	Kurt Talbott

## TEST RESULTS

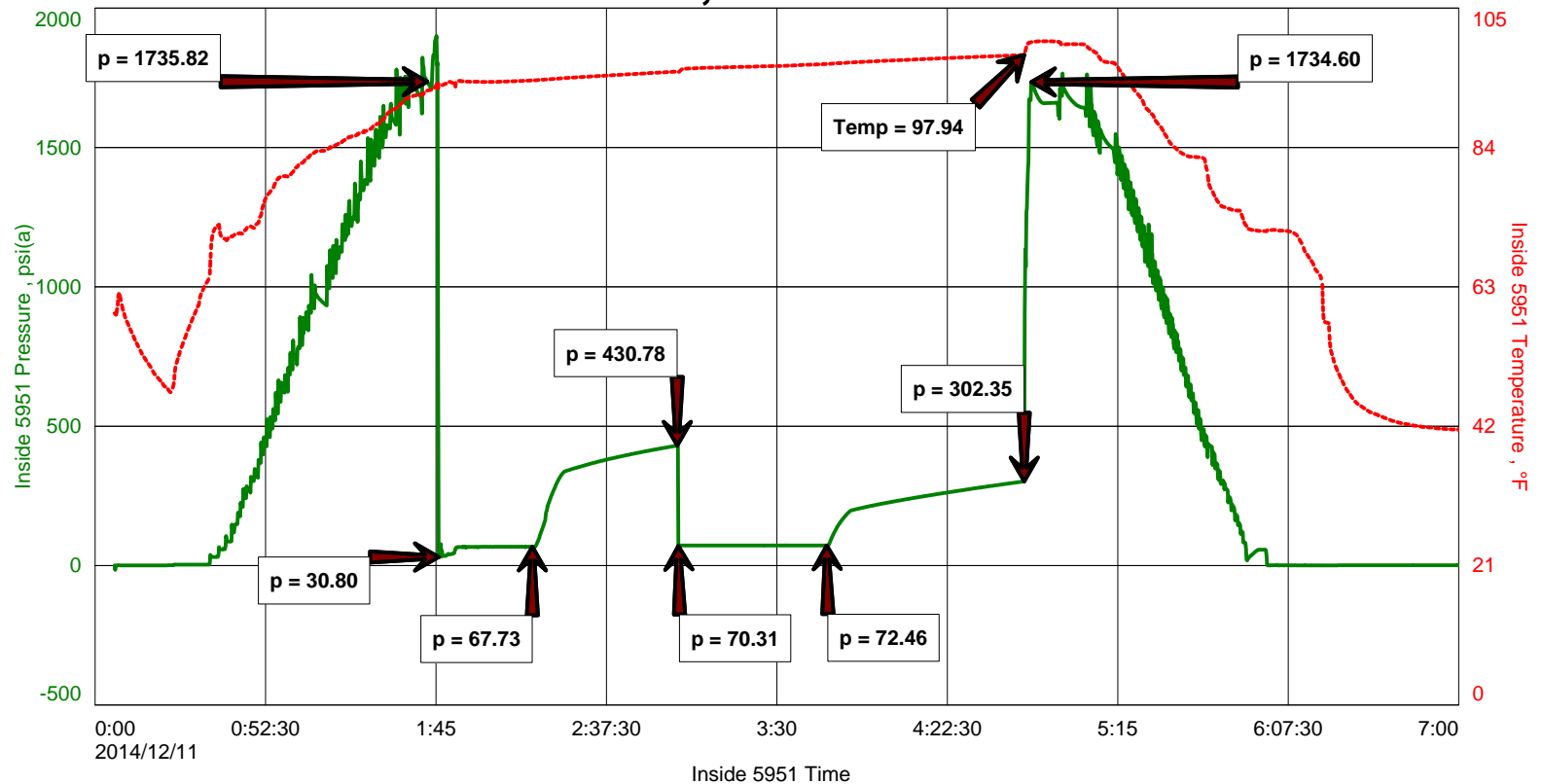
Initial flow, weak blow, increased to 5". (Tool slid 6' to bottom)  
 Final flow, surface blow, blow died.

Recovered 120' of drilling mud.  
 Oil specks in tool (<1% oil)

LD Drilling Inc.  
 Start Test Date: 2014/12/11  
 Final Test Date: 2014/12/11

Shumway AA #3  
 Formation: Arbuckle 3548'-3655'  
 Job Number: F359

## DST #6, ARBUCKLE







**DIAMOND TESTING**  
 P.O. Box 157  
 HOISINGTON, KANSAS 67544  
 (800) 542-7313  
**DRILL-STEM TEST TICKET**  
 FILE: SHUM3 DSTC6

ON LOCATION:	<u>23:45</u>
START RECORDERS:	<u>00:06</u>
STOP RECORDERS:	<u>07:05</u>

Company LD DRILLING INC. Lease & Well No. SHUMWAY AA #3  
 Contractor PETROMARK DALL LLC #2 Charge to LD DRILLING INC.  
 Elevation 1843' KB Formation ARBuckle Effective Pay \_\_\_\_\_ Ft. Ticket No. F359  
 Date 12-11-14 Sec. 27 Twp. 21S Range 12W County STAFFORD State KANSAS  
 Test Approved By KURT TALBOT Diamond Representative JAKE FAHRENBRUCH

Formation Test No. 6 Interval Tested from 3548 ft. to 3655 ft. Total Depth 3655 ft.  
 Packer Depth 3543 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
 Packer Depth 3548 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
 Depth of Selective Zone Set \_\_\_\_\_

Top Recorder Depth (Inside) 3526 ft. Recorder Number 5951 Cap. 5000 P.S.I.  
 Bottom Recorder Depth (Outside) 3615 ft. Recorder Number 5584 Cap. 5000 P.S.I.  
 Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type CHEMICAL Viscosity 53 Drill Collar Length 123 ft. I.D. 2 1/4 in.  
 Weight 9.3 Water Loss 11.2 cc. Weight Pipe Length \_\_\_\_\_ ft. I.D. 2 7/8 in.  
 Chlorides 10,000 P.P.M. Drill Pipe Length 3392 ft. I.D. 3 1/2 in.  
 Jars: Make STERLING Serial Number #5 J&J Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
 Did Well Flow? \_\_\_\_\_ Reversed Out \_\_\_\_\_ Anchor Length 107 ft. Size 4 1/2-FH in.  
 Main Hole Size 7 7/8 Tool Joint Size 4 1/2" XH in. Surface Choke Size \_\_\_\_\_ in. Bottom Choke Size 5/8 in.

Blow: 1st Open: WEAK BLOW, INCREASED TO 5". (TOOL SLED 6' TO BOTTOM)  
 2nd Open: SURFACE BLOW, BLOW DIED.

Recovered 120 ft. of DRLG MUD

Recovered \_\_\_\_\_ ft. of \_\_\_\_\_

Recovered \_\_\_\_\_ ft. of \_\_\_\_\_

Recovered \_\_\_\_\_ ft. of OIL SPECKS IN TOOL (<1" oil)

Recovered \_\_\_\_\_ ft. of \_\_\_\_\_

Recovered \_\_\_\_\_ ft. of \_\_\_\_\_

Remarks: \_\_\_\_\_

Price Job	<u>RUINED 1 REG PACKER</u>
Other Charges	<u>J&amp;J</u>
	<u>96 MRT (PRATT)</u>
Total	

Time Set Packer(s) 1:45 <sup>A.M.</sup>/<sub>P.M.</sub> Time Started Off Bottom 4:45 <sup>A.M.</sup>/<sub>P.M.</sub> Maximum Temperature 98°F

Initial Hydrostatic Pressure..... (A) 1736 P.S.I.

Initial Flow Period..... Minutes 30 (B) 31 P.S.I. to (C) 68 P.S.I.

Initial Closed In Period..... Minutes 45 (D) 431 P.S.I.

Final Flow Period..... Minutes 45 (E) 70 P.S.I. to (F) 72 P.S.I.

Final Closed In Period..... Minutes 60 (G) 302 P.S.I. Thanks!

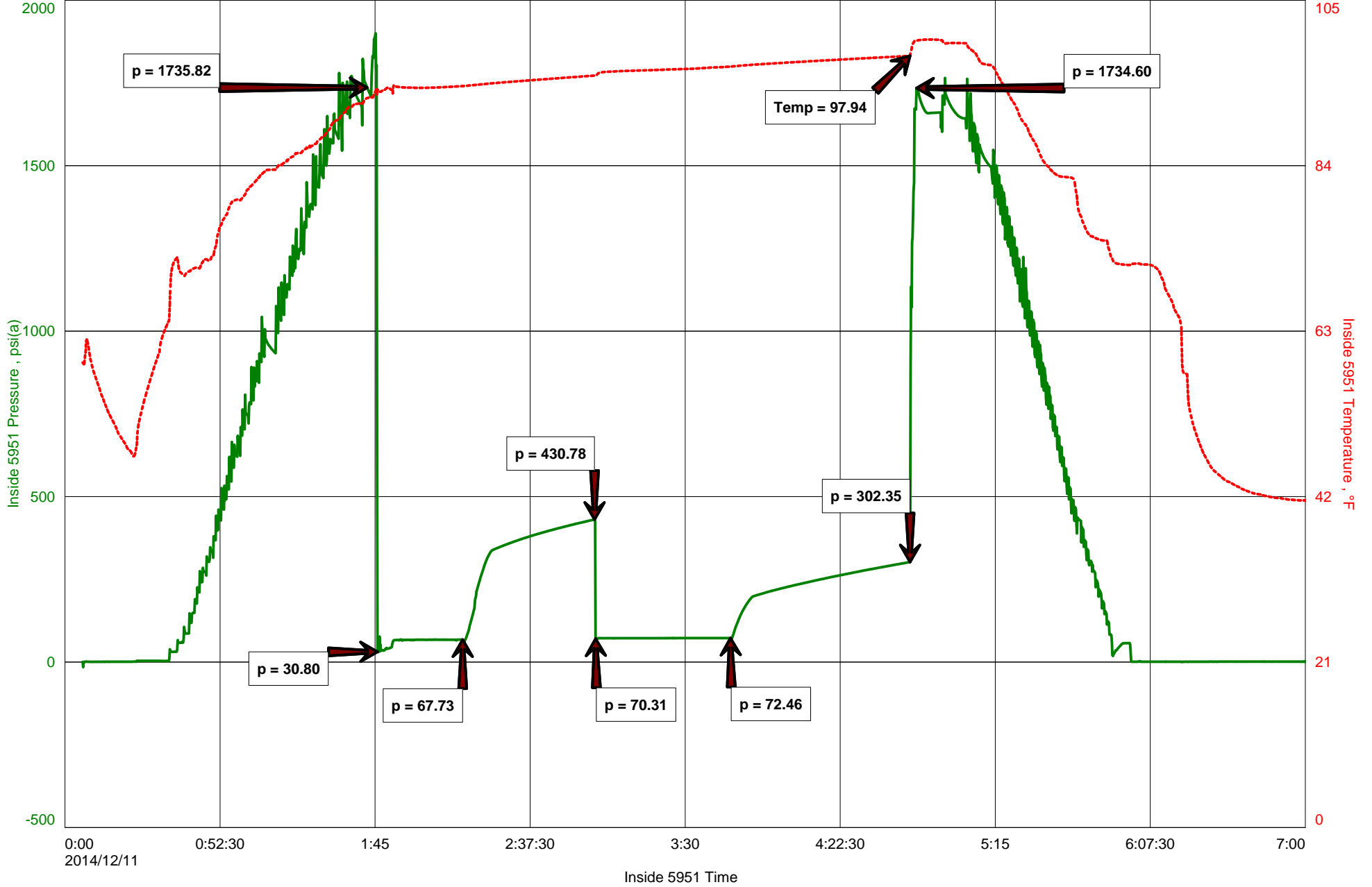
Final Hydrostatic Pressure..... (H) 1735 P.S.I. Paul Johnson

Diamond Testing shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statement or opinion concerning the result of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

LD Drilling Inc.  
Start Test Date: 2014/12/11  
Final Test Date: 2014/12/11

Shumway AA #3  
Formation: Arbuckle 3548'-3655'  
Job Number: F359

# DST #6, ARBUCKLE





**DIAMOND TESTING**  
 P.O. Box 157  
 HOISINGTON, KANSAS 67544  
 (800) 542-7313  
**DRILL-STEM TEST TICKET**  
 FILE: SHUM3DST6

TIME ON: 00:06  
 TIME OFF: 07:05

Company LD Drilling Inc. Lease & Well No. Shumway AA #3  
 Contractor Petromark Drilling LLC Rig #2 Charge to LD Drilling Inc.  
 Elevation 1843' KB Formation Arbuckle Effective Pay \_\_\_\_\_ Ft. Ticket No. F359  
 Date 12-11-14 Sec. 27 Twp. 21s S Range 12w W County Stafford State KANSAS  
 Test Approved By Kurt Talbott Diamond Representative Jake Fahrenbruch

Formation Test No. 6 Interval Tested from 3548 ft. to 3655 ft. Total Depth 3655 ft.  
 Packer Depth 3543 ft. Size 6 3/4 in. Packer depth ----- ft. Size 6 3/4 in.  
 Packer Depth 3548 ft. Size 6 3/4 in. Packer depth ----- ft. Size 6 3/4 in.  
 Depth of Selective Zone Set -----

Top Recorder Depth (Inside) 3526 ft. Recorder Number 5951 Cap. 5000 P.S.I.  
 Bottom Recorder Depth (Outside) 3615 ft. Recorder Number 5584 Cap. 5000 P.S.I.  
 Below Straddle Recorder Depth ----- ft. Recorder Number ----- Cap. ----- P.S.I.

Mud Type Chemical Viscosity 53 Drill Collar Length 123 ft. I.D. 2 1/4 in.  
 Weight 9.3 Water Loss 11.2 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.  
 Chlorides 10,000 P.P.M. Drill Pipe Length 3,392 ft. I.D. 3 1/2 in.  
 Jars: Make STERLING Serial Number #5 J&J Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
 Did Well Flow? NO Reversed Out NO Anchor Length 107 ft. Size 4 1/2-FH in.  
 Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. 10' PERF IN ANCHOR Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: Weak blow, increased to 5". (Tool slid 6' to bottom.)  
 2nd Open: Surface blow, blow died

Recovered 120 ft. of Drilling Mud  
 Recovered \_\_\_\_\_ ft. of (Oil specks in tool. (<1% oil))  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_

Recovered _____ ft. of _____	Price Job
Recovered _____ ft. of _____	Other Charges
Remarks: _____	Insurance
_____	Total

Time Set Packer(s) 1:45 AM A.M. P.M. Time Started Off Bottom 4:45 AM A.M. P.M. Maximum Temperature 98 F

Initial Hydrostatic Pressure..... (A) 1736 P.S.I.  
 Initial Flow Period..... Minutes 30 (B) 31 P.S.I. to (C) 68 P.S.I.  
 Initial Closed In Period..... Minutes 45 (D) 431 P.S.I.  
 Final Flow Period..... Minutes 45 (E) 70 P.S.I. to (F) 72 P.S.I.  
 Final Closed In Period..... Minutes 60 (G) 302 P.S.I.  
 Final Hydrostatic Pressure..... (H) 1735 P.S.I.

Diamond Testing shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statement or opinion concerning the result of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

# DIAMOND TESTING GENERAL REPORT

**Jake Fahrenbruch, Tester**

Cell: (620) 282-8977 / Office: (800) 542-7313



## TEST INFORMATION

<b>Well Name</b>	Shumway AA #3
<b>Company Name</b>	LD Drilling Inc
<b>Formation</b>	Arbuckle 3654'-3670'
<b>Test Type</b>	Bottom-Hole DST w/Jars, Safety Joint, Shale Packer
<b>Surface Location</b>	Sec 27-21s-12w-Stafford Co.-KS
<b>KB Elevation (SL)</b>	1843.000
<b>Gauge Name</b>	Inside 5951
<b>Start Test Date</b>	2014/12/11
<b>Start Test Time</b>	14:08:00
<b>Final Test Date</b>	2014/12/11
<b>Final Test Time</b>	19:08:00
<b>Job Number</b>	F360
<b>Contact</b>	LD Davis
<b>Site Contact</b>	Kurt Talbott

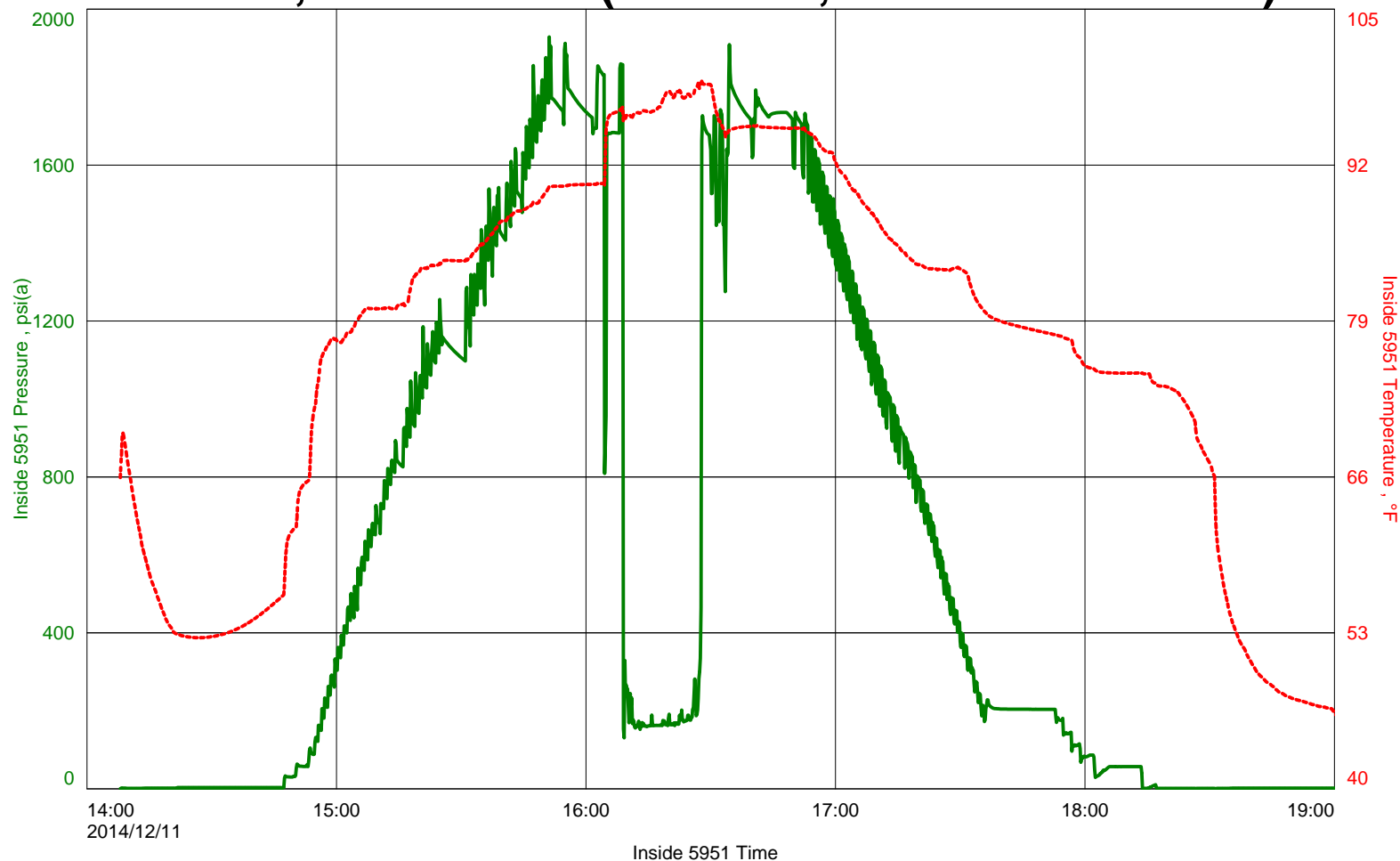
## TEST RESULTS

Opened tool and lost some mud, pulled tool off bottom, then reset tool with 50,000 lb. Packers held for 18 minutes before losing the packer seat. Pulled 35,000 lb over string weight to get loose. Tripped the jars once.

**MIS-RUN (PACKER FAILURE)**

Recovered 370' of drilling mud.

## DST #7, ARBUCKLE (MIS-RUN, PACKER FAILURE)





DIAMOND TESTING  
 P.O. Box 157  
 HOISINGTON, KANSAS 67544  
 (800) 542-7313  
 DRILL-STEM TEST TICKET  
 FILE: SHUM3DST7

ON LOCATION: 12:00  
 START RECORDERS: 14:08  
 STOP RECORDERS: 19:08

Company LD DRILLING INC. Lease & Well No. SHUMWAY AA #3  
 Contractor PETROMARK DRUG. LLC #2 Charge to LD DRILLING INC.  
 Elevation 1843' KB Formation ARBUCKLE Effective Pay \_\_\_\_\_ Ft. Ticket No. F 360  
 Date 12-11-14 Sec. 27 Twp. 21s Range 12w County STAFFORD State KANSAS  
 Test Approved By KURT TALBOTT Diamond Representative JAKE FAHRENBRUCH

Formation Test No. 7 Interval Tested from 3654 ft. to 3670 ft. Total Depth 3670 ft.  
 Packer Depth 3649 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
 Packer Depth 3654 SHALE PKR ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
 Depth of Selective Zone Set \_\_\_\_\_

Top Recorder Depth (Inside) 3632 ft. Recorder Number 5951 Cap. 5000 P.S.I.  
 Bottom Recorder Depth (Outside) 3655 ft. Recorder Number 5584 Cap. 5000 P.S.I.  
 Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type CHEMICAL Viscosity 77 Drill Collar Length 123 ft. I.D. 2 1/4 in.  
 Weight 9.3 Water Loss 13.6 cc. Weight Pipe Length \_\_\_\_\_ ft. I.D. 2 7/8 in.  
 Chlorides 12,000 P.P.M. Drill Pipe Length 3498 ft. I.D. 3 1/2 in.  
 Jars: Make STERLING Serial Number #5 J, J, Sh Pr Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
 Did Well Flow? \_\_\_\_\_ Reversed Out \_\_\_\_\_ Anchor Length 16 ft. Size 4 1/2-FH in.  
 Main Hole Size 7 7/8 Tool Joint Size 4 1/2 x 14 in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: OPENED TOOL AND LOST SOME MUD, PULLED TOOL OFF BOTTOM,  
 2nd Open: THEN RE-SET TOOL W/50,000 LB, PACKERS HELD FOR 18 MIN.  
 Recovered \_\_\_\_\_ ft. of BEFORE LOSING THE PACKER SEAT. PULLED 35,000 LB  
 Recovered \_\_\_\_\_ ft. of OVER STRING WT TO GET LOOSE, TRIPPED THE JARS  
 Recovered \_\_\_\_\_ ft. of ONCE.  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
 Recovered \_\_\_\_\_ ft. of MIS-RUN (PKKER FAILURE)  
 Recovered 370 ft. of DRUG MUD

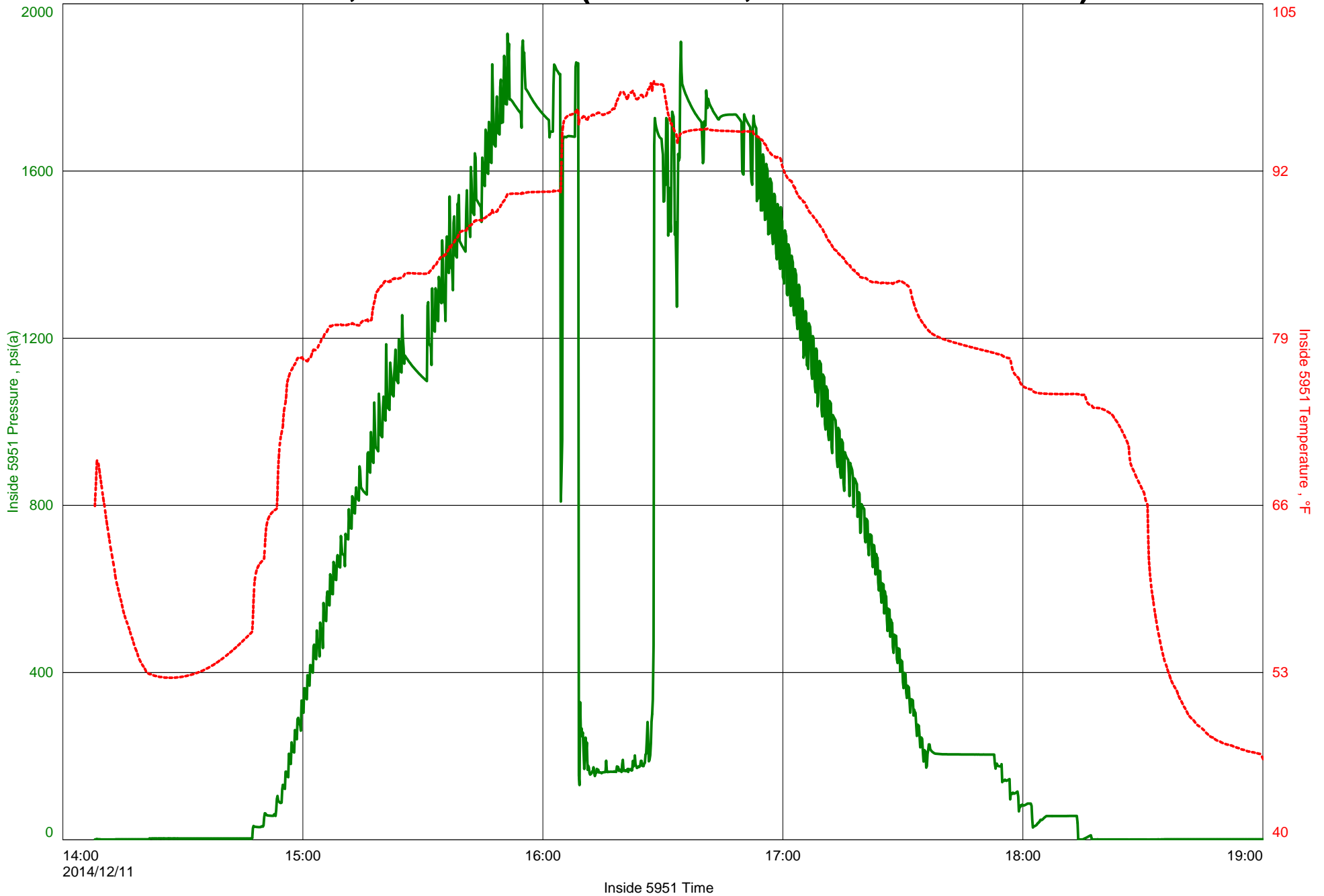
Price Job MIS-RUN  
RUINED 1 REG PACKER  
 Other Charges \_\_\_\_\_  
J, J, Sh Pr  
96 MRT (PRATT)  
 Total \_\_\_\_\_

Remarks: \_\_\_\_\_  
 Time Set Packer(s) 4:09 AM PM Time Started Off Bottom 4:27 AM PM Maximum Temperature \_\_\_\_\_  
 Initial Hydrostatic Pressure..... (A) \_\_\_\_\_ P.S.I.  
 Initial Flow Period..... Minutes 18 (B) \_\_\_\_\_ P.S.I. to (C) \_\_\_\_\_ P.S.I.  
 Initial Closed In Period..... Minutes \_\_\_\_\_ (D) \_\_\_\_\_ P.S.I.  
 Final Flow Period..... Minutes \_\_\_\_\_ (E) \_\_\_\_\_ P.S.I. to (F) \_\_\_\_\_ P.S.I.  
 Final Closed In Period..... Minutes \_\_\_\_\_ (G) \_\_\_\_\_ P.S.I.  
 Final Hydrostatic Pressure..... (H) \_\_\_\_\_ P.S.I.

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**THANKS!**  
Jake Fahrenbruch

# DST #7, ARBUCKLE (MIS-RUN, PACKER FAILURE)





**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: SHUM3DST7

TIME ON: 14:08  
TIME OFF: 19:03

Company LD Drilling Inc. Lease & Well No. Shumway AA #3  
Contractor Petromark Drilling LLC Rig # 2 Charge to LD Drilling Inc.  
Elevation 1843' KB Formation Arbuckle Effective Pay \_\_\_\_\_ Ft. Ticket No. F360  
Date 12-11-14 Sec. 27 Twp. 21s S Range 12w W County Stafford State KANSAS  
Test Approved By Kurt Talbott Diamond Representative Jake Fahrenbruch

Formation Test No. 7 Interval Tested from 3654 ft. to 3670 ft. Total Depth 3670 ft.  
Packer Depth 3649 ft. Size 6 3/4 in. Packer depth ----- ft. Size 6 3/4 in.  
Packer Depth 3654 SH ft. Size 6 3/4 in. Packer depth ----- ft. Size 6 3/4 in.  
Depth of Selective Zone Set -----

Top Recorder Depth (Inside) 3632 ft. Recorder Number 5951 Cap. 5000 P.S.I.  
Bottom Recorder Depth (Outside) 3655 ft. Recorder Number 5584 Cap. 5000 P.S.I.  
Below Straddle Recorder Depth ----- ft. Recorder Number ----- Cap. ----- P.S.I.

Mud Type Chemical Viscosity 77 Drill Collar Length 123 ft. I.D. 2 1/4 in.  
Weight 9.3 Water Loss 13.6 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.  
Chlorides 12,000 P.P.M. Drill Pipe Length 3,498 ft. I.D. 3 1/2 in.  
Jars: Make STERLING Serial Number #5 J&J Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
Did Well Flow? NO Reversed Out NO Anchor Length 16 ft. Size 4 1/2-FH in.  
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: Opened tool and lost some mud, pulled tool off bottom.  
2nd Open: Re-set tool with 50,000 lb, packers held for 18 minutes before losing the packer seat

Recovered \_\_\_\_\_ ft. of Pulled 35,000 lb over string weight to get loose.  
Recovered \_\_\_\_\_ ft. of Tripped the jars once.  
Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
Recovered \_\_\_\_\_ ft. of MIS-RUN (PACKER FAILURE)

Recovered _____ ft. of _____	Price Job
Recovered <u>370</u> ft. of <u>Drilling mud</u>	Other Charges
Remarks: _____	Insurance
_____	Total

Time Set Packer(s) 4:09 PM A.M. P.M. Time Started Off Bottom 4:27 PM A.M. P.M. Maximum Temperature \_\_\_\_\_

Initial Hydrostatic Pressure..... (A) \_\_\_\_\_ P.S.I.  
Initial Flow Period..... Minutes 18 (B) \_\_\_\_\_ P.S.I. to (C) \_\_\_\_\_ P.S.I.  
Initial Closed In Period..... Minutes \_\_\_\_\_ (D) \_\_\_\_\_ P.S.I.  
Final Flow Period..... Minutes \_\_\_\_\_ (E) \_\_\_\_\_ P.S.I. to (F) \_\_\_\_\_ P.S.I.  
Final Closed In Period..... Minutes \_\_\_\_\_ (G) \_\_\_\_\_ P.S.I.  
Final Hydrostatic Pressure..... (H) \_\_\_\_\_ P.S.I.

Diamond Testing shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statement or opinion concerning the result of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

# DIAMOND TESTING GENERAL REPORT

**Jake Fahrenbruch, Tester**

Cell: (620) 282-8977 / Office: (800) 542-7313



## TEST INFORMATION

<b>Well Name</b>	Shumway AA #3
<b>Company Name</b>	LD Drilling Inc
<b>Formation</b>	Arbuckle 3548'-3670'
<b>Test Type</b>	Bottom-Hole DST w/J&J
<b>Surface Location</b>	Sec 27-21s-12w-Stafford Co.-KS
<b>KB Elevation (SL)</b>	1843.000
<b>Gauge Name</b>	Inside 5951
<b>Start Test Date</b>	2014/12/11
<b>Start Test Time</b>	19:30:00
<b>Final Test Date</b>	2014/12/12
<b>Final Test Time</b>	03:13:00
<b>Job Number</b>	F361
<b>Contact</b>	LD Davis
<b>Site Contact</b>	Kurt Talbott

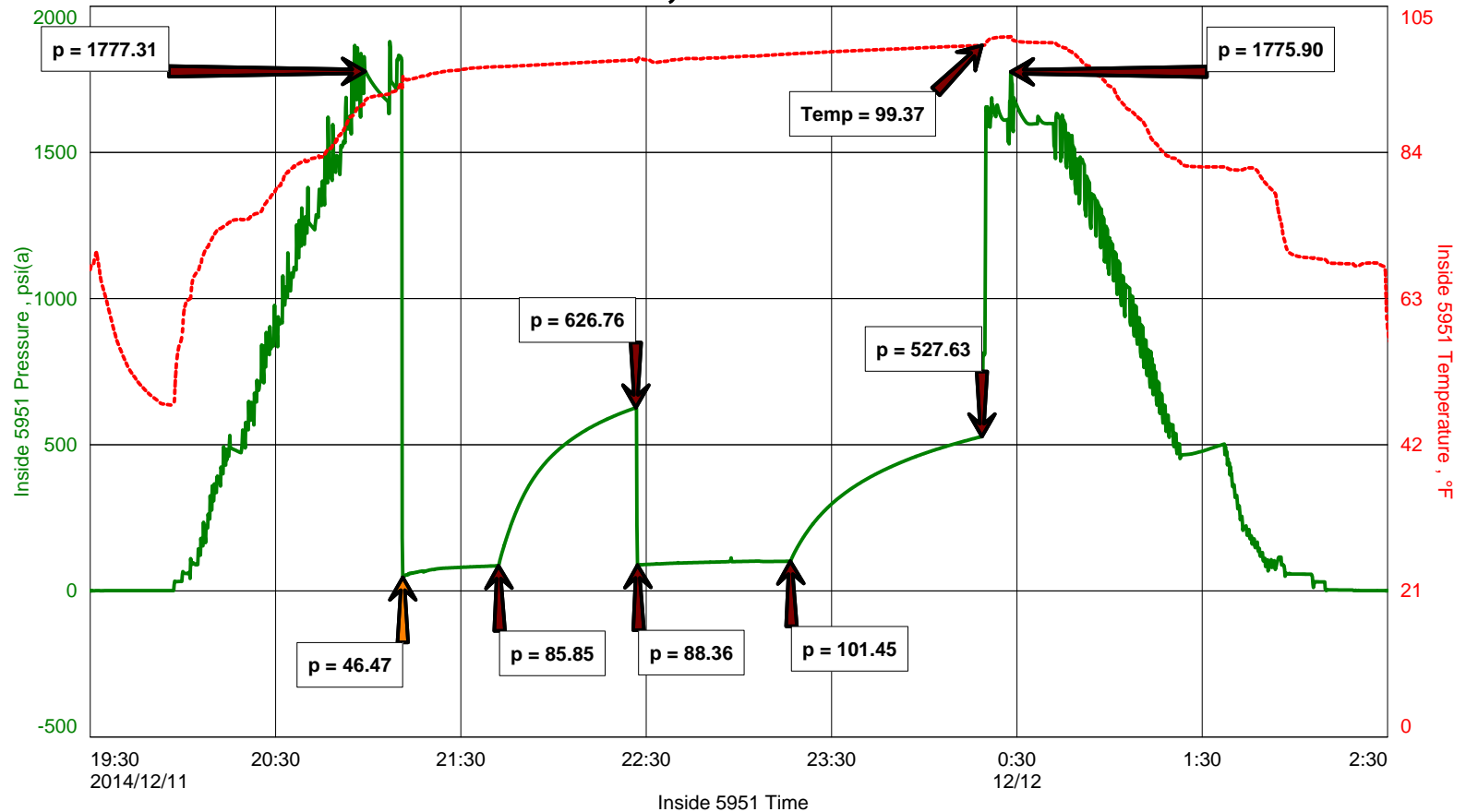
## TEST RESULTS

Initial flow, weak blow, increased to 7".  
Final flow, weak blow, increased to 2".

**TOTAL RECOVERED FLUID: 150'**

- 90' SWCM                    5% wtr, 95% mud
- 60' WCM                    25% wtr, 75% mud
- Chlorides: 28,000 PPM
- RW: .42 ohm @ 42 F
- PH: 10.0
- Trace of oil in tool, <.25% oil.

## DST #8, ARBUCKLE







**DIAMOND TESTING**  
 P.O. Box 157  
 HOISINGTON, KANSAS 67544  
 (800) 542-7313  
**DRILL-STEM TEST TICKET**  
 FILE: SHUM3DST8

ON LOCATION:	<u>19:00</u>
START RECORDERS:	<u>19:30</u>
STOP RECORDERS:	<u>03:13</u>

Company LP DRILLING INC Lease & Well No. SHUMWAY AA #3  
 Contractor PETROMARK DRILL LLC #2 Charge to LP DRILLING INC  
 Elevation 1843' KB Formation ARBUCKLE Effective Pay \_\_\_\_\_ Ft. Ticket No. F361  
 Date 12-11-14 Sec. 27 Twp. 21s Range 12W County STAFFORD State KANSAS  
 Test Approved By KURT TALBOT Diamond Representative JAKE FAHRENBRUCH

Formation Test No. 8 Interval Tested from 3548 ft. to 3670 ft. Total Depth 3670 ft.  
 Packer Depth 3543 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
 Packer Depth 3548 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
 Depth of Selective Zone Set \_\_\_\_\_

Top Recorder Depth (Inside) 3526 ft. Recorder Number 5951 Cap. 5000 P.S.I.  
 Bottom Recorder Depth (Outside) 3552 ft. Recorder Number 5584 Cap. 5000 P.S.I.  
 Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type CHEMICAL Viscosity 77 Drill Collar Length 123 ft. I.D. 2 1/4 in.  
 Weight 9.3 Water Loss 13.6 cc. Weight Pipe Length \_\_\_\_\_ ft. I.D. 2 7/8 in.  
 Chlorides 12,000 P.P.M. Drill Pipe Length 3392 ft. I.D. 3 1/2 in.  
 Jars: Make STERLING Serial Number #5 J&J Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
 Did Well Flow? \_\_\_\_\_ Reversed Out \_\_\_\_\_ Anchor Length 122 ft. Size 4 1/2-FH in.  
 Main Hole Size 7 7/8 Tool Joint Size 4 1/2" XH in. Surface Choke Size 25' PERFIN ANCHOR in. Bottom Choke Size 5/8 in.

Blow: 1st Open: WEAK BLOW, INCREASED TO 7"  
 2nd Open: WEAK BLOW, INCREASED TO 2"

Recovered \_\_\_\_\_ ft. of TOTAL RECOVERED FLUID: 150'  
 Recovered 90 ft. of SWCM 5" wtr, 95" mud  
 Recovered 60 ft. of WCM 25" wtr, 75" mud  
 Recovered \_\_\_\_\_ ft. of CHLORIDES: 28,000 PPM  
 Recovered \_\_\_\_\_ ft. of RW: .42 Ω @ 42°F  
 Recovered \_\_\_\_\_ ft. of PH: 10

Remarks: J&J  
TRACE OF OIL IN TOOL, < .25" oil  
NO MELEAGE  
 Total \_\_\_\_\_

Time Set Packer(s) 9:11 <sup>AM</sup> <sub>P.M.</sub> Time Started Off Bottom 12:11 <sup>AM</sup> <sub>P.M.</sub> Maximum Temperature 99°F

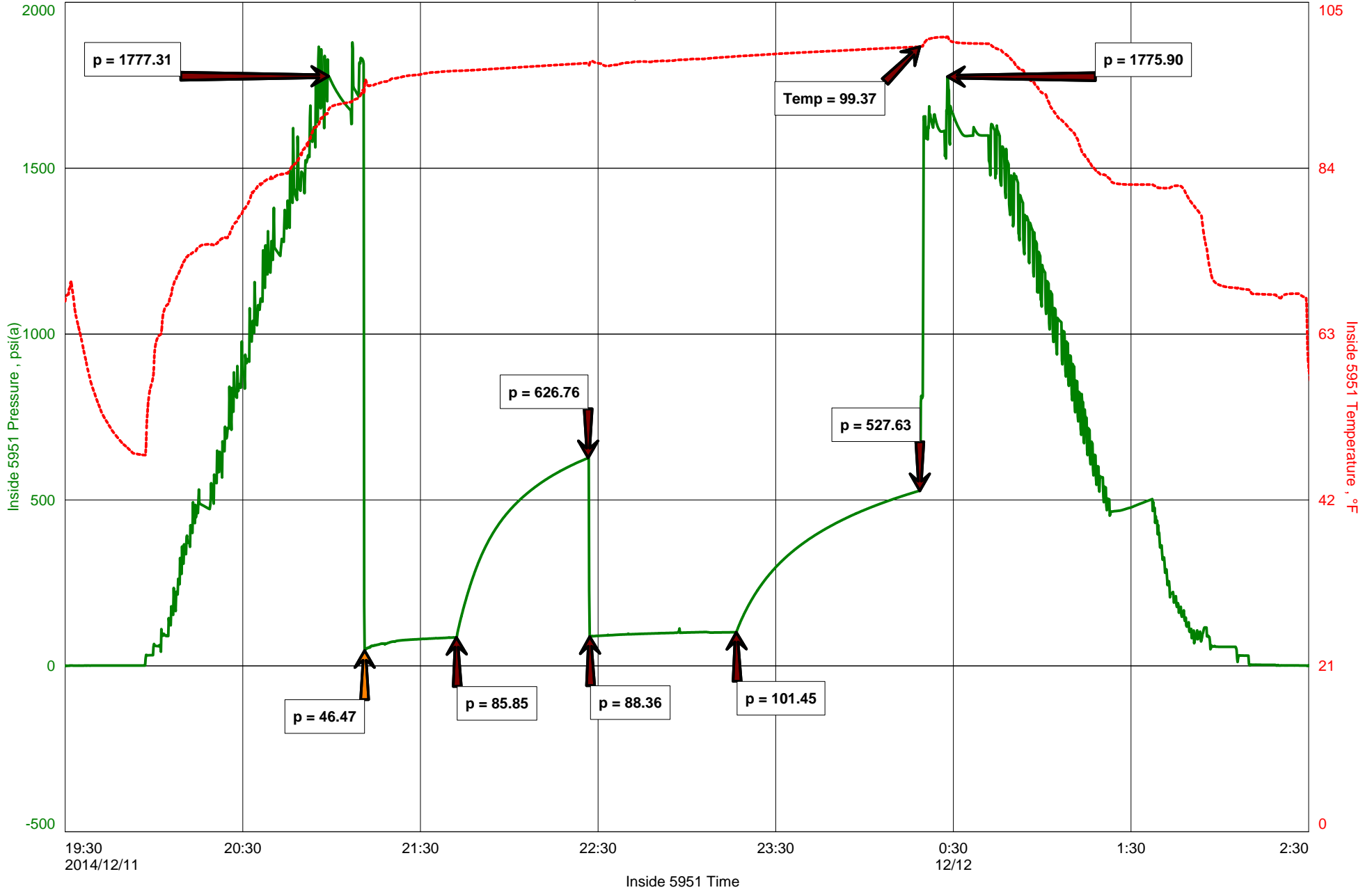
Initial Hydrostatic Pressure..... (A) 1777 P.S.I.  
 Initial Flow Period..... Minutes 30 (B) 46 P.S.I. to (C) 86 P.S.I.  
 Initial Closed In Period..... Minutes 45 (D) 627 P.S.I.  
 Final Flow Period..... Minutes 45 (E) 88 P.S.I. to (F) 101 P.S.I.  
 Final Closed In Period..... Minutes 60 (G) 528 P.S.I. Thanks!  
 Final Hydrostatic Pressure..... (H) 1776 P.S.I. Jacob E Fahrenbruch

Diamond Testing shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly, through the use of its equipment, or its statement or opinion concerning the result of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

LD Drilling Inc  
Start Test Date: 2014/12/11  
Final Test Date: 2014/12/12

Shumway AA #3  
Formation: Arbuckle 3548'-3670'  
Job Number: F361

# DST #8, ARBUCKLE





**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: SHUM3DST8

TIME ON: 19:30  
TIME OFF: 03:13

Company LD Drilling Inc. Lease & Well No. Shumway AA #3  
Contractor Petromark Drilling LLC Rig #2 Charge to LD Drilling Inc.  
Elevation 1843' KB Formation Arbuckle Effective Pay \_\_\_\_\_ Ft. Ticket No. F361  
Date 12-11-14 Sec. 27 Twp. \_\_\_\_\_ 21s S Range \_\_\_\_\_ 12w W County Stafford State KANSAS  
Test Approved By Kurt Talbott Diamond Representative Jake Fahrenbruch

Formation Test No. 8 Interval Tested from 3548 ft. to 3670 ft. Total Depth 3670 ft.  
Packer Depth 3543 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
Packer Depth 3548 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
Depth of Selective Zone Set \_\_\_\_\_

Top Recorder Depth (Inside) 3526 ft. Recorder Number 5951 Cap. 5000 P.S.I.  
Bottom Recorder Depth (Outside) 3552 ft. Recorder Number 5584 Cap. 5000 P.S.I.  
Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type Chemical Viscosity 77 Drill Collar Length 123 ft. I.D. 2 1/4 in.  
Weight 9.3 Water Loss 13.6 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.  
Chlorides 12,000 P.P.M. Drill Pipe Length 3,392 ft. I.D. 3 1/2 in.  
Jars: Make STERLING Serial Number #5 J&J Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
Did Well Flow? NO Reversed Out NO Anchor Length 122 ft. Size 4 1/2-FH in.  
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. 25' PERF IN ANCHOR Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: Weak blow, increased to 7"  
2nd Open: Weak blow, increased to 2"

Recovered \_\_\_\_\_ ft. of **TOTAL RECOVERED FLUID: 150'**  
Recovered 90 ft. of **SWCM** 5% wtr, 95% mud  
Recovered 60 ft. of **WCM** 25% wtr, 75% mud

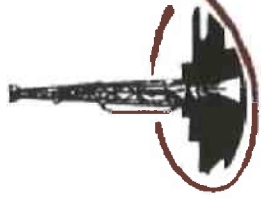
Recovered \_\_\_\_\_ ft. of **Chlorides: 28,000 PPM**  
Recovered \_\_\_\_\_ ft. of **RW: .42 ohm @ 42 F**  
Recovered \_\_\_\_\_ ft. of **PH: 10.0**  
Remarks: Trace of oil in tool, <.25% oil.

	Price Job
	Other Charges
	Insurance
	Total

Time Set Packer(s) 9:11 PM A.M. P.M. Time Started Off Bottom 12:11 AM A.M. P.M. Maximum Temperature 99 F

Initial Hydrostatic Pressure..... (A) 1777 P.S.I.  
Initial Flow Period..... Minutes 30 (B) 46 P.S.I. to (C) 86 P.S.I.  
Initial Closed In Period..... Minutes 45 (D) 627 P.S.I.  
Final Flow Period..... Minutes 45 (E) 88 P.S.I. to (F) 101 P.S.I.  
Final Closed In Period..... Minutes 60 (G) 528 P.S.I.  
Final Hydrostatic Pressure..... (H) 1776 P.S.I.

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Petroleum Geology  
212 Main Street, Claflin KS

## Geologist's Report

Company: L.D. Drilling, Inc.  
 Lease: Shumway AA #3  
 Field: Max  
 Surface Location: NE-SE-SE (990' FSL & 330' FEL)  
 Sec: 27 Twp: 21S Rge: 12W  
 County: Stafford State: Kansas  
 GL: 1838' KB: 1843'  
 Contractor: Petromark Drilling Rig #2  
 Spud: 12/1/14 Comp: 12/12/14  
 RTD: 3725' LTD: 3715'  
 Mud Up: +/- 2700' Mud Type: Chemical Displaced

Drilling Time Kept From: 3000' to RTD  
 Samples Saved From: 3000' to RTD  
 Samples Examined: 3000' to RTD  
 Geological Supervision: 3000' to RTD  
 Geologist on Well: Kurt Talbott

Surface Casing: 8 5/8" @ 333'  
 Production Casing: None

Wireline Logs: By Nabors: CNL/CDL, DIL

## Well Comparison

FORMATION	WELL BEING DRILLED		OFFSET	
	LD	LD SS	ALLAN SHUMWAY #2	SS
ANHYDRITE	616	1227	618	1220
BASE ANHYDRITE	636	-1207		
HEEBNER	3109	-1266	3113	-1275
TORONTO	3133	-1290		
DOUGLAS	3141	-1298		
BROWN LIME	3240	-1397		
LANGING	3255	-1412	3265	-1427
BASE KC	3490	-1647		
VIOLA	3506	-1663		
SIMPSON SHALE	3552	-1709	3540	-1697
REWORKED ARB	3615	-1772		
SOLID ARBUCKLE	3636	-1793	3590	-1752
TOTAL DEPTH	3715	-1872	3609	-1771

## Spot Location



## OTHER SYMBOLS

**EVENTS**

- Casing Shoe
- RTF
- Sidewall
- Left Casing Shoe

## INTERVALS

Core  
 DST

**DST**

- DST Int
- DST at





Recovery:  
120' Mud

Pressures:

ISIP 431 psi  
ESIP 302 psi  
IFP 31-68 psi  
FEP 70-72 psi  
HSH 1736-1735 psi

DST #7 3654-3670  
Mis Run

DST #8 3648-3670  
30-35-45-60

IF: Built to 7"

Recovery:

90' SWCM  
(5w 95m)  
60' WCM  
(25w 75m)

Pressures:

ISIP 627 psi  
ESIP 528 psi  
IFP 46-86 psi  
FEP 88-101 psi  
HSH 1777-1776 psi

**Solid Arbuckle 3636.0(-1793.0)**

Dol-crm/tan, fine xln, poor iner xln por, Scattered golden to dark brown stains, SFO, fair odor, chert and Shale-A/A

Dol-crm/tan, fine to med xln, few rhomb, good iner xln por, dark brown stains, SFO, faint odor

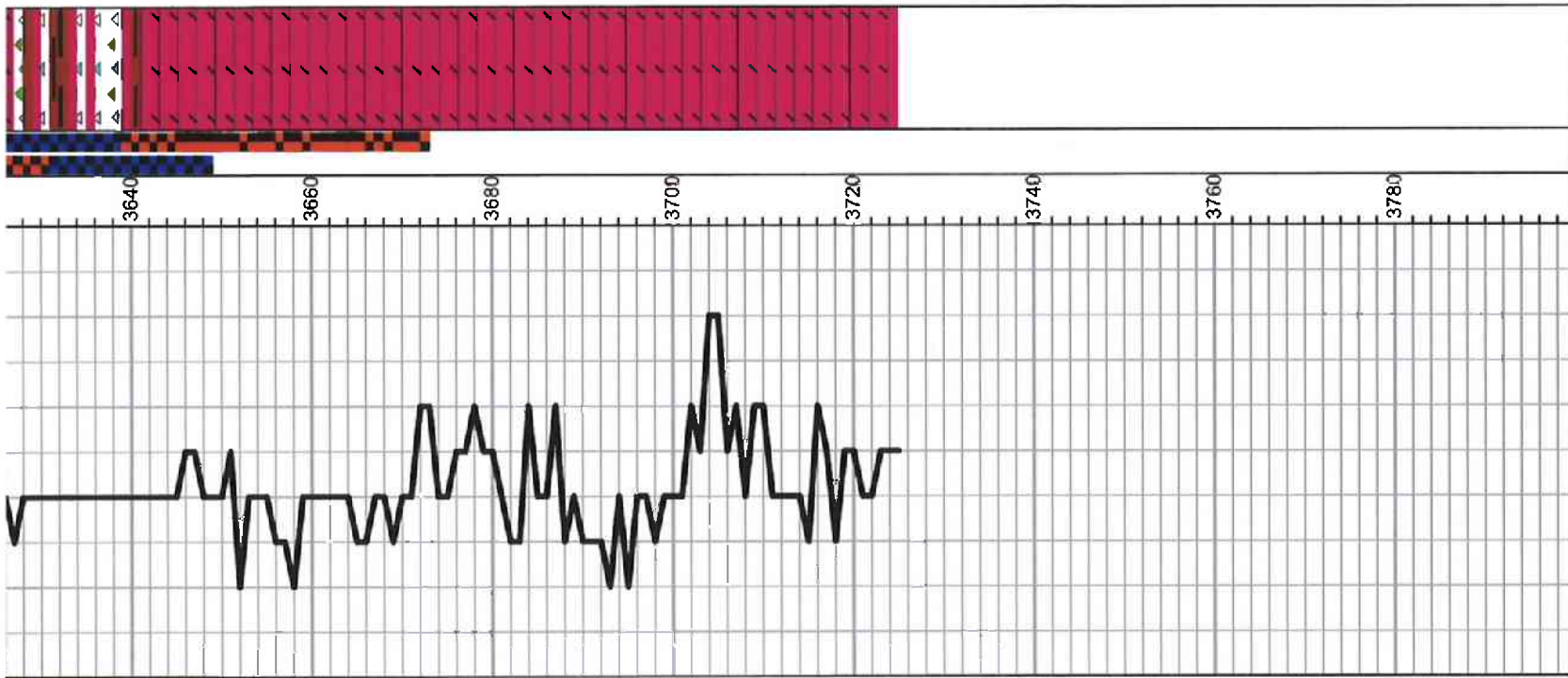
Dol-crm/buff, f-med rhomb xln, poor to fair iner xln por, dark brown stains, TrSFO, good odor, Shale-maroon/gry

Shale-maroon/gry/grm

Dol-tan/buff, fine to med xln, fair iner xln por with scattered vuggy por, dark brown to blk stains, NSFO, fair odor Chert-tan/gry Shale-A/A

Dol-tan/buff, fine xln, poor vis por, cherty in part, trace stains, NSFO, fair odor

**Total Depth 3725.0(-1682.0)**







Customer <b>L.D. Drilling</b>	Lease No.	Date <b>12-12-2014</b>
Lease <b>Shumway AA</b>	Well # <b>3</b>	
Field Order # <b>11657</b>	Station <b>Pratt, KS</b>	Casing <b>4 1/2 DP</b>
		Depth <b>3655</b>
Type Job <b>CNU/PTA</b>	Formation	County <b>Barton</b>
		State <b>KS</b>
		Legal Description <b>27-21s-12w</b>

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP	
<b>DP 4 1/2</b>				Pre Pad			5 Min.	
Depth <b>3655</b>	Depth	From	To	Pad	Min		10 Min.	
Volume	Volume	From	To	Frac	Avg		15 Min.	
Max Press	Max Press	From	To		HHP Used		Annulus Pressure	
Well Connection	Annulus Vol.	From	To	Flush	Gas Volume		Total Load	
Plug Depth	Packer Depth	From	To					

Customer Representative	Station Manager <b>Kevin Gordley</b>	Treater <b>Darin Franklin</b>
Service Units <b>27243 84981 19843 19885 19862</b>		
Driver Names <b>Darin Josh Josh Gibson Gibson</b>		

Time	Casing Pressure	Tubing Pressure	Bbbs. Pumped	Rate	Service Log
<b>8:30pm</b>					<b>on location/safety meeting</b>
					<b>1st plug - 3655</b>
	<b>300</b>		<b>8</b>	<b>5</b>	<b>8 bbbs water</b>
	<b>300</b>		<b>12</b>	<b>5</b>	<b>mix 50SK</b>
	<b>300</b>		<b>3</b>	<b>5</b>	<b>3 bbbs water</b>
	<b>300</b>		<b>43</b>	<b>5</b>	<b>43 bbbs mud</b>
					<b>2nd plug - 640'</b>
	<b>200</b>		<b>9</b>	<b>5</b>	<b>9 bbbs water</b>
	<b>200</b>		<b>12</b>	<b>5</b>	<b>mix 50SK</b>
	<b>200</b>		<b>3</b>	<b>5</b>	<b>3 water</b>
					<b>360'</b>
	<b>200</b>		<b>3</b>	<b>5</b>	<b>3 bbbs water</b>
	<b>200</b>		<b>12</b>	<b>5</b>	<b>mix 50SK</b>
	<b>200</b>		<b>1</b>	<b>5</b>	<b>1 bbl water</b>
	<b>100</b>		<b>5</b>	<b>3</b>	<b>60' - 20 SK</b>
	<b>100</b>		<b>7</b>	<b>3</b>	<b>Pratt hole - 30SK</b>
					<b>Pratt hole - Job complete/Darin &amp; crew</b>



Customer <i>LD Drilling</i>	Lease No.	Date
Lease <i>Shumway</i>	Well # <i>AA 3</i>	<i>12-3-14</i>
Field Order # <i>11543</i>	Station <i>Pratt</i>	Casing <i>8 5/8</i> Depth <i>333</i> County <i>Staford</i> State <i>155</i>
Type Job <i>CNW 8 5/8 surface</i>	Formation	Legal Description <i>27-215-124</i>

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP	
<i>8 5/8</i>				Pre Pad	Max		5 Min.	
Depth <i>333</i>	Depth	From	To	Pad	Min		10 Min.	
Volume <i>20</i>	Volume	From	To	Frac	Avg		15 Min.	
Max Press	Max Press	From	To		HHP Used		Annulus Pressure	
Well Connection	Annulus Vol.	From	To	Flush	Gas Volume		Total Load	
Plug Depth <i>313</i>	Packer Depth	From	To					

Customer Representative <i>DAVE</i>	Station Manager <i>Kevin</i>	Treater <i>JOE</i>
Service Units <i>27463 19559 19562</i>	<i>92911</i>	
Driver Names <i>JOHN COLE</i>	<i>JOE</i>	

Time	Casing Pressure	Tubing Pressure	Bbbs. Pumped	Rate	Service Log
<i>1500</i>					<i>ON LOCAL SAFETY MEETING</i>
					<i>Ran 8 JTS of 8 5/8 @ 23#</i>
<i>1820</i>					<i>START RUNNING CSG</i>
					<i>CSG ON BOTTOM Breaks circ with Big</i>
<i>1910</i>					<i>HOOKS UP TO PUMP TO START JOB</i>
<i>1915</i>	<i>300</i>		<i>5</i>	<i>4.5</i>	<i>H2O SPACER</i>
			<i>65</i>	<i>4.5</i>	<i>MIX 150 S/L A-CO<sub>2</sub> @ 12#</i>
	<i>300</i>		<i>32</i>	<i>4.5</i>	<i>MIX 150 S/L COMMON @ 15.6</i>
			<i>0</i>	<i>0</i>	<i>SHUT DOWN DROP PLUG</i>
	<i>100</i>		<i>0</i>	<i>4.5</i>	<i>START H2O DISP</i>
			<i>10</i>	<i>4.5</i>	<i>CEMENT TO SURFACE</i>
<i>19:45</i>	<i>500</i>		<i>20</i>	<i>0</i>	<i>PLUG DOWN</i>
					<i>10 BBL CEMENT TOP IT</i>