



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1077485  
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: \_\_\_\_\_

1077485

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	BEREXCO LLC
Well Name	Solbach North 4
Doc ID	1077485

Tops

Name	Top	Datum
Anhydrite (top)	788	+1000
Anhydrite (base)	828	+960
Topeka	2680	-892
Plattsmouth	2855	-1067
Heebner	2900	-1112
Toronto	2920	-1132
Lansing A	2960	-1172
Lansing C	3000	-1212
Lansing E	3032	-1244
Lansing G	3051	-1263
Lansing I	3116	-1328
Arbuckle	3196	-1408
RTD	3275	
LTD	3276	

Form	ACO1 - Well Completion
Operator	BEREXCO LLC
Well Name	Solbach North 4
Doc ID	1077485

#### Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
4	2855 - 2861 Plattsmouth	1000 gals 28% NEFE	2855 - 2861
4	2983 - 2987 LKC B	1000 gals 15% NEFE	2983 - 2987
4	2998 - 3002 LKC C	natural - no acid	2998 - 3002
4	3032 - 3034 LKC E	750 gals 15% NEFE	3032 - 3034
4	3056 - 3063 LKC G	750 gals 15% NEFE	3056 - 3063
4	3120 - 3127 LKC I	1000 gals 15% NEFE, 1500 gals 20% CRA NEFE	3120 - 3127
4	3200 - 3202 Upper Arbuckle	Bull-plugged AD-1 Pkr @ 3150	3200 - 3202
4	3216 - 3219 Lower Arbuckle	(below pkr - not producing)	3216 - 3219

Conservation Division  
Finney State Office Building  
130 S. Market, Rm. 2078  
Wichita, KS 67202-3802



Phone: 316-337-6200  
Fax: 316-337-6211  
<http://kcc.ks.gov/>

Mark Sievers, Chairman  
Ward Loyd, Commissioner  
Thomas E. Wright, Commissioner

Sam Brownback, Governor

March 28, 2012

Bruce Meyer  
BEREXCO LLC  
2020 N. BRAMBLEWOOD  
WICHITA, KS 67206-1094

Re: ACO1  
API 15-167-23777-00-00  
Solbach North 4  
NE/4 Sec.31-14S-14W  
Russell County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,  
Bruce Meyer

# ALLIED OIL & GAS SERVICES, LLC 0.0915

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31  
RUSSELL, KANSAS 67665

SERVICE POINT:  
Russell

DATE <u>2-27-12</u>	SEC <u>31</u>	TWP <u>14S</u>	RANGE <u>14W</u>	CALLED OUT	ON LOCATION	JOB START <u>2:30</u>	JOB FINISH <u>8:20</u>
LEASE <u>Sollbach</u>	WELL# <u>N-4</u>	LOCATION <u>Russell, 5 to 4 corners</u>			COUNTY <u>Russell</u>	STATE <u>KS</u>	
OLD OR NEW (Circle one)			<u>E, S</u>				

CONTRACTOR <u>Berexco LLC</u>	OWNER
TYPE OF JOB <u>surface</u>	
HOLE SIZE <u>12 1/4</u>	T.D. <u>815</u>
CASING SIZE <u>8 7/8</u>	DEPTH <u>814.43</u>
TUBING SIZE	DEPTH
DRILL PIPE	DEPTH
TOOL	DEPTH
PRES. MAX	MINIMUM
MEAS. LINE	SHOE JOINT <u>40</u>
CEMENT LEFT IN CSG. <u>40</u>	
PERFS.	
DISPLACEMENT <u>774.43</u>	<u>49.3 bbl</u>

CEMENT	
AMOUNT ORDERED	<u>275 sk 60/40 67.6cl</u>
	<u>37-cc #1 Flo-Joal</u>
	<u>150 sk Class A 37-cc 27.6cl</u>

COMMON	<u>315</u>	@	<u>16.25</u>	<u>5118.75</u>
POZMIX	<u>110</u>	@	<u>8.50</u>	<u>935.00</u>
GEL	<u>17</u>	@	<u>21.25</u>	<u>361.25</u>
CHLORIDE	<u>14</u>	@	<u>58.20</u>	<u>814.80</u>
ASC		@		

<u>Flo-Joal</u>	<u>69.15</u>	@	<u>2.70</u>	<u>186.30</u>
		@		
		@		
		@		
		@		
		@		
		@		
		@		
		@		

HANDLING	<u>456</u>	@	<u>2.25</u>	<u>1026.00</u>
MILEAGE	<u>456 x 11 x .11</u>			<u>551.76</u>
<u>Drayage</u>	<u>5016</u>			<u>8993.86</u>
TOTAL				<u>16912.25</u>

EQUIPMENT	
PUMP TRUCK	CEMENTER <u>Tradd, Bobo</u>
# <u>409</u>	HELPER <u>Tony</u>
BULK TRUCK	
# <u>378</u>	DRIVER <u>Chris</u>
BULK TRUCK	
#	DRIVER <u>Woody</u>

REMARKS:  
 ran pipe AEL east in 1st joint  
 centralizer on 7.11 get slight circulation  
~~mixed 297 sk of 60/40 (faller by 130 sk~~  
~~Class A in well. Displaced 49 bbls~~  
~~released plug lander 1300 lbs~~  
 over pressure float did not hold  
 start in well, cement did circulate  
 land plug @ 245 to surface

CHARGE TO: Berexco LLC  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

To: Allied Oil & Gas Services, LLC.  
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME \_\_\_\_\_  
 SIGNATURE Robert Hunt

SERVICE	
DEPTH OF JOB	<u>815</u> <u>1125.00</u>
PUMP TRUCK CHARGE	
EXTRA FOOTAGE	<u>515</u> @ <u>.95</u> <u>489.25</u>
MILEAGE	<u>MI HV 11</u> @ <u>7.00</u> <u>77.00</u>
MANIFOLD	<u>MI LV 11</u> @ <u>4.00</u> <u>NC. ##</u>
TOTAL	<u>16912.25</u>

PLUG & FLOAT EQUIPMENT	
<u>8 7/8</u> <u>48</u> Rubber Plug	@ <u>1.75</u> <u>84.00</u>
<u>(2)</u> <u>8 7/8</u> Centralizer	@ <u>49</u> <u>98.00</u>
<u>8 7/8</u> AFD Inert	@ <u>1</u> <u>175</u>
TOTAL	<u>357.00</u>

SALES TAX (if Any) 645.16  
 TOTAL CHARGES 11042.11  
 DISCOUNT 24%  
 IE PAID IN 30 DAYS  
2650.10

# ALLIED OIL & GAS SERVICES, LLC 056966

Federal Tax I.D.# 20-5975804

REMIT TO: P.O. BOX 31  
RUSSELL, KANSAS 67665

SERVICE POINT:

RUSSELL

DATE <u>3-4-12</u>	SEC. <u>31</u>	TWP. S <u>14</u>	RANGE <u>14</u>	CALLED OUT	ON LOCATION	JOB START <u>8 Pm</u>	JOB FINISH <u>8:30 PM</u>
SOLBACH EASE <u>NORTH</u>		WELL# <u>4</u>	LOCATION <u>RUSSELL KS - SOUTH on BALTA Rd</u>		COUNTY <u>RUSSELL</u>	STATE <u>KS</u>	
OLD OR NEW (Circle one)			TO 4 CORNERS Rd - 1 E - SOUTH INTO				

CONTRACTOR BEREDCO #10

TYPE OF JOB 5 1/2 LONG STRING

HOLE SIZE <u>7 7/8</u>	T.D.
CASING SIZE <u>5 1/2</u>	DEPTH <u>3279.75</u>
TUBING SIZE	DEPTH
DRILL PIPE	DEPTH
TOOL	DEPTH
PRES. MAX	MINIMUM
MEAS. LINE	SHOE JOINT
CEMENT LEFT IN CSG. <u>84.72</u>	
PERFS.	
DISPLACEMENT <u>77.95</u>	

OWNER

CEMENT

AMOUNT ORDERED 200 SK 6940 8% 6EL 1/4 Flo-Seal

150 SK ASC 5 1/2 SK KOI-SEAL

EQUIPMENT

PUMP TRUCK CEMENTER Bob S.

# 409 HELPER TONY

BULK TRUCK

# 473 DRIVER ROBERT

BULK TRUCK

# 378 DRIVER CODY

COMMON	<u>120</u>	@	<u>16.25</u>	<u>1950.00</u>
POZMIX	<u>80</u>	@	<u>8.50</u>	<u>680.00</u>
GEL	<u>14</u>	@	<u>21.25</u>	<u>297.5</u>
CHLORIDE		@		
ASC	<u>150</u>	@	<u>19.00</u>	<u>2850.00</u>
GILSONITE	<u>750</u>	@	<u>0.89</u>	<u>667.50</u>
FLO-SEAL	<u>50</u>	@	<u>2.70</u>	<u>135.00</u>
		@		
SUPER FLUSH	<u>500</u>	@	<u>1.27</u>	<u>635.00</u>
		@		
		@		
		@		
HANDLING	<u>381</u>	@	<u>2.25</u>	<u>857.25</u>
MILEAGE	<u>11x381x0.11</u>			<u>461.01</u>
	<u>Drayage 4191</u>			<u>TOTAL 8533.26</u>

REMARKS:

Pumped SUPER FLUSH 500 GAL

Plugged RAT & MONIE 50 SK

pumped 6940 150 SK

pumped ASC 150 SK

dropped PLUG

CHARGE TO: BEREXCO

STREET \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

SERVICE

DEPTH OF JOB				
PUMP TRUCK CHARGE				<u>2225.00</u>
EXTRA FOOTAGE		@		
MILEAGE	<u>H 11</u>	@	<u>7.00</u>	<u>77.00</u>
MANIFOLD	<u>PLUG CONTAINER</u>	@	<u>200.00</u>	<u>0</u>
	<u>Ldv - m 11</u>	@	<u>4.00</u>	<u>NC 44.00</u>
		@		

TOTAL 2302.00

PLUG & FLOAT EQUIPMENT

<u>5 1/2</u>				
Guide SHOE		@		<u>99.00</u>
LATCH down ASSY		@		<u>184.00</u>
STOP COLLAR		@		<u>30.00</u>
TURBOLIZERS	<u>14</u>	@	<u>65.00</u>	<u>910.00</u>
		@		

TOTAL 1223.00

To: Allied Oil & Gas Services, LLC.

You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (If Any)	<u>700.35</u>	
TOTAL CHARGES	<u>12058.26</u>	
DISCOUNT <u>3%</u>	<u>2893.98</u>	IF PAID IN 30 DAYS

PRINTED NAME \_\_\_\_\_

SIGNATURE Dennis Klimes



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Berexco LLC  
2020 North Bramblewood  
Wichita Ks 67206  
ATTN: Bruce Meyer

**31-14s-14w Russell**  
**Solbach North #4**  
Job Ticket: 46256 **DST#: 1**  
Test Start: 2012.03.01 @ 09:10:10

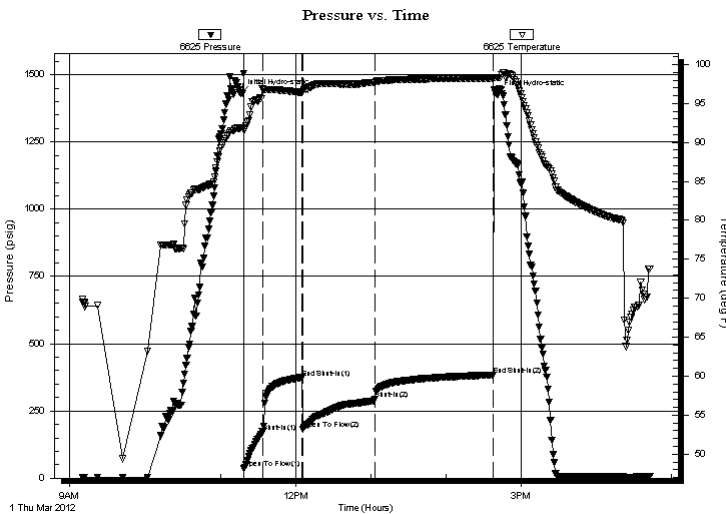
## GENERAL INFORMATION:

Formation: **LKC B-G**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 11:19:05  
Time Test Ended: 16:43:04  
Interval: **2970.00 ft (KB) To 3055.00 ft (KB) (TVD)**  
Total Depth: 3055.00 ft (KB) (TVD)  
Hole Diameter: 7.85 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Ray Schwager  
Unit No: 42  
Reference Elevations: 1788.00 ft (KB)  
1777.00 ft (CF)  
KB to GR/CF: 11.00 ft

**Serial #: 6625 Inside**  
Press @ Run Depth: 292.34 psig @ 2972.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2012.03.01 End Date: 2012.03.01 Last Calib.: 2012.03.01  
Start Time: 09:10:10 End Time: 16:43:04 Time On Btm: 2012.03.01 @ 11:16:35  
Time Off Btm: 2012.03.01 @ 14:41:04

**TEST COMMENT:** 15-IFP-w k to a gd bl 1/2"to9"bl  
30-ISIP-no bl  
60-FFP-w k to a fr bl 1/2"to 4"bl  
90-FSIP-no bl

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1430.93	91.86	Initial Hydro-static
3	36.69	91.64	Open To Flow (1)
18	171.94	96.87	Shut-In(1)
49	370.93	96.45	End Shut-In(1)
49	181.39	96.50	Open To Flow (2)
107	292.34	97.70	Shut-In(2)
201	383.46	98.23	End Shut-In(2)
205	1425.20	98.29	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
210.00	SO&GCMW 13%G2%O40%M45%W	1.03
360.00	MW 20%M80%W w/show of oil	2.07

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Berexco LLC  
 2020 North Bramblewood  
 Wichita Ks 67206  
 ATTN: Bruce Meyer

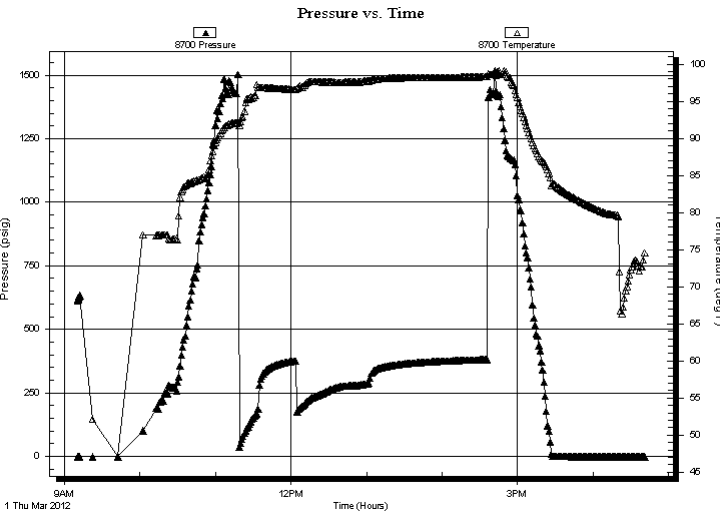
**31-14s-14w Russell**  
**Solbach North #4**  
 Job Ticket: 46256 **DST#: 1**  
 Test Start: 2012.03.01 @ 09:10:10

## GENERAL INFORMATION:

Formation: **LKC B-G**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 11:19:05 Tester: Ray Schwager  
 Time Test Ended: 16:43:04 Unit No: 42  
 Interval: **2970.00 ft (KB) To 3055.00 ft (KB) (TVD)** Reference Elevations: 1788.00 ft (KB)  
 Total Depth: 3055.00 ft (KB) (TVD) 1777.00 ft (CF)  
 Hole Diameter: 7.85 inches Hole Condition: Fair KB to GR/CF: 11.00 ft

**Serial #: 8700 Outside**  
 Press @ Run Depth: psig @ 2972.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.03.01 End Date: 2012.03.01 Last Calib.: 2012.03.01  
 Start Time: 09:10:31 End Time: 16:41:25 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 15-IFP-w k to a gd bl 1/2"to9"bl  
 30-ISIP-no bl  
 60-FFP-w k to a fr bl 1/2"to 4"bl  
 90-FSIP-no bl



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery		
Length (ft)	Description	Volume (bbl)
210.00	SO&GCMW 13%G2%O40%M45%W	1.03
360.00	MW 20%M80%W w/show of oil	2.07

Gas Rates			
	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Berexco LLC  
2020 North Bramblewood  
Wichita Ks 67206  
ATTN: Bruce Meyer

**31-14s-14w Russell**  
**Solbach North #4**  
Job Ticket: 46256      **DST#: 1**  
Test Start: 2012.03.01 @ 09:10:10

### Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	50000 ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.56 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4800.00 ppm			
Filter Cake: 1.00 inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
210.00	SO&GCMW 13%G2%O40%M45%W	1.033
360.00	MW 20%M80%W w/show of oil	2.071

Total Length: 570.00 ft      Total Volume: 3.104 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments: RW .16@67F

Serial #: 6625

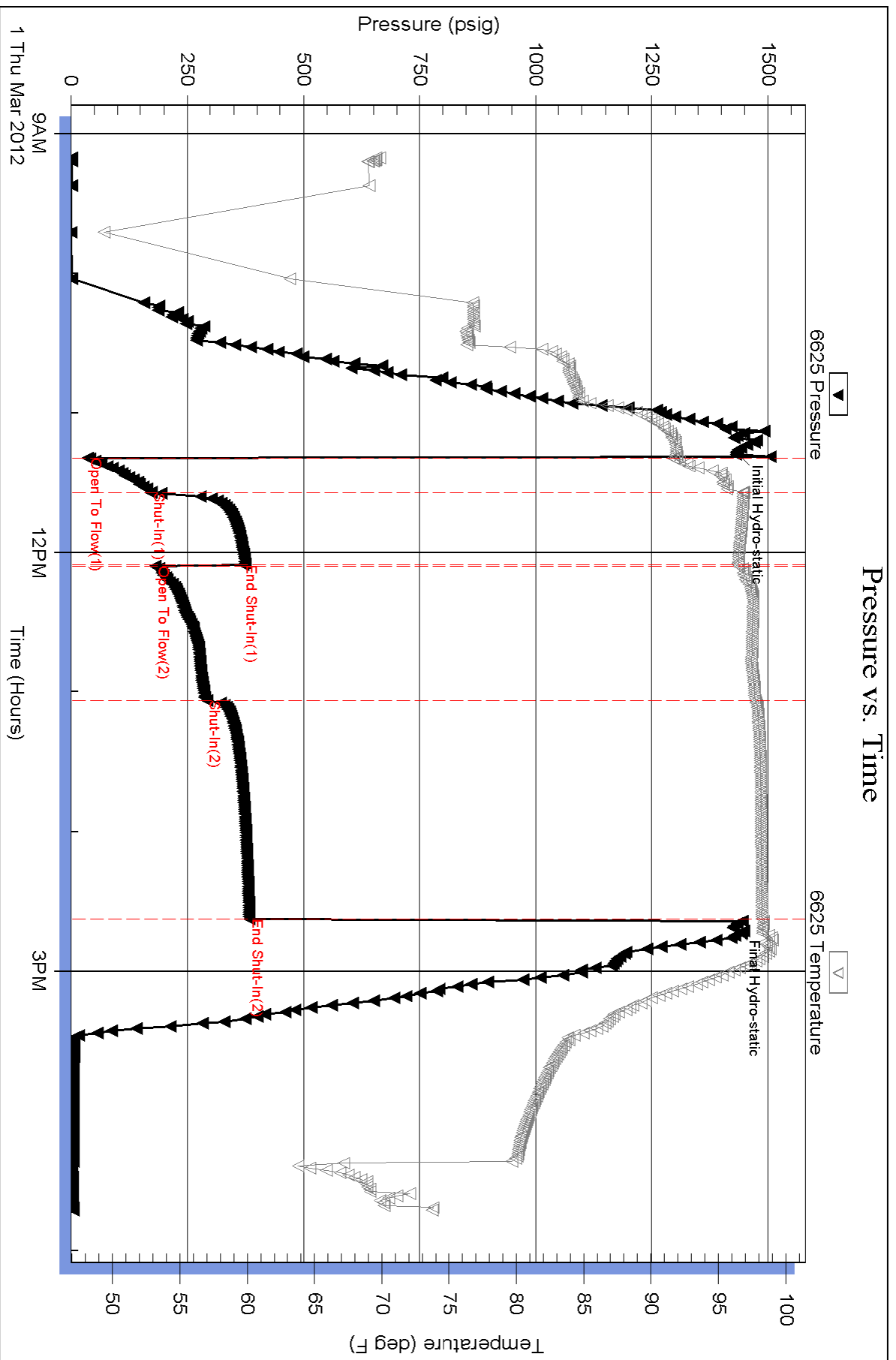
Inside

Berexco LLC

Solbach North #4

DST Test Number: 1

### Pressure vs. Time

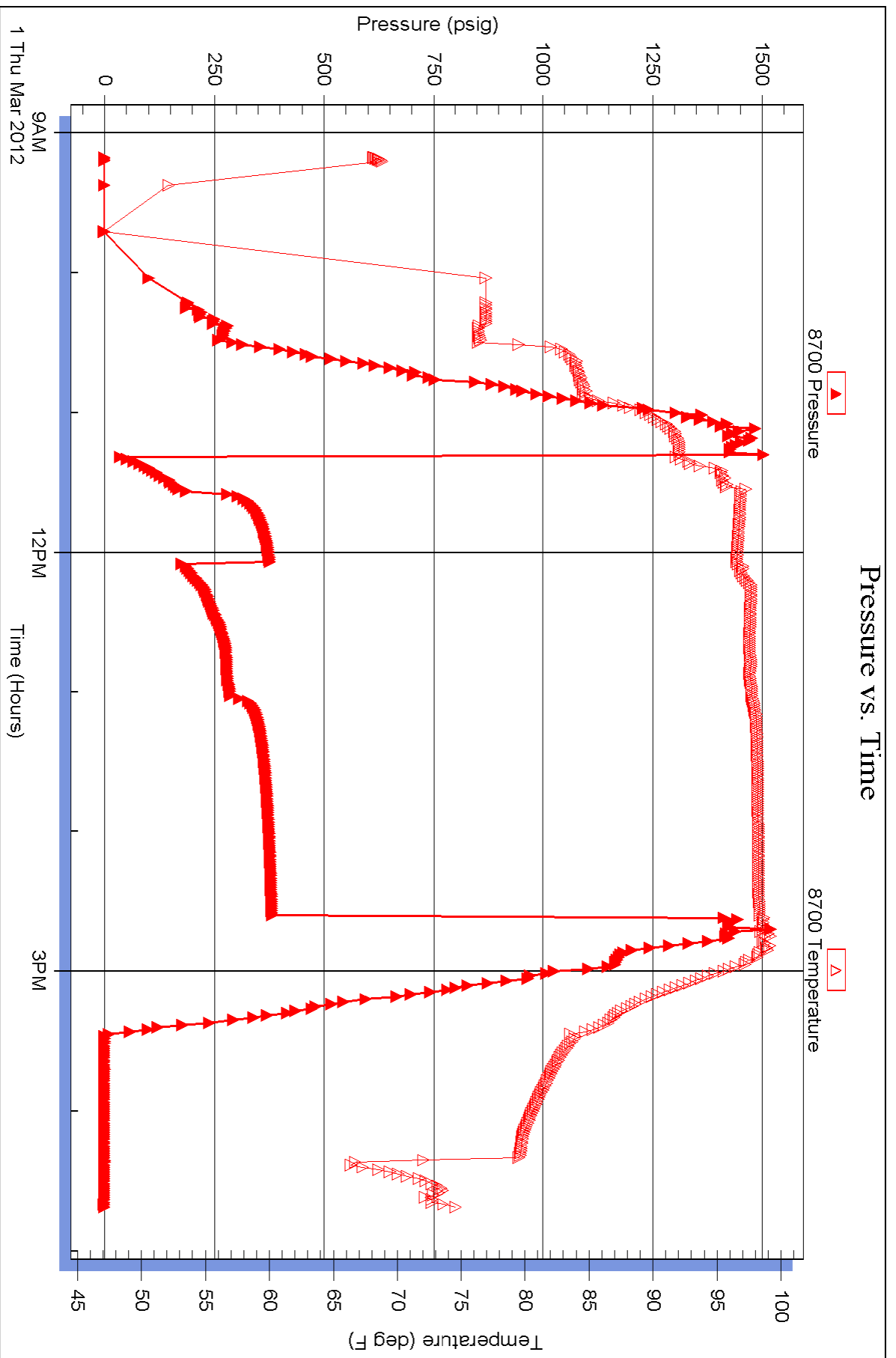


Serial #: 8700

Outside Berexco LLC

Solbach North #4

DST Test Number: 1





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Berexco LLC  
 2020 North Bramblewood  
 Wichita Ks 67206  
 ATTN: Bruce Meyer

**31-14s-14w Russell**  
**Solbach North #4**  
 Job Ticket: 46257 **DST#: 2**  
 Test Start: 2012.03.02 @ 02:35:22

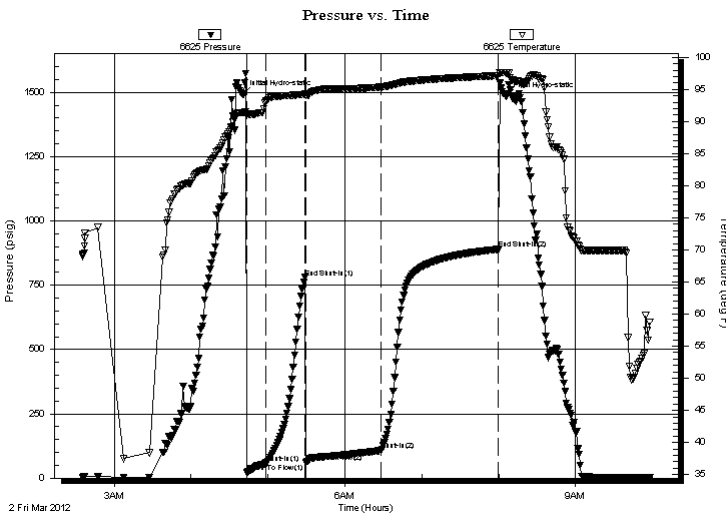
## GENERAL INFORMATION:

Formation: **LKC H-K**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 04:43:17 Tester: Ray Schwager  
 Time Test Ended: 09:58:16 Unit No: 42  
 Interval: **3085.00 ft (KB) To 3180.00 ft (KB) (TVD)** Reference Elevations: 1788.00 ft (KB)  
 Total Depth: 3180.00 ft (KB) (TVD) 1777.00 ft (CF)  
 Hole Diameter: 7.85 inches Hole Condition: Fair KB to GR/CF: 11.00 ft

**Serial #: 6625 Inside**  
 Press @ Run Depth: 107.24 psig @ 3090.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.03.02 End Date: 2012.03.02 Last Calib.: 2012.03.02  
 Start Time: 02:35:22 End Time: 09:58:16 Time On Btm: 2012.03.02 @ 04:40:17  
 Time Off Btm: 2012.03.02 @ 08:05:46

**TEST COMMENT:** 15-IFP-w k to a gd bl 1/2" to 6" bl  
 30-ISIP-no bl  
 60-FFP-strg bl in 1min  
 90-FSIP-surface bl bk

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1491.78	91.41	Initial Hydro-static
3	21.54	91.21	Open To Flow (1)
18	56.92	93.09	Shut-In(1)
49	779.64	94.25	End Shut-In(1)
50	60.39	94.10	Open To Flow (2)
108	107.24	95.38	Shut-In(2)
200	889.88	97.14	End Shut-In(2)
206	1484.57	97.56	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	680'GIP	0.00
200.00	GMO 20%G35%M45%O	0.98

\* Recovery from multiple tests

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Berexco LLC  
2020 North Bramblewood  
Wichita Ks 67206  
ATTN: Bruce Meyer

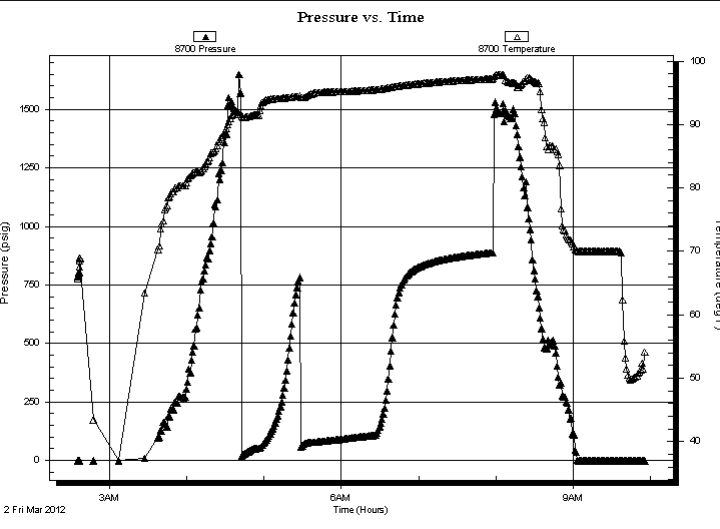
**31-14s-14w Russell**  
**Solbach North #4**  
Job Ticket: 46257      **DST#: 2**  
Test Start: 2012.03.02 @ 02:35:22

**GENERAL INFORMATION:**

Formation: **LKC H-K**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 04:43:17  
Time Test Ended: 09:58:16  
Interval: **3085.00 ft (KB) To 3180.00 ft (KB) (TVD)**  
Total Depth: 3180.00 ft (KB) (TVD)  
Hole Diameter: 7.85 inches  
Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Ray Schwager  
Unit No: 42  
Reference Elevations: 1788.00 ft (KB)  
1777.00 ft (CF)  
KB to GR/CF: 11.00 ft

**Serial #: 8700 Outside**  
Press @ Run Depth: psig @ 3090.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2012.03.02 End Date: 2012.03.02 Last Calib.: 2012.03.02  
Start Time: 02:35:11 End Time: 09:56:05 Time On Btm:  
Time Off Btm:

**TEST COMMENT:** 15-IFP-wk to a gd bl 1/2" to 6" bl  
30-ISIP-no bl  
60-FFP-strg bl in 1min  
90-FSIP-surface bl bk



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

**Recovery**

Length (ft)	Description	Volume (bbl)
0.00	680'GIP	0.00
200.00	GMO 20%G35%M45%O	0.98

\* Recovery from multiple tests

**Gas Rates**

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Berexco LLC  
2020 North Bramblewood  
Wichita Ks 67206  
ATTN: Bruce Meyer

**31-14s-14w Russell**  
**Solbach North #4**  
Job Ticket: 46257      **DST#: 2**  
Test Start: 2012.03.02 @ 02:35:22

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 53.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.57 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4800.00 ppm			
Filter Cake: 1.00 inches			

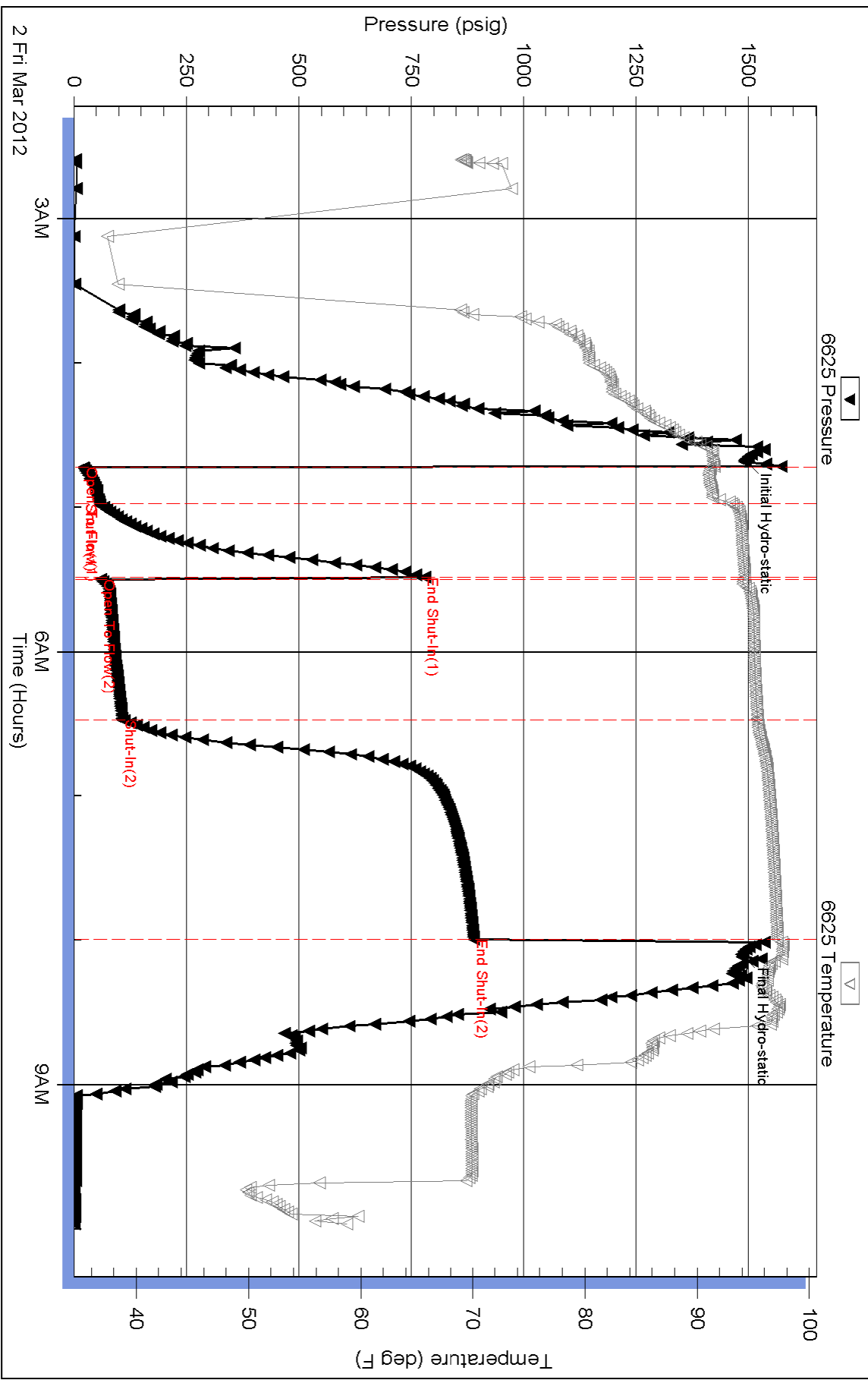
## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	680'GIP	0.000
200.00	GMO 20%G35%M45%O	0.984

Total Length: 200.00 ft      Total Volume: 0.984 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

### Pressure vs. Time



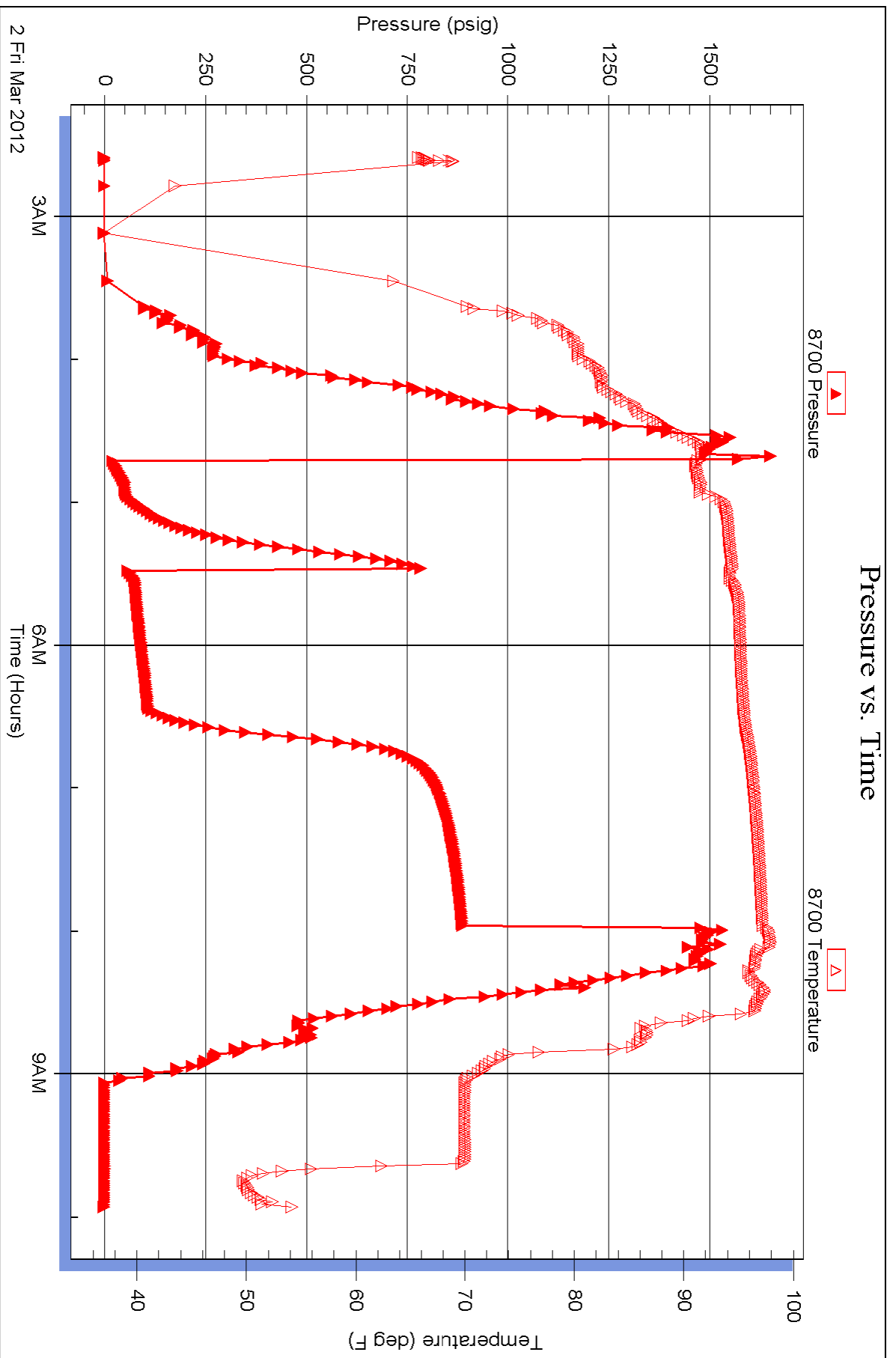


Serial #: 8700

Outside Berexco LLC

Solbach North #4

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 46257

Printed: 2012.03.02 @ 19:48:39



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Berexco LLC  
 2020 North Bramblewood  
 Wichita Ks 67206  
 ATTN: Bruce Meyer

**31-14s-14w Russell**  
**Solbach North #4**  
 Job Ticket: 46258 **DST#: 3**  
 Test Start: 2012.03.02 @ 20:30:22

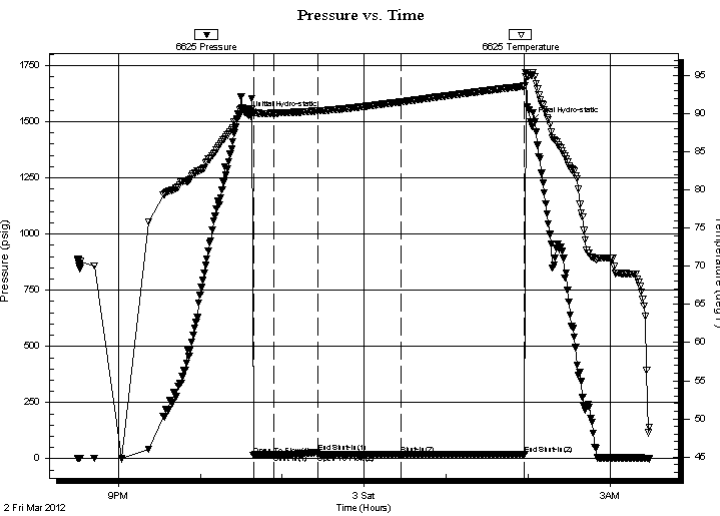
## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 22:38:47 Tester: Ray Schwager  
 Time Test Ended: 03:29:16 Unit No: 42  
 Interval: **3192.00 ft (KB) To 3200.00 ft (KB) (TVD)** Reference Elevations: 1788.00 ft (KB)  
 Total Depth: 3200.00 ft (KB) (TVD) 1777.00 ft (CF)  
 Hole Diameter: 7.85 inches Hole Condition: Fair KB to GR/CF: 11.00 ft

## Serial #: 6625 Inside

Press @ Run Depth: 19.25 psig @ 3193.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.03.02 End Date: 2012.03.03 Last Calib.: 2012.03.03  
 Start Time: 20:30:22 End Time: 03:29:16 Time On Btm: 2012.03.02 @ 22:35:47  
 Time Off Btm: 2012.03.03 @ 02:01:47

TEST COMMENT: 15-IFP-surface bl Thru-out  
 30-ISIP-no bl  
 60-FFP-surface bl died in 10 min  
 90-FSIP-no bl



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1527.65	90.58	Initial Hydro-static
3	16.07	90.13	Open To Flow (1)
18	17.74	90.07	Shut-In(1)
50	28.81	90.37	End Shut-In(1)
51	19.84	90.37	Open To Flow (2)
111	19.25	91.54	Shut-In(2)
202	20.95	93.61	End Shut-In(2)
206	1498.44	95.00	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud w/show of oil	0.00

\* Recovery from multiple tests

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Berexco LLC  
 2020 North Bramblewood  
 Wichita Ks 67206  
 ATTN: Bruce Meyer

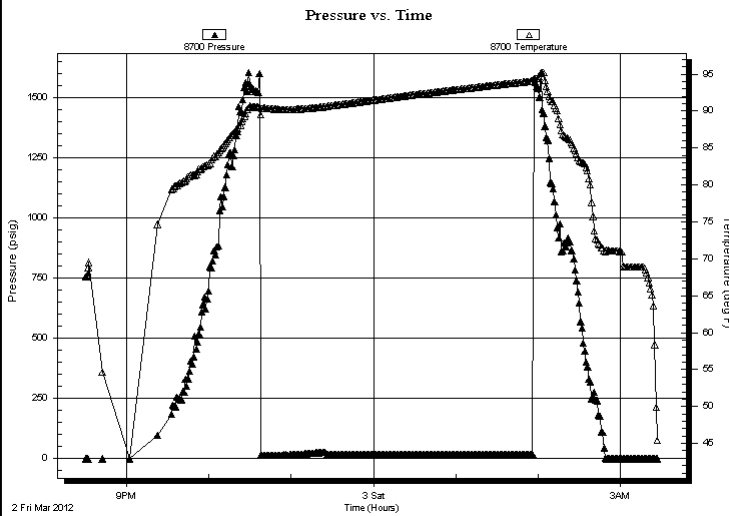
**31-14s-14w Russell**  
**Solbach North #4**  
 Job Ticket: 46258      **DST#: 3**  
 Test Start: 2012.03.02 @ 20:30:22

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 22:38:47  
 Time Test Ended: 03:29:16  
**Interval: 3192.00 ft (KB) To 3200.00 ft (KB) (TVD)**  
 Total Depth: 3200.00 ft (KB) (TVD)  
 Hole Diameter: 7.85 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ray Schwager  
 Unit No: 42  
 Reference Elevations: 1788.00 ft (KB)  
 1777.00 ft (CF)  
 KB to GR/CF: 11.00 ft

**Serial #: 8700 Outside**  
 Press@RunDepth: psig @ 3193.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2012.03.02      End Date: 2012.03.03      Last Calib.: 2012.03.03  
 Start Time: 20:30:20      End Time: 03:27:14      Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 15-IFP-surface bl Thru-out  
 30-ISIP-no bl  
 60-FFP-surface bl died in 10 min  
 90-FSIP-no bl



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud w/show of oil	0.00

\* Recovery from multiple tests

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Berexco LLC  
2020 North Bramblewood  
Wichita Ks 67206  
ATTN: Bruce Meyer

**31-14s-14w Russell**  
**Solbach North #4**  
Job Ticket: 46258      **DST#: 3**  
Test Start: 2012.03.02 @ 20:30:22

**Mud and Cushion Information**

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 60.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.50 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4800.00 ppm			
Filter Cake: 1.00 inches			

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
1.00	Mud w/show of oil	0.005

Total Length: 1.00 ft      Total Volume: 0.005 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

Serial #: 6625

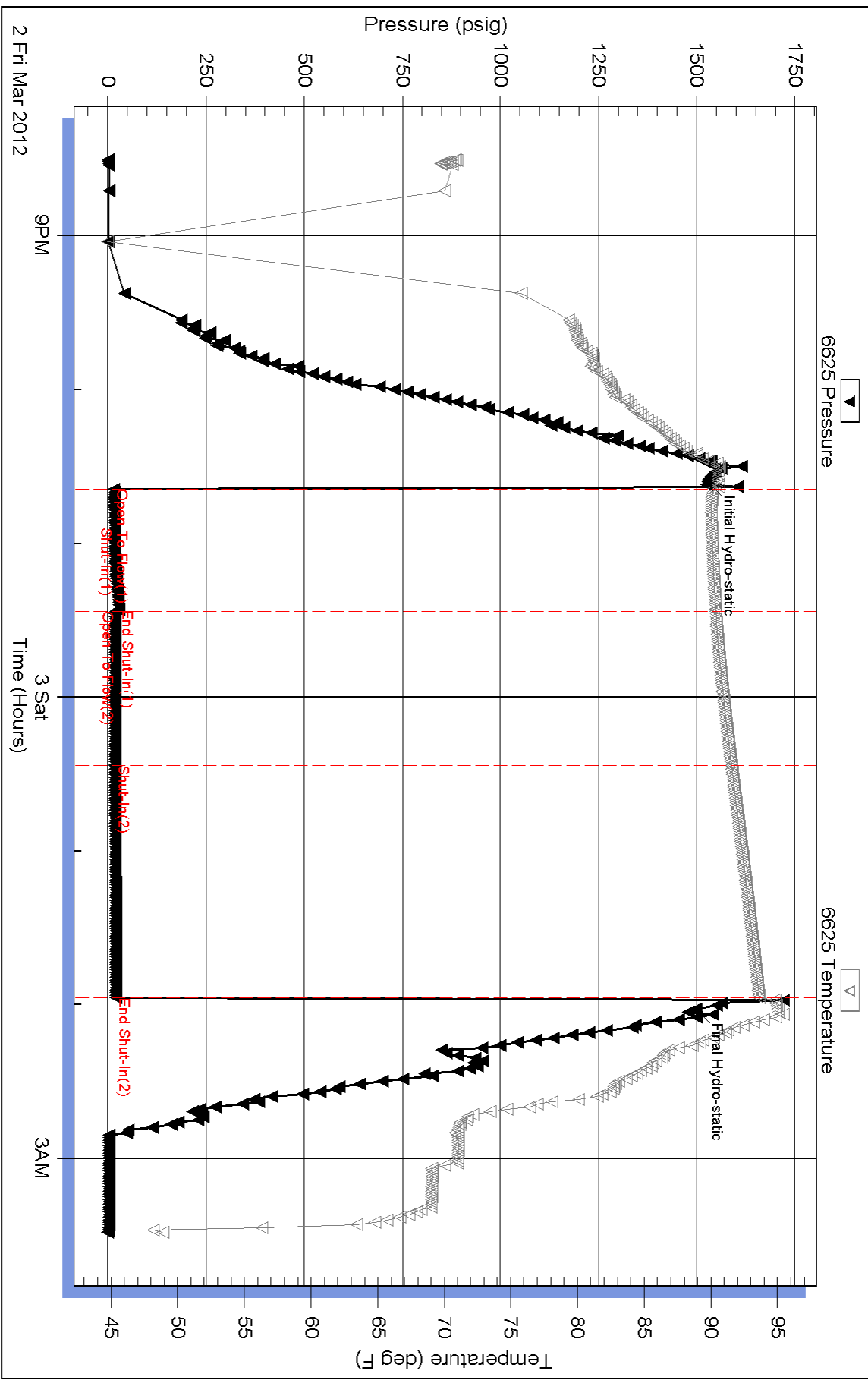
Inside

Berexco LLC

Solbach North #4

DST Test Number: 3

### Pressure vs. Time



Triobite Testing, Inc

Ref. No: 46258

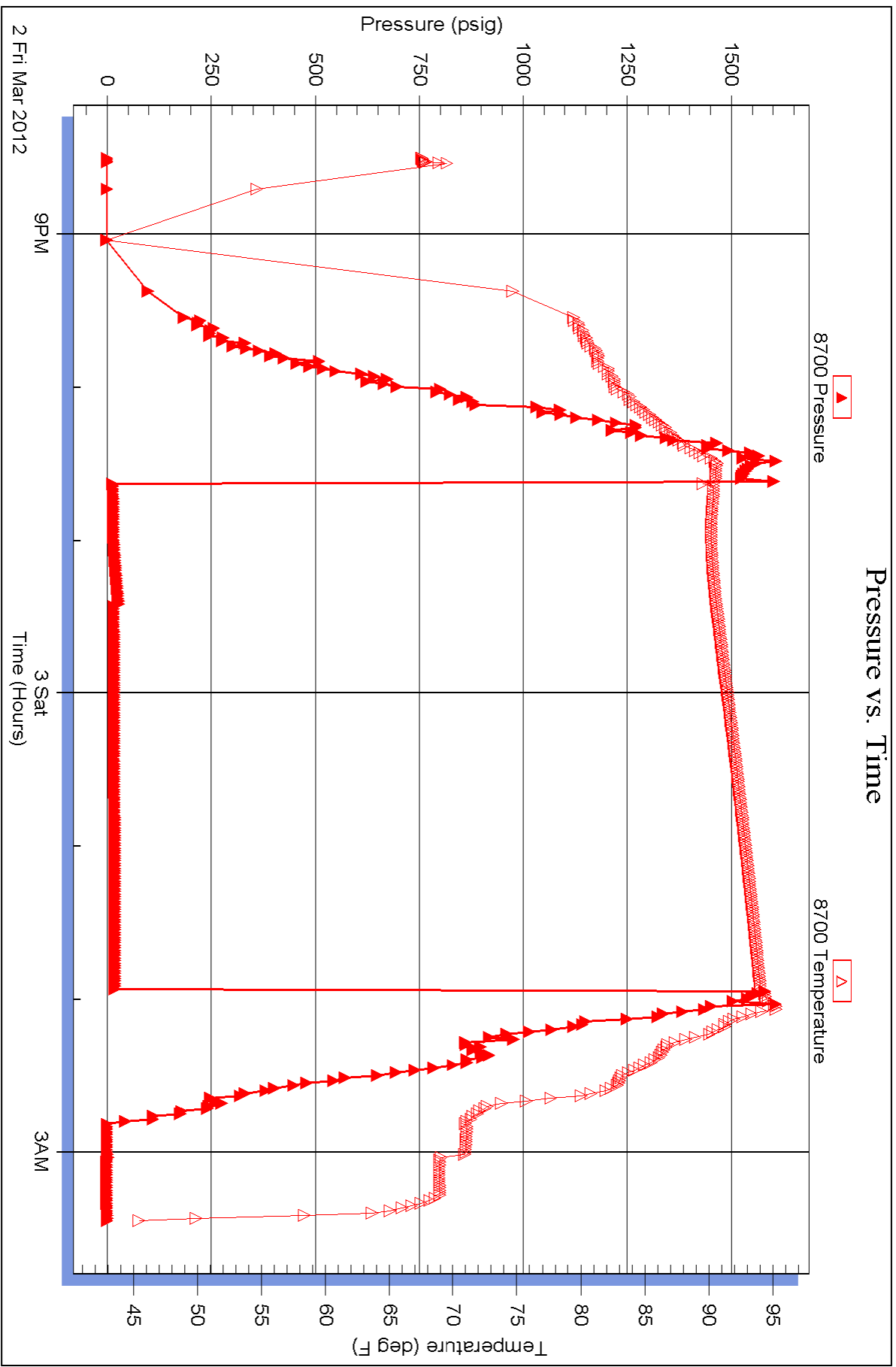
Printed: 2012.03.03 @ 09:02:29

Serial #: 8700

Outside Berexco LLC

Solbach North #4

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 46258

Printed: 2012.03.03 @ 09:02:30



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Berexco LLC  
 2020 North Bramblewood  
 Wichita Ks 67206  
 ATTN: Bruce Meyer

**31-14s-14w Russell**  
**Solbach North #4**  
 Job Ticket: 46259 **DST#: 4**  
 Test Start: 2012.03.03 @ 10:05:53

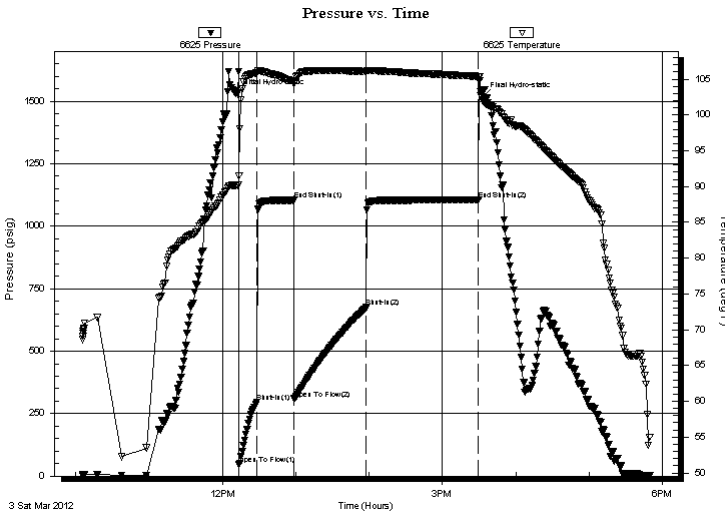
## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 12:13:48  
 Time Test Ended: 17:49:47  
 Interval: **3200.00 ft (KB) To 3205.00 ft (KB) (TVD)**  
 Total Depth: 3205.00 ft (KB) (TVD)  
 Hole Diameter: 7.85 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ray Schwager  
 Unit No: 42  
 Reference Elevations: 1788.00 ft (KB)  
 1777.00 ft (CF)  
 KB to GR/CF: 11.00 ft

**Serial #: 6625 Inside**  
 Press@RunDepth: 674.91 psig @ 3201.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.03.03 End Date: 2012.03.03 Last Calib.: 2012.03.03  
 Start Time: 10:05:53 End Time: 17:49:47 Time On Btm: 2012.03.03 @ 12:11:18  
 Time Off Btm: 2012.03.03 @ 15:33:17

**TEST COMMENT:** 15-IFP-strg bl in 2min  
 30-ISIP-2 1/2"bl bk  
 60-FFP-strg bl in 2min  
 90-FSIP-1"bl bk

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1531.51	90.17	Initial Hydro-static
3	46.19	91.48	Open To Flow (1)
17	295.82	105.89	Shut-In(1)
47	1103.89	104.69	End Shut-In(1)
48	309.51	104.38	Open To Flow (2)
107	674.91	106.09	Shut-In(2)
198	1104.69	105.38	End Shut-In(2)
202	1519.31	101.83	Final Hydro-static

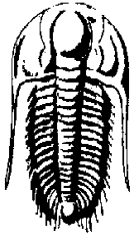
## Recovery

Length (ft)	Description	Volume (bbl)
0.00	180'GIP	0.00
1140.00	Water	11.10
120.00	OCMW 5%O5%M90%W	1.68
90.00	OCMW 10%O20%M70%W	1.26
90.00	CO	1.26

\* Recovery from multiple tests

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Berexco LLC  
 2020 North Bramblewood  
 Wichita Ks 67206  
 ATTN: Bruce Meyer

**31-14s-14w Russell**  
**Solbach North #4**  
 Job Ticket: 46259 **DST#: 4**  
 Test Start: 2012.03.03 @ 10:05:53

### GENERAL INFORMATION:

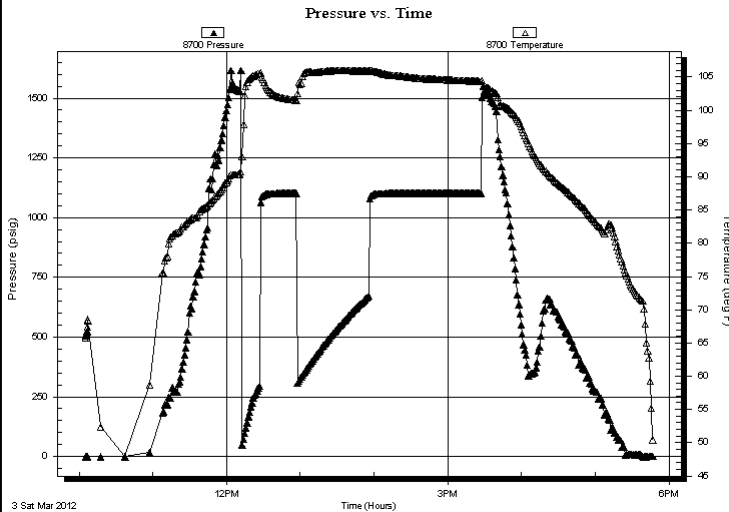
Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 12:13:48 Tester: Ray Schwager  
 Time Test Ended: 17:49:47 Unit No: 42  
**Interval: 3200.00 ft (KB) To 3205.00 ft (KB) (TVD)** Reference Elevations: 1788.00 ft (KB)  
 Total Depth: 3205.00 ft (KB) (TVD) 1777.00 ft (CF)  
 Hole Diameter: 7.85 inches Hole Condition: Fair KB to GR/CF: 11.00 ft

### Serial #: 8700

Outside

Press @ Run Depth: psig @ 3201.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.03.03 End Date: 2012.03.03 Last Calib.: 2012.03.03  
 Start Time: 10:05:19 End Time: 17:47:13 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 15-IFP-strg bl in 2min  
 30-ISIP-2 1/2"bl bk  
 60-FFP-strg bl in 2min  
 90-FSIP-1"bl bk



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

### Recovery

Length (ft)	Description	Volume (bbl)
0.00	180'GIP	0.00
1140.00	Water	11.10
120.00	OCMW 5%O5%M90%W	1.68
90.00	OCMW 10%O20%M70%W	1.26
90.00	CO	1.26

\* Recovery from multiple tests

### Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Berexco LLC  
2020 North Bramblewood  
Wichita Ks 67206  
ATTN: Bruce Meyer

**31-14s-14w Russell**  
**Solbach North #4**  
Job Ticket: 46259      **DST#: 4**  
Test Start: 2012.03.03 @ 10:05:53

## Mud and Cushion Information

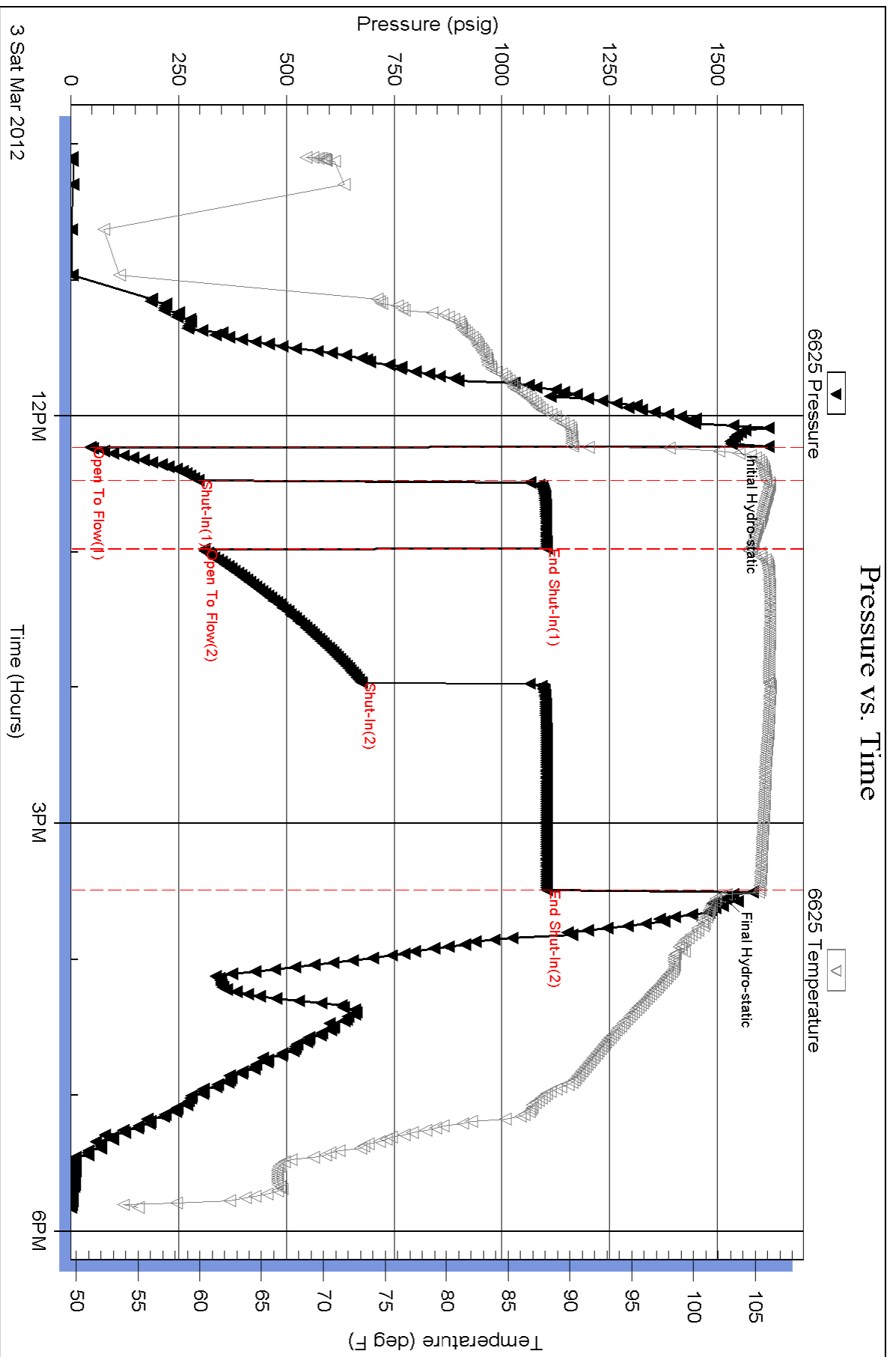
Mud Type: Gel Chem	Cushion Type:	Oil API: 28 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 26000 ppm
Viscosity: 62.00 sec/qt	Cushion Volume: bbl	
Water Loss: 8.76 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 6800.00 ppm		
Filter Cake: 1.00 inches		

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	180'GIP	0.000
1140.00	Water	11.099
120.00	OCMW 5%O5%M90%W	1.683
90.00	OCMW 10%O20%M70%W	1.262
90.00	CO	1.262

Total Length: 1440.00 ft      Total Volume: 15.306 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments: RW .31@59F

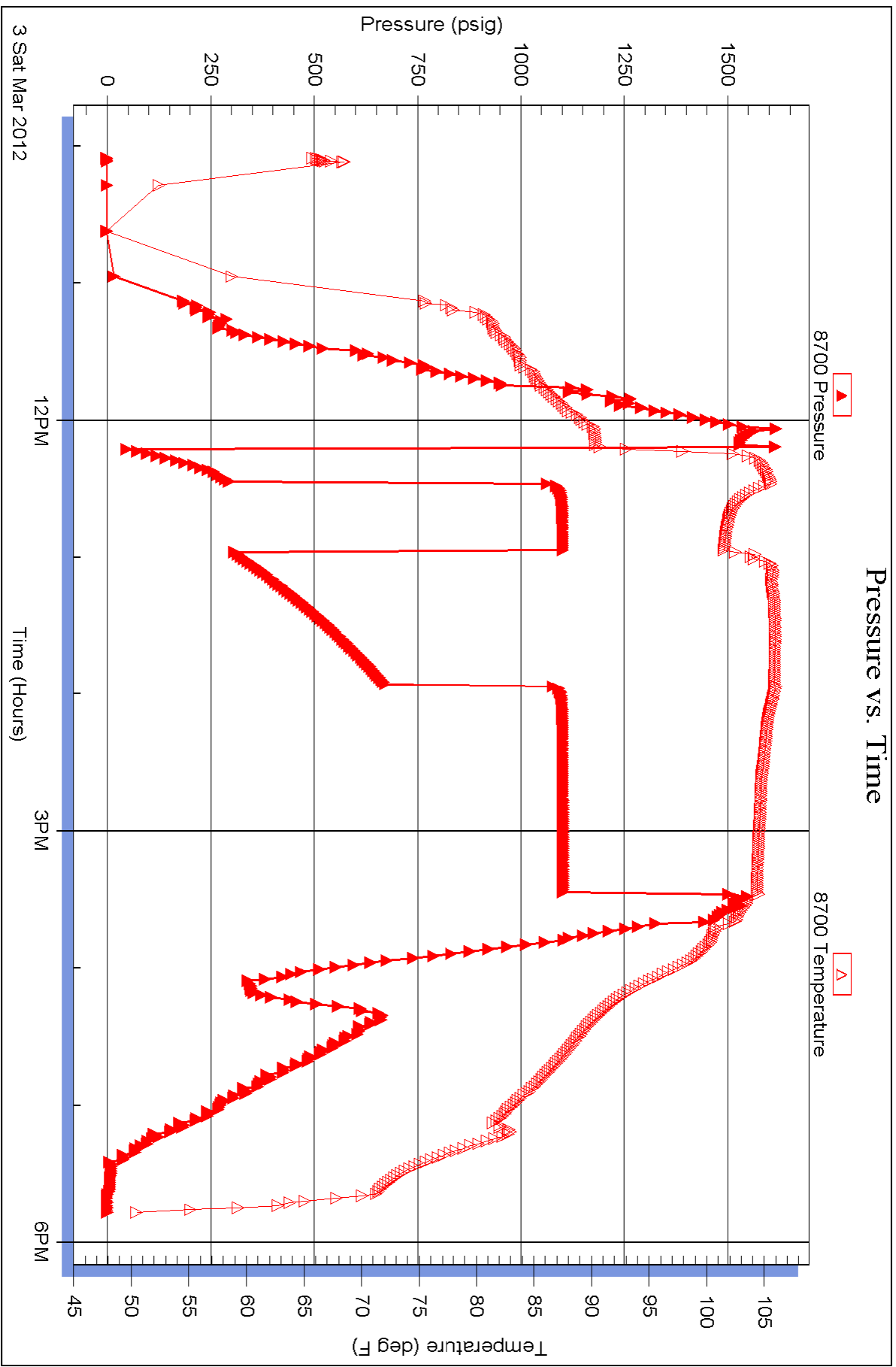


Serial #: 8700

Outside Berexco LLC

Solbach North #4

DST Test Number: 4



**BEREXCO, LLC.  
SOLBACH NORTH # 4  
SENENWNE 3114S-14W  
RUSSELL COUNTY, KANSAS**

**GEOLOGIST  
WILLIAM B. BYNOG**

SOLBACH NORTH SAMPLE DESCRIPTIONS  
BEREDCO RIG 10 DRILLING 7 7/8 HOLE

SOLBACH NORTH # 4 SAMPLE DESCRIPTIONS

ANHYDRITE 786(+1002) S  
788(+1000) L

BASE 828(+960) S  
828(+960) L

2500-60 SHALE gray,gray green,firm,blocky

2560-80 LIMESTONE buff,firm,very fossils, sandy,poor porosity,no shows

2580- 2680 SHALE as above with thin LIMESTONE as above

TOPEKA

2680- 2745 LIMESTONE buff,light brown,firm, chlky,abundant pyrite,poor porosity,no shows, abundant cavings

2745-2810 LIMESTONE buff,hard,dense,blocky. dense,no shows with thin SHALE gray,black,firm,slightly carbonaceous

2810-30 SHALE gray,gray black,hard,blocky with thin LIMESTONE as above

## SOLBACH NORTH SAMPLE DESCRIPTIONS

2830-55 LIMESTONE buff, very hard,dense, abundant chalky,abundant Chert tan,white with SHALE as above

### PLATTSMOUTH

2855-60 LIMESTONE buff,firm,fossils, chlky,poor to fair vuggy porosity,spotty brown live staining cut,nfo

2860-90 LIMESTONE buff, hard,dense,poor porosity,no shows

2890-2900 LIMESTONE as above trace LIMESTONE buff, firm,oolitic,fair intergranular porosity,even live brown stain,very good cut

### HEEBNER

2900-20 SHALE gray,gray black,some red,slightly carbonaceous

### TORONTO

2920-30 LIMESTONE white,firm,very chalky,poor porosity,spotty dead black stain,nfo

2930-40 LIMESTONE buff,very hard,dense, no shows

2940-60 SHALE red,gray,green,soft,very argillaceous

### LANSING A

2960-28 LIMESTONE white,buff,very hard,dense,chalky in part,spotty black dead stain,nfo

## SOLBACH NORTH SAMPLE DESCRIPTIONS

2928-34 SHALE as above

### B ZONE

2984-88 LIMESTONE gray, buff, firm, fossils, poor to trace fair vuggy porosity, spotty live brown stain, good cut and odor, sfo

2988-95 LIMESTONE buff, very hard, dense, no shows

2995-3000 SHALE as above

### C ZONE

3000-10 LIMESTONE white, firm, very chalky, poor porosity, no shows

3010-20 LIMESTONE buff, very hard, dense, blocky, no shows

3020-32 SHALE gray, firm, silty in part

### E ZONE

3032-36 LIMESTONE buff, slightly hard, fossils, poor to trace fair vuggy porosity, spotty live stain and odor, good cut, good sfo

3036-40 LIMESTONE buff, very hard, dense

## SOLBACH NORTH SAMPLE DESCRIPTIONS

### F ZONE

3040-51 LIMESTONE white,firm,chalky, abundant Chert white,poor vuggy porosity,very spotty live brown stain,good cut,fair sfo

### G ZONE

3051-60 LIMESTONE white,soft,oolitic,good intg and moldic porosity,very spotty live brown stain,good cut and odor,poor sfo

3060-75 LIMESTONE white,firm,very oolitic,fair to good moldic porosity,no shows

3075-3106LIMESTONE buff,pale gray,very hard,dense,blocky,no shows with thin SHALE gray black,gray,hard,blocky

### H ZONE

3104-10 LIMESTONE buff,very hard,dense,blocky,very poor pinpoint vuggy porosity,very spotty live brown stain,fair cut

3110-16 LIMESTONE gray,very hard,dense,no shows

### I ZONE

3116-23 LIMESTONE white,firm,very oolitic,fair intergranular porosity,spotty to even live brown stain,very good cut and odor,sfo

3123-30 LIMESTONE buff,very hard,dense,no shows



## SOLBACH NORTH SAMPLE DESCRIPTIONS

3130-40 SHALE gray,gray black,hard, blocky,slightly carbonaceous

### J ZONE

3140-54 LIMESTONE buff,slightly hard,oolitic slightly chalky, poor to trace fair intg porosity,very spotty live brown stain,fair cut,nfo with LIMESTONE very hard,dense as above

3154-62 LIMESTONE gray,very hard,very dense,no shows

3162-68 SHALE gray,gray black,green,firm,fissile

### K ZONE

3168-78 LIMESTONE buff,hard,poor pinpoint vuggy porosity,very spotty live brown stain,good cut and odor,sfo

3178-86 LIMESTONE gray,very hard,very dense, with thin SHALE as above

3186-96 LIMESTONE buff,hard,oolitic, poor intg and moldic porosity,spotty brown live stain,good cut and odor,sfo with thin SHALE as above

### ARBUCKLE

3196-3202 DOLOMITE white,firm,micxln,fair intxln porosity,even brown stain,very good cut and odor,good sfo with some very hard,dense

3202-08 DOLOMITE white,firm,micsuc texture,good to very good intx porosity,even brown stain,very

## SOLBACH NORTH SAMPLE DESCRIPTIONS

good cut and odor,poor sfo

3208-16 DOLOMITE white,hard,blocky,dense,poor porosity,no shows

3216-26 DOLOMITE white,firm,micsuc texture,fair to good intxln porosity,even stain,good cut and odor, nsfo

3226-34 DOLOMITE as above hard,dense,no shows

3234-46 DOLOMITE white,firm,micsuc,good intxln porosity,rare spotty stain,poor cut,poss. cavings

3246-75 DOLOMITE white,very hard,dense,blocky, no shows

RTD 3275'

LTD 3276'

# LITHOLOGY STRIP LOG

## WellSight Systems

Scale 1:240 (5"=100') Imperial  
Measured Depth Log

Well Name: SOLBACH NORTH # 4  
Location: SENENWNE 31-14S-14W RUSSELL COUNTY,KS  
License Number: 15-167-23777  
Spud Date: 2-25-2012  
Surface Coordinates: 425' FNL & 1595' FEL  
Region: MIDCONTINENT  
Drilling Completed: 2-4-2012  
Bottom Hole Coordinates:  
Ground Elevation (ft): 1777  
K.B. Elevation (ft): 1788  
Logged Interval (ft): 2500 To: Total Depth (ft):  
Formation: LKC & ARBUCKLE  
Type of Drilling Fluid: FRESH

Printed by WellSight Log Viewer from WellSight Systems 1-800-447-1534 www.WellSight.com

### OPERATOR

Company: BEREXCO, LLC  
Address: 2020 N. BRAMBLEWOOD  
WICHITA, KS, 67206

### GEOLOGIST

Name: WILLIAM B. BYNOG  
Company:  
Address: P.O. BOX 687  
PINECLIFFE, CO. 80471  
303-642-3681 OFFICE 303-250-0727 CELL

### SURVEYS

DEPTH	ANGLE
815'	3/4
2012'	3/4


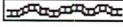
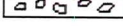
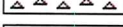

### DSTs


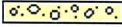



DST#1 2970-3055', DST#2 3085-3180, DST #3 3192-3200, DST#4 3200-05



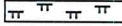

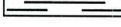
### Comments


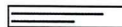

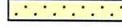
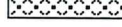
SET 5 1/2 PRODUCTION PIPE

### ROCK TYPES

	Anhy
	Bent
	Brec
	Cht
	Clyst

	Coal
	Congl
	Dol
	Gyp
	Igne

	Lmst
	Meta
	Mrlst
	Salt
	Shale

	Shcol
	Shgy
	Slstst
	Ss
	Till

### ACCESSORIES

#### MINERAL

- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Brefracg
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl

- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff

#### FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral

- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom

#### STRINGER

- Anhy
- Arg
- Bent
- Coal
- Dol

- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg

#### TEXTURE

- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest

### OTHER SYMBOLS

#### POROSITY

- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint
- Vuggy

#### SORTING

- Well
- Moderate
- Poor

#### ROUNDING

- Rounded
- Subrnd
- Subang

- Angular

#### OIL SHOW

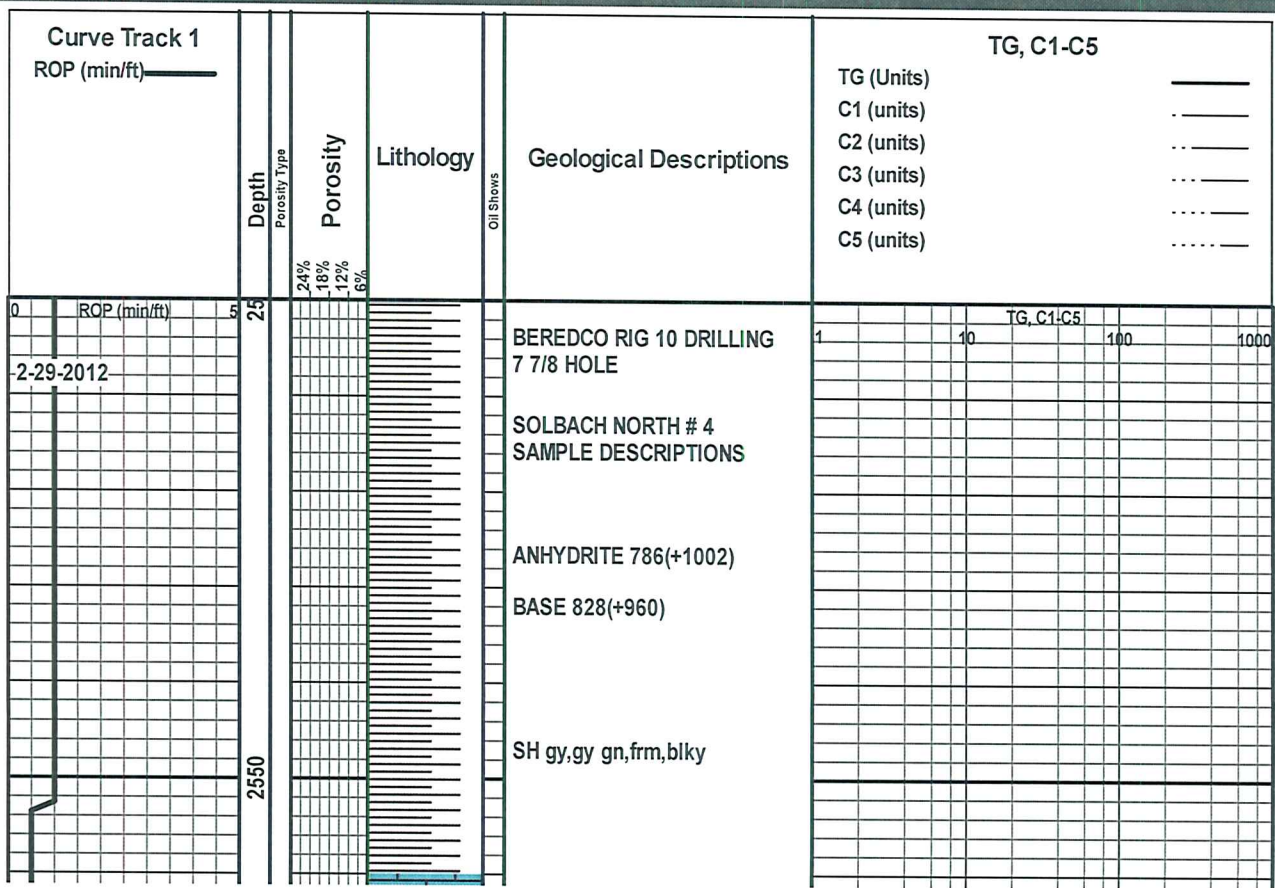
- Even
- Spotted
- Ques
- Dead

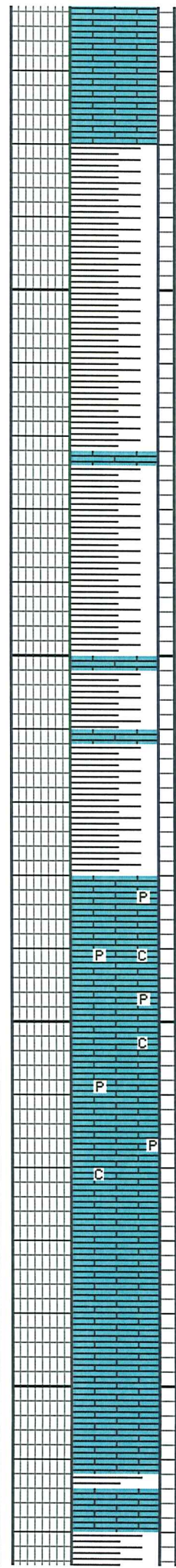
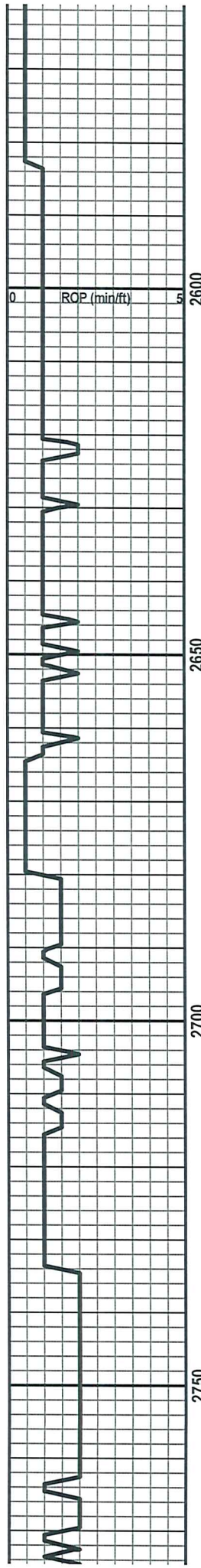
#### INTERVAL

- Dst
- Dst

#### EVENT

- Rft
- Sidewall





LS buff, frm, v foss, sdy, p por, ns

SH aa with thn LS aa

LS buff, lt brn, frm, chlky, abnt pyr, p por, ns, abnt cavings

LS buff, hd, dns, blk, dns, ns with thin SH gy, blk, frm, sl carb

MUD DATA 2576  
 WT 8.8 VIS 49  
 FL 8.6 PH 12.0  
 CK 1 CL 3800

TG, C1-C5

TOPEKA  
 2780(-892) S

2600

2650

2700

2750

ROP (min/ft)

0

5

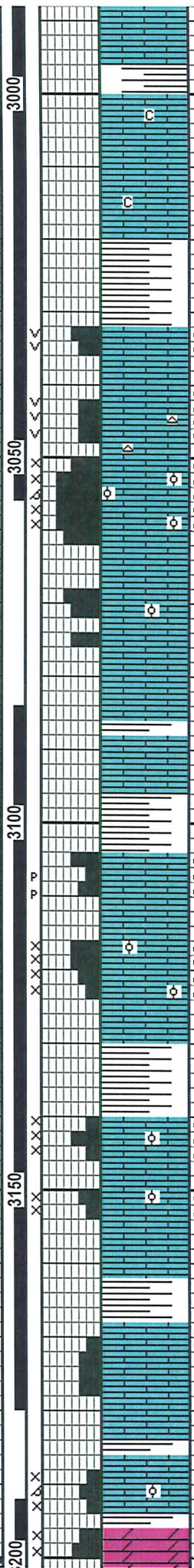
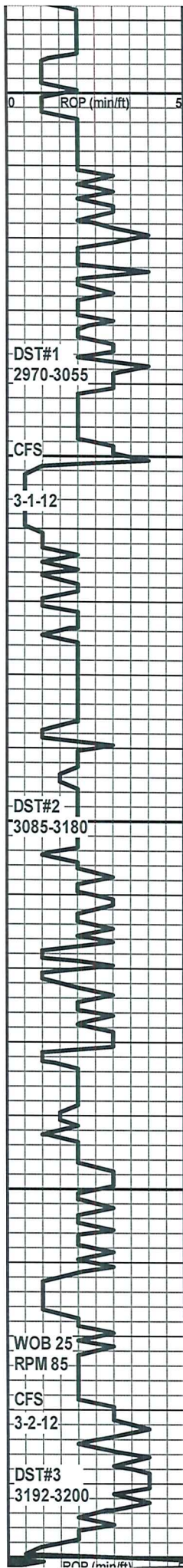
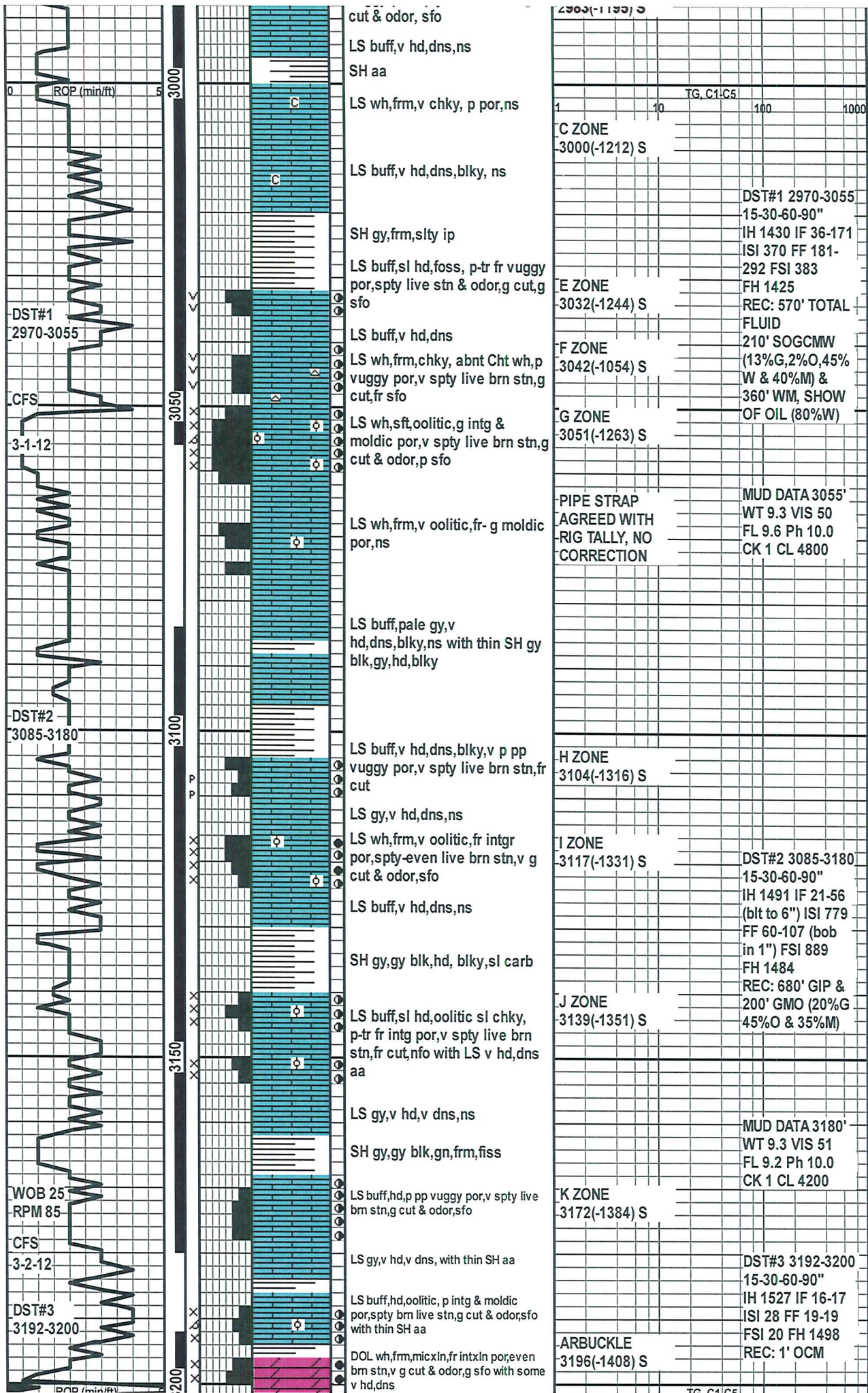
1

10

100

1000





cut & odor, sfo

LS buff, v hd, dns, ns

SH aa

LS wh, frm, v chky, p por, ns

LS buff, v hd, dns, blk, ns

SH gy, frm, sly ip

LS buff, sl hd, foss, p-tr fr vuggy por, spty live stn & odor, g cut, g sfo

LS buff, v hd, dns

LS wh, frm, chky, abnt Cht wh, p vuggy por, v spty live brn stn, g cut, fr sfo

LS wh, sft, oolitic, g intg & moldic por, v spty live brn stn, g cut & odor, p sfo

LS wh, frm, v oolitic, fr- g moldic por, ns

LS buff, pale gy, v hd, dns, blk, ns with thin SH gy blk, gy, hd, blk

LS buff, v hd, dns, blk, v p pp vuggy por, v spty live brn stn, fr cut

LS gy, v hd, dns, ns

LS wh, frm, v oolitic, fr intgr por, spty-even live brn stn, v g cut & odor, sfo

LS buff, v hd, dns, ns

SH gy, gy blk, hd, blk, sl carb

LS buff, sl hd, oolitic, sl chky, p-tr fr intg por, v spty live brn stn, fr cut, nfo with LS v hd, dns aa

LS gy, v hd, v dns, ns

SH gy, gy blk, gn, frm, fiss

LS buff, hd, p pp vuggy por, v spty live brn stn, g cut & odor, sfo

LS gy, v hd, v dns, with thin SH aa

LS buff, hd, oolitic, p intg & moldic por, spty brn live stn, g cut & odor, sfo with thin SH aa

DOL wh, frm, micIn, fr intxIn por, even brn stn, v g cut & odor, g sfo with some v hd, dns

Zone	Depth Range (ft)	Notes
C	3000(-1212) S	DST#1 2970-3055
E	3032(-1244) S	DST#1 2970-3055
F	3042(-1054) S	DST#1 2970-3055
G	3051(-1263) S	DST#1 2970-3055
H	3104(-1316) S	DST#2 3085-3180
I	3117(-1331) S	DST#2 3085-3180
J	3139(-1351) S	DST#2 3085-3180
K	3172(-1384) S	DST#2 3085-3180
ARBUCKLE	3196(-1408) S	DST#3 3192-3200

DST#1 2970-3055  
15-30-60-90"  
IH 1430 IF 36-171  
ISI 370 FF 181-292 FSI 383  
FH 1425  
REC: 570' TOTAL FLUID  
210' SOGCMW (13%G, 2%O, 45%W & 40%M) & 360' WM, SHOW OF OIL (80%W)

MUD DATA 3055'  
WT 9.3 VIS 50  
FL 9.6 Ph 10.0  
CK 1 CL 4800

DST#2 3085-3180  
15-30-60-90"  
IH 1491 IF 21-56 (blt to 6") ISI 779  
FF 60-107 (bob in 1") FSI 889  
FH 1484  
REC: 680' GIP & 200' GMO (20%G 45%O & 35%M)

MUD DATA 3180'  
WT 9.3 VIS 51  
FL 9.2 Ph 10.0  
CK 1 CL 4200

DST#3 3192-3200  
15-30-60-90"  
IH 1527 IF 16-17  
ISI 28 FF 19-19  
FSI 20 FH 1498  
REC: 1' OCM

