





1158759

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 <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
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:				

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:  Yes  No

Date of First, Resumed Production, SWD or ENHR. \_\_\_\_\_ Producing Method:  
 Flowing    Pumping    Gas Lift    Other *(Explain)* \_\_\_\_\_

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> <i>(Submit ACO-4)</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	Michael 1-22
Doc ID	1158759

Tops

Name	Top	Datum
Anhydrite	3060	+98
Anhydrite (base)	3090	+68
Foraker	3636	-478
Topeka	3870	-712
Oread	3970	-812
Lansing A	4074	-916
Lansing B	4126	-968
Lansing C	4184	-1026
Lansing D	4230	-1072
Lansing E	4247	-1114
Lansing F	4314	-1156
Pawnee	4450	-1292
Mississippi	4758	-1599
RTD	4810	
LTD	4814	

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  
Thomas E. Wright, Commissioner  
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

September 17, 2013

Rodney Reynolds  
BEREXCO LLC  
2020 N. BRAMBLEWOOD  
WICHITA, KS 67206-1094

Re: ACO1  
API 15-153-20936-00-00  
Michael 1-22  
NE/4 Sec.22-01S-36W  
Rawlins 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,  
Rodney Reynolds



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Berexco LLC.  
2020 N. Bramblewood  
Wichita KS 67206  
ATTN: Bryan Bynog

**22-1S-36W - Rawlins KS**

**Michael #1-22**

Job Ticket: 53502

**DST#: 1**

Test Start: 2013.08.15 @ 00:39:00

## GENERAL INFORMATION:

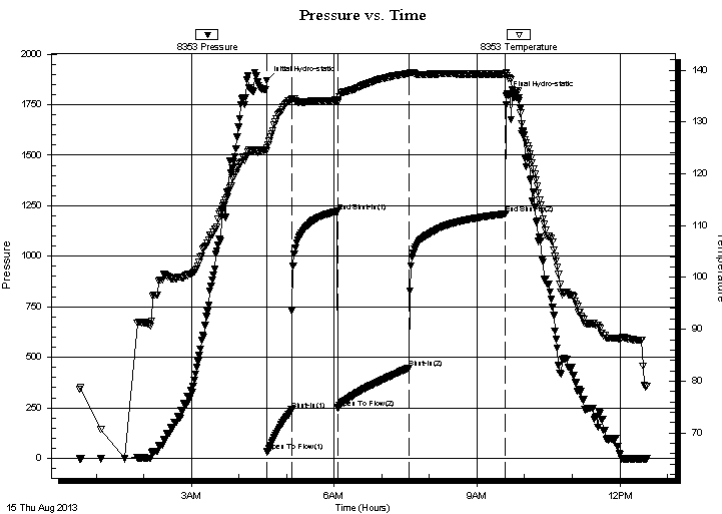
Formation: **Oread**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 04:35:30  
 Time Test Ended: 12:34:15  
 Interval: **3890.00 ft (KB) To 3980.00 ft (KB) (TVD)**  
 Total Depth: 3980.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ryan Nichols  
 Unit No: 42  
 Reference Elevations: 3158.00 ft (KB)  
 3147.00 ft (CF)  
 KB to GR/CF: 11.00 ft

**Serial #: 8353**

**Outside**

Press@RunDepth: 447.21 psig @ 3891.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.08.15 End Date: 2013.08.15 Last Calib.: 2013.08.15  
 Start Time: 00:39:15 End Time: 12:34:15 Time On Btm: 2013.08.15 @ 04:35:15  
 Time Off Btm: 2013.08.15 @ 09:37:00

**TEST COMMENT:** 30 IF - 2" blow built to BoB @ 16 mins  
 60 ISI - No return  
 90 FF - Surface blow started @ 3 mins built to BoB @ 15 mins  
 120 FSI - Surface blow started @ 15 mins built to 4" @ 92 mins died back to surface blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1868.86	125.00	Initial Hydro-static
1	33.13	124.48	Open To Flow (1)
31	240.30	134.28	Shut-In(1)
89	1221.89	134.19	End Shut-In(1)
90	248.44	133.82	Open To Flow (2)
180	447.21	139.38	Shut-In(2)
301	1209.38	139.24	End Shut-In(2)
302	1796.37	139.53	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
595.00	MCW - 20%M - 80%W	2.93
408.00	GO - 20%G - 80%O	5.72
0.00	408' GIP	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Berexco LLC.

**22-1S-36W - Rawlins KS**

2020 N. Bramblewood  
Wichita KS 67206

**Michael #1-22**

Job Ticket: 53502

**DST#: 1**

ATTN: Bryan Bynog

Test Start: 2013.08.15 @ 00:39:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

19.6 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

65000 ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
595.00	MCW - 20%M - 80%W	2.926
408.00	GO - 20%G - 80%O	5.723
0.00	408' GIP	0.000

Total Length: 1003.00 ft      Total Volume: 8.649 bbl

Num Fluid Samples: 0

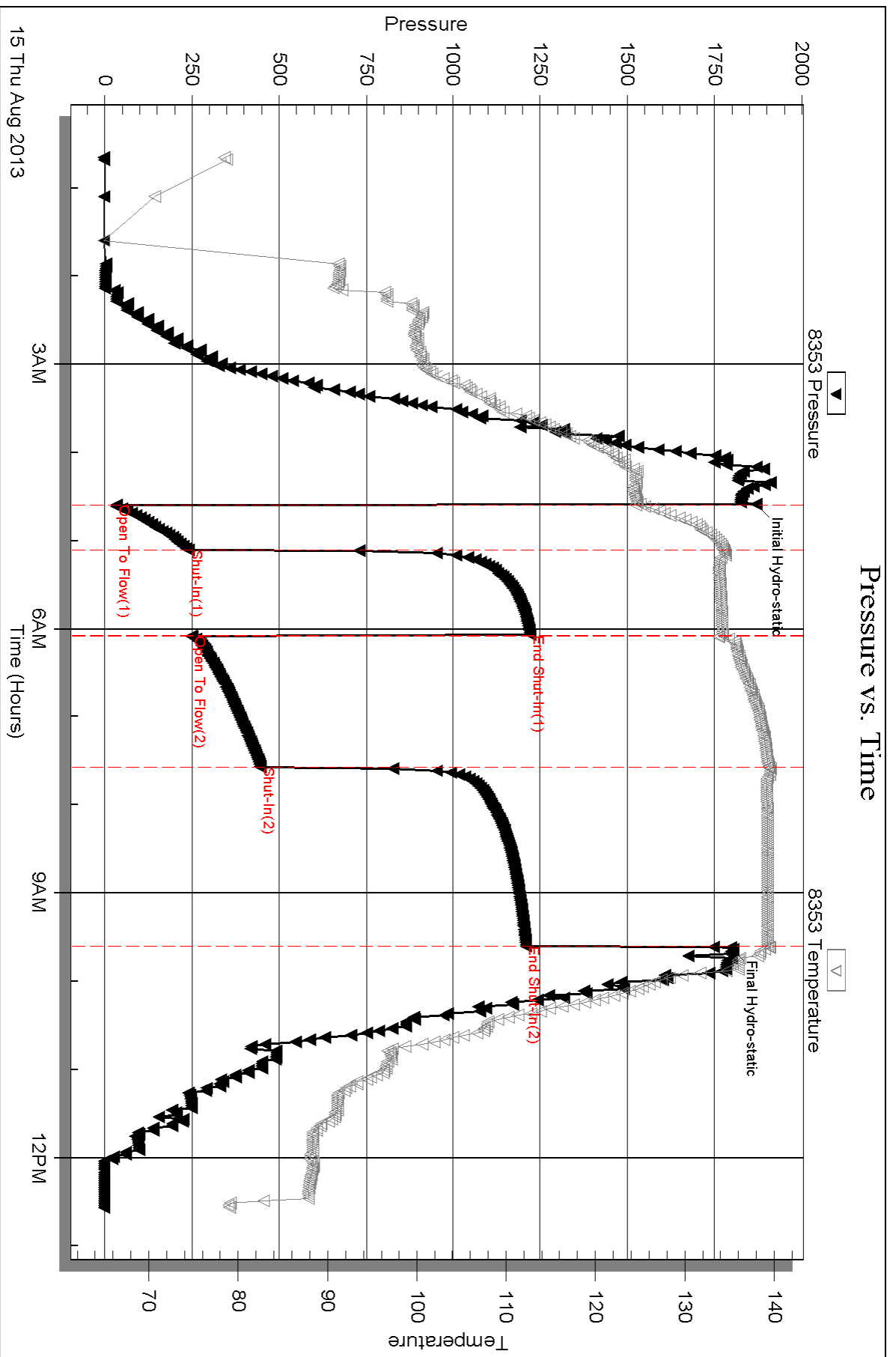
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: OIL API = 22 @ 84 DEG = 19.6 COR 60 DEG F  
RW = .104 @ 72 DEG F





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TESTING, INC.**

# DRILL STEM TEST REPORT

Berexco LLC.

**22-1S-36W - Rawlins KS**

2020 N. Bramblewood  
Wichita KS 67206

**Michael #1-22**

Job Ticket: 53503

**DST#: 2**

ATTN: Bryan Bynog

Test Start: 2013.08.16 @ 02:45:00

## GENERAL INFORMATION:

Formation: **LKC " A "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:22:00

Time Test Ended: 14:28:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 42

**Interval: 4000.00 ft (KB) To 4110.00 ft (KB) (TVD)**

Total Depth: 3980.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3158.00 ft (KB)

3147.00 ft (CF)

KB to GR/CF: 11.00 ft

**Serial #: 8360**

**Inside**

Press @ Run Depth: 60.55 psig @ 4001.00 ft (KB)

Start Date: 2013.08.16

End Date: 2013.08.16

Start Time: 02:45:15

End Time: 14:28:00

Capacity: 8000.00 psig

Last Calib.: 2013.08.16

Time On Btm: 2013.08.16 @ 06:21:45

Time Off Btm: 2013.08.16 @ 11:24:30

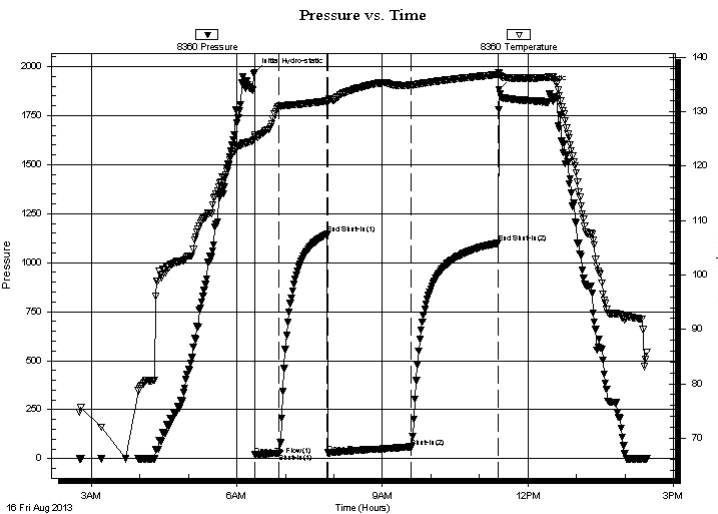
**TEST COMMENT:** 30 IF - Surface blow built to 1"

60 ISI - No return

90 FF - No blow

120 FSI - No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1970.64	125.30	Initial Hydro-static
1	20.12	125.37	Open To Flow (1)
31	28.44	130.99	Shut-In(1)
90	1145.18	132.01	End Shut-In(1)
91	30.20	131.76	Open To Flow (2)
194	60.55	134.92	Shut-In(2)
302	1100.24	136.86	End Shut-In(2)
303	1882.48	137.03	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
65.00	Mud - 100%M	0.32

## Gas Rates

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

\* Recovery from multiple tests





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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Berexco LLC.

**22-1S-36W - Rawlins KS**

2020 N. Bramblewood  
Wichita KS 67206

**Michael #1-22**

Job Ticket: 53503

**DST#: 2**

ATTN: Bryan Bynog

Test Start: 2013.08.16 @ 02:45:00

## 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: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
65.00	Mud - 100%M	0.320

Total Length: 65.00 ft      Total Volume: 0.320 bbl

Num Fluid Samples: 0

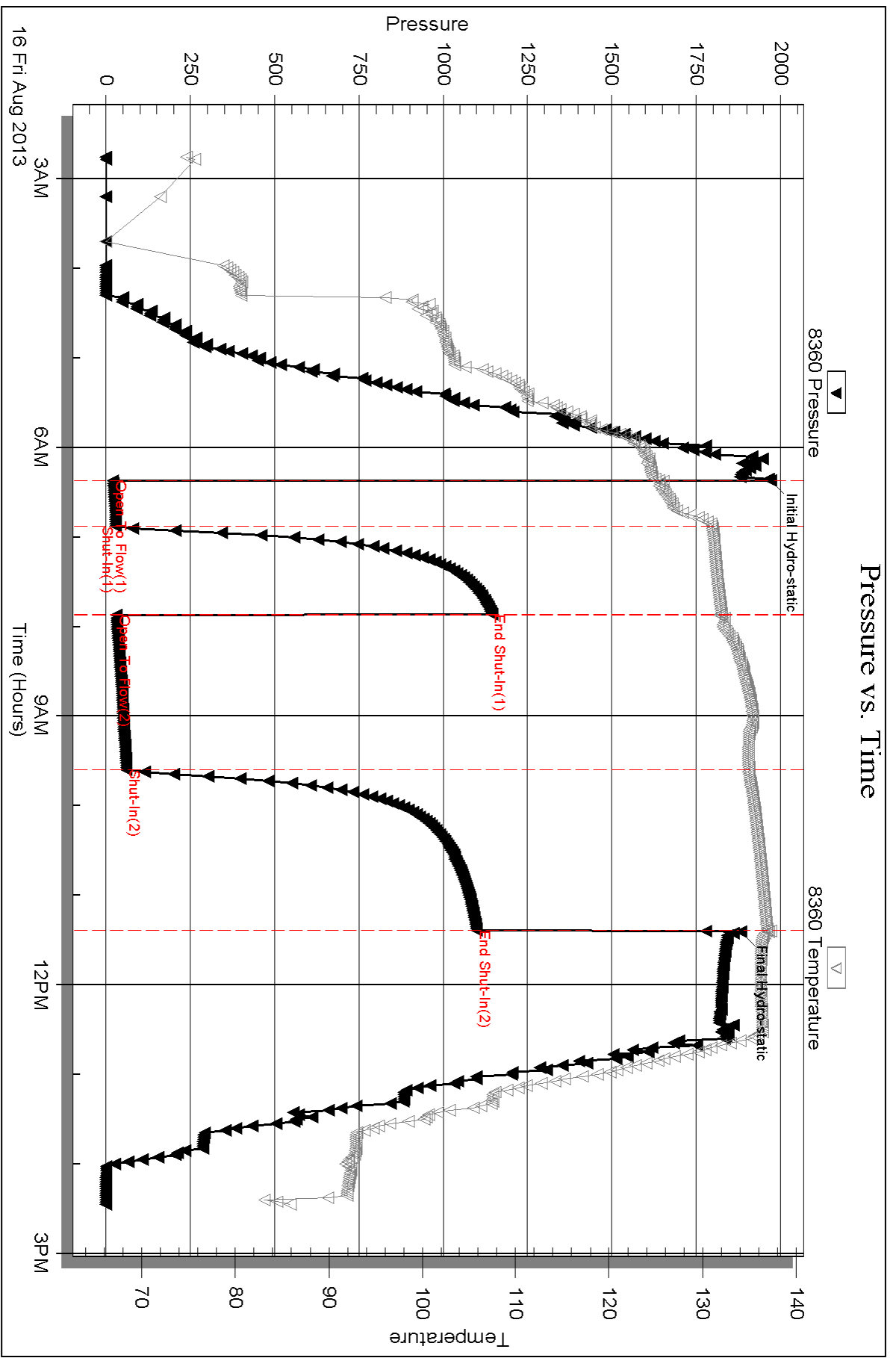
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Berexco LLC.  
 2020 N. Bramblewood  
 Wichita KS 67206  
 ATTN: Bryan Bynog

**22-1S-36W - Rawlins KS**

**Michael #1-22**

Job Ticket: 53504

**DST#: 3**

Test Start: 2013.08.17 @ 04:22:00

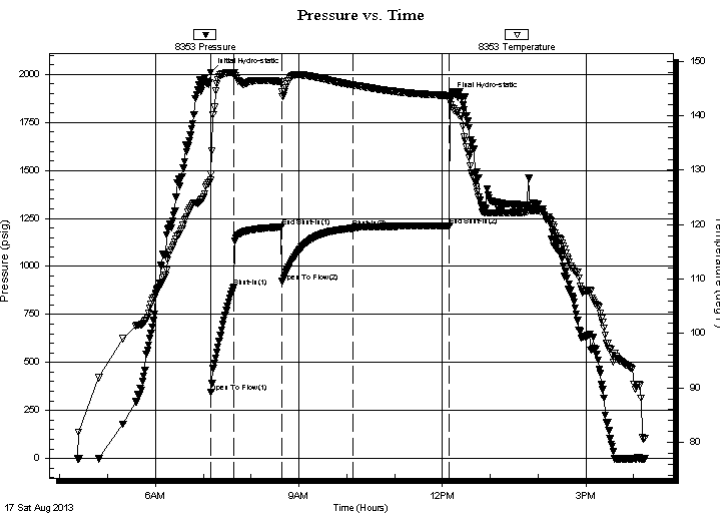
## GENERAL INFORMATION:

Formation: **LKC " B "**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 07:09:45  
 Tester: Ryan Nichols  
 Time Test Ended: 16:14:15  
 Unit No: 42  
 Interval: **4085.00 ft (KB) To 4165.00 ft (KB) (TVD)**  
 Reference Elevations: 3158.00 ft (KB)  
 Total Depth: 4165.00 ft (KB) (TVD)  
 3147.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Good  
 KB to GR/CF: 11.00 ft

## Serial #: 8353

Press @ RunDepth: 1198.63 psig @ ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.08.17 End Date: 2013.08.17 Last Calib.: 2013.08.17  
 Start Time: 04:22:15 End Time: 16:14:15 Time On Btm: 2013.08.17 @ 07:09:15  
 Time Off Btm: 2013.08.17 @ 12:09:30

**TEST COMMENT:** 30 IF - Bob @ 2 mins  
 60 ISI - Surface blow re-run built to 5"  
 90 FF - Bob @ 2 mins started dying back @ 60 mins died back to 6"  
 120 FSI - Surface blow return built to 6" @ 75 mins died back to 1 1/2"



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2010.62	128.15	Initial Hydro-static
1	343.45	129.41	Open To Flow (1)
29	892.24	147.91	Shut-In(1)
89	1205.68	146.22	End Shut-In(1)
90	921.01	144.46	Open To Flow (2)
179	1198.63	145.62	Shut-In(2)
300	1212.68	143.72	End Shut-In(2)
301	1885.14	142.67	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
2800.00	GO - 15%M - 85%o	33.86

\* 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.

**22-1S-36W - Rawlins KS**

2020 N. Bramblewood  
Wichita KS 67206

**Michael #1-22**

Job Ticket: 53504

**DST#: 3**

ATTN: Bryan Bynog

Test Start: 2013.08.17 @ 04:22:00

## 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: 69.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.40 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2800.00	GO - 15%M - 85%o	33.856

Total Length: 2800.00 ft      Total Volume: 33.856 bbl

Num Fluid Samples: 0

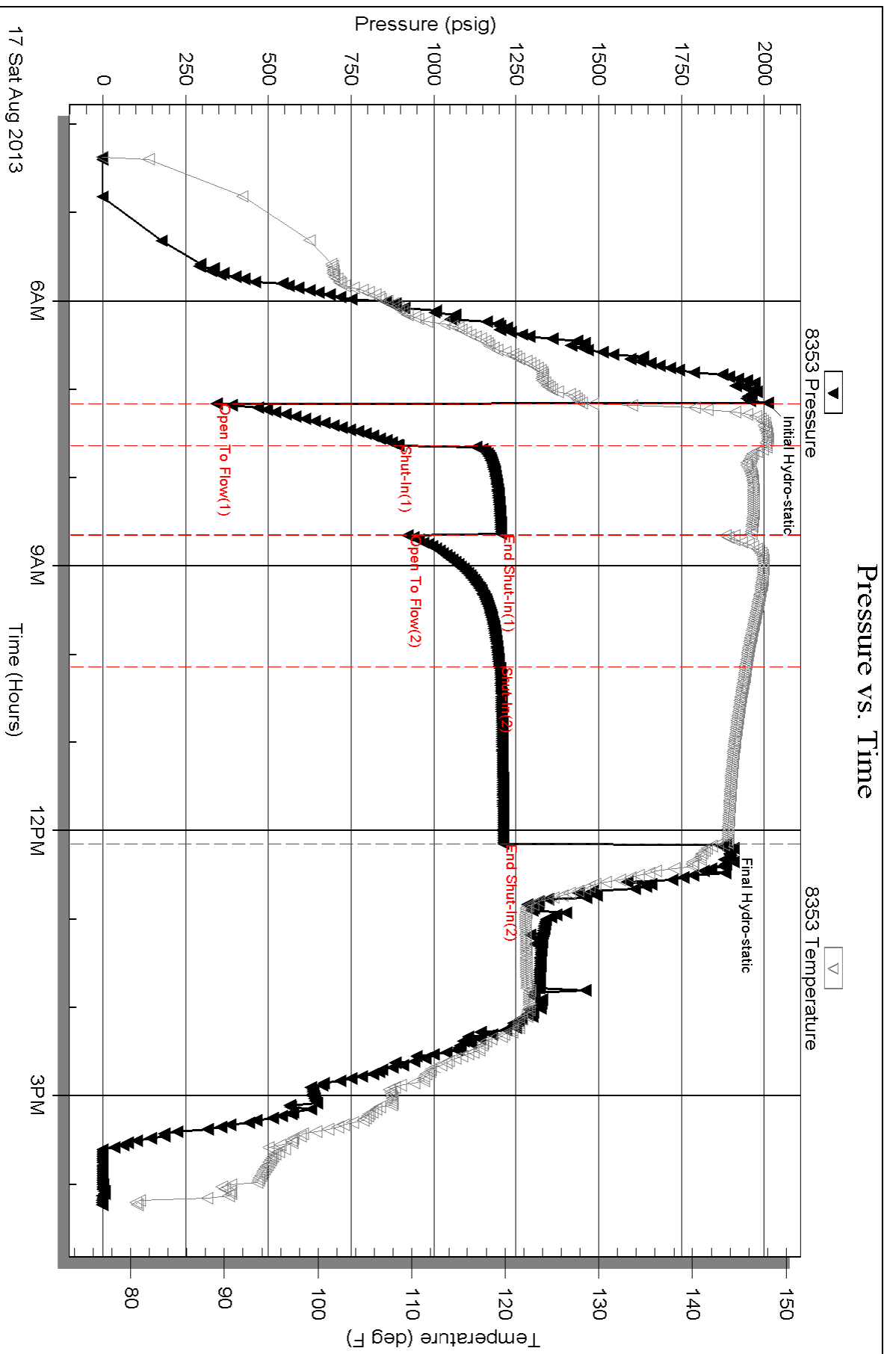
Num Gas Bombs: 0

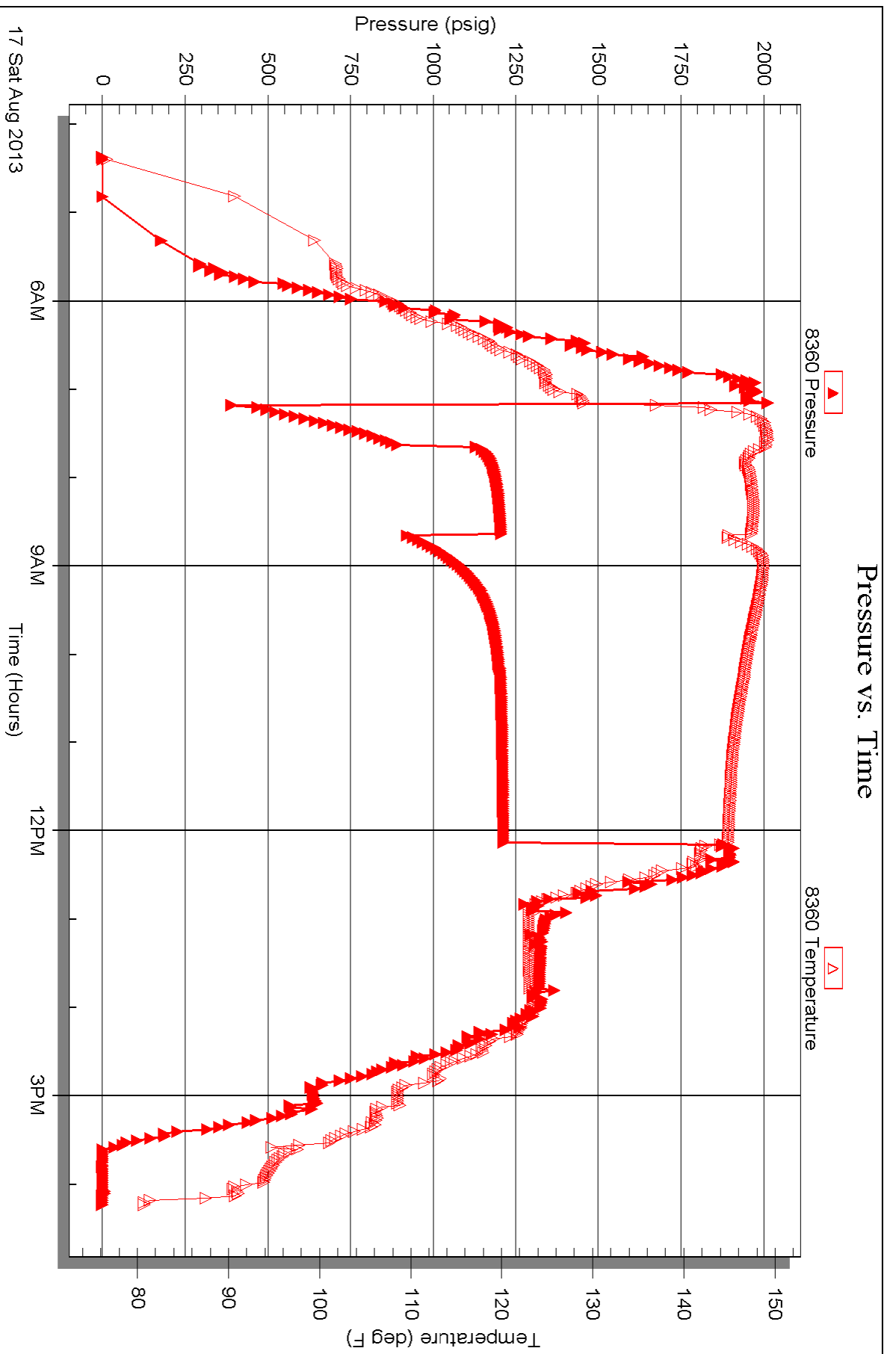
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Berexco LLC.  
 2020 N. Bramblewood  
 Wichita KS 67206  
 ATTN: Bryan Bynog

**22-1S-36W - Rawlins KS**

**Michael #1-22**

Job Ticket: 53418

**DST#: 4**

Test Start: 2013.08.18 @ 05:35:00

## GENERAL INFORMATION:

Formation: **Lan C**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 08:29:45  
 Time Test Ended: 17:24:30  
 Interval: **4138.00 ft (KB) To 4200.00 ft (KB) (TVD)**  
 Total Depth: 4200.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Wilbur Steinbeck  
 Unit No: 42  
 Reference Elevations: 3158.00 ft (KB)  
 3147.00 ft (CF)  
 KB to GR/CF: 11.00 ft

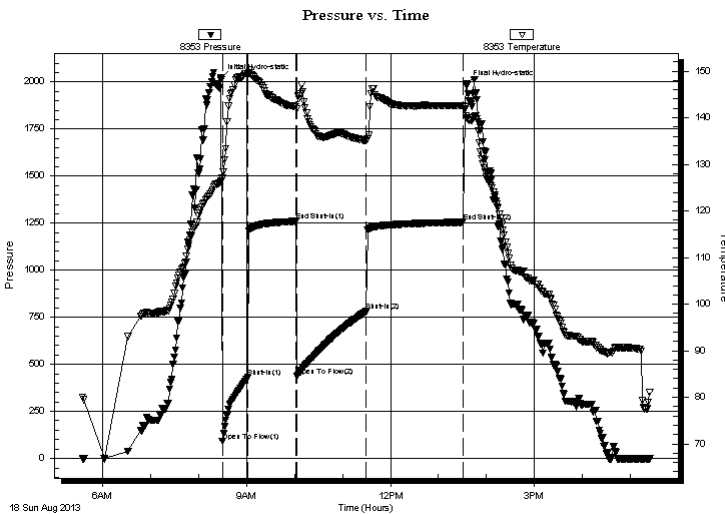
## Serial #: 8353

Inside

Press @ Run Depth: 781.49 psig @ 4139.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.08.18 End Date: 2013.08.18 Last Calib.: 2013.08.18  
 Start Time: 05:35:15 End Time: 17:24:30 Time On Btm: 2013.08.18 @ 08:27:45  
 Time Off Btm: 2013.08.18 @ 13:34:45

TEST COMMENT: 30 IF; BOB in 3 min  
 60 IS; Built to 9 1/2"  
 90 FF; BOB in 10 min  
 120 FSI; Built to

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2020.38	126.22	Initial Hydro-static
2	91.73	127.01	Open To Flow (1)
34	429.82	149.08	Shut-In(1)
94	1260.48	142.34	End Shut-In(1)
95	434.85	141.87	Open To Flow (2)
182	781.49	135.09	Shut-In(2)
303	1255.29	142.55	End Shut-In(2)
307	1987.30	140.03	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1054.00	OMCW 5%M 10%O	9.36
248.00	GWCO 5%G 20%W 75%O	3.48
434.00	GO 15%G 85%O	6.09
0.00	GIP 248'	0.00

\* Recovery from multiple tests

## Gas Rates

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





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TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Berexco LLC.

**22-1S-36W - Rawlins KS**

2020 N. Bramblewood  
Wichita KS 67206

**Michael #1-22**

Job Ticket: 53418

**DST#: 4**

ATTN: Bryan Bynog

Test Start: 2013.08.18 @ 05:35:00

## 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: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.00 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1600.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
1054.00	OMCW 5%M 10%O	9.365
248.00	GWCO 5%G 20%W 75%O	3.479
434.00	GO 15%G 85%O	6.088
0.00	GIP 248'	0.000

Total Length: 1736.00 ft      Total Volume: 18.932 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

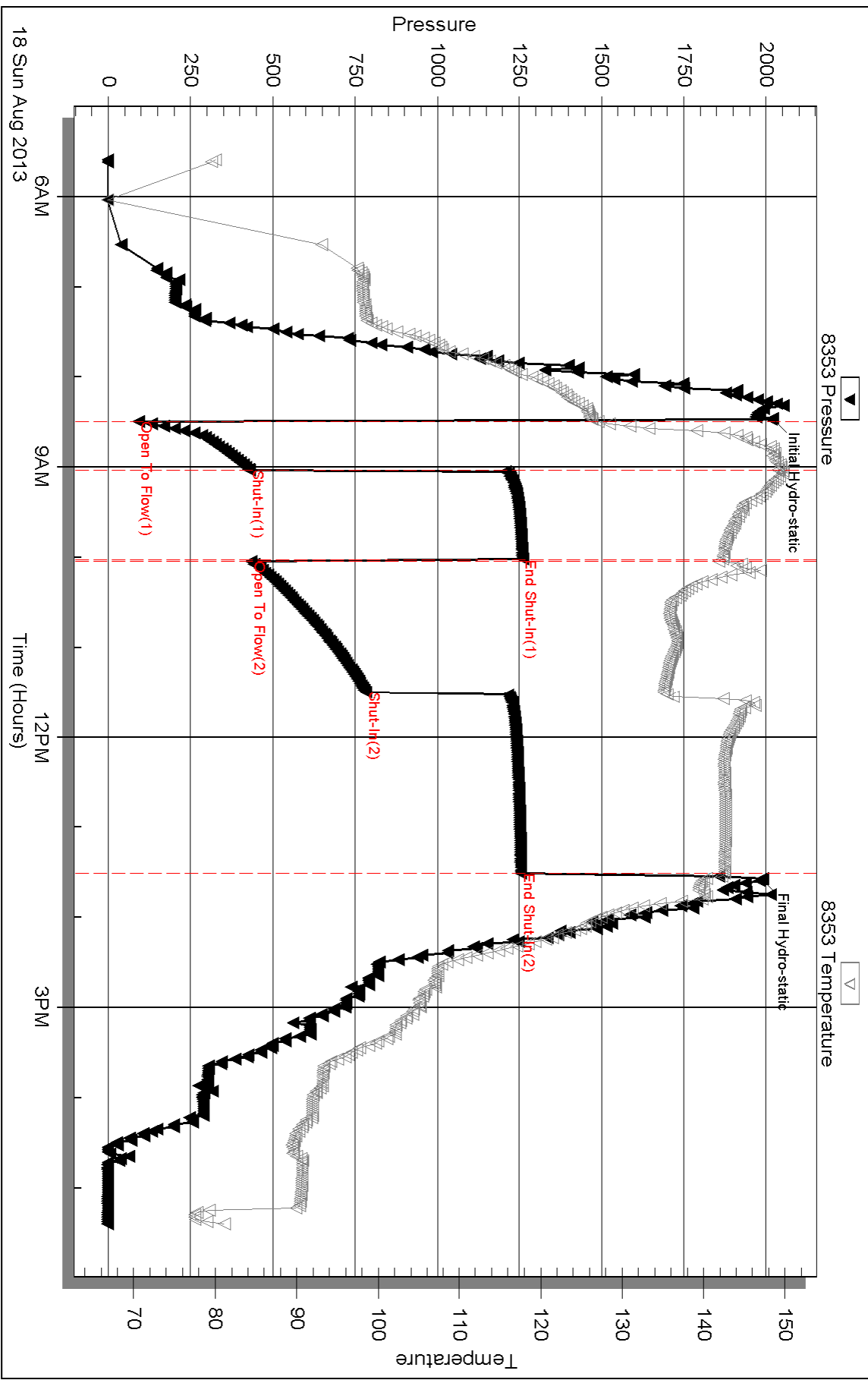
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity 23@90 DEG F=20

### Pressure vs. Time





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Berexco LLC.

**22-1S-36W - Rawlins KS**

2020 N. Bramblewood  
Wichita KS 67206

**Michael #1-22**

Job Ticket: 53419

**DST#: 5**

ATTN: Bryan Bynog

Test Start: 2013.08.19 @ 05:14:00

## GENERAL INFORMATION:

Formation: **Lan D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:59:45

Time Test Ended: 18:47:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Wilbur Steinbeck

Unit No: 42

**Interval: 4210.00 ft (KB) To 4250.00 ft (KB) (TVD)**

Total Depth: 4250.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3158.00 ft (KB)

3147.00 ft (CF)

KB to GR/CF: 11.00 ft

**Serial #: 8353 Outside**

Press @ RunDepth: 1143.18 psig @ 4211.00 ft (KB)

Start Date: 2013.08.19

End Date: 2013.08.19

Start Time: 05:14:15

End Time: 18:47:15

Capacity: 8000.00 psig

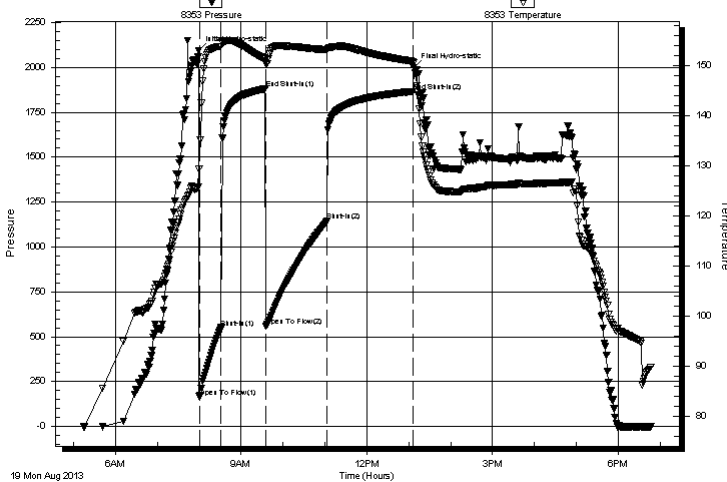
Last Calib.: 2013.08.19

Time On Btm: 2013.08.19 @ 07:58:45

Time Off Btm: 2013.08.19 @ 13:06:45

**TEST COMMENT:** 30 IF; BOB in 1 min  
60 IS; BOB in 4 min  
90 FF; BOB 1 min  
120 FSI; Built to 10"

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2092.19	125.69	Initial Hydro-static
1	164.85	129.48	Open To Flow (1)
32	546.36	153.90	Shut-In(1)
96	1881.02	151.35	End Shut-In(1)
97	559.03	150.51	Open To Flow (2)
184	1143.18	153.21	Shut-In(2)
307	1865.93	150.90	End Shut-In(2)
308	1998.84	150.71	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	MCO 45%M 55%O	0.59
2914.00	GO 10%G 90%O	36.55
120.00	GO 25%G 75%O	1.68
0.00	744 Gas In Pipe	0.00

## Gas Rates

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

\* Recovery from multiple tests



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TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Berexco LLC.

**22-1S-36W - Rawlins KS**

2020 N. Bramblewood  
Wichita KS 67206

**Michael #1-22**

Job Ticket: 53419

**DST#: 5**

ATTN: Bryan Bynog

Test Start: 2013.08.19 @ 05:14:00

## 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: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.00 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1600.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	MCO 45%M 55%O	0.590
2914.00	GO 10%G 90%O	36.549
120.00	GO 25%G 75%O	1.683
0.00	744 Gas In Pipe	0.000

Total Length: 3154.00 ft      Total Volume: 38.822 bbl

Num Fluid Samples: 0

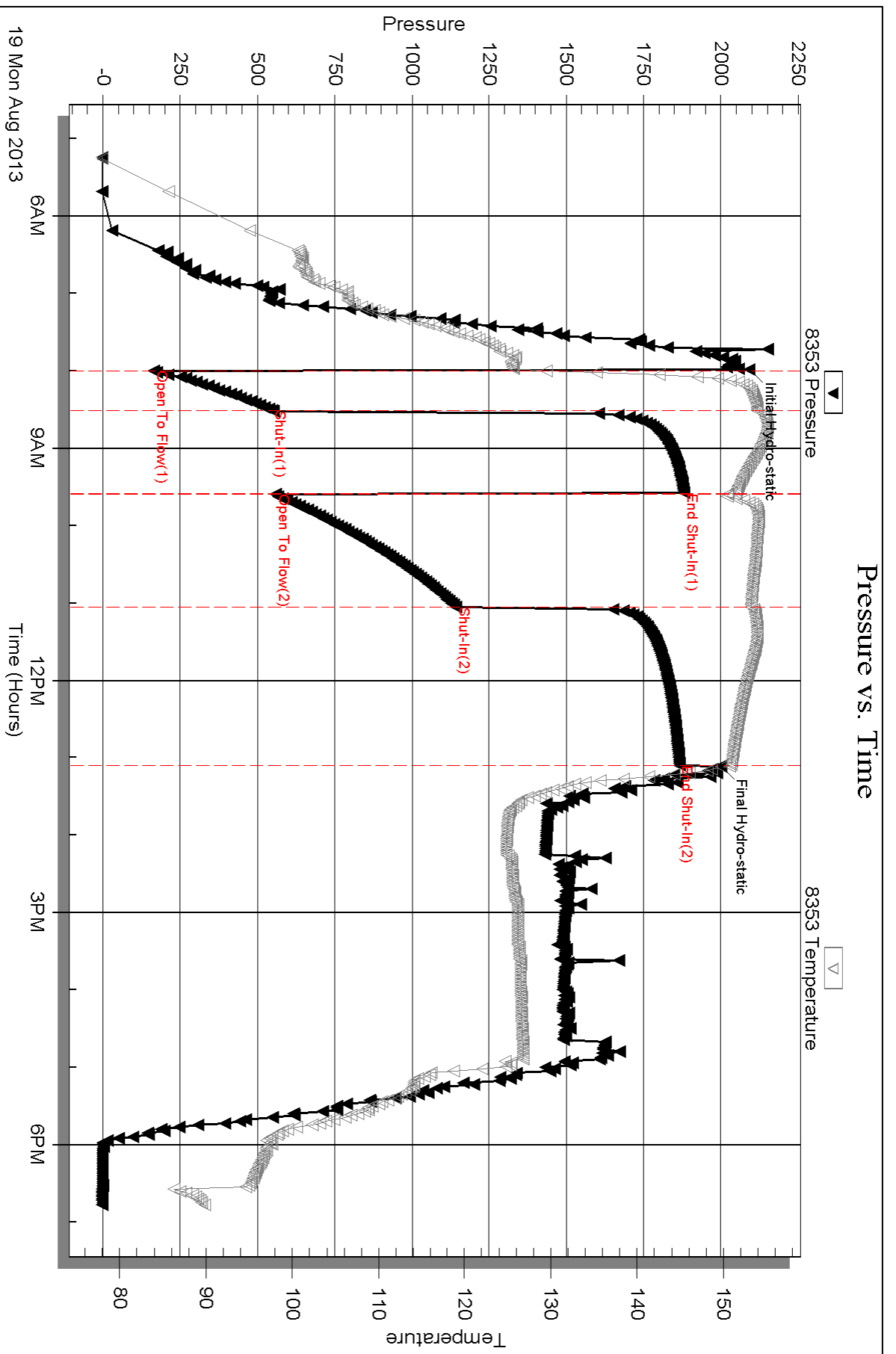
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity 29.8@91 Deg F = 26.7







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Berexco LLC.

**22-1s-36w Rawlins KS**

2020 N. Bramblewood  
Wichita KS 67206

**Michael #1-22**

Job Ticket: 53420

**DST#: 6**

ATTN: Bryan Bynog

Test Start: 2013.08.15 @ 00:39:00

## 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: 76.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.00 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
3500.00	Mud	43.676

Total Length: 3500.00 ft      Total Volume: 43.676 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

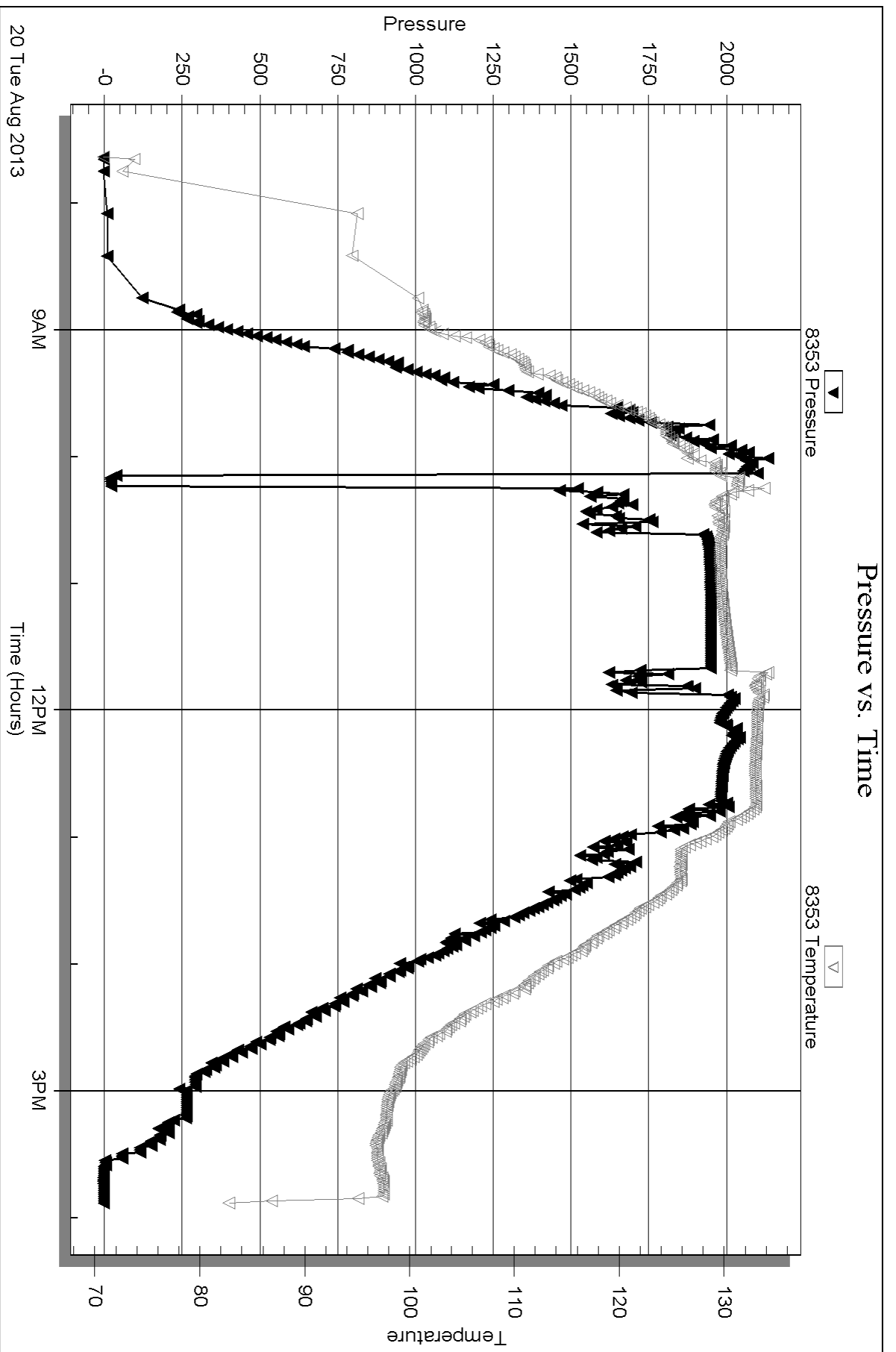
Recovery Comments: Miss Run Packer Failer 5 min into first open

Serial #: 8353

Outside Berexco LLC.

Michael #1-22

DST Test Number: 6



Triobite Testing, Inc

Ref. No: 53420

Printed: 2013.08.22 @ 15:35:47





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Berexco LLC.  
2020 N. Bramblewood  
Wichita KS 67206  
ATTN: Bryan Bynog

**22-1s-36w Rawlins KS**  
**Michael #1-22**  
Job Ticket: 53421      **DST#: 7**  
Test Start: 2013.08.20 @ 18:35:00

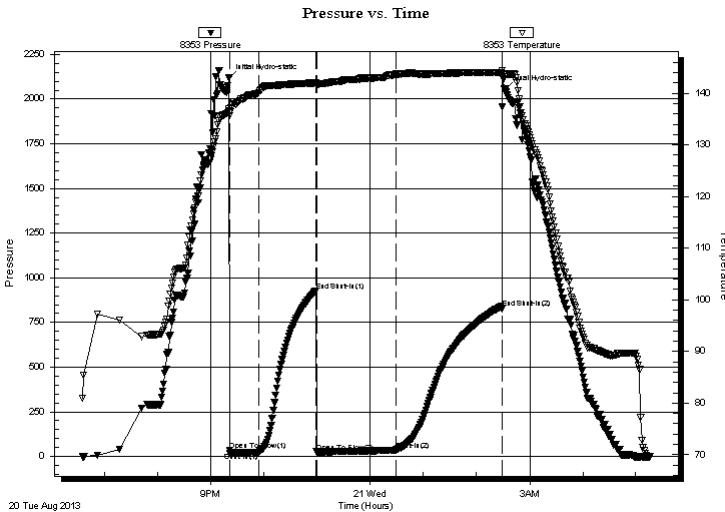
## GENERAL INFORMATION:

Formation: **Lan E**  
Deviated: No Whipstock: ft (KB)      Test Type: Conventional Bottom Hole (Reset)  
Time Tool Opened: 21:21:00      Tester: Wilbur Steinbeck  
Time Test Ended: 05:16:15      Unit No: 42  
**Interval: 4240.00 ft (KB) To 4300.00 ft (KB) (TVD)**      Reference Elevations: 3158.00 ft (KB)  
Total Depth: 4300.00 ft (KB) (TVD)      3147.00 ft (CF)  
Hole Diameter: 7.88 inches Hole Condition: Fair      KB to GR/CF: 11.00 ft

**Serial #: 8353      Outside**  
Press @ Run Depth: 35.25 psig @ 4241.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2013.08.20      End Date: 2013.08.21      Last Calib.: 2013.08.21  
Start Time: 18:35:15      End Time: 05:16:15      Time On Btm: 2013.08.20 @ 21:20:15  
Time Off Btm: 2013.08.21 @ 02:32:15

**TEST COMMENT:** 30 IF; Surface Blow  
60 IS; No Blow  
90 FF; No Blow  
120 FSI; No Blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2116.75	136.66	Initial Hydro-static
1	35.74	135.65	Open To Flow (1)
34	24.07	140.13	Shut-In(1)
99	926.99	141.99	End Shut-In(1)
99	25.87	141.79	Open To Flow (2)
189	35.25	143.67	Shut-In(2)
309	828.76	144.05	End Shut-In(2)
312	2050.61	143.75	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud	0.02

\* 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.

**22-1s-36w Rawlins KS**

2020 N. Bramblewood  
Wichita KS 67206

**Michael #1-22**

Job Ticket: 53421

**DST#: 7**

ATTN: Bryan Bynog

Test Start: 2013.08.20 @ 18:35:00

## 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: 76.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.00 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

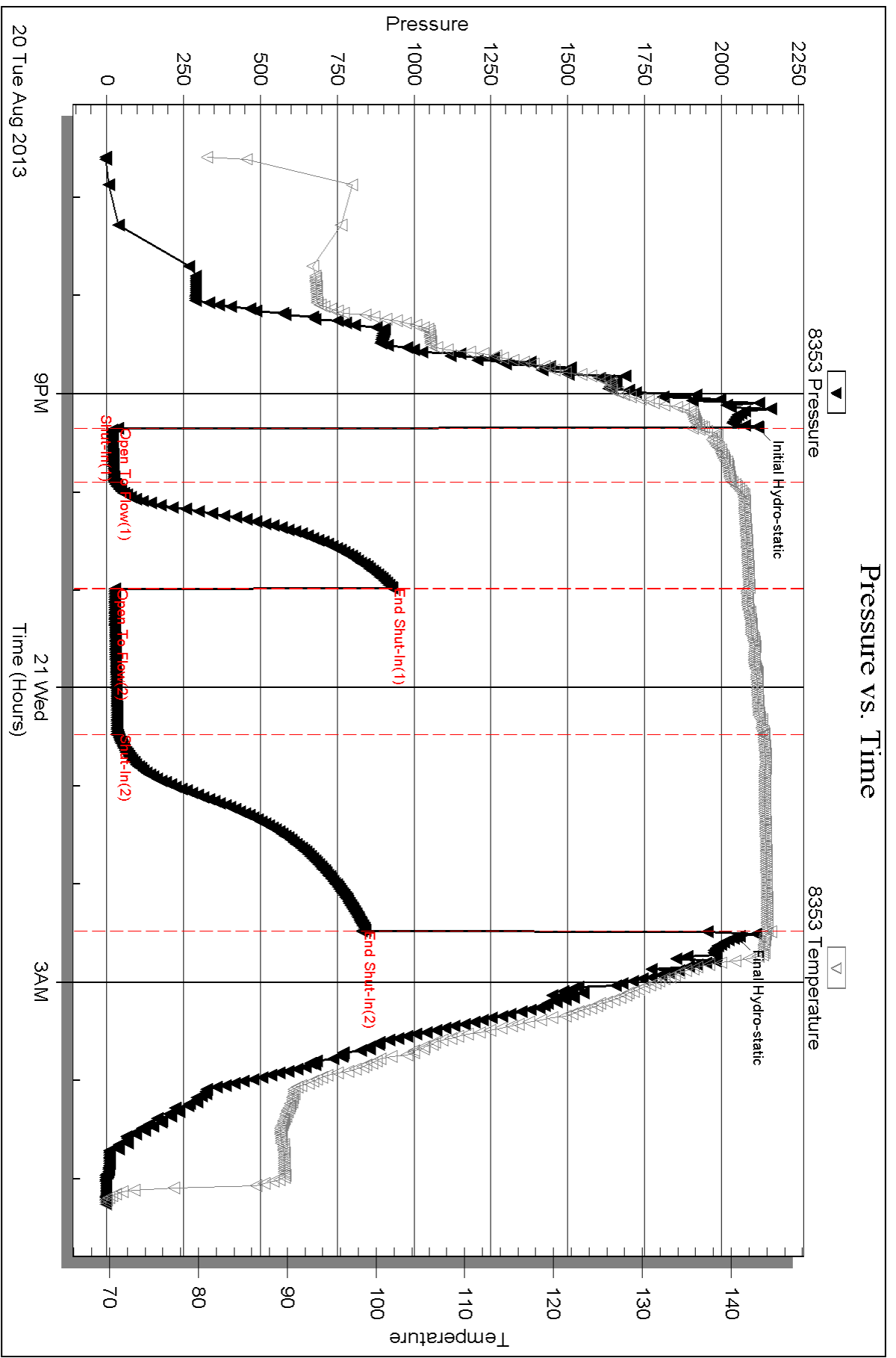
Recovery Comments:

Serial #: 8353

Outside Berexco LLC.

Michael #1-22

DST Test Number: 7



Triobite Testing, Inc

Ref. No: 53421

Printed: 2013.08.22 @ 15:33:21

**BEREXCO, LLC.  
MICHAEL # 1-22  
SENE SECTION 22 1S-36W  
RAWLINS COUNTY, KANSAS**

**GEOLOGIST  
WILLIAM B. BYNOG**

## RESUME

OPERATOR: BEREXCO, LLC.

WELL NAME & NUMBER: MICHAEL # 1-22

LOCATION: SENE SECTION 22 1S-36W

COUNTY: RAWLINS

STATE: KANSAS

SPUD DATE: 8-10-2013 COMPLETION DATE: 8-23-2013

ELEVATIONS: GL: 3147' KB: 3158'

CONTRACTOR: BEREDCO RIG 10

LOGS: LOG TECH TYPES: RAG, MICROLOG & SONIC

WELLSITE ENGINEER: NONE

MUD COMPANY: MORGAN MUD

MUD TYPE & ENGINEER: FRESH CHEMICAL

GEOLOGIST: WILLIAM B.BYNOG

HOLE SIZE: 7 7/8

MUD LOGGING BY: NONE

DRILL STEM TEST COMPANY: TRILOBITE

DRILL STEM TEST: DST #1 3890-3980, DST #2 4000-4110,  
DST #3 4085-4165, DST #4 4138-4200,  
DST #5 4210-4250, DST #6 MISRUN, DST  
# 7 4240-4300

WELL STATUS: RAN 5 ½ PRODUCTION CASING

## DISCUSSION

Michael # 1-22 1S-36W was drilled a depth of 4810 feet, testing the Lansing Kansas City, Pawnee and Mississippian formations in Rawlins County, Kansas. This was a wildcat well drilled using Seismic and well control.

Structurally, Michael # 1-22 came in ten feet high to the closest well, Moser # 3-9 1S-36W and ten feet high to the prognosis.

As a result of running high there were very good sample shows with good porosity development in the Oread, Lansing B, C, D and Pawnee formations.

The Oread was tested on drill stem test # 1, recovering 408 feet of free oil and 595 feet of water. Logs indicate a clear oil / water contact. Drilling continued to the Lansing A zone with a good show of oil. Drill stem test # 2 only recovered 61 feet of mud. The B zone was associated with a good drilling break and very good oil shows and porosity development. Drill stem test # 3 recovered 2800 feet of gassy oil with virgin pressures. The C zone had good shows and was tested on drill stem test # 4 recovering 248 feet of gas in pipe, 424 feet of oil, 298 feet of water cut oil (75% oil) and 1054 feet of oil cut water (10% oil). The D zone is a fractured oolitic limestone with fair porosity and was tested on drill stem test # 5 recovering 744 feet of gas in pipe and 3154 feet of gassy oil. The shut-in pressure on the D zone was abnormally high reaching 1881 pounds and still climbing. This became a problem later on because of the nearly balanced system with a hydrostatic pressure of 2000 pounds. We did test the E zone on drill stem test # 7 and recovered only 5 feet of mud. The Pawnee has good oil shows and an attempt was made to test but the well was flowing at one gallon per minute. A decision was made to drill to total depth and log because of the sensitive mud system and a loss circulation problem, before and after drilling the D zone.

Logs agreed with drill stem tests and sample evaluation recording fair to good porosity development in the Oread, Lansing B, C, D and Pawnee zones. We circulated some oil along with the mud on drill stem attempts after drilling the D zone, due to the very high pressure.

MICHAEL # 1-22 SAMPLE DESCRIPTIONS

ANHHYDRITE 3060(+98) S

3060(+98) L

BASE 3090(+68) S

3090(+68) L

3500-3636 SHALE red,soft,argillaceous

FORAKER

3636-3710 LIMESTONE pale gray,white,hard,chlky in part,poor porosity,no shows

3710-48 LIMESTONE white,firm,chalky,sandy in part,poor porosity,no shows

3748-3820 SHALE red,soft,argillaceous

3820-30 LIMESTONE pale gray,hard,dense, chalky in part,slightly fossils,poor porosity,abundant dead black stain,nfo

3830-46 SHALE as above

3846-56 LIMESTONE white,pale gray,hard,chalky,spotty dead black stain,nfo

3856-70 SHALE red,soft,silty

MICHAEL # 1-22 SAMPLE DESCRIPTIONS

TOPEKA

3870-94 LIMESTONE white,pale gray,very hard,dense,chalky in part,poor porosity,no shows

3994-3914 LIMESTONE white,firm,very sandy,poor porosity,no shows

3914-30 LIMESTONE white,firm,very chalky,poor porosity,no shows

3930-70 SHALE red,soft,very argillaceous, silty in part

OREAD

3970-78 GRAINSTONE white, firm,very fossils,slightly chalky,fair intg porosity,spotty to even live brown stain, very good milky cut,good show free oil,good odor

3978-4010 LIMESTONE buff,hard,blocky,chalky in part,no shows

4010-20 LIMESTONE pale gray,very hard,dense, argillaceous in part

4020-50 SHALE gray black,green,firm fissile, slightly carbonaceous with thin stringers SANDSTONE green,friable,very fine grained,clay filled,poor porosity,no shows

4050-74 SHALE as above some red,soft,argillaceous with thin LIMESTONE light brown,very hard,very dense,some Chert brown

LANSING A



## MICHAEL # 1-22 SAMPLE DESCRIPTIONS

4074-82 LIMESTONE white,firm,chalky, slightly oolitic,poor to fair intg porosity,spotty live brown stain,good milky cut,poor show free oil

4082-4100 LIMESTONE buff,hard,blocky,dense, chalky in part,no shows

4100-26 SHALE red,soft,very argillaceous with thin SANDSTONE white,firm,very fine grained,poor porosity,very spotty dead black stain,weak cut

B

4126-34 GRAINSTONE white, firm,very oolitic,fair intg porosity,spotty to even live brown stain,good milky cut,fair show free oil

4134-40 LIMESTONE buff,very hard,dense,no shows

4142-54 SHALE red,soft,argillaceous

4154-60 LIMESTONE white,firm,very chalky,poor porosity,very spotty black dead stain

4160-74 SHALE green,soft,very argillaceous,silty in part

4174-84 GRAINSTONE pale gray,slightly hard,very fossils,poor to fair intg porosity,spotty to even live brown stain, good milky cut,fair show free oil

MICHAEL # 1-22 SAMPLE DESCRIPTIONS

4184-88 LIMESTONE buff,very hard,dense,no shows

C

4188-98 GRAINSTONE white, firm,very fossils,fair intg porosity,spotty live brown stain,good milky cut,good show free oil

4198-4210 LIMESTONE buff,very hard,dense, blocky,no shows

4210-30 SHALE green,red,firm,blocky, argillaceous

D

4230-36 LIMESTONE white,buff,hard,fossils ,fractured,poor to fair vuggy porosity, spotty live brown stain,good milky cut,good show free oil

4236-48 LIMESTONE buff,very hard,dense,poor porosity,no shows with thin SHALE as above

4248-72 SHALE red,green,firm,waxy

E

4272-76 LIMESTONE buff,very hard,dense, chalky in part,poor porosity,no shows

4276-84 LIMESTONE white,buff,firm to slightly hard,fossils, chalky,poor vuggy porosity,spotty live brown stain,good milky cut,poor show free oil

MICHAEL # 1-22 SAMPLE DESCRIPTIONS

4246-95 LIMESTONE white, buff, hard, dense, chalky in part, poor porosity, no shows

4295-4314 LIMESTONE as above some SHALE red, very sandy

F

4314-46 LIMESTONE buff, hard, dense, blocky, poor porosity, no shows with thin SHALE as above

4346-70 LIMESTONE buff, very hard, dense, slightly fossils, no shows

4360-27 SHALE red, green, soft, argillaceous with thin LIMESTONE as above

4427-38 LIMESTONE buff, very hard, dense, chalky in part, poor porosity, no shows

4438-52 SHALE green, firm, waxy, fissile

PAWNEE

4452-56 LIMESTONE buff, hard, oolitic, poor to fair intg porosity, spotty light brown stain, fair cut

4456-60 LIMESTONE buff, very hard, dense, no shows

4460-70 LIMESTONE white, buff, firm to hard, very chalky, poor vis porosity, no shows some CHERT orange

MICHAEL # 1-22 SAMPLE DESCRIPTIONS

4470-90 SHALE green,maroon,brown,firm, fissile

4490-4525 LIMESTONE pale gray,buff,very hard,dense,blocky,no shows

4525-42 SHALE black,firm,very carbonaceous

4542-65 LIMESTONE buff,very hard,very dense, blocky,no shows

4565-4610 SHALE green,maroon,red,soft to firm argillaceous some sandy in part,no shows

4610-30 LIMESTONE pale gray,buff,very hard,dense,blocky,no shows with thin SHALE as above

4630-76 SHALE red,maroon,soft,very argillaceous,some very sandy in part,no shows with thin LIMESTONE as above

4676-86 SANDSTONE maroon,translucent,firm, fine to mg,sbang,poor sorted,clay filled,fair intg porosity,no shows with thin SHALE as above

4686-92 LIMESTONE buff,pale gray,hard,dense,blocky,no shows with thin SHALE as above

4692-4700 SANDSTONE translucent,pale maroon,firm,fine to mg,srnd,mstrd, dirty,fair porosity,no shows

4700-46 SHALE yell,green,maroon,soft to firm,argillaceous with interbed SANDSTONE pale maroon,translucent,firm,very fine to fg,s rounded,msrtd,dirty,fair intg porosity,no shows

## MICHAEL # 1-22 SAMPLE DESCRIPTIONS

4746-58 SANDSTONE translucent, friable to firm, fine to m, sang, msrtd, abundant glauconite ?, fair to good porosity, abundant large quartz grains

MISSISSIPPIAN

4758-62 DOLOMITE white, hard, dense, poor porosity, no shows, abundant Chert white, orange

4762-80 DOLOMITE white, slightly hard, fair micxln porosity, no shows Chert as above

4880-86 DOLOMITE as above poor porosity, no shows

4786-4810 DOLOMITE as above fair porosity, no shows

RTD 4810'

LTD 4814'





# CEMENTING LOG

STAGE NO. \_\_\_\_\_

Date 8/10/13 District Oakley Ticket No. 061240  
 Company Berco Rig Berco 10  
 Lease Michael 1-22 Well No. 1-22  
 County Newlin State KS  
 Location \_\_\_\_\_ Field \_\_\_\_\_

CASING DATA: Conductor  PTA  Squeeze  Misc.   
 Surface  Intermediate  Production  Liner   
 Size 8 5/8 Type New Weight 21 Collar \_\_\_\_\_

Casing Depths: Top KB Bottom 311

Drill Pipe: Size 4 1/2 Weight \_\_\_\_\_ Collars \_\_\_\_\_  
 Open Hole: Size 12 1/4 T.D. \_\_\_\_\_ ft. P.B. to \_\_\_\_\_ ft.

CAPACITY FACTORS:  
 Casing: Bbbls/Lin. ft. 0637 Lin. ft./Bbl. \_\_\_\_\_  
 Open Holes: Bbbls/Lin. ft. \_\_\_\_\_ Lin. ft./Bbl. \_\_\_\_\_  
 Drill Pipe: Bbbls/Lin. ft. \_\_\_\_\_ Lin. ft./Bbl. \_\_\_\_\_  
 Annulus: Bbbls/Lin. ft. \_\_\_\_\_ Lin. ft./Bbl. \_\_\_\_\_  
 Perforations: From \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Amt. \_\_\_\_\_

CEMENT DATA:  
 Spacer Type: \_\_\_\_\_  
 Amt. \_\_\_\_\_ Sks Yield \_\_\_\_\_ ft<sup>3</sup>/sk Density \_\_\_\_\_ PPG

LEAD: Pump Time \_\_\_\_\_ hrs. Type Cam Drill  
270 gal Excess \_\_\_\_\_  
 Amt. 225 Sks Yield 1.34 ft<sup>3</sup>/sk Density 15.02 PPG

TAIL: Pump Time \_\_\_\_\_ hrs. Type \_\_\_\_\_  
 Excess \_\_\_\_\_  
 Amt. \_\_\_\_\_ Sks Yield \_\_\_\_\_ ft<sup>3</sup>/sk Density \_\_\_\_\_ PPG  
 WATER: Lead 6.5 gals/sk Tail \_\_\_\_\_ gals/sk Total \_\_\_\_\_ Bbbls.

Pump Trucks Used 422  
 Bulk Equip. 373

Float Equip: Manufacturer \_\_\_\_\_  
 Shoe: Type \_\_\_\_\_ Depth \_\_\_\_\_  
 Float: Type \_\_\_\_\_ Depth \_\_\_\_\_  
 Centralizers: Quantity \_\_\_\_\_ Plugs Top \_\_\_\_\_ Btm. \_\_\_\_\_  
 Stage Collars \_\_\_\_\_  
 Special Equip. \_\_\_\_\_  
 Disp. Fluid Type H<sub>2</sub>O Amt. 18.852 Bbbls. Weight 8.37 PPG  
 Mud Type \_\_\_\_\_ Weight \_\_\_\_\_ PPG

COMPANY REPRESENTATIVE \_\_\_\_\_ CEMENTER AR

TIME	PRESSURES PSI		FLUID PUMPED DATA			REMARKS
	DRILL PIPE CASING	ANNULUS	TOTAL FLUID	Pumped Per Time Period	RATE Bbbls Min.	
<u>5:20</u>						<u>on location SPQ Metz Setup</u>
						<u>Run Casing, Circulate</u>
				<u>34.83</u>	<u>3.0</u>	<u>mix cement</u>
					<u>5.0</u>	<u>Displace Cement</u>
<u>6:30</u>						<u>Shut in</u>
						<u>Job Complete</u>
						<u>Thank You</u>

FINAL DISP. PRESS: \_\_\_\_\_ PSI BUMP PLUG TO \_\_\_\_\_ PSI BLEEDBACK \_\_\_\_\_ BBLs. THANK YOU

# ALLIED OIL & GAS SERVICES, LLC 061308

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999  
SOUTHLAKE, TEXAS 76092

SERVICE POINT:  
Dakley

DATE <u>8-23-13</u>	SEC. <u>22</u>	TWR. <u>1</u>	RANGE <u>36</u>	CALLED OUT	ON LOCATION	JOB START <u>5:00 AM</u>	JOB FINISH <u>6:00 AM</u>
LEASE <u>Michael</u>	WELL # <u>1-22</u>		LOCATION <u>McDonald 12N 1/2E</u>		COUNTY <u>Rawlins</u>	STATE <u>KS</u>	
OLD OR <input checked="" type="radio"/> NEW (Circle one)			<u>N/A &amp; into</u>				

CONTRACTOR Beredco 10  
 TYPE OF JOB Production  
 HOLE SIZE 2 7/8 T.D. 4910'  
 CASING SIZE 5/2 DEPTH 4619.56  
 TUBING SIZE DEPTH  
 DRILL PIPE DEPTH  
 TOOL DEPTH  
 PRES. MAX MINIMUM  
 MEAS. LINE SHOE JOINT 42.40'  
 CEMENT LEFT IN CSG. 42.40'  
 PERFS.  
 DISPLACEMENT 108.93 BBL

OWNER Same  
 CEMENT  
 AMOUNT ORDERED 250 sks com 10% salt  
5# Gilsonite 206 gal  
450 sks Lite 1/4 Flo-seal  
 COMMON 250 sks @ 17.90 4475.00  
 POZMIX @  
 GEL 5 sks @ 23.40 117.00  
 CHLORIDE @  
 ASC @  
Lite 450 sks @ 15.95 7177.50  
Salt 26 sks @ 26.35 685.10  
Gilsonite 1250# @ .98 1225.00  
Flo-seal 113# @ 2.97 335.61  
 HANDLING 809.89 cu/ft @ 2.48 2008.53  
 MILEAGE 2160 ton/mile 34.2 ton 4446.00

EQUIPMENT  
 PUMP TRUCK CEMENTER Andrew Forstlund  
 # 423-281 HELPER Tyler Flipse  
 BULK TRUCK DRIVER Chris Helpingstone  
 # 323  
 BULK TRUCK DRIVER Brandon Wilkinson  
 # 600

**REMARKS:**

Plug mouse hole 20 sks Ref hole 30 sks  
mix 420 sks Lite Followed by 250 sks  
com. wash pump and line clean.  
Displace plug 1500# 1/4 Flo-seal  
land plug 2000#  
Plug landed float held.  
Cement did not circulate.

Thank you

CHARGE TO: Berexco  
 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 Ed Hayes

TOTAL 20469.74

**SERVICE**

DEPTH OF JOB 4619.56  
 PUMP TRUCK CHARGE 2765.25  
 EXTRA FOOTAGE @  
 MILEAGE 50 miles @ 7.70 385.00  
 MANIFOLD head @ 225.00 N/C  
Light vehicle @ 4.40 N/C

TOTAL 3150.25

**PLUG & FLOAT EQUIPMENT**

5/2  
1 Plug Float shoe @ 232.00  
1 Latch down plug Assy @ 184.00  
3 Baskets @ 178.00 534.00  
12 centralizers @ 32.00 629.00  
30 scratchers @ 46.00 1380.00

TOTAL 2959.00

SALES TAX (If Any) \_\_\_\_\_  
 TOTAL CHARGES 26577.49  
 DISCOUNT 7,442.25 IF PAID IN 30 DAYS  
19,137.23 Net.





# CEMENTING LOG

STAGE NO. \_\_\_\_\_

Date 8-23-13 District 09 Key Ticket No. 061308  
 Company Berexco Rig Berexco 10  
 Lease Micheal Well No. 1-22  
 County Rawlins State KS  
 Location 22 1 36 Field \_\_\_\_\_  
McDonald 12N 12E Mike into

CASING DATA: Conductor  PTA  Squeeze  Misc   
 Surface  Intermediate  Production  Liner   
 Size 5/2 Type NEW Weight 15.5 Collar \_\_\_\_\_

Casing Depths: Top KB Bottom 46956

Drill Pipe: Size \_\_\_\_\_ Weight \_\_\_\_\_ Collars \_\_\_\_\_  
 Open Hole: Size 7 7/8 T.D. 4910 ft. P.B. to \_\_\_\_\_ ft.

CAPACITY FACTORS:  
 Casing: Bbls/Lin. ft. 0.238 Lin. ft./Bbl. \_\_\_\_\_  
 Open Holes: Bbls/Lin. ft. \_\_\_\_\_ Lin. ft./Bbl. \_\_\_\_\_  
 Drill Pipe: Bbls/Lin. ft. \_\_\_\_\_ Lin. ft./Bbl. \_\_\_\_\_  
 Annulus: Bbls/Lin. ft. \_\_\_\_\_ Lin. ft./Bbl. \_\_\_\_\_  
 Perforations: From \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Amt. \_\_\_\_\_

CEMENT DATA:  
 Spacer Type: \_\_\_\_\_  
 Amt. \_\_\_\_\_ Sks Yield \_\_\_\_\_ ft<sup>3</sup>/sk Density \_\_\_\_\_ PPG

LEAD: Pump Time \_\_\_\_\_ hrs. Type LITE  
1/4 FLO-SEA 1 Excess \_\_\_\_\_  
 Amt. 450 Sks Yield 1.9 ft<sup>3</sup>/sk Density 12.3 PPG

TAIL: Pump Time \_\_\_\_\_ hrs. Type COM 10850IT  
20 gal 5 Wilsonite Excess \_\_\_\_\_  
 Amt. 250 Sks Yield 1.18 ft<sup>3</sup>/sk Density 15.6 PPG

WATER: Lead \_\_\_\_\_ gals/sk Tail \_\_\_\_\_ gals/sk Total \_\_\_\_\_ Bbls.

Pump Trucks Used 423-281  
 Bulk Equip. 323  
600

Float Equip: Manufacturer Industrial Rubber  
 Shoe: Type API Float shoe Depth 461956  
 Float: Type Latchdown Plug ASSY Depth 457716  
 Centralizers: Quantity 17 Plugs Top \_\_\_\_\_ Btm. \_\_\_\_\_  
 Stage Collars \_\_\_\_\_  
 Special Equip. Baskets  
 Disp. Fluid Type Water Amt. 108.93 Bbls. Weight \_\_\_\_\_ PPG  
 Mud Type \_\_\_\_\_ Weight \_\_\_\_\_ PPG

COMPANY REPRESENTATIVE \_\_\_\_\_ CEMENTER Andrew

TIME	PRESSURES PSI		FLUID PUMPED DATA			REMARKS
	DRILL PIPE CASING	ANNULUS	TOTAL FLUID	Pumped Per Time Period	RATE Bbls Min.	
<u>5:00</u>						<u>plug mouse hole 20 sks</u> <u>plug rat hole 20 sks</u> <u>start mixing cement down 5/2</u> <u>cement mixed</u> <u>wash pump and line clean</u> <u>start Displacement</u>
				<u>10</u>		
				<u>10</u>		
				<u>10</u>		
	<u>1000</u>			<u>10</u>		
				<u>10</u>		
				<u>10</u>		
	<u>1400</u>			<u>10</u>		
	<u>1500</u>			<u>10</u>		
	<u>1500</u>			<u>9</u>		
<u>6:00</u>						<u>plug land</u> <u>float hole</u> <u>cement did not circulate</u>

FINAL DISP. PRESS: 1500 PSI BUMP PLUG TO 2000 PSI BLEEDBACK 1/2 BBLs. THANK YOU