[redacted]

Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1239755

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 # 34318
Name: BEREXCO LLC
Address 1: 2020 N. Bramblewood
Address 2:
City: Wichita State: KS Zip: 67206 + 1094
Contact Person: Rodney Reynolds
Phone: (316) 265-3311
CONTRACTOR: License # 34317
Name: BEREDCO LLC
Wellsite Geologist: William B. Bynog
Purchaser: Central Crude Corporation

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 #:

10/21/2014	11/03/2014	02/11/2015
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-153-21073-00-00
Spot Description:
_ - S2 - S2 - S2 Sec. 32 Twp. 1 S. R. 36 ☐ East ☑ West
330 Feet from ☐ North / ☑ South Line of Section
2640 Feet from ☐ East / ☑ West Line of Section

Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☐ SE ☑ SW

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

Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84

County: Rawlins
Lease Name: Moser C Well #: 4
Field Name: un-named Wildcat
Producing Formation: Lansing/KS City
Elevation: Ground: 3243 Kelly Bushing: 3254
Total Vertical Depth: 4680 Plug Back Total Depth: 4615
Amount of Surface Pipe Set and Cemented at: 299 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: 1000 ppm Fluid volume: 500 bbls
Dewatering method used: Evaporated

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: 02/16/2015
☑ **Confidential Release Date:** 02/15/2017
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** NAOMI JAMES **Date:** 02/16/2015

[redacted]

1239755

Operator Name: BEREXCO LLC Lease Name: Moser C Well #: 4

Sec. 32 Twp. 1 S. R. 36 ☐ East ☑ West County: Rawlins

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 ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

List All E. Logs Run:

Radiation Guard Log
Microresistivity Log

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name: Attached Top: Attached Datum: Attached

CASING RECORD ☑ New ☐ 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
Surface	12.25	8.625	23	299	Common	225	3% cc, 2% gel
Production	7.875	5.50	15.50	4672	Lite & Common	700	3/4#flocele,10%salt,2%gel,5#Gilsonite

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
___ Perforate ___ Protect Casing ___ Plug Back TD ___ 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 *(Amount and Kind of Material Used)*	Depth
4	4364 - 4372 LKC	1000 gals 15% MCA, 3% solvent	4364 - 4372
4	4262 - 4265 LKC	250 gals 15% MCA, 3% solvent	4262 - 4265
4	4405 - 4414 LKC	750 gals 15% MCA, 3% solvent	4405 - 4414
	4405 - 4414 LKC	2500 gals 15% Gelled Acid, 3% solvent	4405 - 4414

TUBING RECORD: Size: 2.375 Set At: SN @ 4425 Packer At: 4330 Liner Run: ☐ Yes ☑ No

Date of First, Resumed Production, SWD or ENHR. 02/16/2015

Producing Method: ☐ Flowing ☐ Pumping ☐ Gas Lift ☑ Other *(Explain)* not yet on pump - not producing at this time.

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS:
☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION:
☐ Open Hole ☑ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*
☐ Other *(Specify)*

PRODUCTION INTERVAL:
4364 - 4375
4405 - 4415

Form	ACO1 - Well Completion
Operator	BEREXCO LLC
Well Name	Moser C 4
Doc ID	1239755

Tops

Name	Top	Datum
Anhydrite (top)	3168	+86
Anhydrite (base)	3202	+52
Foraker	3768	-514
Topeka	3985	-731
Oread	4116	-862
Lansing A	4204	-950
Lansing B	4264	-1010
Lansing C	4321	-1067
Lansing D	4364	-1110
Lansing E	4404	-1150
Lansing F	4444	-1190
Pawnee	4597	-1343
RTD	4680	-1426
LTD	4680	-1426

Form	ACO1 - Well Completion
Operator	BEREXCO LLC
Well Name	Moser C 4
Doc ID	1239755

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.25	8.625	23	299	Common	225	3% cc, 2% gel
Production	7.875	5.50	15.50	4672	Lite & Common	700	3/4#flocele ,10%salt,2 %gel,5#Gil sonite

WELL FILE

ALLIED OIL & GAS SERVICES, LLC 064333

Federal Tax I.D. # 20-8651475

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

SERVICE POINT: Oakley, KS

DATE	SEC.	TWP.	RANGE	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
10-22-14	32	1	36		5:30am	10:00am	10:30am

LEASE	WELL #	LOCATION	COUNTY	STATE
Moser	4	McDonald 3½ W, Wnto	Rawlins	KS

OLD OR NEW (Circle one)

CONTRACTOR Beredco 10
TYPE OF JOB Surface
HOLE SIZE 12¼ T.D. 312'
CASING SIZE 8⅝ DEPTH 312'
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG. 15'
PERFS.
DISPLACEMENT 19.0 bbl

OWNER Same

CEMENT
AMOUNT ORDERED 225 sks com 3%CC 2% gel

EQUIPMENT

PUMP TRUCK # 422 CEMENTER Lakene Ewalt
HELPER Wayne McGaghy
BULK TRUCK # 377390 DRIVER Wayne Massalle
BULK TRUCK # DRIVER Shawn Tafts

COMMON	225sks	@ 17.90	4,027.50
POZMIX		@	
GEL	4 sks	@ 50	211.50
CHLORIDE	6 sks	@ 1.10	698.50
ASC		@	
		@	
Material Total		@	4,937.50
(1530.62/312)		@	
		@	
		@	
		@	
		@	
		@	
HANDLING	243.3 sks	@ 2.48	603.38
MILEAGE	11 sks x 50	x 2.75	1522.63
		TOTAL	

REMARKS:
Mix 225 sks cement
Displace with water
cement did circulate
20 sks to pit

SERVICE

DEPTH OF JOB 312'
PUMP TRUCK CHARGE 1512.25
EXTRA FOOTAGE @
MILEAGE MIRU 50 @ 7.70 385.00
MANIFOLD Swage @ 275.00
MIRU 50 @ 4.40 220.00
@
(1400.21/312) TOTAL 4,393.36

CHARGE TO: Beredco
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

@
@
@
@
@
TOTAL

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)
TOTAL CHARGES 9,460.76
DISCOUNT 2,930.83 (31%) IF PAID IN 30 DAYS
6,529.93 Net.

PRINTED NAME Shawn Lowe

SIGNATURE

ALLIED
OIL & GAS SERVICES, LLC

CEMENTING LOG

STAGE NO.

Date 10-21-14 District Oakley KS Ticket No. 64333
Company Berexco Rig Beredco 10
Lease Moser Well No. 4
County Rawlins State KS
Location 32-1-36 Field
McDonald 8 Yo W Wash.

CASING DATA: Conductor ☐ PTA ☐ Squeeze ☐ Misc ☐
Surface ☒ Intermediate ☐ Production ☐ Liner ☐
Size 8 5/8 Type New Weight 23# Collar

Casing Depths: Top K.B. Bottom 312'

Drill Pipe: Size Weight Collars
Open Hole: Size 12 1/4 T.D. 312' ft. P.B. to ft.

CAPACITY FACTORS:
Casing: Bbls/Lin. ft. .0664 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.
Bbls/Lin. ft. Lin. ft./Bbl.
Perforations: From ft. to ft. Amt.

CEMENT DATA:
Spacer Type:
Amt. Sks Yield ft³/sk Density PPG

LEAD: Pump Time hrs. Type Com 3% CC
2% gel Excess
Amt. 225 Sks Yield 1.34 ft³/sk Density 15.02 PPG
TAIL: Pump Time hrs. Type
Excess
Amt. Sks Yield ft³/sk Density PPG
WATER: Lead gals/sk Tail gals/sk Total Bbls.

Pump Trucks Used 422 - Wayne
Bulk Equip. 394 - Wayne
310 Shawn

Float Equip: Manufacturer
Shoe: Type Depth
Float: Type Depth
Centralizers: Quantity Plugs Top Btm.
Stage Collars
Special Equip.
Disp. Fluid Type Water Amt. 19.2 Bbls. Weight PPG
Mud Type Weight PPG

COMPANY REPRESENTATIVE
CEMENTER LaRene

TIME (AM/PM)	PRESSURES PSI: DRILL PIPE CASING	PRESSURES PSI: ANNULUS	FLUID PUMPED DATA: TOTAL FLUID	FLUID PUMPED DATA: Pumped Per Time Period	FLUID PUMPED DATA: RATE Bbls Min.	REMARKS
10:00						Held Safety meeting
						Start water
						Start cement 225 sks
						Weigh cement 3 tons 15#
						Stop cement
				3.0		Wash up pump & line
				19.0		Displace with water
						Cement did circulate
10:30						20 BBLS to pit
						Hold Safety meeting
						Thank you

PSI PRESSURE FEEDBACK BBLS THANK YOU

WELL FILE

ALLIED OIL & GAS SERVICES, LLC 064304

Federal Tax I.D. # 20-8651475

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

SERVICE POINT: Oakley KS

DATE	SEC.	TWP.	RANGE	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
11-4-14	32	1	36		5:00a.m.	11:30a.m	17:30p.m

LEASE	WELL #	LOCATION	COUNTY	STATE
Moser	4-32	McDonald 9 N, W into	Rawlins	KS

OLD OR (NEW) (Circle one)

CONTRACTOR Beredco 10
TYPE OF JOB Production (Longstring)
HOLE SIZE 7 7/8 T.D. 4679'
CASING SIZE 5 1/2 DEPTH 4672'
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT 43'
CEMENT LEFT IN CSG. 43'
PERFS.
DISPLACEMENT 110.17 bbl water

OWNER Same

EQUIPMENT

PUMP TRUCK # 120 CEMENTER Paul Beaver
HELPER Tyler Eliose/Juan 3 TWS
BULK TRUCK #566/595 DRIVER Juan 2 TWS
BULK TRUCK #890/241 DRIVER Oscar TWS

CEMENT

AMOUNT ORDERED 450sks Lite, 3/4# Flo-seal, 250sks Com, 5# gilsonite 10% salt, 2% gel

COMMON	250sks	@	17.90	4475.00
POZMIX		@		
GEL	470#	@	.50	235.00
CHLORIDE		@		
ASC		@		
Lite (60/40/8)	450sks	@	19.89	8950.50
salt	1300#	@	.68	884.00
gilsonite	1250#	@	.98	1225.00
Flo-seal	338#	@	2.97	1003.86
		@		
Material Taxed		@		16.773.36
		@		
(3,702.94 | 348)		@		
HANDLING	825.21 ft3	@	2.48	2046.50
MILEAGE	34.22ton x 50mi	@	2.75	4705.25
			TOTAL	

REMARKS:

Run Pipe/Float equip/Break circ. Drop ball, pumped ball through shoe @ 200# circ, mix 30 sks in R.H mix 150sks in M.H. mix 405 sks Lite, tail w/ 250 sks Com, wash up to pit release plug displace w/ water plug did land @ 2000# Lift 1500# cement did circ. (20 bbl to pit) Thank You! Paul & Crew

SERVICE

DEPTH OF JOB	4672'		
PUMP TRUCK CHARGE	2765.75		
EXTRA FOOTAGE		@	
MILEAGE MIHV	50	@ 7.70	385.00
MANIFOLD Head		@	N/C
MILV	50	@ 4.40	N/C
		@	
(3,386.69 | 348)		TOTAL	9,902.05

PLUG & FLOAT EQUIPMENT

Industrial Rubber

AFU Float shoe		@	545.00
Latchdown Plug Assy		@	160.00
Centralizers	14	@ 57.00	798.00
Recipt scratchers	28	@ 89.00	2492.00
		@	
(1528.30 | 348)		TOTAL	4,995.00

CHARGE TO: Beredco 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

SALES TAX (If Any)
TOTAL CHARGES 31,170.41
DISCOUNT 10,597.93 (348) IF PAID IN 30 DAYS
20,572.47 Net.

ALLIED OIL & GAS SERVICES, LLC

CEMENTING LOG

STAGE NO.

Date 11-4-14 District Oakley KS Ticket No. 64304
Company Berexco Rig Beredco 10
Lease Moser Well No. 4-32
County Rawlins State KS
Location 32-1-36 Field

CASING DATA: Conductor ☐ PTA ☐ Squeeze ☐ Misc ☐
Surface ☐ Intermediate ☐ Production ☒ Liner ☐
Size 5 1/2 Type New Weight 15.5 # Collar

Casing Depths: Top KB Bottom 4672'

Drill Pipe: Size Weight Collars
Open Hole: Size 7 7/8 T.D. 4679 ft. P.B. to ft.

CAPACITY FACTORS:
Casing: Bbls/Lin. ft. .0238 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.
Bbls/Lin. ft. Lin. ft./Bbl.
Perforations: From ft. to ft. Amt.

CEMENT DATA:
Spacer Type:
Amt. Sks Yield ft³/sk Density PPG

LEAD: Pump Time hrs. Type 60/40/8
3/4 # Flo-seal Excess
Amt. 450 Sks Yield 1.9 ft³/sk Density 12.5 PPG
TAIL: Pump Time hrs. Type Com 10 d. Salt
5# gilsonite 2% gel Excess
Amt. 250 Sks Yield 1.56 ft³/sk Density 14.50 PPG
WATER: Lead 10.7 gals/sk Tail gals/sk Total Bbls.

Pump Trucks Used 120 - Tyler / Juan 3
Bulk Equip. 566-595 - Juan 2
890/241 - Oscar

Float Equip: Manufacturer Industrial Rubber
Shoe: Type AFU Float shoe Depth 4672
Float: Type Latchdown Plug Assy Depth 4629
Centralizers: Quantity 14 Plugs Top Btm.
Stage Collars
Special Equip. 28 Recipt Scratchers
Disp. Fluid Type water Amt. 110.17 Bbls. Weight PPG
Mud Type 40 vis Weight PPG

COMPANY REPRESENTATIVE
CEMENTER Paul Beaver

TIME AM/PM	PRESSURES PSI DRILL PIPE CASING	ANNULUS	FLUID PUMPED DATA TOTAL FLUID	Pumped Per Time Period	RATE Bbls Min.	REMARKS
						Hold Safety meeting
						Run Pipe / Float equip
						Drop ball pumped through @ 200 #
						Circ 1 hr
11:30 a.m.	0		5.0	5.0	4	mix 30 sks in R.H
	0		3.0	8.0	4	mix 15 sks in M.H
	400		103	111.0	6	mix 405 sks Lite @ 12.5 #
	400		41.50	152.5	6	mix 250 sks Com @ 14.5 #
						wash-up pump & pit
						Release Plug
	400		20	172.5	8	Displace w/ water
	400		20	192.5	8	
	600		20	212.5	8	
	800		20	232.5	6	
	1100		10	242.5	6	
	1300		10	252.5	6	
12:30 p.m.	1500		10.17	262.67	4	plug did land @ 2000 #
						Lift 1500 #
						Float did hold

FINAL DISP. PRESS: 1500 PSI BUMP PLUG TO 2000 PSI BLEEDBACK 1 BBLS. THANK YOU

DRILL STEM TEST REPORT

Berexco LLC

2020 N. Bramblew ood
Wichita, KS, 67206

ATTN: Bryan Bynog

32-1s-36w

Moser #4-32

Job Ticket: 60855 **DST#: 1**

Test Start: 2014.10.26 @ 04:34:00

GENERAL INFORMATION:

Formation: **Waubaunsee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 08:02:00
Time Test Ended: 14:31:40

Test Type: Conventional Bottom Hole (Initial)
Tester: Donovan Baumann
Unit No: 78

Interval: 3940.00 ft (KB) To 3989.00 ft (KB) (TVD)
Total Depth: 3989.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

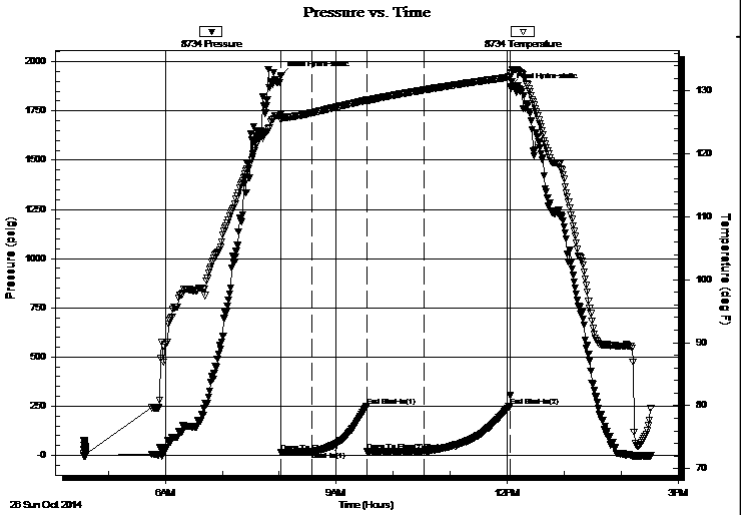
Reference Elevations: 3254.00 ft (KB)
3243.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8734 **Inside**

Press@RunDepth: 21.06 psig @ 3941.00 ft (KB)
Start Date: 2014.10.26 End Date: 2014.10.26
Start Time: 04:34:01 End Time: 14:31:40

Capacity: 8000.00 psig
Last Calib.: 2014.10.26
Time On Btm: 2014.10.26 @ 08:01:50
Time Off Btm: 2014.10.26 @ 12:03:20

TEST COMMENT: 30 - IF - Weak surface blow
60 - ISI - No return
60 - FF - No surface blow
90 - FF - No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1929.30	126.29	Initial Hydro-static
1	16.50	125.46	Open To Flow (1)
33	18.58	126.48	Shut-In(1)
91	248.50	128.52	End Shut-In(1)
91	19.15	128.41	Open To Flow (2)
152	21.06	130.14	Shut-In(2)
241	251.03	132.18	End Shut-In(2)
242	1870.51	132.74	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100%	0.02

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Berexco LLC

2020 N. Bramblew ood
Wichita, KS, 67206

ATTN: Bryan Bynog

32-1s-36w

Moser #4-32

Job Ticket: 60855 **DST#: 1**

Test Start: 2014.10.26 @ 04:34:00

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:	55.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.80 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	600.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

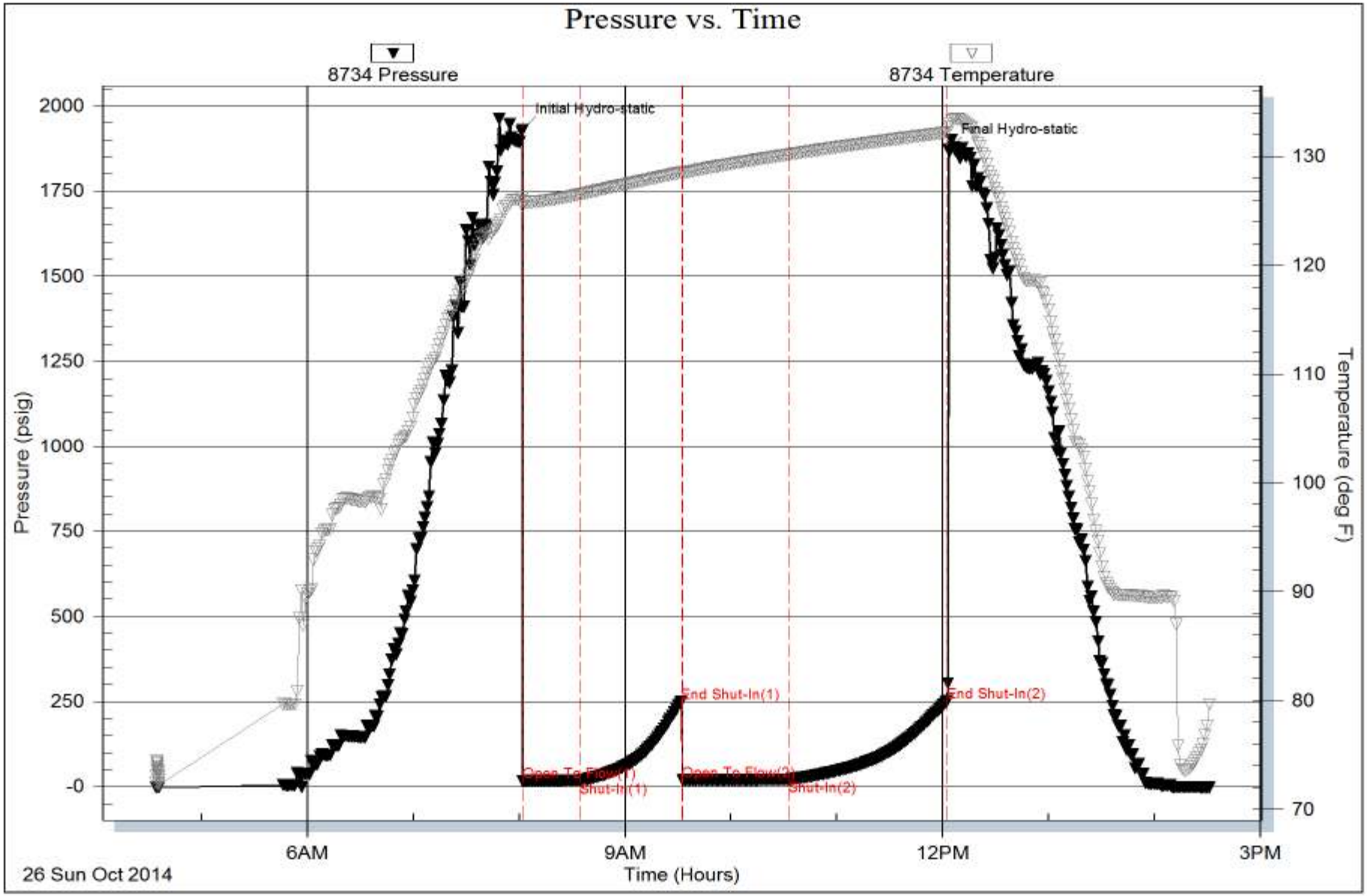
Recovery Table

Length ft	Description	Volume bbl
5.00	Mud 100%	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 #: 8734 **Inside** Berexco LLC Moser #4-32 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 60855 Printed: 2014.10.27 @ 08:45:20

DRILL STEM TEST REPORT

Berexco LLC

2020 N. Bramblew ood
Wichita, KS, 67206

ATTN: Bryan Bynog

32-1s-36w

Moser #4-32

Job Ticket: 60856 **DST#: 2**

Test Start: 2014.10.27 @ 14:53:00

GENERAL INFORMATION:

Formation: **LKC "A"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 17:45:00
Time Test Ended: 00:01:19

Test Type: Conventional Bottom Hole (Initial)
Tester: Donovan Baumann
Unit No: 78

Interval: 4140.00 ft (KB) To 4240.00 ft (KB) (TVD)
Total Depth: 4240.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

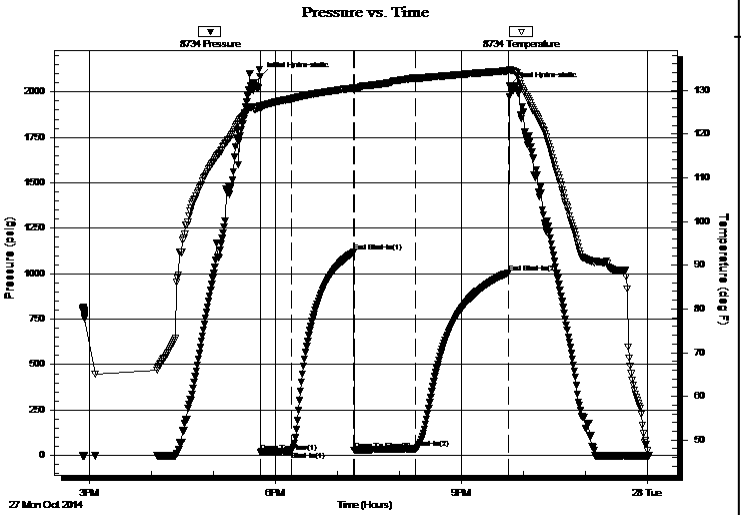
Reference Elevations: 3254.00 ft (KB)
3243.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8734 **Inside**

Press@RunDepth: 37.37 psig @ 4141.00 ft (KB)
Start Date: 2014.10.27 End Date: 2014.10.28
Start Time: 14:53:01 End Time: 00:01:19

Capacity: 8000.00 psig
Last Calib.: 2014.10.28
Time On Btm: 2014.10.27 @ 17:44:50
Time Off Btm: 2014.10.27 @ 21:46:20

TEST COMMENT: 30 - IF - Weak surface blow built to 1/4 in 3 min. and stayed there
60 - ISI - No return
60 - FF - No surface blow
90 - FSI - No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2084.17	126.54	Initial Hydro-static
1	18.91	125.64	Open To Flow (1)
31	26.02	128.05	Shut-In(1)
91	1118.80	130.50	End Shut-In(1)
91	29.31	129.87	Open To Flow (2)
151	37.37	132.78	Shut-In(2)
241	1004.81	134.45	End Shut-In(2)
242	2032.20	134.68	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	Mud - 100M	0.07

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Berexco LLC

2020 N. Bramblew ood
Wichita, KS, 67206

ATTN: Bryan Bynog

32-1s-36w

Moser #4-32

Job Ticket: 60856 **DST#: 2**

Test Start: 2014.10.27 @ 14:53:00

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:	52.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.80 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	700.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

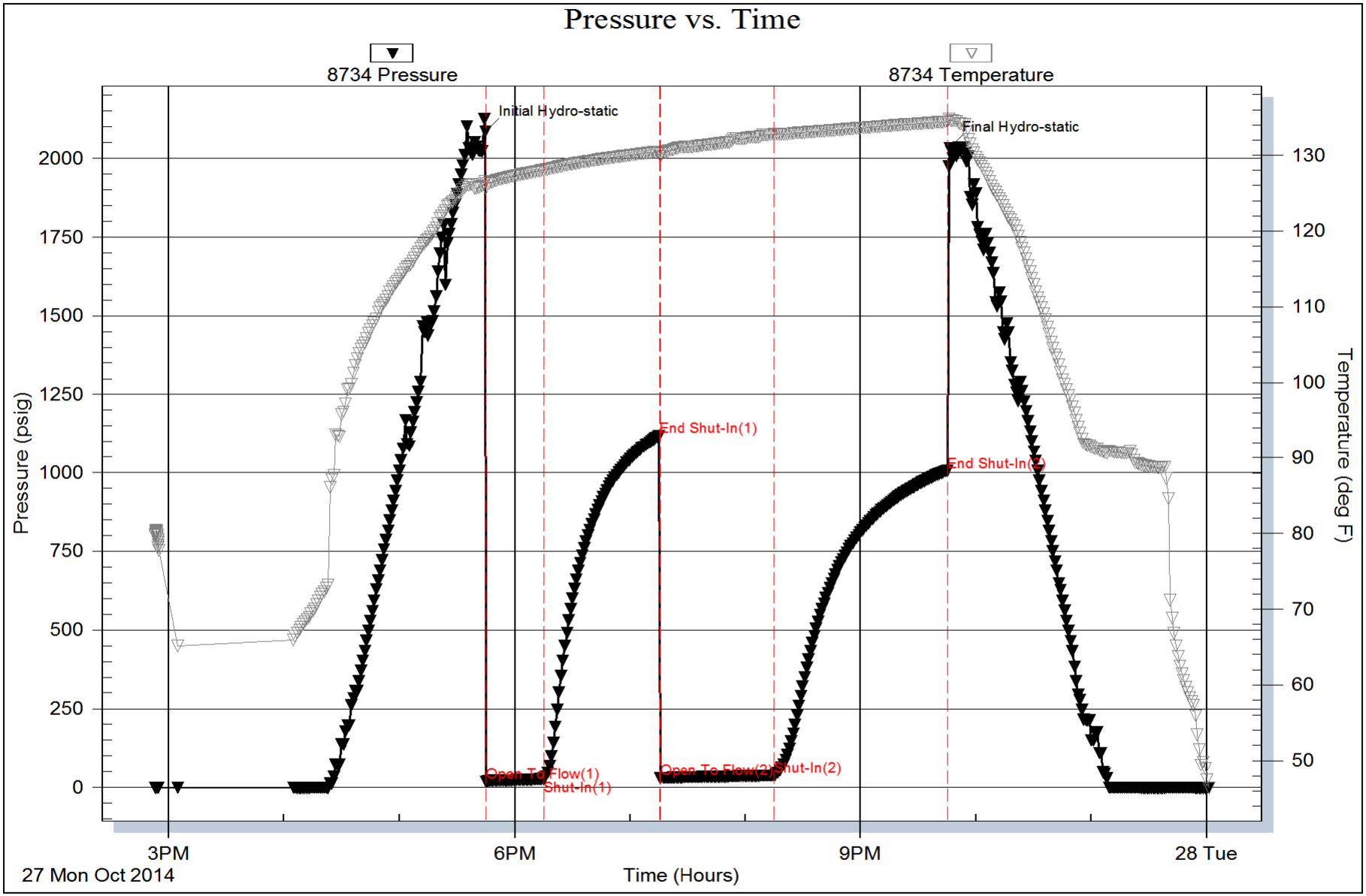
Recovery Table

Length ft	Description	Volume bbl
15.00	Mud - 100M	0.074

Total Length: 15.00 ft Total Volume: 0.074 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8734 **Inside** Berexco LLC Moser #4-32 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 60856 Printed: 2014.10.28 @ 06:46:27

DRILL STEM TEST REPORT

Berexco LLC

2020 N. Bramblew ood
Wichita, KS, 67206

ATTN: Bryan Bynog

32-1s-36w

Moser #4-32

Job Ticket: 60857 **DST#: 3**

Test Start: 2014.10.28 @ 11:16:00

GENERAL INFORMATION:

Formation: **LKC "B"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 14:04:00
Time Test Ended: 22:01:19

Test Type: Conventional Bottom Hole (Initial)
Tester: Donovan Baumann
Unit No: 78

Interval: 4220.00 ft (KB) To 4300.00 ft (KB) (TVD)
Total Depth: 4300.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

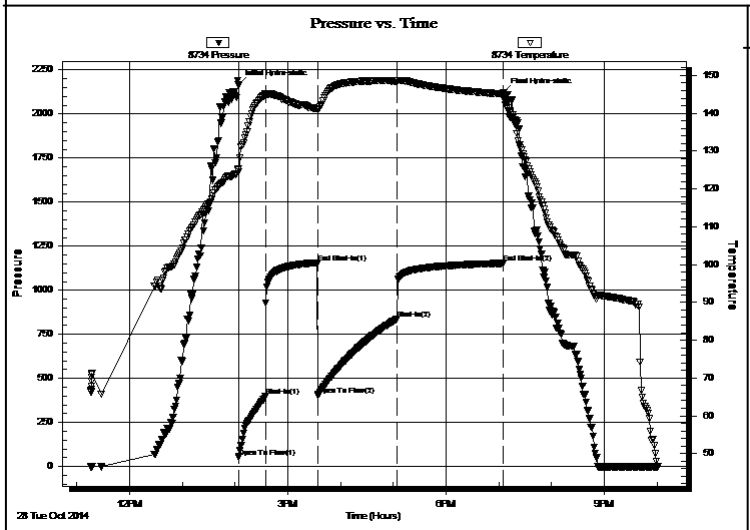
Reference Elevations: 3254.00 ft (KB)
3243.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8734 **Inside**

Press@RunDepth: 838.81 psig @ 4221.00 ft (KB)
Start Date: 2014.10.28 End Date: 2014.10.28
Start Time: 11:16:01 End Time: 22:01:19

Capacity: 8000.00 psig
Last Calib.: 2014.10.28
Time On Btm: 2014.10.28 @ 14:03:50
Time Off Btm: 2014.10.28 @ 19:05:20

TEST COMMENT: 30 - IF - Weak surface blow built to BOB in 6 min.
60 - ISI - No Return
90 - FF - Strong surface blow built to BOB in 6 min.
120 - FSI - No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2164.35	125.29	Initial Hydro-static
1	50.79	124.50	Open To Flow (1)
31	400.82	145.01	Shut-In(1)
91	1153.90	141.13	End Shut-In(1)
91	403.63	140.94	Open To Flow (2)
181	838.81	148.49	Shut-In(2)
301	1153.37	145.06	End Shut-In(2)
302	2121.43	144.74	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
976.00	MW - 10M - 90W	9.96
189.00	OCMW - 20o - 55W - 25M	2.65
315.00	OWCM - 10W - 20o - 70M	4.42
282.00	OCM - 80M - 20o	3.96

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Berexco LLC

2020 N. Bramblew ood
Wichita, KS, 67206

ATTN: Bryan Bynog

32-1s-36w

Moser #4-32

Job Ticket: 60857 **DST#: 3**

Test Start: 2014.10.28 @ 11:16:00

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:	52.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.80 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	700.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

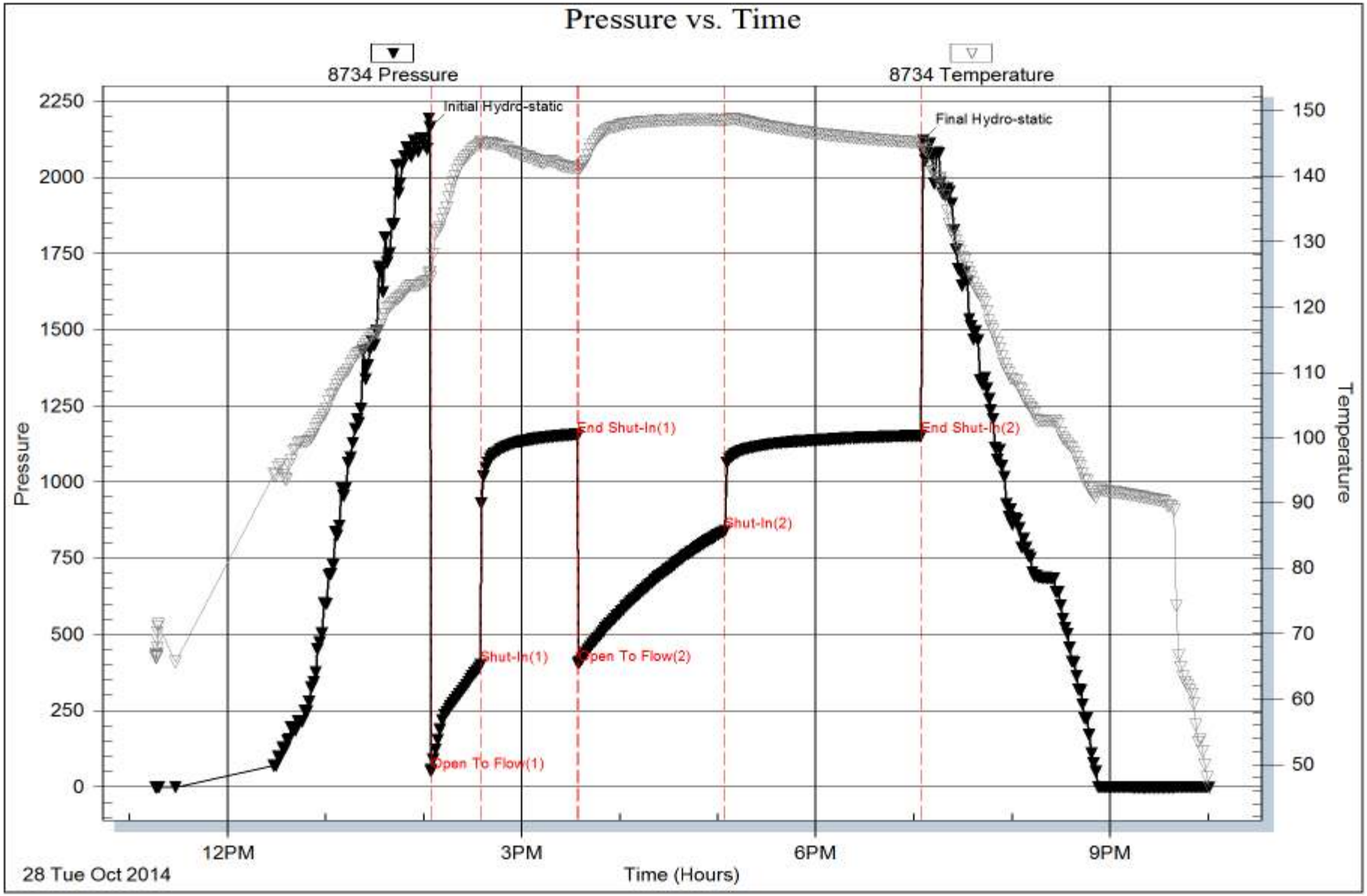
Recovery Table

Length ft	Description	Volume bbl
976.00	MW - 10M - 90W	9.965
189.00	OCMW - 20o - 55W - 25M	2.651
315.00	OWCM - 10W - 20o - 70M	4.419
282.00	OCM - 80M - 20o	3.956

Total Length: 1762.00 ft Total Volume: 20.991 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8734 **Inside** Berexco LLC Moser #4-32 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 60857 Printed: 2014.10.29 @ 09:55:18

DRILL STEM TEST REPORT

Berexco LLC

2020 N. Bramblew ood
Wichita, KS, 67206

ATTN: Bryan Bynog

32-1s-36w

Moser #4-32

Job Ticket: 60036 **DST#: 4**

Test Start: 2014.10.29 @ 10:53:00

GENERAL INFORMATION:

Formation: **LKC " C "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 14:08:00
Time Test Ended: 19:51:30

Test Type: Conventional Bottom Hole (Reset)
Tester: Ryan Nichols
Unit No: 78

Interval: 4292.00 ft (KB) To 4350.00 ft (KB) (TVD)
Total Depth: 4300.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

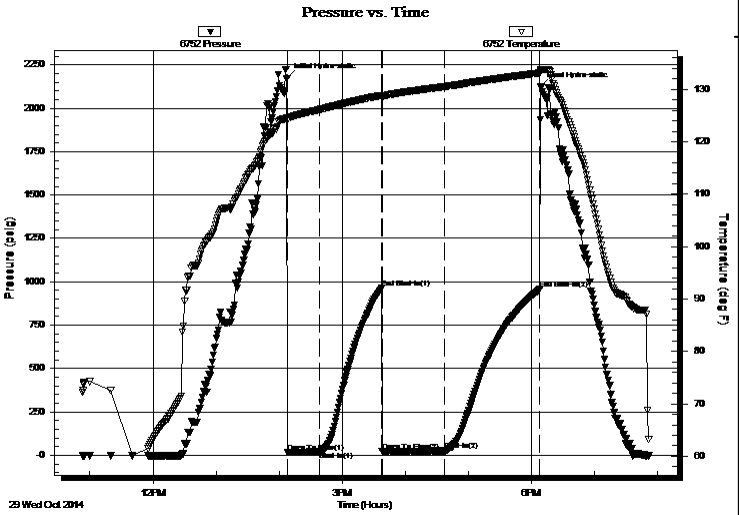
Reference Elevations: 3254.00 ft (KB)
3243.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 6752 **Inside**

Press@RunDepth: 25.98 psig @ 4293.00 ft (KB)
Start Date: 2014.10.29 End Date: 2014.10.29
Start Time: 10:53:05 End Time: 19:51:30

Capacity: 8000.00 psig
Last Calib.: 2014.10.29
Time On Btm: 2014.10.29 @ 14:07:30
Time Off Btm: 2014.10.29 @ 18:08:45

TEST COMMENT: 30 IF - 1/4" blow
60 ISI - No return
60 FF - No blow
90 FSI - No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2175.21	124.57	Initial Hydro-static
1	15.84	124.06	Open To Flow (1)
31	19.95	126.13	Shut-In(1)
90	961.97	128.84	End Shut-In(1)
91	21.69	128.62	Open To Flow (2)
150	25.98	130.52	Shut-In(2)
241	957.39	133.10	End Shut-In(2)
242	2125.80	133.78	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud - 100%M	0.02

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Berexco LLC

2020 N. Bramblew ood
Wichita, KS, 67206

ATTN: Bryan Bynog

32-1s-36w

Moser #4-32

Job Ticket: 60036 **DST#: 4**

Test Start: 2014.10.29 @ 10:53:00

GENERAL INFORMATION:

Formation: **LKC " C "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 14:08:00
Time Test Ended: 19:51:30

Test Type: Conventional Bottom Hole (Reset)
Tester: Ryan Nichols
Unit No: 78

Interval: 4292.00 ft (KB) To 4350.00 ft (KB) (TVD)
Total Depth: 4300.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

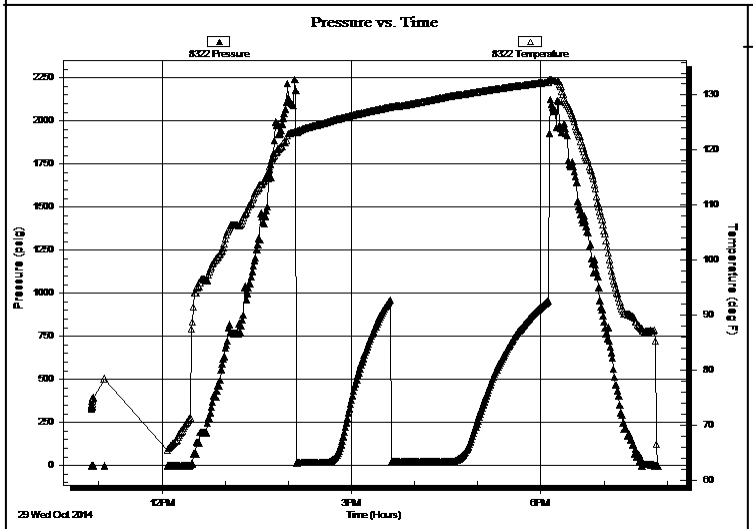
Reference Elevations: 3254.00 ft (KB)
3243.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8322 **Outside**

Press@RunDepth: psig @ 4293.00 ft (KB)
Start Date: 2014.10.29 End Date: 2014.10.29
Start Time: 10:53:01 End Time: 19:51:19

Capacity: 8000.00 psig
Last Calib.: 2014.10.29
Time On Btm:
Time Off Btm:

TEST COMMENT: 30 IF - 1/4" blow
60 ISI - No return
60 FF - No blow
90 FSI - No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud - 100%M	0.02

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Berexco LLC

2020 N. Bramblew ood
Wichita, KS, 67206

ATTN: Bryan Bynog

32-1s-36w

Moser #4-32

Job Ticket: 60036 **DST#: 4**

Test Start: 2014.10.29 @ 10:53:00

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:	54.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.80 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	900.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

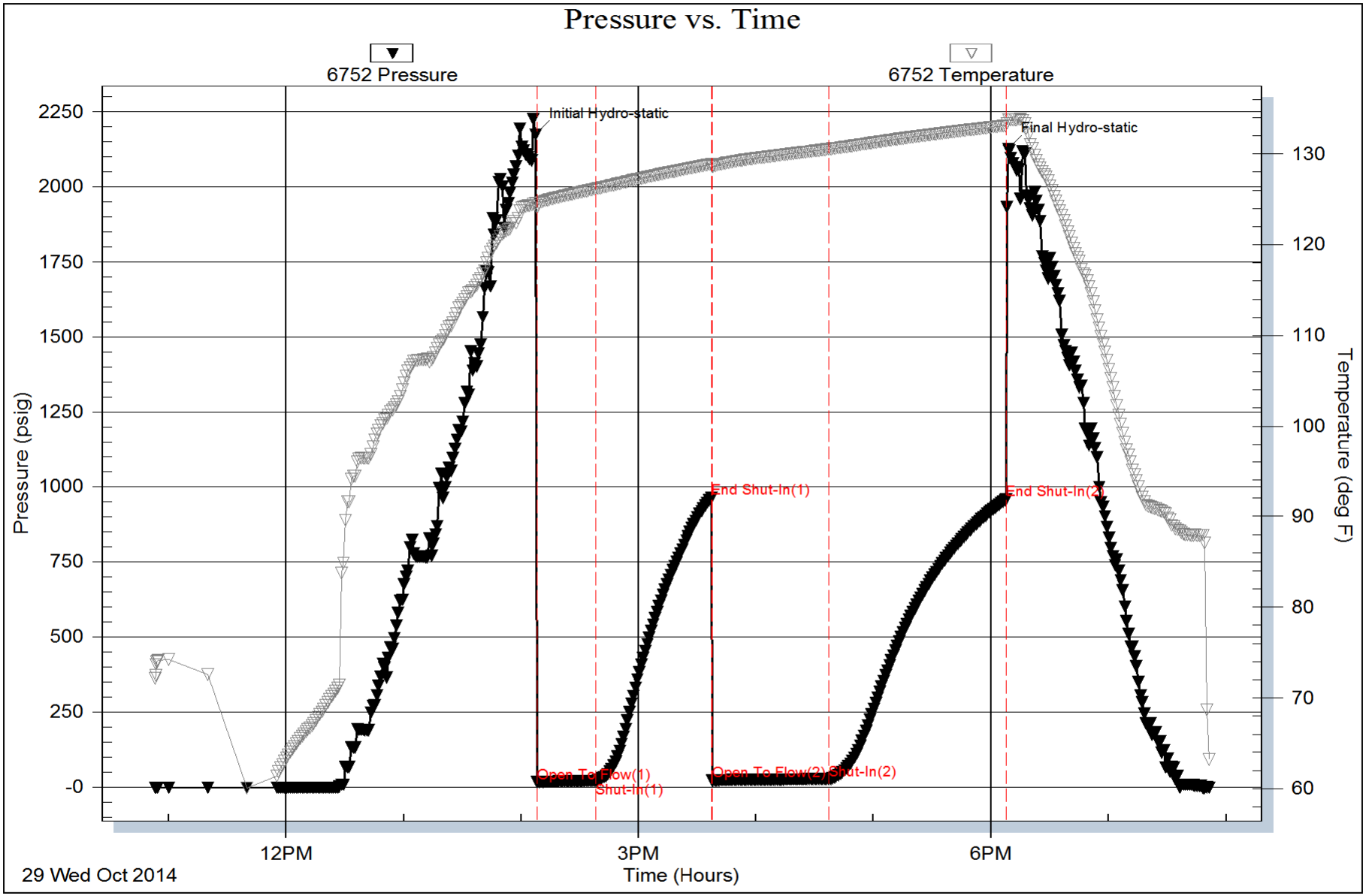
Recovery Table

Length ft	Description	Volume bbl
5.00	Mud - 100%M	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

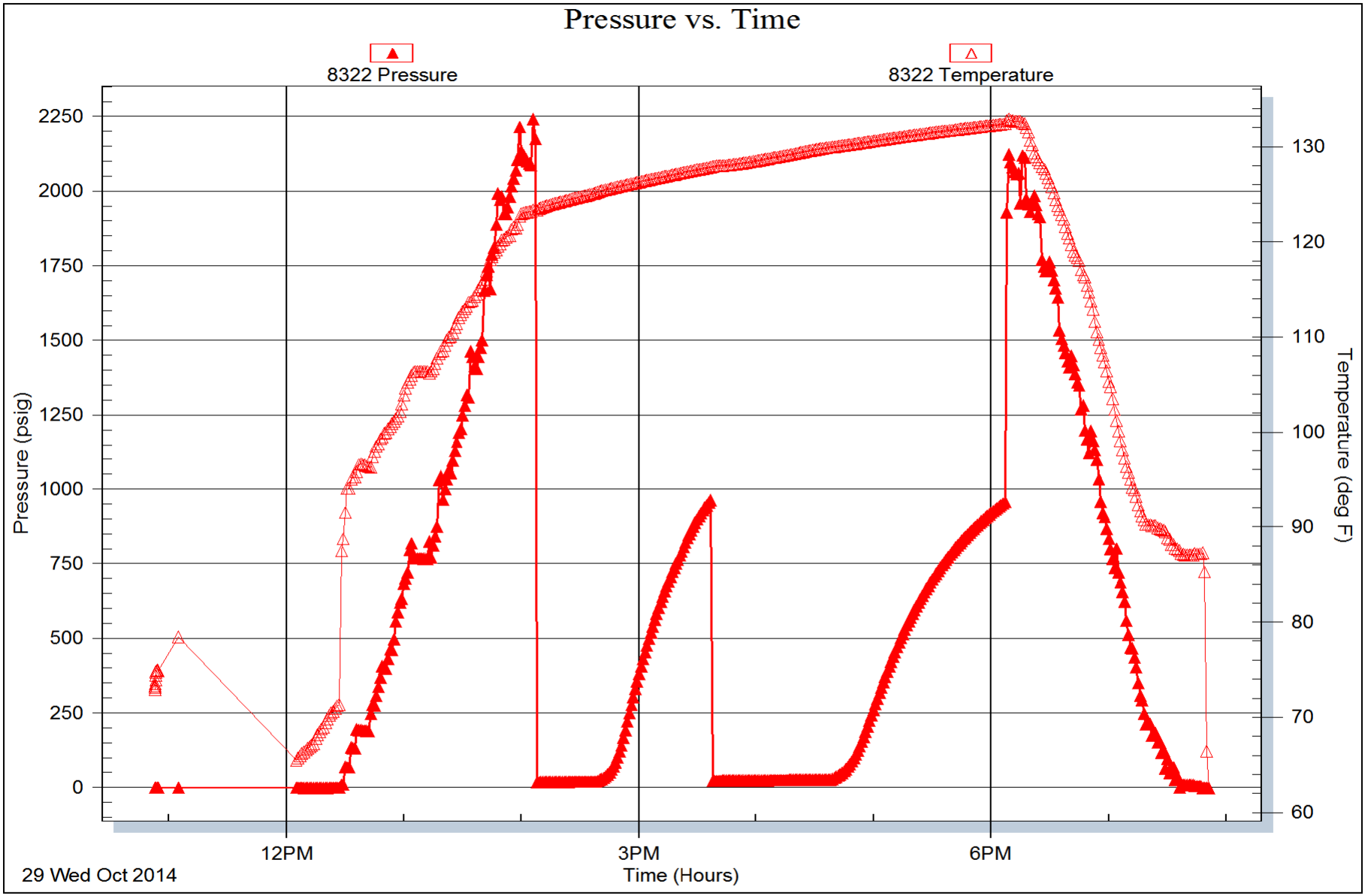
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 6752 **Inside** Berexco LLC Moser #4-32 DST Test Number: 4



Trilobite Testing, Inc Ref. No: 60036 Printed: 2014.10.30 @ 02:47:47

Serial #: 8322 **Outside** Berexco LLC Moser #4-32 DST Test Number: 4



Trilobite Testing, Inc Ref. No: 60036 Printed: 2014.10.30 @ 02:47:47

DRILL STEM TEST REPORT

Berexco LLC

2020 N. Bramblew ood
Wichita, KS, 67206

ATTN: Bryan Bynog

32-1s-36w

Moser #4-32

Job Ticket: 60037 **DST#: 5**

Test Start: 2014.11.02 @ 01:17:00

GENERAL INFORMATION:

Formation: **LKC " D - E "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:10:30
Time Test Ended: 12:24:15

Test Type: Conventional Bottom Hole (Reset)
Tester: Ryan Nichols
Unit No: 78

Interval: 4330.00 ft (KB) To 4420.00 ft (KB) (TVD)
Total Depth: 4420.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

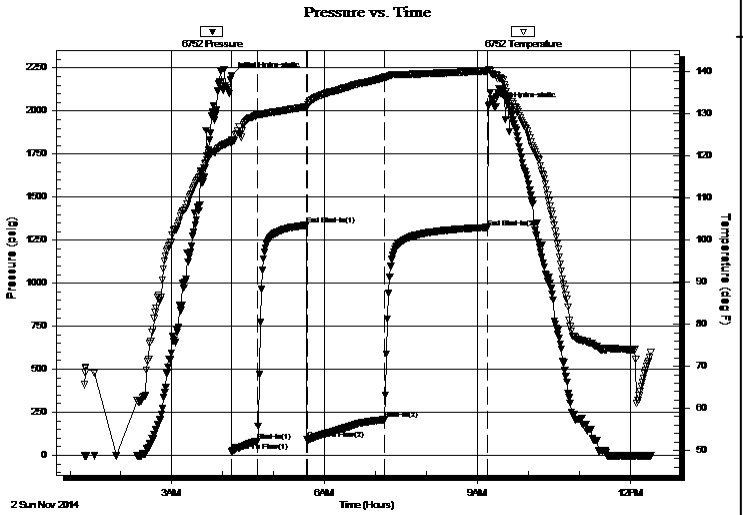
Reference Elevations: 3254.00 ft (KB)
3243.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 6752 **Inside**

Press@RunDepth: 207.89 psig @ 4331.00 ft (KB)
Start Date: 2014.11.02 End Date: 2014.11.02
Start Time: 01:17:05 End Time: 12:24:15

Capacity: 8000.00 psig
Last Calib.: 2014.11.02
Time On Btm: 2014.11.02 @ 04:09:45
Time Off Btm: 2014.11.02 @ 09:12:45

TEST COMMENT: 30 IF - 3/4" blow built to 6"
60 ISI - No return
90 FF- Surface blow started @ 5 mins built to BoB @ 67 mins
120 FSI - Surface blow started @ 25 mins died @ 32 mins



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2203.41	123.55	Initial Hydro-static
1	21.27	123.24	Open To Flow (1)
31	82.90	129.84	Shut-In(1)
89	1337.34	131.70	End Shut-In(1)
90	90.18	131.71	Open To Flow (2)
181	207.89	138.78	Shut-In(2)
302	1324.13	140.20	End Shut-In(2)
303	2028.66	140.49	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
115.00	OWCM - 20%o - 10%W - 70%M	0.57
172.00	OWCM - 20%o - 30%W - 50%M	0.85
108.00	WOCM - 10%W - 20%o - 70%M	0.53
45.00	GO - 5%G - 95%o	0.50

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Berexco LLC

2020 N. Bramblew ood
Wichita, KS, 67206

ATTN: Bryan Bynog

32-1s-36w

Moser #4-32

Job Ticket: 60037 **DST#: 5**

Test Start: 2014.11.02 @ 01:17:00

GENERAL INFORMATION:

Formation: **LKC " D - E "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:10:30
Time Test Ended: 12:24:15

Test Type: Conventional Bottom Hole (Reset)
Tester: Ryan Nichols
Unit No: 78

Interval: 4330.00 ft (KB) To 4420.00 ft (KB) (TVD)
Total Depth: 4420.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

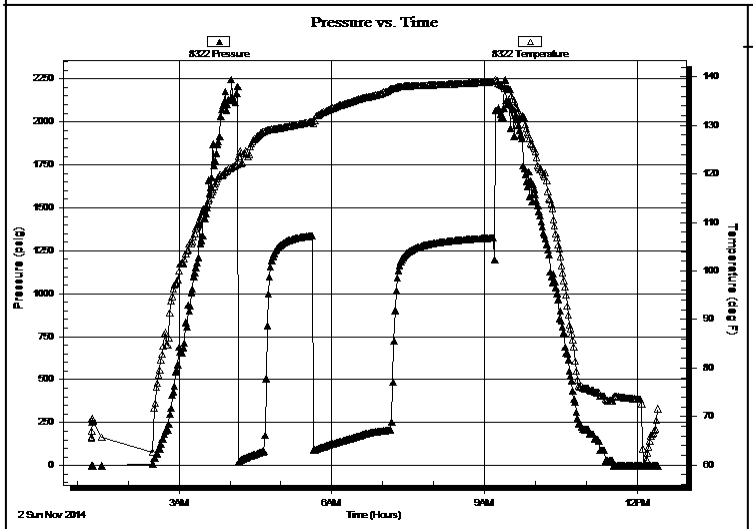
Reference Elevations: 3254.00 ft (KB)
3243.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8322 **Outside**

Press@RunDepth: psig @ 4331.00 ft (KB)
Start Date: 2014.11.02 End Date: 2014.11.02
Start Time: 01:17:01 End Time: 12:24:00

Capacity: 8000.00 psig
Last Calib.: 2014.11.02
Time On Btm:
Time Off Btm:

TEST COMMENT: 30 IF - 3/4" blow built to 6"
60 ISI - No return
90 FF- Surface blow started @ 5 mins built to BoB @ 67 mins
120 FSI - Surface blow started @ 25 mins died @ 32 mins



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
115.00	OWCM - 20%o - 10%W - 70%M	0.57
172.00	OWCM - 20%o - 30%W - 50%M	0.85
108.00	WOCM - 10%W - 20%o - 70%M	0.53
45.00	GO - 5%G - 95%o	0.50

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Berexco LLC

2020 N. Bramblew ood
Wichita, KS, 67206

ATTN: Bryan Bynog

32-1s-36w

Moser #4-32

Job Ticket: 60037 **DST#: 5**

Test Start: 2014.11.02 @ 01:17:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	35 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	52.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.79 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	700.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
115.00	OWCM - 20%o - 10%W - 70%M	0.566
172.00	OWCM - 20%o - 30%W - 50%M	0.846
108.00	WOCM - 10%W - 20%o - 70%M	0.531
45.00	GO - 5%G - 95%o	0.504

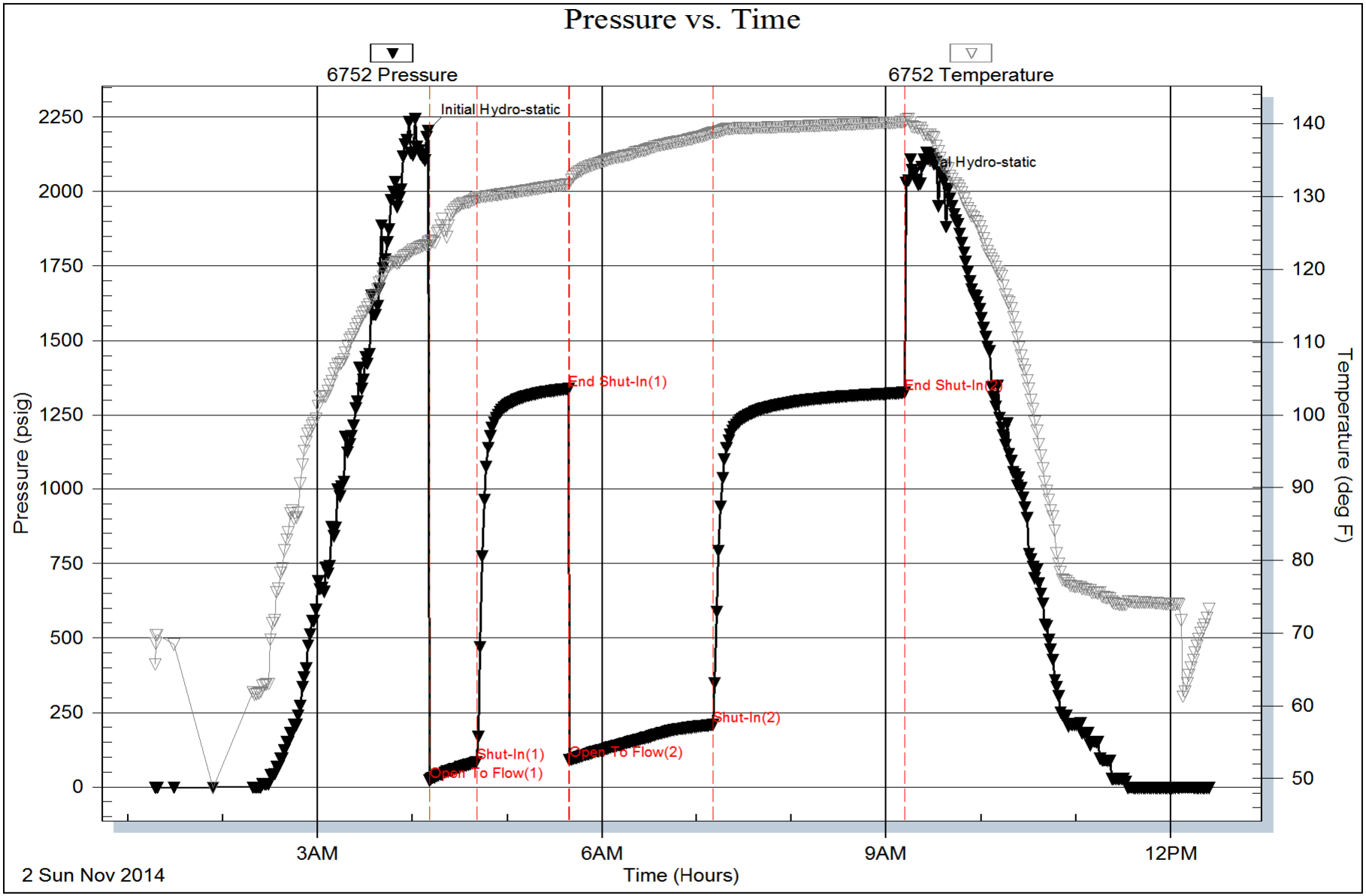
Total Length: 440.00 ft Total Volume: 2.447 bbl

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

Laboratory Name: Laboratory Location:

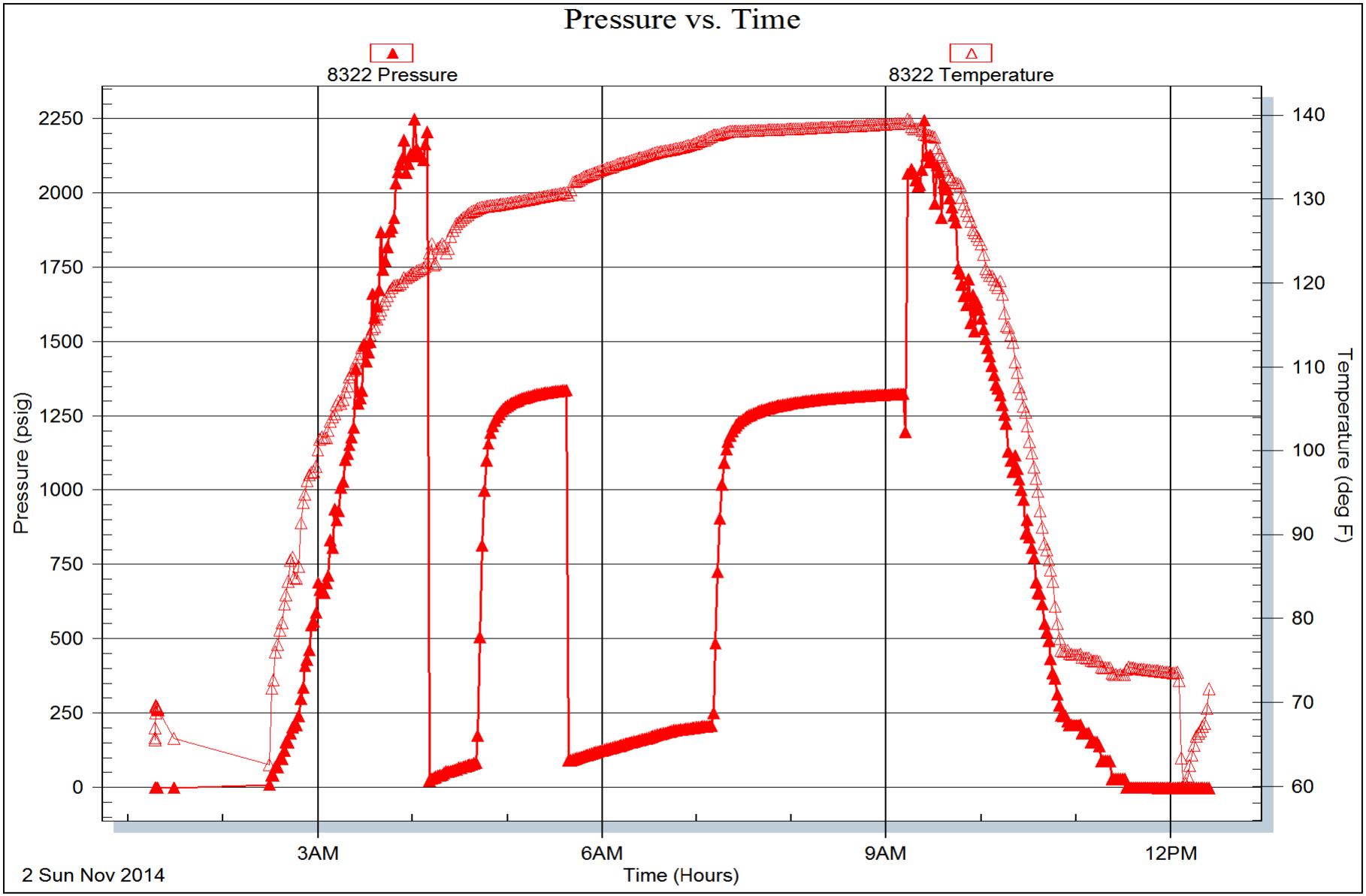
Recovery Comments: OIL API = 36 @ 70 DEG F = 35 COR 60 DEG F

Serial #: 6752 **Inside** Berexco LLC Moser #4-32 DST Test Number: 5



Trilobite Testing, Inc Ref. No: 60037 Printed: 2014.11.02 @ 18:26:19

Serial #: 8322 **Outside** Berexco LLC Moser #4-32 DST Test Number: 5



Trilobite Testing, Inc Ref. No: 60037 Printed: 2014.11.02 @ 18:26:19

Berexco, LLC
Moser #4-32
S2S2S2 Section 32 1S-36W
Rawlins County, Kansas

GEOLOGIST
William B. Bynog

RESUME

OPERATOR:	Berexco, LLC
WELL NAME & NUMBER:	Moser #4-32
LOCATION:	S2S2S2 Section 32 1S-36W
COUNTY:	Rawlins
STATE:	Kansas
SPUD DATE: 10-21-2014	COMPLETION DATE: 11-3-2014
ELEVATIONS:	GL: 3243 KB: 3254
CONTRACTOR:	Beredco Drilling Rig 10
LOGS: PIONEER	TYPES: Rag, Micro log
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 3940-3989, DST#2 4140-4240, DST#3 4220-4300, DST#4 4292-4350, DST#5 4330-4420
WELL STATUS:	Ran 5 ½ Production Casing

Moser #4-32 Sample Description
BEREDCO DRILLING RIG 10 DRILLING 7 7/8 HOLE

3500-3720 SHALE red,firm,very silty

3720-36 LIMESTONE pale gray,firm,very sandy in part,chalky in part,some Chert tan,orange,poor porosity,no shows

3736-68 SHALE as above

FORAKER

3768-3800 LIMESTONE buff to pale gray,hard, sandy in part,dense, some chalky in part,trace Chert tan,orange,poor porosity,no shows with thin bedded SHALE as above

3800-20 LIMESTONE buff,hard,blocky,chalky in part,poor porosity,no shows some Chert orange

3820-44 SHALE green,red,very soft,very argillaceous

3844-70 LIMESTONE buff,slightly hard,very oolitic,dense matrix,chalky in part,poor porosity,no shows

3870-92 SHALE as above

3992-3900 LIMESTONE white to buff,firm, chalky,oolitic,sandy in part,poor porosity,no shows

3900-18 SHALE green,red,some gray,firm,fissile,waxy in part

3918-66 LIMESTONE white,firm,chalky,slightly oolitic,sandy in part,poor vis porosity,no shows with thin SHALE as above

3966-72 GRAINSTONE white,firm,very oolitic,chalky in part,fair intergranular porosity,spotty live heavy black stain,very good cut,poor show free oil

3972-84 SHALE red,green,soft,argillaceous, waxy in part

TOPEKA

3984-4014 LIMESTONE buff,very hard,dense, crptoxln,no shows

4014-30 LIMESTONE buff,very hard,very dense, blocky,chalky in part,no shows,abundant Chert white,pale orange

4030-46 SANDSTONE pale orange,friable, very fine grained,argillaceous,fair intergranular porosity,no shows

4050-56 SHALE red,firm,very silty

4056-66 LIMESTONE buff,hard,dense, blocky,crptoxln

4066 to SHALE red,maroon,some green,firm,silty

OREAD

4112-20 LIMESTONE buff,hard,dense,slightly chalky,poor porosity,no shows

4122-35 LIMESTONE white,firm,chalky, microcrystalline,poor vis porosity,no shows

4135-40 LIMESTONE buff to pale gray,hard,dense, poor porosity,no shows

4160-90 SHALE gray,dark gray,firm,fissile in part,slightly carbonaceous

4190-4204 SHALE red,very soft,very argillaceous

LANSING A

4204-22 LIMESTONE white,firm,clean, granular to microcrystalline,fair oomoldic and crystalline porosity,spotty to even live brown stain,good cut,poor show free oil

4222-30 LIMESTONE buff to pale gray,very hard,dense,blocky,crptoxln,no shows

4230-40 SANDSTONE white,firm,clean,very fine grained, dense calcareous cement,poor porosity,no shows

4240-66 SHALE as above silty in part

B

4266-76 GRAINSTONE white, firm,slightly chalky,very fossils,fair intergranular and moldic porosity,spotty to even live black stain,very good cut,good show free oil

4276-4300 LIMESTONE white to buff,hard,dense, blocky,poor porosity,no shows with thin

SHALE red,green,waxy in part

4300-22 SHALE red,soft,argillaceous,silty in part

C

4322-28 GRAINSTONE white, firm,granular,oolitic,poor to fair intergranular porosity,spotty live stain,fair cut,no free oil

4328-40 LIMESTONE buff,hard,blocky, dense,no shows

4340-50 SHALE gray green,green,firm,waxy in part abundant pyrite

4350-64 SHALE red,soft,very argillaceous

D

4364-88 LIMESTONE buff,hard,dense, blocky,no vis porosity,no shows

4388-4406 SHALE as above

E

4406-13 LIMESTONE buff,firm,chalky in part,slightly fossils,poor pinpoint porosity,very spotty light brown stain,good cut,nfo

4413-18 LIMESTONE white to buff,hard, chalky in part,poor pinpoint porosity,very faint stain,fair cut,nfo

4418-40 SHALE green,red,firm,waxy in part

F

4440-60 LIMESTONE buff,very hard,dense, blocky,slightly fossils,no vis porosity,no shows

4460-4500 LIMESTONE buff,very hard,very dense, blocky,chalky in part,abundant Chert pale orange to white with thin SHALE red, firm,chalky,argillaceous

4500-24 SHALE red,soft,very argillaceous with thin LIMESTONE pale gray,very hard,dense, argillaceous

4524-32 SANDSTONE white,firm,very fine grained,dense, calcareous cement,poor porosity,no shows

4532-74 SHALE rounded,firm,very silty grading to SANDSTONE off white,firm,very fine grained, argillaceous,poor porosity,no shows

4574-80 LIMESTONE pale gray,very hard, dense,sandy,poor porosity,no shows

4580-96 Shale red,gray,green,some brown,firm,fissile

PAWNEE

4596-4620 LIMESTONE buff,very hard,dense,sandy in part,poor porosity,no shows

4620-30 SHALE green,pale gray,firm, sandy in part,waxy in part

4630-56 LIMESTONE pale gray,very hard,dense,blocky,sandy in part,abundant CHERT pale orange to white

4656-62 SHALE black,dark gray,green,firm,fissile,slightly carbonaceous

4662-80 LIMESTONE white,buff,firm,sub chalky,fossils,poor micxln porosity,no shows

RTD 4680'

LTD 4680'