Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1206446

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: Evan Mayhew
Phone: (316) 265-3311
CONTRACTOR: License # 34317
Name: BEREDCO LLC
Wellsite Geologist: Pete Volmer
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 #:

03/09/2014	03/18/2014	05/21/2014
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-153-20993-00-00
Spot Description:
_ - SE - NW - NW Sec. 23 Twp. 1 S. R. 36 ☐ East ☑ West
990 Feet from ☑ North / ☐ South Line of Section
990 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: Michael Well #: 3-23
Field Name: East Fork Field
Producing Formation: Lansing/KS City, Oread
Elevation: Ground: 3259 Kelly Bushing: 3272
Total Vertical Depth: 4550 Plug Back Total Depth: 4502
Amount of Surface Pipe Set and Cemented at: 300 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: 1200 ppm Fluid volume: 1000 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: 05/23/2014
☑ **Confidential Release Date:** 05/26/2016
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** NAOMI JAMES **Date:** 05/27/2014

[redacted] 1206446

Operator Name: BEREXCO LLC Lease Name: Michael Well #: 3-23

Sec. 23 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	12.250	8.625	24	300	Common	225	3% cc, 2% gel
Production	7.875	5.50	15.50	4549	Lite, Common	700	3/4#floseal,10%salt,4#Gilsonite,2%gel

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	4341 - 4346 LKC	500 gals 15% MCA, 3% solvent	4341 - 4346
4	4314 - 4318 LKC	750 gals 20% MCA, 3% solvent	4314 - 4318
4	4314 - 4318 LKC	750 gals 20% MCA, 3% solvent	4314 - 4318
4	4256 - 4266 LKC	750 gals 20% MCA, 3% solvent	4256 - 4266
4	4098 - 4103 Oread	500 gals 20% MCA, 3% solvent	4098 - 4103

TUBING RECORD: Size: 2.875 Set At: SN @ 4374 Packer At: no pkr Liner Run: ☐ Yes ☑ No

Date of First, Resumed Production, SWD or ENHR.: 05/21/2014

Producing Method: ☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)* _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	250		63		31

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:
4098 - 4346

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	BEREXCO LLC
Well Name	Michael 3-23
Doc ID	1206446

Tops

Name	Top	Datum
Niobrara	1198	+2074
Ft. Hays Limestone	1702	+1570
Carlile Shale	1747	+1525
Dakota	2135	+1137
Cheyenne	2692	+580
Blaine	3020	+252
Stone Corral Anhydrite	3180	+92
Base Anhydrite	3210	+62
Neva	3662	-390
Foraker	3774	-502
Wabaunsee	3944	-672
Topeka	3987	-715
Deer Creek Sand	4022	-750
Oread	4098	-826
Lansing/KS City A	4198	-926
LKC B	4256	-984
LKC C	4314	-1042
LKC D	4360	-1088
LKC E	4404	-1132
LKC F	444	-1172
RTD	4550	
LTD	4549	-1277

Form	ACO1 - Well Completion
Operator	BEREXCO LLC
Well Name	Michael 3-23
Doc ID	1206446

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	12.250	8.625	24	300	Common	225	3% cc, 2% gel
Production	7.875	5.50	15.50	4549	Lite, Common	700	3/4#floseal ,10%salt,4 #Gilsonite, 2%gel

WELL FILE

ALLIED OIL & GAS SERVICES, LLC 062579

Federal Tax I.D. # 20-8651475

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

SERVICE POINT: Oakley

DATE 3/9/14	SEC. 23	TWP. 1	RANGE 36	CALLED OUT	ON LOCATION	JOB START 3:30pm	JOB FINISH 4:00pm
LEASE Michael	WELL # 3-23		LOCATION McDowell N 70 AA 3/8 E To Farm Steel & Bottom 2 FH 11 N & E into			COUNTY Sherman	STATE KS
OLD OR NEW (Circle one)							

CONTRACTOR Beredco 10
TYPE OF JOB Surface
HOLE SIZE 12¼ T.D. 311
CASING SIZE 8⅝ DEPTH 311
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG. 15'
PERFS.
DISPLACEMENT

OWNER

CEMENT
AMOUNT ORDERED 225 Com 3%CC 2% gel

EQUIPMENT

PUMP TRUCK CEMENTER Alan Ryan
423-281 HELPER Kevin Ryan
BULK TRUCK
373 DRIVER Wayne McCloskey
BULK TRUCK
DRIVER

COMMON	225	@ 17.90	4027.50
POZMIX		@	
GEL	9	@ 23.40	98.60
CHLORIDE	8	@ 64.00	512.00
ASC		@	
HANDLING	238.31 CF	@ 2.40	603.11
MILEAGE	200 Tm/mile 11.907 ton		1493.33
		TOTAL	6690.03

REMARKS:

Ran Csg Circulate, Mix Cement, Displace Cement
Shut in
Cement Did Circulate
Thank You
Alan Ryan Brandon

SERVICE

DEPTH OF JOB			
PUMP TRUCK CHARGE			1512.25
EXTRA FOOTAGE		@	
MILEAGE	50	@	385.00
MANIFOLD		@	
		@	
		@	
		TOTAL	1897.25

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 8,577.28
DISCOUNT 2,401.63 IF PAID IN 30 DAYS
6,175.64 Net.

PRINTED NAME Ray Vest

SIGNATURE

WELL FILE

ALLIED OIL & GAS SERVICES, LLC 062018

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
3-18-14	23	1	36			3:00p.m	4:00p.m

LEASE	WELL #	LOCATION	COUNTY	STATE
Michael	3-23	Mc Donald N to AA.5	Rawlins	KS

OLD OR NEW (Circle one) — 6.3 mi, N + E into

CONTRACTOR Beredco 2
TYPE OF JOB Production (long string)
HOLE SIZE 7 7/8 T.D. 4549.5
CASING SIZE 5 1/2 DEPTH 4548'
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT 42.46
CEMENT LEFT IN CSG. 42.46
PERFS.
DISPLACEMENT 107.23 bbl water

OWNER Same

CEMENT
AMOUNT ORDERED 450 sks lite 1/4# Flo-seal 250 sks Com 10% salt 5# Gilsonite 2% gel

EQUIPMENT

PUMP TRUCK # 120 CEMENTER Paul Beaver
HELPER Tyler Flipse
BULK TRUCK # 566 DRIVER Adam Flipse
BULK TRUCK # 600 DRIVER Juan I (TWS)

COMMON	250 sks	@ 17.90	4,475.00
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	338 #	@ 2.97	1003.86
		@	
		@	
HANDLING	824.89 CF	@ 2.48	2045.73
MILEAGE	34.22 tons x 50 mi	@ 2.60	4461.60
		TOTAL	21,190.79

REMARKS:

Run Pipe / Float equip. Break circ. Drop ball. Ball went through shoe @ 200 #. Circ. 1 hr. mix 30 sks in R.H. mix 20 sks in M.H. mix 400 sks lite tailed by 250 sks Com, wash up into pit. release plug. Displace w/ water, plug did land @ 2000 # w/ 1500 # lift pressure. Cement did circulate.

Thank You !

SERVICE

DEPTH OF JOB	4548'		
PUMP TRUCK CHARGE			2765.75
EXTRA FOOTAGE		@	
MILEAGE	MIHV 50	@ 7.70	385.00
MANIFOLD	Head	@ 275.00	N/C
	MILV 50	@ 4.40	N/C
		@	
		TOTAL	3150.75

CHARGE TO: Berexco LLC
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

Industrial Rubber (5 1/2)

AFU Float shoe		@	237.00
Latchdown plug Assy		@	184.00
Centralizers	10	@	370.00
Recip. Scratchers	320	@	920.00
		@	
		TOTAL	1706.00

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)
TOTAL CHARGES 26,047.54
DISCOUNT 6,815.63 IF PAID IN 30 DAYS
19,231.90 Net.

PRINTED NAME
SIGNATURE Ed Hawes

DRILL STEM TEST REPORT

Berexco, LLC.

2020 N Bramblew ood
Wichita, KS 67206

ATTN: Pete Vollmer

23-1S-36W Rawlins, KS

Michael #3-23

Job Ticket: 56956 **DST#: 1**

Test Start: 2014.03.13 @ 07:10:00

GENERAL INFORMATION:

Formation: **Oread**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:24:00
Time Test Ended: 15:56:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 4058.00 ft (KB) To 4112.00 ft (KB) (TVD)
Total Depth: 4112.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

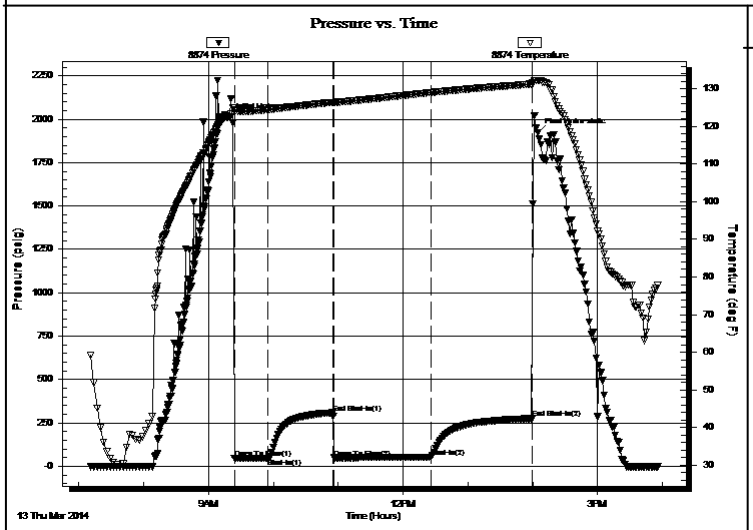
Reference Elevations: 3272.00 ft (KB)
3259.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 8874 **Inside**

Press@RunDepth: 52.08 psig @ 4059.00 ft (KB)
Start Date: 2014.03.13 End Date: 2014.03.13
Start Time: 07:11:00 End Time: 15:56:00

Capacity: 8000.00 psig
Last Calib.: 2014.03.13
Time On Btm: 2014.03.13 @ 09:20:00
Time Off Btm: 2014.03.13 @ 14:04:30

TEST COMMENT: 30 - IF - Surface Blow died in 5 min.
60 - ISI - No Return
90 - FF - No Blow
90 - FSI - No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2007.28	122.61	Initial Hydro-static
4	45.77	124.39	Open To Flow (1)
35	47.79	124.44	Shut-In(1)
95	308.39	126.40	End Shut-In(1)
96	48.52	126.35	Open To Flow (2)
186	52.08	128.97	Shut-In(2)
279	274.56	131.24	End Shut-In(2)
285	1924.13	132.22	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
50.00	Mud 100M	0.25

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: Pete Vollmer

23-1S-36W Rawlins, KS

Michael #3-23

Job Ticket: 56956 **DST#: 1**

Test Start: 2014.03.13 @ 07:10:00

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:	70.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.40 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
50.00	Mud 100M	0.246

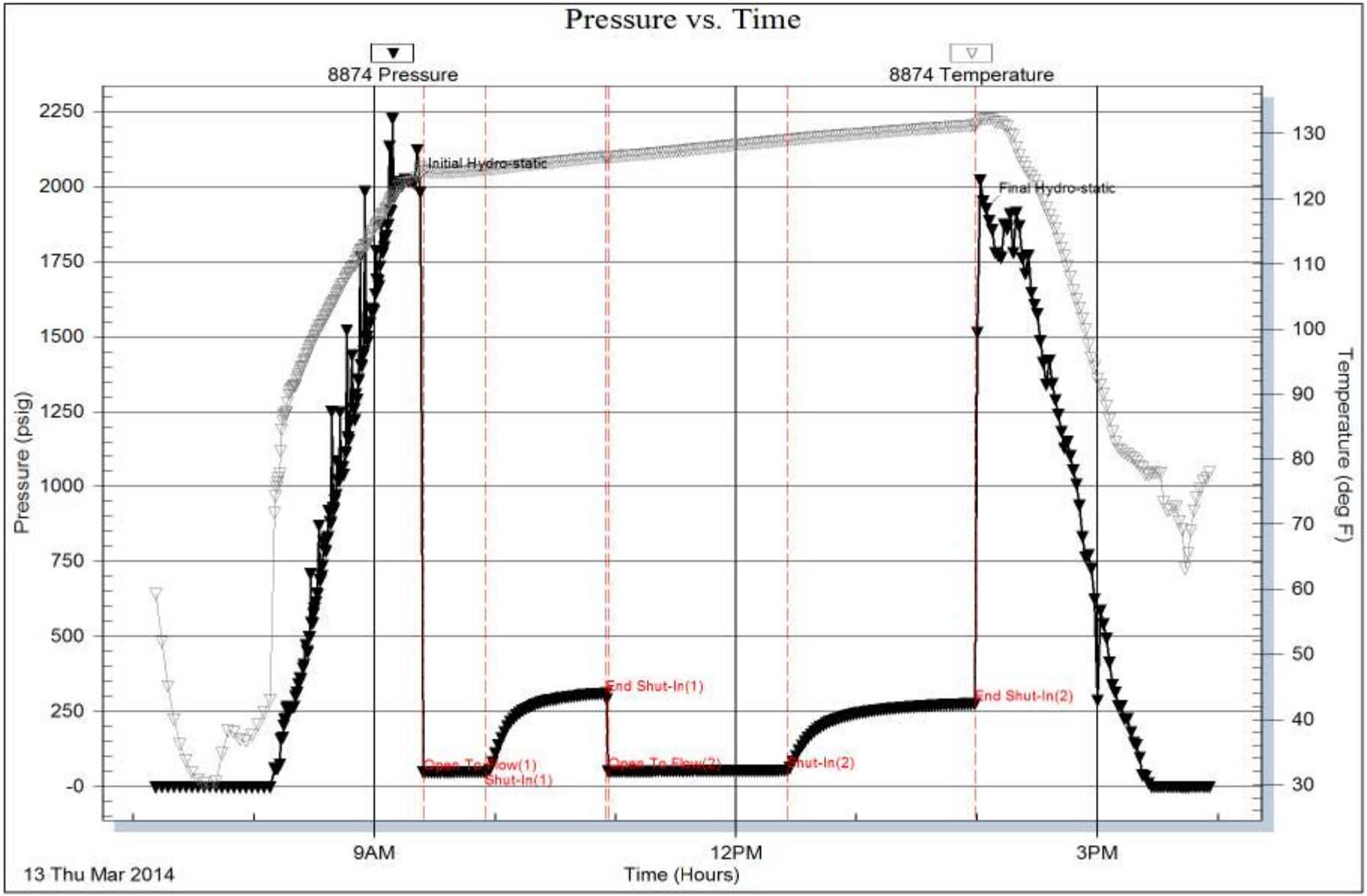
Total Length: 50.00 ft Total Volume: 0.246 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

Serial #: 8874 **Inside** Berexco, LLC. Michael #3-23 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 56956 Printed: 2014.03.13 @ 16:43:41

DRILL STEM TEST REPORT

Berexco, LLC.

2020 N Bramblew ood
Wichita, KS 67206

ATTN: Pete Vollmer

23-1S-36W Rawlins, KS

Michael #3-23

Job Ticket: 56957 **DST#: 2**

Test Start: 2014.03.14 @ 07:00:00

GENERAL INFORMATION:

Formation: **LKC "A"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 08:48:00
Time Test Ended: 14:18:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 4146.00 ft (KB) To 4234.00 ft (KB) (TVD)
Total Depth: 4234.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

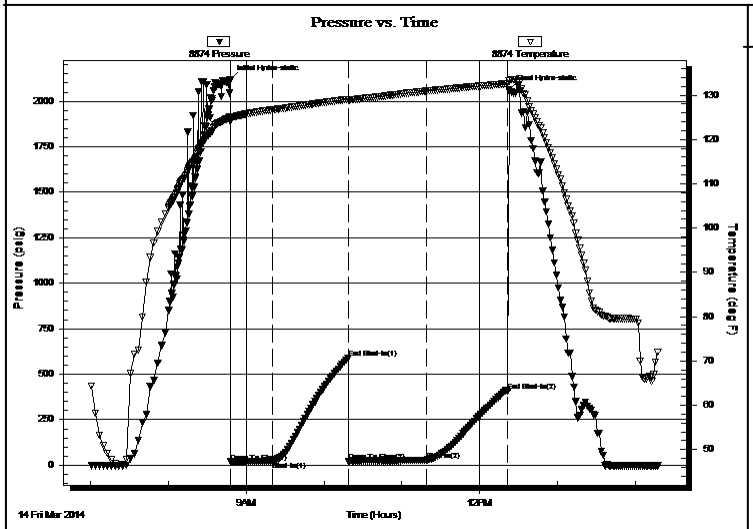
Reference Elevations: 3272.00 ft (KB)
3259.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 8874 **Inside**

Press@RunDepth: 25.95 psig @ 4147.00 ft (KB)
Start Date: 2014.03.14 End Date: 2014.03.14
Start Time: 07:01:00 End Time: 14:18:00

Capacity: 8000.00 psig
Last Calib.: 2014.03.14
Time On Btm: 2014.03.14 @ 08:47:50
Time Off Btm: 2014.03.14 @ 12:22:30

TEST COMMENT: 30 - IF- 1/2" Blow died in 10 min.
60 - ISI- No Return
60 - FF- No Blow
60 - FSI- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2120.13	125.17	Initial Hydro-static
1	18.25	123.99	Open To Flow (1)
33	21.34	126.71	Shut-In(1)
91	589.63	129.07	End Shut-In(1)
92	23.04	128.90	Open To Flow (2)
151	25.95	130.96	Shut-In(2)
214	406.75	132.61	End Shut-In(2)
215	2064.61	133.18	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud 100M	0.05

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: Pete Vollmer

23-1S-36W Rawlins, KS

Michael #3-23

Job Ticket: 56957 **DST#: 2**

Test Start: 2014.03.14 @ 07:00:00

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:	60.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.00 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	90.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

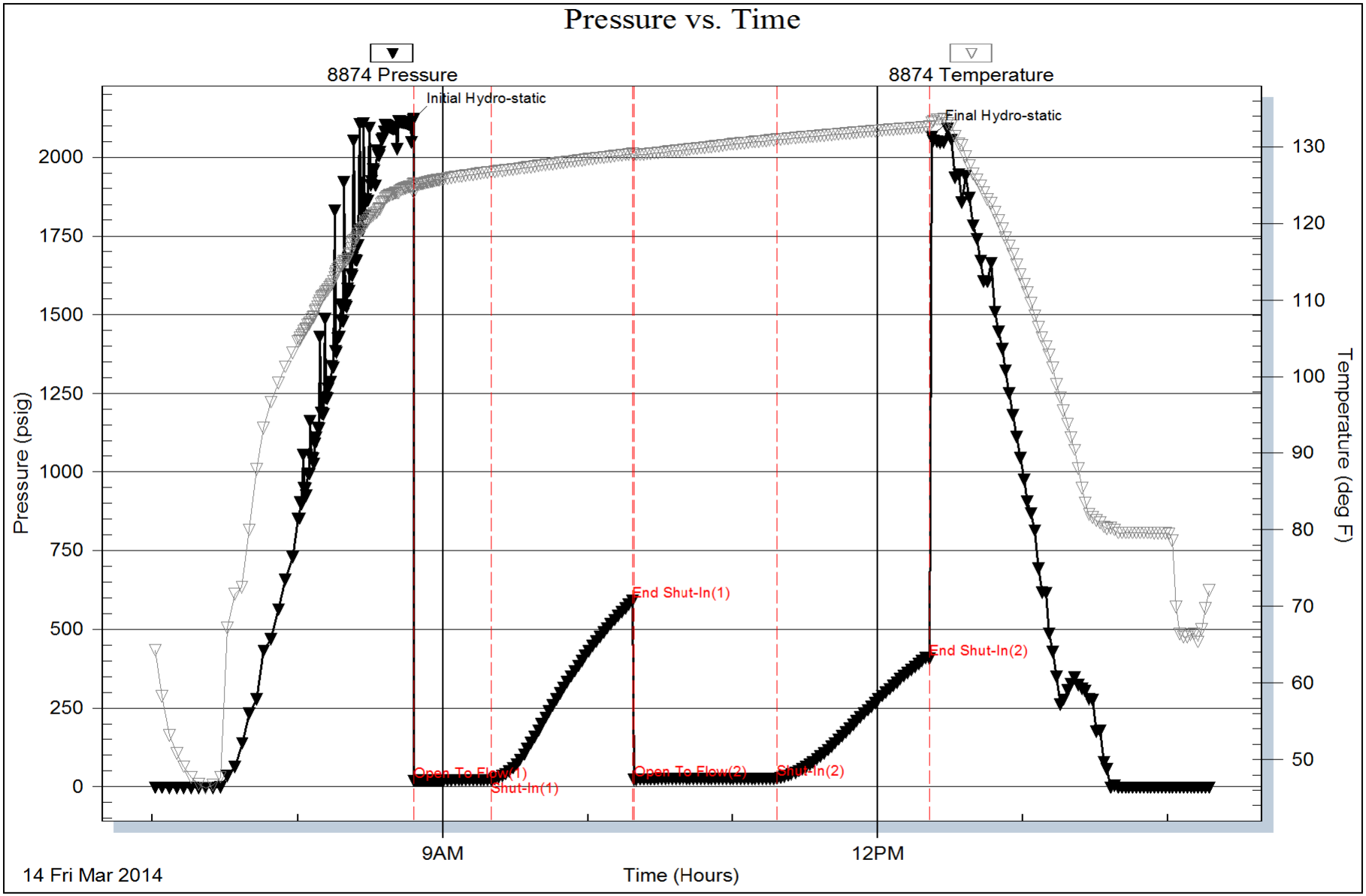
Recovery Table

Length ft	Description	Volume bbl
10.00	Mud 100M	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

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

Serial #: 8874 **Inside** Berexco, LLC. Michael #3-23 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 56957 Printed: 2014.03.14 @ 14:41:39

DRILL STEM TEST REPORT

Berexco, LLC.

2020 N Bramblew ood
Wichita, KS 67206

ATTN: Pete Vollmer

23-1S-36W Rawlins, KS

Michael #3-23

Job Ticket: 56958 **DST#: 3**

Test Start: 2014.03.14 @ 23:47:00

GENERAL INFORMATION:

Formation: **LKC "B"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 02:40:00
Time Test Ended: 08:19:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 4218.00 ft (KB) To 4278.00 ft (KB) (TVD)
Total Depth: 4278.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

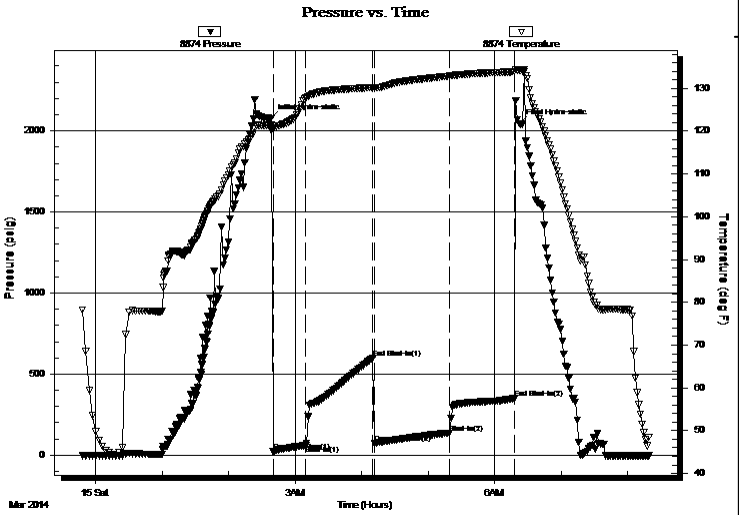
Reference Elevations: 3272.00 ft (KB)
3259.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 8874 **Inside**

Press@RunDepth: 136.42 psig @ 4219.00 ft (KB)
Start Date: 2014.03.14 End Date: 2014.03.15
Start Time: 23:48:00 End Time: 08:19:30

Capacity: 8000.00 psig
Last Calib.: 2014.03.15
Time On Btm: 2014.03.15 @ 02:38:00
Time Off Btm: 2014.03.15 @ 06:22:00

TEST COMMENT: 30 - IF- 1/4" Blow died in 7 min.
60 - ISI- No Return
60 - FF- No Blow
60 - FSI- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2075.75	121.43	Initial Hydro-static
2	21.70	120.67	Open To Flow (1)
32	61.32	127.69	Shut-In(1)
92	598.57	130.21	End Shut-In(1)
94	72.37	130.07	Open To Flow (2)
161	136.42	132.86	Shut-In(2)
220	349.47	133.85	End Shut-In(2)
224	2043.43	134.12	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	OSM 100M (oil spots)	0.89
20.00	OCM 10o 90M	0.10

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: Pete Vollmer

23-1S-36W Rawlins, KS

Michael #3-23

Job Ticket: 56958 **DST#: 3**

Test Start: 2014.03.14 @ 23:47:00

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:	53.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.20 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	800.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

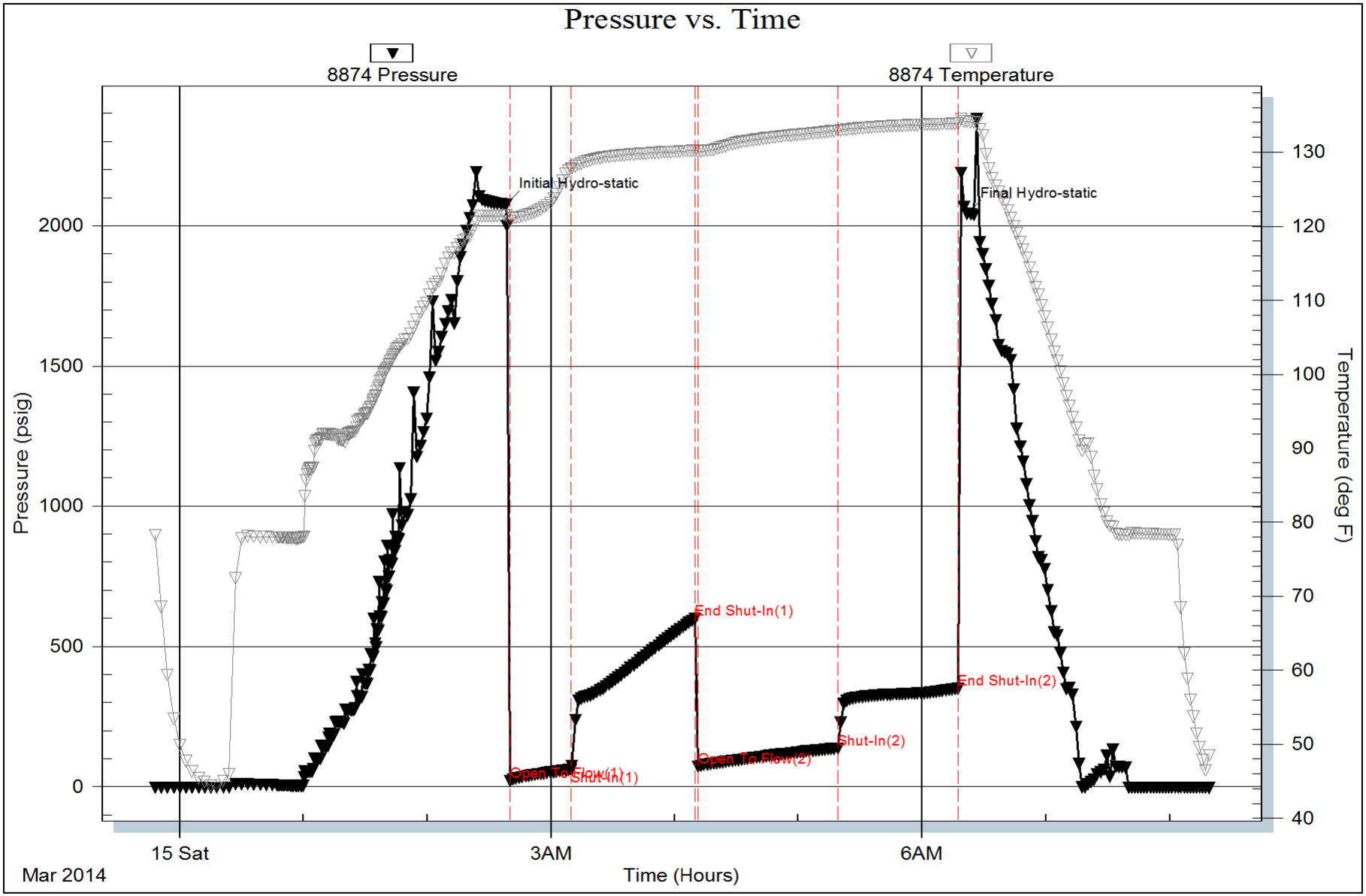
Recovery Table

Length ft	Description	Volume bbl
180.00	OSM 100M (oil spots)	0.885
20.00	OCM 10o 90M	0.098

Total Length: 200.00 ft Total Volume: 0.983 bbl

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

Serial #: 8874 **Inside** Berexco, LLC. Michael #3-23 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 56958 Printed: 2014.03.15 @ 09:31:23

DRILL STEM TEST REPORT

Berexco, LLC.

2020 N Bramblew ood
Wichita, KS 67206

ATTN: Pete Vollmer

23-1S-36W Rawlins, KS

Michael #3-23

Job Ticket: 56959 **DST#: 4**

Test Start: 2014.03.15 @ 18:15:00

GENERAL INFORMATION:

Formation: **LKC "C"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 21:07:00
Time Test Ended: 04:35:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 4268.00 ft (KB) To 4350.00 ft (KB) (TVD)
Total Depth: 4350.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

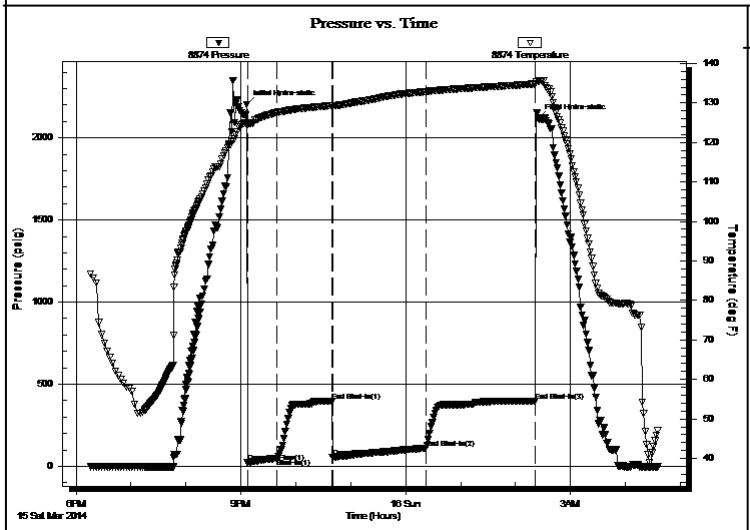
Reference Elevations: 3272.00 ft (KB)
3259.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 8874 **Inside**

Press@RunDepth: 49.17 psig @ 4269.00 ft (KB)
Start Date: 2014.03.15 End Date: 2014.03.16
Start Time: 18:16:00 End Time: 04:35:30

Capacity: 8000.00 psig
Last Calib.: 2014.03.16
Time On Btm: 2014.03.15 @ 21:06:30
Time Off Btm: 2014.03.16 @ 02:25:00

TEST COMMENT: 30 - IF- Surface Blow built to 3"
60 - ISI- No Return
90 - FF- Surface Blow started at 10 min. Built to BoB in 72 min.
120 - FSI- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2202.81	125.06	Initial Hydro-static
1	21.85	124.50	Open To Flow (1)
33	49.17	127.60	Shut-In(1)
93	397.09	129.33	End Shut-In(1)
94	53.19	129.25	Open To Flow (2)
196	110.48	132.87	End Shut-In(2)
315	395.86	134.79	End Shut-In(3)
319	2118.93	135.53	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
140.00	OCM 70M 30o	0.69
80.00	Clean Oil 100o	0.39

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: Pete Vollmer

23-1S-36W Rawlins, KS

Michael #3-23

Job Ticket: 56959 **DST#: 4**

Test Start: 2014.03.15 @ 18:15:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	31 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	73.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.20 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	1400.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

Recovery Table

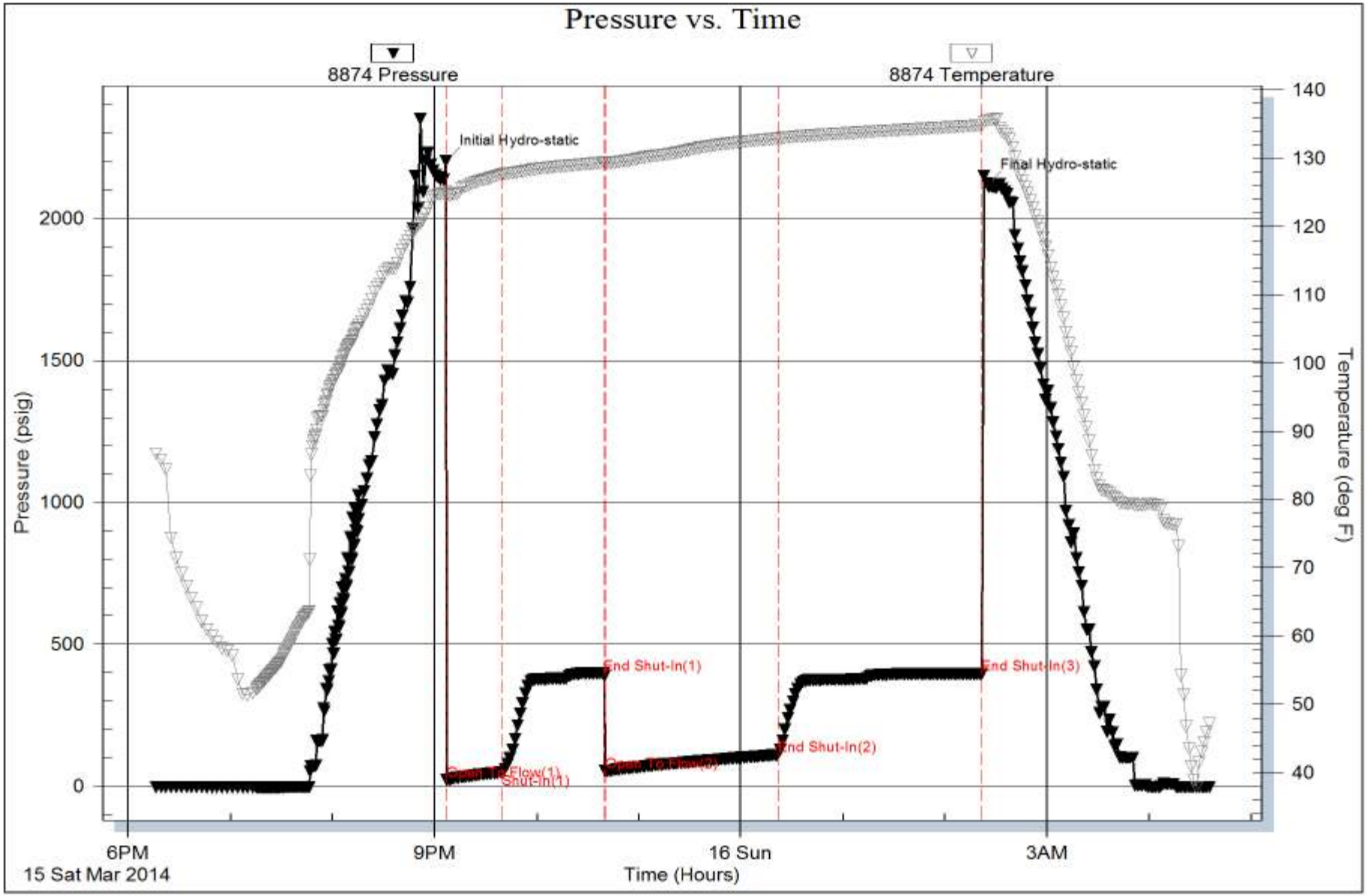
Length ft	Description	Volume bbl
140.00	OCM 70M 30o	0.688
80.00	Clean Oil 100o	0.393

Total Length: 220.00 ft Total Volume: 1.081 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: Oil API = 32 @ 70 deg = 31 cor.


Pressure vs. Time
8874 Pressure
8874 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
End Shut-In(3)
Flow(1)
Shut-In(1)
Pressure (psig)
Temperature (deg F)
2000
1500
1000
500
0
140
130
120
110
100
90
80
70
60
50
40
6PM
15 Sat Mar 2014
9PM
16 Sun
3AM
Time (Hours)

DRILL STEM TEST REPORT

Berexco, LLC.

2020 N Bramblew ood
Wichita, KS 67206

ATTN: Pete Vollmer

23-1S-36W Rawlins, KS

Michael #3-23

Job Ticket: 56960 **DST#: 5**

Test Start: 2014.03.16 @ 16:47:00

GENERAL INFORMATION:

Formation: **LKC "D,E"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 19:12:30
Time Test Ended: 03:51:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 4354.00 ft (KB) To 4430.00 ft (KB) (TVD)
Total Depth: 4430.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

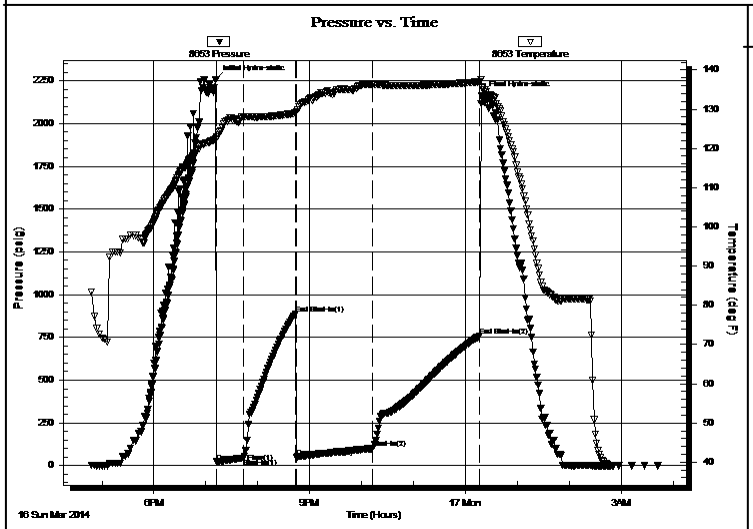
Reference Elevations: 3272.00 ft (KB)
3259.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 8653 **Outside**

Press@RunDepth: 100.35 psig @ 4355.00 ft (KB)
Start Date: 2014.03.16 End Date: 2014.03.17
Start Time: 16:48:00 End Time: 03:51:30

Capacity: 8000.00 psig
Last Calib.: 2014.03.17
Time On Btm: 2014.03.16 @ 19:11:30
Time Off Btm: 2014.03.17 @ 00:18:30

TEST COMMENT: 30 - IF- Surface Blow built to 1 1/2"
60 - ISI- No Return
90 - FF- Surface Blow started at 45 min. Built to 2"
120 - FSI- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2257.85	122.35	Initial Hydro-static
1	22.76	122.85	Open To Flow (1)
32	45.28	128.03	Shut-In(1)
92	887.98	128.97	End Shut-In(1)
93	50.15	129.32	Open To Flow (2)
181	100.35	136.41	Shut-In(2)
305	758.67	136.96	End Shut-In(2)
307	2163.53	135.64	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
90.00	OSM 100M (oil spots)	0.44
80.00	OCM 10o 90M	0.39
5.00	Free Oil 100o	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: Pete Vollmer

23-1S-36W Rawlins, KS

Michael #3-23

Job Ticket: 56960 **DST#: 5**

Test Start: 2014.03.16 @ 16:47:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	10.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	55.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.20 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	800.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

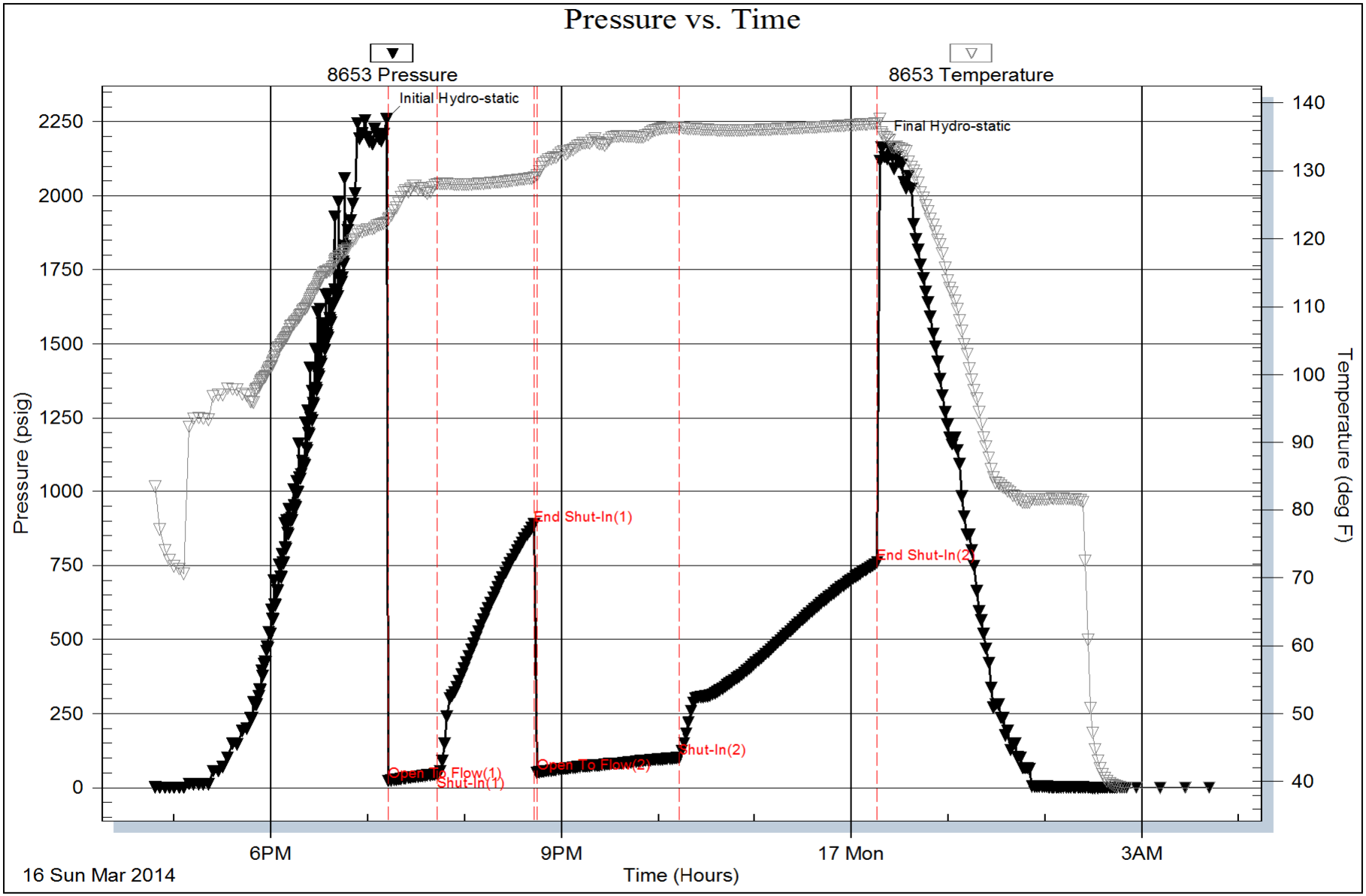
Recovery Table

Length ft	Description	Volume bbl
90.00	OSM 100M (oil spots)	0.443
80.00	OCM 10o 90M	0.393
5.00	Free Oil 100o	0.025

Total Length: 175.00 ft Total Volume: 0.861 bbl

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

Serial #: 8653 **Outside** Berexco, LLC. Michael #3-23 DST Test Number: 5



Trilobite Testing, Inc Ref. No: 56960 Printed: 2014.03.17 @ 06:32:47

BEREXCO LLC

MICHAEL 3-23

SE NW NW SEC 23 T1S R36W

RAWLINS COUNTY, KANSAS

SUMMARY

The Berexco LLC Michael 3-23 in Rawlins County, Kansas spud March 9, 2014 and reached a total depth of 4550' on March 17, 2014. Wellsite geological supervision commenced at 3000'. The primary objective was the Pennsylvanian Missourian Lansing-Kansas City carbonate benches, which produce in the East Fork field. A secondary zone of interest was the Oread Limestone. The Michael 3-23 was drilled using seismic and nearby well control.

Evaluation of the primary zones of interest was by drill stem testing after sample analysis. Five DSTs were run.

Foraker, Wabaunsee, and Topeka

The Foraker Limestone was tight with a trace of black dead oil. There were no shows in the Wabaunsee and only black asphaltic material in the Topeka.

Oread and Lansing-Kansas City

DST 1 in the Oread recovered 50 ft of mud with poor flow pressures. Samples were predominantly mudstone with locally fossiliferous wackestone displaying very poor interparticle porosity, rare scattered oil staining, and slow streaming cuts.

DST 2 in the Lansing A recovered 10 ft of mud with very poor flow pressures. Samples displayed occasional heavy black oil with no to trace porosity in cuttings.

DST 3 in the Lansing B recovered 200 ft of oil cut and oil spotted mud. The poor flow pressures indicated a non-porous B zone, also reflected on wireline logs. Samples exhibited fossiliferous grainstone and mudstone with trace to poor interparticle porosity, good live black oil staining, and good cuts.

DST 4 in the Lansing C recovered 80 ft of clean oil and 120 ft of oil cut mud. Samples were grainstone with poor to fair interparticle and vuggy porosity with abundant live black oil staining and good fluorescence and cuts.

The Lansing D samples were non-porous chalky limestone with no shows. No drill stem testing was warranted in the D zone alone and the decision was made to drill through the E zone and test the D and E zones together. The Lansing E was predominately non-porous with traces of interparticle and vuggy porosity and a scattered show of black oil stain and hydrocarbon cuts. DST 5 over the combined D and E zones recovered 175 ft of oil and oil cut mud.

The Lansing F was non-porous chalky limestone with no sample shows.

Oil Well Completion

5 ½" production casing was run to complete the Michael 3-23 as an oil producer.

Peter J. Vollmer
Consulting Wellsite Geologist, WPG #3369
March 2014

WELL DATA

OPERATOR:	Berexco LLC 2020 North Bramblewood Drive Wichita, Kansas 67206
WELL NAME:	Michael 3-23
SURFACE LOCATION:	990’ FNL & 990’ FWL SE NW NW Sec. 23, T1S, R36W Rawlins County, Kansas
LATITUDE & LONGITUDE:	39.9563323, -101.3323162 (From State, calculated from footages)
BOTTOM HOLE LOCATION:	Vertical hole
ELEVATIONS:	3259’ GL 3272’ KB
API NUMBER:	15-153-20993
BASIN:	Mid-Continental Arch
FIELD:	East Fork
HOLE SIZE:	12 ¼” to 310’; 7 7/8” to 4550’
CASING:	8 5/8” J-55 24# STC set to 310’ KB
SPUD DATE:	March 9, 2014
TD DATE:	March 17, 2014
TOTAL DEPTH:	4550’ Rig TD 4549’ Log TD
LAST FORMATION:	Pennsylvanian Lansing-Kansas City
WELL STATUS:	Ran 5 1/2” production casing
OPERATOR REPRESENTATIVE:	Dana Wreath - Vice President
WELLSITE GEOLOGIST:	Peter J. Vollmer

FORMATION TOPS

Formation	Sample Top	Log Top	Log TVD	Log Datum
KB				3272
Pierre Sh	Cased	Cased	N/A	N/A
Niobrara Fm	N/A	1198	1198	+2074
Fort Hays Ls Mbr	N/A	1702	1702	+1570
Carlile Sh	N/A	1747	1747	+1525
Dakota	N/A	2135	2135	+1137
Cheyenne	N/A	2692	2692	+580
Blaine	N/A	3020	3020	+252
Stone Corral Anhydrite	3174	3180	3180	+92
Base Anhydrite	3212	3210	3210	+62
Neva	3662	3662	3662	-390
Foraker	3774	3774	3774	-502
Wabaunsee	3940	3944	3944	-672
Topeka	3986	3987	3987	-715
Deer Creek Sand	4021	4022	4022	-750
Oread	4097	4098	4098	-826
Lansing-Kansas City				
"A"	4201	4198	4198	-926
"B"	4256	4256	4256	-984
"C"	4317	4314	4314	-1042
"D"	4364	4360	4360	-1088
"E"	4407	4404	4404	-1132
"F"	4446	4444	4444	-1172
TD Driller	4550			
TD Logger		4549	4549	-1277

LITHOLOGY AND SHOWS

The following descriptions are interpretive. Rig crew members collected unlagged samples from 3500’ to 4550’ TD. Depths are rig depths except where noted as wireline.

3500’ - 3558’	SHALE: reddish orange, firm to soft, fissile to blocky, very silty, sandy in part, non to slightly calcareous, trace light tan Limestone.
3558’ - 3586’	SANDSTONE: light gray to red brown, friable to firm, very fine grained grading to silt, sub rounded to rounded, well sorted, calcareous cement, occasional clay filled, no visible porosity, no shows.
3586’ - 3654’	SHALE: red, firm to hard, fissile to blocky, very silty, sandy in part, non to slightly calcareous, trace tan Limestone.
3654’ - 3662’	SANDSTONE: light gray to white, friable to firm, very fine grained, sub rounded to rounded, well sorted, calcareous cement, occasional clay filled, glauconite, no visible porosity no shows.

NEVA	SAMPLE TOP: 3662’	LOG TOP: 3662’	SUBSEA: -390’

3662’ - 3670’	LIMESTONE: white to light gray, firm to hard, chalky, fossil fragments (Brachiopod, Fusulinid), black algal stain, tight, no shows.
3670’ - 3716’	SHALE: reddish brown, soft to firm, sub blocky, non calcareous, occasional silty, with interbedded LIMESTONE: white to light gray, firm to hard, cryptocrystalline, tight, no shows.
3716’ - 3726’	SANDSTONE: very light gray to white to red brown, friable, very fine grained, subangular to subrounded, well sorted, calcareous cement, clay fill, tight to trace porosity, no shows.
3726’ - 3742’	LIMESTONE: light gray, hard, cryptocrystalline, very slightly sandy, tight, no shows.
3742’ - 3774’	SHALE: reddish brown, soft to firm, sub blocky, non calcareous, occasional silty.

FORAKER	SAMPLE TOP: 3774’	LOG TOP: 3774’	SUBSEA: -502’

3774’ - 3782’	LIMESTONE: white to light gray, firm to hard, cryptocrystalline, chalky, fossil fragment, trace black dead oil, tight, no shows.

LITHOLOGY AND SHOWS

3782’ - 3794’	SHALE: gray to green gray, firm, blocky, non to slightly calcareous, fossil fragments.
3794’ - 3808’	LIMESTONE: white to light gray, firm to hard, cryptocrystalline, chalky, fossil fragments, algal stain, slightly sandy at base, tight to trace intercrystalline porosity, no shows.
3808’ - 3822’	SANDSTONE: very light gray to white, friable, very fine grained, subangular to subrounded, well sorted, calcareous cement, clay fill, black specks, tight to trace porosity, no shows.
3822’ - 3884’	SHALE: reddish brown, soft to firm, sub blocky, non calcareous, occasional silty, occasional light gray to white to light red Limestone stringers.
3884’ - 3911’	SHALE: dark gray to black, firm, fissile to blocky, non calcareous, carbonaceous in part, fossil fragments (Brachiopod).
3911’ - 3940’	SHALE: light reddish brown to reddish orange to brown orange, soft to firm, sub blocky to lumpy, non calcareous, clayey, occasional silty, thin gray Limestone partings.

WABAUNSEE	SAMPLE TOP: 3940’	LOG TOP: 3944’	SUBSEA: -672’

3940’ - 3956’	LIMESTONE: white to light gray with light reddish brown mottled, hard to firm, cryptocrystalline, chalky texture, light reddish brown SHALE partings, rare fossil fragment, tight, no shows.
3956’ - 3986’	SHALE: reddish brown, soft to firm, sub blocky, non calcareous, thin Limestone stringers and inclusions.

TOPEKA	SAMPLE TOP: 3986’	LOG TOP: 3987’	SUBSEA: -715’

3986’ - 3994’	LIMESTONE: light gray to white, hard to firm, cryptocrystalline, fossil fragment (Fusulinids), sparry calcite, black asphaltic material, tight, no shows.
3994’ - 4000’	SHALE: gray, firm, sub blocky, non to slightly calcareous, dull.
4000’ - 4020’	LIMESTONE: light gray to white, hard to firm, cryptocrystalline, fossil fragment, clear calcareous fill in vugs, clear to opaque chert, black asphaltic material, tight, no shows.

LITHOLOGY AND SHOWS

DEER CREEK SAND	SAMPLE TOP: 4021’	LOG TOP: 4022’	SUBSEA: -750’

4020’ - 4040’	SANDSTONE: light gray to very light gray, very friable to soft, very fine grained, well rounded, well sorted, weak calcareous cement, clay filled, plant remains, abundant loose grains, trace to poor porosity, no show.
4040’ - 4058’	LIMESTONE: white to light red brown, mottled, firm to hard, mudstone, very chalky, very slightly argillaceous in part, occasional sandy, interbedded reddish brown Shale partings, tight, no shows.
4058’ - 4097’	SHALE: reddish brown, brown maroon, gray, mottled in part, soft to firm, blocky, occasional slightly calcareous, non to slightly silty in part, clayey to sticky.

OREAD	SAMPLE TOP: 4097’	LOG TOP: 4098’	SUBSEA: -826’

4097’ - 4116’	LIMESTONE: cream to white, firm to hard, mudstone to packstone, occasional fossil fragment, stylolites, black dead oil on fracture faces, rare patchy black oil stain, very tight to trace interparticle porosity, rare bright yellowish white fluorescence, slow streaming yellowish white cuts, poor show.
4116’ - 4126’	SHALE: dark gray to black, firm, fissile, slightly to very carbonaceous, non to slightly calcareous, fossil fragments (Brachiopod).
4126’ - 4160’	LIMESTONE: gray to light gray, firm to hard, mudstone, rare fossil, very chalky texture, light brown to opaque chert, clear calcite crystals, tight, no show.
4160’ - 4180’	LIMESTONE: gray to light gray, hard, mudstone, rare fossil, occasional slightly chalky texture, trace opaque chert, clear calcite crystals, medium gray Shale partings, tight, no show.
4180’ - 4201’	SHALE: gray to light maroon to reddish brown, firm, blocky, non to slightly calcareous, occasional subwaxy, occasional soft and clayey.

LANSING- KANSAS CITY “A”	SAMPLE TOP: 4201’	LOG TOP: 4198’	SUBSEA: -926’

4201’ - 4219’	LIMESTONE: white to cream, firm to hard, mudstone to wackestone, occasional interclasts and peloids, fossil fragment, scattered black heavy oil stain, tight to trace interparticle porosity, bright yellowish white fluorescence, instant yellowish white cuts, with fast streaming yellowish white cuts, good show.
4219’ - 4224’	SHALE: gray to dark gray, firm, blocky, non to slightly calcareous.

LITHOLOGY AND SHOWS

4224’ - 4232’	SANDSTONE: white to light gray, firm to friable, very fine grained, well rounded, well sorted, calcareous cement, clay filled, clean, tight to poor porosity, no show.
4232’ - 4242’	SHALE: dark gray to reddish brown to maroon, firm, blocky, non to slightly calcareous, silty in part.
4242’ - 4256’	LIMESTONE: light gray, firm, mudstone, slightly argillaceous, gray shale partings, tight.

LANSING-
KANSAS CITY “B” SAMPLE TOP: 4256’ LOG TOP: 4256’ SUBSEA: -984’

4256’ - 4270’	LIMESTONE: white, firm, packstone to grainstone, fossil fragments, patchy live heavy black oil, poor to trace interparticle porosity, bright yellowish white fluorescence, instant blooming bright yellowish white cuts, good show.
4270’ - 4290’	SHALE: gray to dark gray, firm, platy to fissile, slightly carbonaceous in part, thin Limestone partings, fossil fragments (Brachiopod).
4290’ - 4298’	LIMESTONE: white to light gray, firm, cryptocrystalline, gray Shale partings, fossil fragment, slightly to moderately argillaceous in part, occasional sandy, tight, no show.
4298’ - 4317’	SHALE: brownish red to gray to maroon, firm to soft, platy, slightly calcareous, sandy/silty in part.

LANSING-
KANSAS CITY “C” SAMPLE TOP: 4317’ LOG TOP: 4314’ SUBSEA: -1042’

4317’ - 4331’	LIMESTONE: white, firm, mudstone to packstone, fossil fragment, abundant black heavy oil, poor intergranular and fair vuggy porosity, bright yellowish white fluorescence, instant blooming yellowish white cuts, with slow streaming cuts, good show.
4331’ - 4344’	SHALE: gray to dark gray, firm, sub blocky, non to slightly calcareous, fossil fragments.
4344’ - 4356’	LIMESTONE: white to dark gray, mottled in part, hard to firm, mudstone to wackestone, fossil, spotty black heavy oil stain, tight to trace porosity, patchy bright yellowish white fluorescence, occasional blooming yellowish white cuts, fair show.
4356’ - 4364’	SHALE: gray to dark gray, firm, blocky, non to slightly calcareous.

LITHOLOGY AND SHOWS

LANSING- KANSAS CITY "D"	SAMPLE TOP: 4364'	LOG TOP: 4360'	SUBSEA: -1088'

4364' - 4382'	LIMESTONE: light gray to white, firm, packstone to mudstone, fossil fragments, very chalky texture, clean, no visible porosity, no shows.
4382' - 4394'	SHALE: dark gray to gray to black, firm, blocky, white Limestone partings.
4394' - 4398'	LIMESTONE: white to very light gray, hard, cryptocrystalline, chalky, tight, no shows.
4398' - 4407'	SHALE: dark reddish brown to gray, firm, blocky to platy, non calcareous, silty, pyrite, interbedded Limestone.

LANSING- KANSAS CITY "E"	SAMPLE TOP: 4407'	LOG TOP: 4404'	SUBSEA: -1132'

4407' - 4420'	LIMESTONE: white to light gray, hard to firm, grainstone to wackestone, fossil fragment, peloids, patchy black oil specks and stain, trace to poor vuggy and interparticle porosity, bright yellowish white fluorescence, instant blooming and streaming yellowish white cut, good show.
4420' - 4446'	SHALE: dark gray to black, firm, blocky, calcareous, fossil, very to slightly carbonaceous in part, plant remains, trace pyrite.

LANSING- KANSAS CITY "F"	SAMPLE TOP: 4446'	LOG TOP: 4444'	SUBSEA: -1172'

4446' - 4456'	LIMESTONE: cream to white to light gray, firm to hard, mudstone to packstone, scattered fossil fragments, very tight, no shows.
4456' - 4462'	SHALE: gray, firm, sub blocky, calcareous.
4462' - 4479'	LIMESTONE: white to very light gray, firm to hard, mudstone to packstone, fossil fragments (Fusulinids), occasional sandy, trace very fine gray SANDSTONE, clean, occasional poor porosity, no shows.
4479' - 4498'	SHALE: gray to dark gray, firm, platy to blocky, non to very slightly calcareous, fossil fragment, interbedded white to light gray chalky Limestone.
4498' - 4505'	LIMESTONE: cream to white to light brown, firm to hard, mudstone, fossil fragment, chalky, dense, with interbedded dark gray Shale partings, tight, no shows.

LITHOLOGY AND SHOWS

4505’ - 4538’	SHALE: brownish red, firm, blocky, n calcareous, occasional Silty/Sandy, occasional thin LIMESTONE stringers.
4538’ - 4550’ TD	LIMESTONE: white to light gray, firm to hard, mudstone, occasional argillaceous, occasional dark gray to black SHALE partings, tight, no shows.

SERVICES

CONTRACTOR:	Beredco Drilling Inc., Rig 2	
Toolpusher:	Milo Salinas	
DRILLING FLUIDS:	Morgan Mud, Inc.	McCook, ND
Mud Type:	Freshwater Chemical	308-340-5946
Engineer:	Dave Korte	
MUD LOGGING:	None	
WELLSITE GEOLOGY:	T. M. McCoy & Co., Inc. Peter J. Vollmer	Wilson, WY 307-733-4332
DRILL STEM TESTING:	Trilobite Testing, Inc. Kevin Mack DST 1: 4058’ - 4112’ Oread DST 2: 4146’ - 4234’ LKC “A” DST 3: 4218’ - 4278’ LKC “B” DST 4: 4268’ - 4350’ LKC “C” DST 5: 4354’ - 4430’ LKC “D” & “E”	Hays, KS 785- 625-4778
DIRECTIONAL DRILLING:	None	
WIRELINE LOGS:	Pioneer Wireline Services RAG: Surface casing - TD Micro: 3500’ - TD Engineer: Jerrod Long	Hays, KS 785-625-3858