Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1191368

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: Peter J. Vollmer
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 #:

11/21/2013	12/08/2013	02/11/2014
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-153-20963-00-00
Spot Description:
NE - NE - SW - NE Sec. 22 Twp. 1 S. R. 36 ☐ East ☑ West
1630 Feet from ☑ North / ☐ South Line of Section
1500 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 #: 6-22
Field Name: East Fork
Producing Formation: LKC, Oread
Elevation: Ground: 3217 Kelly Bushing: 3230
Total Vertical Depth: 4490 Plug Back Total Depth: 4435
Amount of Surface Pipe Set and Cemented at: 306 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: 2000 ppm Fluid volume: 1200 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: 02/27/2014
☑ **Confidential Release Date:** 02/27/2016
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** NAOMI JAMES **Date:** 02/28/2014

[redacted] 1191368

Operator Name: BEREXCO LLC Lease Name: Michael Well #: 6-22

Sec. 22 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 Csg	12.25	8.625	23	306	Common	225	3% cc, 2% gel
Production Csg	7.875	5.50	15.5	4489	Lite & Common	700	3/4# floseal, 10% salt, 30% gel, 5# gilson

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 - 4374 LKC	1200 gals 15% MCA, 3% solvent	4364 - 4374
4	4275 - 4287 LKC	750 gals 15% MCA, 3% solvent	4275 - 4287
		4000 gals 15% MCA, 3% solvent, 300 lbs 50/50 RS/BAF	4275 - 4374
4	4053 - 4056 Oread	250 gals 15% MCA, 3% solvent	4053 - 4056

TUBING RECORD: Size: 2.875 Set At: 4410 bottom of bbl Packer At: no pkr

Liner Run: ☐ Yes ☑ No

Date of First, Resumed Production, SWD or ENHR.: 02/11/2014

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

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	104	0	42		32

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:
4053 - 4056
4275 - 4374

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

Form	ACO1 - Well Completion
Operator	BEREXCO LLC
Well Name	Michael 6-22
Doc ID	1191368

Tops

Name	Top	Datum
Anhydrite	3119	+111
Anhydrite (base)	3162	+68
Foraker	3724	-494
Topeka	3940	-710
Deer Creek Sand	3976	-746
Oread	4053	-823
Heebner	4104	-874
Lansing/KS City A	4156	-926
Lansing/KS City B	4213	-983
Lansing/KS City C	4276	-1046
Lansing/KS City D	4320	-1090
Lansing/KS City E	4364	-1134
Lansing/KS City F	4402	-1172
RTD	4490	
LTD	4492	-1262

Form	ACO1 - Well Completion
Operator	BEREXCO LLC
Well Name	Michael 6-22
Doc ID	1191368

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 Csg	12.25	8.625	23	306	Common	225	3% cc, 2% gel
Production Csg	7.875	5.50	15.5	4489	Lite & Common	700	3/4# floseal, 10% salt, 30% gel, 5# gilsonite

ALLIED OIL & GAS SERVICES, LLC 061382

WELL FILE

Federal Tax I.D. # 20-8651475

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

SERVICE POINT:
Caldy KS

DATE 11-22-13	SEC. 27	TWP. 15	RANGE 36W	CALLED OUT	ON LOCATION 3:00AM	JOB START 2:00AM	JOB FINISH 7:30AM
LEASE Michael	WELL # 6-22	LOCATION Beardsley N to RAA 7W NE side				COUNTY Rawlins	STATE KS
OLD OR (NEW) (Circle one)							

CONTRACTOR Beredco #2
TYPE OF JOB Surface
HOLE SIZE 12 1/4 T.D. 310
CASING SIZE 8 5/8 DEPTH 310
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG. 15'
PERFS.
DISPLACEMENT 18 3/4

OWNER Same

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

COMMON	225 sks @	17.90	4027.50
POZMIX	@		
GEL	4 sks @	23.40	93.60
CHLORIDE	8 sks @	64.00	512.00
ASC	@		
	@		
	@		
	@		
	@		
	@		
	@		
	@		
	@		
HANDLING	243.3 cuft @	2.45	603.35
MILEAGE	10.56 ton x 50 x 2.60		1374.75
	TOTAL		6611.23

EQUIPMENT

PUMP TRUCK # 422 CEMENTER Kelly Crabel
HELPER Wayne McGlughy
BULK TRUCK # 818+287 DRIVER Mike McKamson
BULK TRUCK # DRIVER

REMARKS:
Rigged up, mixed 225 sks com 3% CC 2% gel, shut in
Cement did circulate
Thank You
Kelly & Crew

SERVICE

DEPTH OF JOB			310
PUMP TRUCK CHARGE			1512.25
EXTRA FOOTAGE	@		
MILEAGE Mi #50	@	2.70	385.00
MANIFOLD need	@	225.00	NC
Mi LV	@	4.00	NC
	@		
	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 8,008.48
DISCOUNT 2,382.37 IF PAID IN 30 DAYS
6,126.10 Net

PRINTED NAME Mylo Salings
SIGNATURE Mylo Salings

ALLIED
OIL & GAS SERVICES, LLC

CEMENTING LOG

STAGE NO.

Date 11-22-13 District Mid Con Ticket No. 61387
Company Becexco Rig Becexco #2
Lease Michael Well No. 16-32
County Rawlins State KS
Location Beardsley N to RdA/7 Field
7W N+E. in+O

CASING DATA: Conductor ☐ PTA ☐ Squeeze ☐ Misc ☐
Surface ☒ Intermediate ☐ Production ☐ Liner ☐
Size 8 5/8 Type New Weight 24# Collar

Casing Depths: Top Ground level Bottom 310

Drill Pipe: Size Weight Collars
Open Hole: Size T.D. ft. P.B. to ft.

CAPACITY FACTORS:
Casing: Bbls/Lin. ft. .0637 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: water
Amt. 5 bbl Sks Yield ft³/sk Density PPG

LEAD: Pump Time hrs. Type
Excess
Amt. 225 Sks Yield 1.34 ft³/sk Density 15.2 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
Bulk Equip. 818+287

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

COMPANY REPRESENTATIVE
CEMENTER Kelly

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
3:00						got to location
						rigged up
						mixed 225 sks com 3%cc 2%gel
						displaced with 18 3/4 bbl water
						shut in

FINAL DISP. PRESS: PSI BUMP PLUG TO PSI BLEEDBACK BBLS.

THANK YOU

ALLIED OIL & GAS SERVICES, LLC - Great Bend, KS

WELL FILE

ALLIED OIL & GAS SERVICES, LLC 061421

Federal Tax I.D. # 20-8651475

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

SERVICE POINT: Oakley, KS

DATE 12-8-13	SEC. 22	TWP. 7	RANGE 36	CALLED OUT	ON LOCATION 8:30 pm	JOB START 9:00am	JOB FINISH 10:30am
LEASE Michael	WELL # 6-22		LOCATION Beardsley 8N to A Rd,			COUNTY Rawlins	STATE KS
OLD OR NEW (Circle one)			SW, N, W, E into				

CONTRACTOR Beredco
TYPE OF JOB Production Long string
HOLE SIZE 7 7/8 T.D. 4490
CASING SIZE 5 1/2 DEPTH 4419'
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS LINE SHOE JOINT 42.51'
CEMENT LEFT IN CSG. 42.51'
PERFS.
DISPLACEMENT

OWNER Same

CEMENT
AMOUNT ORDERED 450 sks Lite 3/4 # Floseal
250 sks com 10% salt 2% gel
5 # gilsonite

EQUIPMENT

PUMP TRUCK CEMENTER LaRoue Ewert
422 HELPER Wayne McGaghy
BULK TRUCK
318-287 DRIVER Adam Flipse
BULK TRUCK
396-306 DRIVER Juan (TWS)

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	265 sks	@ 26.35	685.10
		@	
gilsonite	1250 #	@ .78	1225.00
Floseal	338 #	@ 2.97	1063.86
		@	
Super Flush 12 bbl		@ 58.20	784.40
		@	
HANDLING	825.28 sks	@ 2.48	2046.69
MILEAGE	34.33 ton x 50 mi	x 2.60	4463.90
		TOTAL	21897.45

REMARKS:
Pump ball thru 4 400 # Circulate
Release Plug Mix 15 sks, Plug RH 20 sks
Mix 450 sks Lite, Mix 250 sks com
Displace with water Land plug
2000 # Float held.

SERVICE

DEPTH OF JOB			
PUMP TRUCK CHARGE			2765.75
EXTRA FOOTAGE		@	
MILEAGE	MIHU 50	@ 2.70	385.00
MANIFOLD	Head	@ 275.00	NC
MILU	50	@ 4.40	NC
		@	
		TOTAL	3150.75

CHARGE TO: Berexco Inc
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

(Furnished Rustler)			
AFU float shoe			232.00
Latch down plug		@	232.00
(1) Centralizers		@ 37.00	407.00
(20) Scratchers		@ 46.00	552.00
(Weatherford) Basket		@	394.99
		@	
		TOTAL	1817.99

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 26,817.49
DISCOUNT 7,013.49 IF PAID IN 30 DAYS
19,803.99 Net.

PRINTED NAME
SIGNATURE Ed Davis

ALLIED OIL & GAS SERVICES, LLC

CEMENTING LOG

STAGE NO.

Date 12-8-13 District Oakley KS Ticket No. 61421
Company Baereco Rig Baredco
Lease Michael Well No. 6-22
County Rawlins State KS
Location 22-1-36 Field
Barnsley 8W to 4th, SW, W, W, Ends

CASING DATA: Conductor ☐ PTA ☐ Squeeze ☐ Misc ☑
Surface ☐ Intermediate ☐ Production ☑ Liner ☐
Size 5½ Type new Weight 15.5# Collar

Casing Depths: Top KB Bottom 4419'

Drill Pipe: Size Weight Collars
Open Hole: Size 7 7/8 T.D. 4490 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: Superflush
Amt. Sks Yield ft³/sk Density PPG
12 bbl

LEAD: Pump Time hrs. Type 450 SKS Lite
¼# Flo-Seal Excess
Amt. 450 Sks Yield 1.9 ft³/sk Density 12.2 PPG
TAIL: Pump Time hrs. Type Class 10 Neat
2% gel 5# gilsonite Excess
Amt. 250 Sks Yield 1.49 ft³/sk Density 14.56 PPG
WATER: Lead gals/sk Tail gals/sk Total Bbls.

Pump Trucks Used 422 - Wayne
Bulk Equip. 318/287 -

Float Equip: Manufacturer Weatherford Top Down Plug
Shoe: Type AFU Depth
Float: Type Latch down Depth
Centralizers: Quantity Plugs Top Btm.
Stage Collars
Special Equip: (1) weather ford Basket / scratchers
Disp. Fluid Type Water Amt 101.6 Bbls. Weight PPG
Mud Type Weight PPG

COMPANY REPRESENTATIVE
CEMENTER Lakane E West
12-9-13

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
9:00						Held Safety meeting
						Pump ball through S
						Circulate 1 hr
						Plug M.H. (55 sks)
						Plug R.H. (20 sks)
				12 bbl		Mix Super flush
						Start Cement 415 sks Lite
						weigh cement 3 stirrups 12.2#
						Stop Cement
						Start cement 250 sks Class
						weigh cement 3 stirrups 14.6 #
						Stop cement
						Wash pump & lines.
						Release plug.
				20.0		Start Water Displacement
	200#			20.0		
	500#			20.0		
	700#			10.0		
	900#			10.0		
	1250#			10.0		
	1300#			10.0		
	1500#			4.16		
10:30	2500#					Stop water
						Hand plug Float held
						Held Safety meeting
						Thank you

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

DRILL STEM TEST REPORT

Berexco, LLC

2020 N Bramblew ood
Wichita, KS 67206

ATTN: Pete Vollmer

22-1s-36w Rawlins, KS

Michael #6-22

Job Ticket: 53554 **DST#: 1**

Test Start: 2013.11.28 @ 18:43:00

GENERAL INFORMATION:

Formation: **Oread**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 21:09:00
Time Test Ended: 05:18:00

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

Interval: 3974.00 ft (KB) To 4055.00 ft (KB) (TVD)
Total Depth: 4055.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

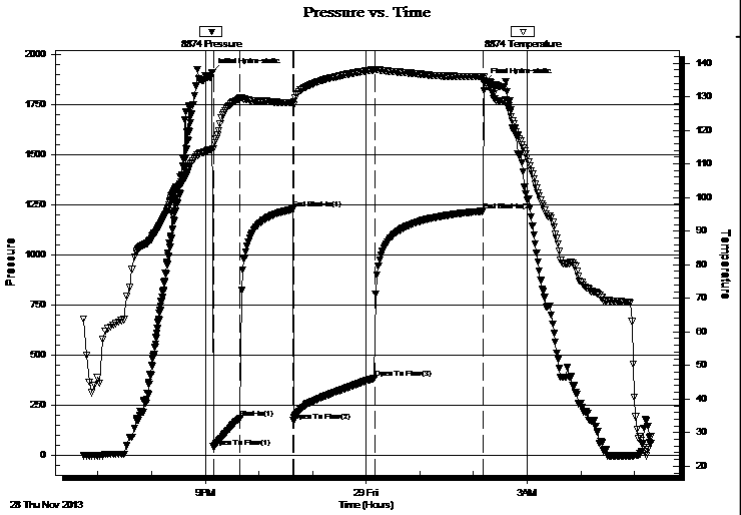
Reference Elevations: 3230.00 ft (KB)
3217.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 8874 **Inside**

Press@RunDepth: 185.16 psig @ 3975.00 ft (KB)
Start Date: 2013.11.28 End Date: 2013.11.29
Start Time: 18:44:00 End Time: 05:18:00

Capacity: 8000.00 psig
Last Calib.: 2013.11.29
Time On Btm: 2013.11.28 @ 21:07:30
Time Off Btm: 2013.11.29 @ 02:11:30

TEST COMMENT: 30 - IF- BoB in 13 min.
60 - ISI- No Return
90 - FF- BoB in 20 min.
120 - FSI- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1909.20	114.30	Initial Hydro-static
2	41.99	114.42	Open To Flow (1)
32	185.16	129.53	Shut-In(1)
90	1227.86	128.16	End Shut-In(1)
91	172.45	127.52	Open To Flow (2)
182	385.37	138.03	Open To Flow (3)
303	1218.75	135.94	End Shut-In(2)
304	1859.60	135.86	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud (heavy) 100M	0.02
535.00	MW 5M 95W	2.63
186.00	MW 10M 90W	2.55
102.00	WM 60M 40W	1.43

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

22-1s-36w Rawlins, KS

Michael #6-22

Job Ticket: 53554 **DST#: 1**

Test Start: 2013.11.28 @ 18:43:00

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:	bbl		
Water Loss:	5.59 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 (heavy) 100M	0.025
535.00	MW 5M 95W	2.631
186.00	MW 10M 90W	2.554
102.00	WM 60M 40W	1.431

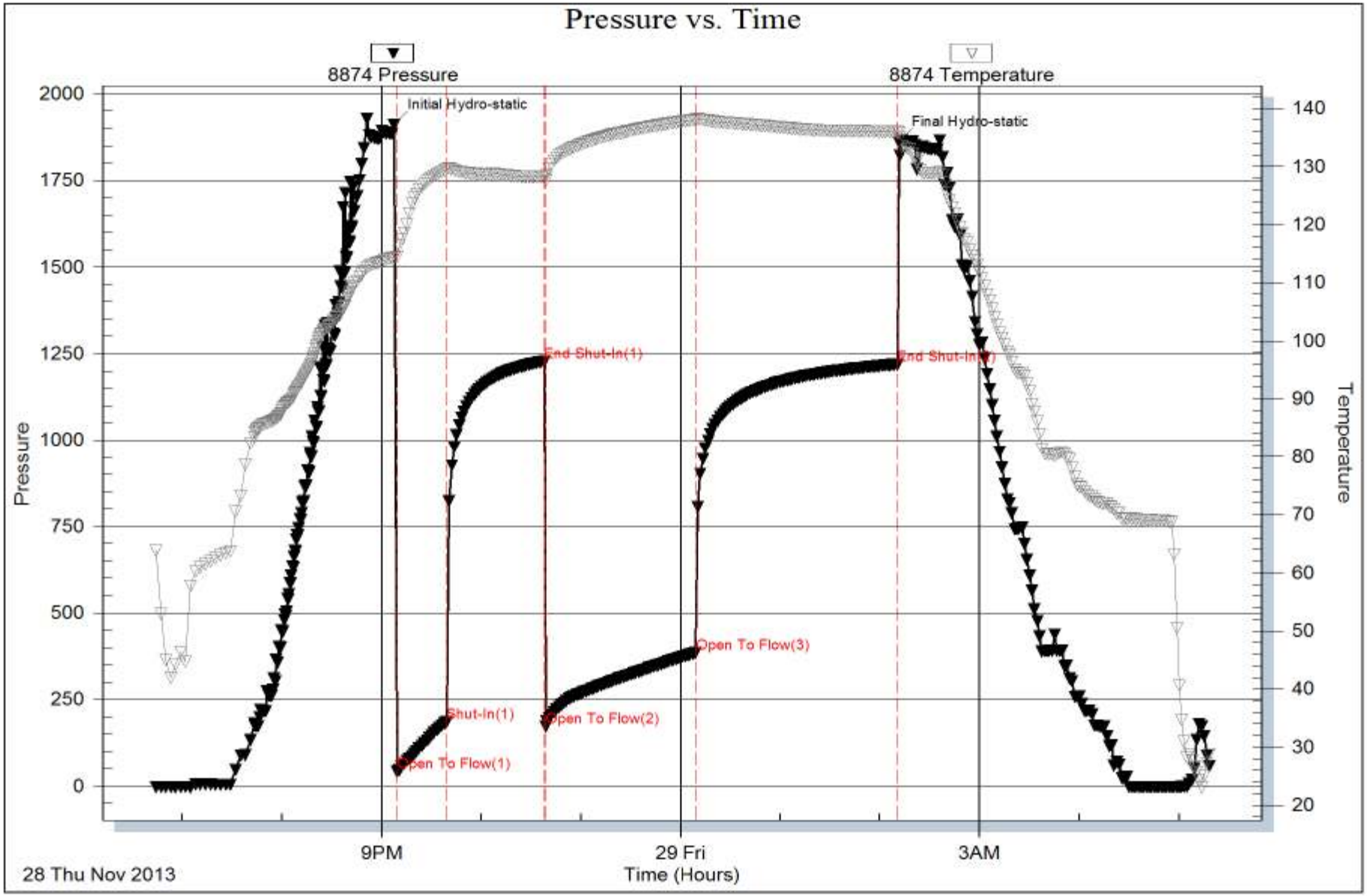
Total Length: 828.00 ft Total Volume: 6.641 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: Show of oil spots in tool

Serial #: 8874 **Inside** Berexco, LLC Michael #6-22 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 53554 Printed: 2013.11.30 @ 05:57:42

DRILL STEM TEST REPORT

Berexco, LLC

2020 N Bramblew ood
Wichita, KS 67206

ATTN: Pete Vollmer

22-1s-36w Rawlins, KS

Michael #6-22

Job Ticket: 53555 **DST#: 2**

Test Start: 2013.11.29 @ 14:28:00

GENERAL INFORMATION:

Formation: **Oread**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 17:30:30
Time Test Ended: 02:07:30

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

Interval: 4020.00 ft (KB) To 4108.00 ft (KB) (TVD)
Total Depth: 4108.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

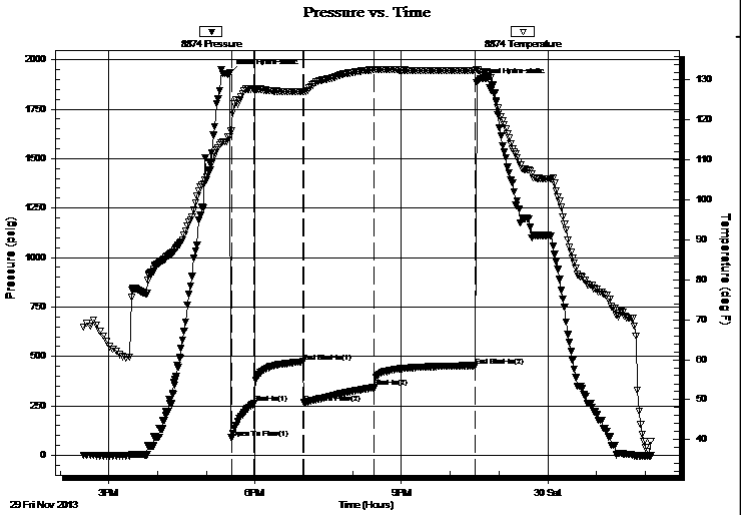
Reference Elevations: 3230.00 ft (KB)
3217.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 8874 **Inside**

Press@RunDepth: 342.01 psig @ 4021.00 ft (KB)
Start Date: 2013.11.29 End Date: 2013.11.30
Start Time: 14:29:00 End Time: 02:07:30

Capacity: 8000.00 psig
Last Calib.: 2013.11.30
Time On Btm: 2013.11.29 @ 17:28:30
Time Off Btm: 2013.11.29 @ 22:32:30

TEST COMMENT: 30 - IF- BoB in 12 min.
60 - ISI- No Return
90 - FF- BoB in 22 min.
120 - FSI- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1932.72	115.86	Initial Hydro-static
2	87.58	117.24	Open To Flow (1)
30	260.86	127.78	Shut-In(1)
90	472.49	127.16	End Shut-In(1)
92	264.66	127.10	Open To Flow (2)
178	342.01	132.58	Shut-In(2)
302	449.42	132.37	End Shut-In(2)
304	1883.35	132.68	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	OCMW 20M 10o 70W	0.89
180.00	OCWM 40M 40W 20o	0.89
180.00	OCM 70M 30o	0.89
123.00	MCO 50M 50o	1.67
60.00	Clean Oil	0.84

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

22-1s-36w Rawlins, KS

Michael #6-22

Job Ticket: 53555 **DST#: 2**

Test Start: 2013.11.29 @ 14:28:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	25 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	55.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	5.60 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
180.00	OCMW 20M 10o 70W	0.885
180.00	OCWM 40M 40W 20o	0.885
180.00	OCM 70M 30o	0.885
123.00	MCO 50M 50o	1.671
60.00	Clean Oil	0.842

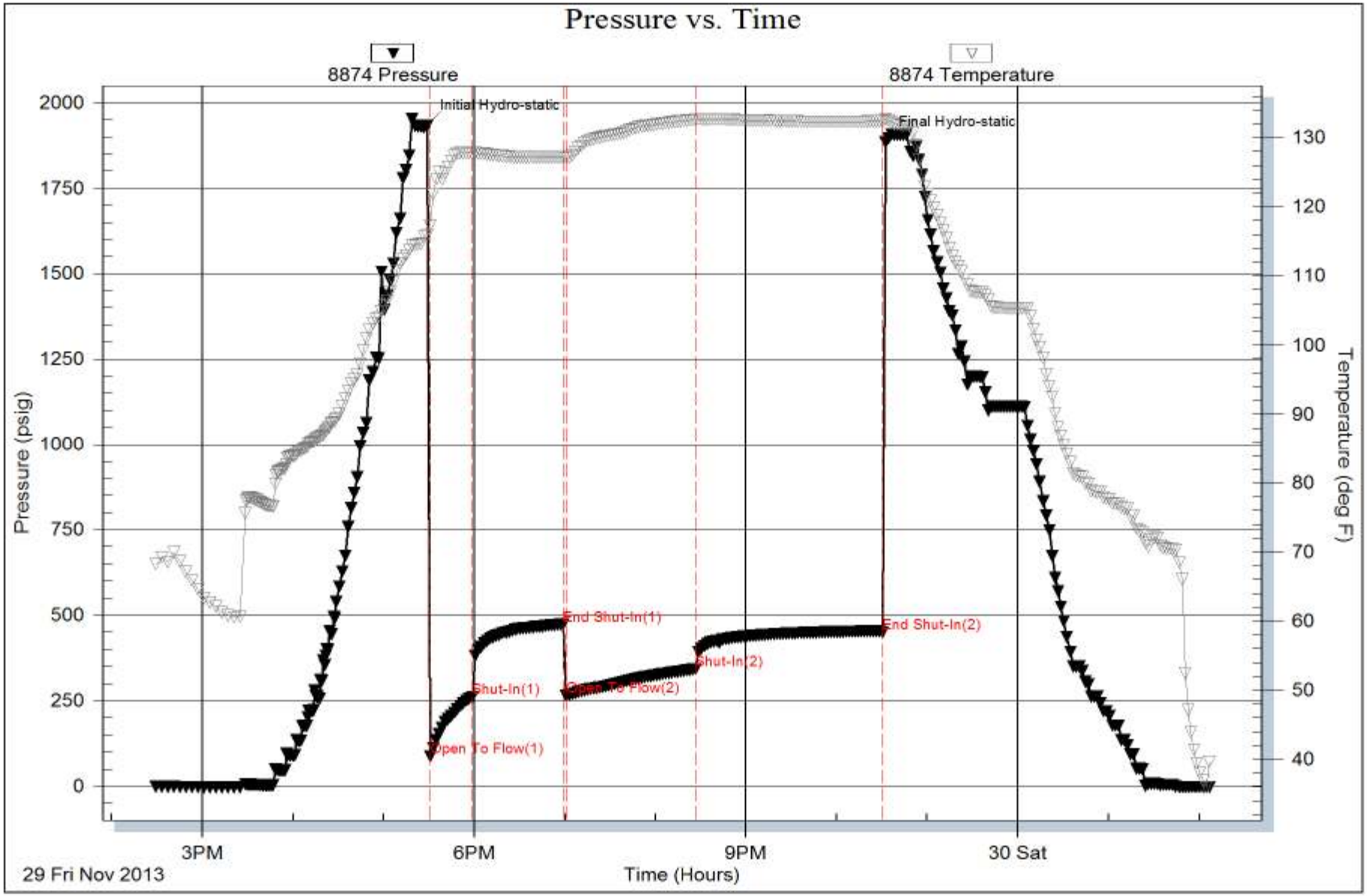
Total Length: 723.00 ft Total Volume: 5.168 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: Oil API 26 @ 70 deg. = 25 corrected.

Serial #: 8874 **Inside** Berexco, LLC Michael #6-22 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 53555 Printed: 2013.11.30 @ 05:56:28

DRILL STEM TEST REPORT

Berexco, LLC

2020 N Bramblew ood
Wichita, KS 67206

ATTN: Pete Vollmer

22-1s-36w Rawlins, KS

Michael #6-22

Job Ticket: 53556 **DST#: 3**

Test Start: 2013.12.01 @ 02:00:00

GENERAL INFORMATION:

Formation: **LKC "A"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 05:31:00
Time Test Ended: 12:41:30

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

Interval: 4076.00 ft (KB) To 4190.00 ft (KB) (TVD)
Total Depth: 4190.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

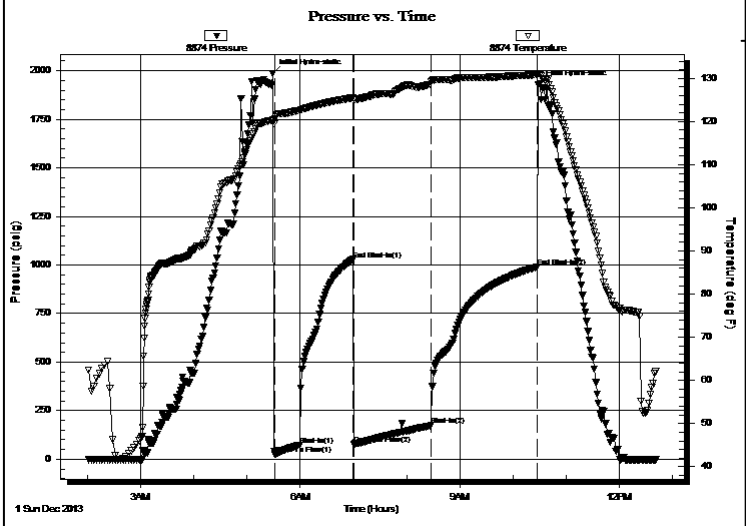
Reference Elevations: 3230.00 ft (KB)
3217.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 8874 **Inside**

Press@RunDepth: 175.77 psig @ 4077.00 ft (KB)
Start Date: 2013.12.01 End Date: 2013.12.01
Start Time: 02:01:00 End Time: 12:41:30

Capacity: 8000.00 psig
Last Calib.: 2013.12.01
Time On Btm: 2013.12.01 @ 05:29:00
Time Off Btm: 2013.12.01 @ 10:29:00

TEST COMMENT: 30 - IF- 3/4" Blow built to 5 3/4"
60 - ISI- No Return
90 - FF- Surface Blow started at 5 min. built to 8"
120 - FSI- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1986.30	120.35	Initial Hydro-static
2	23.78	120.56	Open To Flow (1)
30	71.41	122.59	Shut-In(1)
90	1027.65	125.48	End Shut-In(1)
92	77.61	125.20	Open To Flow (2)
179	175.77	129.11	Shut-In(2)
299	990.24	130.88	End Shut-In(2)
300	1928.93	131.16	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
270.00	OSWM 60M 40W (oil spots)	1.33
90.00	OSM 100M (oil spots)	0.44

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

22-1s-36w Rawlins, KS

Michael #6-22

Job Ticket: 53556 **DST#: 3**

Test Start: 2013.12.01 @ 02:00:00

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:	32000 ppm
Viscosity:	50.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.40 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
270.00	OSWM 60M 40W (oil spots)	1.328
90.00	OSM 100M (oil spots)	0.443

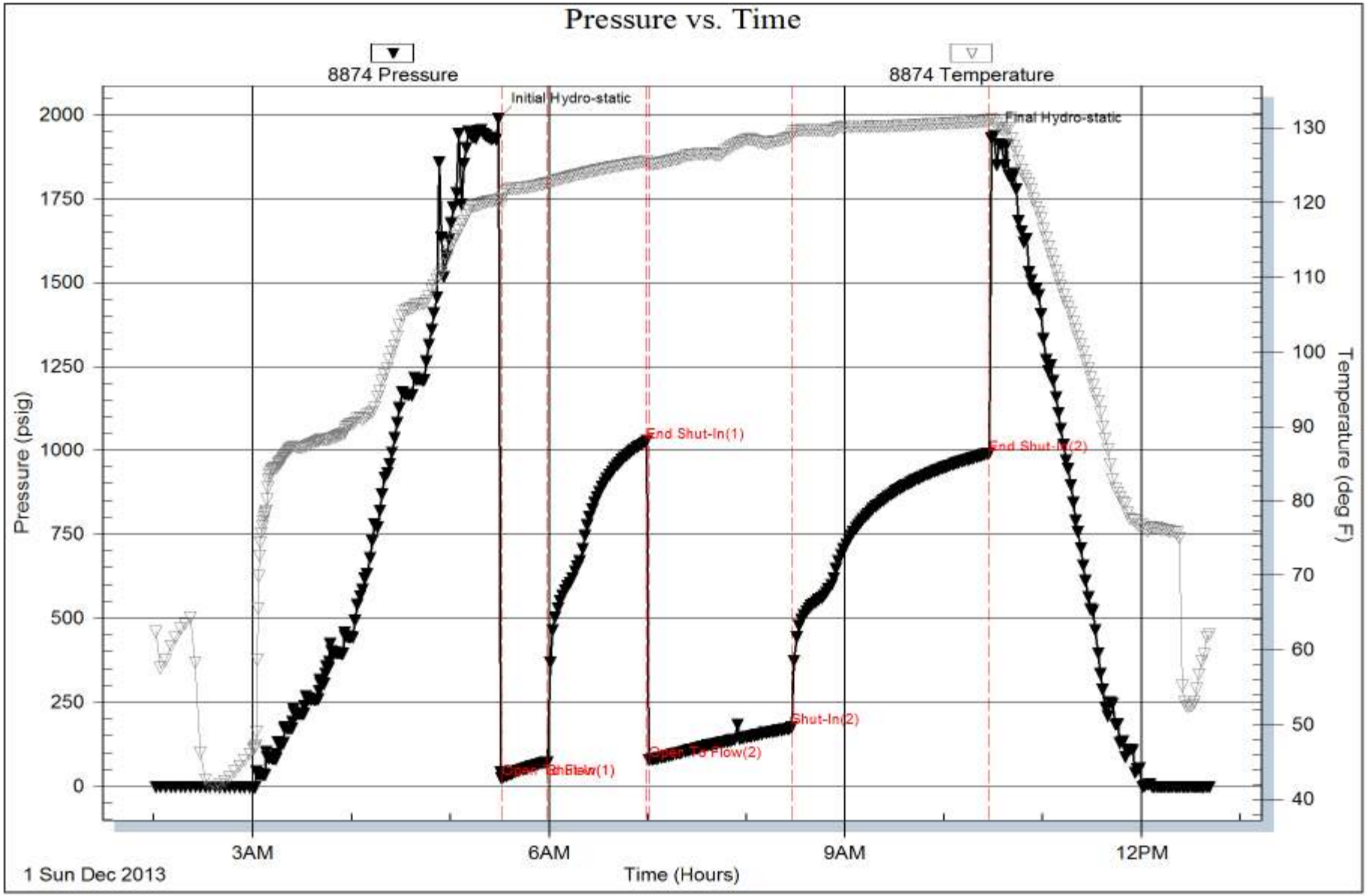
Total Length: 360.00 ft Total Volume: 1.771 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: RW = .223 @ 68 deg = 32,000ppm

Serial #: 8874 **Inside** Berexco, LLC Michael #6-22 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 53556 Printed: 2013.12.01 @ 22:53:21

DRILL STEM TEST REPORT

Berexco, LLC

2020 N Bramblew ood
Wichita, KS 67206

ATTN: Pete Vollmer

22-1s-36w Rawlins, KS

Michael #6-22

Job Ticket: 53557 **DST#: 4**

Test Start: 2013.12.01 @ 22:10:00

GENERAL INFORMATION:

Formation: **LKC "B"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 01:09:00
Time Test Ended: 08:23:30

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

Interval: 4190.00 ft (KB) To 4230.00 ft (KB) (TVD)
Total Depth: 4230.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

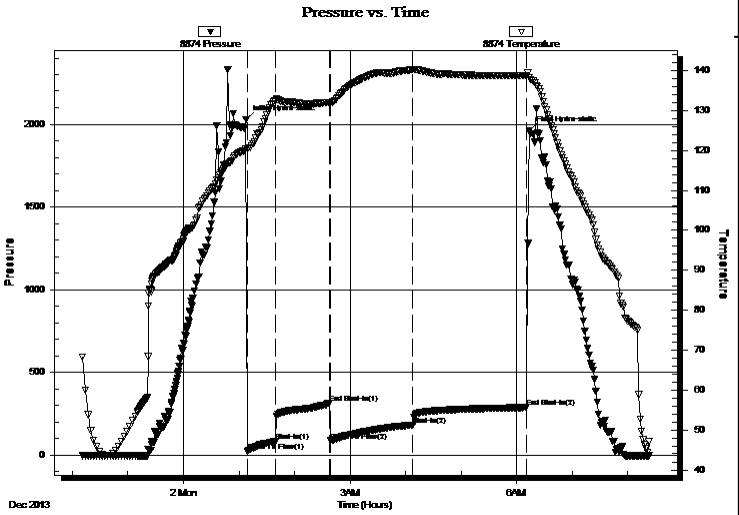
Reference Elevations: 3230.00 ft (KB)
3217.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 8874 **Inside**

Press@RunDepth: 183.08 psig @ 4191.00 ft (KB)
Start Date: 2013.12.01 End Date: 2013.12.02
Start Time: 22:11:00 End Time: 08:23:30

Capacity: 8000.00 psig
Last Calib.: 2013.12.02
Time On Btm: 2013.12.02 @ 01:07:30
Time Off Btm: 2013.12.02 @ 06:13:30

TEST COMMENT: 30 - IF- Surface Blow built to 5"
60 - ISI- No Return
90 - FF- Surface Blow started at 3 min. Built to 6 1/2"
120 - FSI- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2025.89	120.40	Initial Hydro-static
2	24.79	120.26	Open To Flow (1)
32	82.46	132.55	Shut-In(1)
90	313.37	131.95	End Shut-In(1)
92	87.29	131.90	Open To Flow (2)
180	183.08	140.21	Shut-In(2)
303	288.32	138.74	End Shut-In(2)
306	1959.13	138.19	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	OSMW 20M 80W (oil spots)	0.89
180.00	OSMW 40M 60W (oil spots)	0.89
5.00	OCWM 85M 10W 5o	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

22-1s-36w Rawlins, KS

Michael #6-22

Job Ticket: 53557 **DST#: 4**

Test Start: 2013.12.01 @ 22:10:00

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:	50000 ppm
Viscosity:	49.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.79 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	OSMW 20M 80W (oil spots)	0.885
180.00	OSMW 40M 60W (oil spots)	0.885
5.00	OCWM 85M 10W 5o	0.025

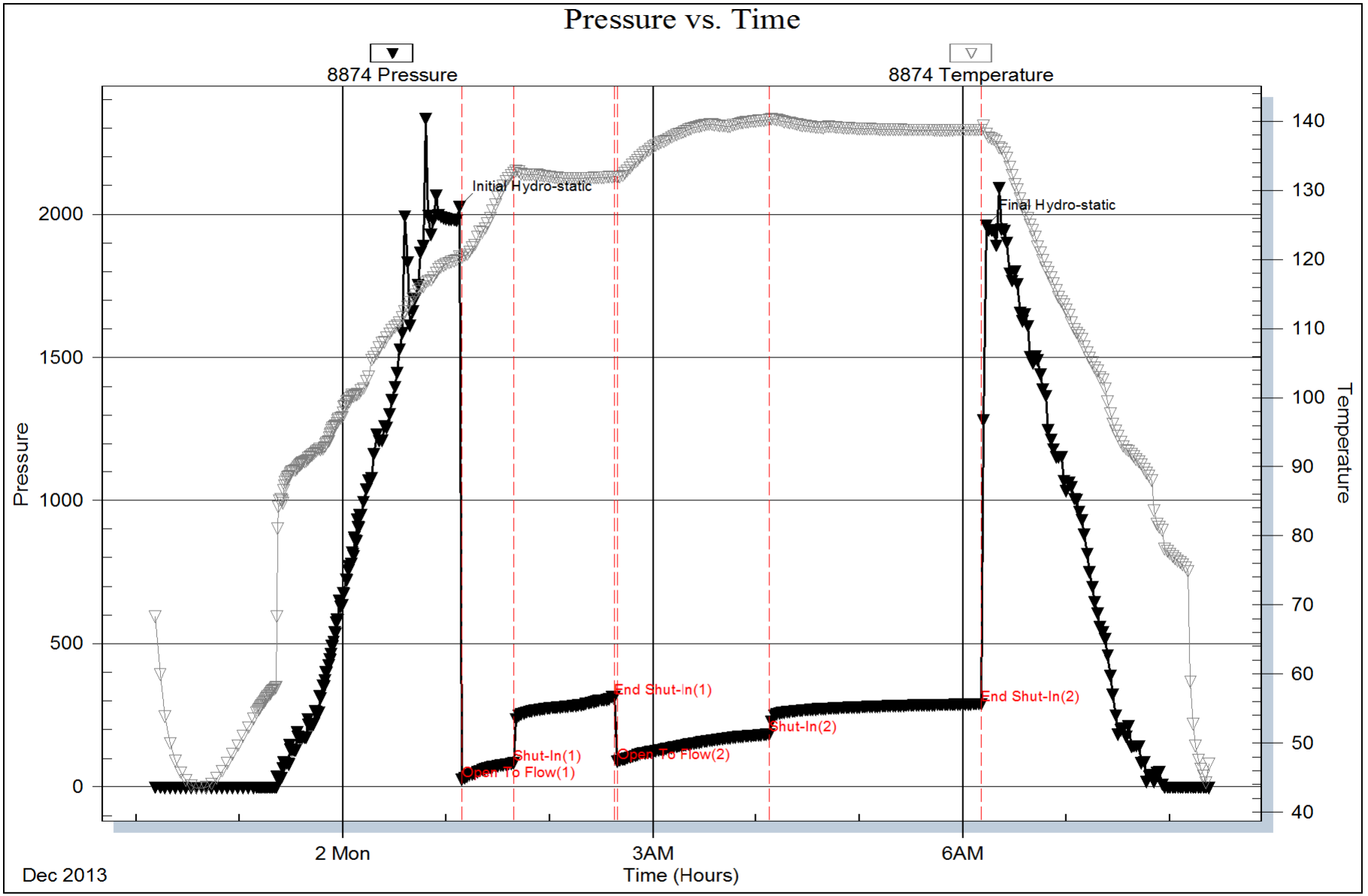
Total Length: 365.00 ft Total Volume: 1.795 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: RW .177 @ 54 deg = 50,000ppm

Serial #: 8874 **Inside** Berexco, LLC Michael #6-22 DST Test Number: 4



Trilobite Testing, Inc Ref. No: 53557 Printed: 2013.12.03 @ 10:35:41

DRILL STEM TEST REPORT

Berexco, LLC

2020 N Bramblew ood
Wichita, KS 67206

ATTN: Pete Vollmer

22-1s-36w Rawlins, KS

Michael #6-22

Job Ticket: 53558 **DST#: 5**

Test Start: 2013.12.02 @ 19:15:00

GENERAL INFORMATION:

Formation: **LKC "C"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 21:56:00
Time Test Ended: 06:06:30

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

Interval: 4230.00 ft (KB) To 4310.00 ft (KB) (TVD)
Total Depth: 4310.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

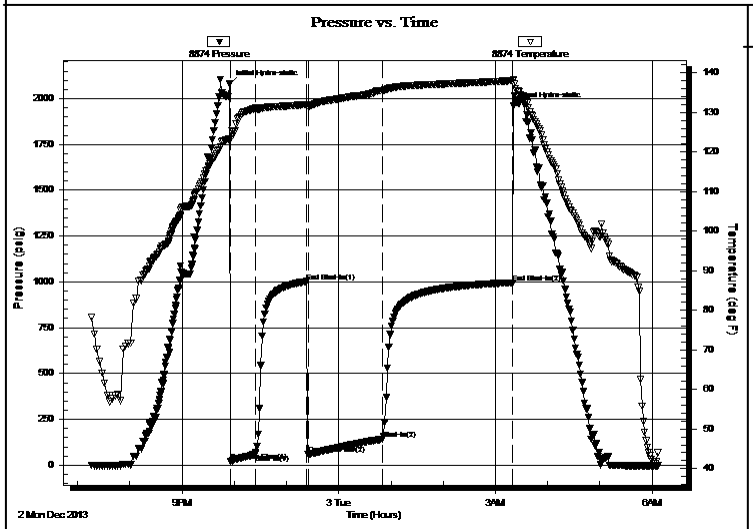
Reference Elevations: 3230.00 ft (KB)
3217.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 8874 **Inside**

Press@RunDepth: 142.12 psig @ 4231.00 ft (KB)
Start Date: 2013.12.02 End Date: 2013.12.03
Start Time: 19:16:00 End Time: 06:06:30

Capacity: 8000.00 psig
Last Calib.: 2013.12.03
Time On Btm: 2013.12.02 @ 21:54:30
Time Off Btm: 2013.12.03 @ 03:20:30

TEST COMMENT: 30 - IF- BoB in 26 min.
60 - ISI- No Return
90 - FF- BoB in 35 min.
120 - FSI- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2078.30	123.26	Initial Hydro-static
2	20.89	123.38	Open To Flow (1)
30	58.31	131.05	Shut-In(1)
89	1002.26	132.01	End Shut-In(1)
90	61.18	131.69	Open To Flow (2)
176	142.12	135.56	Shut-In(2)
326	996.09	138.04	End Shut-In(2)
326	1957.96	138.36	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
90.00	OCM 60M 40o	0.44
220.00	Clean Oil 100o	1.08

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

22-1s-36w Rawlins, KS

Michael #6-22

Job Ticket: 53558 **DST#: 5**

Test Start: 2013.12.02 @ 19:15:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	32 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	46.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.80 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	OCM 60M 40o	0.443
220.00	Clean Oil 100o	1.082

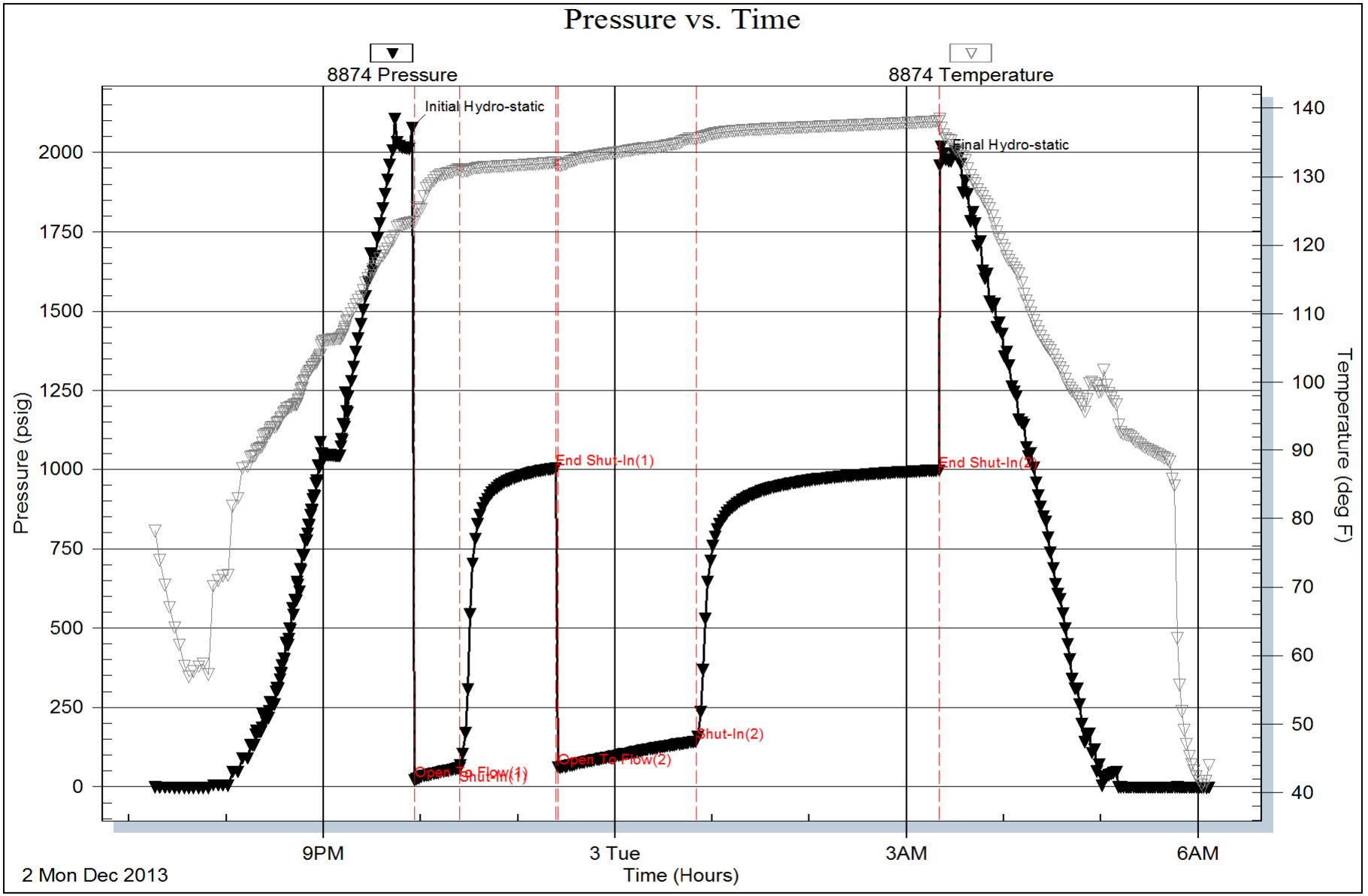
Total Length: 310.00 ft Total Volume: 1.525 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: Oil API = 33 @ 70 deg = 32 cor.

Serial #: 8874 **Inside** Berexco, LLC Michael #6-22 DST Test Number: 5



Trilobite Testing, Inc Ref. No: 53558 Printed: 2013.12.03 @ 07:50:32

BEREXCO LLC

MICHAEL 6-22

NE NE SW NE SEC 22 T1S R36W

RAWLINS COUNTY, KANSAS

WELL FILE

WELLSITE GEOLOGISTS' REPORT

CONFIDENTIAL

T. M. MCCOY & CO., INC.

CONSULTING GEOLOGISTS

SKYLINE RANCH · P.O. BOX 608 · WILSON, WYOMING 83014 · 307 733-4332

BEREXCO LLC

MICHAEL 6-22

NE NE SW NE SEC 22 T1S R36W

RAWLINS COUNTY, KANSAS

SUMMARY

The Berexco LLC Michael 6-22 in Rawlins County, Kansas spud November 21, 2013 and reached a total depth of 4490' on December 7, 2013. The test drilled below the below the Lansing-Kansas City F zone for wireline and completion rathole but did not penetrate the Pennsylvanian Pawnee. 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 Virgilian Oread Limestone. The Michael 6-22 was drilled using seismic and nearby well control.

Evaluation of the primary zones of interest was by drill stem testing after sample analysis and correlation. Five DSTs were run based on sample shows.

Lost circulation beginning at 2080' resulted in over 600 B of drilling fluid pumped into the Dakota. Periodic lost circulation continued until 3252' where the PDC bit was pulled. While tripping in with a tri-cone bit, two days of reaming and conditioning with LCM were required to gain full returns and resume drilling.

Oread Limestone and Lansing-Kansas City

DST 1 in the Oread recovered 828 ft of water and mud. Samples were fossiliferous packstone with poor interparticle porosity, scattered oil staining, and good cuts. The 49,500 ppm chlorides water was from the "Deer Creek Sand" below the Topeka Formation. Based on drill rate correlation and cuttings only 2 ft of upper non-porous Oread had been drilled and tested in DST 1.

DST 2 over the complete Oread Limestone recovered 543 ft of oil and mud with 180 ft of watery mud.

DST 3 in the Lansing A was run after moldic porosity with spotty black oil was observed in cuttings. Recovery was 360 ft of watery mud with oil spots. The sandstone below the Lansing A limestone may have contributed the water. Wireline logs confirmed good porosity in the lower sandstone.

The Lansing B exhibited fossiliferous packstone and mudstone with poor to trace vuggy porosity, live black oil staining, and fair cuts. DST 4 recovered 365 ft of slightly oil cut watery mud with poor flow pressures. Wireline logs confirmed the lack of porosity.

DST 5 in the Upper and Lower Lansing C was based on spotty live black oil stain, good fluorescence and cuts in a grainstone with fair moldic porosity. Recovery was 310 ft of oil and oil cut mud with good flow pressures.

The Lansing D was grainstone to mudstone with good fluorescence, cuts, and poor porosity that warranted a DST. After pulling 9 stands of pipe the floor motor failed. The hole was circulated during motor replacement but the drill string became stuck. Spotting 80 B of lease crude freed the drill string. Drilling resumed to TD after the stand pipe and kelly hose were thawed. No further testing was attempted. The Lansing E was packstone with uniform black heavy oil staining; intergranular and vuggy porosity was poor. The Lansing F was nonporous limestone with no sample shows.

Oil Well Completion

5 ½" production casing was run to complete the Michael 6-22 as an oil producer.

Peter J. Vollmer
Consulting Wellsite Geologist, WPG #3369
December 2013

WELL DATA

OPERATOR:	Berexco LLC 2020 North Bramblewood Drive Wichita, Kansas 67206
WELL NAME:	Michael 6-22
SURFACE LOCATION:	1630’ FNL & 1500’ FEL NE NE SW NE Sec 22, T1S, R36W Rawlins County, Kansas
LATITUDE & LONGITUDE:	39.954623, -101.3411796
BOTTOM HOLE LOCATION:	Vertical Hole
ELEVATIONS:	3217’ GL 3230’ KB
API NUMBER:	15-153-20963
BASIN:	Mid-Continental Arch
FIELD:	East Fork
HOLE SIZE:	12 ¼” to 310’; 7 7/8” to 4525’
CASING:	8 5/8” J-55 24# STC set to 310’ KB
SPUD DATE:	November 21, 2013
TD DATE:	December 7, 2013
TOTAL DEPTH:	4490’ Rig TD 4492’ Log TD
LAST FORMATION:	Pennsylvanian Lansing-Kansas City
WELL STATUS:	Ran 5 ½” production casing for oil well completion
OPERATOR REPRESENTATIVE:	Dana Wreath - Vice President
WELLSITE GEOLOGIST:	Peter J. Vollmer

FORMATION TOPS

Formation	Sample Top	Log Top	Log TVD	Log Datum
KB				3230
Pierre Sh	Cased	Cased	N/A	N/A
Niobrara Fm	N/A	1118	1118	+2112
Fort Hays Ls Mbr	N/A	1652	1652	+1578
Carlile Sh	N/A	1698	1698	+1532
Dakota	N/A	2250	2250	+980
Cheyenne	N/A	2540	2540	+690
Blaine	N/A	2972	2972	+258
Anydrite	3126	3119	3119	+111
Base Anydrite	3167	3159	3162	+68
Neva	3609	3612	3612	-382
Foraker	3722	3724	3724	-494
Topeka	3949	3940	3940	-710
Deer Creek Sand	3980	3976	3976	-746
Oread	4053	4053	4053	-823
Heebner Sh	4111	4104	4104	-874
Lansing-Kansas City				
"A"	4153	4156	4156	-926
"B"	4216	4213	4213	-983
"C"	4276	4276	4276	-1046
"D"	4322	4320	4320	-1090
"E"	4368	4364	4364	-1134
"F"	4408	4402	4402	-1172
TD Driller	4490			
TD Logger		4492	4492	-1262

LITHOLOGY AND SHOWS

The following descriptions are interpretive. Rig crew members collected unlagged samples from 3500’ to 4540’ TD. Depths are rig depths except where noted as wireline.

3500’ - 3609’	SHALE: red, firm to hard, fissile to blocky, very silty, sandy in part, non to slightly calcareous, trace tan LIMESTONE.

NEVA	SAMPLE TOP: 3609’	LOG TOP: 3612’	SUBSEA: -382’

3609’ - 3614’	LIMESTONE: white to light gray, firm to hard, chalky, fossil fragment, tight, no shows.
3614’ - 3680’	SHALE: red brown, soft to firm, sub blocky, non calcareous, occasional silty, with interbedded LIMESTONE: white to light gray, firm to hard, cryptocrystalline, tight, no shows.
3680’ - 3722’	SHALE: red brown, soft to firm, sub blocky, non calcareous, occasional silty.

FORAKER	SAMPLE TOP: 3722’	LOG TOP: 3724’	SUBSEA: -494’

3722’ - 3730’	LIMESTONE: white to light gray, firm to hard, cryptocrystalline, chalky, fossil fragment, trace black oil stain, dull yellowish white fluorescence, slow streaming yellowish white cuts from tight Limestone, no visible porosity.
3730’ - 3748’	SHALE: gray to grayish green, firm, blocky, n to slightly calcareous, fossil fragment.
3748’ - 3760’	LIMESTONE: white to light gray, firm to hard, cryptocrystalline, chalky, fossil fragment, algal stain, slightly sandy at base, tight, no shows
3760’ - 3773’	SANDSTONE: white, friable, very fine grained, subangular, well sorted, calcareous cement, clay fill, tight to trace porosity, no shows.
3773’ - 3832’	SHALE: red brown, soft to firm, sub blocky, non calcareous, occasional silty.
3832’ - 3862’	SHALE: dark gray to black, firm, fissile to blocky, non calcareous, carbonaceous in part, fossil fragment (Brachiopod).
3862’ - 3949’	SHALE: brownish red, soft to firm, blocky, n to slightly calcareous, interbedded LIMESTONE: white to light gray, light reddish brown mottled, hard, cryptocrystalline, fossil fragment, tight, no shows.

LITHOLOGY AND SHOWS

TOPEKA	SAMPLE TOP: 3949’	LOG TOP: 3940’	SUBSEA: -710’

3949’ - 3956’	LIMESTONE: light gray to white, hard to firm, cryptocrystalline, fossil fragment, sparry calcareous, trace black oil stain, tight, bright yellowish white fluorescence, good streaming yellowish white cuts.
3956’ - 3968’	SHALE: gray, firm, platy, non to slightly calcareous, subwaxy, plant remains.
3968’ - 3980’	LIMESTONE: light gray to white, hard to firm, cryptocrystalline, fossil fragment, clear calcareous fill in vugs, opaque chert, tight, no shows.

DEER CREEK SAND	SAMPLE TOP: 3980’	LOG TOP: 3976’	SUBSEA: -746’

3980’ - 4000’	SANDSTONE: light gray to grayish brown, friable to soft, very fine grained, well rounded, well sorted, calcareous, clay filled, plant remains, abundant loose grains, no visible porosity, no show.
4000’ - 4053’	SHALE: reddish brown, maroon, gray, mottled in part, soft to firm, blocky, non calcareous, moderately to very silty in part.

OREAD	SAMPLE TOP: 4053’	LOG TOP: 4053’	SUBSEA: -823’

4053’ - 4068’	LIMESTONE: cream to white, firm to hard, wackestone to packstone, chalky in part, fossil fragments, occasional Peloids, tight to fair interparticle and vuggy porosity, scattered black to dark brown live oil stain, bright yellowish white fluorescence, immediate blooming milky yellowish white cuts, good show.
4068’ - 4078’	LIMESTONE: white to cream, very hard, cryptocrystalline, slightly siliceous, fossil fragments, tight, no shows.
4078’ - 4083’	SHALE: grayish black to dark gray, firm, sub fissile, carbonaceous, non to very slightly calcareous.
4083’- 4100’	SHALE: gray, firm, platy, non to slightly calcareous, fossil fragments.
4100’ - 4111’	SHALE: reddish brown, gray, firm, blocky, non to slightly calcareous, silty.

LITHOLOGY AND SHOWS

HEEBNER SH.	SAMPLE TOP: 4111’	LOG TOP: 4104’	SUBSEA: -874’

4111’ - 4118’	SHALE: dark gray to black, firm, subfissile, slightly carbonaceous, noncalcareous.
4118’ - 4124’	LIMESTONE: gray to grayish brown, firm, mudstone, argillaceous, tight.
4124’ - 4153’	SHALE: gray to reddish brown, firm, blocky, non to slightly calcareous.

LANSING- KANSAS CITY “A”	SAMPLE TOP: 4153’	LOG TOP: 4156’	SUBSEA: -926’

4153’- 4176’	LIMESTONE: white to cream, firm to hard, mudstone to grainstone, occasional interclasts, fossil fragments, trace black heavy oil stain, trace to fair interparticle porosity, bright yellowish white fluorescence, poor show, show and porosity decrease with depth.
4176’ - 4182’	SHALE: gray to dark gray, firm, blocky, non to slightly calcareous.
4182’ - 4190’	SANDSTONE: white to light brown to light reddish brown, hard to friable, very fine grained, well rounded, well sorted, calcareous cement, pyrite, clay filled, occasional black heavy oil specs, predominant tight, bright yellowish white fluorescence, slow diffuse yellowish white cut.
4190’ - 4216’	SHALE: gray to maroon to reddish brown, mottled, firm, blocky, non to slightly calcareous.

LANSING- KANSAS CITY “B”	SAMPLE TOP: 4216’	LOG TOP: 4213’	SUBSEA: -983’

4216’ - 4232’	LIMESTONE: white, firm, packstone, fossil(Crinoid, Fusulinids, Brachiopod), poor intergranular and poor vuggy porosity, spotty live heavy black oil, bright yellowish white fluorescence, good diffuse yellowish white cut.
4232’ - 4248’	SHALE: dark gray, firm, platy, slightly carbonaceous in part.
4248’ - 4252’	LIMESTONE: white to light gray, firm, cryptocrystalline, dark gray Shale partings, fossil fragment (Brachiopod), argillaceous, tight, no show.
4252’ - 4276’	SHALE: brownish red to gray to maroon, firm, platy, slightly calcareous, silty in part, Limestone partings.

LITHOLOGY AND SHOWS

LANSING- KANSAS CITY "C"	SAMPLE TOP: 4276'	LOG TOP: 4276'	SUBSEA: -1046'

4276' - 4290'	LIMESTONE: white, firm, grainstone, very fossiliferous, poor intergranular and pin point vuggy porosity, free oil, spotty live black heavy oil, dull yellowish white fluorescence, blooming yellowish white cuts, good show.
4290' - 4296'	SHALE: dark gray, firm, blocky, calcareous.
4296' - 4310'	LIMESTONE: white to dark gray, mottled in part, hard to firm, grainstone, fossiliferous, poor intergranular porosity, spotty live black oil, patchy yellowish white fluorescence, fair milky yellowish white cut, fair show.
4310' - 4322'	SHALE: dark gray to black, firm, blocky, calcareous, carbonaceous in part.

LANSING- KANSAS CITY "D"	SAMPLE TOP: 4322'	LOG TOP: 4320'	SUBSEA: -1090'

4322' - 4334'	LIMESTONE: white, firm to hard, grainstone to mudstone, fossil fragment, poor to trace intergranular porosity, trace spotty black oil, bright yellowish white fluorescence, blooming yellowish white cuts, fair show.
4334' - 4368'	SHALE: dark gray firm, blocky, white chalky Limestone partings.

LANSING- KANSAS CITY "E"	SAMPLE TOP: 4368'	LOG TOP: 4364'	SUBSEA: -1134'

4368' - 4382'	LIMESTONE: white, firm, mudstone to packstone, fossilferous in part, secondary clear calcareous crystals in vugs, trace intergranular and occasional poor vuggy porosity, scattered black heavy oil stain, bright yellowish white fluorescence, dull yellowish white diffuse cut, fair to good show.
4382' - 4388'	SHALE: dark gray, firm, sub fissile, non calcareous, slightly carbonaceous.
4388' - 4408'	SHALE: gray, firm, platy, non to slightly calcareous, trace fossils, dull.

LITHOLOGY AND SHOWS

LANSING- KANSAS CITY "F"	SAMPLE TOP: 4408'	LOG TOP: 4402'	SUBSEA: -1172'

4408' - 4418'	LIMESTONE: cream to white, firm to hard, mudstone to wackestone, scattered fossil fragments, trace black dead oil, very tight, no shows.
4418' - 4450'	SHALE: dark gray, firm, blocky, slightly to non calcareous, fossil fragments, with LIMESTONE: gray to white, firm to hard, mudstone, occasional fossil fragments, clear calcareous fill in vugs, argillaceous in part, tight, no show.
4450' - 4464'	LIMESTONE: cream to white, firm to hard, mudstone, fossil fragment, chalky, dense, with interbedded dark gray Shale partings, tight, no shows.
4464' - 4490' TD	SHALE: dark gray, firm, platy, non to very slightly calcareous, fossil fragment, interbedded white chalky Limestone.

SERVICES

CONTRACTOR: Toolpusher:	Beredco Drilling Inc., Rig 2 Milo Salinas	
DRILLING FLUIDS: Mud Type: Engineer:	Morgan Mud, Inc. Freshwater Chemical Dave Lines	McCook, ND 308-340-5946
MUD LOGGING:	None	
WELLSITE GEOLOGY:	T. M. McCoy & Co., Inc. Peter J. Vollmer	Wilson, WY 307-733-4332
DRILL STEM TESTING:	Trilobite Testing, Inc. Tester: Kevin Mack DST 1: 3974’ - 4055’ Oread DST 2: 4020’ - 4108’ Oread DST 3: 4076’ - 4190’ Lansing-KC “A” DST 4: 4190’ - 4230’ Lansing-KC “B” DST 5: 4280’ - 4310’ Lansing-KC “C”	Hays, KS 785- 625-4778
DIRECTIONAL DRILLING:	None	
WIRELINE LOGS:	Pioneer Wireline Services RAG: 3100’ - TD Micro: Surface casing to TD Engineer: J. Henrickson	Hays, KS 785-625-3858