



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1229717
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

GPS Location: Lat: _____, Long: _____

(e.g. xx.xxxxx)

(e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____

1229717

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	Erickson 'A' 1-36
Doc ID	1229717

All Electric Logs Run

DIL
DUCP
MEL
BHCS

OPERATOR

Company: Murfin Drilling Company
 Address: 250 N. Water
 Suite 300
 Wichita, KS 67020
 Contact Geologist: Shauna Gunzelman
 Contact Phone Nbr: 316-267-3241
 Well Name: Erickson 'A' #1-36
 Location: Sec. 36 - T4S - R31W
 API: 15-153-21054-0000
 Pool: _____ Field: Wildcat
 State: Kansas Country: USA



Scale 1:240 Imperial

Well Name: Erickson 'A' #1-36
 Surface Location: Sec. 36 - T4S - R31W
 Bottom Location: _____
 API: 15-153-21054-0000
 License Number: 30606
 Spud Date: 9/19/2014 Time: 11:15 AM
 Region: Rawlins County
 Drilling Completed: 9/26/2014 Time: 5:50 PM
 Surface Coordinates: 1950' FSL & 1950' FWL
 Bottom Hole Coordinates: _____
 Ground Elevation: 2840.00ft
 K.B. Elevation: 2845.00ft
 Logged Interval: 3580.00ft To: 4470.00ft
 Total Depth: 4470.00ft
 Formation: Mississippian
 Drilling Fluid Type: Chemical/Fresh Water Gel

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: _____
 Latitude: _____
 N/S Co-ord: 1950' FSL
 E/W Co-ord: 1950' FWL

LOGGED BY

Keith Reavis
Consulting Geologist

Company: Keith Reavis, Inc.
 Address: 3420 22nd Street
 Great Bend, KS 67530
 Phone Nbr: 620-617-4091
 Logged By: KLG #136 Name: Keith Reavis

CONTRACTOR

Contractor: Murfin Drilling Company
 Rig #: 7
 Rig Type: mud rotary
 Spud Date: 9/19/2014 Time: 11:15 AM
 TD Date: 9/26/2014 Time: 5:50 PM
 Rig Release: _____ Time: _____

ELEVATIONS

K.B. Elevation: 2845.00ft Ground Elevation: 2840.00ft
 K.B. to Ground: 5.00ft

NOTES

Due to negative drill stem tests results and electrical log evaluation, it was determined that the Erickson 'A' #1-36 was non-commercial and was therefore plugged as a dry test.

Samples were saved and will be available for review at the Kansas Geological Survey Well Sample Library located in Wichita, KS.

Respectfully submitted,
 Keith Reavis

Murfin Drilling Company
daily drilling report

DATE	7:00 AM DEPTH	REMARKS
09/21/2014		geologist Keith Reavis on duty @ 3545 ft 1900 hrs 9/21/14, complete bit trip, resume drilling
09/22/2014	3798	drilling ahead, Topeka, Heebner, Toronto, Lansing, shows in Toronto and Lansing A & B warrant test, short trip, TOH, conducting DST #1
09/23/2014	3900	complete DST #1, successful test, TIH w/bit, show in F & G warrant test, TOH for DST #2, conducting DST #2
09/24/2014	3992	complete DST #2, successful test, TIH w/bit, resume drilling, show in H and J warrant test, conduct and complete DST #3, TIH w/bit
09/25/2014	4139	resume drilling, Stark, BKC, Pawnee, Cherokee, run condemnation test on Pawnee and Cherokee, mis-run, packer failure, TOH
09/26/2014	4304	reset packer seat, TIH w/tools, conducting DST #5, complete DST #5, successful test, TIH w/PDC bit, rathole ahead to TD, TD @ 4500', 1750 hrs, TOH for logs, conducting logging operations
09/27/2014	4470	complete logging operations, geologist off location 0245 hrs

Murfin Drilling Company
well comparison sheet

DRILLING WELL					COMPARISON WELL				COMPARISON WELL				
MDC - Erickson #1-36					MDC - MB 'A' #1-35				MDC - Zola #1-1				
1950' FSL & 1950' FWL					1560' FNL' & 1560' FWL				1400' FNL & 1200' FEL				
Sec 36-T4S-R31W					Sec 35-T4S-R31W				Sec 1-T5S-R31W				
2845 KB					2906 KB				2871 KB				
					Structural Relationship				Structural Relationship				
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log	
Topeka	3651	-806	3653	-808	3719	-813	7	5		3688	-817	11	9
Heebner	3817	-972	3823	-978	3884	-978	6	0		3858	-987	15	9
Lansing	3865	-1020	3870	-1025	3933	-1027	7	2		3906	-1035	15	10
Lansing G	3947	-1102	3949	-1104	4012	-1106	4	2		3985	-1114	12	10
Stark	4026	-1181	4036	-1191	4098	-1192	11	1		4070	-1199	18	8
BKC	4076	-1231	4092	-1247	4153	-1247	16	0		4122	-1251	20	4
Pawnee	4190	-1345	4200	-1355	4259	-1353	8	-2		4233	-1362	17	7
Cherokee	4272	-1427	4282	-1437	4344	-1438	11	1		4317	-1446	19	9
Mississippian	4390	-1545	4404	-1559	4460	-1554	9	-5		4430	-1559	14	0
Total Depth	4470	-1625	4472	-1627	4546	-1640	15	13		4492	-1621	-4	-6

Drill Stem Test #1

TRILOBITE TESTING, INC.		DRILL STEM TEST REPORT	
		Murfin drilling company INC	36-4s-31w Rawling
250 N Water STE 300 Wichita Ks 67202		Erickson A #1-36	Job Ticket: 57467 DST#: 1
ATTN: Keith Reavis		Test Start: 2014.09.22 @ 16:34:00	
GENERAL INFORMATION:			
Formation: Toranto- Lansing	Deviated: No Whipstock: 0.00 ft (KB)	Test Type: Conventional Bottom Hole (Initial)	Tester: Justin Harris
Time Tool Opened: 20:56:30	Time Test Ended: 04:28:19	Unit No: 61	Reference Elevations: 2845.00 ft (KB)
Interval: 3810.00 ft (KB) To 3900.00 ft (KB) (TVD)	Total Depth: 3900.00 ft (KB) (TVD)	Hole Diameter: 7.88 inches-Hole Condition: Poor	KB to GR/CF: 4.00 ft
Serial #: 8357	Inside	Capacity: 8000.00 psig	
Press@RunDepth: 453.92 psig @ 3811.00 ft (KB)	Start Date: 2014.09.22	End Date: 2014.09.23	Last Callb.: 2014.09.23
Start Time: 16:34:02	End Time: 04:28:19	Time On Btm: 2014.09.22 @ 20:56:10	Time Off Btm: 2014.09.23 @ 00:58:10
TEST COMMENT: 30: B.O.B in 8 mins. 60: No Return. 60: B.O.B in 12 min. 90: No Return.			
		PRESSURE SUMMARY	
		Time (Min.)	Pressure (psig)
		Temp (deg F)	Annotation
		0	1924.63 114.86 Initial Hydro-static
		1	64.59 114.58 Open To Flow (1)
		31	239.87 118.64 Shut-In(1)
		91	1269.01 123.73 End Shut-In(1)
		91	236.38 122.50 Open To Flow (2)
		151	453.92 126.54 Shut-In(2)
		242	1258.01 125.75 End Shut-In(2)
		242	1769.08 125.22 Final Hydro-static
Recovery		Gas Rates	
Length (ft)	Description	Volume (bbl)	Choke (inches)
187.00	MCW 40% M 60% WV	0.92	Pressure (psig)
703.00	MCW 20% M 80% WV	9.86	Gas Rate (Mcfd)

ACCESSORIES

MINERAL
 G Glauconite
 P Pyrite
 S Silty
 CW Chert White

FOSSIL
 B Bioclastic or Fragmental
 F Fossils < 20%
 O Oolite

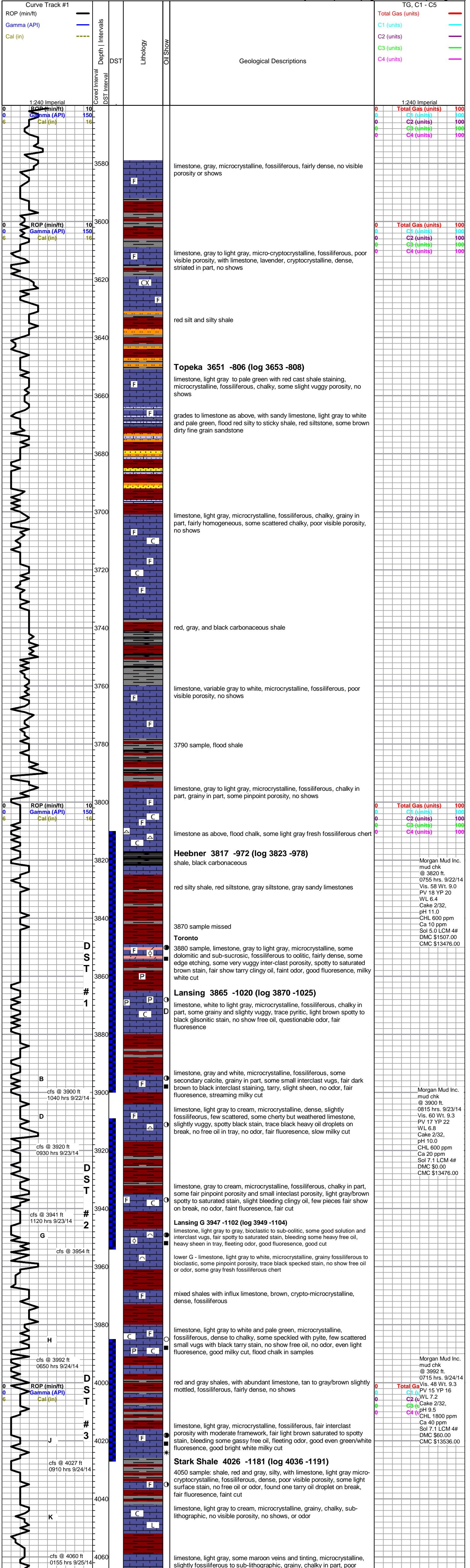
STRINGER
 S Siltstone

TEXTURE
 C Chalky
 CX Cryptocrystalline
 L Lithogr

OTHER SYMBOLS

Oil Show
 GS Good Show
 FS Fair Show
 PS Poor Show
 ST Spotted or Trace
 QS Questionable Strn
 DS Dead Oil Strn
 FL Fluorescence
 G Gas

DST
 DST Int
 DST alt
 Core
 tail pipe



visible porosity, no shows or odor

Base KC 4076 -1231 (4092 -1247)

limestone, gray to light gray, slightly fossiliferous to lithographic, some arenaceous, some lavender tinted, dense, no shows

limestone, white, bioclastic, chalky, some pinpoint porosity, barren, abundant chalk with samples

limestone, gray to light gray, slightly fossiliferous to lithographic, some arenaceous, some lavender tinted, dense, no shows, with limestone, cream, cryptocrystalline, fossiliferous, large clasts, dense, no shows, some scattered siltstones

4130 sample flood shales, gray, red, brick red and maroon shales, some silty, trace maroon and gray siltstones

shales as above, with influx limestone, white with yellow tint and mottling, bioclastic, chalky in part, poor visible porosity, no shows

shales as above

Morgan Mud Inc.
mud chk
@ 4149 ft.
0730 hrs. 9/25/14
Vis. 50 Wt. 9.3
PV 16 YP 17
WL 6.8
Cake 2/32,
pH 11.5
CHL 1500 ppm
Ca 10 ppm
Sol 7.1 LCM 4#
DMC \$1928.00
CMC \$15464.00

Pawnee 4190 -1345 (log 4200 -1355)

4210 limestone, cream to white and light gray, microcrystalline, fossiliferous, some lithographic, mostly dense, abundant chalk, no shows

limestone, light gray to cream, microcrystalline, flattened oolitic to bioclastic, chalky, poor visible porosity, no shows, abundant chalk in samples, poor fluorescence

4270 sample - flood black carbonaceous shale, almost entire sample, minor gray shales

limestone, light gray, micro-cryptocrystalline, fossiliferous to sub-lithographic, dense, no shows, abundant chalk

Cherokee 4272 -1427 (log 4282 -1437)

limestone, light gray to white, chalky bioclastic to fossiliferous, some very chalky, some pinpoint interclast and fracture porosity, some dense, no visible show, no odor, good fluorescence, no cut

grades to limestone, variable gray, some maroon hues, lithographic to fossiliferous, some gray dirty sandy limestone, dense, glauconitic in part, some small black spec inclusions, no shows

BACK IN HOLE AFTER DST WITH PDC BIT FOR RATHOLE TO TD
mixed shales, gray, red, maroon, some green

sandstone, dirty quartz, medium to very fin grain, fair to poor sorting, angular to rounded, glauconitic in part, calcareous, some limestone and shale inclusions, poor visible porosity, no shows

mixed shales as above, abundant pyrite

4410 sample, picking up abundant yellow shale, silty, weathered, with yellow weathered chert, some white fossiliferous chert

Mississippian 4390 -1545 (log 4404 -1559)

4430 sample - carrying mostly shales as above, but influx white fossiliferous chert, tripolitic to sub-tripolitic, with sharp/fresh fossiliferous, no shows

abundant shales as above, with chert, mixed white to gray and yellow, fossiliferous, sharp and fresh to leached tripolitic, scattered gray dense fossiliferous limestone, some dolomitic, no shows, scattered fair fluorescence

as above

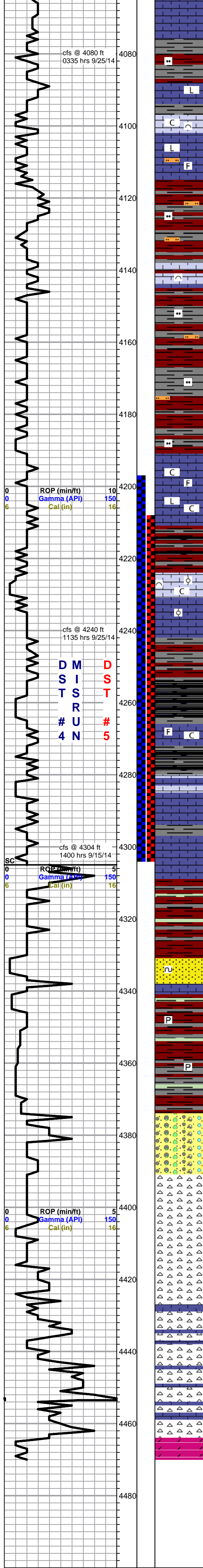
in 60 min cfs sample @ TD, dolomite, microcrystalline, recrystallized sub-rhombic, dense, no shows, fair fluorescence

Rotary TD @ 4470' 1750 hrs 9/26/14
Pioneer Log TD 4472'
Complete Logging Operations @ 0230 hrs 9/27/14

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100

Morgan Mud Inc.
mud chk
@ 4304 ft.
0915 hrs. 9/26/14
Vis. 61 Wt. 9.2
PV 18 YP 21
WL 6.4
Cake 2/32,
pH 11.5
CHL 1400 ppm
Ca 10 ppm
Sol 6.4 LCM 4#
DMC \$1372.00
CMC \$16836.00

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N Water STE 300
Wichita KS 67202

ATTN: Keith Reavis

Erickson A #1-36

36-4s-31w Rawling,KS

Start Date: 2014.09.22 @ 16:34:00

End Date: 2014.09.23 @ 04:28:19

Job Ticket #: 57467 DST #: 1

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.09.30 @ 10:23:14

Murfin Drilling Co., Inc.

36-4s-31w Rawling,KS

Erickson A #1-36

DST # 1

Toronto - Lansing

2014.09.22



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

36-4s-31w Rawling, KS

250 N Water STE 300
Wichita KS 67202

Erickson A #1-36

Job Ticket: 57467

DST#: 1

ATTN: Keith Reavis

Test Start: 2014.09.22 @ 16:34:00

GENERAL INFORMATION:

Formation: **Toronto - Lansing**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:56:30

Time Test Ended: 04:28:19

Test Type: Conventional Bottom Hole (Initial)

Tester: Justin Harris

Unit No: 61

Interval: 3810.00 ft (KB) To 3900.00 ft (KB) (TVD)

Reference Elevations: 2845.00 ft (KB)

Total Depth: 3900.00 ft (KB) (TVD)

2841.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 4.00 ft

Serial #: 8357

Inside

Press@RunDepth: 453.92 psig @ 3811.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.22

End Date:

2014.09.23

Last Calib.:

2014.09.23

Start Time: 16:34:02

End Time:

04:28:19

Time On Btm:

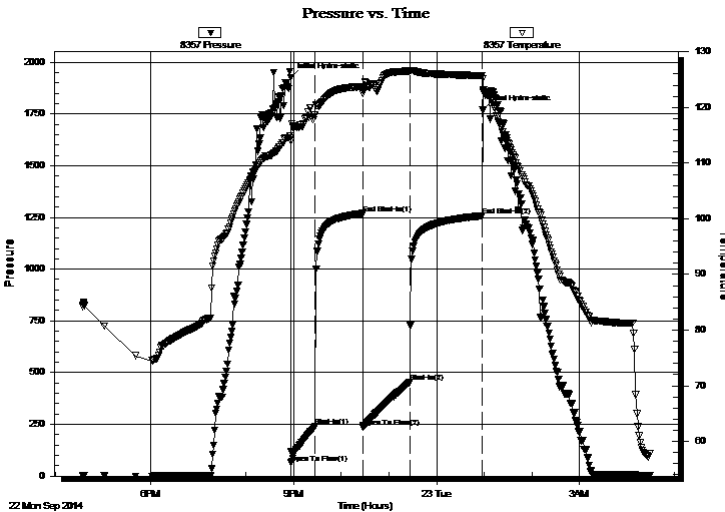
2014.09.22 @ 20:56:10

Time Off Btm:

2014.09.23 @ 00:58:10

TEST COMMENT: 30: B.O.B in 8 mins.
60: No Return.
60: B.O.B in 12 min.
90: No Return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1924.63	114.86	Initial Hydro-static
1	64.59	114.58	Open To Flow (1)
31	239.87	118.64	Shut-In(1)
91	1269.01	123.73	End Shut-In(1)
91	236.38	122.50	Open To Flow (2)
151	453.92	126.54	Shut-In(2)
242	1258.01	125.75	End Shut-In(2)
242	1769.08	125.22	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
187.00	MCW 40%M 60%W	0.92
703.00	MCW 20%M 80%W	9.86

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

36-4s-31w Rawling,KS

250 N Water STE 300
Wichita KS 67202

Erickson A #1-36

Job Ticket: 57467

DST#: 1

ATTN: Keith Reavis

Test Start: 2014.09.22 @ 16:34:00

Tool Information

Drill Pipe:	Length: 3609.50 ft	Diameter: 3.80 inches	Volume: 50.63 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 187.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 51.55 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3810.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	90.00 ft			
Tool Length:	117.50 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3783.50	
Shut In Tool	5.00			3788.50	
Hydraulic tool	5.00			3793.50	
Jars	5.00			3798.50	
Safety Joint	2.50			3801.00	
Packer	5.00			3806.00	27.50 Bottom Of Top Packer
Packer	4.00			3810.00	
Stubb	1.00			3811.00	
Recorder	0.00	8357	Inside	3811.00	
Recorder	0.00	6751	Outside	3811.00	
Perforations	20.00			3831.00	
Change Over Sub	1.00			3832.00	
Drill Pipe	64.00			3896.00	
Change Over Sub	1.00			3897.00	
Bullnose	3.00			3900.00	90.00 Bottom Packers & Anchor

Total Tool Length: 117.50



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

36-4s-31w Rawling, KS

250 N Water STE 300
Wichita KS 67202

Erickson A #1-36

Job Ticket: 57467

DST#: 1

ATTN: Keith Reavis

Test Start: 2014.09.22 @ 16:34:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

35000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
187.00	MCW 40%M 60%W	0.920
703.00	MCW 20%M 80%W	9.861

Total Length: 890.00 ft Total Volume: 10.781 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

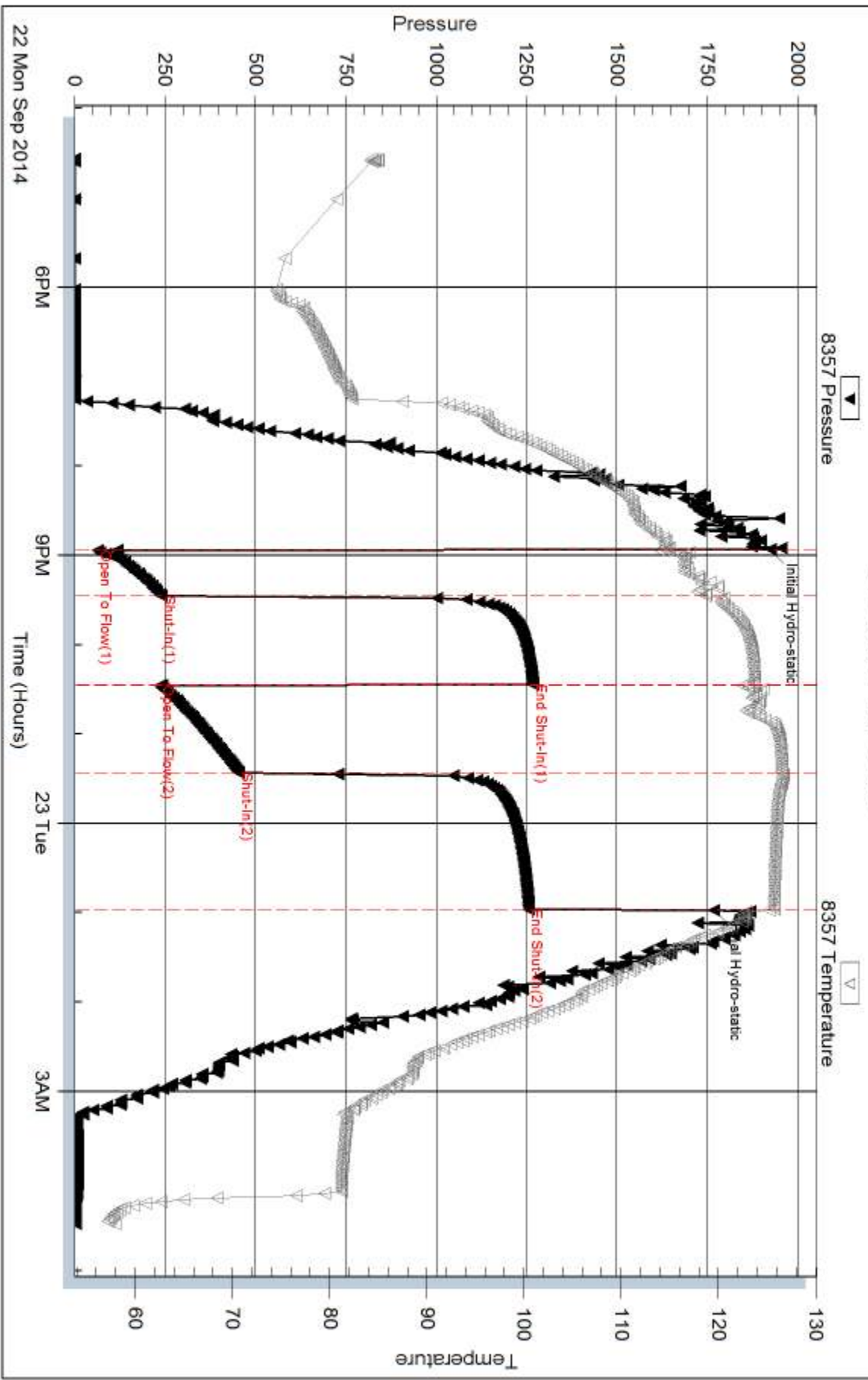
Serial #:

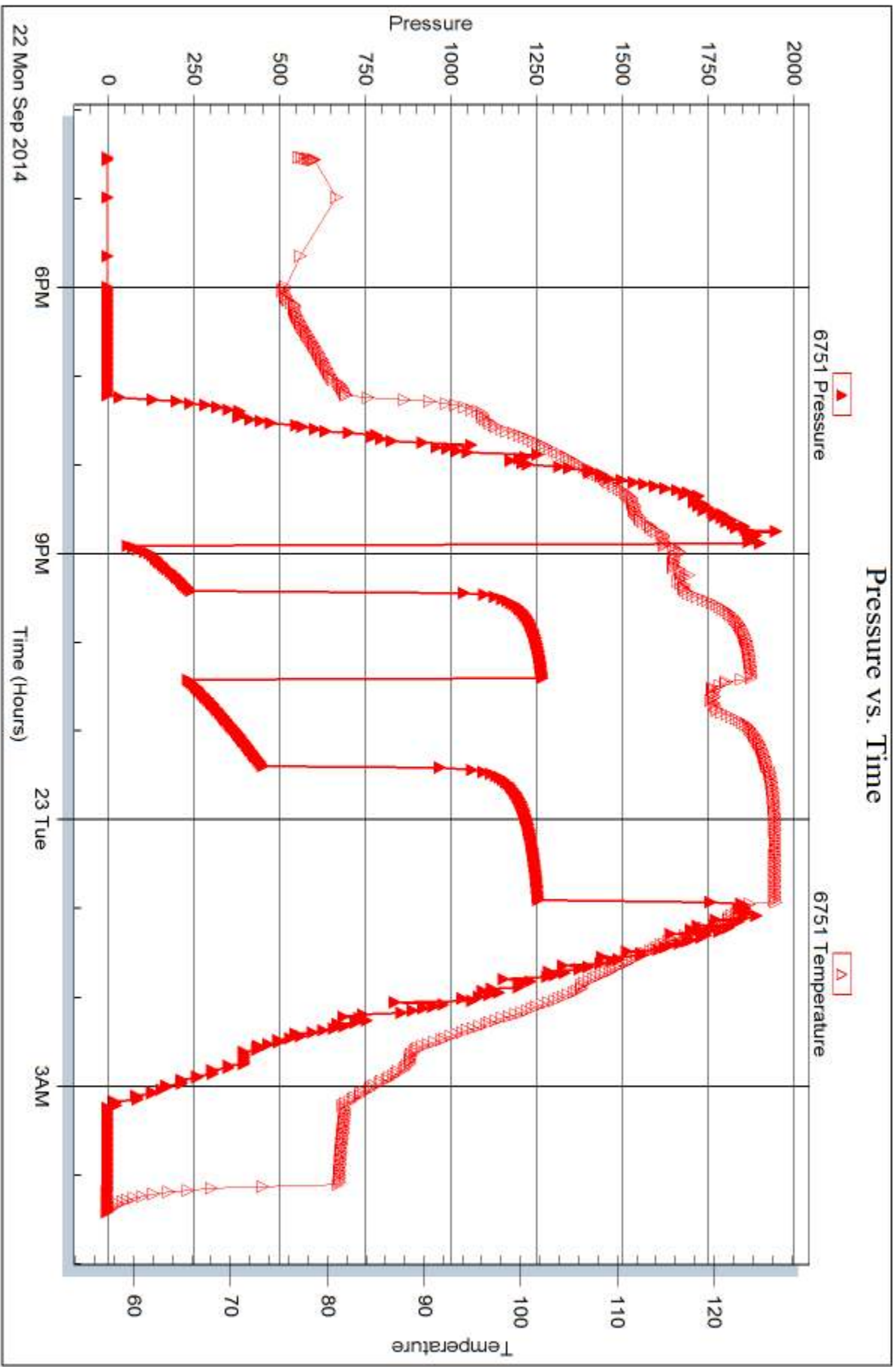
Laboratory Name:

Laboratory Location:

Recovery Comments: API RW .16 @62 F CHLORIDES 35000

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N Water STE 300
Wichita KS 67202

ATTN: Keith Reavis

Erickson A #1-36

36-4s-31w Rawling,KS

Start Date: 2014.09.23 @ 16:30:00

End Date: 2014.09.24 @ 00:44:20

Job Ticket #: 57390 DST #: 2

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.09.30 @ 10:22:50



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

36-4s-31w Rawling, KS

250 N Water STE 300
Wichita KS 67202

Erickson A #1-36

Job Ticket: 57390

DST#: 2

ATTN: Keith Reavis

Test Start: 2014.09.23 @ 16:30:00

GENERAL INFORMATION:

Formation: **LKC 'D-G'**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 18:36:10
 Time Test Ended: 00:44:20
 Interval: **3909.00 ft (KB) To 3954.00 ft (KB) (TVD)**
 Total Depth: 3954.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Chuck Smith
 Unit No: 61
 Reference Elevations: 2845.00 ft (KB)
 2841.00 ft (CF)
 KB to GR/CF: 4.00 ft

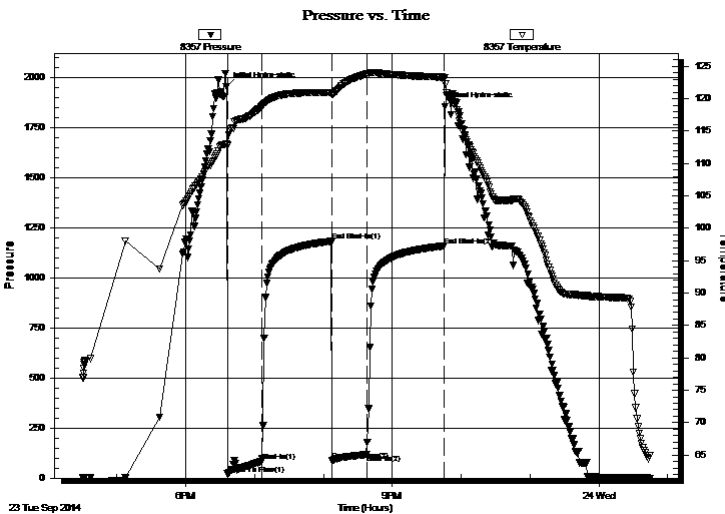
Serial #: 8357

Inside

Press@RunDepth: 118.57 psig @ 3910.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.09.23 End Date: 2014.09.24 Last Calib.: 2014.09.24
 Start Time: 16:30:02 End Time: 00:44:19 Time On Btm: 2014.09.23 @ 18:35:10
 Time Off Btm: 2014.09.23 @ 21:46:00

TEST COMMENT: 30- 6" Blow .
 60- No return.
 30- 4" Blow .
 60- No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1954.88	113.03	Initial Hydro-static
1	21.40	112.81	Open To Flow (1)
31	82.98	118.76	Shut-In(1)
92	1181.51	120.96	End Shut-In(1)
93	87.41	120.61	Open To Flow (2)
123	118.57	123.80	Shut-In(2)
191	1158.37	123.31	End Shut-In(2)
191	1854.75	123.25	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
187.00	OSMW 30m 70w	0.92
28.00	OSWM 45w 55m	0.39
2.00	GO 10g 90o	0.03

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

36-4s-31w Rawling, KS

250 N Water STE 300
Wichita KS 67202

Erickson A #1-36

Job Ticket: 57390

DST#: 2

ATTN: Keith Reavis

Test Start: 2014.09.23 @ 16:30:00

Tool Information

Drill Pipe:	Length: 3706.00 ft	Diameter: 3.80 inches	Volume: 51.99 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 187.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 52.91 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.50 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3909.00 ft			Final 61000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	72.50 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3882.50	
Shut In Tool	5.00			3887.50	
Hydraulic tool	5.00			3892.50	
Jars	5.00			3897.50	
Safety Joint	2.50			3900.00	
Packer	5.00			3905.00	27.50 Bottom Of Top Packer
Packer	4.00			3909.00	
Stubb	1.00			3910.00	
Recorder	0.00	8357	Inside	3910.00	
Recorder	0.00	6751	Outside	3910.00	
Perforations	8.00			3918.00	
Change Over Sub	1.00			3919.00	
Drill Pipe	31.00			3950.00	
Change Over Sub	1.00			3951.00	
Bullnose	3.00			3954.00	45.00 Bottom Packers & Anchor

Total Tool Length: 72.50



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

36-4s-31w Rawling,KS

250 N Water STE 300
Wichita KS 67202

Erickson A #1-36

Job Ticket: 57390

DST#: 2

ATTN: Keith Reavis

Test Start: 2014.09.23 @ 16:30:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

29 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

70000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
187.00	OSMW 30m 70w	0.920
28.00	OSWM 45w 55m	0.393
2.00	GO 10g 90o	0.028

Total Length: 217.00 ft Total Volume: 1.341 bbl

Num Fluid Samples: 0

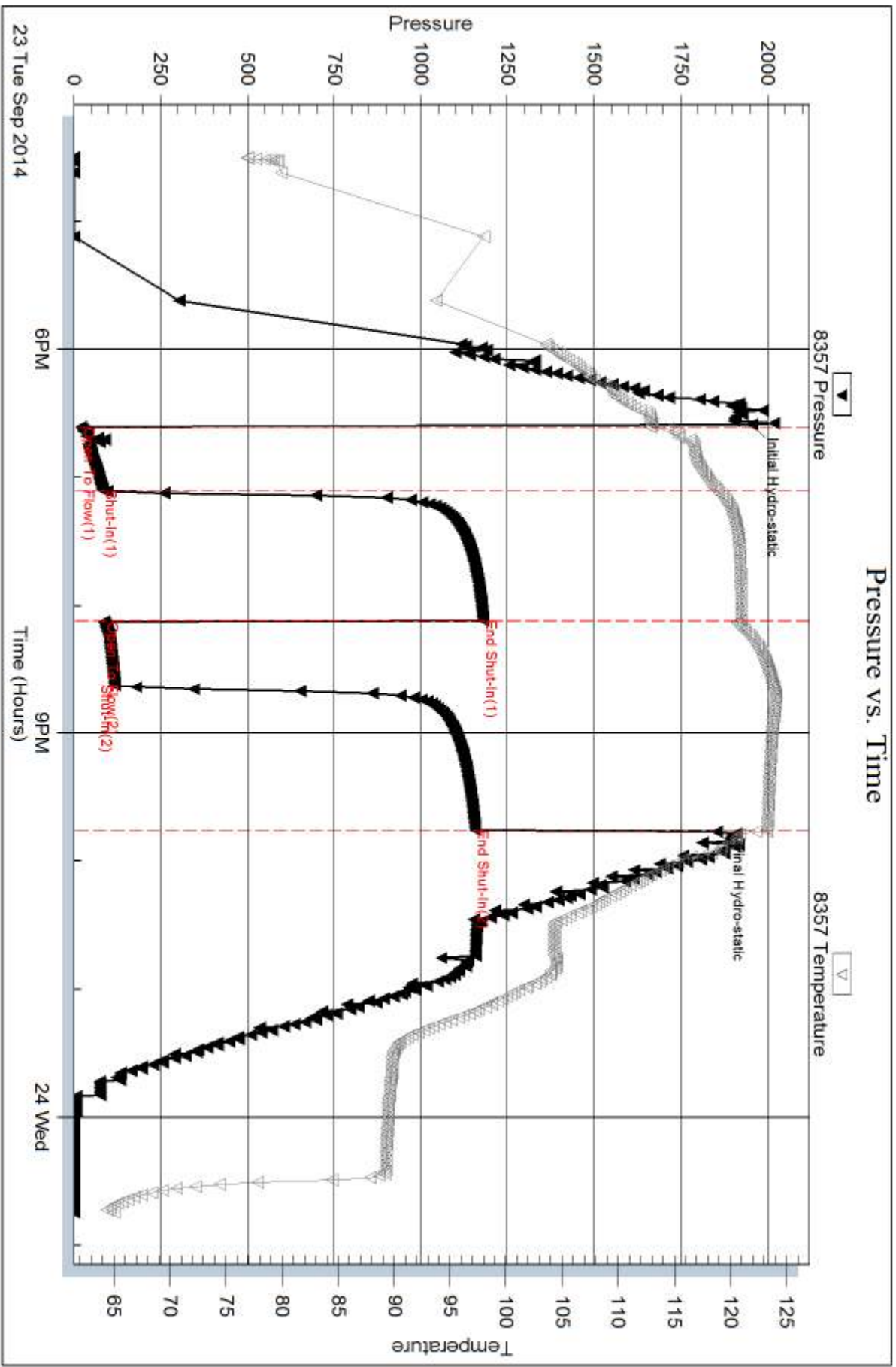
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API: 30 @ 70 Degrees F = 29. RW: .130 @ 59 Degrees F = 70000 PPM

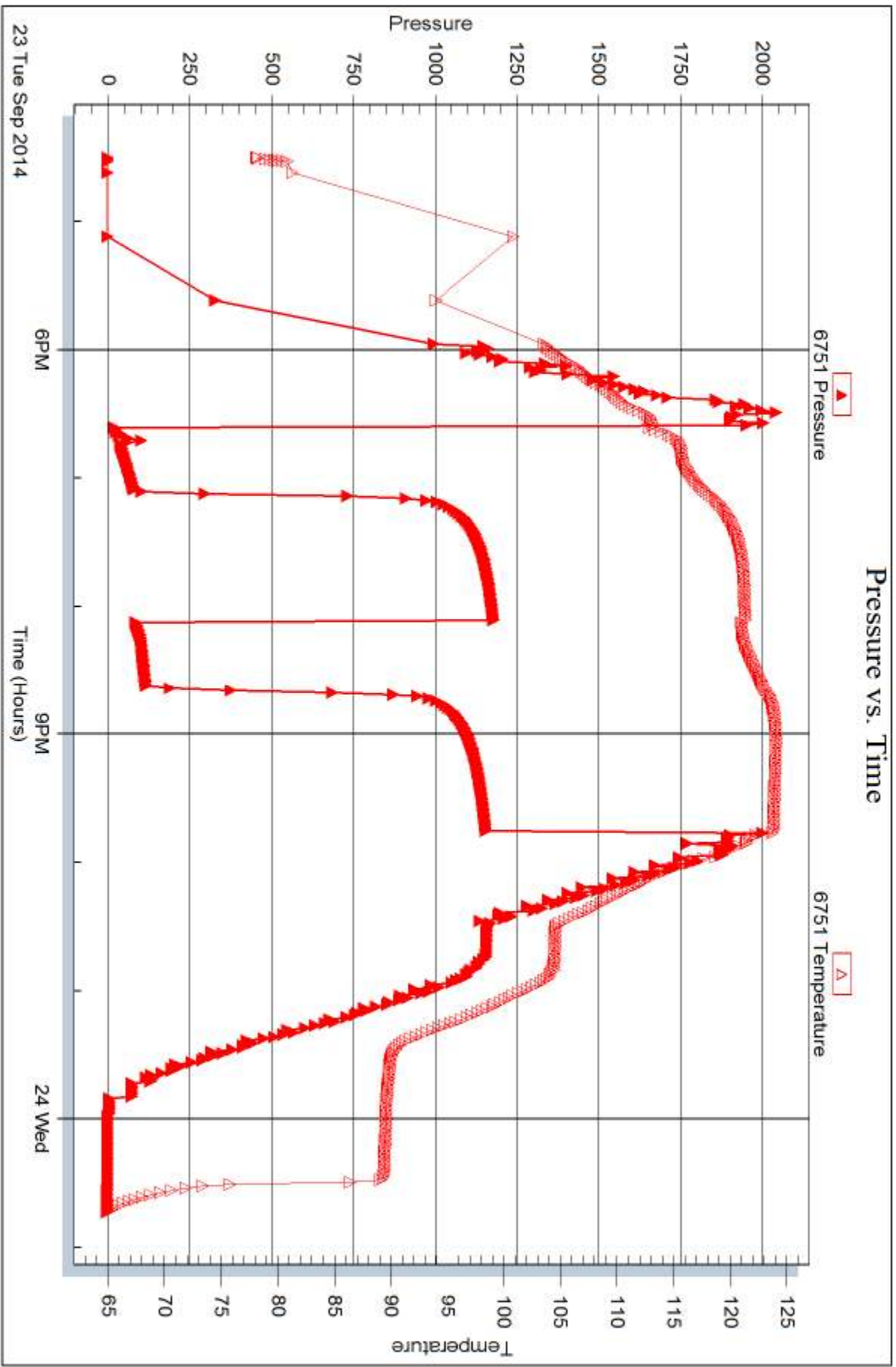


Serial #: 6751

Outside Murfin Drilling Co., Inc.

Ericson A #1-36

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 57390

Printed: 2014.09.30 @ 10:22:52



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N Water STE 300
Wichita KS 67202

ATTN: Keith Reavis

Erickson A #1-36

36-4s-31w Rawling,KS

Start Date: 2014.09.24 @ 12:27:00

End Date: 2014.09.24 @ 21:03:30

Job Ticket #: 57391 DST #: 3

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.09.30 @ 10:22:17



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

36-4s-31w Rawling, KS

250 N Water STE 300
Wichita KS 67202

Erickson A #1-36

Job Ticket: 57391

DST#: 3

ATTN: Keith Reavis

Test Start: 2014.09.24 @ 12:27:00

GENERAL INFORMATION:

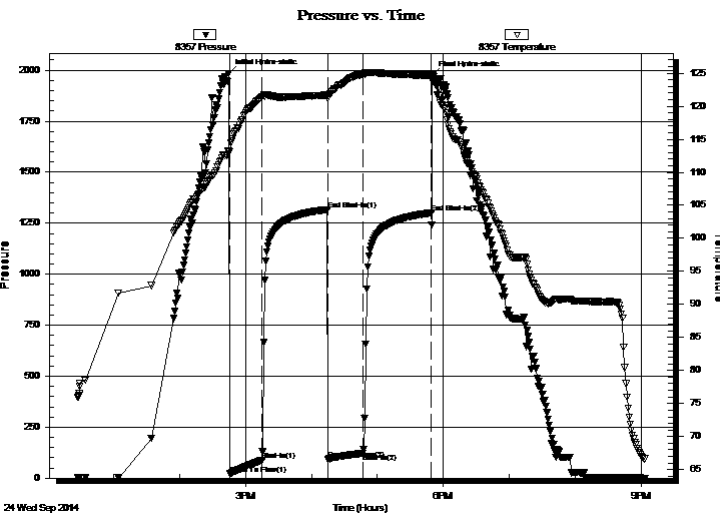
Formation: **LKC 'H-J'**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 14:45:20
 Time Test Ended: 21:03:30
 Interval: **3985.00 ft (KB) To 4027.00 ft (KB) (TVD)**
 Total Depth: 4027.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Chuck Smith
 Unit No: 61
 Reference Elevations: 2845.00 ft (KB)
 2841.00 ft (CF)
 KB to GR/CF: 4.00 ft

Serial #: 8357

Inside

Press@RunDepth: 122.42 psig @ 3986.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.09.24 End Date: 2014.09.24 Last Calib.: 2014.09.24
 Start Time: 12:27:02 End Time: 21:03:30 Time On Btm: 2014.09.24 @ 14:44:10
 Time Off Btm: 2014.09.24 @ 17:50:00

TEST COMMENT: 30- 7" Blow .
 60- No return.
 30- 7" Blow
 60 Weak return died @ 10 min.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1984.75	113.08	Initial Hydro-static
2	20.23	113.11	Open To Flow (1)
31	87.17	121.42	Shut-In(1)
91	1316.94	121.67	End Shut-In(1)
91	91.04	121.20	Open To Flow (2)
123	122.42	124.86	Shut-In(2)
185	1300.60	124.71	End Shut-In(2)
186	1974.23	124.55	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
187.00	OSMW 10m 90w	0.92
30.00	OCMW 10o 20m 70w	0.42
15.00	GO 5g 95o	0.21
0.00	75' Weak GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

36-4s-31w Rawling, KS

250 N Water STE 300
Wichita KS 67202

Erickson A #1-36

Job Ticket: 57391

DST#: 3

ATTN: Keith Reavis

Test Start: 2014.09.24 @ 12:27:00

Tool Information

Drill Pipe:	Length: 3801.00 ft	Diameter: 3.80 inches	Volume: 53.32 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 187.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 54.24 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.50 ft			String Weight: Initial 61000.00 lb
Depth to Top Packer:	3985.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	42.00 ft			
Tool Length:	69.50 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3958.50	
Shut In Tool	5.00			3963.50	
Hydraulic tool	5.00			3968.50	
Jars	5.00			3973.50	
Safety Joint	2.50			3976.00	
Packer	5.00			3981.00	27.50 Bottom Of Top Packer
Packer	4.00			3985.00	
Stubb	1.00			3986.00	
Recorder	0.00	8357	Inside	3986.00	
Recorder	0.00	6751	Outside	3986.00	
Perforations	5.00			3991.00	
Change Over Sub	1.00			3992.00	
Drill Pipe	31.00			4023.00	
Change Over Sub	1.00			4024.00	
Bullnose	3.00			4027.00	42.00 Bottom Packers & Anchor

Total Tool Length: 69.50



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

36-4s-31w Rawling,KS

250 N Water STE 300
Wichita KS 67202

Erickson A #1-36

Job Ticket: 57391

DST#: 3

ATTN: Keith Reavis

Test Start: 2014.09.24 @ 12:27:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

39 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

67000 ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
187.00	OSMW 10m 90w	0.920
30.00	OCMW 10o 20m 70w	0.421
15.00	GO 5g 95o	0.210
0.00	75' Weak GIP	0.000

Total Length: 232.00 ft

Total Volume: 1.551 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

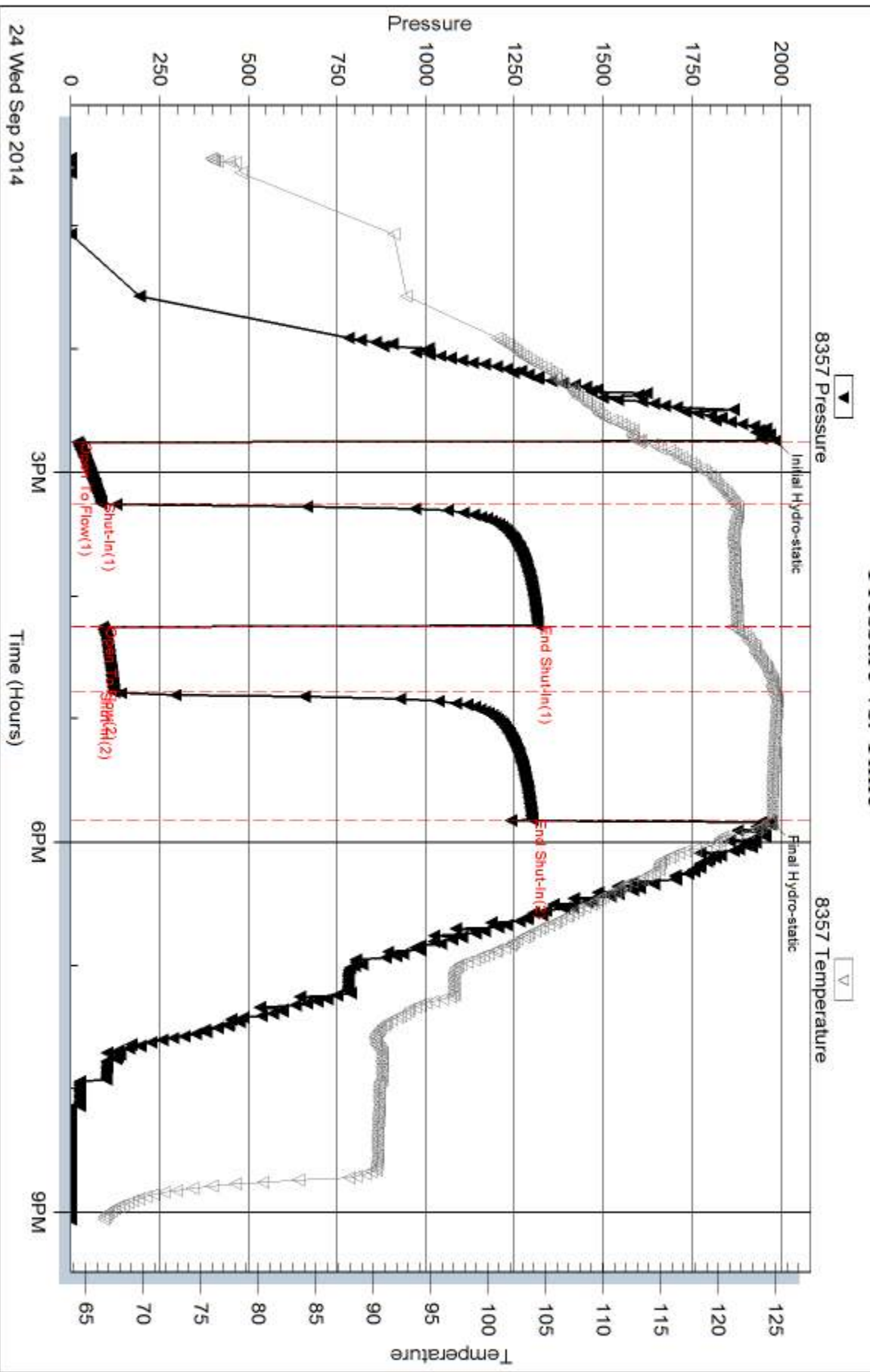
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API: 40 @ 70 Degrees F = 39. RW: .135 @ 61 Degrees F = 67000 PPM

Pressure vs. Time

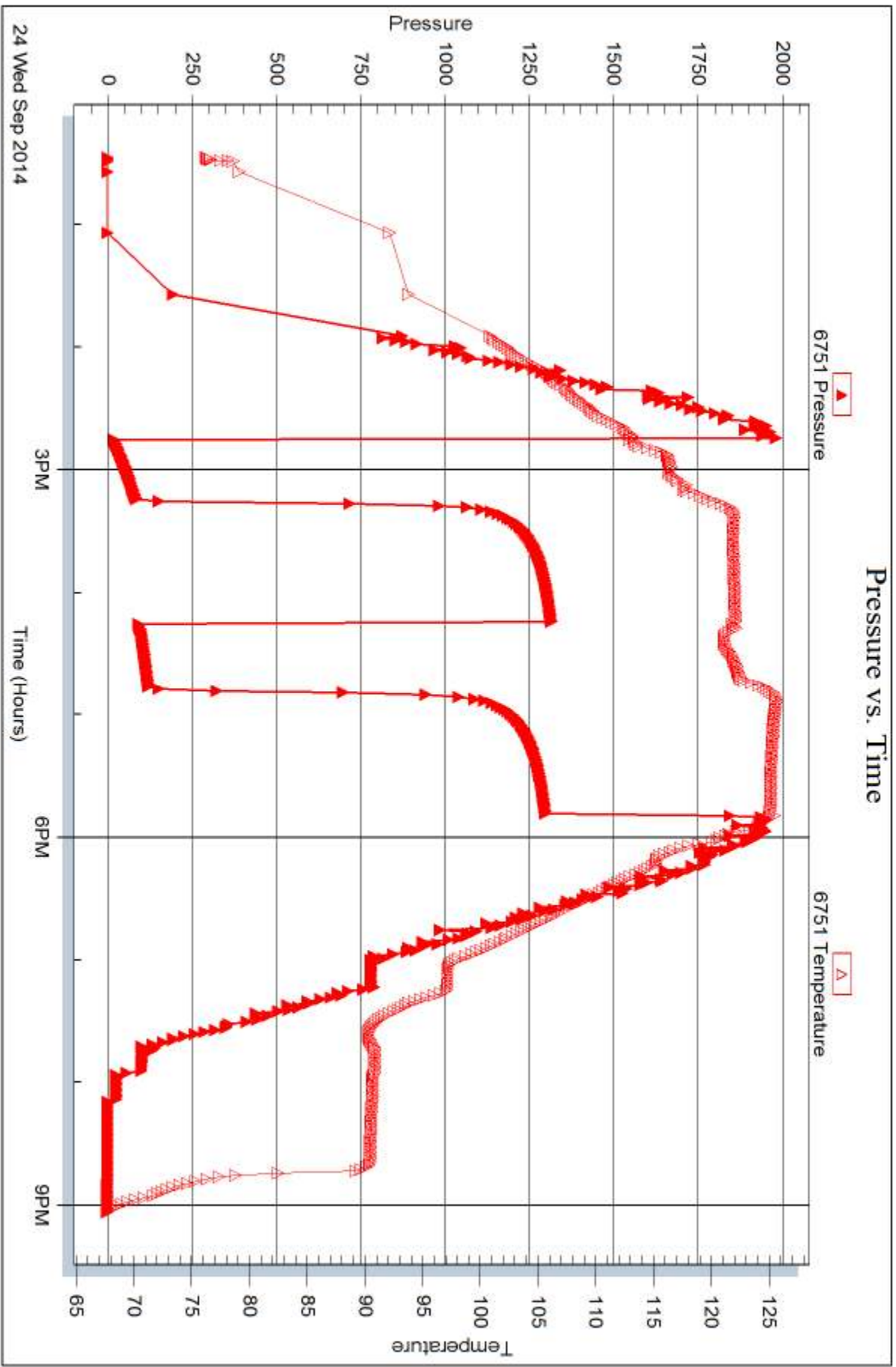


Serial #: 6751

Outside Murfin Drilling Co., Inc.

Ericson A #1-36

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 57391

Printed: 2014.09.30 @ 10:22:18



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N Water STE 300
Wichita KS 67202

ATTN: Keith Reavis

Erickson A #1-36

36-4s-31w Rawling,KS

Start Date: 2014.09.25 @ 19:18:00

End Date: 2014.09.26 @ 01:27:45

Job Ticket #: 60020 DST #: 4

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.09.30 @ 10:21:42

Murfin Drilling Co., Inc.

36-4s-31w Rawling,KS

Erickson A #1-36

DST # 4

Pawnee/Cherokee

2014.09.25



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

36-4s-31w Rawling, KS

250 N Water STE 300
Wichita KS 67202

Erickson A #1-36

Job Ticket: 60020

DST#: 4

ATTN: Keith Reavis

Test Start: 2014.09.25 @ 19:18:00

Tool Information

Drill Pipe:	Length: 3990.00 ft	Diameter: 3.80 inches	Volume: 55.97 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 2500.00 lb
Drill Collar:	Length: 187.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 56.89 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4197.00 ft			Final 63000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	107.00 ft			
Tool Length:	134.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4171.00	
Shut In Tool	5.00			4176.00	
Hydraulic tool	5.00			4181.00	
Jars	5.00			4186.00	
Safety Joint	2.00			4188.00	
Packer	5.00			4193.00	27.00 Bottom Of Top Packer
Packer	4.00			4197.00	
Packer - Shale	0.00			4197.00	
Stubb	1.00			4198.00	
Recorder	0.00	6752	Inside	4198.00	
Recorder	0.00	8322	Outside	4198.00	
Perforations	7.00			4205.00	
Blank Spacing	96.00			4301.00	
Bullnose	3.00			4304.00	107.00 Bottom Packers & Anchor

Total Tool Length: 134.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

36-4s-31w Rawling,KS

250 N Water STE 300
Wichita KS 67202

Erickson A #1-36

Job Ticket: 60020

DST#: 4

ATTN: Keith Reavis

Test Start: 2014.09.25 @ 19:18:00

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: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
250.00	Mud	1.803

Total Length: 250.00 ft Total Volume: 1.803 bbl

Num Fluid Samples: 0

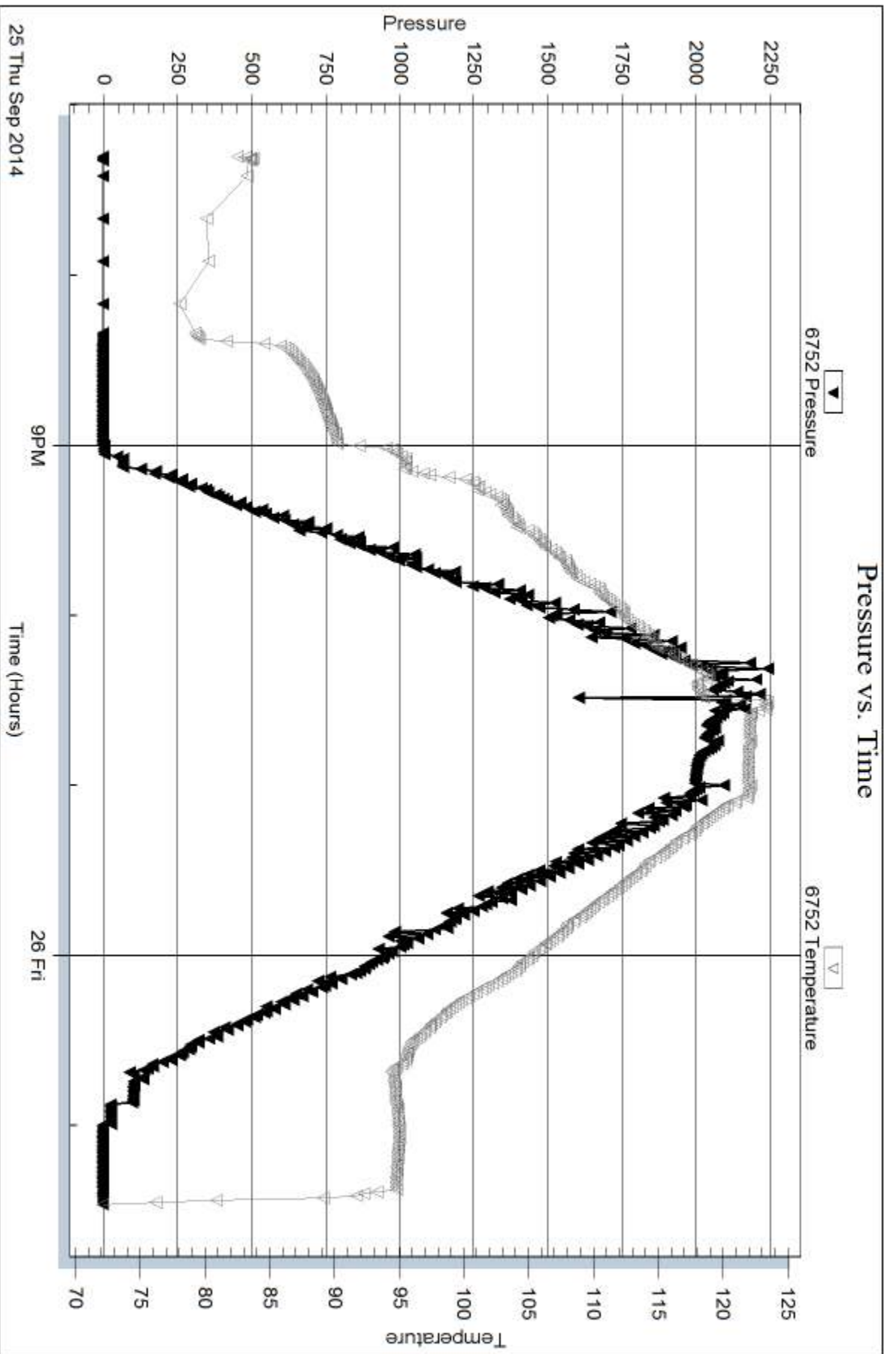
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N Water STE 300
Wichita KS 67202

ATTN: Keith Reavis

Erickson A #1-36

36-4s-31w Rawling,KS

Start Date: 2014.09.26 @ 01:39:00

End Date: 2014.09.26 @ 10:21:30

Job Ticket #: 60021 DST #: 5

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.09.30 @ 10:20:38



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

36-4s-31w Rawling, KS

250 N Water STE 300
Wichita KS 67202

Erickson A #1-36

ATTN: Keith Reavis

Job Ticket: 60021

DST#: 5

Test Start: 2014.09.26 @ 01:39:00

GENERAL INFORMATION:

Formation: **Pawnee/Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:11:15

Time Test Ended: 10:21:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 61

Interval: 4208.00 ft (KB) To 4304.00 ft (KB) (TVD)

Total Depth: 4304.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2845.00 ft (KB)

2841.00 ft (CF)

KB to GR/CF: 4.00 ft

Serial #: 6752 Inside

Press@RunDepth: 27.30 psig @ 4209.00 ft (KB)

Start Date: 2014.09.26

End Date:

2014.09.26

Start Time: 01:39:05

End Time:

10:21:30

Capacity: 8000.00 psig

Last Calib.: 2014.09.26

Time On Btm: 2014.09.26 @ 04:11:00

Time Off Btm: 2014.09.26 @ 07:11:30

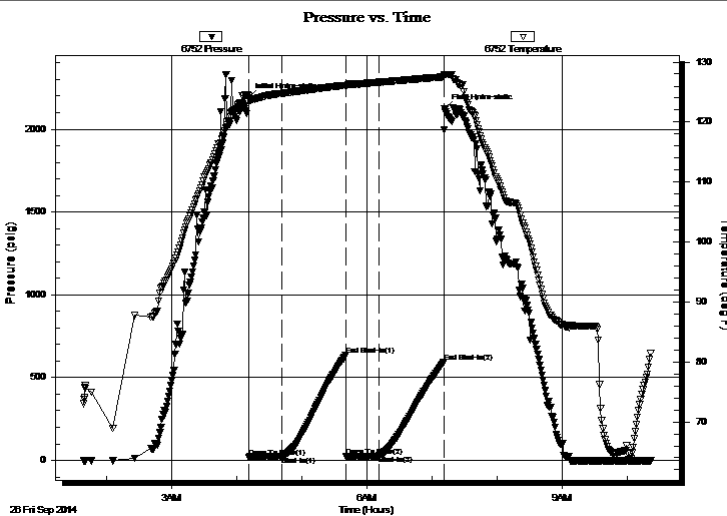
TEST COMMENT: 30 IF - Surface blow built to 1/4"

60 ISI - No return

30 FF - No blow

60 FSI - No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2192.05	124.34	Initial Hydro-static
1	19.73	123.91	Open To Flow (1)
31	23.48	124.77	Shut-In(1)
90	636.19	126.13	End Shut-In(1)
90	24.33	125.84	Open To Flow (2)
121	27.30	126.64	Shut-In(2)
180	593.65	127.53	End Shut-In(2)
181	2121.81	127.94	Final Hydro-static

Recovery

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

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

36-4s-31w Rawling, KS

250 N Water STE 300
Wichita KS 67202

Erickson A #1-36

Job Ticket: 60021

DST#: 5

ATTN: Keith Reavis

Test Start: 2014.09.26 @ 01:39:00

Tool Information

Drill Pipe:	Length: 4021.00 ft	Diameter: 3.80 inches	Volume: 56.40 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 187.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 57.32 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 63000.00 lb
Depth to Top Packer:	4208.00 ft			Final 63000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	96.00 ft			
Tool Length:	123.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4182.00	
Shut In Tool	5.00			4187.00	
Hydraulic tool	5.00			4192.00	
Jars	5.00			4197.00	
Safety Joint	2.00			4199.00	
Packer	5.00			4204.00	27.00 Bottom Of Top Packer
Packer	4.00			4208.00	
Packer - Shale	0.00			4208.00	
Stubb	1.00			4209.00	
Recorder	0.00	6752	Inside	4209.00	
Recorder	0.00	8322	Outside	4209.00	
Perforations	27.00			4236.00	
Blank Spacing	65.00			4301.00	
Bullnose	3.00			4304.00	96.00 Bottom Packers & Anchor

Total Tool Length: 123.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

36-4s-31w Rawling,KS

250 N Water STE 300
Wichita KS 67202

Erickson A #1-36

Job Ticket: 60021

DST#: 5

ATTN: Keith Reavis

Test Start: 2014.09.26 @ 01:39:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 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

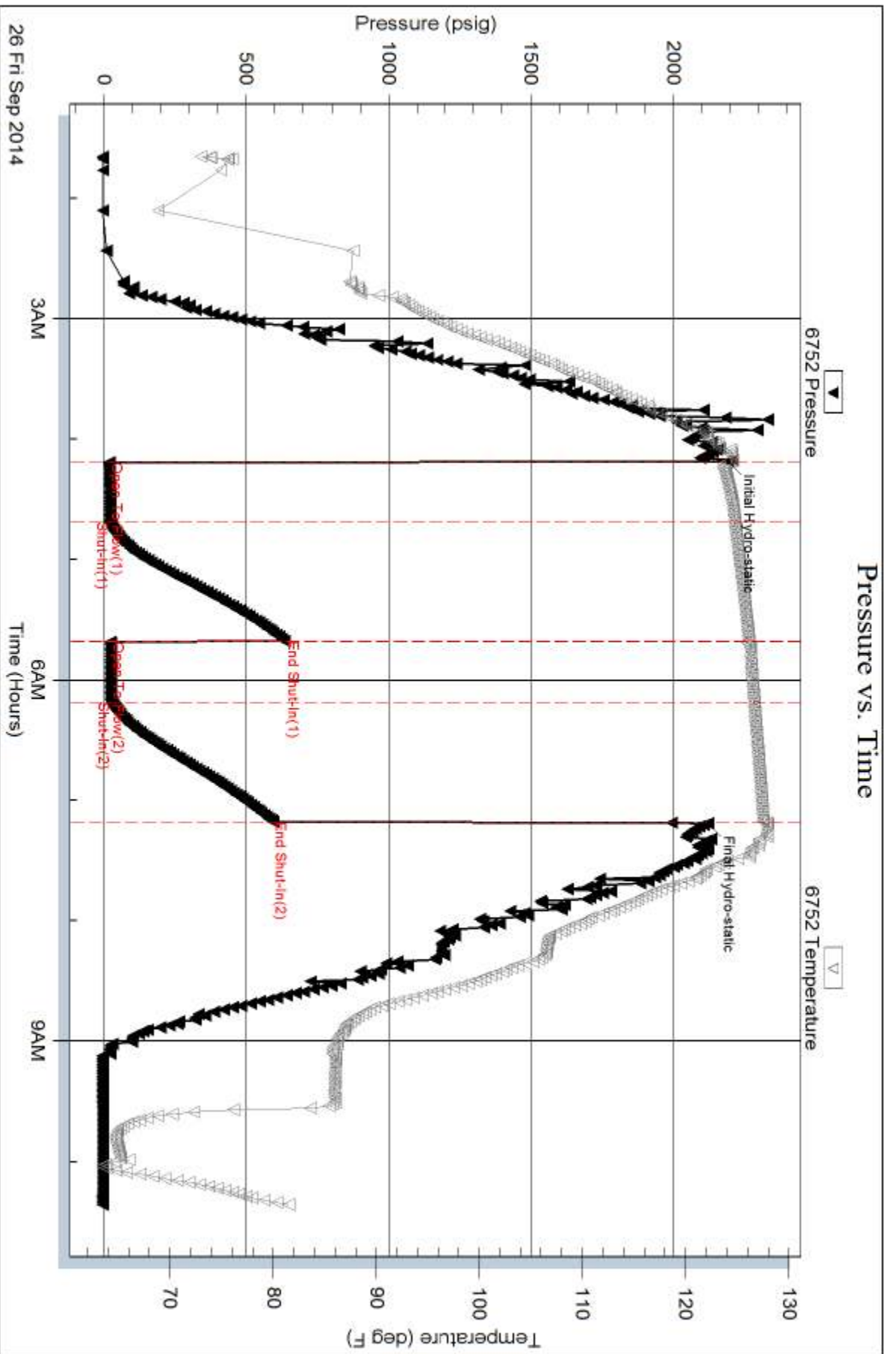
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

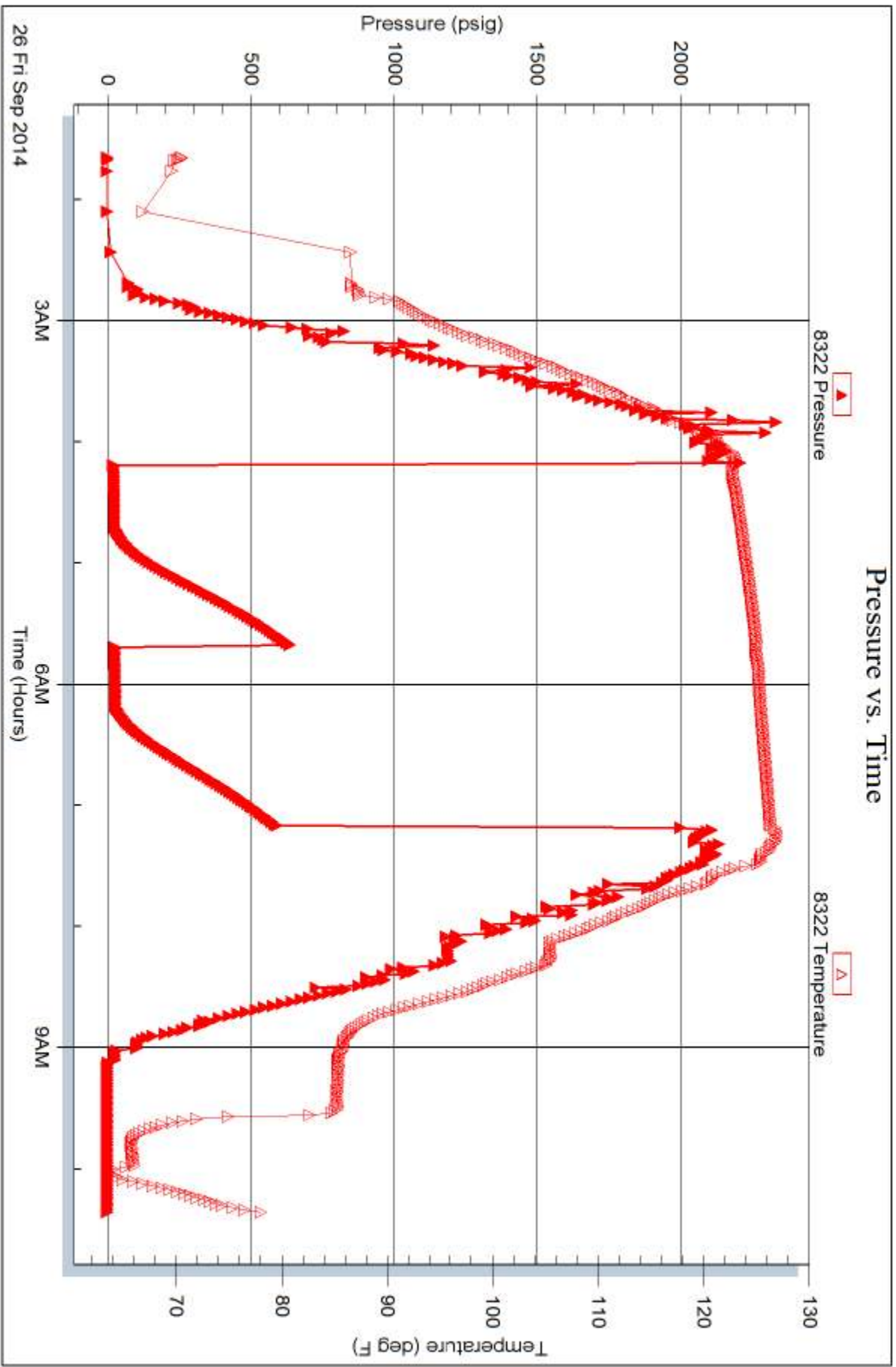


Serial #: 8322

Outside Murfin Drilling Co., Inc.

Ericson A #1-36

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 60021

Printed: 2014.09.30 @ 10:20:39



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57467

Well Name & No. Erickson A # 1-34 Test No. 1 Date 9-22-14
 Company Murfin Drilling company Inc Elevation 2845 KB 2841 GL
 Address 250 N Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Keith Reavis Rig Murfin #7
 Location: Sec. 34 Twp. 4s Rge. 31w Co. Rawlins State KS

Interval Tested 3810 3900 Zone Tested Toronto - Lansing
 Anchor Length 90 Drill Pipe Run 3609.5 Mud Wt. 9.0
 Top Packer Depth 3804 Drill Collars Run 187 Vis 58
 Bottom Packer Depth 3810 Wt. Pipe Run Ø WL 6.4
 Total Depth 3900 Chlorides 600 ppm System LCM 4

Blow Description 30 B.O.B in 8 min
60 No Return
60 B.O.B in 12 min
90 No Return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>187</u>	<u>mcw</u>			<u>40%</u>	<u>40%</u>
<u>703</u>	<u>mcw</u>			<u>80%</u>	<u>20%</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 890 BHT 124 Gravity — API RW 16 @ 62 °F Chlorides 35000 ppm
 (A) Initial Hydrostatic 1925 Test 1150 T-On Location 15:15
 (B) First Initial Flow 65 Jars 250 T-Started 16:32
 (C) First Final Flow 240 Safety Joint 75 T-Open 20:54
 (D) Initial Shut-In 1249 Circ Sub N/C T-Pulled 00:54
 (E) Second Initial Flow 236 Hourly Standby 4 Hours 3h 300 T-Out 4:28
 (F) Second Final Flow 454 Mileage 186 RT 93
 (G) Final Shut-In 1258 Sampler
 (H) Final Hydrostatic 1769 Straddle Ruined Shale Packer
 Shale Packer Ruined Packer
 Extra Packer Extra Copies
 Extra Recorder
 Day Standby
 Accessibility

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Sub Total 0
 Total 1868
 MP/DST Disc't _____
 Sub Total 1868

Approved By Keith Reavis Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57390

4/10

Well Name & No. Erickson A1-36 Test No. 2 Date 9-23-14
 Company Murfin Drilling Co, Inc Elevation 2845 KB 2841 GL
 Address 250 N. Water STE 300 Wichita, Ks 67202
 Co. Rep / Geo. Keith Reavis Rig MDC #7
 Location: Sec. 36 Twp. 4s Rge. 3W Co. Rawlin State Ks

Interval Tested 3909-3954 Zone Tested Lansing 'D-G'
 Anchor Length 45 Drill Pipe Run 3706 Mud Wt. 9.4
 Top Packer Depth 3905 Drill Collars Run 187 Vis 55
 Bottom Packer Depth 3909 Wt. Pipe Run 0 WL 6.8
 Total Depth 3954 Chlorides 1600 ppm System LCM 5"
 Blow Description 6" Blow.
No return.
4" Blow.
No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>60</u>	<u>10</u>	<u>90</u>		
<u>28</u>	<u>OSWM</u>			<u>45</u>	<u>55</u>
<u>187</u>	<u>OSMW</u>			<u>70</u>	<u>30</u>

Rec Total 217 BHT 123 Gravity 29 API RW .130 @ 59 °F Chlorides 70000 ppm

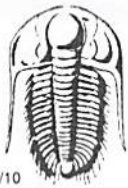
(A) Initial Hydrostatic <u>1955</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>16:29</u>
(B) First Initial Flow <u>21</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>16:30</u>
(C) First Final Flow <u>83</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>18:36</u>
(D) Initial Shut-In <u>1182</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIC</u>	T-Pulled <u>21:46</u>
(E) Second Initial Flow <u>87</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>00:44</u>
(F) Second Final Flow <u>119</u>	<input checked="" type="checkbox"/> Mileage <u>93</u>	Comments
(G) Final Shut-In <u>1158</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1855</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1568</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1568</u>	

Approved By

Keith Reavis

Our Representative

Chuck Smith



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57391

4/10

Well Name & No. Erickson A 1-36 Test No. 3 Date 9-24-14
 Company Martin Drilling Co., Inc. Elevation 2845 KB 2841 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Keith Reavis Rig M.D.C. # 7
 Location: Sec. 36 Twp. 4s Rge. 31w Co. Rawlin State KS

Interval Tested 3985-4027 Zone Tested Lansing 'H-J'
 Anchor Length 42 Drill Pipe Run 3801 Mud Wt. 9.3
 Top Packer Depth 3981- Drill Collars Run 187 Vis 48
 Bottom Packer Depth 3985 Wt. Pipe Run 0 WL 7.2
 Total Depth 4027 Chlorides 1800 ppm System LCM 4"
 Blow Description 7" Blow
No return.
7" Blow.
Weak return died @ 10 min.

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>GO</u>	<u>5</u>	<u>95</u>		
<u>30</u>	<u>OC MW</u>		<u>10</u>	<u>70</u>	<u>20</u>
<u>187</u>	<u>OS MW</u>			<u>90</u>	<u>10</u>
	<u>75' Weak G-IP</u>				

Rec Total 232 BHT 125 Gravity 39 API RW .135 @ 61 °F Chlorides 67000 ppm

(A) Initial Hydrostatic <u>1985</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>12:25</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>12:27</u>
(C) First Final Flow <u>87</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>14:45</u>
(D) Initial Shut-In <u>1316</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIC</u>	T-Pulled <u>17:49</u>
(E) Second Initial Flow <u>91</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>21:04</u>
(F) Second Final Flow <u>122</u>	<input checked="" type="checkbox"/> Mileage <u>93</u>	Comments
(G) Final Shut-In <u>1301</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1974</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input checked="" type="checkbox"/> Ruined Packer <u>320</u>
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>320</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1988</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1668</u>	

Approved By Keith Reavis Our Representative Chuck Smith

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60020

Well Name & No. Erickson A #1-36 Test No. 4 Date 9/25/13
 Company Murfin Drilling Co. Elevation 2945 KB 2940 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Keith Reavis Rig Murfin # 97
 Location: Sec. 36 Twp. 45 Rge. 31W Co. Rawlins State KS

Interval Tested 4197-4304 Zone Tested Pawnee / Cherokee
 Anchor Length 107' Drill Pipe Run 3990' Mud Wt. 9.3
 Top Packer Depth 4192 Drill Collars Run 187' Vis 50
 Bottom Packer Depth 4197 Wt. Pipe Run 0' WL 6.8
 Total Depth 4304 Chlorides 1500 ppm System LCM 4

Blow Description ~~0~~ Packer Failure

Rec	Feet of	%gas	%oil	%water	%mud
<u>250</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 250' BHT _____ Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

- (A) Initial Hydrostatic Test 1050 T-On Location 18:45
- (B) First Initial Flow Jars 250 T-Started 19:18
- (C) First Final Flow Safety Joint 75 T-Open _____
- (D) Initial Shut-In Circ Sub NC T-Pulled _____
- (E) Second Initial Flow Hourly Standby _____ T-Out 01:27
- (F) Second Final Flow Mileage 60 RT 93 Comments _____
- (G) Final Shut-In Sampler _____
- (H) Final Hydrostatic Straddle _____

Initial Open Ruined Shale Packer _____
 Initial Shut-In _____ Ruined Packer _____
 Final Flow _____ Extra Copies _____
 Final Shut-In _____ Day Standby _____ Sub Total 0
 Sub Total 1718 Total 1718 MP/DST Disc't _____

Approved By _____ Our Representative
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60021

Well Name & No. Erickson A # 1-36 Test No. 5 Date 9/26/14
 Company Martin Drilling Co. Elevation 2945 KB 2940 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Keith Reavis Rig Martin # 7
 Location: Sec. 36 Twp. 4S Rge. 31W Co. Rawlins State KS

Interval Tested 4208 - 4304 Zone Tested Pawnee / Cherokee
 Anchor Length 96' Drill Pipe Run 4021' Mud Wt. 9.3
 Top Packer Depth 4203 Drill Collars Run 187' Vis 50
 Bottom Packer Depth 4208 Wt. Pipe Run 0' WL 6.8
 Total Depth 4304 Chlorides 1500 ppm System LCM 4

Blow Description IF - Surface blow built to 1/4"
ISI - No return
FF - No blow
FSE - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>5'</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5' BHT 128° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2192</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>01:27</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>01:39</u>
(C) First Final Flow <u>23</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>04:10</u>
(D) Initial Shut-In <u>636</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>07:10</u>
(E) Second Initial Flow <u>24</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>10:21</u>
(F) Second Final Flow <u>27</u>	<input type="checkbox"/> Mileage _____	Comments _____
(G) Final Shut-In <u>594</u>	<input type="checkbox"/> Sampler _____	<input type="checkbox"/> Ruined Shale Packer _____
(H) Final Hydrostatic <u>2122</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Packer _____
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Extra Copies _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	Total <u>1825</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility _____	
	Sub Total <u>1825</u>	

Approved By _____ Our Representative [Signature]

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ALLIED OIL & GAS SERVICES, LLC 064245

Federal Tax I.D. # 20-8651475

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

SERVICE POINT:
Oakley KS

DATE <u>9-27-14</u>	SEC. <u>36</u>	TWP. <u>45</u>	RANGE <u>31W</u>	CALLED OUT	ON LOCATION <u>8:00am</u>	JOB START <u>1:00pm</u>	JOB FINISH <u>2:00pm</u>
LEASE <u>Erickson</u>	WELL # <u>1-36</u>	LOCATION <u>Rexford 7N, 1W, 4 1/2 N, 1 E,</u>			COUNTY <u>Rawlins</u>	STATE <u>KS</u>	
OLD OR NEW (Circle one)		<u>1 1/2 N, 1 E, 1 1/4 N into</u>					

CONTRACTOR Murfin 7 OWNER Same

TYPE OF JOB PTA

HOLE SIZE 7 7/8 T.D. 4000' CEMENT

CASING SIZE _____ DEPTH _____ AMOUNT ORDERED 255 sks 60/40

TUBING SIZE 4 1/2 DEPTH 2610' 4% gel 1/4# Flo-seal

DRILL PIPE _____ DEPTH _____

TOOL _____ DEPTH _____

PRES. MAX _____ MINIMUM _____

MEAS. LINE _____ SHOE JOINT _____

CEMENT LEFT IN CSG. _____

PERFS. _____

DISPLACEMENT 5 bbl mud / 25 bbl mud

EQUIPMENT

PUMP TRUCK CEMENTER Paul Beaver
431 HELPER Wayne Mc Ghghy

BULK TRUCK # 818/287 DRIVER Shawn Tatro

BULK TRUCK # _____ DRIVER _____

COMMON	@		
POZMIX	@		
GEL	@		
CHLORIDE	@		
ASC	@		
<u>Lite. (60/40/4)</u>	@	<u>255 sks @ 18.92</u>	<u>4824.60</u>
<u>Flo-seal</u>	@	<u>64 # @ 2.97</u>	<u>190.08</u>
<u>Matega. 0 tested</u>	@		<u>5,000.00</u>
<u>(1753.14 / 35%)</u>	@		
HANDLING	@	<u>273.87 @ 2.48</u>	<u>679.20</u>
MILEAGE	@	<u>11.44 hrs x 45 mi x 2.75</u>	<u>1415.70</u>
TOTAL			

REMARKS:

Mix 50 sks @ 2610' Displace w/ mud - (6:00am)
Mix 100 sks @ 1845' Displace w/ water (11:00am)
Mix 50 sks @ 270' - (12:00am)
Mix 10 sks @ 40' (1:00pm)
Mix 30 sks in R.H. (1:30pm)
Mix 15 sks in M.H. (1:45pm)

Thank You!
Paul + Crew

CHARGE TO: Murfin Drlg
STREET _____
CITY _____ STATE _____ ZIP _____

SERVICE

DEPTH OF JOB		<u>2610'</u>	
PUMP TRUCK CHARGE		<u>2483.59</u>	
EXTRA FOOTAGE	@		
MILEAGE MILV	@	<u>45 @ 7.70</u>	<u>346.50</u>
MANIFOLD	@		
MILV	@	<u>45 @ 4.40</u>	<u>198.00</u>
TOTAL			<u>5,122.99</u>

PLUG & FLOAT EQUIPMENT

<u>8 5/8 Wooden Plug</u>	@		<u>110.00</u>
	@		
	@		
	@		
	@		
TOTAL			<u>110.00</u>

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 FRED W. WATSON
SIGNATURE [Signature]

SALES TAX (if Any) _____
TOTAL CHARGES 10,137.67
DISCOUNT 3,548.18 (35%) IF PAID IN 30 DAYS
6,589.48 Net.

Erickson 'A' #1-36
 Daily Drilling Report
 Page Two

- 9/24/14 Depth 3992'. Cut 92'. DT: None. CT: 19½ hrs. Dev.: None. **DST #2 3909-3954 (LKC D-G):** 30-60-30-60. IF: 6"blw. FF: 4" blw. Rec.: 2'GO (10%G, 90%O), 28'OSWM (45%W, 55%M), 187'OSMW (30%M, 70%W), RW: 0.130 @ 59° = 70000PPM. HP: 1955-1855. FP: 21/83, 87/119. SIP: 1182-1158. BHT: 123°. **LKC H:** Ls, lt gry-wht & pale grn, microxtln, foss, dense-chlky, some speckled w/pyite, few scattered small vugs w/blk tarry stn, NSFO, no odr, even lt fluor, fd milky cut, flood chalk in smpls. **LKC J:** Ls, lt gry, microxtln, foss, fr interclast por w/mod framework, fr lt brn sat – spotty stn, bleeding some gassy FO, fleeting odr, gd even grn/white fluor, gd bright wht milky cut. **DST #3 3985-4027 (LKC H-J):**
- 9/25/14 Depth 4135'. Cut 143'. DT: None. CT: 17¾ hrs. Dev.: None. **DST #3 3985-4027 (LKC H-J):** 30-60-30-60. IF: 7"blw. FF: 7"blw. FSI: wk return died @ 10mins. Rec.: 75'Wk GIP, 15'GO (5%G, 95%O), 30'OCMW (10%O, 20%M, 70%W), 187'OSMW (10%M, 90%W), RW: 0.135 @ 61° = 67000PPM. HP: 1985-1974. FP: 20/87, 91/122. SIP: 1317-1301. BHT: 125°. No sample shows, some fluor in the lower Pawnee & the Celia zones, no cut. **DST #4 4197-4304 (Paw-Celia)**
- 9/26/14 Depth 4304'. Cut 169'. DT: None. CT: 18hrs. Dev.: ½° @ 4304'. **DST #4 4197-4304 (Paw-Celia):** Packer Failure. **DST #5 4208-4304 (Paw-Celia):** 30-60-30-60. IF: wk ¼" blw. FF: no blw. Rec.: 5'M. HP: 2192-2122. FP: 20/23, 24/27. SIP: 636-594. BHT: 128°.
- 9/27/14 Depth 4470'. Cut 166'. DT: None. CT: 19¼ hrs. Dev.: ½° @ 4470'. HC @ 6:00PM 9/26. Pioneer logged 9:00PM 9/26 – 3:00AM 9/27. LTD: 4472'.
- 9/28/14 Depth 4470'. CT: 11hrs. Allied plugged hole (11:00AM – 2:00PM 9/27) as follows using 60/40 Poz, 4%Gel, ¼#Flo seal, 50sxs @ 2610', 100sxs @ 1845', 50sxs @ 270', 10sxs @ 40', 30sxs RH, 15sxs MH. Orders: Rich Williams KCC 9/26. RR @ 6:00PM 9/27/14. FINAL REPORT.

		Erickson 'A' #1-36 1950' FSL 1950' FWL Sec. 36-4S-31W 2845' KB					MB 'A' #1-35 1560' FNL 1560' FWL Sec. 35-4S-31W 2906' KB		
Formation	Sample top	Datum	Ref	Log tops	Datum	Ref	Log tops	Datum	
Anhydrite	2597	+248	-14	2579	+266	+4	2644	+262	
B/Anhydrite	2621	+224	-5	2614	+231	+2	2677	+229	
Topeka	3651	-806	+7	3653	-808	+5	3719	-813	
Heebner	3817	-972	+6	3823	-978	Flat	3884	-978	
Lansing	3865	-1020	+7	3871	-1026	+1	3933	-1027	
Stark	4026	-1181	+12	4037	-1192	+1	4099	-1193	
BKC	4076	-1231	+9	4088	-1243	-3	4146	-1240	
Pawnee	4190	-1345	+9	4201	-1356	-2	4260	-1354	
Cherokee	4272	-1472	+12	4282	-1437	-2	4345	-1439	
Mississippi	4390	-1545	+9	4404	-1559	-5	4460	-1554	
RTD	4470	-1625					4540	-1634	
LTD				4471	-1626		4546	-1640	