



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1226813
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: _____

1226813

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

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

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

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

Drill Stem Tests Taken <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

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

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

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

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

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

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

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

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

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	Ladenburger 'B' 1-6
Doc ID	1226813

All Electric Logs Run

DIL
DUCP
MEL
BHCS

OPERATOR

Company: Murfin Drilling Company
 Address: 250 N. Water Suite 300
 Wichita, KS 67202
 Contact Geologist: Shauna Gunzelman
 Contact Phone Nbr: 316-267-3241
 Well Name: Ladenburger B #1-6
 Location: Sec. 6 - T1S - R35W
 API: 15-153-21039-0000
 Pool: Kansas
 State: Kansas
 Field: Wildcat
 Country: USA



Scale 1:240 Imperial

Well Name: Ladenburger B #1-6
 Surface Location: Sec. 6 - T1S - R35W
 Bottom Location:
 API: 15-153-21039-0000
 License Number: 30606
 Spud Date: 7/31/2014
 Region: Rawlins County
 Drilling Completed: 8/7/2014
 Surface Coordinates: 330' FNL & 2310' FEL
 Bottom Hole Coordinates:
 Ground Elevation: 3211.00ft
 K.B. Elevation: 3216.00ft
 Logged Interval: 3540.00ft
 Total Depth: 4535.00ft
 Formation: Lansing/Kansas City
 Drilling Fluid Type: Chemical/Fresh Water Gel
 Time: 2:45 PM
 Time: 7:07 PM
 To: 4535.00ft

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude:
 Latitude:
 N/S Co-ord: 330' FNL
 E/W Co-ord: 2310' FEL

LOGGED BY



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: 7/31/2014
 TD Date: 8/7/2014
 Rig Release:
 Time: 2:45 PM
 Time: 7:07 PM
 Time:

ELEVATIONS

K.B. Elevation: 3216.00ft
 K.B. to Ground: 5.00ft
 Ground Elevation: 3211.00ft

NOTES

Due to results of drill stem tests #1 through #4, it was determined that the Ladenburger B #1-6 would prove non-commercial and was therefore plugged as a dry test.

The gamma ray and caliper curves were imported into this mudlog from the electrical log suite, the sample tops picked from drill time were generally within 3 ft of the electrical log tops, therefore, no curves were shifted to provide an exact match but left as recorded in the field.

The 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
08/03/2014	3735	Geologist Keith Reavis on location @ 1000 hrs, 3789 ft, drilling Foraker, Stotler
08/04/2014	4095	drilling ahead, Topeka, Oread, show in Oread warrants test, short trip, TOH for DST #1, conduct DST #1, successful test, TIH w/bit, resume drilling
08/05/2014	4240	drilling ahead, Lansing A thru D, shows warrant test, TOH for DST #2 conduct and complete DST #2, successful test, TIH w/bit, resume drilling
08/06/2014	4365	drilling G thru H, TOH for DST #3, conduct DST #3, successful test, TIH w/bit, drill J zone, show warrants test, TOH for DST #4
08/07/2014	4395	conduct and complete DST #4, successful test, TIH w/bit, resume drilling rathole to TD, RTD 4535 ft @ 1907 hrs, short trip, condition hole, TOH for logs
08/08/2014	4535	conduct and complete logging operations, geologist off location 0530 hrs

**Murfin Drilling Company
 well comparison sheet**

DRILLING WELL					COMPARISON WELL				COMPARISON WELL			
Ladenburger B #1-6					Downing #1-6				Ladenburger #1-6			
330' FNL & 2310' FEL					2150' FSL 2140' FWL				2310' FNL & 330' FWL			
Sec 6-T1S-R35W					Sec 6-T1S-R35W				Sec 6-T1S-R35W			
3216 KB					3169 KB				3210 KB			
					Structural Relationship				Structural Relationship			
Formation	sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Neva	3631	-415	3634	-418	3594	-425	10	7	3630	-420	5	2
Red Eagle	3697	-481	3699	-483	3658	-489	8	6	3694	-484	3	1
Foraker	3742	-526	3745	-529	3706	-537	11	8	3742	-532	6	3
Stotler	3889	-673	3892	-676	3852	-683	10	7	3881	-671	-2	-5
Topeka	3950	-734	3954	-738	3914	-745	11	7	3950	-740	6	2
Oread	4065	-849	4068	-852	4026	-857	8	5	4064	-854	5	2
Lansing	4171	-955	4170	-954	4134	-965	10	11	4167	-957	2	3
Lansing D	4222	-1006	4223	-1007	4185	-1016	10	9	4220	-1010	4	3
Lansing H	4328	-1112	4326	-1110	4291	-1122	10	12	4322	-1112	0	2
Stark	4385	-1169	4384	-1168	4347	-1178	9	10	4378	-1168	-1	0
BKC	4435	-1219	4436	-1220	4398	-1229	10	9	4431	-1221	2	1
Total Depth	4535	-1319	4542	-1326	4500	-1331	12	5	4550	-1340	21	14

DST #1

DRILL STEM TEST REPORT

Murfin Drig Co., Inc. **6/1N/35W**

250 N. Water, Ste 300
 Wichita, KS 67202

ATTN: Keith Reavis

Ladenburger 'B' #1-6

Job Ticket: 51621 **DST#: 1**

Test Start: 2014.08.04 @ 09:02:00

GENERAL INFORMATION:

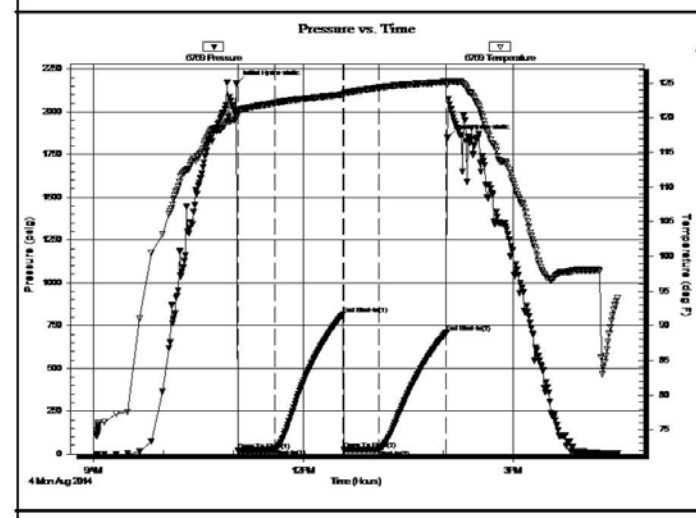
Formation: **Oread**
 Deviated: No Whipstock ft (KB)
 Time Tool Opened: 11:03:30
 Time Test Ended: 16:30:00
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Brandon Quintana
 Unit No: 49

Interval: **4019.00 ft (KB) To 4095.00 ft (KB) (TVD)**
 Total Depth: 4095.00 ft (KB) (TVD)
 Reference Elevations: 3216.00 ft (KB)
 Hole Diameter: 7.88 inches-Hole Condition: Fair
 KB to GR/CF: 5.00 ft

Serial #: 6769

Press@RunDepth: 28.46 psig @ ft (KB)
 Capacity: 8000.00 psig
 Start Date: 2014.08.04
 End Date: 2014.08.04
 Start Time: 09:02:05
 End Time: 16:29:59
 Time On Btm: 2014.08.04 @ 11:02:30
 Time Off Btm: 2014.08.04 @ 14:03:30

TEST COMMENT: 30 - IF - Opened w / surface blow , died back to nothing
 60 - ISI - No Return
 30 - FF - No Blow
 60 - FSI - No Return


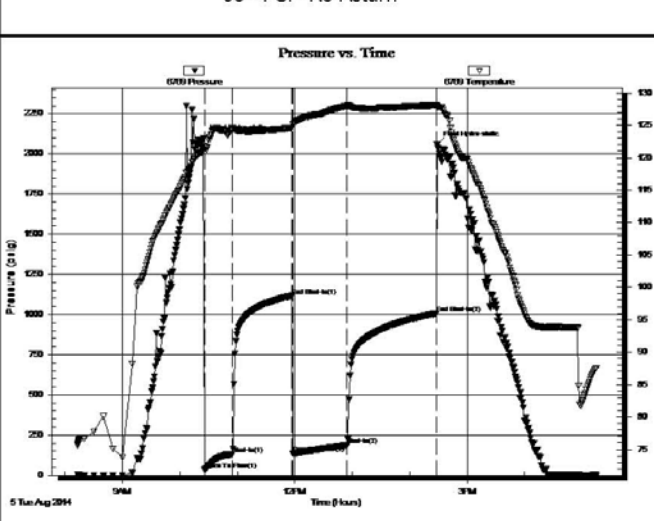


PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2163.62	120.14	Initial Hydro-static
1	20.48	120.98	Open To Flow (1)
33	29.03	122.13	Shut-In(1)
91	814.60	123.34	End Shut-In(1)
92	24.96	123.55	Open To Flow (2)
122	28.46	124.36	Shut-In(2)
180	710.05	125.19	End Shut-In(2)
181	1849.18	124.90	Final Hydro-static


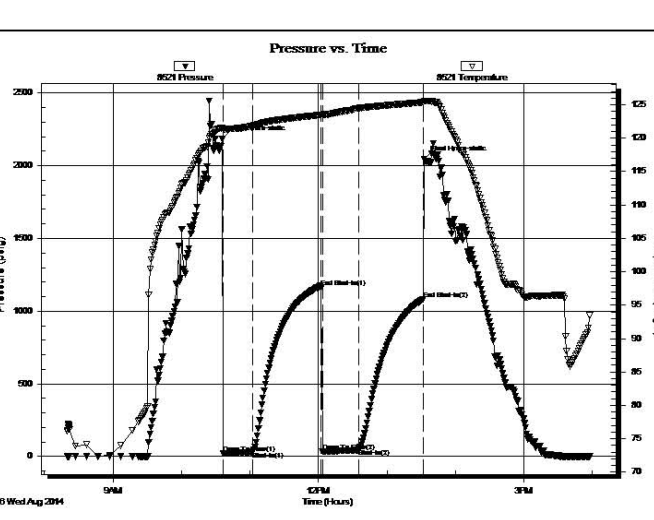
Recovery		
Length (ft)	Description	Volume (bbl)
2.00	100% mud	0.01

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


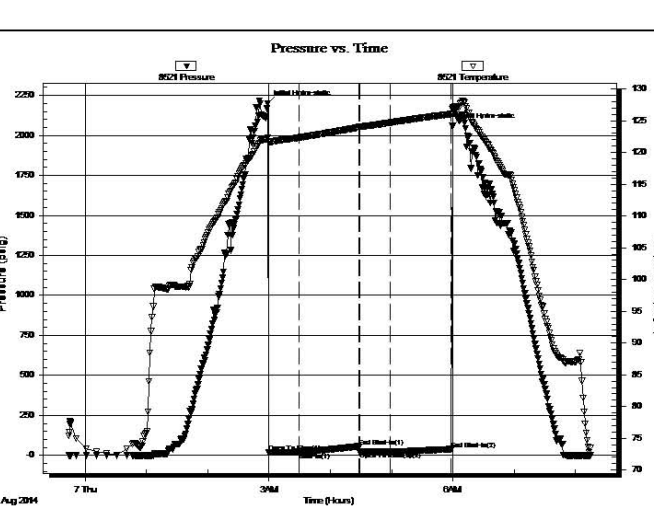
DST #2

	DRILL STEM TEST REPORT																																										
	Murfin Drig Co., Inc. 250 N. Water, Ste 300 Wichita, KS 67202 ATTN: Keith Reavis	6/1N/35W Ladenburger 'B' #1-6 Job Ticket: 51622 DST#: 2 Test Start: 2014.08.05 @ 08:13:00																																									
GENERAL INFORMATION: Formation: LKC "A-D" Deviated: No Whipstock ft (KB) Time Tool Opened: 10:25:30 Time Test Ended: 17:14:30 Test Type: Conventional Bottom Hole (Initial) Tester: Brandon Quintana Unit No: 49 Reference Elevations: 3216.00 ft (KB) 3211.00 ft (CF) KB to GR/CF: 5.00 ft Interval: 4116.00 ft (KB) To 4240.00 ft (KB) (TVD) Total Depth: 4240.00 ft (KB) (TVD) Hole Diameter: 7.88 inchesHole Condition: Fair																																											
Serial #: 6769 Outside Press@RunDepth: 186.02 psig @ 4117.00 ft (KB) Capacity: 8000.00 psig Start Date: 2014.08.05 End Date: 2014.08.05 Last Calib.: 2014.08.05 Start Time: 08:13:05 End Time: 17:14:30 Time On Btm: 2014.08.05 @ 10:24:30 Time Off Btm: 2014.08.05 @ 14:28:30																																											
TEST COMMENT: 30 - IF - Opened w/ surface blow , built to 9" 60 - ISI - No Return 60 - FF - Opened w/ surface blow , built to 9 3/4" 90 - FSI - No Return																																											
	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4">PRESSURE SUMMARY</th> </tr> <tr> <th>Time (Mn.)</th> <th>Pressure (psig)</th> <th>Temp (deg F)</th> <th>Annotation</th> </tr> </thead> <tbody> <tr><td>0</td><td>2096.42</td><td>121.05</td><td>Initial Hydro-static</td></tr> <tr><td>1</td><td>31.59</td><td>121.76</td><td>Open To Flow (1)</td></tr> <tr><td>30</td><td>131.21</td><td>124.37</td><td>Shut-In(1)</td></tr> <tr><td>92</td><td>1116.47</td><td>124.58</td><td>End Shut-In(1)</td></tr> <tr><td>93</td><td>134.35</td><td>125.10</td><td>Open To Flow (2)</td></tr> <tr><td>150</td><td>186.02</td><td>128.01</td><td>Shut-In(2)</td></tr> <tr><td>243</td><td>1007.15</td><td>128.13</td><td>End Shut-In(2)</td></tr> <tr><td>244</td><td>2056.53</td><td>127.88</td><td>Final Hydro-static</td></tr> </tbody> </table>		PRESSURE SUMMARY				Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation	0	2096.42	121.05	Initial Hydro-static	1	31.59	121.76	Open To Flow (1)	30	131.21	124.37	Shut-In(1)	92	1116.47	124.58	End Shut-In(1)	93	134.35	125.10	Open To Flow (2)	150	186.02	128.01	Shut-In(2)	243	1007.15	128.13	End Shut-In(2)	244	2056.53	127.88	Final Hydro-static	
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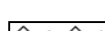










DST #3

	DRILL STEM TEST REPORT																																									
	Murfin Drig Co., Inc. 250 N. Water, Ste 300 Wichita, KS 67202 ATTN: Keith Reavis	6/1N/35W Ladenburger 'B' #1-6 Job Ticket: 51623 DST#: 3 Test Start: 2014.08.06 @ 08:20:00																																								
GENERAL INFORMATION: Formation: LKC "G-I" Deviated: No Whipstock ft (KB) Time Tool Opened: 10:36:30 Time Test Ended: 15:57:30 Test Type: Conventional Bottom Hole (Initial) Tester: Brandon Quintana Unit No: 49 Reference Elevations: 3216.00 ft (KB) 3211.00 ft (CF) KB to GR/CF: 5.00 ft Interval: 4236.00 ft (KB) To 4365.00 ft (KB) (TVD) Total Depth: 4365.00 ft (KB) (TVD) Hole Diameter: 7.88 inchesHole Condition: Fair																																										
Serial #: 8521 Inside Press@RunDepth: 50.65 psig @ 4237.00 ft (KB) Capacity: 8000.00 psig Start Date: 2014.08.06 End Date: 2014.08.06 Last Calib.: 2014.08.06 Start Time: 08:20:05 End Time: 15:57:29 Time On Btm: 2014.08.06 @ 10:35:30 Time Off Btm: 2014.08.06 @ 13:32:30																																										
TEST COMMENT: 30 - IF - Opened w/ surface blow , built to 1" in 20 min. 60 - ISI - No Return 30 - FF - No Blow 60 - FSI - No Return																																										
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DST #4

	DRILL STEM TEST REPORT																																									
	Murfin Drig Co., Inc. 250 N. Water, Ste 300 Wichita, KS 67202 ATTN: Keith Reavis	6/1N/35W Ladenburger 'B' #1-6 Job Ticket: 58366 DST#: 4 Test Start: 2014.08.06 @ 23:44:00																																								
GENERAL INFORMATION: Formation: LKC "J" Deviated: No Whipstock ft (KB) Time Tool Opened: 02:59:30 Time Test Ended: 08:15:00 Test Type: Conventional Bottom Hole (Initial) Tester: Brandon Quintana Unit No: 49 Reference Elevations: 3216.00 ft (KB) 3211.00 ft (CF) KB to GR/CF: 5.00 ft Interval: 4340.00 ft (KB) To 4395.00 ft (KB) (TVD) Total Depth: 4395.00 ft (KB) (TVD) Hole Diameter: 7.88 inchesHole Condition: Fair																																										
Serial #: 8521 Inside Press@RunDepth: 22.04 psig @ 4341.00 ft (KB) Capacity: 8000.00 psig Start Date: 2014.08.06 End Date: 2014.08.07 Last Calib.: 2014.08.07 Start Time: 23:44:05 End Time: 08:14:59 Time On Btm: 2014.08.07 @ 02:58:30 Time Off Btm: 2014.08.07 @ 05:59:30																																										
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ROCK TYPES

 Cht	 Lmst fw7>	 Carbon Sh	 Ss
 sdy lmst	 shale, grn	 shale, red	 Sltst
 Lmst fw<7	 shale, gry	 Shcol	

ACCESSORIES

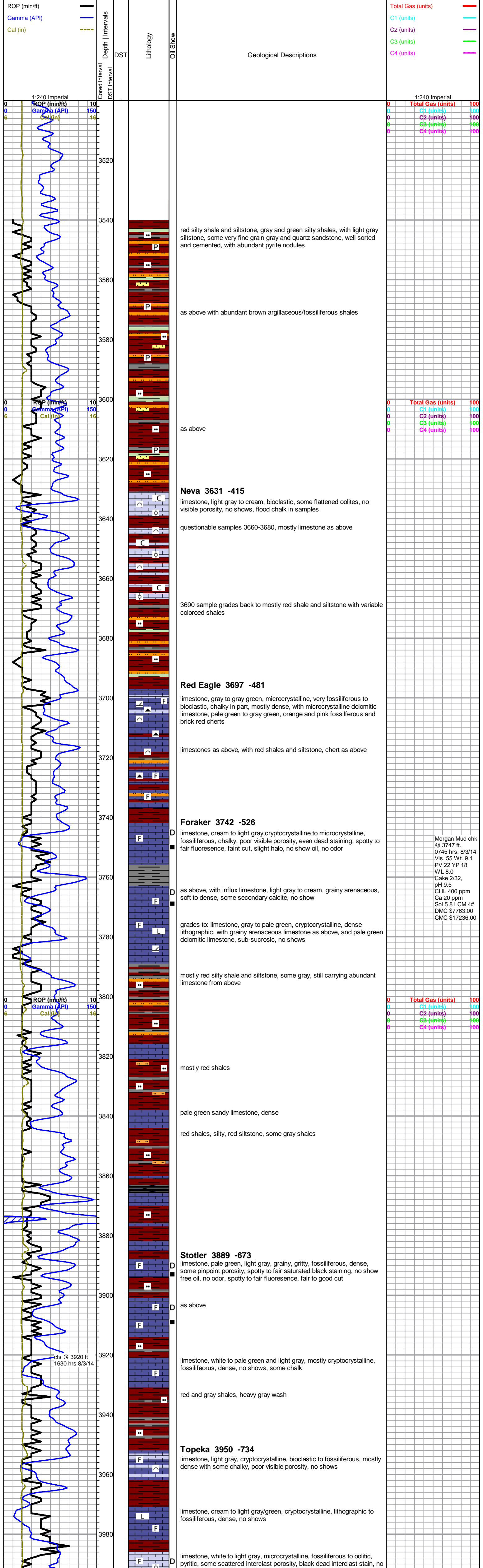
MINERAL	FOSSIL	STRINGER	TEXTURE
----------------	---------------	-----------------	----------------

- ▲ Chert, dark
- ▲ Dolomitic
- ▲ Pyrite
- ▲ Silty
- ▲ Chert White
- Bioclastic or Fragmenta
- Fossils < 20%
- Oolite
- Pellets
- Sandstone
- Siltstone
- Chalky
- Lithogr

OTHER SYMBOLS

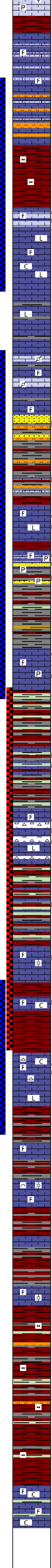
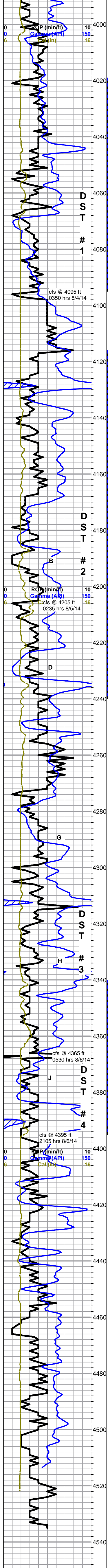
- | | | |
|--|---|---|
| <p>MISC</p> <ul style="list-style-type: none"> DR Daily Report Digital Photo Document Folder Link Vertical Log File Horizontal Log File Core Log File Drill Cuttings Rpt | <p>Oil Show</p> <ul style="list-style-type: none"> ● Good Show ● Fair Show ○ Poor Show ○ Spotted or Trace ○ Questionable Stn D Dead Oil Stn ■ Fluorescence * Gas | <p>DST</p> <ul style="list-style-type: none"> ■ DST Int ■ DST alt ■ Core ■ tail pipe |
|--|---|---|

Printed by GEOstrip VC Striplog version 4.0.8.15 (www.grsi.ca)



Morgan Mud chk
@ 3747 ft.
0745 hrs. 8/3/14
Vis. 55 Wt. 9.1
PV 22 YP 18
WL 8.0
Cake 2/32,
pH 9.5
CHL 400 ppm
Ca 20 ppm
Sol 5.8 LCM 4#
DMC \$7763.00
CMC \$17236.00

cfs @ 3920 ft
1630 hrs 8/3/14



show free oil, no odor, faint fluorescence, slow milky cut

limestone, white to light gray and pale green, microcrystalline, fossiliferous to sandy, dense, no shows

grading to limestone, maroon, cryptocrystalline, lithographic to sandy, with siltstone, maroon, dense to soft, no shows

red silty shale

Ladenburger B 1-6 dst 1.pdf

Oread 4065 -849

limestone, white to light gray, cryptocrystalline, fossiliferous, some fair solution vugs and spotty etching, spotty to fair wormy black stain, streaming sheen, poor to fair show heavy oil on break, slightly gassy, no odor, even fair fluorescence, good cut

grades to limestone, white to light gray, cryptocrystalline, lithographic to slightly fossiliferous, dense, some chalk, no shows

limestone to limy shale, gray to dark gray, cryptocrystalline, lithographic to arenaceous, dense, no shows

grades to limestone, light gray, cryptocrystalline, slightly fossiliferous, arenaceous in part, with limestone, gray, mottled, pelletal, chalky, no shows

sandstone to siltstone, light gray, very fine crystalline, silty, fair rounding, poor sorting, well cemented, scattered spotty to fair dead stain, no show free oil, no odor

gray and red silty shales, some scattered silt stones

as above, some staining in silt, with some light gray sandy limestones, chalky, some dead staining

Lansing 4171 -955

limestone, white to light gray, cryptocrystalline, fossiliferous to lithographic, chalky in part, mostly dense, scattered small vugs with stain, trace clingy oil, no odor even mineral fluorescence, good cut

limestone, white to light gray, crypto-microcrystalline, fossiliferous, pyritic, sandy in part, some secondary calcite xtals, some fair solution vug porosity with surface etching, fair to spotty stain, slight show free oil, no odor, even mineral fluorescence, good cut, with some sandstone, pale green to quartz, very fine grain, silty, well rounded, fair sorted, pyritic, saturated black dead stain

Ladenburger B 1-6 dst 2.pdf

limestone, cream to light gray, micro-cryptocrystalline, fossiliferous, some oolitic, pyritic, intercrystal fracturing and interclast porosity, spotty to good solution etching, spotty to saturated stain, fair sheen and slight show free oil, 1 piece bleeding and gassy, faint odor, scattered fair fluorescence, slow milky cut

red and green shales, heavy red wash, with some limestone, light gray, very fossiliferous to bioclastic, large clasts, poor interclast porosity, saturated black interclast staining, slight sheen on break, poor fluorescence, no odor, good cut

limestone, light gray to pale gray/green, cryptocrystalline, slightly fossiliferous to lithographic, some weathered, some bioclastic, weathered, fair brown to black surface stain and etching, some pinpoint porosity, with: chert, cream, fossiliferous in part, slight weathering to sharp, black and brown surface stain and etching, slight sheen in tray, poor fluorescence, fair milky streaming cut, no odor in wet cup

mixed shales and limestone, mostly pale green to light gray, some light surface stain, few pieces heavy tarry asphaltic stain, all fairly dense, no show free oil, no odor

Ladenburger B 1-6 dst 3.pdf

limestone, white to light gray, cryptocrystalline, fossiliferous to flattened oolitic, chalky in part, trace dead stain, no show oil and no odor, even light green fluorescence

limestone, light gray, crypto-microcrystalline, fossiliferous, some flattened oolitic, chalky and grainy in part, poor visible porosity, trace black asphaltic to dead stain, no show oil, no odor, even light green fluorescence

flood red shale with heavy red wash

limestone, white to light gray, recrystallized fossiliferous with chert nodules, very dense with sharp edges, solution etched and oily stained edges, some tarry clingy staining, trace free oil, good fluorescence, excellent cut with white limestone, fossiliferous, chalky, staining and show and fluorescence as limestone above, fleeting odor in wet cup, abundant chalk

lower part of J bench grades to pale green, cryptocrystalline, dense lithographic limestone

Stark 4385 -1169

Ladenburger B 1-6 dst 4.pdf

4420 sample, limestone, white to light gray, microcrystalline, fossiliferous, chalky in part, some dense tan oolitic, poor visible porosity, some chalk in samples, no shows

limestone, light gray to cream, bioclastic to oolitic, chalky in part, poor visible porosity, grading to limestone, light gray, fossiliferous, dense, some secondary calcite and light brown limestone, fossiliferous, dense to chalky, poor visible porosity, no shows

Base KC 4435 -1219

limestone, cream to light gray to pale green, grainy fossiliferous to oolitic, some arenaceous, poor visible porosity, no shows

red shales, some green and gray, silty, some light green to gray silt stone, samples wash red

as above

4535 sample and cfs samples, flood limestone, gray to white, mostly cryptocrystalline, fossiliferous, dense, abundant chalk, no shows, with: limestone, pale green arenaceous to pale green limy shale, no shows

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

Morgan Mud chk @ 4095 ft. 0800 hrs. 8/4/14. Vis. 48 Wt. 9.4. PV 14 YP 22. WL 8.4. Cake 2/32, pH 8.0. CHL 600 ppm. Ca 40 ppm. Sol 7.9 LCM 5#. DMC \$0.00. CMC \$17236.00

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

Morgan Mud chk @ 4240 ft. 0745 hrs. 8/5/14. Vis. 48 Wt. 9.3. PV 16 YP 18. WL 8.4. Cake 2/32, pH 8.5. CHL 600 ppm. Ca 30 ppm. Sol 7.2 LCM 6#. DMC \$216.00. CMC \$17452.00

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

Morgan Mud chk @ 4365 ft. 0745 hrs. 8/6/14. Vis. 69 Wt. 9.1. PV 20 YP 26. WL 8.0. Cake 2/32, pH 9.5. CHL 700 ppm. Ca 30 ppm. Sol 5.7 LCM 3#. DMC \$1839.00. CMC \$19291.00

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

Morgan Mud chk @ 4395 ft. 0800 hrs. 8/7/14. Vis. 43 Wt. 9.2. PV 18 YP 8. WL 8.0. Cake 2/32, pH 9.5. CHL 700 ppm. Ca 20 ppm. Sol 6.5 LCM 5#. DMC \$3050.00. CMC \$22341.00

Rotary TD 4535 ft @ 1907 hrs 8/7/14
Pioneer Wireline TD 4542 ft
Complete Logging Operation 0500 hrs 8/8/14



DRILL STEM TEST REPORT

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

250 N. Water, Ste 300
Wichita, KS 67202

ATTN: Keith Reavis

Ladenburger 'B' #1-6

6-1s-35w Rawlins,KS

Start Date: 2014.08.04 @ 09:02:00

End Date: 2014.08.04 @ 16:30:00

Job Ticket #: 51621 DST #: 1

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

Printed: 2014.08.08 @ 10:38:48



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drlg Co., Inc.
250 N. Water, Ste 300
Wichita, KS 67202
ATTN: Keith Reavis

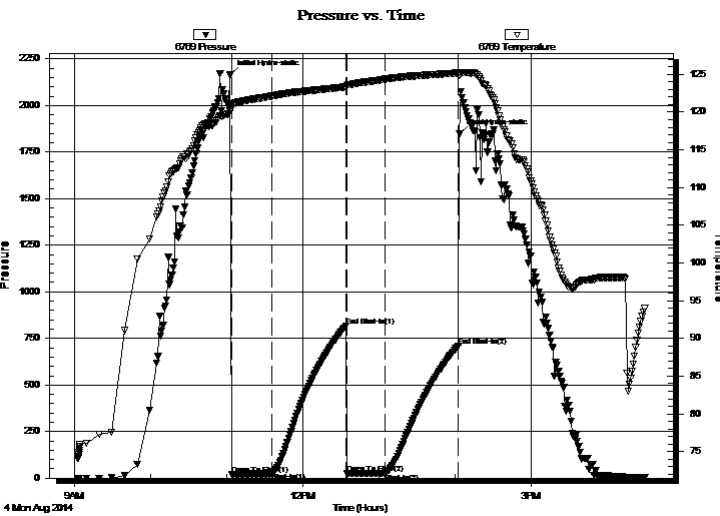
6-1s-35w Rawlins,KS
Ladenburger 'B' #1-6
Job Ticket: 51621 **DST#: 1**
Test Start: 2014.08.04 @ 09:02:00

GENERAL INFORMATION:

Formation: **Oread**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:03:30
Time Test Ended: 16:30:00
Interval: **4019.00 ft (KB) To 4095.00 ft (KB) (TVD)**
Total Depth: 4095.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Reference Elevations: 3216.00 ft (KB)
3211.00 ft (CF)
KB to GR/CF: 5.00 ft
Test Type: Conventional Bottom Hole (Initial)
Tester: Brandon Quintana
Unit No: 49

Serial #: 6769 Outside
Press@RunDepth: 28.46 psig @ 4020.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.08.04 End Date: 2014.08.04 Last Calib.: 2014.08.04
Start Time: 09:02:05 End Time: 16:29:59 Time On Btm: 2014.08.04 @ 11:02:30
Time Off Btm: 2014.08.04 @ 14:03:30

TEST COMMENT: 30 - IF - Opened w/ surface blow , died back to nothing
60 - ISI - No Return
30 - FF - No Blow
60 - FSI - No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2163.62	120.14	Initial Hydro-static
1	20.48	120.98	Open To Flow (1)
33	29.03	122.13	Shut-In(1)
91	814.60	123.34	End Shut-In(1)
92	24.96	123.55	Open To Flow (2)
122	28.46	124.36	Shut-In(2)
180	710.05	125.19	End Shut-In(2)
181	1849.18	124.90	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	100% mud	0.01

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drlg Co., Inc.
250 N. Water, Ste 300
Wichita, KS 67202
ATTN: Keith Reavis

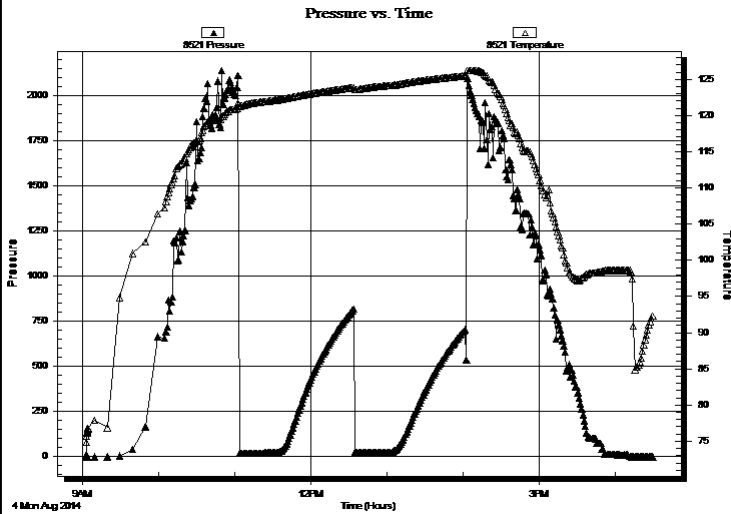
6-1s-35w Rawlins,KS
Ladenburger 'B' #1-6
Job Ticket: 51621 **DST#: 1**
Test Start: 2014.08.04 @ 09:02:00

GENERAL INFORMATION:

Formation: **Oread**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:03:30
Time Test Ended: 16:30:00
Interval: **4019.00 ft (KB) To 4095.00 ft (KB) (TVD)**
Total Depth: 4095.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Initial)
Tester: Brandon Quintana
Unit No: 49
Reference Elevations: 3216.00 ft (KB)
3211.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8521 Inside
Press@RunDepth: psig @ 4020.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.08.04 End Date: 2014.08.04 Last Calib.: 2014.08.04
Start Time: 09:02:05 End Time: 16:29:29 Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF - Opened w/ surface blow , died back to nothing
60 - ISI - No Return
30 - FF - No Blow
60 - FSI - No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
2.00	100% mud	0.01

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drlg Co., Inc.

6-1s-35w Rawlins,KS

250 N. Water, Ste 300
Wichita, KS 67202

Ladenburger 'B' #1-6

Job Ticket: 51621

DST#: 1

ATTN: Keith Reavis

Test Start: 2014.08.04 @ 09:02:00

Tool Information

Drill Pipe:	Length: 3834.84 ft	Diameter: 3.80 inches	Volume: 53.79 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: 186.60 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 54.71 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.44 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4019.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	76.00 ft			
Tool Length:	103.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3997.00	
Hydraulic tool	5.00			4002.00	
Jars	5.00			4007.00	
Safety Joint	3.00			4010.00	
Packer	5.00			4015.00	27.00 Bottom Of Top Packer
Packer	4.00			4019.00	
Stubb	1.00			4020.00	
Recorder	0.00	8521	Inside	4020.00	
Recorder	0.00	6769	Outside	4020.00	
Perforations	7.00			4027.00	
Change Over Sub	1.00			4028.00	
Drill Pipe	63.00			4091.00	
Change Over Sub	1.00			4092.00	
Bullnose	3.00			4095.00	76.00 Bottom Packers & Anchor

Total Tool Length: 103.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drlg Co., Inc.

6-1s-35w Rawlins,KS

250 N. Water, Ste 300
Wichita, KS 67202

Ladenburger 'B' #1-6

Job Ticket: 51621

DST#: 1

ATTN: Keith Reavis

Test Start: 2014.08.04 @ 09:02:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.96 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 400.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	100%mud	0.010

Total Length: 2.00 ft Total Volume: 0.010 bbl

Num Fluid Samples: 0

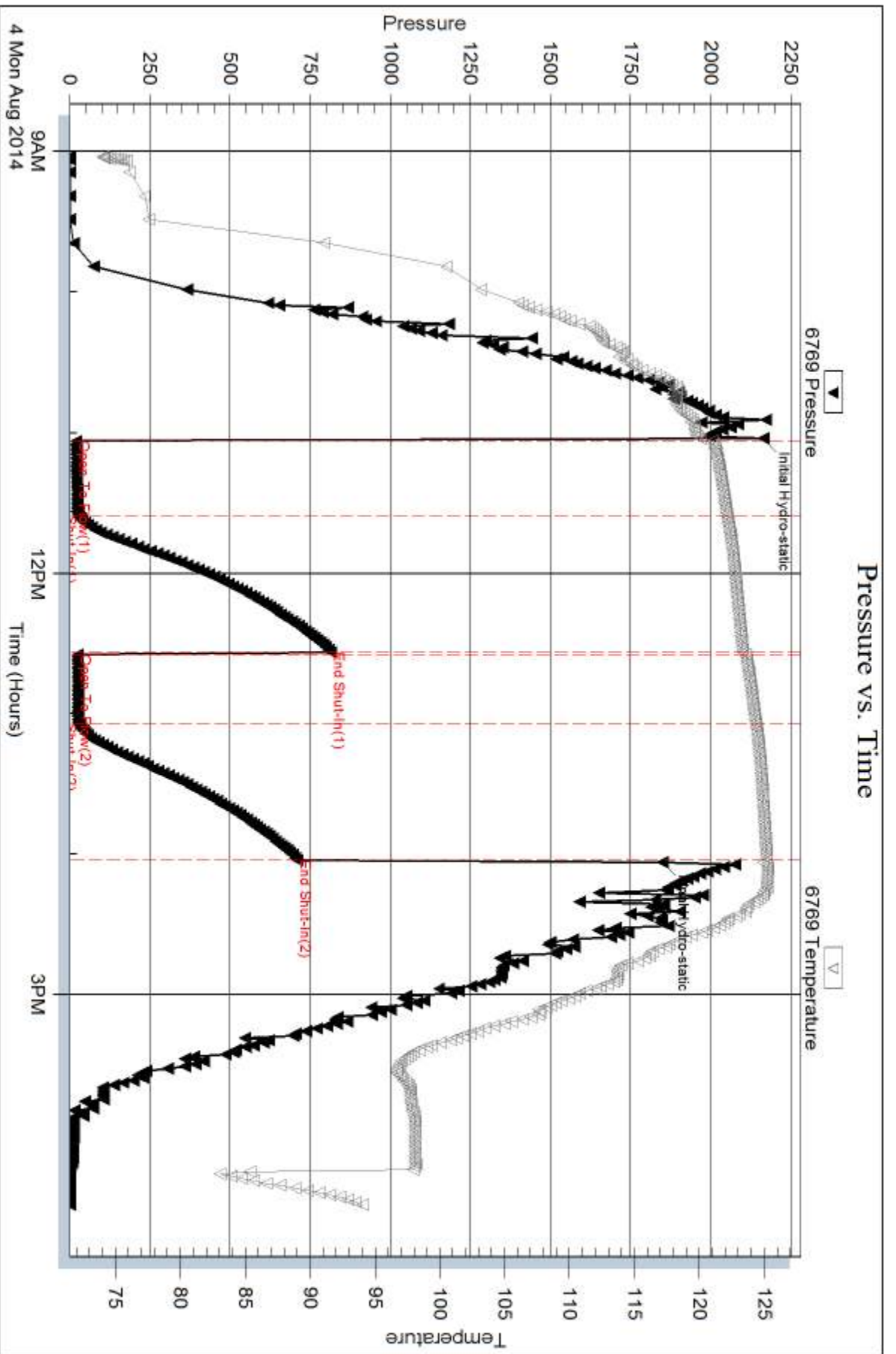
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



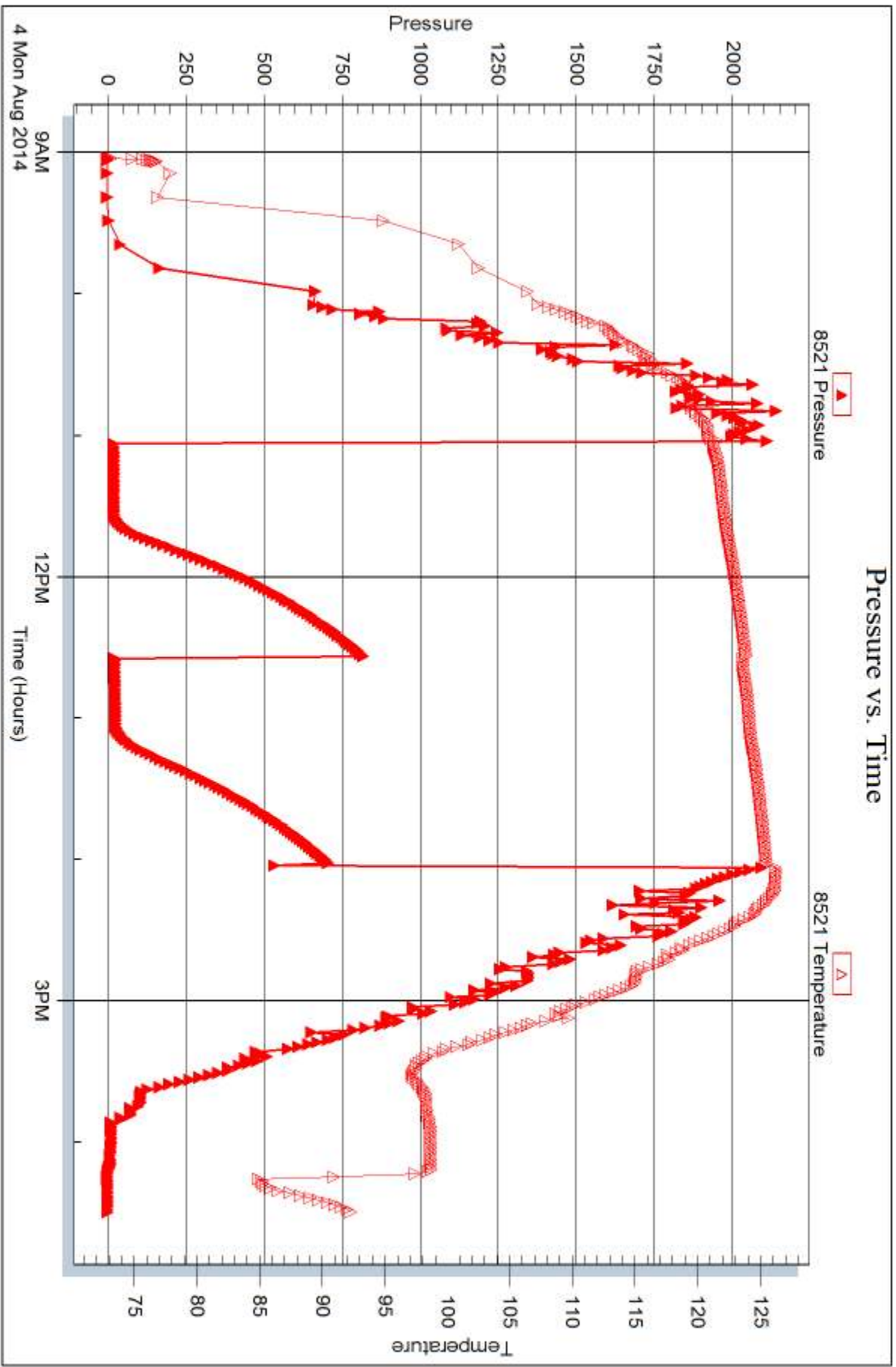
Serial #: 8521

Inside

Murfin Dtg Co., Inc.

Ladenburger 'B' #1-6

DST Test Number: 1





DRILL STEM TEST REPORT

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

250 N. Water, Ste 300
Wichita, KS 67202

ATTN: Keith Reavis

Ladenburger 'B' #1-6

6-1s-35w Rawlins,KS

Start Date: 2014.08.05 @ 08:13:00

End Date: 2014.08.05 @ 17:14:30

Job Ticket #: 51622 DST #: 2

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

Printed: 2014.08.08 @ 10:38:25



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drlg Co., Inc.
 250 N. Water, Ste 300
 Wichita, KS 67202
 ATTN: Keith Reavis

6-1s-35w Rawlins,KS
Ladenburger 'B' #1-6
 Job Ticket: 51622 **DST#: 2**
 Test Start: 2014.08.05 @ 08:13:00

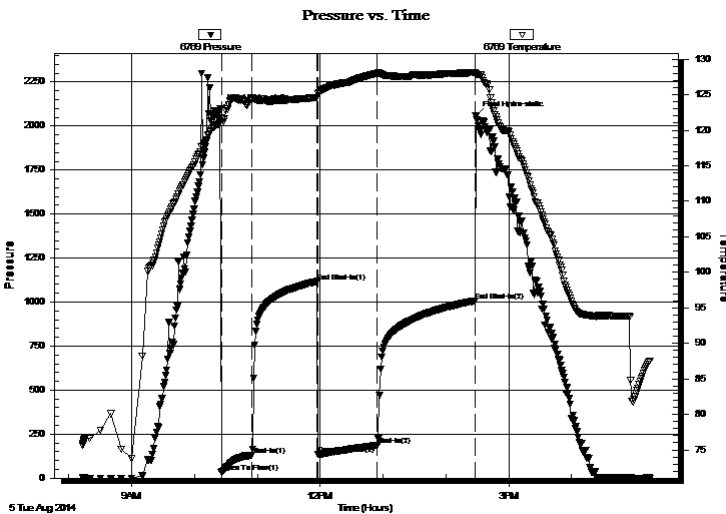
GENERAL INFORMATION:

Formation: **LKC "A-D"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 10:25:30
 Time Test Ended: 17:14:30
 Interval: **4116.00 ft (KB) To 4240.00 ft (KB) (TVD)**
 Total Depth: 4240.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Brandon Quintana
 Unit No: 49
 Reference Elevations: 3216.00 ft (KB)
 3211.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 6769 Outside
 Press@RunDepth: 186.02 psig @ 4117.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.08.05 End Date: 2014.08.05 Last Calib.: 2014.08.05
 Start Time: 08:13:05 End Time: 17:14:30 Time On Btm: 2014.08.05 @ 10:24:30
 Time Off Btm: 2014.08.05 @ 14:28:30

TEST COMMENT: 30 - IF - Opened w/ surface blow , built to 9"
 60 - ISI - No Return
 60 - FF - Opened w/ surface blow , built to 9 3/4"
 90 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2096.42	121.05	Initial Hydro-static
1	31.59	121.76	Open To Flow (1)
30	131.21	124.37	Shut-In(1)
92	1116.47	124.58	End Shut-In(1)
93	134.35	125.10	Open To Flow (2)
150	186.02	128.01	Shut-In(2)
243	1007.15	128.13	End Shut-In(2)
244	2056.53	127.88	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
183.00	MW 67%w , 33%m	0.90
174.00	100%m w / oil spots	2.41

Gas Rates

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



DRILL STEM TEST REPORT

Murfin Drlg Co., Inc.
 250 N. Water, Ste 300
 Wichita, KS 67202
 ATTN: Keith Reavis

6-1s-35w Rawlins,KS
Ladenburger 'B' #1-6
 Job Ticket: 51622 **DST#: 2**
 Test Start: 2014.08.05 @ 08:13:00

GENERAL INFORMATION:

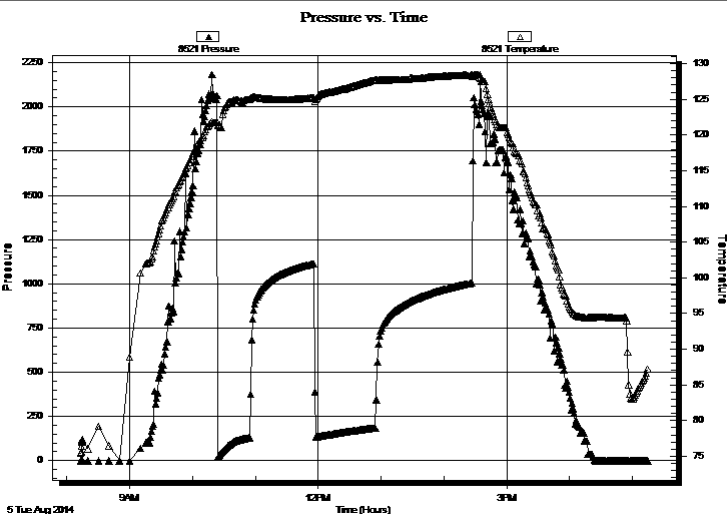
Formation: LKC "A-D"		
Deviated: No Whipstock: ft (KB)	Test Type: Conventional Bottom Hole (Initial)	
Time Tool Opened: 10:25:30	Tester: Brandon Quintana	
Time Test Ended: 17:14:30	Unit No: 49	
Interval: 4116.00 ft (KB) To 4240.00 ft (KB) (TVD)	Reference Elevations: 3216.00 ft (KB)	
Total Depth: 4240.00 ft (KB) (TVD)	3211.00 ft (CF)	
Hole Diameter: 7.88 inches	Hole Condition: Fair	KB to GR/CF: 5.00 ft

Serial #: 8521

Inside

Press@RunDepth: psig @ 4117.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2014.08.05	End Date: 2014.08.05
Start Time: 08:13:05	End Time: 17:14:30
	Last Calib.: 2014.08.05
	Time On Btm:
	Time Off Btm:

TEST COMMENT: 30 - IF - Opened w/ surface blow , built to 9"
 60 - ISI - No Return
 60 - FF - Opened w/ surface blow , built to 9 3/4"
 90 - FSI - No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
183.00	MW 67%w , 33%m	0.90
174.00	100%m w / oil spots	2.41

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drlg Co., Inc.

6-1s-35w Rawlins,KS

250 N. Water, Ste 300
Wichita, KS 67202

Ladenburger 'B' #1-6

Job Ticket: 51622

DST#: 2

ATTN: Keith Reavis

Test Start: 2014.08.05 @ 08:13:00

Tool Information

Drill Pipe:	Length: 3929.40 ft	Diameter: 3.80 inches	Volume: 55.12 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: 186.60 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 56.04 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4116.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	124.00 ft			
Tool Length:	151.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4094.00	
Hydraulic tool	5.00			4099.00	
Jars	5.00			4104.00	
Safety Joint	3.00			4107.00	
Packer	5.00			4112.00	27.00 Bottom Of Top Packer
Packer	4.00			4116.00	
Stubb	1.00			4117.00	
Recorder	0.00	8521	Inside	4117.00	
Recorder	0.00	6769	Outside	4117.00	
Perforations	23.00			4140.00	
Change Over Sub	1.00			4141.00	
Drill Pipe	95.00			4236.00	
Change Over Sub	1.00			4237.00	
Bullnose	3.00			4240.00	124.00 Bottom Packers & Anchor

Total Tool Length: 151.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drlg Co., Inc.

6-1s-35w Rawlins,KS

250 N. Water, Ste 300
Wichita, KS 67202

Ladenburger 'B' #1-6

Job Ticket: 51622

DST#: 2

ATTN: Keith Reavis

Test Start: 2014.08.05 @ 08:13:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbf

Water Loss: 8.38 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 bbf
183.00	MW 67%w , 33%m	0.900
174.00	100%m w / oil spots	2.408

Total Length: 357.00 ft

Total Volume: 3.308 bbf

Num Fluid Samples: 0

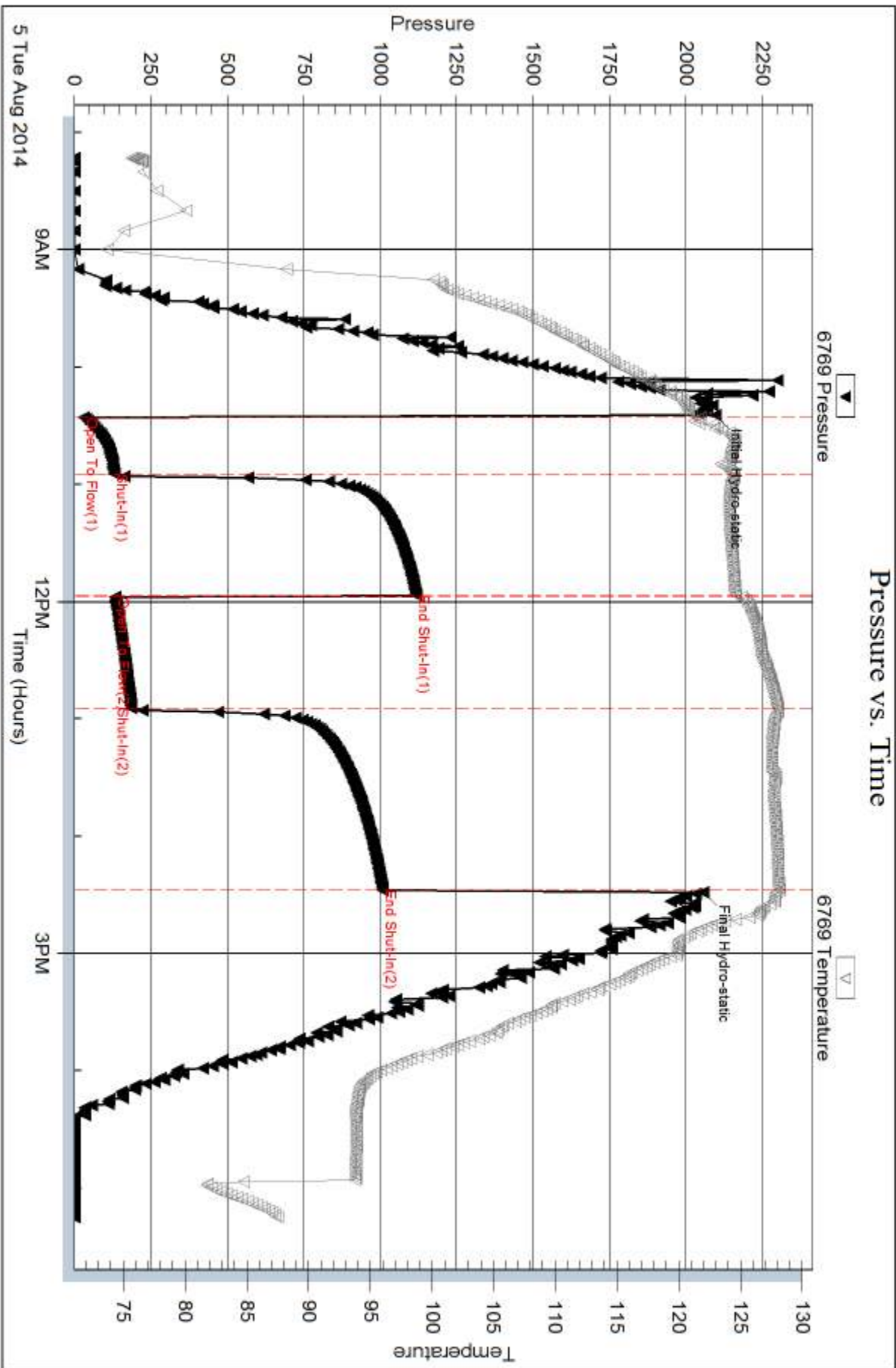
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



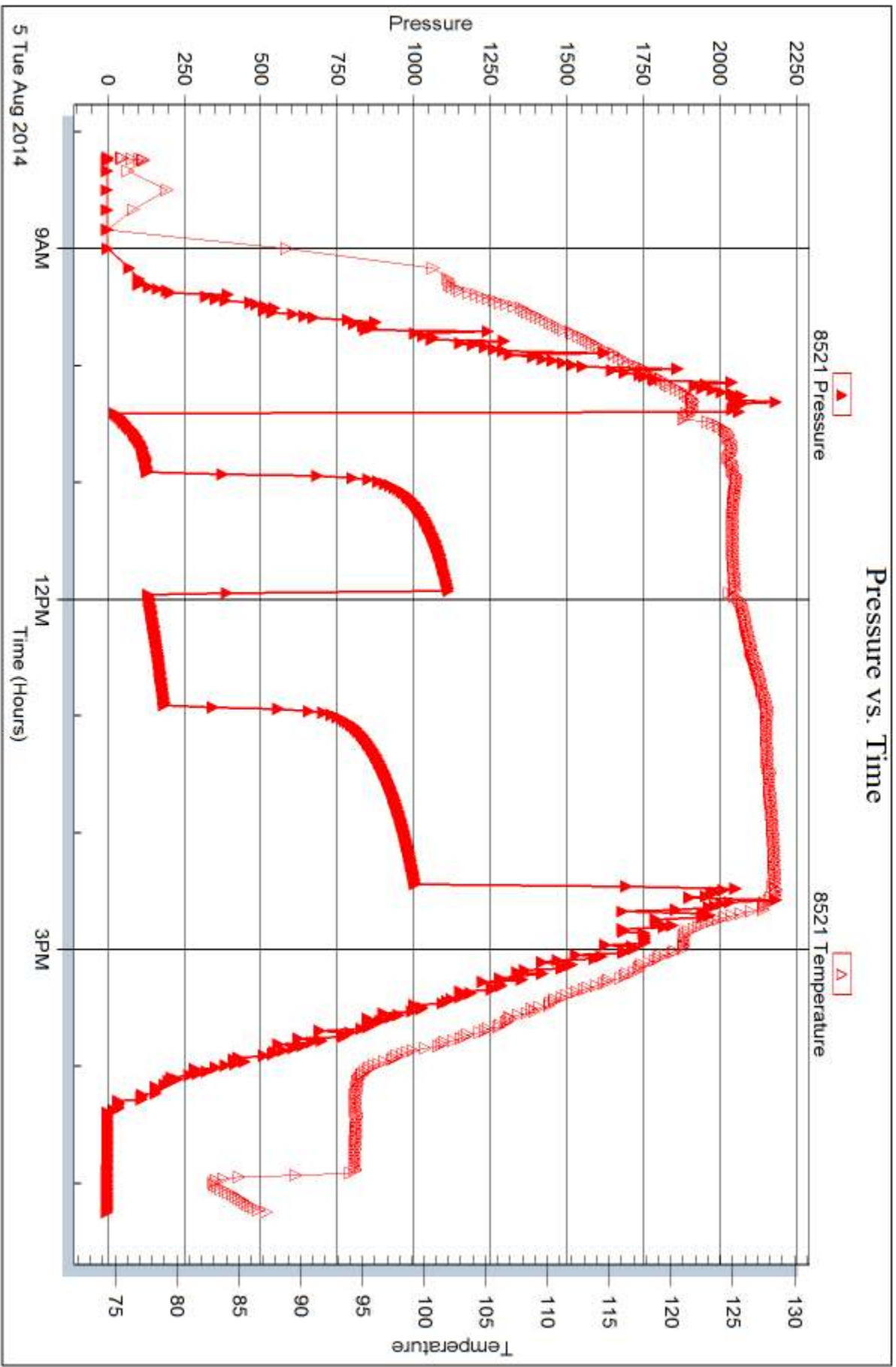
Serial #: 8521

Inside

Murfin Dtg Co., Inc.

Ladenburger 'B' #1-6

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 51622

Printed: 2014.08.08 @ 10:38:27



DRILL STEM TEST REPORT

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

250 N. Water, Ste 300
Wichita, KS 67202

ATTN: Keith Reavis

Ladenburger 'B' #1-6

6-1s-35w Rawlins,KS

Start Date: 2014.08.06 @ 08:20:00

End Date: 2014.08.06 @ 15:57:30

Job Ticket #: 51623 DST #: 3

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

Printed: 2014.08.08 @ 10:37:49

Murfin Drlg Co., Inc.
6-1s-35w Rawlins,KS
Ladenburger 'B' #1-6
DST # 3
LKC "G-I"
2014.08.06



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drlg Co., Inc.
250 N. Water, Ste 300
Wichita, KS 67202
ATTN: Keith Reavis

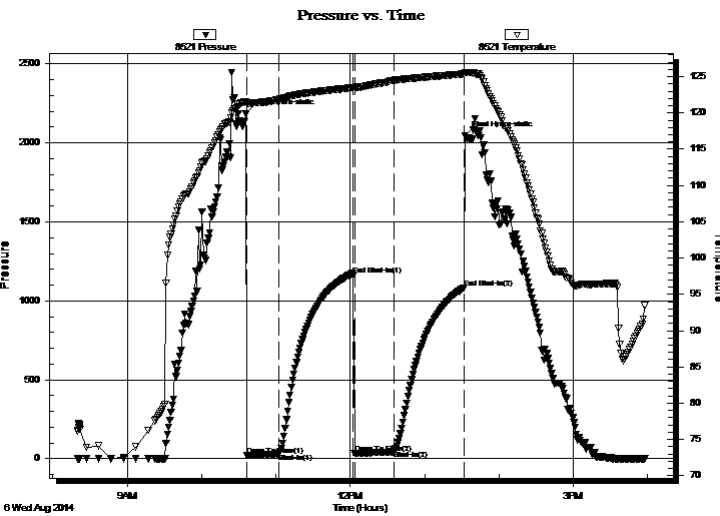
6-1s-35w Rawlins,KS
Ladenburger 'B' #1-6
Job Ticket: 51623 **DST#: 3**
Test Start: 2014.08.06 @ 08:20:00

GENERAL INFORMATION:

Formation: **LKC "G-I"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 10:36:30
Time Test Ended: 15:57:30
Interval: **4236.00 ft (KB) To 4365.00 ft (KB) (TVD)**
Total Depth: 4365.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Initial)
Tester: Brandon Quintana
Unit No: 49
Reference Elevations: 3216.00 ft (KB)
3211.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8521 Inside
Press@RunDepth: 50.65 psig @ 4237.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.08.06 End Date: 2014.08.06 Last Calib.: 2014.08.06
Start Time: 08:20:05 End Time: 15:57:29 Time On Btm: 2014.08.06 @ 10:35:30
Time Off Btm: 2014.08.06 @ 13:32:30

TEST COMMENT: 30 - IF - Opened w/ surface blow , built to 1" in 20 min.
60 - ISI - No Return
30 - FF - No Blow
60 - FSI - No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2182.85	121.52	Initial Hydro-static
1	21.29	121.36	Open To Flow (1)
27	32.10	121.87	Shut-In(1)
87	1163.53	123.48	End Shut-In(1)
88	34.32	123.52	Open To Flow (2)
120	50.65	124.49	Shut-In(2)
176	1081.63	125.37	End Shut-In(2)
177	2046.95	125.58	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	100% m w / oil spots	0.20

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drlg Co., Inc.

6-1s-35w Rawlins,KS

250 N. Water, Ste 300
Wichita, KS 67202

Ladenburger 'B' #1-6

Job Ticket: 51623

DST#: 3

ATTN: Keith Reavis

Test Start: 2014.08.06 @ 08:20:00

Tool Information

Drill Pipe:	Length: 4054.00 ft	Diameter: 3.80 inches	Volume: 56.87 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: 186.60 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 57.79 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.60 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4236.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	129.00 ft			
Tool Length:	156.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4214.00	
Hydraulic tool	5.00			4219.00	
Jars	5.00			4224.00	
Safety Joint	3.00			4227.00	
Packer	5.00			4232.00	27.00 Bottom Of Top Packer
Packer	4.00			4236.00	
Stubb	1.00			4237.00	
Recorder	0.00	8521	Inside	4237.00	
Recorder	0.00	6769	Outside	4237.00	
Perforations	28.00			4265.00	
Change Over Sub	1.00			4266.00	
Drill Pipe	95.00			4361.00	
Change Over Sub	1.00			4362.00	
Bullnose	3.00			4365.00	129.00 Bottom Packers & Anchor

Total Tool Length: 156.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drlg Co., Inc.

6-1s-35w Rawlins,KS

250 N. Water, Ste 300
Wichita, KS 67202

Ladenburger 'B' #1-6

Job Ticket: 51623

DST#: 3

ATTN: Keith Reavis

Test Start: 2014.08.06 @ 08:20:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.38 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
40.00	100% m w / oil spots	0.197

Total Length: 40.00 ft Total Volume: 0.197 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8521

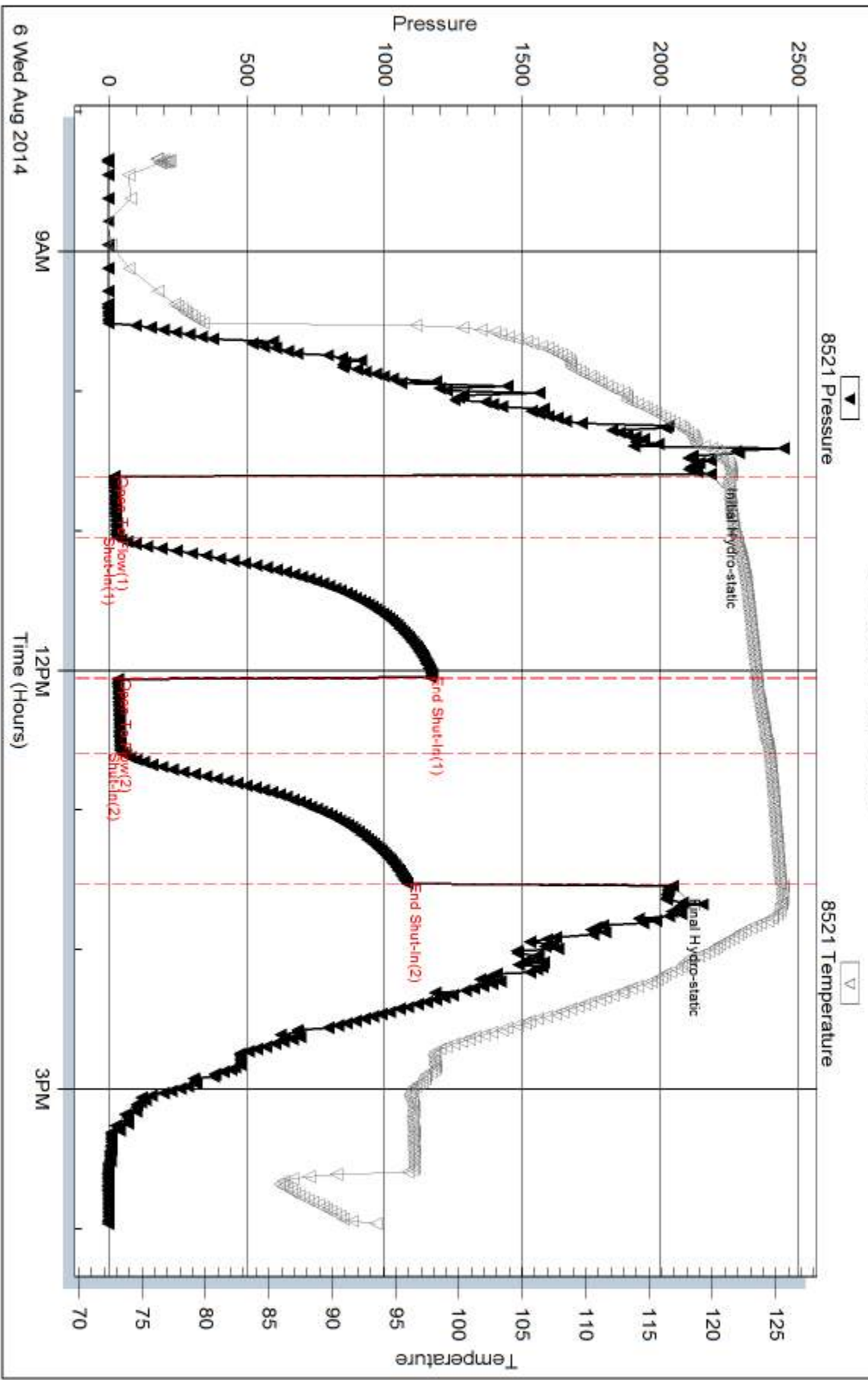
Inside

Murfin Drtg Co., Inc.

Ladenburger 'B' #1-6

DST Test Number: 3

Pressure vs. Time





DRILL STEM TEST REPORT

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

250 N. Water, Ste 300
Wichita, KS 67202

ATTN: Keith Reavis

Ladenburger 'B' #1-6

6-1s-35w Rawlins,KS

Start Date: 2014.08.06 @ 23:44:00

End Date: 2014.08.07 @ 08:15:00

Job Ticket #: 58366 DST #: 4

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

Printed: 2014.08.08 @ 10:30:52



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drlg Co., Inc.

6-1s-35w Rawlins,KS

250 N. Water, Ste 300
Wichita, KS 67202

Ladenburger 'B' #1-6

Job Ticket: 58366

DST#: 4

ATTN: Keith Reavis

Test Start: 2014.08.06 @ 23:44:00

GENERAL INFORMATION:

Formation: **LKC "J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:59:30

Time Test Ended: 08:15:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Quintana

Unit No: 49

Interval: 4340.00 ft (KB) To 4395.00 ft (KB) (TVD)

Reference Elevations: 3216.00 ft (KB)

Total Depth: 4395.00 ft (KB) (TVD)

3211.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8521

Inside

Press@RunDepth: 22.04 psig @ 4341.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.06

End Date:

2014.08.07

Last Calib.:

2014.08.07

Start Time:

23:44:05

End Time:

08:14:59

Time On Btm:

2014.08.07 @ 02:58:30

Time Off Btm:

2014.08.07 @ 05:59:30

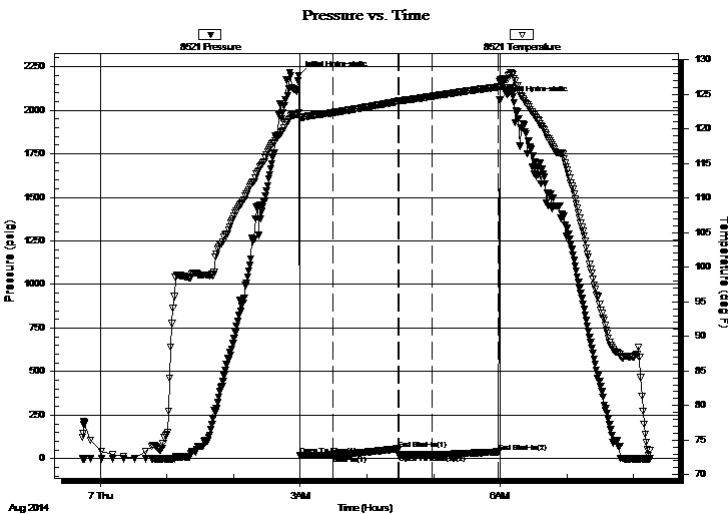
TEST COMMENT: 30 - IF - Opened w/ surface blow , built to 1/4"

60 - ISI - No Return

30 - FF - No Blow

60 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2199.46	122.36	Initial Hydro-static
1	19.56	121.74	Open To Flow (1)
31	20.30	122.35	Shut-In(1)
89	51.36	123.93	End Shut-In(1)
90	21.78	124.00	Open To Flow (2)
120	22.04	124.70	Shut-In(2)
180	39.09	126.05	End Shut-In(2)
181	2057.74	126.88	Final Hydro-static

Recovery

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

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drlg Co., Inc.

6-1s-35w Rawlins,KS

250 N. Water, Ste 300
Wichita, KS 67202

Ladenburger 'B' #1-6

Job Ticket: 58366

DST#: 4

ATTN: Keith Reavis

Test Start: 2014.08.06 @ 23:44:00

Tool Information

Drill Pipe:	Length: 4149.00 ft	Diameter: 3.80 inches	Volume: 58.20 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: 186.60 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 59.12 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.60 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4340.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	55.00 ft			
Tool Length:	82.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4318.00	
Hydraulic tool	5.00			4323.00	
Jars	5.00			4328.00	
Safety Joint	3.00			4331.00	
Packer	5.00			4336.00	27.00 Bottom Of Top Packer
Packer	4.00			4340.00	
Stubb	1.00			4341.00	
Recorder	0.00	8521	Inside	4341.00	
Recorder	0.00	6769	Outside	4341.00	
Perforations	17.00			4358.00	
Change Over Sub	1.00			4359.00	
Drill Pipe	32.00			4391.00	
Change Over Sub	1.00			4392.00	
Bullnose	3.00			4395.00	55.00 Bottom Packers & Anchor

Total Tool Length: 82.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drlg Co., Inc.

6-1s-35w Rawlins,KS

250 N. Water, Ste 300
Wichita, KS 67202

Ladenburger 'B' #1-6

Job Ticket: 58366

DST#: 4

ATTN: Keith Reavis

Test Start: 2014.08.06 @ 23:44:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 69.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 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
5.00	100% mud	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

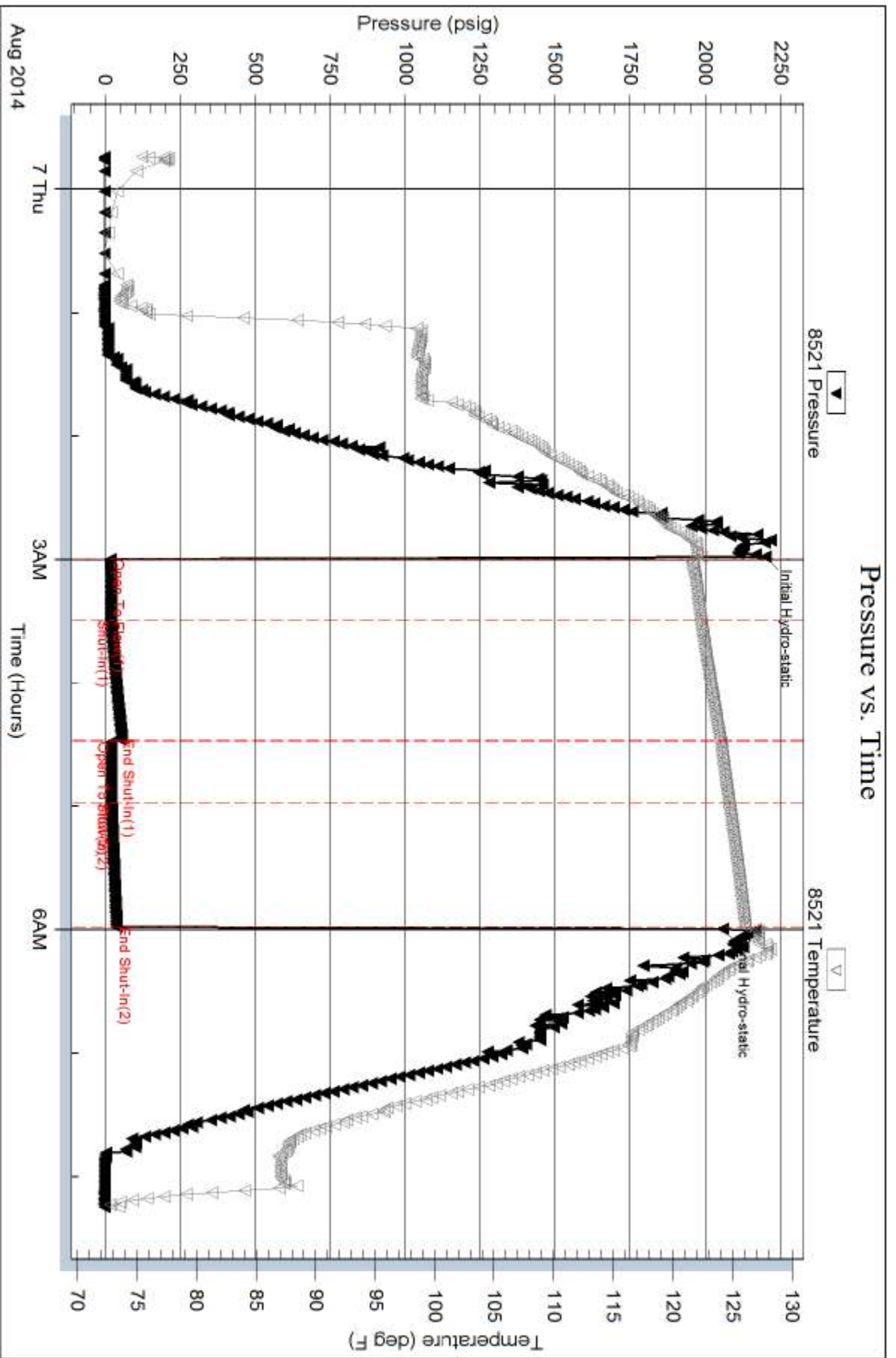
Serial #: 8521

Inside

Murfin Drtg Co., Inc.

Ladenburger 'B' #1-6

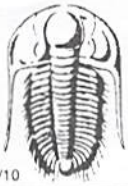
DST Test Number: 4



Tribble Testing, Inc

Ref. No: 58366

Printed: 2014.08.08 @ 10:30:53



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51621

Well Name & No. Ladenburger 'B' #1-6 Test No. 1 Date 8-4-14
 Company Murfin Drilg Co., Inc. Elevation 3216 KB 3211 GL
 Address 250 N. Water, STE 300 Wichita, KS 67202
 Co. Rep / Geo. Keith Reavis Rig Murfin #7
 Location: Sec. 6 Twp. 1N Rge. 35W Co. Rawlins State KS

Interval Tested 4019 - 4095 Zone Tested Oread
 Anchor Length 76' Drill Pipe Run 3834.84 Mud Wt. 9.1
 Top Packer Depth 4014 Drill Collars Run 186.6 Vis 55
 Bottom Packer Depth 4019 Wt. Pipe Run — WL 8
 Total Depth 4095 Chlorides 400 ppm System LCM 4

Blow Description IF - Opened w/ surface blow, died back to nothing
ISI - No Return
FF - No Blow
FSI - No Return

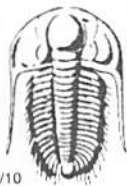
Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 2 BHT 125 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2163 Test 1250 T-On Location 7:45 AM
 (B) First Initial Flow 20 Jars 250 T-Started 9:02 AM
 (C) First Final Flow 29 Safety Joint 75 T-Open 11:04 AM
 (D) Initial Shut-In 814 Circ Sub _____ T-Pulled 2:04 PM
 (E) Second Initial Flow 24 Hourly Standby _____ T-Out 4:30 PM
 (F) Second Final Flow 28 Mileage 113 R.T. 175.15 Comments _____
 (G) Final Shut-In 710 Sampler _____
 (H) Final Hydrostatic 1849 Straddle _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 30 Shale Packer _____
 Initial Shut-In 60 Extra Packer _____
 Final Flow 30 Extra Recorder _____
 Final Shut-In 60 Day Standby _____
 Accessibility _____
 Sub Total 1750.15 Total 1750.15 MP/DST Disc't _____

Approved By _____ Our Representative Burdie Quire

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51622

Well Name & No. Ladenburger 'B' #1-6 Test No. 2 Date 8-5-14
 Company Murfin Drly Co., Inc. Elevation 3216 KB 3211 GL
 Address 250 N. Water, STE 300 Wichita, KS 67202
 Co. Rep / Geo. Keith Reavis Rig Murfin #7
 Location: Sec. 6 Twp. 1N Rge. 35W Co. Rawlins State KS

Interval Tested 4116-4240 Zone Tested LKC "A-D"
 Anchor Length 124' Drill Pipe Run 3929.4 Mud Wt. 9.4
 Top Packer Depth 4111 Drill Collars Run 186.6 Vis 48
 Bottom Packer Depth 4116 Wt. Pipe Run — WL 8.4
 Total Depth 4240 Chlorides 600 ppm System LCM 5

Blow Description IF-Opened w/ surface blow, built to 9"
ISI- No Return
FF-Opened w/ surface blow, built to 9 3/4"
FSI- No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>174</u>	<u>Mud w/ oil spots</u>			<u>100</u>	
<u>183</u>	<u>MW</u>			<u>67</u>	<u>33</u>

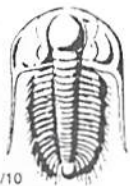
Rec Total 351 BHT 128 Gravity _____ API RW .125 @ 96.2 °F Chlorides 45,000 ppm

(A) Initial Hydrostatic 2096 Test 1250 T-On Location 8:00 AM
 (B) First Initial Flow 31 Jars 250 T-Started 8:13 AM
 (C) First Final Flow 131 Safety Joint 75 T-Open 10:26 AM
 (D) Initial Shut-In 1116 Circ Sub _____ T-Pulled 2:26 PM
 (E) Second Initial Flow 134 Hourly Standby _____ T-Out 5:15 PM
 (F) Second Final Flow 186 Mileage 113 R.T. 175.15 Comments _____
 (G) Final Shut-In 1007 Sampler _____
 (H) Final Hydrostatic 2056 Straddle _____

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1750.15
 Sub Total 1750.15
 Total 1750.15
 MP/DST Disc't _____

Approved By _____ Our Representative Bud Atz

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51623

Well Name & No. Ladenburger 'B' #1-6 Test No. 3 Date 8-6-14
 Company Murfin Drilg. Co., Inc. Elevation 3216 - KB 3211 GL
 Address 250 N. Water, STE 300 Wichita, KS 67202
 Co. Rep / Geo. Keith Reavis Rig Murfin #7
 Location: Sec. 6 Twp. 1N Rge. 35W Co. Rawlins State KS

Interval Tested 4236 - 4365 Zone Tested LKC "G-I"
 Anchor Length 129' Drill Pipe Run 4054 Mud Wt. 9.3
 Top Packer Depth 4231 Drill Collars Run 186.6 Vis 48
 Bottom Packer Depth 4236 Wt. Pipe Run — WL 8.4
 Total Depth 4365 Chlorides 600 ppm System LCM 6
 Blow Description IF - Opened w/ surface blow, built to 1" in 20"
ISI - No Return
FF - No Blow
FST - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>40</u>	<u>Mud w/ oil spots</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 40 BHT 125 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2182 Test 1250 T-On Location 8:15 AM
 (B) First Initial Flow 21 Jars 250 T-Started 8:20 AM
 (C) First Final Flow 32 Safety Joint 75 T-Open 10:37 AM
 (D) Initial Shut-In 1163 Circ Sub _____ T-Pulled 1:37 PM
 (E) Second Initial Flow 34 Hourly Standby _____ T-Out 3:58 PM
 (F) Second Final Flow 50 Mileage 113 R.T. 175.15 Comments _____
 (G) Final Shut-In 1081 Sampler _____
 (H) Final Hydrostatic 2046 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 60

Sub Total 1750.15 MP/DST Disc't _____

Approved By _____ Our Representative Bud Oitz

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **58366**

Well Name & No. Ladenburger 'B' #1-6 Test No. 4 Date 8-6-14
 Company Murfin Drly Co., Inc. Elevation 3216 KB 3211 GL
 Address 250 N. Water, STE 300 Wichita, KS 67202
 Co. Rep / Geo. Keith Reavis Rig Murfin #7
 Location: Sec. 6 Twp. 1N Rge. 35W Co. Rawlins State KS

Interval Tested 4340-4395 Zone Tested LKC "J"
 Anchor Length 55' Drill Pipe Run 4149 Mud Wt. 9.1
 Top Packer Depth 4335 Drill Collars Run 186.6 Vis 69
 Bottom Packer Depth 4340 Wt. Pipe Run — WL 8
 Total Depth 4395 Chlorides 700 ppm System LCM 3
 Blow Description IF-Opened w/ surface blow, built to '14"
ISI- No Return
FF- No Blow
FSI- 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 126 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2199</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>11:00 PM</u>
(B) First Initial Flow <u>19</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>11:44 PM</u>
(C) First Final Flow <u>20</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>3:00 AM</u>
(D) Initial Shut-In <u>51</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>6:00 AM</u>
(E) Second Initial Flow <u>21</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>8:15 AM</u>
(F) Second Final Flow <u>22</u>	<input checked="" type="checkbox"/> Mileage <u>113 P.T. 175.15</u>	Comments <u>Picked up tool</u>
(G) Final Shut-In <u>39</u>	<input type="checkbox"/> Sampler <u>175.15</u>	<u>@ 6:11 PM on</u>
(H) Final Hydrostatic <u>2057</u>	<input type="checkbox"/> Straddle _____	<u>8:00 AM 8-6-14</u>
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Packer _____
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Extra Copies _____
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility _____	Total <u>1925.30</u>
	Sub Total <u>1925.30</u>	MP/DST Disc't _____

Approved By _____

Our Representative B. De Oit



PO Box 93999
Southlake, TX 76092

Voice: (817) 546-7282
Fax: (817) 246-3361

INVOICE

*WECT.
Prod-MG*

Invoice Number: 144739
Invoice Date: Jul 31, 2014
Page: 1

Bill To:
Murfin Drlg. Co., Inc.
250 N. Water
STE #300
Wichita, KS 67202

Federal Tax I.D.#: 20-8651475

Customer ID	Well Name/# or Customer P.O.	Payment Terms	
Murfin	63367	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Jul 31, 2014	8/30/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Ladenburger B #1-6		
250.00	CEMENT MATE	Class A Common	17.90	4,475.00
705.00	CEMENT MATE	Chloride	1.10	775.50
262.50	CEMENT SERVI	Cubic Feet Charge	2.48	651.00
1,028.75	CEMENT SERVI	Ton Mileage Charge	2.75	2,829.06
1.00	CEMENT SERVI	Surface	1,512.25	1,512.25
85.00	CEMENT SERVI	Pump Truck Mileage	7.70	654.50
1.00	CEMENT SERVI	Manifold Head Rental	275.00	275.00
85.00	CEMENT SERVI	Light Vehicle Mileage	4.40	374.00
1.00	CEMENT SUPEI	Alan Ryan		
1.00	EQUIPMENT OF	Kevin Ryan		

Subtotal	11,546.31
Sales Tax	414.79
Total Invoice Amount	11,961.10
Payment/Credit Applied	
TOTAL	11,961.10

ALL PRICES ARE NET, PAYABLE
30 DAYS FOLLOWING DATE OF
INVOICE. 1 1/2% CHARGED
THEREAFTER. IF ACCOUNT IS
CURRENT, TAKE DISCOUNT OF

\$ 4041.20

*356
56 ok*

ONLY IF PAID ON OR BEFORE
Aug 30, 2014

*- 4041.20
7919.90*

ok m52

ALLIED OIL & GAS SERVICES, LLC 23570 063367

Federal Tax I.D. # 20-8651475

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

SERVICE POINT:
Chalkley

DATE <u>7/21/14</u>	SEC. <u>6</u>	TWP. <u>1</u>	RANGE <u>35</u>	CALLED OUT	ON LOCATION	JOB START <u>8:30</u>	JOB FINISH <u>2:00</u>
LEASE <u>Wadsworth B</u>	WELL # <u>1-6</u>	LOCATION <u>Aradale NW 202</u>		COUNTY <u>Hunt</u>	STATE <u>Ky</u>		
OLD OR NEW (Circle one) <u>NEW</u>				<u>2 1/2 W slow into</u>			

CONTRACTOR Murkin OWNER Sam

TYPE OF JOB _____

HOLE SIZE 12 1/4 T.D. 230

CASING SIZE 8 5/8 DEPTH 230

TUBING SIZE _____ DEPTH _____

DRILL PIPE _____ DEPTH _____

TOOL _____ DEPTH _____

PRES. MAX _____ MINIMUM _____

MEAS. LINE _____ SHOE JOINT _____

CEMENT LEFT IN CSG. 15'

PERFS. _____

DISPLACEMENT 16.24

EQUIPMENT

PUMP TRUCK CEMENTER Alan Ryan

123-221 HELPER Kevin Ryan

BULK TRUCK

818 DRIVER Esteban (TWS)

BULK TRUCK

_____ DRIVER _____

CEMENT AMOUNT ORDERED 250 Com 390 cc

COMMON 250 @ 17.20 4250.00

POZMIX @ _____

GEL @ _____

CHLORIDE 205 @ 1.10 225.50

ASC @ _____

Material Total 5,250.50

(183.26 / 35.8)

HANDLING 260.50 @ 2.40 651.00

MILEAGE 22 @ 12.10 266.20

TOTAL 289.08

REMARKS:

Aradale Cement, mix cement

Displace cement shut in

Cement did circulate 800-170

ft

Thank you

Alan, Kevin, Esteban

CHARGE TO: Murkin Drilling

STREET _____

CITY _____ STATE _____ ZIP _____

SERVICE

DEPTH OF JOB 230'

PUMP TRUCK CHARGE 1512.25

EXTRA FOOTAGE @ _____

MILEAGE 85 @ 7.22 613.70

MANIFOLD Head @ _____

Lite Vehicle 85 @ 4.20 357.00

(2203.54 / 35.8)

TOTAL 6,280.25

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. Nixon

SIGNATURE [Signature]

PLUG & FLOAT EQUIPMENT

_____ @ _____

_____ @ _____

_____ @ _____

_____ @ _____

_____ @ _____

TOTAL _____

SALES TAX (If Any) _____

TOTAL CHARGES 11,546.33

DISCOUNT 4,041.21 (35%) IF PAID IN 30 DAYS

7,505.11 Net

ALLIED OIL & GAS SERVICES, LLC 064152

Federal Tax I.D. # 20-8651475

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

SERVICE POINT: Oakley, KS

DATE 8-8-14 SEC. 12 TWP. 13 RANGE 35 CALLED OUT ON LOCATION JOB START 2:00 PM JOB FINISH 2:30 PM LEASE 13 WELL# 1-6 LOCATION Beardley N to Rd 202 County Rawlins STATE KS OLD OR (NEW) (Circle one) 2 1/2 W into

CONTRACTOR Muffin #7 OWNER same

TYPE OF JOB DTA HOLE SIZE 27 1/8 ID. 4535 CASING SIZE DEPTH TUBING SIZE DEPTH DRILL PIPE DEPTH TOOL DEPTH PRES. MAX MINIMUM MEAS. LINE SHOE JOINT CEMENT LEFT IN CSG. PERFS. DISPLACEMENT

CEMENT AMOUNT ORDERED 255 1/2 60/100 202 490 gel 1/4 # 10-sec 1

EQUIPMENT PUMP TRUCK # 422 CEMENTER Wayne McCallister DRIVER Wayne McCallister BULK TRUCK # 8905241 DRIVER Wayne McCallister

COMMON @ POZMIX @ GEL @ CHLORIDE @ ASC @

REMARKS: Rigged up 50 @ 3155 100 @ 2360 50 @ 330 10 @ 40 W wiper plug 30 RH 15 MH Thank You Kelly & crew

Material Total (1755.14 / 35%) HANDLING 273.89 cu ft @ 2.98 679.25 MILEAGE 10.96 ton x 202.75 2412.30

CHARGE TO: Muffin STREET CITY STATE ZIP

TOTAL SERVICE DEPTH OF JOB 3155' PUMP TRUCK CHARGE 1250.00 EXTRA FOOTAGE @ MILEAGE M.I.V 80 @ 7.70 616.00 MANIFOLD @ M.I.V 80 @ 4.40 352.00 (1858.84 / 35%) TOTAL 3309.55

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.

PLUG & FLOAT EQUIPMENT 4 - 8 3/8" Warden Plug 110.00 (0%) TOTAL 110.00

PRINTED NAME FRED Muffin SIGNATURE

SALES TAX (If Any) TOTAL CHARGES 10,434.83 DISCOUNT 3,613.98 (35%) IF PAID IN 30 DAYS 6,820.75 Net.

Ladenburger 'B' #1-6
 Daily Drilling Report
 Page Two

- 8/7/14 Depth 4395'. Cut 30'. DT: None. CT: 22hrs. Dev.: 1° @ 4365'. **DST #3 4236-4365 (G-I):** 30-60-30-60. IF: opened w/surf blw, built to 1" in 20mins. FF: no blw. Rec.: 40'M w/oil spts. HP: 2183-2047. FP: 21/32, 34/51. SIP: 1164-1082. BHT: 125°. **LKC J:** Ls, wht-lt gry, recrystallized foss w/chrt nodules, v dense w/sharp edes, solution etched & oily strn edges, some tarry clingy strn, trc FO, gd fluor, excellent cut w/wht ls, foss, chalky, strn & show & flour as ls above, fleeting odr in wet cup, abud chlk. **DST #4 4340-4395 (LKC J):** 30-60-30-60. IF: opened w/surf blw, built to 1/4". FF: no blw. Rec.: 5'M. HP: 2199-2058. FP: 20/20, 22/22. SIP: 51/39. BHT: 126°.
- 8/8/14 RTD: 4535'. Cut 140'. DT: None. CT: 15¾ hrs. Dev.: 1° @ 4535'. HC @ 7:00PM 8/7. Pioneer logged 12:15AM-5:30AM 8/8. LTD 4542'. Plugging
- 8/9/14 RTD: 4535'. CT: 11½ hrs. Allied plugged, 12:00PM – 2:30PM 8/8, as follows using, 60/40Poz, 4%Gel, ¼# Floseal, 50sxs @ 3155', 100sxs @ 2360', 50sxs @ 320', 10sxs @ 40', 30sxs RH, 15sxs MH. Orders: Ray Dinkel KCC Hays. RR @ 6:30PM 8/8/14. FINAL REPORT.

MDCI Ladenburger 'B' #1-6 330' FNL 2310' FEL Sec. 6-T1S-R35W 3216' KB							MDCI Downing #1-6 2150' FSL 2140' FWL Sec. 6-T1S-R35W 3169' KB	
Formation	Sample top	Datum	Ref	Log Top	Datum	Ref	Log Top	Datum
Anhydrite	3139	+77	+7	3140	+76	+6	3099	+70
B/Anhydrite				3174	+42	+5	3132	+37
Neva	3631	-415	+10	3635	-419	+6	3594	-425
Red Eagle	3697	-481	+8	3700	-484	+5	3658	-489
Foraker	3742	-526	+11	3745	-529	+8	3706	-537
Topeka	3950	-734	+11	3955	-739	+6	3914	-745
Oread	4065	-849	+8	4068	-852	+5	4026	-857
Lansing	4171	-955	+10	4170	-954	+11	4134	-965
Stark	4385	-1169	+9	4384	-1168	+10	4347	-1178
BKC	4435	-1219	+10	4436	-1220	+9	4398	-1229
RTD	4535	-1319					4500	-1331
LTD				4542	-1326		4500	-1331