



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1222957  
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: \_\_\_\_\_

1222957

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

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <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> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	Ladenburger 1-6
Doc ID	1222957

All Electric Logs Run

DIL
DUCP
MEL
BHCS





## DRILL STEM TEST REPORT

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

250 N Water STE. 300  
Wichita KS 67202

ATTN: Keith Reavis

### **Ladenburger #1-6**

#### **6-1s-35w Rawlins, KS**

Start Date: 2014.06.22 @ 07:45:00

End Date: 2014.06.22 @ 15:32:00

Job Ticket #: 58798                      DST #: 1

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.06.27 @ 10:09:34



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

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

**6-1s-35w Rawlins,KS**

**Ladenburger #1-6**

Job Ticket: 58798

**DST#: 1**

Test Start: 2014.06.22 @ 07:45:00

## GENERAL INFORMATION:

Formation: **Stotler**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:07:30

Time Test Ended: 15:32:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Robert Zodrow

Unit No: 46

**Interval: 3819.00 ft (KB) To 3926.00 ft (KB) (TVD)**

Reference Elevations: 3210.00 ft (KB)

Total Depth: 3926.00 ft (KB) (TVD)

3205.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6769 Outside**

Press@RunDepth: 172.53 psig @ 3820.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.06.22

End Date:

2014.06.22

Last Calib.:

2014.06.22

Start Time: 07:45:05

End Time:

15:31:59

Time On Btm:

2014.06.22 @ 10:07:00

Time Off Btm:

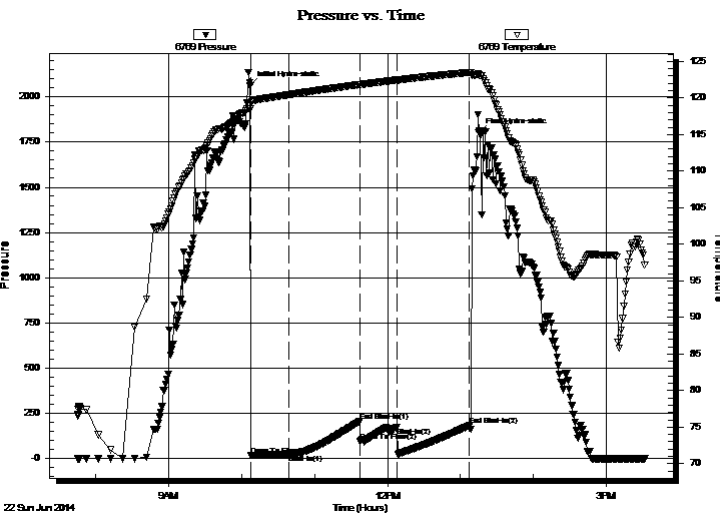
2014.06.22 @ 13:15:00

TEST COMMENT: 30-IF- Blow built to 1/8"

60-ISI- No return

30-FF- No blow

60-FSI- No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2062.75	118.46	Initial Hydro-static
1	18.78	118.53	Open To Flow (1)
32	21.55	120.44	Shut-In(1)
90	206.40	121.82	End Shut-In(1)
91	93.73	121.80	Open To Flow (2)
121	172.53	122.45	Shut-In(2)
180	182.36	123.48	End Shut-In(2)
188	1803.44	123.17	Final Hydro-static

## Recovery

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

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co, Inc

**6-1s-35w Rawlins,KS**

250 N Water STE. 300  
Wichita KS 67202

**Ladenburger #1-6**

Job Ticket: 58798

**DST#: 1**

ATTN: Keith Reavis

Test Start: 2014.06.22 @ 07:45:00

## Tool Information

Drill Pipe:	Length: 3739.00 ft	Diameter: 3.88 inches	Volume: 54.68 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:	25000.00 lb
Drill Collar:	Length: 62.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose:	94000.00 lb
			<u>Total Volume: 54.98 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial	66000.00 lb
Depth to Top Packer:	3819.00 ft			Final	68000.00 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: The tool got over rotated 2 turns

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3797.00	
Hydraulic tool	5.00			3802.00	
Jars	5.00			3807.00	
Safety Joint	3.00			3810.00	
Packer	5.00			3815.00	27.00 Bottom Of Top Packer
Packer	4.00			3819.00	
Stubb	1.00			3820.00	
Recorder	0.00	8521	Inside	3820.00	
Recorder	0.00	6769	Outside	3820.00	
Perforations	7.00			3827.00	
Change Over Sub	1.00			3828.00	
Drill Pipe	94.00			3922.00	
Change Over Sub	1.00			3923.00	
Bullnose	3.00			3926.00	107.00 Bottom Packers & Anchor

**Total Tool Length: 134.00**





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co, Inc

**6-1s-35w Rawlins,KS**

250 N Water STE. 300  
Wichita KS 67202

**Ladenburger #1-6**

Job Ticket: 58798

**DST#: 1**

ATTN: Keith Reavis

Test Start: 2014.06.22 @ 07:45:00

## 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: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	mud 100%m	0.010

Total Length: 2.00 ft      Total Volume: 0.010 bbl

Num Fluid Samples: 0

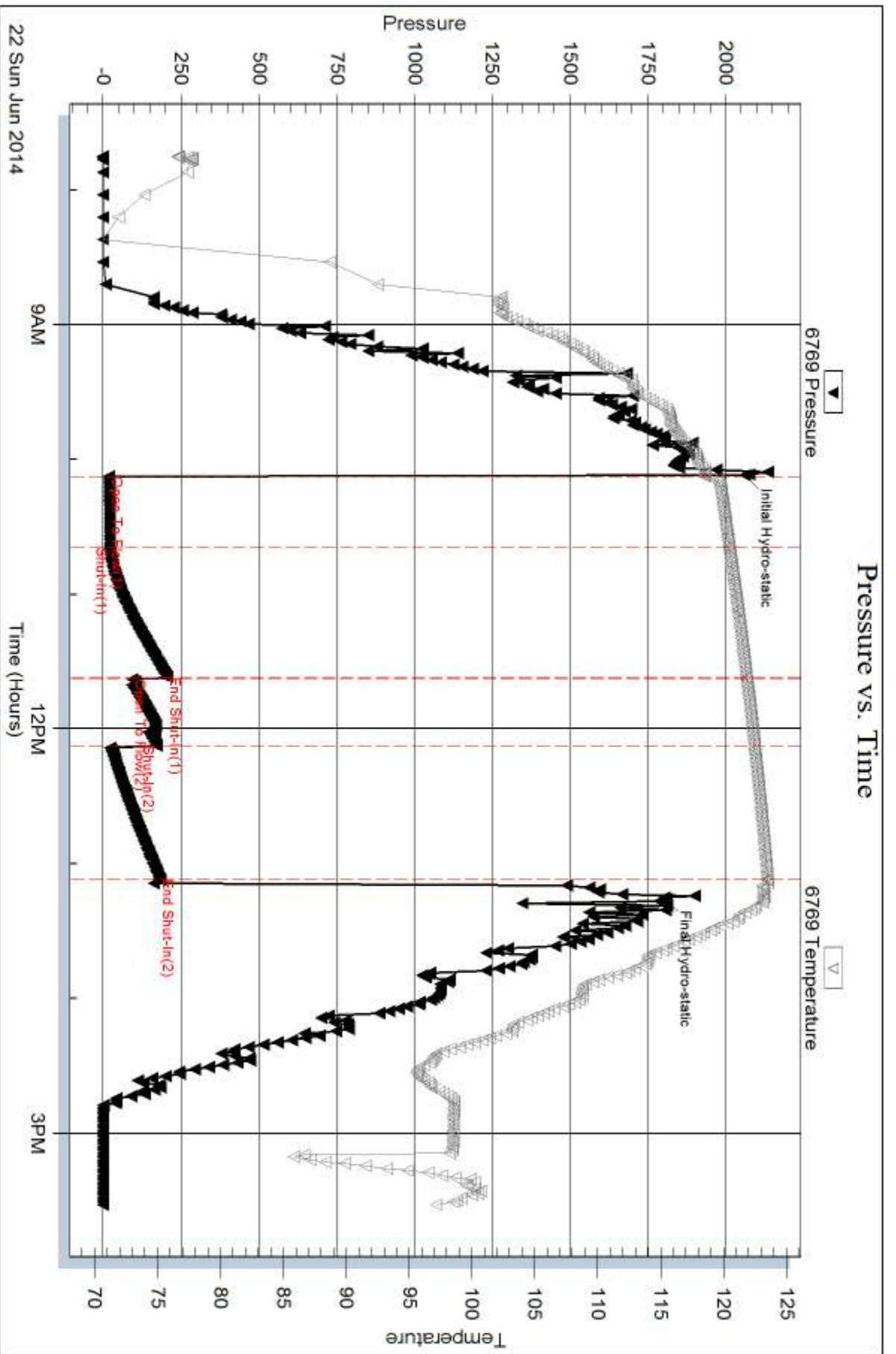
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



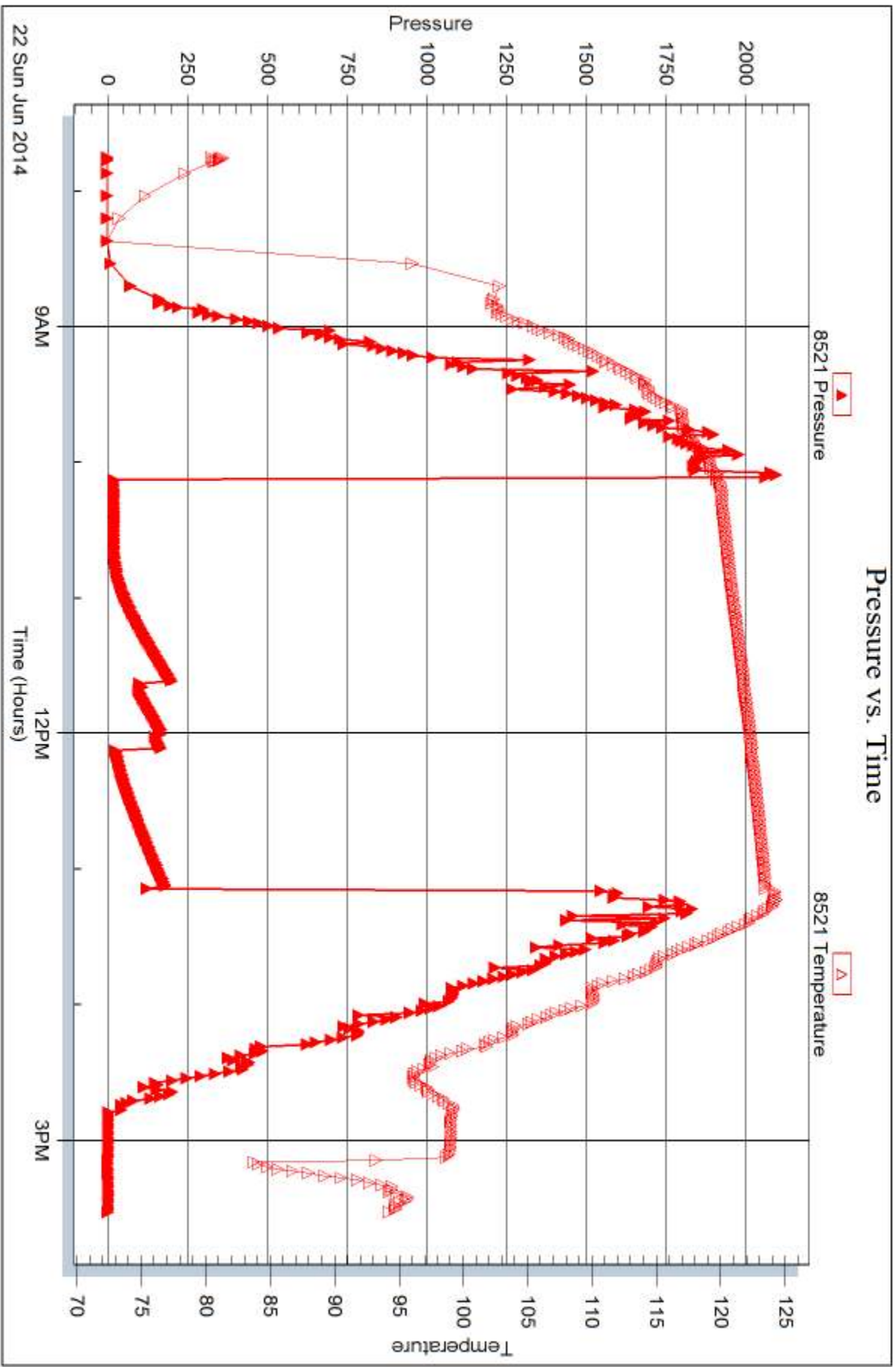
Serial #: 8521

Inside

Murfin Drilling Co, Inc

Ladenburger #1-6

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 58798

Printed: 2014.06.27 @ 10:09:35



## DRILL STEM TEST REPORT

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

250 N Water STE. 300  
Wichita KS 67202

ATTN: Keith Reavis

### **Ladenburger #1-6**

### **6-1s-35w Rawlins,KS**

Start Date: 2014.06.24 @ 01:10:00

End Date: 2014.06.24 @ 09:18:00

Job Ticket #: 58799                      DST #: 2

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.06.27 @ 10:09:13

Murfin Drilling Co,Inc  
6-1s-35w Rawlins,KS  
Ladenburger #1-6  
DST # 2  
LKC "A-D"  
2014.06.24



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

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

**6-1s-35w Rawlins,KS**

**Ladenburger #1-6**

Job Ticket: 58799

**DST#: 2**

Test Start: 2014.06.24 @ 01:10:00

## GENERAL INFORMATION:

Formation: **LKC "A-D"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 03:18:30  
 Time Test Ended: 09:18:00  
 Interval: **4104.00 ft (KB) To 4232.00 ft (KB) (TVD)**  
 Total Depth: 4232.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Robert Zodrow  
 Unit No: 46  
 Reference Elevations: 3210.00 ft (KB)  
 3205.00 ft (CF)  
 KB to GR/CF: 5.00 ft

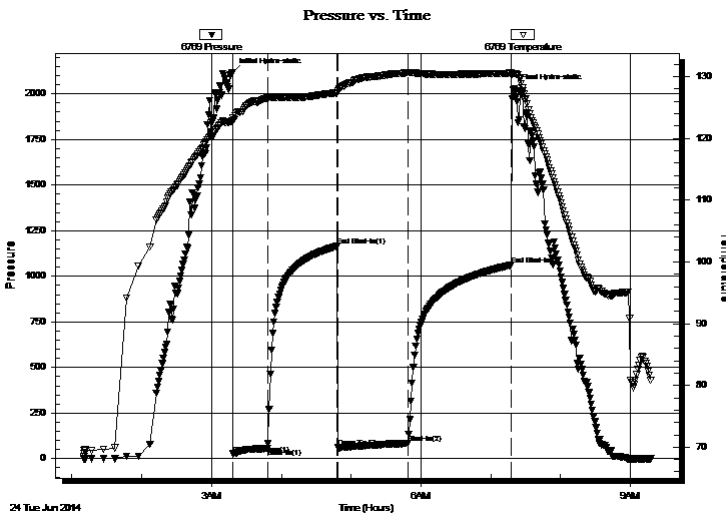
**Serial #: 6769**

**Outside**

Press@RunDepth: 84.56 psig @ 4105.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.06.24 End Date: 2014.06.24 Last Calib.: 2014.06.24  
 Start Time: 01:10:05 End Time: 09:17:59 Time On Btm: 2014.06.24 @ 03:18:00  
 Time Off Btm: 2014.06.24 @ 07:20:00

TEST COMMENT: 30-IF-Blow built to 4"  
 60-ISI- No return  
 60-FF-Blow started in 5 min built to 4 1/4"  
 90-FSI- Return built to real weak surface blow died in 38 mins

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2117.85	122.84	Initial Hydro-static
1	26.55	123.40	Open To Flow (1)
30	56.30	126.55	Shut-In(1)
90	1164.27	127.36	End Shut-In(1)
91	61.34	127.76	Open To Flow (2)
151	84.56	130.64	Shut-In(2)
240	1060.92	130.56	End Shut-In(2)
242	2026.89	130.49	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
188.00	WM oil spots 40%w 60%m	2.15
15.00	ocm 35%o 65%m	0.22

\* 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

**6-1s-35w Rawlins, KS**

250 N Water STE. 300  
Wichita KS 67202

**Ladenburger #1-6**

Job Ticket: 58799

**DST#: 2**

ATTN: Keith Reavis

Test Start: 2014.06.24 @ 01:10:00

## Tool Information

Drill Pipe:	Length: 4024.00 ft	Diameter: 3.88 inches	Volume: 58.85 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:	25000.00 lb
Drill Collar:	Length: 62.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose:	72000.00 lb
			<u>Total Volume: 59.15 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial	66000.00 lb
Depth to Top Packer:	4104.00 ft			Final	66000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	128.00 ft				
Tool Length:	155.00 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			4082.00	
Hydraulic tool	5.00			4087.00	
Jars	5.00			4092.00	
Safety Joint	3.00			4095.00	
Packer	5.00			4100.00	27.00 Bottom Of Top Packer
Packer	4.00			4104.00	
Stubb	1.00			4105.00	
Recorder	0.00	8521	Inside	4105.00	
Recorder	0.00	6769	Outside	4105.00	
Perforations	28.00			4133.00	
Change Over Sub	1.00			4134.00	
Drill Pipe	94.00			4228.00	
Change Over Sub	1.00			4229.00	
Bullnose	3.00			4232.00	128.00 Bottom Packers & Anchor

**Total Tool Length: 155.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co, Inc

**6-1s-35w Rawlins,KS**

250 N Water STE. 300  
Wichita KS 67202

**Ladenburger #1-6**

Job Ticket: 58799

**DST#: 2**

ATTN: Keith Reavis

Test Start: 2014.06.24 @ 01:10:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

35000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
188.00	WM oil spots 40%w 60%m	2.148
15.00	ocm 35%o 65%m	0.219

Total Length: 203.00 ft Total Volume: 2.367 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

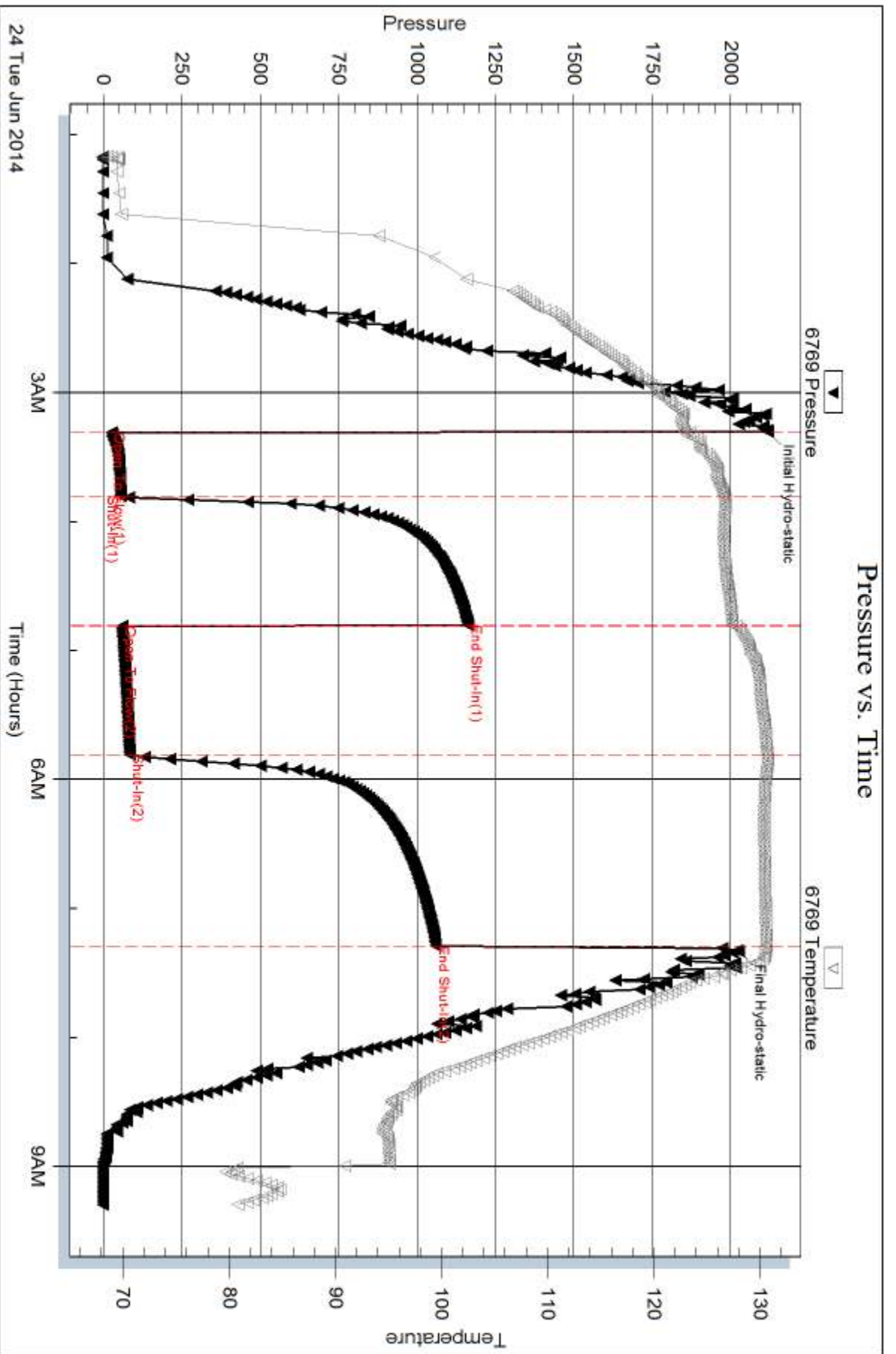
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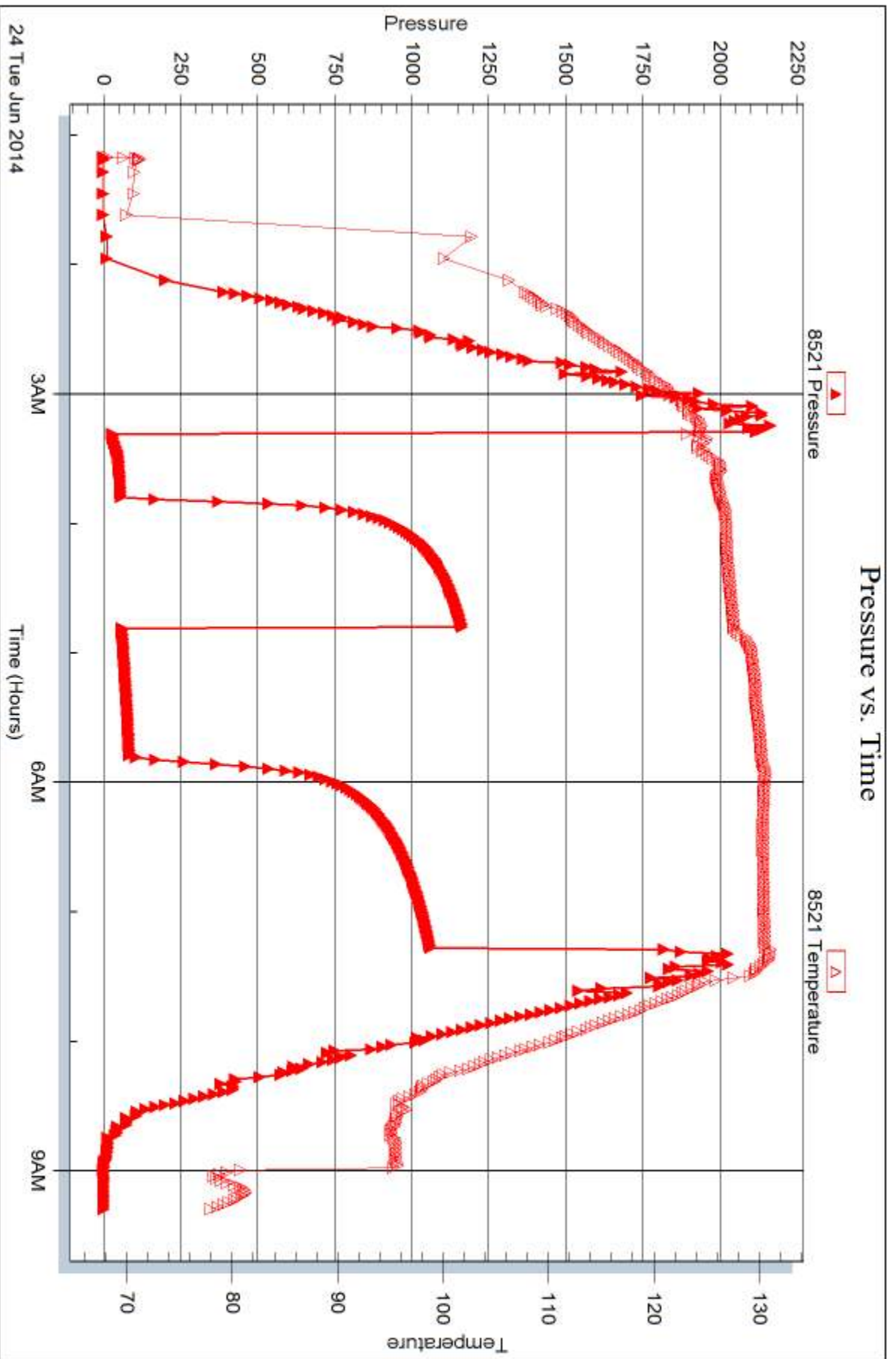
Laboratory Name:

Laboratory Location:

Recovery Comments: .223@71 deg F = 35000









## DRILL STEM TEST REPORT

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

250 N Water STE. 300  
Wichita KS 67202

ATTN: Keith Reavis

### **Ladenburger #1-6**

### **6-1s-35w Rawlins,KS**

Start Date: 2014.06.24 @ 23:30:00

End Date: 2014.06.25 @ 07:10:30

Job Ticket #: 58800                      DST #: 3

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.06.27 @ 10:08:48

Murfin Drilling Co, Inc  
6-1s-35w Rawlins,KS  
Ladenburger #1-6  
DST # 3  
LKC "G"  
2014.06.24



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

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

**6-1s-35w Rawlins,KS**

**Ladenburger #1-6**

Job Ticket: 58800      **DST#: 3**  
Test Start: 2014.06.24 @ 23:30:00

## GENERAL INFORMATION:

Formation: **LKC "G"**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 01:48:00  
Time Test Ended: 07:10:30  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Robert Zodrow  
Unit No: 46  
Interval: **4231.00 ft (KB) To 4320.00 ft (KB) (TVD)**  
Reference Elevations: 3210.00 ft (KB)  
Total Depth: 4320.00 ft (KB) (TVD)      3205.00 ft (CF)  
Hole Diameter: 7.88 inches Hole Condition: Fair      KB to GR/CF: 5.00 ft

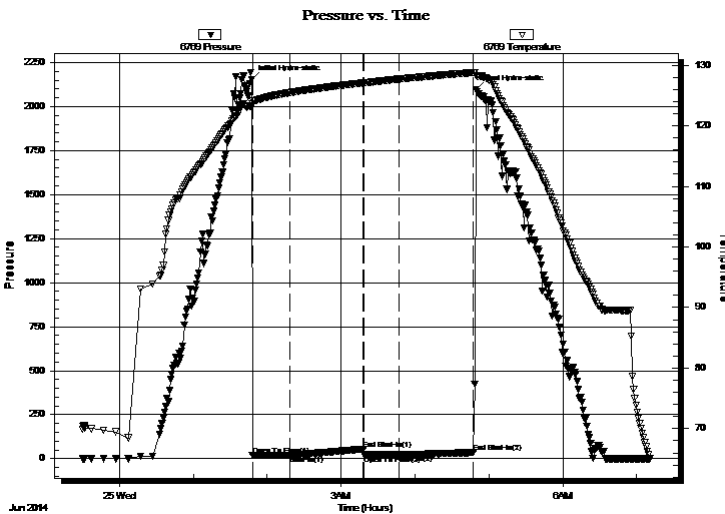
## Serial #: 6769

**Outside**

Press@RunDepth: 22.65 psig @ 4232.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2014.06.24      End Date: 2014.06.25      Last Calib.: 2014.06.25  
Start Time: 23:30:05      End Time: 07:10:29      Time On Btm: 2014.06.25 @ 01:47:30  
Time Off Btm: 2014.06.25 @ 04:49:30

TEST COMMENT: 30-IS- Blow built to 1/2"  
60-IS- No return  
30-FF- No blow  
60-FS- No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2154.51	123.21	Initial Hydro-static
1	19.60	123.57	Open To Flow (1)
31	20.88	125.46	Shut-In(1)
91	52.50	127.07	End Shut-In(1)
91	21.86	127.07	Open To Flow (2)
120	22.65	127.71	Shut-In(2)
180	35.48	128.78	End Shut-In(2)
182	2098.51	128.25	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1.00	mud 100%m	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

**6-1s-35w Rawlins,KS**

250 N Water STE. 300  
Wichita KS 67202

**Ladenburger #1-6**

Job Ticket: 58800

**DST#: 3**

ATTN: Keith Reavis

Test Start: 2014.06.24 @ 23:30:00

## Tool Information

Drill Pipe:	Length: 4152.00 ft	Diameter: 3.88 inches	Volume: 60.72 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:	25000.00 lb
Drill Collar:	Length: 62.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose:	80000.00 lb
			<u>Total Volume: 61.02 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial	68000.00 lb
Depth to Top Packer:	4231.00 ft			Final	68000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	89.00 ft				
Tool Length:	116.00 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			4209.00	
Hydraulic tool	5.00			4214.00	
Jars	5.00			4219.00	
Safety Joint	3.00			4222.00	
Packer	5.00			4227.00	27.00 Bottom Of Top Packer
Packer	4.00			4231.00	
Stubb	1.00			4232.00	
Recorder	0.00	8521	Inside	4232.00	
Recorder	0.00	6769	Outside	4232.00	
Perforations	20.00			4252.00	
Change Over Sub	1.00			4253.00	
Drill Pipe	63.00			4316.00	
Change Over Sub	1.00			4317.00	
Bullnose	3.00			4320.00	89.00 Bottom Packers & Anchor

**Total Tool Length: 116.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co, Inc

**6-1s-35w Rawlins,KS**

250 N Water STE. 300  
Wichita KS 67202

**Ladenburger #1-6**

Job Ticket: 58800

**DST#: 3**

ATTN: Keith Reavis

Test Start: 2014.06.24 @ 23:30:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.18 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	mud 100%m	0.005

Total Length: 1.00 ft      Total Volume: 0.005 bbl

Num Fluid Samples: 0

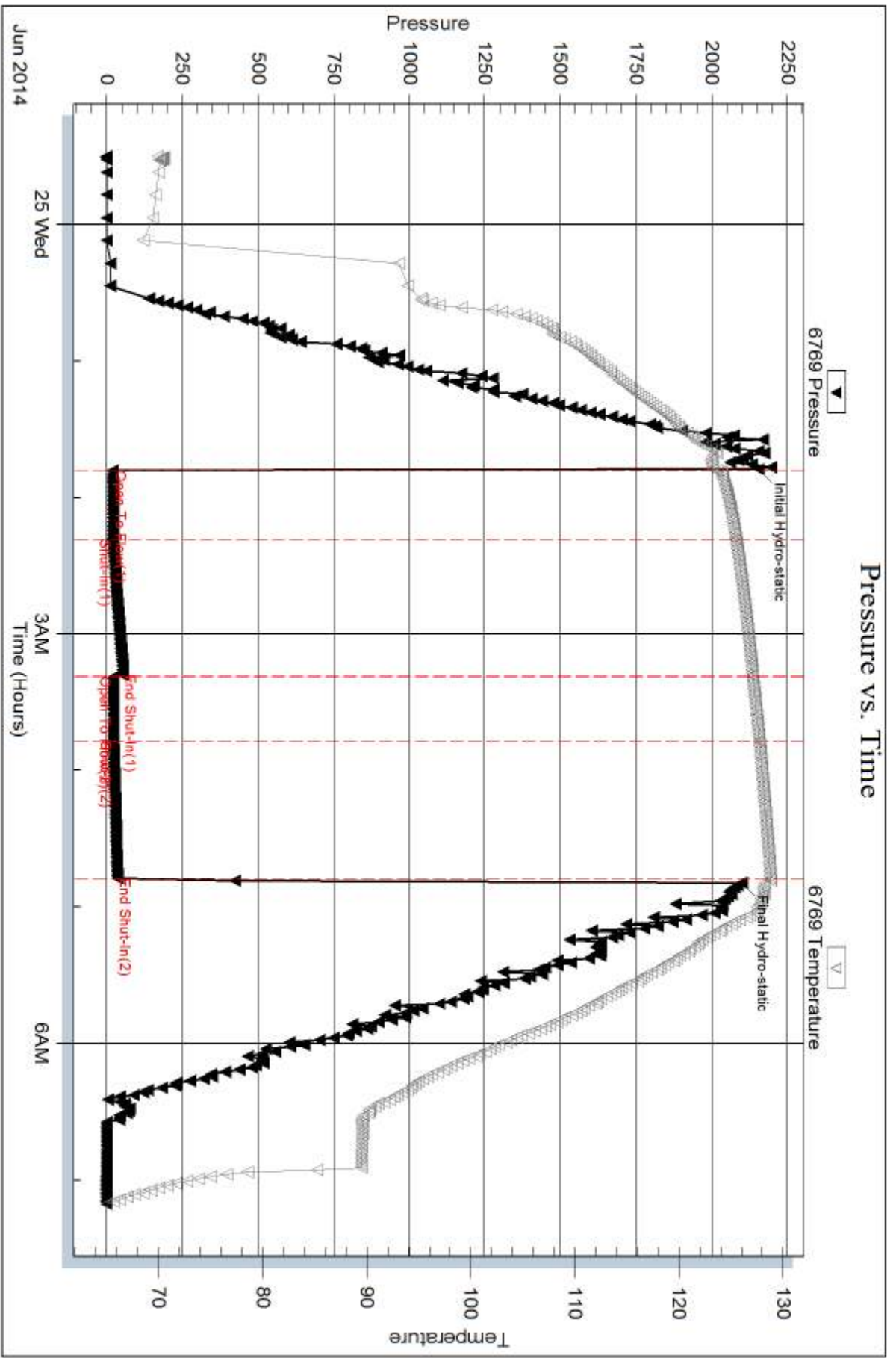
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





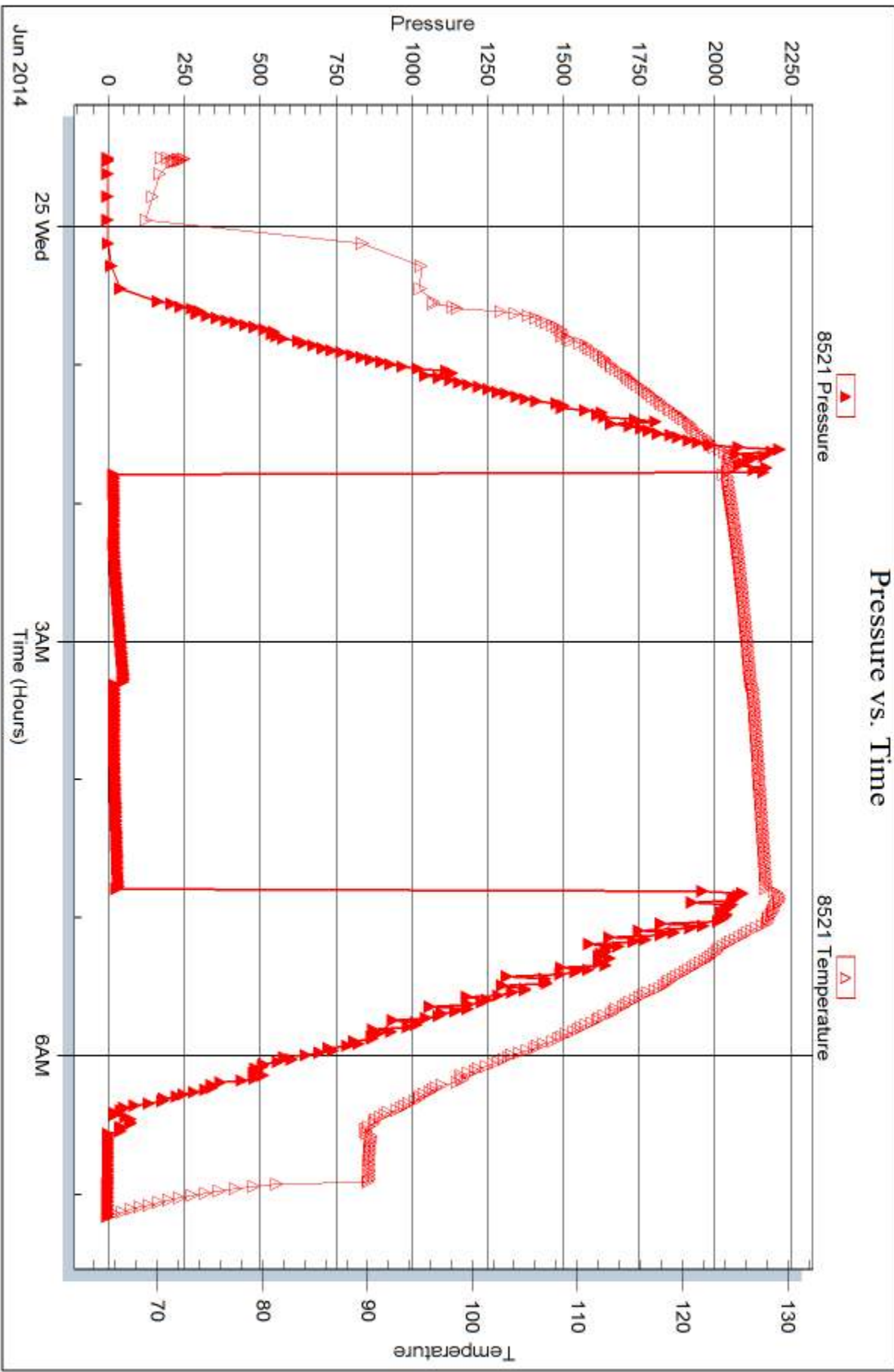
Serial #: 8521

Inside

Murfin Drilling Co, Inc

Ladenburger #1-6

DST Test Number: 3





## DRILL STEM TEST REPORT

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

250 N Water STE. 300  
Wichita KS 67202

ATTN: Keith Reavis

### **Ladenburger #1-6**

#### **6-1s-35w Rawlins,KS**

Start Date: 2014.06.25 @ 17:30:00

End Date: 2014.06.26 @ 02:42:30

Job Ticket #: 53690                      DST #: 4

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.06.27 @ 10:08:15

Murfin Drilling Co,Inc  
6-1s-35w Rawlins,KS  
Ladenburger #1-6  
DST # 4  
LKC: "H-J"  
2014.06.25



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

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

**6-1s-35w Rawlins,KS**

**Ladenburger #1-6**

Job Ticket: 53690 **DST#: 4**  
 Test Start: 2014.06.25 @ 17:30:00

## GENERAL INFORMATION:

Formation: **LKC "H-J"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 20:05:00  
 Time Test Ended: 02:42:30  
 Interval: **4286.00 ft (KB) To 4388.00 ft (KB) (TVD)**  
 Total Depth: 4388.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Robert Zodrow  
 Unit No: 46  
 Reference Elevations: 3210.00 ft (KB)  
 3205.00 ft (CF)  
 KB to GR/CF: 5.00 ft

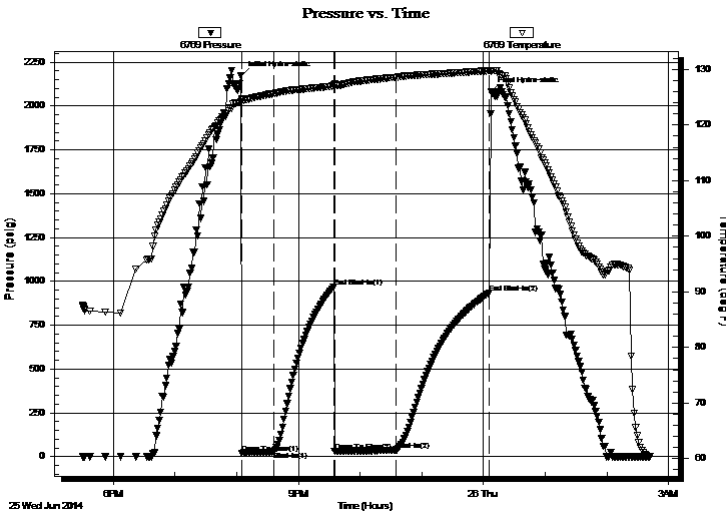
## Serial #: 6769

**Outside**

Press@RunDepth: 36.55 psig @ 4287.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.06.25 End Date: 2014.06.26 Last Calib.: 2014.06.26  
 Start Time: 17:30:05 End Time: 02:42:30 Time On Btm: 2014.06.25 @ 20:04:30  
 Time Off Btm: 2014.06.26 @ 00:07:30

TEST COMMENT: 30-IS- Blow built to 1/4"  
 60-IS- No return  
 60-FF- No blow  
 90-FS- No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2170.99	124.17	Initial Hydro-static
1	21.06	124.49	Open To Flow (1)
31	28.37	125.61	Shut-In(1)
90	969.70	127.03	End Shut-In(1)
91	30.49	127.31	Open To Flow (2)
151	36.55	128.61	Shut-In(2)
241	932.76	129.78	End Shut-In(2)
243	2080.39	129.84	Final Hydro-static

## Recovery

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

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co, Inc

**6-1s-35w Rawlins,KS**

250 N Water STE. 300  
Wichita KS 67202

**Ladenburger #1-6**

Job Ticket: 53690

**DST#: 4**

ATTN: Keith Reavis

Test Start: 2014.06.25 @ 17:30:00

## Tool Information

Drill Pipe:	Length: 4215.00 ft	Diameter: 3.88 inches	Volume: 61.64 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: 25000.00 lb
Drill Collar:	Length: 62.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose: 78000.00 lb
			<u>Total Volume: 61.94 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4286.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	102.00 ft			
Tool Length:	129.00 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			4264.00	
Hydraulic tool	5.00			4269.00	
Jars	5.00			4274.00	
Safety Joint	3.00			4277.00	
Packer	5.00			4282.00	27.00 Bottom Of Top Packer
Packer	4.00			4286.00	
Stubb	1.00			4287.00	
Recorder	0.00	8521	Inside	4287.00	
Recorder	0.00	6769	Outside	4287.00	
Perforations	33.00			4320.00	
Change Over Sub	1.00			4321.00	
Drill Pipe	63.00			4384.00	
Change Over Sub	1.00			4385.00	
Bullnose	3.00			4388.00	102.00 Bottom Packers & Anchor

**Total Tool Length: 129.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co, Inc

**6-1s-35w Rawlins,KS**

250 N Water STE. 300  
Wichita KS 67202

**Ladenburger #1-6**

Job Ticket: 53690

**DST#: 4**

ATTN: Keith Reavis

Test Start: 2014.06.25 @ 17:30:00

### 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: 116.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 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	mud 100%m	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

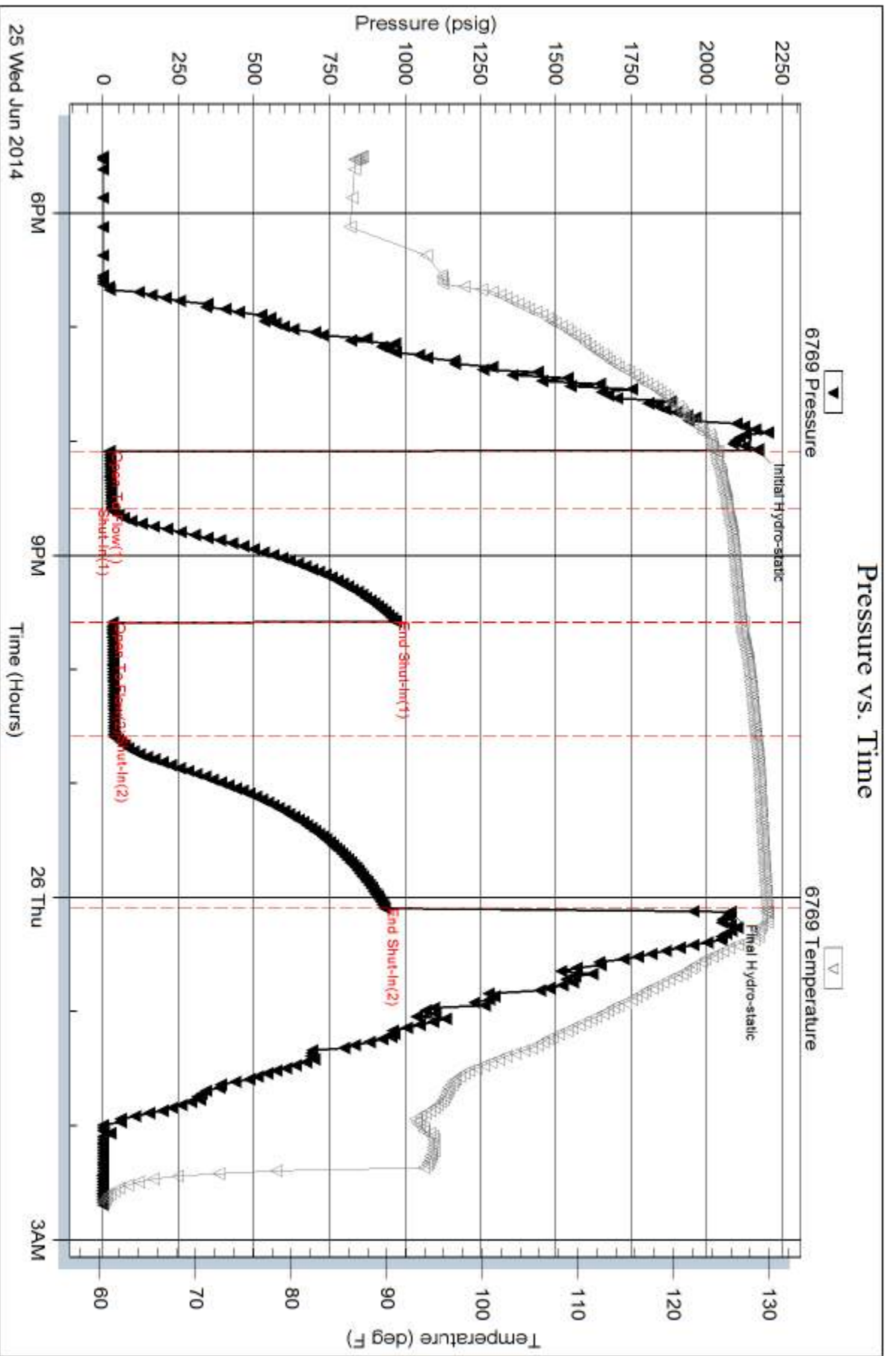
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



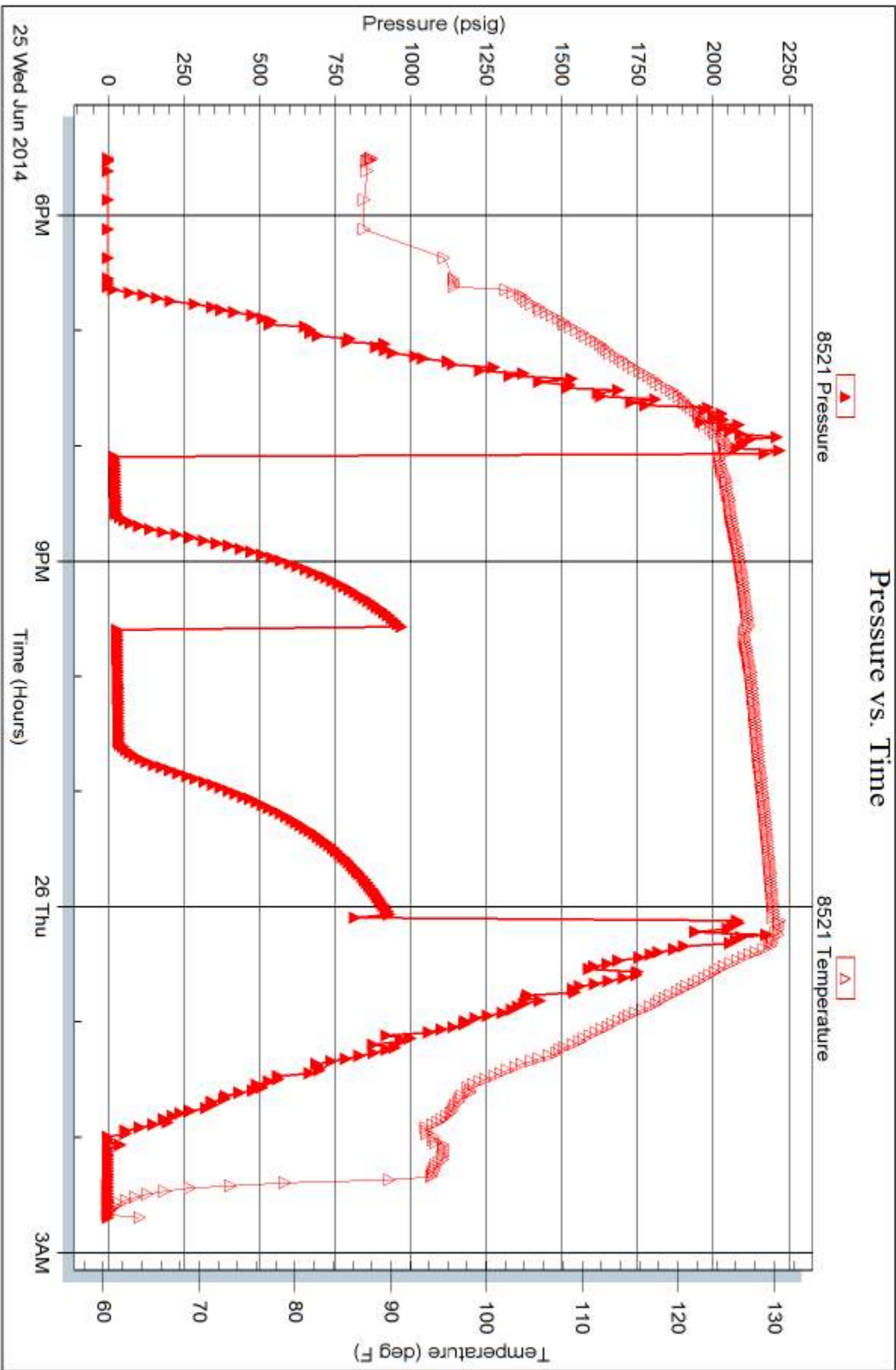
Serial #: 8521

Inside

Murfin Drilling Co, Inc

Ladenburger #1-6

DST Test Number: 4







# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58798

Well Name & No. Ladenburger #1-6 Test No. 1 Date 6-22-2014  
 Company Murfin Drilling CO, Inc Elevation 3210 KB 3205 GL  
 Address 250 N water STE 300 Wichita KS, 67202  
 Co. Rep / Geo. Keith Reavis Rig Murfin #7  
 Location: Sec. 6 Twp. 1 Rge. 35W Co. Rawlins State KS

Interval Tested 3819 - 3926 Zone Tested Stotler  
 Anchor Length 107 Drill Pipe Run 3739 Mud Wt. 9.2  
 Top Packer Depth 3815 Drill Collars Run 62 Vis 57  
 Bottom Packer Depth 3819 Wt. Pipe Run 0 WL 6.0  
 Total Depth 3926 Chlorides 500 ppm System LCM 4.0  
 Blow Description IF - Blow built to 1/8"  
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 123 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2063  Test 1150 T-On Location 06:45 6-22  
 (B) First Initial Flow 19  Jars 250 T-Started 07:45 6-22  
 (C) First Final Flow 22  Safety Joint 75 T-Open 10:07 6-22  
 (D) Initial Shut-In 206  Circ Sub \_\_\_\_\_ T-Pulled 13:07 6-22  
 (E) Second Initial Flow 94  Hourly Standby \_\_\_\_\_ T-Out 15:32 6-22  
 (F) Second Final Flow 173  Mileage 106 RT 164.30 Comments Tool got over rotated 2 turns  
 (G) Final Shut-In 182  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1803  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1639.30  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1639.30

Approved By [Signature] Our Representative Robert Zochow

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **58799**

Well Name & No. Ladenburger # 1-6 Test No. 2 Date 6-24-2004  
 Company Marfin Drilling Co, Inc Elevation 3210 KB 3205 GL  
 Address 250 N. water STE 300 Wichita KS, 67202  
 Co. Rep / Geo. Keith Reavis Rig marfin #7  
 Location: Sec. 6 Twp. 1 Rge. 35W Co. Rawlins State KS.

Interval Tested 4104 - 4232 Zone Tested LKC "A-0"  
 Anchor Length 128 Drill Pipe Run 4024 Mud Wt. 9.2  
 Top Packer Depth 4100 Drill Collars Run 62 Vis 52  
 Bottom Packer Depth 4104 Wt. Pipe Run 0 WL 8.8  
 Total Depth 4232 Chlorides 700 ppm System LCM 4.0

Blow Description IF - Blow built to 4"  
ISI - No return  
FI - Blow started in 5 mins built to 4 1/4"  
FSI - Return built to Real weak surface blow died in 38 mins

Rec	Feet of	%gas	%oil	%water	%mu
<u>15</u>	<u>Feet of ocm</u>	<u>35</u>		<u>65</u>	
<u>188</u>	<u>Feet of w/m oil spots</u>	<u>spotted</u>	<u>40</u>	<u>60</u>	
Rec	Feet of	%gas	%oil	%water	%mu
Rec	Feet of	%gas	%oil	%water	%mu

Rec Total 203 BHT 131 Gravity - API RW 1223 @ 71 ° F Chlorides 35,000 ppm

(A) Initial Hydrostatic 2118  Test 1250 T-On Location 12:45 AM 6-24  
 (B) First Initial Flow 27  Jars 250 T-Started 01:10 6-24  
 (C) First Final Flow 56  Safety Joint 75 T-Open 03:18 6-24  
 (D) Initial Shut-In 1164  Circ Sub \_\_\_\_\_ T-Pulled 07:17  
 (E) Second Initial Flow 61  Hourly Standby \_\_\_\_\_ T-Out 09:18 6-24  
 (F) Second Final Flow 85  Mileage 106 RT 164.30  
 (G) Final Shut-In 1061  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2027  Straddle \_\_\_\_\_

Shale Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90  
 Day Standby 1d 9.25h  
 Accessibility \_\_\_\_\_

Sub Total 1739.30 Sub Total 308.33  
 Total 2047.63 MP/DST Disc't \_\_\_\_\_  
 Approved By [Signature] Our Representative Robert Zedlow

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **58800**

Well Name & No. Ladenburger #1-6 Test No. 3 Date 6-24-2014  
 Company Murfin Drilling CO, Inc Elevation 3210 KB 3205 GL  
 Address 250 N water STE 300 Wichita KS, 67202  
 Co. Rep / Geo. Keith Reavis Rig Murfin #7  
 Location: Sec. 6 Twp. 1 Rge. 35w Co. Rawlins State KS

Interval Tested 4231 - 4320 Zone Tested LKC "H"  
 Anchor Length 89 Drill Pipe Run 4152 Mud Wt. 9.4  
 Top Packer Depth 4227 Drill Collars Run 62 Vis 52  
 Bottom Packer Depth 4231 Wt. Pipe Run 0 WL 9.2  
 Total Depth 4320 Chlorides 900 ppm System LCM 5.0  
 Blow Description  IP - Blow built to 10 1/2"  
 TSI - NO return  
 FF - NO blow  
 FSI - NO return

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</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 1 BHT 129 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ ° F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>2155</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>23:00 6-24</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>23:30 6-24</u>
(C) First Final Flow <u>21</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>01:48 6-25</u>
(D) Initial Shut-In <u>53</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>04:47 6-25</u>
(E) Second Initial Flow <u>22</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>07:10 6-25</u>
(F) Second Final Flow <u>23</u>	<input checked="" type="checkbox"/> Mileage <u>1016 RT</u> 164.30	Comments _____
(G) Final Shut-In <u>35</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>2099</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
	<input type="checkbox"/> Day Standby _____	Total <u>1739.30</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____

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

Approved By [Signature] Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 53690

Well Name & No. Ladenburger #1-6 Test No. 4 Date 6-25-2014  
 Company Murfin Drilling Co, Inc Elevation 3210 KB 3205 GL  
 Address 250 N water STE 300 Wichita KS, 67202  
 Co. Rep / Geo. Keith Reavis Rig Murfin #7  
 Location: Sec. 6 Twp. 1 Rge. 35W Co. Rawlins State KS

Interval Tested 4286 - 4388 Zone Tested LKC "H-5"  
 Anchor Length 102 Drill Pipe Run 4215 Mud Wt. 9.4  
 Top Packer Depth 4282 Drill Collars Run 62 Vis 116  
 Bottom Packer Depth 4286 Wt. Pipe Run 0 WL 7.6  
 Total Depth 4388 Chlorides 700 ppm System LCM 4.0

Blow Description IF - Blow built to 1/4"  
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 130 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2171  Test 1250 T-On Location 17:00 6-25  
 (B) First Initial Flow 21  Jars 250 T-Started 17:30 6-25  
 (C) First Final Flow 28  Safety Joint 75 T-Open 20:05 6-25  
 (D) Initial Shut-In 970  Circ Sub \_\_\_\_\_ T-Pulled 00:05 6-26  
 (E) Second Initial Flow 30  Hourly Standby \_\_\_\_\_ T-Out 02:42 6-26  
 (F) Second Final Flow 37  Mileage 106 RT x 2 328.60 Comments Loaded tool 6-26 - set 12:30  
 (G) Final Shut-In 933  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2080  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1903.60  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1903.60

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90

Our Representative Robert Zochow

Approved By [Signature]  
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**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 #1-6  
 Location: Sec. 6 - T1S - R35W  
 API: 15-153-21027-0000  
 Pool: Kansas  
 State: Kansas  
 Field: Scoda  
 Country: USA



Scale 1:240 Imperial

Well Name: Ladenburger #1-6  
 Surface Location: Sec. 6 - T1S - R35W  
 Bottom Location:  
 API: 15-153-21027-0000  
 License Number: 30606  
 Spud Date: 6/18/2014  
 Region: Rawlins County  
 Drilling Completed: 6/26/2014  
 Surface Coordinates: 2310' FNL & 330' FWL  
 Bottom Hole Coordinates:  
 Ground Elevation: 3180.00ft  
 K.B. Elevation: 3185.00ft  
 Logged Interval: 3520.00ft  
 Total Depth: 4550.00ft  
 Formation: Lansing - Kansas City  
 Drilling Fluid Type: Chemical/Fresh Water Gel  
 Time: 4:00 PM  
 Time: 6:30 PM  
 To: 4550.00ft

**SURFACE CO-ORDINATES**

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

**LOGGED BY**



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

**CONTRACTOR**

Contractor: Murfin Drilling Company  
 Rig #: 7  
 Rig Type: mud rotary  
 Spud Date: 6/18/2014  
 TD Date: 6/26/2014  
 Rig Release:  
 Time: 4:00 PM  
 Time: 6:30 PM  
 Time:

**ELEVATIONS**

K.B. Elevation: 3185.00ft  
 K.B. to Ground: 5.00ft  
 Ground Elevation: 3180.00ft

**NOTES**

Due to favorable results of drill stem test #2, it was determined that 5 1/2" production casing be set and cemented and that the Ladenburger #1-6 be further tested through perforations and stimulation in the Lansing-Kansas City.

The samples were saved from this well and will be available for review at the Kansas Geological Survey Well Sample Library located in Wichita, KS.

Respectfully submitted  
 Keith Reavis

**Image Header 01**

**daily drilling report**

DATE	7:00 AM DEPTH	REMARKS
06/20/2014		Geologist Keith Reavis and Logan Walker on location @ 1930 hrs, 3420 ft, bit change at 3480 ft, started drill time and sample collection at 3520 ft
06/21/2014	3577	Drilling ahead, Neva, Red Eagle, Foraker
06/22/2014	3926	drilling Stotler, show warrants test, short trip, TOH for DST #1, conduct DST #1, successful test, TIH w/bit, resume drilling Topeka
06/23/2014	4043	drilling ahead, Topeka, Oread, Lansing, shows in Lansing A-D warrant test, short trip, ctch, TOH for DST #2
06/24/2014	4232	conduct DST #2, successful test, TIH w/bit, resume drilling, shows in G zone warrant test, TOH for DST #3
06/25/2014	4320	conduct and complete DST #3, successful test, TIH w/bit, resume drilling, drilled H and J and conducting DST #4
06/26/2014	4404	complete DST #4, successful test, TIH w/bit, resume drilling, TD @ 4550 ft conduct logging operations
06/27/2014	4550	complete logging operations, off loc @ 0430 hrs

**well comparison sheet**

DRILLING WELL					COMPARISON WELL				COMPARISON WELL			
Ladenburger #1-6					Walter Bros. #8-1				Downing #1-6			
2310' FNL & 330' FWL					1320' FNL 330' FEL				2150' FSL 2140' FWL			
Sec 6-T1S-R35W					Sec 1-T1S-R36W				Sec 6-T1S-R35W			
3210 KB					3201KB		Structural Relationship		3169 KB		Structural Relationship	
Formation	2	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Neva	3627	-417	3630	-420	3615	-414	-3	-6	3594	-425	8	5
Red Eagle	3695	-485	3694	-484	3679	-478	-7	-6	3658	-489	4	5
Foraker	3740	-530	3742	-532	3725	-524	-6	-8	3706	-537	7	5
Stotler	3885	-675	3881	-671	3871	-670	-5	-1	3854	-685	10	14
Topeka	3950	-740	3950	-740	3934	-733	-7	-7	3914	-745	5	5
Oread	4065	-855	4064	-854	4048	-847	-8	-7	4026	-857	2	3
Lansing	4170	-960	4167	-957	4149	-948	-12	-9	4134	-965	5	8
Lansing D	4222	-1012	4220	-1010	4200	-999	-13	-11	4185	-1016	4	6
Lansing H	4324	-1114	4322	-1112	4303	-1102	-12	-10	4291	-1122	8	10
Stark	4385	-1175	4378	-1168	4361	-1160	-15	-8	4347	-1178	3	10
BKC	4436	-1226	4431	-1221	4413	-1212	-14	-9	4398	-1229	3	8
Total Depth	4550	-1340	4550	-1340	4507	-1306	-34	-34	4500	-1331	-9	-9

**Image Header 02**

**DRILL STEM TEST REPORT**

Murfin Drilling Co. Inc  
 250 N Water STE 300  
 Wichita KS 67202  
 ATTN: Keith Reavis

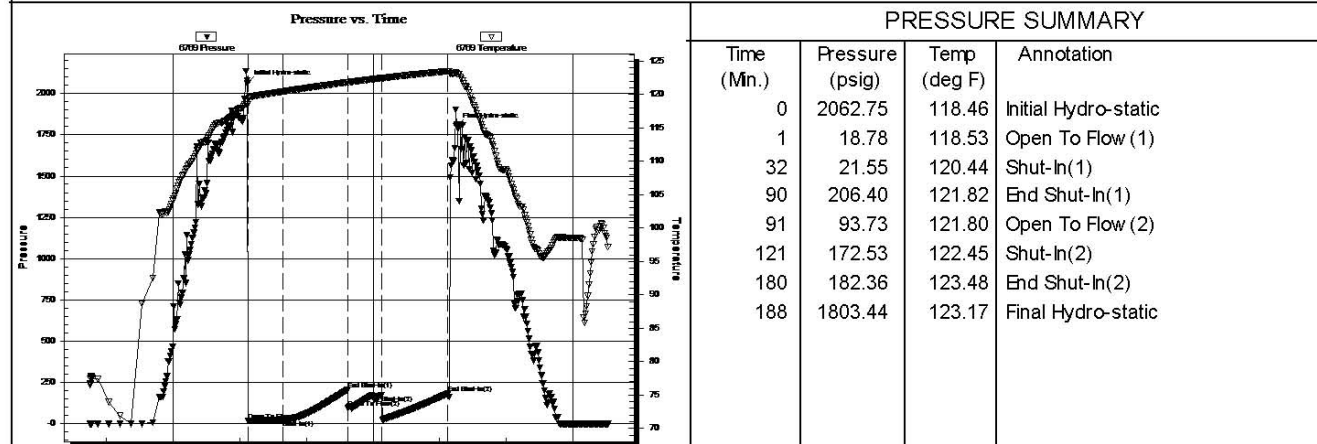
**6-1s-35w Rawlins,KS**  
**Ladenburger #1-6**  
 Job Ticket: 58798  
 Test Start: 2014.06.22 @ 07:45:00  
 DST#: 1

**GENERAL INFORMATION:**

Formation: **Stotler**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 10:07:30  
 Time Test Ended: 15:32:00  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Robert Zodrow  
 Unit No: 46  
 Interval: **3819.00 ft (KB) To 3926.00 ft (KB) (TVD)**  
 Total Depth: 3926.00 ft (KB) (TVD)  
 Reference Elevations: 3210.00 ft (KB)  
 3205.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 KB to GR/CF: 5.00 ft


**Serial #: 6769 Outside**  
 Press@RunDepth: 172.53 psig @ 3820.00 ft (KB)  
 Start Date: 2014.06.22  
 Start Time: 07:45:05  
 End Date: 2014.06.22  
 End Time: 15:31:59  
 Capacity: 8000.00 psig  
 Last Calib.: 2014.06.22  
 Time On Btm: 2014.06.22 @ 10:07:00  
 Time Off Btm: 2014.06.22 @ 13:15:00

**TEST COMMENT:** 30-IF- Blow built to 1/8"  
 60-ISI- No return  
 30-FF- No blow  
 60-FSI- No return



Recovery			Gas Rates		
Length (ft)	Description	Volume (bbl)	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
2.00	mud 100% <sub>m</sub>	0.01			

### Image Header 03

	<b>DRILL STEM TEST REPORT</b>	
	Murfin Drilling CO,INC 250 N Water STE 300 Wichita KS 67202 ATTN: Keith Reavis	<b>6 1 35W Rawlins KS</b> <b>Ladenburger #1-6</b> Job Ticket: 58799 <b>DST#: 2</b> Test Start: 2014.06.23 @ 01:10:00

**GENERAL INFORMATION:**

Formation: **LKC "A-D"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 03:18:30  
 Time Test Ended: 09:18:00

Test Type: Conventional Bottom Hole (Reset)  
 Tester: Robert Zodrow  
 Unit No: 46

Interval: **4104.00 ft (KB) To 4232.00 ft (KB) (TVD)**  
 Total Depth: 4232.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches-Hole Condition: Fair

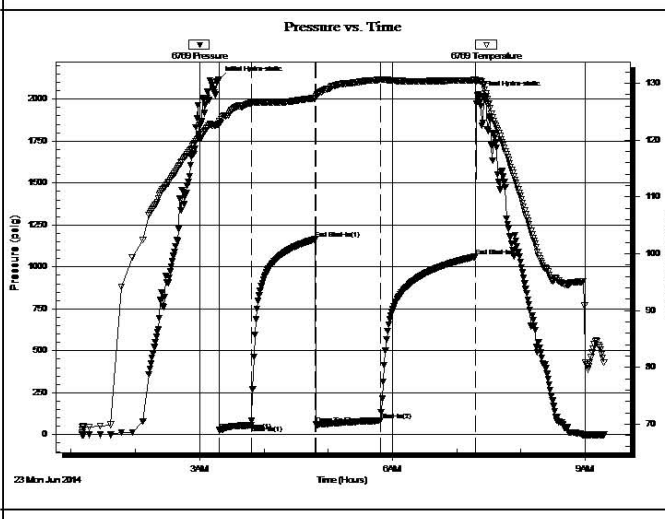
Reference Elevations: 3210.00 ft (KB)  
 3205.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 6769 Outside**

Press@RunDepth: 84.56 psig @ 4105.00 ft (KB)  
 Start Date: 2014.06.23 End Date: 2014.06.23  
 Start Time: 01:10:05 End Time: 09:17:59

Capacity: 8000.00 psig  
 Last Calib.: 2014.06.24  
 Time On Btm: 2014.06.23 @ 03:18:00  
 Time Off Btm: 2014.06.23 @ 07:20:00

**TEST COMMENT:** 30-IF-Blow built to 4"  
 60-ISI- No return  
 60-FF-Blow started in min built to 4 1/4"  
 90-FSI- Return built to real weak surface blow died in 38 mins




PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2117.85	122.84	Initial Hydro-static
1	26.55	123.40	Open To Flow (1)
30	56.30	126.55	Shut-In(1)
90	1164.27	127.36	End Shut-In(1)
91	61.34	127.76	Open To Flow (2)
151	84.56	130.64	Shut-In(2)
240	1060.92	130.56	End Shut-In(2)
242	2026.89	130.49	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
188.00	WM oil spots 40% <sub>w</sub> 60% <sub>m</sub>	2.15
15.00	ocm 35% <sub>o</sub> 65% <sub>m</sub>	0.22

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

\* Recovery from multiple tests

### Image Header 04

	<b>DRILL STEM TEST REPORT</b>	
	Murfin Drilling CO,INC 250 N Water STE 300 Wichita KS 67202 ATTN: Keith Reavis	<b>6 1 35W Rawlins KS</b> <b>Ladenburger #1-6</b> Job Ticket: 58800 <b>DST#: 3</b> Test Start: 2014.06.24 @ 23:30:00

**GENERAL INFORMATION:**

Formation: **LKC "G"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 01:48:00  
 Time Test Ended: 07:10:30

Test Type: Conventional Bottom Hole (Reset)  
 Tester: Robert Zodrow  
 Unit No: 46

Interval: **4231.00 ft (KB) To 4320.00 ft (KB) (TVD)**  
 Total Depth: 4320.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches-Hole Condition: Fair

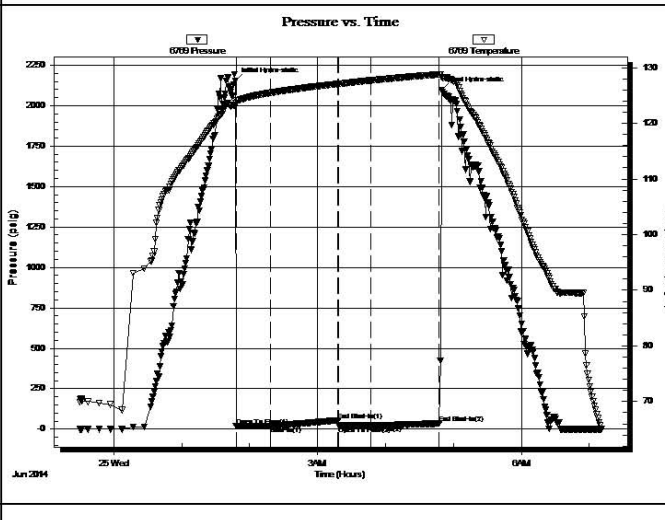
Reference Elevations: 3210.00 ft (KB)  
 3205.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 6769 Outside**

Press@RunDepth: 22.65 psig @ 4232.00 ft (KB)  
 Start Date: 2014.06.24 End Date: 2014.06.25  
 Start Time: 23:30:05 End Time: 07:10:29

Capacity: 8000.00 psig  
 Last Calib.: 2014.06.25  
 Time On Btm: 2014.06.25 @ 01:47:30  
 Time Off Btm: 2014.06.25 @ 04:49:30

**TEST COMMENT:** 30-IF- Blow built to 1/2"  
 60-ISI- No return  
 30-FF- No blow  
 60-FSI- No return




PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2154.51	123.21	Initial Hydro-static
1	19.60	123.57	Open To Flow (1)
31	20.88	125.46	Shut-In(1)
91	52.50	127.07	End Shut-In(1)
91	21.86	127.07	Open To Flow (2)
120	22.65	127.71	Shut-In(2)
180	35.48	128.78	End Shut-In(2)
182	2098.51	128.25	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
1.00	mud 100% <sub>m</sub>	0.00

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

\* Recovery from multiple tests

### Image Header 05

	<b>DRILL STEM TEST REPORT</b>	
	Murfin Drilling CO,INC 250 N Water STE 300 Wichita KS 67202 ATTN: Keith Reavis	<b>6 1 35W Rawlins KS</b> <b>Ladenburger #1-6</b> Job Ticket: 53690 <b>DST#: 4</b> Test Start: 2014.06.25 @ 17:30:00

**GENERAL INFORMATION:**

Formation: **LKC "H-J"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 20:05:00  
 Time Test Ended: 02:42:30

Test Type: Conventional Bottom Hole (Reset)  
 Tester: Robert Zodrow  
 Unit No: 46

Interval: **4286.00 ft (KB) To 4388.00 ft (KB) (TVD)**  
 Total Depth: 4388.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches-Hole Condition: Fair

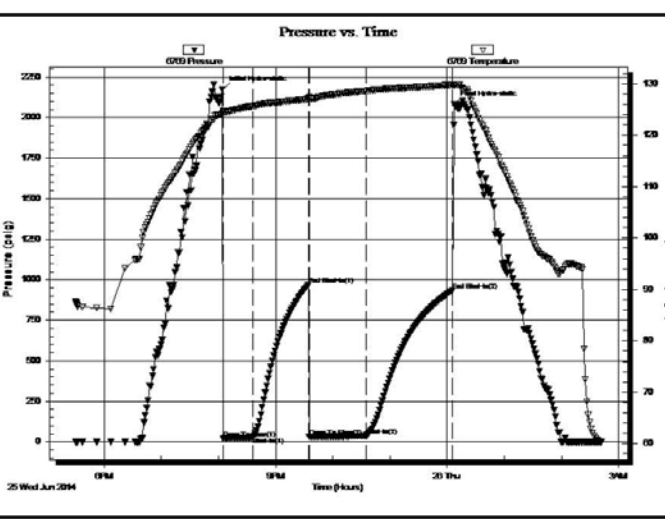
Reference Elevations: 3210.00 ft (KB)  
 3205.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 6769 Outside**

Press@RunDepth: 36.55 psig @ 4287.00 ft (KB)  
 Start Date: 2014.06.25 End Date: 2014.06.26  
 Start Time: 17:30:05 End Time: 02:42:30

Capacity: 8000.00 psig  
 Last Calib.: 2014.06.26  
 Time On Btm: 2014.06.25 @ 20:04:30  
 Time Off Btm: 2014.06.26 @ 00:07:30

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



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2170.99	124.17	Initial Hydro-static
1	21.06	124.49	Open To Flow (1)
31	28.37	125.61	Shut-In(1)
90	969.70	127.03	End Shut-In(1)
91	30.49	127.31	Open To Flow (2)
151	36.55	128.61	Shut-In(2)
241	932.76	129.78	End Shut-In(2)
243	2080.39	129.84	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
5.00	mud 100% <sub>m</sub>	0.02

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

\* Recovery from multiple tests



**ROCK TYPES**

Lmst fw<7	shale, gry	shale, red	Sst
sdy lmst	shale, grn	Ss	

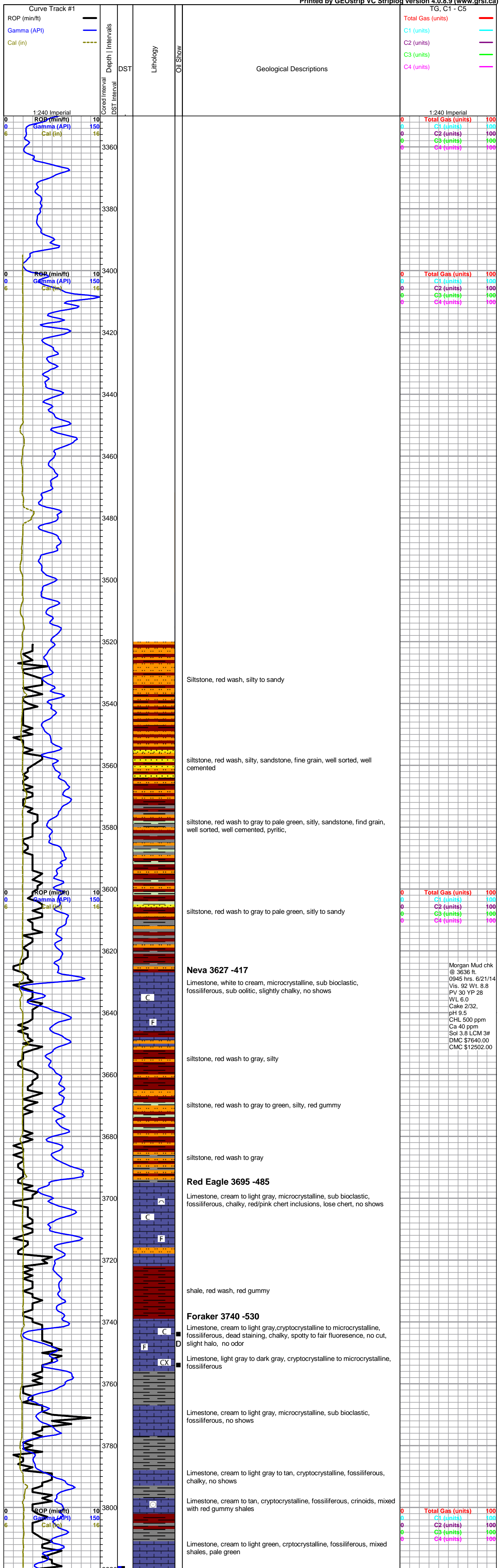
**ACCESSORIES**

<b>MINERAL</b> Mineral Crystals Pyrite Varicolored chert	<b>FOSSIL</b> Bioclastic or Fragmental Crinoids Fossils < 20% Oolite	<b>STRINGER</b> Chert	<b>TEXTURE</b> Chalky Cryptocrystalline Lithog
---	--	--------------------------	---

**OTHER SYMBOLS**

<b>MISC</b> Daily Report Digital Photo Document Folder Link Vertical Log File Horizontal Log File Core Log File Drill Cuttings Rpt	<b>Oil Show</b> Good Show Fair Show Poor Show Spotted or Trace Questionable Stn Dead Oil Stn Fluorescence Gas	<b>DST</b> DST Int DST alt Core tail pipe
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Printed by GEOstrip VC Striplog version 4.0.8.9 (www.grsi.ca)



Curve Track #1  
 ROP (min/ft)  
 Gamma (API)  
 Cal (in)

Depth | Intervals  
 DST  
 Lithology  
 Oil Show

Geological Descriptions

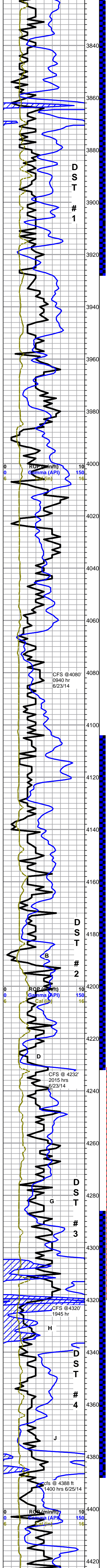
1:240 Imperial  
 Total Gas (units)  
 C1 (units)  
 C2 (units)  
 C3 (units)  
 C4 (units)

1:240 Imperial  
 Total Gas (units)  
 C1 (units)  
 C2 (units)  
 C3 (units)  
 C4 (units)

1:240 Imperial  
 Total Gas (units)  
 C1 (units)  
 C2 (units)  
 C3 (units)  
 C4 (units)

Morgan Mud chk  
 @ 3636 ft.  
 0945 hrs. 6/21/14  
 Vis. 92 Wt. 8.8  
 PV 30 YP 28  
 WL 6.0  
 Cake 2/32,  
 pH 9.5  
 CHL 500 ppm  
 Ca 40 ppm  
 Sol 3.8 LCM 3#  
 DMC \$7640.00  
 CMC \$12502.00

1:240 Imperial  
 Total Gas (units)  
 C1 (units)  
 C2 (units)  
 C3 (units)  
 C4 (units)



Shale, gray wash, gray gummy

shale, gray wash

Shale gray wash

**Stotler 3885 -675**  
Limestone, cream to light gray, microcrystalline, fossiliferous, pyritic, dead black stain, no odor, fair fluorescence, fair cut, no free oil

Limestone stringer, pale green, soft

Shales, red to gray, gummy, sub silty

Limestone, white to cream to pale green, cryptocrystalline, recrystallized bioclastic, fossiliferous, chalky, no shows

shale, red wash to gray, silty

**Topeka 3950 -740**  
Limestone, cream to light gray to pale green, cryptocrystalline to microcrystalline, fossiliferous, soft to dense, tan to yellow chert, dense, sub pyritic, no shows

Limestone, white, cryptocrystalline, fossiliferous, fractured red staining, no shows,

Limestone, white to cream, creptocrystalline, fossiliferous, pyritic, spotty dead black stain, slightly weathered, poor to no fluorescence, poor to no cut, no free oil

Limestone, white to cream to maroon, mircocrystalline, pyritic, fossiliferous, weathered, soft, sub chalky, yellow chert, dense, no shows

Limestone, maroon, sandy, soft, fine grain, no shows

Limestone, cream to maroon, microcrystalline, fossiliferous, soft, no shows

shale, red wash, silty

**Oread 4066 -855**  
Limestone, cream to light gray, cryptocrystalline to microcrystalline, fossiliferous to lithographic, soft, fractures on break, pyritic, no shows

Limestone, cream to light gray, cryptocrystalline, fossiliferous to lithographic, chalky, dense no shows

Limestone, light gray, cryptographic, lithographic, chalky, no shows

Limestone, light gray to gray, cryptocrystalline to microcrystalline, fossiliferous to lithographic, chalky, dense, one spotty black stain, fleeting odor, no shows

Shale, gray wash, fleeting odor

Limestone shale mix, gray, cryptocrystalline, lithographic, spotty dead black staining on sand cluster, chalky, fleeting odor, no free oil

Sandy Limestone, gray, cryptocrystalline to microcrystalline, fossiliferous, pyritic, chalky sandstone, well sorted, well cemented, free oil on break

shale red wash to gray, silty, red gummy

Shale, red wash, silty, sandstone, fine grain, well cemented, well sorted, red gummy

**Lansing 4170 -960**  
Limestone, cream to tan to light gray, cryptocrystalline, fossiliferous to lithographic, sub free oil to sub dense, spotted dead black stains, fractured to sharp edges, no free oil, no odor

Limestone, cream to tan, microcrystalline, fossiliferous, intercrystalline, weathered, surface etching, pyritic, chalky dead black stain, free oil on break, fair to poor fluorescence, good cut, no odor

B zone - Limestone, cream to tan, microcrystalline, fossiliferous, pyritic, weathered, vuggy pin hole porosity, spotty free oil in tray, free oil on break, fair black staining, fleeting odor

Limestone, cream to light gray, cryptocrystalline, fossiliferous, pyritic, spotty dead black stain, no shows

Shale, red to gray, silty, sandstone, fine grain, well sorted, well cemented

Limestone, white to cream, microcrystalline, fossiliferous, some secondary calcite, vuggy interclast and solution vug porosity, weathered, surface etching, bleeding gassy oil, good odor, good show free oil, good cut, good fluorescence, 30 min. sample heavy chalk

Shale, red to gray to green, silty

Limestone, white to cream to light gray, microcrystalline, fossiliferous, sub pale green pyritic, soft, dead black stain, slow poor cut, no shows

Limestone, white to cream, microcrystalline, sub bioclastic, fossiliferous, sub chalky, surface etching, abundant dead black staining, spotty free oil in tray, poor fluorescence, slow poor cut, good sheen on water, fleeting odor

Limestone, cream to light gray to pale green, cryptocrystalline, sub bioclastic, sub oolitic, fossiliferous to lithographic, sub weathered, sub chalky, spotty free oil in tray, abundant dead black staining, poor fluorescence, slow poor cut

Limestone, cream to light gray, cryptocrystalline, fossiliferous, recrystallized sub oolitic, pyritic, weathered, surface etching dense, sharp fractures, dead black staining, spotted free oil in tray, slow poor cut, poor fluorescence, fleeting odor

Limestone, white to cream pale green, microcrystalline, sub bioclastic, fossiliferous, sub chalky, no shows

Limestone, cream to light gray, microcrystalline, bioclastic, oolitic, fossiliferous, soft, pyritic, fleeting odor, no shows

Limestone, white, cryptocrystalline, fossiliferous, sub weathered, chalky, soft, pyritic, no shows

limestone, white to cream, mostly cryptocrystalline, fossiliferous, dense to chalky, 1 piece slight stain, no show free oil or odor, light fluorescence, abundant chalk

**Stark 4385 -1175**  
Shale, red to gray, silty

Limestone, white to cream, cryptocrystalline, sub bioclastic, fossiliferous, sub chalky, no shows

Limestone, cream, microcrystalline, bioclastic, fossiliferous, recrystallized fossils, chert in part, denses, no shows

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

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

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

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

Ladenburger 1-6 dst 1 .pdf

Morgan Mud chk @ 3926 ft. 1000 hrs. 6/22/14 Vis. 57 Wt. 9.2 PV 18 YP 20 WL 6.0 Cake 2/32, pH 8.5 CHL 500 ppm Ca 40 ppm Sol 6.1 LCM 4# DMC \$2107 CMC \$14609

Morgan Mud chk @ 4077 ft. 0930 hrs. 6/23/14 Vis. 52 Wt. 9.2 PV 20 YP 14 WL 8.8 Cake 2/32, pH 8.0 CHL 700 ppm Ca 50 ppm Sol 6.5 LCM 4# DMC \$390 CMC \$14999

Ladenburger 1-6 dst 2 .pdf

Morgan Mud chk @ 4232 ft. 0945 hrs. 6/24/14 Vis. 52 Wt. 9.4 PV 16 YP 18 WL 9.2 Cake 2/32, pH 7.5 CHL 900 ppm Ca 60 ppm Sol 7.9 LCM 5# DMC \$1965 CMC \$16964

Ladenburger 1-6 dst 3 .pdf

Morgan Mud chk @ 4320 ft. 0915 hrs. 6/25/14 Vis. 116 Wt. 9.4 PV 32 YP 34 WL 7.6 Cake 2/32, pH 9.5 CHL 700 ppm Ca 40 ppm Sol 7.9 LCM 4# DMC \$-45 CMC \$16919

Ladenburger 1-6 dst 4 .pdf



recrystallized fossils, cherty in part, dense, no shows

**BKC 4436 -1226**

Limestone, cream to light gray, microcrystalline, bioclastic, fossiliferous, oolitic, sharp, sub chalky, dense, no shows

Shale, red to gray, red wash, silty

shale, red wash to pale green, silty, red gummy

Limestone, light gray, cryptocrystalline, bioclastic, fossiliferous, light brown chert, sharp, dense, no shows

Shale, red wash, gummy

Limestone, light gray, microcrystalline, bioclastic, fossiliferous, chalky, soft to dense, no shows

Shale, red wash, silty

Limestone, cream to light gray to gray, microcrystalline, fossiliferous, sub cherty, sub chalky, dense, fractures, no shows

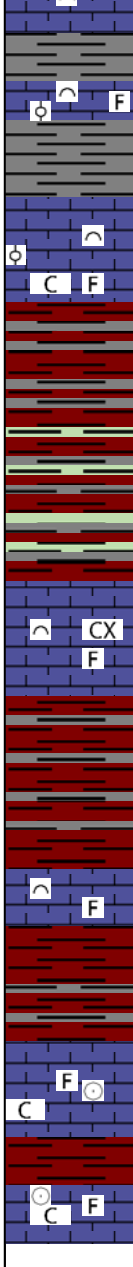
Limestone, light gray, microcrystalline, fossiliferous, abundant chalky, no shows

**Rotary TD 4550 ft @ 1830 hrs 6/26/14**  
**Pioneer Log TD 4550 ft, logs complete 0345 hrs 6/27/14**

Morgan Mud chk  
@ 4440 ft.  
0945 hrs. 6/26/14  
Vis. 68 Wt. 9.4  
PV 20 YP 28  
WL 8.8  
Cake 2/32,  
pH 10  
CHL 700 ppm  
Ca 30 ppm  
Sol 7.9 LCM 4#  
DMC \$-60  
CMC \$16979

cfs @ 4440 ft  
1144 hrs 6/26/14

TD @4550 ft  
1728hrs 6/26/14





*acct.  
Prod-MG*

# INVOICE

PO Box 93999  
Southlake, TX 76092

Invoice Number: 1439 11

Invoice Date: Jun 18, 2014

Page: 1

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

<b>Bill To:</b>
Murfin Drg. Co., Inc. 250 N. Water STE #300 Wichita, KS 67202

Customer ID	Field Ticket #	Payment Terms	
Murfin	63345	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Jun 18, 2014	7/18/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Ladenburger #1-6		
225.00	CEMENT MATERIALS	Class A Common	17.90	4,027.50
423.00	CEMENT MATERIALS	Gel	1.05	444.15
635.00	CEMENT MATERIALS	Chloride	1.10	698.50
243.31	CEMENT SERVICE	Cubic Feet Charge	2.48	603.41
888.32	CEMENT SERVICE	Ton Mileage Charge	2.75	2,442.88
1.00	CEMENT SERVICE	Surface	1,512.25	1,512.25
80.00	CEMENT SERVICE	Pump Truck Mileage	7.70	616.00
1.00	CEMENT SERVICE	Manifold Rental	275.00	275.00
80.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	352.00
1.00	CEMENT SUPERVISOR	Alan Ryan		
1.00	EQUIPMENT OPERATOR	Kevin Ryan		

Subtotal	10,971.69
Sales Tax	408.44
Total Invoice Amount	11,380.13
Payment/Credit Applied	
<b>TOTAL</b>	<b>11,380.13</b>

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

\$ 3,840.09 *ok*

ONLY IF PAID ON OR BEFORE  
Jul 18, 2014

*ok*

$11,380.13 - 3,840.09 = 7,540.04$





**CONSOLIDATED**  
Oil Well Services, LLC

**REMIT TO**  
Consolidated Oil Well Services, LLC  
Dept. 970  
P.O. Box 4346  
Houston, TX 77210-4346

**MAIN OFFICE**  
P.O. Box 884  
Chanute, KS 66720  
620/431-9210 • 1-800/467-8676  
Fax 620/431-0012

**INVOICE**

Invoice # 269216

Invoice Date: 06/30/2014 Terms: 10/10/10,n/30

Page 1

MURFIN DRILLING  
P.O. BOX 288  
RUSSELL KS 67665  
( ) -

LADENBURGER #1-6  
46838  
6-15-35W  
06/27/2014  
KS

USED FOR ICAD3  
APPROVED [Signature]  
FH R

Part Number	Description	Qty	Unit Price	Total
1104D	CLASS "A" CEMENT CMD	300.00	27.9200	8376.00
1107	FLO-SEAL (25#)	150.00	2.9700	445.50
1110A	KOL SEAL (50# BAG)	1000.00	.5600	560.00
1126	OIL WELL CEMENT	200.00	23.7000	4740.00
1142A	KCL SUB MB6875 CC3107 (1	2.00	41.1000	82.20
1144G	MUD FLUSH (SALE)	500.00	1.0000	500.00
4104	CEMENT BASKET 5 1/2"	3.00	290.0000	870.00
4136	TURBOLIZER 5 1/2"	15.00	75.7500	1136.25
4159	FLOAT SHOE AFU 5 1/2"	1.00	433.7500	433.75
4310	MISC. EQUIPMENT	1.00	200.0000	200.00
4310	MISC. EQUIPMENT	20.00	94.5000	1890.00
4454	5 1/2" LATCH DOWN PLUG	1.00	567.0000	567.00

Sublet Performed	Description	Total
9996-130	CEMENT MATERIAL DISCOUNT	-1980.07
9995-130	CEMENT EQUIPMENT DISCOUNT	-711.73

	Description	Hours	Unit Price	Total
450	SINGLE PUMP	1.00	3175.00	3175.00
450	EQUIPMENT MILEAGE (ONE WAY)	85.00	5.25	446.25
530	TON MILEAGE DELIVERY	1.00	3496.05	3496.05

Amount Due 28482.24 if paid after 07/10/2014

Parts:	19800.70	Freight:	.00	Tax:	1407.81	AR	25634.01
Labor:	.00	Misc:	.00	Total:	25634.01		
Sublt:	-2691.80	Supplies:	.00	Change:	.00		

Signed \_\_\_\_\_ Date \_\_\_\_\_

BARTLESVILLE, OK 918/338-0808    EL DORADO, KS 316/322-7022    EUREKA, KS 620/583-7664    PONCA CITY, OK 580/762-2303    OAKLEY, KS 785/672-8822    OTTAWA, KS 785/242-4044    THAYER, KS 620/839-5269    GILLETTE, WY 307/686-4914    CUSHING, OK 918/225-2650



**CONSOLIDATED**  
Oil Well Services, LLC

269216

TICKET NUMBER 46838

LOCATION Oakley, KS

FOREMAN Miles Shaw

PO Box 884, Chanute, KS 66720  
620-431-9210 or 800-467-8676

**FIELD TICKET & TREATMENT REPORT**

**CEMENT**

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
10-27-14	5406	Laden burner #1-6	U	15	35W	Rawlins
CUSTOMER <u>Mucfin</u>			Bands by 10 to state line			
MAILING ADDRESS			TRUCK #	DRIVER	TRUCK #	DRIVER
CITY			450718	Jeremy R		
STATE			530709	Stewart		
ZIP CODE						

JOB TYPE long string HOLE SIZE 7 7/8 HOLE DEPTH 4540' CASING SIZE & WEIGHT 5 1/2" 15.5#  
 CASING DEPTH 4542 DRILL PIPE \_\_\_\_\_ TUBING \_\_\_\_\_ OTHER \_\_\_\_\_  
 SLURRY WEIGHT 10.7/138 SLURRY VOL 3.0/1.42 WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING 21.04  
 DISPLACEMENT 116 1/2 bbl DISPLACEMENT PSI 1800 MIX PSI 1900 RATE \_\_\_\_\_

REMARKS: Safety meeting and rig wear Mucfin drilling rig #7 float equipment  
Turbulizers on seat # 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 16, 34, 42 Baskets on seats # 17, 35,  
6 3/4 Run casing to bottom Circulate casing thr. Pump mud flush mix 250 sks  
CMC treated in with 200 sks OAC with 5" Holsal shut down cleared pump & lines  
released plug displaced 110 1/2 bbls water with 1300 lbf plug did land @ 1900 psi  
Cement did circulate 30 bbls to pit

Box 30 sks RH + 20 sks MH

Thanks Miles & Crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
54016	1	PUMP CHARGE	3175.00	3175.00
5406	85	MILEAGE	5.25	446.25
5407A	23.5 tons	Ton mileage delivery	1.25	3496.05
1104D	300 sks	CMC cement	27.92	8376.00
1107	150 #	Flaseal	2.97	445.50
1110A	1000 #	Holsal	.56	560.00
1126	200 sks	OAC	23.70	4740.00
1142A	2 gal	WCC	41.10	82.20
11446	500 gal	Mud flush	1.00	500.00
4104	3	5 1/2" Baskets	290.00	870.00
4136	15	5 1/2" Turbulizers	75.75	1136.25
4159	1	5 1/2" AFE Float shoe	433.75	433.75
4310	1	Rotating head charge	200.00	200.00
4310	20	Rotating scrapers	94.50	1890.00
4454	1	5 1/2" Latch down plug	567.00	567.00
		Subtotal		26918.00
		less 10% discount		26918.00
		Subtotal		24226.00
		SALES TAX		1407.81
		ESTIMATED TOTAL		25,634.01

Revin 9737

AUTHORIZATION Ben [Signature] TITLE \_\_\_\_\_ DATE \_\_\_\_\_

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.

Ladenburger #1-6  
 Daily Drilling Report  
 Page Two

- 6/25/14 Depth 4320'. Cut 88'. DT: None. CT: 16 ½ hrs. Dev.: None. **LKC G**: Ist, microxtln, sub bioclastic, foss, sub chalky, surf etching, abundant dead blk stn, spotty FO in tray, pr fluor, slow pr cut, gd sheen on water, fleeting odor. **LKC G'**: Ls, crm - lt gray, cryptoxtn, foss, recrystallized sub oolitic, pyritic, weathered, surf etching dense, sharp fractures, dead blk stn, spotted FO in tray, slow pr cut, pr fluor, fleeting odor. **DST #3 4231-4320' (LKC G-G')**: 360-60-30-60. IF: blw built to ½". FF: no blw. Rec.: 1'M. HP: 2155-2099. FP: 20/21, 22/23. SIP: 53-35. BHT: 129°.
- 6/26/14 Depth 4400'. Cut 80'. DT: ¼ hr pump. CT: 19hrs. Dev.: None. **LKC H**: Ist, microxtln, sub bioclastic, foss, sub chalky, NS. **LKC J**: Ist, cryptoxtn, foss, dense chalky, 1 pc sl stn, NS. **DST #4 4286-4387' (LKC H-J)**: 30-60-60-90. IF: blw built to ¼". FF: No blw. Rec.: 5'M. HP: 2171-2080. FP: 21/28, 30/37. SIP: 970-933. BHT: 130°.
- 6/27/14 RTD 4550'. Cut 150'. DT: None. CT: 14 hrs. Dev.: 1° @ 4550'. HC @ 6:30PM 6/26. Pioneer logged from 11:00PM 6/26 - 3:45AM 6/27/14, LTD @ 4550'. Preparing to run production casing.
- 6/28/14 RTD: 4550'. CT: 13¾ hrs. Ran 109jts of 5½" prod csg, set @ 4542'. C.O.W.S cmt w/550sxs (300CMD, 250 OWC). PD @ 4:45PM 6/27. 30sxs RH, 30sxs MH. RR @ 8:45PM 6/27. FINAL REPORT

MDCI Ladenburger #1-6 2310' FNL 330' FWL Sec. 6-T1S-R35W 3210' KB							MDCI Walter #8-1 1320' FNL 330' FEL Sec. 1-T1S-R36W 3201' KB	
Formation	Sample top	Datum	Ref	Log Top	Datum	Ref	Log Top	Datum
Anhydrite	3140	+70	-9	3135	+75	-4	3122	+79
B/Anhydrite	3180	+30	-10	3171	+39	-1	3161	+40
Neva	3627	-417	-3	3630	-420	-6	3615	-414
Red Eagle	3695	-485	-7	3694	-484	-6	3679	-478
Foraker	3740	-530	-6	3742	-532	-8	3725	-524
Topeka	3950	-740	-7	3950	-740	-7	3934	-733
Oread	4065	-855	-8	4064	-854	-7	4048	-847
Lansing	4170	-960	-12	4167	-957	-9	4149	-948
Stark	4385	-1175	-15	4378	-1168	-8	4361	-1160
BKC				4431	-1221	-9	4413	-1212
RTD	4550						4510	-1309
LTD				4550			4507	-1248