



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1150149  
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: \_\_\_\_\_



1150149

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

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

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

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

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

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

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

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

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

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

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
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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> _____ <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Conservation Division  
Finney State Office Building  
130 S. Market, Rm. 2078  
Wichita, KS 67202-3802



Phone: 316-337-6200  
Fax: 316-337-6211  
<http://kcc.ks.gov/>

Mark Sievers, Chairman  
Thomas E. Wright, Commissioner  
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

July 01, 2013

Leon Rodak  
Murfin Drilling Co., Inc.  
250 N WATER STE 300  
WICHITA, KS 67202-1216

Re: ACO1  
API 15-153-20920-00-00  
AFT 1-5  
NE/4 Sec.05-03S-36W  
Rawlins County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,  
Leon Rodak

MDCI AFT #1-5 330' FNL 2190'FEL Sec. 5-3S-36W 3369' KB							MDCI CWA 'B' #1-5 330' FNL 2310'FWL Sec. 5-3S-36W 3369' KB	
Formation	Sample top	Datum	Ref	Log tops	Datum	Ref	Log tops	Datum
Anhydrite	3221	+148	+7	3223	+146	+5	3228	+141
B/Anhydrite	3257	+112	+5	3259	+110	+3	3262	+107
Neva	3724	-355	+4	3724	-355	+4	3728	-359
Foraker	3843	-474	+5	3843	-474	+5	3848	-479
Topeka	4086	-717	+4	4086	-717	+4	4090	-721
Oread	4208	-839	+3	4208	-839	+3	4211	-842
Lansing	4295	-926	+3	4295	-926	+3	4298	-929
Stark	4518	-1149	+3	4518	-1149	+3	4521	-1152
BKC	4563	-1194	+5	4568	-1199	Flat	4568	-1199
Pawnee	4693	-1324	+3	4693	+1324	+3	4696	-1327
Cherokee	4765	-1396	+2	4767	+1398	Flat	4767	-1398
Mississippi							4958	-1589
RTD	4850						5100	
LTD				4853			5102	









## DRILL STEM TEST REPORT

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

250 N Water STE #300  
Wichita, KS 67202

ATTN: Jeff Christian

**AFT #1-5**

**5-1s-36w Rawlins,KS**

Start Date: 2013.03.11 @ 07:50:00

End Date: 2013.03.11 @ 17:30:30

Job Ticket #: 51211                      DST #: 1

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

Printed: 2013.03.20 @ 10:20:54

Murfin Drilling, Co. 5-1s-36w Rawlins,KS AFT #1-5 DST # 1 LKC "A-D" 2013.03.11



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling, Co.  
250 N Water STE #300  
Wichita, KS 67202  
ATTN: Jeff Christian

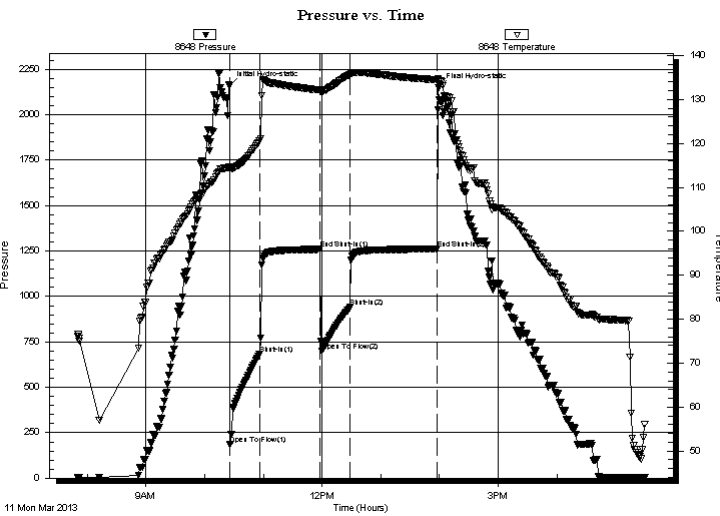
**5-1s-36w Rawlins,KS**  
**AFT #1-5**  
Job Ticket: 51211      **DST#: 1**  
Test Start: 2013.03.11 @ 07:50:00

## GENERAL INFORMATION:

Formation: **LKC "A-D"**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 10:26:00  
Time Test Ended: 17:30:30  
Interval: **4270.00 ft (KB) To 4376.00 ft (KB) (TVD)**  
Total Depth: 4376.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Kevin Mack  
Unit No: 43  
Reference Elevations: 3369.00 ft (KB)  
3359.00 ft (CF)  
KB to GR/CF: 10.00 ft

**Serial #: 8648      Inside**  
Press @ Run Depth: 939.49 psig @ 4271.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2013.03.11      End Date: 2013.03.11      Last Calib.: 2013.03.11  
Start Time: 07:50:05      End Time: 17:30:30      Time On Btm: 2013.03.11 @ 10:25:15  
Time Off Btm: 2013.03.11 @ 13:59:00

**TEST COMMENT:** 30 - IF- BoB in 1 1/2 Min.  
60 - IS- Weak Surface Return started at 2 min. Died at 15 min.  
30 - FF- BoB in 3 min  
90 - FS- No Return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2160.19	114.58	Initial Hydro-static
1	188.08	114.27	Open To Flow (1)
31	683.95	120.58	Shut-In(1)
92	1260.05	132.12	End Shut-In(1)
95	697.60	131.89	Open To Flow (2)
124	939.49	135.70	Shut-In(2)
212	1262.01	134.46	End Shut-In(2)
214	2151.58	134.29	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
360.00	OSMW 90W 10M (oil spots)	1.77
360.00	OCMW 50W 30M 20o	3.47
658.00	GWOCM 20G 20W 40M 20o	9.23
564.00	GMCWO 30G 10W 10M 50o	7.91
380.00	MCO 40M 60o	5.33

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling, Co.

**5-1s-36w Rawlins,KS**

250 N Water STE #300  
Wichita, KS 67202

**AFT #1-5**

Job Ticket: 51211

**DST#: 1**

ATTN: Jeff Christian

Test Start: 2013.03.11 @ 07:50:00

## Tool Information

Drill Pipe:	Length: 3740.00 ft	Diameter: 3.80 inches	Volume: 52.46 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: 533.00 ft	Diameter: 2.25 inches	Volume: 2.62 bbl	Weight to Pull Loose:	75000.00 lb
			<u>Total Volume: 55.08 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial	68000.00 lb
Depth to Top Packer:	4270.00 ft			Final	74000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	106.00 ft				
Tool Length:	135.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4242.00	
Shut In Tool	5.00			4247.00	
Hydraulic tool	5.00			4252.00	
Jars	5.00			4257.00	
Safety Joint	3.00			4260.00	
Packer	5.00			4265.00	29.00 Bottom Of Top Packer
Packer	5.00			4270.00	
Stubb	1.00			4271.00	
Recorder	0.00	6799	Inside	4271.00	
Recorder	0.00	8648	Inside	4271.00	
Perforations	5.00			4276.00	
Change Over Sub	1.00			4277.00	
Drill Pipe	95.00			4372.00	
Change Over Sub	1.00			4373.00	
Bullnose	3.00			4376.00	106.00 Bottom Packers & Anchor

**Total Tool Length: 135.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling, Co.

**5-1s-36w Rawlins,KS**

250 N Water STE #300  
Wichita, KS 67202

**AFT #1-5**

Job Ticket: 51211

**DST#: 1**

ATTN: Jeff Christian

Test Start: 2013.03.11 @ 07:50:00

## 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:

30000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
360.00	OSMW 90W 10M (oil spots)	1.770
360.00	OCMW 50W 30M 20o	3.474
658.00	GWOCM 20G 20W 40M 20o	9.230
564.00	GMCWO 30G 10W 10M 50o	7.911
380.00	MCO 40M 60o	5.330

Total Length: 2322.00 ft      Total Volume: 27.715 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .23 @ 70 = 30,000

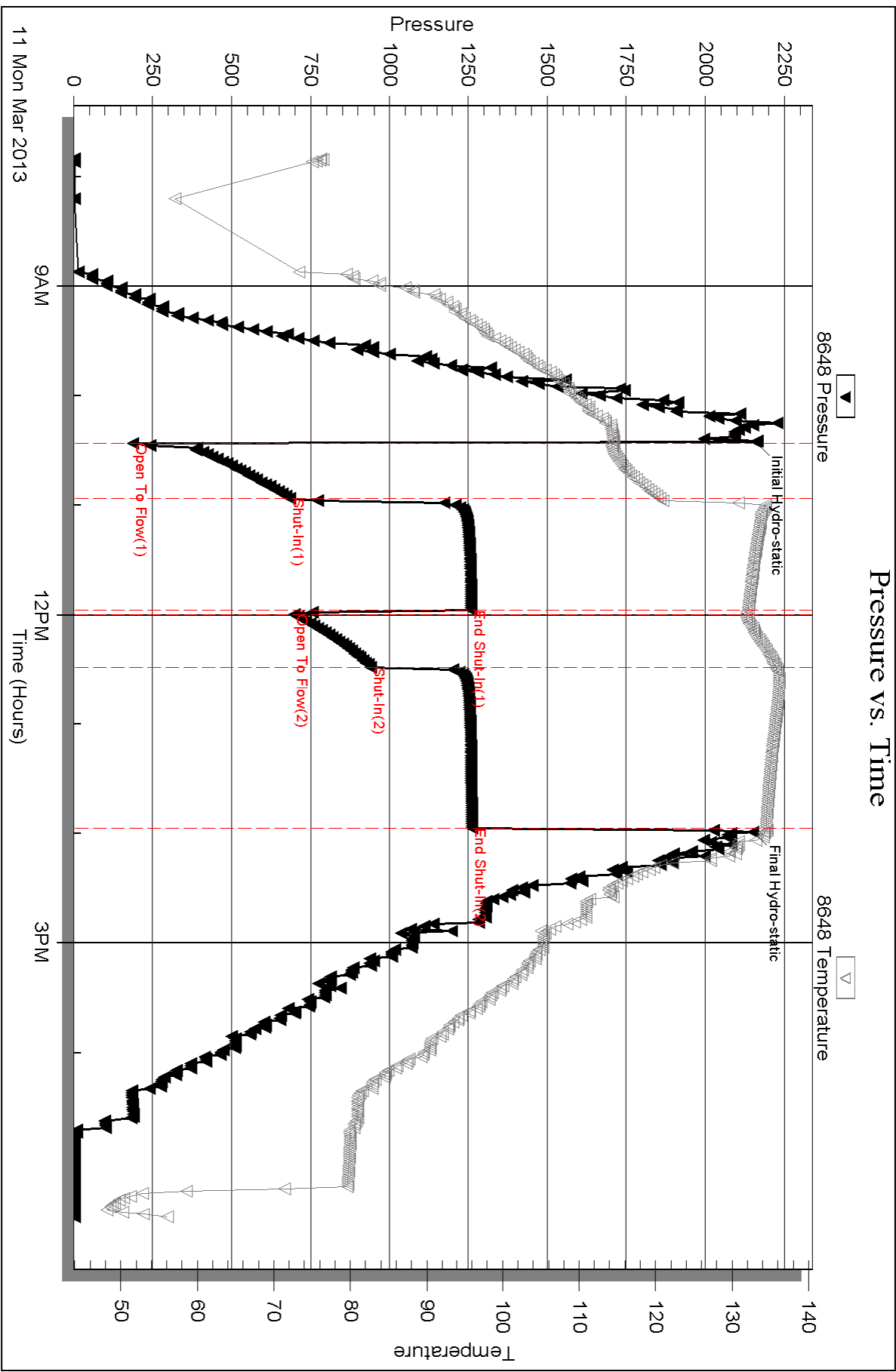
Serial #: 8648

Inside

Murfin Drilling, Co.

AFT #1-5

DST Test Number: 1



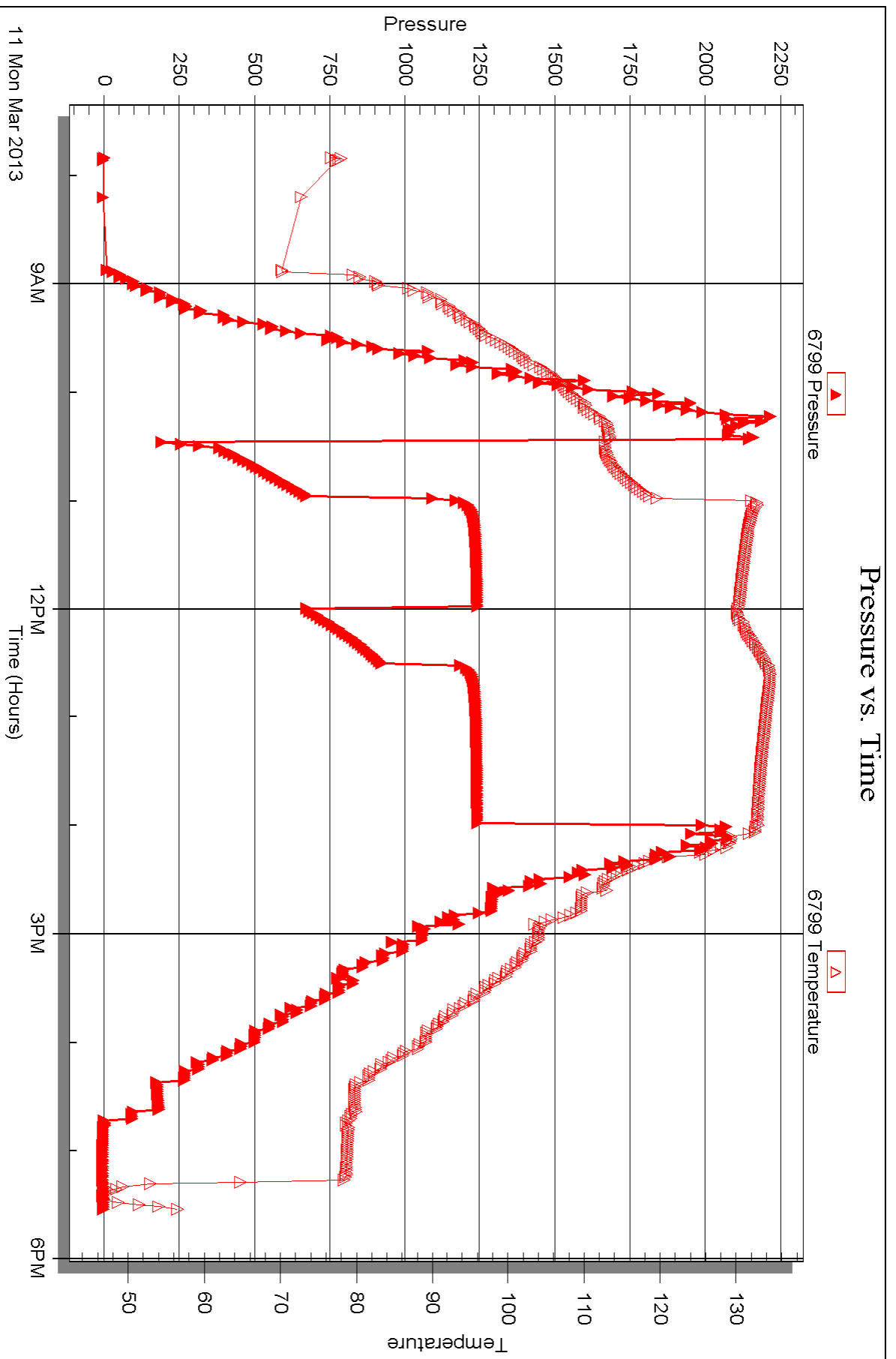
Serial #: 6799

Inside

Murfin Drilling, Co.

AFT #1-5

DST Test Number: 1







## DRILL STEM TEST REPORT

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

250 N Water STE #300  
Wichita, KS 67202

ATTN: Jeff Christian

**AFT #1-5**

**5-1s-36w Rawlins,KS**

Start Date: 2013.03.12 @ 00:35:00

End Date: 2013.03.12 @ 09:17:15

Job Ticket #: 51212                      DST #: 2

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

Printed: 2013.03.20 @ 10:20:14

Murfin Drilling, Co. 5-1s-36w Rawlins,KS AFT #1-5 DST # 2 LKC "G" 2013.03.12







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling, Co.

**5-1s-36w Rawlins,KS**

250 N Water STE #300  
Wichita, KS 67202

**AFT #1-5**

Job Ticket: 51212

**DST#: 2**

ATTN: Jeff Christian

Test Start: 2013.03.12 @ 00:35:00

## Tool Information

Drill Pipe:	Length: 3834.00 ft	Diameter: 3.80 inches	Volume: 53.78 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: 533.00 ft	Diameter: 2.25 inches	Volume: 2.62 bbl	Weight to Pull Loose: 76000.00 lb
			<u>Total Volume: 56.40 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4390.00 ft			Final 74000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	40.00 ft			
Tool Length:	69.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4362.00	
Shut In Tool	5.00			4367.00	
Hydraulic tool	5.00			4372.00	
Jars	5.00			4377.00	
Safety Joint	3.00			4380.00	
Packer	5.00			4385.00	29.00 Bottom Of Top Packer
Packer	5.00			4390.00	
Stubb	1.00			4391.00	
Recorder	0.00	6799	Inside	4391.00	
Recorder	0.00	8648	Inside	4391.00	
Perforations	2.00			4393.00	
Change Over Sub	1.00			4394.00	
Drill Pipe	32.00			4426.00	
Change Over Sub	1.00			4427.00	
Bullnose	3.00			4430.00	40.00 Bottom Packers & Anchor

**Total Tool Length: 69.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling, Co.

**5-1s-36w Rawlins,KS**

250 N Water STE #300  
Wichita, KS 67202

**AFT #1-5**

Job Ticket: 51212

**DST#: 2**

ATTN: Jeff Christian

Test Start: 2013.03.12 @ 00:35:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

36 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

23000 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
533.00	MW 90W 10M	2.621
282.00	OCMW 80W 10M 10o	3.956
490.00	OCMW 70W 20M 10o	6.873
30.00	Free Oil 100o	0.421

Total Length: 1335.00 ft      Total Volume: 13.871 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

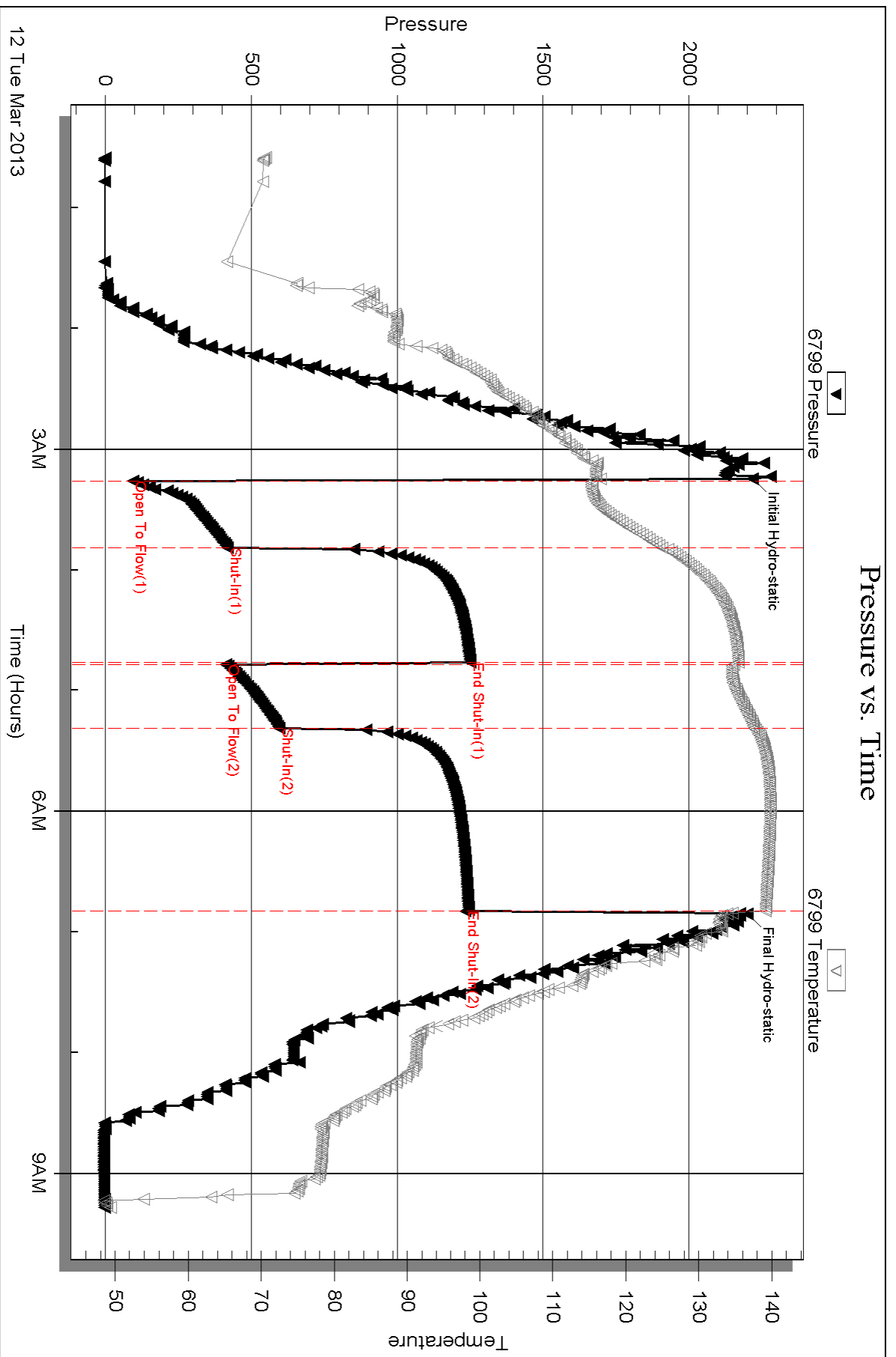
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Oil API 37 @ 70 deg = 36 cor.

RW = .41 @ 54 deg = 23000 ppm



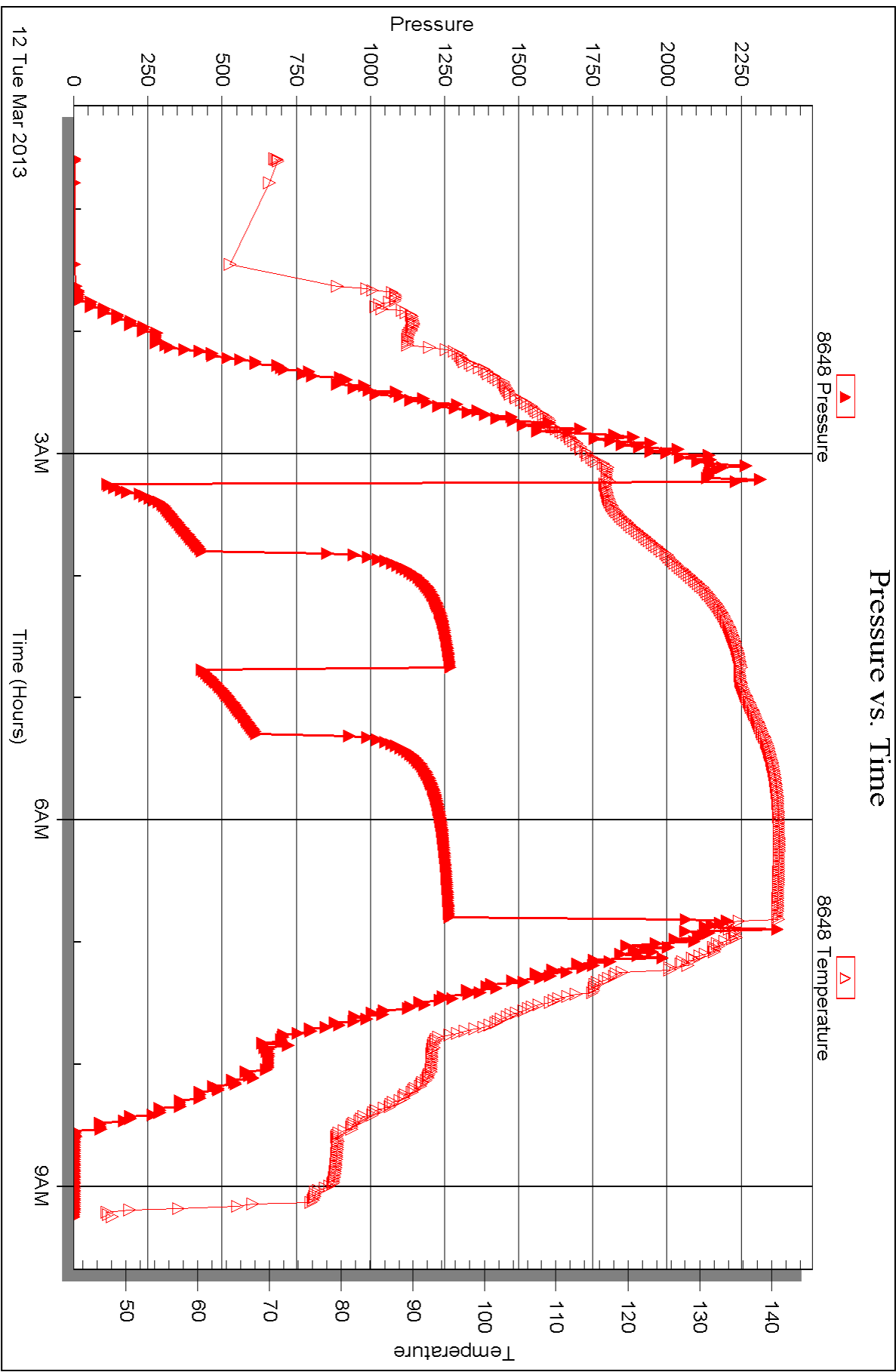
Serial #: 8648

Inside

Murfin Drilling, Co.

AFT #1-5

DST Test Number: 2





## DRILL STEM TEST REPORT

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

250 N Water STE #300  
Wichita, KS 67202

ATTN: Jeff Christian

**AFT #1-5**

**5-1s-36w Rawlins,KS**

Start Date: 2013.03.12 @ 20:30:00

End Date: 2013.03.13 @ 05:05:15

Job Ticket #: 51213                      DST #: 3

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

Printed: 2013.03.20 @ 10:19:39

Murfin Drilling, Co. 5-1s-36w Rawlins,KS AFT #1-5 DST # 3 LKC "J" 2013.03.12





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling, Co.  
250 N Water STE #300  
Wichita, KS 67202  
ATTN: Jeff Christian

**5-1s-36w Rawlins,KS**  
**AFT #1-5**  
Job Ticket: 51213 **DST#: 3**  
Test Start: 2013.03.12 @ 20:30:00

## GENERAL INFORMATION:

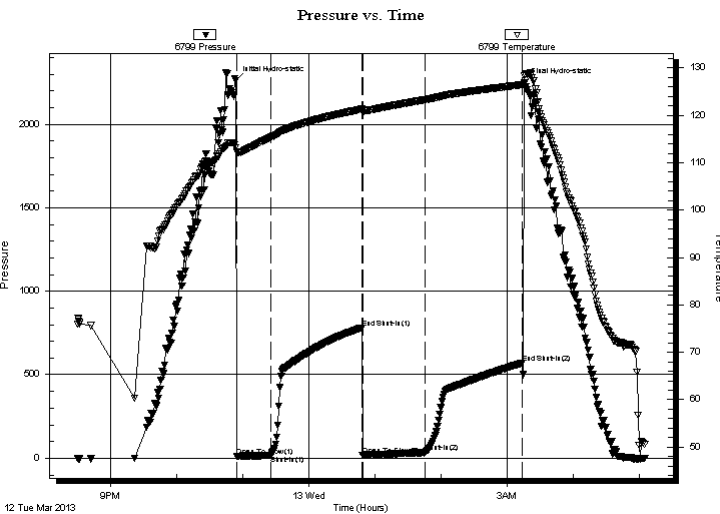
Formation: **LKC "J"**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 22:54:45  
Time Test Ended: 05:05:15  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Kevin Mack  
Unit No: 43  
Interval: **4479.00 ft (KB) To 4522.00 ft (KB) (TVD)**  
Reference Elevations: 3369.00 ft (KB)  
Total Depth: 4522.00 ft (KB) (TVD) 3359.00 ft (CF)  
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 10.00 ft

## Serial #: 6799

Inside

Press @ RunDepth: 33.66 psig @ 4480.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2013.03.12 End Date: 2013.03.13 Last Calib.: 2013.03.13  
Start Time: 20:30:05 End Time: 05:05:15 Time On Btm: 2013.03.12 @ 22:53:45  
Time Off Btm: 2013.03.13 @ 03:15:45

TEST COMMENT: 30 - IF- 3/4" Blow built to 4"  
60 - IS- No Return  
60 - FF- Weak Surface Blow built to 1"  
90 - FS- No Return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2262.00	113.21	Initial Hydro-static
1	12.69	112.33	Open To Flow (1)
32	18.29	115.36	Shut-In(1)
114	779.64	121.29	End Shut-In(1)
115	18.28	120.91	Open To Flow (2)
172	33.66	123.27	Shut-In(2)
260	570.30	126.46	End Shut-In(2)
262	2250.83	128.43	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	MCO 40M 60o	0.10
40.00	Free Oil 100o	0.20

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling, Co.

**5-1s-36w Rawlins,KS**

250 N Water STE #300  
Wichita, KS 67202

**AFT #1-5**

Job Ticket: 51213

**DST#: 3**

ATTN: Jeff Christian

Test Start: 2013.03.12 @ 20:30:00

## Tool Information

Drill Pipe:	Length: 3932.00 ft	Diameter: 3.80 inches	Volume: 55.16 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: 533.00 ft	Diameter: 2.25 inches	Volume: 2.62 bbl	Weight to Pull Loose: 82000.00 lb
			<u>Total Volume: 57.78 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4479.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	43.00 ft			
Tool Length:	72.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4451.00	
Shut In Tool	5.00			4456.00	
Hydraulic tool	5.00			4461.00	
Jars	5.00			4466.00	
Safety Joint	3.00			4469.00	
Packer	5.00			4474.00	29.00 Bottom Of Top Packer
Packer	5.00			4479.00	
Stubb	1.00			4480.00	
Recorder	0.00	6799	Inside	4480.00	
Recorder	0.00	8648	Inside	4480.00	
Perforations	5.00			4485.00	
Change Over Sub	1.00			4486.00	
Drill Pipe	32.00			4518.00	
Change Over Sub	1.00			4519.00	
Bullnose	3.00			4522.00	43.00 Bottom Packers & Anchor

**Total Tool Length: 72.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling, Co.

**5-1s-36w Rawlins,KS**

250 N Water STE #300  
Wichita, KS 67202

**AFT #1-5**

Job Ticket: 51213

**DST#: 3**

ATTN: Jeff Christian

Test Start: 2013.03.12 @ 20:30:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

38 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
20.00	MCO 40M 60o	0.098
40.00	Free Oil 100o	0.197

Total Length: 60.00 ft      Total Volume: 0.295 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Oil API = 39 @ 70 deg = 38 cor



Serial #: 6799

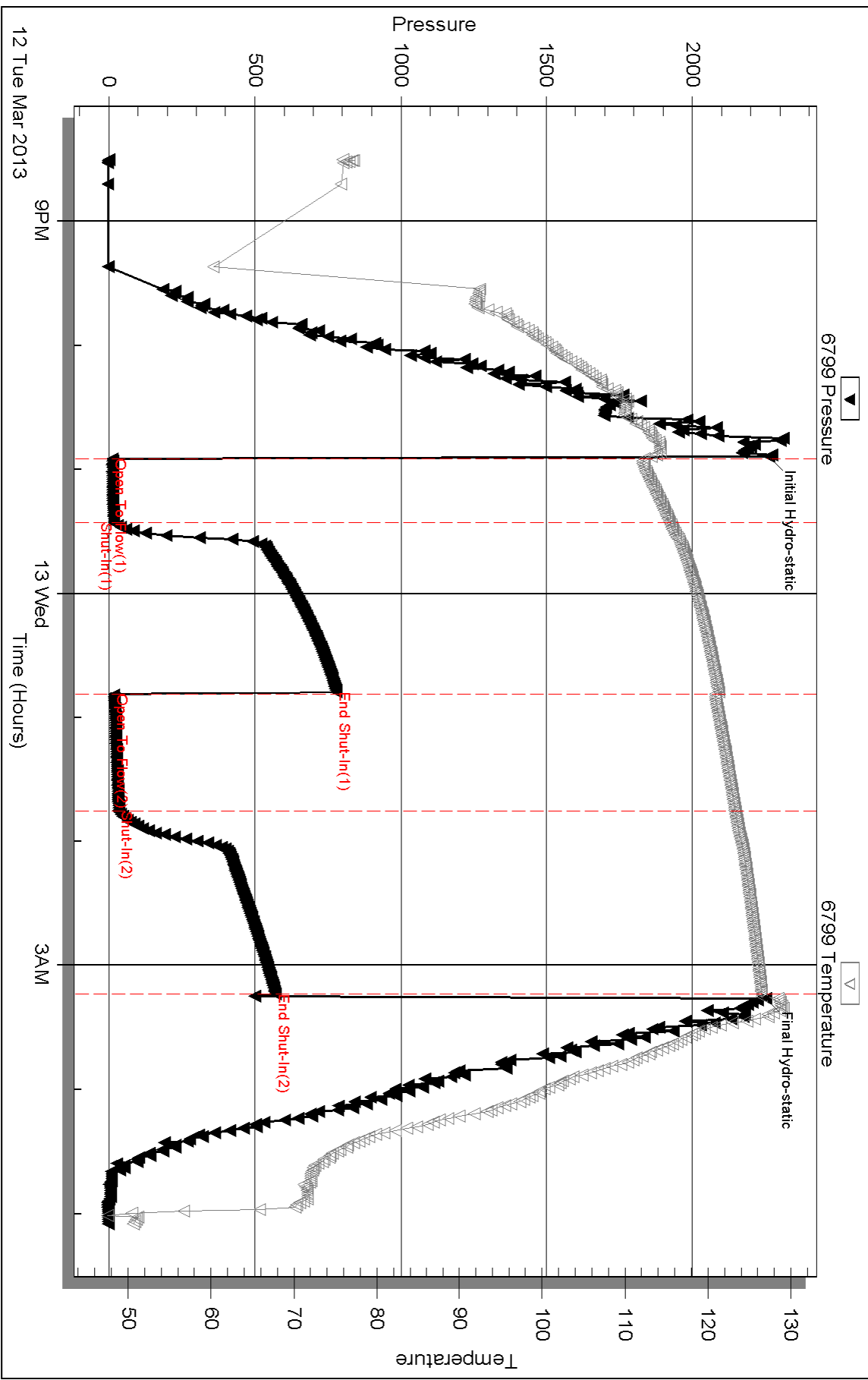
Inside

Murfin Drilling, Co.

AFT #1-5

DST Test Number: 3

# Pressure vs. Time



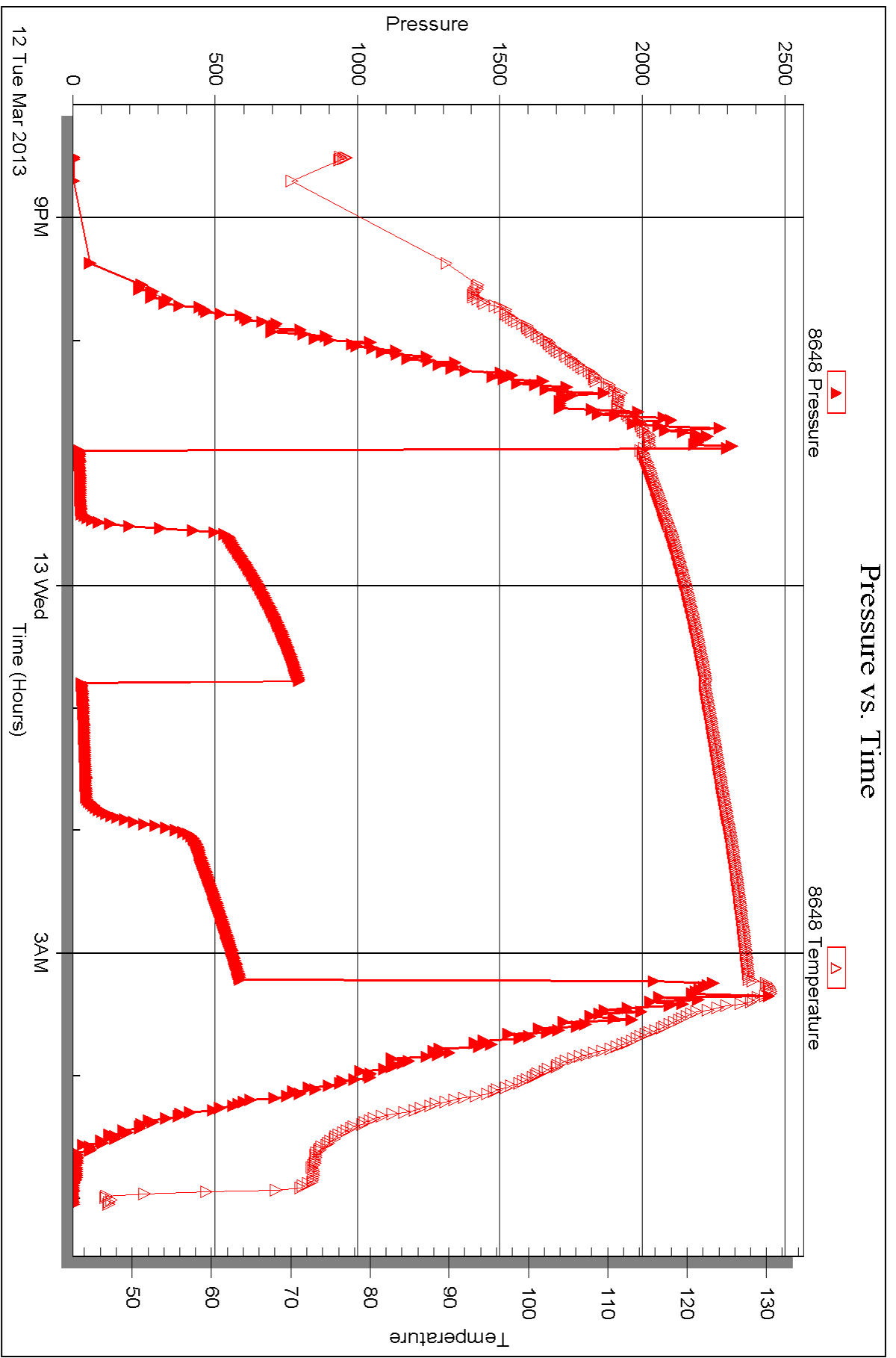
Serial #: 8648

Inside

Murfin Drilling, Co.

AFT #1-5

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 51213

Printed: 2013.03.20 @ 10:19:42



## DRILL STEM TEST REPORT

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

250 N Water STE #300  
Wichita, KS 67202

ATTN: Jeff Christian

**AFT #1-5**

**5-1s-36w Rawlins,KS**

Start Date: 2013.03.13 @ 19:07:00

End Date: 2013.03.14 @ 02:18:00

Job Ticket #: 51214                      DST #: 4

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

Printed: 2013.03.20 @ 10:19:02



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling, Co.  
250 N Water STE #300  
Wichita, KS 67202  
ATTN: Jeff Christian

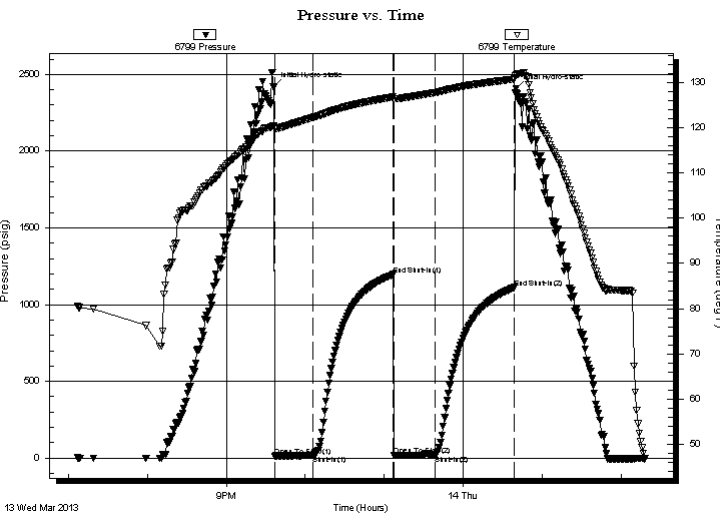
**5-1s-36w Rawlins,KS**  
**AFT #1-5**  
Job Ticket: 51214      **DST#: 4**  
Test Start: 2013.03.13 @ 19:07:00

## GENERAL INFORMATION:

Formation: **Pawnee**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 21:36:45  
Time Test Ended: 02:18:00  
Interval: **4669.00 ft (KB) To 4715.00 ft (KB) (TVD)**  
Total Depth: 4715.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Kevin Mack  
Unit No: 43  
Reference Elevations: 3369.00 ft (KB)  
3359.00 ft (CF)  
KB to GR/CF: 10.00 ft

**Serial #: 6799      Inside**  
Press @ Run Depth: 16.61 psig @ 4670.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2013.03.13      End Date: 2013.03.14      Last Calib.: 2013.03.14  
Start Time: 19:07:05      End Time: 02:17:59      Time On Btm: 2013.03.13 @ 21:35:45  
Time Off Btm: 2013.03.14 @ 00:40:00

**TEST COMMENT:** 30 - IF- 1/2" Blow built to 1"  
60 - IS- No Return  
30 - FF- No Blow  
60 - FS- No Return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2418.06	120.27	Initial Hydro-static
1	12.81	119.73	Open To Flow (1)
30	16.66	122.19	Shut-In(1)
91	1194.96	126.79	End Shut-In(1)
92	15.83	126.36	Open To Flow (2)
123	16.61	127.71	Shut-In(2)
183	1110.89	130.70	End Shut-In(2)
185	2408.94	131.59	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	OSM 100M (oil spots)	0.05

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling, Co.

**5-1s-36w Rawlins,KS**

250 N Water STE #300  
Wichita, KS 67202

**AFT #1-5**

Job Ticket: 51214

**DST#: 4**

ATTN: Jeff Christian

Test Start: 2013.03.13 @ 19:07:00

## Tool Information

Drill Pipe:	Length: 4122.00 ft	Diameter: 3.80 inches	Volume: 57.82 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: 533.00 ft	Diameter: 2.25 inches	Volume: 2.62 bbl	Weight to Pull Loose:	80000.00 lb
			<u>Total Volume: 60.44 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial	70000.00 lb
Depth to Top Packer:	4669.00 ft			Final	70000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	46.00 ft				
Tool Length:	75.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Change Over Sub	1.00			4641.00	
Shut In Tool	5.00			4646.00	
Hydraulic tool	5.00			4651.00	
Jars	5.00			4656.00	
Safety Joint	3.00			4659.00	
Packer	5.00			4664.00	29.00 Bottom Of Top Packer
Packer	5.00			4669.00	
Stubb	1.00			4670.00	
Recorder	0.00	6799	Inside	4670.00	
Recorder	0.00	8648	Inside	4670.00	
Perforations	6.00			4676.00	
Change Over Sub	1.00			4677.00	
Drill Pipe	32.00			4709.00	
Change Over Sub	1.00			4710.00	
Bullnose	5.00			4715.00	46.00 Bottom Packers & Anchor

**Total Tool Length: 75.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling, Co.

**5-1s-36w Rawlins,KS**

250 N Water STE #300  
Wichita, KS 67202

**AFT #1-5**

Job Ticket: 51214

**DST#: 4**

ATTN: Jeff Christian

Test Start: 2013.03.13 @ 19:07:00

## 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: 62.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	OSM 100M (oil spots)	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

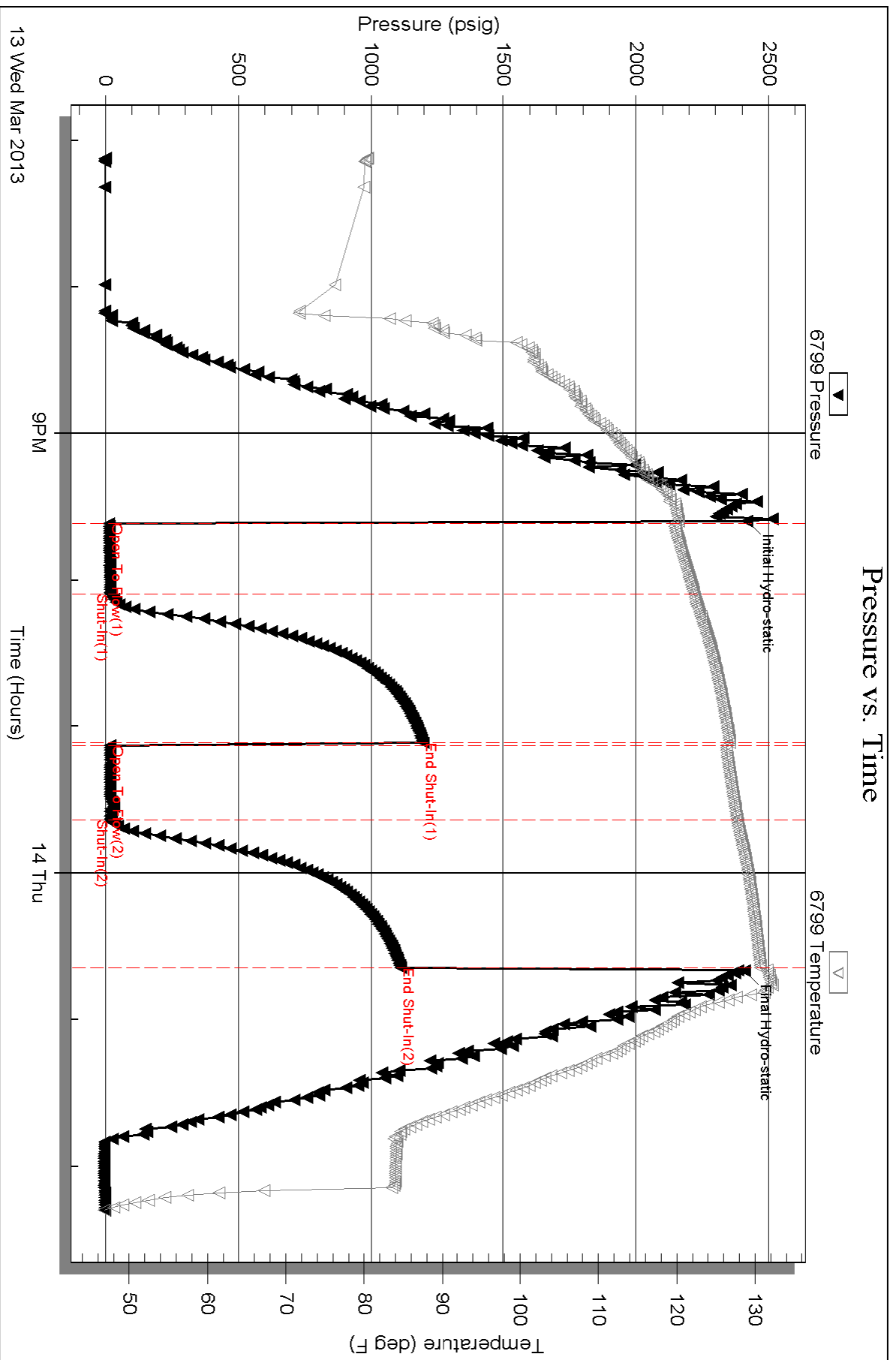
Serial #:

Laboratory Name:

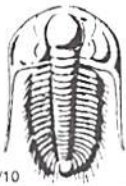
Laboratory Location:

Recovery Comments:

# Pressure vs. Time







# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 51211

Well Name & No. ~~Murphy~~ Art # 1-5 Test No. 1 Date 3-11-13  
 Company Murphy Drilling Co Elevation 3369 KB 3359 GL  
 Address 250 N Water STE # 3008 Wichita, KS 67202  
 Co. Rep / Geo. Jeff Christian Rig Murphy #14  
 Location: Sec. 5 Twp. 1S Rge. 36W Co. Rawlins State KS

Interval Tested 4270-4376 Zone Tested LKC "A-D"  
 Anchor Length 106 Drill Pipe Run 3740 Mud Wt. 9.0  
 Top Packer Depth 4266 Drill Collars Run 533' Vis 60  
 Bottom Packer Depth 4270 Wt. Pipe Run 0 WL 5.2  
 Total Depth 4376 Chlorides 1,000 ppm System LCM 5#

Blow Description IF-BOB in 1 1/2 min.  
DST-Weak surface Return started at 2 min. Died in 15 min.  
FF-BOB in 3 min.  
FSD-NO Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>380</u>	<u>MCO</u>	<u>60</u>		<u>40</u>	
<u>564</u>	<u>GMWCO</u>	<u>30</u>	<u>50</u>	<u>10</u>	<u>10</u>
<u>658</u>	<u>GWOCOM</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>40</u>
<u>360</u>	<u>OCMW</u>	<u>20</u>	<u>50</u>	<u>30</u>	
<u>360</u>	<u>OSMW</u>	<u>spots</u>	<u>90</u>	<u>10</u>	
Rec Total	<u>2322</u>	BHT	<u>134</u>	Gravity	<u>-</u>
		API RW	<u>23 @ 90</u>	F Chlorides	<u>30,000</u> ppm

(A) Initial Hydrostatic 2160  Test 1250 T-On Location 6:40 AM  
 (B) First Initial Flow 188  Jars 250 T-Started 7:50 AM  
 (C) First Final Flow 683  Safety Joint 75 T-Open 10:30 AM  
 (D) Initial Shut-In 1260  Circ Sub NIC T-Pulled 2:00 PM  
 (E) Second Initial Flow 697  Hourly Standby T-Out 5:33 PM  
 (F) Second Final Flow 939  Mileage 102 RT 158.10  
 (G) Final Shut-In 1262  Sampler  
 (H) Final Hydrostatic 2151  Straddle

Ruined Shale Packer  
 Ruined Packer  
 Extra Packer  
 Extra Copies  
 Sub Total 0  
 Total 1733.10  
 MP/DST Disc't  
 Sub Total 1733.10

Approved By \_\_\_\_\_ Our Representative [Signature]

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. 51212

Well Name & No. Art #1-5 Test No. 2 Date 3-12-13  
 Company Murfin Drilling Co. Elevation 3369 KB 3359 GL  
 Address 250 N Water STE # 300 Wichita, KS 67202  
 Co. Rep / Geo. Jeff Christian Rig Murfin #14  
 Location: Sec. 5 Twp. 1s Rge. 36w Co. Rawlins State KS

Interval Tested 4390-4430 Zone Tested LKC "G"  
 Anchor Length 40 Drill Pipe Run 3834' Mud Wt. 9.1  
 Top Packer Depth 4386 Drill Collars Run 533' Vis SI  
 Bottom Packer Depth 4390 Wt. Pipe Run Ø WL 5.6  
 Total Depth 4430 Chlorides 1,000 ppm System LCM 4#

Blow Description IF- Bob in 5 min.  
ISE- Surface Return Started at 2 min. Died at 45 min  
FF- Bob in 6 min.  
FSE- No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>300</u>	<u>Free Oil</u>	<u>100</u>			
<u>490</u>	<u>OC MW</u>	<u>10</u>	<u>70</u>	<u>20</u>	
<u>282</u>	<u>OC MW</u>	<u>10</u>	<u>80</u>	<u>10</u>	
<u>533</u>	<u>MW</u>		<u>90</u>	<u>10</u>	

Rec Total 1335 BHT 139 Gravity 36 API RW 041 @ 54 °F Chlorides 23000 ppm

(A) Initial Hydrostatic <u>2216</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>12:00 AM</u>
(B) First Initial Flow <u>93</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>12:35 AM</u>
(C) First Final Flow <u>417</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>3:15 AM</u>
(D) Initial Shut-In <u>1250</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>6:45 AM</u>
(E) Second Initial Flow <u>412</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>9:20 AM</u>

(F) Second Final Flow 594  Mileage 102 RT 158.10

(G) Final Shut-In 1234  Sampler

(H) Final Hydrostatic 2199  Straddle

Initial Open 30  Shale Packer

Initial Shut-In 60  Extra Packer

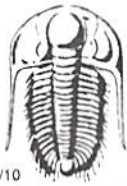
Final Flow 30  Extra Recorder

Final Shut-In 90  Day Standby

Sub Total 1733.10  Accessibility

Approved By \_\_\_\_\_ Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 51213

Well Name & No. Aft #15 Test No. 3 Date 3-12-13  
 Company Murfin Drilling Co. Elevation 3364 KB 3359 GL  
 Address 250 N West STE # 3000 Wichita, KS 67202  
 Co. Rep / Geo. Jeff Christian Rig Murfin #14  
 Location: Sec. 5 Twp. 15 Rge. 36w Co. Rawlins State KS

Interval Tested 4479-4522 Zone Tested LKC "J"  
 Anchor Length 43' Drill Pipe Run 3932 Mud Wt. 9.2  
 Top Packer Depth 4475 Drill Collars Run 533 Vis 52  
 Bottom Packer Depth 4479 Wt. Pipe Run 0 WL 5.6  
 Total Depth 4522 Chlorides 1,500 ppm System LCM 4#

Blow Description IF - 3/4" Blow built to 4"  
ISE - NO Return  
FF - Surface Blow built to 1"  
FSE - NO Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>40</u>	<u>Free Oil</u>	<u>100</u>			
<u>20</u>	<u>MCU</u>	<u>60</u>		<u>40</u>	

Rec Total 60 BHT 126 Gravity 38 API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic	<u>2262</u>	<input checked="" type="checkbox"/> Test	<u>1250</u>	T-On Location	<u>7:30 PM</u>
(B) First Initial Flow	<u>12</u>	<input checked="" type="checkbox"/> Jars	<u>250</u>	T-Started	<u>8:30 PM</u>
(C) First Final Flow	<u>18</u>	<input checked="" type="checkbox"/> Safety Joint	<u>75</u>	T-Open	<u>10:55 PM</u>
(D) Initial Shut-In	<u>779</u>	<input checked="" type="checkbox"/> Circ Sub	<u>N/C</u>	T-Pulled	<u>2:55 AM</u>
(E) Second Initial Flow	<u>18</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>5:05 AM</u>
(F) Second Final Flow	<u>33</u>	<input checked="" type="checkbox"/> Mileage	<u>102 RT</u> 158.10	Comments	
(G) Final Shut-In	<u>570</u>	<input type="checkbox"/> Sampler			
(H) Final Hydrostatic	<u>22.50</u>	<input type="checkbox"/> Straddle		<input type="checkbox"/> Ruined Shale Packer	

Initial Open	<u>30</u>	<input type="checkbox"/> Shale Packer		<input type="checkbox"/> Ruined Packer	
Initial Shut-In	<u>60</u>	<input type="checkbox"/> Extra Packer		<input type="checkbox"/> Extra Copies	
Final Flow	<u>60</u>	<input type="checkbox"/> Extra Recorder		Sub Total	<u>0</u>
Final Shut-In	<u>90</u>	<input type="checkbox"/> Day Standby		Total	<u>1733.10</u>
		<input type="checkbox"/> Accessibility		MP/DST Disc't	
		Sub Total	<u>1733.10</u>		

Approved By \_\_\_\_\_ Our Representative

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 51214

Well Name & No. APT #1-5 Test No. 4 Date 3-13-13  
 Company Muffin Drilling Co. Elevation 3369 KB 3359 GL  
 Address 2500 N Webster STE #3000 Wichita, KS 67202  
 Co. Rep / Geo. JEFF Christian Rig Muffin #14  
 Location: Sec. 5 Twp. 1S Rge. 36W Co. Rawlins State KS

Interval Tested 4669-4715 Zone Tested Pawnee  
 Anchor Length 46' Drill Pipe Run 4122 Mud Wt. 9.2  
 Top Packer Depth 4665 Drill Collars Run 533' Vis 62  
 Bottom Packer Depth 4669 Wt. Pipe Run Ø WL 60  
 Total Depth 4715 Chlorides 1,500 ppm System LCM 4#

Blow Description IE - 1/2" Blow built to 1"  
ISI - NO Return  
FE - NO Blow  
FSL - NO Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>OSM</u>	<u>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 10 BHT 131 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic	<u>2418</u>	<input checked="" type="checkbox"/> Test	<u>1250</u>	T-On Location	<u>6:40 PM</u>
(B) First Initial Flow	<u>12</u>	<input checked="" type="checkbox"/> Jars	<u>250</u>	T-Started	<u>7:07 PM</u>
(C) First Final Flow	<u>16</u>	<input checked="" type="checkbox"/> Safety Joint	<u>75</u>	T-Open	<u>9:36 PM</u>
(D) Initial Shut-In	<u>1194</u>	<input checked="" type="checkbox"/> Circ Sub	<u>N/C</u>	T-Pulled	<u>12:36 AM</u>
(E) Second Initial Flow	<u>15</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>2:25 AM</u>
(F) Second Final Flow	<u>16</u>	<input checked="" type="checkbox"/> Mileage	<u>102 RT</u> 158.10	Comments	
(G) Final Shut-In	<u>1110</u>	<input type="checkbox"/> Sampler			
(H) Final Hydrostatic	<u>2408</u>	<input type="checkbox"/> Straddle		<input type="checkbox"/> Ruined Shale Packer	
Initial Open	<u>30</u>	<input type="checkbox"/> Shale Packer		<input type="checkbox"/> Ruined Packer	
Initial Shut-In	<u>60</u>	<input type="checkbox"/> Extra Packer		<input type="checkbox"/> Extra Copies	
Final Flow	<u>30</u>	<input type="checkbox"/> Extra Recorder		Sub Total	<u>0</u>
Final Shut-In	<u>60</u>	<input type="checkbox"/> Day Standby		Total	<u>1733.10</u>
		<input type="checkbox"/> Accessibility		MP/DST Disc't	
		Sub Total	<u>1733.10</u>		

Approved By \_\_\_\_\_ Our Representative 

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acct.  
Prod - CH



# INVOICE

PO Box 93999  
Southlake, TX 76092

Invoice Number: 135112

Invoice Date: Mar 6, 2013

Voice: (817) 546-7282

Page: 1

Fax: (817) 246-3361

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

Now Includes:



Customer ID	Field Ticket #	Payment Terms	
Murfin	60133	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Mar 6, 2013	4/5/13

Quantity	Item	Description	Unit Price	Amount
		AFT #1-5		
350.00	MAT	Class A Common	17.90	6,265.00
12.00	MAT	Chloride	64.00	768.00
367.02	SER	Cubic Feet	2.48	910.21
1,270.80	SER	Ton Mileage	2.60	3,304.08
1.00	SER	Surface	1,512.25	1,512.25
75.00	SER	Pump Truck Mileage	7.70	577.50
1.00	SER	Manifold & Head Rental	275.00	275.00
75.00	SER	Light Vehicle Mileage	4.40	330.00
1.00	EQP	8.5/8 Wooden Plug	107.64	107.64
1.00	CEMENTER	Alan Ryan		
1.00	EQUIP OPER	Wayne McGhghy		
1.00	OPER ASSIST	David Scariano		

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

\$ 4,917.38

ONLY IF PAID ON OR BEFORE *ok*  
Mar 31, 2013

Subtotal	14,049.68
Sales Tax	574.82
Total Invoice Amount	14,624.50
Payment/Credit Applied	
<b>TOTAL</b>	<b>14,624.50</b>

*ok*

*SR*

- 4917.38

9707.12



# ALLIED OIL & GAS SERVICES, LLC 060133

Federal Tax I.D. # 20-8651475

SHIP TO P.O.-BOX 93999  
SOUTHLAKE, TEXAS 76092

SERVICE POINT:

*Dakley*

DATE <u>3/6/13</u>	SEC. <u>5</u>	TWP. <u>35</u>	RANGE <u>36</u>	CALLED OUT	ON LOCATION	JOB START <u>12:00 PM</u>	JOB FINISH <u>12:30 PM</u>
LEASE <u>APT</u>	WELL # <u>1-5</u>	LOCATION <u>McDonald Rd S 14 W Sinto</u>		COUNTY <u>Haskell</u>	STATE <u>KS</u>		
OLD OR NEW (Circle one)							

CONTRACTOR MacFir 14 OWNER Same

TYPE OF JOB Surface  
HOLE SIZE 12 1/4 T.D. 396.0 CEMENT AMOUNT ORDERED 250 Com 370 CC  
CASING SIZE 8 5/8 DEPTH 396.0

TUBING SIZE DEPTH  
DRILL PIPE DEPTH  
TOOL DEPTH  
PRES. MAX MINIMUM  
MEAS. LINE SHOE JOINT  
CEMENT LEFT IN CSG. 15'  
PERFS.  
DISPLACEMENT 24.26 BBL

EQUIPMENT  
PUMP TRUCK CEMENTER Alan Ryan  
# 422 HELPER Wayne McGibby  
BULK TRUCK  
# 396 DRIVER David Scarnano  
BULK TRUCK DRIVER

HANDLING 367.00 CF @ 2.48 910.21  
MILEAGE 2.48 per/mile 16.944 ton 3.204 CF  
TOTAL 1124.28

REMARKS:  
In case Circulate, Miscement  
Displace Cement, shut in  
Cement did Circulate  
Thank you  
Alan Wayne, David

CHARGE TO: MacFir Drilling  
STREET  
CITY STATE ZIP

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 Coryg Wurst  
SIGNATURE Coryg Wurst

COMMON 350 @ 17.20 6265.00  
POZMIX @  
GEL @  
CHLORIDE 12 @ 64.00 768.00  
ASC @  
HANDLING @  
MILEAGE @

SERVICE  
DEPTH OF JOB 396  
PUMP TRUCK CHARGE 1512.25  
EXTRA FOOTAGE @  
MILEAGE 75 @ 7.20 572.25  
MANIFOLD Head @ 440 225.00  
Site Vehicle 75 @ 440 330.00  
TOTAL 2694.25

PLUG & FLOAT EQUIPMENT  
8 5/8 wooden Plug @ 107.64  
TOTAL 107.64

SALES TAX (if Any)  
TOTAL CHARGES 14,049.68  
DISCOUNT 4,917.38 IR PAID IN 30 DAYS  
9,132.29 Net



P. O. Box  
Ness City,  
Off: 785-

Accty -  
cc: WF  
cc: L-1  
cc: L-1

# Invoice

DATE	INVOICE #
3/21/2013	24027

BILL TO

Murfin Drilling Co Inc  
PO Box 661  
Colby, KS 67701-0661

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1-5	AFT	Rawlins		Oil	Development	Cement Port Collar	Josh
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				120	Miles	6.00	720.00
576D-D	Pump Charge - Port Collar				1	Job	1,250.00	1,250.00
290	D-Air				2	Gallon(s)	35.00	70.00T
276	Flocele				100	Lb(s)	2.00	200.00T
330	Swift Multi-Density Standard (MIDCON II)				200	Sacks	16.50	3,300.00T
581D	Service Charge Cement				300	Sacks	2.00	600.00
583D	Drayage				1,792.8	Ton Miles	1.00	1,792.80
	Subtotal							7,932.80
	Sales Tax Rawlins County						8.05%	287.39
<p>USED FOR <u>12 103</u></p> <p>APPROVED <u>JFH</u></p>								
<b>We Appreciate Your Business!</b>							<b>Total</b>	\$8,220.19



CHARGE TO: Murphy  
 ADDRESS \_\_\_\_\_  
 CITY, STATE, ZIP CODE \_\_\_\_\_

TICKET  
 No 24027

PAGE 1 OF 1

SERVICE LOCATIONS

1. Hays 16 WEL/PROJECT NO. 1-5 LEASE ACT COUNTY/PARISH Madison STATE KS CITY \_\_\_\_\_ DATE 3-21-13 OWNER \_\_\_\_\_  
 2. Ness City CONTRACTOR \_\_\_\_\_ RIG NAME/NO. \_\_\_\_\_ SHIPPED VIA CT DELIVERED TO Location ORDER NO. \_\_\_\_\_  
 3. WEL TYPE  SERVICE  SALES WEL CATEGORY Develop JOB PURPOSE Cement port collar WEL PERMIT NO. \_\_\_\_\_ WEL LOCATION McDonalds 30 1/2 W 5th St  
 4. REFERRAL LOCATION \_\_\_\_\_ INVOICE INSTRUCTIONS \_\_\_\_\_

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	MILEAGE	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
		LOC	ACCT	DF								
575		1				120	mi				6.00	720.00
5760		1			Pump Charge Port Collar	1	hrs				1250.00	1250.00
280		1			O-Ann	3	gal				35.00	70.00
226		2			Flocrete	100	lbs				2.00	200.00
330		2			Swift Multi Density	200	SKS				16.50	3300.00
581		2			Service Charge Cement	300	SKS				2.00	600.00
583		2			Dray age	1792	SD TM				1.00	1792.00

REMIT PAYMENT TO:

SWIFT SERVICES, INC.  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300

SURVEY

OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?  YES  NO

WE UNDERSTOOD AND MET YOUR NEEDS?  YES  NO

OUR SERVICE WAS PERFORMED WITHOUT DELAY?  YES  NO

WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?  YES  NO

ARE YOU SATISFIED WITH OUR SERVICE?  YES  NO

CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL 7932 80

TOTAL 6220 19

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

DATE SIGNED 3-21-13 TIME SIGNED 0945  A.M.  P.M.

SWIFT OPERATOR Bob APPROVAL \_\_\_\_\_

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket

Thank You!



Accty -

cc: WLF  
cc: Lin  
cc: [unclear]



P. O. Box 466  
Ness City, KS 67560  
Off: 785-798-2300



# Invoice

DATE	INVOICE #
3/27/2013	24033

BILL TO
Murfin Drilling Co Inc PO Box 661 Colby, KS 67701-0661

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1-5	AFT	Rawlins		Oil	Development	Squeeze Perfs	Josh
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				120	Miles	6.00	720.00
578D-D	Pump Charge - Deep Squeeze (> 1500 Ft.)				1	Job	1,500.00	1,500.00
290	D-Air				1	Gallon(s)	35.00	35.00T
288	Sand (20/40 Brady)				2	Sack(s)	22.00	44.00T
286	Halad-1 (Halad 9)				10	Lb(s)	7.50	75.00T
325	Standard Cement				100	Sacks	13.50	1,350.00T
581D	Service Charge Cement				100	Sacks	2.00	200.00
583D	Drayage				564	Ton Miles	1.00	564.00
	Subtotal							4,488.00
	Sales Tax Rawlins County						8.05%	121.07
USED FOR					16103			
APPROVED					JCR			
<b>We Appreciate Your Business!</b>							<b>Total</b>	\$4,609.07



Services, Inc.

CHARGE TO: Murfin  
 ADDRESS  
 CITY, STATE, ZIP CODE

TICKET No 24033

PAGE 1 OF 1

1. SERVICE LOCATIONS	WELL/PROJECT NO.	LEASE	COUNTY/PARISH	STATE	CITY	DATE
Haystack	1-5	AFT	Rawlins	KS		3-27-13
2. Well/Project No.	CONTRACTOR	RIG NAME/NO.	SHIPPED VIA CT	DELIVERED TO	WELL PERMIT NO.	ORDER NO.
Ness Co-29KS			CT	Location		
3. TICKET TYPE	WELL TYPE	WELL CATEGORY	JOB PURPOSE	WELL LOCATION		
SALES	D-1	Develop	Squeeze Perfs	Midwells 3rd km Sante		
4. REFERRAL LOCATION	INVOICE INSTRUCTIONS					

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT	DF							
575		1			MILEAGE \$ 112	120	mi			6.00	720.00
578		1			Pump Charge Deep Squeeze	1	ea			1500.00	1500.00
290		1			O A.T	1	gal			35.00	35.00
288		1			Sand	2	stks			22.00	44.00
286		1			Holed -1	10	lbs			7.50	75.00
325		2			Standard Cement	100	stks			13.50	1350.00
581		2			Severe Charge Cement	100	stks			2.00	200.00
583		2			Drayage	564	TM			1.00	564.00

**LEGAL TERMS:** Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY** provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

DATE SIGNED 3/27/13 TIME SIGNED 0845

A.M.  
 P.M.

**REMIT PAYMENT TO:**

**SWIFT SERVICES, INC.**  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300

SURVEY	AGREE	UN-DECIDED	DIS-AGREE	PAGE TOTAL	TOTAL
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?					
WE UNDERSTOOD AND MET YOUR NEEDS?					
OUR SERVICE WAS PERFORMED WITHOUT DELAY?					
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?					
ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/> YES	<input type="checkbox"/> NO			
<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND					
				4609.07	4609.07

SWIFT SERVICES, INC.  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300

SWIFT OPERATOR John M APPROVAL

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

Thank You!

**JOB LOG**

**SWIFT Services, Inc.**

DATE 3-27-13 PAGE NO.

CUSTOMER *Murfin* WELL NO. *1-5* LEASE *AFT* JOB TYPE \_\_\_\_\_ TICKET NO. \_\_\_\_\_

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) <small>(Rate)</small>	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	<i>0845</i>							<i>on location</i>
								<i>Perfs 4370-78</i>
								<i>Packer 4227 BOP 4481</i>
	<i>0915</i>			✓		<i>1500</i>		<i>test tools @ 4455 hold</i>
	<i>0935</i>			✓				<i>load hole</i>
	<i>0945</i>		<i>15</i>	✓				<i>Spot Sand @ 4380 let set 30 min</i>
	<i>1045</i>		<i>11.5</i>		✓		<i>500</i>	<i>Pull up to 4227 Pressure Ann.</i>
	<i>1055</i>	<i>1.2</i>		✓		<i>700</i>		<i>Injection Rate</i>
	<i>1115</i>		<i>21.5</i>	✓				<i>Start Cement 100 SKS Standard</i>
	<i>1130</i>			✓				<i>Start Displacement</i>
		<i>1.2</i>	<i>6</i>	✓		<i>400</i>		<i>catch pressure</i>
	<i>1146</i>	<i>.5</i>	<i>16</i>	✓		<i>1200</i>		<i>made out on pressure</i>
	<i>1151</i>					<i>1000/1200</i>		<i>Bump Pressure</i>
	<i>1202</i>					<i>1200</i>		<i>Release Come back</i>
	<i>1205</i>					<i>1200</i>		<i>Bump Back shut in wash up truck</i>
	<i>1220</i>					<i>1200</i>		<i>Bump Pressure open #09</i>
	<i>1245</i>							<i>Release Dry</i>
							<i>500</i>	<i>Release Packer Reverse out short way</i>
						<i>2000</i>		<i>Try long way not moving</i>
	<i>1320</i>							<i>Pull tubing</i>
	<i>1545</i>						<i>300</i>	<i>Pressure casing</i>
	<i>1630</i>							<i>Job Complete</i>
								<i>Thank You</i>
								<i>Dash Brian Isaac</i>
								<i>85 sks in perfs</i>





P. O. Box 466  
Ness City, KS 67560  
Off: 785-798-2300

Acidizing - cc: WFT  
cc: Litz  
cc: L-T

# Invoice

DATE	INVOICE #
3/15/2013	23946

BILL TO
Murfin Drilling Co Inc PO Box 661 Colby, KS 67701-0661

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1-5	AFT	Rawlins		Oil	Development	5-1/2" LongString	Josh
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				120	Miles	6.00	720.00
578D-L	Pump Charge - Long String				1	Job	1,500.00	1,500.00
221	Liquid KCL (Clayfix)				4	Gallon(s)	25.00	100.00T
280	Flocheck 21				500	Gallon(s)	2.50	1,250.00T
290	D-Air				3	Gallon(s)	35.00	105.00T
403-5	5 1/2" Cement Basket				2	Each	250.00	500.00T
404-5	5 1/2" Port Collar				1	Each	2,400.00	2,400.00T
406-5	5 1/2" Latch Down Plug & Baffle				1	Each	250.00	250.00T
407-5	5 1/2" Insert Float Shoe With Auto Fill				1	Each	350.00	350.00T
409-5	5 1/2" Turbolizer				15	Each	90.00	1,350.00T
413-5	5 1/2" Roto Wall Scratcher				10	Each	40.00	400.00T
419-5	5 1/2" Rotating Head Rental				1	Each	200.00	200.00T
325	Standard Cement				225	Sacks	13.50	3,037.50T
276	Flocele				50	Lb(s)	2.00	100.00T
283	Salt				1,150	Lb(s)	0.20	230.00T
284	Calseal				11	Sack(s)	35.00	385.00T
285	CFR-1				150	Lb(s)	4.00	600.00T
581D	Service Charge Cement				225	Sacks	2.00	450.00
583D	Drayage				1,416	Ton Miles	1.00	1,416.00
	Subtotal							15,343.50
	Sales Tax Rawlins County						8.05%	906.23
USED FOR <u>IC 103</u> APPROVED <u>[Signature]</u>								
<b>We Appreciate Your Business!</b>							<b>Total</b>	<b>\$16,249.73</b>





CHARGE TO: Murfin  
 ADDRESS  
 CITY, STATE, ZIP CODE

TICKET  
 No 23946

PAGE 1 OF 2

SERVICE LOCATIONS

1. <u>Hays KS</u>	WELL/PROJECT NO. <u>1-5</u>	LEASE <u>APT</u>	COUNTY/PARISH <u>Rawlins</u>	STATE <u>KS</u>	CITY	DATE <u>3-15-13</u>	OWNER
2. <u>Ness City KS</u>	TICKET TYPE <input checked="" type="checkbox"/> SERVICE <input type="checkbox"/> SALES	CONTRACTOR	RIG NAME/NO.	SHIPPED VIA <u>air</u>	DELIVERED TO <u>Location</u>	ORDER NO.	
3.	WELL TYPE <u>0:1</u>	WELL CATEGORY <u>Develop</u>	JOB PURPOSE <u>5 1/2 Long String</u>	WELL PERMIT NO.		WELL LOCATION <u>Sec 5 Twp 3 S R 36 W</u>	
4. REFERRAL LOCATION	INVOICE INSTRUCTIONS						

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	MILEAGE #	QTY.			UNIT PRICE	AMOUNT
		LOC	ACCT	DF			QTY.	UM	QTY.		
575		1				112	120	mi		6.00	720.00
578		1			Pump Charge Long String		1	ea		1500.00	1500.00
221		1			Liquid KCL		4	gal		25.00	100.00
280		1			Flocheck 21		500	gal		2.50	1250.00
290		1			D Air		3	gal		35.00	105.00
403		1			Levent Basket		2	ea		250.00	500.00
404		1			Port Collet		1	ea		2400.00	2400.00
406		1			Latch Down Plug + Baffle		1	ea		250.00	250.00
407		1			Insert Float Shoe w/ Auto Fill		1	ea		350.00	350.00
409		1			Turboliners		15	ea		90.00	1350.00
413		1			Autoball Scratchers		10	ea		40.00	400.00
419		1			Rotating Head Rental		1	ea		200.00	200.00

**LEGAL TERMS:** Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY** provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

DATE SIGNED 3-15-13 TIME SIGNED 0930  A.M.  P.M.

**REMIT PAYMENT TO:**  
 SWIFT SERVICES, INC.  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300

<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND	<input type="checkbox"/> YES	<input type="checkbox"/> NO
<b>SURVEY</b>	AGREE	UN-DECIDED
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?		
WE UNDERSTOOD AND MET YOUR NEEDS?		
OUR SERVICE WAS PERFORMED WITHOUT DELAY?		
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?		
ARE YOU SATISFIED WITH OUR SERVICE?		

PAGE TOTAL P1 925.00 P2 6218.50  
 Subtotal 15,343.50  
 Rawlins Tax 900.23  
 TOTAL 16,243.73

SWIFT OPERATOR Josh Brown APPROVAL \_\_\_\_\_

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

Thank You!



**JOB LOG**

**SWIFT Services, Inc.**

DATE 3-15-13 PAGE NO.

CUSTOMER *Murkin*

WELL NO. *1-8*

LEASE *AFT*

JOB TYPE *5 1/2 Long String*

TICKET NO. *23946*

CHART NO.	TIME	RATE (BPM)	VOLUME (BB) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0430							on location
								TD 4850 55 21
								TP 4846 Inset 4825
								PL DP 39 3225' 5 1/2 X
								Turbolovers 1,2,3,4,5,6,7,8,9,10,11,12,33 31,38
								Basket 38,39
	0730							Start Pipe
	0850							Break circulation
	0920							Finish Running Pipe
	1015				✓			Drop Ball circulate Rotate
	1115		7/5					Plug RH 30 MH 20
		5	15		✓		300	Start KCL Flush
		5	12		✓		300	Start Flocheck 21
		5	5		✓		300	Start KCL
	1140	5	42		✓		200	Start Cement 175 SKs
	1155							Drop Plug
	1156							washout Pump + Lines
	1156				✓		300/1800	Start Displacement
	1215		114.8		✓		1500	Land Plug
								Release Dry
								wash up Rack up
	1200							Job Complete Thank You Josh, Brian, Doug,