

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1241457
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: _____

1241457

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
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DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	Lundgren 'B' 1-36
Doc ID	1241457

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: Larry Nicholson

Lundgren B #1-36

36-14s-30w Grove,KS

Start Date: 2014.10.31 @ 09:25:09

End Date: 2014.10.31 @ 17:00:48

Job Ticket #: 58581 DST #: 1

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

Printed: 2014.11.10 @ 11:26:16



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co Inc.

36-14s-30w Grove,KS

250 N Water Ste 300
Wichita KS 67202

Lundgren B #1-36

Job Ticket: 58581

DST#: 1

ATTN: Larry Nicholson

Test Start: 2014.10.31 @ 09:25:09

GENERAL INFORMATION:

Formation: **Torento & Lansing A**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:00:19

Time Test Ended: 17:00:48

Test Type: Conventional Bottom Hole (Initial)

Tester: James Geier

Unit No: 69

Interval: **3690.00 ft (KB) To 3734.00 ft (KB) (TVD)**

Reference Elevations: 2667.00 ft (KB)

Total Depth: 3734.00 ft (KB) (TVD)

2656.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

Serial #: 8365 Outside

Press@RunDepth: 155.38 psig @ 3724.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.31

End Date:

2014.10.31

Last Calib.: 2014.10.31

Start Time: 09:25:09

End Time:

17:00:48

Time On Btm: 2014.10.31 @ 10:59:34

Time Off Btm: 2014.10.31 @ 15:06:49

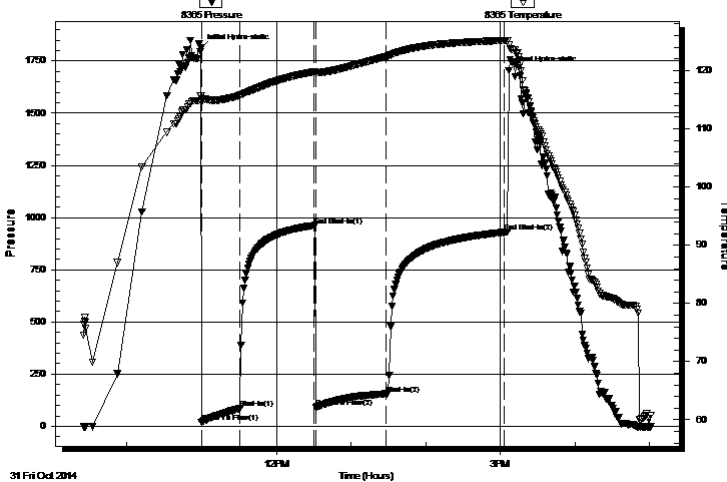
TEST COMMENT: IF: Blow 1 3/4 " @ end

IS: No return

FF: Blow 3/4"

FS: No return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1811.90	115.71	Initial Hydro-static
1	20.15	115.22	Open To Flow (1)
32	85.58	115.75	Shut-In(1)
91	961.59	119.78	End Shut-In(1)
93	90.80	119.63	Open To Flow (2)
149	155.38	122.37	Shut-In(2)
244	929.81	125.17	End Shut-In(2)
248	1703.96	124.37	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
124.00	w m c o 40% w 50% m 10% o	1.74
124.00	w m c o 65% w 30% m 5% o	1.74

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc.

36-14s-30w Grove, KS

250 N Water Ste 300
Wichita KS 67202

Lundgren B #1-36

ATTN: Larry Nicholson

Job Ticket: 58581 **DST#: 1**

Test Start: 2014.10.31 @ 09:25:09

GENERAL INFORMATION:

Formation: **Torento & Lansing A**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:00:19

Time Test Ended: 17:00:48

Test Type: Conventional Bottom Hole (Initial)

Tester: James Geier

Unit No: 69

Interval: 3690.00 ft (KB) To 3734.00 ft (KB) (TVD)

Total Depth: 3734.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 2667.00 ft (KB)

2656.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 8522 Outside

Press@RunDepth: psig @ 3724.00 ft (KB)

Start Date: 2014.10.31

Start Time: 09:25:44

End Date:

End Time:

Capacity: 8000.00 psig

Last Calib.: 2014.10.31

Time On Btm:

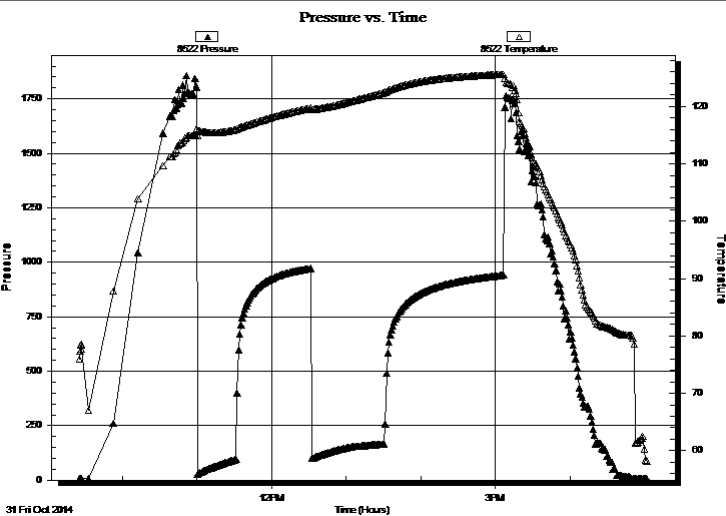
Time Off Btm:

TEST COMMENT: IF: Blow 1 3/4 " @ end

IS: No return

FF: Blow 3/4"

FS: No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
124.00	w m c o 40% w 50% m 10% o	1.74
124.00	w m c o 65% w 30% m 5% o	1.74

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc.

36-14s-30w Grove,KS

250 N Water Ste 300
Wichita KS 67202

Lundgren B #1-36

Job Ticket: 58581

DST#: 1

ATTN: Larry Nicholson

Test Start: 2014.10.31 @ 09:25:09

Tool Information

Drill Pipe:	Length: 3390.00 ft	Diameter: 2.25 inches	Volume: 16.67 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 279.00 ft	Diameter: 3.80 inches	Volume: 3.91 bbl	Weight to Pull Loose:	90000.00 lb
			<u>Total Volume: 20.58 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial	64000.00 lb
Depth to Top Packer:	3690.00 ft			Final	66000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	44.00 ft				
Tool Length:	71.00 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		Inside	3668.00	
Hydraulic tool	5.00			3673.00	
Jars	5.00			3678.00	
Safety Joint	3.00			3681.00	
Packer	5.00			3686.00	27.00 Bottom Of Top Packer
Packer	4.00			3690.00	
Stubb	1.00			3691.00	
Change Over Sub	1.00			3692.00	
Drill Pipe	31.00			3723.00	
Change Over Sub	1.00			3724.00	
Recorder	0.00	8365	Outside	3724.00	
Recorder	0.00	8522	Outside	3724.00	
Perforations	7.00			3731.00	
Blank Spacing	0.00			3731.00	
Bullnose	3.00			3734.00	44.00 Bottom Packers & Anchor

Total Tool Length: 71.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc.

36-14s-30w Grove,KS

250 N Water Ste 300
Wichita KS 67202

Lundgren B #1-36

Job Ticket: 58581

DST#: 1

ATTN: Larry Nicholson

Test Start: 2014.10.31 @ 09:25:09

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

29000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.75 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
124.00	w m c o 40% w 50% m 10% o	1.739
124.00	w m c o 65% w 30% m 5% o	1.739

Total Length: 248.00 ft Total Volume: 3.478 bbl

Num Fluid Samples: 0

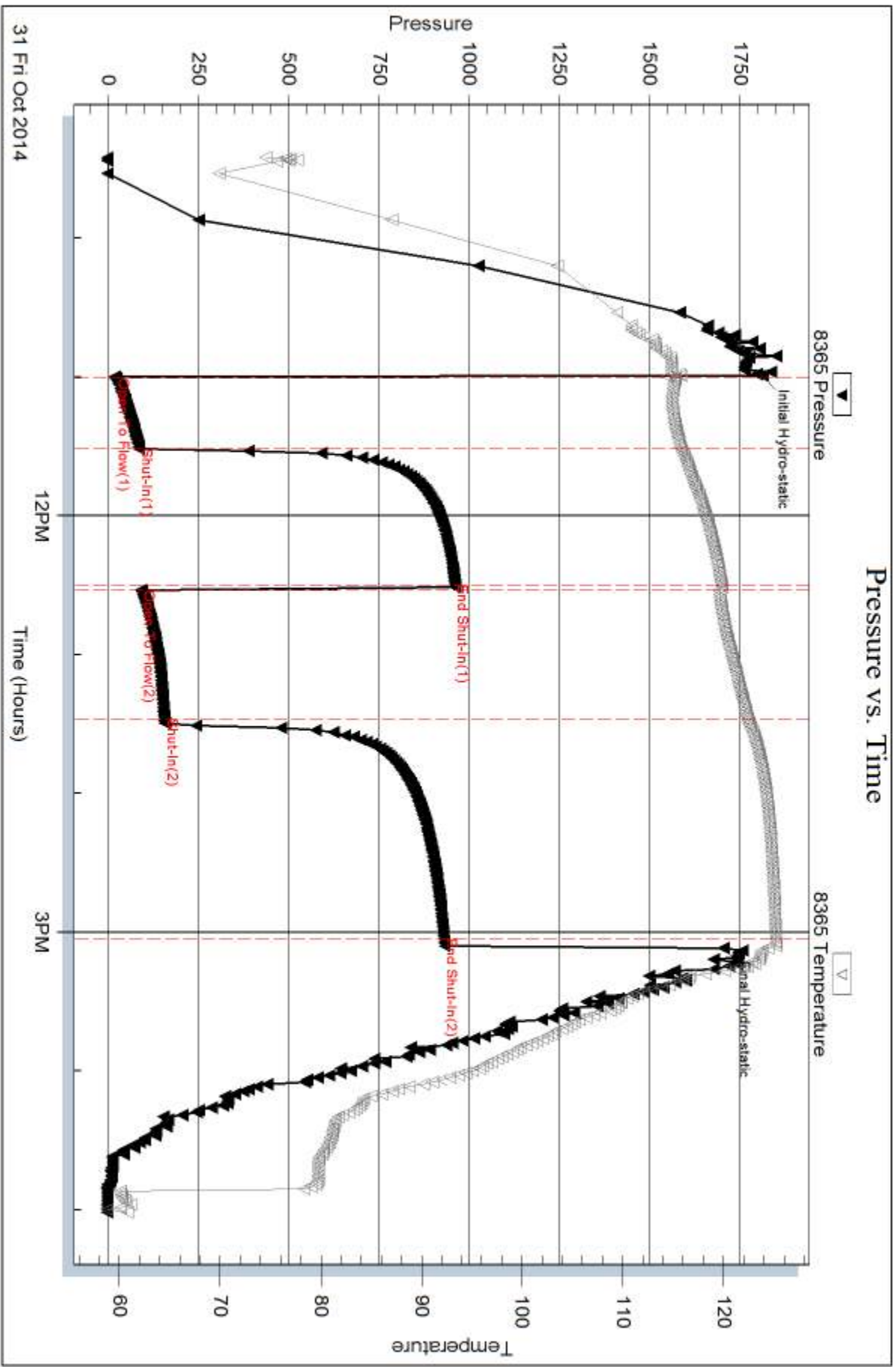
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rW .36 @ 45

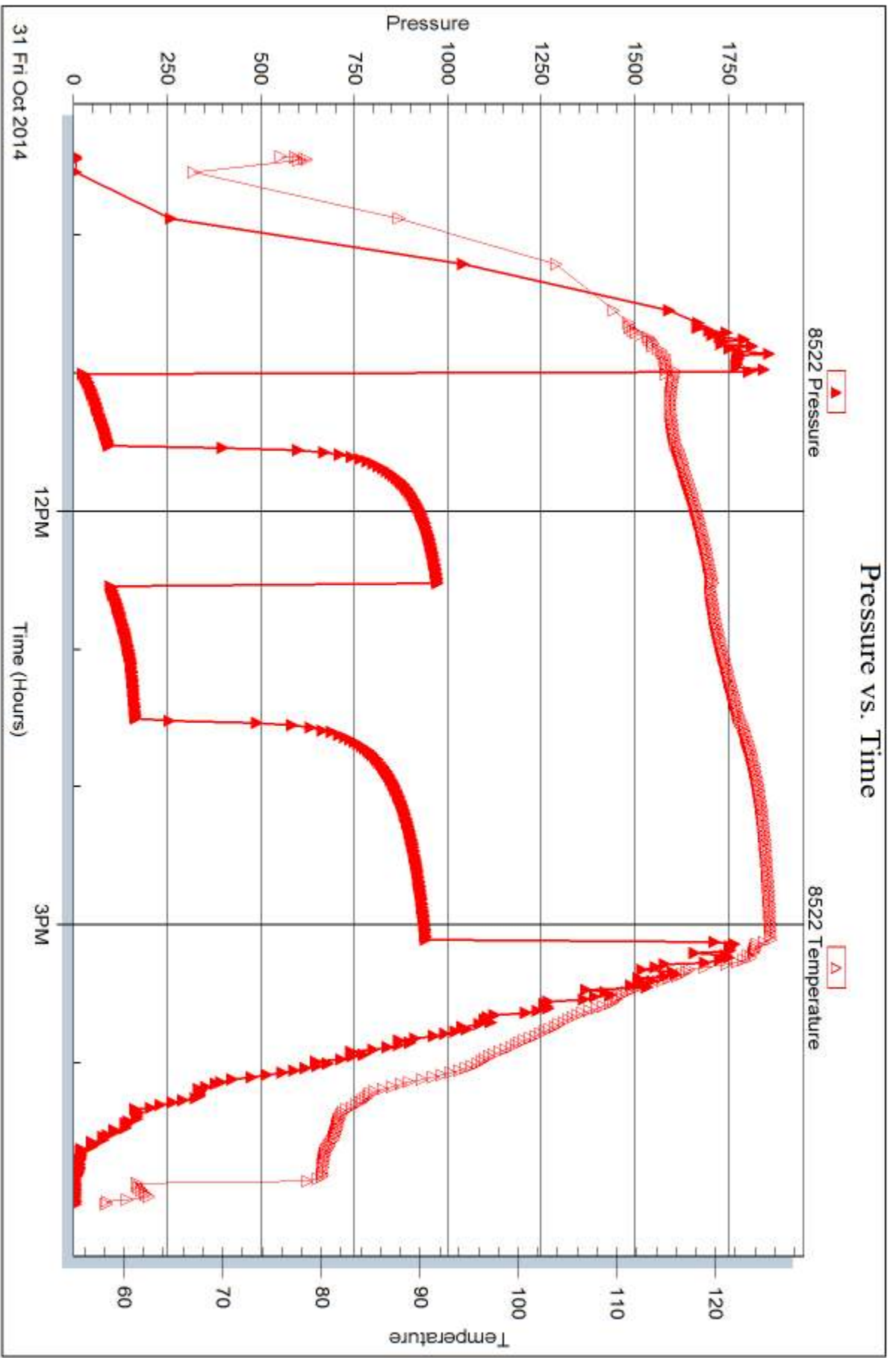


Serial #: 8522

Outside Murfin Drilling Co Inc.

Lundgren B #1-36

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 58581

Printed: 2014.11.10 @ 11:26:17



DRILL STEM TEST REPORT

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

250 N Water Ste 300
Wichita KS 67202

ATTN: Larry Nicholson

Lundgren B #1-36

36-14s-30w Grove,KS

Start Date: 2014.11.01 @ 00:57:54

End Date: 2014.11.01 @ 08:03:18

Job Ticket #: 58582 DST #: 2

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

Printed: 2014.11.10 @ 11:25:53



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co Inc.

36-14s-30w Grove, KS

250 N Water Ste 300
Wichita KS 67202

Lundgren B #1-36

Job Ticket: 58582

DST#: 2

ATTN: Larry Nicholson

Test Start: 2014.11.01 @ 00:57:54

GENERAL INFORMATION:

Formation: **LKC B - D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:55:19

Time Test Ended: 08:03:18

Test Type: Conventional Bottom Hole (Reset)

Tester: James Geier

Unit No: 69

Interval: 3744.00 ft (KB) To 3775.00 ft (KB) (TVD)

Reference Elevations: 2667.00 ft (KB)

Total Depth: 3775.00 ft (KB) (TVD)

2656.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

Serial #: 8365 Outside

Press@RunDepth: 27.44 psig @ 3745.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.01

End Date:

2014.11.01

Last Calib.:

2014.11.01

Start Time: 00:57:54

End Time:

08:03:18

Time On Btm:

2014.11.01 @ 02:54:34

Time Off Btm:

2014.11.01 @ 06:08:34

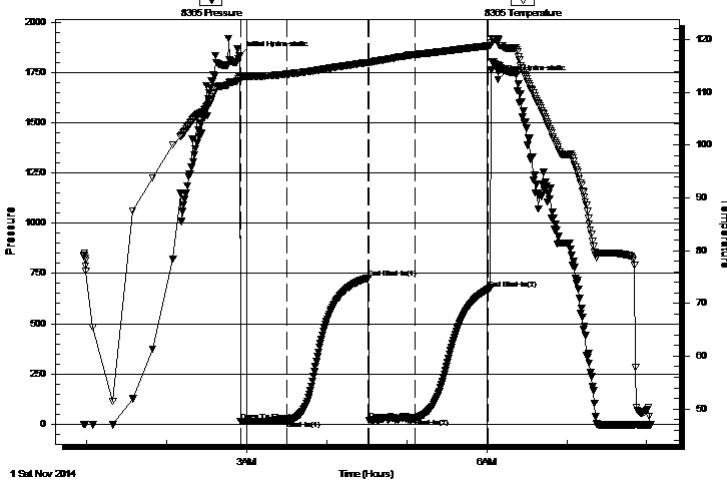
TEST COMMENT: IF: 30 Weak blow / died after 10 min.

IS: 60 No return

FF: 30 No blow

FS: 60 No return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1832.03	112.85	Initial Hydro-static
1	14.17	112.75	Open To Flow (1)
36	17.00	113.44	Shut-In(1)
97	728.29	115.65	End Shut-In(1)
98	19.08	115.57	Open To Flow (2)
132	27.44	117.14	Shut-In(2)
187	671.96	118.80	End Shut-In(2)
194	1714.84	120.04	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	mud 100% m	0.03

* Recovery from multiple tests

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc.

36-14s-30w Grove, KS

250 N Water Ste 300
Wichita KS 67202

Lundgren B #1-36

Job Ticket: 58582

DST#: 2

ATTN: Larry Nicholson

Test Start: 2014.11.01 @ 00:57:54

GENERAL INFORMATION:

Formation: **LKC B - D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:55:19

Time Test Ended: 08:03:18

Test Type: Conventional Bottom Hole (Reset)

Tester: James Geier

Unit No: 69

Interval: 3744.00 ft (KB) To 3775.00 ft (KB) (TVD)

Reference Elevations: 2667.00 ft (KB)

Total Depth: 3775.00 ft (KB) (TVD)

2656.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

Serial #: 8522 Outside

Press@RunDepth: psig @ 3745.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.01

End Date:

2014.11.01

Last Calib.:

2014.11.01

Start Time: 00:57:27

End Time:

08:02:51

Time On Btm:

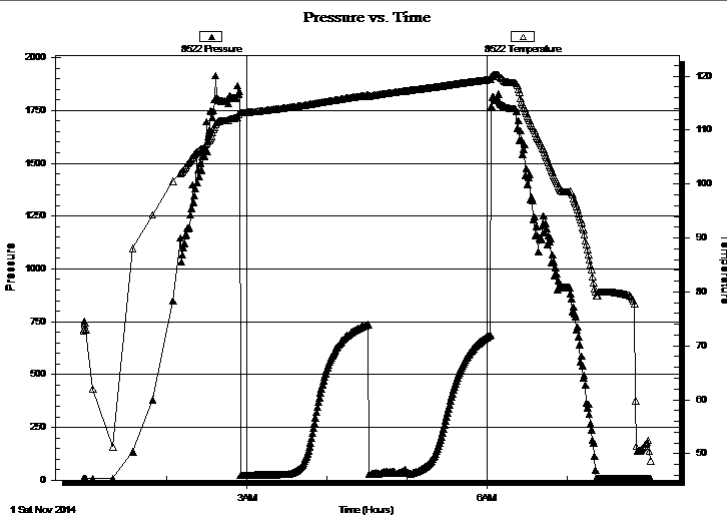
Time Off Btm:

TEST COMMENT: IF: 30 Weak blow / died after 10 min.

IS: 60 No return

FF: 30 No blow

FS: 60 No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
2.00	mud 100% m	0.03

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc.

36-14s-30w Grove,KS

250 N Water Ste 300
Wichita KS 67202

Lundgren B #1-36

Job Ticket: 58582

DST#: 2

ATTN: Larry Nicholson

Test Start: 2014.11.01 @ 00:57:54

Tool Information

Drill Pipe:	Length: 3450.00 ft	Diameter: 2.25 inches	Volume: 16.97 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 279.00 ft	Diameter: 3.80 inches	Volume: 3.91 bbl	Weight to Pull Loose:	90000.00 lb
			<u>Total Volume: 20.88 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial	66000.00 lb
Depth to Top Packer:	3744.00 ft			Final	lb
Depth to Bottom Packer:	ft				
Interval between Packers:	31.00 ft				
Tool Length:	59.00 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			3717.00	
Shut In Tool	5.00		Inside	3722.00	
Hydraulic tool	5.00			3727.00	
Jars	5.00			3732.00	
Safety Joint	3.00			3735.00	
Packer	5.00			3740.00	28.00 Bottom Of Top Packer
Packer	4.00			3744.00	
Stubb	1.00			3745.00	
Recorder	0.00	8365	Outside	3745.00	
Recorder	0.00	8522	Outside	3745.00	
Perforations	27.00			3772.00	
Blank Spacing	0.00			3772.00	
Bullnose	3.00			3775.00	31.00 Bottom Packers & Anchor

Total Tool Length: 59.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc.

36-14s-30w Grove,KS

250 N Water Ste 300
Wichita KS 67202

Lundgren B #1-36

Job Ticket: 58582

DST#: 2

ATTN: Larry Nicholson

Test Start: 2014.11.01 @ 00:57:54

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.56 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	mud 100% m	0.028

Total Length: 2.00 ft Total Volume: 0.028 bbl

Num Fluid Samples: 0

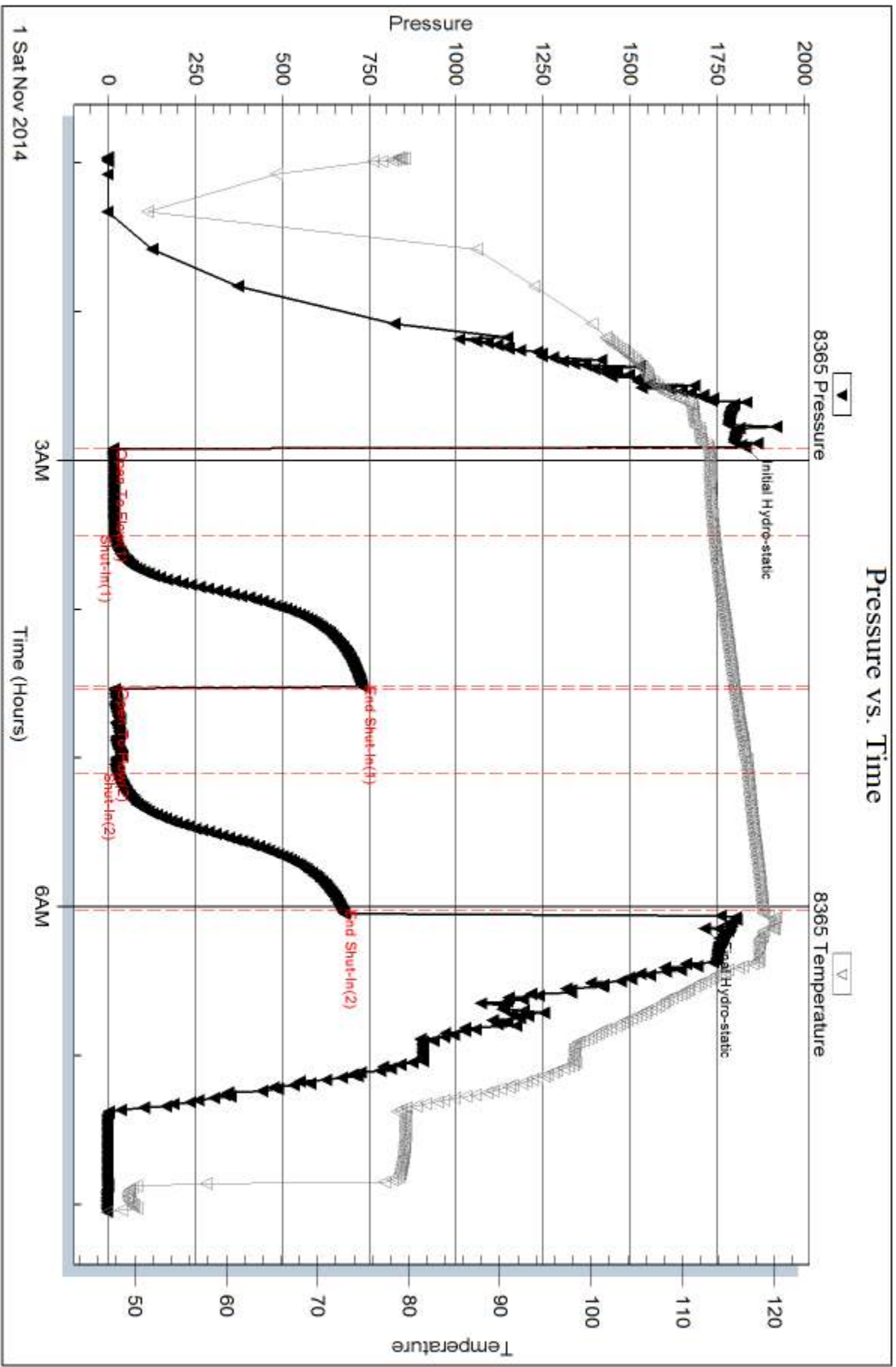
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

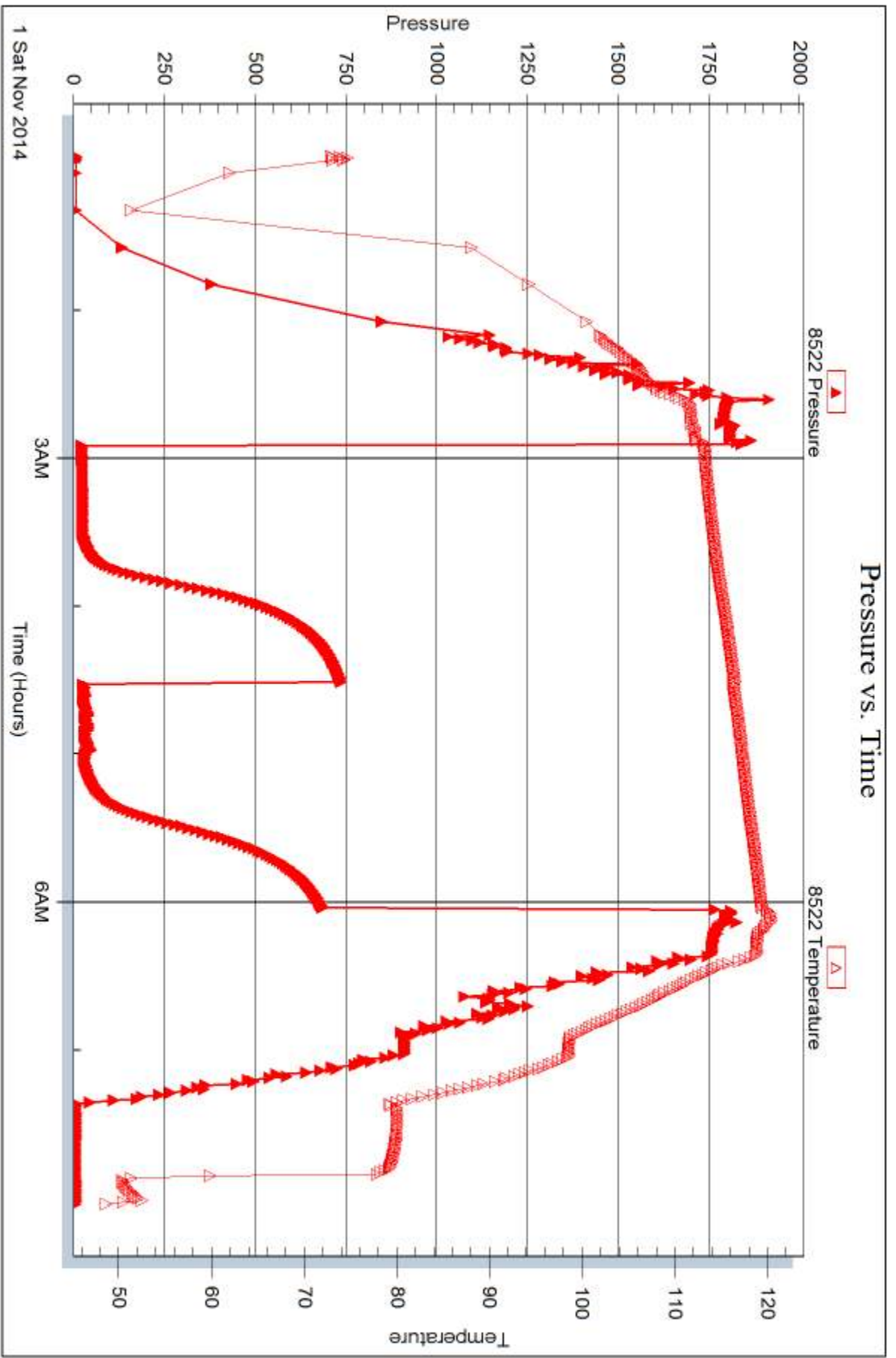


Serial #: 8522

Outside Murfin Drilling Co Inc.

Lundgren B #1-36

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 58582

Printed: 2014.11.10 @ 11:25:54



DRILL STEM TEST REPORT

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

250 N Water Ste 300
Wichita KS 67202

ATTN: Larry Nicholson

Lundgren B #1-36

36-14s-30w Grove,KS

Start Date: 2014.11.02 @ 01:45:41

End Date: 2014.11.02 @ 09:38:20

Job Ticket #: 58583 DST #: 3

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

Printed: 2014.11.10 @ 11:25:30

Murfin Drilling Co Inc.
36-14s-30w Grove,KS
Lundgren B #1-36
DST # 3
KC H I J
2014.11.02



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co Inc.

36-14s-30w Grove,KS

250 N Water Ste 300
Wichita KS 67202

Lundgren B #1-36

ATTN: Larry Nicholson

Job Ticket: 58583

DST#: 3

Test Start: 2014.11.02 @ 01:45:41

GENERAL INFORMATION:

Formation: **KC HIJ**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:34:21

Time Test Ended: 09:38:20

Test Type: Conventional Bottom Hole (Reset)

Tester: James Geier

Unit No: 69

Interval: 3900.00 ft (KB) To 3968.00 ft (KB) (TVD)

Reference Elevations: 2667.00 ft (KB)

Total Depth: 3968.00 ft (KB) (TVD)

2656.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8365 Outside

Press@RunDepth: 189.87 psig @ 3934.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.02

End Date:

2014.11.02

Last Calib.: 2014.11.02

Start Time: 01:45:41

End Time:

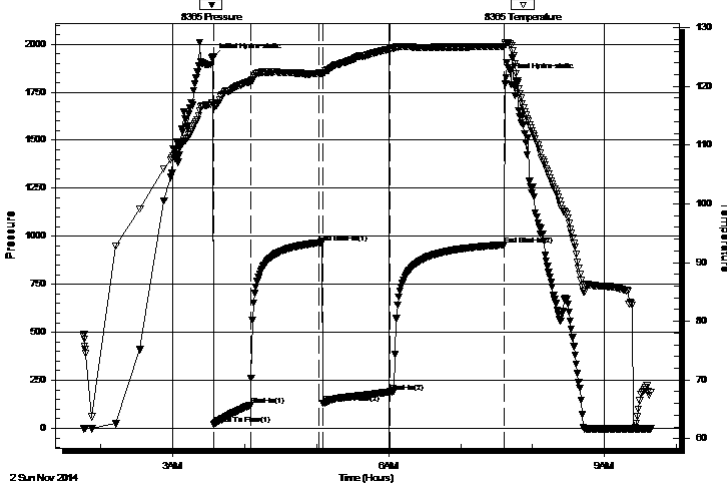
09:38:20

Time On Btm: 2014.11.02 @ 03:33:36

Time Off Btm: 2014.11.02 @ 07:37:36

TEST COMMENT: IF: 30 2" blow
IS: 60 No return
FF: 60 2 1/2 " blow
FS: 90 No return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1932.12	117.26	Initial Hydro-static
1	20.51	116.66	Open To Flow (1)
32	120.64	120.82	Shut-In(1)
88	965.63	122.23	End Shut-In(1)
92	131.35	122.12	Open To Flow (2)
148	189.87	126.35	Shut-In(2)
243	955.67	126.83	End Shut-In(2)
244	1826.44	127.13	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
217.00	w c m 60% w 40% m	3.04
217.00	w c m 80% w 20% m	1.63

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc.

36-14s-30w Grove,KS

250 N Water Ste 300
Wichita KS 67202

Lundgren B #1-36

Job Ticket: 58583

DST#: 3

ATTN: Larry Nicholson

Test Start: 2014.11.02 @ 01:45:41

Tool Information

Drill Pipe:	Length: 3611.00 ft	Diameter: 2.25 inches	Volume: 17.76 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 279.00 ft	Diameter: 3.80 inches	Volume: 3.91 bbl	Weight to Pull Loose:	90000.00 lb
			<u>Total Volume: 21.67 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial	69000.00 lb
Depth to Top Packer:	3900.00 ft			Final	70000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	68.00 ft				
Tool Length:	95.00 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		Inside	3878.00	
Hydraulic tool	5.00			3883.00	
Jars	5.00			3888.00	
Safety Joint	3.00			3891.00	
Packer	5.00			3896.00	27.00 Bottom Of Top Packer
Packer	4.00			3900.00	
Stubb	1.00			3901.00	
Change Over Sub	1.00			3902.00	
Drill Pipe	31.00			3933.00	
Change Over Sub	1.00			3934.00	
Recorder	0.00	8365	Outside	3934.00	
Recorder	0.00	8522	Outside	3934.00	
Perforations	31.00			3965.00	
Blank Spacing	0.00			3965.00	
Bullnose	3.00			3968.00	68.00 Bottom Packers & Anchor

Total Tool Length: 95.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc.

36-14s-30w Grove,KS

250 N Water Ste 300
Wichita KS 67202

Lundgren B #1-36

Job Ticket: 58583

DST#: 3

ATTN: Larry Nicholson

Test Start: 2014.11.02 @ 01:45:41

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

30000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.96 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
217.00	w c m 60% w 40% m	3.044
217.00	w c m 80% w 20% m	1.632

Total Length: 434.00 ft Total Volume: 4.676 bbl

Num Fluid Samples: 0

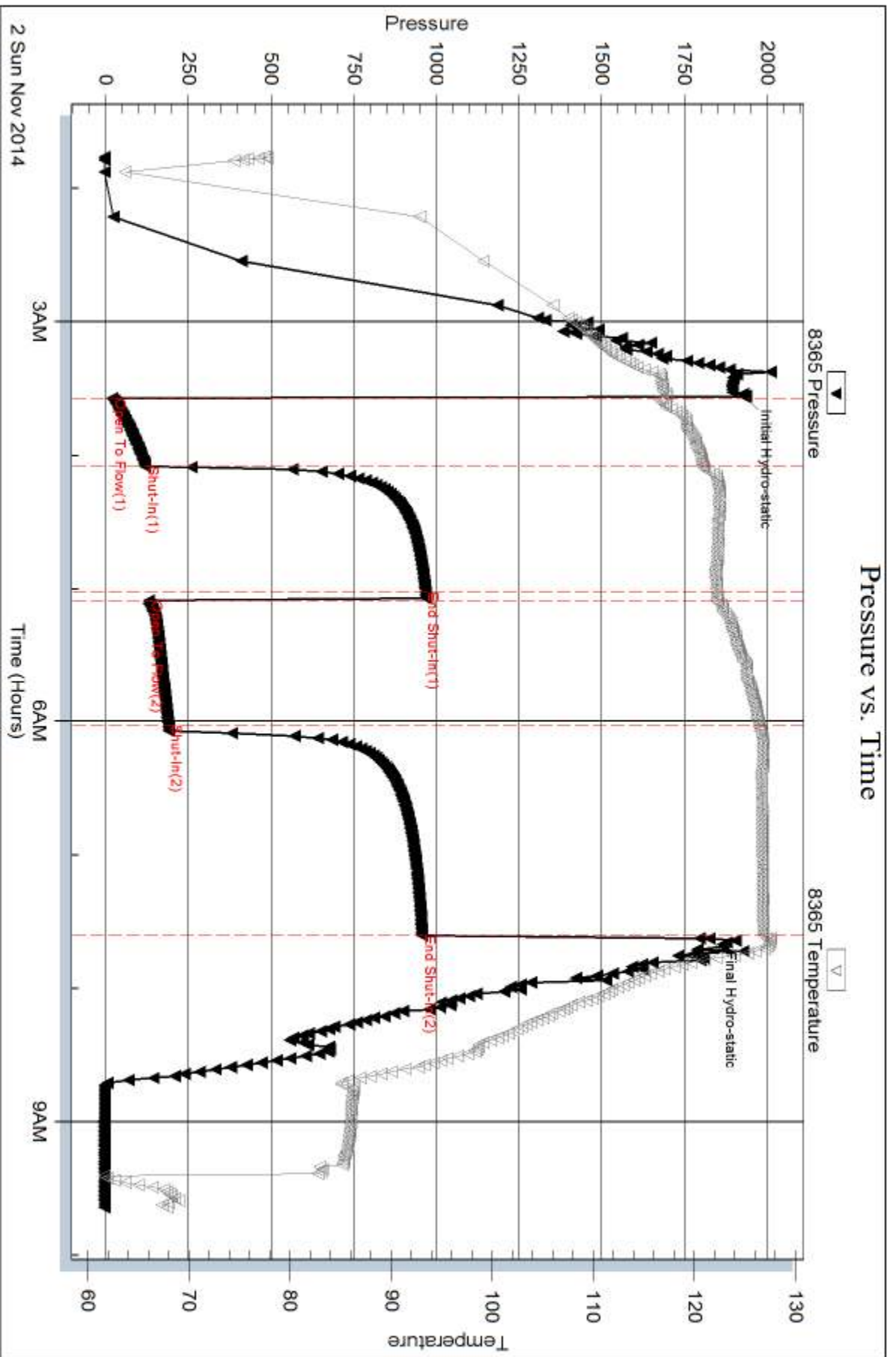
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW 24 @ 60*f =30000

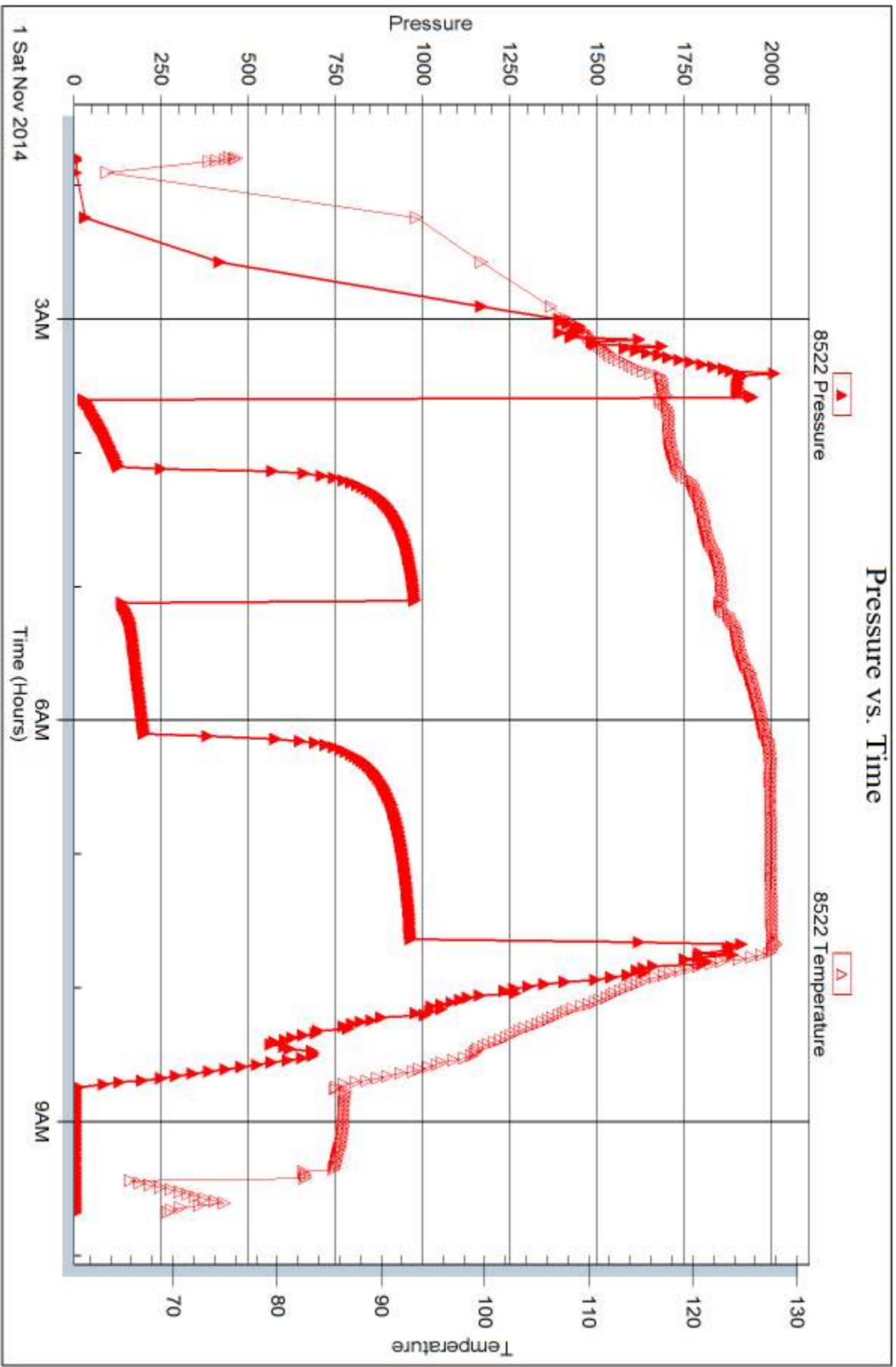


Serial #: 8522

Outside Murfin Drilling Co Inc.

Lundgren B #1-36

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 58583

Printed: 2014.11.10 @ 11:25:31



DRILL STEM TEST REPORT

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

250 N Water Ste 300
Wichita KS 67202

ATTN: Larry Nicholson

Lundgren B #1-36

36-14s-30w Grove,KS

Start Date: 2014.11.02 @ 19:23:34

End Date: 2014.11.03 @ 04:12:29

Job Ticket #: 58584 DST #: 4

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

Printed: 2014.11.10 @ 11:25:03



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co Inc.

36-14s-30w Grove, KS

250 N Water Ste 300
Wichita KS 67202

Lundgren B #1-36

Job Ticket: 58584

DST#: 4

ATTN: Larry Nicholson

Test Start: 2014.11.02 @ 19:23:34

GENERAL INFORMATION:

Formation: **KC K & L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:31:14

Time Test Ended: 04:12:29

Test Type: Conventional Bottom Hole (Reset)

Tester: James Geier

Unit No: 69

Interval: 3963.00 ft (KB) To 4039.00 ft (KB) (TVD)

Reference Elevations: 2667.00 ft (KB)

Total Depth: 4039.00 ft (KB) (TVD)

2656.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

Serial #: 8365 Outside

Press@RunDepth: 531.00 psig @ 3996.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.02

End Date:

2014.11.03

Last Calib.: 2014.11.03

Start Time: 19:23:34

End Time:

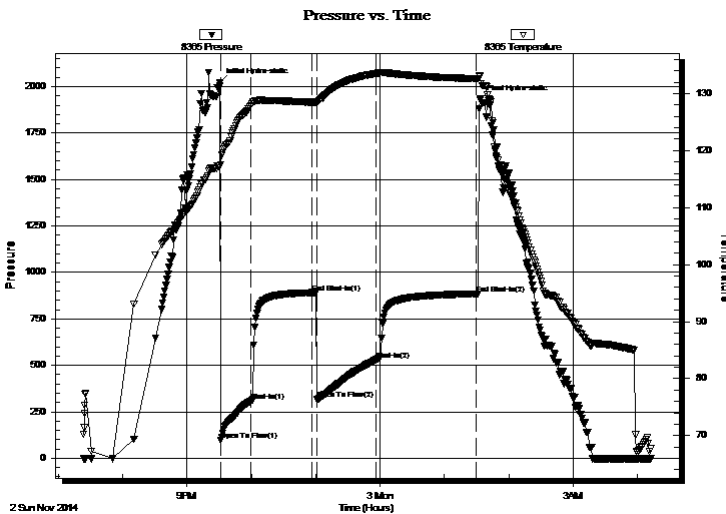
04:12:29

Time On Btm: 2014.11.02 @ 21:30:29

Time Off Btm: 2014.11.03 @ 01:32:59

TEST COMMENT: IF: 30 Bob in 5 min.
IS: 60 No return
FF: 60 Bob in 6 min.
FS: 90 With blow back 1 "

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2018.60	117.28	Initial Hydro-static
1	98.56	117.51	Open To Flow (1)
29	308.05	127.93	Shut-In(1)
86	891.35	128.48	End Shut-In(1)
91	315.71	128.31	Open To Flow (2)
146	531.00	133.53	Shut-In(2)
239	885.14	132.66	End Shut-In(2)
243	1927.43	133.09	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
405.00	w c m 90% w 10% m	4.53
374.00	g w m c o 20% g 30% w 30% m 20% o	1.84
374.00	g m c o 30% g 10% m 60% o	1.84
0.00	G I P 1652'	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc.

36-14s-30w Grove,KS

250 N Water Ste 300
Wichita KS 67202

Lundgren B #1-36

Job Ticket: 58584

DST#: 4

ATTN: Larry Nicholson

Test Start: 2014.11.02 @ 19:23:34

Tool Information

Drill Pipe:	Length: 3673.00 ft	Diameter: 2.25 inches	Volume: 18.06 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 279.00 ft	Diameter: 3.80 inches	Volume: 3.91 bbl	Weight to Pull Loose:	90000.00 lb
			<u>Total Volume: 21.97 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial	65000.00 lb
Depth to Top Packer:	3963.00 ft			Final	69000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	76.00 ft				
Tool Length:	103.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00		Inside	3941.00	
Hydraulic tool	5.00			3946.00	
Jars	5.00			3951.00	
Safety Joint	3.00			3954.00	
Packer	5.00			3959.00	27.00 Bottom Of Top Packer
Packer	4.00			3963.00	
Stubb	1.00			3964.00	
Change Over Sub	1.00			3965.00	
Drill Pipe	30.00			3995.00	
Change Over Sub	1.00			3996.00	
Recorder	0.00	8365	Outside	3996.00	
Recorder	0.00	8522	Outside	3996.00	
Perforations	40.00			4036.00	
Blank Spacing	0.00			4036.00	
Bullnose	3.00			4039.00	76.00 Bottom Packers & Anchor

Total Tool Length: 103.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc.

36-14s-30w Grove,KS

250 N Water Ste 300
Wichita KS 67202

Lundgren B #1-36

Job Ticket: 58584

DST#: 4

ATTN: Larry Nicholson

Test Start: 2014.11.02 @ 19:23:34

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

30 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

39000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.97 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
405.00	w c m 90% w 10% m	4.533
374.00	g w m c o 20% g 30% w 30% m 20% o	1.839
374.00	g m c o 30% g 10% m 60% o	1.839
0.00	G I P 1652'	0.000

Total Length: 1153.00 ft Total Volume: 8.211 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

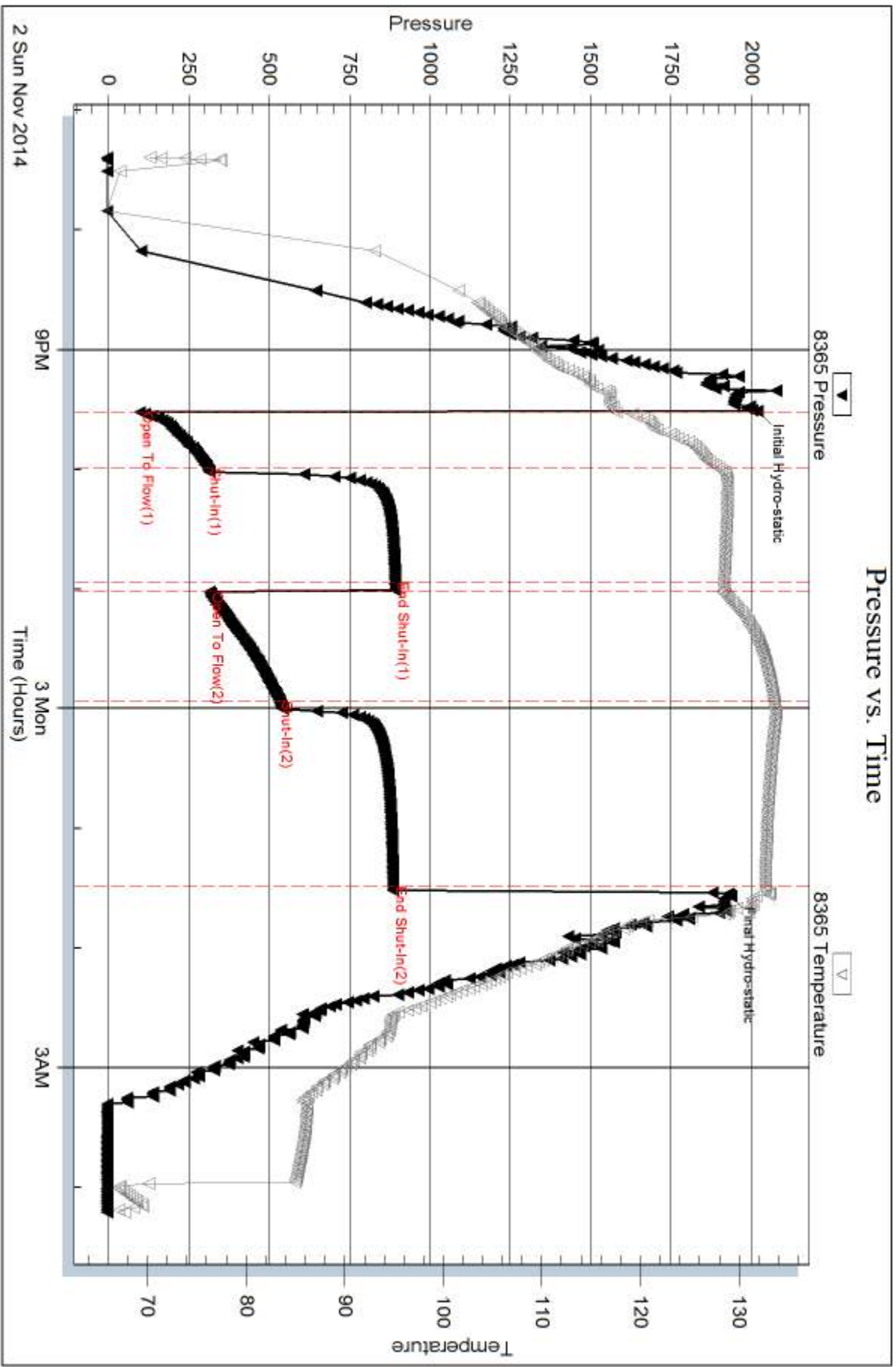
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .23@ 55*f =39000

Gravity .29 @ 65*f = 30

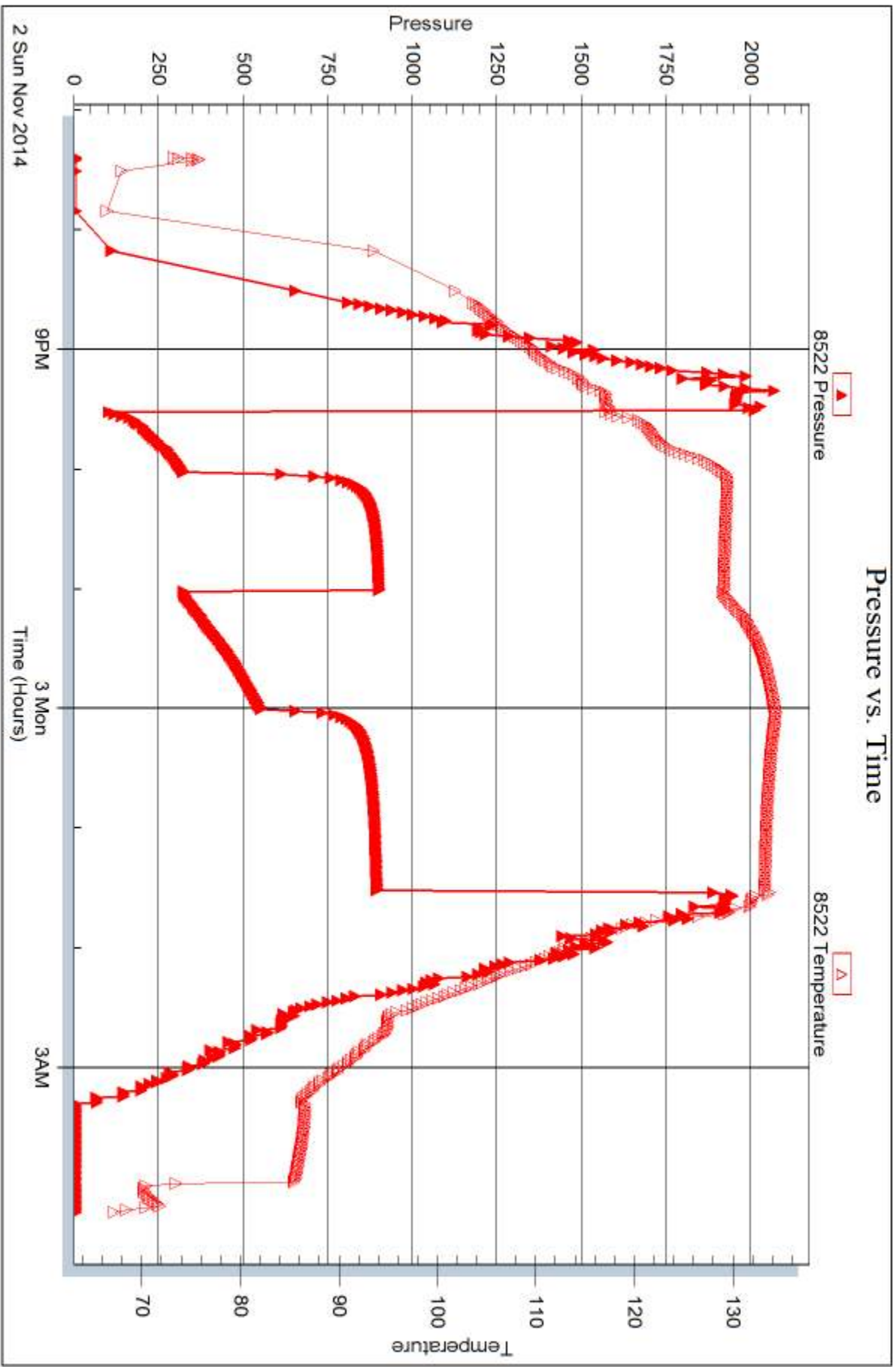


Serial #: 8522

Outside Murfin Drilling Co Inc.

Lundgren B #1-36

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 58584

Printed: 2014.11.10 @ 11:25:04



DRILL STEM TEST REPORT

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

250 N Water Ste 300
Wichita KS 67202

ATTN: Larry Nicholson

Lundgren B #1-36

36-14s-30w Grove,KS

Start Date: 2014.11.03 @ 22:52:00

End Date: 2014.11.04 @ 07:52:00

Job Ticket #: 58585 DST #: 5

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

Printed: 2014.11.10 @ 11:24:40

Murfin Drilling Co Inc. 36-14s-30w Grove,KS Lundgren B #1-36 DST # 5 Pawnee - Lower Pawnee 2014.11.10



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co Inc.

36-14s-30w Grove,KS

250 N Water Ste 300
Wichita KS 67202

Lundgren B #1-36

Job Ticket: 58585

DST#: 5

ATTN: Larry Nicholson

Test Start: 2014.11.03 @ 22:52:00

GENERAL INFORMATION:

Formation: **Pawnee - Lower Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:52:45

Time Test Ended: 07:52:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Interval: 4259.00 ft (KB) To 4221.00 ft (KB) (TVD)

Reference Elevations: 2667.00 ft (KB)

Total Depth: 4221.00 ft (KB) (TVD)

2656.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8365

Inside

Press@RunDepth: 161.71 psig @ 4160.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.03

End Date:

2014.11.04

Last Calib.:

2014.11.04

Start Time:

22:52:05

End Time:

07:52:00

Time On Btm:

2014.11.04 @ 00:52:30

Time Off Btm:

2014.11.04 @ 04:56:45

TEST COMMENT:

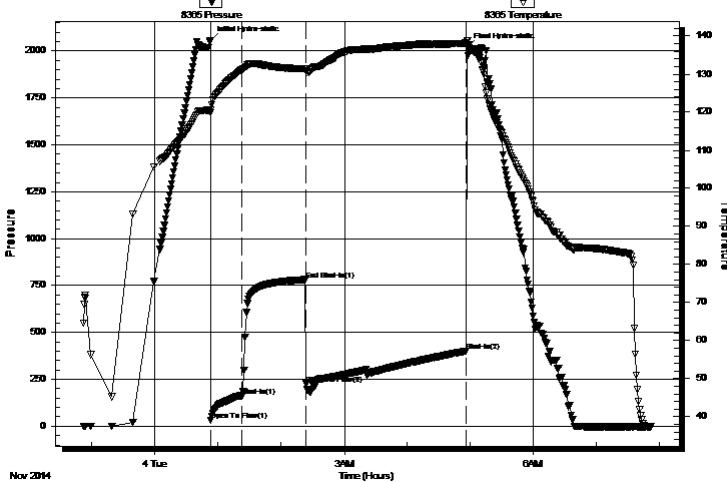
30- IF: BOB @ 7 min.

60-ISI: 3" return, receded to Surface.

60- FF: BOB @ 7 min.

90- FS: BOB @ 10 min, Gas to surface @ 45 min. -----tool did not close

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2056.98	120.54	Initial Hydro-static
1	31.48	119.80	Open To Flow (1)
31	161.71	131.13	Shut-In(1)
91	781.78	131.35	End Shut-In(1)
92	225.76	130.80	Open To Flow (2)
244	401.83	138.15	Shut-In(2)
245	2020.72	138.78	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
280.00	gmco 30g 15m 55o	3.92
320.00	gmco 20g 10m 70o	1.57
350.00	gsmco 35g 5m 60o	1.72
0.00	2910' GIP to surface	0.00

* Recovery from multiple tests

Gas Rates

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



DRILL STEM TEST REPORT

Murfin Drilling Co Inc.

250 N Water Ste 300
Wichita KS 67202

ATTN: Larry Nicholson

36-14s-30w Grove,KS

Lundgren B #1-36

Job Ticket: 58585

DST#: 5

Test Start: 2014.11.03 @ 22:52:00

GENERAL INFORMATION:

Formation: **Pawnee - Lower Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:52:45

Time Test Ended: 07:52:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Interval: 4259.00 ft (KB) To 4221.00 ft (KB) (TVD)

Reference Elevations: 2667.00 ft (KB)

Total Depth: 4221.00 ft (KB) (TVD)

2656.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8522 Outside

Press@RunDepth: psig @ 4160.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.03

End Date: 2014.11.04

Last Calib.: 2014.11.04

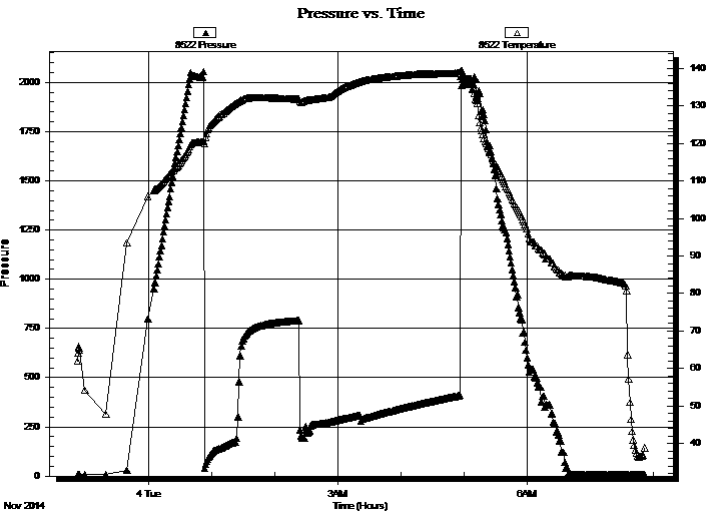
Start Time: 22:52:05

End Time: 07:52:00

Time On Btm:

Time Off Btm:

TEST COMMENT: 30- IF: BOB @ 7 min.
60- IS: 3" return, receded to Surface.
60- FF: BOB @ 7 min.
90- FS: BOB @ 10 min, Gas to surface @ 45 min. -----tool did not close



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
280.00	gmco 30g 15m 55o	3.92
320.00	gmco 20g 10m 70o	1.57
350.00	gsmco 35g 5m 60o	1.72
0.00	2910' GIP to surface	0.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc.

36-14s-30w Grove,KS

250 N Water Ste 300
Wichita KS 67202

Lundgren B #1-36

Job Ticket: 58585

DST#: 5

ATTN: Larry Nicholson

Test Start: 2014.11.03 @ 22:52:00

Tool Information

Drill Pipe:	Length: 3860.00 ft	Diameter: 2.25 inches	Volume: 18.98 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 279.00 ft	Diameter: 3.80 inches	Volume: 3.91 bbl	Weight to Pull Loose:	87000.00 lb
			<u>Total Volume: 22.89 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial	68000.00 lb
Depth to Top Packer:	4159.00 ft			Final	70000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	62.00 ft				
Tool Length:	89.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description

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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4133.00	
Shut In Tool	5.00			4138.00	
Hydraulic tool	5.00			4143.00	
Jars	5.00			4148.00	
Safety Joint	2.00			4150.00	
Packer	5.00			4155.00	27.00 Bottom Of Top Packer
Packer	4.00			4159.00	
Stubb	1.00			4160.00	
Recorder	0.00	8365	Inside	4160.00	
Recorder	0.00	8522	Outside	4160.00	
Perforations	25.00			4185.00	
Change Over Sub	1.00			4186.00	
Drill Pipe	31.00			4217.00	
Change Over Sub	1.00			4218.00	
Bullnose	3.00			4221.00	62.00 Bottom Packers & Anchor

Total Tool Length: 89.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc.

36-14s-30w Grove,KS

250 N Water Ste 300
Wichita KS 67202

Lundgren B #1-36

Job Ticket: 58585

DST#: 5

ATTN: Larry Nicholson

Test Start: 2014.11.03 @ 22:52:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 50.00 sec/qt
Water Loss: 6.39 in³
Resistivity: ohm.m
Salinity: 2200.00 ppm
Filter Cake: 2.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: 35 deg API
Water Salinity: 0 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
280.00	gmco 30g 15m 55o	3.919
320.00	gmco 20g 10m 70o	1.574
350.00	gsmco 35g 5m 60o	1.721
0.00	2910' GIP to surface	0.000

Total Length: 950.00 ft Total Volume: 7.214 bbl

Num Fluid Samples: 0

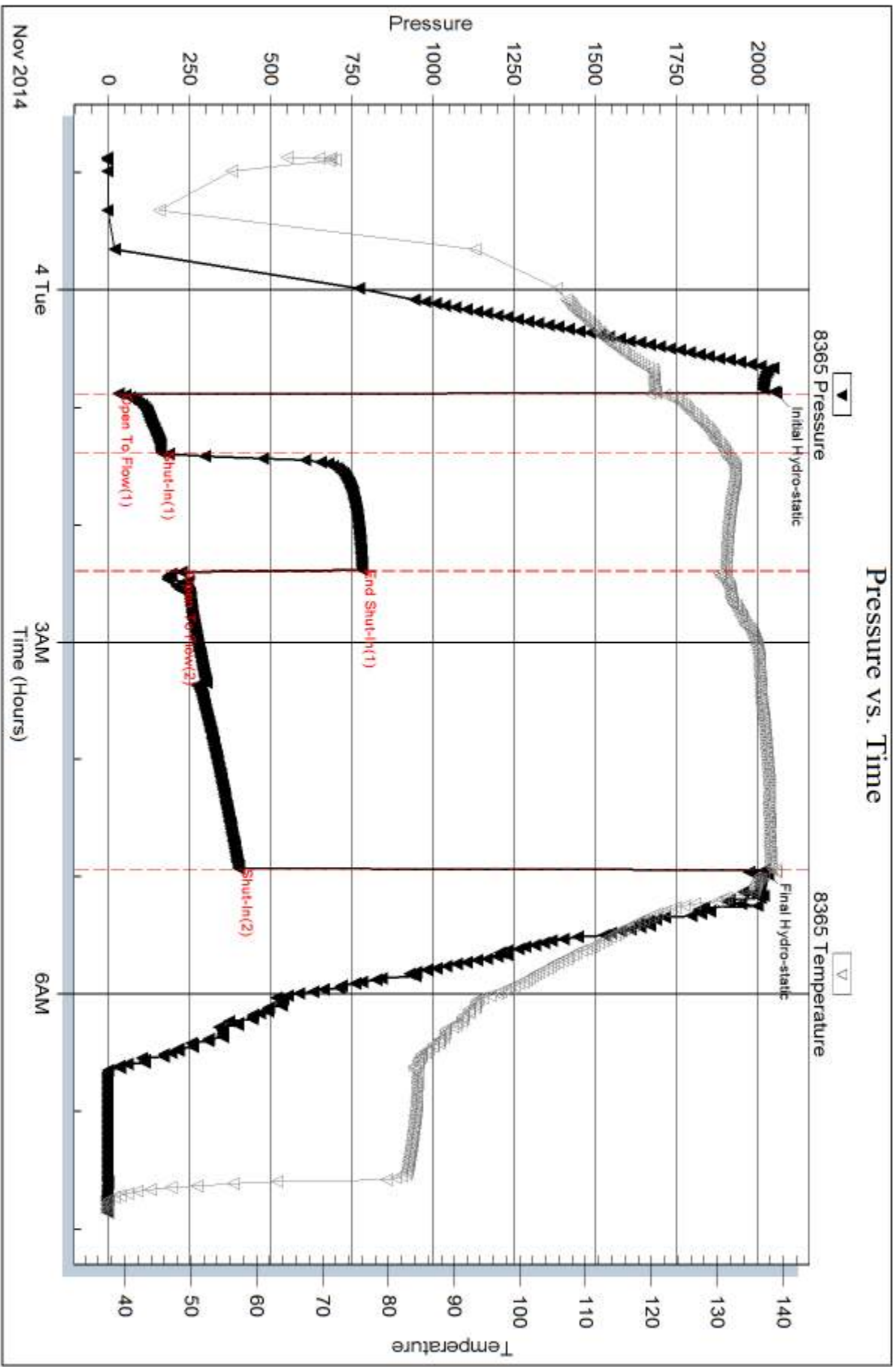
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

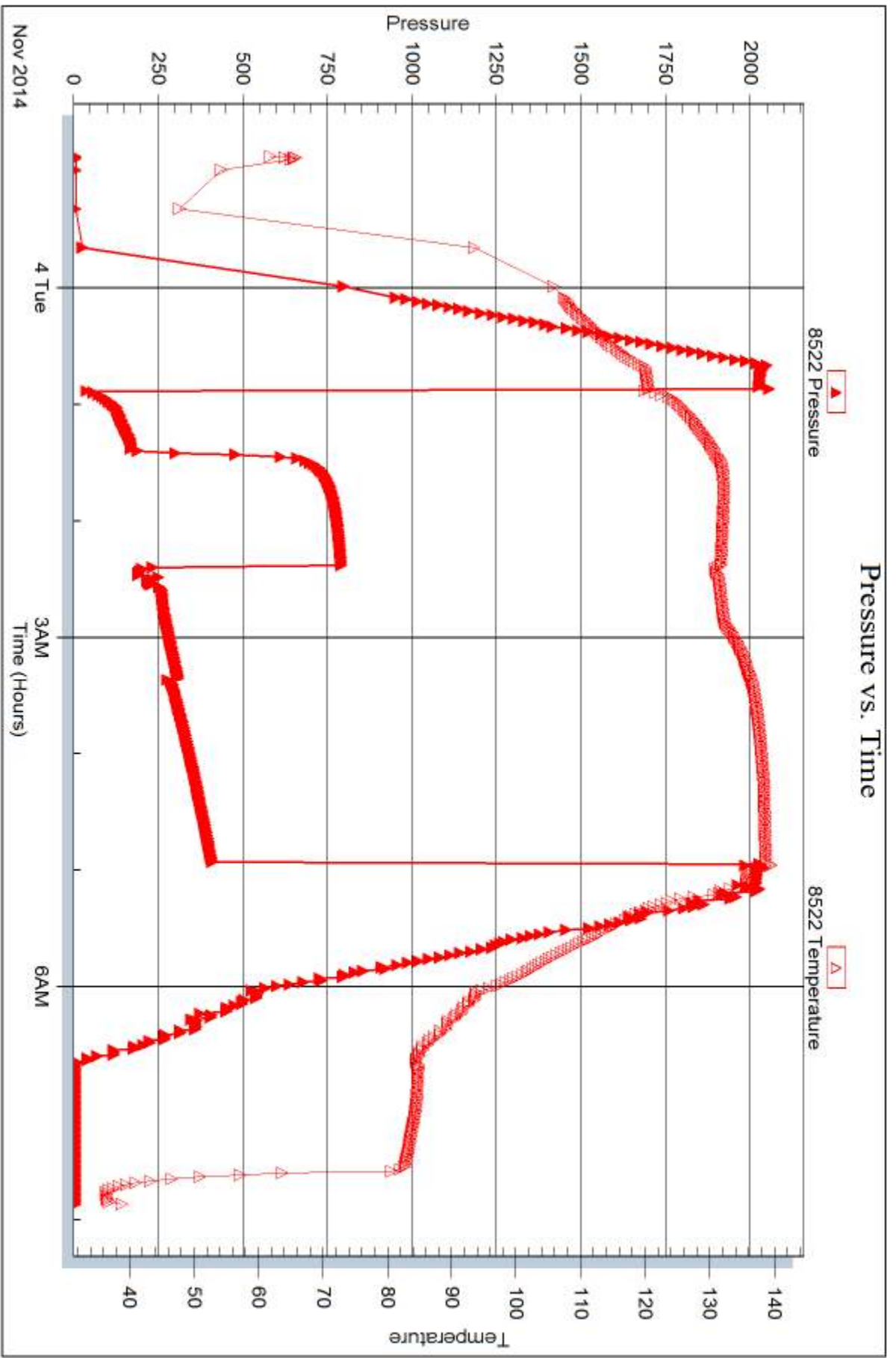


Serial #: 8522

Outside Murfin Drilling Co Inc.

Lundgren B #1-36

DST Test Number: 5





DRILL STEM TEST REPORT

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

250 N Water Ste 300
Wichita KS 67202

ATTN: Larry Nicholson

Lundgren B #1-36

36-14s-30w Grove,KS

Start Date: 2014.11.04 @ 20:04:00

End Date: 2014.11.05 @ 04:02:38

Job Ticket #: 58586 DST #: 6

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

Printed: 2014.11.10 @ 11:23:55



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co Inc.

36-14s-30w Grove, KS

250 N Water Ste 300
Wichita KS 67202

Lundgren B #1-36

Job Ticket: 58586

DST#: 6

ATTN: Larry Nicholson

Test Start: 2014.11.04 @ 20:04:00

GENERAL INFORMATION:

Formation: **Ft Scott - Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:16:00

Time Test Ended: 04:02:38

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Interval: **4217.00 ft (KB) To 4316.00 ft (KB) (TVD)**

Reference Elevations: 2667.00 ft (KB)

Total Depth: 4316.00 ft (KB) (TVD)

2656.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8365

Inside

Press@RunDepth: 35.71 psig @ 4218.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.04

End Date:

2014.11.05

Last Calib.: 2014.11.05

Start Time: 20:04:05

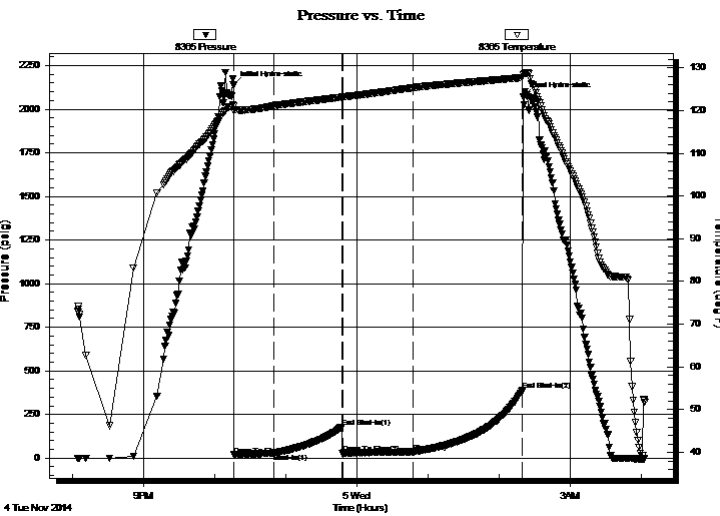
End Time:

04:02:37

Time On Btm: 2014.11.04 @ 22:15:30

Time Off Btm: 2014.11.05 @ 02:19:45

TEST COMMENT: 30- IF: 1 1/2" blow .
60- IS: No return.
60- FF: 1" blow .
90- FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2137.80	120.99	Initial Hydro-static
1	18.58	120.03	Open To Flow (1)
34	28.00	121.09	Shut-In(1)
92	178.80	123.12	End Shut-In(1)
92	24.93	123.18	Open To Flow (2)
152	35.71	125.32	Shut-In(2)
244	387.12	127.71	End Shut-In(2)
245	2069.52	128.46	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	ocm 10o 90m	0.42

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc.

36-14s-30w Grove,KS

250 N Water Ste 300
Wichita KS 67202

Lundgren B #1-36

Job Ticket: 58586

DST#: 6

ATTN: Larry Nicholson

Test Start: 2014.11.04 @ 20:04:00

Tool Information

Drill Pipe:	Length: 3925.00 ft	Diameter: 2.25 inches	Volume: 19.30 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 279.00 ft	Diameter: 3.80 inches	Volume: 3.91 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 23.21 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4217.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	99.00 ft			
Tool Length:	126.00 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			4191.00	
Shut In Tool	5.00			4196.00	
Hydraulic tool	5.00			4201.00	
Jars	5.00			4206.00	
Safety Joint	2.00			4208.00	
Packer	5.00			4213.00	27.00 Bottom Of Top Packer
Packer	4.00			4217.00	
Stubb	1.00			4218.00	
Recorder	0.00	8365	Inside	4218.00	
Recorder	0.00	8522	Outside	4218.00	
Perforations	30.00			4248.00	
Change Over Sub	1.00			4249.00	
Drill Pipe	63.00			4312.00	
Change Over Sub	1.00			4313.00	
Bullnose	3.00			4316.00	99.00 Bottom Packers & Anchor

Total Tool Length: 126.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc.

36-14s-30w Grove,KS

250 N Water Ste 300
Wichita KS 67202

Lundgren B #1-36

Job Ticket: 58586

DST#: 6

ATTN: Larry Nicholson

Test Start: 2014.11.04 @ 20:04:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	ocm 10o 90m	0.421

Total Length: 30.00 ft Total Volume: 0.421 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

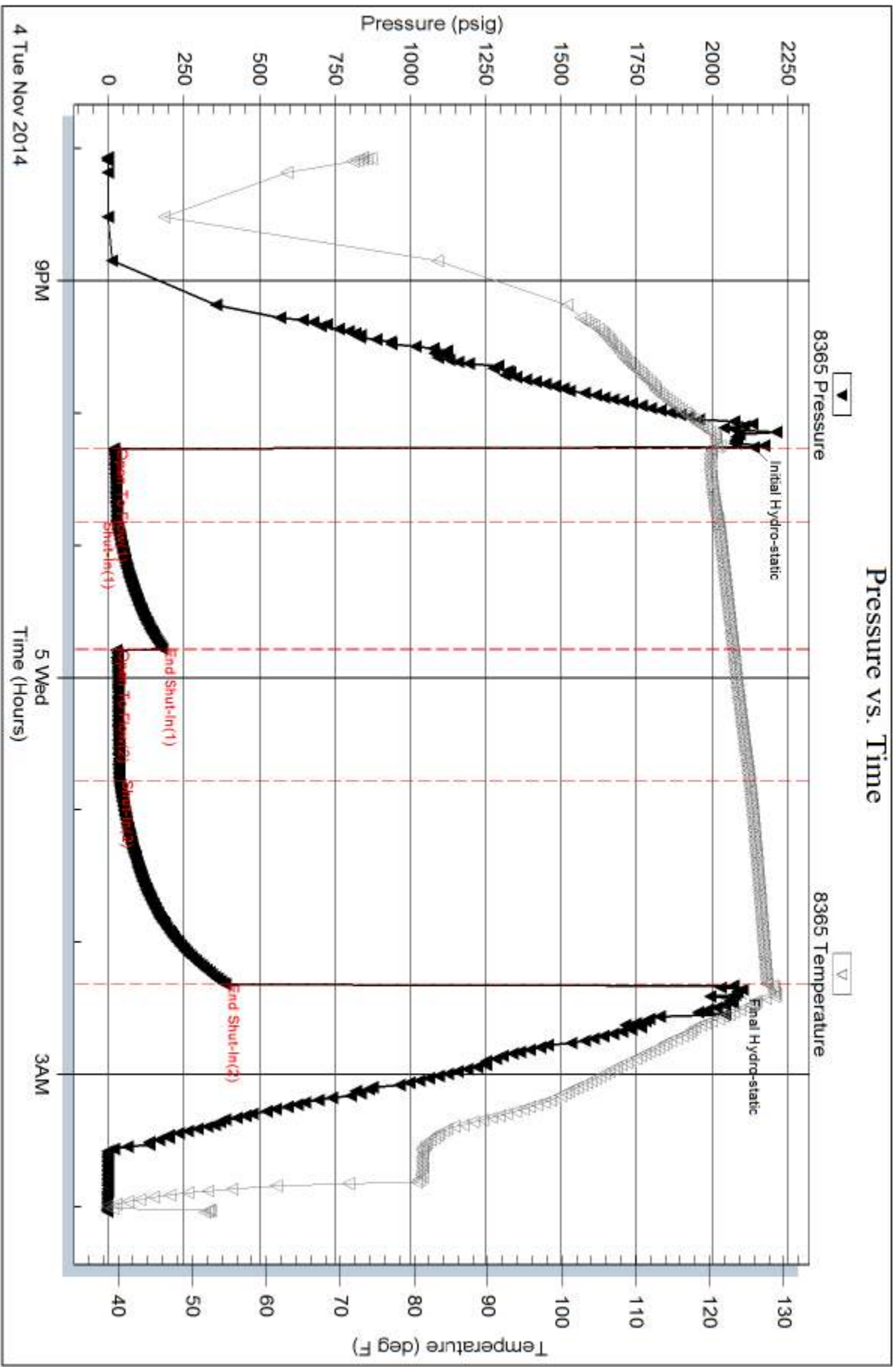
Serial #: 8365

Inside

Murfin Drilling Co Inc.

Lundgren B #1-36

DST Test Number: 6



Trilobite Testing, Inc

Ref. No: 58586

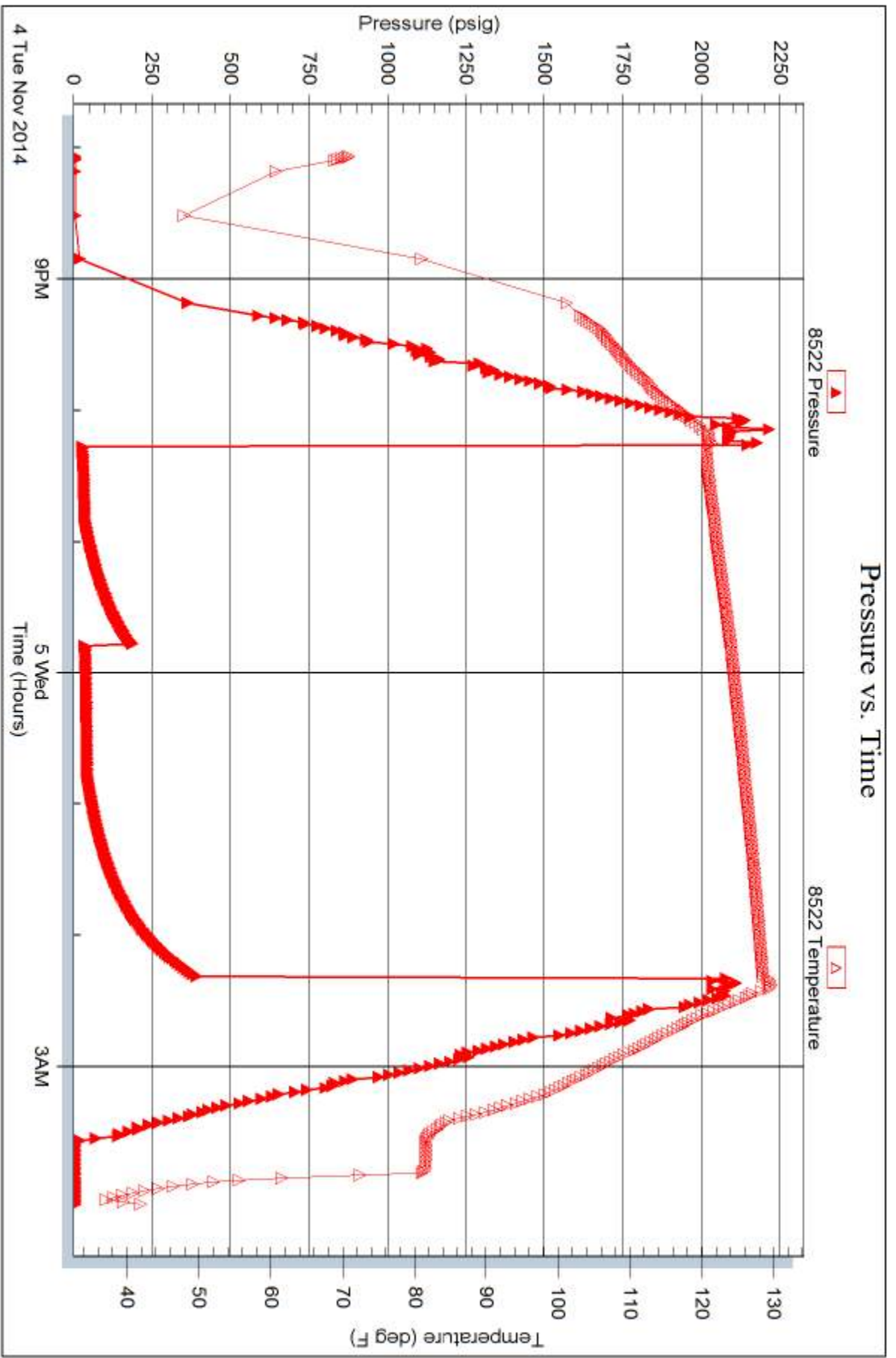
Printed: 2014.11.10 @ 11:23:56

Serial #: 8522

Outside Murfin Drilling Co Inc.

Lundgren B #1-36

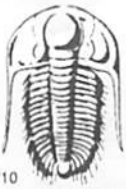
DST Test Number: 6



Trilobite Testing, Inc

Ref. No: 58586

Printed: 2014.11.10 @ 11:23:56



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58581

4/10

Well Name & No. Lundgren B. 1-36 Test No. 1 Date 10/31/14
 Company Mun Fin drlg INC. Elevation 3667 KB 2656 GL
 Address 250 N WATSON STE 300 WICHITA KS 67202
 Co. Rep / Geo. LANNY NICHOLSON Rig Mun Fin 21
 Location: Sec. 36 Twp. 14 Rge. 30 Co. Boyer State KS

Interval Tested 3690 - 3734 Zone Tested TORONTO / LANSING
 Anchor Length 44 Drill Pipe Run 3390 Mud Wt. 8.8
 Top Packer Depth 3685 Drill Collars Run 279 Vis 60
 Bottom Packer Depth 3690 Wt. Pipe Run 0 WL 6.8
 Total Depth 3734 Chlorides 2000 ppm System LCM 5

Blow Description IP: Blow 1 3/4 @ END
ISI: NO RETURN
FF: 3/4" blow
FST: NO RETURN

Rec	Feet of	%gas	%oil	%water	%mud
<u>124</u>	<u>W M @ 0</u>	<u>10</u>	<u>40</u>	<u>50</u>	<u>0</u>
<u>124</u>	<u>W M @ 0</u>	<u>5</u>	<u>65</u>	<u>30</u>	<u>0</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

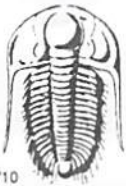
Rec Total 248 BHT 124 Gravity — API RW 36 @ 45 F Chlorides 500 ppm

(A) Initial Hydrostatic 1811 Test 1150 T-On Location 0845
 (B) First Initial Flow 20 Jars 250 T-Started 0925
 (C) First Final Flow 85 Safety Joint 75 T-Open 1100
 (D) Initial Shut-In 961 Circ Sub T-Pulled 1500
 (E) Second Initial Flow 90 Hourly Standby T-Out 1700
 (F) Second Final Flow 155 Mileage 2014 124 Comments
 (G) Final Shut-In 929 Sampler
 (H) Final Hydrostatic 1703 Straddle Ruined Shale Packer
 Shale Packer Ruined Packer
 Extra Packer Extra Copies
 Extra Recorder Sub Total 01599
 Day Standby Total
 Accessibility MP/DST Disc't

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Sub Total 1599

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58582

4/10

Well Name & No. Lundgren B 1-36 Test No. 2 Date 11/1/14
 Company Muefin dely Inc Elevation 2667 KB 2656 GL
 Address 250 N Water Ste 300 Wichita KS 67202
 Co. Rep / Geo. Larry Nicholson Rig Muefin 21
 Location: Sec. 36 Twp. 14 Rge. 30 Co. Cove State KS

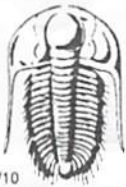
Interval Tested 3744 — 3775 Zone Tested Landing B & D
 Anchor Length 31 Drill Pipe Run 3450 Mud Wt. 8.9
 Top Packer Depth 3740 Drill Collars Run 279 Vis 60
 Bottom Packer Depth 3744 Wt. Pipe Run 0 WL 5.4
 Total Depth 3775 Chlorides 2000 ppm System LCM 6
 Blow Description IF: Weak blow/died after 10min
ISI: No Return
FF: No blow
FST: No Return

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

Rec Total 2 BHT 120 Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic <u>1832</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>030</u>
(B) First Initial Flow <u>14</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>057</u>
(C) First Final Flow <u>17</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>0300</u>
(D) Initial Shut-In <u>728</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>0600</u>
(E) Second Initial Flow <u>19</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>0800</u>
(F) Second Final Flow <u>27</u>	<input checked="" type="checkbox"/> Mileage <u>20%</u> <u>124</u>	Comments _____
(G) Final Shut-In <u>671</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1714</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby _____	Total <u>1599</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1599</u>	

Approved By _____ Our Representative [Signature]
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **58583**

Walt 785 623 1497

Well Name & No. Lundgren B 1-36 Test No. 3 Date 11/2/14
 Company Murfin Drilling Inc Co Elevation 2667 KB 2656 GL
 Address 250 N WATER Ste 300 Wichita KS 67202
 Co. Rep / Geo. Larry Nicholson Rig Murfin 21
 Location: Sec. 36 Twp. 14 Rge. 30 Co. Cove State KS

Interval Tested 3900 - 3968 Zone Tested KANSAS City H-I-J
 Anchor Length 60 Drill Pipe Run 3611 Mud Wt. 9.1
 Top Packer Depth 3896 Drill Collars Run 279 Vis 52
 Bottom Packer Depth 3900 Wt. Pipe Run 0 WL 6.0
 Total Depth 3968 Chlorides 1700 ppm System LCM 6

Blow Description IF: 2" blow
ISL: No RETURN
FF: 2 1/2" blow
FSL: No RETURN

Rec	Feet of	%gas	%oil	%water	%mud
<u>217</u>	<u>WCM</u>		<u>60</u>	<u>40</u>	
<u>217</u>	<u>WCM</u>		<u>80</u>	<u>20</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 434 BHT 127 Gravity — API RW 24 @ 60° F Chlorides 3000 ppm
 (A) Initial Hydrostatic 1932 Test 1150 T-On Location 0230 TC
 (B) First Initial Flow 20 Jars 250 T-Started 0145
 (C) First Final Flow 120 Safety Joint 75 T-Open 0335
 (D) Initial Shut-In 965 Circ Sub N/C T-Pulled 0735
 (E) Second Initial Flow 131 Hourly Standby _____ T-Out 0938
 (F) Second Final Flow 189 Mileage 20 3/4 124 Comments _____
 (G) Final Shut-In 955 Sampler _____
 (H) Final Hydrostatic 1874 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1599
 Accessibility _____ MP/DST Disc't _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Sub Total 1599

Approved By [Signature] Our Representative [Signature]
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58584

Well Name & No. Lundgren B 1-36 Test No. 4 Date 11/2/14
 Company Murfin Drilling Co Inc Elevation 2667 KB 2656 GL
 Address 250 N WATER Ste 300 Wichita KS 67202
 Co. Rep / Geo. LARRY NICHOLSON Rig Murfin 21
 Location: Sec. 36 Twp. 14 Rge. 30 Co. Gove State KS

Interval Tested 3963 - 4039 Zone Tested KC K & L
 Anchor Length 74 Drill Pipe Run 3673 Mud Wt. 9.0
 Top Packer Depth 3959 Drill Collars Run 279 Vis 60
 Bottom Packer Depth 3963 Wt. Pipe Run 0 WL 610
 Total Depth 4039 Chlorides 2700 ppm System LCM 7

Blow Description IP: BOB in 5min
ISI: NO RETURN
FF: BOB in 6min
FST: WITH blow back 1"

Rec	Feet of	%gas	%oil	%water	%mud
<u>405</u>	<u>NCM</u>			<u>90</u>	<u>10</u>
<u>374</u>	<u>gnmco</u>	<u>20</u>	<u>20</u>	<u>30</u>	<u>30</u>
<u>374</u>	<u>gnco</u>	<u>30</u>	<u>60</u>		<u>10</u>
	<u>BTP 1652'</u>				

Rec Total 1153 BHT 133 Gravity 30 API RW 23 @ 55° F Chlorides 39000 ppm

(A) Initial Hydrostatic 2018 Test 1250 T-On Location 1900
 (B) First Initial Flow 98 Jars 250 T-Started 1923
 (C) First Final Flow 308 Safety Joint 75 T-Open 2130
 (D) Initial Shut-In 891 Circ Sub MC T-Pulled 0130
 (E) Second Initial Flow 315 Hourly Standby T-Out 0430
 (F) Second Final Flow 531 Mileage 80% 124 Comments _____
 (G) Final Shut-In 885 Sampler _____
 (H) Final Hydrostatic 1927 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1699
 Accessibility _____ MP/DST Disc't _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Sub Total 1699

Approved By [Signature] Our Representative [Signature]
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **58585**

Well Name & No. Lundgron B 1-36 Test No. 5 Date 11/4/2014
 Company Murfin Drilling, Inc. Elevation 2667 KB 2656 GL
 Address 250 N Water Ste 300 Wichita, KS 67202
 Co. Rep / Geo. Larry Nicholson Rig Murfin 21
 Location: Sec. 36 Twp. 14s Rge. 30w Co. Cove State KS

Interval Tested 4159-4221 Zone Tested Dawnee - Lower Dawnee
 Anchor Length 62 Drill Pipe Run 3860 Mud Wt. 90
 Top Packer Depth 4154 Drill Collars Run 279 Vis 50
 Bottom Packer Depth 4159 Wt. Pipe Run 0 WL 614
 Total Depth 4221 Chlorides 2200 ppm System LCM 2#

Blow Description IF: BOB@ 7 min
ISI: 3" return, receded to surface
FF: BOB@ 7 min.
FSI: BOB return @ 10 min. Gas to surface in 45 min

Rec	Feet of	Gas	Oil	Water	Mud
350	GSMCO	35%	60%	5%	
320	CMCO	20%	70%	10%	
280	GMCO	30%	65%	15%	
	2910 GIW (To surface)				

Rec Total 950 BHT 138 Gravity 35 API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic <u>2057</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>2315 10/3</u>
(B) First Initial Flow <u>31</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>2352</u>
(C) First Final Flow <u>162</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>0053</u>
(D) Initial Shut-In <u>782</u>	<input checked="" type="checkbox"/> Circ Sub	T-Pulled <u>0453</u>
(E) Second Initial Flow <u>226</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0752</u>
(F) Second Final Flow <u>402</u>	<input checked="" type="checkbox"/> Mileage <u>80 RT x 2 124</u>	Comments <u>Tool did not close for FSI</u>
(G) Final Shut-In	<input type="checkbox"/> Sampler <u>124</u>	<input type="checkbox"/> Ruined Shale Packer
(H) Final Hydrostatic <u>2021</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	Sub Total <u>0</u>
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder	Total <u>1823</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby	MP/DST Disc't
	<input type="checkbox"/> Accessibility	
	Sub Total <u>1823</u>	

Approved By _____ Our Representative [Signature]
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **58586**

4/10

Well Name & No. Lundgron B 1-36 Test No. 6 Date 11/5/2014
 Company Morton Drilling, Inc Elevation 2667 KB 2056 GL
 Address 250 N Water Ste 300 Wichita, Ks 67202
 Co. Rep / Geo. Larry Nicholas Rig Morton 21
 Location: Sec. 36 Twp. 14s Rge. 30w Co. Gore State Ks

Interval Tested 4217 - 4316 Zone Tested ft Scott Cherokee Johnson
 Anchor Length 99 Drill Pipe Run 3925 Mud Wt. 9.2
 Top Packer Depth 4212 Drill Collars Run 279 Vis 50
 Bottom Packer Depth 4217 Wt. Pipe Run 0 WL 7.2
 Total Depth 4316 Chlorides 1800 ppm System LCM 4#

Blow Description IF : 1 1/2" blow
ISI: No return.
FP : 1" blow
FSI: No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>0cm</u>		<u>10</u>		<u>90</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30 BHT 128 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2138 Test 1250 T-On Location 1930
 (B) First Initial Flow 19 Jars 250 T-Started 2004
 (C) First Final Flow 179 28 Safety Joint 75 T-Open 2217
 (D) Initial Shut-In 25 179 Circ Sub N/C T-Pulled 02 17 14/5
 (E) Second Initial Flow 36 25 Hourly Standby _____ T-Out 0 403
 (F) Second Final Flow 387 36 Mileage 80 RT 124 Comments _____
 (G) Final Shut-In 387 Sampler _____
 (H) Final Hydrostatic 2 070 Straddle _____
 Shale Packer _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 30 Ruined Shale Packer _____
 Initial Shut-In 66 Ruined Packer _____
 Final Flow 60 Extra Copies _____
 Final Shut-In 90 Sub Total 0
 Total 1699
 MP/DST Disc't _____
 Sub Total 1699

Approved By _____ Our Representative [Signature]

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GEOLOGICAL REPORT

Larry A. Nicholson

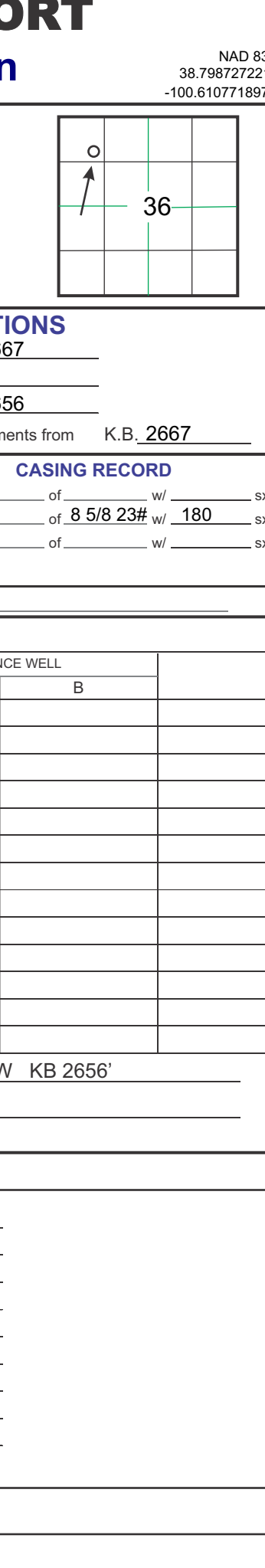
36
ND 63
387827221
100.610771867

COMPANY & WELL: **Murfin Drilling - Lundgren 'B' #1-36**
LOCATION: **930 FNL 990 FWL N2 SE NW NW**
SEC: **36** TWP: **14S** RGE: **30W**
COUNTY: **Gove** STATE: **Ks**

COMPANY: **Murfin Drilling Company, Inc.**
API #: **15-063-22323** FIELD: **#1-36**
LEASE: **Lundgren 'B'**
LOCATION: **N2 SE NW NW**
SURVEY: **930 FNL 990 FWL**
SECTION: **36** TWP: **14S** RGE: **30W**
COUNTY: **Gove** STATE: **Kansas**

CONTRACTOR: **Murfin Drilling Company, Inc. Rig # 21**
SPUD: **9:15 am 10-28-14** COMP: **ELEVATIONS**
RTD: **4:44:33 3:00 pm 11-5-14** LTD: **4443** D.F.: **2667**
MUD UP AT: **3217** G.L.: **2656**
MUD TYPE: **Chemical, Morgan Mud** All measurements from: **K.B. 2667**

SAMPLES SAVED: FROM **3400** TO **RTD**
DRILLING TIME: FROM **3400** TO **RTD** Surface of _____ of _____ ex
SAMPLES EXAMINED: FROM **3400** TO **RTD** Conductor of **219** of **8 5/8 234** w/ **180** ex
GEOLOGICAL SUPERVISION: FROM **3400** TO **RTD** Production of _____ of _____ w/ _____ ex
WELL SITE GEOLOGIST: **LARRY A. NICHOLSON**

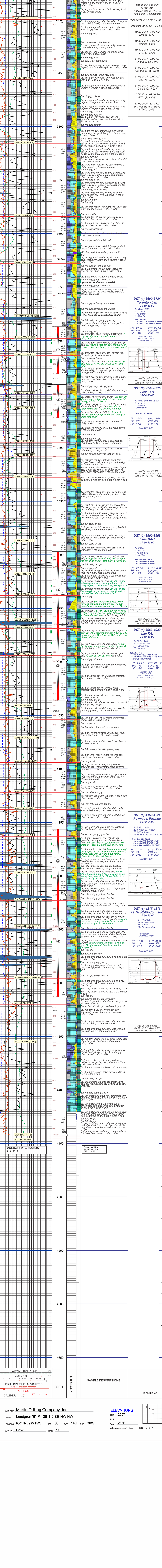
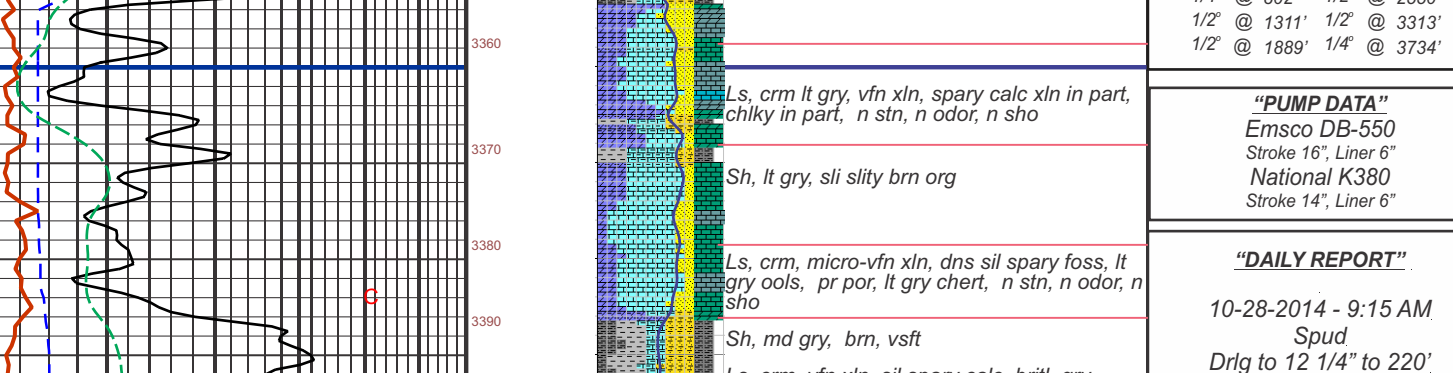


FORMATION	SAMPLE TOPIES	+587	2080	+587	2061	+596	-9
Anhydrite	2080	+587	2080	+587	2061	+596	-9
Bu/Anhydrite	2106	+561	2106	+561	2093	+564	-3
Toposka	3456	-789	3456	-789	3442	-786	-4
Healner Sh	3678	-1011	3678	-1011	3672	-1015	+4
Lansing	3714	-1047	3714	-1047	3708	-1051	+4
Stark Sh	3962	-1295	3962	-1295	3953	-1296	-1
Pawnee	4163	-1496	4163	-1496	4151	-1494	-2
Fort Scott Ls	4223	-1556	4223	-1556	4215	-1558	+2
Johnson Zone	4296	-1629	4296	-1629	4290	-1633	+4
Miss	4320	-1653	4320	-1653	4320	-1663	+10
Miss Dol	4356	-1689	4356	-1689	4346	-1689	+
RTD	4443	-1778	4443	-1778	4377	-1720	
LTD	4443	-1778	4443	-1778	4377	-1720	

REFERENCE WELLS: **A: Beren Corporation Coberly #1-'B', SW NE NE, Sec 36 T14S R30W KB 2667**
B:

REMARKS & RECOMMENDATIONS:
Based on *dst* results and sample shows *csq* was run
NOTE: *Elog* curves were 3 feet shallow to the drillers depth
GeoReport has been shifted up 3 feet to match electric log.

LAN 762, Modified 5/05, 11/11, 4/12 Hanover, KS 66845 1inch = 25.4mm 8.5 x 9.5 216 mm x 2460 mm



COMPANY: **Murfin Drilling Company, Inc.** ELEVATIONS: **2667**
LEASE: **Lundgren 'B' #1-36 N2 SE NW NW** D.F.: **2656**
LOCATION: **930 FNL 990 FWL** SEC: **36** TWP: **14S** RGE: **30W** G.L.: **2656**
COUNTY: **Gove** STATE: **Ks** All measurements from: **K.B. 2667**



RTD 4443 3:00 pm 11/05/2014 LTD 4443

RTD 4443 3:00 pm 11/05/2014 LTD 4443



acct
Prod-mg

INVOICE

PO Box 93999
Southlake, TX 76092

Invoice Number: 146752
Invoice Date: Oct 28, 2014
Page: 1

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

Federal Tax I.D.#: 20-8651475

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

Customer ID	Field Ticket #	Payment Terms	
Murfin	63906	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Great Bend	Oct 28, 2014	11/27/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Lundgren B #1-36		
180.00	CEMENT MATERIALS	Class A Common	17.90	3,222.00
507.00	CEMENT MATERIALS	Chloride	1.10	557.70
189.00	CEMENT SERVICE	Cubic Feet Charge	2.48	468.72
435.38	CEMENT SERVICE	Ton Mileage Charge	2.75	1,197.30
1.00	CEMENT SERVICE	Surface	1,512.25	1,512.25
50.00	CEMENT SERVICE	Pump Truck Mileage	7.70	385.00
50.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	220.00
1.00	CEMENT SUPERVISOR	Kevin Eddy		
1.00	OPERATOR ASSISTANT	Kevin Weighous		
1.00	OPERATOR ASSISTANT	Daniel Casper		

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

\$ 2,647.04

ONLY IF PAID ON OR BEFORE
Nov 27, 2014

Subtotal	7,562.97
Sales Tax	298.60
Total Invoice Amount	7,861.57
Payment/Credit Applied	
TOTAL	7,861.57

OK RR
- 2647.04
5214.53

ALLIED OIL & GAS SERVICES, LLC 063906

Federal Tax I.D. # 20-8651475

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

SERVICE POINT:
Great Bend KS

DATE <u>10-29-14</u>	SEC <u>36</u>	TWP. <u>14</u>	RANGE <u>30</u>	CALLED OUT	ON LOCATION <u>11:00 AM</u>	JOB START <u>12:30 PM</u>	JOB FINISH <u>1:30 PM</u>
LEASE <u>240097ENB</u>		WELL# <u>1-36</u>		LOCATION <u>Gove 10 miles South 6 West</u>		COUNTY <u>GOVE</u>	STATE <u>KS</u>
OLD OR <u>NEW</u> (Circle one)				<u>1 South East into</u>			

CONTRACTOR Murfin Drilling

TYPE OF JOB Surface

HOLE SIZE 12 1/4 T.D.

CASING SIZE 8 5/8 DEPTH 224

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG. 15 ft

PERFS.

DISPLACEMENT Fresh H₂O 13.31

OWNER

CEMENT

AMOUNT ORDERED 180 SXS CLASS A 3% CC

EQUIPMENT

PUMP TRUCK CEMENTER Kevin Eady

398 HELPER Kevin Weighous

BULK TRUCK

871/112 DRIVER DAN CASPER

BULK TRUCK

DRIVER

COMMON	<u>180</u>	@ <u>17.90</u>	<u>3,222.00</u>
POZMIX		@	
GEL		@	
CHLORIDE	<u>567</u>	@ <u>1.10</u>	<u>557.70</u>
ASC		@	
<u>Materials Total</u>			<u>3,779.70</u>
<u>Disc 35%</u>			<u>1,322.90</u>
@			
@			
@			
@			
<u>Service</u>			
@			
HANDLING	<u>189 X</u>	@ <u>2.48</u>	<u>468.72</u>
MILEAGE	<u>8.71 X 50 X</u>	@ <u>2.75</u>	<u>1,197.30</u>

REMARKS:

on location - held safety meeting - Rig up
Rig ran 224ft of 8 5/8 casing - broke
circ w/ Rig mud. Pump 5' ahead fresh
H₂O. mix 180 SXS CLASS A 3% cc.
Displace 13.31 BBLS fresh H₂O - shut in
Cement did circ - Rig Down

DEPTH OF JOB	<u>224</u>		
PUMP TRUCK CHARGE		<u>1512.35</u>	
EXTRA FOOTAGE		@	
MILEAGE	<u>Hum 50</u>	@ <u>7.70</u>	<u>385.00</u>
MANIFOLD		@	
	<u>Hum 50</u>	@ <u>4.40</u>	<u>220.00</u>
		@	

CHARGE TO: Murfin Drilling

STREET _____

CITY _____ STATE _____ ZIP _____

TOTAL 3,783.27
Disc 35% 1,322.90

THANK YOU

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.

PLUG & FLOAT EQUIPMENT

_____	@	_____
_____	@	_____
_____	@	_____
_____	@	_____
_____	@	_____

PRINTED NAME Juan Tinoco

SIGNATURE Juan Tinoco

TOTAL 0
Disc 0%

SALES TAX (If Any) _____

TOTAL CHARGES 7,562.97

DISCOUNT 35% 2,647.04 (35/35/0)

IF PAID IN 30 DAYS

4,915.93



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



Invoice

DATE	INVOICE #
11/6/2014	26839

BILL TO
Murfin Drilling Co Inc P. O. Box 130 Hill City, KS 67642-0130

IC 103
gt. R
APPROVED
• Acidizing
• Cement
• Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1-36	Lundgren B	Gove	Murfin Drilling	Oil	Development	LongString	Nick
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				70	Miles	6.00	420.00
578D-L	Pump Charge - Long String - 4445 Feet				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)	3.00	1,500.00T
290	D-Air				3	Gallon(s)	42.00	126.00T
402-5	5 1/2" Centralizer				10	Each	70.00	700.00T
403-5	5 1/2" Cement Basket				1	Each	300.00	300.00T
404-5	5 1/2" Port Collar				1	Each	2,900.00	2,900.00T
406-5	5 1/2" Latch Down Plug & Baffle				1	Each	275.00	275.00T
407-5	5 1/2" Insert Float Shoe With Auto Fill				1	Each	375.00	375.00T
413-5	5 1/2" Roto Wall Scratcher				25	Each	40.00	1,000.00T
419-5	5 1/2" Rotating Head Rental				1	Each	200.00	200.00T
325	Standard Cement				225	Sacks	14.50	3,262.50T
276	Flocele				50	Lb(s)	2.50	125.00T
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)	4.50	675.00T
581D	Service Charge Cement				225	Sacks	2.00	450.00
583D	Drayage				826	Ton Miles	1.00	826.00
	Subtotal							15,349.50
	Sales Tax Gove County						7.90%	960.13
We Appreciate Your Business!							Total	\$16,309.63



CHARGE TO: Martin Drly Co. Inc.
 ADDRESS: _____
 CITY, STATE, ZIP CODE: _____

TICKET 26839

PAGE 1 OF 2

1. SERVICE LOCATIONS: Hays, KS WELL PROJECT NO: #1-36 LEASE: "B" COUNTY/PARISH: Gore STATE: KS CITY: _____ DATE: 11-6-19 OWNER: Same

2. Ness City, KS TICKET TYPE: SERVICE CONTRACTOR: Martin Drly #21 RIG NAME NO: _____ ORDER NO. _____

3. WELL TYPE: _____ WELL CATEGORY: Development JOB PURPOSE: Longstring DELIVERED TO: Location WELL PERMIT NO. _____

4. REFERRAL LOCATION: _____ INVOICE INSTRUCTIONS: _____

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	MILEAGE	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT	DF								
575					MILEAGE #111	70	mi				6.00	420.00
578					Pump Charge Longstring	1	ea			4445'	1500.00	1500.00
221					KCL	4	gal				25.00	100.00
280					Flocheck-21	5	gal				3.00	15.00
290					D-Air	3	gal				42.00	126.00
402					Centralizer	10	ea			5 1/2"	70.00	700.00
403					Basket	1	ea				300.00	300.00
404					Part Collar	1	ea				2900.00	2900.00
406					L.D. Plug & Baffle	1	ea				275.00	275.00
407					Insert float shoe w/ L.A. II	1	ea				375.00	375.00
413					Rotawall Scraper	25	ea				40.00	1000.00
419					Rotating Head	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

X DATE SIGNED: 11-6-19 TIME SIGNED: 12:55

Blake King 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
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?					page 2
WE UNDERSTOOD AND MET YOUR NEEDS?					546 to 1
OUR SERVICE WAS PERFORMED WITHOUT DELAY?					9586 50
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?					5953
ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/> YES	<input type="checkbox"/> NO			966 13
<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND					TOTAL 16,309.63

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

SWIFT OPERATOR: Neil Wolfe APPROVAL: _____

Thank You!



PO Box 466
Ness City, KS 67560
Off: 785-798-2300

TICKET CONTINUATION

TICKET No. 26839

PRICE REFERENCE	SECONDARY REFERENCE / PART NUMBER	ACCOUNTING			TIME	DESCRIPTION	WELL				DATE	PAGE	OF
		LOC	ACCT	DF			QTY	U/M	QTY	U/M			

CUSTOMER: *Martin's Dry Cleaners*

WELL: *Langren 'B' #1-3C*

DATE: *11-8-14*

PAGE: *2* OF: *2*

375						Standard Cement	225	skts					14.50	3262.50
276						Flocele	50	#	10	1/5K			2.50	125.00
283						Salt	1150	#	10	%			2.00	2300.00
284						Calseal	11	skts	5	%			35.00	385.00
285						CFR-1	150	#	3	%			4.50	675.00
581													2.00	450.00
583													1.00	820.00

SERVICE CHARGE

MILEAGE CHARGE

TOTAL WEIGHT

LOADED MILES

CUBIC FEET

TON MILES

CONTINUATION TOTAL 5953.50

JOB LOG

SWIFT Services, Inc.

DATE 11-6-14 PAGE NO. 1

CUSTOMER Murfin Drilling Co Inc.

WELL NO. #1-36

LEASE Lungren "B" #1-36

JOB TYPE Longstring

TICKET NO. 26839

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0730							on loc w/FE
								RTD 4445'
								5 1/2" x 15.5 # x 4443' x 21'
								Cent 1-5, 7, 9, 11, 13, 5 1/4
								Back 15
								P.C 55 @ 2078'
	0800							Start FE
	0930							60jts Break Circ
	1040							RTM Circ
	1155	5	0				200	Start 15 bbl KCL Plush
		5	15/0				200	Start 500 gal Flocheck-21
		5	12/0				200	Start 5 bbl KCL Plush
		5	5/0				200	Start 175 sks EA-2
	1208		42					End Cement Wash PTL
	1215	6	0				200	Drop L D Plug Start Displacement
	1227	5	71				250	Catch Cement
	1235		105				700/1400	Land Plug Release Pressure Float Held
	1240	2	7/5					Plug RHT/MH 30/20 sks EA-2
								Thank you
								Mick, David E., Austin & Isaac



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



Invoice

DATE	INVOICE #
11/18/2014	27987

BILL TO
Murfin Drilling Co Inc P. O. Box 130 Hill City, KS 67642-0130

- Acidizing
- Cement
- Tool Rental

IC 103
[Handwritten signature]

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1-36	Lundgren B	Gove	Company Tools	Oil	Development	Cement Port Collar	Blaine
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				70	Miles	6.00	420.00
576D-D	Pump Charge - Port Collar				1	Job	1,500.00	1,500.00
330	Swift Multi-Density Standard (MIDCON II)				160	Sacks	18.50	2,960.00T
276	Flocele				50	Lb(s)	2.50	125.00T
279	Bentonite Gel				1	Sack(s)	25.00	25.00T
290	D-Air				2	Gallon(s)	42.00	84.00T
581D	Service Charge Cement				250	Sacks	2.00	500.00
583D	Drayage				891.71	Ton Miles	1.00	891.71
	Subtotal							6,505.71
	Sales Tax Gove County						7.90%	252.33
We Appreciate Your Business!							Total	\$6,758.04



CHARGE TO: **MURFIN DRILLING**
 ADDRESS:
 CITY, STATE, ZIP CODE

TICKET 27987

PAGE 1 OF 1

1. SERVICE LOCATIONS Murphy KS	WELL/PROJECT NO. 1-36	LEASE Ludgren B	COUNTY/PARISH Gove	STATE KS	CITY Gove	DATE 18 Nov 14	OWNER
2. TICKET TYPE <input type="checkbox"/> SERVICE <input type="checkbox"/> SALES	CONTRACTOR	RIG NAME/NO.	SHIPPED VIA	DELIVERED TO	ORDER NO.	WELL LOCATION	
3. WELL TYPE OT	WELL CATEGORY Development	JOB PURPOSE convent post collar	WELL PERMIT NO.				
4. REFERRAL LOCATION	INVOICE INSTRUCTIONS						

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	MILEAGE	QTY.		UNIT		AMOUNT
		LOC	ACCT	DF			QTY.	UM	QTY.	UM	
575					STK 114	70	ml			6.00	420.00
576D					Pump charge	1.00	sk			1500.00	1500.00
330					SMD cement	160	sk			18.50	2960.00
276					Fluore	50	lb			2.50	125.00
279					Bentone gel	1	sk			25.00	25.00
290					D-GR	2	gal			42.00	84.00
581					sealine charge	250	sk			2.00	500.00
583					Drillage	25477	lb			89.7177M	891.71

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: *[Signature]* TIME SIGNED: 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
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	

CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL: **6505.71**

TOTAL: **6758.04**

SWIFT OPERATOR: *[Signature]* APPROVAL: *[Signature]*

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: 18 NOV 14 PAGE NO. 7

CUSTOMER: *Morfin Drilling* WELL NO. *1-36* LEASE *Lundgren B* JOB TYPE *Cement port collar* TICKET NO. *27987*

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
								<i>250 sk 5M cement w/ 1/4" flange</i> <i>2 3/8 x 5 1/2 port collar - 2078'</i>
	<i>0900</i>							<i>on loc TRK 114</i>
	<i>0925</i>					<i>1200</i>	<i>1200</i>	<i>test to 1200 psi - held</i>
		<i>3 1/2</i>	<i>4</i>			<i>500</i>		<i>open port collar</i> <i>inj rate 3 1/2 @ 500 psi</i>
	<i>0932</i>	<i>3 1/2</i>				<i>500</i>		<i>mix Bentonite gel fsk</i>
		<i>3 1/2</i>	<i>4</i>			<i>408</i>		<i>- fluid to surface -</i>
		<i>3 1/2</i>				<i>500</i>		<i>mix 5M cement @ 11.2 ppg</i>
		<i>3 1/2</i>	<i>85</i>			<i>600</i>		<i>— cement to surface —</i>
								<i>{ 160 sk mixed } <i>15 top"</i></i>
		<i>3 1/2</i>	<i>7</i>			<i>600</i>		<i>Displace w/ 7 bbl H₂O</i>
	<i>1000</i>					<i>1200</i>	<i>1200</i>	<i>close port collar</i> <i>test to 1200 psi - held</i> <i>Run joints to 2230'</i>
	<i>1012</i>							<i>Reverse hole clean</i> <i>— 2 cement floaps —</i>
								<i>wash truck</i> <i>Break up</i>
	<i>1050</i>							<i>job complete</i>
								<i>Flank</i> <i>Blake, Flint & 208</i>

Lundgren 'B' #1-36
Daily Drilling Report
Page Two

- 11/3/14 Depth 4045'. Cut 77'. DT: None. CT: 20hrs. Dev.: None. **LKC K**: Ist, micro xln, foss, gran, ppt vug por, spots of oil, very fnt odor. **LKC L**: NS. **DST #4 3936-4039 (LKC K-L)**: 30-60-60-90. IF: BOB 5mins. FF: BOB in 6mins. FSI: blw back 1". Rec.: 1652' GIP, 374'GMCO (30%G, 10%M, 60%O), 374'GWMCO (20%G, 30%W, 30%M, 20%O), 405'WCM (90%W, 10%M). HP: 2019-1927. FP: 99-308, 316/531. SIP: 891-885. BHT: 133°.
- 11/4/14 Depth 4221'. Cut 176'. DT: None. CT: 12¼ hrs. Dev.: None. **Pawnee**: Ist, micro xln, vfn xln, gran, fractured, ppt vugs, specks med brn oil, very fnt odr. **LPaw**: Ist, micro xln, dns, subsucro por, spots very lt brn oil, fnt odr. **DST #5 4159-4221 (Paw-LPaw)**: 30-60-60-90. IF: BOB @ 7mins. ISI: 3"return, receded to surf. FF: BOB @ 7mins. FSI: BOB @ 10mins, GTS @ 45mins, tool did not close (Tool Broke). Rec.:2910'GIP to surf, 350'GSMCO (35%G, 5%M, 60%O), 320'GMCO (20%G, 10%M, 70%O), 280'GMCO (30%G, 15%M, 55%O). HP: 2057-2021. FP: 31/162, 226-402. SIP: 782. BHT: 138°. The tool closed when starting out of the hole. The bearing in the shut in tool failed and broke apart. Roughly 15 ball bearings from the testing tool fell to the bottom of the hole. Will have to go back in hole to retrieve broken pcs.
- 11/5/14 Depth 4325'. Cut 104'. DT: None. CT: 17¾ hrs. Dev.: None. **Ft Sctt**: Ls, micro xln dull, fossif dns, oolgrnstrn, ppt vugs w/spts O, pr or, sat O strn dry, vvfnt odr. **Cherokee**: Ls, micro xln, sli motld, dns, fossil, ppt vugs w/blk spts O. vvfnt odr. **Johnson Zn**: NS **DST #6 4217-4316 (Ft Sct-Cher)**: 30-60-60-90. IF: 1½" blw. FF: 1" blw. Rec.: 30'OCM (10%O, 90%M). HP: 2138-2070. FP: 19/28, 25/36. SIP: 179-387. BHT: 128°.
- 11/6/14 RTD: 4445'. Cut 120'. DT: None. CT: 16¾ hrs. Dev.: ¾° @ 4445'. HC @ 3:00PM 11/5. Pioneer logged 8:15PM 11/5-12:15AM 11/6. LTD: 4445'. To run 5 ½"
- 11/7/14 RTD: 4445'. CT: 9¾ hrs. Ran 103jts of 5 ½" prod csg, set @ 4443'. Swift cmt w/175sxs @ EA2. PD @ 12:45PM 11/6. PC @ 2076'. 30sxs RH, 20sxs MH. RR @ 4:45PM 11/6.

		MDCI Lundgren 'B' #1-36 930' FNL 990' FWL Sec. 36-T14S-R30W 2667' KB					Beren Corp Coberly #2-B 4620FSL 1980FEL Sec. 36-T14S-R30W 2657'KB		
Formation	Sample Top	Datum	Ref	Log tops	Datum	Ref	Log Tops	Datum	
Anhydrite	2082	+585	-11	2079	+588	-8	2061	+596	
B/Anhydrite	2110	+557	-7	2108	+559	-5	2093	+564	
Topeka	3453	-786	-1	3456	-789	-4	3442	-785	
Heebner	3682	-1025	-10	3677	-1020	-5	3672	-1015	
Lansing	3720	-1063	-12	3723	-1064	-13	3708	-1051	
Stark	3965	-1298	-2	3962	-1295	+1	3953	-1296	
Pawnee	4166	-1499	-5	4162	-1495	-1	4151	-1494	
Ft. Scott	4227	-1560	-2	4224	-1557	+1	4215	-1558	
Johnson	4300	-1633	Flat	4296	-1629	+4	4290	-1633	
Mississippi	4320	-1653	+10	4319	-1652	+11	4320	-1663	
Mississippi Dol.	4356	-1689		4356	-1689				
RTD	4445						4377		
LTD				4443					