



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1209573
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: _____

1209573

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: Yes No

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

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	Hammerschmidt 1-24
Doc ID	1209573

All Electric Logs Run

Dual Induction
Dual Compensated
Microresistivity
Borehole Compensated



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste.300
Wichita KS. 67202

ATTN: Saman Sharifaic

Hammerschmidt #1-24

24-4s-31w Rawlins,KS

Start Date: 2014.03.07 @ 17:40:00

End Date: 2014.03.08 @ 01:23:30

Job Ticket #: 56801 DST #: 1

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

Printed: 2014.03.16 @ 12:13:04



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co.

24-4s-31w Rawlins, KS

250 N. Water Ste.300
Wichita KS. 67202

Hammerschmidt #1-24

Job Ticket: 56801

DST#: 1

ATTN: Saman Sharifaic

Test Start: 2014.03.07 @ 17:40:00

GENERAL INFORMATION:

Formation: **Toronto - LKC B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:20:00

Time Test Ended: 01:23:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Chuck Kreuzer Jr.

Unit No: 61

Interval: 3905.00 ft (KB) To 3991.00 ft (KB) (TVD)

Reference Elevations: 2916.00 ft (KB)

Total Depth: 3991.00 ft (KB) (TVD)

2905.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8673

Inside

Press@RunDepth: 49.49 psig @ 3906.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.03.07

End Date:

2014.03.08

Last Calib.:

2014.03.08

Start Time:

17:40:05

End Time:

01:23:29

Time On Btm:

2014.03.07 @ 20:00:00

Time Off Btm:

2014.03.07 @ 23:31:30

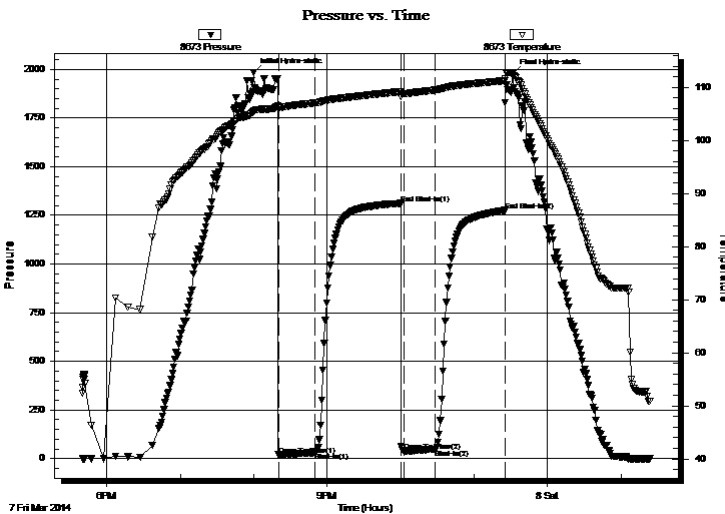
TEST COMMENT: IF: Weak blow , 1/4". Dead in 28 mins.

IS: No blow back

FF: No blow

FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1984.14	105.44	Initial Hydro-static
20	19.04	106.15	Open To Flow (1)
50	31.31	107.08	Shut-In(1)
120	1311.19	109.23	End Shut-In(1)
123	38.33	108.81	Open To Flow (2)
149	49.49	109.51	Shut-In(2)
205	1275.13	111.29	End Shut-In(2)
212	1979.46	112.66	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	mud w ith oil spots	0.30
5.00	oil on top-100%o	0.02

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co.

24-4s-31w Rawlins, KS

250 N. Water Ste.300
Wichita KS. 67202

Hammerschmidt #1-24

ATTN: Saman Sharifaic

Job Ticket: 56801

DST#: 1

Test Start: 2014.03.07 @ 17:40:00

GENERAL INFORMATION:

Formation: **Toronto - LKC B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:20:00

Time Test Ended: 01:23:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Chuck Kreutzer Jr.

Unit No: 61

Interval: 3905.00 ft (KB) To 3991.00 ft (KB) (TVD)

Total Depth: 3991.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2916.00 ft (KB)

2905.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 8651 Outside

Press@RunDepth: psig @ 3906.00 ft (KB)

Start Date: 2014.03.07

End Date:

2014.03.08

Start Time: 17:40:05

End Time:

01:23:29

Capacity: 8000.00 psig

Last Calib.:

2014.03.08

Time On Btm:

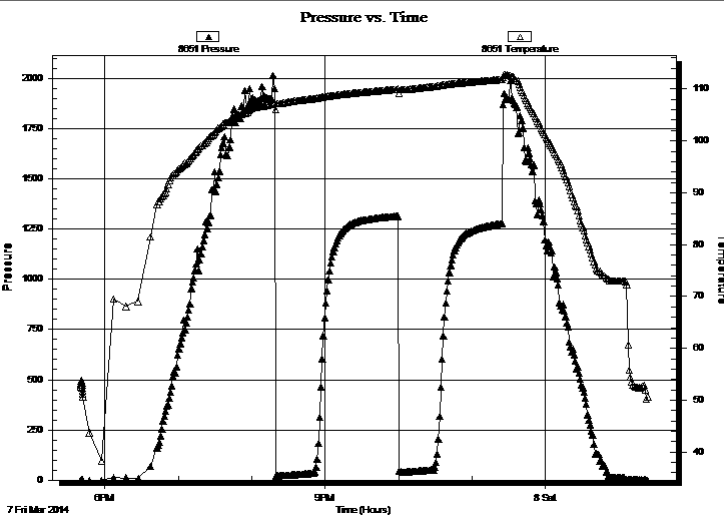
Time Off Btm:

TEST COMMENT: IF: Weak blow, 1/4". Dead in 28 mins.

IS: No blow back

FF: No blow

FS: No blow back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	mud w ith oil spots	0.30
5.00	oil on top-100%o	0.02

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

24-4s-31w Rawlins,KS

250 N. Water Ste.300
Wichita KS. 67202

Hammerschmidt #1-24

Job Ticket: 56801

DST#: 1

ATTN: Saman Sharifaic

Test Start: 2014.03.07 @ 17:40:00

Tool Information

Drill Pipe:	Length: 3590.00 ft	Diameter: 3.80 inches	Volume: 50.36 bbl	Tool Weight: 2400.00 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: 297.00 ft	Diameter: 2.25 inches	Volume: 1.46 bbl	Weight to Pull Loose: 66000.00 lb
			<u>Total Volume: 51.82 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	3905.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	86.00 ft			
Tool Length:	114.00 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
Shut In Tool	5.00			3882.00	
Hydraulic tool	5.00			3887.00	
Jars	5.00			3892.00	
Safety Joint	3.00			3895.00	
Packer	5.00			3900.00	28.00 Bottom Of Top Packer
Packer	5.00			3905.00	
Stubb	1.00			3906.00	
Recorder	0.00	8673	Inside	3906.00	
Recorder	0.00	8651	Outside	3906.00	
Perforations	16.00			3922.00	
change Over Sub	1.00			3923.00	
Drill Pipe	64.00			3987.00	
Change Over Sub	1.00			3988.00	
Bullnose	3.00			3991.00	86.00 Bottom Packers & Anchor

Total Tool Length: 114.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

24-4s-31w Rawlins,KS

250 N. Water Ste.300
Witchita KS. 67202

Hammerschmidt #1-24

Job Ticket: 56801

DST#: 1

ATTN: Saman Sharifaic

Test Start: 2014.03.07 @ 17:40:00

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: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2300.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	mud w ith oil spots	0.295
5.00	oil on top-100%o	0.025

Total Length: 65.00 ft Total Volume: 0.320 bbl

Num Fluid Samples: 0

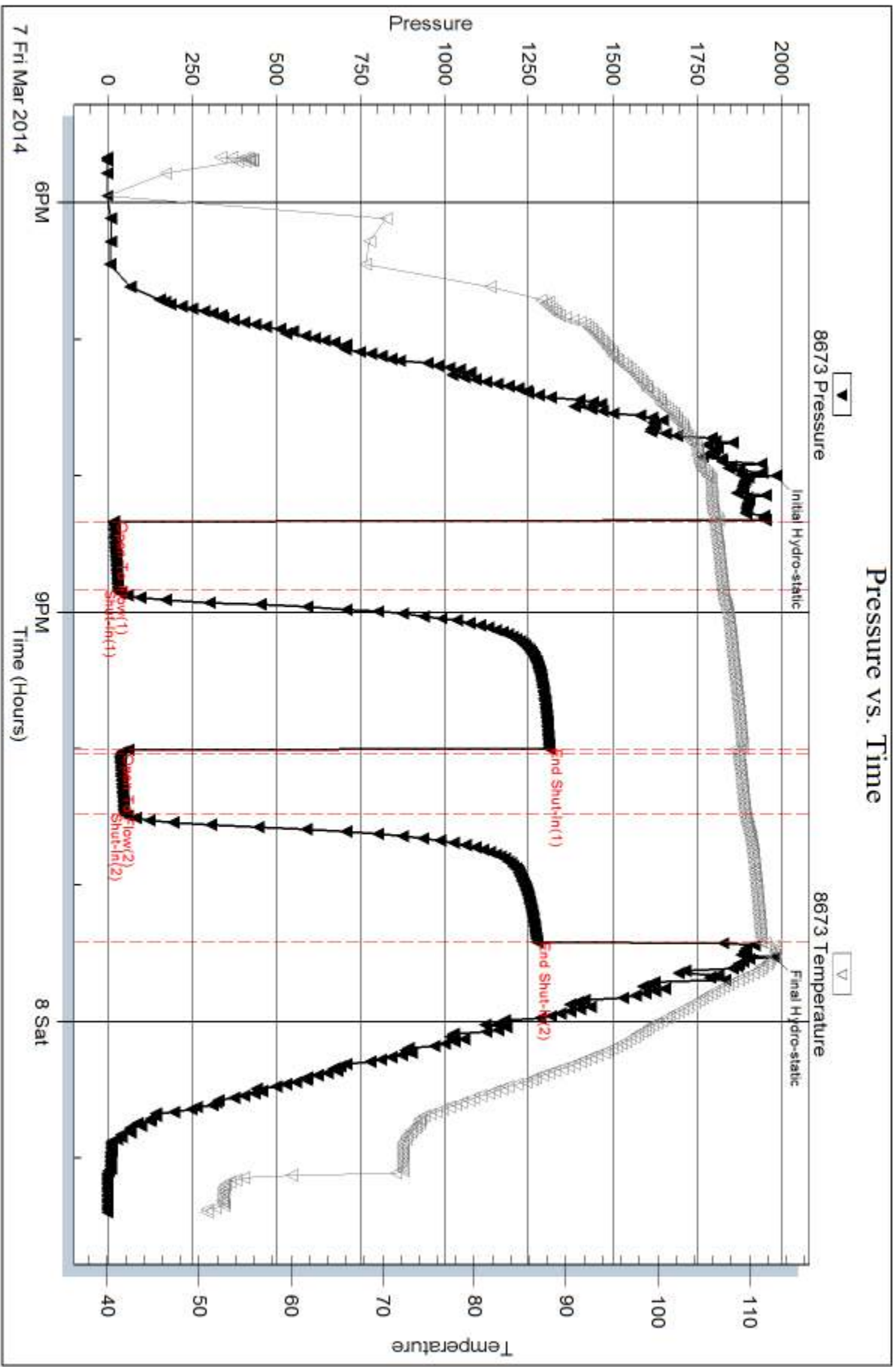
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

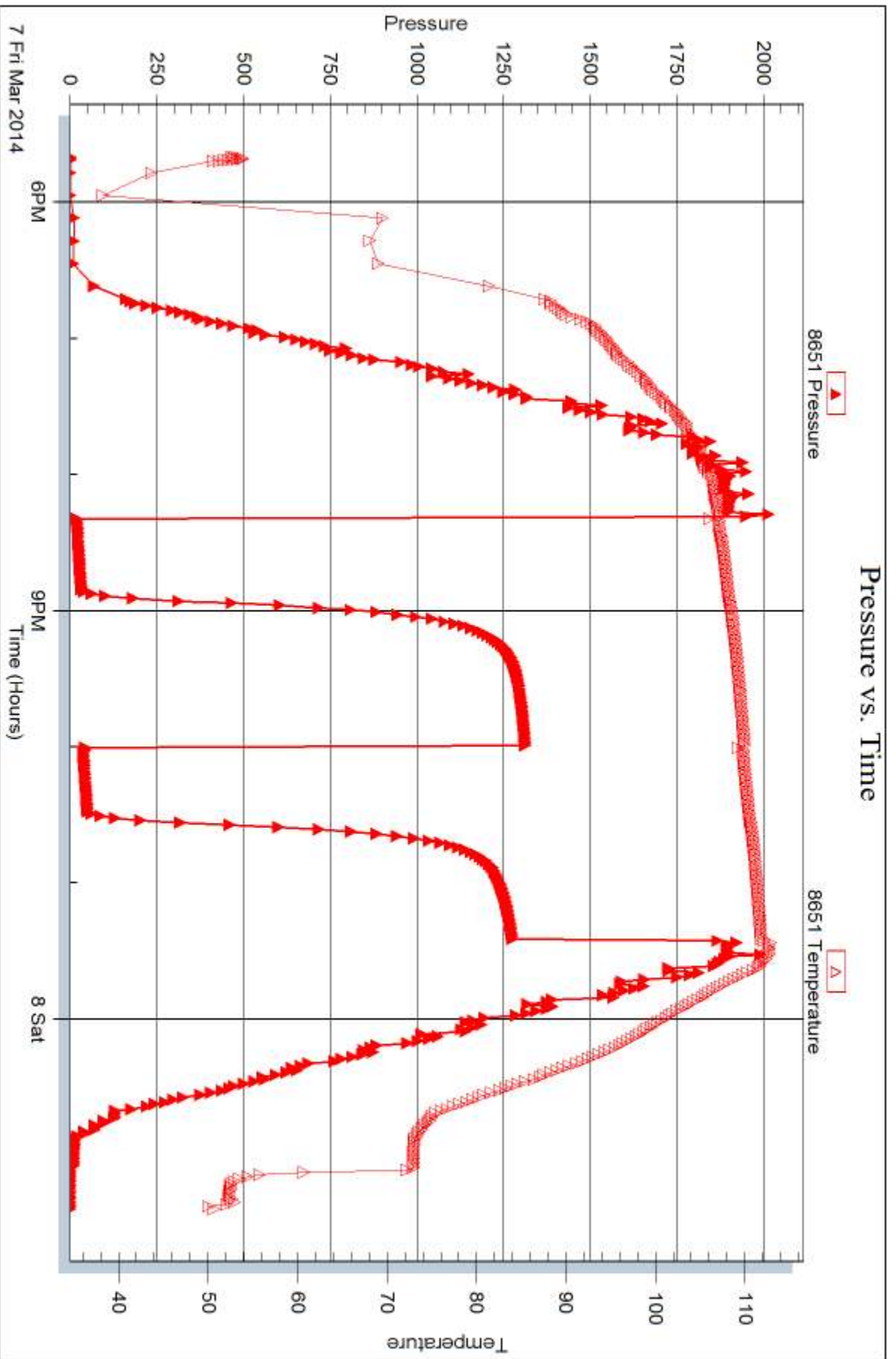


Serial #: 8651

Outside Murfin Drilling Co.

Hammerschmidt #1-24

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste.300
Wichita KS. 67202

ATTN: Saman Sharifaic

Hammerschmidt #1-24

24-4s-31w Rawlins,KS

Start Date: 2014.03.08 @ 11:30:00

End Date: 2014.03.08 @ 18:26:00

Job Ticket #: 56802 DST #: 2

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

Printed: 2014.03.16 @ 12:12:40

Murfin Drilling Co. 24-4s-31w Rawlins,KS Hammerschmidt #1-24 DST # 2 LKC F - G 2014.03.08



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co.

24-4s-31w Rawlins,KS

250 N. Water Ste.300
Wichita KS. 67202

Hammerschmidt #1-24

Job Ticket: 56802

DST#: 2

ATTN: Saman Sharifaic

Test Start: 2014.03.08 @ 11:30:00

GENERAL INFORMATION:

Formation: **LKC F - G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:34:00

Time Test Ended: 18:26:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Kreuzer Jr.

Unit No: 61

Interval: 4008.00 ft (KB) To 4040.00 ft (KB) (TVD)

Reference Elevations: 2916.00 ft (KB)

Total Depth: 4040.00 ft (KB) (TVD)

2905.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8673

Inside

Press@RunDepth: 38.97 psig @ 4009.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.03.08

End Date:

2014.03.08

Last Calib.:

2014.03.08

Start Time:

11:30:05

End Time:

18:25:59

Time On Btm:

2014.03.08 @ 13:24:30

Time Off Btm:

2014.03.08 @ 16:47:30

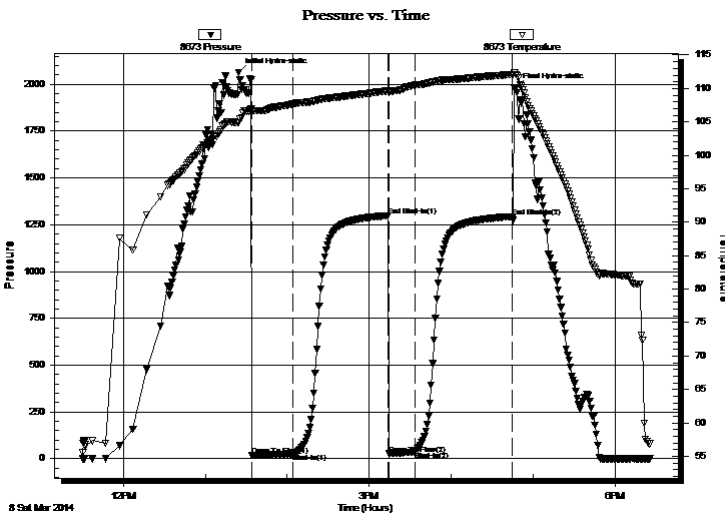
TEST COMMENT: IF: Weak blow , surface over 30 mins.

IS: no blow back

FF: Weak surface over 30 mins.

FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2063.63	104.89	Initial Hydro-static
10	17.90	106.47	Open To Flow (1)
40	26.35	107.71	Shut-In(1)
109	1298.34	109.64	End Shut-In(1)
110	26.15	109.43	Open To Flow (2)
129	38.97	110.50	Shut-In(2)
201	1293.50	112.11	End Shut-In(2)
203	1982.30	112.12	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	ocm-35%o65%m	0.30

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.

24-4s-31w Rawlins, KS

250 N. Water Ste.300
Wichita KS. 67202

Hammerschmidt #1-24

Job Ticket: 56802

DST#: 2

ATTN: Saman Sharifaic

Test Start: 2014.03.08 @ 11:30:00

GENERAL INFORMATION:

Formation: **LKC F - G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:34:00

Time Test Ended: 18:26:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Kreutzer Jr.

Unit No: 61

Interval: **4008.00 ft (KB) To 4040.00 ft (KB) (TVD)**

Total Depth: 4040.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2916.00 ft (KB)

2905.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 8651 Outside

Press@RunDepth: psig @ 4009.00 ft (KB)

Start Date: 2014.03.08

Start Time: 11:30:05

End Date: 2014.03.08

End Time: 18:25:59

Capacity: 8000.00 psig

Last Calib.: 2014.03.08

Time On Btm:

Time Off Btm:

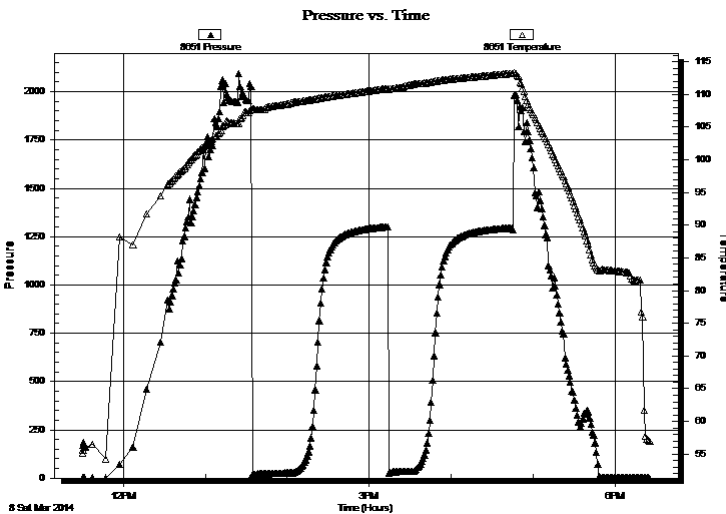
TEST COMMENT: IF: Weak blow , surface over 30 mins.

IS: no blow back

FF: Weak surface over 30 mins.

FS: No blow back

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	ocm-35%o65%m	0.30

* 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.

24-4s-31w Rawlins,KS

250 N. Water Ste.300
Wichita KS. 67202

Hammerschmidt #1-24

Job Ticket: 56802

DST#: 2

ATTN: Saman Sharifaic

Test Start: 2014.03.08 @ 11:30:00

Tool Information

Drill Pipe:	Length: 3687.00 ft	Diameter: 3.80 inches	Volume: 51.72 bbl	Tool Weight: 2400.00 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: 297.00 ft	Diameter: 2.25 inches	Volume: 1.46 bbl	Weight to Pull Loose: 66000.00 lb
			<u>Total Volume: 53.18 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	4.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4008.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	32.00 ft			
Tool Length:	60.00 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			3985.00	
Hydraulic tool	5.00			3990.00	
Jars	5.00			3995.00	
Safety Joint	3.00			3998.00	
Packer	5.00			4003.00	28.00 Bottom Of Top Packer
Packer	5.00			4008.00	
Stubb	1.00			4009.00	
Recorder	0.00	8673	Inside	4009.00	
Recorder	0.00	8651	Outside	4009.00	
Perforations	28.00			4037.00	
Bullnose	3.00			4040.00	32.00 Bottom Packers & Anchor

Total Tool Length: 60.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

24-4s-31w Rawlins,KS

250 N. Water Ste.300
Witchita KS. 67202

Hammerschmidt #1-24

Job Ticket: 56802

DST#: 2

ATTN: Saman Sharifaic

Test Start: 2014.03.08 @ 11:30:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.97 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2300.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	ocm-35%o65%m	0.295

Total Length: 60.00 ft Total Volume: 0.295 bbl

Num Fluid Samples: 0

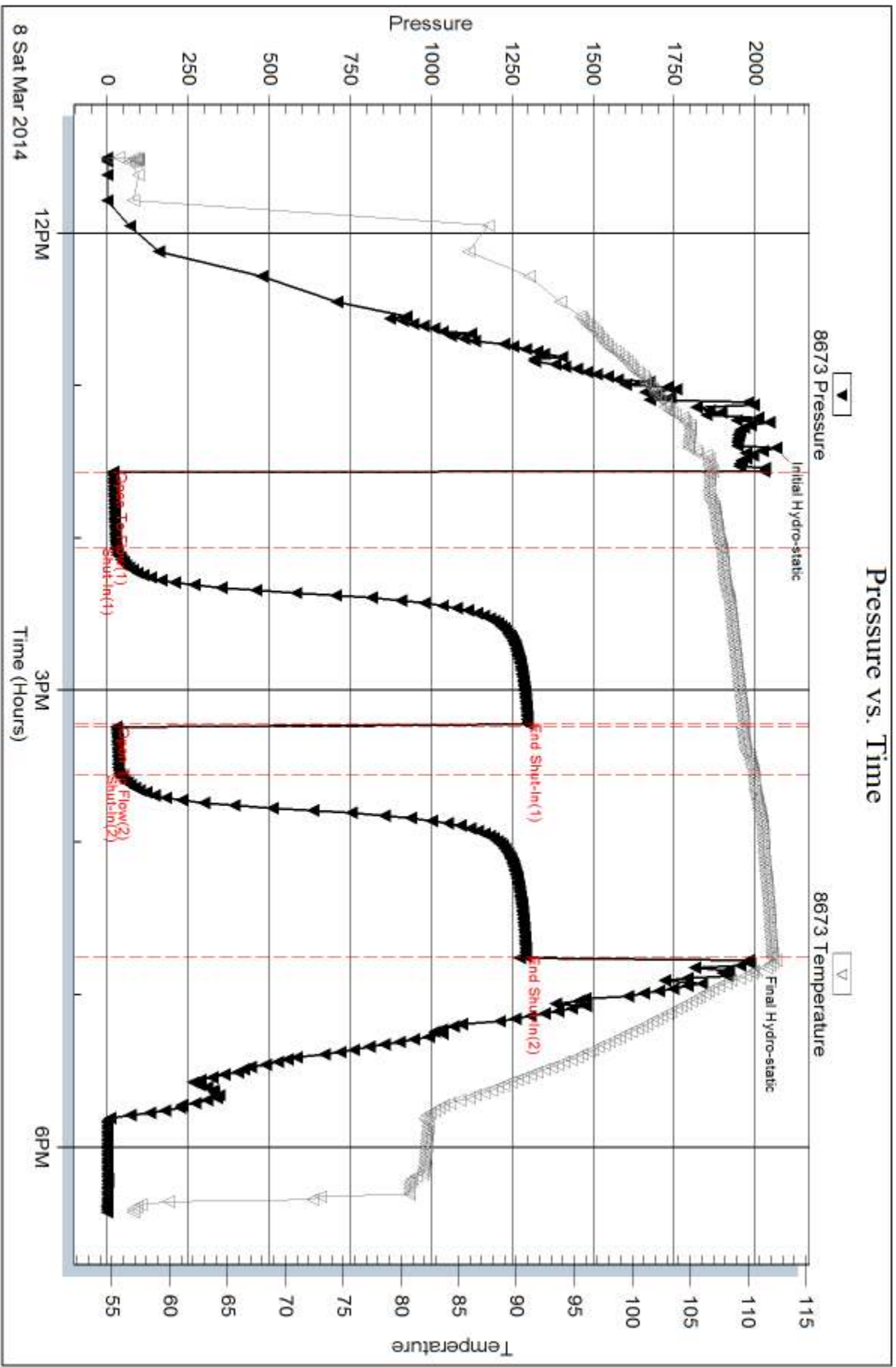
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

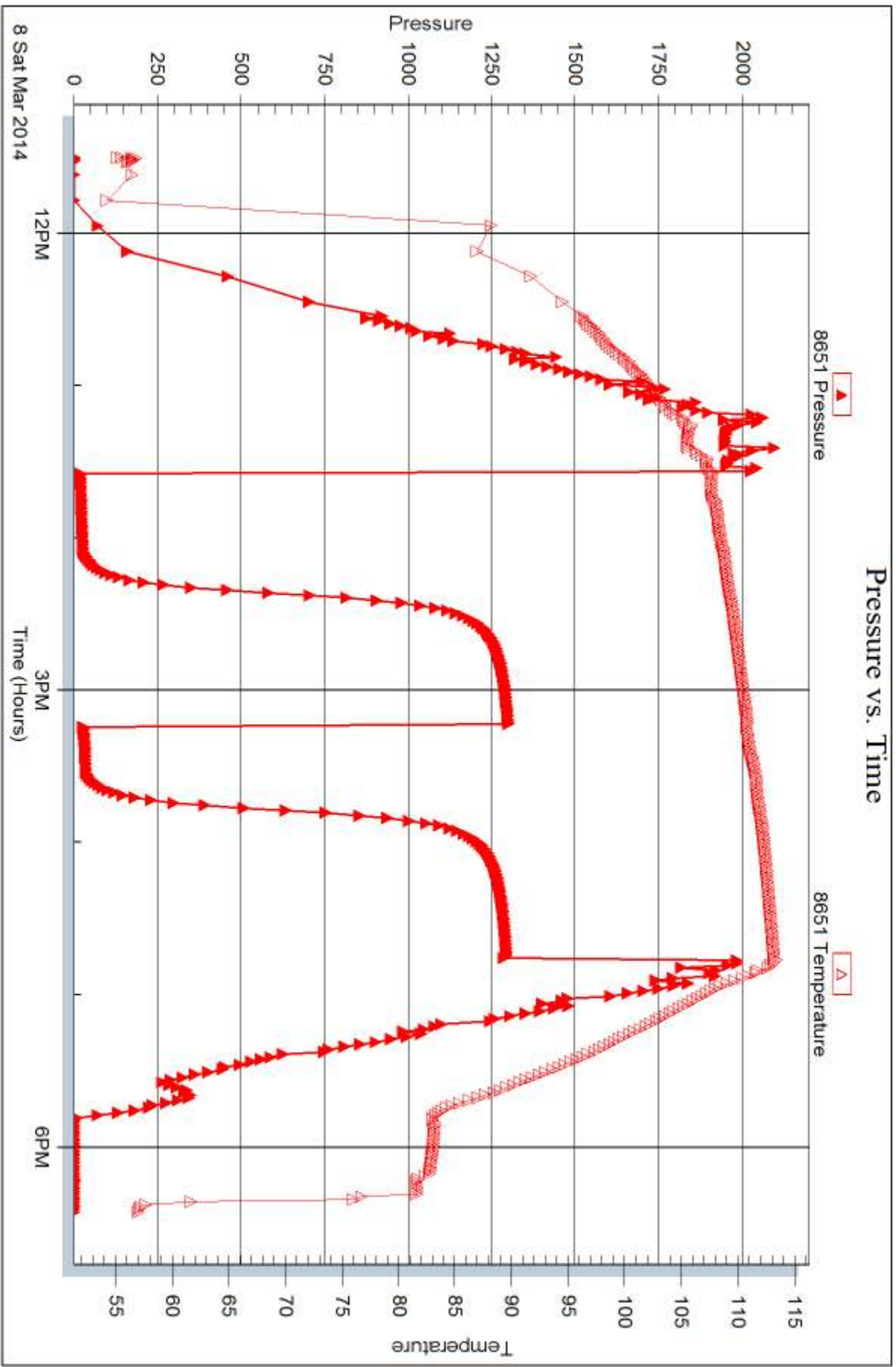


Serial #: 8651

Outside Murfin Drilling Co.

Hammerschmidt #1-24

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste.300
Wichita KS. 67202

ATTN: Saman Sharifaic

Hammerschmidt #1-24

24-4s-31w Rawlins,KS

Start Date: 2014.03.09 @ 05:00:00

End Date: 2014.03.09 @ 13:20:30

Job Ticket #: 56803 DST #: 3

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

Printed: 2014.03.16 @ 12:12:17

Murfin Drilling Co.
24-4s-31w Rawlins,KS
Hammerschmidt #1-24
DST # 3
LKC H - J
2014.03.09



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co.

24-4s-31w Rawlins, KS

250 N. Water Ste.300
Wichita KS. 67202

Hammerschmidt #1-24

Job Ticket: 56803

DST#: 3

ATTN: Saman Sharifaic

Test Start: 2014.03.09 @ 05:00:00

GENERAL INFORMATION:

Formation: **LKC H - J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:14:00

Time Test Ended: 13:20:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Kreuzer Jr.

Unit No: 61

Interval: 4054.00 ft (KB) To 4120.00 ft (KB) (TVD)

Reference Elevations: 2916.00 ft (KB)

Total Depth: 4120.00 ft (KB) (TVD)

2905.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8673

Inside

Press@RunDepth: 326.90 psig @ 4055.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.03.09

End Date:

2014.03.09

Last Calib.:

2014.03.09

Start Time:

06:00:05

End Time:

14:20:29

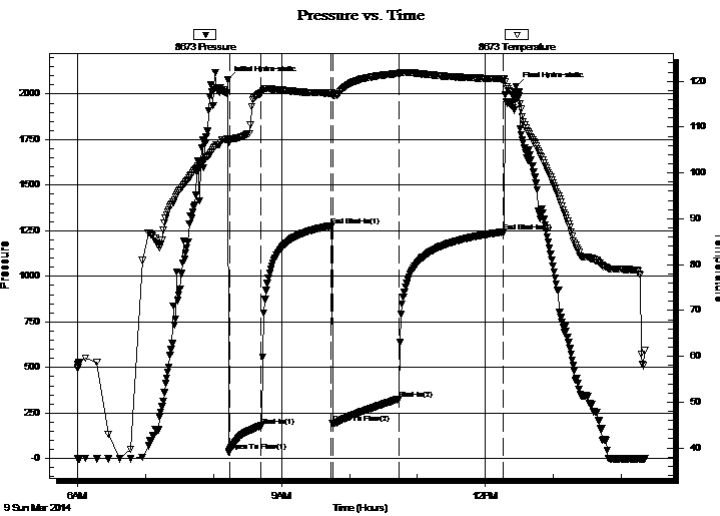
Time On Btm:

2014.03.09 @ 08:12:30

Time Off Btm:

2014.03.09 @ 12:27:00

TEST COMMENT: IF: Strong blow , Built to B.O.B in 4 mins.
IS: Weak blow back, Built to 1" over 10 mins. Died in 30 mins.
FF: Strong blow , Built to B.O.B in 5 mins.
FS: Weak blow built to B.O.B in 20 mins. Died to 4" over 90 mins.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2076.24	107.32	Initial Hydro-static
2	40.03	106.94	Open To Flow (1)
30	179.52	117.43	Shut-In(1)
92	1277.46	117.41	End Shut-In(1)
93	191.87	116.85	Open To Flow (2)
151	326.90	121.67	Shut-In(2)
244	1244.08	120.48	End Shut-In(2)
255	2039.31	116.85	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
173.00	mcw -20%m80%w	0.85
124.00	mud-100%m	0.61
186.00	vsocm-5%o95%m	2.61
92.00	go-20%g80%o	1.29
0.00	216 ft of gas in pipe	0.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co.

24-4s-31w Rawlins,KS

250 N. Water Ste.300
Wichita KS. 67202

Hammerschmidt #1-24

ATTN: Saman Sharifaic

Job Ticket: 56803

DST#: 3

Test Start: 2014.03.09 @ 05:00:00

GENERAL INFORMATION:

Formation: **LKC H - J**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 08:14:00
Time Test Ended: 13:20:30
Test Type: Conventional Bottom Hole (Reset)
Tester: Chuck Kreuzer Jr.
Unit No: 61
Interval: 4054.00 ft (KB) To 4120.00 ft (KB) (TVD)
Total Depth: 4120.00 ft (KB) (TVD)
Reference Elevations: 2916.00 ft (KB)
2905.00 ft (CF)
Hole Diameter: 7.88 inches
Hole Condition: Good
KB to GR/CF: 11.00 ft

Serial #: 8651

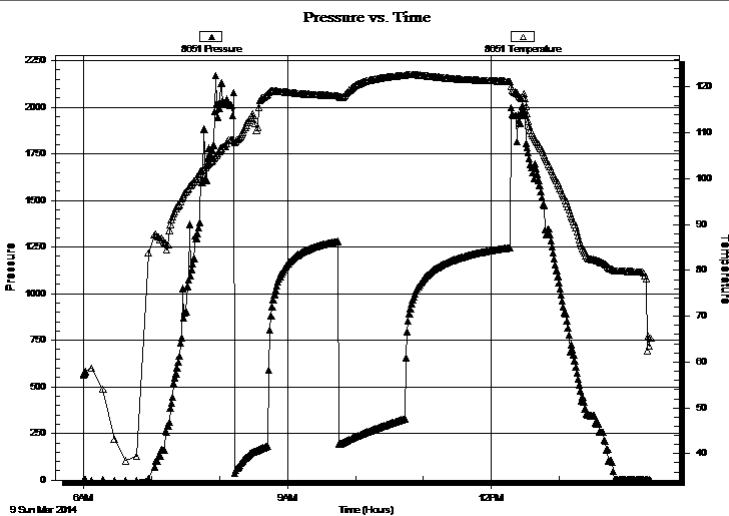
Outside

Press@RunDepth: psig @ 4055.00 ft (KB)
Start Date: 2014.03.09 End Date: 2014.03.09
Start Time: 06:00:05 End Time: 14:20:29

Capacity: 8000.00 psig
Last Calib.: 1899.12.30
Time On Btm:
Time Off Btm:

TEST COMMENT: IF: Strong blow , Built to B.O.B in 4 mins.
IS: Weak blow back, Built to 1" over 10 mins. Died in 30 mins.
FF: Strong blow , Built to B.O.B in 5 mins.
FS: Weak blow built to B.O.B in 20 mins. Died to 4" over 90 mins.

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
173.00	mcw -20%m80%w	0.85
124.00	mud-100%m	0.61
186.00	vsocm-5%o95%m	2.61
92.00	go-20%g80%o	1.29
0.00	216 ft of gas in pipe	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.

24-4s-31w Rawlins,KS

250 N. Water Ste.300
Wichita KS. 67202

Hammerschmidt #1-24

Job Ticket: 56803

DST#: 3

ATTN: Saman Sharifaic

Test Start: 2014.03.09 @ 05:00:00

Tool Information

Drill Pipe:	Length: 3749.00 ft	Diameter: 3.80 inches	Volume: 52.59 bbl	Tool Weight:	2400.00 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: 297.00 ft	Diameter: 2.25 inches	Volume: 1.46 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 54.05 bbl</u>	Tool Chased	2.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial	64000.00 lb
Depth to Top Packer:	4054.00 ft			Final	70000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	66.00 ft				
Tool Length:	94.00 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			4031.00	
Hydraulic tool	5.00			4036.00	
Jars	5.00			4041.00	
Safety Joint	3.00			4044.00	
Packer	5.00			4049.00	28.00 Bottom Of Top Packer
Packer	5.00			4054.00	
Stubb	1.00			4055.00	
Recorder	0.00	8673	Inside	4055.00	
Recorder	0.00	8651	Outside	4055.00	
Perforations	16.00			4071.00	
change Over Sub	1.00			4072.00	
Drill Pipe	31.00			4103.00	
Change Over Sub	1.00			4104.00	
Perforations	13.00			4117.00	
Bullnose	3.00			4120.00	66.00 Bottom Packers & Anchor

Total Tool Length: 94.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

24-4s-31w Rawlins,KS

250 N. Water Ste.300
Witchita KS. 67202

Hammerschmidt #1-24

Job Ticket: 56803

DST#: 3

ATTN: Saman Sharifaic

Test Start: 2014.03.09 @ 05:00:00

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:

ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 59.84 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1300.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
173.00	mcw -20%m80%w	0.851
124.00	mud-100%m	0.610
186.00	vsocm-5%o95%m	2.609
92.00	go-20%g80%o	1.291
0.00	216 ft of gas in pipe	0.000

Total Length: 575.00 ft

Total Volume: 5.361 bbl

Num Fluid Samples: 0

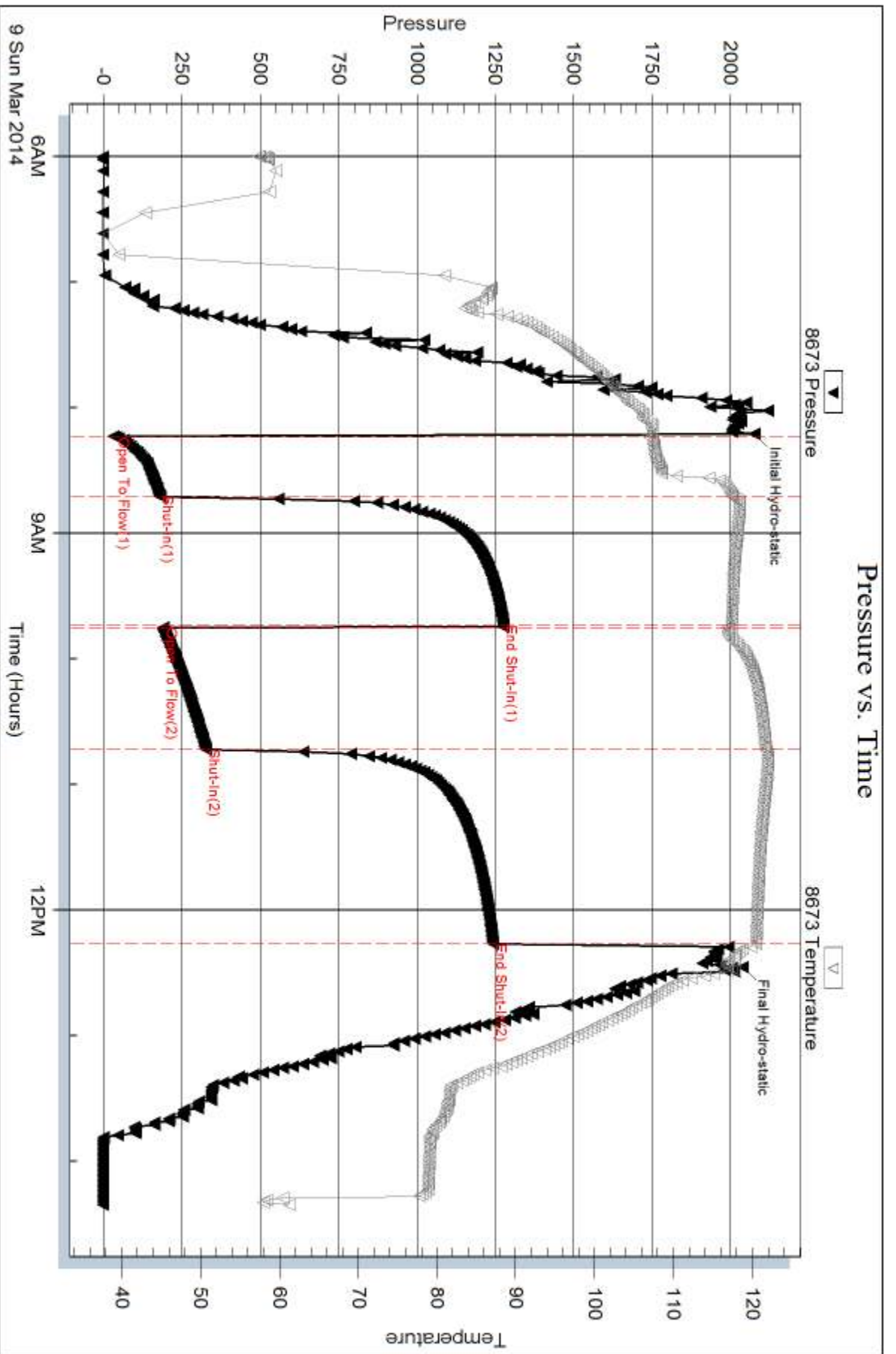
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 38@80*=36

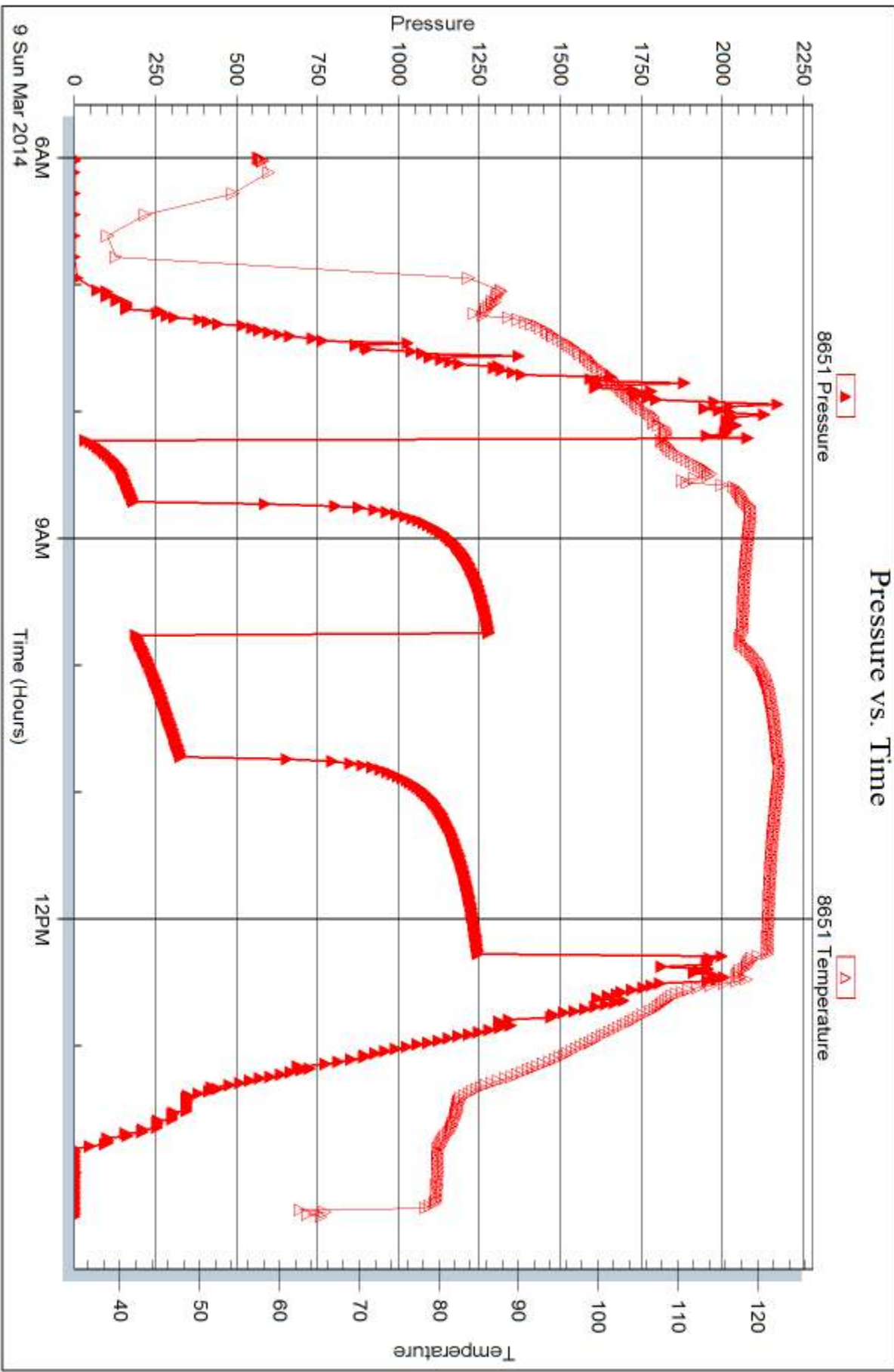


Serial #: 8651

Outside Murfin Drilling Co.

Hammerschmidt #1-24

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste.300
Wichita KS. 67202

ATTN: Saman Sharifaic

Hammerschmidt #1-24

24-4s-31w Rawlins,KS

Start Date: 2014.03.09 @ 01:40:00

End Date: 2014.03.09 @ 08:50:00

Job Ticket #: 56804 DST #: 4

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

Printed: 2014.03.16 @ 12:11:33



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co.

24-4s-31w Rawlins, KS

250 N. Water Ste.300
Wichita KS. 67202

Hammerschmidt #1-24

Job Ticket: 56804

DST#: 4

ATTN: Saman Sharifaic

Test Start: 2014.03.09 @ 01:40:00

GENERAL INFORMATION:

Formation: **LKC -K - L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:36:00

Time Test Ended: 08:50:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Kreuzer Jr.

Unit No: 61

Interval: 4121.00 ft (KB) To 4180.00 ft (KB) (TVD)

Reference Elevations: 2916.00 ft (KB)

Total Depth: 4180.00 ft (KB) (TVD)

2905.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8673

Inside

Press@RunDepth: 48.40 psig @ 4122.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.03.10

End Date:

2014.03.10

Last Calib.:

2014.03.11

Start Time: 01:40:05

End Time:

08:49:59

Time On Btm:

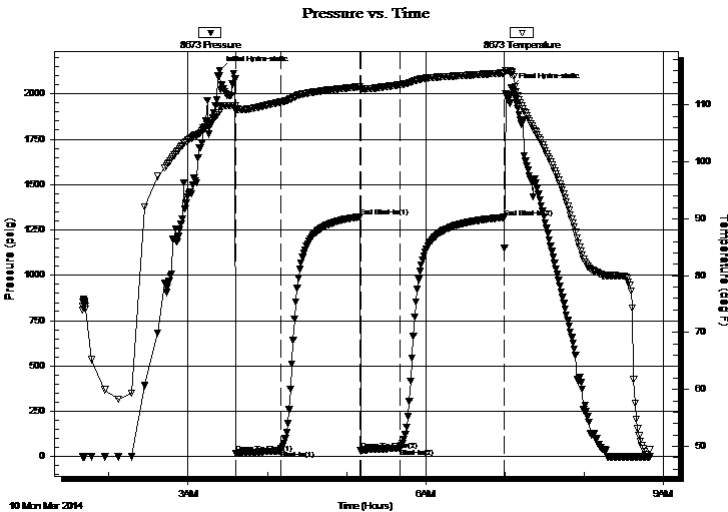
2014.03.10 @ 03:24:00

Time Off Btm:

2014.03.10 @ 07:05:00

TEST COMMENT: IF: Weak blow , Built to 1/4". over 30 mins.
IS: No blow back
FF: Weak blow , Built to surface over 30 mins.
FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2129.52	109.67	Initial Hydro-static
12	19.19	108.97	Open To Flow (1)
46	37.52	110.55	Shut-In(1)
106	1322.31	113.22	End Shut-In(1)
107	33.41	112.79	Open To Flow (2)
137	48.40	113.59	Shut-In(2)
215	1319.40	115.64	End Shut-In(2)
221	2035.11	115.39	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	HOCM-45%o65%m	0.30
20.00	o-100%	0.10

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.

24-4s-31w Rawlins,KS

250 N. Water Ste.300
Wichita KS. 67202

Hammerschmidt #1-24

Job Ticket: 56804

DST#: 4

ATTN: Saman Sharifaic

Test Start: 2014.03.09 @ 01:40:00

Tool Information

Drill Pipe:	Length: 3816.00 ft	Diameter: 3.80 inches	Volume: 53.53 bbl	Tool Weight: 2400.00 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: 297.00 ft	Diameter: 2.25 inches	Volume: 1.46 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 54.99 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	4121.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	59.00 ft			
Tool Length:	87.00 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			4098.00	
Hydraulic tool	5.00			4103.00	
Jars	5.00			4108.00	
Safety Joint	3.00			4111.00	
Packer	5.00			4116.00	28.00 Bottom Of Top Packer
Packer	5.00			4121.00	
Stubb	1.00			4122.00	
Recorder	0.00	8673	Inside	4122.00	
Recorder	0.00	8651	Outside	4122.00	
Perforations	16.00			4138.00	
change Over Sub	1.00			4139.00	
Drill Pipe	31.00			4170.00	
Change Over Sub	1.00			4171.00	
Perforations	6.00			4177.00	
Bullnose	3.00			4180.00	59.00 Bottom Packers & Anchor

Total Tool Length: 87.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

24-4s-31w Rawlins,KS

250 N. Water Ste.300
Witchita KS. 67202

Hammerschmidt #1-24

Job Ticket: 56804

DST#: 4

ATTN: Saman Sharifaic

Test Start: 2014.03.09 @ 01:40:00

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:

ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1300.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	HOCM-45%o65%m	0.295
20.00	o-100%	0.098

Total Length: 80.00 ft Total Volume: 0.393 bbl

Num Fluid Samples: 0

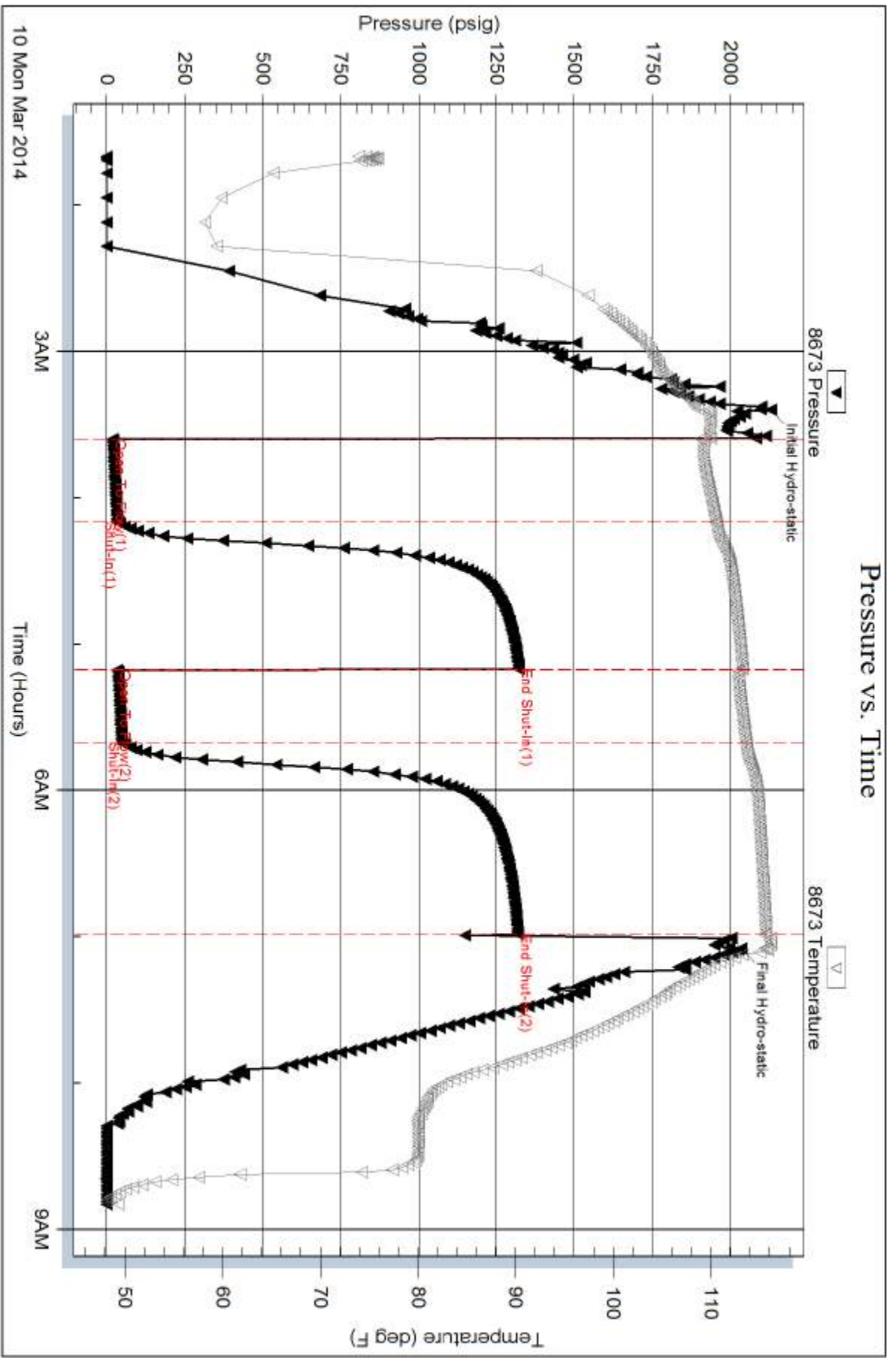
Num Gas Bombs: 0

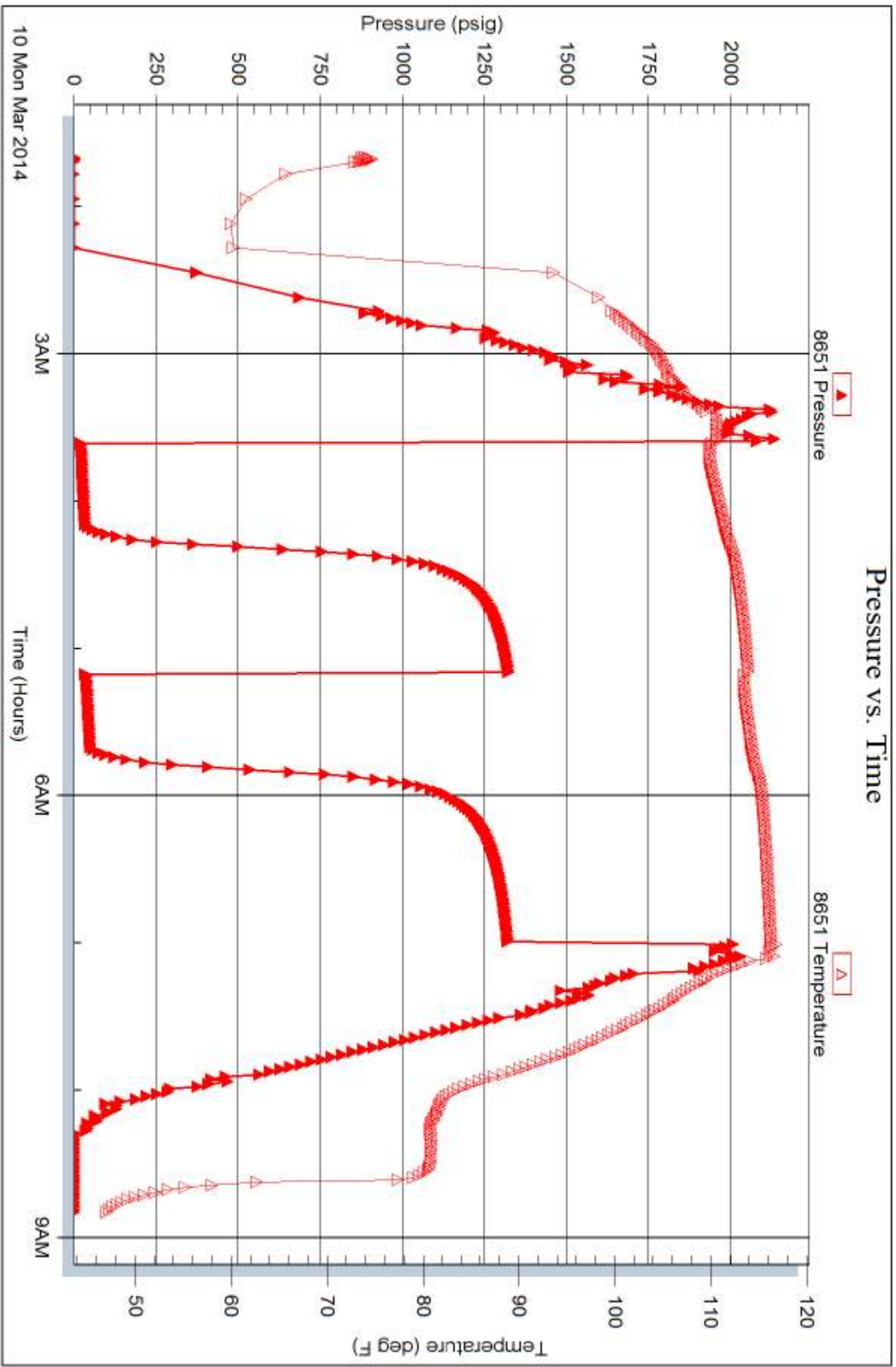
Serial #:

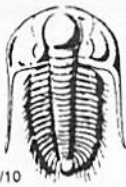
Laboratory Name:

Laboratory Location:

Recovery Comments: 38@80*=36 gravity







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56801

Well Name & No. Hammer Schmidt #1-24 Test No. 1 Date 3-7-2014
 Company Murfin Drilling Co. Elevation 2916 KB 2905 GL
 Address 250 N. Water Ste. 300 Wichita KS 67202
 Co. Rep / Geo. Saman Sharifai Rig Murfin #2
 Location: Sec. 24 Twp. 4S Rge. 31W Co. Rawlins State Ks

Interval Tested 3905 3991 Zone Tested TOR, LKCA-B
 Anchor Length 86 Drill Pipe Run 3590 Mud Wt. 9.1
 Top Packer Depth 3900 Drill Collars Run 297 Vis 58
 Bottom Packer Depth 3905 Wt. Pipe Run -0- WL 6.0
 Total Depth 3991 Chlorides 2300 ppm System LCM 6#

Blow Description IF: Weak blow, built to 1/4 in. Dead in 28 mins.
ISI: No blow back
FF: No blow
FSE: No blow back.

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Oil on top</u>		<u>100</u>		
<u>60</u>	<u>mud oil spots</u>				

Rec Total 65 BHT 109 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

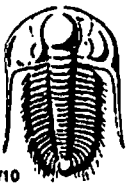
(A) Initial Hydrostatic 1984 Test 1150 T-On Location 16:10
 (B) First Initial Flow 19 Jars 250 T-Started 17:40
 (C) First Final Flow 31 Safety Joint 75 T-Open 20:20
 (D) Initial Shut-In 1311 Circ Sub _____ T-Pulled 23:25
 (E) Second Initial Flow 38 Hourly Standby _____ T-Out 1:23
 (F) Second Final Flow 49 Mileage 22x2 = 44x1.55 68.20 Comments _____
 (G) Final Shut-In 1275 Sampler _____
 (H) Final Hydrostatic 1479 Straddle _____

Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Initial Open 30
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 60
 Sub Total 0
 Total 1543.20
 MP/DST Disc't _____
 Sub Total 1543.20

Approved By _____ Our Representative Charles K...

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620-352-1253



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56802

4/10

Well Name & No. Hammerchnitt #1-24 Test No. 2 Date 3-8-2014
 Company Murphy Drilling Co. Elevation 2016 KB 2905 GL
 Address 250 N. Water Ste 300 Wichita Ks 67202
 Co. Rep / Geo. Saman Sharifiaiz Rig Murphy #2
 Location: Sec. 24 Twp. 4S Rge. 3W Co. Rushlim State Ks

Interval Tested 4008 4040 Zone Tested LKC-F-6
 Anchor Length 32 Drill Pipe Run 3687 Mud Wt. 9.1
 Top Packer Depth 4003 Drill Collars Run 297 Vis 58
 Bottom Packer Depth 4008 Wt. Pipe Run -0- WL 6.0
 Total Depth 4040 Chlorides 2300 ppm System LCM 6#

Blow Description IF: Weak blow, surface over 30 mins.
 IS: No blow back
 FF: Weak blow, surface over 30 mins.
 FS: No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>OCM</u>		<u>35</u>		<u>65</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 60 BHT 110 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2084 Test 1250 T-On Location 10:30
 (B) First Initial Flow 18 Jars 250 T-Started 11:30
 (C) First Final Flow 26 Safety Joint 75 T-Open 13:34
 (D) Initial Shut-In 1298 Circ Sub _____ T-Pulled 16:35
 (E) Second Initial Flow 26 Hourly Standby _____ T-Out 18:26
 (F) Second Final Flow 39 Mileage 22x2 = 44 x 1.55 = 68.20 Comments _____
 (G) Final Shut-In 1294 Sampler _____
 (H) Final Hydrostatic 1982 Straddle _____
 Shale Packer _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Packer _____
 Extra Copies _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1643.20 Sub Total 0
 Total 1643.20
 MP/DST Disc't _____

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

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **56803**

Well Name & No. Hammerschmidt #1-24 Test No. 3 Date 3-9-2014
 Company Murfin Drilling Co. Elevation 2916 KB 2905 GL
 Address 250 N. water st. 300 Wichita Ks
 Co. Rep / Geo. Saman Sharifia Rig Murfin 2
 Location: Sec. 24 Twp. 45 Rge. 31w Co. Rawlins State _____

Interval Tested 4054 4120 Zone Tested LKC-H-J
 Anchor Length 66 Drill Pipe Run 3749 Mud Wt. 9.4
 Top Packer Depth 4049 Drill Collars Run 247 Vis 59
 Bottom Packer Depth 4054 Wt. Pipe Run -0- WL 60
 Total Depth 4120 Chlorides 1,300 ppm System LCM 6#

Blow Description IF: strong blow, built to B.O.B in 4 mins.
ISI: weak blow built to 1 in. over 10 mins died in 30 mins.
FF: strong blow, built to B.O.B in 5 mins.
FSI: Weak blow built to B.O.B in 20 mins. Died to 4 in. over 90 mins

Rec	Feet of	%gas	%oil	%water	%mud
<u>0</u>	<u>216 ft of gas in pipe</u>				
<u>92</u>	<u>gob</u>	<u>20%</u>	<u>80</u>		
<u>186</u>	<u>vsocm</u>		<u>5</u>		<u>95</u>
<u>124</u>	<u>mud</u>				<u>100</u>
<u>173</u>	<u>new</u>			<u>80</u>	<u>20</u>

Rec Total 575 BHT 121 Gravity 36 API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2119 ~~44~~ Test 1250 T-On Location 3:30
 (B) First Initial Flow 40 ~~180~~ Jars 250 T-Started 5:00
 (C) First Final Flow 180 ~~1277~~ Safety Joint 75 T-Open 8:14
 (D) Initial Shut-In 1277 ~~412~~ Circ Sub _____ T-Pulled 12:20
 (E) Second Initial Flow 192 ~~527~~ Hourly Standby _____ T-Out 13:20
 (F) Second Final Flow 327 Mileage 2272-44 x 1.55 68.20
 (G) Final Shut-In 1244 Sampler _____
 (H) Final Hydrostatic 2034 Straddle _____

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Packer _____
 Extra Copies _____
 Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1643.20
 Sub Total 1643.20
 Sub Total 0
 Total 1643.20
 MP/DST Disc't _____

Approved By _____ Our Representative Chad Keyser

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56804

Well Name & No. Hammerschmidt #1-24 Test No. 4 Date 3-10-2014
 Company MarFin Drilling Co. Elevation 2916 KB 2905 GL
 Address 250 N. Water Ste. 300 Wichita Ks
 Co. Rep / Geo. Saman Sharfpaic Rig MarFin #2
 Location: Sec. 24 Twp. 4S Rge. 31 Co. Rawlins State Ks

Interval Tested 4121 4180 Zone Tested LKC-K-1
 Anchor Length 59 Drill Pipe Run 3816 Mud Wt. 9.4
 Top Packer Depth 4006 Drill Collars Run 297 Vis 59
 Bottom Packer Depth 4121 Wt. Pipe Run -0- WL 6.0
 Total Depth 4180 Chlorides 1,300 ppm System LCM 6#

Blow Description IF: Weak surface blow, Built to 1/4 in. over 30mins.
ISF: No blow back
FF: Weak blow surface over 30mins.
FSI: No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>oil</u>		<u>100</u>		
<u>60</u>	<u>HOLM</u>		<u>45</u>		<u>65</u>

Rec Total 90 BHT 123 Gravity 36 API RW @ ° F Chlorides ppm
 (A) Initial Hydrostatic 2130 2119 Test 1250 T-On Location 12:25
 (B) First Initial Flow 20 33 Jars 250 T-Started 1:40
 (C) First Final Flow 38 197 Safety Joint 75 T-Open 7:13
 (D) Initial Shut-In 1322 1278 Circ Sub T-Pulled 6:50
 (E) Second Initial Flow 33 145 Hourly Standby T-Out 8:49
 (F) Second Final Flow 48 337 Mileage 2222 = 444 x 1.55 = 136.40 Comments rounded tools at 10:40 on
 (G) Final Shut-In 1319 1244 Sampler 3-11-2014
 (H) Final Hydrostatic 2035 2034 Straddle
 Ruined Shale Packer
 Ruined Packer
 Extra Copies

Initial Open 30 Extra Packer
 Initial Shut-In 60 Extra Recorder
 Final Flow 30 Day Standby 1d 2h Sub Total 800
 Final Shut-In 60 Accessibility Total 2511.40
 Sub Total 1711.40 MP/DST Disc't

Approved By _____ Our Representative Chap...

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Saman Sharifaie

Petroleum Geologist

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY **Martin Drilling Co., Inc.**
LEASE **Hammerichind #1-24**

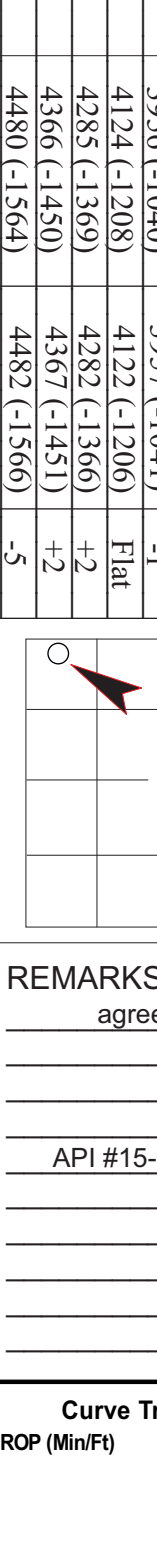
FIELD **Wildcat**
LOCATION **660' FSL & 330' FWL**
SEC **24** TWP **4S** RGE **31W**
COUNTY **Raviluis** STATE **Kansas**
CONTRACTOR **Martin Drilling #2**
SPUD **03/04/14** COMP **03/12/14**
RTD **4:58P** LTD **4:53A**
MUD UP **3:76'** TYPE MUD **Chemical**

SAMPLES SAVED FROM **3640'** TO RTD
DRILLING TIME KEPT FROM **3640'** TO RTD
SAMPLES EXAMINED FROM **3640'** TO RTD
GEOLOGICAL SUPERVISION FROM **3340'**
REFERENCE WELL **Gilbert Unit #1-26**

ELEVATIONS
KB **291.6'**
DF _____
GL **290.5'**
Measurements Are All From Kelly Bushing
CASING
CONDUCTOR _____
SURFACE **8-5/8"** at **22.6'**
PRODUCTION **5-1/2"** at **15.5'**

ELECTRICAL SURVEYS
CND; DIL; MEL; SMC
GEOLOGICAL SUPERVISION FROM _____
REFERENCE WELL _____

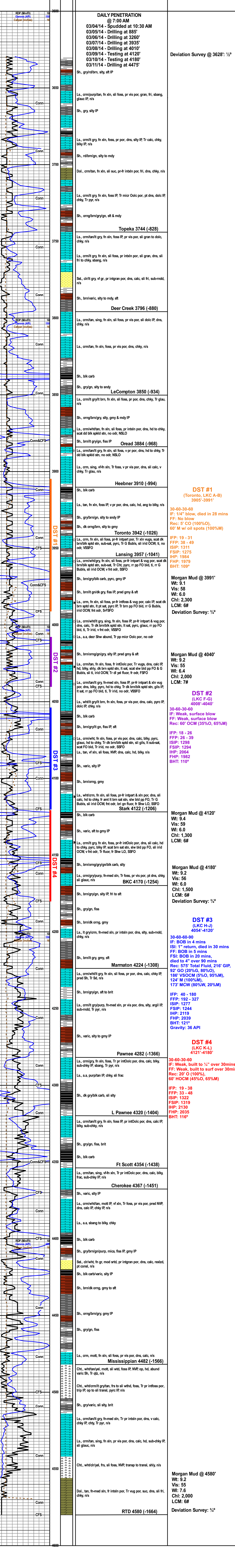
Formation	Sample Tops	E-log Tops	Strat Pos.
Anhydrite	2673 (+243)	2673 (+243)	-4
Base Anhydrite	2706 (+210)	2706 (+210)	-2
Trusler	3744 (-828)	3744 (-828)	-2
Hedberg	3009 (-993)	3010 (-994)	-2
Leadbiter	3056 (-1040)	3057 (-1041)	-1
Lensing	4124 (-1208)	4122 (-1206)	1
Starbuck	4283 (-1369)	4282 (-1368)	-2
Pawnee	4366 (-1450)	4367 (-1451)	-2
Cherokee	4480 (-1564)	4482 (-1566)	-5
Mississippian			



REMARKS Due to fair shows of oil in multiple pay zones and positive DST results, it is recommended and agreed upon by all parties that production casing be set to further evaluate this well.

Respectfully Submitted,
Saman Sharifaie
Petroleum Geologist

API #15-153-20991
*Tops have been adjusted to electric logs



Morgan Mud @ 3991'
Wt: 9.1
Vis: 58
Wt: 6.0
Chl: 2,300
LCM: 6#
Deviation Survey: 3/4°

Morgan Mud @ 4040'
Wt: 9.2
Vis: 55
Wt: 6.4
Chl: 2,000
LCM: 7#

Morgan Mud @ 4120'
Wt: 9.4
Vis: 59
Wt: 6.0
Chl: 1,300
LCM: 6#

Morgan Mud @ 4180'
Wt: 9.2
Vis: 56
Wt: 6.0
Chl: 1,500
LCM: 6#
Deviation Survey: 3/4°

DST #3
(LKC H-J)
4054'-4120'
30-60-30-60
IF: BOB in 4 mins
ISI: 1" return, died in 30 mins
FF: BOB in 5 mins
FSI: BOB in 20 mins, died to 4" over 90 mins
Rec: 575' Total Fluid, 216' GIP, 92' GO (20%G, 80%O), 186' VSOCM (5%O, 95%M), 124' M (100%M), 173' MCW (80%W, 20%M)

DST #4
(LKC K-L)
4121'-4180'
30-60-30-60
IF: Weak, built to 1/2" over 30mins
FF: Weak, built to surf over 30mins
Rec: 20' O (100%), 60' HOCM (45%O, 65%M)

DST #1
(Toronto, LKC A-B)
3905'-3991'
30-60-30-60
IF: 114" blow, died in 28 mins
FF: No blow
Rec: 5' CO (100%), 60' M w/ oil spots (100%M)

DST #2
(LKC F-G)
4008'-4040'
30-60-30-60
IF: Weak, surface blow
FF: Weak, surface blow
Rec: 60' OCM (35%O, 65%M)

DST #4
(LKC K-L)
4121'-4180'
30-60-30-60
IF: 19 - 38
FFP: 33 - 48
ISIP: 1322
FSP: 1319
IHP: 2130
FHP: 2035
BHT: 116°



PO Box 93999
Southlake, TX 76092

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

www Prod-LH

INVOICE

Invoice Number: 141750
Invoice Date: Mar 4, 2014
Page: 1

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

Customer ID	Field Ticket #	Payment Terms	
Murfin	61981	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Mar 4, 2014	4/3/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Hammerschmidt #1-24		
190.00	CEMENT MATERIALS	Class A Common	17.90	3,401.00
11.00	CEMENT MATERIALS	Chloride	64.00	704.00
195.50	CEMENT SERVICE	Cubic Feet Charge	2.48	484.84
446.50	CEMENT SERVICE	Ton Mileage Charge	2.60	1,160.90
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	Kelly Gabel		
1.00	EQUIPMENT OPERATOR	Wayne McGhghy		
1.00	EQUIPMENT OPERATOR	Talon Jones		

Subtotal	7,867.99
Sales Tax	324.30
Total Invoice Amount	8,192.29
Payment/Credit Applied	
TOTAL	8,192.29

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

\$ 2,753.79 ^{35 of 10} *st*

ONLY IF PAID ON OR BEFORE

Mar 29, 2014

275379
543850

OK MTR

ALLIED OIL & GAS SERVICES, LLC 061981

Federal Tax I.D. # 20-8651476

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

SERVICE POINT:
OreKley, KS

DATE <u>3-11-14</u>	SEC <u>24</u>	TWP <u>43</u>	RANGE <u>31W</u>	CALLED OUT	ON LOCATION	JOB START <u>3:00PM</u>	JOB FINISH <u>5:30PM</u>
LEASE <u>Hammerschmidt</u>	WELL# <u>1-24</u>	LOCATION <u>Rexford 7N12.8N2W</u>				COUNTY <u>Rawlins</u>	STATE <u>KS</u>
OLD OR <u>NEW</u> (Circle one)				<u>N+E into</u>			

CONTRACTOR Martin #2 OWNER same

TYPE OF JOB Surface

HOLE SIZE 12 1/4 T.D. 226 CEMENT AMOUNT ORDERED 190 JKS COM 3/20 CC

CASING SIZE 5 5/8 DEPTH 226

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG. 15'

PERFS.

DISPLACEMENT 13 1/4

EQUIPMENT

PUMP TRUCK CEMENTER Kelly Gabel
422 HELPER Wayne Magby

BULK TRUCK DRIVER Talon Jones
3865306

BULK TRUCK DRIVER

CEMENT AMOUNT ORDERED 190 JKS COM 3/20 CC

COMMON 190 @ 17.90 = 3405.00

POZMIX @

GEL @

CHLORIDE 115 @ 6.40 = 704.00

ASC @

@

@

@

@

@

@

HANDLING 195.5 cutt @ 2.50 = 484.85

MILEAGE 2.93 ton x 50 x 260 = 1160.80

TOTAL 5750.74

REMARKS:

Rigged up
mixed cement
displaced with water
shut in

Cement did circulate
Thank you
Kelly & crew

SERVICE

DEPTH OF JOB 226

PUMP TRUCK CHARGE 1512.25

EXTRA FOOTAGE @

MILEAGE MILV 50 @ 4.40 = 220.00

MANIFOLD @

MILV 50 @ 7.70 = 385.00

TOTAL 2117.25

CHARGE TO: Martin

STREET _____

CITY _____ STATE _____ ZIP _____

PLUG & FLOAT EQUIPMENT

@ _____

@ _____

@ _____

@ _____

@ _____

TOTAL _____

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 Arno C. ...

SIGNATURE Arno C. ...

SALES TAX (if Any) _____

TOTAL CHARGES 7,867.99

DISCOUNT 2,753.79 IF PAID IN 30 DAYS

5,114.19 Net



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



Invoice

DATE	INVOICE #
3/12/2014	25394

BILL TO
Murfin Drilling Co Inc PO Box 661 Colby, KS 67701-0661
USED FOR <u>IC 103</u>
APPROVED <u>JR R</u> <u>FH</u>

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1-24	Hammerschm...	Rawlins		Oil	Development	Cement Top To ...	Don

PRICE REF.	DESCRIPTION	QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way	120	Miles	6.00	720.00
579D	Pump Charge - Top To Bottom LongString - 4573 Feet	1	Job	2,000.00	2,000.00
221	Liquid KCL (Clayfix)	4	Gallon(s)	25.00	100.00T
281	Mud Flush	500	Gallon(s)	1.25	625.00T
290	D-Air	5	Gallon(s)	42.00	210.00T
403-5	5 1/2" Cement Basket	2	Each	300.00	600.00T
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
409-5	5 1/2" Turbolizer	15	Each	90.00	1,350.00T
413-5	5 1/2" Roto Wall Scratcher	20	Each	40.00	800.00T
419-5	5 1/2" Rotating Head Rental	1	Each	200.00	200.00T
325	Standard Cement	200	Sacks	14.50	2,900.00T
276	Flocele	50	Lb(s)	2.50	125.00T
283	Salt	1,000	Lb(s)	0.20	200.00T
284	Calseal	10	Sack(s)	35.00	350.00T
285	CFR-1	141	Lb(s)	4.50	634.50T
330	Swift Multi-Density Standard (MIDCON II)	300	Sacks	18.50	5,550.00T
276	Flocele	150	Lb(s)	2.50	375.00T
581D	Service Charge Cement	500	Sacks	2.00	1,000.00
583D	Drayage	3,051.54	Ton Miles	1.00	3,051.54
	Subtotal				21,441.04
	Sales Tax Rawlins County			7.90%	1,158.89

We Appreciate Your Business!

Total

\$22,599.93



Services, Inc.

CHARGE TO: Marfa Dry Co.
ADDRESS

CITY, STATE, ZIP CODE

TICKET 25394

PAGE 1 OF 2

1. <u>1-24</u>	WELL/PROJECT NO.	LEASE	COUNTYPARISH	STATE	CITY	DATE	OWNER
2. <u>Ness City, KS</u>	TICKET TYPE <input checked="" type="checkbox"/> SERVICE <input type="checkbox"/> SALES	CONTRACTOR	RIG NAME/NO.	SHIPPED VIA	DELIVERED TO	ORDER NO.	
3.	WELL TYPE	WELL CATEGORY	JOB PURPOSE	WELL PERMIT NO.	WELL LOCATION		
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 #113	120	mi				600	72000
579					Ramp Change - CUT TOP TO BOTTOM	1	ea			4573 FT	20000	800000
221					Liquid KRL	4	gal				8500	10000
281					Mud Fluid	500	gal				125	108500
290					D - Air	5	gal				4800	81000
403					Concrete Baskets	2	ea			5 1/2 in	30000	100000
406					Latex Drain Plug + Bottle	1	ea			5 1/2 in	27500	27500
407					Insert Flat Shoe w/ 1/4" Bore	1	ea			5 1/2 in	37500	37500
409					Turbolizers	15	ea			5 1/2 in	9000	135000
413					Rate Well Services	20	ea			5 ft	4000	80000
419					Rotating Head Rental	1	ea			5 1/2 in	20000	20000

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 Alan Robinson DATE SIGNED 3-12-14 TIME SIGNED 0700 A.M. P.M.

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

SURVEY

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

PAGE TOTAL 19186.04

TOTAL 22,599.93

SWIFT OPERATOR Alan Robinson APPROVAL Alan Robinson

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

Thank You!



Seawater, Inc

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

TICKET CONTINUATION

TICKET No. 25394

CUSTOMER
Murray Dry Co.

WELL
124 Hammerschmidt

DATE
3-22-14

PAGE 2 OF 2

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			TIME	DESCRIPTION	WELL				UNIT PRICE	AMOUNT	
		LOC	ACCT	DF			QTY	UM	QTY	UM			
295						Standard cut	EA-2	200	SKS	1820	lbs	14.50	2900.00
276						Floacle	1/4" SKS	50	lbs			25.00	1250.00
283						Salt		100	lbs			2.00	200.00
284						Cellulose		9-12	lbs	10	SK	35.00	350.00
285						CFR-1	3/4" SK	1-11	bs			35.00	439.50
330						3000 Cement		300	SKS	29778	lbs	18.50	5550.00
276						Floacle	1/2" #/SK	150	lbs			2.50	375.00
581						SERVICE CHARGE						200	1000.00
583						MILEAGE CHARGE						100	3051.54
						TOTAL WEIGHT		LOADED MILES		CUBIC FEET		CONTINUATION TOTAL	
						508.59		120		500 SKS		14,186.04	

JOB LOG

SWIFT Services, Inc.

DATE 3-12-14 PAGE NO. 1

CUSTOMER Martini Drilling Co. WELL NO. 1-24 LEASE Hammer-schmitt JOB TYPE Cement L.S., T.B. TICKET NO. 25394

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		TO 4580'	DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING		
	D645								DN 100' F.E. Rig LD DC
	D830								Start 5 1/2 15.5 #/ft. CSMS to 4573'
									Insert Float Shoe w/ Auto Rell
									L.D. Bottle - SS - 21 1/2' @ 455 1/2' = (108 1/2')
									100' Rot Wall Scrubbers
									Cent - 1 thru 10 - 12 - 16 - 18 - 45 - 66
	D475								Cut Baskets 46 & 67
	D945								Circulate 1/2 way in
									Drop Ball up ball 5 JTS out
									Fin run casing
	11:15								Start circ / Rotate casing
	12:15								Fin circ.
			8/6						Plug RH-30SKS MH 20 SKS
	12:25	5	12				200		Pump 500 gal Mucal Flush
		6	20				250		Pump 20 BBI HCl Flush
		5 1/2	140				250		Start 250 SKS SUD cut
		4 1/2	48 1/2				200		Start 200 SKS Est-2 cut
		4	190				200 / 100		Fin cut
									Wash out Pump & Lines
									Drop L.D. Plug
		9 1/2					350		Start Displ
			58				450		Caught 1st press
		8	85				510 / 200		Slow rate
		7	95				900 / 850		slow rate - cut circ
		6 1/2	100				1050		Slow rate
		6 1/2	108				1400		
	13:30		108 1/2				1800		Plug Down - Hold - Release & Hold
									25 SKS cut circulate to pit
									Washup & Packup
	14:15								Allen, Jon & John T. Tareel

Hammerschmidt #1-24
 Daily Drilling Report
 Page Two

- 3/10/14 Depth 4180'. Cut 60'. DT: None. CT: 20½ hrs. Dev.: ¾°. **DST #3 4054-4120 (LKC H-J):** 30-60-60-90. IF: BOB in 4 mins. ISI: 1" return, died in 30 mins. FF: BOB in 5 mins. FSI: BOB in 20 mins, died to 4" over 90 mins. Rec.: 575' Total Fluid, 216' GIP, 92' GO (20%G, 80%O), 186' VSOCM (5%O, 95%M), 124' M (100%M), 173' MCW (80%W, 20%M), HP: 2119-2039. FP: 40/180, 192/327. SIP: 1277-1244. BHT: 121° Gravity: 36 API. **LKC K:** Ls., crm/lt gry, fn xln, foss, pr-fr intOolc por, dns, sli calc, hd to chky, pyrc, blkY IP, scat brn sat stn, slw bld pp FO, sli irid OCW, v fnt odr, Tr fluor, fr Shw LO, SSFO. **LKC L:** Ls., crm/gry/purp, fn-med xln, Tr foss, pr vis por, pt dns, chky, sli glauc, n/s. **DST #4 4121-4180 (LKC K-L):** 30-60-30-60.
- 3/11/14 Depth 4475'. Cut 295'. DT: None. CT: 6½ hrs. Dev.: None. **DST #4 4121-4180 (LKC K-L):** 30-60-30-60. IF: wk blw, built to ¼" over 30mins. FF: wk blw built to surf over 30mins. Rec.: 20'O, 60'HOCM (45%O, 65%M). HP: 2080-1984. FP: 21/35, 36/50. SIP: 1325-1322. BHT: 116°.
- 3/12/14 RTD 4580'. Cut 105'. DT: None. CT: 18hrs. Dev.: ¾° @ 4580'. HC @ 1:45PM 3/11. Pioneer logged 8:00PM – 11:45PM 3/11. LTD 4583'
- 3/13/14 RTD: 4580'. CT: 10½ hrs. Ran 109jts of 5 ½" prod csg, set @ 4551'. Swift cmt wi/250sxs SMD, 200sxs EA-2. PD @ 1:30PM 3/12. 30sxs RH, 20sxsMH. Circ 25sxs. RR @ 5:30PM 3/12. FINAL REPORT

Hammerschmidt #1-24 660' FSL 330' FWL Sec. 24-4S-31W 2916' KB							Gilbert Unit #1-26 200' FNL 1050' FEL Sec. 26-4S-31W 2901' KB	
Formation	Sample top	Datum	Ref	Log tops	Datum	Ref	Log tops	Datum
Anhydrite	2673	+243	+4	2673	+243	+4	2662	+239
B/Anhydrite	2706	+210	+2	2706	+210	+2	2693	+208
Topeka	3744	-828	-2	3744	-828	-2	3727	-826
Heebner	3909	-993	-1	3910	-994	-2	3893	-992
Lansing	3956	-1040	Flat	3957	-1041	-1	3941	-1040
Stark	4124	-1208	-2	4122	-1206	Flat	4107	-1206
BKC	4170	-1254	Flat	4170	-1254	Flat	4155	-1254
Pawnee	4285	-1369	-1	4282	-1366	+2	4269	-1368
Cherokee	4366	-1450	+3	4367	-1451	+2	4354	-1453
Mississippi	4480	-1564	-3	4482	-1566	-5	4462	-1561
RTD	4580						4530	
LTD				4583			4529	