



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1201036
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: _____

1201036

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

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

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

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

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

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

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

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

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

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

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

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

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

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	Kacirek Trust 1-5
Doc ID	1201036

All Electric Logs Run

Dual Induction
Dual Compensated
Microresistivity
Borehole Compensated

Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	Kacirek Trust 1-5
Doc ID	1201036

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
4	4086-4090 Oread	250 gal 15% MCA	
4	4141-4146 Douglas	250 gal 15% MCA	
4	4297-4302 LKC G	250 gal 15% MCA - 1250 gal 15% NEFE	
4	4334-4339 LKC H	250 gal 15% MCA - 1250 gal 15% NEFE	
	4560 CIBP		
4	4585-4590 Lwr Pawnee	500 gal 15% MCA	



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water STE 300
Wichita KS 67202

ATTN: Charles Schmaltz

Kacirek Trust #1-5

5-2s-36w Rawlins KS

Start Date: 2014.01.10 @ 19:00:00

End Date: 2014.01.11 @ 03:57:10

Job Ticket #: 55117 DST #: 1

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

Printed: 2014.01.21 @ 14:58:29



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Company

5-2s-36w Rawlins KS

250 N Water STE 300
Wichita KS 67202

Kacirek Trust #1-5

Job Ticket: 55117

DST#: 1

ATTN: Charles Schmaltz

Test Start: 2014.01.10 @ 19:00:00

GENERAL INFORMATION:

Formation: **Neva**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 21:38:00
 Tester: Ryan Nichols
 Time Test Ended: 03:57:10
 Unit No: 58
 Interval: **3548.00 ft (KB) To 3650.00 ft (KB) (TVD)**
 Reference Elevations: 3252.00 ft (KB)
 Total Depth: 3650.00 ft (KB) (TVD)
 3247.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Good
 KB to GR/CF: 5.00 ft

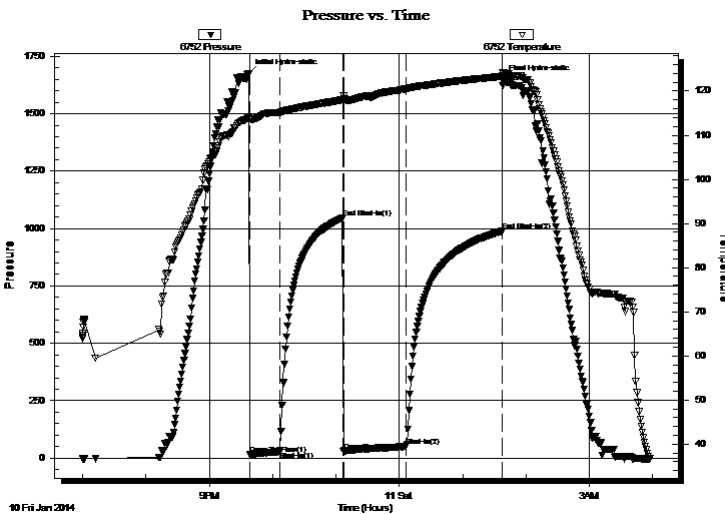
Serial #: 6752

Inside

Press@RunDepth: 50.98 psig @ 3549.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.01.10 End Date: 2014.01.11 Last Calib.: 2014.01.11
 Start Time: 19:00:01 End Time: 03:57:10 Time On Btm: 2014.01.10 @ 21:37:00
 Time Off Btm: 2014.01.11 @ 01:37:30

TEST COMMENT: 30 IF - 1" blow built to 3 1/2"
 60 ISI - No return
 60 FF - Surface blow built to 2 1/2"
 90 FF - No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1673.00	113.93	Initial Hydro-static
1	15.53	113.74	Open To Flow (1)
30	32.22	115.14	Shut-In(1)
89	1045.12	117.99	End Shut-In(1)
90	31.11	118.85	Open To Flow (2)
149	50.98	120.48	Shut-In(2)
241	988.33	123.30	End Shut-In(2)
241	1646.82	123.56	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
65.00	Mud w / oil spots	0.32

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

5-2s-36w Rawlins KS

250 N Water STE 300
Wichita KS 67202

Kacirek Trust #1-5

Job Ticket: 55117

DST#: 1

ATTN: Charles Schmaltz

Test Start: 2014.01.10 @ 19:00:00

Tool Information

Drill Pipe:	Length: 3347.00 ft	Diameter: 3.80 inches	Volume: 46.95 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose:	44000.00 lb
			<u>Total Volume: 47.86 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial	42000.00 lb
Depth to Top Packer:	3548.00 ft			Final	42000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	102.00 ft				
Tool Length:	129.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3522.00	
Shut In Tool	5.00			3527.00	
Hydraulic tool	5.00			3532.00	
Jars	5.00			3537.00	
Safety Joint	2.00			3539.00	
Packer	5.00			3544.00	27.00 Bottom Of Top Packer
Packer	4.00			3548.00	
Packer - Shale	0.00			3548.00	
Stubb	1.00			3549.00	
Recorder	0.00	6752	Inside	3549.00	
Recorder	0.00	8322	Outside	3549.00	
Perforations	33.00			3582.00	
Blank Spacing	65.00			3647.00	
Bullnose	3.00			3650.00	102.00 Bottom Packers & Anchor

Total Tool Length: 129.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

5-2s-36w Rawlins KS

250 N Water STE 300
Wichita KS 67202

Kacirek Trust #1-5

Job Ticket: 55117

DST#: 1

ATTN: Charles Schmaltz

Test Start: 2014.01.10 @ 19:00:00

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: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.37 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
65.00	Mud w / oil spots	0.320

Total Length: 65.00 ft Total Volume: 0.320 bbl

Num Fluid Samples: 0

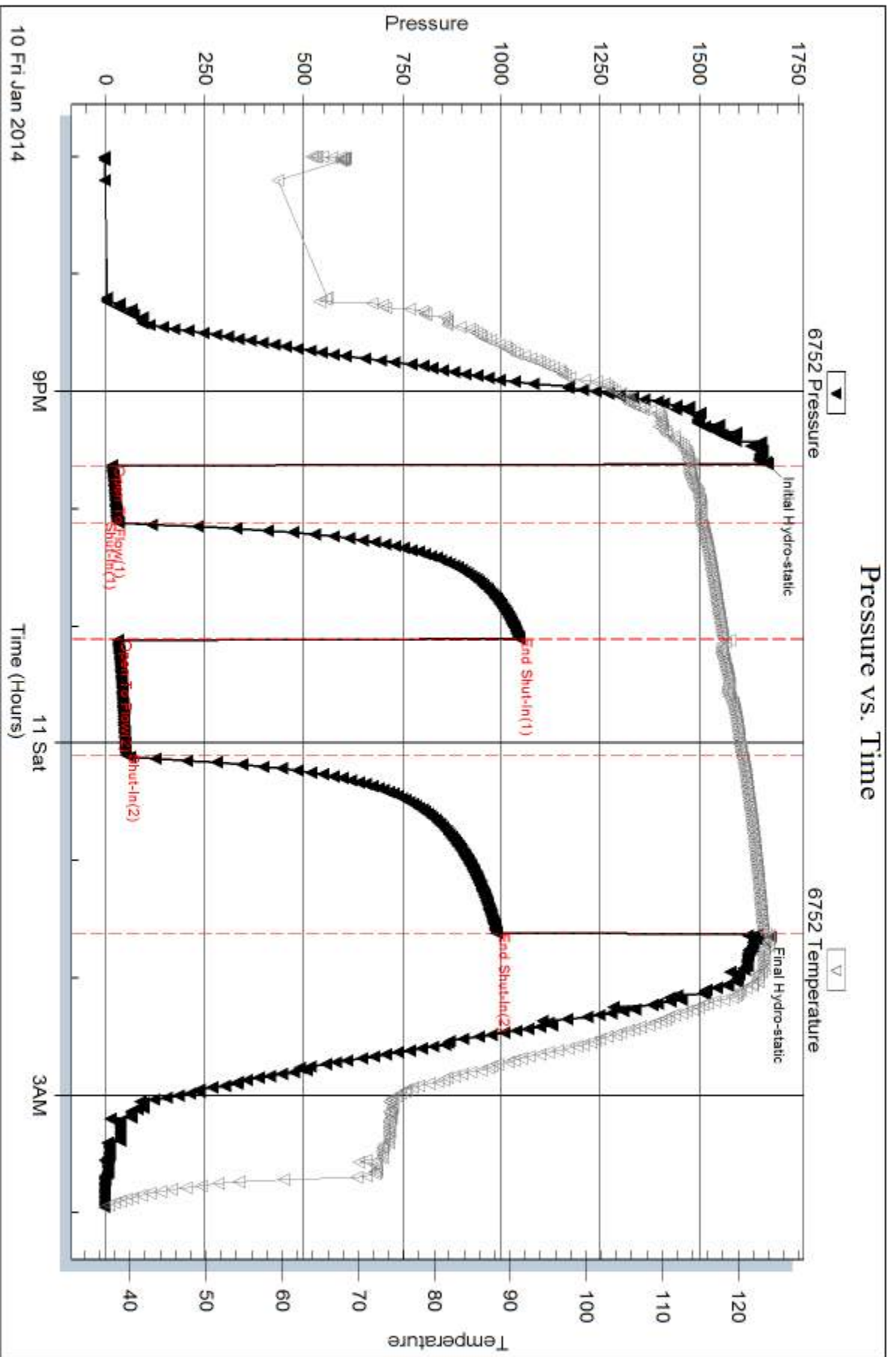
Num Gas Bombs: 0

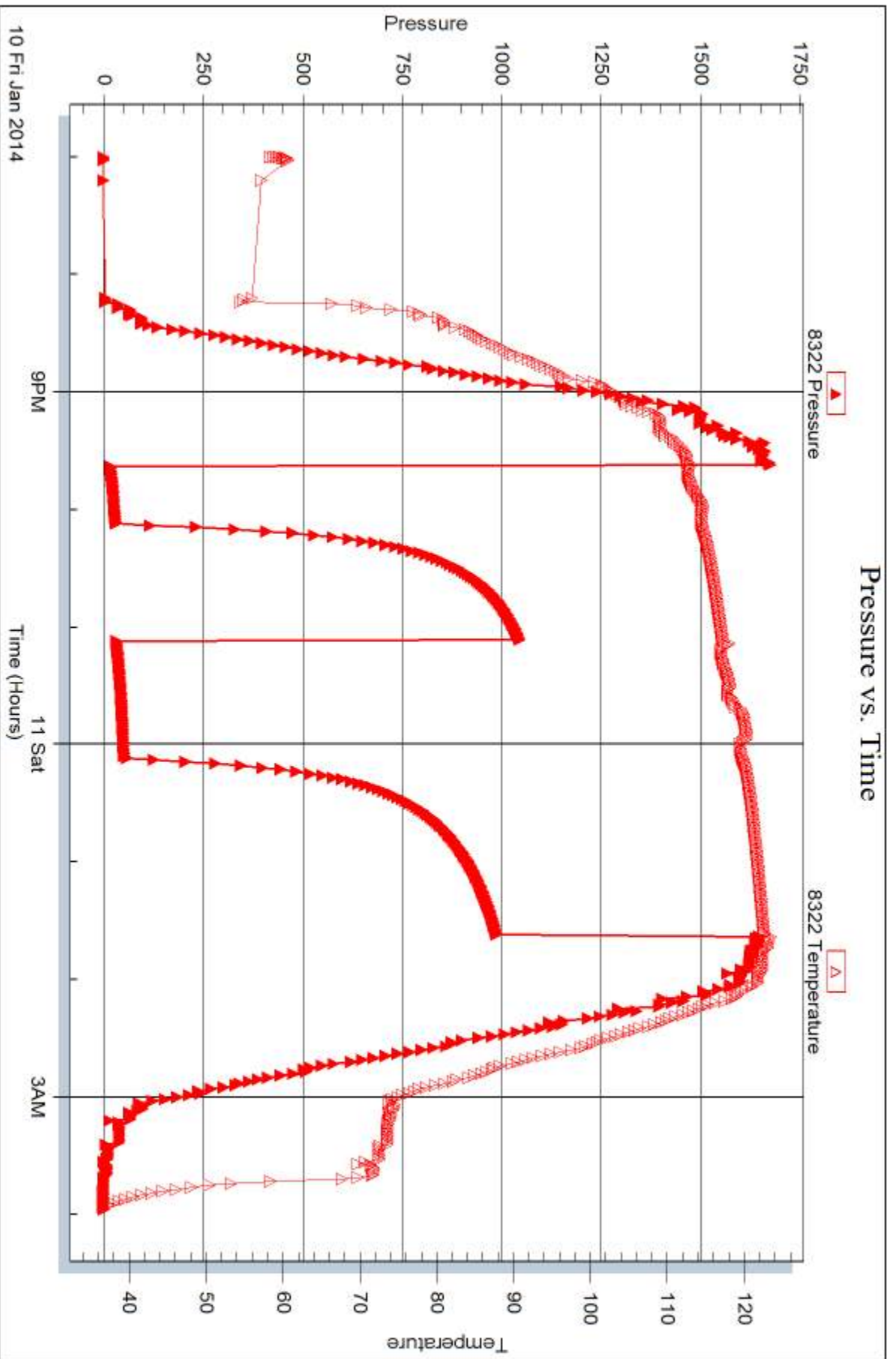
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water STE 300
Wichita KS 67202

ATTN: Charles Schmaltz

Kacirek Trust #1-5

5-2s-36w Rawlins KS

Start Date: 2014.01.11 @ 22:49:00

End Date: 2014.01.12 @ 08:34:30

Job Ticket #: 55118 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.01.21 @ 14:58:05



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Company

5-2s-36w Rawlins KS

250 N Water STE 300
Wichita KS 67202

Kacirek Trust #1-5

Job Ticket: 55118

DST#: 2

ATTN: Charles Schmaltz

Test Start: 2014.01.11 @ 22:49:00

GENERAL INFORMATION:

Formation: **Foreaker**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:01:00

Time Test Ended: 08:34:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 58

Interval: 3912.00 ft (KB) To 3950.00 ft (KB) (TVD)

Reference Elevations: 3252.00 ft (KB)

Total Depth: 3950.00 ft (KB) (TVD)

3247.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6752 Inside

Press@RunDepth: 45.28 psig @ 3913.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.11

End Date:

2014.01.12

Last Calib.: 2014.01.12

Start Time: 22:49:01

End Time:

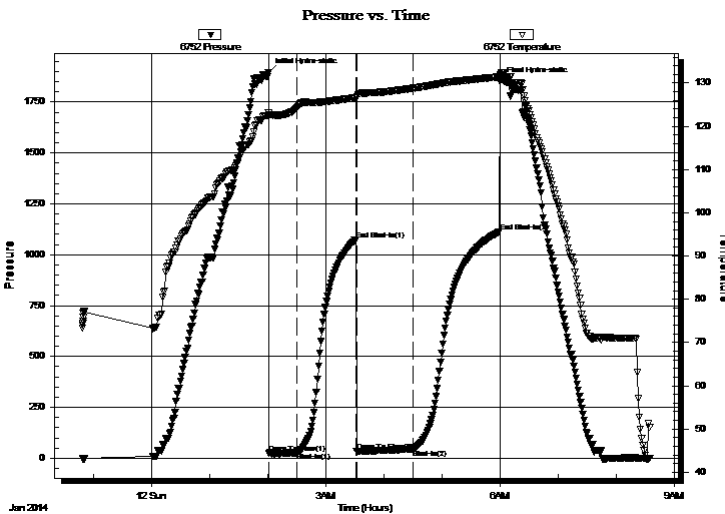
08:34:30

Time On Btm: 2014.01.12 @ 02:00:50

Time Off Btm: 2014.01.12 @ 05:59:50

TEST COMMENT: 30 IF - 1/4" blow built to 3"
60 ISI - No return
60 FF - 1/4" blow built to 3"
90 FSI - No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1895.79	123.06	Initial Hydro-static
1	22.73	122.73	Open To Flow (1)
30	26.63	124.22	Shut-In(1)
91	1073.32	126.66	End Shut-In(1)
91	33.59	126.70	Open To Flow (2)
150	45.28	128.83	Shut-In(2)
239	1113.33	131.46	End Shut-In(2)
240	1850.48	131.70	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
55.00	OCM - 10%o - 90%M	0.27
15.00	HO - 100%o	0.07

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 Company

5-2s-36w Rawlins KS

250 N Water STE 300
Wichita KS 67202

Kacirek Trust #1-5

Job Ticket: 55118

DST#: 2

ATTN: Charles Schmaltz

Test Start: 2014.01.11 @ 22:49:00

Tool Information

Drill Pipe:	Length: 3724.00 ft	Diameter: 3.80 inches	Volume: 52.24 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 53.15 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 45000.00 lb
Depth to Top Packer:	3912.00 ft			Final 45000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	38.00 ft			
Tool Length:	65.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3886.00	
Shut In Tool	5.00			3891.00	
Hydraulic tool	5.00			3896.00	
Jars	5.00			3901.00	
Safety Joint	2.00			3903.00	
Packer	5.00			3908.00	27.00 Bottom Of Top Packer
Packer	4.00			3912.00	
Packer - Shale	0.00			3912.00	
Stubb	1.00			3913.00	
Recorder	0.00	6752	Inside	3913.00	
Recorder	0.00	8322	Outside	3913.00	
Perforations	34.00			3947.00	
Bullnose	3.00			3950.00	38.00 Bottom Packers & Anchor

Total Tool Length: 65.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

5-2s-36w Rawlins KS

250 N Water STE 300
Wichita KS 67202

Kacirek Trust #1-5

Job Ticket: 55118

DST#: 2

ATTN: Charles Schmaltz

Test Start: 2014.01.11 @ 22:49:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

18.8 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
55.00	OCM - 10%o - 90%M	0.270
15.00	HO - 100%o	0.074

Total Length: 70.00 ft Total Volume: 0.344 bbl

Num Fluid Samples: 0

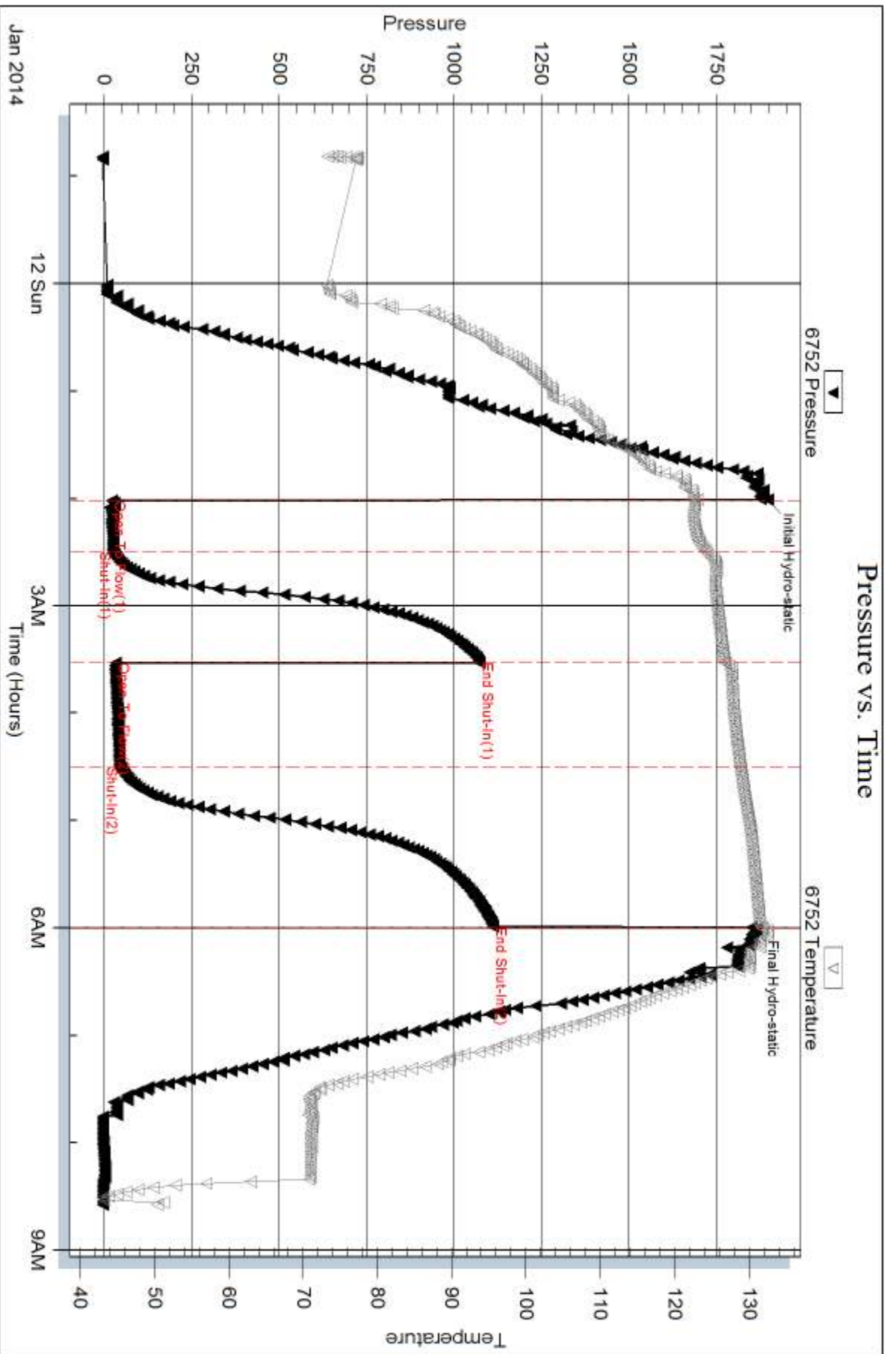
Num Gas Bombs: 0

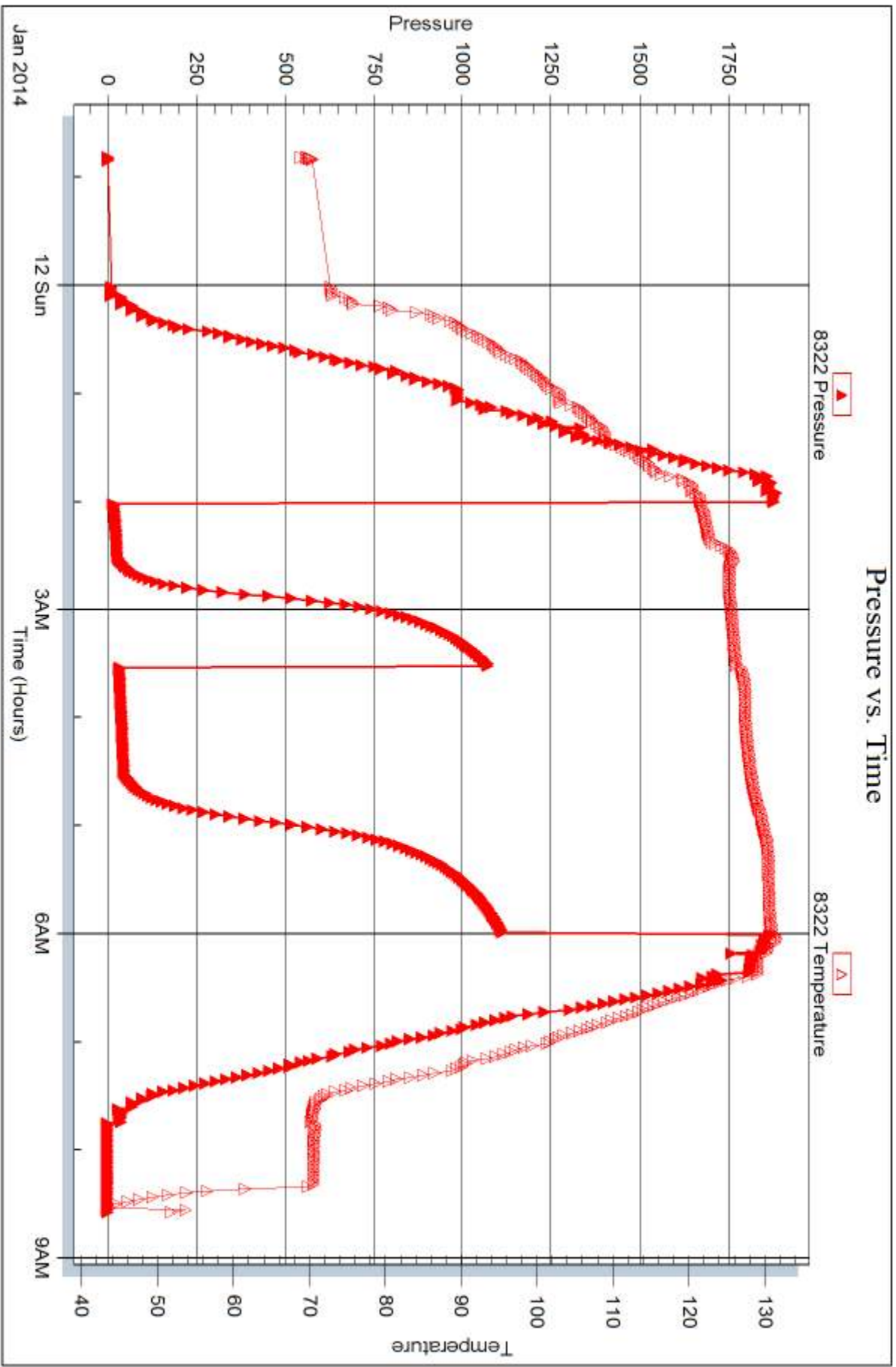
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: OIL API = 20 @ 72 DEG F = 18.8 COR 60 DEG F







DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water STE 300
Wichita KS 67202

ATTN: Charles Schmaltz

Kacirek Trust #1-5

5-2s-36w Rawlins KS

Start Date: 2014.01.12 @ 21:48:00

End Date: 2014.01.13 @ 08:22:30

Job Ticket #: 55119 DST #: 3

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

Printed: 2014.01.21 @ 14:57:34



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Company

5-2s-36w Rawlins KS

250 N Water STE 300
Wichita KS 67202

Kacirek Trust #1-5

Job Ticket: 55119

DST#: 3

ATTN: Charles Schmaltz

Test Start: 2014.01.12 @ 21:48:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:03:40

Time Test Ended: 08:22:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 58

Interval: 4040.00 ft (KB) To 4110.00 ft (KB) (TVD)

Reference Elevations: 3252.00 ft (KB)

Total Depth: 4040.00 ft (KB) (TVD)

3247.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6752

Inside

Press@RunDepth: 452.26 psig @ 4041.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.12

End Date:

2014.01.13

Last Calib.:

2014.01.13

Start Time: 21:48:01

End Time:

08:22:30

Time On Btm:

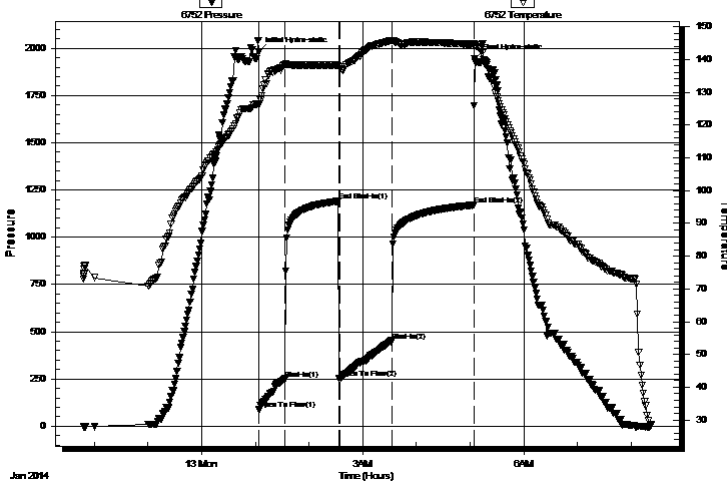
2014.01.13 @ 01:03:30

Time Off Btm:

2014.01.13 @ 05:05:00

TEST COMMENT: 30 IF - BoB @ 7 mins
60 ISI - Surface blow built to 5"
60 FF - BoB @ 7 mins
90 FSI - Surface blow built to 4"

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1980.77	126.61	Initial Hydro-static
1	89.49	126.15	Open To Flow (1)
30	251.50	138.44	Shut-In(1)
90	1191.21	138.20	End Shut-In(1)
91	253.10	137.58	Open To Flow (2)
149	452.26	145.74	Shut-In(2)
241	1170.16	144.59	End Shut-In(2)
242	1945.53	144.36	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
65.00	OMCW - 5%o - 20%M - 75%W	0.32
1192.00	HGO - 5%G - 95%o	15.62
0.00	378' GIP	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 Company

5-2s-36w Rawlins KS

250 N Water STE 300
Wichita KS 67202

Kacirek Trust #1-5

Job Ticket: 55119

DST#: 3

ATTN: Charles Schmaltz

Test Start: 2014.01.12 @ 21:48:00

Tool Information

Drill Pipe:	Length: 3854.00 ft	Diameter: 3.80 inches	Volume: 54.06 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 52000.00 lb
			<u>Total Volume: 54.97 bbl</u>	Tool Chased 5.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 45000.00 lb
Depth to Top Packer:	4040.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	70.00 ft			
Tool Length:	97.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			4014.00	
Shut In Tool	5.00			4019.00	
Hydraulic tool	5.00			4024.00	
Jars	5.00			4029.00	
Safety Joint	2.00			4031.00	
Packer	5.00			4036.00	27.00 Bottom Of Top Packer
Packer	4.00			4040.00	
Packer - Shale	0.00			4040.00	
Stubb	1.00			4041.00	
Recorder	0.00	6752	Inside	4041.00	
Recorder	0.00	8322	Outside	4041.00	
Perforations	33.00			4074.00	
Blank Spacing	33.00			4107.00	
Bullnose	3.00			4110.00	70.00 Bottom Packers & Anchor

Total Tool Length: 97.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

5-2s-36w Rawlins KS

250 N Water STE 300
Wichita KS 67202

Kacirek Trust #1-5

Job Ticket: 55119

DST#: 3

ATTN: Charles Schmaltz

Test Start: 2014.01.12 @ 21:48:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 45.00 sec/qt
Water Loss: 5.98 in³
Resistivity: ohm.m
Salinity: 1000.00 ppm
Filter Cake: 2.00 inches

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

Oil API: 23 deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
65.00	OMCW - 5%o - 20%M - 75%W	0.320
1192.00	HGO - 5%G - 95%o	15.618
0.00	378' GIP	0.000

Total Length: 1257.00 ft Total Volume: 15.938 bbl

Num Fluid Samples: 0

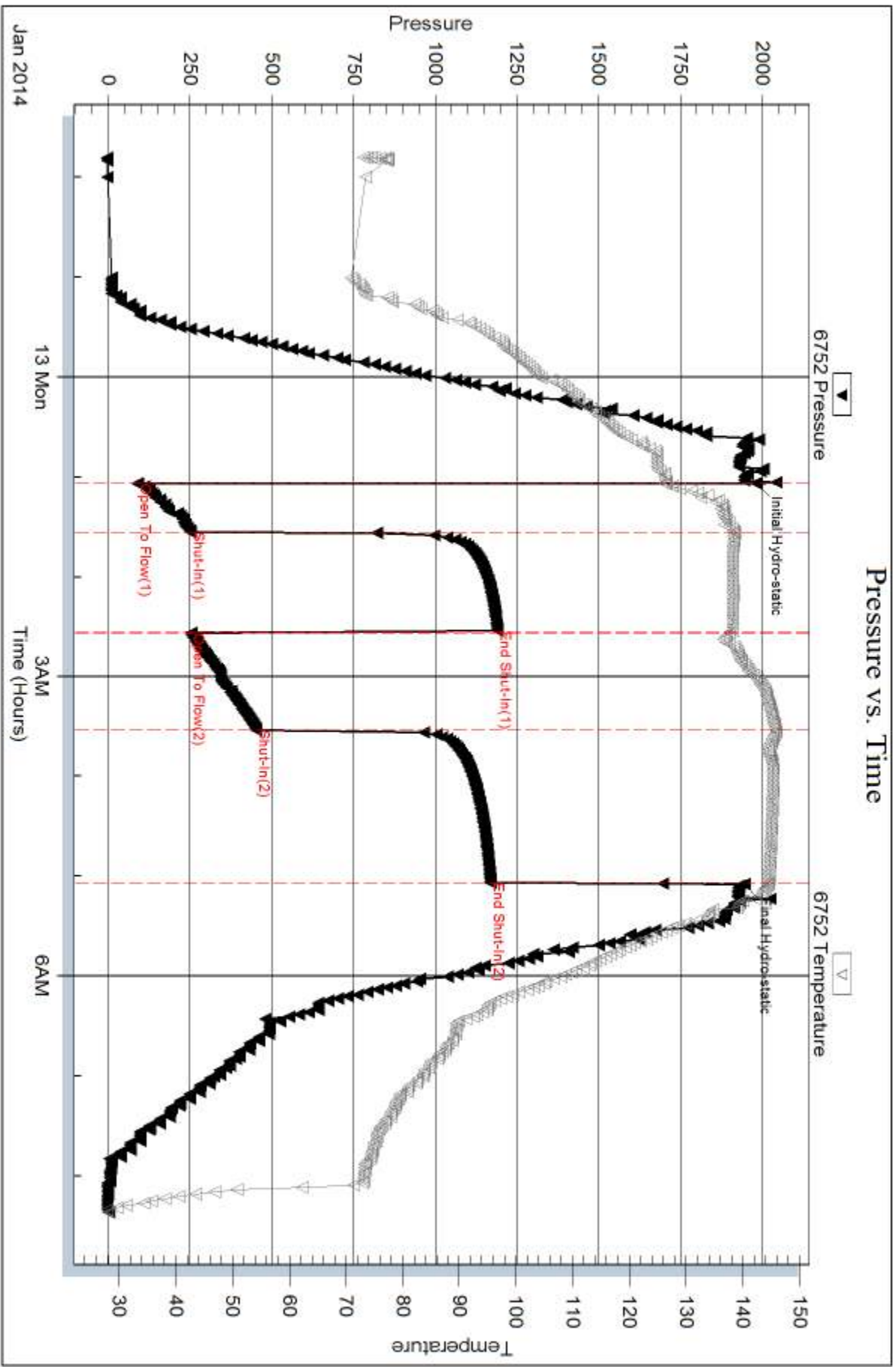
Num Gas Bombs: 0

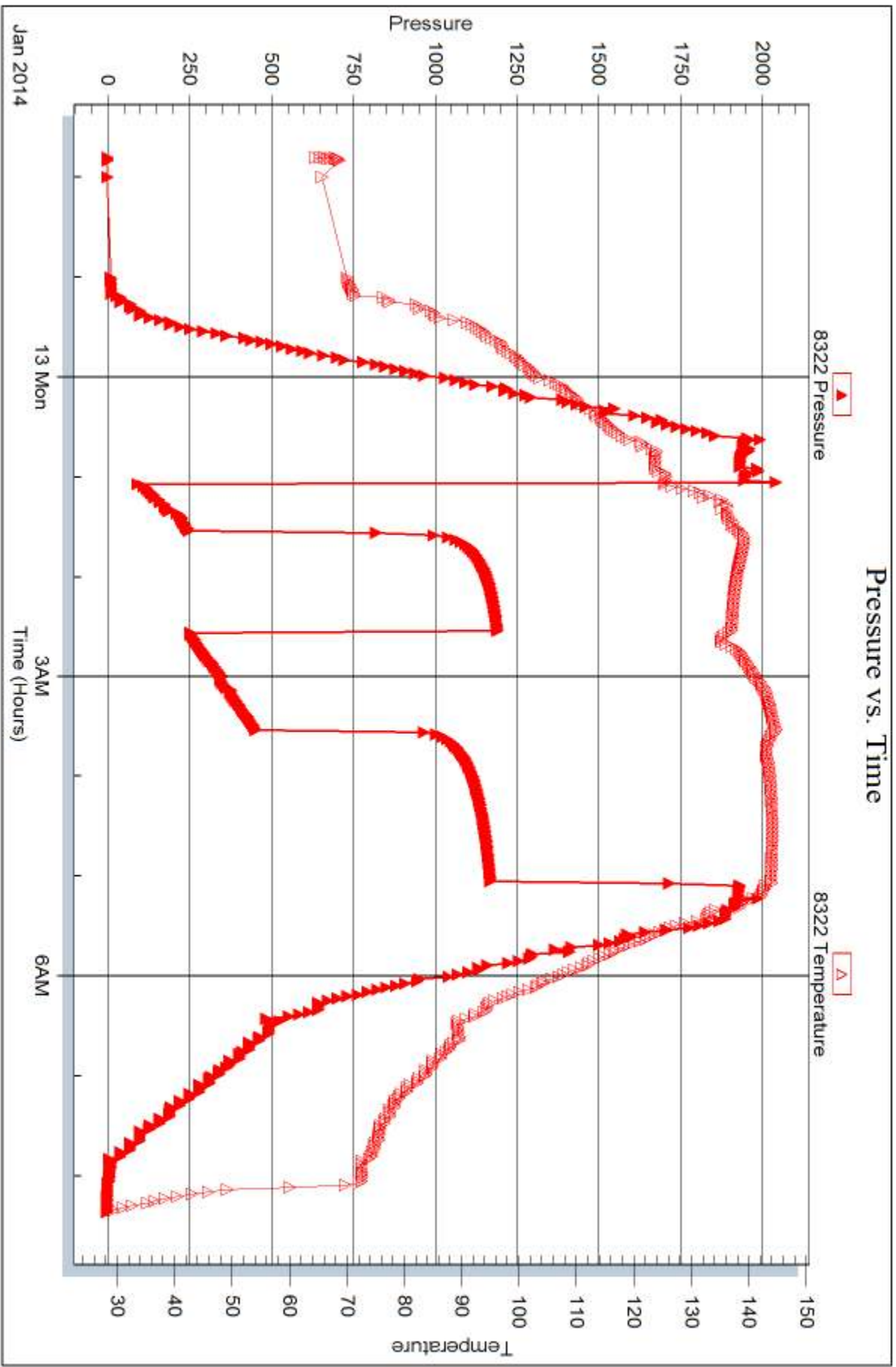
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: OIL API = 25 @ 80 DEG F = 23 COR 60 DEG F







DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water STE 300
Wichita KS 67202

ATTN: Charles Schmaltz

Kacirek Trust #1-5

5-2s-36w Rawlins KS

Start Date: 2014.01.13 @ 23:11:00

End Date: 2014.01.14 @ 08:44:30

Job Ticket #: 55120 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.01.21 @ 14:56:16



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company

5-2s-36w Rawlins KS

250 N Water STE 300
Wichita KS 67202

Kacirek Trust #1-5

Job Ticket: 55120

DST#: 4

ATTN: Charles Schmaltz

Test Start: 2014.01.13 @ 23:11:00

GENERAL INFORMATION:

Formation: **LKC " A "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:57:00

Time Test Ended: 08:44:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 58

Interval: 4120.00 ft (KB) To 4215.00 ft (KB) (TVD)

Reference Elevations: 3252.00 ft (KB)

Total Depth: 4215.00 ft (KB) (TVD)

3247.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8322 Outside

Press@RunDepth: 133.02 psig @ 4121.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.13

End Date:

2014.01.14

Last Calib.: 2014.01.14

Start Time: 23:11:01

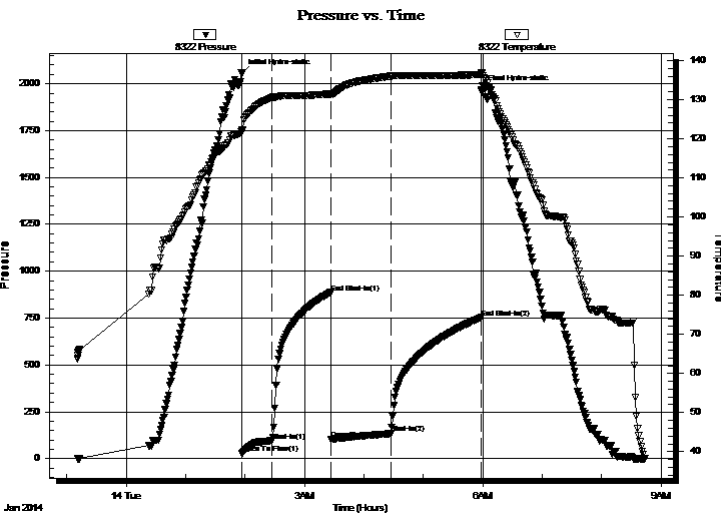
End Time:

08:44:30

Time On Btm: 2014.01.14 @ 01:56:40

Time Off Btm: 2014.01.14 @ 05:58:50

TEST COMMENT: 30 IF - 1" blow built to BoB @ 15 mins
60 ISI - Surface blow built to 4 1/4"
60 FF - Surface blow built to BoB @ 13 mins
90 FSI - Surface blow built to 4 1/2"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2052.37	122.30	Initial Hydro-static
1	26.50	122.06	Open To Flow (1)
31	94.83	130.48	Shut-In(1)
91	883.42	131.45	End Shut-In(1)
91	104.08	131.24	Open To Flow (2)
151	133.02	136.02	Shut-In(2)
242	753.09	136.38	End Shut-In(2)
243	1968.09	136.97	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
141.00	GOCM - 15%G - 25%o - 60%M	0.69
237.00	GO - 30%G - 70%o	2.91
0.00	378' GIP	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 Company

5-2s-36w Rawlins KS

250 N Water STE 300
Wichita KS 67202

Kacirek Trust #1-5

Job Ticket: 55120

DST#: 4

ATTN: Charles Schmaltz

Test Start: 2014.01.13 @ 23:11:00

Tool Information

Drill Pipe:	Length: 3922.00 ft	Diameter: 3.80 inches	Volume: 55.02 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 55.93 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 45000.00 lb
Depth to Top Packer:	4120.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	95.00 ft			
Tool Length:	122.00 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			4094.00	
Shut In Tool	5.00			4099.00	
Hydraulic tool	5.00			4104.00	
Jars	5.00			4109.00	
Safety Joint	2.00			4111.00	
Packer	5.00			4116.00	27.00 Bottom Of Top Packer
Packer	4.00			4120.00	
Packer - Shale	0.00			4120.00	
Stubb	1.00			4121.00	
Recorder	0.00	6752	Inside	4121.00	
Recorder	0.00	8322	Outside	4121.00	
Perforations	25.00			4146.00	
Blank Spacing	66.00			4212.00	
Bullnose	3.00			4215.00	95.00 Bottom Packers & Anchor

Total Tool Length: 122.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

5-2s-36w Rawlins KS

250 N Water STE 300
Wichita KS 67202

Kacirek Trust #1-5

Job Ticket: 55120

DST#: 4

ATTN: Charles Schmaltz

Test Start: 2014.01.13 @ 23:11:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 52.00 sec/qt
Water Loss: 5.58 in³
Resistivity: ohm.m
Salinity: 1000.00 ppm
Filter Cake: 2.00 inches

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

Oil API: 33.2 deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
141.00	GOCM - 15%G - 25%o - 60%M	0.693
237.00	GO - 30%G - 70%o	2.915
0.00	378' GIP	0.000

Total Length: 378.00 ft Total Volume: 3.608 bbl

Num Fluid Samples: 0

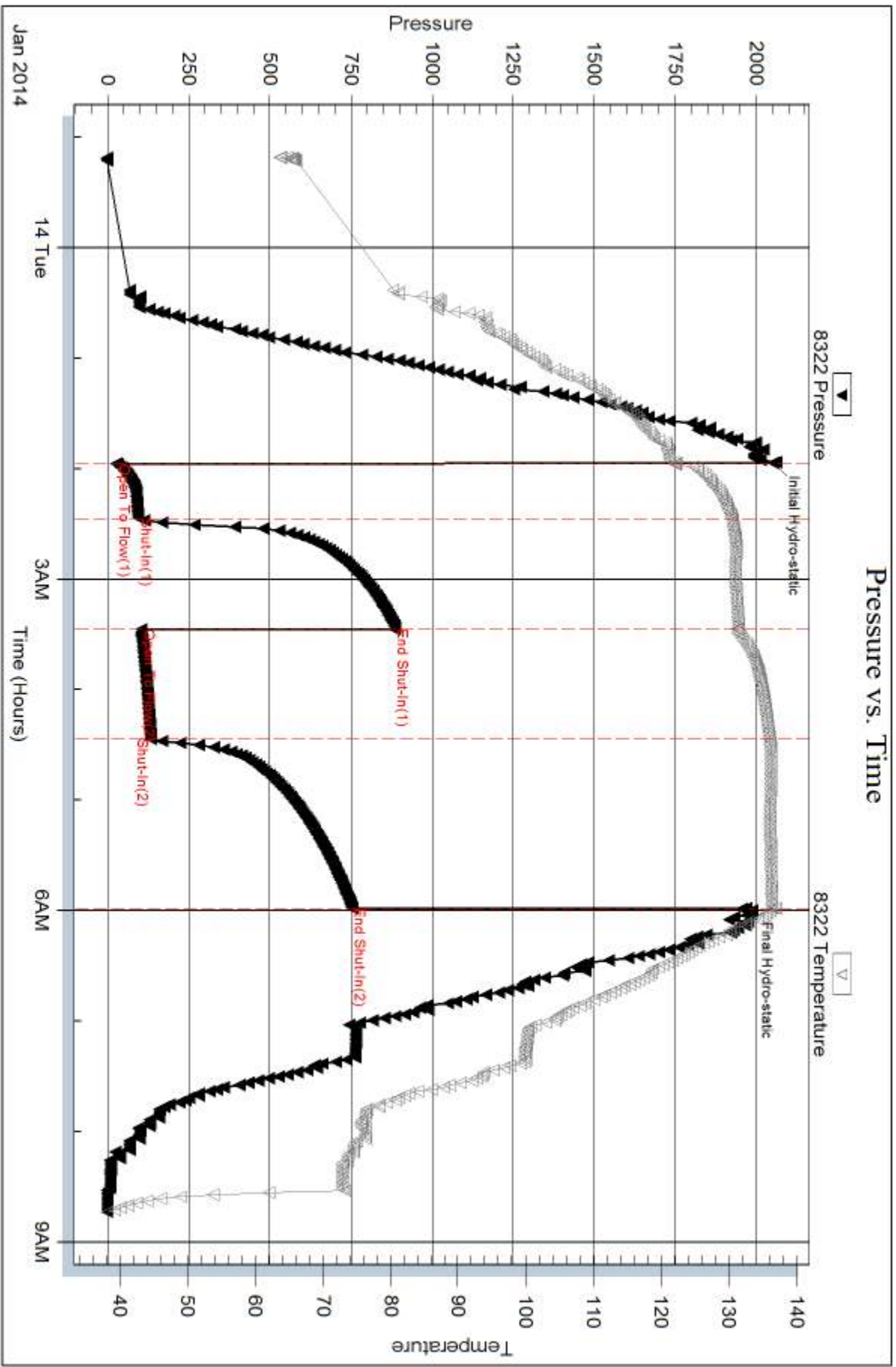
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: OIL API 33 @ 58 DEG F = 33.2 COR 60 DEG F



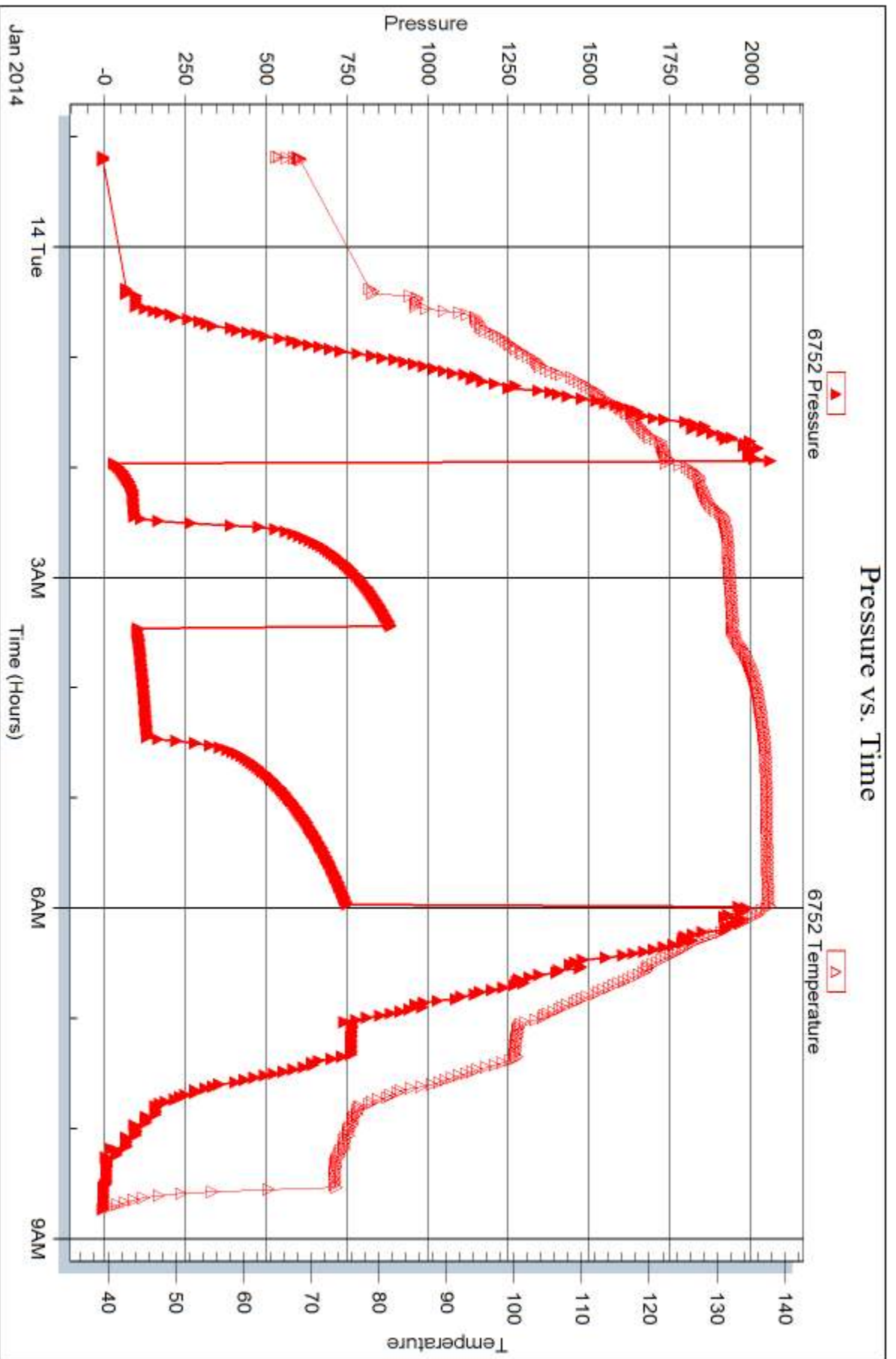
Serial #: 6752

Inside

Murfin Drilling Company

Kacirek Trust #1-5

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 55120

Printed: 2014.01.21 @ 14:56:19



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water STE 300
Wichita KS 67202

ATTN: Charles Schmaltz

Kacirek Trust #1-5

5-2s-36w Rawlins KS

Start Date: 2014.01.14 @ 19:15:00

End Date: 2014.01.15 @ 04:42:10

Job Ticket #: 55121 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.01.21 @ 14:55:44



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Company

5-2s-36w Rawlins KS

250 N Water STE 300
Wichita KS 67202

Kacirek Trust #1-5

Job Ticket: 55121

DST#: 5

ATTN: Charles Schmaltz

Test Start: 2014.01.14 @ 19:15:00

GENERAL INFORMATION:

Formation: **LKC " B - D "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:21:20

Time Test Ended: 04:42:10

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 58

Interval: 4189.00 ft (KB) To 4265.00 ft (KB) (TVD)

Reference Elevations: 3252.00 ft (KB)

Total Depth: 4265.00 ft (KB) (TVD)

3247.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6752

Inside

Press@RunDepth: 1198.60 psig @ 4190.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.14

End Date:

2014.01.15

Last Calib.:

2014.01.15

Start Time: 19:15:01

End Time:

04:42:10

Time On Btm:

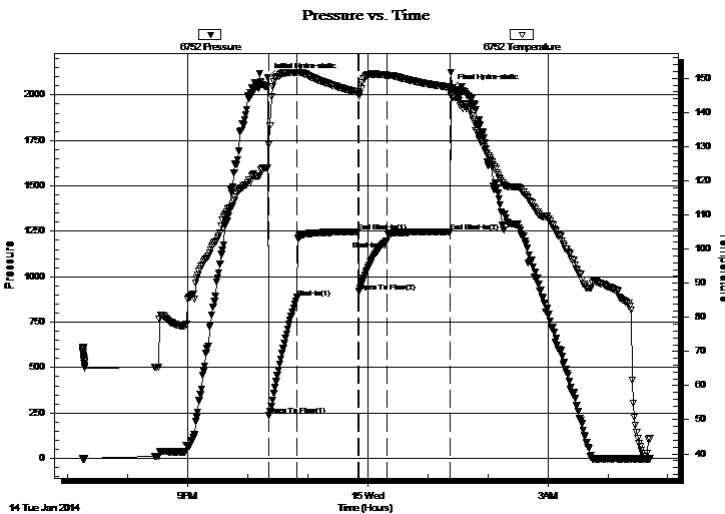
2014.01.14 @ 22:20:10

Time Off Btm:

2014.01.15 @ 01:23:10

TEST COMMENT: 30 IF - BoB @ 1 min
60 ISI - Surface blow built to 1/4"
30 FF - BoB @ 1 min
60 FSI - Surface blow built to 1/4"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2096.16	123.83	Initial Hydro-static
2	234.86	130.58	Open To Flow (1)
30	885.72	151.64	Shut-In(1)
90	1246.75	145.93	End Shut-In(1)
91	918.79	144.80	Open To Flow (2)
119	1198.60	150.89	Shut-In(2)
182	1247.02	147.36	End Shut-In(2)
183	2034.86	145.10	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2202.00	OMCW - 2%o - 3%M - 95%W	29.19
189.00	OMCW - 20%o - 15%M - 65%W	2.65
272.00	OWCM - 25%o - 25%W - 50%M	3.82

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 Company

5-2s-36w Rawlins KS

250 N Water STE 300
Wichita KS 67202

Kacirek Trust #1-5

Job Ticket: 55121

DST#: 5

ATTN: Charles Schmaltz

Test Start: 2014.01.14 @ 19:15:00

Tool Information

Drill Pipe:	Length: 4009.00 ft	Diameter: 3.80 inches	Volume: 56.24 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose:	72000.00 lb
			<u>Total Volume: 57.15 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial	46000.00 lb
Depth to Top Packer:	4189.00 ft			Final	70000.00 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
Change Over Sub	1.00			4163.00	
Shut In Tool	5.00			4168.00	
Hydraulic tool	5.00			4173.00	
Jars	5.00			4178.00	
Safety Joint	2.00			4180.00	
Packer	5.00			4185.00	27.00 Bottom Of Top Packer
Packer	4.00			4189.00	
Packer - Shale	0.00			4189.00	
Stubb	1.00			4190.00	
Recorder	0.00	6752	Inside	4190.00	
Recorder	0.00	8322	Outside	4190.00	
Perforations	7.00			4197.00	
Blank Spacing	65.00			4262.00	
Bullnose	3.00			4265.00	76.00 Bottom Packers & Anchor

Total Tool Length: 103.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

5-2s-36w Rawlins KS

250 N Water STE 300
Wichita KS 67202

Kacirek Trust #1-5

Job Ticket: 55121

DST#: 5

ATTN: Charles Schmaltz

Test Start: 2014.01.14 @ 19:15:00

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:

17000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
2202.00	OMCW - 2%o - 3%M - 95%W	29.194
189.00	OMCW - 20%o - 15%M - 65%W	2.651
272.00	OWCM - 25%o - 25%W - 50%M	3.815

Total Length: 2663.00 ft Total Volume: 35.660 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

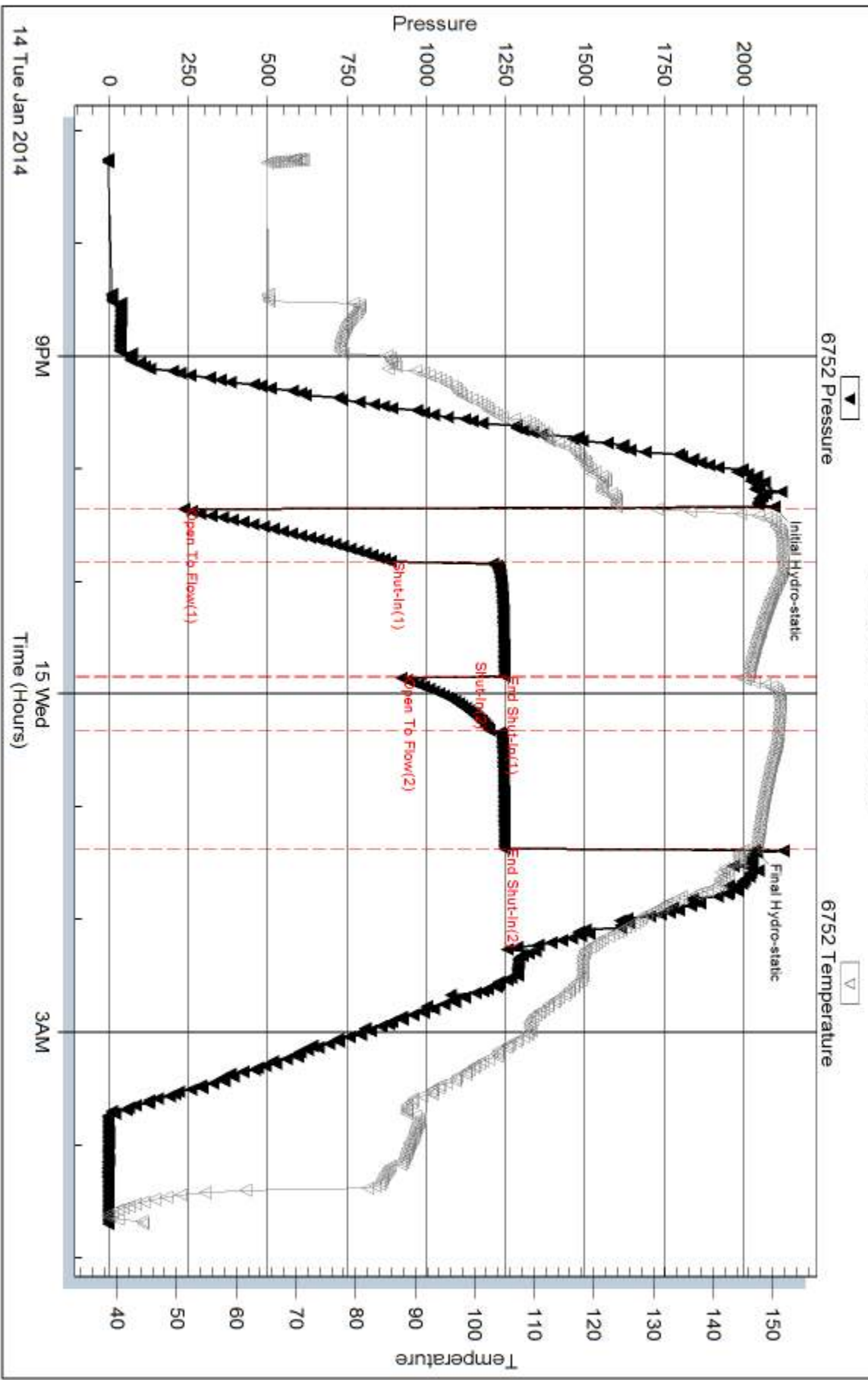
Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .6 @ 54 DEG F

CHLORIDES = 17,000 PPM

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water STE 300
Wichita KS 67202

ATTN: Charles Schmaltz

Kacirek Trust #1-5

5-2s-36w Rawlins KS

Start Date: 2014.01.15 @ 16:11:00

End Date: 2014.01.16 @ 01:02:10

Job Ticket #: 55122 DST #: 6

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

Printed: 2014.01.21 @ 14:55:11

Murfin Drilling Company
5-2s-36w Rawlins KS
Kacirek Trust #1-5
DST # 6
LKC " G "
2014.01.15



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Company

5-2s-36w Rawlins KS

250 N Water STE 300
Wichita KS 67202

Kacirek Trust #1-5

Job Ticket: 55122

DST#: 6

ATTN: Charles Schmaltz

Test Start: 2014.01.15 @ 16:11:00

GENERAL INFORMATION:

Formation: **LKC " G "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:34:10

Time Test Ended: 01:02:10

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 58

Interval: 4259.00 ft (KB) To 4327.00 ft (KB) (TVD)

Reference Elevations: 3252.00 ft (KB)

Total Depth: 4327.00 ft (KB) (TVD)

3247.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6752

Inside

Press@RunDepth: 153.62 psig @ 4260.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.15

End Date:

2014.01.16

Last Calib.:

2014.01.16

Start Time: 16:11:01

End Time:

01:02:10

Time On Btm:

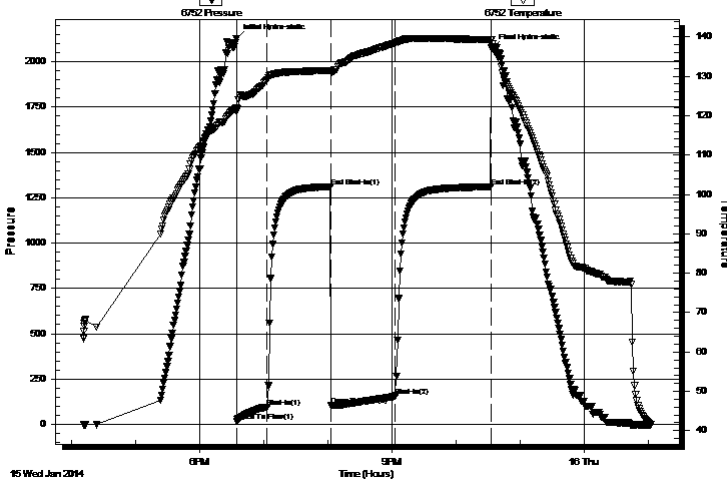
2014.01.15 @ 18:34:00

Time Off Btm:

2014.01.15 @ 22:33:00

TEST COMMENT: 30 IF - 1/2" blow built to BoB @ 22 mins
60 ISI - Surface blow built to 2 1/4"
60 FF - Surface blow built to BoB @ 22 mins
90 FSI - Surface blow built to 2"

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2129.43	121.88	Initial Hydro-static
1	18.15	120.97	Open To Flow (1)
29	93.17	129.12	Shut-In(1)
89	1311.56	131.45	End Shut-In(1)
89	102.96	131.11	Open To Flow (2)
149	153.62	138.35	Shut-In(2)
239	1310.19	139.26	End Shut-In(2)
239	2075.71	139.34	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
130.00	GOCM - 10%G - 20%o - 70%M	0.64
282.00	GO - 25%G - 75%o	3.45
0.00	40' GIP	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 Company

5-2s-36w Rawlins KS

250 N Water STE 300
Wichita KS 67202

Kacirek Trust #1-5

Job Ticket: 55122

DST#: 6

ATTN: Charles Schmaltz

Test Start: 2014.01.15 @ 16:11:00

Tool Information

Drill Pipe:	Length: 4072.00 ft	Diameter: 3.80 inches	Volume: 57.12 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 64000.00 lb
			<u>Total Volume: 58.03 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	4259.00 ft			Final 60000.00 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	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			4233.00	
Shut In Tool	5.00			4238.00	
Hydraulic tool	5.00			4243.00	
Jars	5.00			4248.00	
Safety Joint	2.00			4250.00	
Packer	5.00			4255.00	27.00 Bottom Of Top Packer
Packer	4.00			4259.00	
Packer - Shale	0.00			4259.00	
Stubb	1.00			4260.00	
Recorder	0.00	6752	Inside	4260.00	
Recorder	0.00	8322	Outside	4260.00	
Perforations	30.00			4290.00	
Blank Spacing	34.00			4324.00	
Bullnose	3.00			4327.00	68.00 Bottom Packers & Anchor

Total Tool Length: 95.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

5-2s-36w Rawlins KS

250 N Water STE 300
Wichita KS 67202

Kacirek Trust #1-5

Job Ticket: 55122

DST#: 6

ATTN: Charles Schmaltz

Test Start: 2014.01.15 @ 16:11:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 65.00 sec/qt
Water Loss: 5.19 in³
Resistivity: ohm.m
Salinity: 1200.00 ppm
Filter Cake: 2.00 inches

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

Oil API: 30.2 deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
130.00	GOCM - 10%G - 20%o - 70%M	0.639
282.00	GO - 25%G - 75%o	3.446
0.00	40' GIP	0.000

Total Length: 412.00 ft Total Volume: 4.085 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

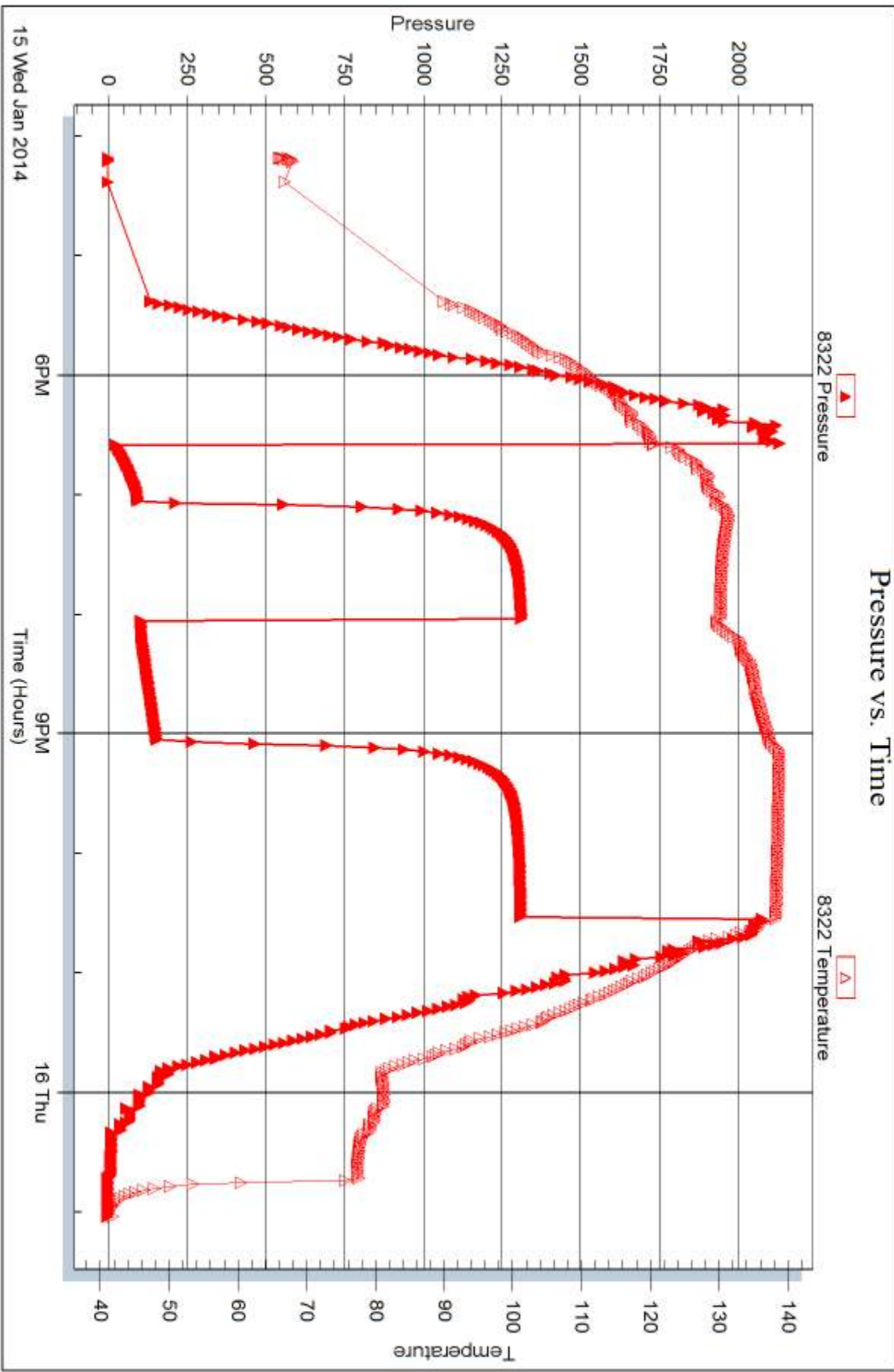
Recovery Comments: OIL API = 30 @ 58 DEG F = 30.2 COR 60 DEG F

Serial #: 8322

Outside Murfin Drilling Company

Kacirek Trust #1-5

DST Test Number: 6



Triobite Testing, Inc

Ref. No: 55122

Printed: 2014.01.21 @ 14:55:13



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water STE 300
Wichita KS 67202

ATTN: Charles Schmaltz

Kacirek Trust #1-5

5-2s-36w Rawlins KS

Start Date: 2014.01.16 @ 13:00:00

End Date: 2014.01.16 @ 22:20:10

Job Ticket #: 55123 DST #: 7

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

Printed: 2014.01.21 @ 14:54:32



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Company

5-2s-36w Rawlins KS

250 N Water STE 300
Wichita KS 67202

Kacirek Trust #1-5

Job Ticket: 55123

DST#: 7

ATTN: Charles Schmaltz

Test Start: 2014.01.16 @ 13:00:00

GENERAL INFORMATION:

Formation: **LKC "H - J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:47:20

Time Test Ended: 22:20:10

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 58

Interval: 4305.00 ft (KB) To 4390.00 ft (KB) (TVD)

Reference Elevations: 3252.00 ft (KB)

Total Depth: 4390.00 ft (KB) (TVD)

3247.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6752 Inside

Press@RunDepth: 73.94 psig @ 4306.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.16

End Date:

2014.01.16

Last Calib.:

2014.01.16

Start Time: 13:00:01

End Time:

22:20:10

Time On Btm:

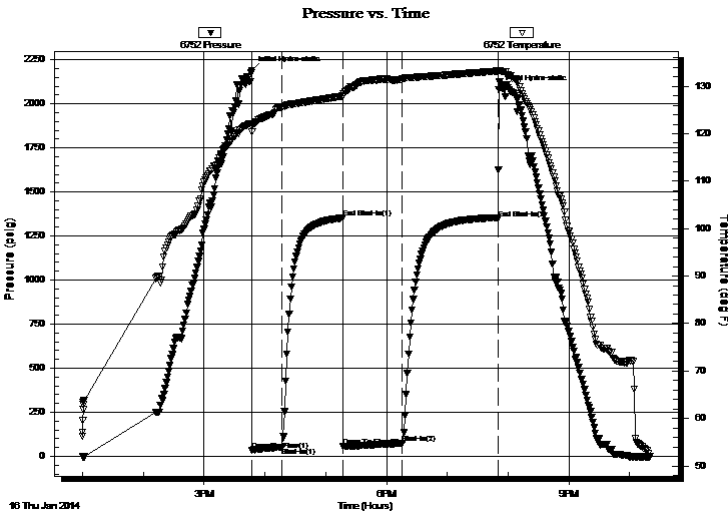
2014.01.16 @ 15:47:10

Time Off Btm:

2014.01.16 @ 19:50:50

TEST COMMENT: 30 IF - 1/4" blow built to 3 1/4"
60 ISI - Surface blow
60 FF - Surface blow built to 2"
90 FSI - Surface blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2189.42	121.54	Initial Hydro-static
1	35.74	120.45	Open To Flow (1)
30	51.55	125.62	Shut-In(1)
90	1352.58	127.94	End Shut-In(1)
91	55.85	128.03	Open To Flow (2)
149	73.94	131.49	Shut-In(2)
243	1345.47	133.22	End Shut-In(2)
244	2079.10	133.35	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
125.00	OCM - 5%o - 95%M	0.61

* 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 Company

5-2s-36w Rawlins KS

250 N Water STE 300
Wichita KS 67202

Kacirek Trust #1-5

Job Ticket: 55123

DST#: 7

ATTN: Charles Schmaltz

Test Start: 2014.01.16 @ 13:00:00

Tool Information

Drill Pipe:	Length: 4104.00 ft	Diameter: 3.80 inches	Volume: 57.57 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 58.48 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4305.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	85.00 ft			
Tool Length:	112.00 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			4279.00	
Shut In Tool	5.00			4284.00	
Hydraulic tool	5.00			4289.00	
Jars	5.00			4294.00	
Safety Joint	2.00			4296.00	
Packer	5.00			4301.00	27.00 Bottom Of Top Packer
Packer	4.00			4305.00	
Packer - Shale	0.00			4305.00	
Stubb	1.00			4306.00	
Recorder	0.00	6752	Inside	4306.00	
Recorder	0.00	8322	Outside	4306.00	
Perforations	16.00			4322.00	
Blank Spacing	65.00			4387.00	
Bullnose	3.00			4390.00	85.00 Bottom Packers & Anchor

Total Tool Length: 112.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

5-2s-36w Rawlins KS

250 N Water STE 300
Wichita KS 67202

Kacirek Trust #1-5

Job Ticket: 55123

DST#: 7

ATTN: Charles Schmaltz

Test Start: 2014.01.16 @ 13:00:00

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: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
125.00	OCM - 5%o - 95%M	0.615

Total Length: 125.00 ft Total Volume: 0.615 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

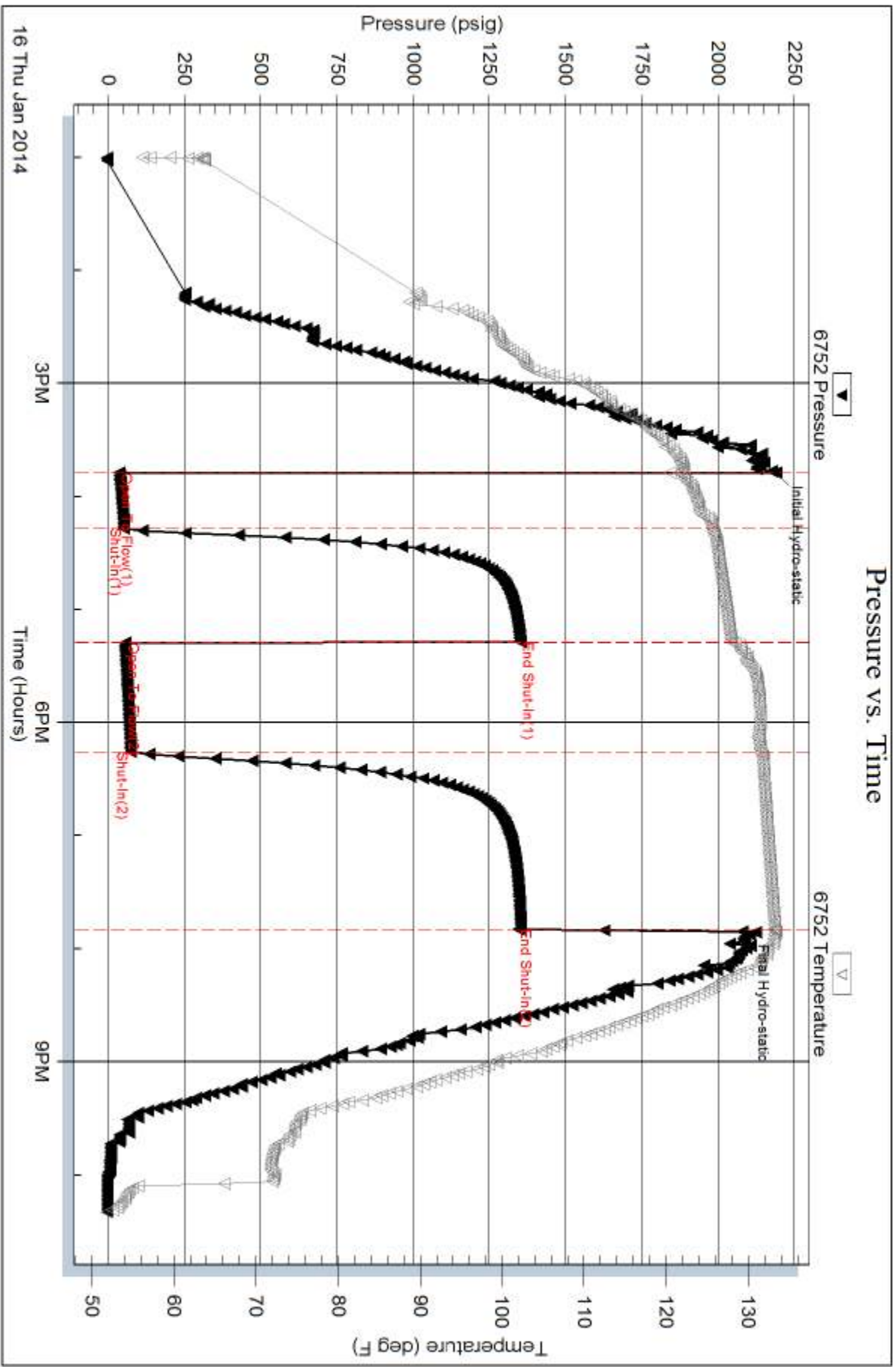
Serial #: 6752

Inside

Murfin Drilling Company

Kacirek Trust #1-5

DST Test Number: 7

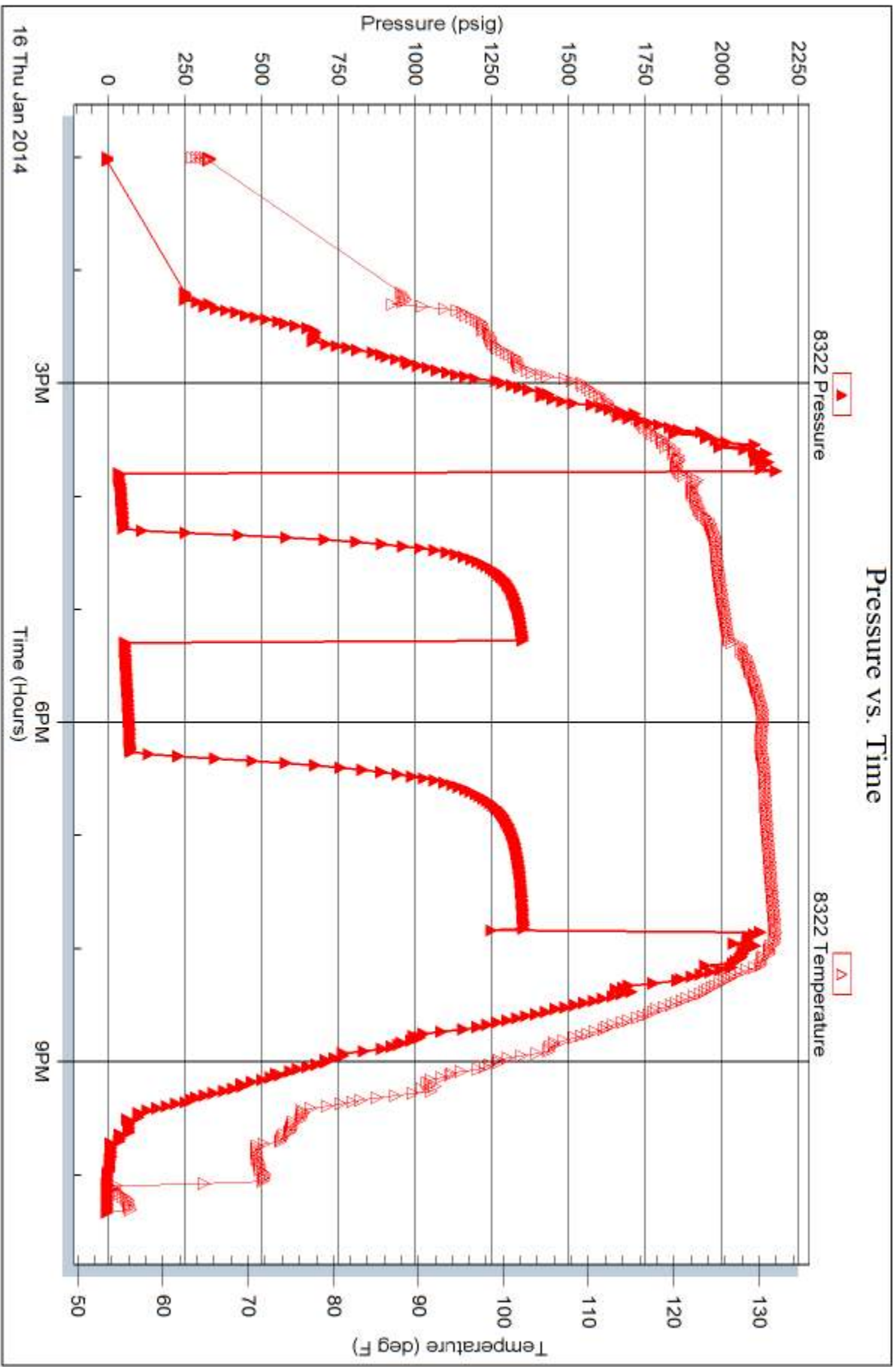


Serial #: 8322

Outside Murfin Drilling Company

Kacirek Trust #1-5

DST Test Number: 7



Tribble Testing, Inc

Ref. No: 55123

Printed: 2014.01.21 @ 14:54:34



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 55117

Well Name & No. Kacirek Trust #1-5 Test No. 1 Date 1/10/14
 Company Murfin Drilling Company Elevation 3251 KB 3246 GL
 Address 250 N Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Charles Schmaltz Rig Murfin #8
 Location: Sec. 5 N Twp. 2 Rge. 36 W Co. Rawlins State KS

Interval Tested 3548 - 3650 Zone Tested Neva
 Anchor Length 102' Drill Pipe Run _____ Mud Wt. 8.8
 Top Packer Depth 3543 Drill Collars Run 186' Vis 59
 Bottom Packer Depth 3548 Wt. Pipe Run 0' WL 6.4
 Total Depth 3650 Chlorides 1300 ppm System LCM 3
 Blow Description IF - 1" blow built to 3 1/2"
FSI - No return
FF - surface built to 2 1/2"
FSF - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>65'</u>	<u>Mud w/oil spots</u>			<u>100</u>	
Rec _____	Feet of _____	%gas	%oil	%water	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud

Rec Total 65' BHT 123° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>1673</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>017:30</u>
(B) First Initial Flow <u>16</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>19:00</u>
(C) First Final Flow <u>32</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>21:37</u>
(D) Initial Shut-In <u>1045</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>01:37</u>
(E) Second Initial Flow <u>31</u>	<input checked="" type="checkbox"/> Hourly Standby <u>X 1 1/2 50</u>	T-Out <u>03:57</u>
(F) Second Final Flow <u>51</u>	<input checked="" type="checkbox"/> Mileage <u>110 RT 170.50</u>	Comments _____
(G) Final Shut-In <u>988</u>	<input type="checkbox"/> Sampler _____	_____
(H) Final Hydrostatic <u>1646</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby _____	Total <u>1945.50</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1945.50</u>	

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 55118

Well Name & No. Kacirek Trust # 1-5 Test No. 2 Date 1/11/19
 Company Murfin Drilling Company Elevation 3251 KB 3246 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Charles Schmalz Rig Murfin # 8
 Location: Sec. 5N Twp. 2 Rge. 36W Co. Rawlins State KS

Interval Tested 3912-3950 Zone Tested Stetler
 Anchor Length 38' Drill Pipe Run 3724' Mud Wt. 8.8
 Top Packer Depth 3907 Drill Collars Run 186' Vis 54
 Bottom Packer Depth 3912 Wt. Pipe Run 0' WL 6.4
 Total Depth 3950 Chlorides 1000 ppm System LCM
 Blow Description IF - 1/4" blow built to 3"
ISI - No return
FF - 1/4" blow built to 3"
FSI - No return

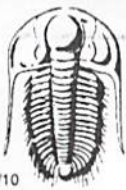
Rec	Feet of	%gas	%oil	%water	%mud
<u>15'</u>	<u>HO</u>	<u>100</u>			
<u>55'</u>	<u>dcm</u>	<u>10</u>		<u>90</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 70' BHT 131 Gravity 18.8 API RW — @ —° F Chlorides — ppm

(A) Initial Hydrostatic <u>1896</u>	<input type="checkbox"/> Test <u>1150</u>	T-On Location <u>21:45</u>
(B) First Initial Flow <u>23</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>22:49</u>
(C) First Final Flow <u>27</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>02:00</u>
(D) Initial Shut-In <u>1073</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>06:00</u>
(E) Second Initial Flow <u>34</u>	<input checked="" type="checkbox"/> Hourly Standby <u>1 3/4 75</u>	T-Out <u>08:34</u>
(F) Second Final Flow <u>45</u>	<input checked="" type="checkbox"/> Mileage <u>110 RT 170.50</u>	Comments _____
(G) Final Shut-In <u>1113</u>	<input type="checkbox"/> Sampler _____	_____
(H) Final Hydrostatic <u>1850</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby _____	Total <u>1970.50</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1970.50</u>	

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 55119

Well Name & No. Kacirek Trust #1-5 Test No. 3 Date 1/12/14
 Company Martin Drilling Company Elevation 3252 KB 3247 GL
 Address 250 N Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Charles Schmalz Rig Martin #8
 Location: Sec. 5N Twp. 2 Rge. 36W Co. Rawlins State KS

Interval Tested 4040-4110 Zone Tested Oread
 Anchor Length 70' Drill Pipe Run 3854' Mud Wt. 8.8
 Top Packer Depth 4035 Drill Collars Run 186' Vis 45
 Bottom Packer Depth 4040 Wt. Pipe Run 0' WL 6.0
 Total Depth 4110 Chlorides 1000 ppm System LCM 2

Blow Description IF- BoB @ 7 mins
FSI- Surface blow built to 5"
FF- BoB @ 7 mins
FSI- Surface blow built to 4"

Rec	Feet of	%gas	%oil	%water	%mud
<u>1192</u>	<u>OGHO</u>	<u>5</u>		<u>95</u>	
<u>65</u>	<u>OMCW</u>	<u>5</u>	<u>75</u>	<u>20</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

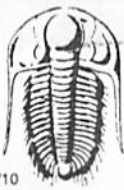
Rec Total 1257' BHT 145" Gravity 23 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 1981 Test 1250 T-On Location 21:30
 (B) First Initial Flow 89 Jars 250 T-Started 21:48
 (C) First Final Flow 252 Safety Joint NC 75 T-Open 01:03
 (D) Initial Shut-In 1191 Circ Sub _____ T-Pulled 05:03
 (E) Second Initial Flow 253 Hourly Standby X1 .5h 50 T-Out 08:22
 (F) Second Final Flow 452 Mileage 110 RT 170.50 Comments 378' GIP
 (G) Final Shut-In 1170 Sampler _____
 (H) Final Hydrostatic 1946 Straddle _____

Shale Packer 250 Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 2045.50
 Accessibility _____ MP/DST Disc't _____
 Sub Total 2045.50

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **55120**

Well Name & No. Kacirek Trust #1-5 Test No. 4 Date 1/13/14
 Company Murkin Drilling Company Elevation 3252 KB 3247 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Charles Schmalz Rig Murkin #8
 Location: Sec. 5N Twp. 2 Rge. 36W Co. Rawlins State KS

Interval Tested 4120 - 4215 Zone Tested 2KE "A"
 Anchor Length 95' Drill Pipe Run 3922' Mud Wt. 9.0
 Top Packer Depth 4115 Drill Collars Run 186' Vis 52
 Bottom Packer Depth 4120 Wt. Pipe Run 0' WL 5.6
 Total Depth 4215 Chlorides 1000 ppm System LCM 2

Blow Description IF-1" blow built to Bob @ 15 mins
ISI- Surface blow built to 4 1/4"
FF- Surface blow built to Bob @ 13 mins
FII- Surface blow built to 4 1/2"

Rec	Feet of	%gas	%oil	%water	%mud
<u>237</u>	<u>60</u>	<u>30</u>	<u>70</u>		
<u>141</u>	<u>60CM</u>	<u>15</u>	<u>25</u>		<u>60</u>

Rec Total 378' BHT 136° Gravity 33.2 API RW — @ —° F Chlorides — ppm

(A) Initial Hydrostatic 2052 Test 1250 T-On Location 22:30
 (B) First Initial Flow 27 Jars 250 T-Started 23:11
 (C) First Final Flow 95 Safety Joint 75 T-Open 01:57
 (D) Initial Shut-In 883 Circ Sub NC T-Pulled 05:57
 (E) Second Initial Flow 104 Hourly Standby _____ T-Out 08:44
 (F) Second Final Flow 133 Mileage 170 RT 170.50 Comments 378" GIP
 (G) Final Shut-In 753 Sampler _____
 (H) Final Hydrostatic 1968 Straddle _____ Ruined Shale Packer _____
 Shale Packer 250 Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total 0
 Initial Shut-In 60 Day Standby _____ Total 1995.50
 Final Flow 60 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 90 Sub Total 1995.50

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 55121

Well Name & No. Kacirek Trust #1-5 Test No. 5 Date 1/14/14
 Company Murfin Drilling Company Elevation 3252 KB 32047 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Charles Schmalz Rig Murfin #8
 Location: Sec. 5N Twp. 2 Rge. 36W Co. Rawlins State KS

Interval Tested 4189-4265 Zone Tested LKC "D"
 Anchor Length 76' Drill Pipe Run 4009' Mud Wt. 9.0
 Top Packer Depth 4184 Drill Collars Run 186' Vis 60
 Bottom Packer Depth 4189 Wt. Pipe Run 0' WL 5.2
 Total Depth 4265 Chlorides 1000 ppm System LCM 2

Blow Description IF-BoB @ 1 min
ISI- Surface blow built to 1/4"
FF-BoB @ 1 min
FSI- Surface blow built to 1/4"

Rec	Feet of	%gas	%oil	%water	%mud
<u>272'</u>	<u>OWCM</u>	<u>25</u>	<u>25</u>	<u>50</u>	<u>0</u>
<u>189'</u>	<u>OMCW</u>	<u>20</u>	<u>65</u>	<u>15</u>	<u>0</u>
<u>2202'</u>	<u>OMCW</u>	<u>2</u>	<u>95</u>	<u>3</u>	<u>0</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 2663' BHT 147° Gravity — API RW 16 @ 54 °F Chlorides 17,000 ppm

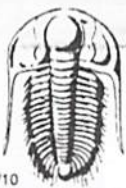
(A) Initial Hydrostatic 2096 Test 1250 T-On Location 18:30
 (B) First Initial Flow 235 Jars 250 T-Started 19:15
 (C) First Final Flow 886 Safety Joint 75 T-Open 22:21
 (D) Initial Shut-In 1247 Circ Sub NC T-Pulled 01:21
 (E) Second Initial Flow 919 Hourly Standby _____ T-Out 04:42
 (F) Second Final Flow 1199 Mileage 110 RT 170.50 Comments _____
 (G) Final Shut-In 1247 Sampler _____
 (H) Final Hydrostatic 2035 Straddle _____

Initial Open 30 Shale Packer 250 Ruined Shale Packer _____
 Initial Shut-In 60 Extra Packer _____ Ruined Packer _____
 Final Flow 30 Extra Recorder _____ Sub Total 0
 Final Shut-In 60 Day Standby _____ Total 1995.50
 Accessibility _____ MP/DST Disc't _____

Sub Total 1995.50

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **55122**

Well Name & No. Kacirek Trust #1-5 Test No. 6 Date 1/15/14
 Company Murfin Drilling Company Elevation 3252 KB 3247 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Charles Schmalz Rig Murfin #8
 Location: Sec. 5N Twp. 2 Rge. 036W Co. Rawlins State KS

Interval Tested 4259-4327 Zone Tested LKC "G"
 Anchor Length 68' Drill Pipe Run 41072' Mud Wt. 9.1
 Top Packer Depth 4254 Drill Collars Run 186' Vis 65
 Bottom Packer Depth 4259 Wt. Pipe Run 0' WL 5.2
 Total Depth 4327 Chlorides 1200 ppm System LCM 1 1/2
 Blow Description IF - 1/2" built to BoB @ 22 mins
ISI - Surface blow built to 2 1/4"
FF - Surface blow built to BoB @ 22 mins
FSI - Surface blow built to 2"

Rec	Feet of	%gas	%oil	%water	%mud
282	60	25	75		
130'	60CM	10	20		70

Rec Total 312' BHT 139° Gravity 30.2 API RW —@ —° F Chlorides — ppm

(A) Initial Hydrostatic 3129 Test 1250 T-On Location 15:45
 (B) First Initial Flow 18 Jars 250 T-Started 16:11
 (C) First Final Flow 93 Safety Joint 75 T-Open 18:33
 (D) Initial Shut-In 1312 Circ Sub NC T-Pulled 22:33
 (E) Second Initial Flow 103 Hourly Standby _____ T-Out 01:02
 (F) Second Final Flow 154 Mileage 110 RT 170.50 Comments 40' GIP
 (G) Final Shut-In 1310 Sampler _____
 (H) Final Hydrostatic 2076 Straddle _____ Ruined Shale Packer _____

Initial Open 30 Shale Packer 250 Ruined Packer _____
 Initial Shut-In 60 Extra Packer _____ Extra Copies _____
 Final Flow 60 Extra Recorder _____ Sub Total 0
 Final Shut-In 90 Day Standby _____ Total 1995.50
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1995.50

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **55123**

Well Name & No. Kacirek Trust #1-5 Test No. 7 Date 1/16/14
 Company Murfin Drilling Company Elevation 3252 KB 3247 GL
 Address 250 N Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Charles Schmalz Rig Murfin # 8
 Location: Sec. 5N Twp. 2 Rge. 36W Co. Rawlins State KS

Interval Tested 4305 - 4390 Zone Tested LRC "H-J"
 Anchor Length 85' Drill Pipe Run 4104' Mud Wt. 9.3
 Top Packer Depth 4300 Drill Collars Run 186 Vis 65
 Bottom Packer Depth 4305 Wt. Pipe Run 0' WL 6.0
 Total Depth 4390 Chlorides 1100 ppm System LCM 2
 Blow Description IF - 1/4" blow built to 3/4"
ISI - Surface return
FF - Surface blow built to 2"
FSI - Surface return

Rec	Feet of	%gas	%oil	%water	%mud
<u>125'</u>	<u>OCM</u>	<u>5</u>		<u>95</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 125' BHT 1330 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2189</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>12:00</u>
(B) First Initial Flow <u>36</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>13:00</u>
(C) First Final Flow <u>52</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>15:47</u>
(D) Initial Shut-In <u>1353</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>19:47</u>
(E) Second Initial Flow <u>56</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>22:20</u>
(F) Second Final Flow <u>74</u>	<input checked="" type="checkbox"/> Mileage <u>110 RT</u> 341	Comments <u>Wanted tools @</u>
(G) Final Shut-In <u>1345</u>	<input type="checkbox"/> Sampler _____	<u>21:00 on 1/18/14</u>
(H) Final Hydrostatic <u>2079</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>800</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby <u>1d 22.75h</u>	Total <u>2966</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>2166</u>	

Approved By _____ Our Representative [Signature]
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UD w/ OIL SPOTS

L (GR 18.8°)
CM (10% O, 90% M)

31P
GCCO (GR 23°)
OCMW

31P
320 (GR 33°)
330CM
340CM
350CMW

31P
320 (35GR)
330CM

3 & DEVL SURVEYS
RRAPS:
6.46 SHORT
2.57 SHORT
DN SURVEYS:
1/4° @ 14945-1.5°
1°

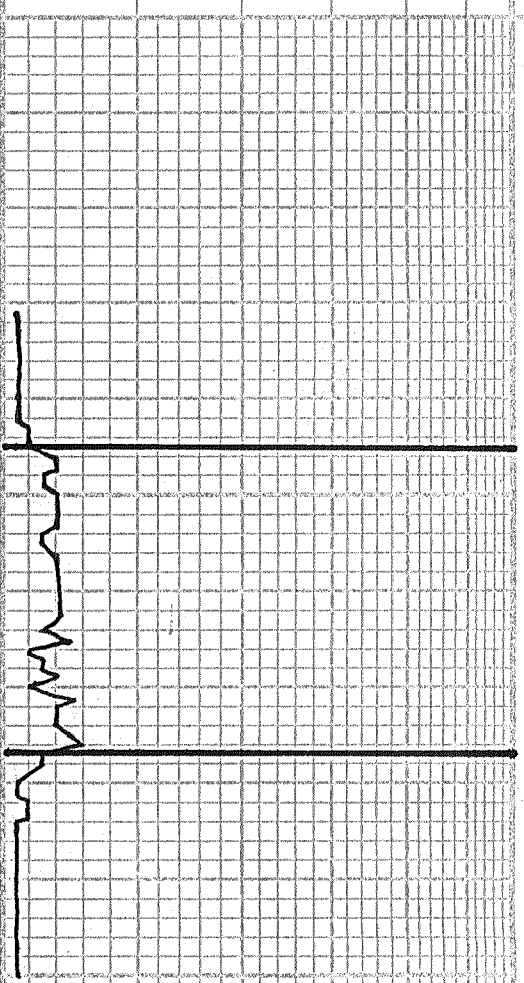
OS	LOG	CAL
10/27	3#	1300
12/27	2#	1000
8/21	2#	1000
10/27	2#	1000
13/30	2#	1000
15/33	1.5#	1200
19/25	2#	1100
21/18	1/2#	1000

LEGEND

Anhydrite	Salt	Sandstone	Shale	Carb sh	Limestone	Ool.Lime	Chert	Dolomite

DRILLING TIME IN MINUTES
PER FOOT
Rate of Penetration Decreases

5" 10" 15" 20" 25"



DEPTH

LITHOLOGY

SAMPLE DESCRIPTIONS

OIL SHOWS

REMARKS

ANHYDRITE-TOP
3145 (+107)

ANHYDRITE-BASE
3177 (+45)

NOTE: 22 STAND SHORT
TRIP PRIOR TO DST#1

DST #1
(3548-3650)
30"-60"-60"-90"

DST

LOG 7710

#1

3550

60

70

80

90

3600

10

20

30

40

3650

60

70

80

90

3700

10

20

30

40

3750

sh: rust, red, silty → sandy, v. fn. grain ed, sh: green, waxy w/ sh grey, dk. grey

sh: rust, red marion w/ some interbedded abby, silty, sandy, sh: grey, dk. grey, green, waxy

sh: red, rust, peach, v. silty → sdy w/ anhy nodules; sh: dk. grey, grn waxy

sh, siltstone, v. fn. grained ss: as above

sh: rust, brown, sandy, silty few pcs sh: grey, green-waxy

sh: as above w/ few pcs lt. grey off wh, v. fn. grained ss. calc, firm no vis φ no show

sh: rust, brown, reddish-brown, silty, sandy (v. fn. grnd) in part

sh: as above

ls: off wh, tan, lt. grey, fn-med granular w/ calcite cement, v. sli. foss; pr-tr ppt & vuggy φ; scat fr intergranular φ; gd show hvy fo, bleeding on break, spotty to full, dk to vry dk stain & sat, gd cut, no odor sh: rust, brown, red-brown, silty

sh: rust, red, silty, sli. sandy w/ considerable sh: grey, dk. grey, w/ green, waxy sh.

sh: as above w/ few clusters lt. grey, siltstone → v. fn. grnd ss, friable, shaley, no vis φ no show

sh: rust, brown, silty → sdy, sh: grey, dk. grey, calc in part

sh: rust, brown, silty, sh: red, grey, w/ green waxy shale, few pcs brown dolo: v. fn. frxtln, sli sdy no vis φ, no show

ls: off wh, tan, v. fn. some med xtlr v. sli. foss, scat calcite, cpl pcs w/ app pr. vuggy φ, no show. considerable Δ, red, orange, brown, fresh, sharp op → semi. trans

ls: tan, brown, grey-brown, v. fn. frxtln, tr. foss, dense, no vis φ, no show

ls: as above, few pcs sli. sandy, no vis φ, sh: rust, brown, silty, siltstone: lt. grey, grey-green

sh: brown, rust, silty, few pcs dolo: brown, grey, v. fn. frxtln, shaley, tr. pr interxtln φ, no show

ls: off wh, fn. some med xtlr, sli sandy, tr. foss, tr. calcite, no vis φ N.S. considerable sh: brown, silty

ls: tan, fn. med xtlr, v. sli. foss, tr. calcite, no vis φ, no show: dolo: lt. grey, v. frxtln, no vis φ no show

ls: grey, dk. grey, some brown fn. med xtlr, foss, few pcs sli. dolomitic some mottled, no vis φ no show

IFP: 1 BLOW BLDG 10 3/2
ISIP: NO BLOW
FFP: SURF BLOW BLDG TO 2 1/2"
FSIP: NO BLOW

RECOVERED:

65' MUD w/ OIL SPOTS

HSP: 1673# - 1646#

FP: 16'-32" / 31'-51"

SIP: 1045# - 988#

BHT: 123° F

NEVA

3625 (-373)

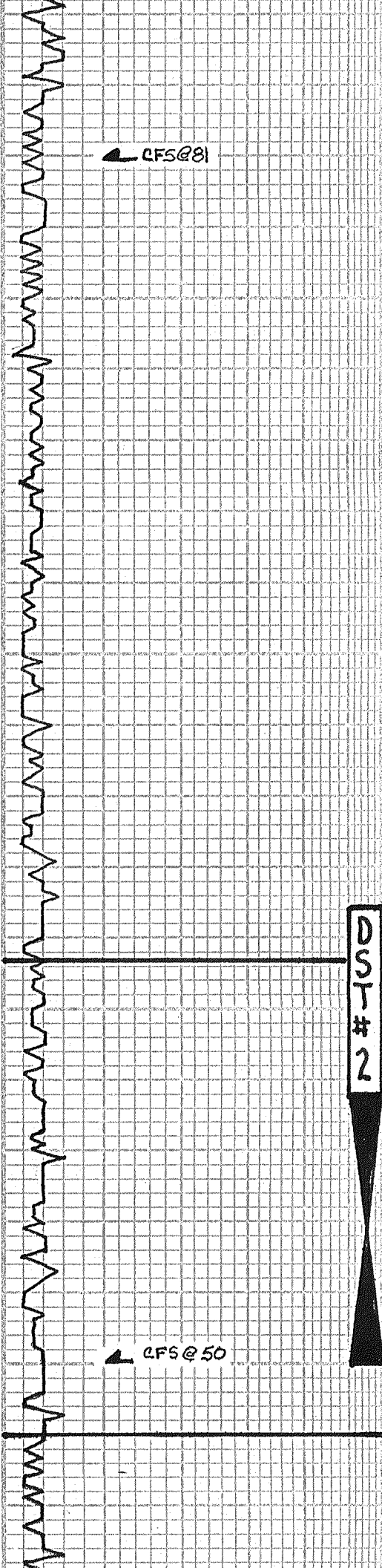
RED EAGLE

3687 (-437)

FORAKER

3737 (-485)

▲ CFS@50



60
70
80
90
3800
10
20
30
40
3850
60
70
80
90
3900
10
20
30
40
3950
60
70

ls: brown, fn. medxtln, sli. ool. v. sli. foss, no vis & no show w/ shale:
grey, dk. grey, calc in part, shale:
rust, orange
ls: lt. grey - brown, grey, micro-fn
xtn, dense; ls: off wh, lt. grey, fnxtln
a chalky in part
dolo: grey, dk. grey, v. fn. xtn, shly
sh: grey, green, calc in part
sh: brown, orange, sli. sandy, sh
grey, green, calc in part, few pcs
dolo: dk. brown, v. fnxtln, hard, dense
sh: as above: inc in grey sh
few pcs dolo as above
sh: grey, green, some brown, rust
ls: wh, off. wh, fnxtln, oolitic, sli.
foss, calcite cement, no vis & no show
ls: tan, grey, v. fnxtln, v. sli. foss,
dense; sh: grey, calc; green waxy
ls: tan, lt. grey, fnxtln, dense,
dolo: grey, v. fnxtln, shaley, no
vis & no show; sh: grey, green
sh: grey, dk. grey, calc in part, sh:
green, blue-green, v. sli. sandy
sh: brown, sli. dolomitic, orange
sli. sandy, grey, green
sh: brown, rust, sli. silty, green,
waxy, few sand grains, grey
ls: off. wh, lt. grey, medxtln, sli
foss, granular in part, scat calcite
no vis & no show; sh: rust, brown, grey
ls: grey, dk. grey, brown, medxtln,
mottled, no vis & no show; sh: grey
dk. grey, calc
ls: tan, lt. grey, fn. medxtln, v. sli
foss, granular in part, dense, no
vis & no show
ls: off. wh, tan, lt. grey, fn. medxtln
tr. foss, sli. chalky, fr ppt & no show
w/ sh: grey, green, some brown
ls: wh, tan, lt. grey, fn. medxtln,
fr ool, mottled in part, no vis &
no show; ls: wh, fnxtln, chalky in part
sh: rust, brown; sh: grey, dk. grey,
calc in part; sh: green, waxy
ls: off. wh, tan, fn. medxtln, v. sli.
ool., v. sli. foss, no vis & no show
sh: grey, grey-green, sli. calc; few
pcs brown, scat. sh. inclusions
ls: off. wh, tan, fnxtln, granular,
ool. in part, scat. calcite cement, scat
pr. trace fr. intergranular & vuggy
& qd. of spl. w/ spotty full lt. dk.
stain & sat. several pcs w/ F-65 live
ppts. Fr. on brk. qd. show hvly dk. oil,
fr. slow streaming cut, no odor
sh: mostly grey, green, some brown
ls: wh, tan, v. fn. xtn, dense; ls:
wh, tan, fn. medxtln, ool. in part, scat
calcite, poss. pr. interxtln. & no show
ls: wh, off. wh, fn. some medxtln,
sli. oolitic, no vis & no show, w/
sh: grey, green

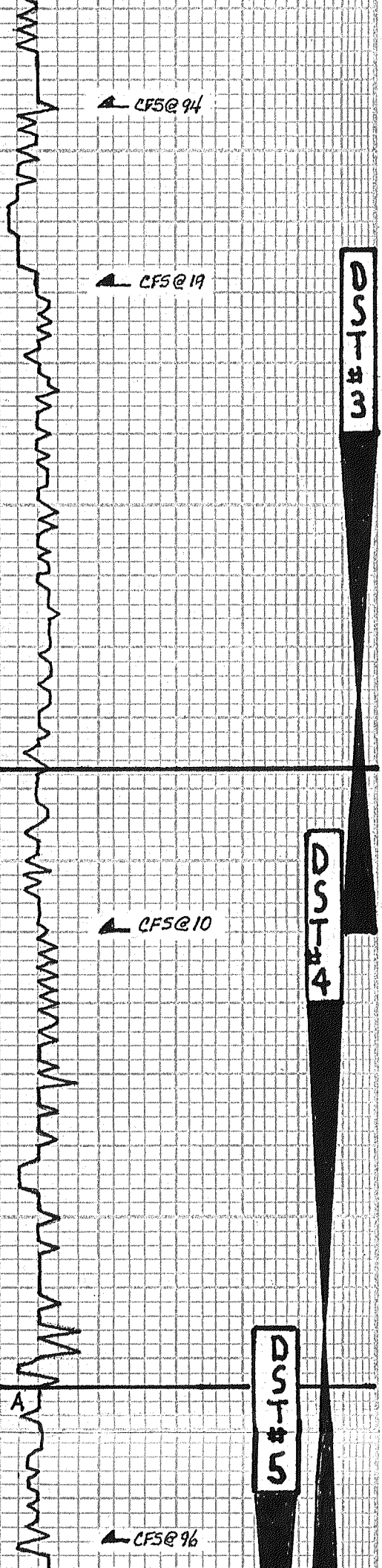
NOTE: 10 STAND SHORT
TRIP PRIOR TO DST #2

DST #2
(3912 - 3950)
30" - 60" - 60" - 90"
IFP: 1/4" BLOW BLDG TO 3"
ISIP: NO BLOW
FFP: 1/4" BLOW BLDG TO 3"
FSIP: NO BLOW
RECOVERED:
15' CO (GR 18.8)
55' SOCM (10% O, 90% W)
HSP: 1896 - 1850
FP: 23-27/34-45
SIP: 1073 - 1113
BHT: 131 F

STOTLER
3893 (- 641)

TOPEKA
3960 (- 708)

3rd STAND PULLED THE
(+30-35K) ON TRIP OUT
FOR DST #3



4000

4050

4100

4150

11200

ls: off wh, fn-medxtln, sli foss, calcitic, no vis ϕ , no show; ls: wh, fnxtln, chalky; sh: green, some w/ ls: inclusions; ls: tan, beige, fn-med xtln, sli calcitic, scat. lrg calcite xls no vis ϕ , no show
sh: grey, dk grey, green, calc in part to greenish-grey shaley ls: as above w/ green, shale, sli sandy sh: rust, brown, silty \rightarrow sandy, to ss/siltstone, v. fn grained, shaley (red) friable, no vis ϕ , no show; few pcs wh-green wh, v. fn, grnd, shaley, friable ss. no vis ϕ , no show
sh: grey, green, w/ few pcs ls: tan, medxtln, dense, some greenish w/ included sh:
ls: lt. grey, micro-v. fnxtln, dense w/ ls: tan, medxtln, sli calcitic, no vis ϕ , no show; few pcs wh, fnxtln, chalky
ls: lt. grey, micro. fnxtln, dense w/ sh: purple, silty \rightarrow sli. sandy
sh: purple, brown, silty, calc; ls: v. fnxtln, purple, shaley
sh: lt. grey, lt. green, silty; sli calc; sh: grey, calc in part; ls: dk grey, sli foss, shaley
sh: lt. grey, silty, sli. calc; grey calc shale \rightarrow grey, fnxtln, shly ls.
ls: grey, fnxtln, shaley, sli. chalky w/ sh: grey, green
ls: tan, fn-medxtln, oolitic, foss, pr-scat fr to qd in feroolitic & foss ϕ , pr-fr vuggy ϕ , scat fr-gd lt & dk-blk stain w/ sat. fr-some vry gd SFO on break, gd med-fast streaming cut, v. ff. odor
ls: tan, grey, brown, fn-medxtln sli. foss dense
ls: grey, brown, mico-fnxtln, dense, ls: off. lt. grey, fnxtln, sli. chalky
ls: as above; w/ ls: dk. grey, black fn-medxtln, dense; inc in shale, grey, dk. grey
ls: grey, brown, micro-fnxtln, dense
sh: grey, green, w/ few pcs ls: tan fn-medxtln, no vis ϕ , no show
ss: wh, tan, vary fn, grnd, most friable, few pcs calc, hard, rd-sub-rd well sorted, app pr intergrained ϕ , spotty to even lt. brownst, 2 pcs w/ minute ppts FO on break, pr wk slow streaming cut, no odor
sh: rust, brown, silty \rightarrow sli sandy
sh: rust, brown, few pcs bright orange, w/ grey & green shale
sh: as above; inc in grey-green sh
ls: tan, fn-medxtln, sli foss, oolitic & ooc in part w/ pr. some fr ooc ϕ , scat pr vuggy ϕ , few large isolated vugs, spotty pr-gd dk brn/blk st w/ sat, FS'vry dk brn/blk oil w/ S-FS ppts brn oil on brk, some gas bubbles w/ w/ ring oil, no odor
ls: tan, brown, fn-medxtln, dense, wh fnxtln, sli chalky ls: scat, dd oil stain, no show live oil

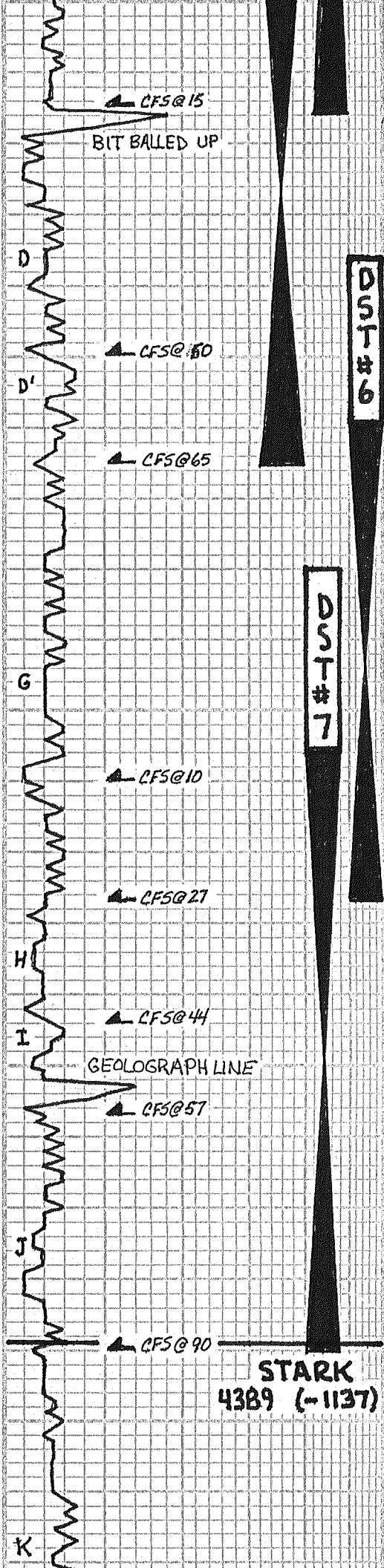
DST #3
(4040-4110)
30"-60"-60"-90"
IFP: BOB IN 7"
ISIP: SURF BLOW BLDG TO 5"
FFP: BOB IN 7"
FSIP: SURF BLOW BLDG TO 4"
RECOVERED:
378' GIP
1192' SGCD (GR 23°)
(5% GAS, 95% OIL)
65' SOCMW
(5% OIL 20% MUD 75% WRT)
HSP: 1981[#]-1946[#]
FP: 89[#]-252[#]/253[#]-452[#]
SIP: 1191[#]-1170[#]
BHT: 145°F

OREAD
4087 (-835)

DST #4
(4120-4215)
30"-60"-60"-90"
IFP: BOB IN 15"
ISIP: WK BLOW BLDG TO 4 1/4"
FFP: BOB IN 13"
FSIP: WK BLOW BLDG TO 4 1/2"
RECOVERED:
378' GIP
237' GCD (33 GR)
(30% GAS, 70% OIL)
141' G & OCM
(15% GAS, 25% OIL, 60% MUD)
HSP: 2052[#]-1968[#]
FP: 27[#]-95[#]/104[#]-133[#]
SIP: 883[#]-753[#]
BHT: 136°F

LANSING
4174 (-922)

DST #5
(4189-4265)
30"-60"-30"-60"



7200
10
20
30
40
4250
60
70
80
90
4300
10
20
30
40
4350
60
70
80
90
4400
10
20

ss: lt. grey, v. fn grained, calc in part, friable to firm, poss trace pr intergrained ϕ , scat ad oil residue, trace vpr wk cut, NSF0, no stain, no odor

sh: mostly rusty-brown, w/lt. grn sh w/ scat imbedded sand grains

sh: rusty-brown, some silty, few pcs siltstone; sh: pale green w/ few ls inclusions, sh: grey, bright orange, few pcs purple

ls: wh, tan, fn. medxtln, granular in part sli. calc foss, scat pyrite, pr. fr scat intergranular & vuggy ϕ , scat pr tess-cast ϕ , spotty to gd lt brown - dk brown blk st w/ some sat, F5F0 (lt-med brown & dk brown, hvv), few gas bubbles w/ ring of oil, fr slow streaming cut, v. ft. odor becoming frxtln, sli chalky w/ dec show toward base.

ls: wh, lt. grey, fn-medxtln, calcite in part, v. scat pr ppt & small vuggy ϕ , opl pcs w/ pr spotty dk brown/blk st, 2 pcs w/ V55 dk brown oil globules, scat dd oil st, no odor

sh: grey, rust-brown, pale green

sh: rust-brown, grey; sh: pale green, some w/ ls inclusions; ls: tan, fn-medxtln, w/ im bedded green sh

sh: rust-brown, grey, pale green, w/ ls: tan, fn-medxtln, some interbedded red shale

ls: beige, lt. grey, fn-medxtln, trace calc & foss, calcite deposits along faces/fracs, some refermented ls grains, pr - few pcs w/ fr. interxtln ϕ , some isolated vuggy ϕ spotty to fr golden brown & dk brown st, 5-F5 ppt oil, few gas bubble w/ oiling pr. fr slow streaming cut, no odor, ls: as above, chalky in part, dec in ϕ & show toward base @ CFS@10

sh: mostly med to dk grey

ls: dk. grey, fnxtln, dense; ss: lt. grey, vfn-grained, calc w/ ls inclusions, shaley

ls: dk. brown, dk. grey, fn-medxtln, few pcs dolomite, mostly dense, hard, scat vpr ppt ϕ , scat pr spotty dk st, few pcs w/ few isolated ppt FD on brk, opl pcs w/ very pr crush cut, no odor - CFS@27

ls: tan, fn-medxtln, v. sli. foss, chalky in part, app pr ppt & vuggy ϕ , 4-5 pcs/tray w/ spotty pr st, 2 pcs w/ opl ppt. FD on brk no odor

sh: grey, green, some brown

ls: tan, lt. grey, fn-medxtln, chalky in part, dense, no vis ϕ , N5

sh: brown, sli. silty; grey, calc, green, few pcs bright orange

sh: as above. inc in bright orange sh; few pcs ss: brown, vfngrnd, shaley, no vis ϕ , no show

ls: tan, lt. grey, fn-medxtln, fr foss, pr. some fr. ppt & vuggy ϕ , scat pr interxtln ϕ , fr few pcs gd lt. brown st, scat pr dk/ld st, 5-F5F0 & few gas bubbles on break, slow fr streaming cut, no odor

ls: as above, w/ significant dec in show sli. inc in ad oil stain, becoming sli. chalky

sh: brown, silty in part; sh: grey, mica; sh: pale green

sh: as above, w/ ss: grey, lt. grey, v. fngrnd, rnd-subround, well-sorted, calc, firm, no vis ϕ , no show

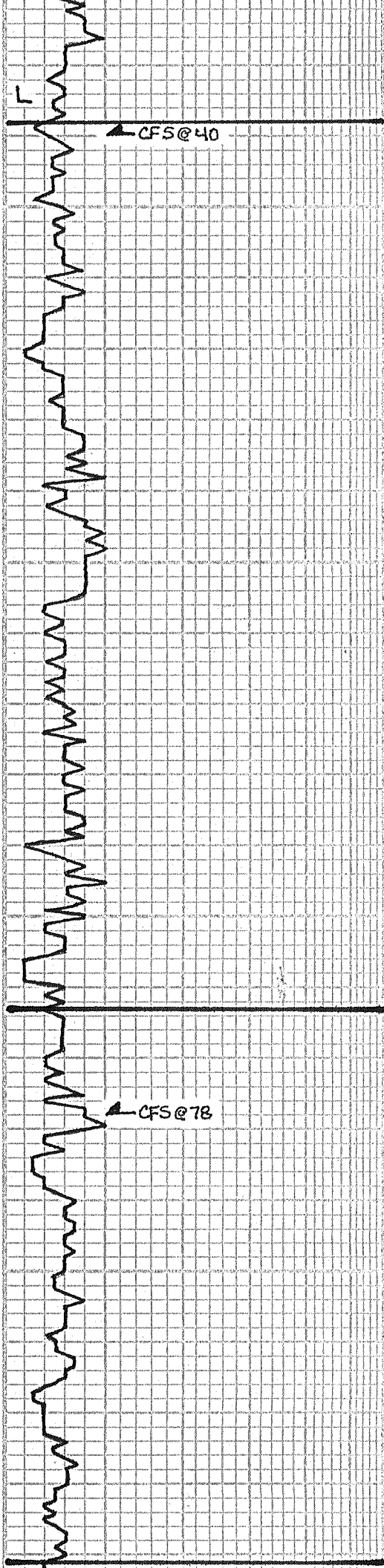
sh: rust-brown, sli silty, some grey

ls: wh, lt. grey, v. fn-fnxtln, most dense, vry scat, vry pr fr ppt ϕ , 2-3 pcs/tray w/ pr spotty lt. st, 2 pcs total w/ isolated minute ppt. FD, pr slow cut, no odor

30"-60"-30"-60"
IFP: BOB IN 1"
ISIP: SURF BLOW BLDG TO 1/4"
FFP: BOB IN 1"
FSIP: SURF BLOW BLDG TO 1/4"
RECOVERED:
270' O&WCM
(25% OIL, 75% WTR, 50% MUD)
189' O&M&W
(25% OIL, 15% MUD, 65% WTR)
2202' V50&MCW
(2% OIL, 3% MUD, 95% WTR)
CNL: 17000 PPM
SYSTEM: 1000 PPM
HSP: 2096[#] - 2035[#]
FP: 235[#] - 886[#] / 919[#] - 1199[#]
SIP: 1247[#] - 1247[#]
BHT: 147^o F

DST #6
(4259 - 4327)
30"-60"-60"-90"
IFP: 1/2" BLOW BLDG TO BOB IN 22"
ISIP: SURF BLOW BLDG TO 2 1/4"
FFP: SURF BLOW BLDG TO BOB IN 22"
FSIP: SURF BLOW BLDG TO 2"
RECOVERED:
282' GCO (GR 30°)
(25% GAS, 75% OIL.)
130' SG&OCM
(10% GAS, 20% OIL, 70% MUD)
40' GIP
HSP: 2129[#] - 2076[#]
FP: 18[#] - 93[#] / 103[#] - 154[#]
SIP: 1312[#] - 1310[#]
BHT: 139^o F

DST #7
(4305 - 4390)
30"-60"-60"-90"
IFP: 1/4" BLOW BLDG TO 3 1/4"
ISIP: SURFACE BLOW
FFP: SURF BLOW BLDG TO 2"
FSIP: SURFACE BLOW
RECOVERED:
125' SOCM
(5% OIL, 95% MUD)
HSP: 2189[#] - 2079[#]
FP: 36[#] - 52[#] / 56[#] - 74[#]
SIP: 1353[#] - 1345[#]
BHT: 133^o F



30	ls: brown, grey, scat ls inclusions, few pcs bright orange, rust
40	ls: tan, wh, v. fnxtln, sli chalky, dense no vis φ, no show sh: grey
4450	ls: tan, fn-medxtln, sli foss, no vis φ no show; w/ ls: wh, fnxtln, sandy sh: grey, green, some brown
60	ls: off. wh, lt. grey, fnxtln, sandy, no vis φ, no show; ls: tan, lt. grey, fn-medxtln, v. sli foss, no vis φ, no show
70	sh: grey, calc in pt; sh: green w/ ls laminations & inclusions; sh: brown, rust, orange
80	sh: grey, some sli. sandy; sh: green w/ ls inclusions, sh: brown; few pcs ls: detrital, green sh matrix
90	ls: greenish-grey, fnxtln, sandy, dense ls: grey, fnxtln, dense w/ sh: grey, green
4500	sh: mostly brown, rust, sli silty; sh: grey, sh: green, scat imbedded sd grs few pcs lt. grey, lt. brown, siltstone
10	sh: rust, brown, sli. silty; sh: green w/ ls inclusions → green, fnxtln, shly ls; siltstone, grey; shale: grey, dk grey
20	sh: grey, green, rust, brown; w/ ls: tan, fn-medxtln, detrital, green sh matrix, tr. pyrite
30	sh: as above; w/ green shaley ls & limey shale
40	ls: grey, tan, v. fn. fnxtln, dense; ls: wh, fnxtln, chalky in part; few clusters, ss: grey, fn-grned, calc, shly
4550	sh: grey, calc; sh: green, few ls inclusions, sh: brown, rust; few pcs dk grey, fnxtln, dense, ls
60	sh: grey, calc; some brown, green, bright orange; few clusters ss: clear, fn-med grained, poorly sorted, sub-rnd-sub L'tar, firm-hard, green sh matrix, no vis φ, no fluor, st, cut, FO or cut
70	sh: grey, green, brown ls: tan, lt. grey, fn-medxtln, sli. sdy in part, no vis φ, no show; ls: tan, v. fnxtln, no vis φ, few areas of lt. discoloration; very fn isolated ppt φ, few larger vugs, w/ wet stain, tr. dk brown oil, rare ppt brown oil, pre-edge cut, no odor; - CF5@78
80	sh: grey, med dk grey w/ ls lamina-tions, sh: green, some brown
90	ls: off. wh, tan, grey-brown, micro-fnxtln, dense, no vis φ, no show; ls: wh, fnxtln, v. sli sandy, chalky in pt
4600	ls: tan, lt. grey, micro-fnxtln, dense ls: off. wh, fn-medxtln, sli chalky, cpl pcs w/ v. pr vuggy φ, no show
10	ls: as above
20	sh: grey, dk grey, brownish-black, some brown, few pcs green, w/ ls inclusions
30	ls: tan, grey-tan, fn-medxtln, sandy in part, v. sli foss, no vis φ, no show
40	ls: tan, brown, fn-medxtln, sli sandy, no vis φ, no show; wh, fnxtln, chalky in part - chalky

BKC
4438 (-1186)

PAWNEE
4563 (-1311)

spls rerun after log. 2 pcs total w/ pr spaly lt. st. 2 pcs w/ pr-tr. fr small vuggy φ.

CHEROKEE

4650

ls: tan, lt. grey, v. fn - fnxtln, trace
foss, no vis ϕ , no show;
ss: clear, fn-med grained, fr. sorting
subrnd - sub L'lar, firm - hard, v. calc,
no vis ϕ , no st, fluor, cut, odor,
NSFO

60

ls: as above w/ ss: a.a. N.S

70

sh: lt. grey, mica; med grey, green
w/ scat, ls inclusions; ls: tan, lt. gry
vfn - some med xln, sli sandy, no
vis ϕ , no show

80

sh: lt. grey, grey, green, brown, few
pcs blue; sh: grey, green, sli sdy

90

ls: wh, tan, fnxtln, chally in part,
no vis ϕ , no show

sh: lt \rightarrow med grey, calc, sli. silty,
some green, brown, purple shale

4700

ss: clear, wh, fn. med grained, sub
round - sub L'lar, fr sorting, calc,
no vis ϕ , no st, fluor, odor or cut; NSFO

10

shale: lt. grey, grey, some green, few
pcs, brown, purple

20

sh: lt. grey, grey, sh: brown, silty to
sandy; few pcs green shale

30

sh: as above; few clusters ss: grey,
fn. grained well sorted, calc, firm,
w/ grey sh laminations; no vis ϕ , NS

40

ss: grey, med grained, rounded, pr-fr
sorting, friable, sh matrix, no vis ϕ ,
few large clear quartz subrnd sand
grains

sh: brown, rust, sli silty

4750

ss: clear, wh, tan, fn. graind, subrnd,
fr sorting, friable, fr intergrained ϕ

no fluor, st, cut, odor, no show FO

sh: mostly brown, w/ some grey,
green, yellow

60

ss: clear, tan, fn. med graind, sub-
rnd, fr sorting, firm, friable, sli.

calc in part, app pr - fr intergrained ϕ
no fluor, st, cut, or odor, NSFO; few

70

large, sub round, clear, quartz sd
grns; NS

80

sh: brown, red-brown, some brown
lt to med grey

90

sh: as above, inc in orange shale;
few pcs yellow

4800

ss: wh, tan, fn. crsp graind, L'lar,
pr sorting, hard, quartzitic in app.

no vis ϕ , no show; ss: wh, tan, grey
fn. grained, rnded, well sorted, shaley

calc, poss, pr intergrained ϕ , no st,
fluor, cut or odor, no show FO

10

sh: brown, rust grey, some purple,
green, yellow

20

ss: clear tan, few pcs wh, fn. med
grained, firm, sub rnd, fr sorting

some shale in fill, poss pr inter-
grained por.; no fluor, st, cut, odor

few large loose clear quartz sd grns
sh: brown rust-brown, grey, green,
few pcs yellow

30

sh: brown, rust-brown, sli. silty,
some grey, green

40

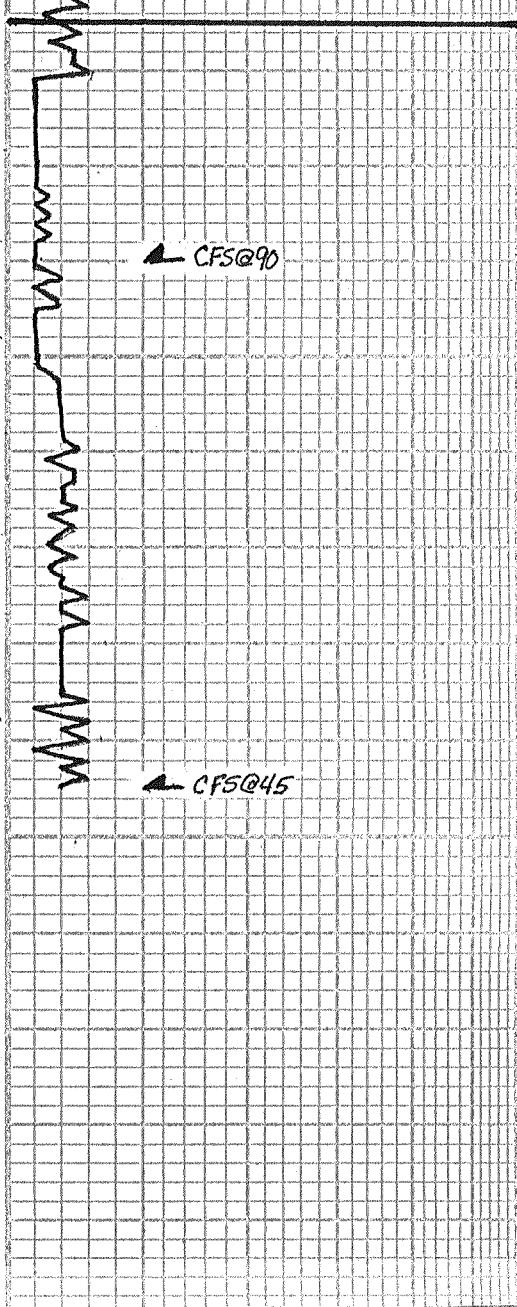
sh: as above; w/ few pcs green
sh w/ ls inclusions;

4850

sh: brown, rust, green, grey

60

sh: as above w/ ss: grey, fn. grned
well sorted, friable, shale matrix



70

no vis ϕ , no show

Δ mostly wh, fresh, opaque, few
pc weathered w/ pt ppt ϕ , sh:
grey, green (erosional?)

80

Δ wh, bluish-wh, fresh, opaque
to semi translucent; few pcs wh

90

Δ , weathered in part, poss pr ppt
 ϕ , No st, floor, cut or odor, NSFO

Δ as above; few pcs dol: brown,
fnxtln, hard, dense, wh: fnxtln,
chalky ls \rightarrow chalk

4900

ls: tan, brown, v. fn. fnxtln, dense,
no vis ϕ , no show; wh fnxtln,
chalky ls; few pcs wh, fresh -
sl weathered op Δ

10

ls: wh, tan, lt. brown, fnxtln, chalky
in part, no vis ϕ , no show

20

ls: tan, fn. few pcs medxtln, tr
foss, no vis ϕ , no show

30

ls: as above, w/ inc in wh, fnxtln
chalky ls:

40

ls: wh, tan, brown, micro-fnxtln,
few pcs medxtln, tr. foss, no vis ϕ
no show. wh, fnxtln ls, chalky in
part

4950

PULLED IS STAND
SHORT TRIP
PRIOR TO LOG

5" 10" 15" 20" 25"
DRILLING TIME Minutes/Foot

Rate of Penetration Decreases \rightarrow

DEPTH

LITHOLOGY

SAMPLE DESCRIPTIONS

OIL SHOWS

REMARKS

Kacirek Trust #1-5
 Daily Drilling Report
 Page Three

- 1/18/14 Depth 4945'. Cut 475'. DT: None. CT: 3½ hrs. Dev.: none. TD @ 7:00AM 1/18.
- 1/19/14 RTD 4945'. CT: 24hrs. Dev.: 1½° @ 4945'. Pioneer logged 1:45PM to 8:15PM 1/18. LTD: 4935'. On 2nd run logging tool stuck @ 4113' pulled free, stuck again @ 4094', worked it for one hr, pulled free by pulling 4000# over.
- 1/20/14 RTD: 4945'. CT: 9¾ hrs. Ran 118jts of 15.5# 5 ½" prod csg, set @ 4935'. Swift cmt w/ 250sxs SMD, 200sxs EA-2. PD @ 12:45PM 1/19. 30sxs RH, 20sxs MH. Did circ to cellar. RR @ 4:45PM 1/19. FINAL REPORT.

		MDCI Kacirek Trust #1-5 2170' FNL 330'FWL Sec. 5-2S-36W 3252' KB					MDCI Wilkinson 'GC' #1-4 1990' FSL 425'FEL Sec. 4-2S-36W 3332' KB		
Formation	Sample top	Datum	Ref	Log tops	Datum	Ref	Log tops	Datum	
Anhydrite	3145	+107	+13	3147	+105	+11	3238	+94	
B/Anhydrite	3177	+75	+11	3179	+73	+9	3268	+64	
Neva	3625	-377	+20	3628	-380	+17	3729	-397	
Stotler	3893	-641	+19	3892	-640	+20	3992	-660	
Topeka	3960	-708	+21	3956	-704	+25	4061	-729	
Oread	4087	-835	+31	4085	-833	+33	4198	-866	
Lansing	4174	-922	+32	4170	-918	+36	4286	-954	
Stark	4390	-1138	+38	4388	-1136	+40	4508	-1176	
BKC	4438	-1186	+39	4438	-1186	+39	4557	-1225	
Pawnee	4563	-1311	+38	4563	-1311	+38	4681	-1349	
Cherokee	4641	-1389	+39	4639	-1387	+41	4760	-1428	
Mississippi	4867	-1615	+43	4868	-1616	+42	4990	-1658	
RTD	4945						5040	-1708	
LTD				4935			5045		



PO Box 93999
Southlake, TX 76092

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

INVOICE

*acct.
Prod-LH*

Invoice Number: 140752
Invoice Date: Jan 7, 2014
Page: 1

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

Customer ID	Field Ticket #	Payment Terms	
Murfin	62129	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Jan 7, 2014	2/6/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Kadirek Trust #1-5		
230.00	CEMENT MATERIALS	Class A Common	17.90	4,117.00
8.00	CEMENT MATERIALS	Chloride	64.00	512.00
241.50	CEMENT SERVICE	Cubic Feet Charge	2.48	598.92
890.80	CEMENT SERVICE	Ton Mileage Charge	2.60	2,316.08
1.00	CEMENT SERVICE	Surface	1,512.25	1,512.25
80.00	CEMENT SERVICE	Pump Truck Mileage	7.70	616.00
1.00	CEMENT SERVICE	Manifold Rental	275.00	275.00
80.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	352.00
1.00	CEMENT SUPERVISOR	Alan Ryan		
1.00	OPERATOR ASSISTANT	Kevin Ryan		

AD

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

\$ 3,604.73 *35%*

ONLY IF PAID ON OR BEFORE
Feb 1, 2014

Subtotal	10,299.25
Sales Tax	365.69
Total Invoice Amount	10,664.94
Payment/Credit Applied	
TOTAL	10,664.94

- 3604.73
7060.21

ALLIED OIL & GAS SERVICES, LLC 062129

Federal Tax I.D. # 20-8651475

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

SERVICE POINT:

Orchard 1/4

DATE <i>1/7/14</i>	SEC. <i>5</i>	TWP. <i>2</i>	RANGE <i>36</i>	CALLED OUT	ON LOCATION	JOB START <i>3:30pm</i>	JOB FINISH <i>8:00pm</i>
LEASE <i>Kaiser-114</i>		WELL# <i>1-5</i>	LOCATION <i>McDonald 8 1/2 N 3/4 W No. West</i>		COUNTY <i>Hardy</i>	STATE <i>KC</i>	
OLD OR <u>NEW</u> (Circle one)							

CONTRACTOR *Murphy G*

TYPE OF JOB *Surface*

HOLE SIZE *1 1/4* T.D. *254*

CASING SIZE *8 7/8* DEPTH *254*

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG. *15'*

PERFS.

DISPLACEMENT *15.22*

OWNER *Same*

CEMENT AMOUNT ORDERED *230ca 390cc*

EQUIPMENT

PUMP TRUCK CEMENTER *Alan Ryan*

421-281 HELPER *Kevin Ryan*

BULK TRUCK

396-300 DRIVER *Edi (Tua)*

BULK TRUCK DRIVER

COMMON	<i>230</i>	@	<i>1792</i>	<i>4117</i>	<i>22</i>
POZMIX		@			
GEL		@			
CHLORIDE	<i>8</i>	@	<i>692</i>	<i>512</i>	<i>22</i>
ASC		@			
HANDLING	<i>241.5</i>	@	<i>2.42</i>	<i>598</i>	<i>22</i>
MILEAGE	<i>200</i>	@	<i>11.05</i>	<i>2316</i>	<i>22</i>
				TOTAL	<i>2844</i>

REMARKS:
Surfing, Circulate, Cement Displace
Cement Spurt in

Cement Displace

500L-70 Pit

Alan Ryan, Edi

CHARGE TO: *Murphy Drilling*

STREET

CITY STATE ZIP

SERVICE

DEPTH OF JOB	<i>254'</i>
PUMP TRUCK CHARGE	<i>1512</i>
EXTRA FOOTAGE	@
MILEAGE	<i>80 mile @ 7.20 = 616</i>
MANIFOLD	@
<i>Littlefield 80 mile @ 4.20 = 336</i>	<i>352</i>
TOTAL <i>2255</i>	

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 *Rodney Fair*

SIGNATURE *Rodney Fair*

SALES TAX (If Any)

TOTAL CHARGES *10,299.25*

DISCOUNT *3,604.73* IF PAID IN 30 DAYS

6,694.51 Net.



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



Invoice

DATE	INVOICE #
1/19/2014	25272

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

- Acidizing
- Cement

USED FOR 1 c. Tool Rental

APPROVED JT R
FH

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1-5	Kacirek Trust	Rawlins		Oil	Development	5-1/2" Top To B...	Josh
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				150	Miles	6.00	900.00
579D	Pump Charge - Top To Bottom LongString				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				3	Each	300.00	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
409-5	5 1/2" Turbolizer				15	Each	90.00	1,350.00T
413-5	5 1/2" Roto Wall Scratcher				15	Each	40.00	600.00T
419-5	5 1/2" Rotating Head Rental				1	Each	200.00	200.00T
325	Standard Cement				200	Sacks	14.50	2,900.00T
330	Swift Multi-Density Standard (MIDCON II)				300	Sacks	18.50	5,550.00T
276	Flocele				125	Lb(s)	2.50	312.50T
283	Salt				1,000	Lb(s)	0.20	200.00T
284	Calseal				9	Sack(s)	35.00	315.00T
285	CFR-1				150	Lb(s)	4.50	675.00T
581D	Service Charge Cement				500	Sacks	2.00	1,000.00
583D	Drayage				3,814.5	Ton Miles	1.00	3,814.50
	Subtotal							22,302.00
	Sales Tax Rawlins County						7.90%	1,152.41

Thank You For Your Business In 2013!
We Look Forward To Serving You In 2014!

Total \$23,454.41



CHARGE TO: Murphy Oil

TICKET 25272

ADDRESS
CITY, STATE, ZIP CODE

PAGE 1 OF 2

Services, Inc.

1. SERVICE LOCATIONS	WELL/PROJECT NO. <u>Hwy 15</u>	LEASE	COUNTY/PARISH	STATE	CITY	DATE	OWNER
2. <u>Ness City, KS</u>	TICKET TYPE <u>1-5</u>	<u>Kacirek Trust</u>	<u>Rawlins</u>	<u>KS</u>	<u>Lockport</u>	<u>1-19-14</u>	
3. <u>Development</u>	CONTRACTOR	RIG NAME NO.	JOB PURPOSE	SHIPPED VACT	DELIVERED TO	ORDER NO.	
4. REFERRAL LOCATION	WELL TYPE <u>D-1</u>	WELL CATEGORY	<u>5 1/2 Longstray</u>		<u>Top to Bottom</u>	WELL PERMIT NO.	
	INVOICE INSTRUCTIONS						

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT	DF							
575					MILEAGE # 112	150	mi.			6.00	900.00
579					Pump Charge Top to Bottom	1	ea			2000.00	2000.00
221					Loguid KCL	4	gal			25.00	100.00
281					Mud Flush	500	gal			1.25	625.00
290					O-Air	5	gal			42.00	210.00
403					Cement Baskets	3	ea		5 1/2	300.00	900.00
406					Latch Down Plug + Bead Pl	1	ea			275.00	275.00
407					Insert Float Shoe w/ And Fill	1	ea			375.00	375.00
409					Turbolifters	15	ea			90.00	1350.00
413					Rot to well Scratchers	15	ea			40.00	600.00
419					Rotary Head Rental	1	ea			200.00	200.00

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

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

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	

CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL P1 7535.00
 P2 14767.00
 Subtotal 22,302.00
 Rawlins TAX 9% 1152.41
 TOTAL 23,454.41

SWIFT OPERATOR: Paul M APPROVAL: _____

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

Thank You!

JOB LOG

SWIFT Services, Inc.

DATE 1-19-14 PAGE NO.

CUSTOMER Murphy WELL NO. 1-5 LEASE Kazirek Trust JOB TYPE 5 1/2 top no Bottom TICKET NO. 25272

CHART NO.	TIME	RATE (BPM)	VOLUME (BB) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0330							on location <u>600P</u> <u>5 1/2" x 15.5"</u> TO <u>4945</u> S5 21 TP <u>4935</u> Inset <u>4914</u> Centralizers <u>1-13, 34, 44</u> Baskets <u>12, 35, 45</u>
	0730							Start pipe Circulate str. 59 Finish running pipe
	1015							Circulate Rotate Drive Ball
	1115	5	12		✓		300	Start Mud Flush
		5	20		✓		300	Start KCL Flush
		5	138		✓		200	Start SMP Cement 250 sks @ 11.2 #/gal
		5	48		✓			Start EA2 200 sks
	1218							Drop Plug Wash out Pump + Lines
	1220	6			✓			Start Displacement 20 bbl w/ 2% KCL
		6	20		✓			Finish Displacement w/H ₂ O
		6			✓			Circulate Cement Cement in Cellar
	1245	6	116.9		✓		1100 1000	Land Plug Release Dry
			7/5					Plug BH 30 sks MH 20 sks
	1300							Wash up Rack up
	1330							Job Complete Thank You Sash, Brian, Rob, Dury



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



Invoice

DATE	INVOICE #
3/25/2014	25408

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

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1-5	Kacircck Trust	Rawlins	Company Tools	Oil	Development	Squeeze Perfs	Nick
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				150	Miles	6.00	900.00
578D-D	Pump Charge - Deep Squeeze (> 1500 Ft.) - 4334 Feet				1	Job	1,500.00	1,500.00
290	D-Air				2	Gallon(s)	42.00	84.00T
325	Standard Cement				150	Sacks	14.50	2,175.00T
278	Calcium Chloride				3	Sack(s)	50.00	150.00T
581D	Service Charge Cement				150	Sacks	2.00	300.00
583D	Drayage				1,057.5	Ton Miles	1.00	1,057.50
	Subtotal							6,166.50
	Sales Tax Rawlins County						7.90%	190.31
We Appreciate Your Business!							Total	\$6,356.81



TICKET 25408

CHARGE TO: Marlin D. Ly Co. Inc.
 ADDRESS: _____
 CITY, STATE, ZIP CODE: _____

SERVICE LOCATIONS
 1. Hays, KS WELL/PROJECT NO. #1-5 LEASE Kearney Trust COUNTY/PARISH Rawlins STATE KS DATE 3-25-14 OWNER SWANN
 2. Ness City, KS CONTRACTOR Ce Tools RIG NAME NO. _____ ORDER NO. _____
 3. _____ WELL TYPE CIL WELL CATEGORY Development JOB PURPOSE Squarer Rigs DELIVERED TO location WELL PERMIT NO. _____
 4. _____ INVOICE INSTRUCTIONS _____ WELL LOCATION _____

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING		DESCRIPTION	MILEAGE	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT								
575					111	150	ml			6.00	900.00
578				Pump Charge Deep Squarer		120		4334		1500.00	1500.00
270				D-Air		2	gal			42.00	84.00
325				Standard Cement		150	lbs			14.50	2175.00
278				Calcium Chloride		3	std			57.00	171.00
581				Cement Service Charge		150	lbs			2.00	300.00
585				Dayage		165	gals			1.00	165.00

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

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

DATE SIGNED 3-25-14 TIME SIGNED 12:55 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?
 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?
 CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL 6166 50
 TAX 190 51
 TOTAL 6356 81

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

SWIFT OPERATOR Mark Stimpke APPROVAL _____

Thank You!

JOB LOG

SWIFT Services, Inc.

DATE 3-25-14 PAGE NO. 1

CUSTOMER: Martin Dalg Co Inc WELL NO. #1-5 LEASE Kaerak JOB TYPE Squeeze Perfs TICKET NO. 25408

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0930							on loc setup Perfs
								2 7/8" x 5 1/2"
								CIBP 4560'
								Perfs 4297'-4502', 4334'-39'
								Pkr to Test 4365
								To Squeez 4170
	0950		7			1200		Test Tools to 1200 Psi
	1000	2.5	30					Turn Hole Over
	1030		6				200%	Set pkr 4170' to squeeze lead Ann
	1025	3	7			250		Take inj rate 3 bpm @ 250 Psi
	1030	3	0			0		Start 150 sacks cement
	1039	3	27			0		Cement @ Perfs
	1040	3	31			0		End cement
								Wash Pck
	1050	1.5	0			0		Start Displacement
	1056	1.5	8			50		Catch Cement
	1107		25			900		cement displaced 1 bbl below pkr shut in
								wash up Trk
	1130	1.5	25.1			700/1000		Bump
	1200	.5	25.2			0/900		Bump
	1205					900/0		Release Pressure (day)
	1210	2.5	0				150	Reverse out
	1227		48					Hole Clean
	1230					500		Pressure to 500 Psi & Shut in
								TCC @ 4210'
								Thank you
								Nick, David E & Rob