



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1224036
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: _____

1224036

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

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

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

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

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

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

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

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

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

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

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

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
---	--

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	Theron 2-10
Doc ID	1224036

All Electric Logs Run

DIL
DUCP
MEL
BHCS



DRILL STEM TEST REPORT

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

250 N. Water, Ste 300
Wichita KS 67202

ATTN: Saman Sharifaei

Theron #2-10

10-1s-37w Cheyenne,KS

Start Date: 2014.06.02 @ 04:50:00

End Date: 2014.06.02 @ 13:50:30

Job Ticket #: 58311 DST #: 1

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

Printed: 2014.06.09 @ 13:52:48

Murfin Drilling Co., Inc.
10-1s-37w Cheyenne,KS
Theron #2-10
DST # 1
LKC - 'B-D'
2014.06.02



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne, KS

250 N. Water, Ste 300
Wichita KS 67202

Theron #2-10

Job Ticket: 58311

DST#: 1

ATTN: Saman Sharifaei

Test Start: 2014.06.02 @ 04:50:00

GENERAL INFORMATION:

Formation: **LKC - 'B-D'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:55:45

Time Test Ended: 13:50:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: #54

Interval: 4064.00 ft (KB) To 4120.00 ft (KB) (TVD)

Reference Elevations: 3103.00 ft (KB)

Total Depth: 4120.00 ft (KB) (TVD)

3093.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 6753

Inside

Press@RunDepth: 391.37 psig @ 4065.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.06.02

End Date: 2014.06.02

Last Calib.: 2014.06.02

Start Time: 04:50:05

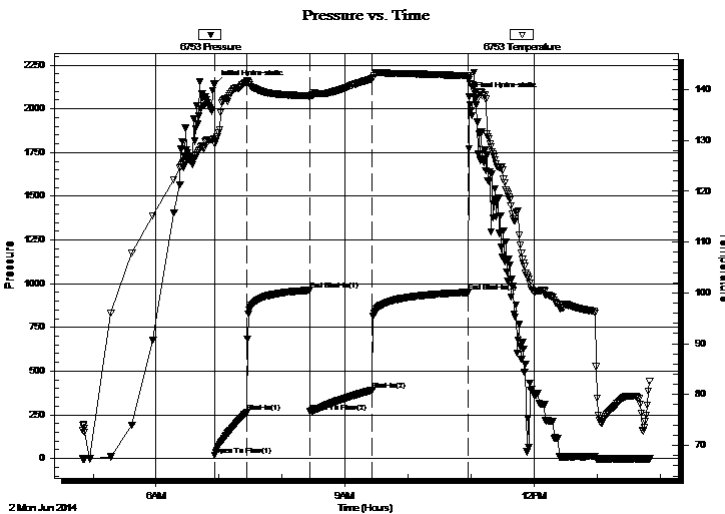
End Time: 13:50:30

Time On Btm: 2014.06.02 @ 06:55:30

Time Off Btm: 2014.06.02 @ 10:58:00

TEST COMMENT: 30 - IF - Surface blow built to bottom of the bucket in 25 mins.
60 - ISI - No Return
60 - FF - Surface blow built to bottom of the bucket in 27 mins.
90 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2140.93	130.27	Initial Hydro-static
1	20.38	129.25	Open To Flow (1)
31	263.52	141.48	Shut-In(1)
91	962.86	138.79	End Shut-In(1)
91	267.41	138.44	Open To Flow (2)
151	391.37	142.12	Shut-In(2)
242	950.46	142.70	End Shut-In(2)
243	2067.44	142.04	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
376.00	OCMW - 35M - 60W - 5o	1.85
460.00	OCMW - 25M - 65W - 10o	4.81

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
250 N. Water, Ste 300
Wichita KS 67202
ATTN: Saman Sharifaei

10-1s-37w Cheyenne,KS

Theron #2-10

Job Ticket: 58311 **DST#: 1**
Test Start: 2014.06.02 @ 04:50:00

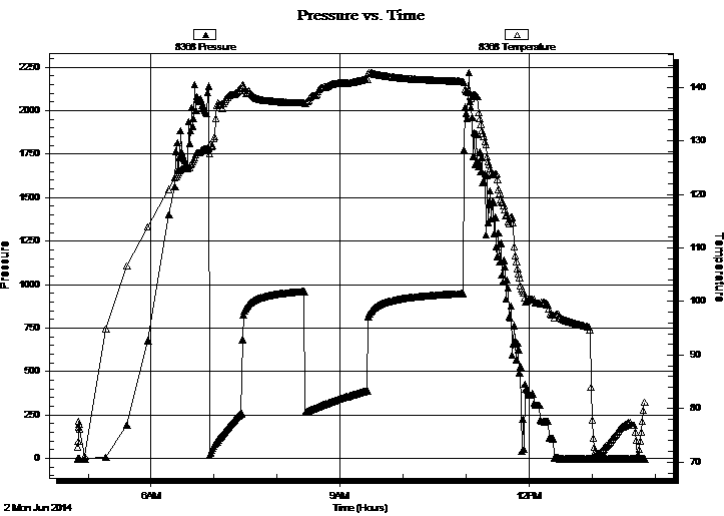
GENERAL INFORMATION:

Formation: **LKC - 'B-D'**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 06:55:45
Time Test Ended: 13:50:30
Interval: 4064.00 ft (KB) To 4120.00 ft (KB) (TVD)
Total Depth: 4120.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Reference Elevations: 3103.00 ft (KB)
3093.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8368 Inside

Press@RunDepth: psig @ 4065.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.06.02 End Date: 2014.06.02 Last Calib.: 2014.06.02
Start Time: 04:50:05 End Time: 13:50:30 Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF - Surface blow built to bottom of the bucket in 25 mins.
60 - ISI - No Return
60 - FF - Surface blow built to bottom of the bucket in 27 mins.
90 - FSI - No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
376.00	OCMW - 35M - 60W - 5o	1.85
460.00	OCMW - 25M - 65W - 10o	4.81

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne,KS

250 N. Water, Ste 300
Wichita KS 67202

Theron #2-10

Job Ticket: 58311

DST#: 1

ATTN: Saman Sharifaei

Test Start: 2014.06.02 @ 04:50:00

Tool Information

Drill Pipe:	Length: 3488.27 ft	Diameter: 3.80 inches	Volume: 48.93 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: 556.48 ft	Diameter: 2.25 inches	Volume: 2.74 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 51.67 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.75 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4064.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	56.00 ft			
Tool Length:	83.00 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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Shut In Tool	5.00			4042.00	
Hydraulic tool	5.00			4047.00	
Jars	5.00			4052.00	
Safety Joint	3.00			4055.00	
Packer	4.00			4059.00	27.00 Bottom Of Top Packer
Packer	5.00			4064.00	
Stubb	1.00			4065.00	
Recorder	0.00	8368	Inside	4065.00	
Recorder	0.00	6753	Inside	4065.00	
Perforations	18.00			4083.00	
Change Over Sub	1.00			4084.00	
Drill Pipe	31.00			4115.00	
Change Over Sub	1.00			4116.00	
Bullnose	4.00			4120.00	56.00 Bottom Packers & Anchor

Total Tool Length: 83.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne,KS

250 N. Water, Ste 300
Wichita KS 67202

Theron #2-10

Job Ticket: 58311

DST#: 1

ATTN: Saman Sharifaei

Test Start: 2014.06.02 @ 04:50:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
376.00	OCMW - 35M - 60W - 5o	1.849
460.00	OCMW - 25M - 65W - 10o	4.809

Total Length: 836.00 ft

Total Volume: 6.658 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

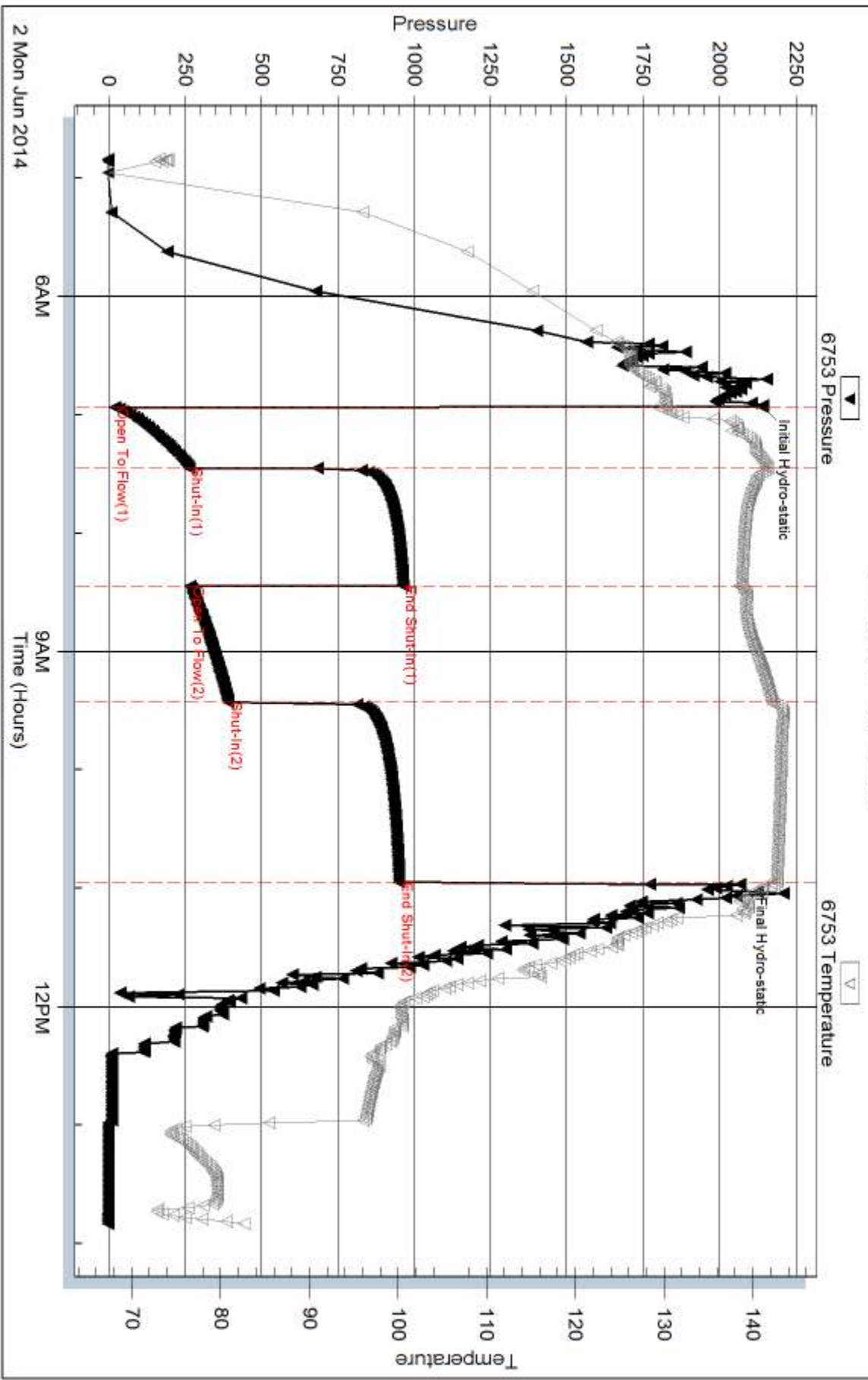
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



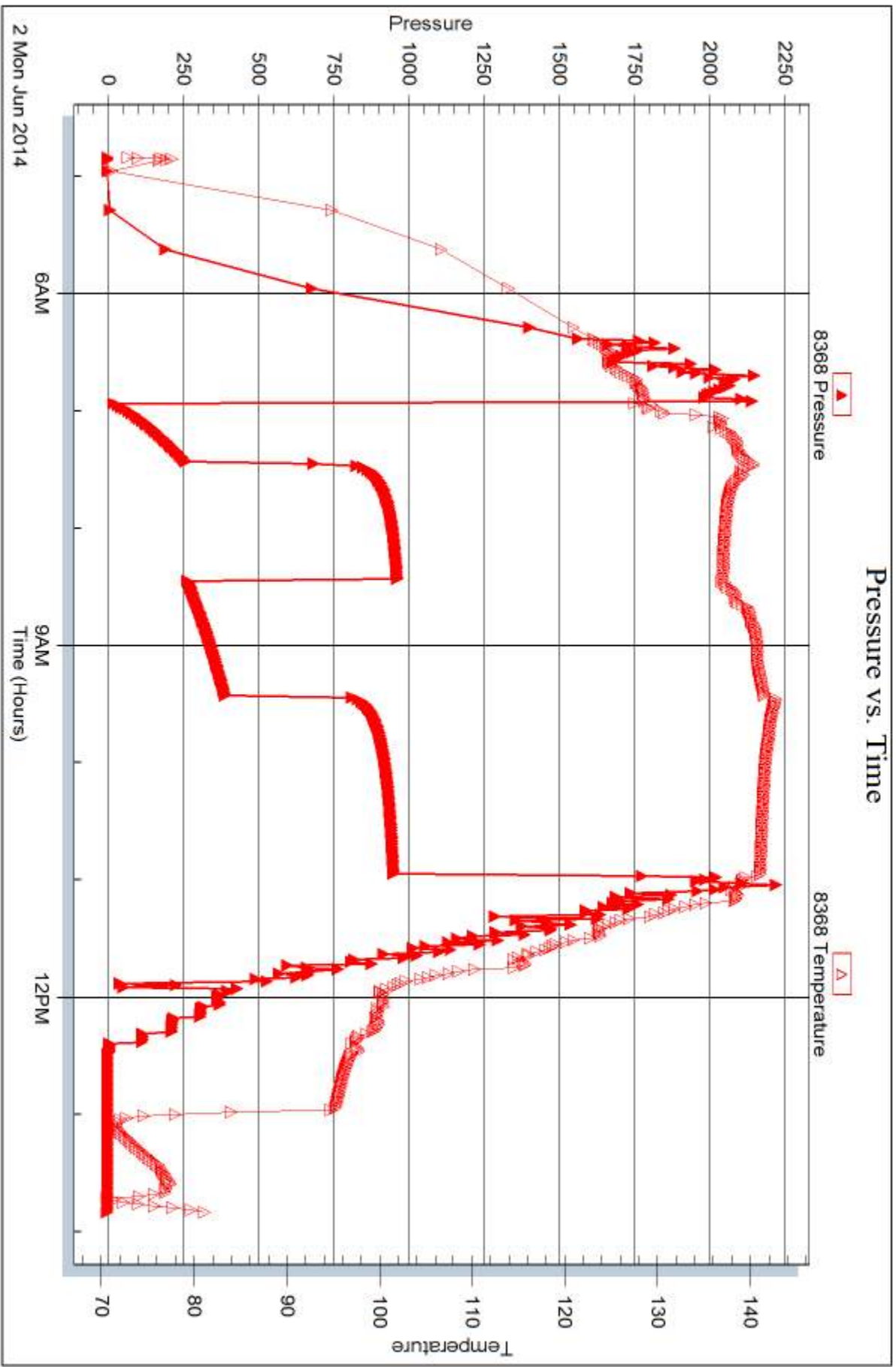
Serial #: 8368

Inside

Murfin Drilling Co., Inc.

Theron #2-10

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 58311

Printed: 2014.06.09 @ 13:52:49



DRILL STEM TEST REPORT

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

250 N. Water, Ste 300
Wichita KS 67202

ATTN: Saman Sharifaei

Theron #2-10

10-1s-37w Cheyenne,KS

Start Date: 2014.06.03 @ 06:23:00

End Date: 2014.06.03 @ 13:00:30

Job Ticket #: 58312 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.06.09 @ 13:52:13



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne,KS

250 N. Water, Ste 300
Wichita KS 67202

Theron #2-10

Job Ticket: 58312

DST#: 2

ATTN: Saman Sharifaei

Test Start: 2014.06.03 @ 06:23:00

GENERAL INFORMATION:

Formation: **LKC - 'G'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:06:45

Time Test Ended: 13:00:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: #54

Interval: 4130.00 ft (KB) To 4180.00 ft (KB) (TVD)

Reference Elevations: 3103.00 ft (KB)

Total Depth: 4180.00 ft (KB) (TVD)

3093.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 6753

Inside

Press@RunDepth: 67.02 psig @ 4131.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.06.03

End Date:

2014.06.03

Last Calib.: 2014.06.03

Start Time: 06:23:05

End Time:

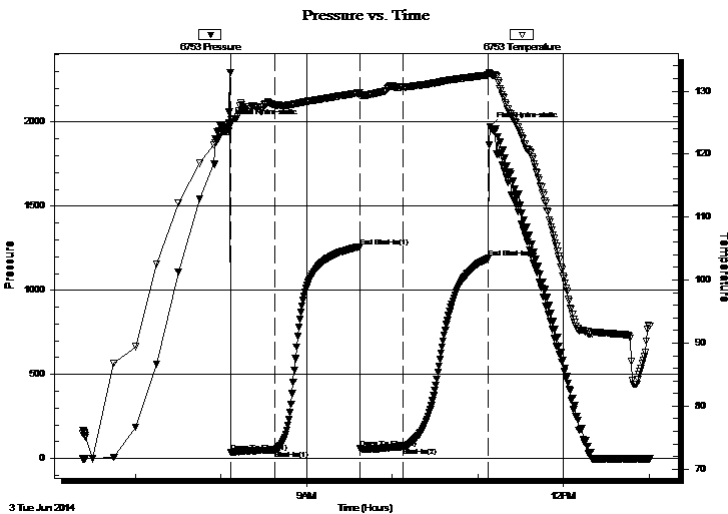
13:00:29

Time On Btm: 2014.06.03 @ 08:05:30

Time Off Btm: 2014.06.03 @ 11:08:45

TEST COMMENT: 30 - IF - Surface blow built to 2"
60 - ISI - No Return
30 - FF - Surface blow built to a little over 1/4"
60 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1992.66	123.62	Initial Hydro-static
2	37.01	124.77	Open To Flow (1)
33	50.07	127.82	Shut-In(1)
92	1258.49	129.73	End Shut-In(1)
93	58.51	129.26	Open To Flow (2)
123	67.02	130.59	Shut-In(2)
182	1191.02	132.56	End Shut-In(2)
184	1971.83	132.75	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
97.00	OCM - 85M - 15o	0.48
1.00	Free Oil - 100o	0.00

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

250 N. Water, Ste 300
Wichita KS 67202

ATTN: Saman Sharifaei

10-1s-37w Cheyenne,KS

Theron #2-10

Job Ticket: 58312

DST#: 2

Test Start: 2014.06.03 @ 06:23:00

GENERAL INFORMATION:

Formation: **LKC - 'G'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:06:45

Time Test Ended: 13:00:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: #54

Interval: 4130.00 ft (KB) To 4180.00 ft (KB) (TVD)

Total Depth: 4180.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3103.00 ft (KB)

3093.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8368 Inside

Press@RunDepth: psig @ 4131.00 ft (KB)

Start Date: 2014.06.03

End Date: 2014.06.03

Capacity: 8000.00 psig

Last Calib.: 2014.06.03

Start Time: 06:23:05

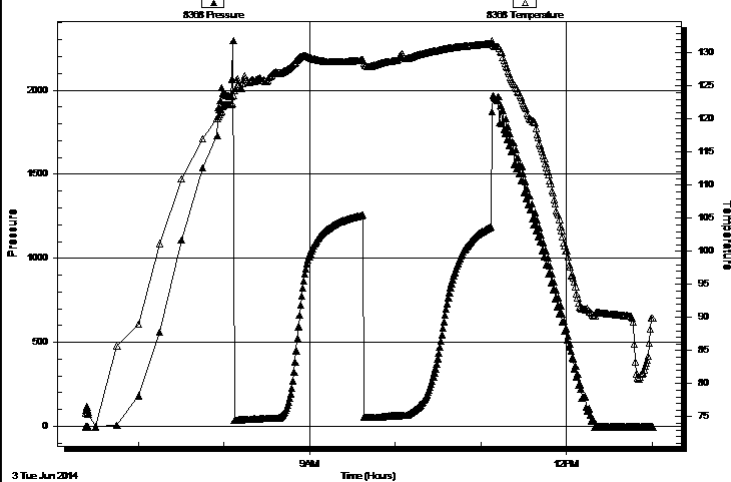
End Time: 13:00:29

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 - IF - Surface blow built to 2"
60 - ISI - No Return
30 - FF - Surface blow built to a little over 1/4"
60 - FSI - No Return

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
97.00	OCM - 85M - 15o	0.48
1.00	Free Oil - 100o	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne,KS

250 N. Water, Ste 300
Wichita KS 67202

Theron #2-10

Job Ticket: 58312

DST#: 2

ATTN: Saman Sharifaei

Test Start: 2014.06.03 @ 06:23:00

Tool Information

Drill Pipe:	Length: 3550.74 ft	Diameter: 3.80 inches	Volume: 49.81 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: 556.48 ft	Diameter: 2.25 inches	Volume: 2.74 bbl	Weight to Pull Loose: 76000.00 lb
			<u>Total Volume: 52.55 bbl</u>	Tool Chased 6.00 ft
Drill Pipe Above KB:	4.22 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4130.00 ft			Final 63000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	77.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4108.00	
Hydraulic tool	5.00			4113.00	
Jars	5.00			4118.00	
Safety Joint	3.00			4121.00	
Packer	4.00			4125.00	27.00 Bottom Of Top Packer
Packer	5.00			4130.00	
Stubb	1.00			4131.00	
Recorder	0.00	8368	Inside	4131.00	
Recorder	0.00	6753	Inside	4131.00	
Perforations	12.00			4143.00	
Change Over Sub	1.00			4144.00	
Drill Pipe	31.00			4175.00	
Change Over Sub	1.00			4176.00	
Bullnose	4.00			4180.00	50.00 Bottom Packers & Anchor

Total Tool Length: 77.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne,KS

250 N. Water, Ste 300
Wichita KS 67202

Theron #2-10

Job Ticket: 58312

DST#: 2

ATTN: Saman Sharifaei

Test Start: 2014.06.03 @ 06:23:00

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: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
97.00	OCM - 85M - 15o	0.477
1.00	Free Oil - 100o	0.005

Total Length: 98.00 ft Total Volume: 0.482 bbl

Num Fluid Samples: 0

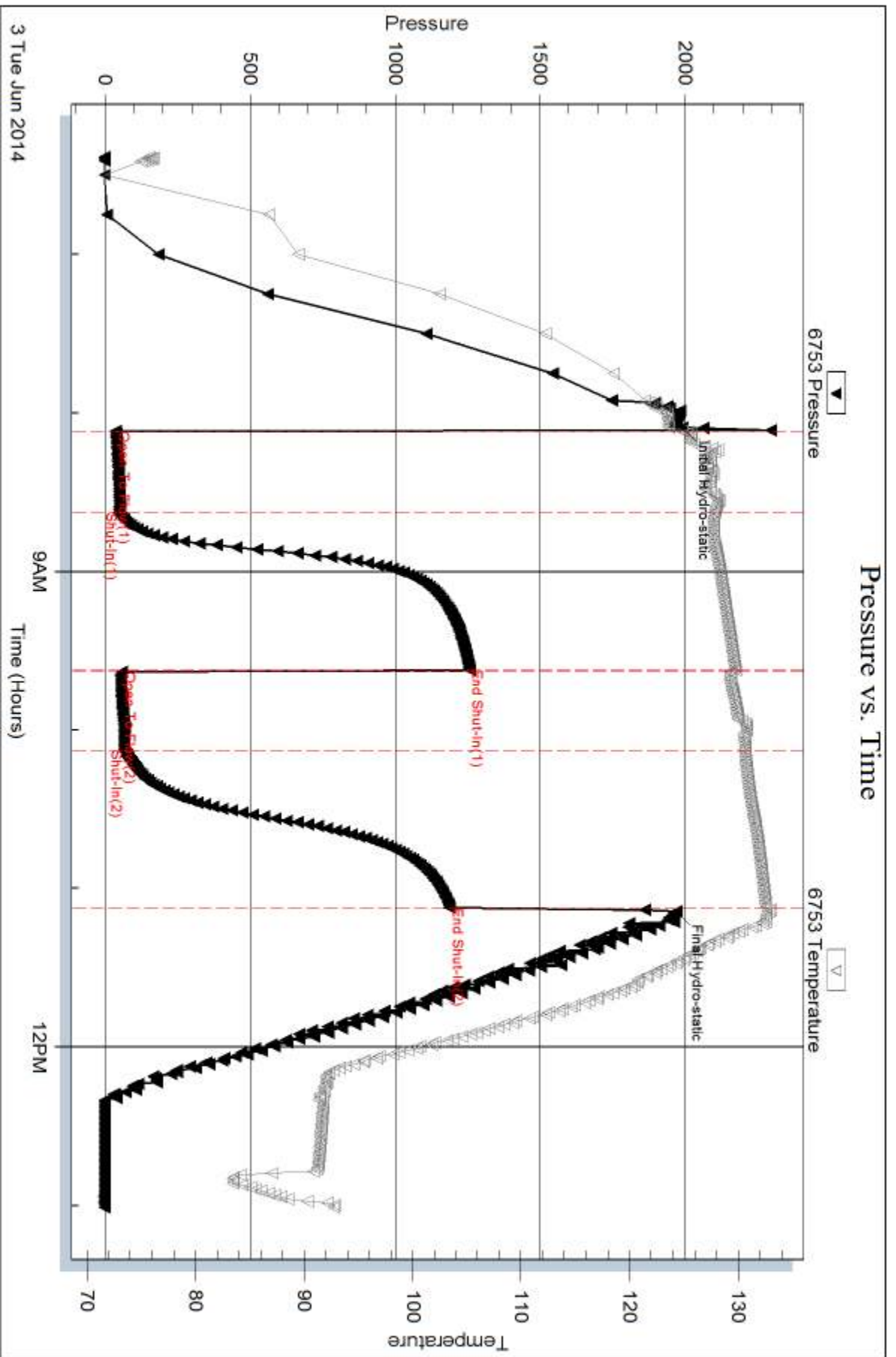
Num Gas Bombs: 0

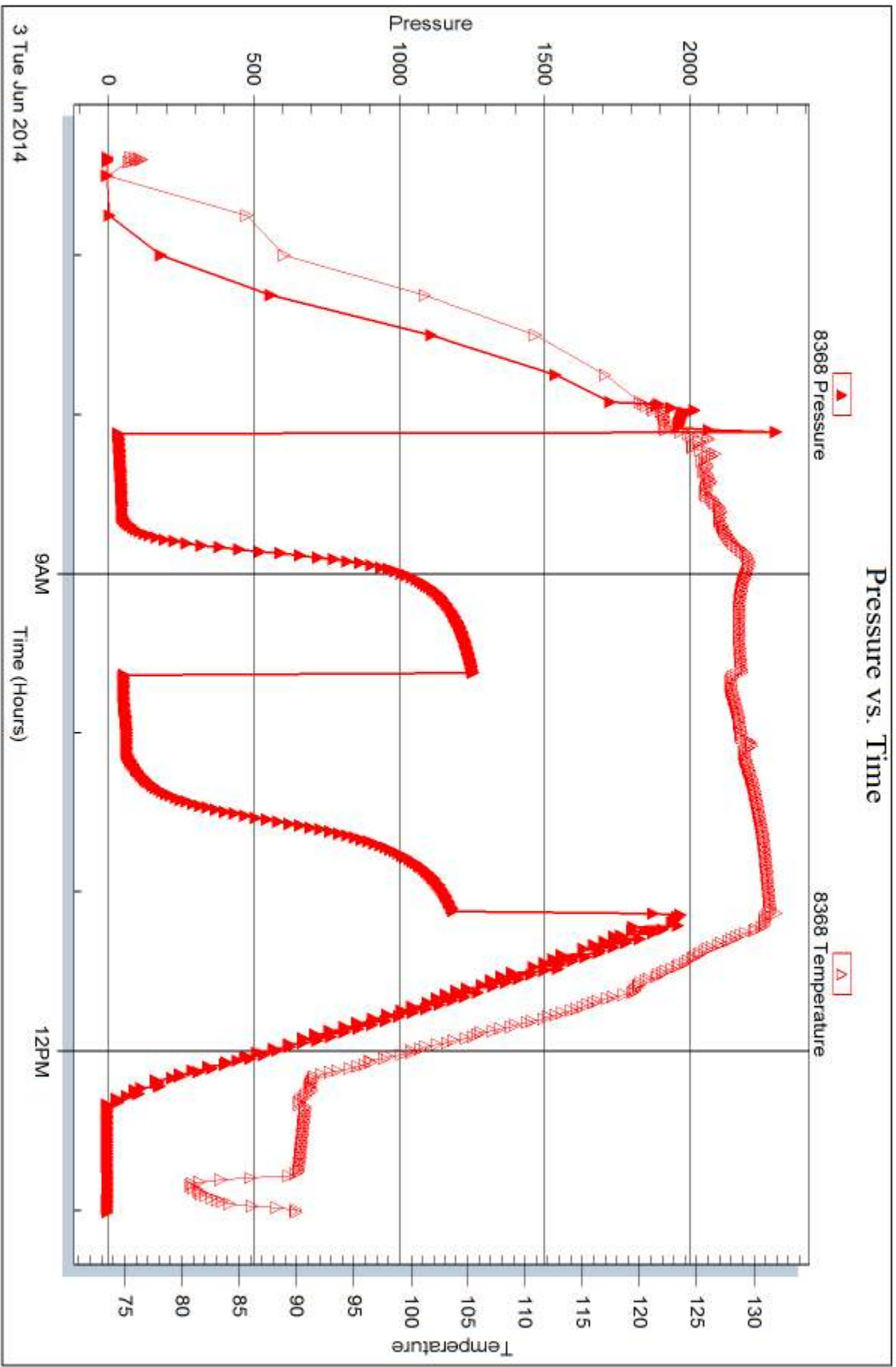
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

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

250 N. Water, Ste 300
Wichita KS 67202

ATTN: Saman Sharifaei

Theron #2-10

10-1s-37w Cheyenne,KS

Start Date: 2014.06.04 @ 16:07:00

End Date: 2014.06.05 @ 01:07:30

Job Ticket #: 58313 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.06.09 @ 13:51:19



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne,KS

250 N. Water, Ste 300
Wichita KS 67202

Theron #2-10

Job Ticket: 58313

DST#: 3

ATTN: Saman Sharifaei

Test Start: 2014.06.04 @ 16:07:00

GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:17:45

Time Test Ended: 01:07:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: #54

Interval: 4414.00 ft (KB) To 4464.00 ft (KB) (TVD)

Reference Elevations: 3103.00 ft (KB)

Total Depth: 4464.00 ft (KB) (TVD)

3093.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 6753

Inside

Press@RunDepth: 364.98 psig @ 4415.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.06.04

End Date:

2014.06.05

Last Calib.:

2014.06.04

Start Time: 16:07:05

End Time:

01:07:30

Time On Btm:

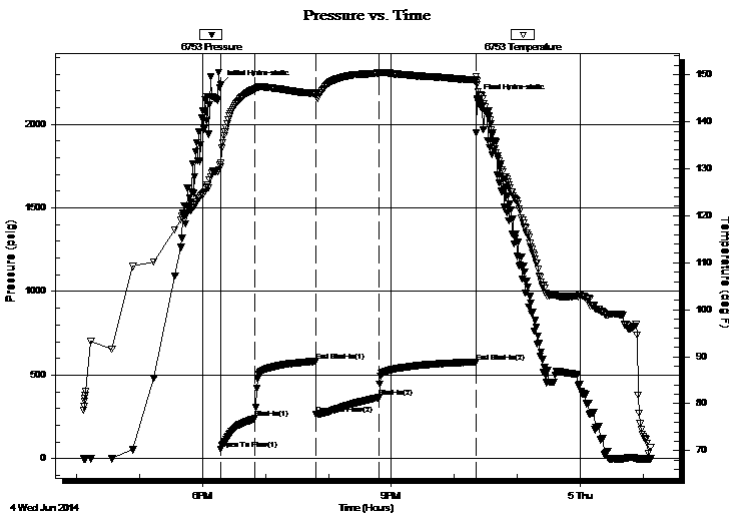
2014.06.04 @ 18:17:30

Time Off Btm:

2014.06.04 @ 22:21:30

TEST COMMENT: 30 - IF - Surface blow built to bottom of bucket in 4 mins.
60 - ISI - Return built to bottom of bucket in 25 mins.
60 - FF - Surface blow built to bottom of bucket in 11 mins
90 - FSI - Return built to bottom of bucket in 19 mins.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2236.34	131.17	Initial Hydro-static
1	56.52	130.46	Open To Flow (1)
33	241.02	147.05	Shut-In(1)
91	582.48	146.05	End Shut-In(1)
91	263.85	145.67	Open To Flow (2)
151	364.98	150.36	Shut-In(2)
243	578.70	148.87	End Shut-In(2)
244	2152.65	148.64	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
188.00	OCM - 50M - 50o	0.92
805.00	Free Oil	7.94
0.00	1326 - GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne,KS

250 N. Water, Ste 300
Wichita KS 67202

Theron #2-10

Job Ticket: 58313

DST#: 3

ATTN: Saman Sharifaei

Test Start: 2014.06.04 @ 16:07:00

Tool Information

Drill Pipe:	Length: 3836.29 ft	Diameter: 3.80 inches	Volume: 53.81 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: 556.48 ft	Diameter: 2.25 inches	Volume: 2.74 bbl	Weight to Pull Loose: 78000.00 lb
			<u>Total Volume: 56.55 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.77 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4414.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	77.00 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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Shut In Tool	5.00			4392.00	
Hydraulic tool	5.00			4397.00	
Jars	5.00			4402.00	
Safety Joint	3.00			4405.00	
Packer	4.00			4409.00	27.00 Bottom Of Top Packer
Packer	5.00			4414.00	
Stubb	1.00			4415.00	
Recorder	0.00	8368	Inside	4415.00	
Recorder	0.00	6753	Inside	4415.00	
Perforations	12.00			4427.00	
Change Over Sub	1.00			4428.00	
Drill Pipe	31.00			4459.00	
Change Over Sub	1.00			4460.00	
Bullnose	4.00			4464.00	50.00 Bottom Packers & Anchor

Total Tool Length: 77.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne,KS

250 N. Water, Ste 300
Wichita KS 67202

Theron #2-10

Job Ticket: 58313

DST#: 3

ATTN: Saman Sharifaei

Test Start: 2014.06.04 @ 16:07:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 72.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
188.00	OCM - 50M - 50o	0.925
805.00	Free Oil	7.935
0.00	1326 - GIP	0.000

Total Length: 993.00 ft Total Volume: 8.860 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

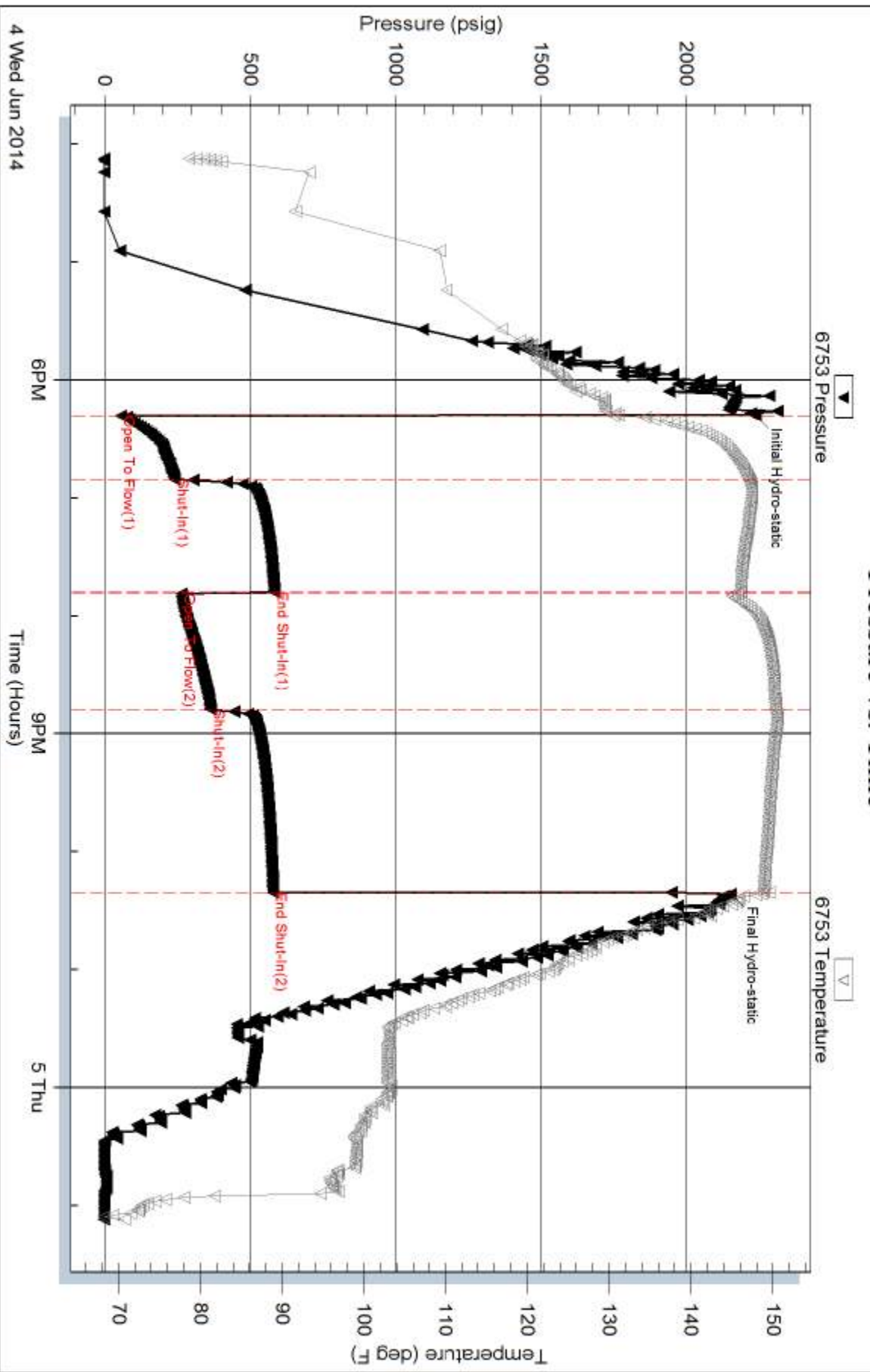
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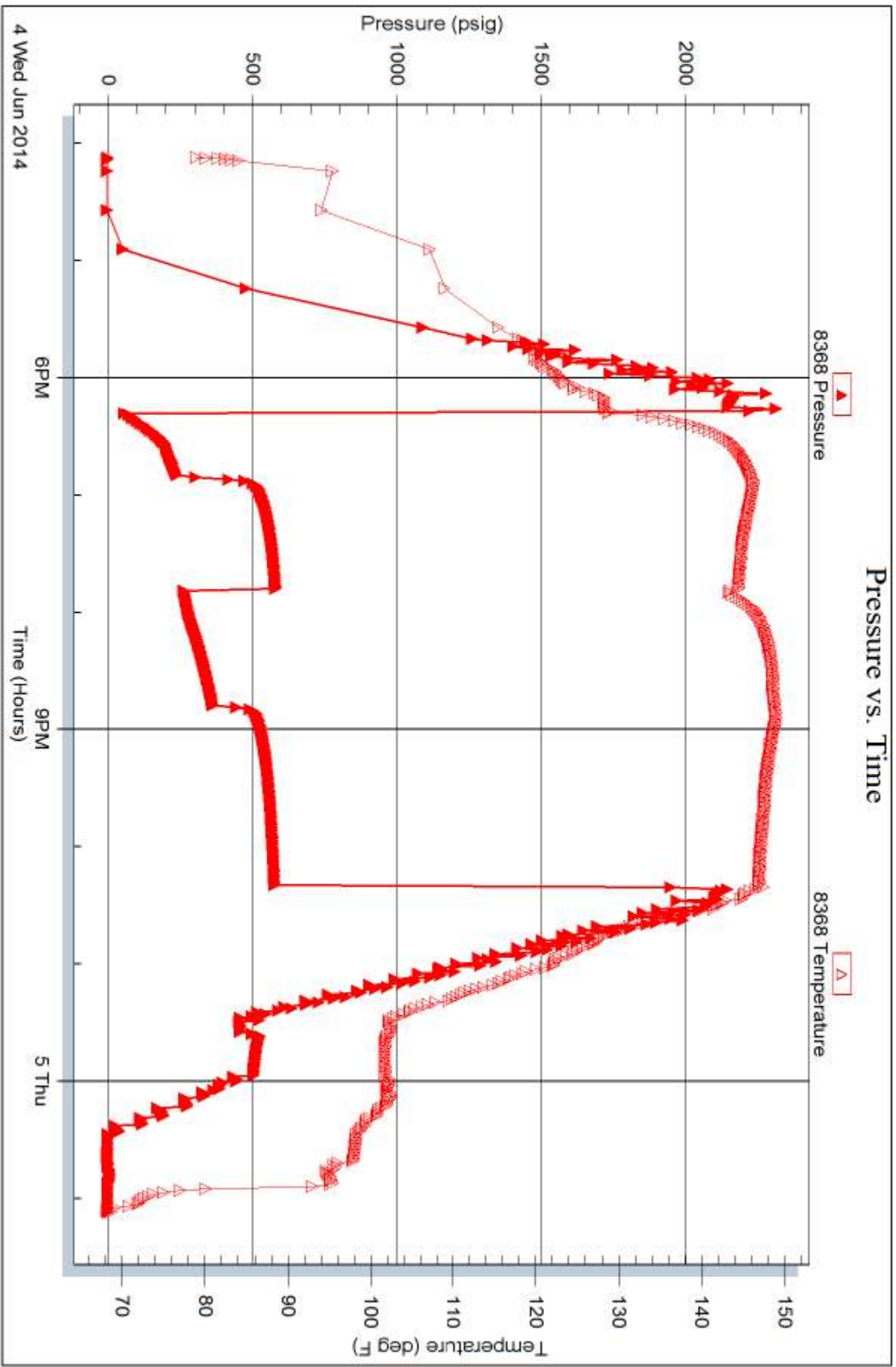
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **58311**

4/10

Well Name & No. Theron #2-10 Test No. 1 Date 6-2-14
 Company Murfin Drilling Co, Inc. Elevation 3103 KB 3093 GL
 Address 250 N. Water, Ste 300 Wichita Ks 67202
 Co. Rep / Geo. Saman Sharifaei Rig Murfin #4
 Location: Sec. 10 Twp. 1S Rge. 37W Co. Cheyenne State KS

Interval Tested 4064-4120 Zone Tested LKC-B-D
 Anchor Length 56' Drill Pipe Run 3488.27' Mud Wt. 9.1
 Top Packer Depth 4059 Drill Collars Run 556.48' Vis 58
 Bottom Packer Depth 4064 Wt. Pipe Run 0 WL 6.0
 Total Depth 4120 Chlorides 600 ppm System LCM 5#

Blow Description IF - Surface blow built to bottom of bucket in 25 mins.
ISI - No Return
FF - Surface blow built to bottom of bucket in 27 mins.
FSL - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>410</u>	<u>OCmw</u>	<u>10</u>	<u>65</u>	<u>25</u>	
<u>376</u>	<u>OCmw</u>	<u>5</u>	<u>60</u>	<u>35</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 836 BHT 142°F Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2140 Test 1250 T-On Location 4:00am
 (B) First Initial Flow 20 Jars 250 T-Started 4:50am
 (C) First Final Flow 263 Safety Joint 75 T-Open 6:56am
 (D) Initial Shut-In 962 Circ Sub N/C T-Pulled 10:56am
 (E) Second Initial Flow 267 Hourly Standby _____ T-Out 1:50pm
 (F) Second Final Flow 391 Mileage 1.36 R/T 210.80 Comments _____
 (G) Final Shut-In 950 Sampler _____
 (H) Final Hydrostatic 2067 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1785.80
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1785.80

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. 58312

Well Name & No. Theron #2-10 Test No. 2 Date 6-3-14
 Company Murfin Drilling Co., Inc. Elevation 3103 KB 3093 GL
 Address 250 N. Water, Ste 300 Wichita Ks 67202
 Co. Rep / Geo. Saman Sharifaei Rig Murfin #14
 Location: Sec. 10 Twp. 1S Rge. 37W Co. Cheyenne State KS

Interval Tested 4130 - 4180 Zone Tested LKC-G'
 Anchor Length 50' Drill Pipe Run 3550.74 Mud Wt. 9.4
 Top Packer Depth 4125 Drill Collars Run 556.48 Vis 54
 Bottom Packer Depth 4130 Wt. Pipe Run 0 WL 6.4
 Total Depth 4180 Chlorides 600 ppm System LCM 4#

Blow Description IF - Surface blow built up to 2"
ISI - No return
FF - Surface blow built to a little over a 1/4"
FST - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>97'</u>	<u>0cm</u>	<u>15</u>		<u>85</u>	
<u>1</u>	<u>Free Oil</u>	<u>100</u>			

Rec Total 98' BHT 132°F Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1992 Test 1250 T-On Location 6:10 am
 (B) First Initial Flow 37 Jars 250 T-Started 6:23 am
 (C) First Final Flow 50 Safety Joint 75 T-Open 8:07 am
 (D) Initial Shut-In 1258 Circ Sub N/C T-Pulled 11:07 am
 (E) Second Initial Flow 58 Hourly Standby _____ T-Out 1:00 pm
 (F) Second Final Flow 67 Mileage 136 R/T 210.80 Comments Chased tool
 (G) Final Shut-In 1191 Sampler _____ 6' to bottom
 (H) Final Hydrostatic 1971 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1785.80
 Accessibility _____ MP/DST Disc't _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 60
 Sub Total 1785.80

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **58313**

4/10

Well Name & No. Theron #2-10 Test No. 3 Date 6-4-14
 Company Murfin Drilling Co., Inc. Elevation 3108 KB 3093 GL
 Address 250 N. Water, Ste 300 Wichita Ks 67202
 Co. Rep / Geo. Saman Shari Faei Rig Murfin #14
 Location: Sec. 10 Twp. 15 Rge. 37W Co. Cheyenne State KS

Interval Tested 4414-4464 Zone Tested Pawnee
 Anchor Length 50' Drill Pipe Run 3836.29 Mud Wt. 9.2
 Top Packer Depth 4409 Drill Collars Run 556.48 Vis 72
 Bottom Packer Depth 4414 Wt. Pipe Run 0 WL 6.0
 Total Depth 4464 Chlorides 100 ppm System LCM 12#

Blow Description IF - surface blow built to bottom of the bucket in 4 mins.
ISI - Return built to bottom of the bucket in 25 mins.
FF - Surface blow built to bottom of bucket in 11 mins.
FSI - Return built to bottom of the bucket in 19 mins.

Rec	Feet of	%gas	%oil	%water	%mud
<u>805</u>	<u>Free Oil</u>	<u>100</u>			
<u>188</u>	<u>OCM</u>	<u>50</u>		<u>50</u>	
	<u>1326'-GIP</u>				

Rec Total 993 BHT 148 Gravity 35 API RW @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2236 Test 1250 T-On Location 4:00pm
 (B) First Initial Flow 56 Jars 250 T-Started 4:07pm
 (C) First Final Flow 241 Safety Joint 75 T-Open 6:18pm
 (D) Initial Shut-In 582 Circ Sub Dropped bar 50 T-Pulled 10:18pm
 (E) Second Initial Flow 263 Hourly Standby _____ T-Out 107
 (F) Second Final Flow 364 Mileage 136 R/T 210.80 Comments dropped bar
 (G) Final Shut-In 578 Sampler _____
 (H) Final Hydrostatic 2152 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____

Initial Open 30 Extra Packer _____ Extra Copies _____
 Initial Shut-In 60 Extra Recorder _____ Sub Total 0
 Final Flow 60 Day Standby _____ Total 1785.80
 Final Shut-In 90 Accessibility _____ MP/DST Disc't _____
 Sub Total 1785.80

Approved By _____ Our Representative [Signature]

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Saman Sharifaie

Petroleum Geologist

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY: **Marlin Drilling Co., Inc.**
LEASE: **Theron #2-10**

FIELD: **Jones Canyon Southeast**
LOCATION: **660' E.L. & 2310' E.L.**
SEC: **10 TWP. 1S R. 3E**
COUNTY: **Cheyenne STATE Kansas**

CONTRACTOR: **Martin Drilling #14**
RTD: **05/28/14 CONMP 06/06/14**
MUD UP: **4620' LTD 4620'**
TYPE MUD: **Chemical**

SAMPLES SAVED FROM: **3400' TO RTD**
DRILLING TIME KEPT FROM: **3400' TO RTD**
SAMPLES EXAMINED FROM: **3400' TO RTD**

GEOLOGICAL SUPERVISION FROM: **3100'**
REFERENCE WELL: **MDCI - Theron #1-10**

CONDUCTOR: **8-5/8" at 2.23"**
SURFACE: **8-5/8" at 2.23"**
PRODUCTION: **5-1/2" at 4617'**

ELECTRICAL SURVEYS: **CND; DIL; MEL; SANC**
Pioneer Wellfire

ELEVATIONS: **KB 3103'**

Formation	Sample Tops	E-log Tops	Strat Pos.
Anhydrite	3049 (+54)	3048 (+55)	-4
Base Anhydrite	3081 (+22)	3079 (+24)	-2
Neva	3501 (-308)	3500 (-307)	-2
TOPEKA	3826 (-723)	3821 (-728)	-5
ORISKANY	3906 (-863)	3905 (-862)	-5
START	4046 (-943)	4047 (-944)	-5
Stark	4266 (-1163)	4265 (-1160)	-2
Pawnee	4440 (-1337)	4436 (-1335)	-2
Cherokee	4526 (-1423)	4522 (-1419)	-1

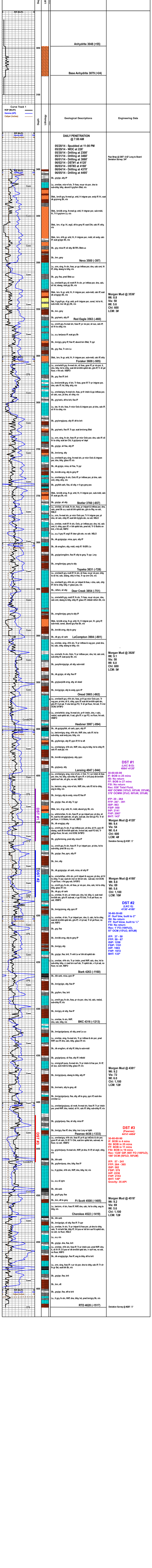


REMARKS Due to fair shows of oil in multiple pay zones and positive DST results, it is recommended and agreed upon by all parties that production casing be set to further evaluate this well.

Respectfully Submitted,
Saman Sharifaie
Petroleum Geologist

API #15-023-21393

*Tops have been adjusted to electric logs



Depth	Lithology	Geological Descriptions	Engineering Data		
3048 (+55)	Anhydrite	Anhydrite 3048 (+55)			
3079 (+24)	Base Anhydrite	Base Anhydrite 3079 (+24)			
3500 (-307)	Neva	DAILY PENETRATION @ 7:00 AM 05/28/14 - Spudded at 11:00 PM 05/29/14 - WOC at 226' 05/30/14 - Drilling at 2300' 05/31/14 - Drilling at 3460' 06/01/14 - Drilling at 3880' 06/02/14 - DST#1 at 4120' 06/03/14 - DST#2 at 4180' 06/04/14 - Drilling at 4370' 06/05/14 - Drilling at 4495' Sh, gry/gn, silty IP Ls, crm/tan, micr-vf xln, Tr foss, no-pr vis por, dns to sub-chly, billy, abund lt gry/bn Stlst, n/s Stlst, brn/lt gry, fn-med gr, srt/d, fr intrgran por, sandy IP, fri, scat dk gry/ormg Sh, n/s Stlst, brn/dk ong, fn-med gr, srt/d, fr intrgran por, sub-mdd, fri, Tr lt gry/crm Ls, n/s Stlst, brn, vf gr, fri, argill, sft to gmy IP, scat Chk, calc IP, shly, n/s Stlst, brn, vf-in gr, srt/d, fri, fr intrgran por, mdd, sli sandy, calc IP, scat gry/gn Sh, n/s Sh, gry, mica IP, sil sily, 60-70% Stlst a.a Sh, brn, gmy Neva 3500 (-397) Ls, crm, sing, fn xln, foss, pr pp intfoss por, dns, calc cmt, fri IP, chly, sbang to bily, n/s Sh, gry, fiss, pred Stlst a.a Ls, crm/tan/lt gry, sli mott IP, fn xln, pr intfoss por, dns, calc, sli hd, sbang, scat gry Sh, n/s Stlst, brn, fn gr, srt/d, fri, fr intrgran por, sub-mdd, calc IP, scat dk ong/gry Sh, n/s St, lt gry/lt gr, vf gr, srt/d, pr-fr intrgran por, consl, hd to fri, sub-mdd, incr dk gry Sh, n/s Sh, brn, gmy Red Eagle 3563 (-460) Ls, crm/lt gry, fn-med xln, foss IP, pr vis por, sil, suc, calc IP, sli fri to chly, n/s Ls, a.a, tan/purp IP, scat gry Sh Sh, brn/gry, gmy IP, fiss IP, abund brn Stlst, Tr pyr Sh, gry, fiss, Tr crm Ls Stlst, brn, fn gr, srt/d, fri, fr intrgran por, sub-mdd, calc IP, shly Foraker 3608 (-505) Ls, crm/wh/lt gry, fn-med xln, sli foss, gran IP, pr vis por, ti, dns, bily, hd to chly, scat dk brn/bk spkld stn, gils IP, Tr dl yel fluor, v frt odr, VSSFO Sh, gry, fiss IP, brit Ls, crm/lt gry, vf-in xln, Tr foss, gran IP, Tr pr intrgran por, dns, calc IP, hd, bily, shly, n/s Ls, crm/tan/gry, fn-med xln, foss, pr-fr intbn & pp intfoss por, sli calc, suc, pt dns, sli chly, n/s Sh, gry/varic, sft to brit, fiss IP Ls, tan, fn xln, foss, fr micr Oolc & intrgran por, pt dns, calc IP, sli fri to chly, n/s Sh, gry/ormg/purp, sily IP, sft to brit Sh, gry/varic, fiss IP, Tr pyr, scat brn/ormg Stlst Ls, crm, sing, fn xln, foss IP, pr micr Oolc por, dns, calc IP, sli fri to chly, scat tan Chl, lt gry/purp w/ dept Sh, gry/gn, sli fiss, silty IP Sh, brn/ormg, sily Ls, crm/tan/lt gry, sing, fn-med xln, pr micr Oolc & intrgran por, dns, bily, glauc IP, n/s Sh, dk gry/gn, mica, sli fiss, Tr pyr Sh, brn/dk ong, silty to gmy IP Ls, crm/tan/gry, fn xln, Oolc IP, pr intfoss por, pt dns, calc cmt, chly, bily, n/s Sh, gry/bk carb, fiss, sli sily, rr lt gry gmy pcs Stlst, brn/dk ong, fn gr, srt/d, fri, fr intrgran por, sub-mdd, calc IP, scat gry Sh, n/s Sh, gry/gn, sil sily Stotler 3760 (-657) Ls, crm/tan, sli mott, fn xln, foss, pr intpart & intfoss por, dns, calc, pred Sh a.a, scat dd blk spkld stn, gils to fly, no odr, NSLO Ls, crm, fn-med xln, pr micr Oolc por, Tr fr intrgran por, pt dns, sli calc, chly IP, scat blk try/gils stn, no odr, NSFO Ls, crm/tan, mott IP, fn xln, Oolc, pr intfoss por, dns, hd, calc cmt, ti, chly, pyrc IP, rr blk spkld stn, Tr G Bubbles on brk, v frt odr, NSFO Ls, a.a, lt gry IP, argill IP, decr gils stn, no odr, NSLO Sh, dk gry/gry/gn, mica, pyrc, silty IP Sh, dk ong/brn, stly, mdd, mdy IP, 10-20% Ls Sh, gry/gn/ormg/brn, fiss IP, silty to gmy, Tr pyr, Lmy Sh, ormng/brn/gry, gmy to stly Topeka 3831 (-728) Ls, crm/tan/lt gry, mott IP, fn xln, sli foss, no-pr vis por, chly to sli hd, calc, sbang, shly in frac, Tr op crm Chk, n/s Ls, crm/tan/lt gry, vf-in xln, pr intpart & foss, v dns, calc, chly IP, hd to chly, bily, rr glauc pcs, n/s Sh, rd/brn, sli sily Deer Creek 3854 (-751) Ls, crm/wh/lt gry, mott IP, fn xln, Tr intfoss, no-pr vis por, dns, calc cmt, sbang to bily, chly IP, glauc IP, fri, mdd, rd/brn Sh, n/s Sh, ormng/brn/gry, gmy to stly IP Stlst, brn/dk ong, fn gr, srt/d, fri, fr intrgran por, fri, gmy IP, sub-mdd, consl, abund gry fiss Sh, n/s Sh, brn/dk ong, silty to gmy Sh, dk gry, sli carb LeCompton 3904 (-801) Ls, crm/tan, sing, vf-in xln, Tr pr intfoss & vug por, pred dns, hd, calc, chly, sbang to bily, n/s Ls, crm/wh/lt, fn xln, Oolc, Tr pr intfoss por, dns, hd, calc cmt, dns, bily, scat purp Sh, n/s Sh, purp/brn/gry/gn, sli sily, sub-mdd Sh, dk gry/gn, sli sily, fiss IP Sh, gry/purp/dk ong, sily, sli xized Sh, brn/gry/gn, silty to sandy, pyrc IP Overad 3965 (-862) Ls, crm/tan/lt gry, vf-in xln, foss, pr-fr pp micr Oolc por, Tr vug por, pt dns, sli ti, chly, pyrc IP, scat dk brn/bk spkld stn, gils IP, Tr pt sat, Tr slw bid pp FO, Tr dl yel fluor, frt odr, Tr lrd OCV S-FSSO Ls, crm/wh/ldr, sing, fn-med xln, pr-fr intbn, dns, v calc, rextzd, scat spkld stn, lt sat, gils IP, rr pp FO, no fluor, frt odr, VSSFO Heebner 3997 (-894) Sh, dk gry/gry/bk, sily, carb, pyrc, sily IP Ls, tan/crm/gry, sing, vf-in xln, NVP, dns, calc IP, hd to sub-chly, scat sndy pos, bily, n/s Sh, gry/brn/gn, silty IP, pyrc IP, fri to sft Ls, crm/tan/gry, vf-in xln, NVP, dns, ang to bily, hd to chly IP, calc IP, scat pyr, n/s Sh, brn/dk ong/gry/purp, sily, pyrc Sh, gry/purp, sily Lansing 3997 (-894) Ls, crm/tan/gry, sing, micr-vf xln, rr Oolc, Tr v pr intbn & fass por, dns, hd, bily, sub-chly IP, pyrc IP, rr (45 pcs) dk brn/bk spkld surf stn, sli gils, no odr, NSFO Ls, tan/crm, sing, micr-vf xln, NVP, dns, calc IP, hd to chly, ang to bily, n/s Sh, brn/gry, silty to sandy, mica IP, fiss IP Sh, gry/gn, fiss, sli sily, Tr pyr Stlst, brn, vf gr, srt/d, fri, mdd, abund gry Sh, n/s Ls, wht/crm/tan, fn xln, foss IP, pr pp intpart por, pt dns, sli fri, scat try blk spkld stn, sli gils, sub-sat, slw bid pp FO, Tr dl yel fluor, Tr G Bubbles, frt odr, SSSO Sh, dk ong/gry, sily Ls, crm/lt gry, fn xln, fr pp intfoss por, pt dns, sli fri, pyrc IP, sbang, scat dk brn/bk spkld stn, lt-mod sat, scat FO bid, Tr yel/gn fluor, frt odr, lrd OCV, S-FSSO Sh, gry/brn/ormg, pred sily, mica IP Ls, crm/lt gry, fn xln, foss IP, Tr pr intpart por, pt dns, hd to sub-chly, pred Sh a.a, n/s Sh, gry/gn, fiss, pyrc, sily IP Sh, brn, sily Sh, dk gry/gry/gn, sli carb, mica, sli sily IP Ls, crm/wh/lt tan, vf-in xln, pr-fr intpart & vug por, pt dns, sli fri to chly, Tr pyr, scat xln ind w/ dk brn stn, sub-sat, lrd OCV, Tr yel fluor, v frt gey odr, S-FSSO Ls, crm/lt gry, fn xln, sli foss, pr vis por, dns, calc, hd to chly, bily, glauc IP, n/s Sh, dk gry, sli carb Ls, crm/tan, fn xln, pr intbn por, dns, hd, bily, ti, scat med brn/bk stn, gils IP, sub-sat, rr pp FO bid, Tr dl yel fluor, no odr, VSSFO Sh, brn/gry/ormg, sily, pyrc IP Ls, crm/tan, vf xln, Tr pr intpart por, dns, ti, calc, hd to chly, scat dk brn/bk spkld stn, gils IP, v lt pt sat, Tr dl yel fluor, no odr, NSFO Sh, gry, fiss Sh, brn/dk ong, silty to gmy IP Sh, brn/gry, sily Sh, gry/gn, fiss, brit, Tr wht Ls w/ blk dd spkld stn Ls, crm/tan, vf-in xln, Tr pr intbn, pred NVP, calc, dns, hd to sub-chly, bily, rr med brn surf stn, Tr spkld stn, v lt pt sat, no fluor, no odr, NSFO Stark 4263 (-1160) Sh, blk carb, mica, pyrc IP Sh, brn/gry/gn, sily, fiss IP Sh, gry/brn, fiss, brit Ls, crm/lt gry, fn xln, foss, pr vis por, dns, hd, calc, rextzd, sub-chly IP, n/s Sh, brn/gry, sli sily, fiss IP Ls, crm/tan, fn xln, NVP, dns, calc, bily, n/s BKC 4316 (-1213) Sh, brn/gry/purp, sli sily, pred Ls a.a Ls, crm/tan, sing, fn-med xln, Tr pr intfoss & xln por, pred NVP, scat IP, dns, calc, bily, glauc IP, n/s Sh, dk ong/brn, sli sily IP, bily to sub-mdd Sh, gry/gn/purp, sli fiss, sily IP, intbd Ls, crm/gry/lt purp, fn-med xln, Tr pr intbn & frac por, fri IP, sli suc, sub-mdd to bily, glauc IP, n/s Sh, brn/gry/purp, sbang to bily, sily IP Sh, brn/varic, silty to gmy, sft Sh, brn/gry/purp, fiss, sily, sft to gmy, pyrc IP, scat dns crm/tan Ls Ls, crm/tan/gry/purp, sli mott, fn-med xln, foss IP, Tr pr intbn por, pred NVP, dns, rextzd, sli fri, calc IP, bily, sub-chly IP, n/s Sh, gry/gn/purp, fiss, sli sily, mica IP Sh, brn/gry, fiss IP, dns, bily, incr Lmy w/ dpth Pawnee 4436 (-1333) Ls, crm/tan/gry, vf-in xln, foss IP, pr-fr pp intOolc & xln por, gran IP, sli calc, fri IP, Tr Chk, scat brn spkld stn, sub-sat, no fluor, no odr, VSSFO Ls, gry/ol/purp, fn-med xln, NVP, pt dns, fri IP, sli argill, chly, n/s Sh, blk carb Sh, brn/purp, dns, bily, fiss IP Ls, lt gry/tan, vf-in xln, NVP, dns, bily, hd, n/s Ls, a.a, sli pyrc Sh, blk carb Sh, gry/lt gry, fiss Sh, brn, sft to gmy Ls, tan/crm, fn xln, foss IP, NVP, dns, calc, hd to chly, ang to bily, n/s Cherokee 4522 (-1419) Sh, blk carb Sh, brn/gry/gn, sli sily, fiss IP, Tr pyr Ls, crm/tan, fn xln, Tr pr intpart & foss por, pt dns to chly, calc, Tr crl/wh/lt Sat, bily IP, 35 pcs w/ dd brn surf & spkld stn, no odr, no fluor, NSLO Ls, a.a, n/s Sh, gry/gn, dns, fiss, brit Ls, crm/tan, vf-in xln, foss IP, Tr pr intbn por, pred NVP, dns, ti, sli fri IP, 23 pcs w/ dk brn/bk spkld stn, rr surf res, no odr, no fluor, NSFO Sh, dk ong/gry/gn, fiss IP, ang to bily, sft to brit Ls, crm, sing, foss IP, v pr vis por, dns to chly, calc IP, Tr crl fr gr Sat, scat blk Sh, n/s Sh, gry/gn, fiss, brit Sh, brn, sft Sh, gry/gn, fiss, sft to brit Ls, lt gry, fn xln, NVP, dns, bily, hd, pred brn/gry Sh, n/s RTD 4620 (-1517)			

Pipe Strap @ 3387': 0.42' Long to Board
Deviation Survey: 3/4"

Morgan Mud @ 3536'
Wt: 8.8
Vis: 5.8
Chl: 600
LCM: 3#

Morgan Mud @ 3926'
Wt: 9.1
Vis: 5.8
Wt: 6.0
Chl: 600
LCM: 5#

DST #1 (LKC B-D) 4064'-4120'
30-60-60-90
IF: BOB in 25 mins
ISI: No return
FF: BOB in 27 mins
FSI: No return
Rec: 836' GIP, 805' FO (100%), 460' OCMW (10%, 65%W, 25%M), 376' OCMW (5%, 60%W, 35%M)
IFP: 20 - 264
FFP: 267 - 391
ISIP: 963
FSIP: 950
IHP: 2141
FHP: 2067
BHT: 143°

Morgan Mud @ 4120'
Wt: 9.4
Vis: 5.4
Wt: 6.4
Chl: 600
LCM: 4#
Deviation Survey @ 4120': 1/2"

Morgan Mud @ 4180'
Wt: 8.8
Vis: 5.6
Chl: 1,100
LCM: 10#

DST #2 (LKC G) 4130'-4180'
30-60-30-60
IF: Surf blow, built to 2"
ISI: No return
FF: Surf blow, built to 1/2"
FSI: No return
Rec: 1' FO (100%), 97' OCM (15%, 85%M)
IFP: 37 - 50
FFP: 59 - 67
ISIP: 1258
FSIP: 1191
IHP: 1993
FHP: 1972
BHT: 133°

Morgan Mud @ 4381'
Wt: 9.2
Vis: 7.2
Wt: 1,100
Chl: 1,600
LCM: 12#

DST #3 (Pawnee) 4414'-4464'
30-60-60-90
IF: BOB in 4 mins
ISI: BOB in 25 mins
FF: BOB in 11 mins
FSI: BOB in 19 mins
Rec: 1326' GIP, 805' FO (100%), 188' OCM (50%, 50%M)
IFP: 57 - 241
FFP: 264 - 365
ISIP: 582
FSIP: 579
IHP: 2236
FHP: 2153
BHT: 149°
Gravity: 35 API

Morgan Mud @ 4518'
Wt: 9.2
Vis: 6.9
Wt: 1,500
Chl: 1,600
LCM: 12#

Deviation Survey @ 4620': 1/2"



PO Box 93999
Southlake, TX 76092

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

*www:
Prod-MG*

INVOICE

Invoice Number: 1435 06
Invoice Date: May 29, 2014
Page: 1

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

Customer ID	Field Ticket #	Payment Terms	
Murfin	63292	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	May 29, 2014	6/28/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Theron #2-10		
220.00	CEMENT MATERIALS	Class A Common	17.90	3,938.00
12.00	CEMENT MATERIALS	Chloride	40.00	480.00
231.00	CEMENT SERVICE	Cubic Feet Charge	2.48	572.88
958.50	CEMENT SERVICE	Ton Mileage Charge	2.60	2,492.10
1.00	CEMENT SERVICE	Surface	1,512.25	1,512.25
90.00	CEMENT SERVICE	Pump Truck Mileage	7.70	693.00
1.00	CEMENT SERVICE	Swedge Manifold Rental	275.00	275.00
90.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	396.00
1.00	CEMENT SUPERVISOR	LaRene Wentz		
1.00	EQUIPMENT OPERATOR	Wayne McGhghy		

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

\$ 3,625.76

ONLY IF PAID ON OR BEFORE
Jun 28, 2014

Subtotal	10,359.23
Sales Tax	360.07
Total Invoice Amount	10,719.30
Payment/Credit Applied	
TOTAL	10,719.30

*OK
LR*

ALLIED OIL & GAS SERVICES, LLC 063292

Federal Tax I.D. # 20-8651475

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

SERVICE POINT: Dakley's

DATE <u>5-27-14</u>	SEC. <u>10</u>	TWP. <u>1</u>	RANGE <u>37</u>	CALLED OUT	ON LOCATION <u>12:00 M.</u>	JOB START <u>4:00 AM</u>	JOB FINISH <u>4:30 PM</u>
LEASE <u>Theron</u>	WELL.# <u>2-10</u>	LOCATION <u>Bankline State Line</u>			COUNTY <u>Cherokee</u>	STATE <u>KS</u>	
OLD OR NEW (Circle one)			<u>3E, 2 7/8 SE, N 4 E into</u>				

CONTRACTOR <u>Murfin 14</u>		OWNER <u>same</u>
TYPE OF JOB <u>Surface</u>		
HOLE SIZE <u>12 1/4</u>	T.D. <u>226'</u>	CEMENT AMOUNT ORDERED <u>220 SKS com 3% cc</u>
CASING SIZE <u>8 7/8</u>	DEPTH <u>226.47'</u>	
TUBING SIZE	DEPTH	
DRILL PIPE	DEPTH	
TOOL	DEPTH	
PRES. MAX	MINIMUM	COMMON <u>220 SKS @ 17.90 3938.00</u>
MEAS. LINE	SHOE JOINT	POZMIX @
CEMENT LEFT IN CSG. <u>15'</u>		GEL @
PERFS.		CHLORIDE <u>(20')</u> <u>12 SKS @ 40.00 480.00</u>
DISPLACEMENT <u>13.5366'</u>		ASC @
EQUIPMENT		(Material Total) @ <u>7418.00</u>
PUMP TRUCK # <u>422</u>	CEMENTER <u>LaRene E. Wash</u>	(<u>1,596.30 / 352</u>) @
	HELPER <u>Wayne McElghy</u>	@
BULK TRUCK # <u>891-310</u>	DRIVER <u>Juan Tamer (TWS)</u>	@
BULK TRUCK #	DRIVER	@
		HANDLING <u>231 SKS @ 2.48 572.88</u>
		MILEAGE <u>10.65 hrs x 90 x 260 2792.10</u>

REMARKS:

Mix 220 SKS cement
Displace with water
Cement did circulate
30 SKS to pit.

SERVICE

DEPTH OF JOB	<u>226.47'</u>	
PUMP TRUCK CHARGE		<u>1512.25</u>
EXTRA FOOTAGE	@	
MILEAGE <u>MHW 90</u>	@ <u>7.70</u>	<u>693.00</u>
MANIFOLD <u>Savage</u>	@	<u>775.00</u>
<u>MFLU 90</u>	@ <u>4.90</u>	<u>396.00</u>
	@	
	(<u>2,079.46 / 352</u>)	<u>5,941.33</u>
	TOTAL	

CHARGE TO: Murfin
STREET _____
CITY _____ STATE _____ ZIP _____

PLUG & FLOAT EQUIPMENT

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

TOTAL _____

To: Allied Oil & Gas Services, LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (If Any) _____
TOTAL CHARGES 10,359.33
DISCOUNT 3,625.76 (352) IF PAID IN 30 DAYS
6,733.56 Net

PRINTED NAME COREE Wash
SIGNATURE [Signature]



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



Invoice

DATE	INVOICE #
6/6/2014	26657

BILL TO
Murfin Drilling Co Inc PO Box 661 Colby, KS 67701-0661
USED FOR <u>1C/03</u>
APPROVED <u>JK</u>

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#2-10	Theron	Cheyenne		Oil	Development	5-1/2" Top To B...	Josh
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				180	Miles	6.00	1,080.00
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				10	Gallon(s)	42.00	420.00T
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				4,577	Ton Miles	1.00	4,577.00
	Subtotal							23,454.50
	Sales Tax Cheyenne County						8.15%	1,206.00
We Appreciate Your Business!							Total	\$24,660.50



CHARGE TO: Murkin
 ADDRESS _____
 CITY, STATE, ZIP CODE _____

TICKET 26657

PAGE 1 OF 2

SERVICE LOCATIONS: Ways KS WELL/PROJECT NO: 2-10 LEASE: Theron COUNTY/PARISH: Cheyenne STATE: KS CITY: _____ DATE: 6-6-14 OWNER: _____

Ness City, KS TICKET TYPE: SERVICE SALES CONTRACTOR: _____ RIG NAME/NO: _____ SHIPPED VIA: CT DELIVERED TO: Loach Wm ORDER NO: _____

WELL TYPE: O-1 WELL CATEGORY: Development JOB PURPOSE: 5 1/2" Pipe Injection Loss Strain WELL PERMIT NO: _____

REFERRAL LOCATION: _____ INVOICE INSTRUCTIONS: _____ WELL LOCATION: _____

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT	DF							
575					MILEAGE @ 112	1801	mi			6.00	10800.00
579					Pump Charge Top w Bottom	1	ea			2000.00	2000.00
221					Legend KCL	4	gal			25.00	100.00
281					Mud Flush	500	gal			1.25	625.00
290					O-Air	10	gal			42.00	420.00
403					Lement Baskets	3	ea			300.00	900.00
406					Latch Down Plug + Saddle	1	ea			275.00	275.00
407					Insert Flat Shoe w/Auto F-11	1	ea			375.00	375.00
409					Turbulizers	15	ea			90.00	1350.00
413					Rate wall Scatterers	15	ea			40.00	600.00
419					Rotating Head Rentals	1	ea			200.00	200.00

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

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

X Ron S. DATE SIGNED: 6-11-14 TIME SIGNED: 04:00 A.M. P.M.

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

SURVEY		AGREE	UN-DECIDED	DIS-AGREE	PAGE TOTAL	AMOUNT
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?					P1	7925.00
WE UNDERSTOOD AND MET YOUR NEEDS?					P2	15529.00
OUR SERVICE WAS PERFORMED WITHOUT DELAY?						23,454.50
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?						1,200.00
ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/> YES	<input type="checkbox"/> NO				24,600.50
<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND						

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

SWIFT OPERATOR: John P. APPROVAL: _____

Thank You!



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

TICKET CONTINUATION

TICKET No. 26657

CUSTOMER: *Murphy*

WELL: *Merion 270*

DATE: *6-6-14*

PAGE 2 OF 2

PRICE REFERENCE	SECONDARY REFERENCE / PART NUMBER	ACCOUNTING			TIME	DESCRIPTION	WELL		DATE	UNIT PRICE	AMOUNT
		LOC	ACCT	DF			QTY	U/M			
325		2				Standard cement U/A2	200	SKS		14.50	2900.00
330		2				Swift Multi Density	300	SKS		18.50	5550.00
276		2				Procele	125	lbs		2.50	312.50
283		2				Sel14	1000	lbs		.20	200.00
284		2				Calseal	9	SKS		35.00	315.00
285		2				CFR-1	150	lbs		4.50	675.00
581		2				SERVICE CHARGE				2.00	1000.00
580		2				MILEAGE CHARGE				1.00	4577.00

TOTAL WEIGHT *30865*

LOADED MILES *180*

CUBIC FEET *500*

TON MILES *1807.5*

CONTINUATION TOTAL

12834.00
15524.00

JOB LOG

SWIFT Services, Inc.

DATE 6-6-14 PAGE NO. _____

CUSTOMER Murphy WELL NO. 210 LEASE theron JOB TYPE 5 1/2" Top N Bottom TICKET NO. 26657

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0400							on location
								TD 4620 SJ 21
								TD 4617 Insert 4596
								centralizers 1-10, 12, 14, 16, 37, 62
								Baskets 17, 38, 63
	0700							Start Pipe
								Break circulation
	0915							Drop Ball circulate Rate
	1015		215					Plug MH 30 sks, MH 20 sks
	1025	5	12		✓		500	Start Mud Flush
		5	20		✓		500	start KCL Flush
		5	138		✓		500	Start SMP Cement 250 sks
		5	48		✓		200	start EA-2 cement 200 sks
	1115							Drop Plug
								wash out Pump + lines
	1118	6.5	20		✓			Start Displacement w/20 bbl KCL
		6.5			✓			finish w/ H ₂ O
		6.5	100		✓		1100	Circulate Cement
	1140	6.5	108.3		✓		1200 / 1500	land plug Hold
								Release Dry
								wash up Break up
	1215							Job Complete
								Thank You
								Josh, Brian, Isaac, Craig

Theron #2-10
 Daily Drilling Report
 Page Two

6/4/14 Depth 4370'. Cut 190'. DT: None. CT: 11½ hrs. Dev: None. **Pawnee**: Ls., crm/tan/gry, vf-fn xln, foss IP, pr-fr pp intOolc & xln por, gran IP, sli calc, fri IP, Tr Chk, scat brn splkd stn, sub-sat, no fluor, no odr, VSSFO. **DST #3 4414-4464 (Pawnee)**:

6/5/14 Depth 4495'. Cut 125'. DT: None. CT: 15½ hrs. Dev.: None. **DST #3 4414-4464 (Pawnee)**: 30-60-60-90. IF: BOB in 4 mins. ISI: BOB in 25 mins. FF: BOB in 11 mins. FSI: BOB in 19 mins. Rec.: 1326' GIP, 805' FO (100%O), 188' OCM (50%O, 50%M), HP: 2236-2153. FP: 57/241, 264/365. SIP: 582-579. BHT: 149°, Gravity: 35 API

6/6/14 RTD 4620'. Cut 125'. DT: none. CT: 19 ¾ hrs. HC @ 12:15 PM 6/5/14. Pioneer logged from 5:00 PM to 11:00 PM 6/5/14. LDDP to run 5 ½" prod csg.

6/7/14 RTD: 4620'. CT: 9hrs. Ran 110jts of 15.5# 5 ½" prod csg, set @ 4617'. Swift cmt w/450sxs (250SMD, 200EA-2). PD @ 12:00PM 6/6. 30sxs RH, 20sxs MH. Cmt Circ. RR @ 4:00PM 6/6/14. FINAL REPORT

MDCI Theron #2-10 660' FSL 2310' FEL Sec. 10-T1S-R37W 3103' KB							MDCI Theron #1-10 1900' FSL 2200' FEL Sec. 10-T1S-R37W 3111' KB		
Formation	Sample top	Datum	Ref	Log Top	Datum	Ref	Log Top	Datum	
Anhydrite	3049	+54	-5	3048	+55	-4	3052	+59	
B/Anhydrite	3081	+22	-4	3079	+24	-2	3085	+26	
Neva	3501	-398	-4	3500	-397	-3	3505	-394	
Red Eagle	3567	-464	-6	3563	-460	-2	3569	-458	
Foraker	3613	-510	-7	3608	-505	-2	3614	-503	
Topeka	3836	-733	-10	3831	-728	-5	3834	-723	
Oread	3966	-863	-4	3965	-862	-3	3970	-859	
Lansing	4046	-943	-4	4047	-944	-5	4050	-939	
Stark	4266	-1163	-8	4263	-1160	-5	4266	-1155	
BKC	4322	-1219	-9	4316	-1213	-3	4321	-1210	
Pawnee	4440	-1337	-6	4436	-1333	-2	4442	-1331	
Cherokee	4526	-1423	-5	4523	-1420	-2	4529	-1418	
Mississippi	NR			NR			DNR		
RTD	4620	-1517					4620	-1509	
LTD				4620	-1517		4616	-1505	