



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1224306
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: _____

1224306

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
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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	Ken 1-17
Doc ID	1224306

All Electric Logs Run

DIL
DUCP
MEL
BHCS



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste. 300
Wichita KS 67202

ATTN: Keith Reavis

Ken #1-17

17-1s-35w Rawlins,KS

Start Date: 2014.06.10 @ 02:10:00

End Date: 2014.06.10 @ 09:32:00

Job Ticket #: 58192 DST #: 1

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

Printed: 2014.06.13 @ 10:00:19



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co.
 250 N. Water Ste. 300
 Wichita KS 67202
 ATTN: Keith Reavis

17-1s-35w Rawlins,KS
Ken #1-17
 Job Ticket: 58192 **DST#: 1**
 Test Start: 2014.06.10 @ 02:10:00

GENERAL INFORMATION:

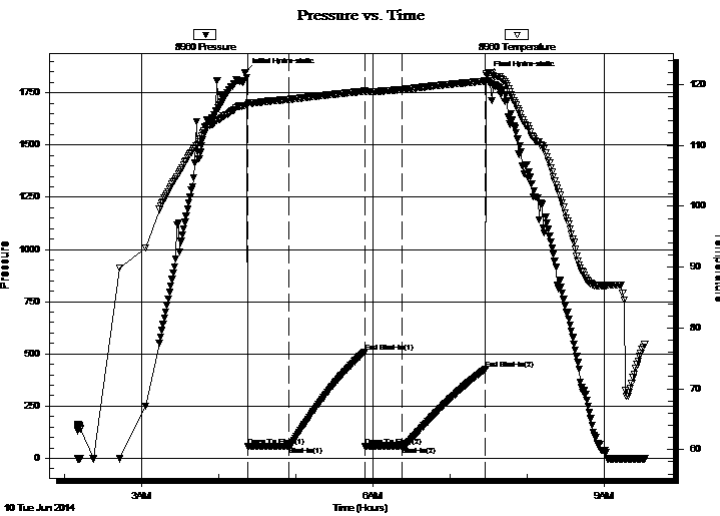
Formation: **Stotler - Tarkio**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:22:30
 Time Test Ended: 09:32:00
 Interval: **3810.00 ft (KB) To 3928.00 ft (KB) (TVD)**
 Total Depth: 3928.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Chuck Kreuzer Jr.
 Unit No: 61
 Reference Elevations: 3179.00 ft (KB)
 3174.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8960

Inside

Press@RunDepth: 60.00 psig @ 3811.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.06.10 End Date: 2014.06.10 Last Calib.: 2014.06.10
 Start Time: 02:10:01 End Time: 09:32:00 Time On Btm: 2014.06.10 @ 04:20:30
 Time Off Btm: 2014.06.10 @ 07:28:30

TEST COMMENT: IF: Weak Surface blow , Died in 15 mins. {Slid 10 ft. tool opened on slide bled off blow }
 IS: No blow back
 FF: No blow
 FS: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1847.31	116.53	Initial Hydro-static
2	57.16	116.68	Open To Flow (1)
34	58.19	117.53	Shut-In(1)
93	510.21	118.89	End Shut-In(1)
94	58.12	118.80	Open To Flow (2)
122	60.00	119.16	Shut-In(2)
187	427.27	120.55	End Shut-In(2)
188	1831.62	121.76	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
90.00	mud w ith oil specs	0.70

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

17-1s-35w Rawlins,KS

250 N. Water Ste. 300
Wichita KS 67202

Ken #1-17

Job Ticket: 58192

DST#: 1

ATTN: Keith Reavis

Test Start: 2014.06.10 @ 02:10:00

Tool Information

Drill Pipe:	Length: 3740.00 ft	Diameter: 3.80 inches	Volume: 52.46 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 62.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 52.76 bbl</u>	Tool Chased 10.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	3810.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	118.00 ft			
Tool Length:	146.00 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			3787.00	
Hydraulic tool	5.00			3792.00	
Jars	5.00			3797.00	
Safety Joint	3.00			3800.00	
Packer	5.00			3805.00	28.00 Bottom Of Top Packer
Packer	5.00			3810.00	
Packer - Shale	0.00			3810.00	
Stubb	1.00			3811.00	
Recorder	0.00	8960	Inside	3811.00	
Recorder	0.00	8651	Outside	3811.00	
Perforations	17.00			3828.00	
change Over Sub	1.00			3829.00	
Drill Pipe	95.00			3924.00	
Change Over Sub	1.00			3925.00	
Bullnose	3.00			3928.00	118.00 Bottom Packers & Anchor

Total Tool Length: 146.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

17-1s-35w Rawlins,KS

250 N. Water Ste. 300
Wichita KS 67202

Ken #1-17

Job Ticket: 58192

DST#: 1

ATTN: Keith Reavis

Test Start: 2014.06.10 @ 02:10:00

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: 40.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	mud w ith oil specs	0.698

Total Length: 90.00 ft Total Volume: 0.698 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

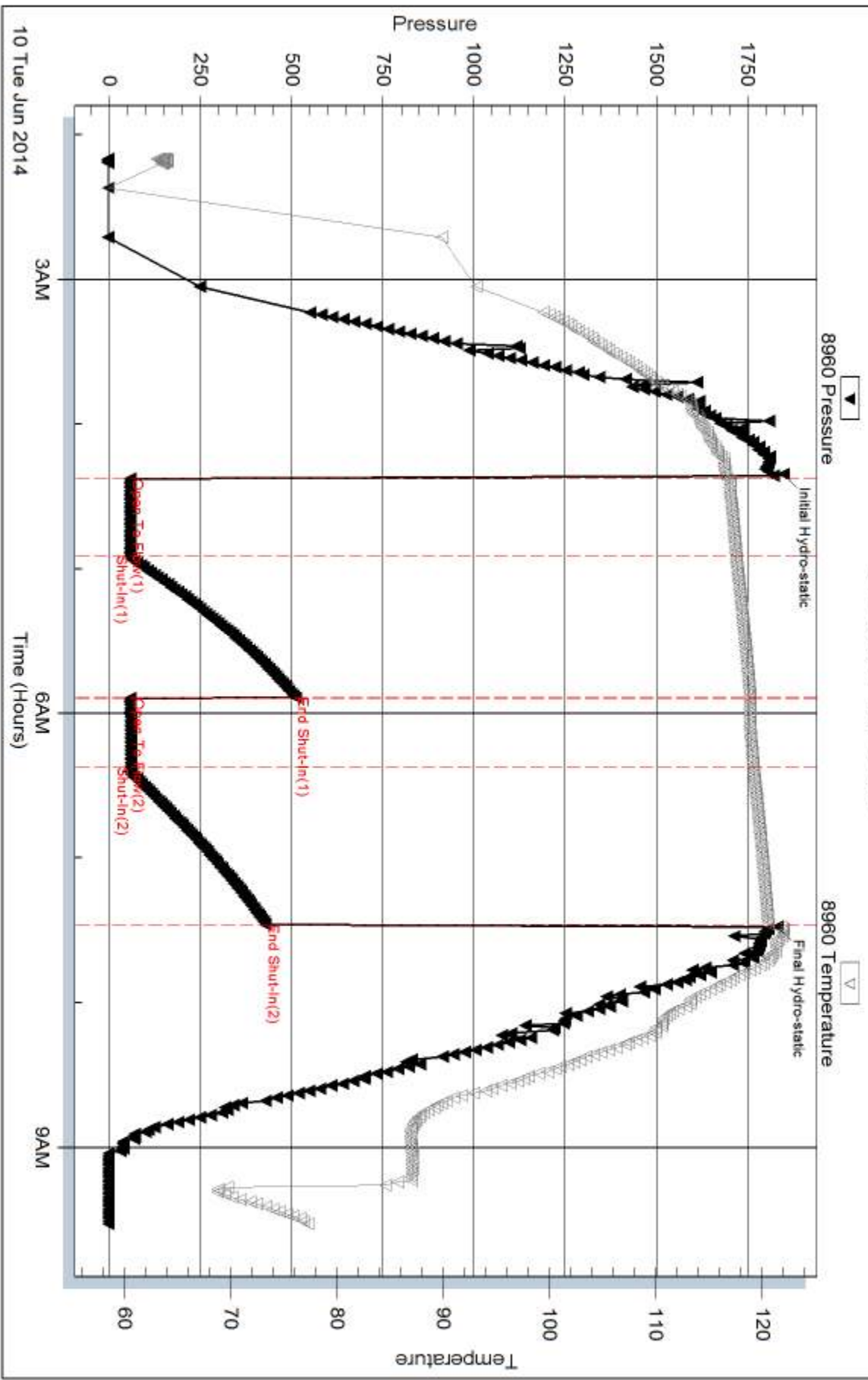
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

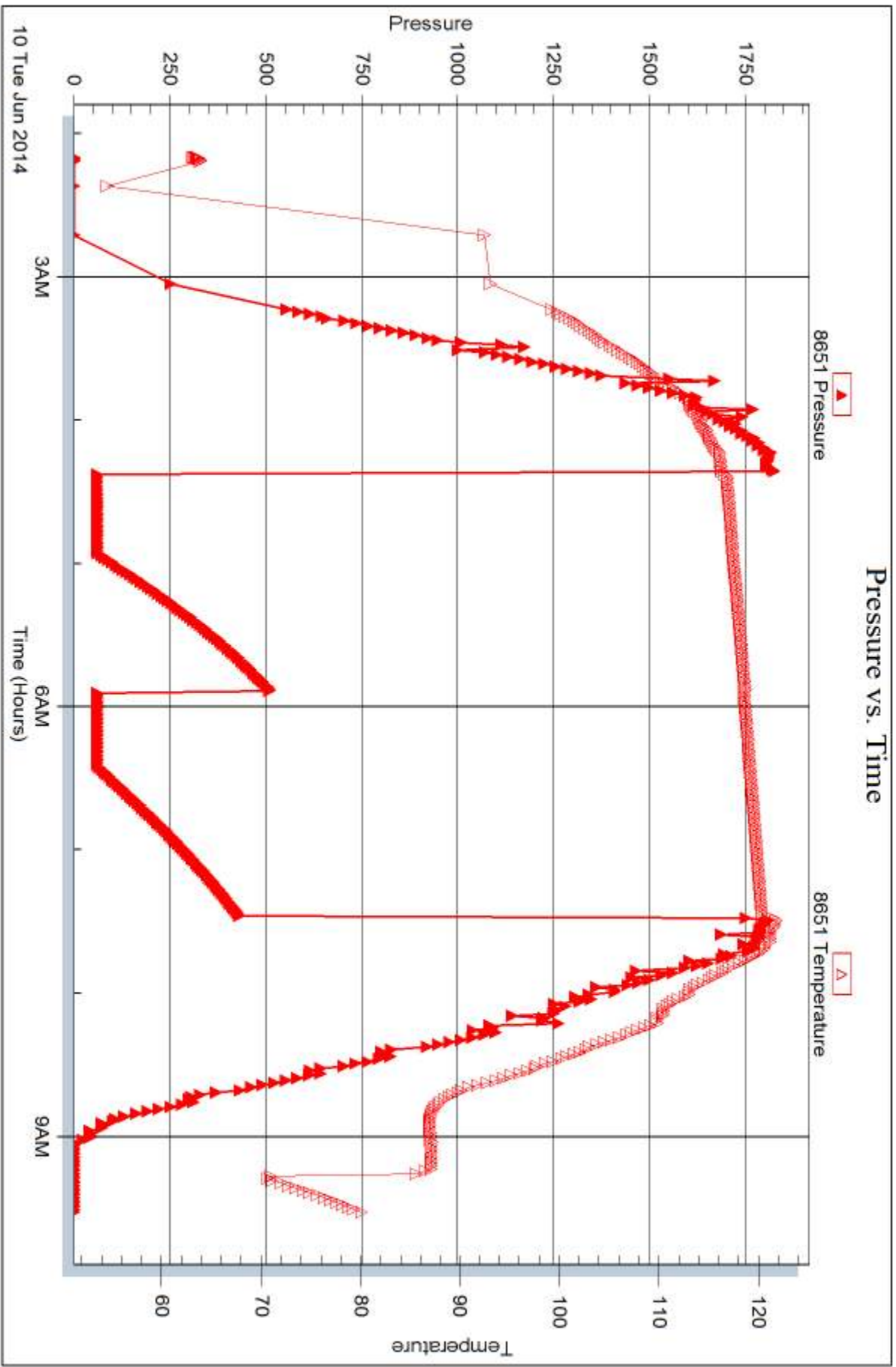


Serial #: 8651

Outside Murfin Drilling Co.

Ken #1-17

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste. 300
Wichita KS 67202

ATTN: Keith Reavis

Ken #1-17

17-1s-35w Rawlins,KS

Start Date: 2014.06.11 @ 13:05:00

End Date: 2014.06.11 @ 20:22:00

Job Ticket #: 58193 DST #: 2

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

Printed: 2014.06.13 @ 09:59:51

Murfin Drilling Co. 17-1s-35w Rawlins,KS Ken #1-17 DST # 2 Toronto - LKC D 2014.06.11



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co.
 250 N. Water Ste. 300
 Wichita KS 67202
 ATTN: Keith Reavis

17-1s-35w Rawlins, KS
Ken #1-17
 Job Ticket: 58193 **DST#: 2**
 Test Start: 2014.06.11 @ 13:05:00

GENERAL INFORMATION:

Formation: **Toronto - LKC D**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 15:12:30
 Time Test Ended: 20:22:00
 Interval: **4050.00 ft (KB) To 4190.00 ft (KB) (TVD)**
 Total Depth: 4190.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Chuck Kreuzer Jr.
 Unit No: 61
 Reference Elevations: 3179.00 ft (KB)
 3174.00 ft (CF)
 KB to GR/CF: 5.00 ft

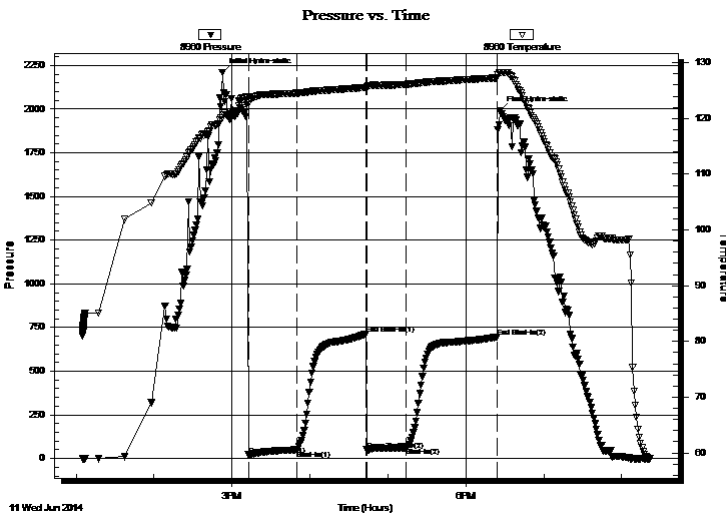
Serial #: 8960

Inside

Press@RunDepth: 61.24 psig @ 4051.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.06.11 End Date: 2014.06.11 Last Calib.: 2014.06.11
 Start Time: 13:05:01 End Time: 20:22:00 Time On Btm: 2014.06.11 @ 14:52:30
 Time Off Btm: 2014.06.11 @ 18:26:30

TEST COMMENT: IF: Weak blow , Weak surface over 30 mins.
 IS: No blow back
 FF: Weak surface blow , Died in 10 mins
 FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2210.52	120.10	Initial Hydro-static
20	20.70	123.14	Open To Flow (1)
57	49.06	124.53	Shut-In(1)
111	713.28	125.56	End Shut-In(1)
112	45.08	125.71	Open To Flow (2)
142	61.24	126.11	Shut-In(2)
212	695.51	127.27	End Shut-In(2)
214	1989.08	128.26	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	Vsocrn-8%o92%	0.30
38.00	ocrn-30%o70%m	0.53

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

17-1s-35w Rawlins,KS

250 N. Water Ste. 300
Wichita KS 67202

Ken #1-17

Job Ticket: 58193

DST#: 2

ATTN: Keith Reavis

Test Start: 2014.06.11 @ 13:05:00

Tool Information

Drill Pipe:	Length: 3992.00 ft	Diameter: 3.80 inches	Volume: 56.00 bbl	Tool Weight:	2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 62.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 56.30 bbl</u>	Tool Chased	2.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial	62000.00 lb
Depth to Top Packer:	4050.00 ft			Final	62000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	140.00 ft				
Tool Length:	168.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

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

Shut In Tool	5.00			4027.00	
Hydraulic tool	5.00			4032.00	
Jars	5.00			4037.00	
Safety Joint	3.00			4040.00	
Packer	5.00			4045.00	28.00 Bottom Of Top Packer
Packer	5.00			4050.00	
Packer - Shale	0.00			4050.00	
Stubb	1.00			4051.00	
Recorder	0.00	8960	Inside	4051.00	
Recorder	0.00	8651	Outside	4051.00	
Perforations	7.00			4058.00	
change Over Sub	1.00			4059.00	
Drill Pipe	127.00			4186.00	
Change Over Sub	1.00			4187.00	
Bullnose	3.00			4190.00	140.00 Bottom Packers & Anchor

Total Tool Length: 168.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

17-1s-35w Rawlins,KS

250 N. Water Ste. 300
Wichita KS 67202

Ken #1-17

Job Ticket: 58193

DST#: 2

ATTN: Keith Reavis

Test Start: 2014.06.11 @ 13:05:00

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: 40.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
62.00	Vsocm-8%o92%	0.305
38.00	ocm-30%o70%m	0.533

Total Length: 100.00 ft

Total Volume: 0.838 bbl

Num Fluid Samples: 0

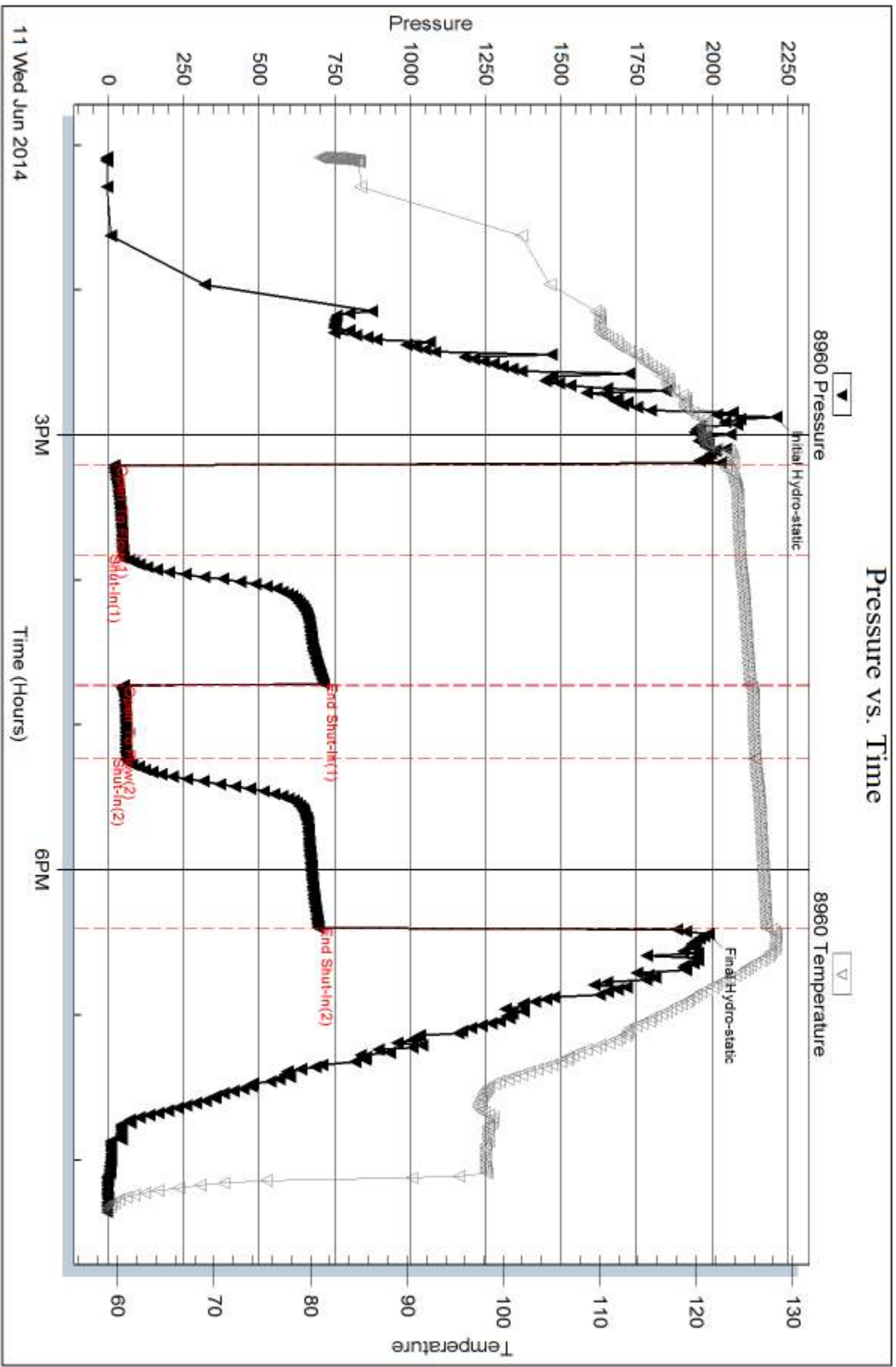
Num Gas Bombs: 0

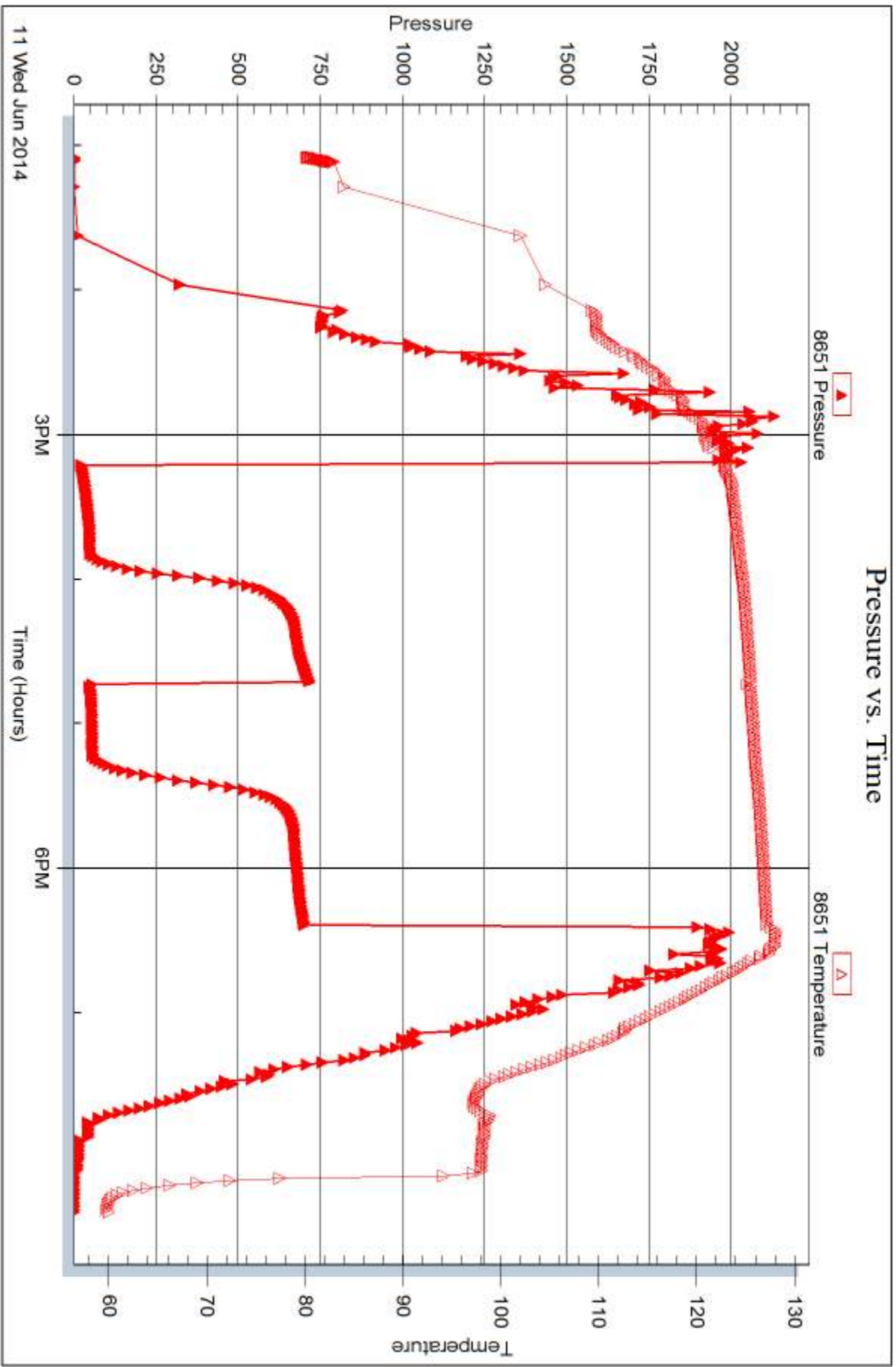
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste. 300
Wichita KS 67202

ATTN: Keith Reavis

Ken #1-17

17-1s-35w Rawlins,KS

Start Date: 2014.06.12 @ 08:10:00

End Date: 2014.06.12 @ 21:51:30

Job Ticket #: 58194 DST #: 3

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

Printed: 2014.06.13 @ 09:59:04



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

17-1s-35w Rawlins,KS

250 N. Water Ste. 300
Wichita KS 67202

Ken #1-17

Job Ticket: 58194

DST#: 3

ATTN: Keith Reavis

Test Start: 2014.06.12 @ 08:10:00

Tool Information

Drill Pipe:	Length: 4120.00 ft	Diameter: 3.80 inches	Volume: 57.79 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 62.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 58.09 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4178.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	62.00 ft			
Tool Length:	90.00 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			4155.00	
Hydraulic tool	5.00			4160.00	
Jars	5.00			4165.00	
Safety Joint	3.00			4168.00	
Packer	5.00			4173.00	28.00 Bottom Of Top Packer
Packer	5.00			4178.00	
Packer - Shale	0.00			4178.00	
Stubb	1.00			4179.00	
Recorder	0.00	8960	Inside	4179.00	
Recorder	0.00	8651	Outside	4179.00	
Perforations	4.00			4183.00	
change Over Sub	1.00			4184.00	
Drill Pipe	32.00			4216.00	
Change Over Sub	1.00			4217.00	
Perforations	20.00			4237.00	
Bullnose	3.00			4240.00	62.00 Bottom Packers & Anchor
Total Tool Length:	90.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

17-1s-35w Rawlins,KS

250 N. Water Ste. 300
Wichita KS 67202

Ken #1-17

Job Ticket: 58194

DST#: 3

ATTN: Keith Reavis

Test Start: 2014.06.12 @ 08:10:00

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:

bbf

Water Loss: 5.59 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 bbf
189.00	sgocm-5%g20%o75%m	2.086
189.00	go-70%g30%o	2.651
189.00	go-50%g50%o	2.651
504.00	go-30%g70%o	7.070
0.00	2000 ft.of gas	0.000

Total Length: 1071.00 ft

Total Volume: 14.458 bbl

Num Fluid Samples: 0

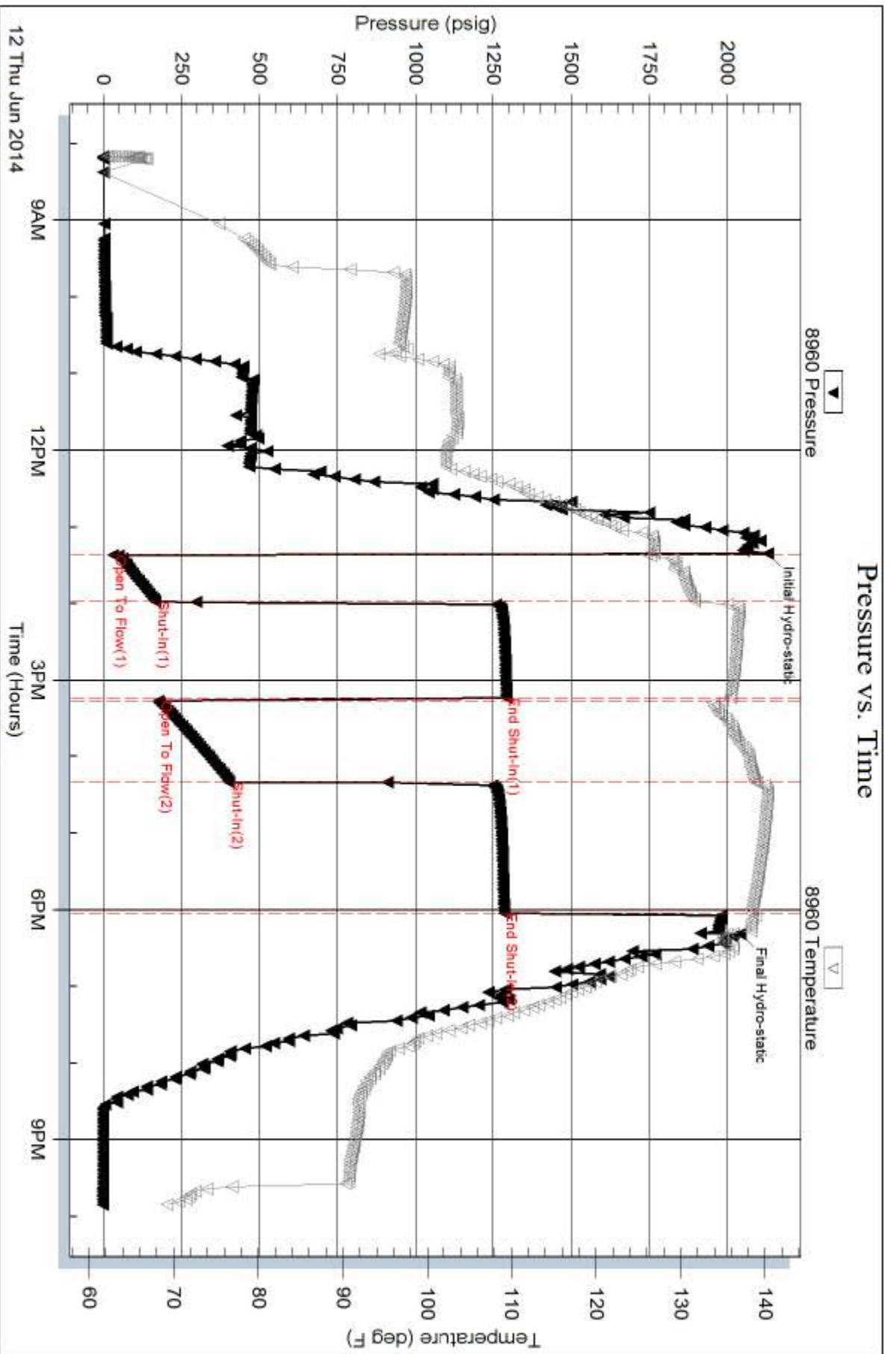
Num Gas Bombs: 0

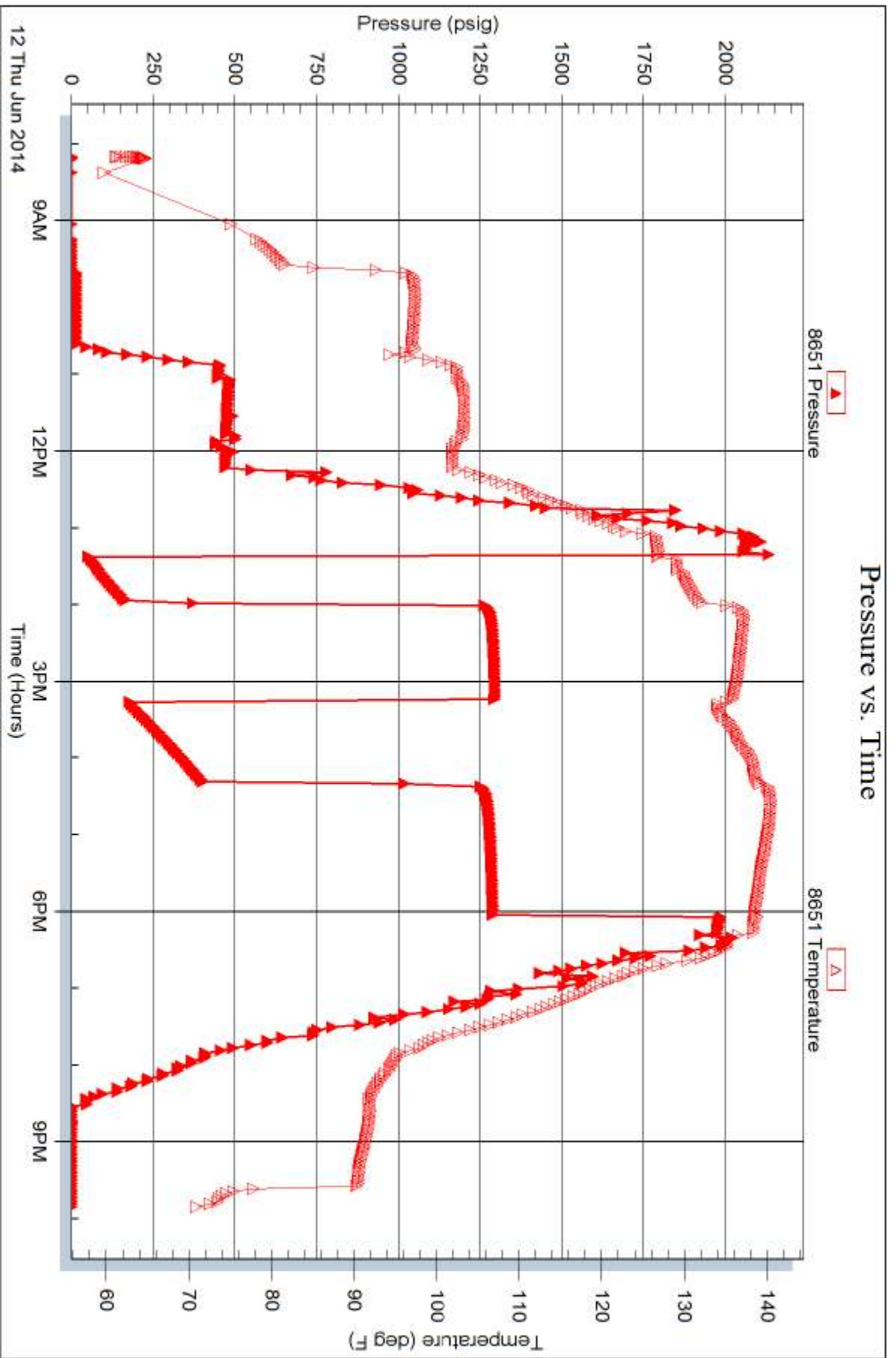
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste. 300
Wichita KS 67202

ATTN: Keith Reavis

Ken #1-17

17-1s-35w Rawlins,KS

Start Date: 2014.06.13 @ 11:51:00

End Date: 2014.06.13 @ 21:55:00

Job Ticket #: 58147 DST #: 4

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

Printed: 2014.06.16 @ 13:01:33



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co.
 250 N. Water Ste. 300
 Wichita KS 67202
 ATTN: Keith Reavis

17-1s-35w Rawlins,KS
Ken #1-17
 Job Ticket: 58147 **DST#: 4**
 Test Start: 2014.06.13 @ 11:51:00

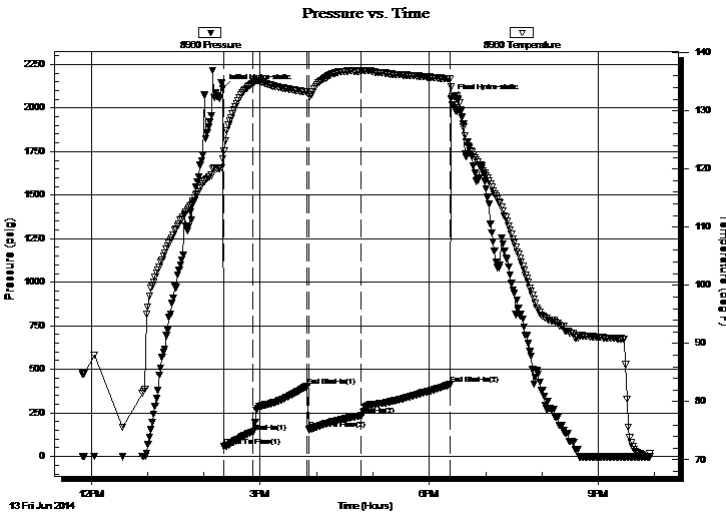
GENERAL INFORMATION:

Formation: **LKC "HJ"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 14:21:30
 Time Test Ended: 21:55:00
 Interval: **4234.00 ft (KB) To 4330.00 ft (KB) (TVD)**
 Total Depth: 4330.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Brandon Quintana
 Unit No: 61
 Reference Elevations: 3179.00 ft (KB)
 3174.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8960 Inside
 Press@RunDepth: 234.66 psig @ 4235.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.06.13 End Date: 2014.06.13 Last Calib.: 2014.06.13
 Start Time: 11:51:01 End Time: 21:55:00 Time On Btm: 2014.06.13 @ 14:20:00
 Time Off Btm: 2014.06.13 @ 18:23:00

TEST COMMENT: 30 - IF - Opened w/ surface blow , built to BOB in 5 min.
 60 - ISI - Return built to 2 1/2", died back to no return
 60 - FF - Opened w/ surface blow , built to 1 3/4" died back to 1"
 90 - FSI- Return built to BOB in 70 min.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2110.54	121.82	Initial Hydro-static
2	57.74	123.20	Open To Flow (1)
32	140.50	134.74	Shut-In(1)
90	404.98	133.24	End Shut-In(1)
92	153.80	132.82	Open To Flow (2)
147	234.66	136.85	Shut-In(2)
242	412.58	135.49	End Shut-In(2)
243	2053.07	134.09	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
125.00	GOCM 15%g, 40%o, 45%m	1.19
315.00	GO 22%g, 78%o	4.42
146.00	Oil 100%o	2.05

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co.
250 N. Water Ste. 300
Wichita KS 67202
ATTN: Keith Reavis

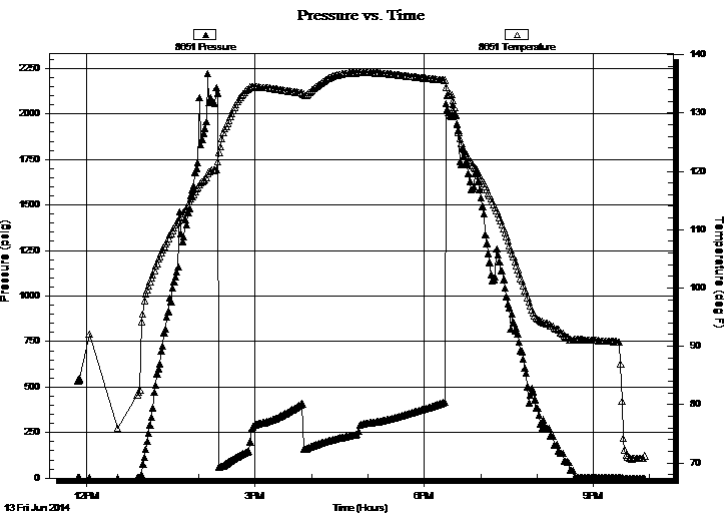
17-1s-35w Rawlins,KS
Ken #1-17
Job Ticket: 58147 **DST#: 4**
Test Start: 2014.06.13 @ 11:51:00

GENERAL INFORMATION:

Formation: **LKC "HJ"**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened: 14:21:30 Tester: Brandon Quintana
Time Test Ended: 21:55:00 Unit No: 61
Interval: 4234.00 ft (KB) To 4330.00 ft (KB) (TVD) Reference Elevations: 3179.00 ft (KB)
Total Depth: 4330.00 ft (KB) (TVD) 3174.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

Serial #: 8651 Outside
Press@RunDepth: psig @ 4235.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.06.13 End Date: 2014.06.13 Last Calib.: 2014.06.13
Start Time: 11:51:01 End Time: 21:55:00 Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF - Opened w/ surface blow , built to BOB in 5 min.
60 - ISI - Return built to 2 1/2", died back to no return
60 - FF - Opened w/ surface blow , built to 1 3/4" died back to 1"
90 - FS- Return built to BOB in 70 min.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
125.00	GOCM 15%g, 40%o, 45%m	1.19
315.00	GO 22%g, 78%o	4.42
146.00	Oil 100%o	2.05

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

17-1s-35w Rawlins,KS

250 N. Water Ste. 300
Wichita KS 67202

Ken #1-17

Job Ticket: 58147

DST#: 4

ATTN: Keith Reavis

Test Start: 2014.06.13 @ 11:51:00

Tool Information

Drill Pipe:	Length: 4153.00 ft	Diameter: 3.80 inches	Volume: 58.26 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 62.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose: 82000.00 lb
			<u>Total Volume: 58.56 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4234.00 ft			Final 74000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	96.00 ft			
Tool Length:	124.00 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			4211.00	
Hydraulic tool	5.00			4216.00	
Jars	5.00			4221.00	
Safety Joint	3.00			4224.00	
Packer	5.00			4229.00	28.00 Bottom Of Top Packer
Packer	5.00			4234.00	
Packer - Shale	0.00			4234.00	
Stubb	1.00			4235.00	
Recorder	0.00	8960	Inside	4235.00	
Recorder	0.00	8651	Outside	4235.00	
Perforations	27.00			4262.00	
change Over Sub	1.00			4263.00	
Drill Pipe	63.00			4326.00	
Change Over Sub	1.00			4327.00	
Bullnose	3.00			4330.00	96.00 Bottom Packers & Anchor

Total Tool Length: 124.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

17-1s-35w Rawlins,KS

250 N. Water Ste. 300
Wichita KS 67202

Ken #1-17

Job Ticket: 58147

DST#: 4

ATTN: Keith Reavis

Test Start: 2014.06.13 @ 11:51:00

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: 69.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.19 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
125.00	GOCM 15%g, 40%o, 45%m	1.189
315.00	GO 22%g, 78%o	4.419
146.00	Oil 100%o	2.048

Total Length: 586.00 ft Total Volume: 7.656 bbl

Num Fluid Samples: 0

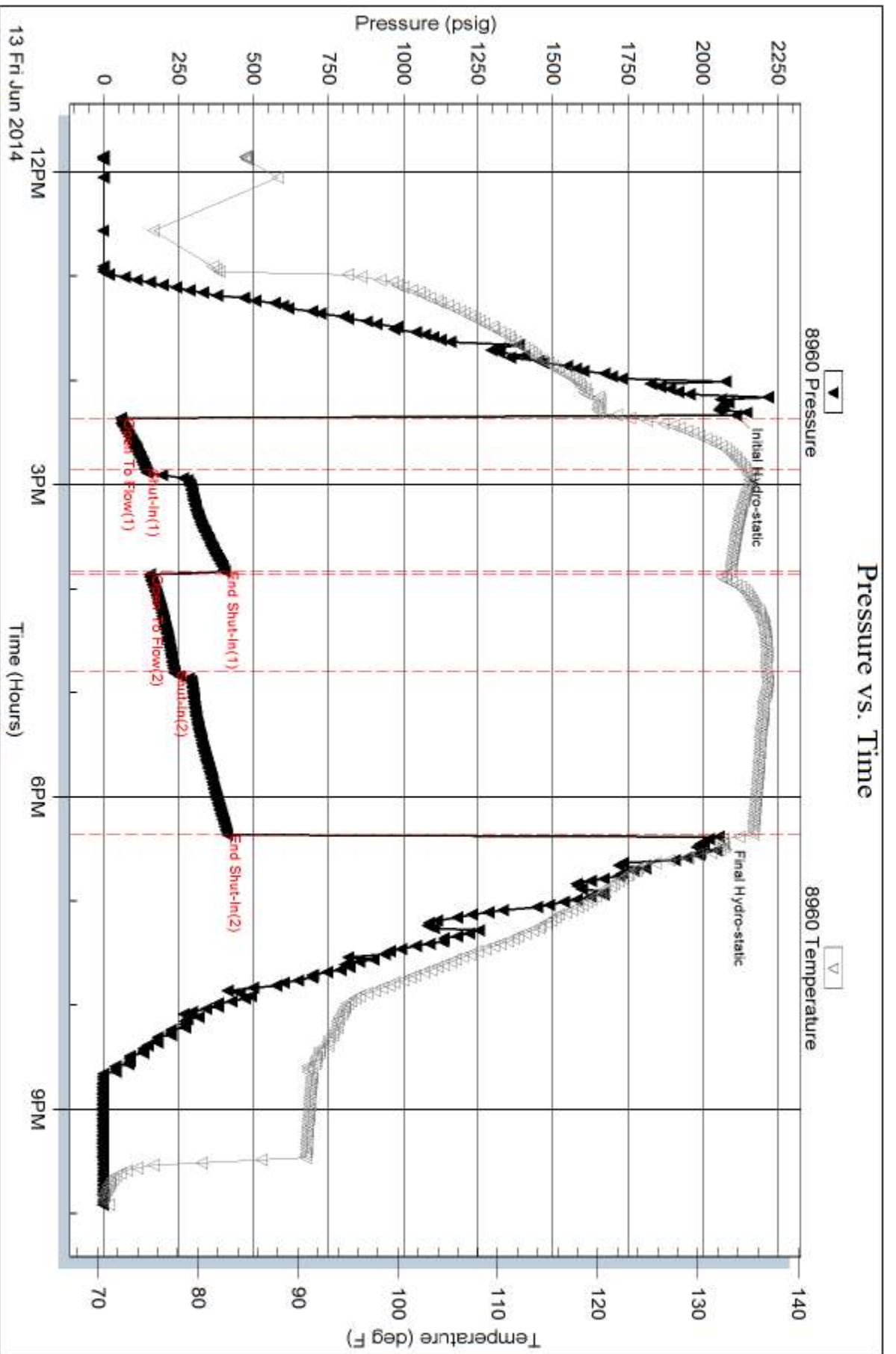
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity 31 @ 80 Corrected = 33

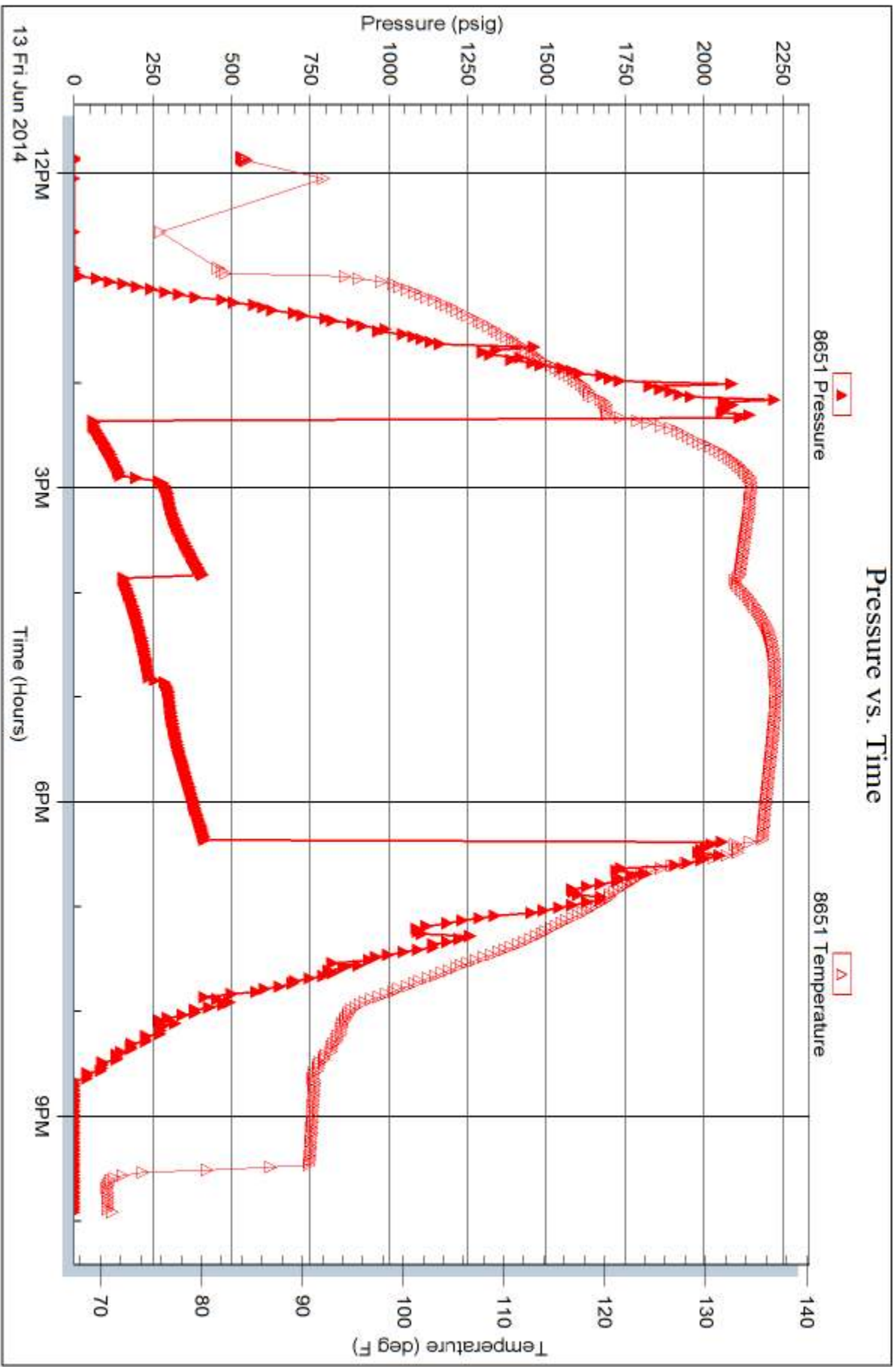


Serial #: 8651

Outside Murfin Drilling Co.

Ken #1-17

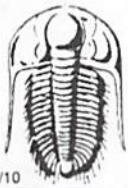
DST Test Number: 4



Triobite Testing, Inc

Ref. No: 58147

Printed: 2014.06.16 @ 13:01:34



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58192

4/10

Well Name & No. ~~Murphy Drilling Co. Ren #1-17~~ Test No. 1 Date 6-09-14
 Company Murphy Drilling Co. Elevation 3179 KB 3174 GL
 Address 250 N. Water St. 300-wichita KS 67202
 Co. Rep / Geo. _____ Rig Murphy #7
 Location: Sec. 17 Twp. 15 Rge. 35w Co. Rawlins State KS

Interval Tested 3810 3928 Zone Tested STOTIER / TARKIO
 Anchor Length _____ 118 Drill Pipe Run 3740 Mud Wt. 8.9
 Top Packer Depth _____ 3805 Drill Collars Run 62 Vis 40
 Bottom Packer Depth _____ 3810 Wt. Pipe Run -0- WL 7.2
 Total Depth _____ 3928 Chlorides 900 ppm System LCM 3#

Blow Description (IF:) 10 ft of feed, tool open on slide, lost mud, Refilled Hole. Tool held. Weak surface blow died in 15 mins. (ISI:) No blow back.

(FFI) No blow
(FST:) No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>mud with oil specs</u>				
_____	_____				
_____	_____				
_____	_____				
_____	_____				

Rec Total 90 BHT 119 Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic _____ <u>1847</u>	<input checked="" type="checkbox"/> Test _____ 1150	T-On Location <u>06-09-14 23:30</u>
(B) First Initial Flow _____ <u>57</u>	<input checked="" type="checkbox"/> Jars _____ 250	T-Started <u>6-10-14 2:10</u>
(C) First Final Flow _____ <u>58</u>	<input checked="" type="checkbox"/> Safety Joint _____ 75	T-Open _____ <u>4:22</u>
(D) Initial Shut-In _____ <u>510</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled _____ <u>7:25</u>
(E) Second Initial Flow _____ <u>58</u>	<input type="checkbox"/> Hourly Standby _____ .5h 50	T-Out _____ <u>9:32</u>
(F) Second Final Flow _____ <u>60</u>	<input checked="" type="checkbox"/> Mileage <u>60x2 = 120x1.55</u> 186	Comments <u>Told on bank at 12 midnight</u>
(G) Final Shut-In _____ <u>427</u>	<input type="checkbox"/> Sampler _____	<u>Not out till 2:10AM</u>
(H) Final Hydrostatic _____ <u>1832</u>	<input type="checkbox"/> Straddle _____	
Initial Open _____ <u>30</u>	<input checked="" type="checkbox"/> Shale Packer _____ 250	<input checked="" type="checkbox"/> Ruined Shale Packer _____ 350
Initial Shut-In _____ <u>60</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Packer _____
Final Flow _____ <u>30</u>	<input type="checkbox"/> Extra Recorder _____	Extra Copies _____
Final Shut-In _____ <u>60</u>	<input type="checkbox"/> Day Standby _____	Sub Total _____ 0
	<input type="checkbox"/> Accessibility _____	Total _____ 2311
	Sub Total _____ 1961	MP/DST Disc't _____

Approved By _____ Our Representative Chuck Kuntz

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.

785-259-3188



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **58193**

4/10

Well Name & No. Ken # 1-17 Test No. 2 Date 6-11-14
 Company MurFin Drilling Co. Elevation 3179 KB 3179 GL
 Address 250 N. Water Ste. 300 Wichita KS 67202
 Co. Rep / Geo. _____ Rig MurFin #7
 Location: Sec. 17 Twp. 1S Rge. 35W Co. Rawlins State KS

Interval Tested 4050 4190 Zone Tested Toronto, LKC A&D
 Anchor Length _____ 140 Drill Pipe Run 3992 Mud Wt. 8.9
 Top Packer Depth _____ 4045 Drill Collars Run 62 Vis 40
 Bottom Packer Depth _____ 4050 Wt. Pipe Run - 0' WL 7.2
 Total Depth _____ 4190 Chlorides 900 ppm System LCM 3#

Blow Description IF: Weak blow weak surface over 30 mins.
ISI: No blow back
FF: Weak surface for 10 mins Died
FSD: No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>38</u>	<u>OCM</u>		<u>30</u>		<u>70</u>
<u>62</u>	<u>OCM</u>		<u>8</u>		<u>92</u>
_____	_____				
_____	_____				
_____	_____				

Rec Total 100 BHT 127 Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic _____ <u>2211</u>	<input checked="" type="checkbox"/> Test _____ <u>1250</u>	T-On Location _____ <u>12:50</u>
(B) First Initial Flow _____ <u>21</u>	<input checked="" type="checkbox"/> Jars _____ <u>250</u>	T-Started _____ <u>13:05</u>
(C) First Final Flow _____ <u>49</u>	<input checked="" type="checkbox"/> Safety Joint _____ <u>75</u>	T-Open _____ <u>15:12</u>
(D) Initial Shut-In _____ <u>713</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled _____ <u>18:15</u>
(E) Second Initial Flow _____ <u>45</u>	<input type="checkbox"/> Hourly Standby _____	T-Out _____ <u>20:22</u>
(F) Second Final Flow _____ <u>61</u>	<input checked="" type="checkbox"/> Mileage <u>60x2 = 120x1.55 = 186</u>	Comments _____
(G) Final Shut-In _____ <u>696</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic _____ <u>1489</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open _____ <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In _____ <u>60</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow _____ <u>30</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total _____ <u>0</u>
Final Shut-In _____ <u>60</u>	<input type="checkbox"/> Day Standby _____	Total _____ <u>1761</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total _____ <u>1761</u>	

Approved By _____ Our Representative Chad Myers

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. 58194

Well Name & No. Ken # 1-17 Test No. 3 Date 6-12-74
 Company Murfin Drilling Co. Elevation 3179 KB 3174 GL
 Address 250 M. Water Ste. 300 Wichita Ks. 67202
 Co. Rep / Geo. _____ Rig MURFIN #7
 Location: Sec. 17 Twp. 15 Rge. 3SW Co. Rawlins State Ks

Interval Tested 4178 4240 Zone Tested LKC-G
 Anchor Length _____ 62 Drill Pipe Run 4120 Mud Wt. 9.3
 Top Packer Depth _____ 4173 Drill Collars Run 62 Vis 54
 Bottom Packer Depth _____ 4178 Wt. Pipe Run _____ WL 5.6
 Total Depth _____ 4240 Chlorides 1100 ppm System LCM 5A

Blow Description IF: strong blow, Built to B.O.B in 5 mins.
ISS: Blow back after 2 mins. Built to 4in. over 25 mins.
FF: strong blow built to B.O.B in 6 mins.
FST: Blow back built to B.O.B in 30 mins. started to die, died to surface over 900 mins.

Rec	Feet of	%gas	%oil	%water	%mud
<u>0</u>	<u>2000 ft. of gas</u>				
<u>504</u>	<u>90 -</u>	<u>30</u>	<u>70</u>		
<u>184</u>	<u>90 -</u>	<u>50</u>	<u>50</u>		
<u>184</u>	<u>90 -</u>	<u>70</u>	<u>30</u>		
<u>184</u>	<u>590cm</u>	<u>5</u>	<u>20</u>		<u>75</u>

Rec Total 1071 BHT 138 Gravity 76 API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2130</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>6:25</u>
(B) First Initial Flow <u>30</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>8:10</u>
(C) First Final Flow <u>166</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>13:21</u>
(D) Initial Shut-In <u>1292</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>18:15</u>
(E) Second Initial Flow <u>177</u>	<input checked="" type="checkbox"/> Hourly Standby <u>Rig standby 3.5h 350</u>	T-Out <u>21:51</u>
(F) Second Final Flow <u>403</u>	<input checked="" type="checkbox"/> Mileage <u>60x2=120+55=186</u>	Comments <u>The Rig was Having Problems</u>
(G) Final Shut-In <u>1285</u>	<input type="checkbox"/> Sampler _____	<u>machine working on it all day.</u>
(H) Final Hydrostatic <u>2042</u>	<input type="checkbox"/> Straddle _____	<u>Flow and shut-in off due to not being able</u>
Initial Open <u>45</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<u>to run down works while working on it.</u>
Initial Shut-In <u>75</u>	<input type="checkbox"/> Extra Packer _____	<u>They were to be on bank by 7:00 AM</u>
Final Flow <u>75</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Ruined Shale Packer _____
Final Shut-In <u>100</u>	<input type="checkbox"/> Day Standby _____	<input type="checkbox"/> Ruined Packer _____
	<input type="checkbox"/> Accessibility _____	Sub Total <u>0</u>
	Sub Total <u>2361</u>	Total <u>2361</u>

Approved By _____ Our Representative Chuck Ryan

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.

OPERATOR

Company: Murfin Drilling Company
 Address: 250 N. Water
 Suite 300
 Wichita, KS 67202
 Contact Geologist: Shauna Gunzelman
 Contact Phone Nbr: 316-267-3241
 Well Name: Ken #1-17
 Location: Sec. 17 - T1S - R35W
 API: 15-153-21025-0000
 Pool: _____ Field: Wildcat
 State: Kansas Country: USA



Scale 1:240 Imperial

Well Name: Ken #1-17
 Surface Location: Sec. 17 - T1S - R35W
 Bottom Location:
 API: 15-153-21025-0000
 License Number: 30606
 Spud Date: 6/6/2013 Time: 4:30 PM
 Region: Rawlins County
 Drilling Completed: 6/14/2014 Time: 3:50 PM
 Surface Coordinates: 1270' FNL & 990' FWL
 Bottom Hole Coordinates:
 Ground Elevation: 3180.00ft
 K.B. Elevation: 3185.00ft
 Logged Interval: 3800.00ft To: 4505.00ft
 Total Depth: 4505.00ft
 Formation: Pawnee
 Drilling Fluid Type: Chemical/Fresh Water Gel

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude:
 Latitude:
 N/S Co-ord: 1270' FNL
 E/W Co-ord: 990' FWL

LOGGED BY

Keith Reavis
Consulting Geologist

Company: Keith Reavis, Inc.
 Address: 3420 22nd Street
 Great Bend, KS 67530
 Phone Nbr: 620-617-4091
 Logged By: Keith Reavis and Logan Walker Name:

CONTRACTOR

Contractor: Murfin Drilling Company
 Rig #: 7
 Rig Type: mud rotary
 Spud Date: 6/6/2013 Time: 4:30 PM
 TD Date: 6/14/2014 Time: 3:50 PM
 Rig Release: _____ Time:

ELEVATIONS

K.B. Elevation: 3185.00ft Ground Elevation: 3180.00ft
 K.B. to Ground: 5.00ft

NOTES

Due to favorable results of DST #3 and DST #4, it was determined that 5 1/2" production casing be set and cemented, and the Ken #1-17 be further tested through perforations and stimulation.

The samples were saved and will be available for review at the Kansas Geological Survey Well Sample Library located in Wichita, KS.

Respectfully submitted,

Keith Reavis

Image Header 01

Murfin Drilling Company
daily drilling report

DATE	7:00 AM DEPTH	REMARKS
06/08/2014		Geologist Keith Reavis and Logan Walker on location @ 2000 hrs, 3452 ft. drilling ahead
06/09/2014	3720	heavy rains, drilling ahead, Neva, Foraker, Stotler, Tarkio, Topeka, shows in near Stotler and Tarkio warrant test, short trip, ctch, TOH
06/10/2014	3928	finish TOH w/bit, TIH with tools, conducting and complete DST #1, successful test, TIH w/bit, resume drilling, Lecompton, Oread
06/11/2014	4182	drilling Toronto, Lansing, shows in Toronto, Lansing A thru D warrant test, short trip, TOH w/bit, conducting and complete DST #2, successful test TOH w/tools in w/bit, resume drilling
06/12/2014	4240	resume drilling, show in G zone warrants test, TOH w/bit, conducting DST #3 drawworks motor broke down a couple of hrs, fixed, run tools in hole complete DST #3, successful test, TIH W/bit, resume drilling
06/13/2014	4316	drill H and J, shows warrant test, TOH W/bit, conducting DST #4 completed DST #4, successful test, TIH W/bit, resume drilling
06/14/2014	4394	drilling to TD @ 4505, short trip, TOH for logs, short shut down for hail and lightning and wind storm, conduct logging operations
06/15/2014	4505	complete logging operations, off location 0500 hrs

Murfin Drilling Company
well comparison sheet

DRILLING WELL					COMPARISON WELL				
Murfin - Ken #1-17					McCoy - Wilkinson A #1-17				
1270' FNL & 990' FWL					SE SE SW				
Sec. 17-T1S-R35W					Sec. 17-T1S-R35W				
3185 KB					3149 KB			Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	
base Anhy	3108	77	3109	76	3060	89	-12	-13	
Foraker	3689	-504	3681	-496	3640	-491	-13	-5	
Stotler	3824	-639	3826	-641	3792	-643	4	2	
Topeka	3904	-719	3892	-707	3852	-703	-16	-4	
Oread	4020	-835	4002	-817	3968	-819	-16	2	
Heebner	4057	-872	4057	-872	4015	-866	-6	-6	
Lansing	4116	-931	4110	-925	4076	-927	-4	2	
Lansing D	4171	-986	4166	-981	4132	-983	-3	2	
Lansing G	4218	-1033	4217	-1032	4185	-1036	3	4	
Lansing H	4264	-1079	4265	-1080	4232	-1083	4	3	
Stark	4323	-1138	4324	-1139	4290	-1141	3	2	
Base KC	4381	-1196	4375	-1190	4341	-1192	-4	2	
Total Depth	4505	-1320	4506	-1321	4373	-1224	-96	-97	

Image Header 02

DRILL STEM TEST REPORT

Murfin Drilling Co. **17 1s 35w Rawlins Ks.**

250 N. Water Ste. 300
 Wichita Ks. 67202
 ATTN: Keith Reavis

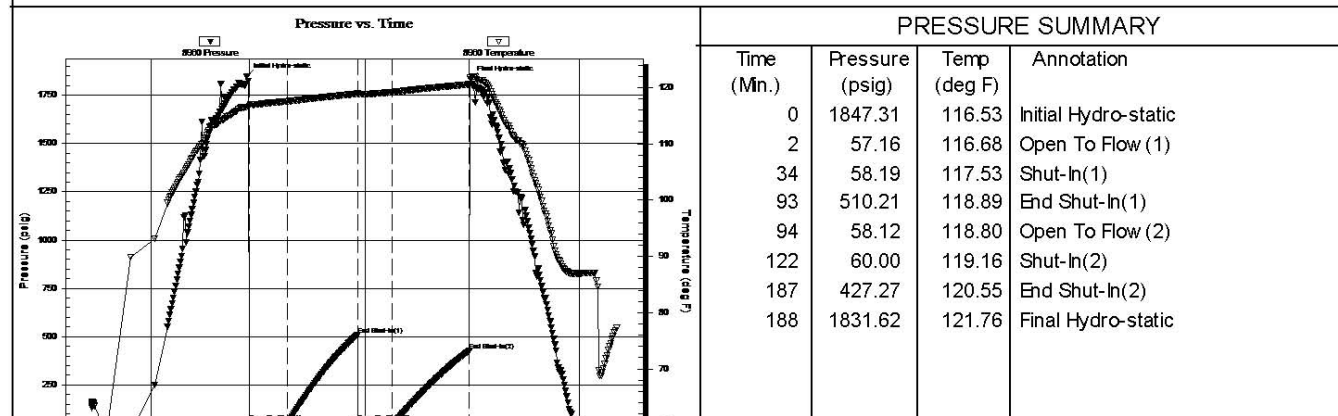
Ken #1-17
 Job Ticket: 58192 **DST#: 1**
 Test Start: 2014.06.10 @ 02:10:00

GENERAL INFORMATION:

Formation: _____
 Deviated: No Whipstock: _____ ft (KB)
 Time Tool Opened: 04:22:30
 Time Test Ended: 09:32:00
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Chuck Kreutzer Jr.
 Unit No: 61
 Interval: 3810.00 ft (KB) To 3928.00 ft (KB) (TVD)
 Total Depth: 3928.00 ft (KB) (TVD)
 Hole Diameter: 7.80 inches Hole Condition: Good
 Reference Elevations: 3179.00 ft (KB)
 3174.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8960 Inside
 Press@RunDepth: 60.00 psig @ 3811.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.06.10 End Date: 2014.06.10 Last Calib.: 2014.06.10 @ 04:20:30
 Start Time: 02:10:01 End Time: 09:32:00 Time On Btm: 2014.06.10 @ 04:20:30
 Time Off Btm: 2014.06.10 @ 07:28:30

TEST COMMENT: IF: Weak Surface blow . Died in 15 mins. { Sled 10 ft. tool opened on slid bled off blow }
 IS: No blow back
 FF: No blow
 FS: No blow back



Recovery			Gas Rates		
Length (ft)	Description	Volume (bbl)	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
90.00	mud with oil specs	0.70			

Image Header 03


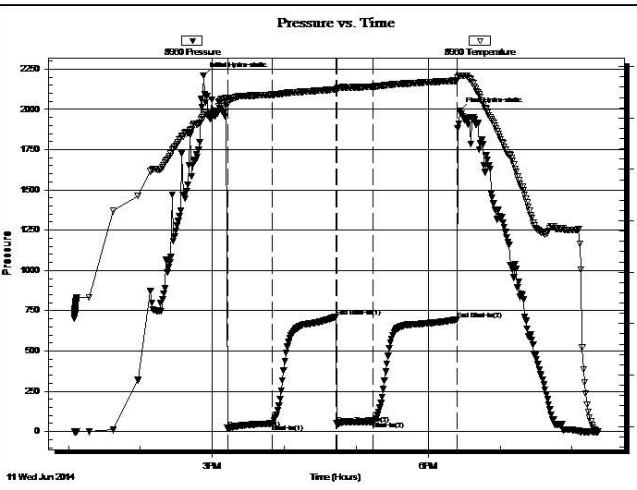
TRILOBITE TESTING, INC		DRILL STEM TEST REPORT																																									
		Murfin Drilling Co. 17-1s-35w Rawlins,KS 250 N. Water Ste. 300 Wichita KS 67202 Ken #1-17 Job Ticket: 58193 DST#: 2 ATTN: Keith Reavis Test Start: 2014.06.11 @ 13:05:00																																									
GENERAL INFORMATION:																																											
Formation:	Toronto - LKC D	Test Type:	Conventional Bottom Hole (Reset)																																								
Deviated:	No Whipstock: ft (KB)	Tester:	Chuck Kreutzer Jr.																																								
Time Tool Opened:	15:12:30	Unit No:	61																																								
Time Test Ended:	20:22:00	Reference Elevations:	3179.00 ft (KB) 3174.00 ft (CF)																																								
Interval:	4050.00 ft (KB) To 4190.00 ft (KB) (TVD)	KB to GR/CF:	5.00 ft																																								
Total Depth:	4190.00 ft (KB) (TVD)																																										
Hole Diameter:	7.88 inchesHole Condition: Good																																										
Serial #: 8960	Inside	Capacity:	8000.00 psig																																								
Press@RunDepth:	61.24 psig @ 4051.00 ft (KB)	Last Calib.:	2014.06.11																																								
Start Date:	2014.06.11	End Date:	2014.06.11																																								
Start Time:	13:05:01	End Time:	20:22:00																																								
		Time On Btm:	2014.06.11 @ 14:52:30																																								
		Time Off Btm:	2014.06.11 @ 18:26:30																																								
TEST COMMENT: IF: Weak blow , Weak surface over 30 mins. ISl: No blow back FF: Weak surface blow , Died in 10 mins FSl: No blow back																																											
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Image Header 04


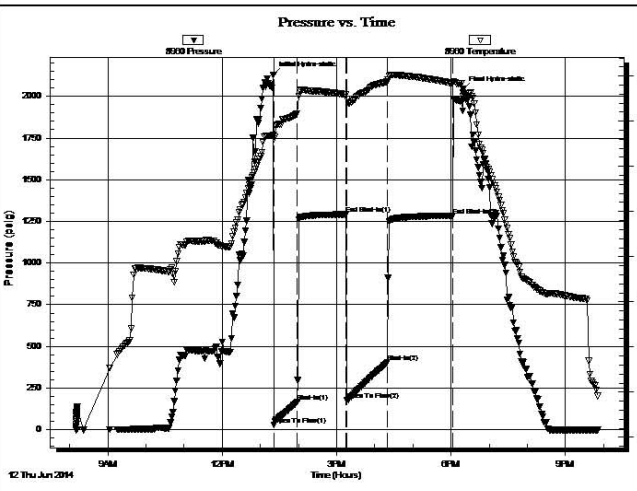
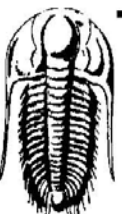
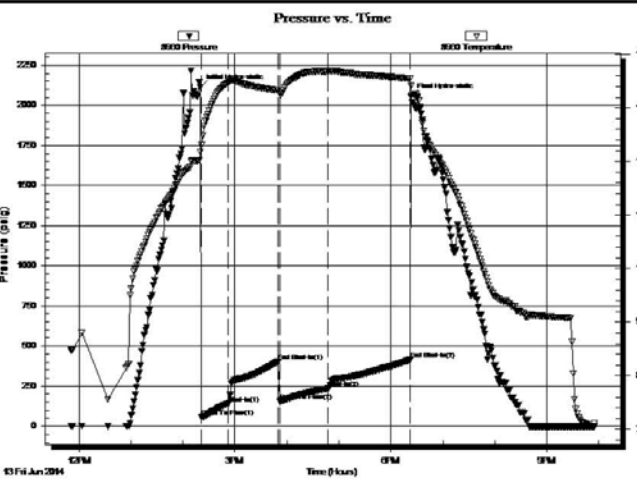
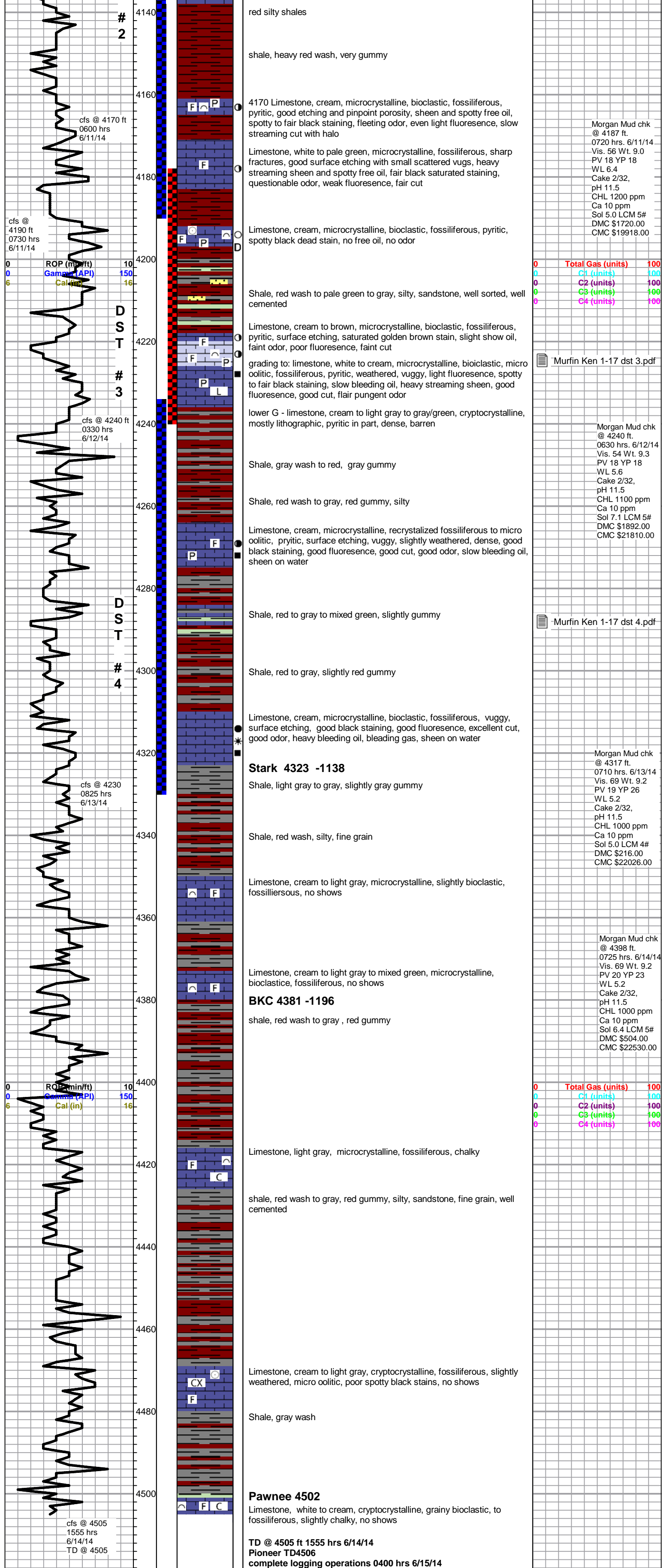
TRILOBITE TESTING, INC		DRILL STEM TEST REPORT																																									
		Murfin Drilling Co. 17-1s-35w Rawlins,KS 250 N. Water Ste. 300 Wichita KS 67202 Ken #1-17 Job Ticket: 58194 DST#: 3 ATTN: Keith Reavis Test Start: 2014.06.12 @ 08:10:00																																									
GENERAL INFORMATION:																																											
Formation:	LKC G	Test Type:	Conventional Bottom Hole (Reset)																																								
Deviated:	No Whipstock: ft (KB)	Tester:	Chuck Kreutzer Jr.																																								
Time Tool Opened:	13:21:30	Unit No:	61																																								
Time Test Ended:	21:51:30	Reference Elevations:	3179.00 ft (KB) 3174.00 ft (CF)																																								
Interval:	4178.00 ft (KB) To 4240.00 ft (KB) (TVD)	KB to GR/CF:	5.00 ft																																								
Total Depth:	4240.00 ft (KB) (TVD)																																										
Hole Diameter:	7.88 inchesHole Condition: Good																																										
Serial #: 8960	Inside	Capacity:	8000.00 psig																																								
Press@RunDepth:	403.11 psig @ 4179.00 ft (KB)	Last Calib.:	2014.06.12																																								
Start Date:	2014.06.12	End Date:	2014.06.12																																								
Start Time:	08:10:01	End Time:	21:51:30																																								
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		Time Off Btm:	2014.06.12 @ 18:19:00																																								
TEST COMMENT: IF: Strong blow , Built to B.O.B in 5 mins ISl: Blow back after 2 mins. Built to 4 in. over 75 mins. FF: Strong blow , Built to B.O.B in 6 mins. FSl: Blow back, Built to B.O.B in 30 mins. Started to die. Died to surface over 100 mins.																																											
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Image Header 05

TRILOBITE TESTING, INC		DRILL STEM TEST REPORT																																									
		Murfin Drilling Co. 17 1s 35w Rawlins Ks. 250 N. Water Ste. 300 Wichita Ks. 67202 Ken #1-17 Job Ticket: 58147 DST#: 4 ATTN: Test Start: 2014.06.13 @ 11:51:00																																									
GENERAL INFORMATION:																																											
Formation:	LKC "HJ"	Test Type:	Conventional Bottom Hole (Initial)																																								
Deviated:	No Whipstock: ft (KB)	Tester:	Brandon Quintana																																								
Time Tool Opened:	14:21:30	Unit No:	61																																								
Time Test Ended:	21:55:00	Reference Elevations:	3179.00 ft (KB) 3174.00 ft (CF)																																								
Interval:	4234.00 ft (KB) To 4330.00 ft (KB) (TVD)	KB to GR/CF:	5.00 ft																																								
Total Depth:	4330.00 ft (KB) (TVD)																																										
Hole Diameter:	7.80 inchesHole Condition: Fair																																										
Serial #: 8960	Inside	Capacity:	8000.00 psig																																								
Press@RunDepth:	234.66 psig @ 4235.00 ft (KB)	Last Calib.:	2014.06.13																																								
Start Date:	2014.06.13	End Date:	2014.06.13																																								
Start Time:	11:51:01	End Time:	21:55:00																																								
		Time On Btm:	2014.06.13 @ 14:20:00																																								
		Time Off Btm:	2014.06.13 @ 18:23:00																																								
TEST COMMENT: 30 - IF - Opened w/ surface blow , built to B.o.B in 5 min. 60 - ISl - Return built to 2 1/2", died back to no return 60 - FF - Return w/ surface blow , built to 1 3/4" died back to 1" 90 - FSl- Return built to B.o.B in 70 min.																																											
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red silty shales

shale, heavy red wash, very gummy

4170 Limestone, cream, microcrystalline, bioclastic, fossiliferous, pyritic, good etching and pinpoint porosity, sheen and spotty free oil, spotty to fair black staining, fleeting odor, even light fluorescence, slow streaming cut with halo

Limestone, white to pale green, microcrystalline, fossiliferous, sharp fractures, good surface etching with small scattered vugs, heavy streaming sheen and spotty free oil, fair black saturated staining, questionable odor, weak fluorescence, fair cut

Limestone, cream, microcrystalline, bioclastic, fossiliferous, pyritic, spotty black dead stain, no free oil, no odor

Shale, red wash to pale green to gray, silty, sandstone, well sorted, well cemented

Limestone, cream to brown, microcrystalline, bioclastic, fossiliferous, pyritic, surface etching, saturated golden brown stain, slight show oil, faint odor, poor fluorescence, faint cut

grading to: limestone, white to cream, microcrystalline, bioclastic, micro oolitic, fossiliferous, pyritic, weathered, vuggy, light fluorescence, spotty to fair black staining, slow bleeding oil, heavy streaming sheen, good fluorescence, good cut, fair pungent odor

lower G - limestone, cream to light gray to gray/green, cryptocrystalline, mostly lithographic, pyritic in part, dense, barren

Shale, gray wash to red, gray gummy

Shale, red wash to gray, red gummy, silty

Limestone, cream, microcrystalline, recrystallized fossiliferous to micro oolitic, pyritic, surface etching, vuggy, slightly weathered, dense, good black staining, good fluorescence, good cut, good odor, slow bleeding oil, sheen on water

Shale, red to gray to mixed green, slightly gummy

Shale, red to gray, slightly red gummy

Limestone, cream, microcrystalline, bioclastic, fossiliferous, vuggy, surface etching, good black staining, good fluorescence, excellent cut, good odor, heavy bleeding oil, bleeding gas, sheen on water

Stark 4323 -1138

Shale, light gray to gray, slightly gray gummy

Shale, red wash, silty, fine grain

Limestone, cream to light gray, microcrystalline, slightly bioclastic, fossiliferous, no shows

Limestone, cream to light gray to mixed green, microcrystalline, bioclastic, fossiliferous, no shows

BKC 4381 -1196

shale, red wash to gray, red gummy

Limestone, light gray, microcrystalline, fossiliferous, chalky

shale, red wash to gray, red gummy, silty, sandstone, fine grain, well cemented

Limestone, cream to light gray, cryptocrystalline, fossiliferous, slightly weathered, micro oolitic, poor spotty black stains, no shows

Shale, gray wash

Pawnee 4502

Limestone, white to cream, cryptocrystalline, grainy bioclastic, to fossiliferous, slightly chalky, no shows

TD @ 4505 ft 1555 hrs 6/14/14
Pioneer TD4506
complete logging operations 0400 hrs 6/15/14

Morgan Mud chk @ 4187 ft. 0720 hrs. 6/11/14
 Vis. 56 Wt. 9.0
 PV 18 YP 18
 WL 6.4
 Cake 2/32,
 pH 11.5
 CHL 1200 ppm
 Ca 10 ppm
 Sol 5.0 LCM 5#
 DMC \$1720.00
 CMC \$19918.00

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100

Murfin Ken 1-17 dst 3.pdf

Morgan Mud chk @ 4240 ft. 0630 hrs. 6/12/14
 Vis. 54 Wt. 9.3
 PV 18 YP 18
 WL 5.6
 Cake 2/32,
 pH 11.5
 CHL 1100 ppm
 Ca 10 ppm
 Sol 7.1 LCM 5#
 DMC \$1892.00
 CMC \$21810.00

Murfin Ken 1-17 dst 4.pdf

Morgan Mud chk @ 4317 ft. 0710 hrs. 6/13/14
 Vis. 69 Wt. 9.2
 PV 19 YP 26
 WL 5.2
 Cake 2/32,
 pH 11.5
 CHL 1000 ppm
 Ca 10 ppm
 Sol 5.0 LCM 4#
 DMC \$216.00
 CMC \$22026.00

Morgan Mud chk @ 4398 ft. 0725 hrs. 6/14/14
 Vis. 69 Wt. 9.2
 PV 20 YP 23
 WL 5.2
 Cake 2/32,
 pH 11.5
 CHL 1000 ppm
 Ca 10 ppm
 Sol 6.4 LCM 5#
 DMC \$504.00
 CMC \$22530.00

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100

cfs @ 4170 ft 0600 hrs 6/11/14

cfs @ 4190 ft 0730 hrs 6/11/14

cfs @ 4240 ft 0330 hrs 6/12/14

cfs @ 4230 0825 hrs 6/13/14

ROP (min/ft)
 Gamma (API)
 Cal (in)

cfs @ 4505 1555 hrs 6/14/14
 TD @ 4505



PO Box 93999
Southlake, TX 76092

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

*acct.
Prod-MG*

INVOICE

Invoice Number: 143654
Invoice Date: Jun 5, 2014
Page: 1

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

Customer ID	Field Ticket #	Payment Terms	
Murfin	63300	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Jun 5, 2014	7/5/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Ken #1-17		
210.00	CEMENT MATERIALS	Class A Common	17.90	3,759.00
395.00	CEMENT MATERIALS	Gel	1.05	414.75
592.00	CEMENT MATERIALS	Chloride	1.10	651.20
227.08	CEMENT SERVICE	Cubic Feet Charge	2.48	563.16
829.60	CEMENT SERVICE	Ton Mileage Charge	2.75	2,281.40
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	Swedge Manifold Rental	275.00	275.00
80.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	352.00
1.00	CEMENT SUPERVISOR	LaRene Wentz		
1.00	EQUIPMENT OPERATOR	Wayne McGhghy		

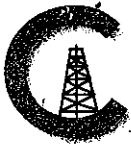
Subtotal	10,424.76
Sales Tax	381.17
Total Invoice Amount	10,805.93
Payment/Credit Applied	
TOTAL	10,805.93

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

\$ 3,648.66

ONLY IF PAID ON OR BEFORE
Jul 5, 2014

OK SR



CONSOLIDATED
Oil Well Services, LLC

REMIT TO
Consolidated Oil Well Services, LLC
Dept. 970
P.O. Box 4346
Houston, TX 77210-4346

MAIN OFFICE
P.O. Box 884
Chanute, KS 66720
620/431-9210 • 1-800/467-8676
Fax 620/431-0012

INVOICE

Invoice # 268884

Invoice Date: 06/19/2014 Terms: 10/10/30,n/30

Page 1

MURFIN DRILLING
P.O. BOX 288
RUSSELL KS 67665
() - USED FOR 1C 103
KEN 1-17
46929
17-1S-35W
06-15-2014
KS

APPROVED ST
FH

Part Number	Description	Qty	Unit Price	Total
1104D	CLASS "A" CEMENT CMD	300.00	27.9200	8376.00
1107	FLO-SEAL (25#)	150.00	2.9700	445.50
1126	OIL WELL CEMENT	200.00	23.7000	4740.00
1142A	KCL SUB MB6875 CC3107 (1	2.00	41.1000	82.20
1144G	MUD FLUSH (SALE)	500.00	1.0000	500.00
4104	CEMENT BASKET 5 1/2"	3.00	290.0000	870.00
4136	TURBOLIZER 5 1/2"	15.00	75.7500	1136.25
4159	FLOAT SHOE AFU 5 1/2"	1.00	433.7500	433.75
4310	ROTATING HEAD	1.00	200.0000	200.00
4315	ROTATING SCRATCHERS	10.00	94.5000	945.00
4454	5 1/2" LATCH DOWN PLUG	1.00	318.2500	318.25

Sublet Performed	Description	Total
9996-130	CEMENT MATERIAL DISCOUNT	-1804.70
9995-130	CEMENT EQUIPMENT DISCOUNT	-711.73

Description	Hours	Unit Price	Total
T-118 SINGLE PUMP	1.00	3175.00	3175.00
T-118 EQUIPMENT MILEAGE (ONE WAY)	85.00	5.25	446.25
T-129 TON MILEAGE DELIVERY	1.00	3496.05	3496.05

Amount Due 26589.95 if paid after 07/19/2014

Parts:	18046.95	Freight:	.00	Tax:	1283.13	AR	23930.95
Labor:	.00	Misc:	.00	Total:	23930.95		
Sublt:	-2516.43	Supplies:	.00	Change:	.00		

Signed _____

Date _____



CONSOLIDATED
Oil Well Services, LLC

268884

TICKET NUMBER 46929

LOCATION Oakley, KS

FOREMAN Miles Shaw

PO Box 884, Chanute, KS 66720
620-431-9210 or 800-467-8676

FIELD TICKET & TREATMENT REPORT
CEMENT

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
10-15-14	5406	Ken # 1-17	17	15	35W	Rawlins
CUSTOMER <u>Martin</u>			REMARKS <u>Reedsley, N. Hill, 2W, Sinto</u>			
MAILING ADDRESS			TRUCK #	DRIVER	TRUCK #	DRIVER
CITY			<u>456718</u>	<u>Sardal</u>		
STATE			<u>530729</u>	<u>Lance R</u>		
ZIP CODE						

JOB TYPE Long String HOLE SIZE 7 7/8 HOLE DEPTH 4505' CASING SIZE & WEIGHT 5 1/2" 15.5#
 CASING DEPTH 4498' DRILL PIPE _____ TUBING _____ OTHER _____
 SLURRY WEIGHT 10.7/13.8 SLURRY VOL 3.1/14.2 WATER gal/sk _____ CEMENT LEFT in CASING 19.17'
 DISPLACEMENT 16 1/2 DISPLACEMENT PSI 1300 MIX PSI 1900 RATE _____

REMARKS: Safety meeting and rig up on Martin Drilling Rig #7 Float equipment
turbolizes on joints # 1, 2, 3, 4, 8, 9, 10, 11, 12, 15, 18, 20, 33, 53 Baskets on joint # 16, 34, 54
Run casing to bottom circulate casing thr. pump mud flush mix @ 250 SPS (CMD)
With 1/2" flo seal tool joint with 200 SPS cure with 5" H/Seal Shut Down Clear pump lines
Release plug displace 100% bbls water with 1300 psi 1 ft pressure Plug land on hold @
1900 psi 10 ft shut in with Sledge & Valve Cement did circulate 20 bbls
top it

Mix 30 SPS ARA 20 SPS M/H

Thanks Miles & crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401C	1	PUMP CHARGE	3175	3175.00
5406	85	MILEAGE	5.25	446.25
5407A	23.5 ton	Ton Mileage delivery	1.75	3496.05
1104D	300 SPS	CMD	27.92	8376.00
1107	150 #	Flo Seal	2.97	445.50
1126	200 SPS	Cure	23.70	4740.00
1142A	2 gal	HCL	41.10	82.20
1144G	500 gal	Mud flush	1.00	500.00
4104	3	5 1/2" Baskets	290.00	870.00
4136	15	5 1/2" turbolizers	75.75	1136.25
4159	1	5 1/2" A/Fu Flat shoe	433.75	433.75
4310	1	Rotating head charge	200.00	200.00
4315	10	Rotating Scratches	94.50	945.00
4454	1	5 1/2" latch down plug	318.25	318.25
		Subtotal		25164.25
		less 10% discount		25164.25
		Subtotal		22647.82
		SALES TAX ESTIMATED		1283.13
		TOTAL		23930.95

completed

Ravin 3737

AUTHORIZATION

[Signature]

TITLE

DATE

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.

Ken #1-17
 Daily Drilling Report
 Page Two

- 6/12/14 Depth 4240'. Cut 60'. DT: None. CT: 18¾ hrs. Dev.: None. **DST #2 4050-4190' (LKC-LKC D)**: 30-60-30-60. IF: wk blw, wk surf over 30mins. FF: wk surf blw, died in 10mins. Rec.: 38'OCM (30%O, 70%M), 62'VSOCM (8%O, 92%M). HP: 2211-1989. FP: 21/49, 45/61. SIP: 713-696. BHT: 127°. **LKC G**: Ls, microxtln, bioclastic, foss, sat golden brn stn, SI SO, fnt odor. **DST #3 4178-4240 (LKC G)**:
- 6/13/14 Depth 4310'. Cut 70'. DT: 3½ hrs. (DW). CT: 15 hrs. Dev.: ¾° @ 4240'. **DST #3 4178-4240 (LKC G)**: 30-60-60-90. IF: strong blw BOB in 5 min. ISI: blw bk in 2 min. blt to 4" over 75 min. FF: strong blw BOB in 6 min. FSI: blw bk BOB in 30 min., started to die, died to surf over 100 min. Rec. 189' SGOCM (5%G, 20%O, 75%M), 189' GO (70%G, 30%O), 189' GO (50%G, 50%O), 504' GO (30%G, 70%O), 2000' GIP. HP: 2130-2042. FP: 30/166, 177/403. SIP: 1292-1285. BHT: 138°. **LKC H**: lst, micro-xln, foss to micro-oolitic, vuggy por, blk stn, slow bleeding oil, gd odor. **LKC J**: lst, micro-xln, bioclastic, foss, vuggy por, blk stn, heavy bleeding oil & gas, gd odor. **DST #4 4234-4330' (LKC H-J)**:
- 6/14/14 Depth 4395'. Cut 85'. DT: None. CT: 17hrs. Dev.: None. **DST #4 4234-4330' (LKC H-J)**: 30-60-60-90. IF: opened w/surf blw, built to BOB in 5mins. ISI: return built to 2½", died back to no return. FF: opened w/surf blw, built to 1¾" died back to 1". FSI: return built to BOB in 70mins. Rec.: 146'O, 315'GO(22%G, 78%O), 125'GOCM (15%G, 40%O, 45%M). HP: 2111-2053. FP: 58/141, 154/235. SIP: 405-413. BHT: 135°.
- 6/15/14 RTD: 4505'. Cut 110'. DT: None. CT: 15hrs. Dev.: 1° @ 4505'. HC @ 4:00PM 6/14/14. Pioneer logged 12:00AM – 5:00AM 6/15. LTD: 4506'. Waited 1½ hrs on wind while TOO H F/log.
- 6/16/14 RTD: 4505'. CT 15¼ hrs. Ran 107jts of 5½" prod csg, set @ 4498'. C.O.W.S. cmt w/450sxs (250sxs CMD, 200sxs OWC). PD @ 6:15PM 6/15. 30sxs RH, 20sxs MH. Circ 20BBLs. RR @ 10:15PM 6/15/14. FINAL REPORT

Ken #1-17 1270 FNL 990 FWL Sec. 17-1S-35W 3185' KB							Sutton #1-8 1620 FSL 878 FWL Sec. 8-1S-35W 3231' KB	
Formation	Sample top	Datum	Ref	Log tops	Datum	Ref	Log tops	Datum
Anhydrite	3072	+113	+18	3072	+113	+18	3136	+95
B/Anhydrite	3108	+77	+17	3109	+76	+16	3171	+60
Foraker	3689	-504	+9	3681	-496	+17	3744	-513
Topeka	3904	-719	+4	3892	-707	+16	3954	-723
Oread	4020	-835	-4	4002	-816	+15	4062	-831
Lansing	4116	-931	+12	4110	-925	+18	4174	-943
BKC	4381	-1196	+11	4375	-1190	+17	4438	-1207
RTD	4505							
LTD				4506			5169	-1938