

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1247648
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: _____

1247648

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

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

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

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

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

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

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

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

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

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

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

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

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

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</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	Verna 1-26
Doc ID	1247648

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: Keith Reavis

Verna #1-26

26/1s/36w Rawlins,KS

Start Date: 2015.01.17 @ 22:45:05

End Date: 2015.01.18 @ 08:08:00

Job Ticket #: 60846 DST #: 1

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

Printed: 2015.01.21 @ 14:01:54



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
 250 N. Water STE 300
 Wichita, KS 67202
 ATTN: Keith Reavis

26/1s/36w Rawlins,KS

Verna #1-26

Job Ticket: 60846

DST#: 1

Test Start: 2015.01.17 @ 22:45:05

GENERAL INFORMATION:

Formation: **LKC "A - D"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:10:30
 Time Test Ended: 08:08:00
 Interval: **4174.00 ft (KB) To 4313.00 ft (KB) (TVD)**
 Total Depth: 4313.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: James Winder
 Unit No: 83
 Reference Elevations: 3304.00 ft (KB)
 3299.00 ft (CF)
 KB to GR/CF: 5.00 ft

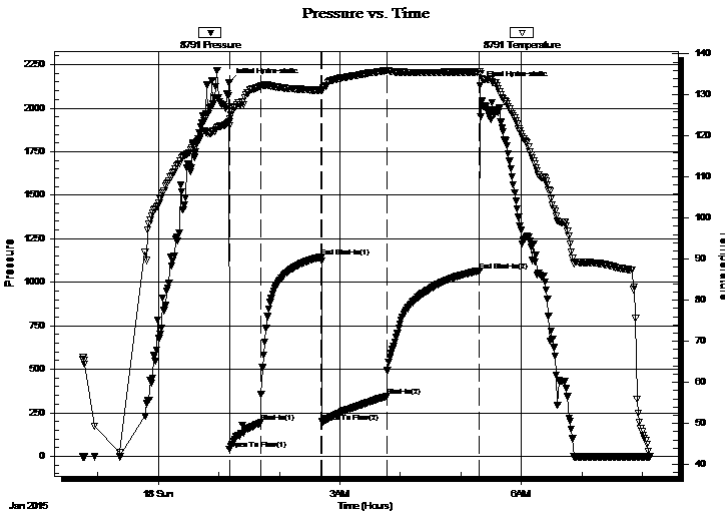
Serial #: 8791

Inside

Press@RunDepth: 344.32 psig @ 4175.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.01.17 End Date: 2015.01.18 Last Calib.: 2015.01.18
 Start Time: 22:45:05 End Time: 08:08:00 Time On Btm: 2015.01.18 @ 01:10:15
 Time Off Btm: 2015.01.18 @ 05:18:59

TEST COMMENT: 30 - IF: Surging blow built to BOB (11") at 11 min. (Diesel in bucket)
 60 - IS!: No blow back
 60 - FF: Blow built to BOB at 13 3/4 min.
 90 - FS!: Blow back built to 1/2"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2145.43	123.52	Initial Hydro-static
1	39.45	122.51	Open To Flow (1)
32	194.31	132.13	Shut-In(1)
92	1146.45	131.16	End Shut-In(1)
93	197.93	131.13	Open To Flow (2)
157	344.32	135.91	Shut-In(2)
248	1066.18	135.59	End Shut-In(2)
249	2130.09	134.95	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
186.00	MCW w/trace oil 68%w , 32%m	0.91
382.00	SO/WCM 64%m, 27%w , 7%g, 2%o	5.36
125.00	SOCM 92%m, 7%o, 1%g	1.75
5.00	SMCO 91%o, 4%m, 5%g	0.07

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

26/1s/36w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Verna #1-26

Job Ticket: 60846

DST#: 1

ATTN: Keith Reavis

Test Start: 2015.01.17 @ 22:45:05

Tool Information

Drill Pipe:	Length: 3994.00 ft	Diameter: 3.80 inches	Volume: 56.03 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 56.94 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	34.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	4174.00 ft			Final 59000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	139.00 ft			
Tool Length:	167.00 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			4151.00	
Hydraulic tool	5.00			4156.00	
Jars	5.00			4161.00	
Safety Joint	3.00			4164.00	
Packer	5.00			4169.00	28.00 Bottom Of Top Packer
Packer	5.00			4174.00	
Stubb	1.00			4175.00	
Recorder	0.00	8791	Inside	4175.00	
Recorder	0.00	8366	Outside	4175.00	
Perforations	5.00			4180.00	
Blank Spacing	128.00			4308.00	
Perforations	2.00			4310.00	
Bullnose	3.00			4313.00	139.00 Bottom Packers & Anchor

Total Tool Length: 167.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

26/1s/36w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Verna #1-26

Job Ticket: 60846

DST#: 1

ATTN: Keith Reavis

Test Start: 2015.01.17 @ 22:45:05

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 59.00 sec/qt
Water Loss: 7.96 in³
Resistivity: ohm.m
Salinity: 600.00 ppm
Filter Cake: 2.00 inches

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

Oil API: 20 deg API
Water Salinity: 21000 ppm

Recovery Information

Recovery Table

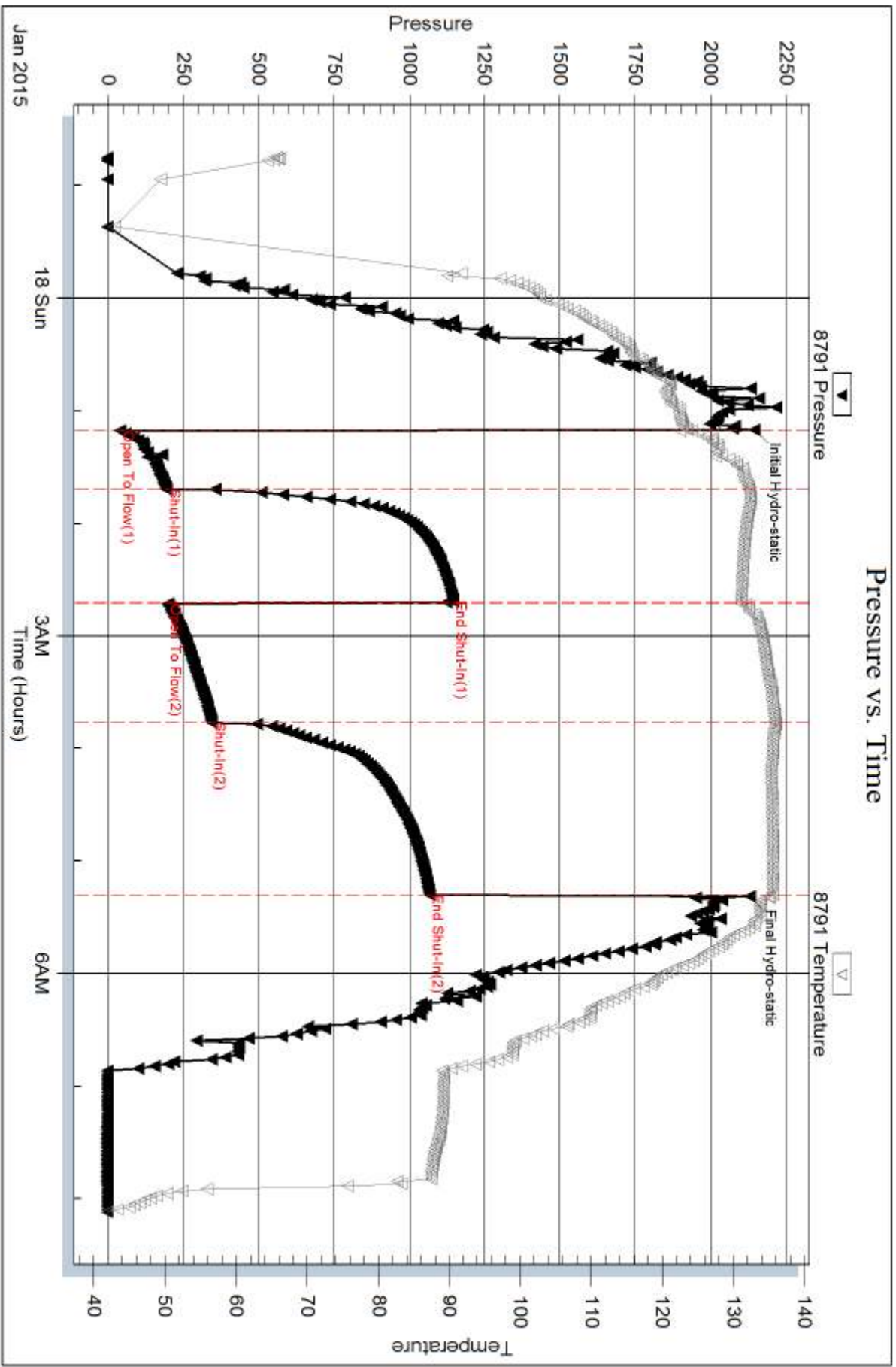
Length ft	Description	Volume bbl
186.00	MCW w /trace oil 68%w , 32%m	0.915
382.00	SO/WCM 64%m, 27%w , 7%g, 2%o	5.358
125.00	SOCM 92%m, 7%o, 1%g	1.753
5.00	SMCO 91%o, 4%m, 5%g	0.070

Total Length: 698.00 ft Total Volume: 8.096 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: Gravity = 21 api @ 70 deg F Corrected Gravity = 20 api
RW = .399 ohms @ 57.3 deg F

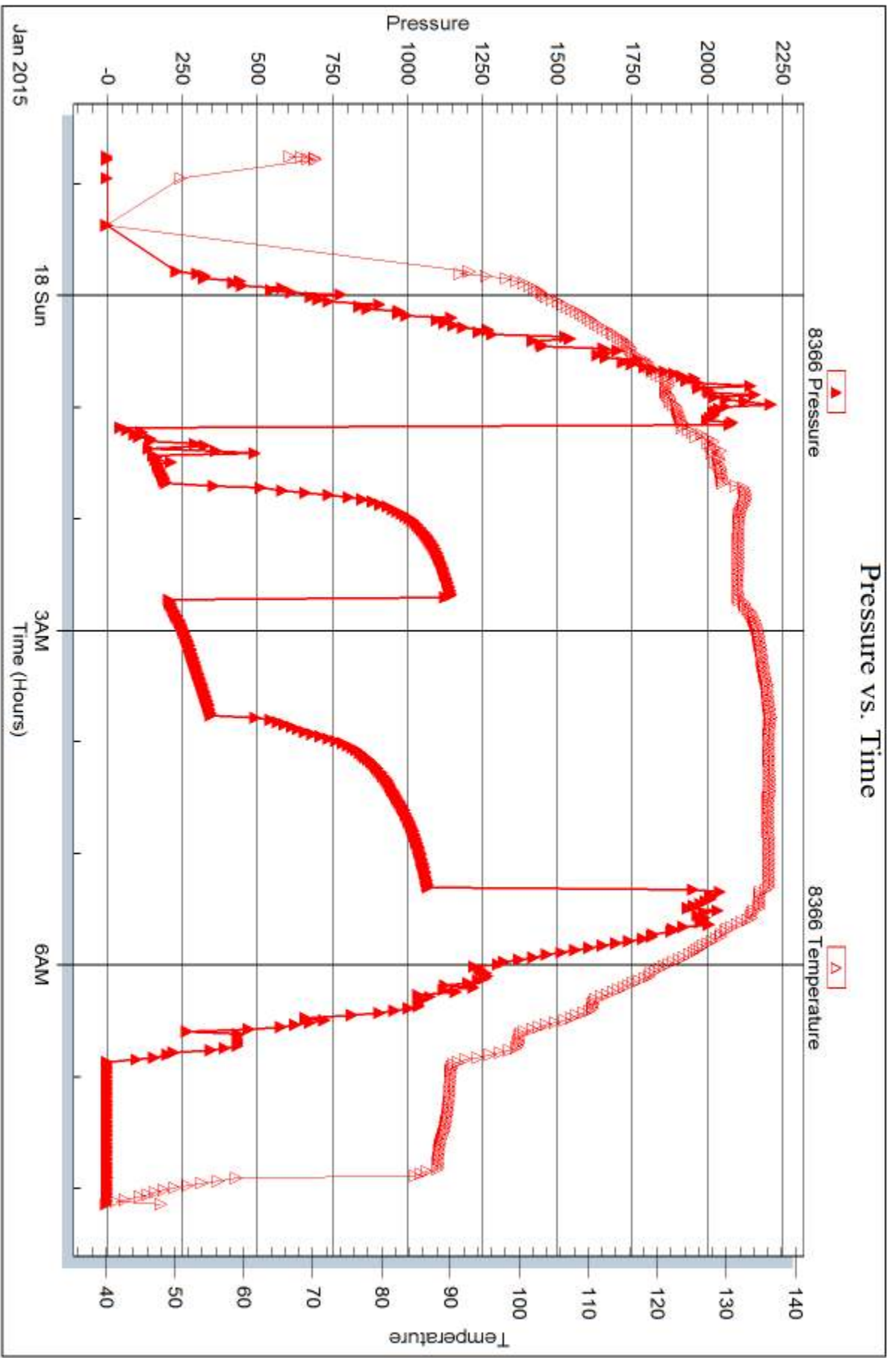


Serial #: 8366

Outside Murfin Drilling Co., Inc.

Verna #1-26

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 60846

Printed: 2015.01.21 @ 14:01:55



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Keith Reavis

Verna #1-26

26/1s/36w Rawlins,KS

Start Date: 2015.01.18 @ 17:37:00

End Date: 2015.01.19 @ 01:07:45

Job Ticket #: 60847 DST #: 2

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

Printed: 2015.01.21 @ 14:01:35



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
250 N. Water STE 300
Wichita, KS 67202
ATTN: Keith Reavis

26/1s/36w Rawlins, KS

Verna #1-26

Job Ticket: 60847

DST#: 2

Test Start: 2015.01.18 @ 17:37:00

GENERAL INFORMATION:

Formation: **LKC "G"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 19:42:30
 Time Test Ended: 01:07:45
 Interval: **4314.00 ft (KB) To 4375.00 ft (KB) (TVD)**
 Total Depth: 4375.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: James Winder
 Unit No: 83
 Reference Elevations: 3304.00 ft (KB)
 3299.00 ft (CF)
 KB to GR/CF: 5.00 ft

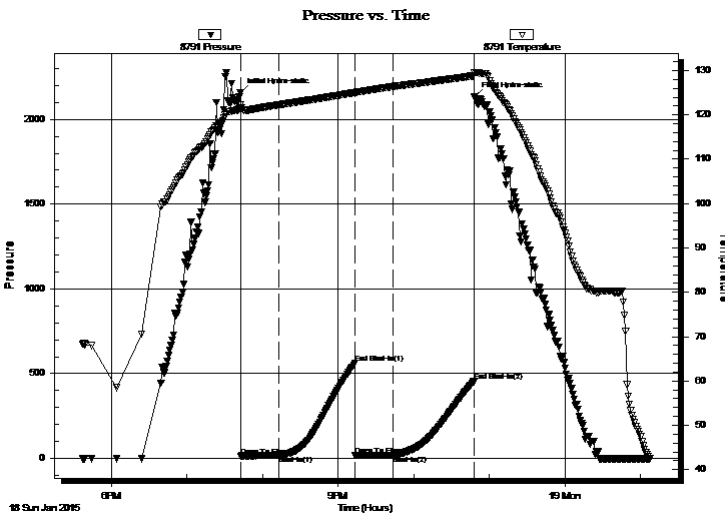
Serial #: 8791

Inside

Press@RunDepth: 19.89 psig @ 4315.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.01.18 End Date: 2015.01.19 Last Calib.: 2015.01.19
 Start Time: 17:37:05 End Time: 01:07:44 Time On Btm: 2015.01.18 @ 19:42:15
 Time Off Btm: 2015.01.18 @ 22:48:15

TEST COMMENT: 30 - IF: 1/4" Blow at open, built to 1/2", died back, dead at 22 min. (Diesel in bucket)
 60 - ISI: No blow
 30 - FF: No blow
 60 - FSI: No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2159.48	122.37	Initial Hydro-static
1	13.13	121.31	Open To Flow (1)
31	16.80	122.25	Shut-In(1)
91	560.23	125.03	End Shut-In(1)
92	17.78	124.80	Open To Flow (2)
121	19.89	126.38	Shut-In(2)
186	453.31	128.80	End Shut-In(2)
186	2136.26	129.59	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud w /trace of oil 100%m	0.02

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

26/1s/36w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Verna #1-26

Job Ticket: 60847

DST#: 2

ATTN: Keith Reavis

Test Start: 2015.01.18 @ 17:37:00

Tool Information

Drill Pipe:	Length: 4120.00 ft	Diameter: 3.80 inches	Volume: 57.79 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 74000.00 lb
			<u>Total Volume: 58.70 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	4314.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	61.00 ft			
Tool Length:	89.00 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			4291.00	
Hydraulic tool	5.00			4296.00	
Jars	5.00			4301.00	
Safety Joint	3.00			4304.00	
Packer	5.00			4309.00	28.00 Bottom Of Top Packer
Packer	5.00			4314.00	
Stubb	1.00			4315.00	
Recorder	0.00	8791	Inside	4315.00	
Recorder	0.00	8366	Outside	4315.00	
Perforations	21.00			4336.00	
Blank Spacing	34.00			4370.00	
Perforations	2.00			4372.00	
Bullnose	3.00			4375.00	61.00 Bottom Packers & Anchor

Total Tool Length: 89.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

26/1s/36w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Verna #1-26

Job Ticket: 60847

DST#: 2

ATTN: Keith Reavis

Test Start: 2015.01.18 @ 17:37:00

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: 62.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.95 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 bbf
5.00	Mud w /trace of oil 100%m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

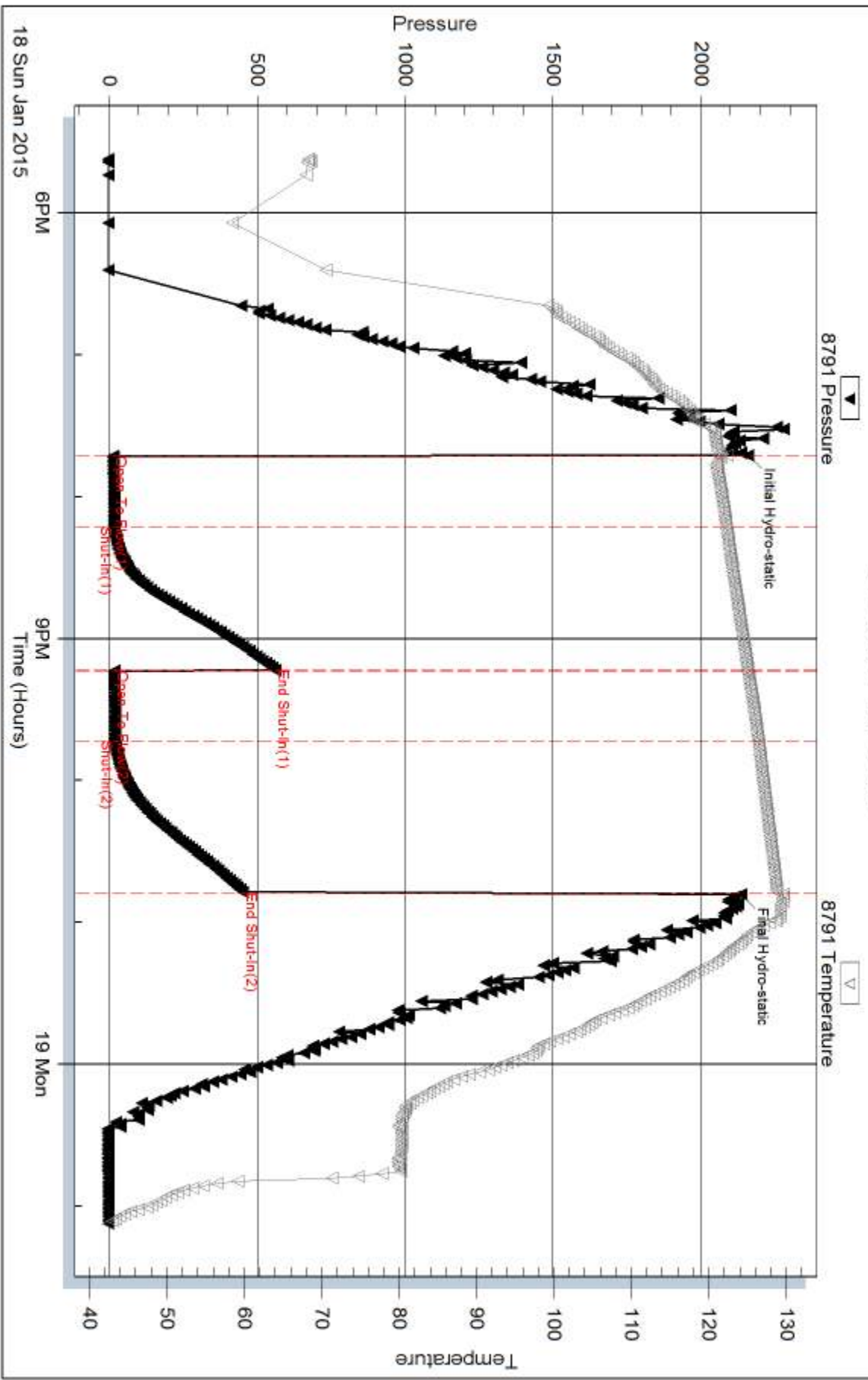
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

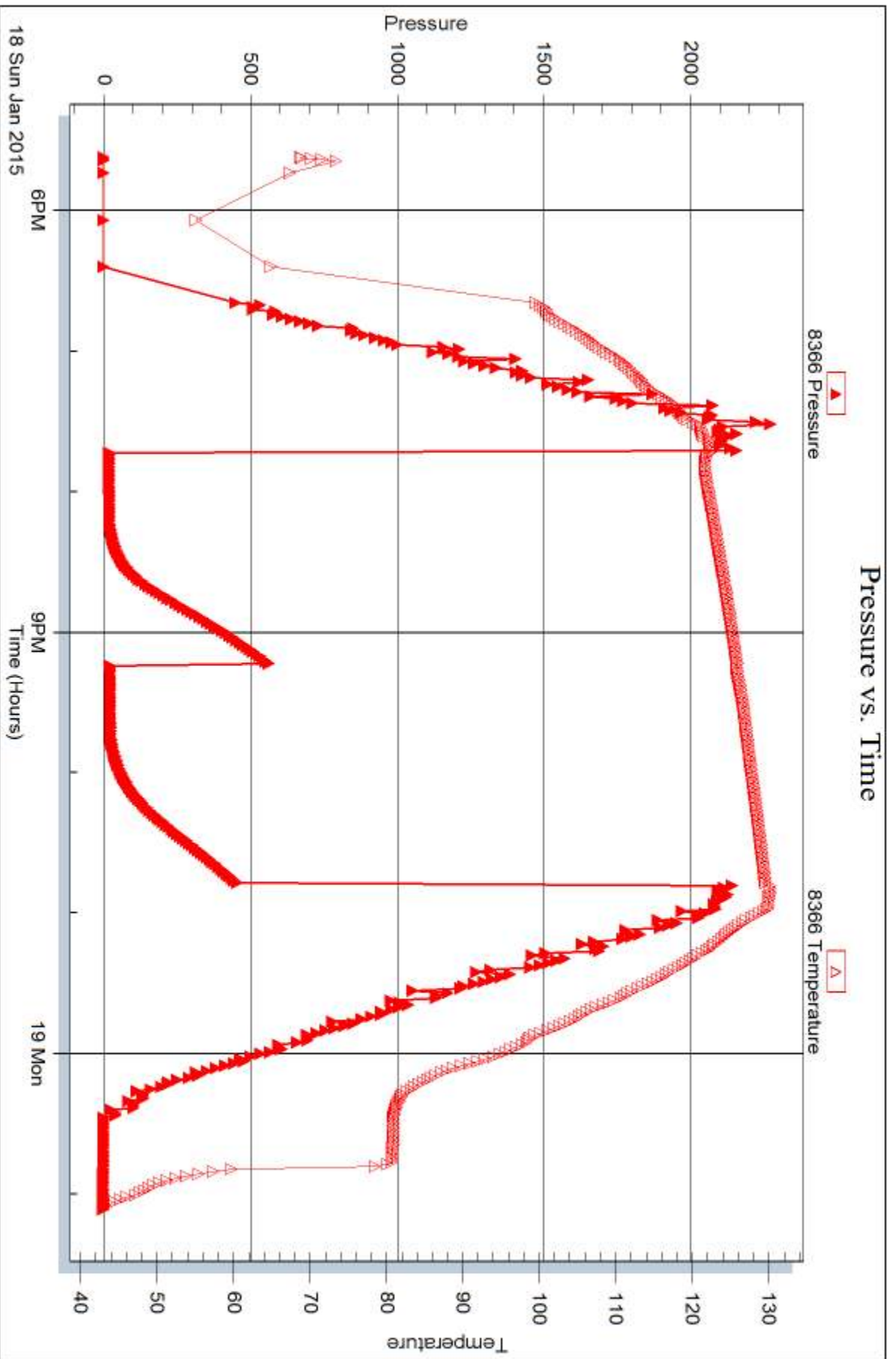


Serial #: 8366

Outside Murfin Drilling Co., Inc.

Verna #1-26

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 60847

Printed: 2015.01.21 @ 14:01:36



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Keith Reavis

Verna #1-26

26/1s/36w Rawlins,KS

Start Date: 2015.01.19 @ 15:43:00

End Date: 2015.01.19 @ 22:38:15

Job Ticket #: 60848 DST #: 3

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

Printed: 2015.01.21 @ 14:00:48



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

26/1s/36w Rawlins, KS

250 N. Water STE 300
Wichita, KS 67202

Verna #1-26

Job Ticket: 60848

DST#: 3

ATTN: Keith Reavis

Test Start: 2015.01.19 @ 15:43:00

GENERAL INFORMATION:

Formation: **LKC "J - K"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:39:15

Time Test Ended: 22:38:15

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4413.00 ft (KB) To 4499.00 ft (KB) (TVD)

Total Depth: 4499.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3304.00 ft (KB)

3299.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8791

Inside

Press@RunDepth: 32.01 psig @ 4414.00 ft (KB)

Start Date: 2015.01.19

End Date:

2015.01.19

Start Time: 15:43:05

End Time:

22:38:14

Capacity: 8000.00 psig

Last Calib.: 2015.01.19

Time On Btm: 2015.01.19 @ 17:38:45

Time Off Btm: 2015.01.19 @ 20:43:15

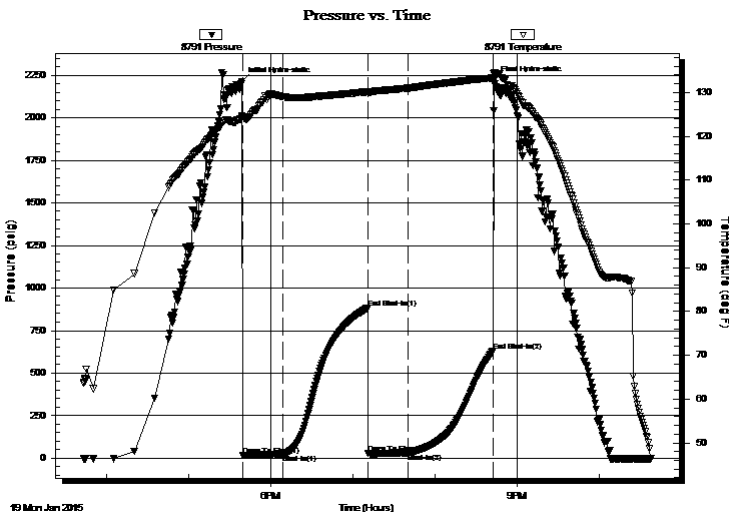
TEST COMMENT: 30 - IF: 1/4" Blow at open, built to 1 1/2" (Diesel in bucket)

60 - IS: No blow back

30 - FF: No blow

60 - FS: No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2213.23	124.61	Initial Hydro-static
1	15.80	124.44	Open To Flow (1)
31	23.28	129.03	Shut-In(1)
92	882.65	130.18	End Shut-In(1)
93	27.85	129.90	Open To Flow (2)
122	32.01	130.99	Shut-In(2)
184	628.11	133.31	End Shut-In(2)
185	2219.71	134.60	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	OCM 85% m, 10% o, 5% g	0.20
2.00	Free Oil 100%	0.01

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

26/1s/36w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Verna #1-26

Job Ticket: 60848

DST#: 3

ATTN: Keith Reavis

Test Start: 2015.01.19 @ 15:43:00

Tool Information

Drill Pipe:	Length: 4213.00 ft	Diameter: 3.80 inches	Volume: 59.10 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 60.01 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	4413.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	86.00 ft			
Tool Length:	114.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4390.00	
Hydraulic tool	5.00			4395.00	
Jars	5.00			4400.00	
Safety Joint	3.00			4403.00	
Packer	5.00			4408.00	28.00 Bottom Of Top Packer
Packer	5.00			4413.00	
Stubb	1.00			4414.00	
Recorder	0.00	8791	Inside	4414.00	
Recorder	0.00	8366	Outside	4414.00	
Perforations	15.00			4429.00	
Blank Spacing	65.00			4494.00	
Perforations	2.00			4496.00	
Bullnose	3.00			4499.00	86.00 Bottom Packers & Anchor

Total Tool Length: 114.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

26/1s/36w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Verna #1-26

Job Ticket: 60848

DST#: 3

ATTN: Keith Reavis

Test Start: 2015.01.19 @ 15:43:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 56.00 sec/qt
Water Loss: 7.19 in³
Resistivity: ohm.m
Salinity: 1000.00 ppm
Filter Cake: 2.00 inches

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

Oil API: deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	OCM 85% _m , 10% _o , 5% _g	0.197
2.00	Free Oil 100%	0.010

Total Length: 42.00 ft Total Volume: 0.207 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

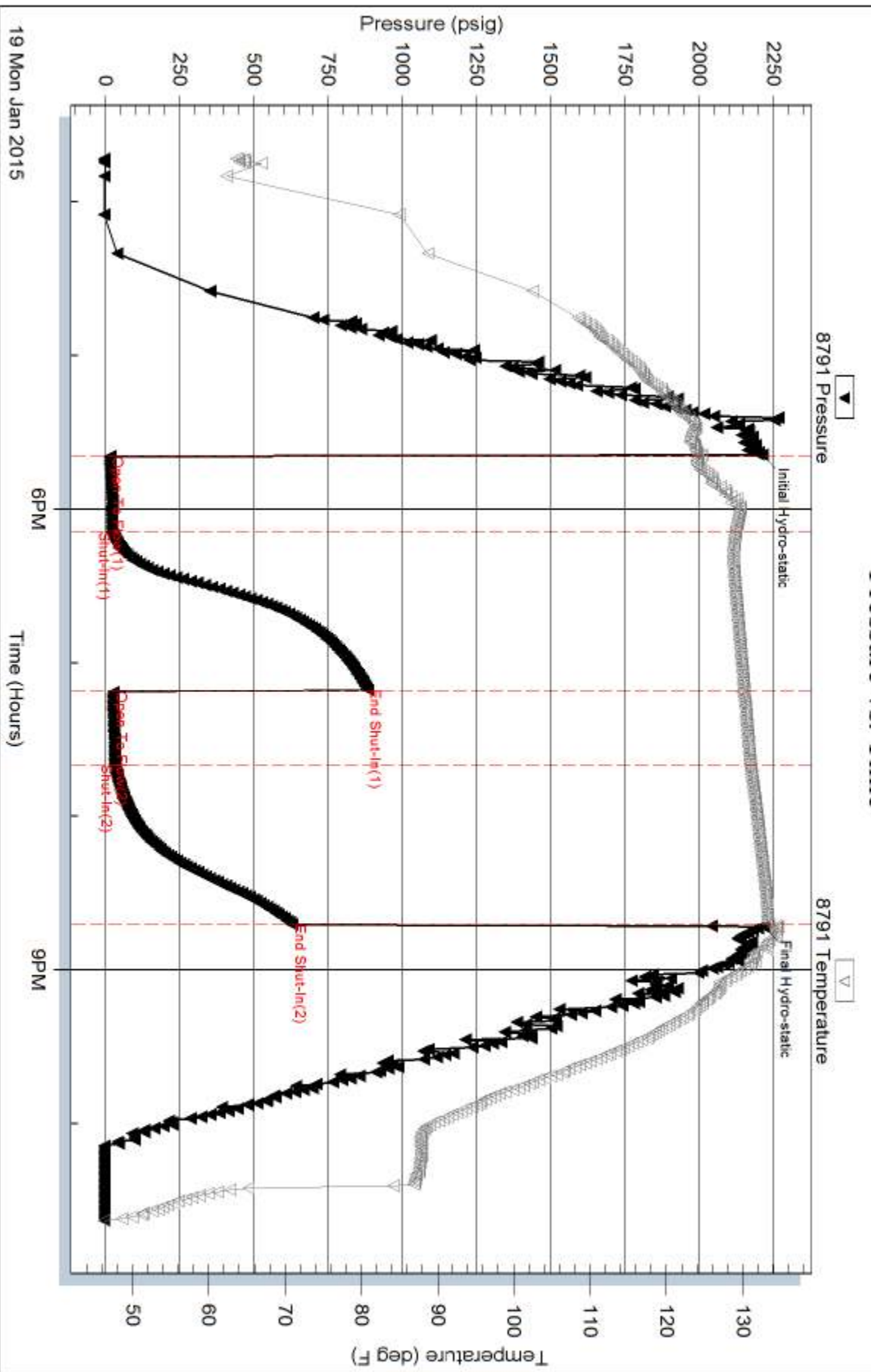
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

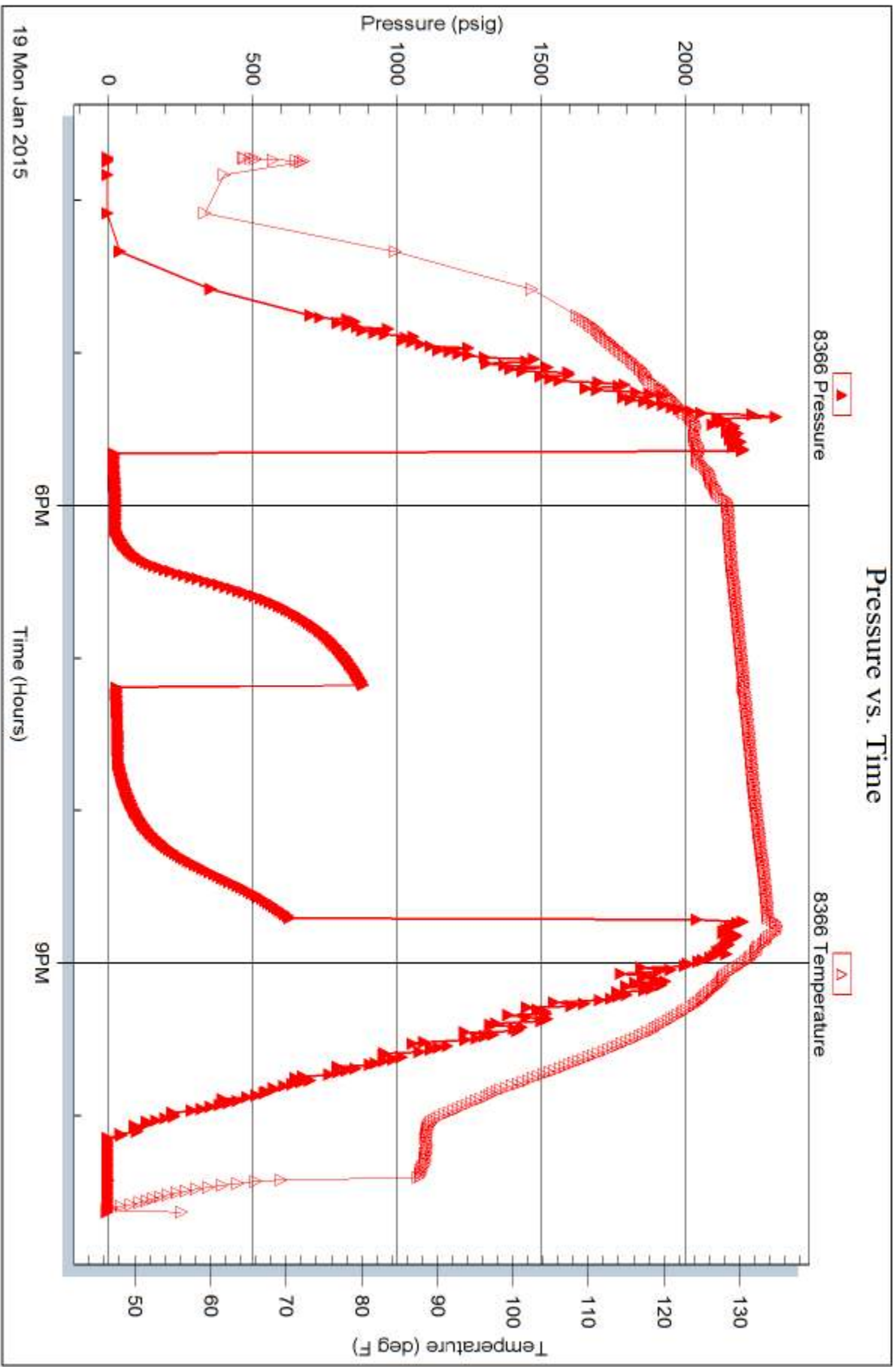


Serial #: 8366

Outside Murfin Drilling Co., Inc.

Vena #1-26

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 60848

Printed: 2015.01.21 @ 14:00:50



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60846

4/10

Well Name & No. Verna # 1-26 Test No. 1 Date 1-17-15
 Company Murfin Drilling Co. Inc. Elevation 3304 KB 3299 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Keith Reavis Rig Murfin #7
 Location: Sec. 26 Twp. 15 Rge. 36w Co. Rawlins State KS

Interval Tested 4174 - 4313 Zone Tested LKC "A-D"
 Anchor Length 139 Drill Pipe Run 3994 Mud Wt. 9.3
 Top Packer Depth 4169 Drill Collars Run 186 Vis 59
 Bottom Packer Depth 4174 Wt. Pipe Run - WL 8.0
 Total Depth 4313 Chlorides 600 ppm System LCM 9

Blow Description IF: Surging blow built to BOB (11") at 11 min. (Diesel in bucket)
ISI: No blowback
FF: Blow built to BOB at 13 3/4 min.
FSI: Blowback built to 1/2"

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>smco</u>	<u>5</u>	<u>91</u>	<u>-</u>	<u>4</u>
<u>125</u>	<u>50cm</u>	<u>1</u>	<u>7</u>	<u>-</u>	<u>92</u>
<u>382</u>	<u>50/wcm</u>	<u>7</u>	<u>2</u>	<u>27</u>	<u>64</u>
<u>186</u>	<u>mcw w/trace of oil</u>	<u>%gas</u>	<u>trace</u>	<u>68</u>	<u>32</u>

Rec Total 698 BHT 136 Gravity 20 API RW .399 @ 57.3 °F Chlorides 21,000 ppm

(A) Initial Hydrostatic 2145 Test 1150 T-On Location 21:30
 (B) First Initial Flow 39 Jars 250 T-Started 22:45
 (C) First Final Flow 194 Safety Joint 75 T-Open 1:10
 (D) Initial Shut-In 1146 Circ Sub _____ T-Pulled 5:18
 (E) Second Initial Flow 198 Hourly Standby _____ T-Out 8:00
 (F) Second Final Flow 344 Mileage 110 RT 110 Comments _____
 (G) Final Shut-In 1066 Sampler _____
 (H) Final Hydrostatic 2130 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____

Initial Open 30 Sub Total 0
 Initial Shut-In 60 Total 1585
 Final Flow 60 MP/DST Disc't _____
 Final Shut-In 90 Sub Total 1585

Approved By Keith Reavis Our Representative James Winder

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. **60847**

4/10

Well Name & No. Verna #1-26 Test No. 2 Date 1-18-15
 Company Murfin Drilling Co. Inc. Elevation 3304 KB 3299 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Keith Reavis Rig Murfin #7
 Location: Sec. 26 Twp. 1s Rge. 36w Co. Rawlins State KS

Interval Tested 4314 - 4375 Zone Tested LKC "G"
 Anchor Length 61 Drill Pipe Run 4120 Mud Wt. 9.4
 Top Packer Depth 4309 Drill Collars Run 186 Vis 62
 Bottom Packer Depth 4314 Wt. Pipe Run - WL 8.0
 Total Depth 4375 Chlorides 900 ppm System LCM 8

Blow Description IF: 1/4" Blow at open, built to 1/2", died back, dead at 22min. (Diesel in bucket)
ISI: No blow
FF: No blow
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mud w/trace of oil</u>	<u>trace</u>		<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 129 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2159 Test 1150 T-On Location 17:15 1/18
 (B) First Initial Flow 13 Jars 250 T-Started 17:37
 (C) First Final Flow 17 Safety Joint 75 T-Open 19:42
 (D) Initial Shut-In 560 Circ Sub _____ T-Pulled 22:47
 (E) Second Initial Flow 18 Hourly Standby _____ T-Out 1:00 1/19
 (F) Second Final Flow 20 Mileage 110RT 110 Comments _____
 (G) Final Shut-In 453 Sampler _____
 (H) Final Hydrostatic 2136 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total 0
 Initial Shut-In 60 Day Standby _____ Total 1585
 Final Flow 30 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 60 Sub Total 1585

Approved By _____

Our Representative James Winder

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60848

4/10

Well Name & No. Verna #1-26 Test No. 3 Date 1-19-15
 Company Murfin Drilling Co. Inc. Elevation 3304 KB 3299 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Keith Reavis Rig Murfin #7
 Location: Sec. 26 Twp. 1s Rge. 36w Co. Rawlins State KS

Interval Tested 4413 - 4499 Zone Tested LKC "J-K"
 Anchor Length 86 Drill Pipe Run 4213 Mud Wt. 9.1
 Top Packer Depth 4408 Drill Collars Run 186 Vis 56
 Bottom Packer Depth 4413 Wt. Pipe Run - WL 7.2
 Total Depth 4499 Chlorides 1000 ppm System LCM 8

Blow Description IF: Blow built to 1 1/2" (Diesel in bucket)
ISI: No blowback
FF: No blow
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>Free oil</u>	<u>100</u>			
<u>40</u>	<u>OCM</u>	<u>5</u>	<u>10</u>		<u>85</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 42 BHT 133 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>2213</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>14:45</u>
(B) First Initial Flow <u>16</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>15:43</u>
(C) First Final Flow <u>23</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>17:39</u>
(D) Initial Shut-In <u>883</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>20:42</u>
(E) Second Initial Flow <u>28</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>22:30</u>
(F) Second Final Flow <u>32</u>	<input checked="" type="checkbox"/> Mileage <u>110RT</u> 110	Comments
(G) Final Shut-In <u>628</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2220</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1585</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1585</u>	

Approved By _____ Our Representative Jamae Winder

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: Verna #1-26
 Location: Sec. 26 - T1S - R36W
 API: 15-153-21094-0000
 Pool: Kansas
 State: Kansas
 Field: wildcat
 Country: USA



Scale 1:240 Imperial

Well Name: Verna #1-26
 Surface Location: Sec. 26 - T1S - R36W
 Bottom Location:
 API: 15-153-21094-0000
 License Number: 30606
 Spud Date: 1/13/2015
 Region: Rawlins County
 Drilling Completed: 1/20/2015
 Surface Coordinates: 2310' FSL & 2310' FEL
 Bottom Hole Coordinates:
 Ground Elevation: 3299.00ft
 K.B. Elevation: 3304.00ft
 Logged Interval: 3580.00ft
 Total Depth: 4620.00ft
 Formation: Marmaton
 Drilling Fluid Type: Chemical/Fresh Water Gel

Time: 10:30 PM
 Time: 4:55 AM
 To: 4620.00ft

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude:
 Latitude:
 N/S Co-ord: 2310' FSL
 E/W Co-ord: 2310' FEL

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: KLG #136

Name: Keith Reavis

CONTRACTOR

Contractor: Murfin Drilling Company
 Rig #: 7
 Rig Type: mud rotary
 Spud Date: 1/13/2015
 TD Date: 1/20/2015
 Rig Release:

Time: 10:30 PM
 Time: 4:55 AM
 Time:

ELEVATIONS

K.B. Elevation: 3304.00ft
K.B. to Ground: 5.00ft

Ground Elevation: 3299.00ft

NOTES

Due to negative drill stem testing and electrical log analysis, it was determined by the operator that the Verna #1-26 be plugged and abandoned as a dry test.

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

Murfin Drilling Company daily drilling report

DATE	7:00 AM DEPTH	REMARKS
01/16/2015	3547	Geologist Keith Reavis on location @ 0130 hrs, 3484 ft, drilling ahead, bit trip @ 3547 ft., resume drilling @ 0730 hrs with button bit, Neva, Red Eagle, Foraker, Stotler
01/17/2015	4139	drilling ahead, Topeka, Oread, Lansing, shows in A and D warrant DST, short trip, TOH for DST #1
01/18/2015	4313	conduct and complete DST #1, successful test, TIH w/bit, resume drilling, show in G warrants test, TOH w/bit, conducting DST #2
01/19/2015	4413	complete DST #2, successful test, TIH w/bit, resume drilling, show in J warrants test, TOH for DST #3 (J & K), conduct and complete DST #3, successful test, TIH w/bit
01/20/2015	4620	resume drilling, rathole to TD, TD @ 0455 hrs, ctch, TOH for logs, conducting and complete logging operations, geologist off location @1430 hrs

Murfin Drilling Company well comparison sheet

DRILLING WELL					COMPARISON WELL			
Verna #1-26 2310' FSL & 2310' FEL Sec 26-T1S-R36W					Berexco - Lillie #1-26 330' FNL & 420' FWL Sec 26-T1S-R36W			
3304 KB					3264 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log
Neva	3694	-390	3693	-389	3648	-384	-6	-5
Red Eagle	3760	-456	3756	-452	3709	-445	-11	-7
Foraker	3804	-500	3803	-499	3756	-492	-8	-7
Stotler	3955	-651	3952	-648	3908	-644	-7	-4
Topeka	4025	-721	4016	-712	3974	-710	-11	-2
Oread	4143	-839	4140	-836	4087	-823	-16	-13
Lansing	4241	-937	4237	-933	4190	-926	-11	-7
Lansing G	4359	-1055	4354	-1050	4305	-1041	-14	-9
Stark	4465	-1161	4456	-1152	4408	-1144	-17	-8
Base KC	4511	-1207	4506	-1202	4458	-1194	-13	-8
Total Depth	4620	-1316	4617	-1313	4533	-1269	-47	-44

Drill Stem Test #1

	DRILL STEM TEST REPORT
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TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
250 N. Water STE 300
Wichita, KS 67202
ATTN: Keith Reavis

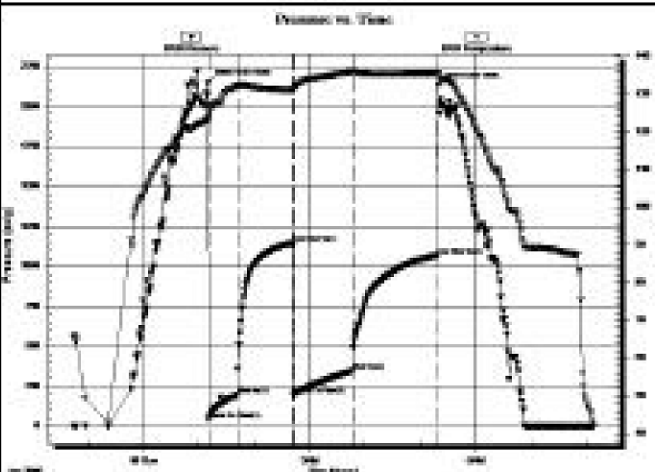
28/1c/38w Rawlins K3
Verna #1-28
Job Ticket: 60846 DST#: 1
Test Start: 2015.01.17 @ 22:45:05

GENERAL INFORMATION:

Formation: LKC "A - D"
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 01:10:30
Time Test Ended: 08:08:00
Test Type: Conventional Bottom Hole (Initial)
Tester: James Winder
Unit No: 83
Interval: 4174.00 ft (KB) To 4313.00 ft (KB) (TVD)
Reference Elevations: 3304.00 ft (KB)
Total Depth: 4313.00 ft (KB) (TVD)
3299.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair
KB to GR/CF: 5.00 ft

Serial #: 8781 Inside
Press@RunDepth: 344.32 psig @ 4175.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.01.17 End Date: 2015.01.18 Last Calib.: 2015.01.18
Start Time: 22:45:05 End Time: 08:08:00 Time On Btm: 2015.01.18 @ 01:10:15
Time Off Btm: 2015.01.18 @ 05:18:59

TEST COMMENT: 30 - F: Surging blow built to BOB (11") at 11 min. (Diesel in bucket)
60 - B: No blow back
80 - FF: Blow built to BOB at 13:34 min.
90 - FS: Blow back built to 1G"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2145.43	123.52	Initial Hydro-static
1	30.45	122.51	Open To Flow (1)
32	104.31	132.13	Shut-in (1)
92	1148.45	131.18	End Shut-in (1)
93	197.93	131.13	Open To Flow (2)
157	344.32	135.91	Shut-in (2)
248	1068.18	135.59	End Shut-in (2)
249	2130.09	134.95	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
188.00	MOW w/trace oil 68%w, 32%w	0.91
382.00	SOMCM 64%w, 27%w, 7%g, 2%o	5.38
125.00	SOCM 62%w, 7%o, 1%g	1.75
5.00	SMDO 91%o, 4%w, 5%g	0.07

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (scfd)

Drill Stem Test #2



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
250 N. Water STE 300
Wichita, KS 67202
ATTN: Keith Reavis

28/1c/38w Rawlins K3
Verna #1-28
Job Ticket: 60847 DST#: 2
Test Start: 2015.01.18 @ 17:37:00

GENERAL INFORMATION:

Formation: LKC "D"
Deviated: No Whipstock: ft (KB)
Test Type: Conventional Bottom Hole (Reset)

Time Tool Opened: 19:42:30
 Time Test Ended: 01:07:45

Tester: James Winder
 Unit No: 83

Interval: 4314.00 ft (KB) To 4375.00 ft (KB) (TVD)
 Total Depth: 4375.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3304.00 ft (KB)
 3299.00 ft (CF)
 KB to GRVCF: 5.00 ft

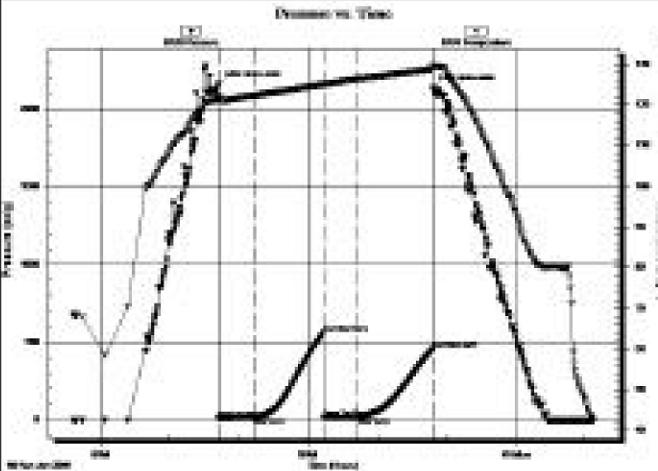
Serial #: 8781

Inside

Press@RunDepth: 19.89 psig @ 4315.00 ft (KB)
 Start Date: 2015.01.18 End Date: 2015.01.19
 Start Time: 17:37:05 End Time: 01:07:44

Capacity: 8000.00 psig
 Last Calib.: 2015.01.19
 Time On Btm: 2015.01.18 @ 19:42:15
 Time Off Btm: 2015.01.18 @ 22:48:15

TEST COMMENT: 30 - F: 1/4" Blow at open, built to 1/2", died back, dead at 22 min. (Diesel in bucket)
 60 - Bl: No blow
 30 - FF: No blow
 60 - FSI: No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2159.48	122.37	Initial Hydro-static
1	13.13	121.31	Open To Flow (1)
31	16.80	122.25	Shut-in (1)
51	590.23	125.03	End Shut-in (1)
52	17.78	124.80	Open To Flow (2)
121	19.89	126.38	Shut-in (2)
186	453.31	128.80	End Shut-in (2)
186	2136.28	129.59	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud w trace of oil 100%km	0.02

* Recovery from multiple tests

Gas Rates

	Core (inches)	Pressure (psig)	Gas Rate (bbl/d)
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Drill Stem Test #3



DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
 250 N. Water STE 300
 Wichita, KS 67202
 ATTN: Keith Reavis

28 1/2" 38w Rawlins KS
 Verna #1-28
 Job Ticket: 60848 DST#: 3
 Test Start: 2015.01.19 @ 15:43:00

GENERAL INFORMATION:

Formation: LKC "J - R"
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 17:39:15
 Time Test Ended: 22:38:15

Test Type: Conventional Bottom Hole (Reset)
 Tester: James Winder
 Unit No: 83

Interval: 4413.00 ft (KB) To 4499.00 ft (KB) (TVD)
 Total Depth: 4499.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3304.00 ft (KB)
 3299.00 ft (CF)
 KB to GRVCF: 5.00 ft

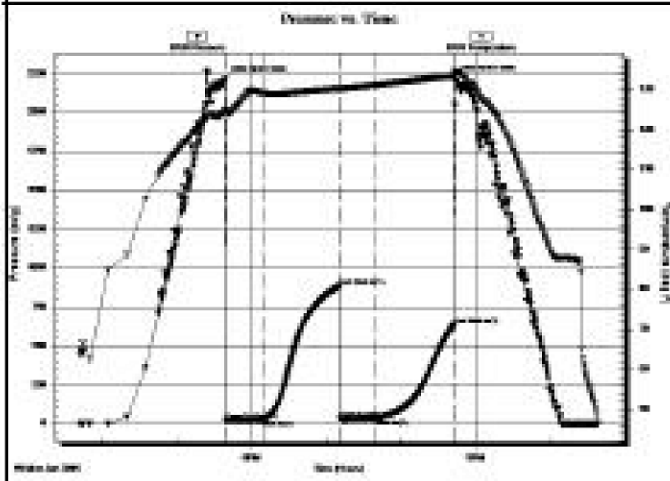
Serial #: 8781

Inside

Press@RunDepth: 32.01 psig @ 4414.00 ft (KB)
 Start Date: 2015.01.19 End Date: 2015.01.19
 Start Time: 15:43:05 End Time: 22:38:14

Capacity: 8000.00 psig
 Last Calib.: 2015.01.19
 Time On Btm: 2015.01.19 @ 17:38:45
 Time Off Btm: 2015.01.19 @ 20:43:15

TEST COMMENT: 30 - IP: 14" Blow at open, built to 1 1/2" (Diesel in bucket)
 80 - IS: No blow back
 30 - FF: No blow
 80 - FS: No blow



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2213.23	124.61	Initial Hydro-static
1	15.80	124.44	Open To Flow (1)
31	23.28	129.03	Shut-in(1)
92	882.65	130.18	End Shut-in(1)
93	27.85	129.90	Open To Flow (2)
122	32.01	130.99	Shut-in(2)
184	828.11	133.31	End Shut-in(2)
185	2219.71	134.60	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
40.00	OCM 85%lm, 10%a, 5%g	0.20
2.00	Free Oil 100%	0.01

* Recovery from multiple tests

Gas Rates			
	Flow (mcf/d)	Pressure (psig)	Gas Rate (mcf/d)

ROCK TYPES

Dolsec	Lmst fw>7	shale, gry	Ss
Lmst fw<7	shale, grn	shale, red	Sltst

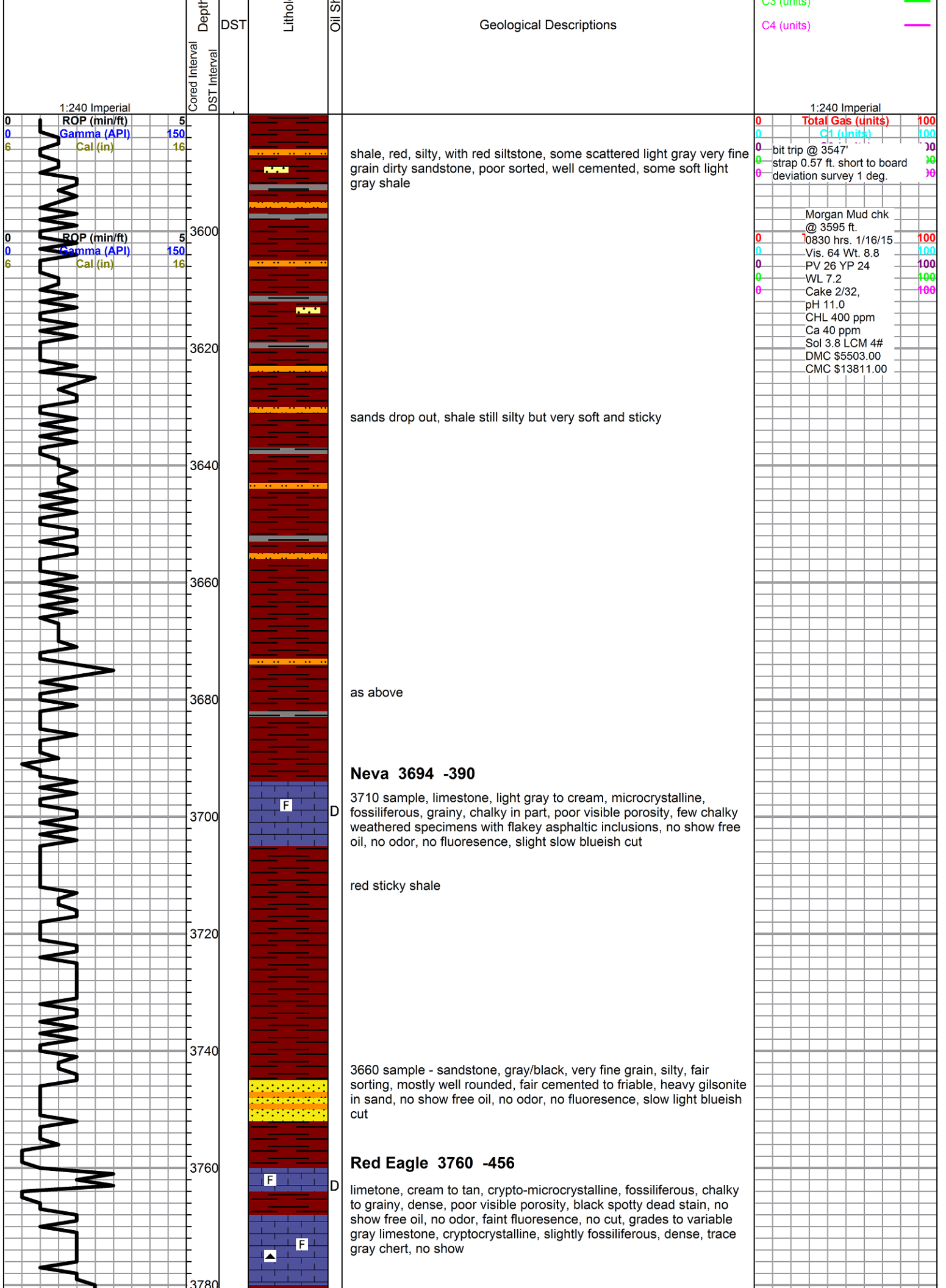
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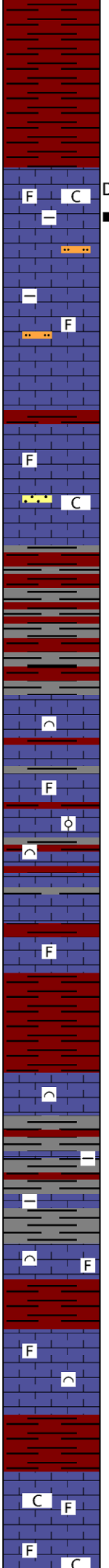
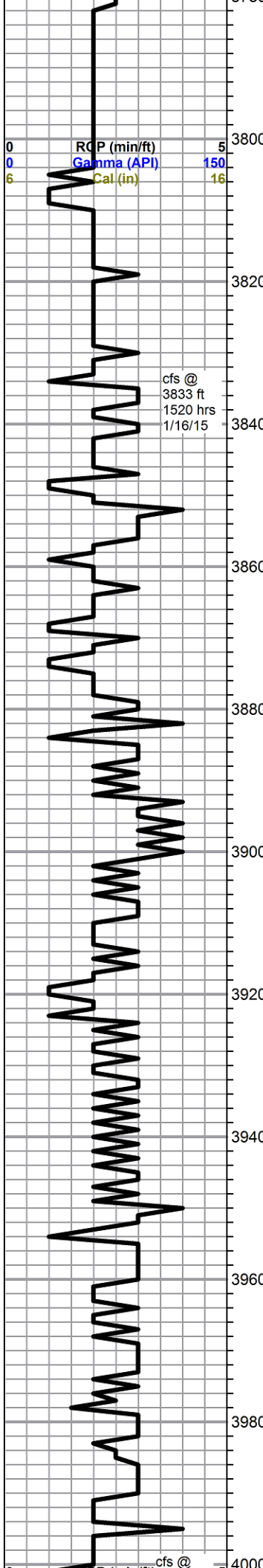
MINERAL - Argillaceous ⊥ Calcareous ▲ Chert, dark • Silty ■ Argillaceous/Shale	FOSSIL ∩ Bioclastic or Fragments F Fossils < 20% φ Oolite ⚡ Pellets	STRINGER ● Sandstone ■ Siltstone	TEXTURE C Chalky L Lithogr
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OTHER SYMBOLS

MISC Daily Report Digital Photo Document Folder Link Vertical Log File Horizontal Log File Core Log File Drill Cuttings Rpt	Oil Show ● Good Show ● Fair Show ● Poor Show ○ Spotted or Trace ○ Questionable Strn D Dead Oil Strn ■ Fluorescence * Gas	DST DST Int DST alt Core tail pipe
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Curve Track #1		Intervals		log		now		TG, C1 - C5	
ROP (min/ft)	—							Total Gas (units)	—
Gamma (API)	—							C1 (units)	—
Cal (in)	---							C2 (units)	—
								C3 (units)	—





Foraker 3804 -500

limestone, white to cream and gray, microcrystalline, argillaceous to chalky and grainy, spotty to fair black stain, poor visible porosity, no show free oil, no odor, light fluorescence, fair to good milky cut, abundant chalk

grades to darker gray limestones, dense, fossiliferous, some argillaceous, marked decrease in staining from above, some scattered siltstone, gray, abundant gilsonite, no show free oil or odor, poor fluorescence, slight cut, chalk falling out

30 min sample, influx tan grainy bioclastic limestone, dense, no shows

limestone, mixed gray to cream, microcrystalline, fossiliferous, mostly dense, moderate chalk, no shows, trace dirty quartz sandstone

soft gray shale and red soft clayey shale, some silty

limestone, light gray to cream, microcrystalline, bioclastic, oolitic, fossiliferous, chalky in part, grainy, poor visible porosity, no show

limestone, light gray, some white, cream and dark gray, mostly cryptocrystalline, fossiliferous, arenaceous, dense, no shows, abundant red shales

3930 sample, flood red sticky shale

3940 sample, limestone, cream, microcrystalline, bioclastic, slightly chalky, poor visible porosity, no shows

3950 and 60 sample, shale, gray, silty, with red shale, some gray micaceous siltstone, variable gray argillaceous limestones, no show

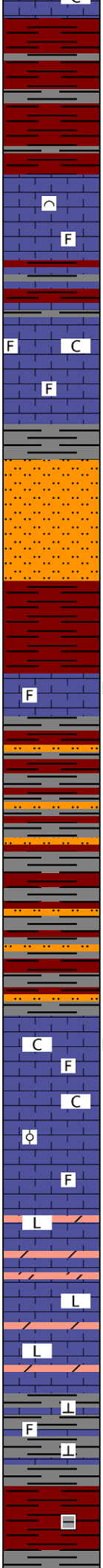
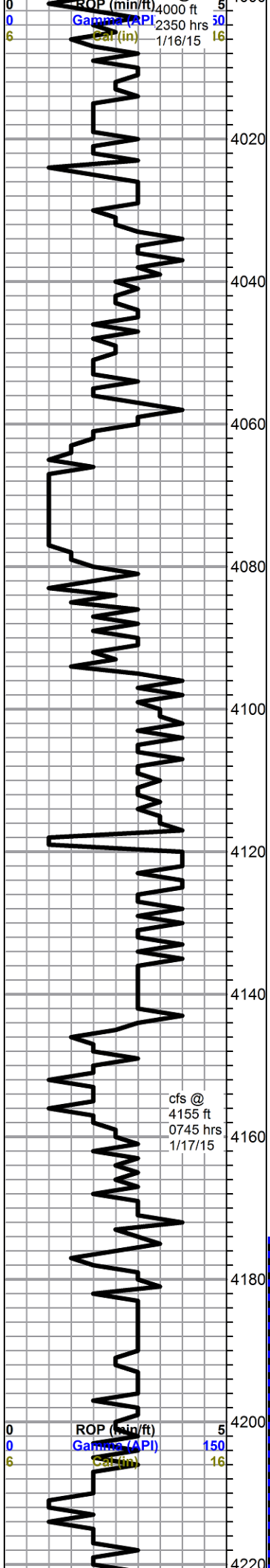
Stotler 3955 -651

limestone, cream to light gray, some reddish cast, mostly cryptocrystalline, some secondary calcite seams, bioclastic to fossiliferous, trace gray pelletal, poor visible porosity, no shows, poor fluorescence

3990 sample, flood red sticky shale

limestone, cream, cryptocrystalline, fossiliferous, chalky in part, poor visible porosity, no shows, abundant chalk

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



Topeka 4025 -721

limestone, cream to light gray to gray/green, micocrystalline, bioclastic to fossiliferous, sandy in part, chalky in part, poor visible porosity, no shows

limestone, white to pale green and cream, mostly cryptocrystalline, fossiliferous, fairly dense, poor visible porosity, no shows, some chalk

soft pink to orange clay, silt loaded, with abundant silt grains in bottom of tray, no shows or odor

4100 sample - limestone, white to light gray, micro-cryptocrystalline, fossiliferous, poor visible porosity, some weathered and friable with heavy to spotty gilsonitic staining, no show free oil, no odor, fair fluorescence, no cut

grades to shale, red and gray, with light brown to maroon very silty dense shale to siltstone

Oread 4143 -839

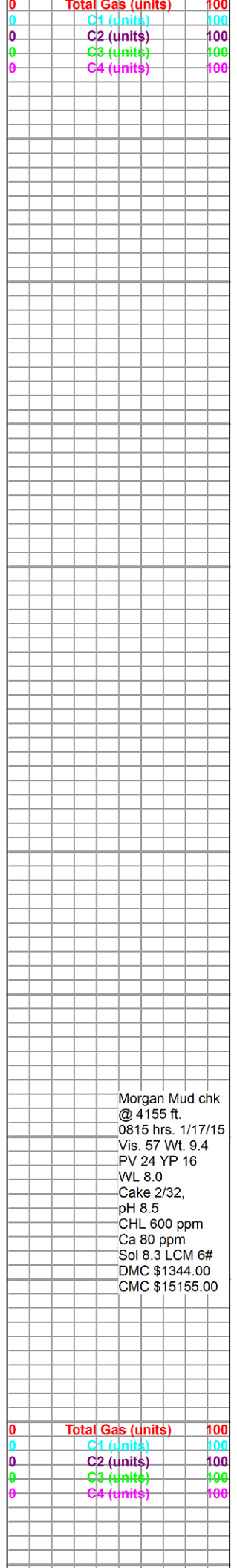
limestone, white to light gray, micro and cryptocrystalline, fossiliferous, dense to chalky, poor visible porosity, flood chalk in samples, found only 2 specimens with dead black spotty staining, no show free oil, no odor, fair mineral fluorescence, no cut

limestone, cream to light gray, mostly cryptocrystalline, fossiliferous, some oolitic, dense, poor visible porosity, no shows

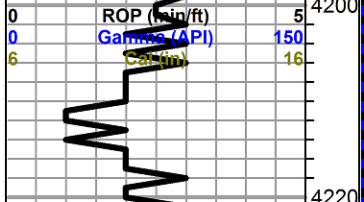
limestone, gray, cryptocrystalline, dolomitic in part, lithographic, dense, no shows

gray limey shales with light to dark gray cryptocrystalline limestone, some cream fossiliferous limestone stringers

shales, brick red, gray, brown, some argillaceous



Morgan Mud chk
 @ 4155 ft.
 0815 hrs. 1/17/15
 Vis. 57 Wt. 9.4
 PV 24 YP 16
 WL 8.0
 Cake 2/32,
 pH 8.5
 CHL 600 ppm
 Ca 80 ppm
 Sol 8.3 LCM 6#
 DMC \$1344.00
 CMC \$15155.00



flood gray soft muddy shale, silty

grades to red shale, silty, some mixed limestone stringers, some with large clasts, no shows

Lansing 4241 -937 (log 4237 -933)

4250 limestone, cream, re-crystallized oolitic to fossiliferous, slighty grainy to smooth, fairly dense, poor visible porosity, no staining, no odor, good streaming sheen and some light oil droplets, some gassy on break, fair fluorecence, fair milky cut with instant halo

grades to gray dense limestone, cryptocrytalline, mostly lithographic, some fossiliferous, moderate chalk, no shows

limestone, mixed gray fossiliferous to lithographic, no shows

flood red shale, with some limestone as above

limestone, white to light gray, microcrystalline, bioclastic to fossiliferous, chalky, pyritic and weathered in part, some scattered fair vugs and interclast porosity, spotty to fair interclast staining, slightly gassy, fair show free oil, heavy, no odor, faint fluorecence, excellent cut, moderate chalk in samples - 30 min sample, decrease in show, slight increase in chalk

limestone, light gray, microcrystalline, fossiliferous, some secondary calcite, poor visible porosity, no shows

shale, brick red, red, mixed grays, silty

limestone, light gray, cryptocrytalline, fossiliferous to sub-oomoldic, small specimens vuggy, staining in vugs with show of heavy oil, just a few pieces, grades to limestone, white to light gray, chalky fossiliferous, some surface etching with light brown/black stain, pin-point porosity, some fractures, some bleeding oil, most specimens with oil on break, no odor, fair even fluorecence, good to excellent cut

red, gray and green shales

limestone, gray to light gray, microcrystalline, fossiliferous, secondary calcite, some weathered to very chalky, poor visible porosity, flood chalk in samples, no shows

limestone a.a.

shales, mostly red, silty, siltstone, brown to gray, some pyrite

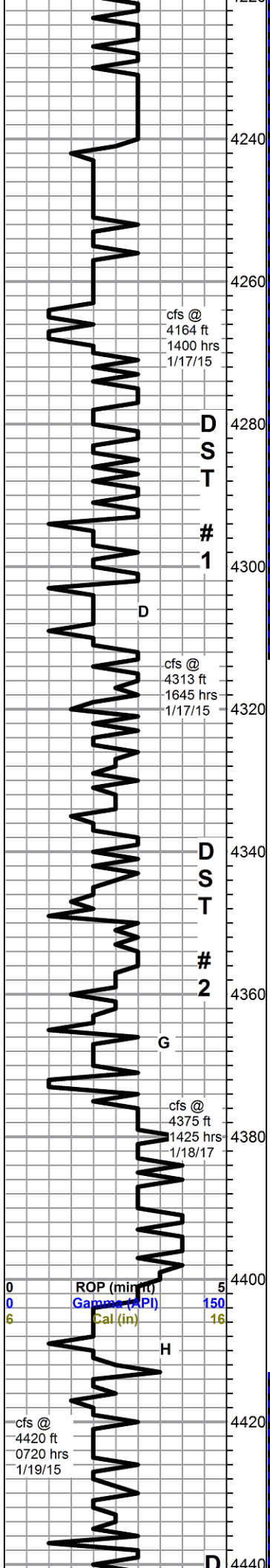
Murfin Verna 1-26 dst 1....

Morgan Mud chk @ 4313 ft. 0800 hrs. 1/18/15 Vis. 53 Wt. 9.4 PV 18 YP 14 WL 8.0 Cake 2/32, pH 9.5 CHL 900 ppm Ca 80 ppm Sol 7.9 LCM 6# DMC \$1380.00 CMC \$16535.00

Murfin Verna 1-26 dst 2....

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

Morgan Mud chk @ 4420 ft. 0815 hrs. 1/19/15 Vis. 56 Wt. 9.1 PV 24 YP 18 WL 7.2 Cake 2/32, pH 10.0 CHL 1000 ppm Ca 50 ppm



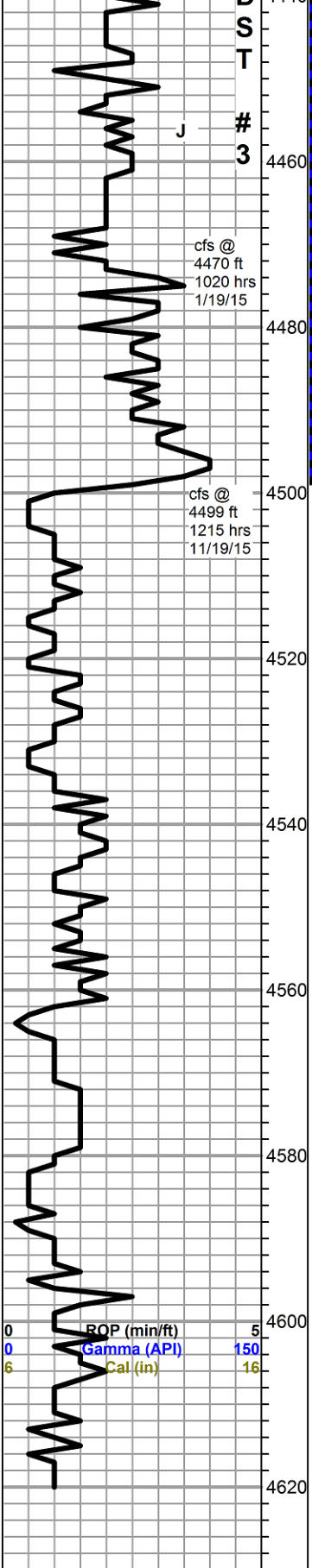
cfs @ 4164 ft 1400 hrs 1/17/15

cfs @ 4313 ft 1645 hrs 1/17/15

cfs @ 4375 ft 1425 hrs 1/18/17

ROP (min ft) 5 Gamma (API) 150 Cal (in) 16

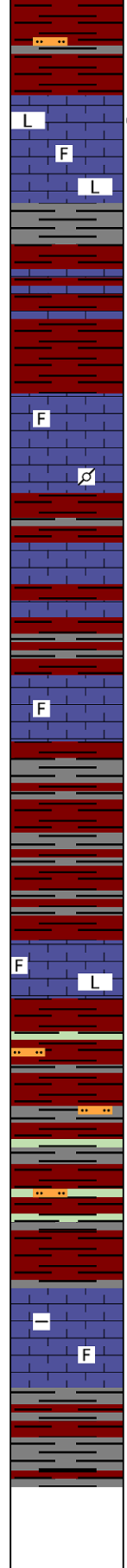
cfs @ 4420 ft 0720 hrs 1/19/15



cfs @
 4470 ft
 1020 hrs
 1/19/15

cfs @
 4499 ft
 1215 hrs
 11/19/15

0 ROP (min/ft) 5
 0 Gamma (API) 150
 6 Cal (in) 16



limestone, white to cream and pale green, cryptocrystalline, mostly smooth lithographic, some slightly fossiliferous, some scattered small solution vugs and etching, spotty black stain, fair sheen, one specimen good show gassy free oil on break, no odor, poor fluorescence, poor to excellent cut

Stark Shale 4465 -1161 (log 4456 -1152)

brown gritty silty shale
 mostly red shales, with some limestone, white to gray and pale green, fossiliferous to lithographic

limestone, white to light gray to gray/green, microcrystalline, fossiliferous, chalky in part, poor visible porosity, no shows, some scattered gray pelletal, dark gray peloids, dense, no shows, some chalk in samples

Base KC 4511 -1207 (log 4506 -1202)

red gray and maroon shales
 limestone, white to light gray, fossiliferous, chalky, brittle, poor visible porosity, no shows
 shales as above, some sticky

limetone, light gray, cryptocrystalline, lithographic to fossiliferous, poor visible porosity, no shows
 mixed shales, abundant brick red and green, heavy red wash, some variable siltstones

limestone, gray, cryptocrystalline, slightly fossiliferous, arenaceous to argillaceous, with some argillaceous limey shale, no shows

influx shales, abundant sticky gray

Rotary TD @ 4620 ft. 0455 hrs 1/20/15
Pioneer Wireline TD 4617 ft.
Complete Logging Operations 1400 hrs 1/20/15

Murfin Verna 1-26 dst 3....

back in hole after DST
 with PDC bit

Morgan Mud chk
 @ 4420 ft.
 0815 hrs. 1/20/15
 no sample taken
 on bank for logs
 DMC \$744.00
 CMC \$19853.00

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

ALLIED OIL & GAS SERVICES, LLC 064639

Federal Tax I.D. # 20-8651476

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

SERVICE POINT
Sakby, B

DATE <u>1-14-15</u>	SEC. <u>26</u>	TWP. <u>1</u>	RANGE <u>36</u>	CALLED OUT	ON LOCATION <u>1:40pm</u>	JOB START <u>4:25pm</u>	JOB FINISH <u>8:00am</u>
LEASE <u>Umana</u>	WELL# <u>1-26</u>	LOCATION <u>Beardsley 2nd to Rd Y</u>		COUNTY <u>Rawlins</u>	STATE <u>KS</u>		
OLD OR NEW (Circle one)		<u>4 1/2" to 5 1/8" 1 3/8" white</u>					

CONTRACTOR <u>Marfin 7</u>	OWNER <u>Same</u>
TYPE OF JOB <u>Surface</u>	
HOLE SIZE <u>12 1/4</u>	T.D. <u>258</u>
CASING SIZE <u>8 7/8</u>	DEPTH <u>257.66</u>
TUBING SIZE	DEPTH <u>257.66</u>
DRILL PIPE	DEPTH
TOOL	DEPTH
PRES. MAX	MINIMUM
MEAS. LINE	SHOE JOINT
CEMENT LEFT IN CSG. <u>15'</u>	
PERFS.	
DISPLACEMENT <u>15 5/8 661</u>	

CEMENT AMOUNT ORDERED <u>225 stb com 320cc</u>
COMMON <u>225 stb @ 17.90 4027.50</u>
POZMIX @
GEL @
CHLORIDE <u>635 # @ 1.10 698.50</u>
ASC @
Material Total @ <u>4726.00</u>
(<u>1654.10 / 3.5%</u>)
HANDLING <u>236.25 # @ 2.50 590.63</u>
MILEAGE <u>1488 mi @ 75 x 2.75 2296.25</u>
TOTAL

EQUIPMENT	
PUMP TRUCK # <u>422</u>	CEMENTER <u>Laron & Wade</u>
BULK TRUCK # <u>818/287</u>	HELPER <u>Wayne McGhly</u>
BULK TRUCK #	DRIVER <u>Wayne Massalle</u>
BULK TRUCK #	DRIVER

REMARKS:
mix 225 stb cement
Displace with water
Cement drop cementate.
5661 to pit
Plug down 4 1/2" stem
5661 to pit
Thank you

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

SERVICE	
DEPTH OF JOB <u>257.66</u>	
PUMP TRUCK CHARGE <u>1512.25</u>	
EXTRA FOOTAGE @	
MILEAGE <u>1488 75 @ 2.70 592.50</u>	
MANIFOLD <u>Seavage</u> @ <u>299.00</u>	
MILU <u>75 @ 4.00 330.00</u>	
(<u>1934.34 / 3.5%</u>)	
TOTAL <u>5526.71</u>	

PLUG & FLOAT EQUIPMENT	
_____ @	
_____ @	
_____ @	
_____ @	
_____ @	
TOTAL	

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

PRINTED NAME Fred W. Uman
SIGNATURE [Signature]

SALES TAX (If Any) _____
TOTAL CHARGES 10,250.71
DISCOUNT 3,588.44 (35%) IF PAID IN 30 DAYS
6,662.27 Net



*acct
Prod-MG*

INVOICE

PO Box 93999
Southlake, TX 76092

Invoice Number: 148308

Invoice Date: Jan 20, 2015

Page: 1

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

Federal Tax I.D.#: 20-8651475

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

Customer ID	Field Ticket #	Payment Terms	
Murfin	64872	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-03	Oakley	Jan 20, 2015	2/19/15

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Verna #1-26		
255.00	CEMENT MATERIALS	60/40/4% Gel Blend	18.92	4,824.60
63.75	CEMENT MATERIALS	Flo Seal	2.97	189.34
273.87	CEMENT SERVICE	Cubic Feet Charge	2.48	679.20
857.24	CEMENT SERVICE	Ton Mileage Charge	2.75	2,357.41
1.00	CEMENT SERVICE	Plug to Abandon	2,600.47	2,600.47
75.00	CEMENT SERVICE	Pump Truck Mileage	7.70	577.50
75.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	330.00
1.00	EQUIPMENT SALES	8-5/8 Dry Hole Plug	110.00	110.00
1.00	CEMENT SUPERVISOR	Andrew Forslund		
1.00	EQUIPMENT OPERATOR	Darren Racette		
1.00	OPERATOR ASSISTANT	Wayne Messalle		

Subtotal	11,668.52
Sales Tax	921.81
Total Invoice Amount	12,590.33
Payment/Credit Applied	
TOTAL	12,590.33

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

\$ 5,201.33

ONLY IF PAID ON OR BEFORE

Feb 19, 2015

*ak
sk*

ALLIED OIL & GAS SERVICES, LLC 064872

Federal Tax I.D. # 20-8651475

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

SERVICE POINT: 06667

DATE <u>1-20-15</u>	SEC. <u>26</u>	TWP. <u>1</u>	RANGE <u>36</u>	CALLED OUT	ON LOCATION <u>6:30 PM</u>	JOB START <u>9:00 AM</u>	JOB FINISH <u>10:00 AM</u>
LEASE <u>Verna</u>	WELL# <u>1-26</u>	LOCATION <u>Deardsley 7 N 4 1/2 W</u>			COUNTY <u>Rebun</u>	STATE <u>KS</u>	
OLD OR NEW (Circle one) <u>NEW</u>				<u>1 1/2 N SE into</u>			

CONTRACTOR <u>Muffin 7</u>	OWNER <u>same</u>
TYPE OF JOB <u>PTA</u>	
HOLE SIZE <u>3 7/8</u>	T.D. <u>4620</u>
CASING SIZE	DEPTH
TUBING SIZE	DEPTH
DRILL PIPE <u>4 1/2</u>	DEPTH <u>3225'</u>
TOOL	DEPTH
PRES. MAX	MINIMUM
MEAS. LINE	SHOE JOINT
CEMENT LEFT IN CSG.	
PERFS.	
DISPLACEMENT	

CEMENT	
AMOUNT ORDERED <u>255 SKS</u>	<u>6940 4824.60</u>
<u>1/4 FLO-SEAL</u>	
COMMON	@
POZMIX	@
GEL	@
CHLORIDE	@
ASC	@
<u>6940 4824.60</u>	<u>255 SKS @ 18.92 4824.60</u>

EQUIPMENT			
PUMP TRUCK # <u>422</u>	CEMENTER <u>Andrew Jopland</u>	<u>Flo-seal 63.25%</u>	@ <u>2.97 189.39</u>
	HELPER <u>Darren Racette</u>		@
BULK TRUCK # <u>818</u>	DRIVER <u>Wayne Messalle</u>	<u>Victrol Test 0</u>	@ <u>7013.93</u>
BULK TRUCK #	DRIVER	<u>(22.36 @ 7/45%)</u>	@
			@
		<u>HANDLING 223.82 cu/ft @ 2.48</u>	<u>679.19</u>
		<u>MILBAG 2.25 Temp/101e 11.437m</u>	<u>2352.47</u>

REMARKS:

50 SKS @ 3225'

100 SKS @ 2200'

50 SKS @ 225'

10 SKS @ 40'

15 SKS mouse hole

30 SKS Rat hole

Thank you

CHARGE TO: Muffin

STREET _____

CITY _____ STATE _____ ZIP _____

SERVICE	
DEPTH OF JOB <u>3225'</u>	
PUMP TRUCK CHARGE	<u>2600.47</u>
EXTRA FOOTAGE	@
MILEAGE <u>25 miles</u>	@ <u>2.70 577.50</u>
MANIFOLD	@
<u>Light vehicle</u>	@ <u>440 330.00</u>

(2945 06 / 45%) TOTAL 6,544.59

PLUG & FLOAT EQUIPMENT	
<u>856</u>	
<u>Dry Hilo plug</u>	@ <u>110.00</u>
	@
	@
	@

TOTAL 110.00

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

PRINTED NAME FRED T. Williams

SIGNATURE [Signature]

SALES TAX (If Any) _____

TOTAL CHARGES 11,668.52

DISCOUNT 5,201.33 (45%) IF PAID IN 30 DAYS

6467.18 Net.

MDCI
 Verna #1-26
 2310' FSL 2310' FEL
 Sec. 26-T1S-R36W
 3304' KB

Formation	Sample top	Datum	Ref	Log Top	Datum	Ref
Anhydrite	3202	+102	-1	3206	+98	-5
B/Anhydrite	3233	+71	-1	3236	+68	-4
Neva	3694	-390	-6	3692	-388	-4
Red Eagle	3760	-456	-11	3754	-450	-5
Foraker	3804	-500	-8	3802	-498	-6
Topeka	4025	-721	-11	4015	-711	-1
Oread	4143	-839	-16	4140	-836	-13
Lansing	4241	-937	-11	4238	-934	-8
Stark	4465	-1161	-17	4456	-1152	-8
BKC	4511	-1207	-13	4506	-1202	-8
RTD	4620					
LTD				4617		