



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1210226
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 |
|-----------------------------------|-----------------|---|

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: _____

1210226

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

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

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

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

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

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

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

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

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

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

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

| | | | | |
|----------------|-------|---------|------------|---|
| TUBING RECORD: | Size: | Set At: | Packer At: | Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No |
|----------------|-------|---------|------------|---|

| | |
|---|--|
| Date of First, Resumed Production, SWD or ENHR. | Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____ |
|---|--|

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

| | | |
|--|--|---|
| DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i> | METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ | PRODUCTION INTERVAL: _____ _____ |
|--|--|---|

| | |
|-----------|---------------------------|
| Form | ACO1 - Well Completion |
| Operator | Murfin Drilling Co., Inc. |
| Well Name | HMZ 2-29 |
| Doc ID | 1210226 |

All Electric Logs Run

| |
|----------------------|
| |
| Dual Induction |
| Dual Compensated |
| Microresistivity |
| Borehole Compensated |



DRILL STEM TEST REPORT

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

250 N. Water Suite 300
Wichita, KS 67202

ATTN: Rocky Milford

HMZ #2-29

29-1s-36w Rawlins,KS

Start Date: 2014.04.11 @ 18:28:00

End Date: 2014.04.12 @ 03:03:15

Job Ticket #: 56990 DST #: 1

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

Printed: 2014.04.19 @ 12:32:07

Murfin Drilling Co., Inc.
29-1s-36w Rawlins,KS
HMZ #2-29
DST # 1
Stotler
2014.04.11



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
 250 N. Water Suite 300
 Wichita, KS 67202
 ATTN: Rocky Milford

29-1s-36w Rawlins, KS

HMZ #2-29

Job Ticket: 56990

DST#: 1

Test Start: 2014.04.11 @ 18:28:00

GENERAL INFORMATION:

Formation: **Stotler**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:45:45

Time Test Ended: 03:03:15

Test Type: Conventional Bottom Hole (Initial)

Tester: James Winder

Unit No: 57

Interval: 3858.00 ft (KB) To 4015.00 ft (KB) (TVD)

Reference Elevations: 3308.00 ft (KB)

Total Depth: 4015.00 ft (KB) (TVD)

3303.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8671

Inside

Press@RunDepth: 143.71 psig @ 3859.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.04.11

End Date:

2014.04.12

Last Calib.: 2014.04.12

Start Time: 18:28:05

End Time:

03:03:15

Time On Btm: 2014.04.11 @ 20:45:15

Time Off Btm: 2014.04.12 @ 00:47:45

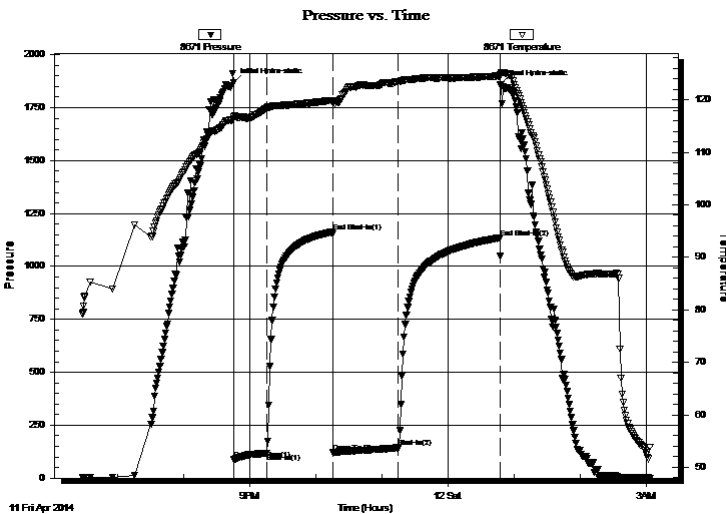
TEST COMMENT: 30 - IF: 5" Surge blow at open, bled off, Blow built to 2 1/2"

60 - IS!: No blow back

60 - FF: Blow built to 6 3/4"

90 - FS!: Blow back built to 1/8"

PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1867.34 | 116.44 | Initial Hydro-static |
| 1 | 88.05 | 116.67 | Open To Flow (1) |
| 31 | 117.33 | 118.52 | Shut-In(1) |
| 90 | 1162.46 | 119.90 | End Shut-In(1) |
| 91 | 120.19 | 119.51 | Open To Flow (2) |
| 150 | 143.71 | 123.47 | Shut-In(2) |
| 242 | 1135.05 | 124.53 | End Shut-In(2) |
| 243 | 1860.29 | 124.88 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|--------------------------|--------------|
| 187.00 | GOCM 64% m, 24% o, 12% g | 0.92 |
| 90.00 | OCM 83% m, 11% o, 6% g | 1.26 |
| | | |
| | | |
| | | |

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

29-1s-36w Rawlins,KS

250 N. Water Suite 300
Wichita, KS 67202

HMZ #2-29

Job Ticket: 56990

DST#: 1

ATTN: Rocky Milford

Test Start: 2014.04.11 @ 18:28:00

Tool Information

| | | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe: | Length: 3662.00 ft | Diameter: 3.80 inches | Volume: 51.37 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: 187.00 ft | Diameter: 2.25 inches | Volume: 0.92 bbl | Weight to Pull Loose: | 74000.00 lb |
| | | | <u>Total Volume: 52.29 bbl</u> | Tool Chased | 6.00 ft |
| Drill Pipe Above KB: | 19.00 ft | | | String Weight: Initial | 68000.00 lb |
| Depth to Top Packer: | 3858.00 ft | | | Final | 69000.00 lb |
| Depth to Bottom Packer: | ft | | | | |
| Interval between Packers: | 157.00 ft | | | | |
| Tool Length: | 185.00 ft | | | | |
| Number of Packers: | 2 | Diameter: | 6.75 inches | | |

Tool Comments: Tool chased 6' to bottom - mud down 15' - 5" surge blow at open

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|------------------|-------------|------------|----------|------------|--------------------------------|
| Shut In Tool | 5.00 | | | 3835.00 | |
| Hydraulic tool | 5.00 | | | 3840.00 | |
| Jars | 5.00 | | | 3845.00 | |
| Safety Joint | 3.00 | | | 3848.00 | |
| Packer | 5.00 | | | 3853.00 | 28.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 3858.00 | |
| Packer - Shale | 0.00 | | | 3858.00 | |
| Stubb | 1.00 | | | 3859.00 | |
| Recorder | 0.00 | 8671 | Inside | 3859.00 | |
| Recorder | 0.00 | 8320 | Outside | 3859.00 | |
| Perforations | 25.00 | | | 3884.00 | |
| Blank Spacing | 126.00 | | | 4010.00 | |
| Perforations | 2.00 | | | 4012.00 | |
| Bullnose | 3.00 | | | 4015.00 | 157.00 Bottom Packers & Anchor |

Total Tool Length: 185.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

29-1s-36w Rawlins,KS

250 N. Water Suite 300
Wichita, KS 67202

HMZ #2-29

Job Ticket: 56990

DST#: 1

ATTN: Rocky Milford

Test Start: 2014.04.11 @ 18:28:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|-----------------------|---------------|
| 187.00 | GOCM 64%m, 24%o, 12%g | 0.920 |
| 90.00 | OCM 83%m, 11%o, 6%g | 1.262 |

Total Length: 277.00 ft Total Volume: 2.182 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

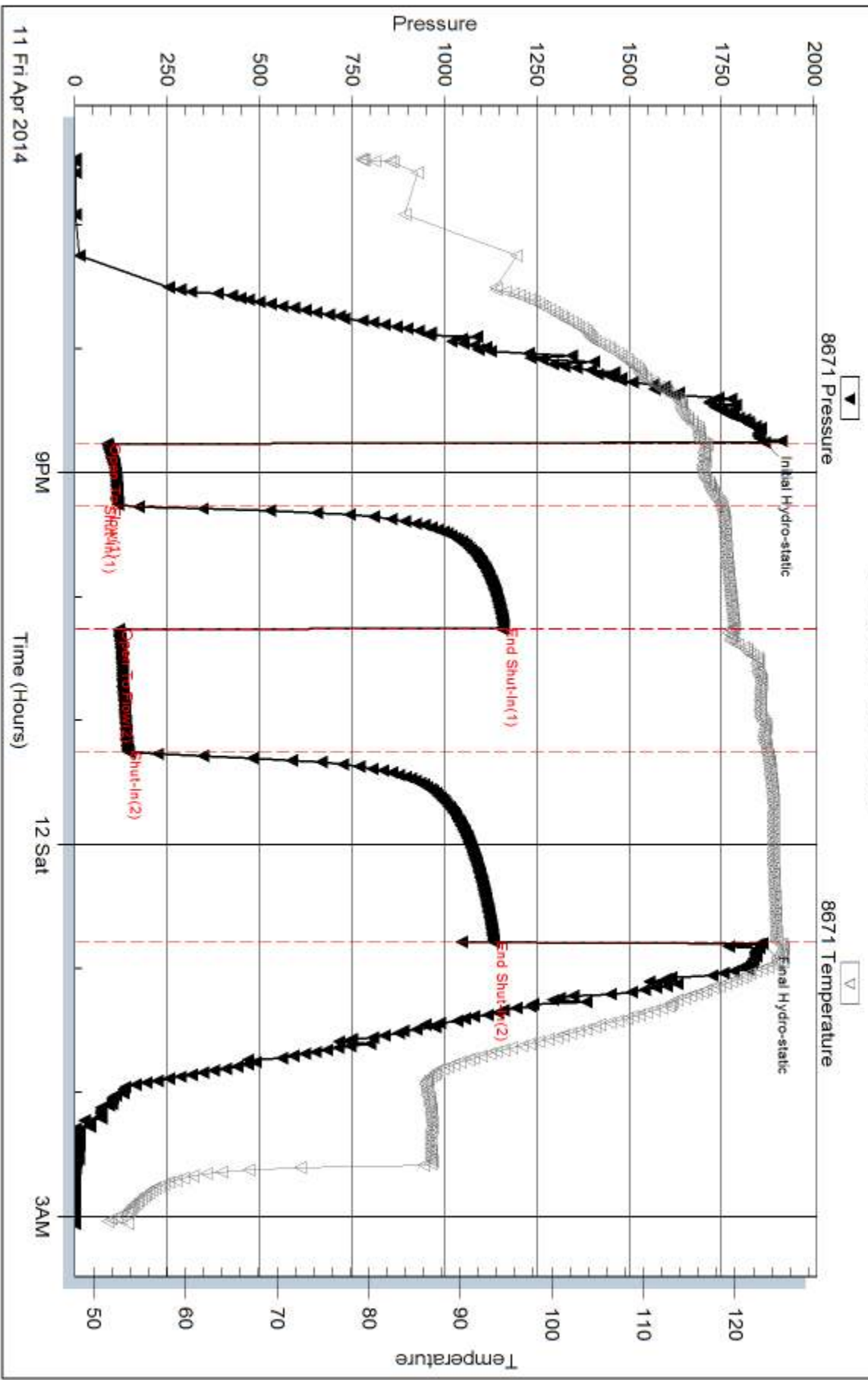
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

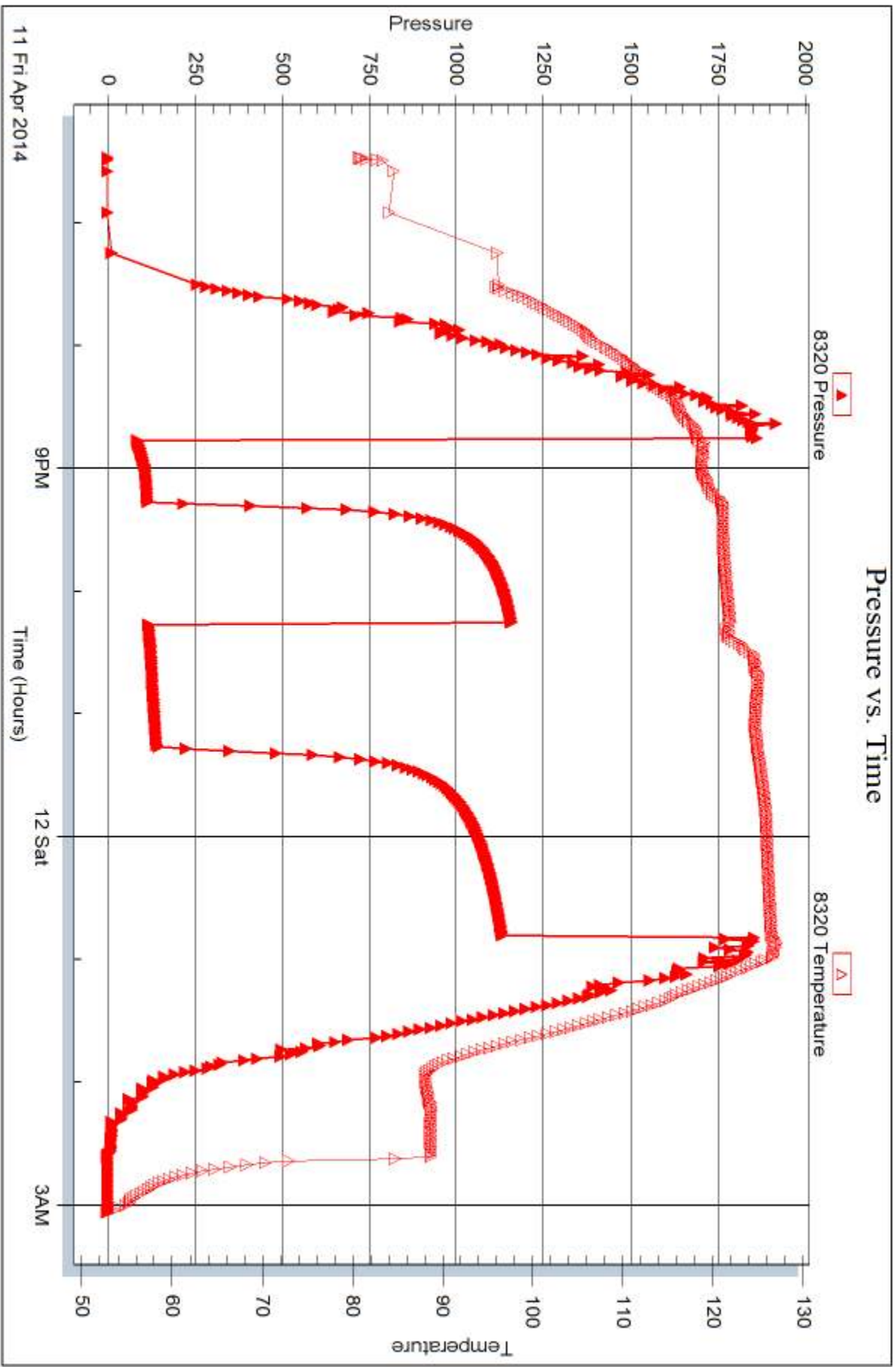


Serial #: 8320

Outside Murfin Drilling Co., Inc.

HWZ #2-29

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 56990

Printed: 2014.04.19 @ 12:32:09



DRILL STEM TEST REPORT

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

250 N. Water Suite 300
Wichita, KS 67202

ATTN: Rocky Milford

HMZ #2-29

29-1s-36w Rawlins,KS

Start Date: 2014.04.13 @ 02:38:00

End Date: 2014.04.13 @ 12:29:43

Job Ticket #: 56991 DST #: 2

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

Printed: 2014.04.19 @ 12:31:44



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
 250 N. Water Suite 300
 Wichita, KS 67202
 ATTN: Rocky Milford

29-1s-36w Rawlins,KS

HMZ #2-29

Job Ticket: 56991

DST#: 2

Test Start: 2014.04.13 @ 02:38:00

GENERAL INFORMATION:

Formation: **LKC "A - D"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:53:43
 Time Test Ended: 12:29:43
 Interval: **4187.00 ft (KB) To 4320.00 ft (KB) (TVD)**
 Total Depth: 4320.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: James Winder
 Unit No: 57
 Reference Elevations: 3308.00 ft (KB)
 3303.00 ft (CF)
 KB to GR/CF: 5.00 ft

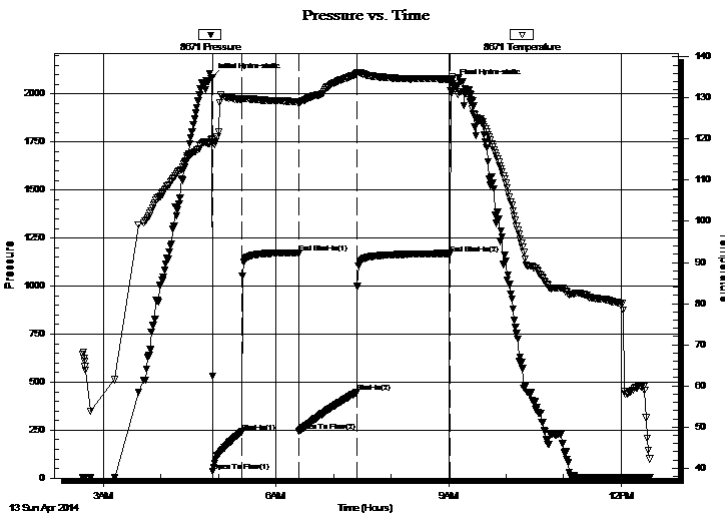
Serial #: 8671

Inside

Press@RunDepth: 448.27 psig @ 4188.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.04.13 End Date: 2014.04.13 Last Calib.: 2014.04.13
 Start Time: 02:38:05 End Time: 12:29:43 Time On Btm: 2014.04.13 @ 04:53:13
 Time Off Btm: 2014.04.13 @ 09:04:43

TEST COMMENT: 30 - IF: Blow built to BOB (11") in 9 3/4 min.
 60 - IS!: No blow back
 60 - FF: Blow built to BOB in 14 min.
 90 - FS!: No blow back

PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 2084.79 | 120.10 | Initial Hydro-static |
| 1 | 37.13 | 119.36 | Open To Flow (1) |
| 31 | 241.20 | 129.61 | Shut-In(1) |
| 90 | 1173.72 | 129.12 | End Shut-In(1) |
| 91 | 243.40 | 128.72 | Open To Flow (2) |
| 151 | 448.27 | 135.87 | Shut-In(2) |
| 249 | 1169.58 | 134.59 | End Shut-In(2) |
| 252 | 2054.02 | 134.69 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|---------------------------------------|--------------|
| 312.00 | MCW w/Oil Spots 88%w , 11%m, 1%o | 2.67 |
| 63.00 | WM w /Oil spots 53%m, 40%w , 6%g, 1%o | 0.88 |
| 190.00 | GWCM w /Oil spots 72%m, 16%w , 11%g | 2.67 |
| 365.00 | G Mud w /Oil spots 92%m, 6%g, 2%o | 5.12 |
| | | |
| | | |

* 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.

29-1s-36w Rawlins,KS

250 N. Water Suite 300
Wichita, KS 67202

HMZ #2-29

Job Ticket: 56991

DST#: 2

ATTN: Rocky Milford

Test Start: 2014.04.13 @ 02:38:00

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 3978.00 ft | Diameter: 3.80 inches | Volume: 55.80 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: 187.00 ft | Diameter: 2.25 inches | Volume: 0.92 bbl | Weight to Pull Loose: 72000.00 lb |
| | | | <u>Total Volume: 56.72 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 6.00 ft | | | String Weight: Initial 70000.00 lb |
| Depth to Top Packer: | 4187.00 ft | | | Final 72000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 133.00 ft | | | |
| Tool Length: | 161.00 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 | | | 4164.00 | |
| Hydraulic tool | 5.00 | | | 4169.00 | |
| Jars | 5.00 | | | 4174.00 | |
| Safety Joint | 3.00 | | | 4177.00 | |
| Packer | 5.00 | | | 4182.00 | 28.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 4187.00 | |
| Packer - Shale | 0.00 | | | 4187.00 | |
| Stubb | 1.00 | | | 4188.00 | |
| Recorder | 0.00 | 8671 | Inside | 4188.00 | |
| Recorder | 0.00 | 8320 | Outside | 4188.00 | |
| Perforations | 31.00 | | | 4219.00 | |
| Blank Spacing | 96.00 | | | 4315.00 | |
| Perforations | 2.00 | | | 4317.00 | |
| Bullnose | 3.00 | | | 4320.00 | 133.00 Bottom Packers & Anchor |

Total Tool Length: 161.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

29-1s-36w Rawlins,KS

250 N. Water Suite 300
Wichita, KS 67202

HMZ #2-29

Job Ticket: 56991

DST#: 2

ATTN: Rocky Milford

Test Start: 2014.04.13 @ 02:38:00

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:

12000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbbl |
|--------------|--|----------------|
| 312.00 | MCW w/Oil Spots 88%w , 11%m, 1%o | 2.673 |
| 63.00 | WM w/Oil spots 53%m, 40%w , 6%g, 1%o | 0.884 |
| 190.00 | GWCM w/Oil spots 72%m, 16%w , 11%g, 1% | 2.665 |
| 365.00 | G Mud w/Oil spots 92%m, 6%g, 2%o | 5.120 |

Total Length: 930.00 ft

Total Volume: 11.342 bbl

Num Fluid Samples: 0

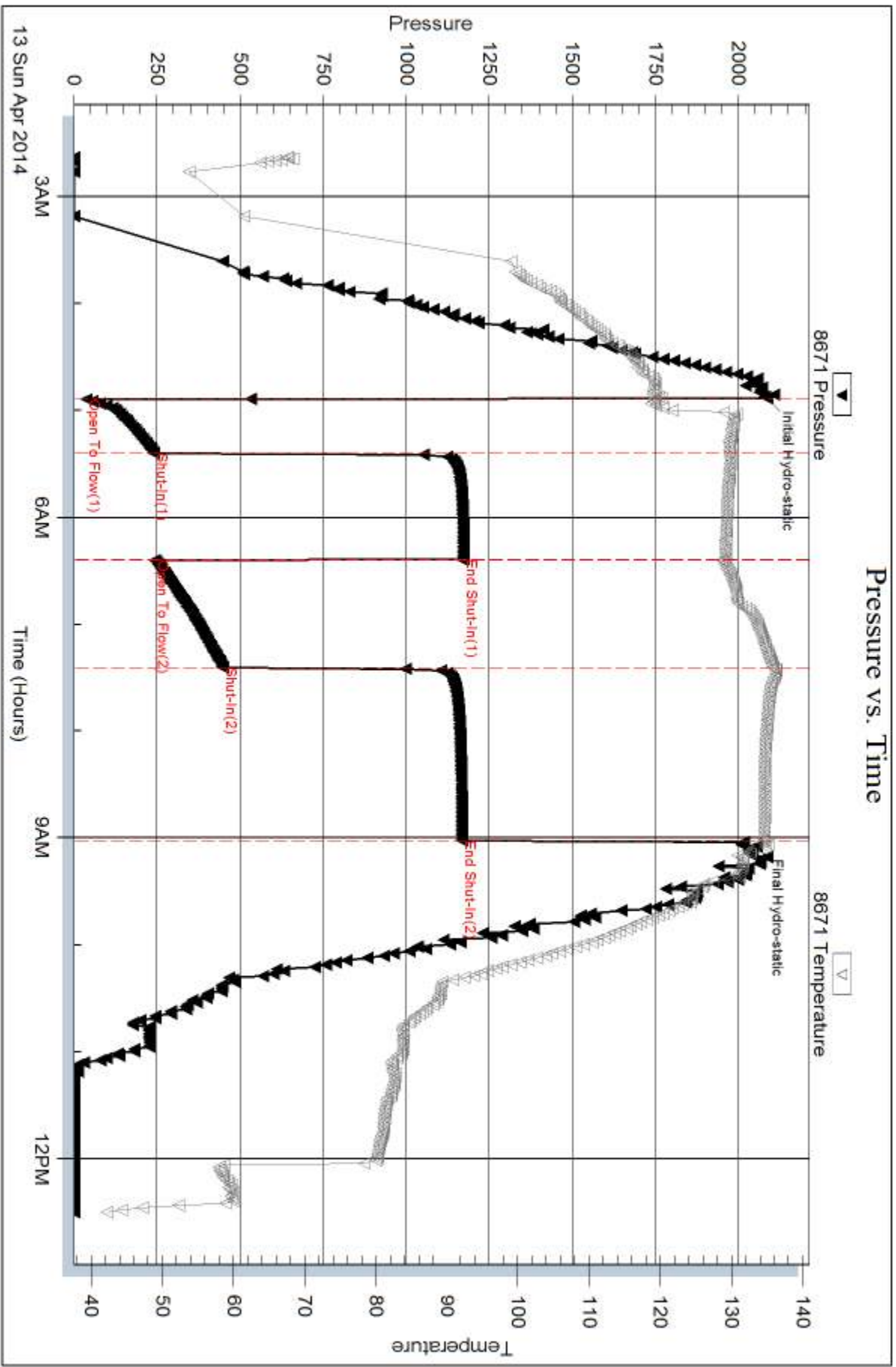
Num Gas Bombs: 0

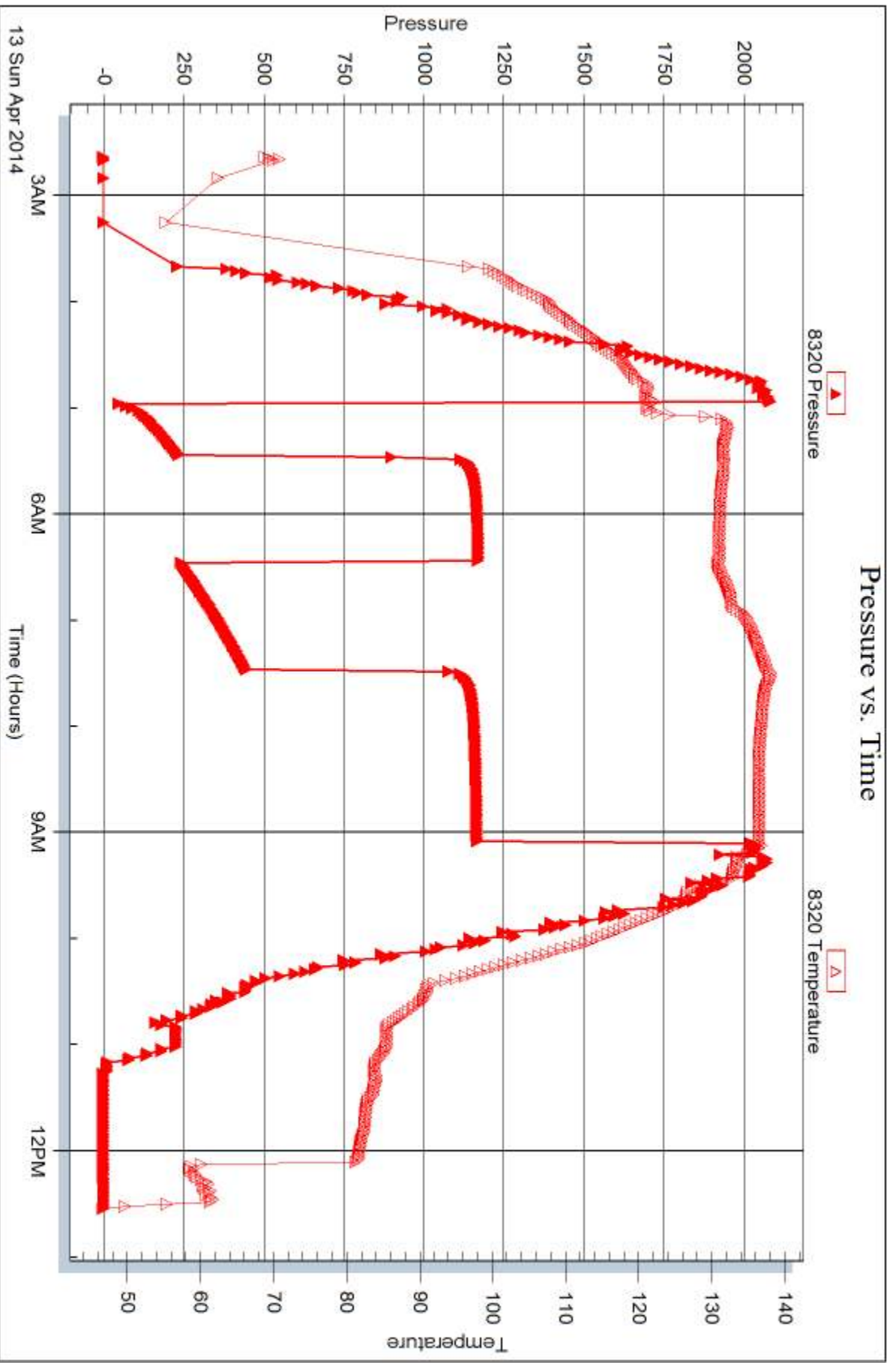
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .724 ohms @ 49.7 deg F Chlorides = 12,000 ppm







DRILL STEM TEST REPORT

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

250 N. Water Suite 300
Wichita, KS 67202

ATTN: Rocky Milford

HMZ #2-29

29-1s-36w Rawlins,KS

Start Date: 2014.04.13 @ 23:40:00

End Date: 2014.04.14 @ 08:57:15

Job Ticket #: 56992 DST #: 3

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

Printed: 2014.04.19 @ 12:31:20



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
250 N. Water Suite 300
Wichita, KS 67202
ATTN: Rocky Milford

29-1s-36w Rawlins, KS

HMZ #2-29

Job Ticket: 56992

DST#: 3

Test Start: 2014.04.13 @ 23:40:00

GENERAL INFORMATION:

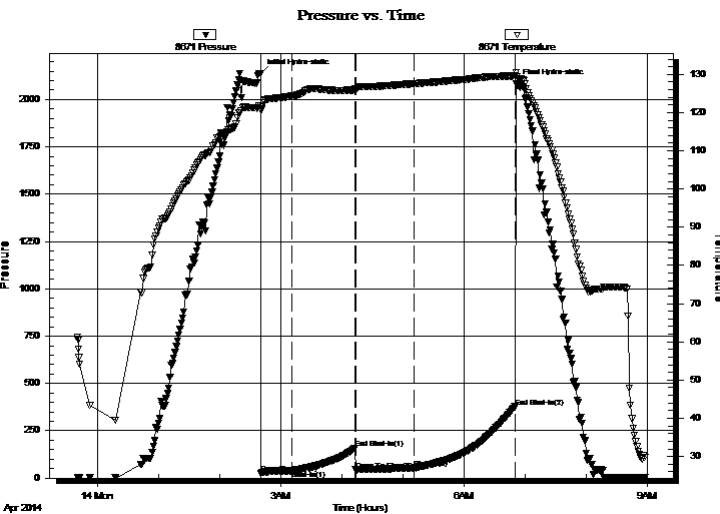
Formation: **LKC "G"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 02:39:45
 Time Test Ended: 08:57:15
 Interval: **4316.00 ft (KB) To 4380.00 ft (KB) (TVD)**
 Total Depth: 4380.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: James Winder/Brandon
 Unit No: 57
 Reference Elevations: 3308.00 ft (KB)
 3303.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8671

Inside

Press@RunDepth: 52.63 psig @ 4317.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.04.13 End Date: 2014.04.14 Last Calib.: 2014.04.14
 Start Time: 23:40:05 End Time: 08:57:15 Time On Btm: 2014.04.14 @ 02:39:30
 Time Off Btm: 2014.04.14 @ 06:51:00

TEST COMMENT: 30 - IF - Opened at 3/4" built to 2 1/4" (Diesel in bucket)
 60 - ISI - No Return
 60 - FF - Surface blow built to 2"
 90 - FSI - No Return



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 2138.37 | 121.89 | Initial Hydro-static |
| 1 | 25.06 | 120.77 | Open To Flow (1) |
| 31 | 39.21 | 124.27 | Shut-In(1) |
| 93 | 157.78 | 125.91 | End Shut-In(1) |
| 94 | 43.46 | 126.19 | Open To Flow (2) |
| 151 | 52.63 | 127.54 | Shut-In(2) |
| 250 | 377.03 | 129.63 | End Shut-In(2) |
| 252 | 2084.01 | 130.51 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|--------------------------|--------------|
| 65.00 | GOCM 70% m, 20% o, 10% g | 0.32 |
| | | |
| | | |
| | | |
| | | |

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.

29-1s-36w Rawlins,KS

250 N. Water Suite 300
Wichita, KS 67202

HMZ #2-29

Job Ticket: 56992

DST#: 3

ATTN: Rocky Milford

Test Start: 2014.04.13 @ 23:40:00

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 4134.00 ft | Diameter: 3.80 inches | Volume: 57.99 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: 187.00 ft | Diameter: 2.25 inches | Volume: 0.92 bbl | Weight to Pull Loose: 70000.00 lb |
| | | | <u>Total Volume: 58.91 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 33.00 ft | | | String Weight: Initial 65000.00 lb |
| Depth to Top Packer: | 4316.00 ft | | | Final 65000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 64.00 ft | | | |
| Tool Length: | 92.00 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 | | | 4293.00 | |
| Hydraulic tool | 5.00 | | | 4298.00 | |
| Jars | 5.00 | | | 4303.00 | |
| Safety Joint | 3.00 | | | 4306.00 | |
| Packer | 5.00 | | | 4311.00 | 28.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 4316.00 | |
| Packer - Shale | 0.00 | | | 4316.00 | |
| Stubb | 1.00 | | | 4317.00 | |
| Recorder | 0.00 | 8671 | Inside | 4317.00 | |
| Recorder | 0.00 | 8320 | Outside | 4317.00 | |
| Perforations | 25.00 | | | 4342.00 | |
| Blank Spacing | 33.00 | | | 4375.00 | |
| Perforations | 2.00 | | | 4377.00 | |
| Bullnose | 3.00 | | | 4380.00 | 64.00 Bottom Packers & Anchor |

Total Tool Length: 92.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

29-1s-36w Rawlins,KS

250 N. Water Suite 300
Wichita, KS 67202

HMZ #2-29

Job Ticket: 56992

DST#: 3

ATTN: Rocky Milford

Test Start: 2014.04.13 @ 23:40:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|---|---------------|
| 65.00 | GOCM 70% _m , 20% _o , 10% _g | 0.320 |

Total Length: 65.00 ft Total Volume: 0.320 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

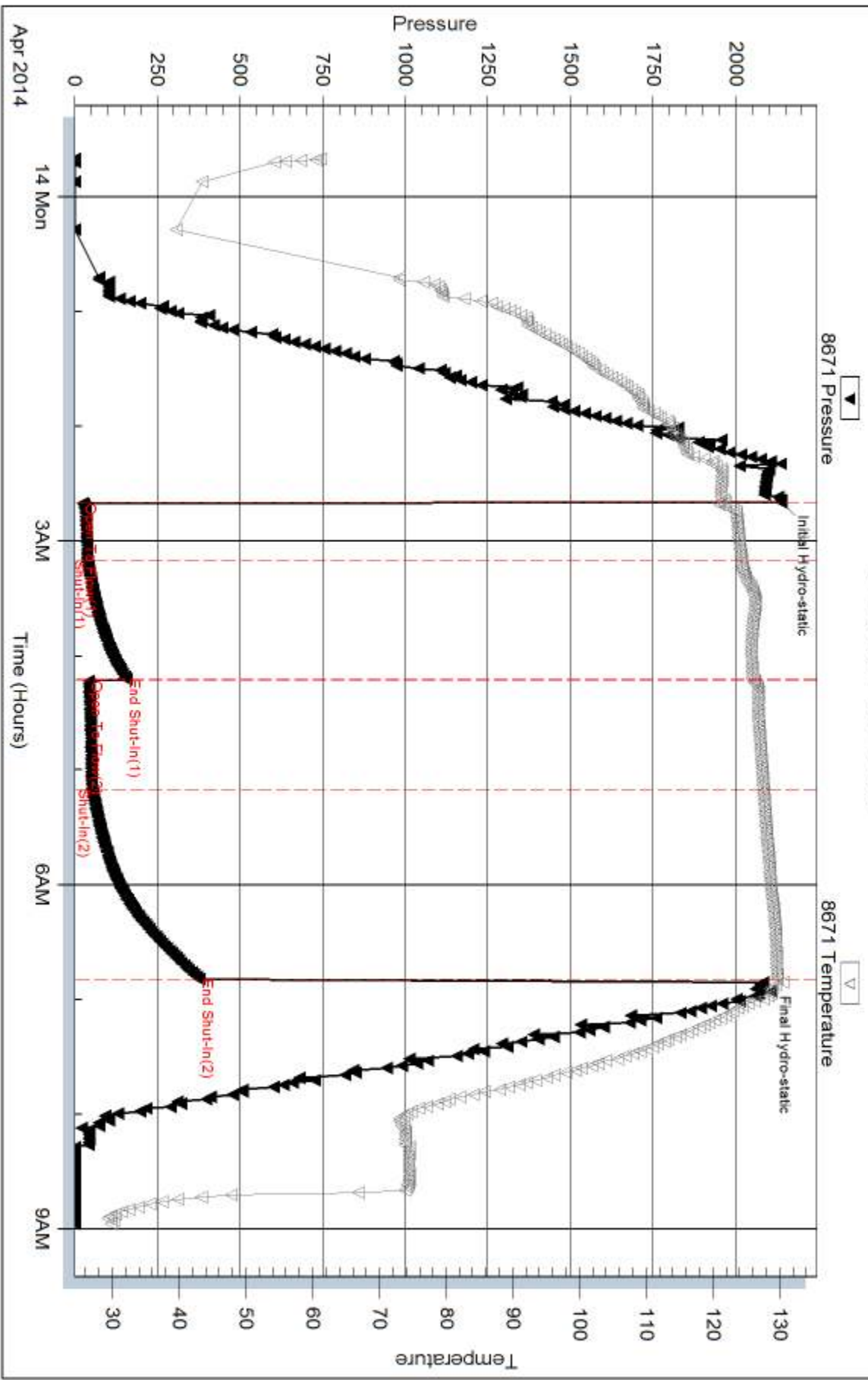
Serial #:

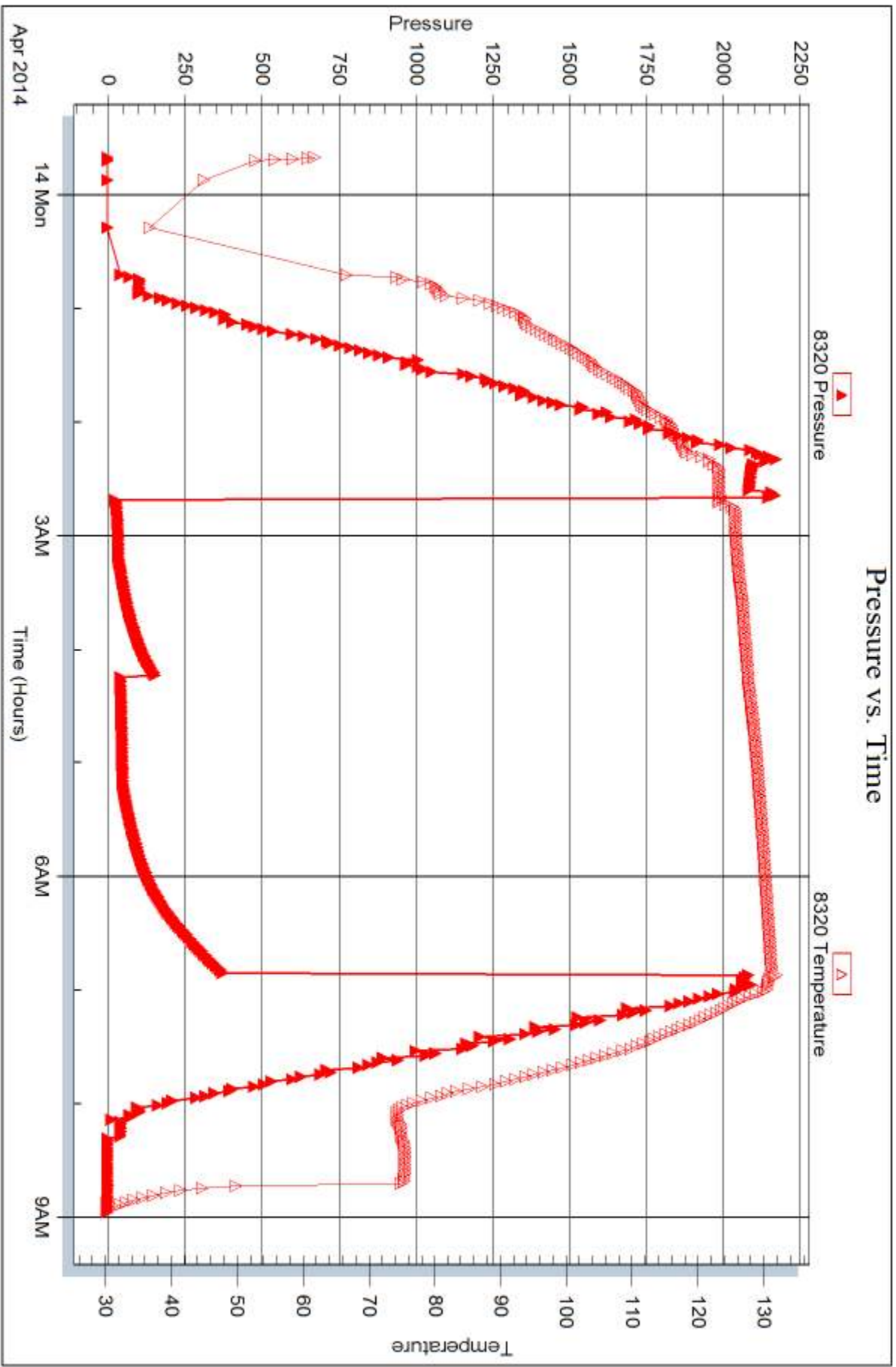
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time







DRILL STEM TEST REPORT

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

250 N. Water Suite 300
Wichita, KS 67202

ATTN: Rocky Milford

HMZ #2-29

29-1s-36w Rawlins,KS

Start Date: 2014.04.14 @ 20:21:00

End Date: 2014.04.15 @ 05:00:15

Job Ticket #: 56993 DST #: 4

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

Printed: 2014.04.19 @ 12:30:03



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
 250 N. Water Suite 300
 Wichita, KS 67202
 ATTN: Rocky Milford

29-1s-36w Rawlins, KS

HMZ #2-29

Job Ticket: 56993

DST#: 4

Test Start: 2014.04.14 @ 20:21:00

GENERAL INFORMATION:

Formation: **LKC "H-J"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 22:33:15
 Tester: James Winder/Brandon
 Time Test Ended: 05:00:15
 Unit No: 57
 Interval: **4375.00 ft (KB) To 4465.00 ft (KB) (TVD)**
 Reference Elevations: 3308.00 ft (KB)
 Total Depth: 4465.00 ft (KB) (TVD)
 3303.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 KB to GR/CF: 5.00 ft

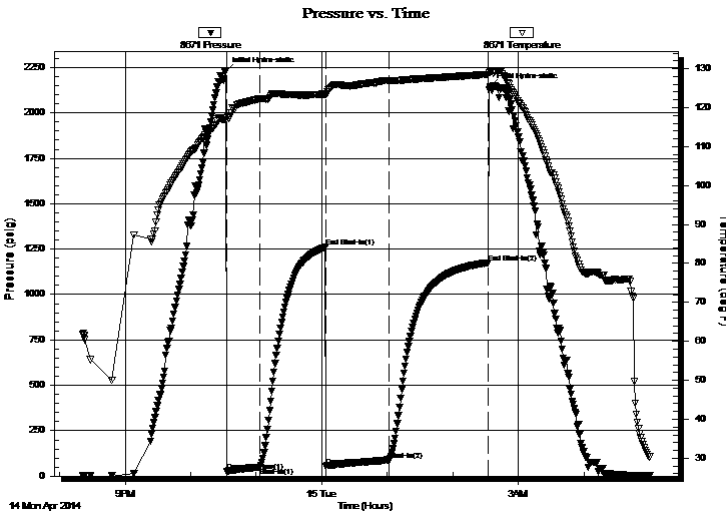
Serial #: 8671

Inside

Press@RunDepth: 89.89 psig @ 4376.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.04.14 End Date: 2014.04.15 Last Calib.: 2014.04.15
 Start Time: 20:21:05 End Time: 05:00:15 Time On Btm: 2014.04.14 @ 22:32:15
 Time Off Btm: 2014.04.15 @ 02:34:30

TEST COMMENT: 30 - IF - Opened at surface, built to 2 1/2" (Diesel in bucket)
 60 - ISI - No Return
 60 - FF - Opened at surface, built to 2"
 90 - FSI - No Return

PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 2226.81 | 117.33 | Initial Hydro-static |
| 1 | 24.37 | 116.84 | Open To Flow (1) |
| 32 | 49.96 | 122.31 | Shut-In(1) |
| 92 | 1260.83 | 123.49 | End Shut-In(1) |
| 92 | 55.68 | 123.28 | Open To Flow (2) |
| 150 | 89.89 | 126.85 | Shut-In(2) |
| 241 | 1175.44 | 128.55 | End Shut-In(2) |
| 243 | 2141.93 | 129.15 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|---|--------------|
| 127.00 | OCM - 83% _m , 17% _o | 0.62 |
| | | |
| | | |
| | | |
| | | |

* 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.

29-1s-36w Rawlins,KS

250 N. Water Suite 300
Wichita, KS 67202

HMZ #2-29

Job Ticket: 56993

DST#: 4

ATTN: Rocky Milford

Test Start: 2014.04.14 @ 20:21:00

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 4166.00 ft | Diameter: 3.80 inches | Volume: 58.44 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: 187.00 ft | Diameter: 2.25 inches | Volume: 0.92 bbl | Weight to Pull Loose: 85000.00 lb |
| | | | <u>Total Volume: 59.36 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 6.00 ft | | | String Weight: Initial 66000.00 lb |
| Depth to Top Packer: | 4375.00 ft | | | Final 68000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 90.00 ft | | | |
| Tool Length: | 118.00 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 | | | 4352.00 | |
| Hydraulic tool | 5.00 | | | 4357.00 | |
| Jars | 5.00 | | | 4362.00 | |
| Safety Joint | 3.00 | | | 4365.00 | |
| Packer | 5.00 | | | 4370.00 | 28.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 4375.00 | |
| Stubb | 1.00 | | | 4376.00 | |
| Recorder | 0.00 | 8671 | Inside | 4376.00 | |
| Recorder | 0.00 | 8320 | Outside | 4376.00 | |
| Perforations | 22.00 | | | 4398.00 | |
| Change Over Sub | 0.50 | | | 4398.50 | |
| Blank Spacing | 63.00 | | | 4461.50 | |
| Change Over Sub | 0.50 | | | 4462.00 | |
| Bullnose | 3.00 | | | 4465.00 | 90.00 Bottom Packers & Anchor |

Total Tool Length: 118.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

29-1s-36w Rawlins,KS

250 N. Water Suite 300
Wichita, KS 67202

HMZ #2-29

Job Ticket: 56993

DST#: 4

ATTN: Rocky Milford

Test Start: 2014.04.14 @ 20:21:00

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:

bbbl

Water Loss: 5.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|---|---------------|
| 127.00 | OCM - 83% _m , 17% _o | 0.625 |

Total Length: 127.00 ft Total Volume: 0.625 bbl

Num Fluid Samples: 0

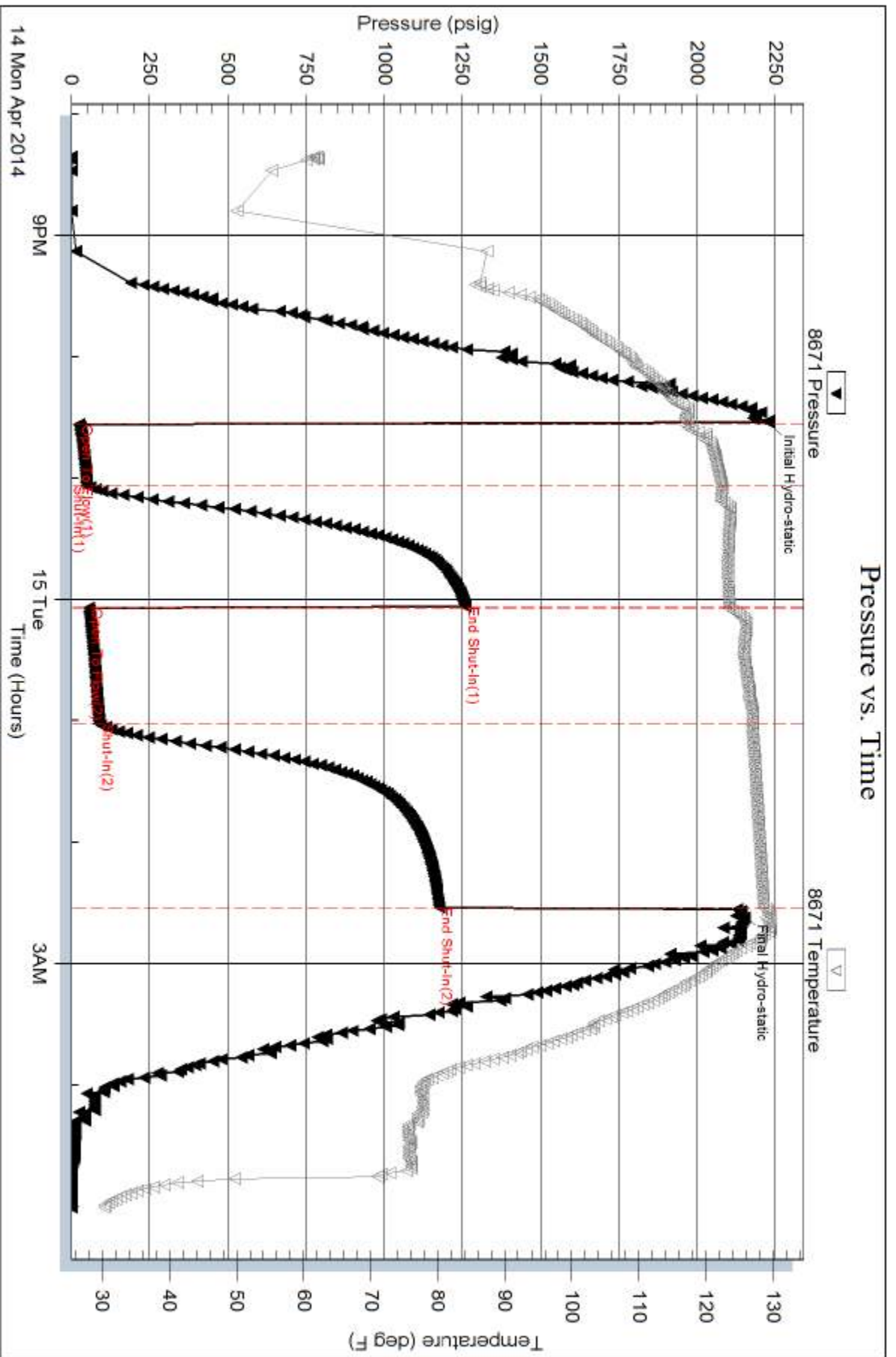
Num Gas Bombs: 0

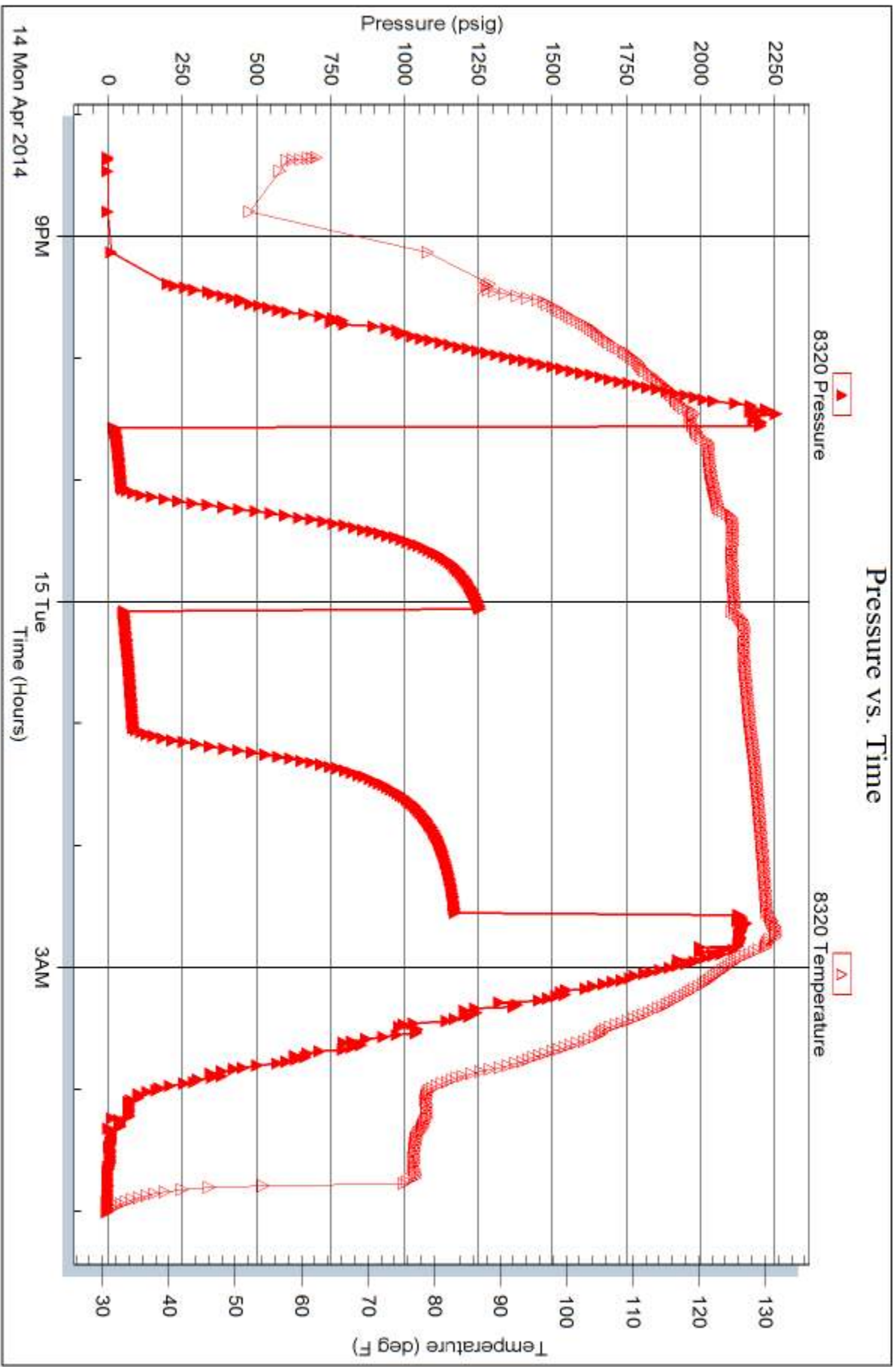
Serial #:

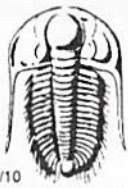
Laboratory Name:

Laboratory Location:

Recovery Comments:







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56990

Well Name & No. HMZ #2-29 Test No. 1 Date 4-11-14
 Company Murfin Drilling Co. Inc Elevation 3308 KB 3303 GL
 Address 250 N. Water Suite 300 Wichita, KS 67202
 Co. Rep / Geo. Rocky Milford Rig Murfin #8
 Location: Sec. 29 Twp. 15 Rge. 36w Co. Rawlins State KS

Interval Tested 3858 - 4015 Zone Tested Stotler
 Anchor Length 157 Drill Pipe Run 3662 Mud Wt. 8.9
 Top Packer Depth 3853 Drill Collars Run 187 Vis 54
 Bottom Packer Depth 3858 (shale) Wt. Pipe Run - WL 5.6
 Total Depth 4015 Chlorides 700 ppm System LCM 4

Blow Description IF: 5" surge at open, bled off, blow built to 2 1/2"
ISI: No blowback
FF: Blow built to 6 3/4"
FSI: Blowback built to 18"

| Rec | Feet of | %gas | %oil | %water | %mud |
|------------|-------------|-----------|-----------|----------|-----------|
| <u>90</u> | <u>0cm</u> | <u>6</u> | <u>11</u> | <u>-</u> | <u>83</u> |
| <u>187</u> | <u>60cm</u> | <u>12</u> | <u>24</u> | <u>-</u> | <u>64</u> |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |

Rec Total 277 BHT 125 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1867 Test 1250 T-On Location 17:50 4/11
 (B) First Initial Flow 88 Jars 250 T-Started 18:28
 (C) First Final Flow 117 Safety Joint 75 T-Open 20:45
 (D) Initial Shut-In 1162 Circ Sub _____ T-Pulled 00:47
 (E) Second Initial Flow 120 Hourly Standby _____ T-Out 2:55 4/12
 (F) Second Final Flow 144 Mileage 114 RT 176.70 Comments Tool chased 6' to bottom
 (G) Final Shut-In 1135 Sampler _____ at open - mud down 15'-5"
 (H) Final Hydrostatic 1860 Straddle _____ surge blow at open.
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 30 Extra Packer _____
 Initial Shut-In 60 Extra Recorder _____
 Final Flow 60 Day Standby _____
 Final Shut-In 90 Accessibility _____
 Sub Total 2001.70 MP/DST Disc't _____

Approved By Rocky Milford 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. 56991

Well Name & No. HMZ #2-29 Test No. 2 Date 4-13-14
 Company Murfin Drilling Co. Inc. Elevation 3308 KB 3303 GL
 Address 250 N. Water suite 300 Wichita KS 67202
 Co. Rep / Geo. Rocky Milford Rig Murfin #8
 Location: Sec. 29 Twp. 1S Rge. 36W Co. Rawlins State KS

Interval Tested 4187-4320 Zone Tested Lans "A-D"
 Anchor Length 133 Drill Pipe Run 3978 Mud Wt. 9.1
 Top Packer Depth 4182 Drill Collars Run 187 Vis 56
 Bottom Packer Depth 4187 Wt. Pipe Run - WL 6.0
 Total Depth 4320 Chlorides 700 ppm System LCM 6

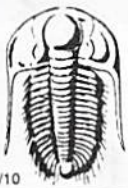
Blow Description IF: Blow built to BOB (11") in 9 3/4 min.
ISI: Noblowback
FF: Blow built to BOB in 14 min.
FSI: No blowback

| Rec | Feet of | %gas | %oil | %water | %mu |
|------------|-------------------------|-----------|----------|-----------|-----------|
| <u>365</u> | <u>mud w/oil spots</u> | <u>6</u> | <u>2</u> | <u>-</u> | <u>92</u> |
| <u>190</u> | <u>SWCM w/oil spots</u> | <u>11</u> | <u>1</u> | <u>16</u> | <u>72</u> |
| <u>63</u> | <u>WM w/oil spots</u> | <u>6</u> | <u>1</u> | <u>40</u> | <u>53</u> |
| <u>312</u> | <u>MCW w/oil spots</u> | <u>-</u> | <u>1</u> | <u>88</u> | <u>11</u> |
| Rec | Feet of | %gas | %oil | %water | %mu |

Rec Total 930 BHT 135 Gravity - API RW .724 @ 49.7 °F Chlorides 12000 ppr
 (A) Initial Hydrostatic 2085 Test 1250 T-On Location 23:30 4/12
 (B) First Initial Flow 37 Jars 250 T-Started 2:38
 (C) First Final Flow 241 Safety Joint 75 T-Open 4:53
 (D) Initial Shut-In 1174 Circ Sub _____ T-Pulled 9:01
 (E) Second Initial Flow 243 Hourly Standby ? 2.25h T-Out 12:30 4/12
 (F) Second Final Flow 448 Mileage 114 RT 176.70
 (G) Final Shut-In 1170 Sampler _____
 (H) Final Hydrostatic 2054 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1976.70

Comments Rig had to short trip after tight spot pulled bit - called to tell me at 23
 Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Sub Total 0
 Total 1976.70
 MP/DST Disc't _____

Approved By Rocky Milford 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. 56992

Well Name & No. AMZ #2-29 Test No. 3 Date 4-13-14
 Company Murfin Drilling Co., Inc. Elevation 3308 KB 3303 GL
 Address 250 N Water, STE 300 Wichita, KS 67202
 Co. Rep / Geo. Rocky Milford Rig Murfin #8
 Location: Sec. 29 Twp. 1S Rge. 36W Co. Rawlins State KS

Interval Tested 4316-4380 Zone Tested LKC "G"
 Anchor Length 64' Drill Pipe Run 4134 Mud Wt. 9.2
 Top Packer Depth 4311 Drill Collars Run 186 187 Vis 65
 Bottom Packer Depth 4316 shale Wt. Pipe Run - WL 6.4
 Total Depth 4380 Chlorides 1000 ppm System LCM 6
 Blow Description IF- Opened at 3/4" built to 2 1/4"
ISI- No Return
FF- Surface blow built to ~~3 1/4~~ 2"
FSI- No Return

| Rec | Feet of | %gas | %oil | %water | %mud |
|-----------|------------|-----------|-----------|-----------|------|
| <u>65</u> | <u>OCM</u> | <u>10</u> | <u>26</u> | <u>76</u> | |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |

Rec Total 65 BHT 129 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2138 Test 1250 T-On Location 22:15
 (B) First Initial Flow 25 Jars 250 T-Started 23:40
 (C) First Final Flow 39 Safety Joint 75 T-Open 2:50 2:40
 (D) Initial Shut-In 157 Circ Sub _____ T-Pulled 6:40
 (E) Second Initial Flow 43 Hourly Standby _____ T-Out 8:59
 (F) Second Final Flow 52 Mileage 114 R.T 176.70 Comments _____
 (G) Final Shut-In 377 Sampler _____
 (H) Final Hydrostatic 2084 Straddle _____
 Shale Packer 250
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90

Sub Total 2001.70 MP/DST Disc't _____

Approved By Rocky Milford Our Representative James Hinkle Brandon
 50% / 50%
 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. 56993

Well Name & No. HMZ #2-29 Test No. 4 Date 4-14-14
 Company Murfin Drilling Co., Inc. Elevation 3308 KB 3303 GL
 Address 250 N Water, STE 300 Wichita, KS 67202
 Co. Rep / Geo. Rocky Milford Rig Murfin #8
 Location: Sec. 29 Twp. 1S Rge. 36w Co. Rawlins State KS

Interval Tested 4375-4465 Zone Tested LKC "H,I,J"
 Anchor Length 90' Drill Pipe Run 4166 Mud Wt. 9
 Top Packer Depth 4370 Drill Collars Run 187 Vis 62
 Bottom Packer Depth 4375 Wt. Pipe Run — WL 5.6
 Total Depth 4465 Chlorides 1200 ppm System LCM 5
 Blow Description IF - Opened at surface, built to 2 1/2"
ISI - No Return
FF - Opened at surface, built to 2"
FSI - No Return

| Rec | Feet of | %gas | %oil | %water | %mud |
|------------|------------|------|-----------|--------|-----------|
| <u>127</u> | <u>OCM</u> | | <u>17</u> | | <u>83</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 127 BHT 129 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2227 Test 1250 T-On Location 19:45 ^{4/14}
 (B) First Initial Flow 24 Jars 250 T-Started 20:21
 (C) First Final Flow 50 ~~50~~ Safety Joint 75 T-Open 22:33
 (D) Initial Shut-In 1261 Circ Sub _____ T-Pulled 02:33
 (E) Second Initial Flow 56 Hourly Standby _____ T-Out 5:01 ^{4/15}
 (F) Second Final Flow 90 ~~90~~ Mileage 114 R.T.X2 353.40 Comments Tools loaded 6:45
 (G) Final Shut-In 1175 Sampler _____ 4-16-14
 (H) Final Hydrostatic 2142 Straddle _____ Brandon Running most of test on own
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 30 Shale Packer _____
 Initial Shut-In 60 Extra Packer _____
 Final Flow 60 Extra Recorder _____ Sub Total 0
 Final Shut-In 90 Day Standby _____ Total 1928.40
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1928.40 50% / 50%

Approved By Rocky Milford Our Representative James Weider Brad Olt
 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.

Robert L. Milford

PETROLEUM GEOLOGIST

Wichita, Kansas

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

OPERATOR **Murfin Drilling Company, Inc.**

LEASE **HMZ #4-29**

LOC SPOT **NW NE NE**

LOC FOOTAGE **330' FNL 990' FEL**

SEC. **29** TWP. **1S** R. **36W**

COUNTY **Rauville** STATE **Kansas**

DATE **15-15-21004-00-00**

CONTRACTOR **Murfin Drilling Co., Inc.** REG. NO. **8**

DRILLING STARTED **4-8-2014** COMPLETED **4-16-2014**

MUD DRILLING FLUID **3.885** MUD TYPE **Chemical**

DRILLING TIME KEPT FROM **3.880** TO RTD

SAMPLES SAVED FROM **3.880** TO RTD

SAMPLES EXAMINED FROM **3.880** TO RTD

GEOLOGICAL SUPERVISION FROM **3.579** TO RTD

NEUTRON/STRENGTH/B

CONDUCTOR

Surface **8.5/8" @ 260'**
w/ 240 sacks cement
Production name

WELL RECORD

ELEVATIONS
KB **3,308'**
GL **3,303'**

FORMATION NAME

LOG TOP DATUM TOP SAMPLE TOP DATUM TOP SAMPLE

Stone Corral 3,317' +91' 3,315' +93'

Neva 3,810' -90' 3,810' -90'

Forker 4,033' -725' 4,033' -725'

Topeka 4,244' -936' 4,244' -936'

Lansing 4,463' -1155' 4,463' -1155'

Stark 4,934' -1206' 4,934' -1206'



| DATE | 7:00 AM DEPTH | REMARKS |
|---------|---------------|--|
| 4-8-14 | 0' | Spud @ 1:45 pm. Plug down @ 7:15 pm. Drilled out plug @ 3:15 am on 4-9-14 w/ PDC bit |
| 4-9-14 | 570' | Cut 570' in last 24 hrs; 310' in 3.75 hrs w/ PDC bit. |
| 4-10-14 | 2,951' | Cut 2,381' in last 24 hrs; 19 hrs drlg. Bit trips @ 2951' (cleaned) & 3579' (replaced) |
| 4-11-14 | 3,825' | Cut 2,874' in last 24 hrs; 15.75 hrs drlg. DST #1 @ 4015' |
| 4-12-14 | 4,040' | Cut 215' in last 24 hrs; 6.75 hrs drlg. DST #2 @ 4320' |
| 4-13-14 | 4,320' | Cut 280' in last 24 hrs; 11.75 hrs drlg. DST #3 @ 4380' |
| 4-14-14 | 4,380' | Cut 60' in last 24 hrs; 2.75 hrs drlg. DST #4 @ 4465' |
| 4-15-14 | 4,465' | Cut 85' in last 24 hrs; 4 hrs drlg. RTD 4810' @ 4:50 am on 4-16-14 |
| 4-16-14 | 4,810' | Cut 345' in last 24 hrs; 17.75 hrs drlg. P&A |

Remarks

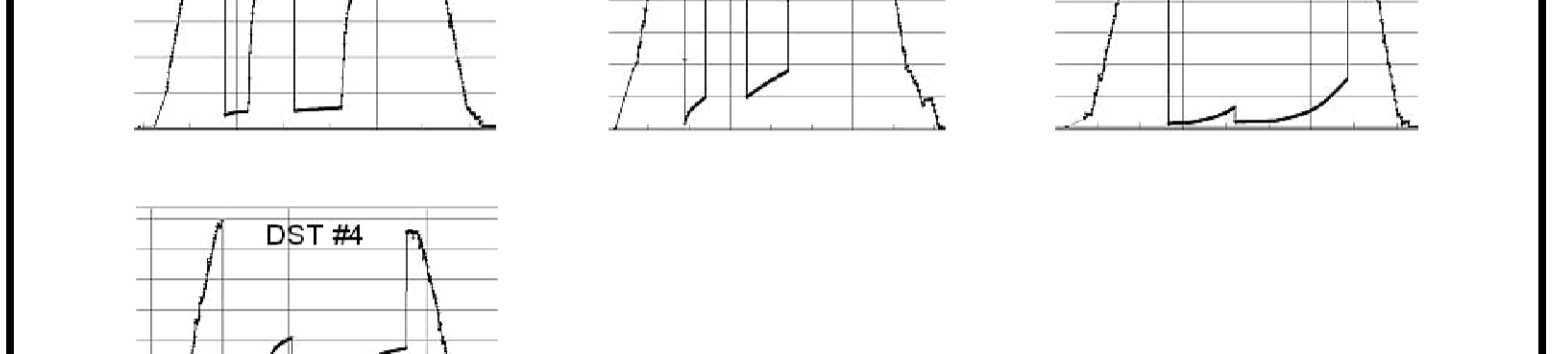
The electric log measurements correlate 2' to 3' lower at the Stone Corral anhydrite but are about even in the sample portion of the report to the drilling measurements.

Formation tops and lithology on this report have been corrected to the electric log.

The drilling samples were deposited at the Kansas Geological Survey office in Wichita.

Respectfully submitted,

Robert L. Milford



| LITH | DRILL TIME (MIN/FT) | DEPTH (W) | SAMPLE DESCRIPTIONS | REMARKS |
|------|---------------------|-----------|---------------------|---------|
|------|---------------------|-----------|---------------------|---------|

| | | | | |
|--|--|------|--|-------------------------------|
| | | 3200 | | Stone Corral 3217' (+91) EL |
| | | 3250 | | B/Stone Corral 3252' (+56) EL |

| | | | | |
|--|--|------|--|----------------------|
| | | 3550 | | |
| | | 3600 | | |
| | | 3650 | | |
| | | 3700 | | Neva 3698' (-390) EL |
| | | 3750 | | |
| | | 3800 | | |
| | | 3850 | | |
| | | 3900 | | |
| | | 3950 | | |
| | | 4000 | | |
| | | 4050 | | |
| | | 4100 | | |
| | | 4150 | | |
| | | 4200 | | |
| | | 4250 | | |
| | | 4300 | | |
| | | 4350 | | |
| | | 4400 | | |
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| | | 4550 | | |
| | | 4600 | | |
| | | 4650 | | |
| | | 4700 | | |
| | | 4750 | | |
| | | 4800 | | |

Call depth 3280' @ 1:40 pm on 4-10-14
Mud displaced at 3388'; down for 1.45 hrs
Bit trip at 3579'. Replaced PDC bit with button bit. PDC bit had 30 hrs on it.
Pipe Strap @ 3579': Strap short 0.05'
Straight Hole Survey @ 3579': 0.5° Dev.
Samples start 3580' @ 10:16 pm on 4-10-14

Sdy Sh: red-brn, small amt soft & gummy, w/ some gry & grn, & small amt of Sd: lt gry-lyt grn, fn-vry fn grain, soft-brittle, pr vis por, NS
Sdy Sh: A.A. w/ incrs amt of Sd: A.A., pr vis por, NS
Sdy Sh: A.A. w/ gd amt of Sd: lt gry, fn-vry fn grain, semi fri-brittle, pr vis por, NS
Sdy Sh: A.A. w/ some Sd: lt grn, fn-vry fn grain, shly, soft-brittle, pr vis por, NS
Sdy Sh: A.A. w/ gd amt of Sd: lt gry, fn-vry fn grain, semi fri-brittle, pr vis por, NS
Sdy Sh: red-brn, soft & gummy in prt, w/ small amt of Sd: lt gry-lyt grn, fn-vry fn grain, semi fri-brittle, pr vis por, NS

Sdy Sh: A.A. w/ small amt of Sh: gry & grn & small amt of Sd: A.A., pr vis por, NS
A.A.
Sdy Sh: red-brn, w/ small amt of Sd: lt grn, fn-vry fn grain, soft, pr vis por, NS
LS: wh-crm, fxln, sdy (fn-vry fn grain) & fos in prt, vry chky-pty dns, pr por, scat blk tarry-asp sprd-patchy str, NSFO, no odor
Sdy Sh: red-brn, soft & gummy in prt, w/ small amt of Sd: gry & grn, & small amt of Sd: lt gry, fn-vry fn grain, semi fri-brittle, pr vis por, NS
A.A.

Sdy Sh: red-brn, soft & gummy in prt, w/ some Sd: lt gry-lyt grn, fn-vry fn grain, shly, in prt, soft-brittle, pr vis por, NS
Dol-Ls: wh-lt gry, fxln, sli fos, sub chky-pty dns, pr por, NS
LS: lt gry-tan, fxln, sli fos, sub chky-pty dns, pr por, NS
Sdy Sh: red-brn, soft & gummy in prt, w/ small amt of Sd: gry, fn-vry fn grain, calc, shly, soft-semi fri, pr vis por, NS
Sdy Sh: A.A. w/ small amt of Sh: gry & grn

LS: crm, fxln, fos-ool in prt, sub chky-pty dns, pr intrprtly por, fr amt blk tarry-asp patchy-sub sat str w/ some thk-hvy liv oil str, few pcs w/ VSSFO, no odor
Sdy LS: lt gry, fxln, vry fn grn sd, hrd, pr por, scat blk patchy dead str, NSFO, no odor
LS: tan-gry, fxln, fos in prt, some shly, gritty-pty dns, pr por, NS
LS: crm-tan, fxln, sli fos, sub chky-pty dns w/ some chky, pr por, NS
LS: A.A. w/ incrs chky-vry chky, pr por, NS
Dol: tan-gry, fxln, sub chky-pty dns, some pr-fr pin point-small wug por, NS

LS: gry, fxln, shly, gritty-pty dns, pr por, NS
Sh: gry w/ some red-brn (some soft & gummy)
Sh: red-brn, soft & gummy in prt, w/ some gry & grn
LS: wh-crm, fxln, fos in prt, chty (crm, transl), chky-pty dns w/ some vry chky, pr por, NS
Sh: red-brn, gry, grn, w/ Calc Sh: gry-purple
Sh: red-brn, soft & gummy in prt, w/ some gry-grn
LS & Dol: crm-lt gry, fxln, sub chky-pty dns, pr por, NS
Sh: red-brn, mostly soft & gummy

LS: wh-crm, fxln, fos in prt, chky-pty dns, pr por, NS
LS: A.A.
Sh: red-brn, soft & gummy, w/ some gry & grn
LS: crm-gry, fxln, fos in prt, sub chky-pty dns, pr por, NS
LS: crm-lt gry, fxln, fos in prt, sub chky-pty dns, pr por, NS
Sh: red-brn, soft & gummy, w/ some gry & grn
LS: wh-lt gry, fxln, fos in prt, sub chky-pty dns w/ some chky-vry chky, pr por, NS
Sd: lt grn, vry fn grain, calc, shly, pr vis por, scat blk patchy dead str, NSFO, no odor
Sh: red-brn & lt grn
Sh: red-brn, soft & gummy in prt, w/ some gry & grn

LS: crm-tan, fxln, sli fos, shly in prt (red-brn, mottled), sub chky-pty dns, pr por, NS
LS: wh-crm, fxln, sli fos, some shly (red-brn, mottled), sub chky-pty dns w/ some chky-vry chky, pr por, NS
Sh: red-brn w/ (vry fine drk) & calc
Sh: red-brn, fn-vry fn grain, calc, semi fri-brittle, pr vis por, NS, w/ vry small amt of Sd: lt gry, fn-vry fn grain, calc, semi fri-brittle, pr vis por, NS
Sh: red-brn, soft & gummy in prt, w/ some grn & gry
LS: wh-crm, fxln, sli fos-ool (small), sub chky-pty dns w/ some chky-vry chky, pr por, NS
Calc: Sh: purple w/ some lt red-brn
Calc: Sh: A.A., becoming more lt red-brn
Sh: red-brn & some gry
Sh: gry, some soft & gummy, w/ some red-brn
Sh: red-brn & gry
Sh: red-brn, soft & gummy in prt, w/ small amt grn & gry

LS: wh-crm, fxln, sli fos, sub chky-pty dns w/ some chky-vry chky, pr por, NS
LS: crm-tan, fxln, sub chky-pty dns w/ some chky, pr por, NS
LS: A.A. w/ some chky-vry chky, pr por, NS
LS: tan-gry, fxln, shly in prt, sub chky-pty dns, pr por, NS
Calc: Sh: med-drk gry & Sh: grn (waxy) & red-brn
LS: crm-brn, fxln, fos in prt, sub chky-pty dns, pr por, scat mstly blk tarry-asp sprd-patchy str, NSFO, no odor
Sd: lt gry-lyt grn, fn-vry fn grain, some calc, some shly, soft-brittle, pr vis por, tr blk asph str, NSFO, no odor
Sh: red-brn, some soft & gummy, w/ some gry & grn
Sh: A.A.
LS: crm-tan, fxln, sli fos, sub chky-pty dns, pr por, scat med-drk brn patchy-sub sat str, NSFO (some bleeding), no odor
LS: crm-tan, fxln, sub chky-pty dns w/ some chky, pr por, vry scat brn-blk edge str, NSFO, no odor
Sd: crm-tan, fxln, fn-vry fn grain, calc, fri-brittle, pr vis por, scat drk brn-blk sub sat str, SSFO (pin point beads), fnt odor
Sh: red-brn & lt grn, soft & gummy in prt, w/ small amt of gry
Sh: red-brn & lt grn, soft & gummy in prt, w/ small amt of gry

LS: wh-crm, fxln, fos-ool in prt, sli pyr, sub chky-pty dns w/ some chky-vry chky, pr-fr w/ some gd intrprtly-vug por, scat med-drk brn patchy-sub sat str, FSFO, fnt odor
Calc: Sh: gry, fxln, sli shly, hrd, pr por, NS
LS: lt gry, fxln, sli shly, hrd, pr por, NS
Sh: red-brn, w/ some grn & gry
LS: crm-tan, fxln, sli fos, sub chky-pty dns, pr por, NS
Sh: red-brn, w/ gry & grn
Sh: red-brn, mostly soft & gummy, w/ small amt of gry
Sh: A.A.

LS: wh-crm, fxln, fos in prt, sub chky-pty dns w/ some chky, pr-fr fos por, scat drk brn-blk w/ some med brn mstly patchy-sub sat str, FSFO (some thick-hvy oil), no odor
Sh: gry & red-brn
LS: tan-brn, fxln, fos, sub chky-pty dns, pr por, NS
Sh: gry (some soft & gummy) & red-brn
Sh: red-brn, soft & gummy in prt, some gry-grn
Sdy Sh: Shly Sd: red-brn, fn-vry fn grain, calc, soft-brittle, pr vis por, NS
Sh: red-brn, soft & gummy in prt
LS: wh-lt gry, fxln, sli fos, sub chky-pty dns w/ some chky-vry chky, pr por, NS
Sh: red-brn, soft & gummy in prt, w/ some gry
LS: wh-lt gry, fxln, fos in prt, some shly (red-brn, mottled), chky-pty dns w/ some vry chky, pr por, NS
Sh: red-brn, soft & gummy in prt, some gry & grn
LS: crm-lt gry, fxln, fos in prt, sub chky-pty dns w/ some chky, pr por, NS
Sh: red-brn, some soft & gummy, small amt grn & gry
Sh: A.A.
Sdy Sh: Shly Sd: red-brn, fn-vry fn grain, calc, soft-brittle, pr vis por, NS

LS: crm-lt gry, fxln, fos in prt, some shly (red-brn, mottled), sub chky-pty dns, pr por, NS
LS: A.A. w/ Shly LS: lt gry, fxln, some prty dns, pr por, NS
Shly LS: A.A. w/ Calc Sh: lt gry
Sh: red-brn, w/ some drk gry
LS: wh-lt gry, fxln, fos in prt, some shly, sub chky-pty dns w/ some chky-vry chky, mstly pr w/ some fr fos-pin point por, NS
LS: lt-med gry, fxln, shly in prt, prty dns, pr por, NS, intermixed w/ some Calc Sh: lt-med gry
Sh: red-brn & drk gry
LS: crm-tan, fxln, some shly shly, sub chky-pty dns pr por, NS
LS: A.A., incrs shly, some chky, pr por, NS
Sh: Blk Carb
Sh: mstly gry
LS: wh-tan, fxln, fos in prt, sub chky-pty dns w/ some chky-vry chky, pr por, NS
Sh: drk-med gry & red-brn
LS: crm-tan, fxln, sdy in prt (fn grain), some fos, sub chky-pty dns, pr por, NS
LS: A.A.
Sh: gry-grn & red-brn
LS: wh-tan, fxln, sli fos, sub chky-pty dns w/ some chky-vry chky, pr por, NS
Sh: red-brn, soft & gummy in prt, & grn
Sh: gry-grn & red-brn
Sd: crm-crm, fn grain, calc, fri, pr vis por, NS
LS: crm, fxln, sdy in prt (med-crs grain), sub chky-pty dns w/ some chky, pr por, NS
Sh: red-brn, some sdy, & Sdy Sh: lt gry, soft & gummy, intermixed w/ some Sd: crm-lt gry, fn-vry fn grain, fri-brittle, pr vis por, NS
Sh: red-brn, grn, gry, intermixed w/ Sd: crm, fn-med grain, calc, semi fri-brittle, fr-gd por, NS, w/ some loose crs grains, clr, sub ang-sub red
Sh: red-brn, gry, grn, w/ some Sd: A.A.
Sh: red-brn, some soft & gummy, w/ small amt of gry-grn, & Shly Sd: Sdy Sh: red-brn, fn grain, semi fri-brittle, pr vis por, NS, w/ small amt of Sd: crm-crm, fn-med grain, sli glauc, fri-brittle, pr-fr por, NS

DST #1 3858'-4015' Stotler
IF: blow built to 2.5" ISI: no blow back
FF: blow built to 6.75" FSI: 1/8" blow
Rec: 277' TOTAL FLUID:
365' Mud w/ oil spots
(6% G, 2% O, 92% M)
190' GWCM w/ oil spots
(11% G, 1% O, 16% W, 72% M)
63' WM w/ oil spots
(6% G, 1% O, 40% W, 53% M)
312' MCM w/ oil spots
(1% O, 88% W, 11% M)
Chl ppm: 12,000 DST: 700 Mud
IFP: 37-241#/30" ISIP: 1174#/60"
FFP: 243-448#/60" FSP: 1170#/90"

Ran 20 stand short trip prior to DST #1
Ran 8 stand short trip prior to DST #2 but on trip out for test, pulled tight on stands 9 thru 11. Pulled 15 stands for a 2nd short trip prior to DST.
Morgan Mud check @ 4320': 65 Vis, 9.0 Wt, 6.4 WL, 1,000 ppm Chl, 6# LCM

DST #2 4187'-4320' L/KC 'A' - 'D'
IF: BOB in 14" ISI: no blow back
FF: blow built to 2.5" FSI: no blow back
Rec: 930' TOTAL FLUID:
365' Mud w/ oil spots
(6% G, 2% O, 92% M)
190' GWCM w/ oil spots
(11% G, 1% O, 16% W, 72% M)
63' WM w/ oil spots
(6% G, 1% O, 40% W, 53% M)
312' MCM w/ oil spots
(1% O, 88% W, 11% M)
Chl ppm: 12,000 DST: 700 Mud
IFP: 37-241#/30" ISIP: 1174#/60"
FFP: 243-448#/60" FSP: 1170#/90"

DST #3 4316'-4380' L/KC 'G' zn
IF: blow built to 2.25" ISI: no blow back
FF: blow built to 2" FSI: no blow back
Rec: 65' OCM (10% G, 20% O, 70% M)
IFP: 25-39#/30" ISIP: 157#/60"
FFP: 43-52#/60" FSP: 377#/90"

Morgan Mud check @ 4380': 67 Vis, 9.0 Wt, 5.6 WL, 1,200 ppm Chl, 5# LCM

DST #4 4375'-4465' L/KC 'H' - 'J'
IF: blow built to 2.5" ISI: no blow back
FF: blow built to 1.5" FSI: no blow back
Rec: 127' OCM (17% O, 83% M)
IFP: 24-50#/30" ISIP: 1261#/60"
FFP: 56-90#/60" FSP: 1175#/90"

Morgan Mud check @ 4521': 73 Vis, 9.2 Wt, 6.8 WL, 1,200 ppm Chl, 6# LCM

DST #5 4463'-4636' L/KC 'I' - 'L'
IF: blow built to 2.5" ISI: no blow back
FF: blow built to 2" FSI: no blow back
Rec: 127' OCM (17% O, 83% M)
IFP: 24-50#/30" ISIP: 1261#/60"
FFP: 56-90#/60" FSP: 1175#/90"

Morgan Mud check @ 4810' after CFS
L.T.D. 4810' (-1502)
R.T.D. 4810' (-1502)
Straight Hole Survey @ 4810': 2 Dev.



Prod-mg

INVOICE

PO Box 93999
Southlake, TX 76092

Invoice Number: 1425 11
Invoice Date: Apr 8, 2014
Page: 1

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

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

| Customer ID | Field Ticket # | Payment Terms | |
|--------------|----------------|---------------|----------|
| Murfin | 62087 | Net 30 Days | |
| Job Location | Camp Location | Service Date | Due Date |
| KS1-01 | Oakley | Apr 8, 2014 | 5/8/14 |

| Quantity | Item | Description | Unit Price | Amount |
|----------|-------------------|----------------------------|------------|----------|
| 1.00 | WELL NAME | HMZ # 1-29 2-29 | | |
| 240.00 | CEMENT MATERIALS | Class A Common | 17.90 | 4,296.00 |
| 9.00 | CEMENT MATERIALS | Chloride | 64.00 | 576.00 |
| 252.00 | CEMENT SERVICE | Cubic Feet Charge | 2.48 | 624.96 |
| 1,045.80 | CEMENT SERVICE | Ton Mileage Charge | 2.60 | 2,719.08 |
| 1.00 | CEMENT SERVICE | Surface | 1,512.25 | 1,512.25 |
| 90.00 | CEMENT SERVICE | Pump Truck Mileage | 7.70 | 693.00 |
| 1.00 | CEMENT SERVICE | Swedge Manifold Rental | 275.00 | 275.00 |
| 90.00 | CEMENT SERVICE | Light Vehicle Mileage | 4.40 | 396.00 |
| 1.00 | CEMENT SUPERVISOR | LaRene Wentz | | |
| 1.00 | CEMENT SUPERVISOR | Andrew Forslund | | |

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

\$ 3,882.30

ONLY IF PAID ON OR BEFORE

May 3, 2014

| | |
|------------------------|------------------|
| Subtotal | 11,092.29 |
| Sales Tax | 384.89 |
| Total Invoice Amount | 11,477.18 |
| Payment/Credit Applied | |
| TOTAL | 11,477.18 |

SR

- 3882.30

7594.88

ALLIED OIL & GAS SERVICES, LLC 062087

Federal Tax I.D. # 20-8651475

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

SERVICE POINT:
Dakley, KS

| | | | | | | | |
|-------------------------|---------------|--------------------|-----------------|-----------------------------------|-------------------------------|-----------------------------|------------------------------|
| DATE <u>4-8-14</u> | SEC <u>29</u> | TWP. <u>1</u> | RANGE <u>36</u> | CALLED OUT | ON LOCATION <u>4:00 pm</u> | JOB START <u>7:00 pm</u> | JOB FINISH <u>7:30 pm</u> |
| LEASE <u>H.M. 2</u> | | WELL # <u>2-29</u> | | LOCATION <u>McDonald N to AA+</u> | | COUNTY <u>Macomb</u> | STATE <u>KS</u> |
| OLD OR NEW (Circle one) | | | | <u>Rig, cement</u> | | | |

| | |
|--|---|
| CONTRACTOR <u>Marfin J</u> | OWNER <u>Same.</u> |
| TYPE OF JOB <u>Surface</u> | |
| HOLE SIZE <u>12 1/8"</u> T.D. <u>261'</u> | CEMENT |
| CASING SIZE <u>8 7/8"</u> DEPTH <u>261.37'</u> | AMOUNT ORDERED <u>240 SK COM 380 CC</u> |
| TUBING SIZE _____ DEPTH _____ | |
| DRILL PIPE _____ DEPTH _____ | |
| TOOL _____ DEPTH _____ | |
| PRES. MAX _____ MINIMUM _____ | COMMON <u>240 SK @ 12.70 = 3048.00</u> |
| MEAS. LINE _____ SHOE JOINT _____ | POZMIX _____ @ _____ |
| CEMENT LEFT IN CSG. <u>15'</u> | GEL _____ @ _____ |
| PERFS. _____ | CHLORIDE <u>2.5% @ 6.40 = 16.00</u> |
| DISPLACEMENT <u>15.77 bbl</u> | ASC _____ @ _____ |

EQUIPMENT

| |
|---|
| PUMP TRUCK CEMENTER <u>Lakene E. Edwards</u> |
| # <u>431</u> HELPER <u>Andrew Forslund</u> |
| BULK TRUCK <u>870</u> |
| # <u>870</u> DRIVER <u>Juan Mendez (pass)</u> |
| BULK TRUCK <u>818/287</u> DRIVER |

| |
|--|
| HANDLING <u>252 ft³</u> @ <u>2.48</u> <u>624.96</u> |
| MILEAGE <u>11.62 X 90 X 2.60</u> <u>2719.58</u> |
| <u>(2.875.62/35%)</u> TOTAL <u>3216.04</u> |

REMARKS:
Mix 240 SK cement
Displace with water
Cement did circulate
20 SK to pit

Thank you

CHARGE TO: Marfin

STREET _____

CITY _____ STATE _____ ZIP _____

SERVICE

| |
|--|
| DEPTH OF JOB <u>261.37'</u> |
| PUMP TRUCK CHARGE _____ <u>1512.25</u> |
| EXTRA FOOTAGE _____ @ _____ |
| MILEAGE <u>M.I. 40 90 @ 7.70</u> <u>693.00</u> |
| MANIFOLD <u>5 wedge @ 275.00</u> |
| <u>LDU 90 @ 4.40</u> <u>396.00</u> |
| <u>(1006.68/35%)</u> TOTAL <u>2876.25</u> |

PLUG & FLOAT EQUIPMENT

| |
|-------------------------|
| _____ @ _____ |
| _____ @ _____ |
| _____ @ _____ |
| _____ @ _____ |
| <u>(0%)</u> TOTAL _____ |

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

PRINTED NAME Rodney Farr

SIGNATURE Rodney Farr

SALES TAX (if Any) _____

TOTAL CHARGES 11092.29

DISCOUNT 3,882.30 (35%) IF PAID IN 30 DAYS

7,209.98 Net.



WCT.
Prod-MG

INVOICE

PO Box 93999
Southlake, TX 76092

Invoice Number: 142673
Invoice Date: Apr 16, 2014
Page: 1

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

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

| Customer ID | Field Ticket # | Payment Terms | |
|--------------|----------------|---------------|----------|
| Murfin | 62060 | Net 30 Days | |
| Job Location | Camp Location | Service Date | Due Date |
| KS1-03 | Oakley | Apr 16, 2014 | 5/16/14 |

| Quantity | Item | Description | Unit Price | Amount |
|----------|--------------------|-----------------------|------------|----------|
| 1.00 | WELL NAME | HMZ #2-29 | | |
| 130.00 | CEMENT MATERIALS | Class A Common | 17.90 | 2,327.00 |
| 90.00 | CEMENT MATERIALS | Pozmix | 9.35 | 841.50 |
| 8.00 | CEMENT MATERIALS | Gel | 23.40 | 187.20 |
| 25.00 | CEMENT MATERIALS | Flo Seal | 2.97 | 74.25 |
| 234.26 | CEMENT SERVICE | Cubic Feet Charge | 2.48 | 580.96 |
| 709.50 | CEMENT SERVICE | Ton Mileage Charge | 2.60 | 1,844.70 |
| 1.00 | CEMENT SERVICE | Plug to Abandon | 1,250.00 | 1,250.00 |
| 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 Wiper Plug | 110.00 | 110.00 |
| 1.00 | EQUIPMENT OPERATOR | Talon Jones | | |
| 1.00 | CEMENT SUPERVISOR | Kelly Gabel | | |
| 1.00 | OPERATOR ASSISTANT | Brandon Wilkinson | | |

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

\$ 2,804.58 ✓

ONLY IF PAID ON OR BEFORE
May 11, 2014

| | |
|------------------------|-----------------|
| Subtotal | 8,123.11 |
| Sales Tax | 641.73 |
| Total Invoice Amount | 8,764.84 |
| Payment/Credit Applied | |
| TOTAL | 8,764.84 |

~~2,804.58~~
5,960.26

OK

ALLIED OIL & GAS SERVICES, LLC 062060

Federal Tax I.D. # 20-8651475

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

SERVICE POINT:
Oakley ks

| | | | | | | | |
|--|--------------------|-----------------------------------|-----------------|--------------------------|-----------------|------------------------|-------------------------|
| DATE <u>4-16-11</u> | SEC. <u>29</u> | TWR. <u>1</u> | RANGE <u>36</u> | CALLED OUT | ON LOCATION | JOB START <u>11 AM</u> | JOB FINISH <u>12 AM</u> |
| LEASE <u>H42</u> | WELL # <u>2-29</u> | LOCATION <u>McDonal ks NRol 3</u> | | COUNTY <u>Roswell ks</u> | STATE <u>ks</u> | | |
| OLD OR <input checked="" type="radio"/> NEW (Circle one) | | | <u>WesLands</u> | | | | |

CONTRACTOR Murfin #8 OWNER Same

| | |
|---|---|
| TYPE OF JOB <u>PTA</u> | CEMENT |
| HOLE SIZE <u>7 7/8</u> T.D. <u>4810</u> | AMOUNT ORDERED <u>220 sks 60/40 poz</u> |
| CASING SIZE | <u>4 1/2 Gal 1/4 lb. F10</u> |
| TUBING SIZE | |
| DRILL PIPE | |
| TOOL | |
| PRES. MAX | |
| MEAS. LINE | |
| CEMENT LEFT IN CSG. | |
| PERFS. | |
| DISPLACEMENT | |

| | | | |
|-----------------------------|---------------------------------|--|--|
| EQUIPMENT | | | |
| PUMP TRUCK # <u>431</u> | CEMENTER <u>Talon James</u> | | |
| | HELPER <u>Kelly Gabel</u> | | |
| BULK TRUCK # <u>386/241</u> | DRIVER <u>Brandon Wilkinson</u> | | |
| BULK TRUCK # | DRIVER | | |

REMARKS:
25 sks @ 32.32ft
100 sks @ 24.53ft
40 sks @ 31.0ft
Run Whipper plug
10 sks @ 40.5ft
30 sks Rod hole
15 sks mouse hole Thank you!

| | |
|--|----------------|
| COMMON <u>120 sks @ 17.90</u> | <u>2327.00</u> |
| POZMIX <u>20 sks @ 9.35</u> | <u>841.50</u> |
| GEL <u>8 sks @ 23.40</u> | <u>187.20</u> |
| CHLORIDE @ | |
| ASC @ | |
| <u>1 sk Flt Seal @ 2.92</u> | <u>24.28</u> |
| | |
| | |
| | |
| | |
| HANDLING <u>234.26 cut @ 2.48</u> | <u>580.96</u> |
| MILBAGE <u>2.46 x 28mi @ 2.60</u> | <u>184.80</u> |
| <u>(2,049.46 / 35%)</u> TOTAL <u>5855.01</u> | |

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

| | |
|--|----------------|
| SERVICE | |
| DEPTH OF JOB | <u>32.32</u> |
| PUMP TRUCK CHARGE | <u>1280.00</u> |
| EXTRA FOOTAGE @ | |
| MILEAGE <u>H.D 75mi @ 7.70</u> | <u>577.50</u> |
| MANIFOLD @ | |
| <u>kg not duty mi 75 @ 4.40</u> | <u>330.00</u> |
| | |
| <u>(755.12 / 35%)</u> TOTAL <u>2157.50</u> | |

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.

| | |
|------------------------------|---------------|
| PLUG & FLOAT EQUIPMENT | |
| <u>Whipper plug @ 110.00</u> | <u>110.00</u> |
| @ | |
| @ | |
| @ | |
| <u>0%</u> | |
| TOTAL <u>110.00</u> | |

PRINTED NAME Rodney Farr
 SIGNATURE Rodney Farr

SALES TAX (if Any) _____
 TOTAL CHARGES 8,123.11
 DISCOUNT 2,804.58 / (35%) IF PAID IN 30 DAYS
5,318.52 Net.

HMZ #2-29
 Daily Drilling Report
 Page Two

- 4/14/14 Depth 4380'. Cut 60'. DT: None. CT: 21hrs. Dev.: None. **LKC G**: pr-fr fos por, scat drk brn-blk w/ some med brn mstly patchy-sub sat stn, FSFO (some thick-hvy oil), no odor. **DST #3 4316-4380 (LKC G)**: 30-60-60-90. IF: blow built to 2¼". FF: blow built to 2". Rec. 65' OCM (10%G, 20%O, 70%M). HP: 2138-2084. FP: 25/39, 43/52. SIP: 157-377. BHT: 129°.
- 4/15/14 Depth 4465'. Cut 85'. DT: None. CT: 19 ¾ hrs. Dev.: None. **LKC H**: mstly pr w/ some pin point por, rare lt brn patchy stn, cpl pcs w/ VSSFO, no odor. **LKC J**:pr-fr intrprtcal w/ gd vug por (incrs vug por w/ depth), scat vry lt -med brn sub sat-sat stn & some blk tarry-asph patchy stn (near top), FSFO, fnt odor **DST #4 4375-4465 (LKC H-J)**: 30-60-60-90. IF: blow built to 2½". ISl: no blow back. FF: blow built to 2". FSl: no blow back. Rec. 127' OCM (17% O, 83% M). HP: 2227-2142. FP: 24/50, 56/90. SIP: 1261-1175. BHT: 129°.
- 4/16/14 RTD 4810'. Cut 345'. DT: None. CT: 5½ hrs. Dev.: None. TD @ 4:45AM 4/16. Loggers should get hole about 9:00AM
- 4/17/14 RTD: 4810'. CT: 21¼ hrs. Dev.: 2° @ 4810'. Pioneer logged 9:15AM-3:30PM 4/16. LTD: 4810'. Allied plugged hole, 8:30PM 4/16 – 12:15AM 4/17, as follows using 60/40Poz, 4%Gel, ¼# Floseal, 25sxs @ 3232', 100sxs @ 2453', 40sxs @ 310', 10sxs+plug @ 40', 30sxs RH, 15sxs MH. Orders: Pat Bedore KCC. RR @ 4:15AM 4/17/14. FINAL REPORT.

| MDCI HMZ #2-29 330' FNL 990' FEL Sec. 29-1S-36W 3308' KB | | | | | | | MDCI HMZ #1-29 2135' FNL 2415' FWL Sec. 29-1S-36W 3292' KB | |
|--|------------|-------|-----|---------|-------|-----|--|-------|
| Formation | Sample top | Datum | Ref | Log Top | Datum | Ref | Log Top | Datum |
| Anhydrite | 3215 | +93 | -15 | 3217 | +91 | -17 | 3184 | +108 |
| B/Anhydrite | 3429 | +59 | -13 | 3252 | +56 | -16 | 3220 | +72 |
| Neva | 3697 | -389 | -14 | 3698 | -390 | -15 | 3667 | -375 |
| Red Eagle | 3761 | -453 | -15 | 3761 | -453 | -15 | 3730 | -438 |
| Foraker | 3809 | -501 | -14 | 3810 | -502 | -15 | 3779 | -487 |
| Stotler | 3960 | -652 | -17 | 3959 | -651 | -16 | 3927 | -635 |
| Topeka | 4031 | -723 | -16 | 4034 | -726 | -19 | 3999 | -707 |
| Oread | 4161 | -853 | -15 | 4163 | -855 | -17 | 4130 | -838 |
| Lansing | 4246 | -938 | -17 | 4244 | -936 | -15 | 4213 | -921 |
| Stark | 4462 | -1154 | -18 | 4463 | -1155 | -19 | 4428 | -1136 |
| BKC | 4514 | -1206 | -18 | 4514 | -1206 | -18 | 4480 | -1188 |
| Pawnee | 4638 | -1330 | -18 | 4636 | -1328 | -16 | 4604 | -1312 |
| Cherokee | 4716 | -1408 | -19 | 4715 | -1407 | -18 | 4681 | -1389 |
| RTD | 4810 | -1502 | | | | | 4775 | -1483 |
| LTD | | | | 4810 | | | 4776 | |