



DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company, Inc.**

1700 N Waterfront Pkwy
B1200 # 7
Wichita KS 67206

ATTN: Phil Askey

Champlin Aldrich A 7

33-13s-44w Cheyenne,CO

Start Date: 2014.09.12 @ 02:18:15

End Date: 2014.09.12 @ 10:35:15

Job Ticket #: 59154 DST #: 1

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

Printed: 2014.09.18 @ 14:32:40

Mull Drilling Company, Inc.

33-13s-44w Cheyenne,CO

Champlin Aldrich A 7

DST # 1

Marmaton-Ft Scott

2014.09.12



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TESTING, INC.

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Test Start: 2014.09.12 @ 02:18:15

GENERAL INFORMATION:

Formation: **Marmaton-Ft Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:32:30

Time Test Ended: 10:35:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Mike Roberts

Unit No: 65

Interval: 4775.00 ft (KB) To 4830.00 ft (KB) (TVD)

Reference Elevations: 4276.00 ft (KB)

Total Depth: 4830.00 ft (KB) (TVD)

4265.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8846 Inside

Press@RunDepth: 218.80 psig @ 4777.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.12

End Date:

2014.09.12

Last Calib.: 2014.09.13

Start Time: 02:18:15

End Time:

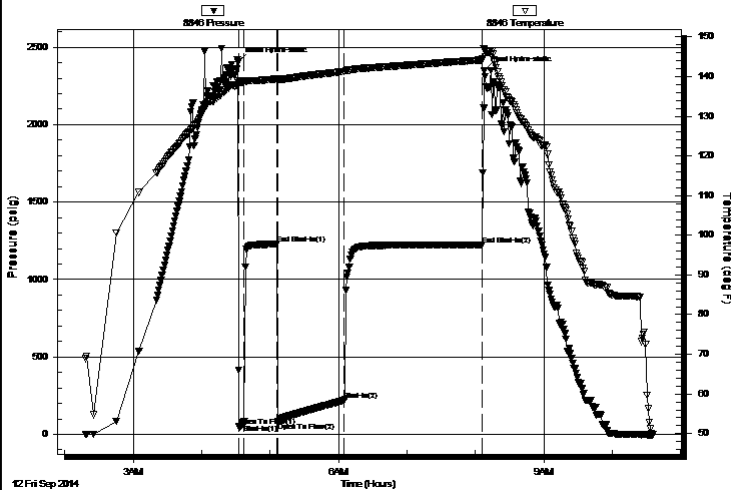
10:35:15

Time On Btm: 2014.09.12 @ 04:32:00

Time Off Btm: 2014.09.12 @ 08:07:30

TEST COMMENT: IF: Built to 3" blow
IS: No return blow
FF: BOB in 18 min.
FS: No return blow

Pressure vs. Time



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 2405.18 | 139.05 | Initial Hydro-static |
| 1 | 49.34 | 138.50 | Open To Flow (1) |
| 5 | 67.60 | 138.61 | Shut-In(1) |
| 34 | 1227.22 | 139.46 | End Shut-In(1) |
| 35 | 79.03 | 138.97 | Open To Flow (2) |
| 93 | 218.80 | 141.29 | Shut-In(2) |
| 214 | 1223.71 | 144.20 | End Shut-In(2) |
| 216 | 2346.18 | 146.81 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-----------------------------|--------------|
| 178.00 | mcw 20% m 80% w | 0.88 |
| 186.00 | ocgw m 1% o 5% g 5% w 89% m | 2.61 |
| 62.00 | ocgm 1% o 5% g 94% m | 0.87 |
| 0.00 | 124' GIP | 0.00 |
| | | |
| | | |

Gas Rates

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



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Reference Elevations: 4276.00 ft (KB)

4265.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 8737 Outside

Press@RunDepth: psig @ 4777.00 ft (KB)

Start Date: 2014.09.12

End Date:

2014.09.12

Start Time: 02:18:15

End Time:

10:35:00

Capacity: 8000.00 psig

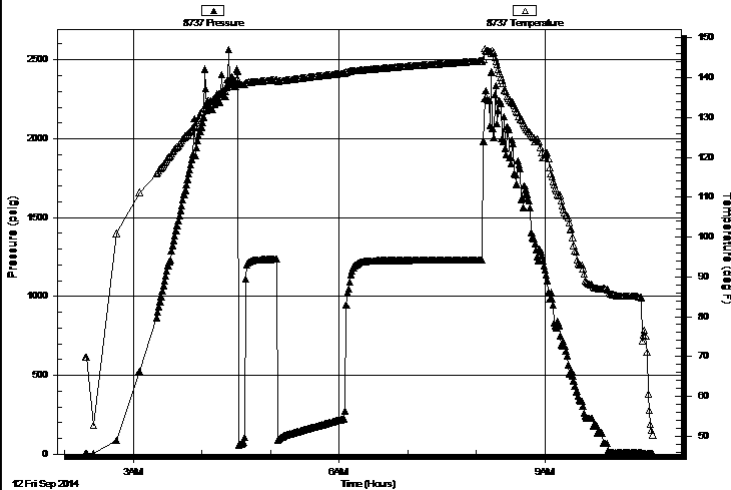
Last Calib.: 2014.09.13

Time On Btm:

Time Off Btm:

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Pressure vs. Time



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| 62.00 | ocgm 1% o 5% g 94% m | 0.87 |
| 0.00 | 124' GIP | 0.00 |
| | | |
| | | |

Gas Rates

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



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DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Company, Inc.

33-13s-44w Cheyenne, CO

1700 N Waterfront Pkwy
B1200 # 7
Wichita KS 67206
ATTN: Phil Askey

Champlin Aldrich A 7

Job Ticket: 59154

DST#: 1

Test Start: 2014.09.12 @ 02:18:15

Tool Information

| | | | | | | | | |
|---------------------------|---------|------------|-----------|-------------|---------------|-----------|------------------------|-------------|
| Drill Pipe: | Length: | 4586.00 ft | Diameter: | 3.80 inches | Volume: | 64.33 bbl | Tool Weight: | 1500.00 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: | 178.00 ft | Diameter: | 2.25 inches | Volume: | 0.88 bbl | Weight to Pull Loose: | 90000.00 lb |
| | | | | | Total Volume: | 65.21 bbl | Tool Chased | 0.00 ft |
| Drill Pipe Above KB: | | 17.00 ft | | | | | String Weight: Initial | 68000.00 lb |
| Depth to Top Packer: | | 4775.00 ft | | | | | Final | 70000.00 lb |
| Depth to Bottom Packer: | | ft | | | | | | |
| Interval between Packers: | | 55.00 ft | | | | | | |
| Tool Length: | | 83.00 ft | | | | | | |
| Number of Packers: | | 2 | Diameter: | 6.75 inches | | | | |
| Tool Comments: | | | | | | | | |

Tool Description

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|---------------------------|--------------|------------|----------|------------|-------------------------------|
| Change Over Sub | 1.00 | | | 4748.00 | |
| Shut In Tool | 5.00 | | | 4753.00 | |
| Hydraulic tool | 5.00 | | | 4758.00 | |
| Jars | 5.00 | | | 4763.00 | |
| Safety Joint | 3.00 | | | 4766.00 | |
| Packer | 5.00 | | | 4771.00 | 28.00 Bottom Of Top Packer |
| Packer | 4.00 | | | 4775.00 | |
| Stubb | 1.00 | | | 4776.00 | |
| Perforations | 1.00 | | | 4777.00 | |
| Recorder | 0.00 | 8846 | Inside | 4777.00 | |
| Recorder | 0.00 | 8737 | Outside | 4777.00 | |
| Change Over Sub | 1.00 | | | 4778.00 | |
| Blank Spacing | 31.00 | | | 4809.00 | |
| Change Over Sub | 1.00 | | | 4810.00 | |
| Perforations | 15.00 | | | 4825.00 | |
| Bullnose | 5.00 | | | 4830.00 | 55.00 Bottom Packers & Anchor |
| Total Tool Length: | 83.00 | | | | |



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FLUID SUMMARY

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Champlin Aldrich A 7

Job Ticket: 59154

DST#: 1

Test Start: 2014.09.12 @ 02:18:15

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 63.00 sec/qt

Water Loss: 7.96 in³

Resistivity: 0.00 ohm.m

Salinity: 1900.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

0 deg API

15000 ppm

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|-------------------------|---------------|
| 178.00 | mcw 20%m 80%w | 0.875 |
| 186.00 | ocgw m 1%o 5%g 5%w 89%m | 2.609 |
| 62.00 | ocgm 1%o 5%g 94%m | 0.870 |
| 0.00 | 124' GIP | 0.000 |

Total Length: 426.00 ft Total Volume: 4.354 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW= .632@49.2*= 15,000 ppm

Serial #: 8846

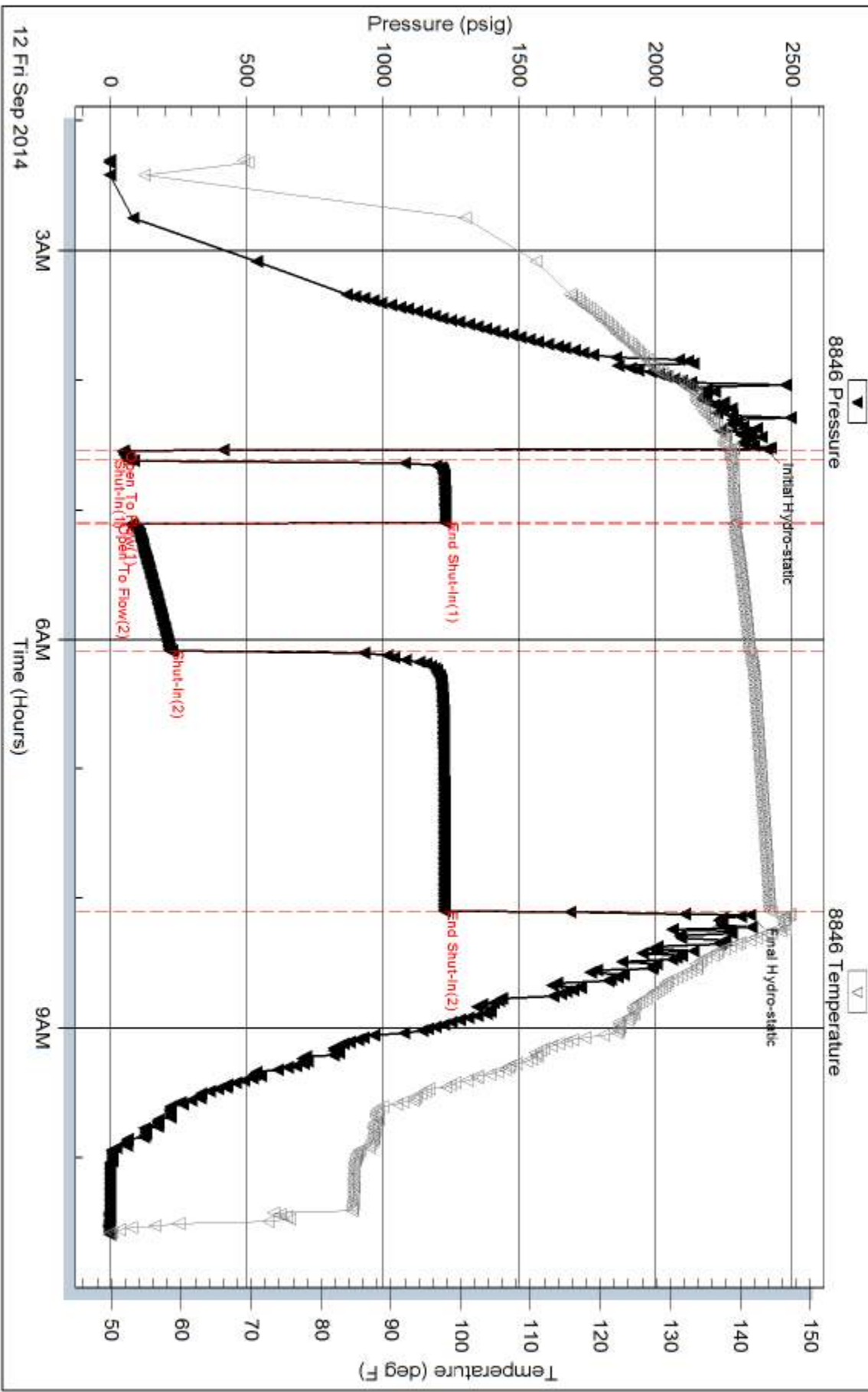
Inside

Mull Drilling Company, Inc.

Champion Aldrich A 7

DST Test Number: 1

Pressure vs. Time

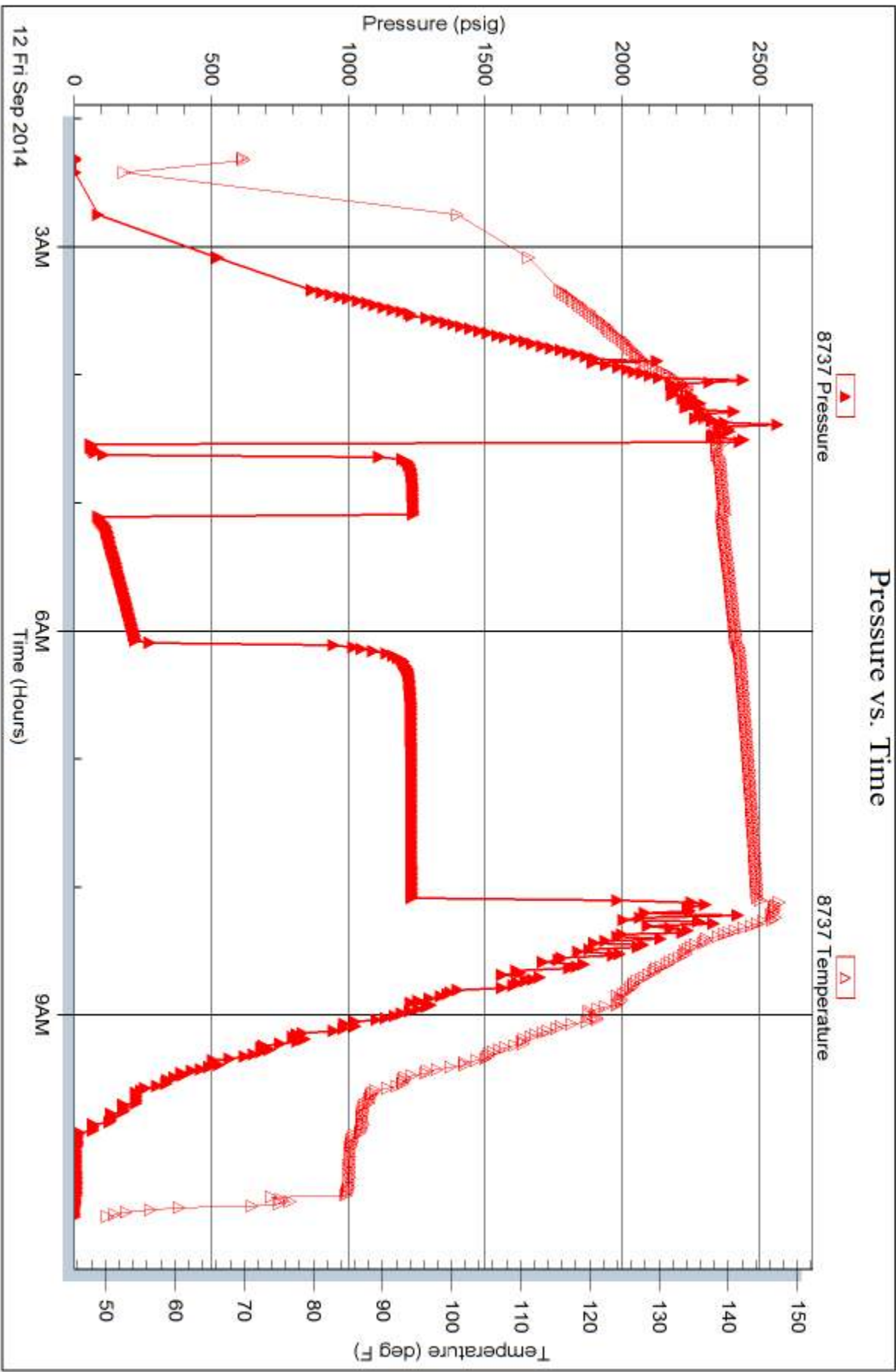


Serial #: 8737

Outside Mull Drilling Company, Inc.

Champion Aldrich A 7

DST Test Number: 1





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 59154

Well Name & No. Champlin - Aldrich A#7 Test No. 1 Date 9-13-14
 Company Mull Drilling Company Inc Elevation 4276 KB 4265 GL
 Address 1700 N. Water front Pkwy B1200 Wichita KS 67206
 Co. Rep / Geo. Phil Askey Rig Martin 20
 Location: Sec. 33 Twp. 13S Rge. 44W Co. Cheyenne State CO

Interval Tested 4775-4830 Zone Tested L Marmaton - Ft. Scott
 Anchor Length 55 Drill Pipe Run 4586 Mud Wt. 9.1
 Top Packer Depth 4770 Drill Collars Run 178 Vis 63
 Bottom Packer Depth 4775 Wt. Pipe Run 4 WL 8.0
 Total Depth 4830 Chlorides 1900 ppm System LCM 8
 Blow Description IF: Built to 3"
FS: No Return Blow
FF: BOB 18 Min
FS:

| Rec | Feet of | | %gas | %oil | %water | %mud |
|------------|-------------------------------------|------------|------|-----------|-----------|------|
| <u>0</u> | <u>GIP = 124</u> | <u>100</u> | | | | |
| <u>62</u> | <u>Feet of OCGM OCGM</u> | <u>5</u> | | <u>1</u> | <u>94</u> | |
| <u>186</u> | <u>Feet of OCGM OCGM</u> | <u>5</u> | | <u>1</u> | <u>89</u> | |
| <u>178</u> | <u>Feet of OCGM mcn</u> | | | <u>80</u> | <u>20</u> | |

Rec Total 424 BHT 1145 Gravity — API RW 1632 @ 49.4° F Chlorides 15000 ppm
 (A) Initial Hydrostatic 2405 ☒ Test 1250.00 T-On Location 01:40 KS
 (B) First Initial Flow 49 ☒ Jars 250.00 T-Started 02:18 KS
 (C) First Final Flow 67 ☒ Safety Joint 75.00 T-Open 04:31
 (D) Initial Shut-In 1227 ☒ Circ Sub — T-Pulled 08:06
 (E) Second Initial Flow 79 ☐ Hourly Standby — T-Out 10:35
 (F) Second Final Flow 218 ☒ Mileage 228RT = 344.0 Comments —
 (G) Final Shut-In 1223 ☐ Sampler 142rt 220.10
 (H) Final Hydrostatic 2346 ☐ Straddle —

☐ Shale Packer — ☐ Ruined Shale Packer —
☐ Extra Packer — ☐ Ruined Packer —
☐ Extra Recorder — ☐ Extra Copies —
 Initial Open 5 Sub Total 0
 Initial Shut-In 30 Total 1795.10
 Final Flow 60 MP/DST Disc't —
 Final Shut-In 120 Sub Total 1795.10
 Accessibility 1795.10
 Sub Total 1919.10

Approved By Phil Askey Our Representative Mike Robert
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