



DRILL STEM TEST REPORT

Prepared For: **Craig Oil Company**

15 S. Main
Russell, KS 67665-2901

ATTN: Ward Craig, Bruce Ba

H J Mai #6

23-15s-14w Russell,KS

Start Date: 2013.11.25 @ 03:15:52

End Date: 2013.11.25 @ 08:32:31

Job Ticket #: 55451 DST #: 1

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
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**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Craig Oil Company

23-15s-14w Russell,KS

15 S. Main
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H J Mai #6

Job Ticket: 55451

DST#: 1

ATTN: Ward Craig, Bruce Ba

Test Start: 2013.11.25 @ 03:15:52

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:15:32

Time Test Ended: 08:32:31

Test Type: Conventional Bottom Hole (Initial)

Tester: Ray Schwager

Unit No: 70

Interval: 3316.00 ft (KB) To 3361.00 ft (KB) (TVD)

Reference Elevations: 1920.00 ft (KB)

Total Depth: 3361.00 ft (KB) (TVD)

1913.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 8369

Inside

Press@RunDepth: 80.27 psig @ 3325.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.11.25

End Date:

2013.11.25

Last Calib.:

2013.11.25

Start Time:

03:15:52

End Time:

08:32:31

Time On Btm:

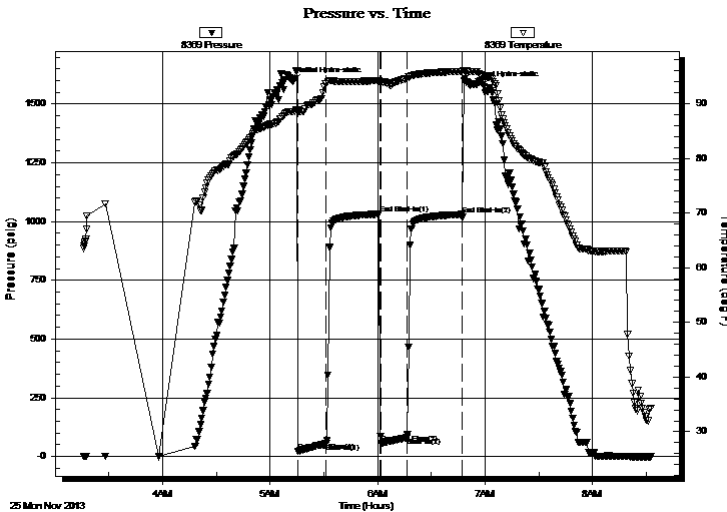
2013.11.25 @ 05:12:47

Time Off Btm:

2013.11.25 @ 06:51:47

TEST COMMENT: 15-IFP-w k to strg in 12 min
30-ISIP-surface bl bk
15-FFP-w k to strg in 14 min
30-FSIP-surface bl bk

PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1596.14 | 88.59 | Initial Hydro-static |
| 3 | 21.46 | 88.41 | Open To Flow (1) |
| 19 | 54.87 | 93.68 | Shut-In(1) |
| 49 | 1031.72 | 94.23 | End Shut-In(1) |
| 49 | 56.19 | 93.99 | Open To Flow (2) |
| 64 | 80.27 | 94.62 | Shut-In(2) |
| 95 | 1030.25 | 95.89 | End Shut-In(2) |
| 99 | 1580.24 | 95.90 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|---------------------|--------------|
| 0.00 | 785'GIP | 0.00 |
| 30.00 | CO | 0.42 |
| 115.00 | HO&GCM 10%G25%O65%M | 1.61 |
| | | |
| | | |

Gas Rates

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



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TOOL DIAGRAM

Craig Oil Company

23-15s-14w Russell,KS

15 S. Main
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H J Mai #6

Job Ticket: 55451

DST#: 1

ATTN: Ward Craig, Bruce Ba

Test Start: 2013.11.25 @ 03:15:52

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 3317.00 ft | Diameter: 3.80 inches | Volume: 46.53 bbl | Tool Weight: 2200.00 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: 0.00 ft | Diameter: 0.00 inches | Volume: 0.00 bbl | Weight to Pull Loose: 65000.00 lb |
| | | | <u>Total Volume: 46.53 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 24.00 ft | | | String Weight: Initial 49000.00 lb |
| Depth to Top Packer: | 3316.00 ft | | | Final 50000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 45.00 ft | | | |
| Tool Length: | 68.00 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 | | | 3294.00 | |
| Shut In Tool | 5.00 | | | 3299.00 | |
| Hydraulic tool | 5.00 | | | 3304.00 | |
| Safety Joint | 2.00 | | | 3306.00 | |
| Packer | 5.00 | | | 3311.00 | 23.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 3316.00 | |
| Stubb | 1.00 | | | 3317.00 | |
| Perforations | 8.00 | | | 3325.00 | |
| Recorder | 0.00 | 8369 | Inside | 3325.00 | |
| Recorder | 0.00 | 8700 | Outside | 3325.00 | |
| Blank Spacing | 33.00 | | | 3358.00 | |
| Bullnose | 3.00 | | | 3361.00 | 45.00 Bottom Packers & Anchor |

Total Tool Length: 68.00



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FLUID SUMMARY

Craig Oil Company

23-15s-14w Russell,KS

15 S. Main
Russell,KS 67665-2901

H J Mai #6

Job Ticket: 55451

DST#: 1

ATTN: Ward Craig, Bruce Ba

Test Start: 2013.11.25 @ 03:15:52

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

37 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|---------------------|---------------|
| 0.00 | 785'GIP | 0.000 |
| 30.00 | CO | 0.421 |
| 115.00 | HO&GCM 10%G25%O65%M | 1.613 |

Total Length: 145.00 ft Total Volume: 2.034 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

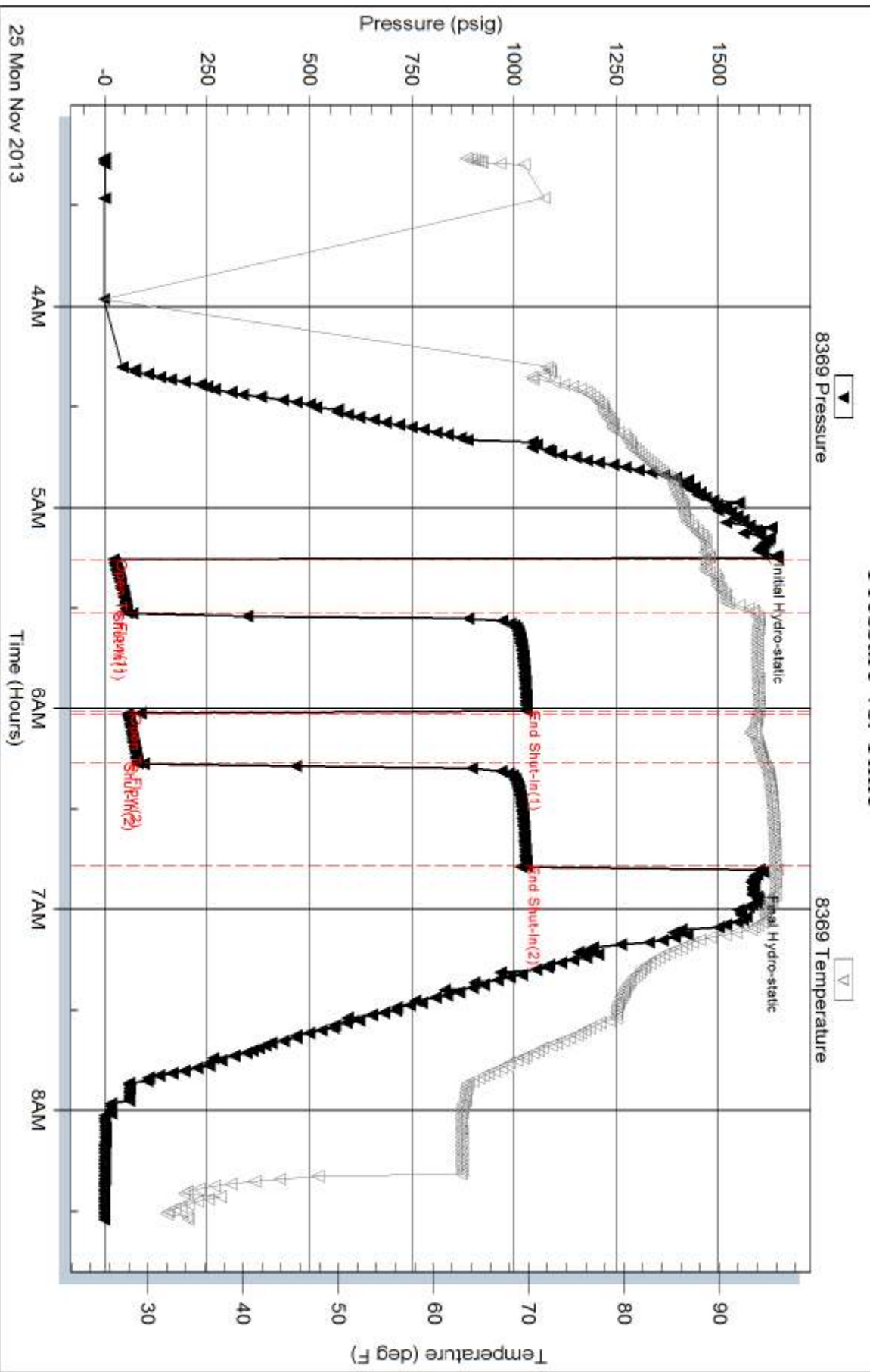
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

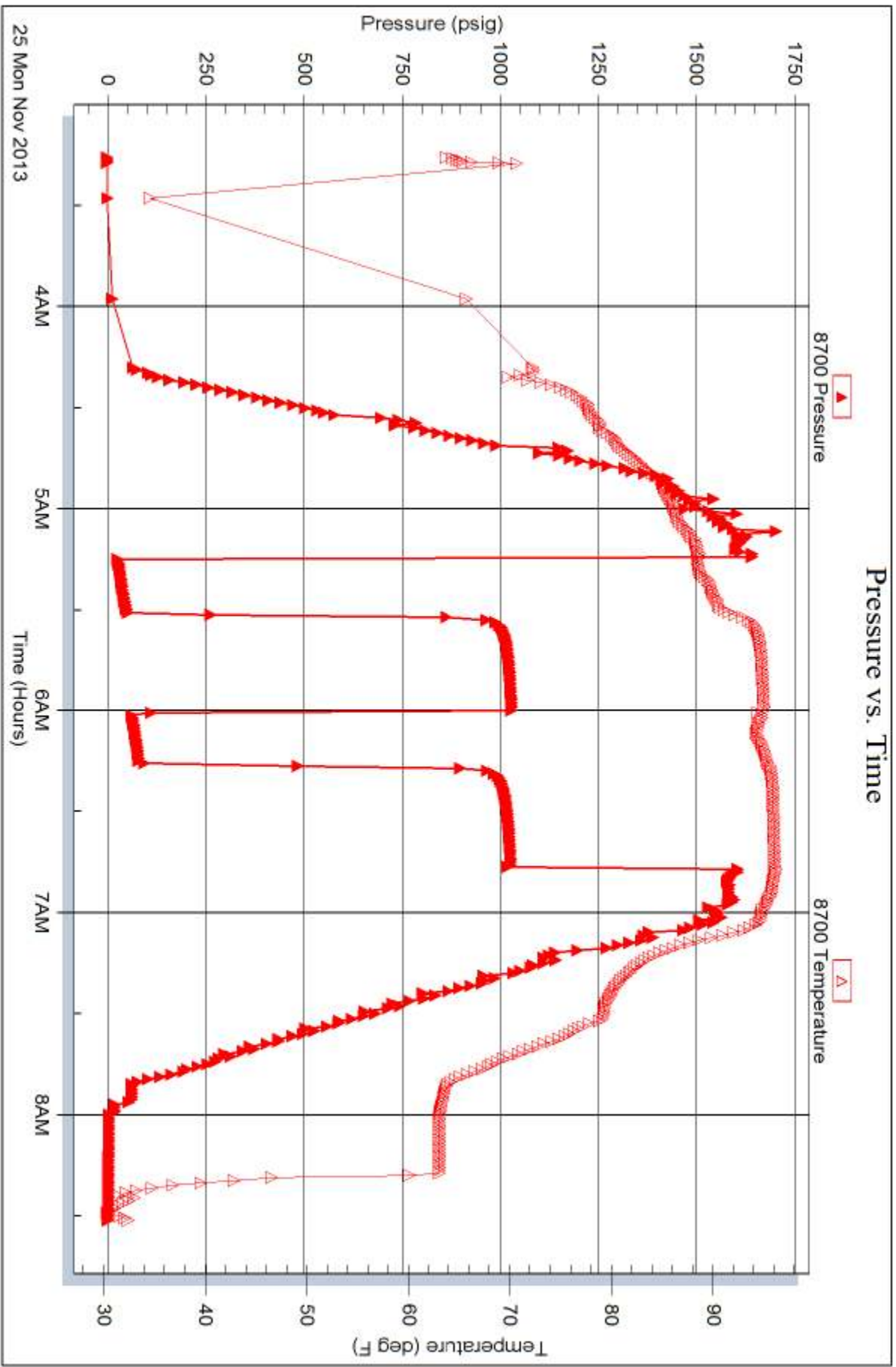


Serial #: 8700

Outside Craig Oil Company

H J Mai #6

DST Test Number: 1



Tribble Testing, Inc

Ref. No: 55451

Printed: 2013.11.26 @ 10:47:28



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 55451

Well Name & No. H.J. MAI #6 Test No. 1 Date 11-25-13
 Company Craig Oil Company Elevation 1920 KB 1913 GL
 Address 155 MAIN Russell, Ks 67665-2901
 Co. Rep / Geo. Bruce Basye, Ward Craig Rig Royalrig 2
 Location: Sec. 23 Twp. 15^s Rge. 14^w Co. Russell State Ks

Interval Tested 3316-3361 Zone Tested Arbuckle
 Anchor Length 45 Drill Pipe Run 3317 Mud Wt. 9
 Top Packer Depth 3311 Drill Collars Run - Vis 57
 Bottom Packer Depth 3316 Wt. Pipe Run - WL 8
 Total Depth 3361 Chlorides 4000 ppm System LCM 2#

Blow Description IFP - WEAK TO STRONG IN 12 MIN
ISIP - SURFACE BLOW BACK
FFP - WEAK TO STRONG IN 14 MIN
FSTP - SURFACE BLOW BACK

| Rec | Feet of | %gas | %oil | %water | %mud |
|------------|---------------|-----------|-----------|--------|-----------|
| <u>785</u> | <u>GIP</u> | | | | |
| <u>30</u> | <u>CO</u> | | | | |
| <u>115</u> | <u>HO+6CM</u> | <u>10</u> | <u>25</u> | | <u>65</u> |
| | | | | | |
| | | | | | |

Rec Total 145 BHT 96 Gravity 37 API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 1596 Test 1150 T-On Location 0100
 (B) First Initial Flow 21 Jars T-Started 0315
 (C) First Final Flow 54 Safety Joint 75 T-Open 0515
 (D) Initial Shut-In 1031 Circ Sub T-Pulled 0645
 (E) Second Initial Flow 56 Hourly Standby T-Out 0832
 (F) Second Final Flow 80 Mileage 66RT 102.30 Comments
 (G) Final Shut-In 1030 Sampler
 (H) Final Hydrostatic 1580 Straddle Ruined Shale Packer
 Shale Packer Ruined Packer
 Extra Packer Extra Copies

Initial Open 15
 Initial Shut-In 30
 Final Flow 15
 Final Shut-In 30
 Sub Total 0
 Total 1327.30
 MP/DST Disc't

Approved By Bruce D. Basye Our Representative RAY Schwager Hand 404
 Sub Total 1327.30

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