Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1252997

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 # 5135
Name: Farmer, John O., Inc.
Address 1: 370 W WICHITA AVE
Address 2: PO BOX 352
City: RUSSELL State: KS Zip: 67665 + 2635
Contact Person: Marge Schulte
Phone: ( 785 ) 483-3144
CONTRACTOR: License # 5135
Name: Farmer, John O., Inc.
Wellsite Geologist: Austin Klaus
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 #:

01/28/2015 — Spud Date or Recompletion Date
02/03/2015 — Date Reached TD
02/04/2015 — Completion Date or Recompletion Date

API No. 15 - 15-065-24096-00-00
Spot Description: E2 NW NE SE
E2 - NW - NE - SE Sec. 16 Twp. 9 S. R. 22 ☐ East ☑ West
2310 Feet from ☐ North / ☑ South Line of Section
665 Feet from ☑ East / ☐ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☑ SE ☐ SW
GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Graham
Lease Name: McCall B Well #: 1
Field Name: Wildcat
Producing Formation: None
Elevation: Ground: 2328 Kelly Bushing: 2333
Total Vertical Depth: 4010 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 218 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: 39000 ppm Fluid volume: 700 bbls
Dewatering method used: Evaporated
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: 05/22/2015
☑ **Confidential Release Date:** 05/21/2017
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
**ALT** ☐ I ☑ II ☐ III **Approved by:** NAOMI JAMES **Date:** 05/26/2015

1252997

Operator Name: Farmer, John O., Inc. Lease Name: McCall B Well #: 1

Sec. 16 Twp. 9 S. R. 22 ☐ East ☑ West County: Graham

**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 ☑ Yes ☐ No
*(Attach Additional Sheets)*

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

List All E. Logs Run:

Compensated Density Neutron Log
Micro Resistivity Log
Dual Induction Log

☑ Log Formation (Top), Depth and Datum ☐ Sample

| Name | Top | Datum |
|---|---|---|
| Anhydrite | 1859' | (+474) |
| Topeka | 3333' | (-1000) |
| Heebner | 3550' | (-1217 |
| Lansing | 3590' | (-1257) |
| Base/KC | 3810' | (-1477) |
| Arbuckle | 3942' | (-1609) |
| L.T.D. | 4010' | (-1677) |

CASING RECORD ☑ New ☐ 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 |
|---|---|---|---|---|---|---|---|
| Surface | 12.25 | 8.625 | 23 | 218 | Common | 150 | 3% C.C., 2% gel |
| | | | | | | | |
| | | | | | | | |

ADDITIONAL CEMENTING / SQUEEZE RECORD

| Purpose: | Depth Top Bottom | Type of Cement | # Sacks Used | Type and Percent Additives |
|---|---|---|---|---|
| ___ Perforate<br>___ Protect Casing<br>___ Plug Back TD<br>___ 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 *(Amount and Kind of Material Used)* | 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:
☐ Vented ☐ Sold ☐ Used on Lease
*(If vented, Submit ACO-18.)*

METHOD OF COMPLETION:
☐ Open Hole ☐ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*
☐ Other *(Specify)* _____

PRODUCTION INTERVAL:
_____
_____

| | |
|---|---|
| Form | ACO1 - Well Completion |
| Operator | Farmer, John O., Inc. |
| Well Name | McCall B 1 |
| Doc ID | 1252997 |

Casing

| Purpose Of String | Size Hole Drilled | Size Casing Set | Weight | Setting Depth | Type Of Cement | Number of Sacks Used | Type and Percent Additives |
|---|---|---|---|---|---|---|---|
| Surface | 12.25 | 8.625 | 23 | 218 | Common | 150 | 3% C.C., 2% gel |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025 Home Office P.O. Box 32 Russell, KS 67665 No. 1381

Cell 785-324-1041

| Date | Sec. | Twp. | Range | County | State | On Location | Finish |
|---|---|---|---|---|---|---|---|
| 1-28-15 | 16 | 9 | 22 | Graham | Ks | | 7:45PM |

Location Palco Red line, 11w, 2½N, wn2

Lease McCall R Well No. 1

Contractor WW 6

Type Job Surface

Hole Size 12¼ T.D. 218

Csg. 8⅝ Depth 218

Tbg. Size Depth

Tool Depth

Cement Left in Csg. Shoe Joint 20

Meas Line Displace 12½ bbl

**EQUIPMENT**

Pumptrk 17 No. Cementer / Helper Lonnie W.

Bulktrk 14 No. Driver / Driver Ryan

Bulktrk PH No. Driver / Driver Travis

**JOB SERVICES & REMARKS**

Remarks: Cement did circulate

Rat Hole

Mouse Hole

Centralizers

Baskets

D/V or Port Collar

X Signature Mark Bose

Owner

To Quality Oilwell Cementing, Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Charge To John O Farmer

Street

City State

The above was done to satisfaction and supervision of owner agent or contractor.

Cement Amount Ordered 150 sx com 3%cc 2%gel

| | |
|---|---|
| Common | |
| Poz. Mix | |
| Gel. | |
| Calcium | |
| Hulls | |
| Salt | |
| Flowseal | |
| Kol-Seal | |
| Mud CLR 48 | |
| CFL-117 or CD110 CAF 38 | |
| Sand | |
| Handling | |
| Mileage | |
| **FLOAT EQUIPMENT** | |
| Guide Shoe | |
| Centralizer | |
| Baskets | |
| AFU Inserts | |
| Float Shoe | |
| Latch Down | |
| | |
| Pumptrk Charge | |
| Mileage | |
| Tax | |
| Discount | |
| Total Charge | |

# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025 Home Office P.O. Box 32 Russell, KS 67665 No. 1384

Cell 785-324-1041

| Date | Sec. | Twp. | Range | County | State | On Location | Finish |
|---|---|---|---|---|---|---|---|
| 2-4-15 | 16 | 9 | 22 | Graham | KS | | 7:45 PM |

Location: Wakeeny N to Redline; E, 2½N

Lease McCall B Well No. 1

Contractor W W 6

Type Job Plug

Hole Size 7⅞ T.D. 4010

Csg. Depth

Tbg. Size Depth

Tool Depth

Cement Left in Csg. Shoe Joint

Meas Line Displace

**EQUIPMENT**

Pumptrk 20 No. Cementer / Helper Nick

Bulktrk 3 No. Driver / Driver Ryan

Bulktrk P4 No. Driver / Driver Travis

**JOB SERVICES & REMARKS**

Remarks:

Rat Hole

Mouse Hole

Centralizers

Baskets

D/V or Port Collar

50sx at 3923

50 sx at 1900

100 sx at 1075

50sx at 275

10 sx at 40 with plug

30 sx RAT

Owner

To Quality Oilwell Cementing, Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Charge To John O Farmer

Street

City State

The above was done to satisfaction and supervision of owner agent or contractor.

Cement Amount Ordered 290 sx 60/40, 4% gel ¼# Flo

Common

Poz. Mix

Gel.

Calcium

Hulls

Salt

Flowseal

Kol-Seal

Mud CLR 48

CFL-117 or CD110 CAF 38

Sand

Handling

Mileage

**FLOAT EQUIPMENT**

Guide Shoe

Centralizer

Baskets

AFU Inserts

Float Shoe

Latch Down

Pumptrk Charge

Mileage

Tax

Discount

Total Charge

X Signature Maul Rigg

TRILOBITE TESTING, INC.

# DRILL STEM TEST REPORT

Prepared For: **John O Farmer**

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**McCall B #1**

**16-9s-22w Graham,KS**

Start Date: 2015.02.01 @ 11:55:00
End Date: 2015.02.01 @ 17:15:00
Job Ticket #: 53842 DST #: 1

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

Printed: 2015.02.05 @ 09:21:37

# DRILL STEM TEST REPORT

John O Farmer

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**16-9s-22w Graham,KS**

**McCall B #1**

Job Ticket: 53842 **DST#: 1**

Test Start: 2015.02.01 @ 11:55:00

## GENERAL INFORMATION:

Formation: **KC "C-D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened:
Time Test Ended: 17:15:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Brett Dickinson
Unit No: 59

**Interval: 3616.00 ft (KB) To 3654.00 ft (KB) (TVD)**
Total Depth: 3654.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

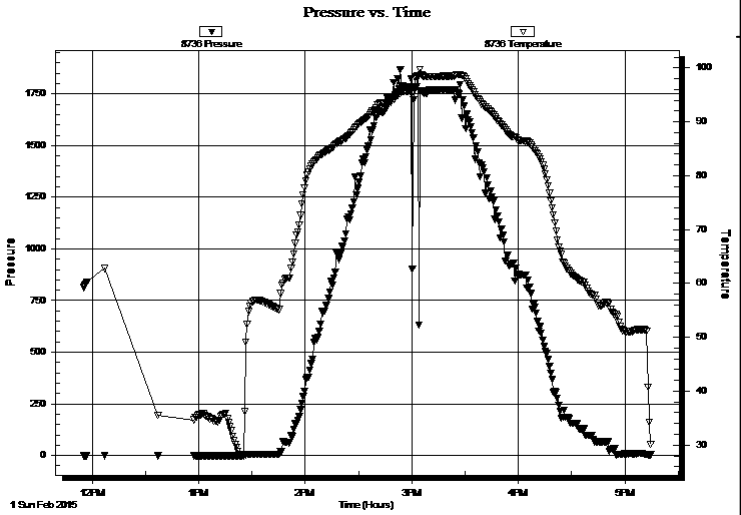
Reference Elevations: 2333.00 ft (KB)
2328.00 ft (CF)
KB to GR/CF: 5.00 ft

**Serial #: 8736** **Inside**

Press@RunDepth: psig @ 3617.00 ft (KB)
Start Date: 2015.02.01 End Date: 2015.02.01
Start Time: 11:55:05 End Time: 17:14:59

Capacity: 8000.00 psig
Last Calib.: 2015.02.01
Time On Btm:
Time Off Btm:

TEST COMMENT: IF-Packer Failure




## PRESSURE SUMMARY

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

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 380.00 | Mud | 4.22 |
| | | |
| | | |
| | | |
| | | |
| | | |

## Gas Rates

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

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

John O Farmer

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**16-9s-22w Graham,KS**

**McCall B #1**

Job Ticket: 53842 **DST#: 1**

Test Start: 2015.02.01 @ 11:55:00

## Tool Information

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Drill Pipe: | Length: | 3492.00 ft | Diameter: | 3.80 inches | Volume: | 48.98 bbl | Tool Weight: | | 2000.00 lb |
| Heavy Wt. Pipe: | Length: | ft | Diameter: | 2.70 inches | Volume: | - bbl | Weight set on Packer: | | 25000.00 lb |
| Drill Collar: | Length: | 122.00 ft | Diameter: | 2.25 inches | Volume: | 0.60 bbl | Weight to Pull Loose: | | 33000.00 lb |
| | | | | | Total Volume: | - bbl | Tool Chased | | 0.00 ft |
| Drill Pipe Above KB: | | 18.00 ft | | | | | String Weight: | Initial | 32000.00 lb |
| Depth to Top Packer: | | 3616.00 ft | | | | | | Final | 33000.00 lb |
| Depth to Bottom Packer: | | ft | | | | | | | |
| Interval betw een Packers: | | 38.00 ft | | | | | | | |
| Tool Length: | | 58.00 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 | | | 3601.00 | | |
| Hydraulic tool | 5.00 | | | 3606.00 | | |
| Packer | 5.00 | | | 3611.00 | 20.00 | Bottom Of Top Packer |
| Packer | 5.00 | | | 3616.00 | | |
| Stubb | 1.00 | | | 3617.00 | | |
| Recorder | 0.00 | 8736 | Inside | 3617.00 | | |
| Recorder | 0.00 | 8957 | Outside | 3617.00 | | |
| Perforations | 1.00 | | | 3618.00 | | |
| Change Over Sub | 1.00 | | | 3619.00 | | |
| Drill Pipe | 31.00 | | | 3650.00 | | |
| Change Over Sub | 1.00 | | | 3651.00 | | |
| Bullnose | 3.00 | | | 3654.00 | 38.00 | Bottom Packers & Anchor |
| **Total Tool Length:** | **58.00** | | | | | |

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

John O Farmer

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**16-9s-22w Graham,KS**

**McCall B #1**

Job Ticket: 53842 **DST#: 1**

Test Start: 2015.02.01 @ 11:55:00

## 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: | 61.00 sec/qt | Cushion Volume: | bbl | | |
| Water Loss: | 7.17 in³ | Gas Cushion Type: | | | |
| Resistivity: | ohm.m | Gas Cushion Pressure: | psig | | |
| Salinity: | 1300.00 ppm | | | | |
| Filter Cake: | inches | | | | |

## Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|---|---|---|
| 380.00 | Mud | 4.219 |

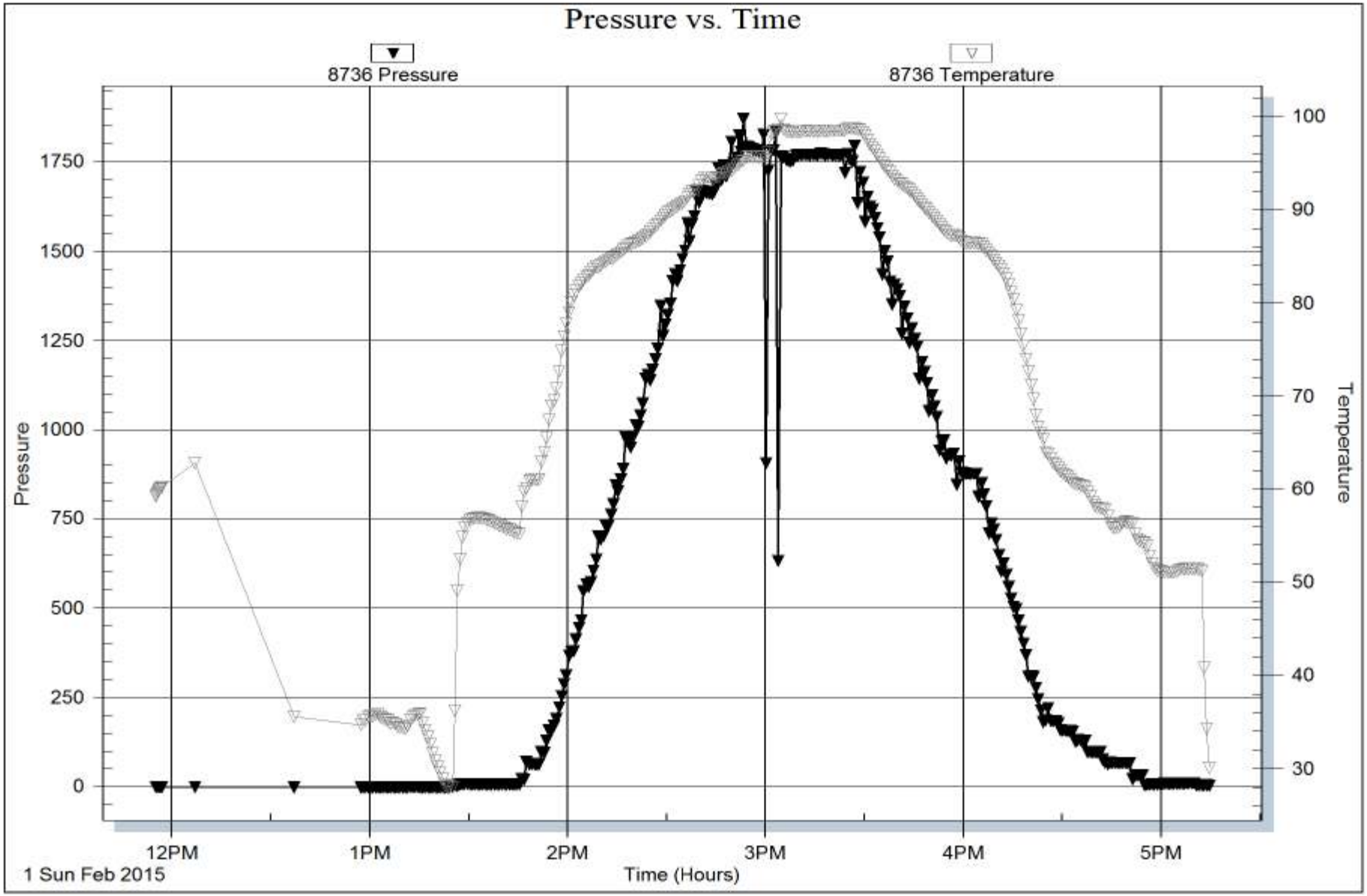
Total Length: 380.00 ft Total Volume: 4.219 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: Packer Falure

Serial #: 8736 **Inside** John O Farmer McCall B #1 DST Test Number: 1




Trilobite Testing, Inc Ref. No: 53842 Printed: 2015.02.05 @ 09:21:38

TRILOBITE TESTING, INC.

# DRILL STEM TEST REPORT

Prepared For: **John O Farmer**

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**McCall B #1**

**16-9s-22w Graham,KS**

Start Date: 2015.02.01 @ 17:40:00
End Date: 2015.02.01 @ 21:59:45
Job Ticket #: 53843 DST #: 2

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

Printed: 2015.02.05 @ 09:21:15

# DRILL STEM TEST REPORT

John O Farmer

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**16-9s-22w Graham,KS**

**McCall B #1**

Job Ticket: 53843 **DST#: 2**

Test Start: 2015.02.01 @ 17:40:00

## GENERAL INFORMATION:

Formation: **KC"C-D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened:
Time Test Ended: 21:59:45

Test Type: Conventional Bottom Hole (Reset)
Tester: Brett Dickinson
Unit No: 59

**Interval: 3608.00 ft (KB) To 3654.00 ft (KB) (TVD)**
Total Depth: 3654.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

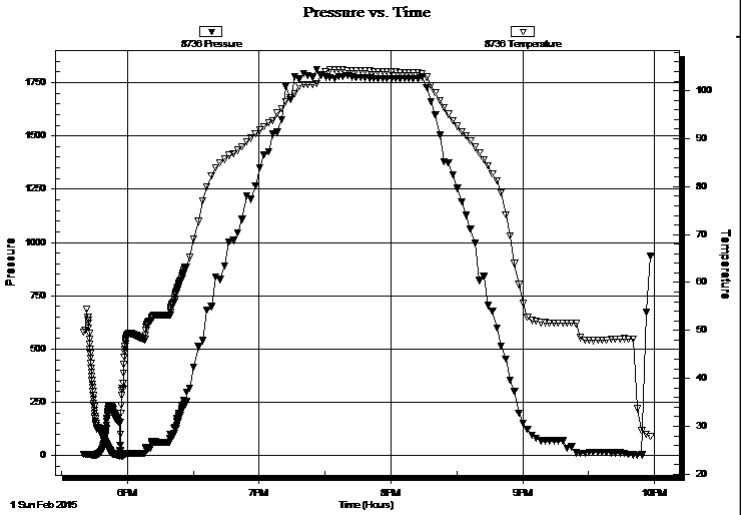
Reference Elevations: 2333.00 ft (KB)
2328.00 ft (CF)
KB to GR/CF: 5.00 ft

**Serial #: 8736** **Inside**

Press@RunDepth: psig @ 3609.00 ft (KB)
Start Date: 2015.02.01 End Date: 2015.02.01
Start Time: 17:40:05 End Time: 21:59:44

Capacity: 8000.00 psig
Last Calib.: 2015.02.01
Time On Btm:
Time Off Btm:

TEST COMMENT: IF- Packer-Failure




## PRESSURE SUMMARY

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

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 190.00 | | 1.55 |
| | | |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

## Gas Rates

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

# DRILL STEM TEST REPORT

John O Farmer

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**16-9s-22w Graham,KS**

**McCall B #1**

Job Ticket: 53843 **DST#: 2**

Test Start: 2015.02.01 @ 17:40:00

## GENERAL INFORMATION:

Formation: **KC"C-D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened:
Time Test Ended: 21:59:45

Test Type: Conventional Bottom Hole (Reset)
Tester: Brett Dickinson
Unit No: 59

**Interval: 3608.00 ft (KB) To 3654.00 ft (KB) (TVD)**
Total Depth: 3654.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

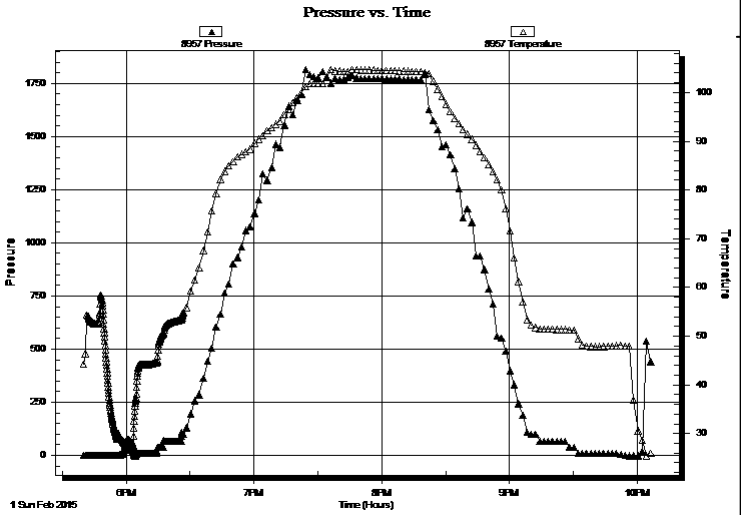
Reference Elevations: 2333.00 ft (KB)
2328.00 ft (CF)
KB to GR/CF: 5.00 ft

**Serial #: 8957** **Outside**

Press@RunDepth: psig @ 3609.00 ft (KB)
Start Date: 2015.02.01 End Date: 2015.02.01
Start Time: 17:40:05 End Time: 22:06:29

Capacity: 8000.00 psig
Last Calib.: 2015.02.01
Time On Btm:
Time Off Btm:

TEST COMMENT: IF- Packer-Failure




## PRESSURE SUMMARY

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

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 190.00 | | 1.55 |
| | | |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

## Gas Rates

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

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

John O Farmer

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**16-9s-22w Graham,KS**

**McCall B #1**

Job Ticket: 53843 **DST#: 2**

Test Start: 2015.02.01 @ 17:40:00

## Tool Information

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Drill Pipe: | Length: | 3488.00 ft | Diameter: | 3.80 inches | Volume: | 48.93 bbl | Tool Weight: | | 2000.00 lb |
| Heavy Wt. Pipe: | Length: | ft | Diameter: | 2.70 inches | Volume: | - bbl | Weight set on Packer: | | 25000.00 lb |
| Drill Collar: | Length: | 122.00 ft | Diameter: | 2.25 inches | Volume: | 0.60 bbl | Weight to Pull Loose: | | 33000.00 lb |
| | | | | | Total Volume: | - bbl | Tool Chased | | 0.00 ft |
| Drill Pipe Above KB: | | 22.00 ft | | | | | String Weight: | Initial | 32000.00 lb |
| Depth to Top Packer: | | 3608.00 ft | | | | | | Final | 33000.00 lb |
| Depth to Bottom Packer: | | ft | | | | | | | |
| Interval betw een Packers: | | 46.00 ft | | | | | | | |
| Tool Length: | | 66.00 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 | | | 3593.00 | | |
| Hydraulic tool | 5.00 | | | 3598.00 | | |
| Packer | 5.00 | | | 3603.00 | 20.00 | Bottom Of Top Packer |
| Packer | 5.00 | | | 3608.00 | | |
| Stubb | 1.00 | | | 3609.00 | | |
| Recorder | 0.00 | 8736 | Inside | 3609.00 | | |
| Recorder | 0.00 | 8957 | Outside | 3609.00 | | |
| Perforations | 9.00 | | | 3618.00 | | |
| Change Over Sub | 1.00 | | | 3619.00 | | |
| Drill Pipe | 31.00 | | | 3650.00 | | |
| Change Over Sub | 1.00 | | | 3651.00 | | |
| Bullnose | 3.00 | | | 3654.00 | 46.00 | Bottom Packers & Anchor |
| **Total Tool Length:** | **66.00** | | | | | |

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

John O Farmer

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**16-9s-22w Graham,KS**

**McCall B #1**

Job Ticket: 53843 **DST#: 2**

Test Start: 2015.02.01 @ 17:40:00

## 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: | 61.00 sec/qt | Cushion Volume: | bbl | | |
| Water Loss: | 7.18 in³ | Gas Cushion Type: | | | |
| Resistivity: | ohm.m | Gas Cushion Pressure: | psig | | |
| Salinity: | 1300.00 ppm | | | | |
| Filter Cake: | inches | | | | |

## Recovery Information

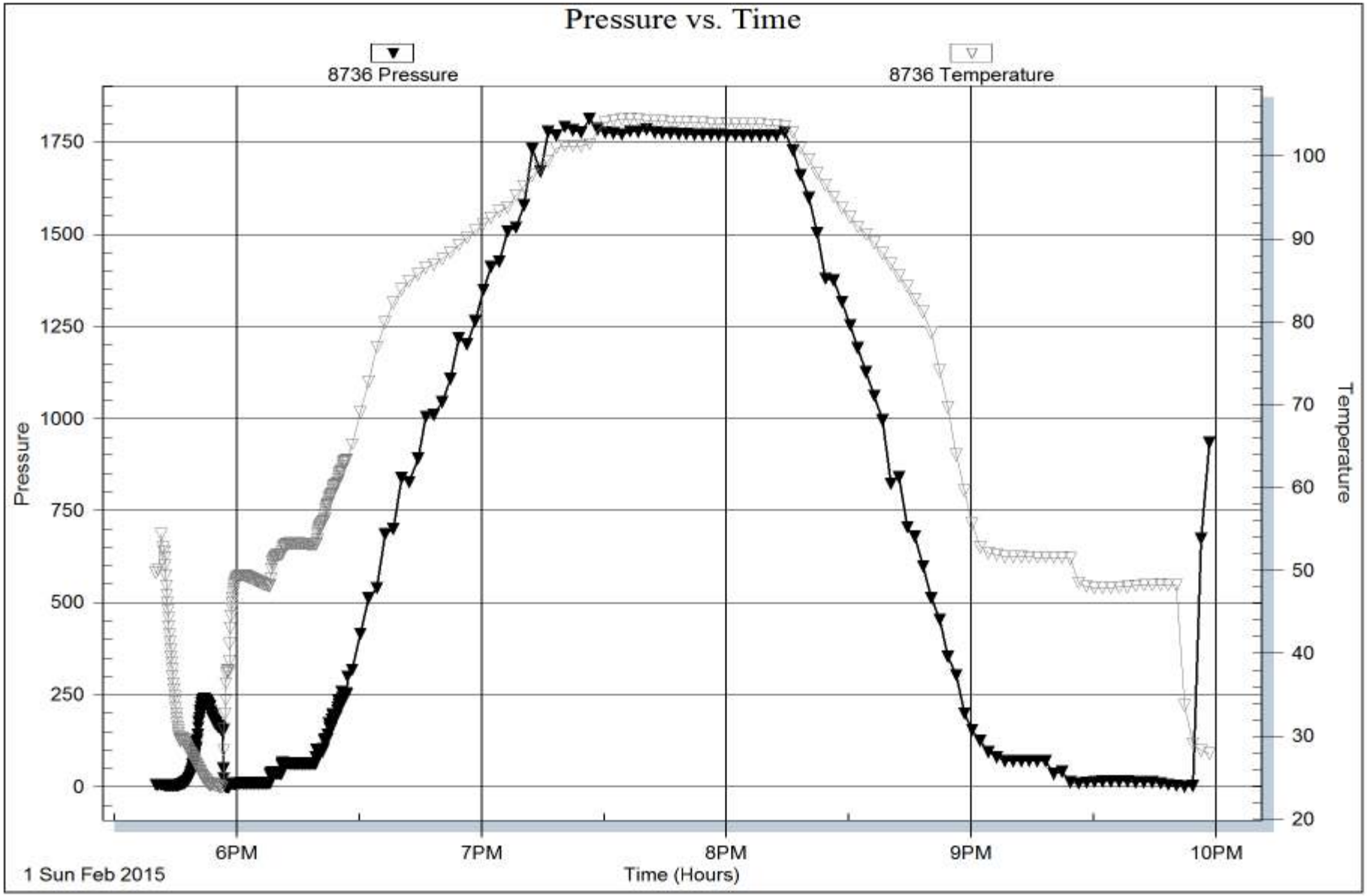
Recovery Table

| Length ft | Description | Volume bbl |
|---|---|---|
| 190.00 | | 1.554 |

Total Length: 190.00 ft Total Volume: 1.554 bbl

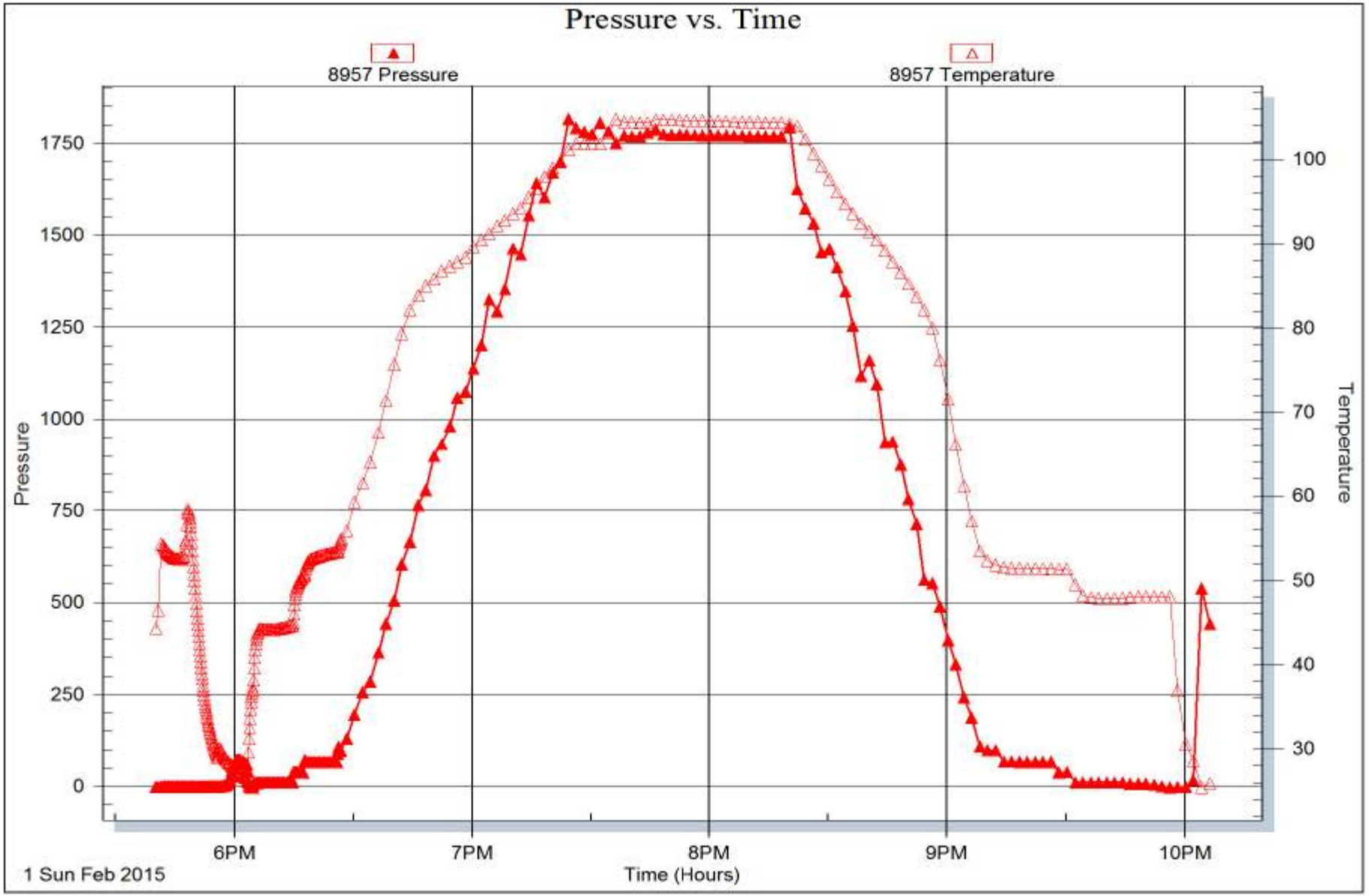
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8736 **Inside** John O Farmer McCall B #1 DST Test Number: 2




Trilobite Testing, Inc Ref. No: 53843 Printed: 2015.02.05 @ 09:21:16

Serial #: 8957 **Outside** John O Farmer McCall B #1 DST Test Number: 2




Trilobite Testing, Inc Ref. No: 53843 Printed: 2015.02.05 @ 09:21:16

TRILOBITE TESTING, INC.

# DRILL STEM TEST REPORT

Prepared For: **John O Farmer**

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**McCall B #1**

**16-9s-22w Graham,KS**

Start Date: 2015.02.02 @ 07:40:00
End Date: 2015.02.02 @ 13:37:15
Job Ticket #: 53844 DST #: 3

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

Printed: 2015.02.05 @ 09:20:50

# DRILL STEM TEST REPORT

John O Farmer

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**16-9s-22w Graham,KS**

**McCall B #1**

Job Ticket: 53844 **DST#: 3**

Test Start: 2015.02.02 @ 07:40:00

## GENERAL INFORMATION:

Formation: **KC "F"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:54:15
Time Test Ended: 13:37:15

Test Type: Conventional Bottom Hole (Reset)
Tester: Brett Dickinson
Unit No: 59

**Interval: 3665.00 ft (KB) To 3682.00 ft (KB) (TVD)**
Total Depth: 3682.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

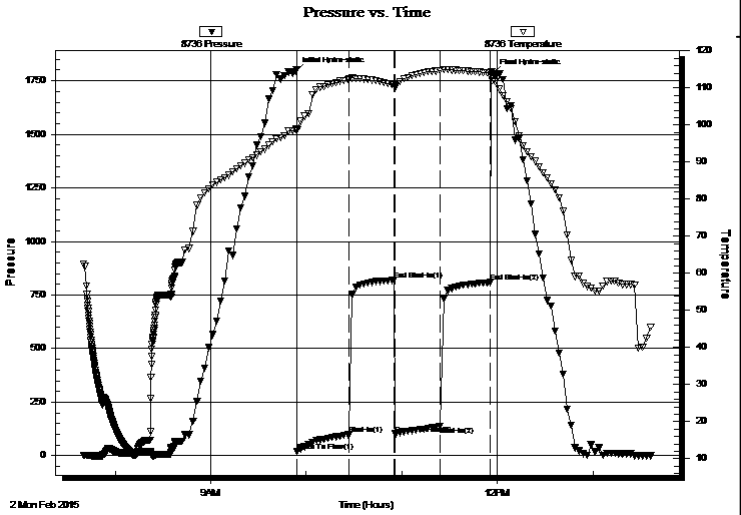
Reference Elevations: 2333.00 ft (KB)
2328.00 ft (CF)
KB to GR/CF: 5.00 ft

**Serial #: 8736** **Inside**

Press@RunDepth: 136.61 psig @ 3666.00 ft (KB)
Start Date: 2015.02.02 End Date: 2015.02.02
Start Time: 07:40:05 End Time: 13:37:14

Capacity: 8000.00 psig
Last Calib.: 2015.02.02
Time On Btm: 2015.02.02 @ 09:53:15
Time Off Btm: 2015.02.02 @ 11:57:00

TEST COMMENT: IF-BOB in 29 min
ISI-No blow
FF-8in blow
FSI-No blow




## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 1791.92 | 98.81 | Initial Hydro-static |
| 1 | 20.80 | 98.72 | Open To Flow (1) |
| 34 | 98.61 | 112.39 | Shut-In(1) |
| 62 | 818.59 | 110.80 | End Shut-In(1) |
| 63 | 102.06 | 110.47 | Open To Flow (2) |
| 91 | 136.61 | 114.74 | Shut-In(2) |
| 123 | 808.72 | 114.08 | End Shut-In(2) |
| 124 | 1785.30 | 112.03 | Final Hydro-static |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 25.00 | VSMCW 5%M 95%W | 0.12 |
| | | |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

## Gas Rates

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

# DRILL STEM TEST REPORT

John O Farmer

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**16-9s-22w Graham,KS**

**McCall B #1**

Job Ticket: 53844 **DST#: 3**

Test Start: 2015.02.02 @ 07:40:00

## GENERAL INFORMATION:

Formation: **KC "F"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:54:15
Time Test Ended: 13:37:15

Test Type: Conventional Bottom Hole (Reset)
Tester: Brett Dickinson
Unit No: 59

**Interval: 3665.00 ft (KB) To 3682.00 ft (KB) (TVD)**
Total Depth: 3682.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

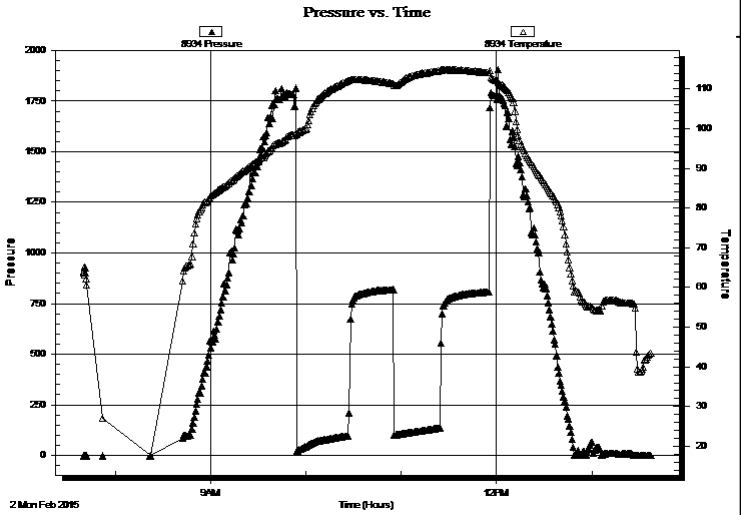
Reference Elevations: 2333.00 ft (KB)
2328.00 ft (CF)
KB to GR/CF: 5.00 ft

**Serial #: 8934**

Press@RunDepth: psig @ ft (KB)
Start Date: 2015.02.02 End Date: 2015.02.02
Start Time: 07:40:05 End Time: 13:37:29

Capacity: 8000.00 psig
Last Calib.: 2015.02.02
Time On Btm:
Time Off Btm:

TEST COMMENT: IF-BOB in 29 min
ISI-No blow
FF-8in blow
FSI-No blow




## PRESSURE SUMMARY

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

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 25.00 | VSMCW 5%M 95%W | 0.12 |
| | | |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

## Gas Rates

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

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

John O Farmer

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**16-9s-22w Graham,KS**

**McCall B #1**

Job Ticket: 53844 **DST#: 3**

Test Start: 2015.02.02 @ 07:40:00

## Tool Information

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Drill Pipe: | Length: | 3552.00 ft | Diameter: | 3.80 | inches | Volume: | 49.83 | bbl | |
| Heavy Wt. Pipe: | Length: | ft | Diameter: | 2.70 | inches | Volume: | - | bbl | |
| Drill Collar: | Length: | 122.00 ft | Diameter: | 2.25 | inches | Volume: | 0.60 | bbl | |
| | | | | | | Total Volume: | - | bbl | |

| | |
|---|---|
| Drill Pipe Above KB: | 29.00 ft |
| Depth to Top Packer: | 3665.00 ft |
| Depth to Bottom Packer: | ft |
| Interval betw een Packers: | 17.00 ft |
| Tool Length: | 37.00 ft |
| Number of Packers: | 2 Diameter: 6.75 inches |

| | | |
|---|---|---|
| Tool Weight: | | 2000.00 lb |
| Weight set on Packer: | | 25000.00 lb |
| Weight to Pull Loose: | | 35000.00 lb |
| Tool Chased | | 0.00 ft |
| String Weight: | Initial | 33000.00 lb |
| | Final | 34000.00 lb |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths | |
|---|---|---|---|---|---|---|
| Shut In Tool | 5.00 | | | 3650.00 | | |
| Hydraulic tool | 5.00 | | | 3655.00 | | |
| Packer | 5.00 | | | 3660.00 | 20.00 | Bottom Of Top Packer |
| Packer | 5.00 | | | 3665.00 | | |
| Packer - Shale | 0.00 | | | 3665.00 | | |
| Stubb | 1.00 | | | 3666.00 | | |
| Recorder | 0.00 | 8736 | Inside | 3666.00 | | |
| Recorder | 0.00 | 8957 | Outside | 3666.00 | | |
| Perforations | 13.00 | | | 3679.00 | | |
| Bullnose | 3.00 | | | 3682.00 | 17.00 | Bottom Packers & Anchor |
| **Total Tool Length:** | **37.00** | | | | | |

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

John O Farmer

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**16-9s-22w Graham,KS**

**McCall B #1**

Job Ticket: 53844 **DST#: 3**

Test Start: 2015.02.02 @ 07:40:00

## 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: | 43000 ppm |
| Viscosity: | 61.00 sec/qt | Cushion Volume: | bbl | | |
| Water Loss: | 7.17 in³ | Gas Cushion Type: | | | |
| Resistivity: | ohm.m | Gas Cushion Pressure: | psig | | |
| Salinity: | 1300.00 ppm | | | | |
| Filter Cake: | inches | | | | |

## Recovery Information

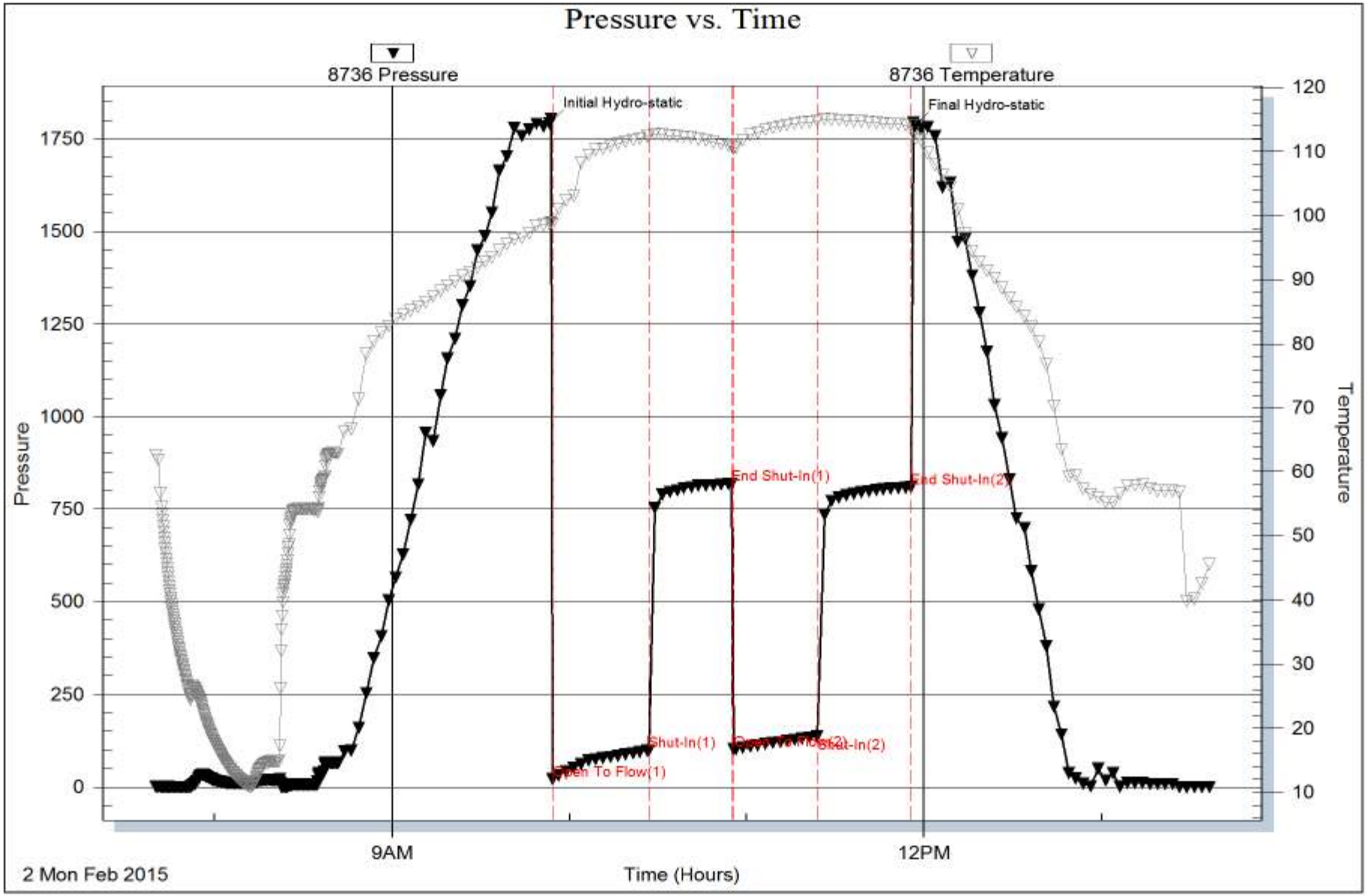
Recovery Table

| Length ft | Description | Volume bbl |
|---|---|---|
| 25.00 | VSMCW 5%M 95%W | 0.123 |

Total Length: 25.00 ft Total Volume: 0.123 bbl

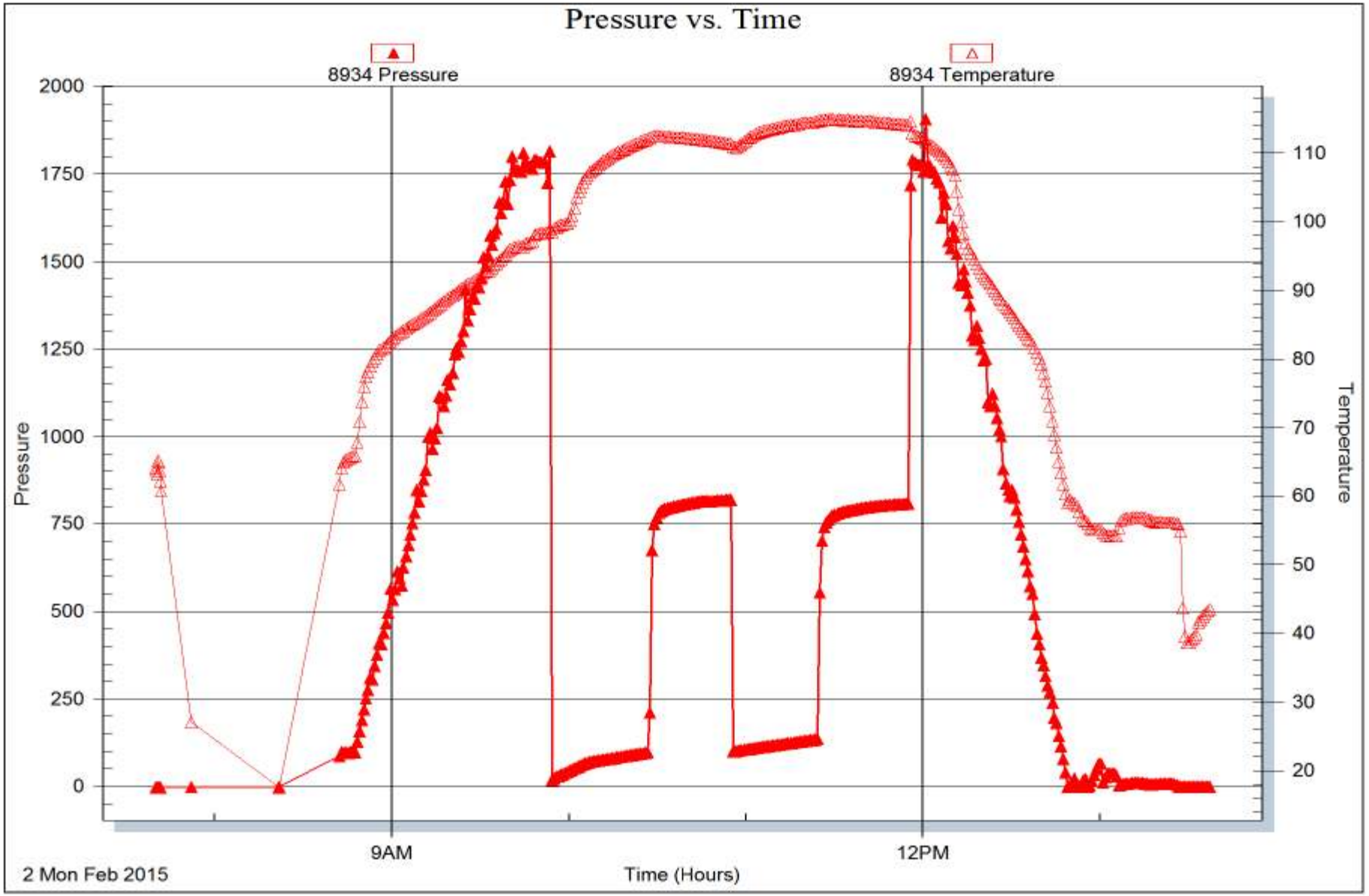
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8736 **Inside** John O Farmer McCall B #1 DST Test Number: 3




Trilobite Testing, Inc Ref. No: 53844 Printed: 2015.02.05 @ 09:20:52

Serial #: 8934 John O Farmer McCall B #1 DST Test Number: 3




Trilobite Testing, Inc Ref. No: 53844 Printed: 2015.02.05 @ 09:20:52

TRILOBITE TESTING, INC.

# DRILL STEM TEST REPORT

Prepared For: **John O Farmer**

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**McCall B #1**

**16-9s-22w Graham,KS**

Start Date: 2015.02.03 @ 03:10:00
End Date: 2015.02.03 @ 09:38:15
Job Ticket #: 53845 DST #: 4

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

Printed: 2015.02.05 @ 09:20:20

# DRILL STEM TEST REPORT

John O Farmer

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**16-9s-22w Graham,KS**

**McCall B #1**

Job Ticket: 53845 **DST#: 4**

Test Start: 2015.02.03 @ 03:10:00

## GENERAL INFORMATION:

Formation: **KC"H-K"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 06:00:15
Time Test Ended: 09:38:15

Test Type: Conventional Bottom Hole (Reset)
Tester: Brett Dickinson
Unit No: 59

**Interval: 3708.00 ft (KB) To 3806.00 ft (KB) (TVD)**
Total Depth: 3806.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

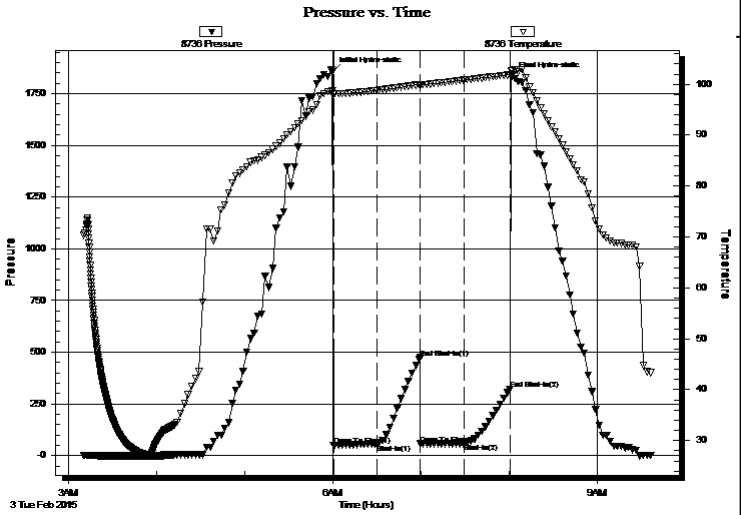
Reference Elevations: 2333.00 ft (KB)
2328.00 ft (CF)
KB to GR/CF: 5.00 ft

**Serial #: 8736** **Inside**

Press@RunDepth: 57.61 psig @ 3709.00 ft (KB)
Start Date: 2015.02.03 End Date: 2015.02.03
Start Time: 03:10:05 End Time: 09:38:14

Capacity: 8000.00 psig
Last Calib.: 2015.02.03
Time On Btm: 2015.02.03 @ 05:59:30
Time Off Btm: 2015.02.03 @ 08:02:00

TEST COMMENT: IF-1 3/4" blow
ISI-No blow
FF-Vey w eak surace blow
FSI-No blow




## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 1857.15 | 98.63 | Initial Hydro-static |
| 1 | 50.52 | 98.19 | Open To Flow (1) |
| 31 | 54.00 | 98.82 | Shut-In(1) |
| 60 | 473.51 | 99.95 | End Shut-In(1) |
| 60 | 56.13 | 99.79 | Open To Flow (2) |
| 90 | 57.61 | 100.82 | Shut-In(2) |
| 121 | 320.34 | 101.88 | End Shut-In(2) |
| 123 | 1834.69 | 102.76 | Final Hydro-static |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 15.00 | Mud | 0.07 |
| | | |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

## Gas Rates

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

# DRILL STEM TEST REPORT

John O Farmer

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**16-9s-22w Graham,KS**

**McCall B #1**

Job Ticket: 53845 **DST#: 4**

Test Start: 2015.02.03 @ 03:10:00

## GENERAL INFORMATION:

Formation: **KC"H-K"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 06:00:15
Time Test Ended: 09:38:15

Test Type: Conventional Bottom Hole (Reset)
Tester: Brett Dickinson
Unit No: 59

**Interval: 3708.00 ft (KB) To 3806.00 ft (KB) (TVD)**
Total Depth: 3806.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

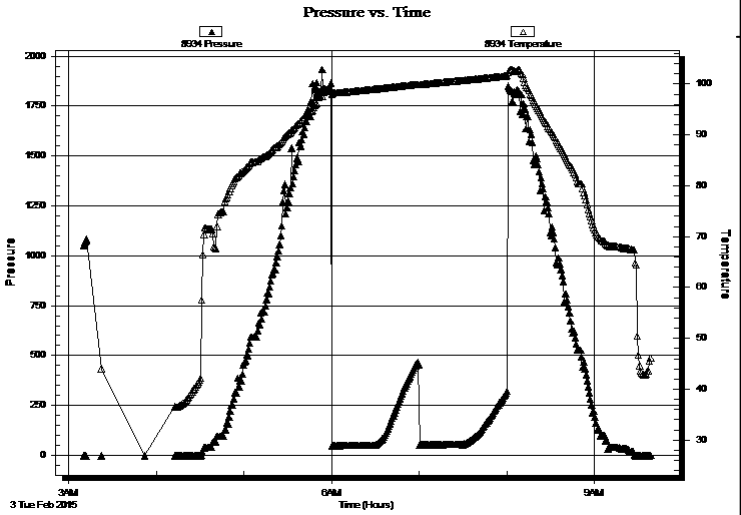
Reference Elevations: 2333.00 ft (KB)
2328.00 ft (CF)
KB to GR/CF: 5.00 ft

**Serial #: 8934** **Outside**

Press@RunDepth: psig @ 3709.00 ft (KB)
Start Date: 2015.02.03 End Date: 2015.02.03
Start Time: 03:10:05 End Time: 09:38:29

Capacity: 8000.00 psig
Last Calib.: 2015.02.03
Time On Btm:
Time Off Btm:

TEST COMMENT: IF-1 3/4" blow
ISI-No blow
FF-Vey w eak surace blow
FSI-No blow




## PRESSURE SUMMARY

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

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 15.00 | Mud | 0.07 |
| | | |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

## Gas Rates

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

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

John O Farmer

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**16-9s-22w Graham,KS**

**McCall B #1**

Job Ticket: 53845 **DST#: 4**

Test Start: 2015.02.03 @ 03:10:00

## Tool Information

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Drill Pipe: | Length: | 3583.00 ft | Diameter: | 3.80 inches | Volume: | 50.26 bbl | Tool Weight: | | 2000.00 lb |
| Heavy Wt. Pipe: | Length: | ft | Diameter: | 2.70 inches | Volume: | - bbl | Weight set on Packer: | | 25000.00 lb |
| Drill Collar: | Length: | 122.00 ft | Diameter: | 2.25 inches | Volume: | 0.60 bbl | Weight to Pull Loose: | | 55000.00 lb |
| | | | | | Total Volume: | - bbl | Tool Chased | | 0.00 ft |
| Drill Pipe Above KB: | | 17.00 ft | | | | | String Weight: | Initial | 34000.00 lb |
| Depth to Top Packer: | | 3708.00 ft | | | | | | Final | 34000.00 lb |
| Depth to Bottom Packer: | | ft | | | | | | | |
| Interval betw een Packers: | | 98.00 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 | | | 3693.00 | | |
| Hydraulic tool | 5.00 | | | 3698.00 | | |
| Packer | 5.00 | | | 3703.00 | 20.00 | Bottom Of Top Packer |
| Packer | 5.00 | | | 3708.00 | | |
| Stubb | 1.00 | | | 3709.00 | | |
| Recorder | 0.00 | 8736 | Inside | 3709.00 | | |
| Recorder | 0.00 | 8934 | Outside | 3709.00 | | |
| Perforations | 5.00 | | | 3714.00 | | |
| Change Over Sub | 1.00 | | | 3715.00 | | |
| Drill Pipe | 64.00 | | | 3779.00 | | |
| Change Over Sub | 1.00 | | | 3780.00 | | |
| Perforations | 23.00 | | | 3803.00 | | |
| Bullnose | 3.00 | | | 3806.00 | 98.00 | Bottom Packers & Anchor |
| **Total Tool Length:** | **118.00** | | | | | |

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

John O Farmer

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**16-9s-22w Graham,KS**

**McCall B #1**

Job Ticket: 53845 **DST#: 4**

Test Start: 2015.02.03 @ 03:10:00

## Mud and Cushion Information

| | | | | | |
|---|---|---|---|---|---|
| Mud Type: | Gel Chem | Cushion Type: | | Oil API: | deg API |
| Mud Weight: | 9.00 lb/gal | Cushion Length: | ft | Water Salinity: | ppm |
| Viscosity: | 61.00 sec/qt | Cushion Volume: | bbl | | |
| Water Loss: | 7.17 in³ | Gas Cushion Type: | | | |
| Resistivity: | ohm.m | Gas Cushion Pressure: | psig | | |
| Salinity: | 1300.00 ppm | | | | |
| Filter Cake: | inches | | | | |

## Recovery Information

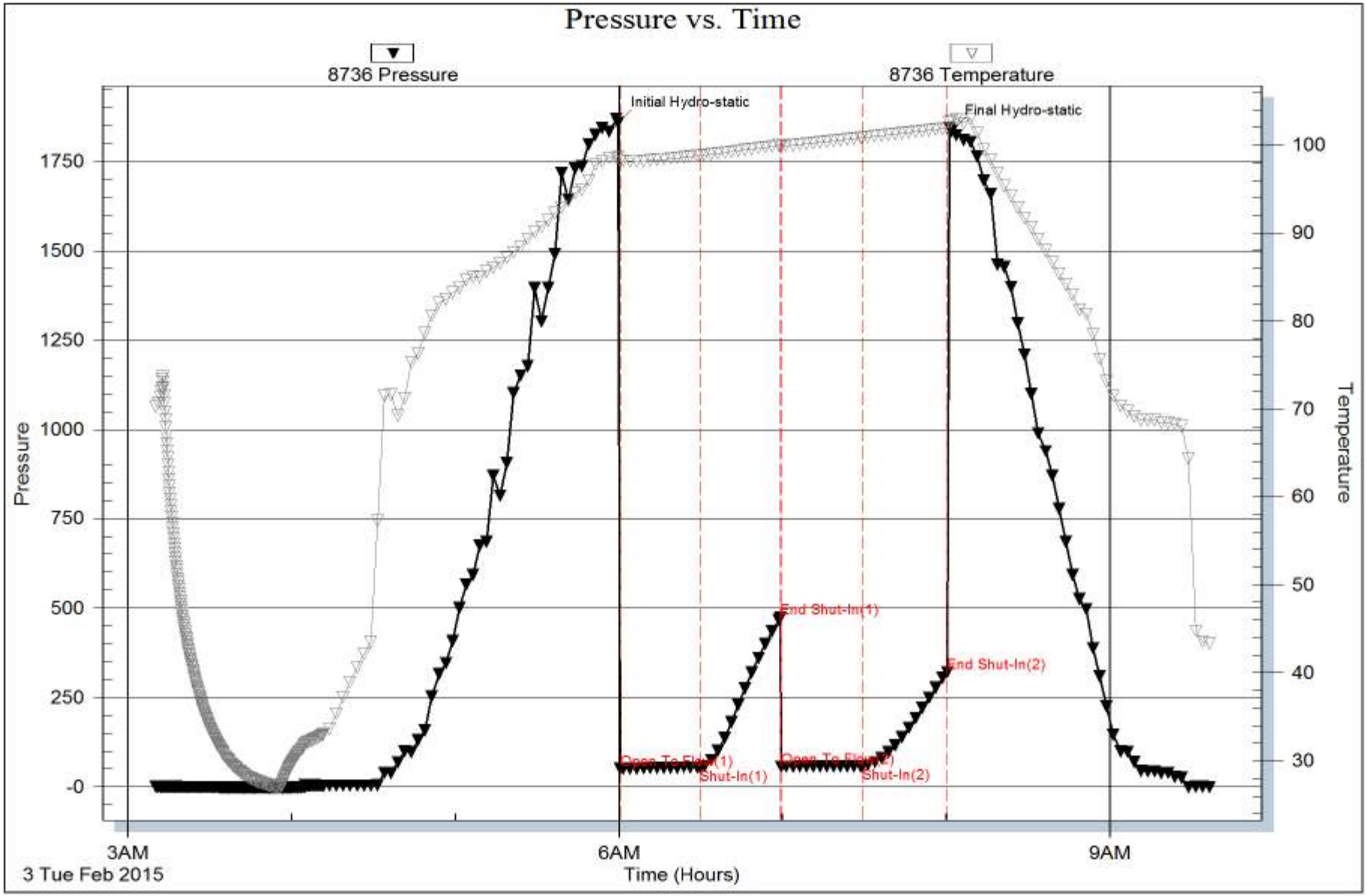
Recovery Table

| Length ft | Description | Volume bbl |
|---|---|---|
| 15.00 | Mud | 0.074 |

Total Length: 15.00 ft Total Volume: 0.074 bbl

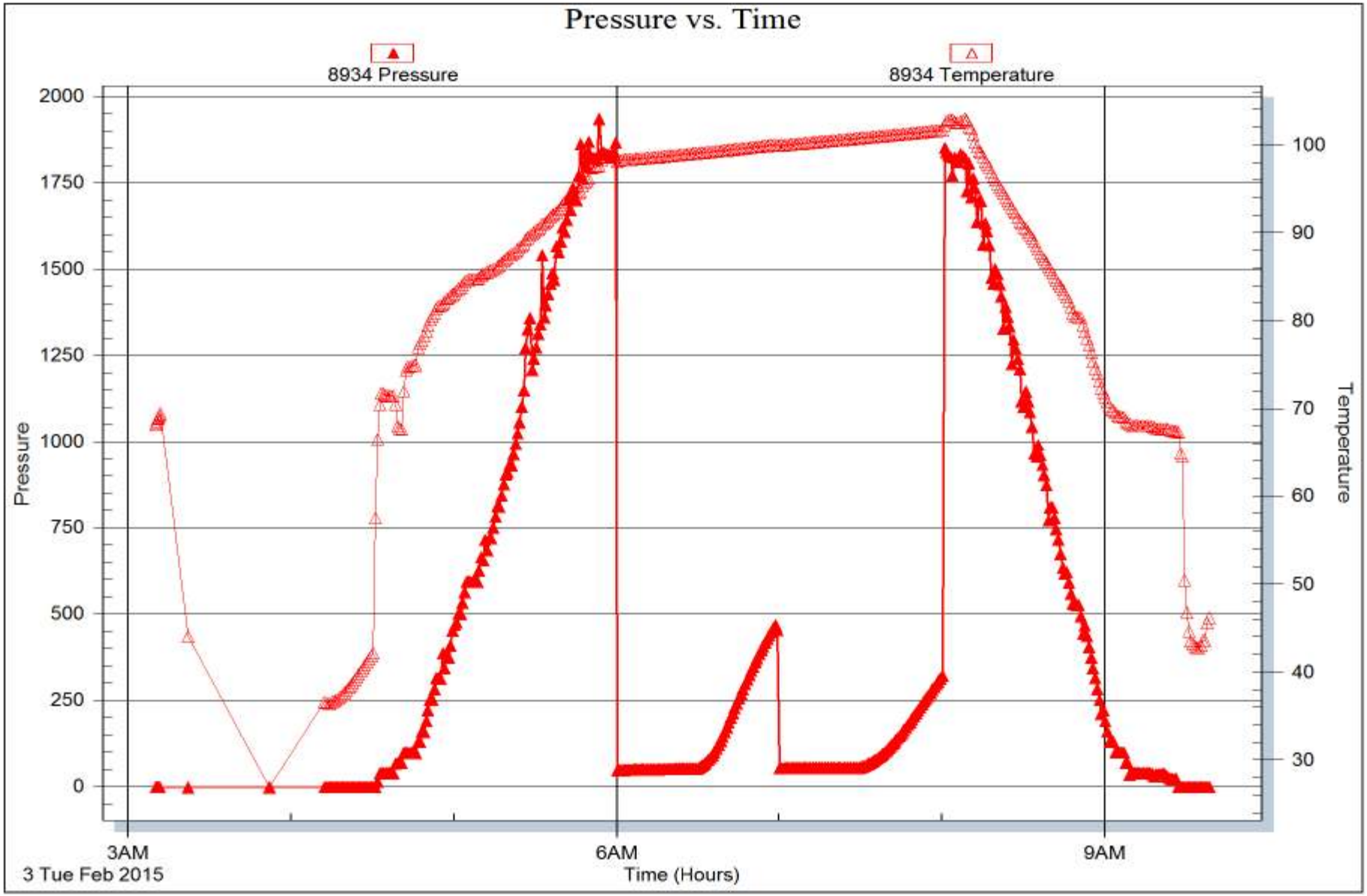
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8736 **Inside** John O Farmer McCall B #1 DST Test Number: 4




Trilobite Testing, Inc Ref. No: 53845 Printed: 2015.02.05 @ 09:20:21

Serial #: 8934 **Outside** John O Farmer McCall B #1 DST Test Number: 4




Trilobite Testing, Inc Ref. No: 53845 Printed: 2015.02.05 @ 09:20:21

TRILOBITE TESTING, INC.

# DRILL STEM TEST REPORT

Prepared For: **John O Farmer**

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**McCall B #1**

**16-9s-22w Graham,KS**

Start Date: 2015.02.04 @ 06:45:00
End Date: 2015.02.04 @ 13:26:45
Job Ticket #: 53846 DST #: 5

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

Printed: 2015.02.05 @ 09:19:32

# DRILL STEM TEST REPORT

John O Farmer

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**16-9s-22w Graham,KS**

**McCall B #1**

Job Ticket: 53846 **DST#: 5**

Test Start: 2015.02.04 @ 06:45:00

## GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:14:00
Time Test Ended: 13:26:45

Test Type: Conventional Straddle (Reset)
Tester: Brett Dickinson
Unit No: 59

**Interval: 3922.00 ft (KB) To 3980.00 ft (KB) (TVD)**
Total Depth: 4010.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

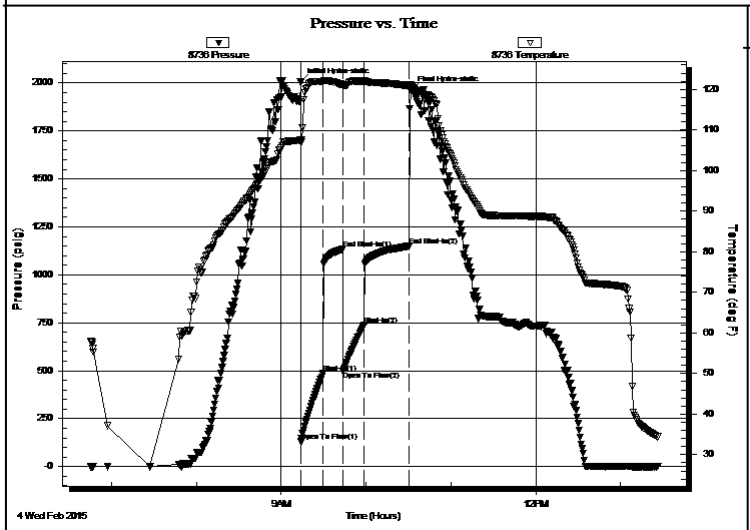
Reference Elevations: 2333.00 ft (KB)
2328.00 ft (CF)
KB to GR/CF: 5.00 ft

**Serial #: 8736** **Outside**

Press@RunDepth: 739.54 psig @ 3923.00 ft (KB)
Start Date: 2015.02.04 End Date: 2015.02.04
Start Time: 06:45:05 End Time: 13:26:44

Capacity: 8000.00 psig
Last Calib.: 2015.02.04
Time On Btm: 2015.02.04 @ 09:13:30
Time Off Btm: 2015.02.04 @ 10:31:30

TEST COMMENT: IF-BOB in 1 1/2 min
ISI-Very w eak surface blow
FF-BoB in 1 1/2 min
FSI-No blow




## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 2004.59 | 107.66 | Initial Hydro-static |
| 1 | 129.59 | 106.99 | Open To Flow (1) |
| 16 | 485.91 | 121.95 | Shut-In(1) |
| 30 | 1134.77 | 121.14 | End Shut-In(1) |
| 31 | 497.67 | 120.84 | Open To Flow (2) |
| 46 | 739.54 | 121.93 | Shut-In(2) |
| 77 | 1149.28 | 120.86 | End Shut-In(2) |
| 78 | 1961.19 | 121.08 | Final Hydro-static |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 1325.00 | MCW 30%M 70%W | 17.47 |
| | | |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

## Gas Rates

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

# DRILL STEM TEST REPORT

John O Farmer

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**16-9s-22w Graham,KS**

**McCall B #1**

Job Ticket: 53846 **DST#: 5**

Test Start: 2015.02.04 @ 06:45:00

## GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:14:00
Time Test Ended: 13:26:45

Test Type: Conventional Straddle (Reset)
Tester: Brett Dickinson
Unit No: 59

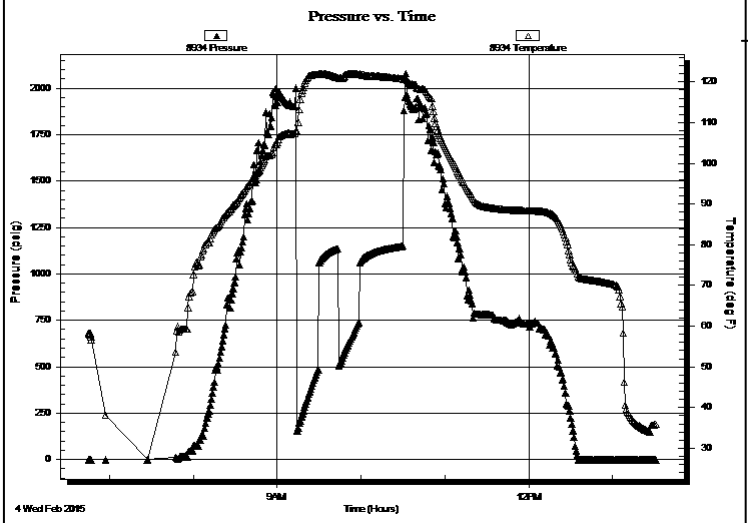
**Interval: 3922.00 ft (KB) To 3980.00 ft (KB) (TVD)**
Total Depth: 4010.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2333.00 ft (KB)
2328.00 ft (CF)
KB to GR/CF: 5.00 ft

**Serial #: 8934** **Inside**
Press@RunDepth: psig @ 3923.00 ft (KB)
Start Date: 2015.02.04 End Date: 2015.02.04
Start Time: 06:45:05 End Time: 13:30:44

Capacity: 8000.00 psig
Last Calib.: 2015.02.04
Time On Btm:
Time Off Btm:

TEST COMMENT: IF-BOB in 1 1/2 min
ISI-Very w eak surface blow
FF-BoB in 1 1/2 min
FSI-No blow




## PRESSURE SUMMARY

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

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 1325.00 | MCW 30%M 70%W | 17.47 |
| | | |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

## Gas Rates

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

# DRILL STEM TEST REPORT

John O Farmer

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**16-9s-22w Graham,KS**

**McCall B #1**

Job Ticket: 53846 **DST#: 5**

Test Start: 2015.02.04 @ 06:45:00

## GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:14:00
Time Test Ended: 13:26:45

Test Type: Conventional Straddle (Reset)
Tester: Brett Dickinson
Unit No: 59

**Interval: 3922.00 ft (KB) To 3980.00 ft (KB) (TVD)**
Total Depth: 4010.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

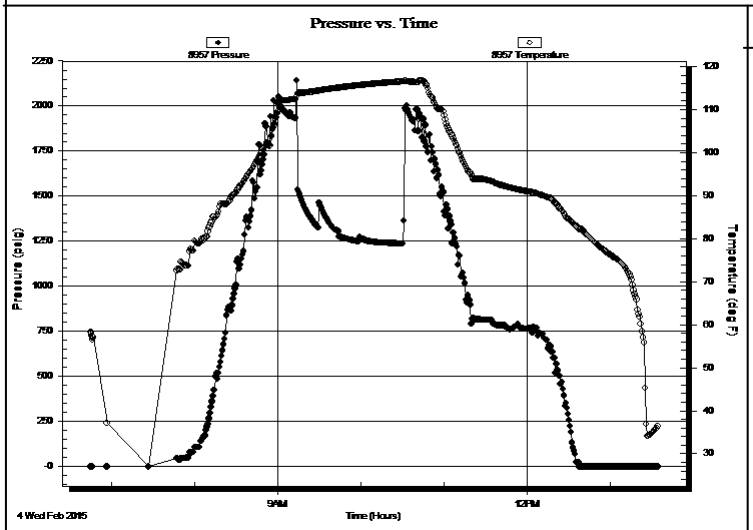
Reference Elevations: 2333.00 ft (KB)
2328.00 ft (CF)
KB to GR/CF: 5.00 ft

**Serial #: 8957** **Below (Straddle)**

Press@RunDepth: psig @ 4010.00 ft (KB)
Start Date: 2015.02.04 End Date: 2015.02.04
Start Time: 06:45:05 End Time: 13:34:14

Capacity: 8000.00 psig
Last Calib.: 2015.02.04
Time On Btm:
Time Off Btm:

TEST COMMENT: IF-BOB in 1 1/2 min
ISI-Very w eak surface blow
FF-BoB in 1 1/2 min
FSI-No blow




## PRESSURE SUMMARY

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

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 1325.00 | MCW 30%M 70%W | 17.47 |
| | | |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

## Gas Rates

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

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

John O Farmer

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**16-9s-22w Graham,KS**

**McCall B #1**

Job Ticket: 53846 **DST#: 5**

Test Start: 2015.02.04 @ 06:45:00

## Tool Information

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Drill Pipe: | Length: | 3806.00 ft | Diameter: | 3.80 inches | Volume: | 53.39 bbl | Tool Weight: | 2000.00 lb |
| Heavy Wt. Pipe: | Length: | ft | Diameter: | 2.70 inches | Volume: | - bbl | Weight set on Packer: | 25000.00 lb |
| Drill Collar: | Length: | 122.00 ft | Diameter: | 2.25 inches | Volume: | 0.60 bbl | Weight to Pull Loose: | 55000.00 lb |
| | | | | | Total Volume: | - bbl | Tool Chased | 0.00 ft |
| Drill Pipe Above KB: | | 26.00 ft | | | | | String Weight: Initial | 38000.00 lb |
| Depth to Top Packer: | | 3922.00 ft | | | | | Final | 43000.00 lb |
| Depth to Bottom Packer: | | 3980.00 ft | | | | | | |
| Interval betw een Packers: | | 58.00 ft | | | | | | |
| Tool Length: | | 111.00 ft | | | | | | |
| Number of Packers: | | 4 | Diameter: | 6.75 inches | | | | |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths | |
|---|---|---|---|---|---|---|
| Shut In Tool | 5.00 | | | 3907.00 | | |
| Hydraulic tool | 5.00 | | | 3912.00 | | |
| Packer | 5.00 | | | 3917.00 | 20.00 | Bottom Of Top Packer |
| Packer | 5.00 | | | 3922.00 | | |
| Packer - Shale | 0.00 | | | 3922.00 | | |
| Stubb | 1.00 | | | 3923.00 | | |
| Recorder | 0.00 | 8934 | Inside | 3923.00 | | |
| Recorder | 0.00 | 8736 | Outside | 3923.00 | | |
| Perforations | 15.00 | | | 3938.00 | | |
| Change Over Sub | 1.00 | | | 3939.00 | | |
| Drill Pipe | 31.00 | | | 3970.00 | | |
| Change Over Sub | 1.00 | | | 3971.00 | | |
| Perforations | 5.00 | | | 3976.00 | | |
| Blank Off Sub | 4.00 | | | 3980.00 | 58.00 | Tool Interval |
| Packer | 5.00 | | | 3985.00 | | |
| Blank Spacing | 5.00 | | | 3990.00 | | |
| Perforations | 20.00 | | | 4010.00 | | |
| Recorder | 0.00 | 8957 | Below | 4010.00 | | |
| Bullnose | 3.00 | | | 4013.00 | 33.00 | Bottom Packers & Anchor |
| **Total Tool Length:** | **111.00** | | | | | |

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

John O Farmer

PO Box 352
Russell KS 67665

ATTN: Austin Klaus

**16-9s-22w Graham,KS**

**McCall B #1**

Job Ticket: 53846 **DST#: 5**

Test Start: 2015.02.04 @ 06:45:00

## 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: | 25000 ppm |
| Viscosity: | 61.00 sec/qt | Cushion Volume: | bbl | | |
| Water Loss: | 7.17 in³ | Gas Cushion Type: | | | |
| Resistivity: | ohm.m | Gas Cushion Pressure: | psig | | |
| Salinity: | 1300.00 ppm | | | | |
| Filter Cake: | inches | | | | |

## Recovery Information

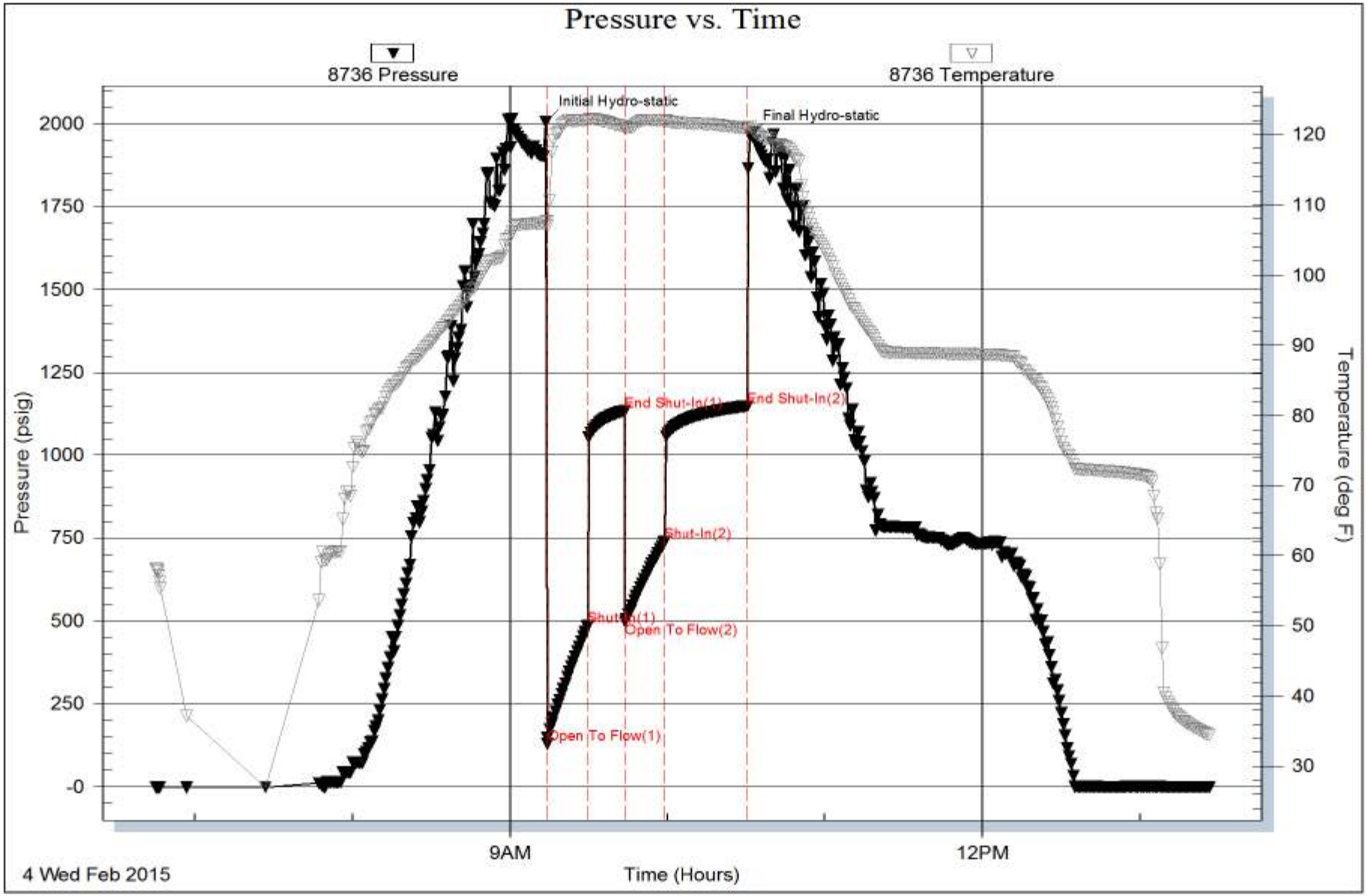
Recovery Table

| Length ft | Description | Volume bbl |
|---|---|---|
| 1325.00 | MCW 30%M 70%W | 17.475 |

Total Length: 1325.00 ft Total Volume: 17.475 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8736 **Outside** John O Farmer McCall B #1 DST Test Number: 5

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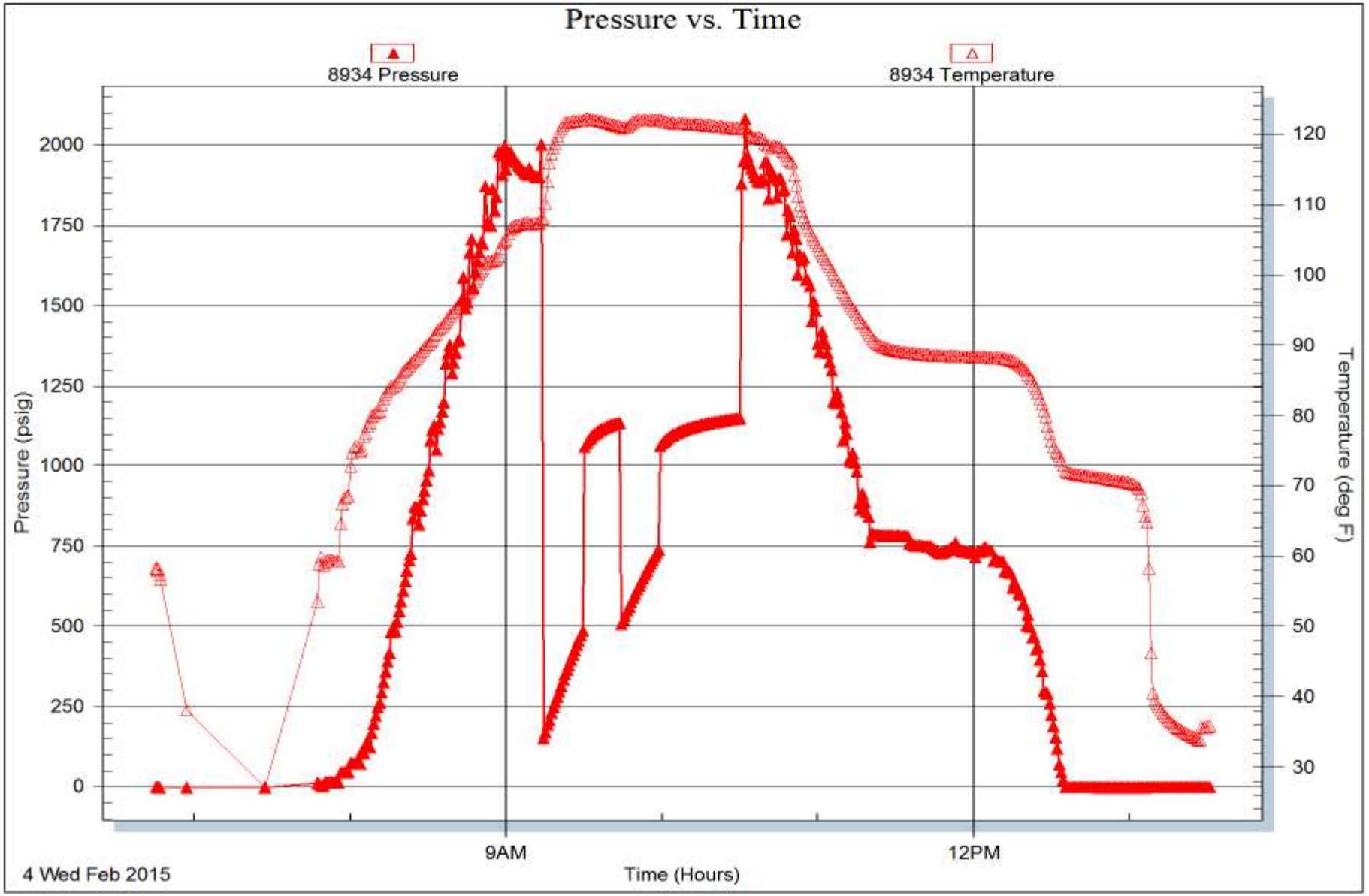
Serial #: 8934 **Inside** John O Farmer McCall B #1 DST Test Number: 5

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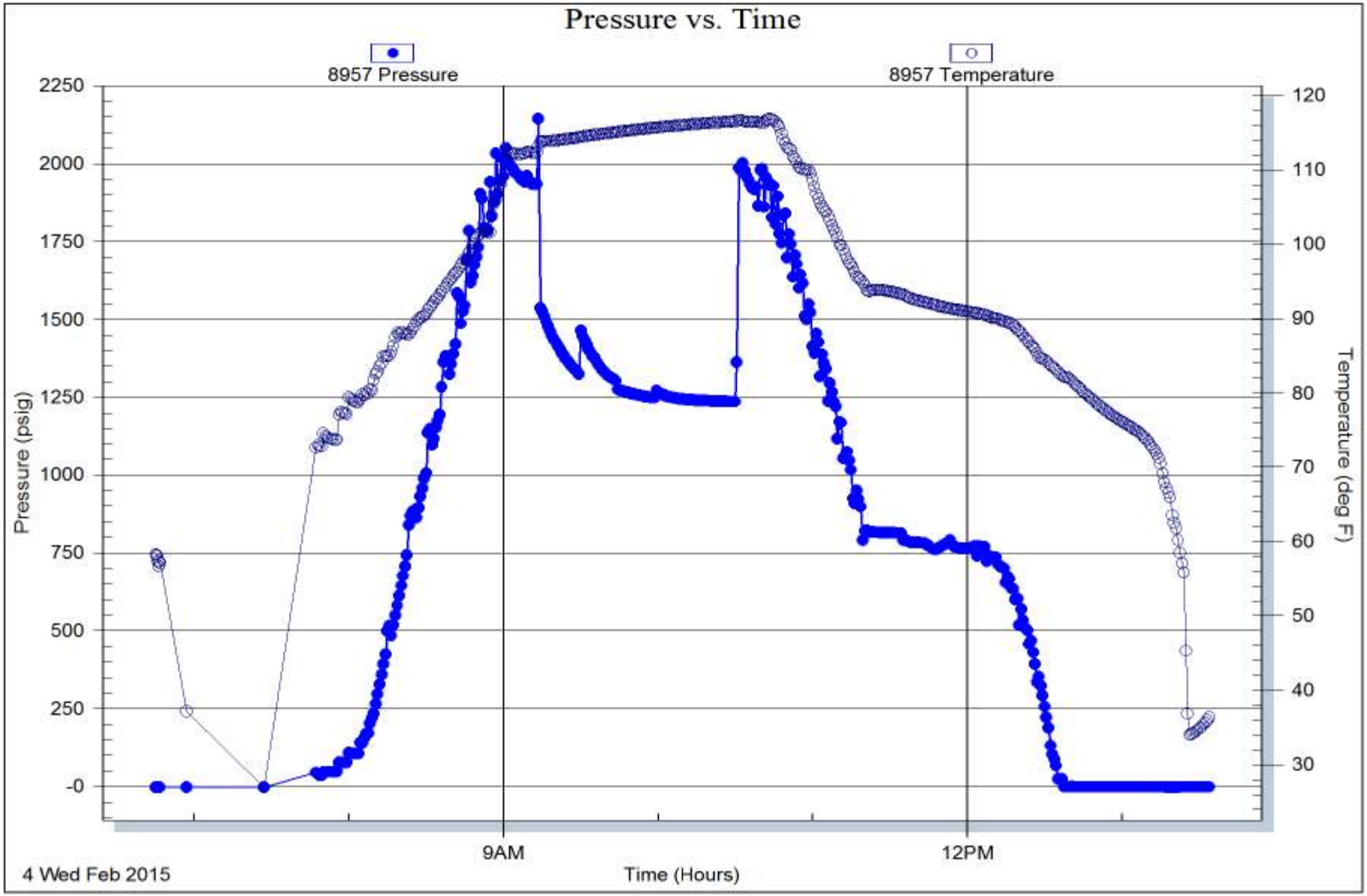

Pressure vs. Time
8957 Pressure
8957 Temperature
2250
2000
1750
1500
1250
1000
750
500
250
-0
Pressure (psig)
120
110
100
90
80
70
60
50
40
30
Temperature (deg F)
9AM
12PM
4 Wed Feb 2015
Time (Hours)

# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

## Test Ticket

NO. 53842

Well Name & No. ~~John O. Farmer, Inc~~ McCall B #1 Test No. 1 Date 2-1-15

Company John O. Farmer, Inc. Elevation 2328 KB 2333 GL

Address PO Box 352 Russell KS 67665

Co. Rep / Geo. Austin Klaus Rig WW #6

Location: Sec. 16 Twp. 9s Rge. 22w Co. Graham State KS

Interval Tested 3616 - 3654 Zone Tested KC "C-D"

Anchor Length 38 Drill Pipe Run — Mud Wt. 8.9

Top Packer Depth 3611 Drill Collars Run — Vis 61

Bottom Packer Depth 3616 Wt. Pipe Run — WL 7.2

Total Depth 3654 Chlorides 1,300 ppm System LCM 1

Blow Description IF - packer failure

| | | | | | |
|---|---|---|---|---|---|
| Rec 380 | Feet of Mud | %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 | Feet of | %gas | %oil | %water | %mud |

Rec Total 380 BHT — Gravity — API RW — @ — °F Chlorides — ppm

| | | | |
|---|---|---|---|
| (A) Initial Hydrostatic | ☒ Test 850 | T-On Location 11:15 |
| (B) First Initial Flow | ☐ Jars | T-Started 1:55 |
| (C) First Final Flow | ☐ Safety Joint | T-Open 5:00 |
| (D) Initial Shut-In | ☐ Circ Sub | T-Pulled 17:15 |
| (E) Second Initial Flow | ☐ Hourly Standby | T-Out |
| (F) Second Final Flow | ☒ Mileage 110-1 110 | Comments |
| (G) Final Shut-In | ☐ Sampler | |
| (H) Final Hydrostatic | ☐ Straddle | ☐ Ruined Shale Packer |
| | ☐ Shale Packer | ☐ Ruined Packer |
| Initial Open | ☐ Extra Packer | ☐ Extra Copies |
| Initial Shut-In | ☐ Extra Recorder | Sub Total 0 |
| Final Flow | ☐ Day Standby | Total 960 |
| Final Shut-In | ☐ Accessibility | MP/DST Disc't |
| | Sub Total 960 | |

Approved By — Our Representative Brett Dickinson

# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

## Test Ticket

NO. 53843

Well Name & No. McCall B #1 Test No. 2 Date 2-1-15

Company John O Farmer, Inc. Elevation 2328 KB 2333 GL

Address

Co. Rep / Geo. Austin Klaus Rig WW #6

Location: Sec. 16 Twp. 9s Rge. 22w Co. Graham State KS

Interval Tested 3608-3654 Zone Tested KC "C-D"

Anchor Length 46 Drill Pipe Run Mud Wt. 8.9

Top Packer Depth 3603 Drill Collars Run 122 Vis 61

Bottom Packer Depth 3608 Wt. Pipe Run — WL 7.2

Total Depth 3654 Chlorides 1,300 ppm System LCM 1

Blow Description IF - packer falure

| | | | | | |
|---|---|---|---|---|---|
| Rec 190 | Feet of Mud | %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 | Feet of | %gas | %oil | %water | %mud |

Rec Total BHT Gravity API RW @ °F Chlorides ppm

| | | | |
|---|---|---|---|
| (A) Initial Hydrostatic | ☑ Test 850 | T-On Location 17:30 | |
| (B) First Initial Flow | ☐ Jars | T-Started 17:30 | |
| (C) First Final Flow | ☐ Safety Joint | T-Open 19:30 | |
| (D) Initial Shut-In | ☐ Circ Sub | T-Pulled 22:00 | |
| (E) Second Initial Flow | ☐ Hourly Standby | T-Out 22:00 | |
| (F) Second Final Flow | ☐ Mileage 110rT | Comments | |
| (G) Final Shut-In | ☐ Sampler | | |
| (H) Final Hydrostatic | ☐ Straddle | ☐ Ruined Shale Packer | |
| | ☐ Shale Packer | ☐ Ruined Packer | |
| Initial Open | ☐ Extra Packer | ☐ Extra Copies | |
| Initial Shut-In | ☐ Extra Recorder | Sub Total 0 | |
| Final Flow | ☐ Day Standby | Total 850 | |
| Final Shut-In | ☐ Accessibility | MP/DST Disc't | |
| | Sub Total 850 | | |

Approved By Our Representative Brett Dinkel

# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

## Test Ticket

NO. 53844

Well Name & No. McColl B #1 Test No. 3 Date 2-2-16

Company John O. Farmer, Inc. Elevation 2328 KB 2833 GL

Address

Co. Rep / Geo. Austin Klaus Rig WW #6

Location: Sec. 16 Twp. 9s Rge. 22w Co. Graham State KS

Interval Tested 3665 - 3682 Zone Tested KC "J" "I"

Anchor Length 17 Drill Pipe Run Mud Wt.

Top Packer Depth 3660 Drill Collars Run 122 Vis

Bottom Packer Depth 3665 Wt. Pipe Run WL

Total Depth 3682 Chlorides ppm System LCM

Blow Description IF - BOB in 29 min

ISI - No blow

FF - 8 in blow

FSI - No blow

| | | | | | | |
|---|---|---|---|---|---|---|
| Rec 250 | Feet of VSMCW | %gas | %oil 95 | %water 5 | %mud | |
| 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 258 BHT 114 Gravity API RW .35 @ 35 °F Chlorides 43,000 ppm

| | | | |
|---|---|---|---|
| (A) Initial Hydrostatic | 1,792 | ☒ Test 1050 | T-On Location 7:35 |
| (B) First Initial Flow | 21 | ☐ Jars | T-Started 7:40 |
| (C) First Final Flow | 99 | ☐ Safety Joint | T-Open 9:55 |
| (D) Initial Shut-In | 819 | ☐ Circ Sub | T-Pulled 11:55 |
| (E) Second Initial Flow | 102 | ☐ Hourly Standby | T-Out 13:40 |
| (F) Second Final Flow | 137 | ☒ Mileage 110 | Comments |
| (G) Final Shut-In | 809 | ☐ Sampler | |
| (H) Final Hydrostatic | 1,785 | ☐ Straddle | |
| | | ☒ Shale Packer 250 | ☐ Ruined Shale Packer |
| Initial Open | 30 | ☐ Extra Packer | ☐ Ruined Packer |
| Initial Shut-In | 30 | ☐ Extra Recorder | ☐ Extra Copies |
| Final Flow | 30 | ☐ Day Standby | Sub Total 0 |
| Final Shut-In | 30 | ☐ Accessibility | Total 1410 |
| | | Sub Total 1410 | MP/DST Disc't |

Approved By Our Representative

TRILOBITE TESTING INC.
1515 Commerce Parkway • Hays, Kansas 67601

4/10

# Test Ticket

NO. 53845

Well Name & No. McCall B #1 Test No. 4 Date 2-3-15
Company John O Farmer, Inc. Elevation 2328 KB 2333 GL
Address
Co. Rep / Geo. Austin Klaus Rig WW #6
Location: Sec. 16 Twp. 9s Rge. 22w Co. Graham State KS

Interval Tested 3708 - 3806 Zone Tested Kc "H-K"
Anchor Length 98 Drill Pipe Run Mud Wt.
Top Packer Depth 3703 Drill Collars Run 122 Vis
Bottom Packer Depth 3708 Wt. Pipe Run — WL
Total Depth 3806 Chlorides ppm System LCM

Blow Description IF - 1 3/4
ISI - No blow
FF - very weak surface blow
FSI - No blow

| | | | | | |
|---|---|---|---|---|---|
| Rec 15 | Feet of Mud | %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 | Feet of | %gas | %oil | %water | %mud |

Rec Total 15 BHT Gravity API RW @ °F Chlorides ppm

| | | | |
|---|---|---|---|
| (A) Initial Hydrostatic | 1857 | ☒ Test 1050 | T-On Location 1:00 |
| (B) First Initial Flow | 51 | ☐ Jars | T-Started 3:10 |
| (C) First Final Flow | 54 | ☐ Safety Joint | T-Open 5:58 |
| (D) Initial Shut-In | 474. | ☐ Circ Sub | T-Pulled 7:58 |
| (E) Second Initial Flow | 56 | ☐ Hourly Standby | T-Out 9:40 |
| (F) Second Final Flow | 58 | ☒ Mileage 110 | Comments |
| (G) Final Shut-In | 320.34 | ☐ Sampler | |
| (H) Final Hydrostatic | 1,835 | ☐ Straddle | |
| | | ☒ Shale Packer 250 | ☐ Ruined Shale Packer |
| Initial Open | 30 | ☐ Extra Packer | ☐ Ruined Packer |
| Initial Shut-In | 30 | ☐ Extra Recorder | ☐ Extra Copies |
| Final Flow | 30 | ☐ Day Standby | Sub Total 0 |
| Final Shut-In | 30 | ☐ Accessibility | Total 1410 |
| | | Sub Total 1410 | MP/DST Disc't |

Approved By Our Representative Brett Dreiling

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

4/10

## Test Ticket

NO. 53846

Well Name & No. McCall B #1 Test No. 5 Date 2-4-15

Company John O Farmer, Inc. Elevation 2328 KB 2333 GL

Address

Co. Rep / Geo. Austin Klaus Rig WW #6

Location: Sec. 16 Twp. 9s Rge. 22w Co. Graham State KS

Interval Tested 3922 - 3980 Zone Tested KC "H-K"

Anchor Length 58 Drill Pipe Run Mud Wt.

Top Packer Depth 3917, 3922 Drill Collars Run 122 Vis

Bottom Packer Depth 3980 Wt. Pipe Run — WL

Total Depth 4010 Chlorides ppm System LCM

Blow Description IF - BOB in 1½ min

ISI - Very weak surface blow

FF - BOB in 1½ min

FSI - No blow

| | | | | | | |
|---|---|---|---|---|---|---|
| Rec 1325 | Feet of MCW | %gas | %oil | 70 | %water 30 | %mud |
| 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 1325 BHT 121 Gravity API RW @ °F Chlorides 25,000 ppm

| | | | |
|---|---|---|---|
| (A) Initial Hydrostatic 2,005 | ☒ Test 1150 | T-On Location 6:30 |
| (B) First Initial Flow 130 | ☐ Jars | T-Started 6:45 |
| (C) First Final Flow 486 | ☐ Safety Joint | T-Open 9:13 |
| (D) Initial Shut-In 1,135 | ☐ Circ Sub 50 | T-Pulled 10:28 |
| (E) Second Initial Flow 498 | ☐ Hourly Standby | T-Out 13:30 |
| (F) Second Final Flow 740 | ☒ Mileage 110 | Comments |
| (G) Final Shut-In 1,149 | ☐ Sampler | |
| (H) Final Hydrostatic 1,961 | ☒ Straddle 600 | |
| | ☒ Shale Packer 250 | ☐ Ruined Shale Packer |
| Initial Open 15 | ☒ Extra Packer | ☐ Ruined Packer |
| Initial Shut-In 15 | ☐ Extra Recorder | ☐ Extra Copies |
| Final Flow 15 | ☐ Day Standby | Sub Total 0 |
| Final Shut-In 30 | ☐ Accessibility | Total 2160 |
| | Sub Total 2160 | MP/DST Disc't |

Approved By Our Representative Brett Dawson

# AUSTIN B. KLAUS

Cell 785.650.3629
Work 785.483.3145
Ext 225

PO BOX 352
Russell, KS 67665
austin.klaus@johnofarmer.com

**Scale 1:240 (5"=100') Imperial**
**Measured Depth Log**

| | | | |
|---|---|---|---|
| **Well Name:** | **McCall B#1** | | |
| **Location:** | **Graham County** | | |
| **License Number:** | **API #15-065-24,096-0000** | **Region:** | **Kansas** |
| **Spud Date:** | **1/28/15** | **Drilling Completed:** | **2/4/15** |
| **Surface Coordinates:** | **Section 16, Township 9 South, Range 22 West<br>2,310' FSL & 665' FEL** | | |
| **Bottom Hole Coordinates:** | **Vertical well with minimal deviation, same as above** | | |
| **Ground Elevation (ft):** | **2,328'** | **K.B. Elevation (ft):** | **2,333'** |
| **Logged Interval (ft):** | **3,300' To: RTD** | **Total Depth (ft):** | **4,010'** |
| **Formation:** | **LKC, Arbuckle** | | |
| **Type of Drilling Fluid:** | **Chemical (Mud Co.)** | | |



## OPERATOR

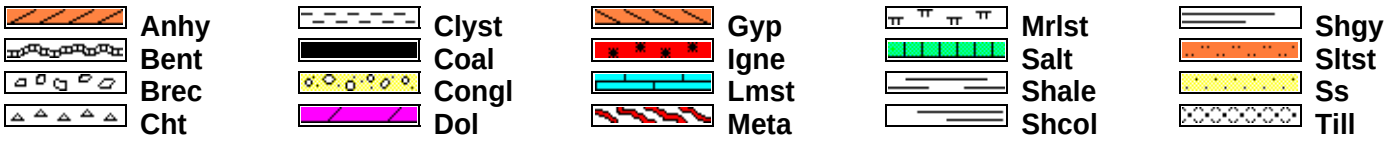
**Company:** John O. Farmer, Inc.
**Address:** 370 W. Wichita Ave
Russell, KS 67665

## Comments

**The McCall B #1 well was drilled by WW Rig #6 (Tool Pusher: Mark Biggie).**

**The location for the McCall B #1 well was found via 3-D seismic survey. Geologic samples were collected and evaluated from 3,300'-4,010'. Structurally, the McCall B #1 ran 20' high to our correlation well, Walker #2 (Peel Hardman), at the Lansing. Two bottom-hole tests were attempted in the LKC C-D, packer failures occured during each test. Two additional bottom-hole tests were conducted in the LKC F & H-K, both yielding negative results. The Arbuckle horizon was picked 29' high to the Walker #2, 1,850' to the northwest. Upon completion of the logging operation a straddle test was conducted in the Arbuckle, yielding negative results. Upon completion of the drill stem test, the decision was made to plug and abandon the McCall B #1 well on 2/4/15.**

## ROCK TYPES




## OTHER SYMBOLS

**POROSITY**
- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint
- Vuggy

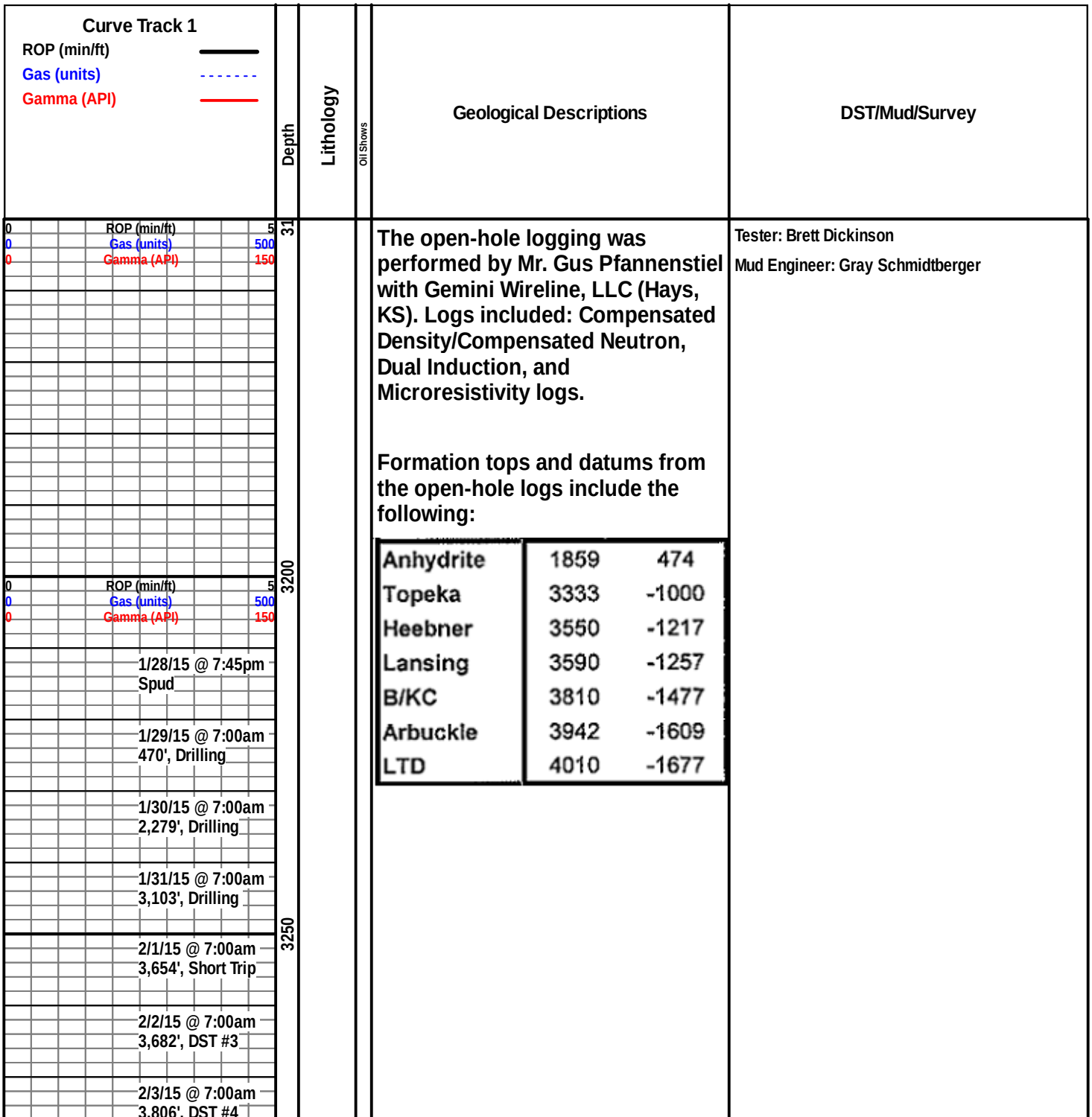
**SORTING**
- Well
- Moderate
- Poor

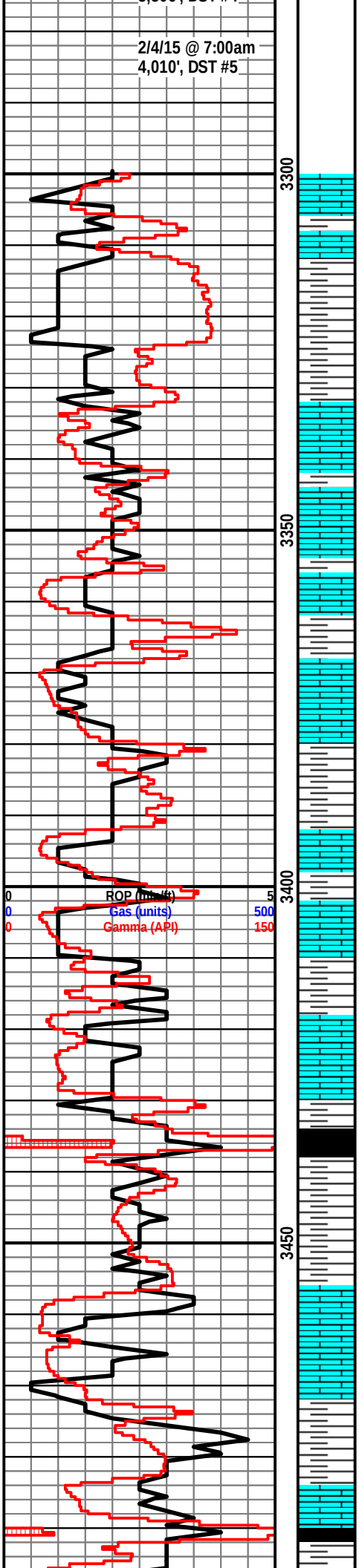
**ROUNDING**
- Rounded
- Subrnd
- Subang
- Angular

**OIL SHOW**
- Even
- Spotted
- Ques
- Dead

**INTERVAL**
- Core
- Dst

**EVENT**
- Rft
- Sidewall






Ls: tan-lt brn, fn xln, fossil, DNS, scat pyrite

Ls: ala

Sh: drk gry-brn

## Topeka 3333' (-1000)

Ls: tan-gry, fn xln, no visible porosity, scat chert-off wh

Ls: ala

Ls: tan-brn, fn xln, mostly DNS

Sh: gry-brn

Ls: tan-lt brn, fn xln, scat int xln porosity, mostly barren, no odor, scat chert-off wh-gry

Sh: drk gry-brn

Ls: tan-brn, fn xln, fossil, mostly DNS

Sh: lt gry-drk gry-brn

Sh: gry

Ls: tan-lt brn-gry, fn xln, DNS, scat chalky

Ls: ala

Sh: blk, carb

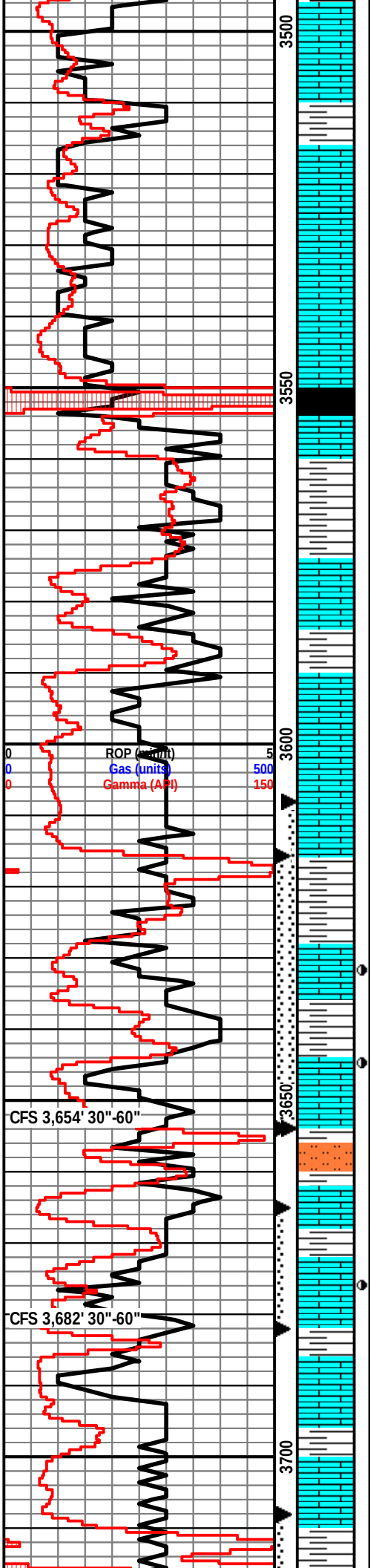
Sh: gry-brn-grn

Ls: tan-brn-gry, fn xln, DNS

Sh: drk gry-brn

Ls: tan-lt brn, fn xln, scat pp vuggy porosity, mostly barren, scat chert-off wh

Sh: blk, carb




Ls: brn-gry, fn xln, mostly DNS

Ls: off wh-tan, fn xln, fossil, poor int fossil porosity, barren, scat chert-off wh

Ls: brn-tan, fn xln, fossil, mostly DNS, chalky

Ls: off wh-tan, fn xln, poor vuggy porosity, scat oil st, NSFO, no odor

Ls: ala

## Heebner 3554' (-1221)

Sh: blk, carb, fissile

Ls: tan-brn, fn xln, DNS, chalky

Sh, Sltst: gry-brn-grn

## Toronto 3577' (-1244)

Ls: tan-lt gry, fn xln, mostly DNS, scat chert-off wh, barren

## Lansing 3591' (-1258)

Ls: tan-brn, fn xln, fossil ool, poor ool porosity, mostly barren, scat chalky

Ls: off wh-tan, fn-md xln, vry DNS, no visible porosity, scat chert-off wh, chalky

Sh: drk gry-blk

Ls: off wh-tan, fn xln, fair int xln & scat pp vuggy porosity, fair oil sat, SSFO, fair odor

Sh: drk gry-brn

Ls: off wh-tan, fn xln, poor-fair int xln & vuggy porosity, scat-fair oil st, NSFO, no odor, chalky

Sh, Sltst: gry-brn-grn, soft

Ls: tan-brn, fn xln, DNS

Sh: drk gry-brn

Ls: off wh-tan, fn xln, fair vuggy & int xln porosity, fair oil st in porosity, SSFO, sl odor, dull yel fluor

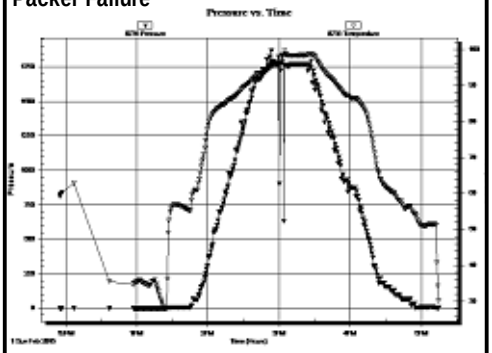
Ls: off wh-tan-lt gry, fn-md xln, vry DNS, no visible porosity, hvy chert-off wh

Sh: scat drk gry-brn-grn

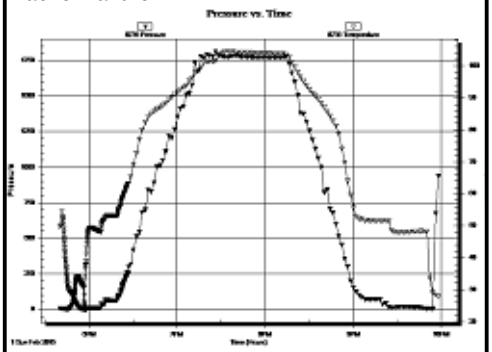
Ls: tan-lt gry, fn-md xln, mostly DNS, scat chert-off wh-gry

Sh: blk, carb, fissile

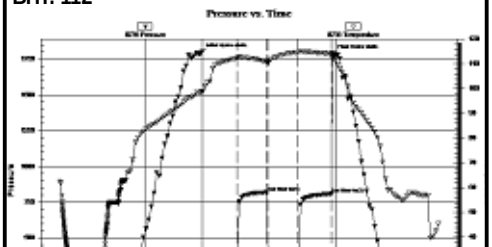
DST #1 3,616'-3,654' (LKC C-D)
Packer Failure

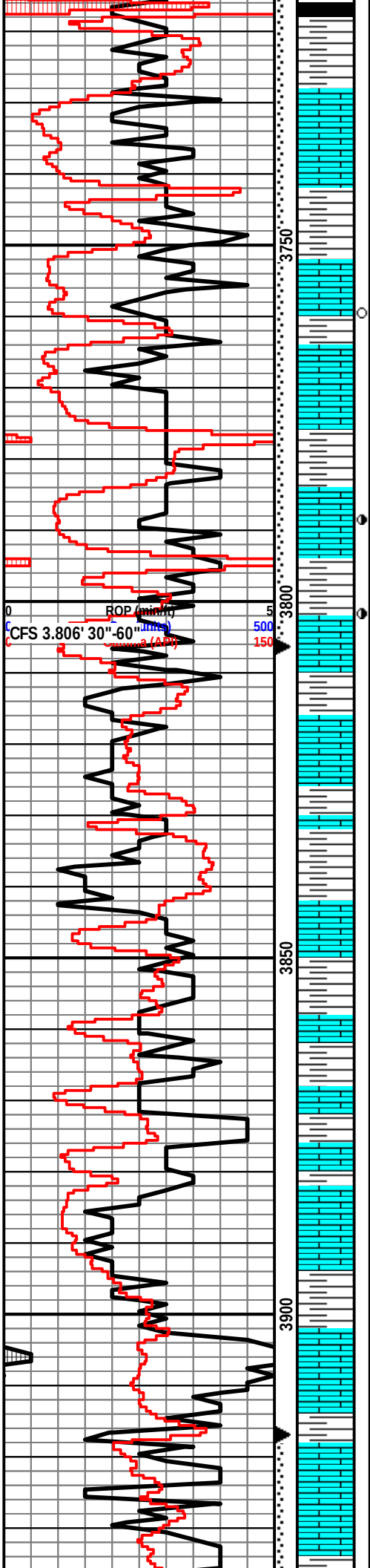



DST #2 3,608'-3,654' (LKC C-D)
Packer Failure




DST #3 3,665'-3,682' (LKC F)
30"-30"-30"-30"
IF: BOB in 29 minutes, no blow back
FF: weak blow built to 8", no blow back
Rec: 250' MCW (5% M, 95% W)
FP: 21-99, 102-137#
SIP: 818-809#
HP: 1,792-1,785#
BHT: 112






Sh: blk, carb, fissile

Sh: drk gry-brn-grn

Ls: off wh-tan, fn-md xln, poor int xln porosity, NSFO, no odor, mostly DNS, hvy chert-off wh

Sh: lt gry-drk gry

Ls: tan-lt brn, fn-md xln, fossil, ool, scat ool porosity, sl oil st in porosity, NSFO, no odor

Ls: tan-lt gry-brn, fn xln, scat pp vuggy porosity, sl oil st in porosity, NSFO, no odor

Sh: drk gry-brn

Ls: off wh-tan, fn-md xln, fossil, ool, fair ool porosity, fair-good sat in porosity, FSFO, fair-good odor

Ls: off wh-tan, fn xln, fossil, ool, poor-fair ool porosity, fair oil sat in porosity, SSFO, vry lt odor

## B/KC 3811' (-1479)

Sh: gry-brn-grn

Ls: tan-lt gry, fn xln, mostly DNS

Sh: drk gry-brn-grn, soft

Ls: tan-drk brn, fn xln, DNS, hvy chert-off wh

Ls: ala, sl fossil

Ls: ala, mottled, DNS

Ls: tan-drk brn-gry, fn xln, DNS

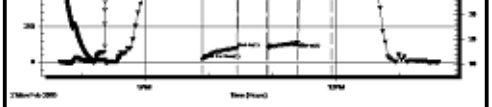
Sh: drk gry

Ls: off wh-tan, fn xln, vry DNS, orange

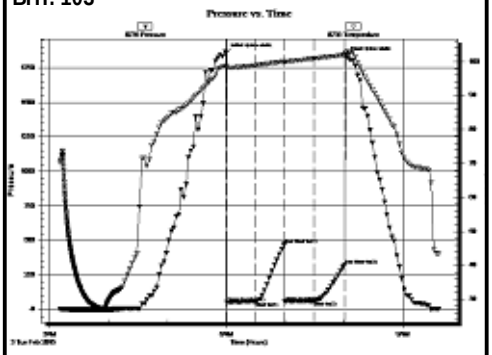
Sh: drk brn-rd

Ls: tan-brn, fn xln, vry DNS, hvy chert-off wh

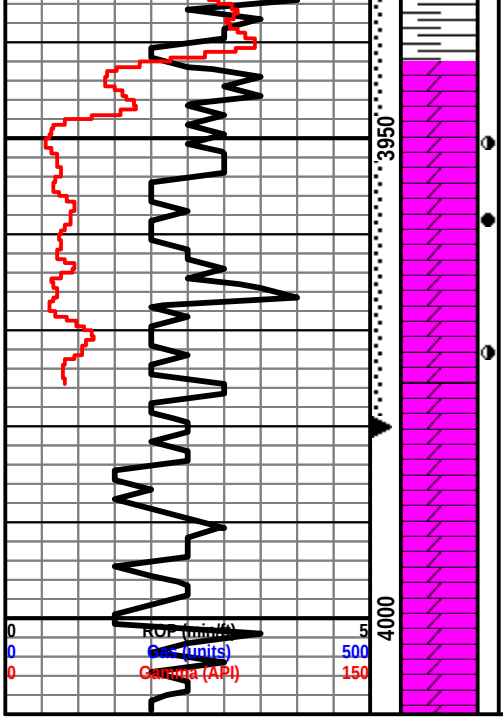
Ls: ala



DST #4 3,708'-3,806' (LKC H-K)
30"-30"-30"-30"
IF: weak blow built to 1.75"
FF: weak surface blow
Rec: 15' Mud
FP: 51-54, 56-58#
SIP: 474-320#
HP: 1,857-1,835#
BHT: 103




DST #5 3,917'-3,980' (Top 32' Arbuckle)
15"-15"-15"-15"
IF: BOB in 1.5 minutes, surface blow back
FF: BOB in 1.5 minutes, no blow back
Rec: 1,325' MCW (30% Mud, 70% W) - cl 25,000 ppm




Sh: drk gry-brn-grn

## Arbuckle 3945' (-1612)

Dolo: off wh-tan, fn-md xln, poor int xln porosity, fair-good oil sat, SSFO, sl-fair odor

Dolo: off wh-tan-brn, fn-md xln, poor-fair int xln porosity, good oil sat, GSFO, good odor, fair yel fluor

Dolo: off wh-tan, fn-md xln, poor int xln porosity, good oil sat, FSFO, good odor, dull yel fluor

Dolo: off wh-tan, fn xln, scat int xln porosity, scat oil sat, SSFO, sl odor

Dolo: ala

ppm
FP: 129-486, 498-1,149#
SIP: 1,135-1,149#
HP: 2,005-1,961#
BHT: 122