



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1084301  
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<br>Recompletion Date | Date Reached TD | Completion Date or<br>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: \_\_\_\_\_

1084301

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<br><i>(Attach Additional Sheets)</i><br><br>Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No<br><br>Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No<br>Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No<br><br>List All E. Logs Run: _____ | <input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample<br><br>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<br><input type="checkbox"/> Protect Casing<br><input type="checkbox"/> Plug Back TD<br><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<br>Specify Footage of Each Interval Perforated | Acid, Fracture, Shot, Cement Squeeze Record<br><i>(Amount and Kind of Material Used)</i> | Depth |
|----------------|---|--|-------|
|                |   |  |       |
|                |   |  |       |
|                |   |  |       |
|                |   |  |       |

TUBING RECORD:      Size: \_\_\_\_\_ Set At: \_\_\_\_\_ Packer At: \_\_\_\_\_ Liner Run:  Yes  No

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

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

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

|           |   |
|-----------|---|
| Form      | ACO1 - Well Completion                                |
| Operator  | Larson Engineering, Inc. dba Larson Operating Company |
| Well Name | McWhirter JA 1-29                                     |
| Doc ID    | 1084301   |

Tops

| Name           | Top  | Datum |
|----------------|------|-------|
| Anhydrite      | 2161 | +667  |
| Base Anhydrite | 2186 | +642  |
| Heebner Sh     | 3925 | -1097 |
| Lansing-KC     | 3966 | -1138 |
| Stark Sh       | 4144 | -1316 |
| Base KC        | 4327 | -1499 |
| Marmaton       | 4364 | -1536 |
| Altamont A     | 4398 | -1570 |
| Pawnee         | 4442 | -1614 |
| Fort Scott     | 4491 | -1663 |
| Cherokee       | 4516 | -1688 |
| Mississippian  | 4590 | -1762 |

# ALLIED CEMENTING CO., LLC. 042504

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31  
RUSSELL, KANSAS 67665

SERVICE POINT:  
Great Bend

|                                |                |                    |   |  |             |                          |                          |
|--------------------------------|----------------|--------------------|---|--|-------------|--------------------------|--------------------------|
| DATE <u>3-17-12</u>            | SEC. <u>29</u> | TWP. <u>18</u>     | RANGE <u>29</u>                                     | CALLED OUT                                 | ON LOCATION | JOB START <u>1230 AM</u> | JOB FINISH <u>130 AM</u> |
| LEASE <u>JA McWhittell</u>     |                | WELL # <u>1-29</u> |   | LOCATION <u>Dighton KS Sweetwater here</u> |             | COUNTY                   | STATE <u>KS</u>          |
| OLD OR <u>NEW</u> (Circle one) |                |                    | RD <u>2 South To 130 1 East 1/4 north west - To</u> |  |             |                          |                          |

CONTRACTOR H O Rig 3

TYPE OF JOB Surface

HOLE SIZE 12 1/2 T.D. 265

CASING SIZE 8 5/8 DEPTH 265

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG.

PERFS.

DISPLACEMENT 15.34 BBLs

EQUIPMENT

OWNER Larson

CEMENT

AMOUNT ORDERED 175 Sx Class A + 3% cc + 2% Gel

PUMP TRUCK CEMENTER Wayne

# 366 HELPER Kevin E

BULK TRUCK

# 482/188 DRIVER John

BULK TRUCK

# DRIVER

|          |                       |   |              |                |
|----------|-----------------------|---|--------------|----------------|
| COMMON   | <u>175</u>            | @ | <u>16.25</u> | <u>2843.75</u> |
| POZMIX   |                       | @ |              |                |
| GEL      | <u>4</u>              | @ | <u>21.25</u> | <u>85.00</u>   |
| CHLORIDE | <u>6</u>              | @ | <u>58.20</u> | <u>349.20</u>  |
| ASC      |                       | @ |              |                |
|          |                       | @ |              |                |
|          |                       | @ |              |                |
|          |                       | @ |              |                |
|          |                       | @ |              |                |
|          |                       | @ |              |                |
|          |                       | @ |              |                |
|          |                       | @ |              |                |
| HANDLING | <u>185</u>            | @ | <u>2.25</u>  | <u>416.25</u>  |
| MILEAGE  | <u>185 x 30 x .11</u> |   |              | <u>610.05</u>  |
| TOTAL    |                       |   |              | <u>4304.20</u> |

**REMARKS:**

Pipe on Bottom Break circulation with Rig mud.

Run 38 BBLs of fresh

Mix 175 Sx Class A + 3% cc + 2% Gel

Displace BBLs fresh water

Cement did circulate.

Shut in

Rig Down

**SERVICE**

|                   |               |   |                           |
|-------------------|---------------|---|---------------------------|
| DEPTH OF JOB      | <u>265</u>    |   |                           |
| PUMP TRUCK CHARGE |               |   | <u>1125.00</u>            |
| EXTRA FOOTAGE     | @             |   |                           |
| MILEAGE           | <u>Hum 30</u> | @ | <u>7.00</u> <u>210.00</u> |
| MANIFOLD          | @             |   |                           |
|                   | @             |   |                           |
|                   | @             |   |                           |

TOTAL 1335.00

CHARGE TO: Larson

STREET \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

**PLUG & FLOAT EQUIPMENT**

|  |   |  |  |
|--|---|--|--|
|  | @ |  |  |
|  | @ |  |  |
|  | @ |  |  |
|  | @ |  |  |
|  | @ |  |  |

TOTAL \_\_\_\_\_

To Allied Cementing Co., 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.

SALES TAX (If Any) \_\_\_\_\_

TOTAL CHARGES 5639.20

DISCOUNT 70% 220 1537.95

4008.35 IF PAID IN 30 DAYS

PRINTED NAME LEWAYNE TRESNER

SIGNATURE Lewayne Tresner





## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State RD 4  
Olmitz, KS 67564

ATTN: Bob Lewellyn

**McWhirter JA #1-29**

**29-18s-29w Lane,KS**

Start Date: 2012.03.24 @ 03:44:15

End Date: 2012.03.24 @ 09:51:45

Job Ticket #: 46458                      DST #: 1

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

Printed: 2012.04.11 @ 14:46:22



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Larson Engineering Inc  
562 W State RD 4  
Olmitz, KS 67564  
ATTN: Bob Lew ellyn

**29-18s-29w Lane, KS**

**McWhirter JA #1-29**

Job Ticket: 46458

**DST#: 1**

Test Start: 2012.03.24 @ 03:44:15

## GENERAL INFORMATION:

Formation: **LKC K**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 06:03:45

Time Test Ended: 09:51:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Cole Archibald

Unit No: 55

**Interval: 4241.00 ft (KB) To 4270.00 ft (KB) (TVD)**

Reference Elevations: 2828.00 ft (KB)

Total Depth: 4270.00 ft (KB) (TVD)

2821.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

**Serial #: 6771 Outside**

Press @ Run Depth: 44.21 psig @ 4242.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.03.24

End Date: 2012.03.24

Last Calib.: 2012.03.24

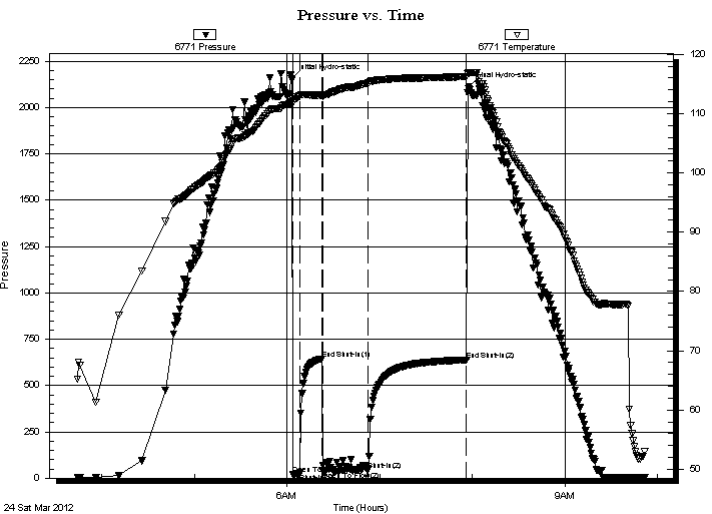
Start Time: 03:44:15

End Time: 09:51:45

Time On Btm: 2012.03.24 @ 06:02:45

Time Off Btm: 2012.03.24 @ 07:58:00

**TEST COMMENT:** 1/4 inch blow  
No return  
1/4 inch blow  
No return



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2157.08         | 111.92       | Initial Hydro-static |
| 1           | 19.81           | 111.77       | Open To Flow (1)     |
| 6           | 23.38           | 112.92       | Shut-In(1)           |
| 20          | 643.38          | 113.10       | End Shut-In(1)       |
| 21          | 38.90           | 112.91       | Open To Flow (2)     |
| 50          | 44.21           | 115.20       | Shut-In(2)           |
| 114         | 638.46          | 116.24       | End Shut-In(2)       |
| 116         | 2113.53         | 116.82       | Final Hydro-static   |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 60.00       | M 100% M    | 0.44         |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering Inc

**29-18s-29w Lane, KS**

562 W State RD 4  
Olmitz, KS 67564

**McWhirter JA #1-29**

Job Ticket: 46458

**DST#: 1**

ATTN: Bob Lew ellyn

Test Start: 2012.03.24 @ 03:44:15

## Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 4087.00 ft | Diameter: 3.80 inches | Volume: 57.33 bbl              | Tool Weight: 2500.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: inches      | Volume: 0.00 bbl               | Weight set on Packer: 30000.00 lb  |
| Drill Collar:             | Length: 150.00 ft  | Diameter: 2.75 inches | Volume: 1.10 bbl               | Weight to Pull Loose: 65000.00 lb  |
|                           |                    |                       | <u>Total Volume: 58.43 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 23.00 ft           |                       |                                | String Weight: Initial 60000.00 lb |
| Depth to Top Packer:      | 4241.00 ft         |                       |                                | Final 60000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 29.00 ft           |                       |                                |                                    |
| Tool Length:              | 56.00 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        |            |          | 4215.00    |                               |
| Shut In Tool     | 5.00        |            |          | 4220.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 4225.00    |                               |
| Jars             | 5.00        |            |          | 4230.00    |                               |
| Safety Joint     | 2.00        |            |          | 4232.00    |                               |
| Packer           | 5.00        |            |          | 4237.00    | 27.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 4241.00    |                               |
| Stubb            | 1.00        |            |          | 4242.00    |                               |
| Recorder         | 0.00        | 6771       | Outside  | 4242.00    |                               |
| Recorder         | 0.00        | 6667       | Inside   | 4242.00    |                               |
| Perforations     | 23.00       |            |          | 4265.00    |                               |
| Bullnose         | 5.00        |            |          | 4270.00    | 29.00 Bottom Packers & Anchor |

**Total Tool Length: 56.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Larson Engineering Inc

**29-18s-29w Lane, KS**

562 W State RD 4  
Olmitz, KS 67564

**McWhirter JA #1-29**

Job Ticket: 46458

**DST#: 1**

ATTN: Bob Lew ellyn

Test Start: 2012.03.24 @ 03:44:15

## 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: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.56 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

| Length<br>ft | Description | Volume<br>bbl |
|--------------|-------------|---------------|
| 60.00        | M 100% M    | 0.441         |

Total Length: 60.00 ft      Total Volume: 0.441 bbl

Num Fluid Samples: 0

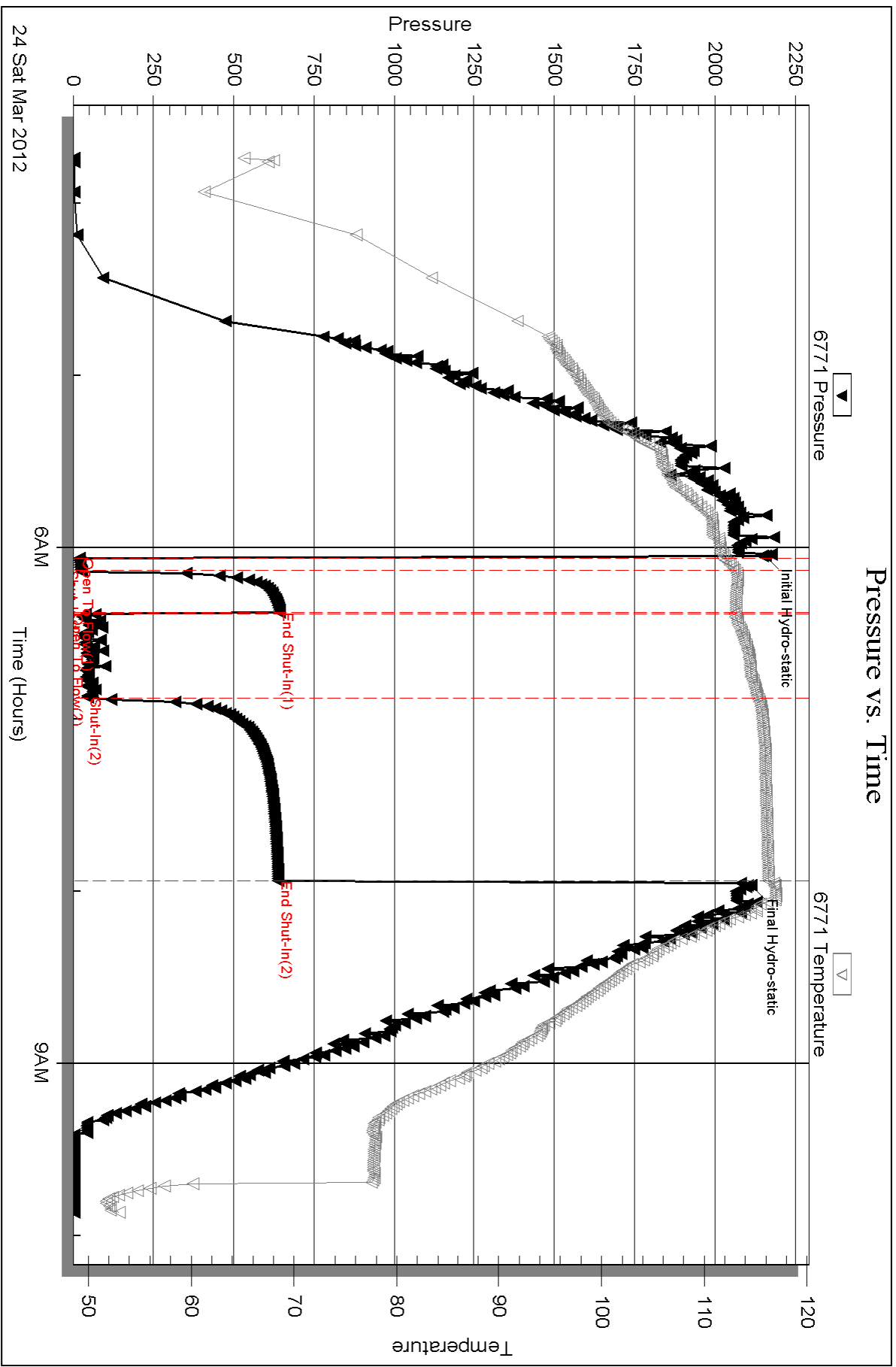
Num Gas Bombs: 0

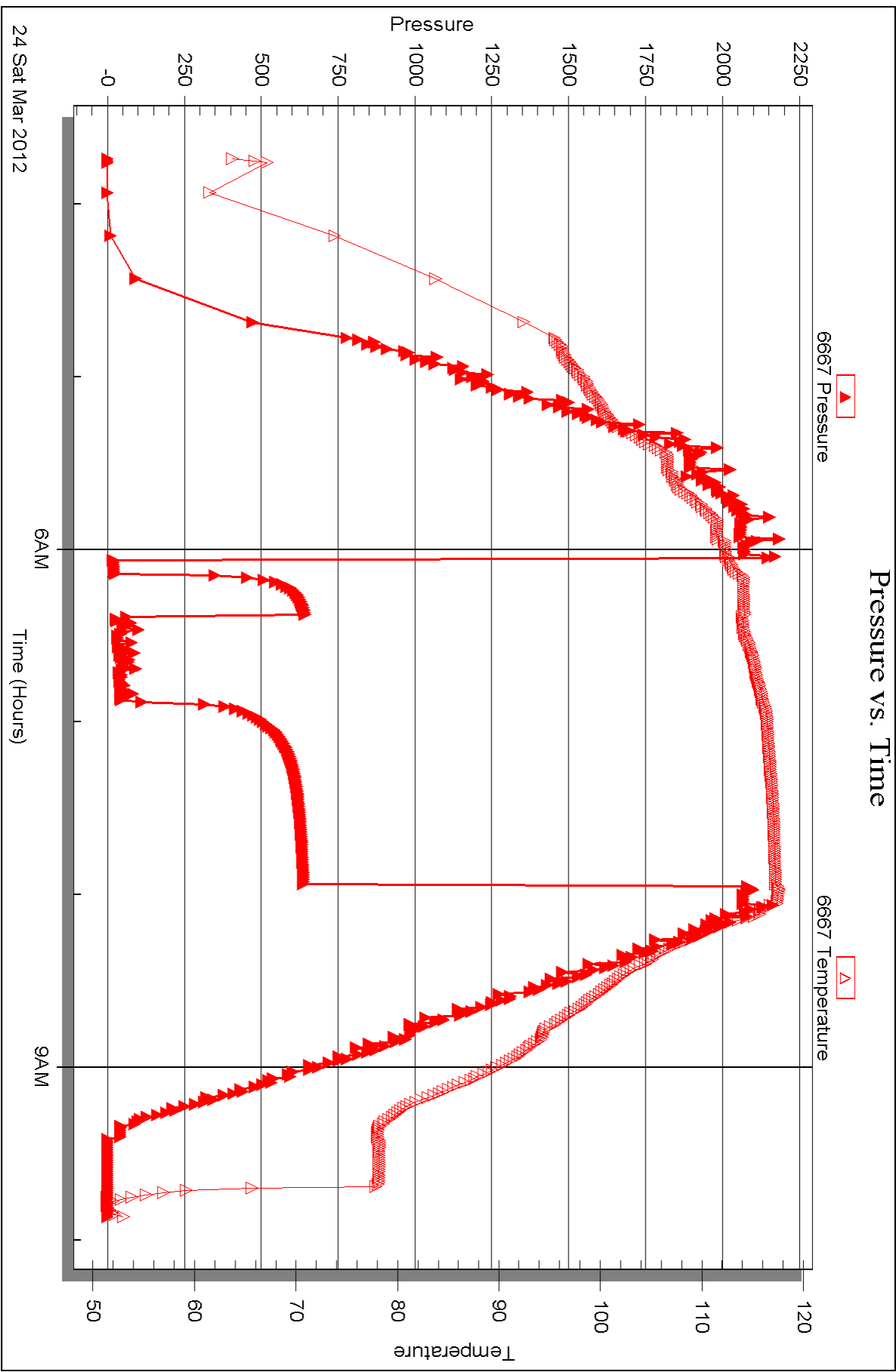
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State RD 4  
Olmitz, KS 67564

ATTN: Bob Lewellyn

**McWhirter JA #1-29**

**29-18s-29w Lane,KS**

Start Date: 2012.03.25 @ 09:45:00

End Date: 2012.03.25 @ 16:28:15

Job Ticket #: 46459                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.04.11 @ 14:44:30



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Larson Engineering Inc

29-18s-29w Lane, KS

562 W State RD 4  
Olmitz, KS 67564

McWhirter JA #1-29

ATTN: Bob Lew ellyn

Job Ticket: 46459

DST#: 2

Test Start: 2012.03.25 @ 09:45:00

## GENERAL INFORMATION:

Formation: **Marmaton-Altamont**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 12:08:00

Time Test Ended: 16:28:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Cole Archibald

Unit No: 55

Interval: **4314.00 ft (KB) To 4410.00 ft (KB) (TVD)**

Reference Elevations: 2828.00 ft (KB)

Total Depth: 4410.00 ft (KB) (TVD)

2821.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: **6771** Outside

Press @ Run Depth: 186.37 psig @ 4315.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.03.25

End Date: 2012.03.25

Last Calib.: 2012.03.25

Start Time: 09:45:15

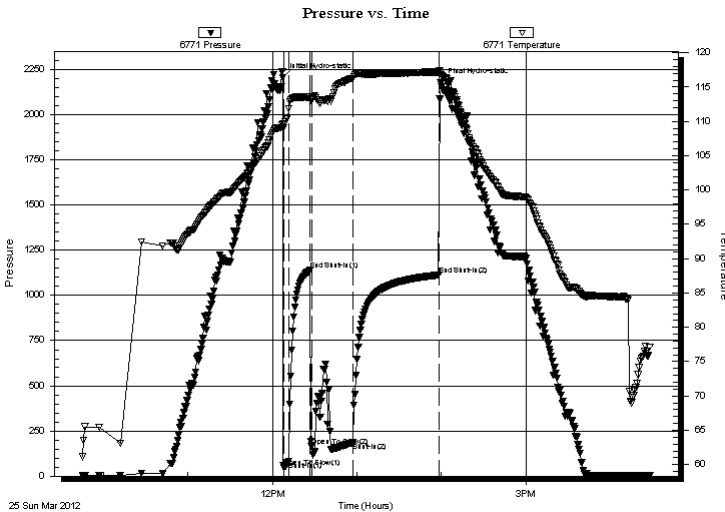
End Time: 16:28:15

Time On Btm: 2012.03.25 @ 12:07:30

Time Off Btm: 2012.03.25 @ 13:59:45

TEST COMMENT: Built to 2.5 in  
No return  
Built to 7 in  
No return

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2206.24         | 109.63       | Initial Hydro-static |
| 1           | 48.98           | 109.43       | Open To Flow (1)     |
| 4           | 81.53           | 111.85       | Shut-In(1)           |
| 20          | 1138.97         | 113.54       | End Shut-In(1)       |
| 21          | 164.11          | 113.09       | Open To Flow (2)     |
| 50          | 186.37          | 116.28       | Shut-In(2)           |
| 111         | 1112.97         | 117.20       | End Shut-In(2)       |
| 113         | 2174.79         | 116.79       | Final Hydro-static   |

## Recovery

| Length (ft) | Description     | Volume (bbl) |
|-------------|-----------------|--------------|
| 120.00      | W C M 80%M 20%W | 0.88         |
| 90.00       | M 100%M         | 1.06         |
| 90.00       | M 100% M        | 1.26         |
|             |                 |              |
|             |                 |              |

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering Inc

**29-18s-29w Lane, KS**

562 W State RD 4  
Olmitz, KS 67564

**McWhirter JA #1-29**

Job Ticket: 46459

**DST#: 2**

ATTN: Bob Lew ellyn

Test Start: 2012.03.25 @ 09:45:00

## Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 4171.00 ft | Diameter: 3.80 inches | Volume: 58.51 bbl              | Tool Weight: 2500.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: inches      | Volume: 0.00 bbl               | Weight set on Packer: 25000.00 lb  |
| Drill Collar:             | Length: 150.00 ft  | Diameter: 2.75 inches | Volume: 1.10 bbl               | Weight to Pull Loose: 60000.00 lb  |
|                           |                    |                       | <u>Total Volume: 59.61 bbl</u> | Tool Chased ft                     |
| Drill Pipe Above KB:      | 34.00 ft           |                       |                                | String Weight: Initial 59000.00 lb |
| Depth to Top Packer:      | 4314.00 ft         |                       |                                | Final 60000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 96.00 ft           |                       |                                |                                    |
| Tool Length:              | 123.00 ft          |                       |                                |                                    |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                                |                                    |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|------------------|-------------|------------|----------|------------|----------------|
|------------------|-------------|------------|----------|------------|----------------|

|                 |       |      |         |         |                               |
|-----------------|-------|------|---------|---------|-------------------------------|
| Change Over Sub | 1.00  |      |         | 4288.00 |                               |
| Shut In Tool    | 5.00  |      |         | 4293.00 |                               |
| Hydraulic tool  | 5.00  |      |         | 4298.00 |                               |
| Jars            | 5.00  |      |         | 4303.00 |                               |
| Safety Joint    | 2.00  |      |         | 4305.00 |                               |
| Packer          | 5.00  |      |         | 4310.00 | 27.00 Bottom Of Top Packer    |
| Packer          | 4.00  |      |         | 4314.00 |                               |
| Stubb           | 1.00  |      |         | 4315.00 |                               |
| Recorder        | 0.00  | 6771 | Outside | 4315.00 |                               |
| Recorder        | 0.00  | 8368 | Inside  | 4315.00 |                               |
| Perforations    | 28.00 |      |         | 4343.00 |                               |
| Change Over Sub | 1.00  |      |         | 4344.00 |                               |
| Drill Pipe      | 60.00 |      |         | 4404.00 |                               |
| Change Over Sub | 1.00  |      |         | 4405.00 |                               |
| Bullnose        | 5.00  |      |         | 4410.00 | 96.00 Bottom Packers & Anchor |

**Total Tool Length: 123.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Larson Engineering Inc

**29-18s-29w Lane, KS**

562 W State RD 4  
Olmitz, KS 67564

**McWhirter JA #1-29**

Job Ticket: 46459

**DST#: 2**

ATTN: Bob Lew ellyn

Test Start: 2012.03.25 @ 09:45:00

## 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:

12000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.57 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

| Length<br>ft | Description     | Volume<br>bbbl |
|--------------|-----------------|----------------|
| 120.00       | W C M 80%M 20%W | 0.882          |
| 90.00        | M 100%M         | 1.062          |
| 90.00        | M 100% M        | 1.262          |

Total Length: 300.00 ft Total Volume: 3.206 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

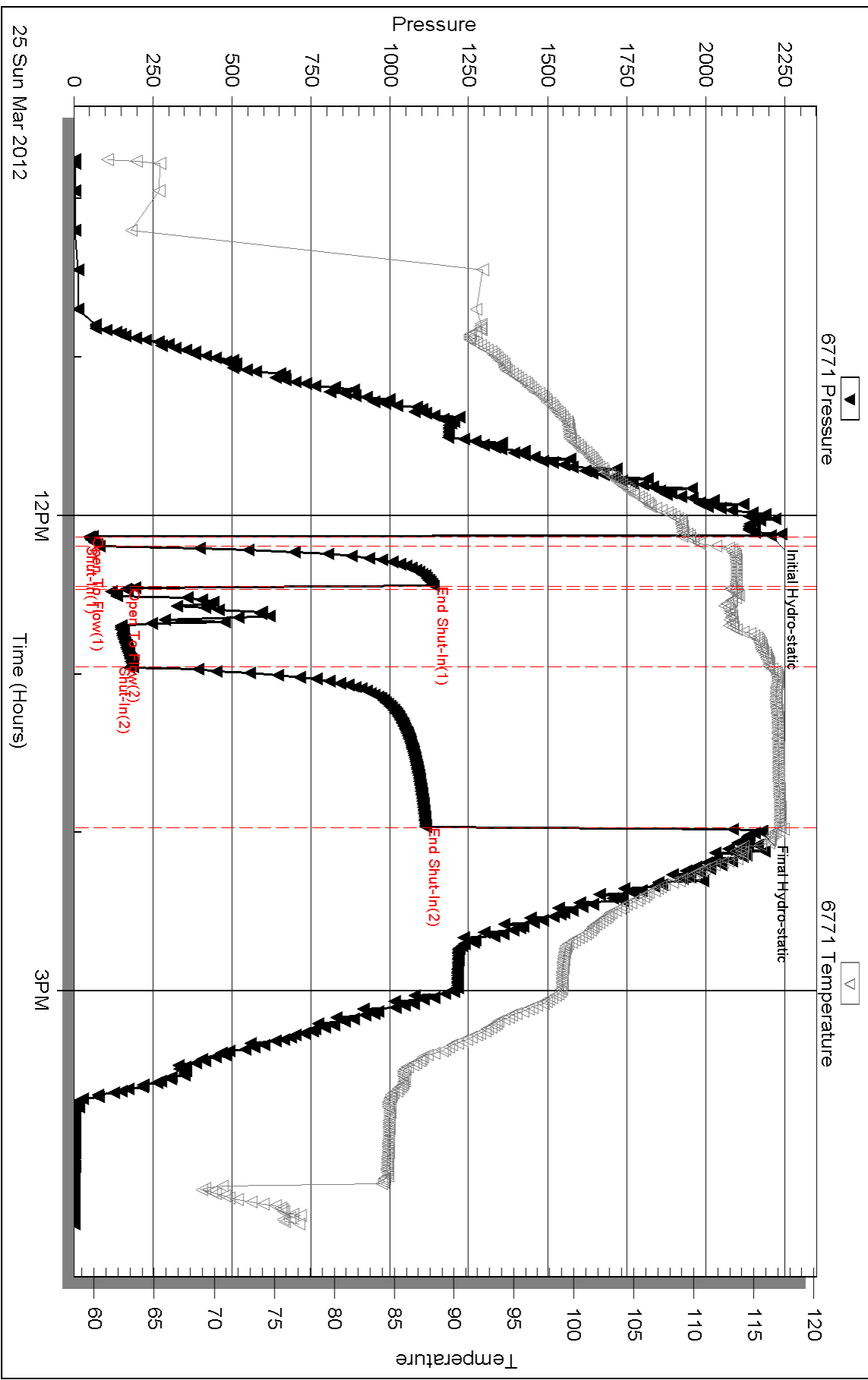
Serial #:

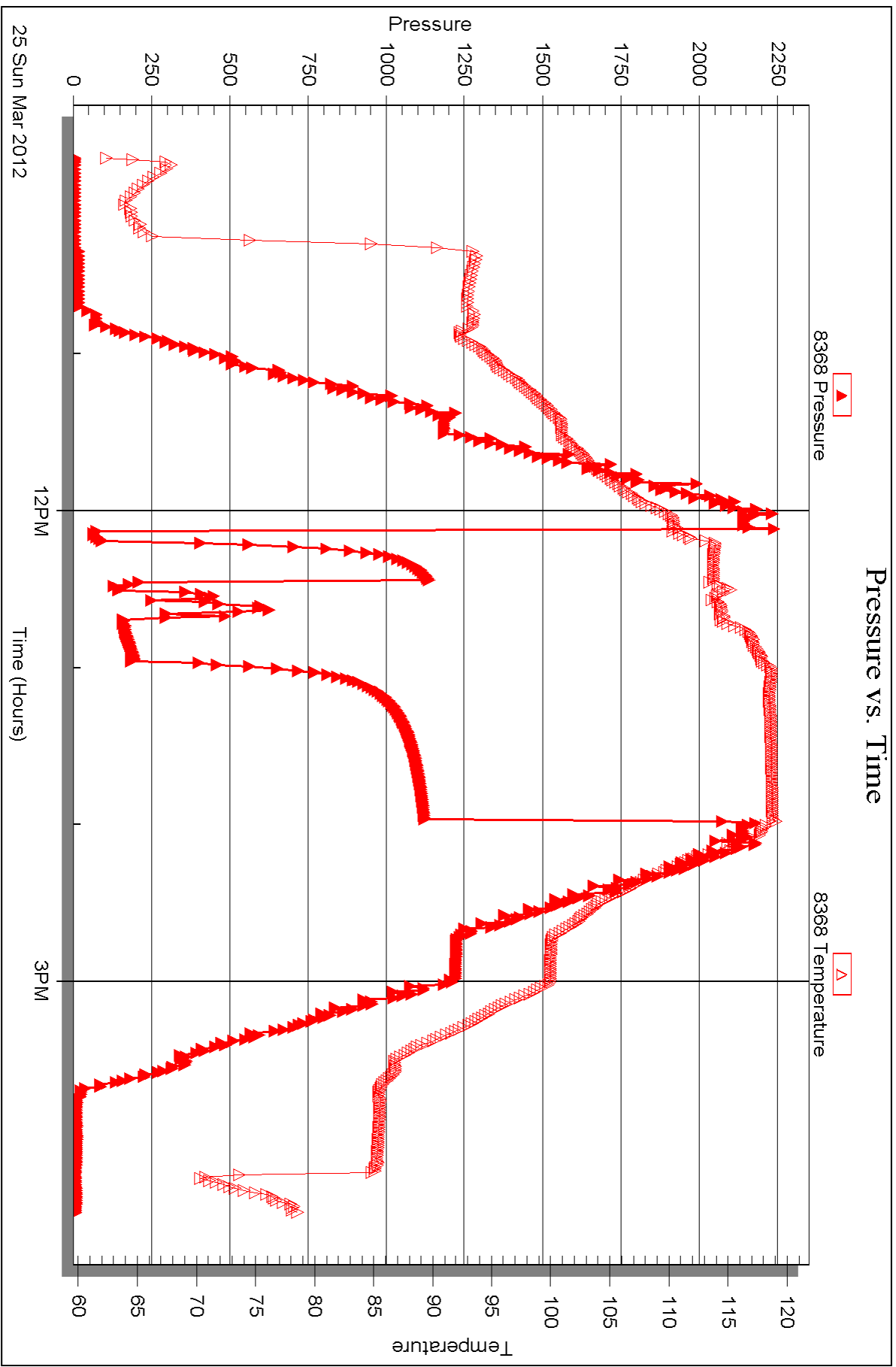
Laboratory Name:

Laboratory Location:

Recovery Comments: RW .473@81\*=12000 CHL

### Pressure vs. Time







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State RD 4  
Olmitz, KS 67564

ATTN: Bob Lewellyn

**McWhirter JA #1-29**

**29-18s-29w Lane,KS**

Start Date: 2012.03.26 @ 09:37:15

End Date: 2012.03.26 @ 15:47:00

Job Ticket #: 46460                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.04.11 @ 14:42:51



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Larson Engineering Inc  
 562 W State RD 4  
 Olmitz, KS 67564  
 ATTN: Bob Lew ellyn

**29-18s-29w Lane, KS**

**McWhirter JA #1-29**

Job Ticket: 46460

**DST#: 3**

Test Start: 2012.03.26 @ 09:37:15

## GENERAL INFORMATION:

Formation: **Pawnee-Ft Scott**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 12:36:45

Time Test Ended: 15:47:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Cole Archibald

Unit No: 55

Interval: **4427.00 ft (KB) To 4525.00 ft (KB) (TVD)**

Reference Elevations: 2828.00 ft (KB)

Total Depth: 4525.00 ft (KB) (TVD)

2821.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

**Serial #: 8368**

**Inside**

Press @ RunDepth: 40.17 psig @ 4428.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.03.26

End Date:

2012.03.26

Last Calib.:

2012.03.26

Start Time:

09:37:15

End Time:

15:47:00

Time On Btm:

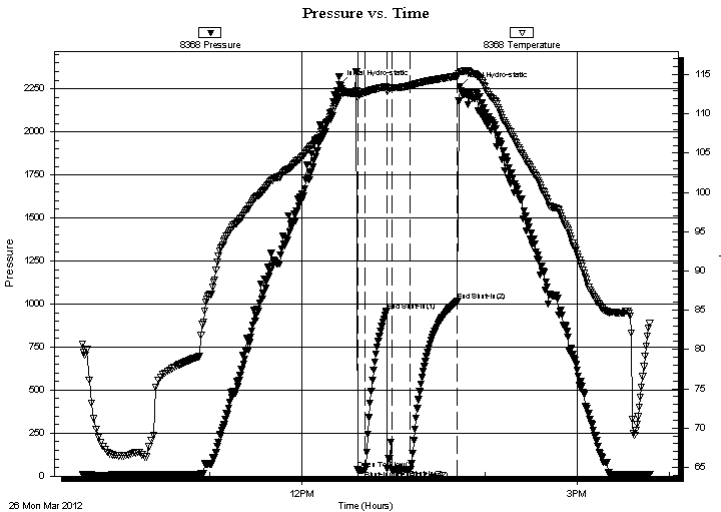
2012.03.26 @ 12:24:45

Time Off Btm:

2012.03.26 @ 13:43:15

TEST COMMENT: Very weak surface blow  
 No return  
 Very weak surface blow  
 No return

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2275.97         | 112.18       | Initial Hydro-static |
| 12          | 38.10           | 112.43       | Open To Flow (1)     |
| 17          | 33.67           | 112.72       | Shut-In(1)           |
| 31          | 957.27          | 113.46       | End Shut-In(1)       |
| 34          | 36.11           | 113.31       | Open To Flow (2)     |
| 47          | 40.17           | 113.61       | Shut-In(2)           |
| 77          | 1015.06         | 114.83       | End Shut-In(2)       |
| 79          | 2262.51         | 115.40       | Final Hydro-static   |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 5.00        | M 100% M    | 0.04         |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering Inc

**29-18s-29w Lane, KS**

562 W State RD 4  
Olmitz, KS 67564

**McWhirter JA #1-29**

Job Ticket: 46460

**DST#: 3**

ATTN: Bob Lew ellyn

Test Start: 2012.03.26 @ 09:37:15

## Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 4273.00 ft | Diameter: 3.80 inches | Volume: 59.94 bbl              | Tool Weight: 2500.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: inches      | Volume: 0.00 bbl               | Weight set on Packer: 30000.00 lb  |
| Drill Collar:             | Length: 150.00 ft  | Diameter: 2.75 inches | Volume: 1.10 bbl               | Weight to Pull Loose: 60000.00 lb  |
|                           |                    |                       | <u>Total Volume: 61.04 bbl</u> | Tool Chased ft                     |
| Drill Pipe Above KB:      | 23.00 ft           |                       |                                | String Weight: Initial 60000.00 lb |
| Depth to Top Packer:      | 4427.00 ft         |                       |                                | Final 60000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 98.00 ft           |                       |                                |                                    |
| Tool Length:              | 125.00 ft          |                       |                                |                                    |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                                |                                    |

Tool Comments:

## Tool Description

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

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths                |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Change Over Sub  | 1.00        |            |          | 4401.00    |                               |
| Shut In Tool     | 5.00        |            |          | 4406.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 4411.00    |                               |
| Jars             | 5.00        |            |          | 4416.00    |                               |
| Safety Joint     | 2.00        |            |          | 4418.00    |                               |
| Packer           | 5.00        |            |          | 4423.00    | 27.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 4427.00    |                               |
| Stubb            | 1.00        |            |          | 4428.00    |                               |
| Recorder         | 0.00        | 6771       | Outside  | 4428.00    |                               |
| Recorder         | 0.00        | 8368       | Inside   | 4428.00    |                               |
| Perforations     | 28.00       |            |          | 4456.00    |                               |
| Change Over Sub  | 1.00        |            |          | 4457.00    |                               |
| Drill Pipe       | 62.00       |            |          | 4519.00    |                               |
| Change Over Sub  | 1.00        |            |          | 4520.00    |                               |
| Bullnose         | 5.00        |            |          | 4525.00    | 98.00 Bottom Packers & Anchor |

**Total Tool Length: 125.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Larson Engineering Inc

**29-18s-29w Lane, KS**

562 W State RD 4  
Olmitz, KS 67564

**McWhirter JA #1-29**

Job Ticket: 46460

**DST#: 3**

ATTN: Bob Lew ellyn

Test Start: 2012.03.26 @ 09:37:15

## 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: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1900.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

| Length<br>ft | Description | Volume<br>bbl |
|--------------|-------------|---------------|
| 5.00         | M 100% M    | 0.037         |

Total Length: 5.00 ft      Total Volume: 0.037 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

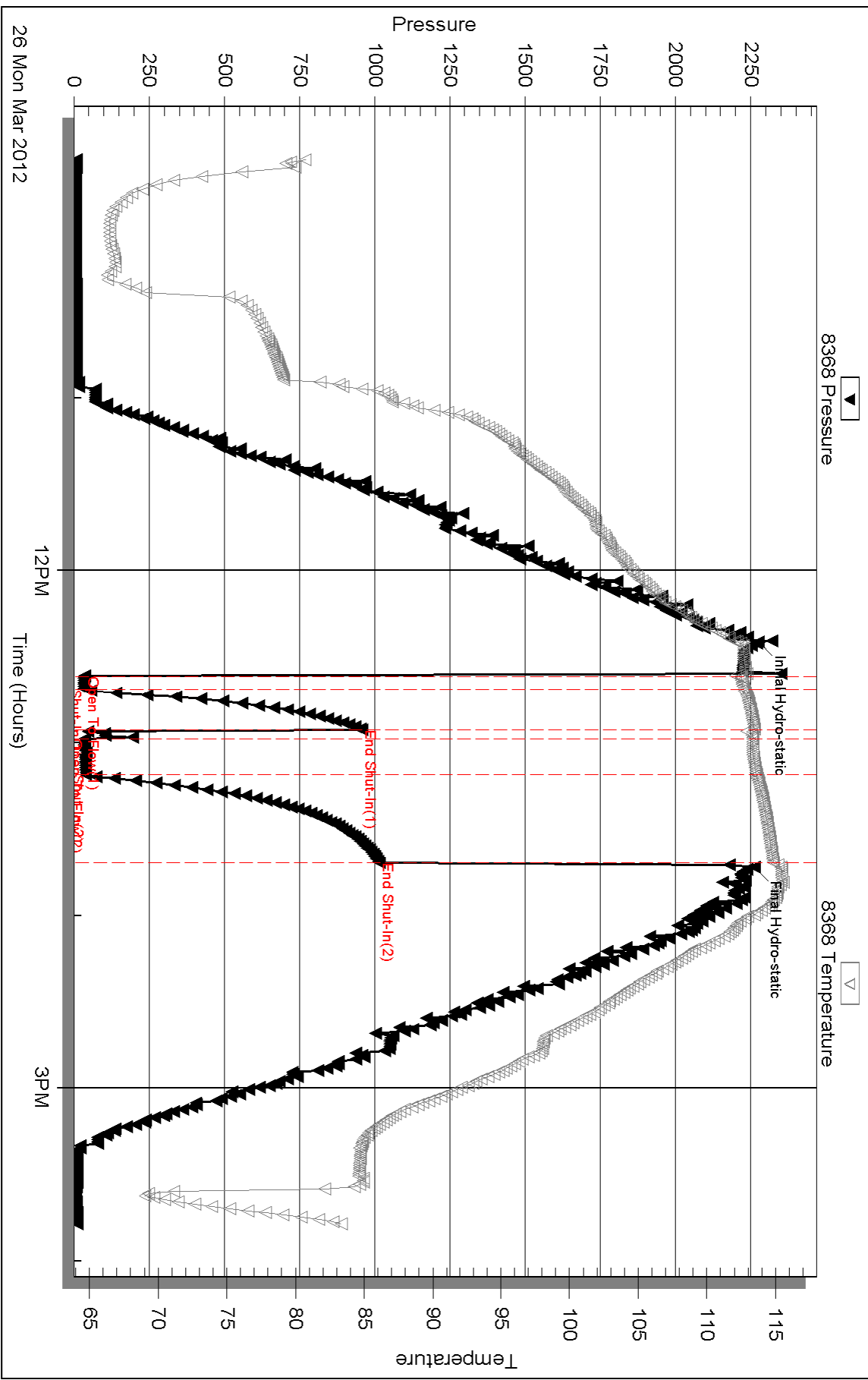
Laboratory Name:

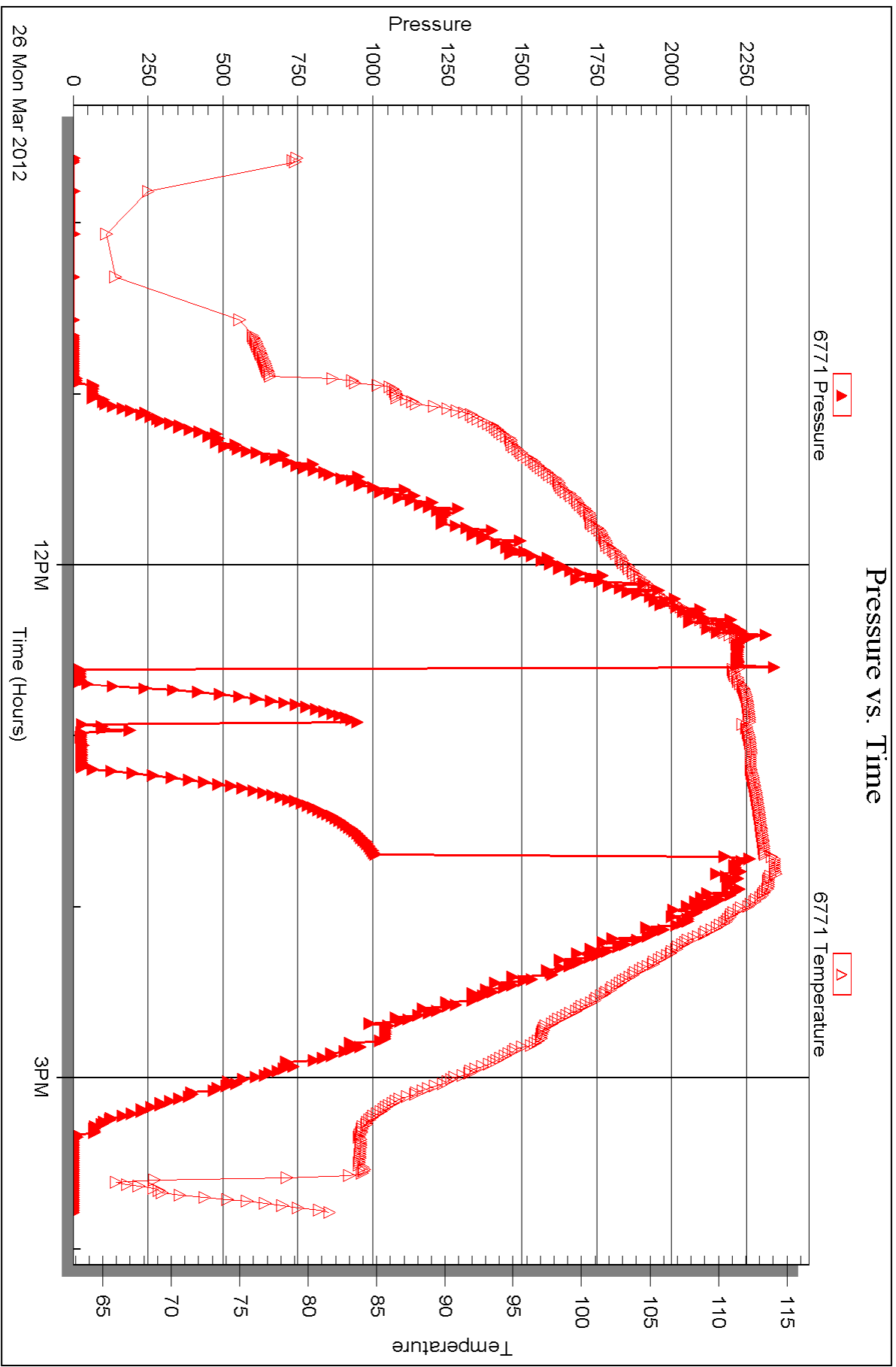
Laboratory Location:

Recovery Comments:



### Pressure vs. Time







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State RD 4  
Olmitz, KS 67564

ATTN: Bob Lewellyn

**McWhirter JA #1-29**

**29-18s-29w Lane,KS**

Start Date: 2012.03.27 @ 04:55:15

End Date: 2012.03.27 @ 12:08:45

Job Ticket #: 46461                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.04.11 @ 14:41:17



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Larson Engineering Inc  
 562 W State RD 4  
 Olmitz, KS 67564  
 ATTN: Bob Lew ellyn

**29-18s-29w Lane, KS**  
**McWhirter JA #1-29**  
 Job Ticket: 46461 **DST#: 4**  
 Test Start: 2012.03.27 @ 04:55:15

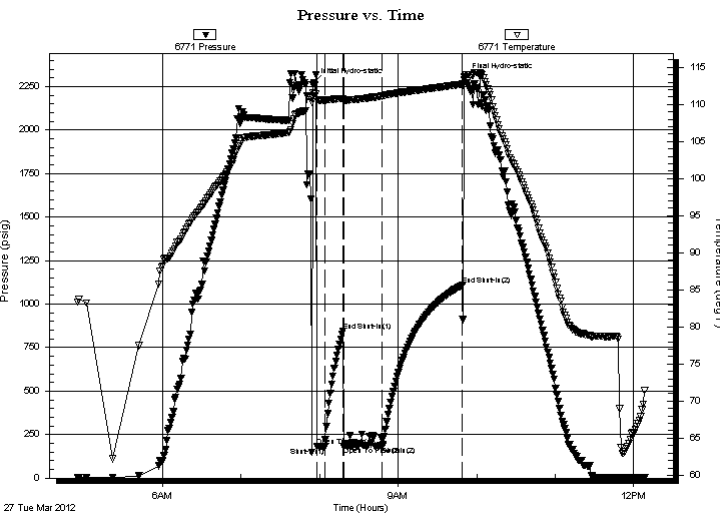
## GENERAL INFORMATION:

Formation: **Johnson**  
 Deviated: No Whipstock: 0.00 ft (KB)  
 Time Tool Opened: 07:58:00  
 Time Test Ended: 12:08:45  
 Interval: **4507.00 ft (KB) To 4570.00 ft (KB) (TVD)**  
 Total Depth: 4570.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Cole Archibald  
 Unit No: 55  
 Reference Elevations: 2828.00 ft (KB)  
 2821.00 ft (CF)  
 KB to GR/CF: 7.00 ft

## Serial #: 6771 Outside

Press @ Run Depth: 181.89 psig @ 4508.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.03.27 End Date: 2012.03.27 Last Calib.: 2012.03.27  
 Start Time: 04:55:15 End Time: 12:08:45 Time On Btm: 2012.03.27 @ 07:55:30  
 Time Off Btm: 2012.03.27 @ 09:51:15

TEST COMMENT: packers failed then held second try  
 No return  
 No blow  
 No return



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2273.46         | 111.54       | Initial Hydro-static |
| 3           | 182.01          | 110.62       | Open To Flow (1)     |
| 9           | 178.34          | 110.55       | Shut-In(1)           |
| 23          | 845.88          | 110.79       | End Shut-In(1)       |
| 23          | 183.46          | 110.58       | Open To Flow (2)     |
| 53          | 181.89          | 111.12       | Shut-In(2)           |
| 114         | 1108.03         | 112.73       | End Shut-In(2)       |
| 116         | 2298.61         | 113.98       | Final Hydro-static   |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 155.00      | M 100 %M    | 1.17         |
| 160.00      | M 100 %M    | 2.24         |
|             |             |              |
|             |             |              |
|             |             |              |

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering Inc

**29-18s-29w Lane, KS**

562 W State RD 4  
Olmitz, KS 67564

**McWhirter JA #1-29**

Job Ticket: 46461

**DST#: 4**

ATTN: Bob Lew ellyn

Test Start: 2012.03.27 @ 04:55:15

## Tool Information

|                           |                    |                       |                                |                        |             |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 4337.00 ft | Diameter: 3.80 inches | Volume: 60.84 bbl              | Tool Weight:           | 2500.00 lb  |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: inches      | Volume: 0.00 bbl               | Weight set on Packer:  | 30000.00 lb |
| Drill Collar:             | Length: 150.00 ft  | Diameter: 2.75 inches | Volume: 1.10 bbl               | Weight to Pull Loose:  | 65000.00 lb |
|                           |                    |                       | <u>Total Volume: 61.94 bbl</u> | Tool Chased            | ft          |
| Drill Pipe Above KB:      | 7.00 ft            |                       |                                | String Weight: Initial | 60000.00 lb |
| Depth to Top Packer:      | 4507.00 ft         |                       |                                | Final                  | 62000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                                |                        |             |
| Interval between Packers: | 63.00 ft           |                       |                                |                        |             |
| Tool Length:              | 90.00 ft           |                       |                                |                        |             |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                                |                        |             |

Tool Comments:

## Tool Description

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

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths                |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Change Over Sub  | 1.00        |            |          | 4481.00    |                               |
| Shut In Tool     | 5.00        |            |          | 4486.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 4491.00    |                               |
| Jars             | 5.00        |            |          | 4496.00    |                               |
| Safety Joint     | 2.00        |            |          | 4498.00    |                               |
| Packer           | 5.00        |            |          | 4503.00    | 27.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 4507.00    |                               |
| Stubb            | 1.00        |            |          | 4508.00    |                               |
| Recorder         | 0.00        | 6771       | Outside  | 4508.00    |                               |
| Recorder         | 0.00        | 8368       | Inside   | 4508.00    |                               |
| Perforations     | 25.00       |            |          | 4533.00    |                               |
| Change Over Sub  | 1.00        |            |          | 4534.00    |                               |
| Drill Pipe       | 30.00       |            |          | 4564.00    |                               |
| Change Over Sub  | 1.00        |            |          | 4565.00    |                               |
| Bullnose         | 5.00        |            |          | 4570.00    | 63.00 Bottom Packers & Anchor |

**Total Tool Length: 90.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Larson Engineering Inc

**29-18s-29w Lane, KS**

562 W State RD 4  
Olmitz, KS 67564

**McWhirter JA #1-29**

Job Ticket: 46461

**DST#: 4**

ATTN: Bob Lew ellyn

Test Start: 2012.03.27 @ 04:55:15

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

| Length<br>ft | Description | Volume<br>bbl |
|--------------|-------------|---------------|
| 155.00       | M 100 %M    | 1.172         |
| 160.00       | M 100 %M    | 2.244         |

Total Length: 315.00 ft      Total Volume: 3.416 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

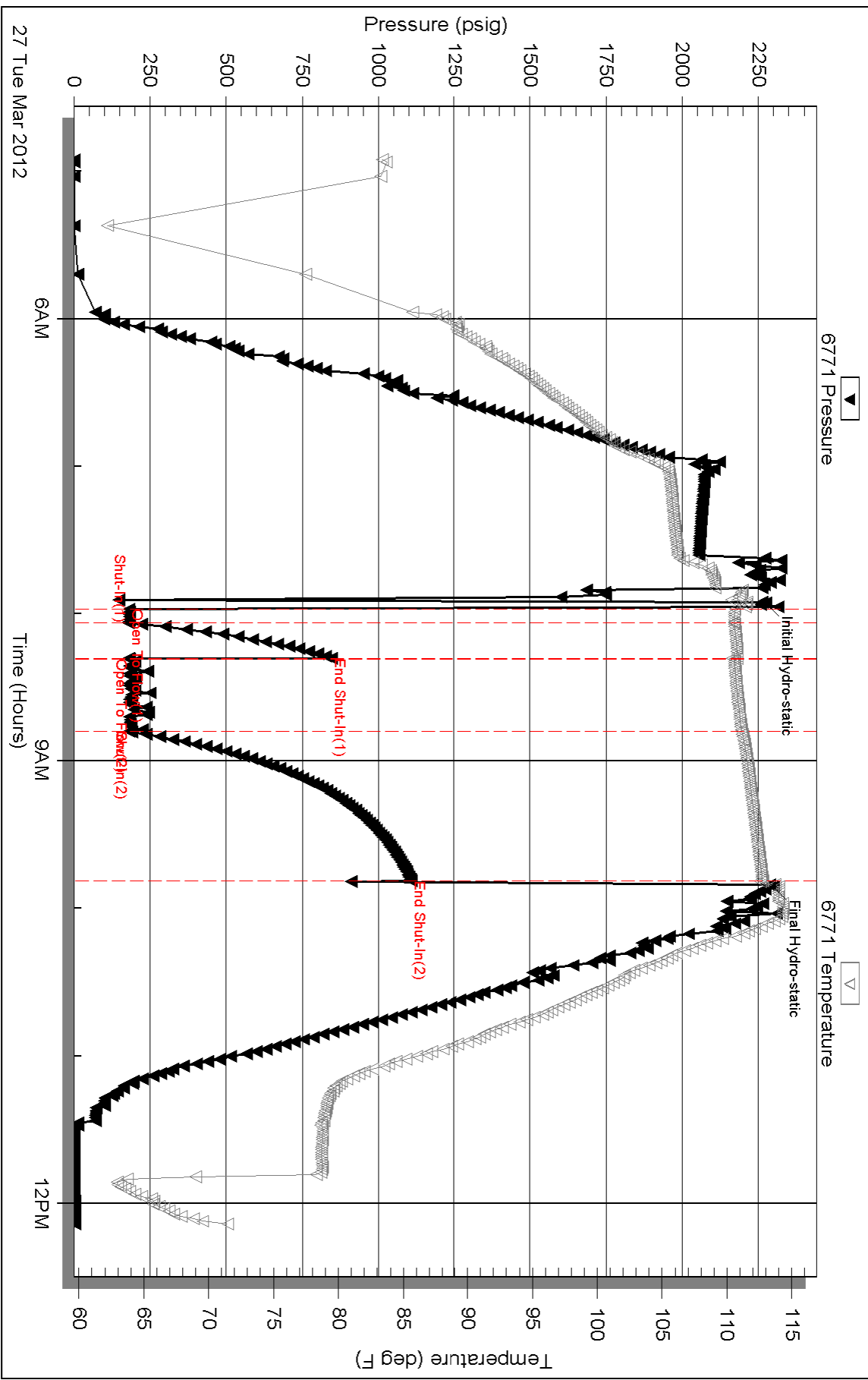
Serial #:

Laboratory Name:

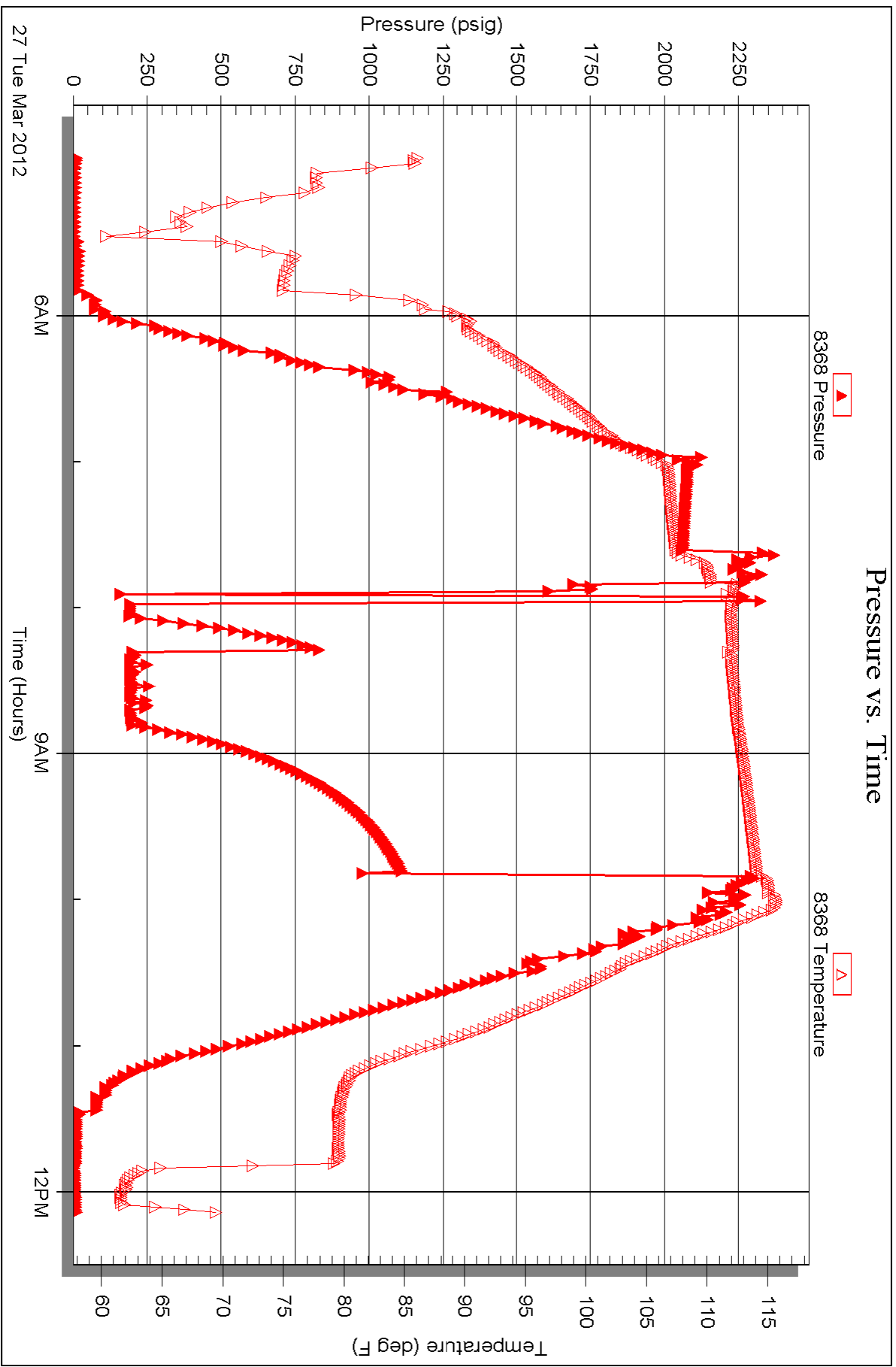
Laboratory Location:

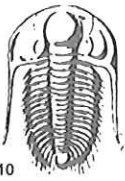
Recovery Comments: oil spots in tool.

### Pressure vs. Time









# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED  
APR 06 2012  
BY: \_\_\_\_\_

## Test Ticket

NO. 46458

Well Name & No. Mc Whirter JA 1-29 Test No. 1 Date 03-24-12  
 Company Larson Engineering inc Elevation 2828 KB 2821 GL  
 Address 562 W State RD 4 Olmitz KS 67564  
 Co. Rep / Geo. BOB Lewellyn Rig H-D #3  
 Location: Sec. 29 Twp. 18 S Rge. 29 W Co. Lane State KS

Interval Tested 4241 4270 Zone Tested Lansing - K  
 Anchor Length 29" Drill Pipe Run 4087" Mud Wt. 9.2  
 Top Packer Depth 4237 Drill Collars Run 150" Vis 48  
 Bottom Packer Depth 4241 Wt. Pipe Run — WL 7.6  
 Total Depth 4270 Chlorides 1,800 ppm System LCM 2#  
 Blow Description 1/4 inch blow  
NO Return  
1/4 inch blow  
NO Return

| Rec       | Feet of  | %gas | %oil | %water     | %mud |
|-----------|----------|------|------|------------|------|
| <u>60</u> | <u>M</u> |      |      | <u>100</u> |      |
| Rec       | Feet of  | %gas | %oil | %water     | %mud |
| Rec       | Feet of  | %gas | %oil | %water     | %mud |
| Rec       | Feet of  | %gas | %oil | %water     | %mud |

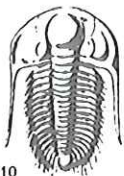
Rec Total 60 BHT 116 Gravity — API RW — @ — ° F Chlorides — ppm

|                                     |   |  |
|-------------------------------------|---|--|
| (A) Initial Hydrostatic <u>2157</u> | <input checked="" type="checkbox"/> Test <u>1225"</u>           | T-On Location <u>2:53</u>                    |
| (B) First Initial Flow <u>20</u>    | <input checked="" type="checkbox"/> Jars <u>250"</u>            | T-Started <u>3:44</u>                        |
| (C) First Final Flow <u>23</u>      | <input checked="" type="checkbox"/> Safety Joint <u>75"</u>     | T-Open <u>6:03</u>                           |
| (D) Initial Shut-In <u>643</u>      | <input checked="" type="checkbox"/> Circ Sub <u>N/C</u>         | T-Pulled <u>7:53</u>                         |
| (E) Second Initial Flow <u>39</u>   | <input type="checkbox"/> Hourly Standby                         | T-Out <u>9:51</u>                            |
| (F) Second Final Flow <u>44</u>     | <input type="checkbox"/> Mileage <u>58 R/T 81</u> <sup>20</sup> | Comments _____                               |
| (G) Final Shut-In <u>638</u>        | <input type="checkbox"/> Sampler                                |  |
| (H) Final Hydrostatic <u>2114</u>   | <input type="checkbox"/> Straddle                               | <input type="checkbox"/> Ruined Shale Packer |
| Initial Open <u>5</u>               | <input type="checkbox"/> Shale Packer                           | <input type="checkbox"/> Ruined Packer       |
| Initial Shut-In <u>15</u>           | <input type="checkbox"/> Extra Packer                           | <input type="checkbox"/> Extra Copies        |
| Final Flow <u>30</u>                | <input type="checkbox"/> Extra Recorder                         | Sub Total <u>Ø</u>                           |
| Final Shut-In <u>60</u>             | <input type="checkbox"/> Day Standby                            | Total <u>1631</u> <sup>20</sup>              |
|                                     | <input type="checkbox"/> Accessibility                          | MP/DST Disc't _____                          |
|                                     | Sub Total <u>1631</u> <sup>20</sup>                             |  |

Approved By [Signature]

Our Representative Cole Rich

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.

P.O. Box 1733 • Hays, Kansas 67601

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APR 06 2012

## Test Ticket

NO. 46459

Well Name & No. MC Whirter JA 1-24 Test No. 2 Date 3-25-12  
 Company Larson Engineering inc Elevation 2828 KB 2821 GL  
 Address 562 W State RD 4 Olinitz KS 67564  
 Co. Rep / Geo. Bob Lewellen Rig H-D #3  
 Location: Sec. 29 Twp. 18 S Rge. 29 W Co. Lane State KS

Interval Tested 4314-4410 Zone Tested Marmaton - Altamont  
 Anchor Length 96 Drill Pipe Run 4171 Mud Wt. 9.2  
 Top Packer Depth 4310 Drill Collars Run 150 Vis 60  
 Bottom Packer Depth 4314 Wt. Pipe Run — WL 7.6  
 Total Depth 4410 Chlorides 1,860 ppm System LCM 2  
 Blow Description Building blow 2 1/2 inches 5 Min  
NO return  
Building blow 7 inch 30 min  
NO return

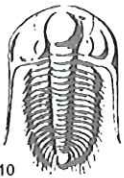
| Rec | Feet of | %gas | %oil | %water | %mud |
|-----|---------|------|------|--------|------|
| 120 | MCW     |      | 20   | 80     |      |
| 90  | M       |      |      | 100    |      |
| 90  | M       |      |      | 100    |      |
|     |         |      |      |        |      |
|     |         |      |      |        |      |

Rec Total \_\_\_\_\_ BHT 116° Gravity \_\_\_\_\_ API RW 473 @ 81° F Chlorides 12,000 ppm  
 (A) Initial Hydrostatic 2206  Test 1225" T-On Location 8:00  
 (B) First Initial Flow 49  Jars 250" T-Started 9:45  
 (C) First Final Flow 82  Safety Joint 75" T-Open 12:07  
 (D) Initial Shut-In 150, 139  Circ Sub N/C T-Pulled 13:57  
 (E) Second Initial Flow 164  Hourly Standby \_\_\_\_\_ T-Out 16:28  
 (F) Second Final Flow 186  Mileage 58 R/181<sup>20</sup> Comments \_\_\_\_\_  
 (G) Final Shut-In 2175  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic \_\_\_\_\_  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer 250"  Ruined Packer \_\_\_\_\_  
 Initial Open 5  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Shut-In 15  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Flow 30  Day Standby \_\_\_\_\_ Total 1881<sup>20</sup>  
 Final Shut-In 60  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1881<sup>20</sup>

Approved By [Signature] Our Representative [Signature]

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.

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## Test Ticket

NO. 46460

Well Name & No. MC Whirter JA 1-29 Test No. 3 Date 3-26-12  
 Company Larson Engineering inc Elevation 2828 KB 2821 GL  
 Address 562 W State RD 4 Olmitz KS 67564  
 Co. Rep / Geo. Bob Lewellyn Rig H-D 3  
 Location: Sec. 29 Twp. 18 S Rge. 29 W Co. Lane State KS

Interval Tested 4427-4525 Zone Tested Pawnee - Ft Scott  
 Anchor Length 98 Drill Pipe Run 4273 Mud Wt. 9.2  
 Top Packer Depth 4423 Drill Collars Run 150 Vis 58  
 Bottom Packer Depth 4427 Wt. Pipe Run — WL 7.6  
 Total Depth 4525 Chlorides 1,900 ppm System LCM 1  
 Blow Description Very weak surface blow  
NO return  
Very weak surface blow  
NO return.

| Rec      | Feet of  | %gas | %oil | %water     | %mud |
|----------|----------|------|------|------------|------|
| <u>5</u> | <u>M</u> |      |      | <u>100</u> |      |
| Rec      | Feet of  | %gas | %oil | %water     | %mud |
| Rec      | Feet of  | %gas | %oil | %water     | %mud |
| Rec      | Feet of  | %gas | %oil | %water     | %mud |
| Rec      | Feet of  | %gas | %oil | %water     | %mud |

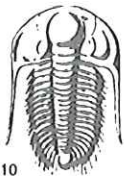
Rec Total 5 BHT 114° Gravity — API RW — @ — °F Chlorides — ppm

|                                     |   |                           |
|-------------------------------------|---|---------------------------|
| (A) Initial Hydrostatic <u>2276</u> | <input checked="" type="checkbox"/> Test <u>1225"</u>                   | T-On Location <u>8:30</u> |
| (B) First Initial Flow <u>38</u>    | <input checked="" type="checkbox"/> Jars <u>250"</u>                    | T-Started <u>9:37</u>     |
| (C) First Final Flow <u>34</u>      | <input checked="" type="checkbox"/> Safety Joint <u>75</u>              | T-Open <u>12:57</u>       |
| (D) Initial Shut-In <u>957</u>      | <input checked="" type="checkbox"/> Circ Sub <u>N/C</u>                 | T-Pulled <u>13:42</u>     |
| (E) Second Initial Flow <u>36</u>   | <input type="checkbox"/> Hourly Standby                                 | T-Out <u>15:47</u>        |
| (F) Second Final Flow <u>40</u>     | <input checked="" type="checkbox"/> Mileage <u>58 R+81<sup>20</sup></u> | Comments                  |
| (G) Final Shut-In <u>1015</u>       | <input type="checkbox"/> Sampler  |                           |
| (H) Final Hydrostatic <u>2263</u>   | <input type="checkbox"/> Straddle                                       |                           |

Initial Open 5  Shale Packer 250"  Ruined Shale Packer  
 Initial Shut-In 85  Extra Packer  Ruined Packer  
 Final Flow 15  Extra Recorder  Extra Copies  
 Final Shut-In 30  Day Standby  Sub Total 0  
 Sub Total 1881<sup>20</sup> Total 1881<sup>20</sup> MP/DST Disc't

Approved By [Signature] Our Representative Colt Overhulst

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# TRILOBITE TESTING INC.

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APR 06 2012

## Test Ticket

NO. 46461

BY: \_\_\_\_\_

Well Name & No. MC whipter JA 1-29 Test No. 4 Date 3-27-12  
 Company Larson Engineering Elevation 2828 KB 2821 GL  
 Address 562 W State RD 4 Olmitz KS 67564  
 Co. Rep / Geo. Bob Lewellen Rig H-D 3  
 Location: Sec. 29 Twp. 18S Rge. 29 W Co. Lane State KS

Interval Tested 4507-4570 Zone Tested Johnson Zone  
 Anchor Length 63 Drill Pipe Run 4337 Mud Wt. 9.5  
 Top Packer Depth 4570 4503 Drill Collars Run 150 Vis 51  
 Bottom Packer Depth 4507 Wt. Pipe Run — WL 7.6  
 Total Depth 4570 Chlorides 2,000 ppm System LCM 1  
 Blow Description NO blow Lost packer seat reset packers  
NO Return  
NO blow  
NO Return

| Rec        | Feet of  | %gas | %oil | %water     | %mud |
|------------|----------|------|------|------------|------|
| <u>315</u> | <u>M</u> |      |      | <u>100</u> |      |
| Rec        | Feet of  | %gas | %oil | %water     | %mud |
| Rec        | Feet of  | %gas | %oil | %water     | %mud |
| Rec        | Feet of  | %gas | %oil | %water     | %mud |
| Rec        | Feet of  | %gas | %oil | %water     | %mud |

Rec Total 315 BHT 111° Gravity — API RW — @ — °F Chlorides — ppm

|                                     |  |  |
|-------------------------------------|--|--|
| (A) Initial Hydrostatic <u>2273</u> | <input checked="" type="checkbox"/> Test <u>1225"</u>                    | T-On Location <u>4:00</u>                    |
| (B) First Initial Flow <u>182</u>   | <input checked="" type="checkbox"/> Jars <u>250"</u>                     | T-Started <u>4:55</u>                        |
| (C) First Final Flow <u>178</u>     | <input checked="" type="checkbox"/> Safety Joint <u>75"</u>              | T-Open <u>7:59</u>                           |
| (D) Initial Shut-In <u>846</u>      | <input checked="" type="checkbox"/> Circ Sub <u>N/C</u>                  | T-Pulled <u>9:49</u>                         |
| (E) Second Initial Flow <u>183</u>  | <input type="checkbox"/> Hourly Standby                                  | T-Out <u>12:08</u>                           |
| (F) Second Final Flow <u>182</u>    | <input checked="" type="checkbox"/> Mileage <u>58 Rt 81<sup>20</sup></u> | Comments _____                               |
| (G) Final Shut-In <u>1108</u>       | <input type="checkbox"/> Sampler   | _____  |
| (H) Final Hydrostatic <u>2299</u>   | <input type="checkbox"/> Straddle  | _____  |
|                                     | <input checked="" type="checkbox"/> Shale Packer <u>250"</u>             | <input type="checkbox"/> Ruined Shale Packer |
| Initial Open <u>5</u>               | <input type="checkbox"/> Extra Packer                                    | <input type="checkbox"/> Ruined Packer       |
| Initial Shut-In <u>15</u>           | <input type="checkbox"/> Extra Recorder                                  | <input type="checkbox"/> Extra Copies        |
| Final Flow <u>30</u>                | <input type="checkbox"/> Day Standby                                     | Sub Total <u>0</u>                           |
| Final Shut-In <u>60</u>             | <input type="checkbox"/> Accessibility                                   | Total <u>1881<sup>20</sup></u>               |
|                                     | Sub Total <u>1881<sup>20</sup></u>                                       | MP/DST Disc't _____                          |

Approved By [Signature] Our Representative [Signature]

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# Robert C. Lewellyn

Consulting Petroleum Geologist

P. O. Box 375  
Kechi, Kansas 67067-0375  
316-518-0495  
hoblewellyn@yahoo.com

## GEOLOGICAL REPORT

### Larson Engineering, Inc.

No. 1-29 McWhirter JA  
1963' FSL & 394' FEL Sec. 29-18S-29W  
Lane County, Kansas

CONTRACTOR: H D Drilling, LLC Rig 3  
SPUDDED: March 17, 2012  
DRILLING COMPLETED: March 28, 2012  
SURFACE CASING: 8 5/8" @ 262 KBM/175 sx.  
ELECTRIC LOGS: DIL CNL/CDL MEL  
ELEVATIONS: 2828 KB 2821 GL  
FORMATION TOPS: (Electric Log)

|                           |              |
|---------------------------|--------------|
| Anhydrite                 | 2161 (+ 667) |
| Base Anhydrite            | 2186 (+ 642) |
| Heebner Shale             | 3925 (-1097) |
| Lansing-Kansas City Group | 3966 (-1138) |
| Muncie Creek Shale        | 4144 (-1316) |
| Stark Shale               | 4251 (-1423) |
| Hushpuckney Shale         | 4287 (-1459) |
| Base Kansas City          | 4327 (-1499) |
| Marmaton                  | 4364 (-1536) |
| Altamont "A"              | 4398 (-1570) |
| Pawnee                    | 4442 (-1614) |
| Myrick Station            | 4467 (-1639) |
| Fort Scott                | 4491 (-1663) |
| Cherokee                  | 4516 (-1688) |
| Mississippian             | 4590 (-1762) |
| Electric Log Total Depth  | 4680 (-1852) |

Samples were examined microscopically from 3800 to Rotary Total Depth. Samples were examined wet and dry and samples from potentially productive zones were viewed under a fluoroscope and checked for oil cut. Following is a description of zones of interest, Drill Stem Tests, etc. For a complete lithologic description of all formations refer to the sample log in the back pages of this report.

Electric log total depth on this well was 4680, ten feet deeper than the driller's total depth of 4670. Therefore, depths on drill stem tests have been moved down 10 feet to correlate with the electric log measurements.

Lansing-Kansas City Zones:

3966-3970 (A Zone)

Limestone, cream to buff, dense to finely crystalline, chalky, slightly fossiliferous, zone is mostly tight with no shows of oil.

4001-4005 (B Zone)

Limestone, cream to buff, microcrystalline to finely crystalline, slightly fossiliferous, mostly tight with a trace of poor vugular porosity, some scattered dead stain and gilsonite, no show of live oil.

4021-4055 (C/D Zone)

Limestone, cream, dense to finely crystalline, chalky, zone is mostly tight with a trace of dead stain, no show of live oil,

4057-4064 (E Zone)

Limestone, cream, finely crystalline and partly fossiliferous, trace of very poor intercrystalline porosity, no show of oil, some scattered white to light gray chert, fresh, opaque.

4066-4072 (F Zone)

Limestone, cream to buff, some gray, dense to finely crystalline, fossiliferous in part, some poor scattered vugular porosity with trace of dead stain, no show of live oil, trace of chert as above.

4080-4088 (G Zone)

Limestone, cream, chalky and finely crystalline, partly oolitic, trace of poor oolitic porosity, no show of oil. Lower portion becomes chalky and dense, tight, no show of oil.

4156-4164 (H Zone)

Limestone, buff to tan, dense to finely crystalline and partly fossiliferous, scattered poor vugular porosity, some poor intercrystalline porosity, no show of oil.

4287-4206 (I Zone)

Limestone, cream to buff, some tan, dense to finely crystalline, slightly fossiliferous, some scattered poor vugular and intercrystalline porosity, no show of oil.

4230-4238 (J Zone)

Limestone, buff to tan, some brown, finely crystalline and finely oolitic, fair intercrystalline and



oolitic porosity, no show of oil.

4264-4269 (K Zone)

Limestone, buff to tan, some brown, dense to finely crystalline and slightly fossiliferous, poor to fair scattered intercrystalline and vugular porosity, poor to fair spotted stain, fair show of free oil, good odor, poor fluorescence, poor to fair cut.

Drill Stem Test No. 1            4251-4280

5-15-30-60; quarter-inch blow on first flow period, no blowback; quarter-inch blow on second period, no blowback. Recovered 60 feet of mud. ISIP 643# FSIP 638# IFP 20-23# FFP 39-44# IHP 2157# FHP 2114# BHT 110 degrees F.

4290-4292 (Middle Creek Zone)

Limestone, buff to tan to brown, dense to finely crystalline, slightly fossiliferous, zone is mostly tight with no shows of oil.

4294-4298 (L Zone)

Limestone, buff to tan to brown, some mottled, dense to finely crystalline and partly fossiliferous, zone is mostly tight with a fair to good odor, but no stain, no free oil, no fluorescence, no cut. Zone does not warrant further evaluation.

4327-4342 (Pleasanton Zone)

The Pleasanton section consisted of limestone, dense to finely crystalline, partly chalky, partly fossiliferous, poor to fair intercrystalline porosity, scattered poor spotted stain, very slight show of free oil, faint odor, poor fluorescence, poor to fair cut.

4363-4373 (Marmaton Zone)

Limestone, buff to tan to brown, dense to finely crystalline, some oolitic and dense oolitic, scattered poor to fair intercrystalline porosity, poor spotted stain, very slight show of free oil, faint odor, poor fluorescence, poor cut.

4398-4404 (Altamont "A" Zone)

Limestone, cream to buff, finely crystalline, trace of medium crystalline, few scattered calcite crystal inclusions, slightly fossiliferous, trace of oolitic, scattered fair intercrystalline and vugular porosity, show of free oil, faint to fair odor, fair spotted stain, poor fluorescence, poor to fair cut, few pieces with good show of free oil.

Drill Stem Test No. 2            4324-4420

5-15-30-60; blow built to 2 ½ " on first flow, no blowback; blow built to seven inches on second flow, no blowback. Recovered 120 feet of mud cut water (20% water, 80% mud) and 180 feet of mud (100% mud). ISIP 1139# FSIP 1113# IFP 49-82# FFP 104-186# IHP 2206# FHP 2175# BHT 116 degrees F.



4442-4449 (Pawnee Zone)

Limestone, cream to buff, some tan, some brown, dense to finely crystalline, slightly fossiliferous, scattered poor to fair vugular porosity, some "edge" porosity, poor to fair spotted stain, very slight show of free oil, faint fleeting odor, poor fluorescence, fair cut.

4472-4475 (Myrick Station Zone)

Limestone, buff to tan and brown, dense to finely crystalline, slightly fossiliferous, poor to fair vugular and "edge" porosity, some scattered spotted stain, very slight show of free oil, good odor, poor fluorescence, poor to fair cut.

4491-4496 (Fort Scott Zone)

Limestone, buff to tan to brown, some mottled, dense to finely crystalline and fossiliferous, partly oolitic, poor interoolitic and intercrystalline porosity, some poor vugular porosity, poor spotted stain, very slight show of free oil, fair to good odor, poor fluorescence, poor to fair cut. Lower portion of Fort Scott is tight with no shows of oil.

Drill Stem Test No. 3          4437-4535

5-5-15-30; very weak surface blow on first flow period, no blowback; very weak blow on second flow period, no blowback. Recovered five feet of mud. ISIP 957# FSIP 1015# IFP 38-34# FFP 36-40# IHP 2276# FHP 2263# BHT 114 degrees F.

4519-4548 (Cherokee Lime Zones)

Limestone, tan to brown, dense to finely crystalline, interval contains mostly tight limestone and contains no shows of oil.

4548-4569 (Johnson Zone)

Limestone, buff to tan, some gray, dense to finely crystalline, partly fossiliferous, some scattered medium crystalline, fair vugular and intercrystalline porosity, some interfossil porosity, fair show of free oil, good odor, poor to fair spotted stain, poor fluorescence, poor to fair cut.

Drill Stem Test No. 4          4517-4580

5-15-30-60; packer leaked on opening, reset packer, no blow on first flow period; no blow on second period. Recovered 315 feet of mud. ISIP 846# FSIP 1108# IFP 182-178# FFP 183-182# IHP 2273# FHP 2299# BHT 114 degrees F.

4572-4582 (Detrital Zone)

Scattered chert and limestone with sand, white, very fine grained, calcareous, fairly well cemented to partly friable, well sorted, subround, tight, no shows of oil in this section.

4590-4633 (Mississippi Limestone Zone)

Limestone, cream to buff, finely crystalline, some microcrystalline, brittle, some soft and chalky, interval is mostly tight with traces of very poor intercrystalline porosity, no shows of oil in this section.

4634-4680 (Mississippi Dolomite Zone)

Dolomite, buff to tan, fine to medium crystalline, scattered fair vugular and intercrystalline porosity, no shows of oil in this interval.

4680            Electric Log Total Depth

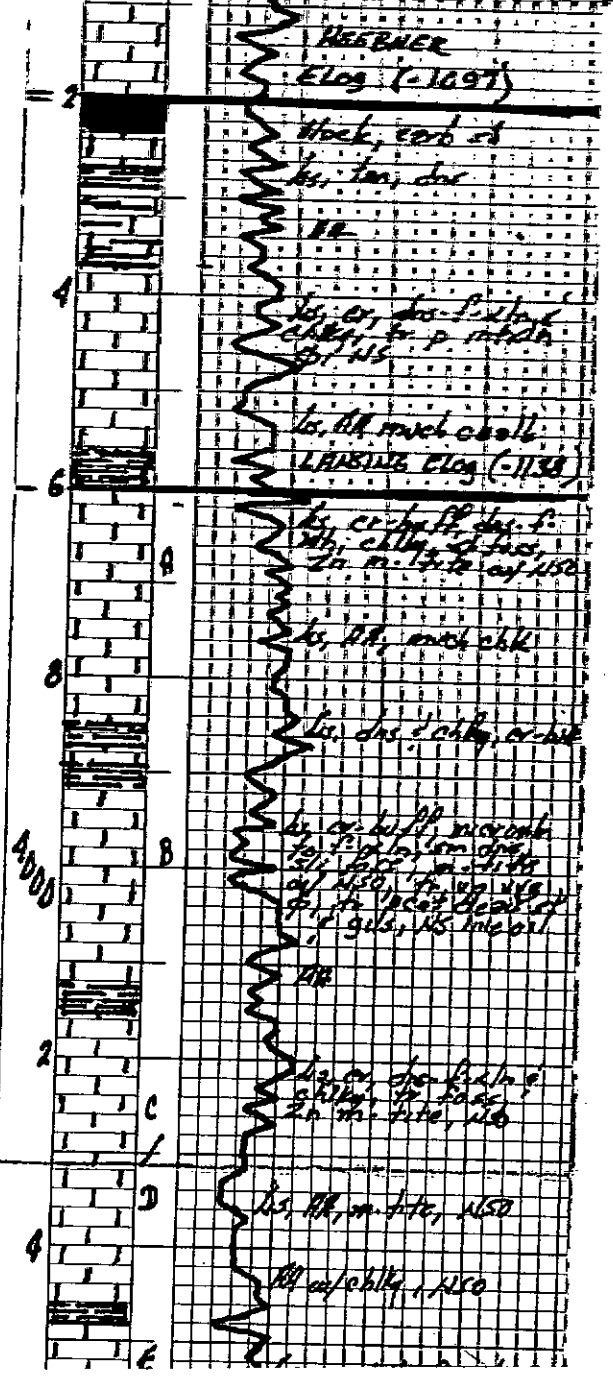
Recommendations and Conclusions:

This well ran low to the wells to the North and Northeast, but failed to develop any sand reservoirs in the Cherokee section. Sample examination, Drill Stem Testing, and Electric Logging failed to reveal any zones of possible commercial production. It was therefore recommended that the No.1-20 McWhirter JA be plugged and abandoned

Respectfully submitted

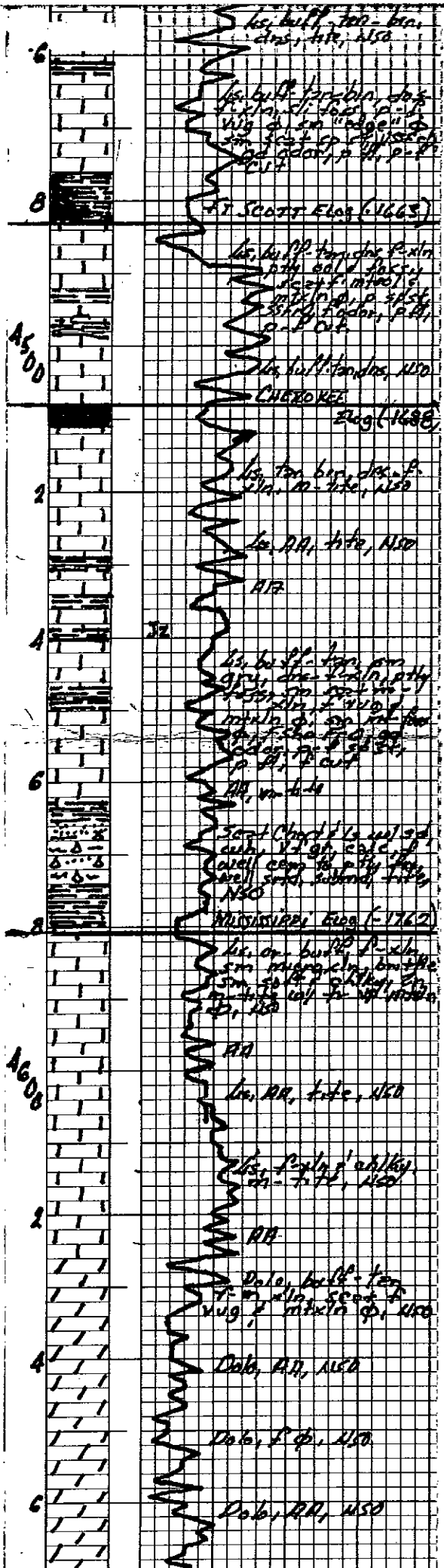
Robert C. Lewellyn  
Petroleum Geologist

STATE **KANSAS** COMPANY **Larson Engineering, Inc.**  
 COUNTY **LANE** FARM **McWhirter Jr 1-29** WELL NO.  
 BLOCK **1963 FSL & 394 FEL** SURVEY  
 SEC. **29**  
 T **18S** R **29W** TOTAL DEPTH **4670**  
 CONTRACTOR **HD Drig, LLC**  
 COMMENCED **03-17-2012**  
 COMPLETED **03-28-2012**  
 REMARKS  
 ALTITUDE **2828 KB**  
 PRODUCTION **Robert C. Kowellen - Geologist**  
**CASING RECORD**  
**8 1/8" @ 262 KBM / 175 sx**  
 Electric log TD was 4680, TEN FEET DEEPER THAN DRILLER'S TD









Conservation Division  
Finney State Office Building  
130 S. Market, Rm. 2078  
Wichita, KS 67202-3802



Phone: 316-337-6200  
Fax: 316-337-6211  
<http://kcc.ks.gov/>

Mark Sievers, Chairman  
Ward Loyd, Commissioner  
Thomas E. Wright, Commissioner

Sam Brownback, Governor

July 13, 2012

Thomas Larson  
Larson Engineering, Inc. dba Larson Operating  
Company  
562 W STATE RD 4  
OLMITZ, KS 67564-8561

Re: ACO1  
API 15-101-22358-00-00  
McWhirter JA 1-29  
SE/4 Sec.29-18S-29W  
Lane County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,  
Thomas Larson