



## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 West State Road #4  
Olmitz, KS 67564

ATTN: Vern Schrag

### **Dutoit #1-32**

#### **32-18s-30w Lane,KS**

Start Date: 2013.12.30 @ 01:11:00

End Date: 2013.12.30 @ 04:36:00

Job Ticket #: 54559                      DST #: 1

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

Printed: 2014.01.08 @ 09:37:40



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering Inc.  
 562 West State Road #4  
 Olmitz, KS 67564  
 ATTN: Vern Schrag

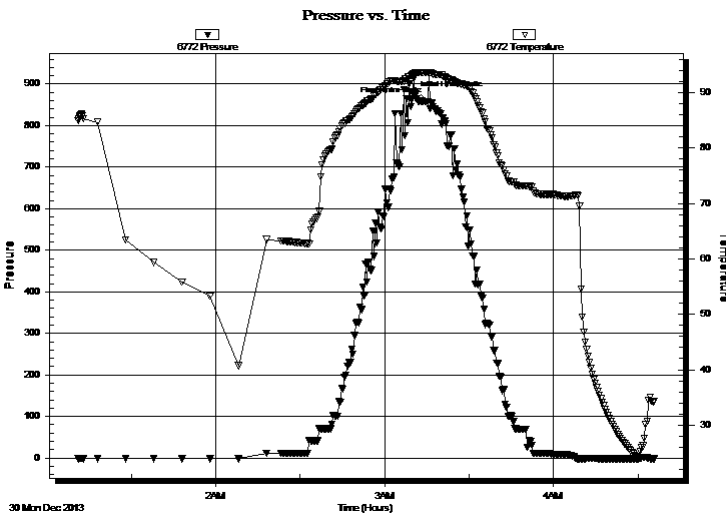
**32-18s-30w Lane, KS**  
**Dutoit #1-32**  
 Job Ticket: 54559 **DST#: 1**  
 Test Start: 2013.12.30 @ 01:11:00

## GENERAL INFORMATION:

Formation: **LKC "H"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened:  
 Time Test Ended: 04:36:00  
 Interval: **4126.00 ft (KB) To 4150.00 ft (KB) (TVD)**  
 Total Depth: 4150.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition:  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Sam Esparza  
 Unit No: 64  
 Reference Elevations: 2899.00 ft (KB)  
 2892.00 ft (CF)  
 KB to GR/CF: 7.00 ft

**Serial #: 6772 Inside**  
 Press@RunDepth: psig @ 4130.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.12.30 End Date: 2013.12.30 Last Calib.: 2013.12.30  
 Start Time: 01:11:05 End Time: 04:36:00 Time On Btm: 2013.12.30 @ 03:10:30  
 Time Off Btm: 2013.12.30 @ 03:15:30

TEST COMMENT: HIT A BRIDGE!!!



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 871.88          | 93.46        | Initial Hydro-static |
| 5           | 857.98          | 93.57        | Final Hydro-static   |

## Recovery

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

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering Inc.

**32-18s-30w Lane,KS**

562 West State Road #4  
Olmitz, KS 67564

**Dutoit #1-32**

Job Ticket: 54559

**DST#: 1**

ATTN: Vern Schrag

Test Start: 2013.12.30 @ 01:11:00

## Tool Information

|                           |                    |                       |                                |                        |             |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 3982.00 ft | Diameter: 3.80 inches | Volume: 55.86 bbl              | Tool Weight:           | 2500.00 lb  |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer:  | 30000.00 lb |
| Drill Collar:             | Length: 147.00 ft  | Diameter: 2.25 inches | Volume: 0.72 bbl               | Weight to Pull Loose:  | 0.00 lb     |
|                           |                    |                       | <u>Total Volume: 56.58 bbl</u> | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 30.00 ft           |                       |                                | String Weight: Initial | 30000.00 lb |
| Depth to Top Packer:      | 4126.00 ft         |                       |                                | Final                  | 30000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                                |                        |             |
| Interval between Packers: | 24.00 ft           |                       |                                |                        |             |
| Tool Length:              | 51.00 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  |      |         | 4100.00 |                               |
| Shut In Tool    | 5.00  |      |         | 4105.00 |                               |
| Hydraulic tool  | 5.00  |      |         | 4110.00 |                               |
| Jars            | 5.00  |      |         | 4115.00 |                               |
| Safety Joint    | 2.00  |      |         | 4117.00 |                               |
| Packer          | 5.00  |      |         | 4122.00 | 27.00 Bottom Of Top Packer    |
| Packer          | 4.00  |      |         | 4126.00 |                               |
| Stubb           | 1.00  |      |         | 4127.00 |                               |
| Perforations    | 3.00  |      |         | 4130.00 |                               |
| Recorder        | 0.00  | 6772 | Inside  | 4130.00 |                               |
| Recorder        | 0.00  | 8845 | Outside | 4130.00 |                               |
| Perforations    | 15.00 |      |         | 4145.00 |                               |
| Bullnose        | 5.00  |      |         | 4150.00 | 24.00 Bottom Packers & Anchor |

**Total Tool Length: 51.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Larson Engineering Inc.

**32-18s-30w Lane, KS**

562 West State Road #4  
Olmitz, KS 67564

**Dutoit #1-32**

Job Ticket: 54559

**DST#: 1**

ATTN: Vern Schrag

Test Start: 2013.12.30 @ 01:11:00

### 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: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.95 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2100.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description | Volume<br>bbbl |
|--------------|-------------|----------------|
|              |             |                |

Total Length:

ft

Total Volume:

bbbl

Num Fluid Samples: 0

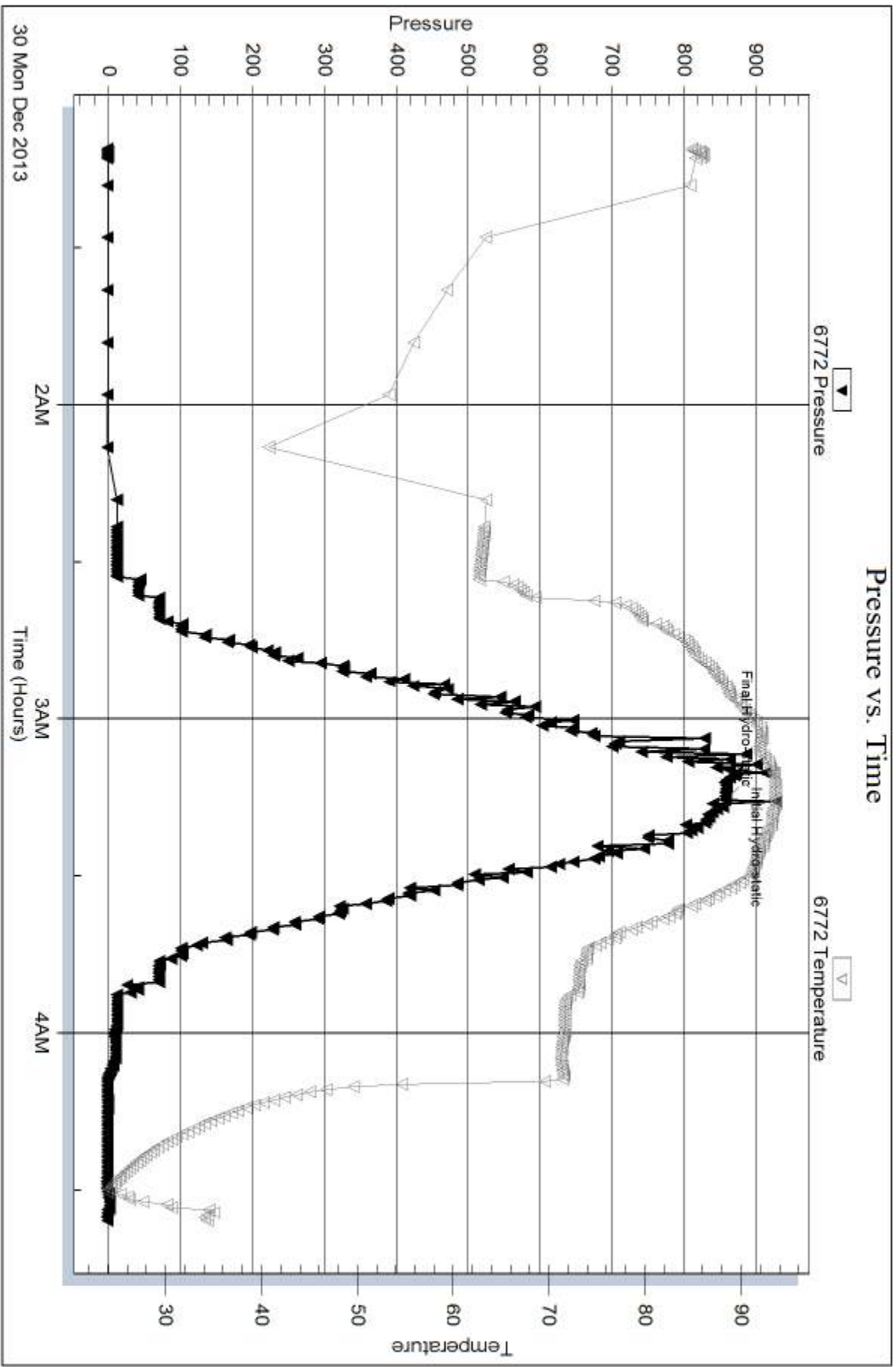
Num Gas Bombs: 0

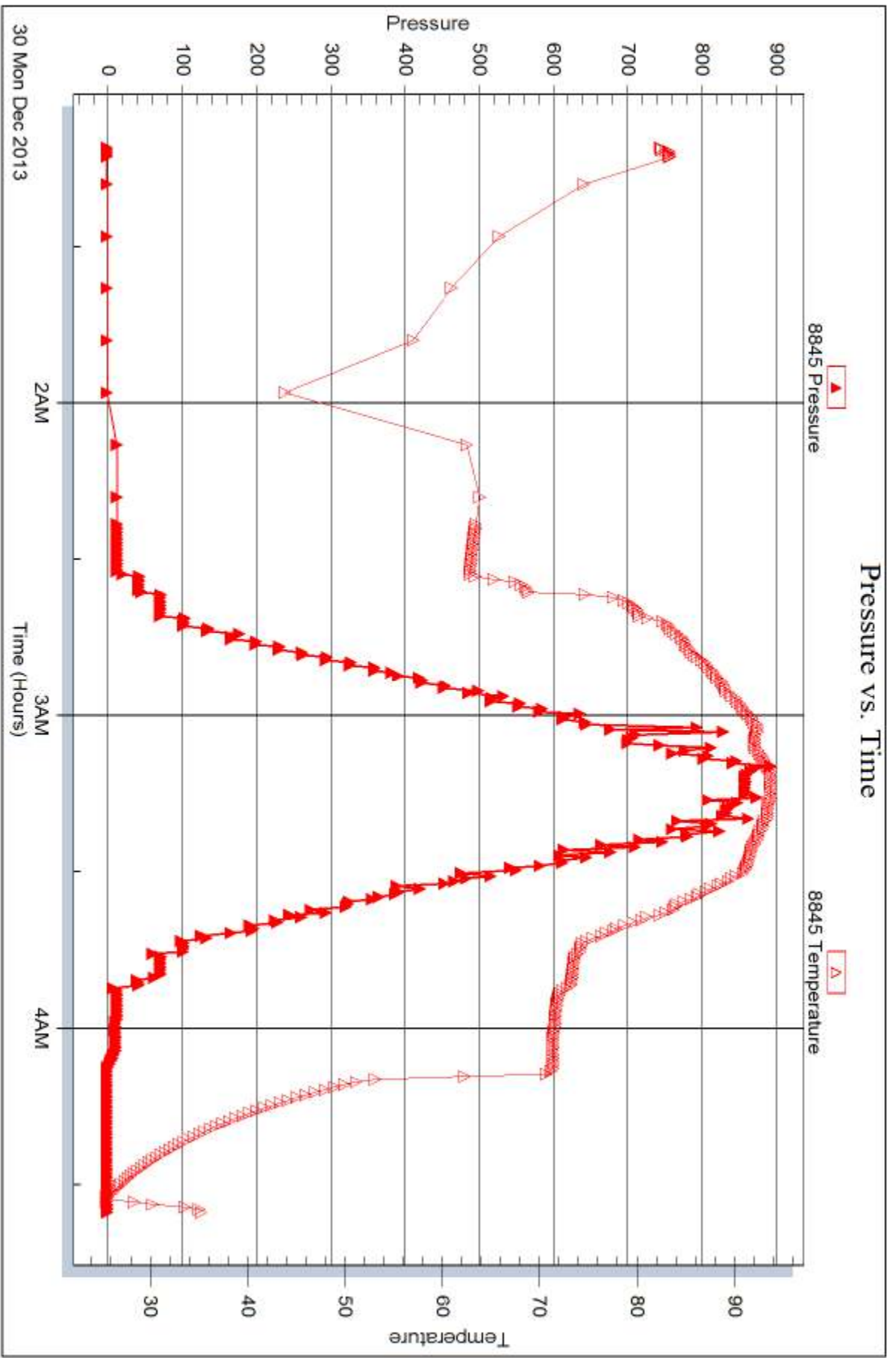
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 West State Road #4  
Olmitz, KS 67564

ATTN: Vern Schrag

### **Dutoit #1-32**

#### **32-18s-30w Lane,KS**

Start Date: 2013.12.30 @ 10:42:00

End Date: 2013.12.30 @ 15:06:30

Job Ticket #: 55670                      DST #: 2

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

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**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering Inc.

**32-18s-30w Lane,KS**

562 West State Road #4  
Olmitz, KS 67564

**Dutoit #1-32**

Job Ticket: 55670

**DST#: 2**

ATTN: Vern Schrag

Test Start: 2013.12.30 @ 10:42:00

## Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 3980.00 ft | Diameter: 3.80 inches | Volume: 55.83 bbl              | Tool Weight: 2500.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer: 30000.00 lb  |
| Drill Collar:             | Length: 148.00 ft  | Diameter: 2.25 inches | Volume: 0.73 bbl               | Weight to Pull Loose: 70000.00 lb  |
|                           |                    |                       | <u>Total Volume: 56.56 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 30.00 ft           |                       |                                | String Weight: Initial 56000.00 lb |
| Depth to Top Packer:      | 4126.00 ft         |                       |                                | Final 56000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 24.00 ft           |                       |                                |                                    |
| Tool Length:              | 52.00 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  |      |         | 4099.00 |                               |
| Shut In Tool    | 5.00  |      |         | 4104.00 |                               |
| Hydraulic tool  | 5.00  |      |         | 4109.00 |                               |
| Jars            | 5.00  |      |         | 4114.00 |                               |
| Safety Joint    | 3.00  |      |         | 4117.00 |                               |
| Packer          | 5.00  |      |         | 4122.00 | 28.00 Bottom Of Top Packer    |
| Packer          | 4.00  |      |         | 4126.00 |                               |
| Stubb           | 1.00  |      |         | 4127.00 |                               |
| Recorder        | 0.00  | 6772 | Outside | 4127.00 |                               |
| Recorder        | 0.00  | 8845 | Outside | 4127.00 |                               |
| Perforations    | 18.00 |      |         | 4145.00 |                               |
| Bullnose        | 5.00  |      |         | 4150.00 | 24.00 Bottom Packers & Anchor |

**Total Tool Length: 52.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Larson Engineering Inc.

**32-18s-30w Lane, KS**

562 West State Road #4  
Olmitz, KS 67564

**Dutoit #1-32**

Job Ticket: 55670

**DST#: 2**

ATTN: Vern Schrag

Test Start: 2013.12.30 @ 10:42:00

### 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: 64.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2100.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description       | Volume<br>bbl |
|--------------|-------------------|---------------|
| 5.00         | Mud ( Oil Spots ) | 0.025         |

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

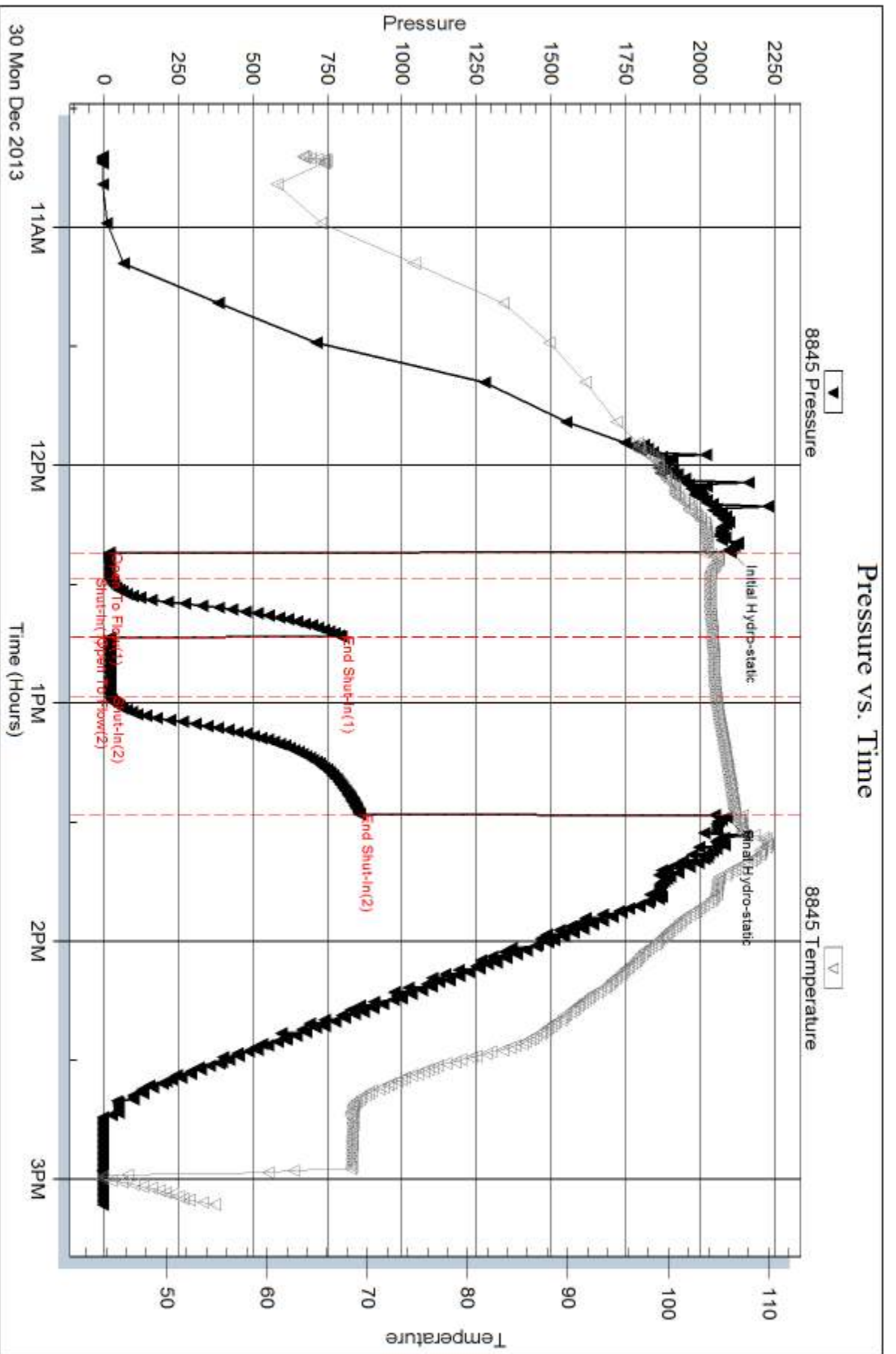
Num Gas Bombs: 0

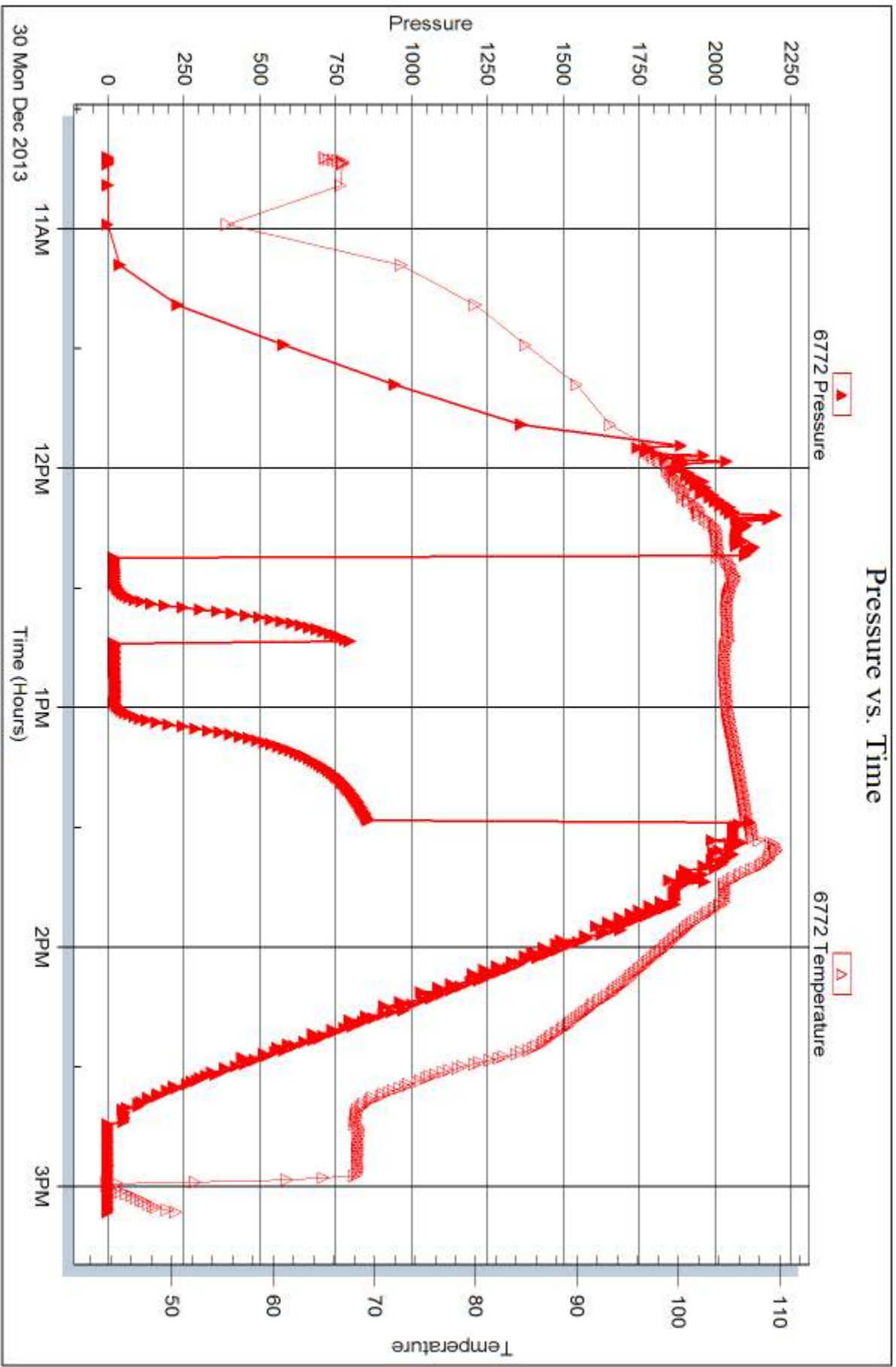
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 West State Road #4  
Olmitz, KS 67564

ATTN: Vern Schrag

### **Dutoit #1-32**

#### **32-18s-30w Lane,KS**

Start Date: 2013.12.31 @ 02:35:00

End Date: 2013.12.31 @ 07:46:15

Job Ticket #: 55671                      DST #: 3

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

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**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering Inc.  
562 West State Road #4  
Olmitz, KS 67564  
ATTN: Vern Schrag

**32-18s-30w Lane, KS**

**Dutoit #1-32**

Job Ticket: 55671

**DST#: 3**

Test Start: 2013.12.31 @ 02:35:00

## GENERAL INFORMATION:

Formation: **LKC " J "**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 04:24:00  
 Time Test Ended: 07:46:15  
 Interval: **4200.00 ft (KB) To 4212.00 ft (KB) (TVD)**  
 Total Depth: 4212.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Sam Esparza  
 Unit No: 64  
 Reference Elevations: 2899.00 ft (KB)  
 2892.00 ft (CF)  
 KB to GR/CF: 7.00 ft

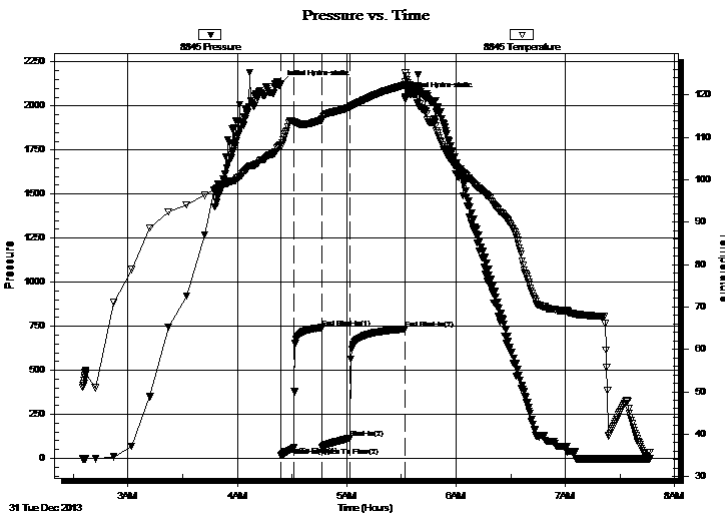
## Serial #: 8845

**Outside**

Press@RunDepth: 115.42 psig @ 4201.00 ft (KB)  
 Start Date: 2013.12.31 End Date: 2013.12.31  
 Start Time: 02:35:05 End Time: 07:46:14  
 Capacity: 8000.00 psig  
 Last Calib.: 2013.12.31  
 Time On Btm: 2013.12.31 @ 04:23:45  
 Time Off Btm: 2013.12.31 @ 05:32:00

TEST COMMENT: IF: 5" Blow.  
 IS: Weak Surface Return.  
 FF: BOB @ 13 min.  
 FS: 3/4" Return.

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2124.32         | 108.21       | Initial Hydro-static |
| 1           | 19.39           | 107.65       | Open To Flow (1)     |
| 8           | 60.95           | 113.63       | Shut-In(1)           |
| 23          | 742.48          | 114.11       | End Shut-In(1)       |
| 23          | 64.00           | 113.90       | Open To Flow (2)     |
| 38          | 115.42          | 117.15       | Shut-In(2)           |
| 68          | 734.14          | 122.30       | End Shut-In(2)       |
| 69          | 2054.61         | 123.13       | Final Hydro-static   |

## Recovery

| Length (ft) | Description           | Volume (bbl) |
|-------------|-----------------------|--------------|
| 120.00      | MOCW 5m 5o 90w        | 0.59         |
| 60.00       | GOWCM 10g 20o 30w 40m | 0.59         |
| 45.00       | GO 15g 85o            | 0.63         |
|             |                       |              |
|             |                       |              |

\* 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.

**32-18s-30w Lane,KS**

562 West State Road #4  
Olmitz, KS 67564

**Dutoit #1-32**

Job Ticket: 55671

**DST#: 3**

ATTN: Vern Schrag

Test Start: 2013.12.31 @ 02:35:00

## Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 4044.00 ft | Diameter: 3.80 inches | Volume: 56.73 bbl              | Tool Weight: 2500.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer: 30000.00 lb  |
| Drill Collar:             | Length: 148.00 ft  | Diameter: 2.25 inches | Volume: 0.73 bbl               | Weight to Pull Loose: 70000.00 lb  |
|                           |                    |                       | <u>Total Volume: 57.46 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 20.00 ft           |                       |                                | String Weight: Initial 56000.00 lb |
| Depth to Top Packer:      | 4200.00 ft         |                       |                                | Final 58000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 12.00 ft           |                       |                                |                                    |
| Tool Length:              | 40.00 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        |            |          | 4173.00    |                               |
| Shut In Tool     | 5.00        |            |          | 4178.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 4183.00    |                               |
| Jars             | 5.00        |            |          | 4188.00    |                               |
| Safety Joint     | 3.00        |            |          | 4191.00    |                               |
| Packer           | 5.00        |            |          | 4196.00    | 28.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 4200.00    |                               |
| Stubb            | 1.00        |            |          | 4201.00    |                               |
| Recorder         | 0.00        | 6772       | Outside  | 4201.00    |                               |
| Recorder         | 0.00        | 8845       | Outside  | 4201.00    |                               |
| Perforations     | 6.00        |            |          | 4207.00    |                               |
| Bullnose         | 5.00        |            |          | 4212.00    | 12.00 Bottom Packers & Anchor |

**Total Tool Length: 40.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Larson Engineering Inc.

**32-18s-30w Lane,KS**

562 West State Road #4  
Olmitz, KS 67564

**Dutoit #1-32**

Job Ticket: 55671

**DST#: 3**

ATTN: Vern Schrag

Test Start: 2013.12.31 @ 02:35:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

31 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

64000 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2200.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

| Length<br>ft | Description           | Volume<br>bbl |
|--------------|-----------------------|---------------|
| 120.00       | MOCW 5m 5o 90w        | 0.590         |
| 60.00        | GOWCM 10g 20o 30w 40m | 0.587         |
| 45.00        | GO 15g 85o            | 0.631         |

Total Length: 225.00 ft      Total Volume: 1.808 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

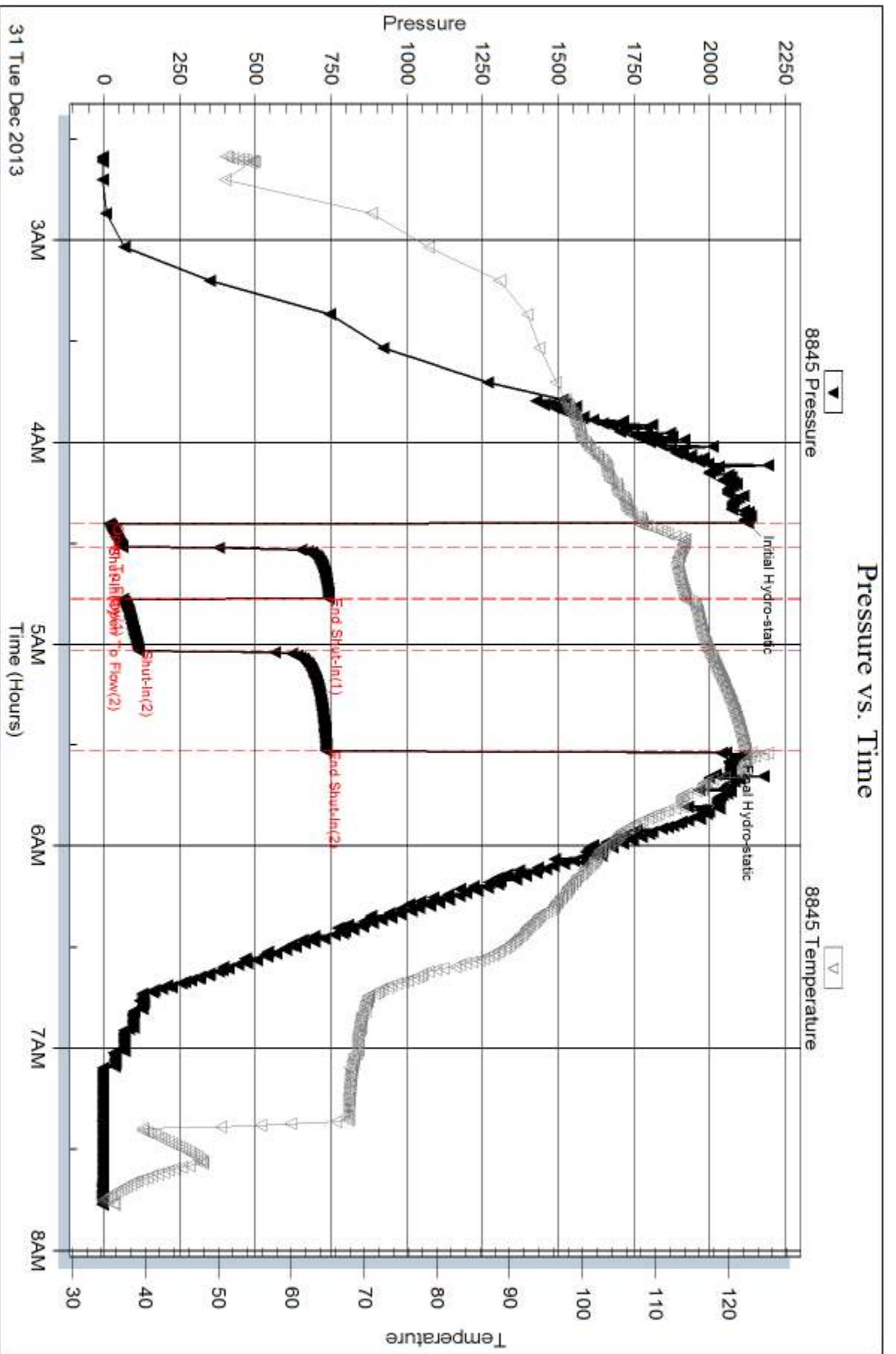
Serial #:

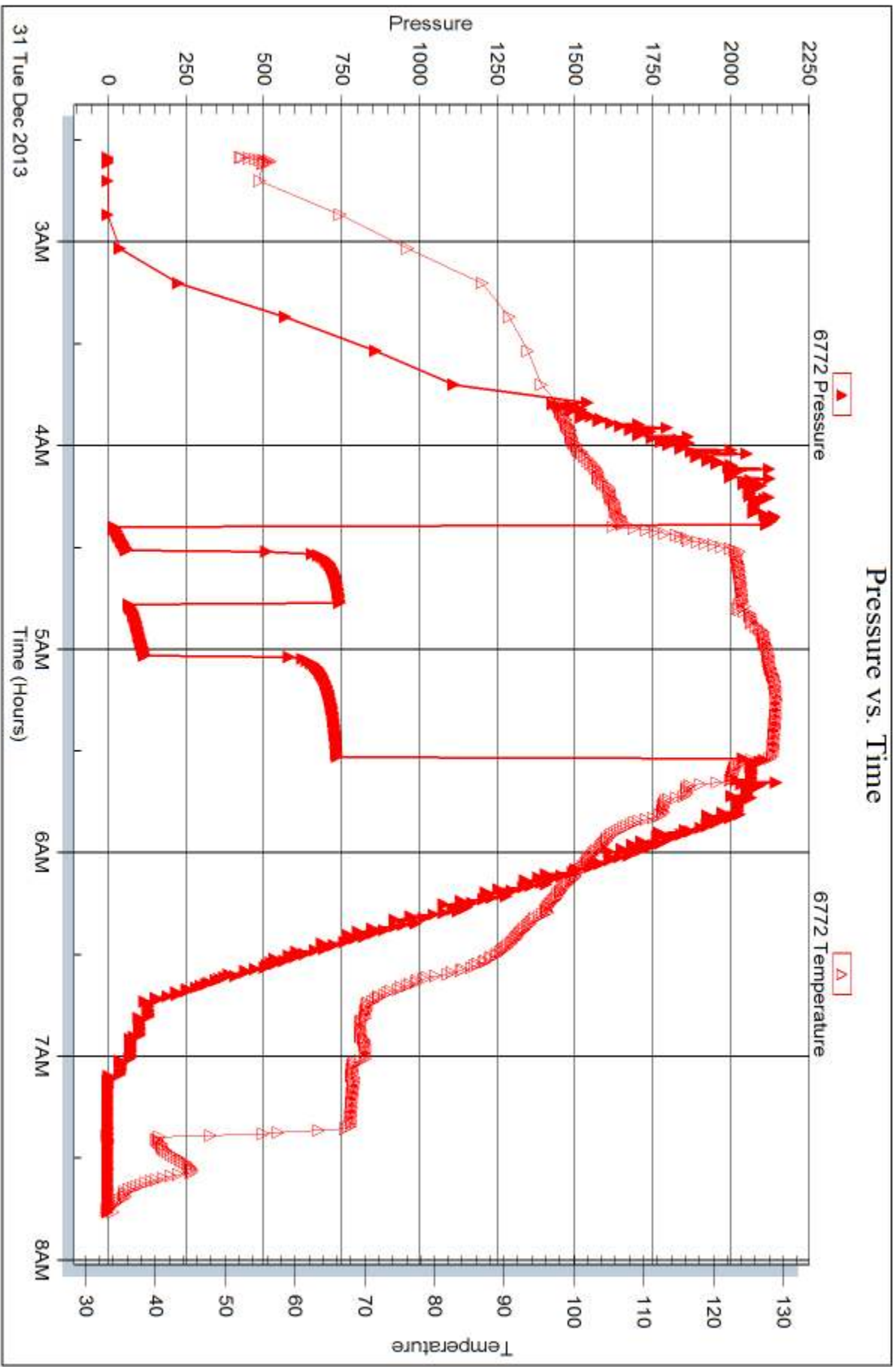
Laboratory Name:

Laboratory Location:

Recovery Comments: Oil API: 28 @ 30 degrees= 31 deg API

Water Salinity: .273 @ 30 degrees= 64,000 ppm







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 West State Road #4  
Olmitz, KS 67564

ATTN: Vern Schrag

### **Dutoit #1-32**

#### **32-18s-30w Lane,KS**

Start Date: 2013.12.31 @ 16:18:00

End Date: 2013.12.31 @ 20:46:15

Job Ticket #: 55672                      DST #: 4

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

Printed: 2014.01.08 @ 09:36:03



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering Inc.  
 562 West State Road #4  
 Olmitz, KS 67564  
 ATTN: Vern Schrag

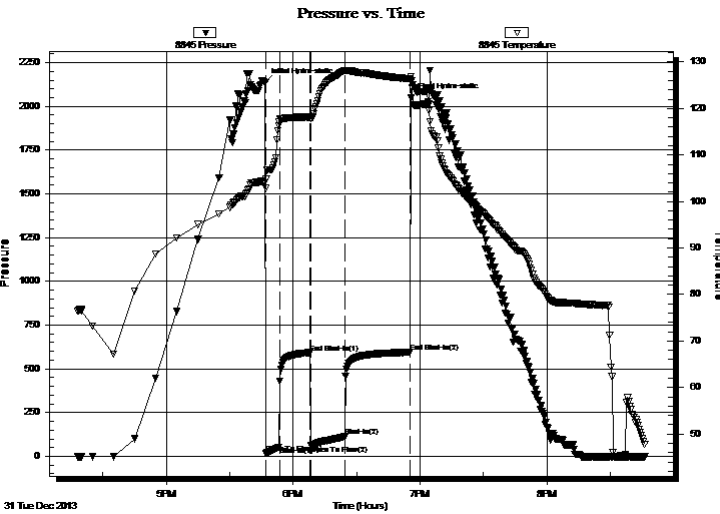
**32-18s-30w Lane, KS**  
**Dutoit #1-32**  
 Job Ticket: 55672 **DST#: 4**  
 Test Start: 2013.12.31 @ 16:18:00

## GENERAL INFORMATION:

Formation: **LKC " K "**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 17:47:00  
 Time Test Ended: 20:46:15  
**Interval: 4230.00 ft (KB) To 4242.00 ft (KB) (TVD)**  
 Total Depth: 4242.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Sam Esparza  
 Unit No: 64  
 Reference Elevations: 2899.00 ft (KB)  
 2892.00 ft (CF)  
 KB to GR/CF: 7.00 ft

**Serial #: 8845 Outside**  
 Press@RunDepth: 111.85 psig @ 4231.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.12.31 End Date: 2013.12.31 Last Calib.: 2013.12.31  
 Start Time: 16:18:05 End Time: 20:46:14 Time On Btm: 2013.12.31 @ 17:46:45  
 Time Off Btm: 2013.12.31 @ 18:55:45

**TEST COMMENT:** IF: 4" Blow.  
 IS: Weak Surface Return.  
 FF: 8 1/2" Blow.  
 FS: Weak Surface Return.



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2136.80         | 103.96       | Initial Hydro-static |
| 1           | 17.83           | 102.86       | Open To Flow (1)     |
| 7           | 54.89           | 117.12       | Shut-In(1)           |
| 22          | 592.75          | 118.13       | End Shut-In(1)       |
| 22          | 62.36           | 117.81       | Open To Flow (2)     |
| 38          | 111.85          | 128.08       | Shut-In(2)           |
| 69          | 594.53          | 126.35       | End Shut-In(2)       |
| 69          | 2048.33         | 126.86       | Final Hydro-static   |

## Recovery

| Length (ft) | Description                              | Volume (bbl) |
|-------------|--|--------------|
| 180.00      | MCW 10m 90w ( Oil spots on top of tool ) | 1.18         |
| 40.00       | WCM 30w 70m                              | 0.56         |
|             |  |              |
|             |  |              |
|             |  |              |

\* 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.

**32-18s-30w Lane,KS**

562 West State Road #4  
Olmitz, KS 67564

**Dutoit #1-32**

Job Ticket: 55672

**DST#: 4**

ATTN: Vern Schrag

Test Start: 2013.12.31 @ 16:18:00

## Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 4074.00 ft | Diameter: 3.80 inches | Volume: 57.15 bbl              | Tool Weight: 2500.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer: 30000.00 lb  |
| Drill Collar:             | Length: 148.00 ft  | Diameter: 2.25 inches | Volume: 0.73 bbl               | Weight to Pull Loose: 75000.00 lb  |
|                           |                    |                       | <u>Total Volume: 57.88 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 20.00 ft           |                       |                                | String Weight: Initial 56000.00 lb |
| Depth to Top Packer:      | 4230.00 ft         |                       |                                | Final 57000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 12.00 ft           |                       |                                |                                    |
| Tool Length:              | 40.00 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        |            |          | 4203.00    |                               |
| Shut In Tool     | 5.00        |            |          | 4208.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 4213.00    |                               |
| Jars             | 5.00        |            |          | 4218.00    |                               |
| Safety Joint     | 3.00        |            |          | 4221.00    |                               |
| Packer           | 5.00        |            |          | 4226.00    | 28.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 4230.00    |                               |
| Stubb            | 1.00        |            |          | 4231.00    |                               |
| Recorder         | 0.00        | 6772       | Outside  | 4231.00    |                               |
| Recorder         | 0.00        | 8845       | Outside  | 4231.00    |                               |
| Perforations     | 6.00        |            |          | 4237.00    |                               |
| Bullnose         | 5.00        |            |          | 4242.00    | 12.00 Bottom Packers & Anchor |

**Total Tool Length: 40.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Larson Engineering Inc.

**32-18s-30w Lane, KS**

562 West State Road #4  
Olmitz, KS 67564

**Dutoit #1-32**

Job Ticket: 55672

**DST#: 4**

ATTN: Vern Schrag

Test Start: 2013.12.31 @ 16:18:00

### 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:

42000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.38 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3200.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description                              | Volume<br>bbbl |
|--------------|--|----------------|
| 180.00       | MCW 10m 90w ( Oil spots on top of tool ) | 1.177          |
| 40.00        | WCM 30w 70m                              | 0.561          |

Total Length: 220.00 ft      Total Volume: 1.738 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

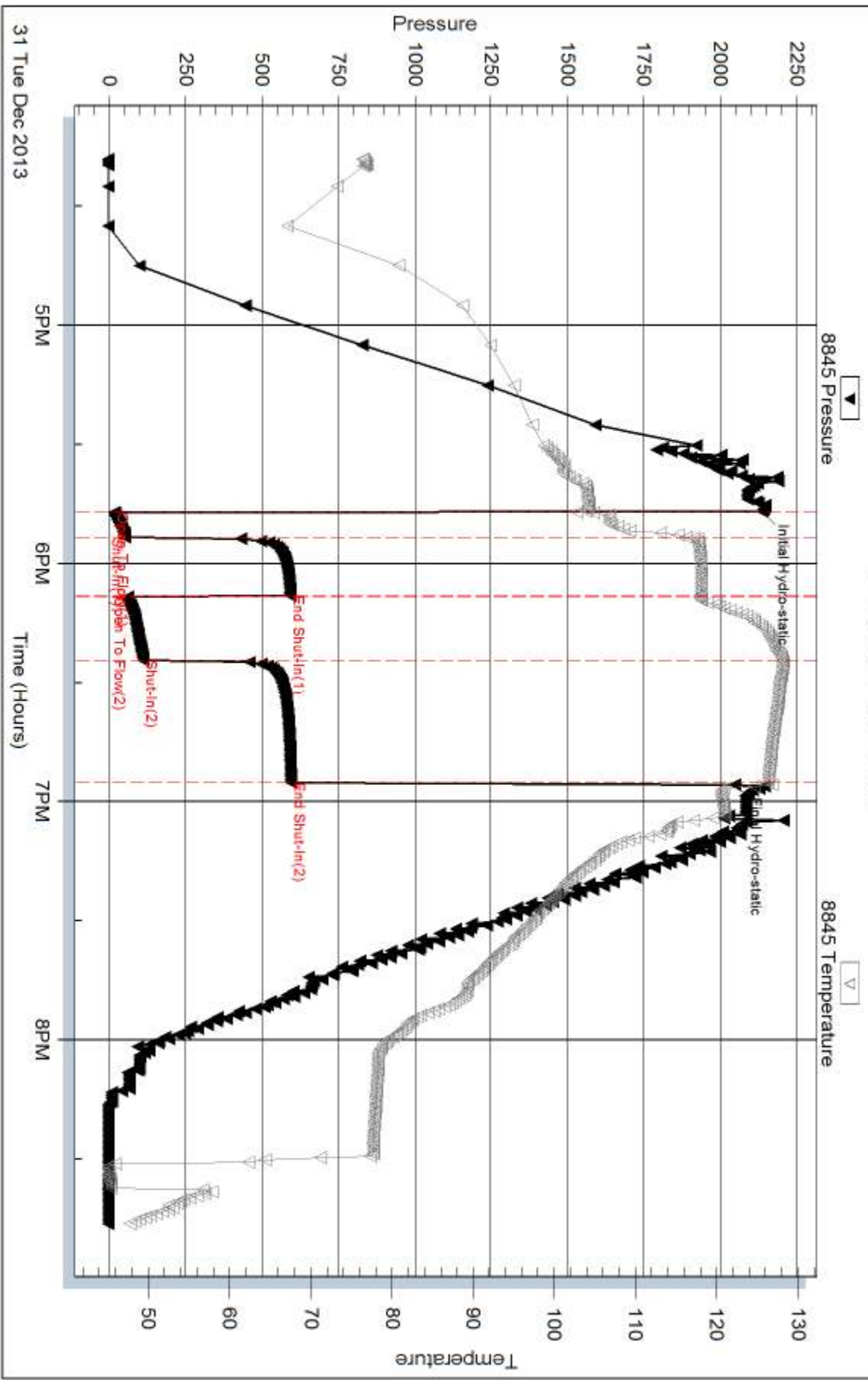
Serial #:

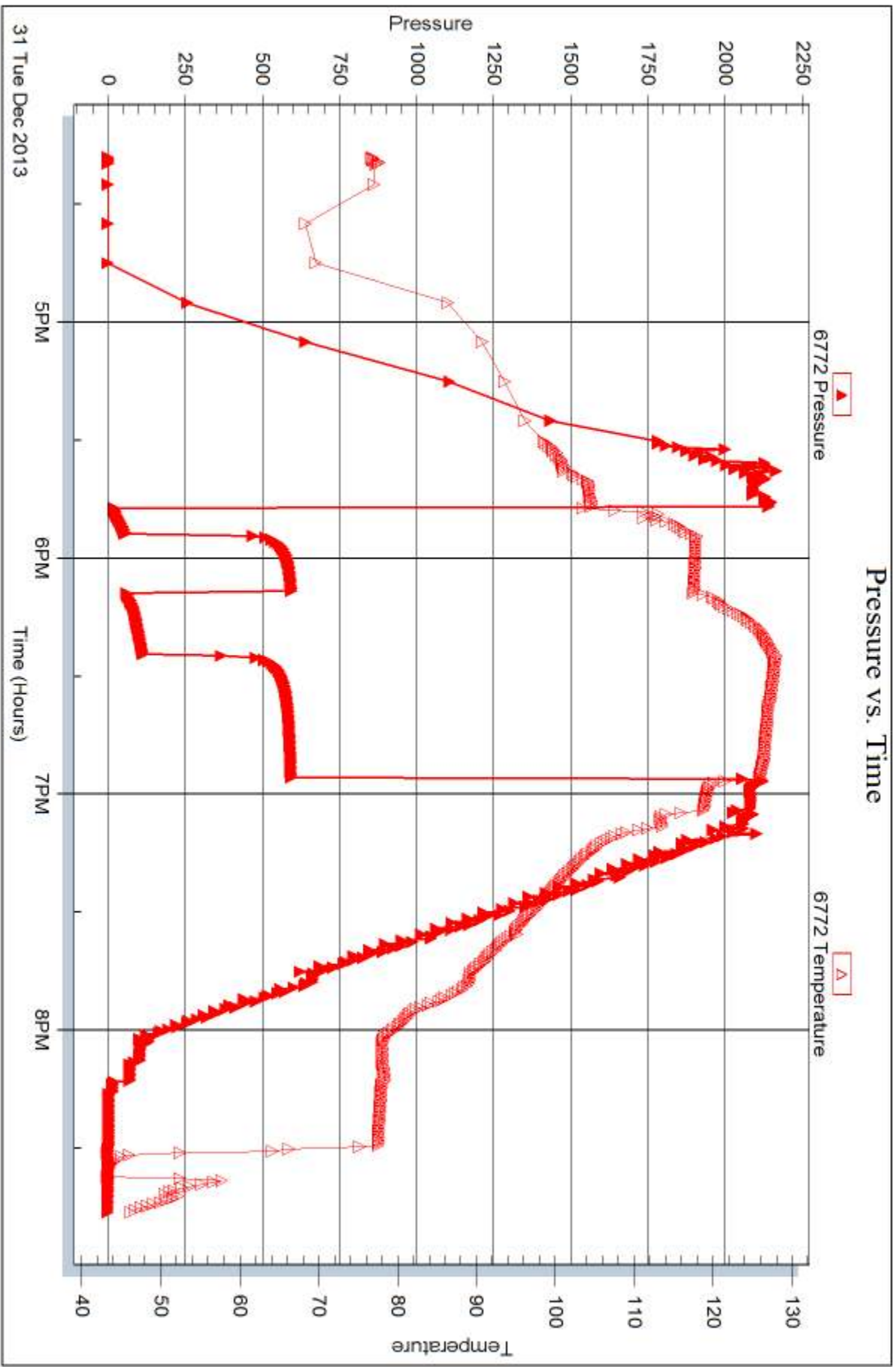
Laboratory Name:

Laboratory Location:

Recovery Comments: Water Salinity: .234 @ 42 degrees= 42,000

### Pressure vs. Time







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 West State Road #4  
Olmitz, KS 67564

ATTN: Vern Schrag

### **Dutoit #1-32**

#### **32-18s-30w Lane,KS**

Start Date: 2014.01.01 @ 12:20:00

End Date: 2014.01.01 @ 17:09:00

Job Ticket #: 55673                      DST #: 5

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

Printed: 2014.01.08 @ 09:35:12



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering Inc.  
562 West State Road #4  
Olmitz, KS 67564  
ATTN: Vern Schrag

**32-18s-30w Lane, KS**

**Dutoit #1-32**

Job Ticket: 55673

**DST#: 5**

Test Start: 2014.01.01 @ 12:20:00

## GENERAL INFORMATION:

Formation: **Pleasanton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:11:00

Time Test Ended: 17:09:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Sam Esparza

Unit No: 64

**Interval: 4310.00 ft (KB) To 4325.00 ft (KB) (TVD)**

Reference Elevations: 2899.00 ft (KB)

Total Depth: 4325.00 ft (KB) (TVD)

2892.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

**Serial #: 8845 Outside**

Press@RunDepth: 38.33 psig @ 4311.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.01

End Date:

2014.01.01

Last Calib.: 2014.01.01

Start Time: 12:20:05

End Time:

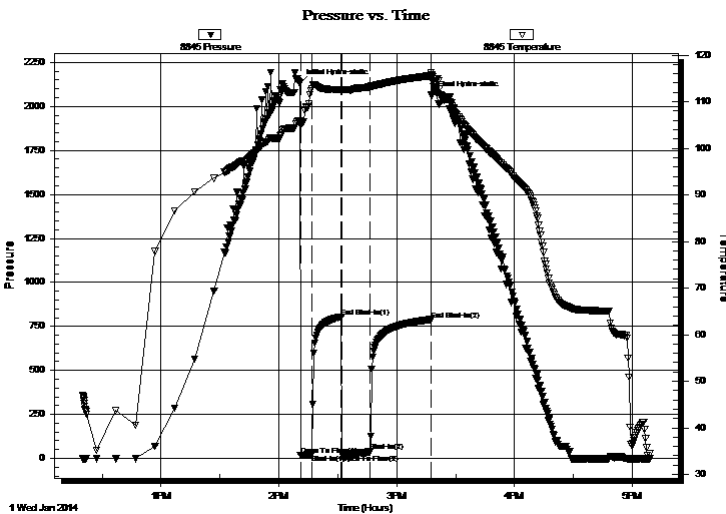
17:08:59

Time On Btm: 2014.01.01 @ 14:10:45

Time Off Btm: 2014.01.01 @ 15:17:30

TEST COMMENT: IF: 1" Blow.  
IS: No Return.  
FF: 1 3/4" Blow.  
FS: No Return.

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2132.02         | 105.85       | Initial Hydro-static |
| 1           | 15.75           | 104.99       | Open To Flow (1)     |
| 6           | 21.84           | 112.88       | Shut-In(1)           |
| 21          | 803.92          | 112.58       | End Shut-In(1)       |
| 22          | 23.41           | 112.15       | Open To Flow (2)     |
| 36          | 38.33           | 113.20       | Shut-In(2)           |
| 67          | 788.53          | 115.59       | End Shut-In(2)       |
| 67          | 2064.30         | 116.30       | Final Hydro-static   |

## Recovery

| Length (ft) | Description            | Volume (bbl) |
|-------------|------------------------|--------------|
| 10.00       | Mud ( Oil Spots ) 100m | 0.05         |
|             |                        |              |
|             |                        |              |
|             |                        |              |
|             |                        |              |

\* 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.

**32-18s-30w Lane, KS**

562 West State Road #4  
Olmitz, KS 67564

**Dutoit #1-32**

Job Ticket: 55673

**DST#: 5**

ATTN: Vern Schrag

Test Start: 2014.01.01 @ 12:20:00

## Tool Information

|                           |                    |                       |                                |                        |             |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 4139.00 ft | Diameter: 3.80 inches | Volume: 58.06 bbl              | Tool Weight:           | 2500.00 lb  |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer:  | 30000.00 lb |
| Drill Collar:             | Length: 148.00 ft  | Diameter: 2.25 inches | Volume: 0.73 bbl               | Weight to Pull Loose:  | 75000.00 lb |
|                           |                    |                       | <u>Total Volume: 58.79 bbl</u> | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 5.00 ft            |                       |                                | String Weight: Initial | 58000.00 lb |
| Depth to Top Packer:      | 4310.00 ft         |                       |                                | Final                  | 58000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                                |                        |             |
| Interval between Packers: | 15.00 ft           |                       |                                |                        |             |
| Tool Length:              | 43.00 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        |            |          | 4283.00    |                               |
| Shut In Tool     | 5.00        |            |          | 4288.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 4293.00    |                               |
| Jars             | 5.00        |            |          | 4298.00    |                               |
| Safety Joint     | 3.00        |            |          | 4301.00    |                               |
| Packer           | 5.00        |            |          | 4306.00    | 28.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 4310.00    |                               |
| Stubb            | 1.00        |            |          | 4311.00    |                               |
| Recorder         | 0.00        | 6772       | Outside  | 4311.00    |                               |
| Recorder         | 0.00        | 8845       | Outside  | 4311.00    |                               |
| Perforations     | 9.00        |            |          | 4320.00    |                               |
| Bullnose         | 5.00        |            |          | 4325.00    | 15.00 Bottom Packers & Anchor |

**Total Tool Length: 43.00**





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Larson Engineering Inc.

**32-18s-30w Lane,KS**

562 West State Road #4  
Olmitz, KS 67564

**Dutoit #1-32**

Job Ticket: 55673

**DST#: 5**

ATTN: Vern Schrag

Test Start: 2014.01.01 @ 12:20:00

### 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: 64.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2300.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description            | Volume<br>bbl |
|--------------|------------------------|---------------|
| 10.00        | Mud ( Oil Spots ) 100m | 0.049         |

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0

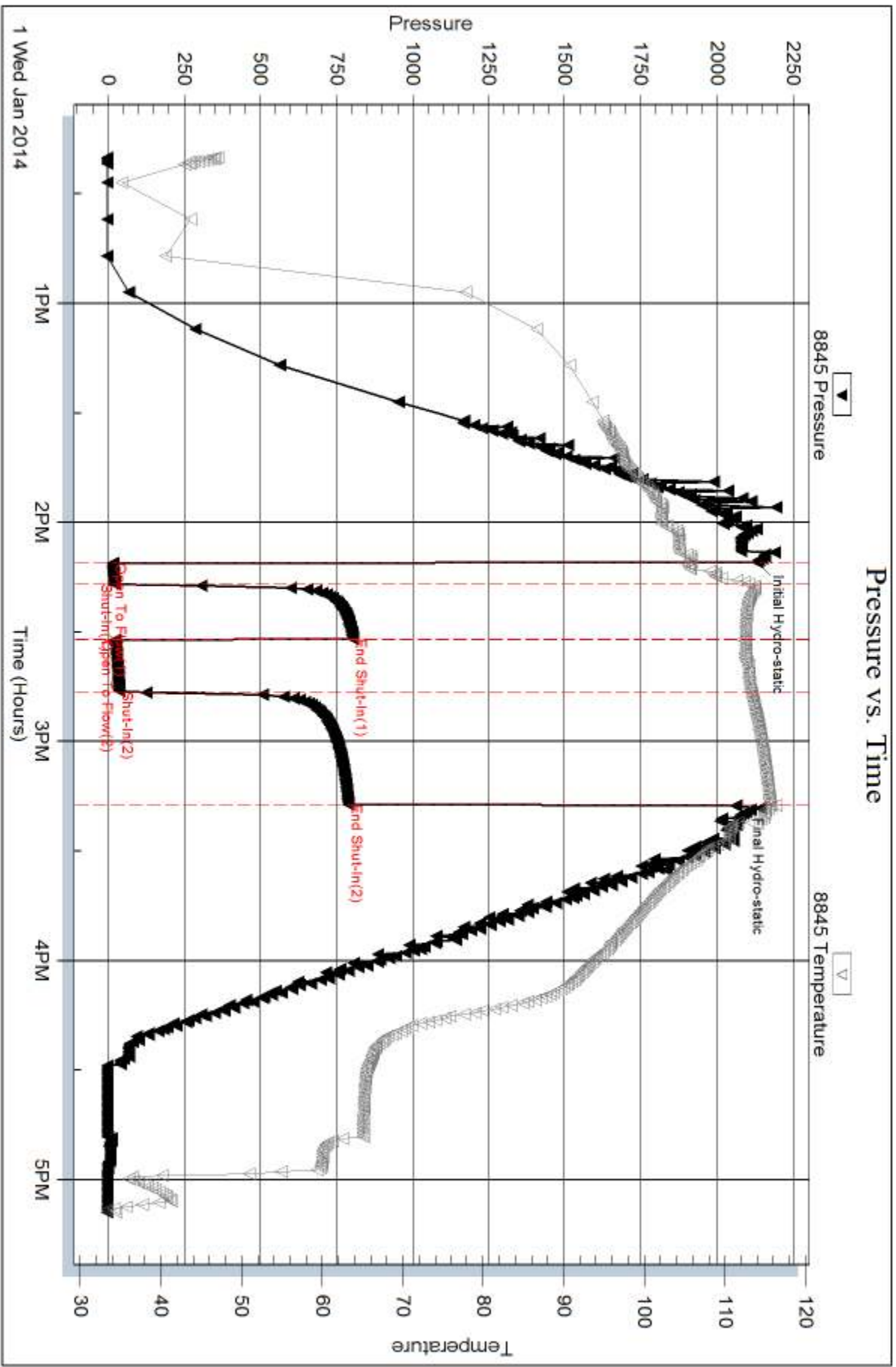
Num Gas Bombs: 0

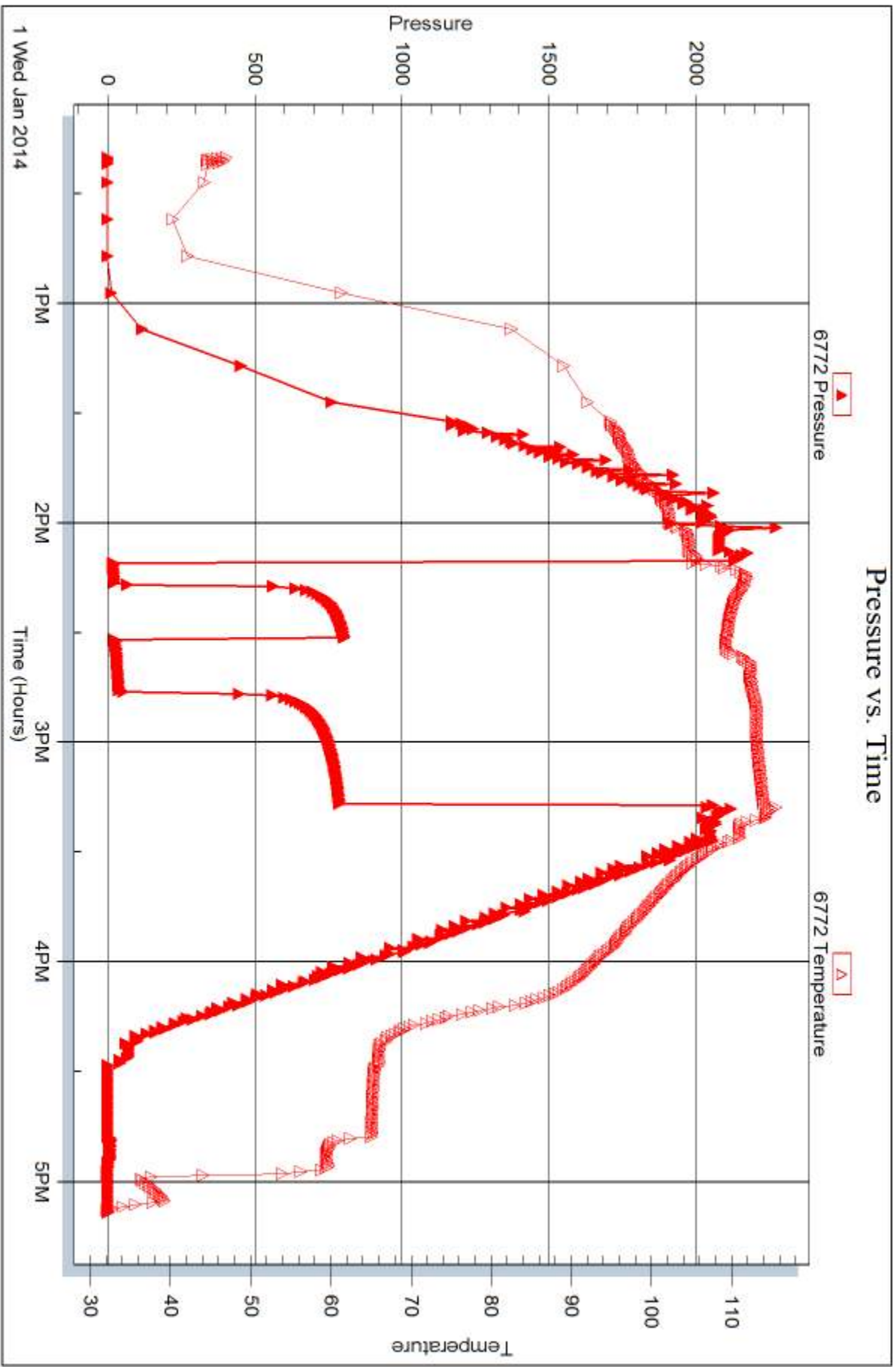
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 West State Road #4  
Olmitz, KS 67564

ATTN: Vern Schrag

### **Dutoit #1-32**

#### **32-18s-30w Lane,KS**

Start Date: 2014.01.02 @ 05:30:00

End Date: 2014.01.02 @ 11:44:45

Job Ticket #: 55674                      DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.01.08 @ 09:34:43



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering Inc.  
 562 West State Road #4  
 Olmitz, KS 67564  
 ATTN: Vern Schrag

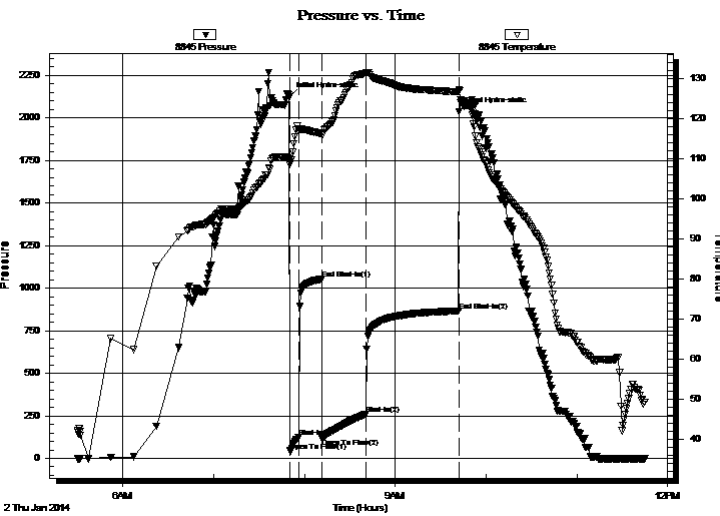
**32-18s-30w Lane, KS**  
**Dutoit #1-32**  
 Job Ticket: 55674      **DST#: 6**  
 Test Start: 2014.01.02 @ 05:30:00

## GENERAL INFORMATION:

Formation: **Marmaton**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 07:50:15  
 Tester: Sam Esparza  
 Time Test Ended: 11:44:45  
 Unit No: 64  
 Interval: **4329.00 ft (KB) To 4380.00 ft (KB) (TVD)**  
 Reference Elevations: 2899.00 ft (KB)  
 Total Depth: 4380.00 ft (KB) (TVD)  
 2892.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Good  
 KB to GR/CF: 7.00 ft

**Serial #: 8845      Outside**  
 Press@RunDepth: 260.28 psig @ 4330.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2014.01.02      End Date: 2014.01.02      Last Calib.: 2014.01.02  
 Start Time: 05:30:05      End Time: 11:44:44      Time On Btm: 2014.01.02 @ 07:50:00  
 Time Off Btm: 2014.01.02 @ 09:42:15

**TEST COMMENT:** IF: 10" Blow.  
 IS: Weak Surface Return.  
 FF: BOB @ 7 min.  
 FS: No Return.



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2126.12         | 109.79       | Initial Hydro-static |
| 1           | 44.19           | 108.38       | Open To Flow (1)     |
| 7           | 121.18          | 116.76       | Shut-In(1)           |
| 22          | 1053.50         | 116.22       | End Shut-In(1)       |
| 22          | 119.62          | 115.81       | Open To Flow (2)     |
| 51          | 260.28          | 131.25       | Shut-In(2)           |
| 112         | 866.44          | 126.62       | End Shut-In(2)       |
| 113         | 2036.89         | 127.24       | Final Hydro-static   |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 440.00      | MCW 20m 80w | 4.82         |
| 155.00      | WCM 30w 70m | 2.17         |
|             |             |              |
|             |             |              |
|             |             |              |

\* 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.

**32-18s-30w Lane,KS**

562 West State Road #4  
Olmitz, KS 67564

**Dutoit #1-32**

Job Ticket: 55674

**DST#: 6**

ATTN: Vern Schrag

Test Start: 2014.01.02 @ 05:30:00

## Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 4173.00 ft | Diameter: 3.80 inches | Volume: 58.54 bbl              | Tool Weight: 2500.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer: 30000.00 lb  |
| Drill Collar:             | Length: 148.00 ft  | Diameter: 2.25 inches | Volume: 0.73 bbl               | Weight to Pull Loose: 80000.00 lb  |
|                           |                    |                       | <u>Total Volume: 59.27 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 20.00 ft           |                       |                                | String Weight: Initial 60000.00 lb |
| Depth to Top Packer:      | 4329.00 ft         |                       |                                | Final 61000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 51.00 ft           |                       |                                |                                    |
| Tool Length:              | 79.00 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        |            |          | 4302.00    |                               |
| Shut In Tool     | 5.00        |            |          | 4307.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 4312.00    |                               |
| Jars             | 5.00        |            |          | 4317.00    |                               |
| Safety Joint     | 3.00        |            |          | 4320.00    |                               |
| Packer           | 5.00        |            |          | 4325.00    | 28.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 4329.00    |                               |
| Stubb            | 1.00        |            |          | 4330.00    |                               |
| Recorder         | 0.00        | 6772       | Outside  | 4330.00    |                               |
| Recorder         | 0.00        | 8845       | Outside  | 4330.00    |                               |
| Perforations     | 12.00       |            |          | 4342.00    |                               |
| Change Over Sub  | 1.00        |            |          | 4343.00    |                               |
| Drill Pipe       | 31.00       |            |          | 4374.00    |                               |
| Change Over Sub  | 1.00        |            |          | 4375.00    |                               |
| Bullnose         | 5.00        |            |          | 4380.00    | 51.00 Bottom Packers & Anchor |

**Total Tool Length: 79.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Larson Engineering Inc.

**32-18s-30w Lane,KS**

562 West State Road #4  
Olmitz, KS 67564

**Dutoit #1-32**

Job Ticket: 55674

**DST#: 6**

ATTN: Vern Schrag

Test Start: 2014.01.02 @ 05:30:00

### 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:

42000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2300.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description | Volume<br>bbbl |
|--------------|-------------|----------------|
| 440.00       | MCW 20m 80w | 4.824          |
| 155.00       | WCM 30w 70m | 2.174          |

Total Length: 595.00 ft      Total Volume: 6.998 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

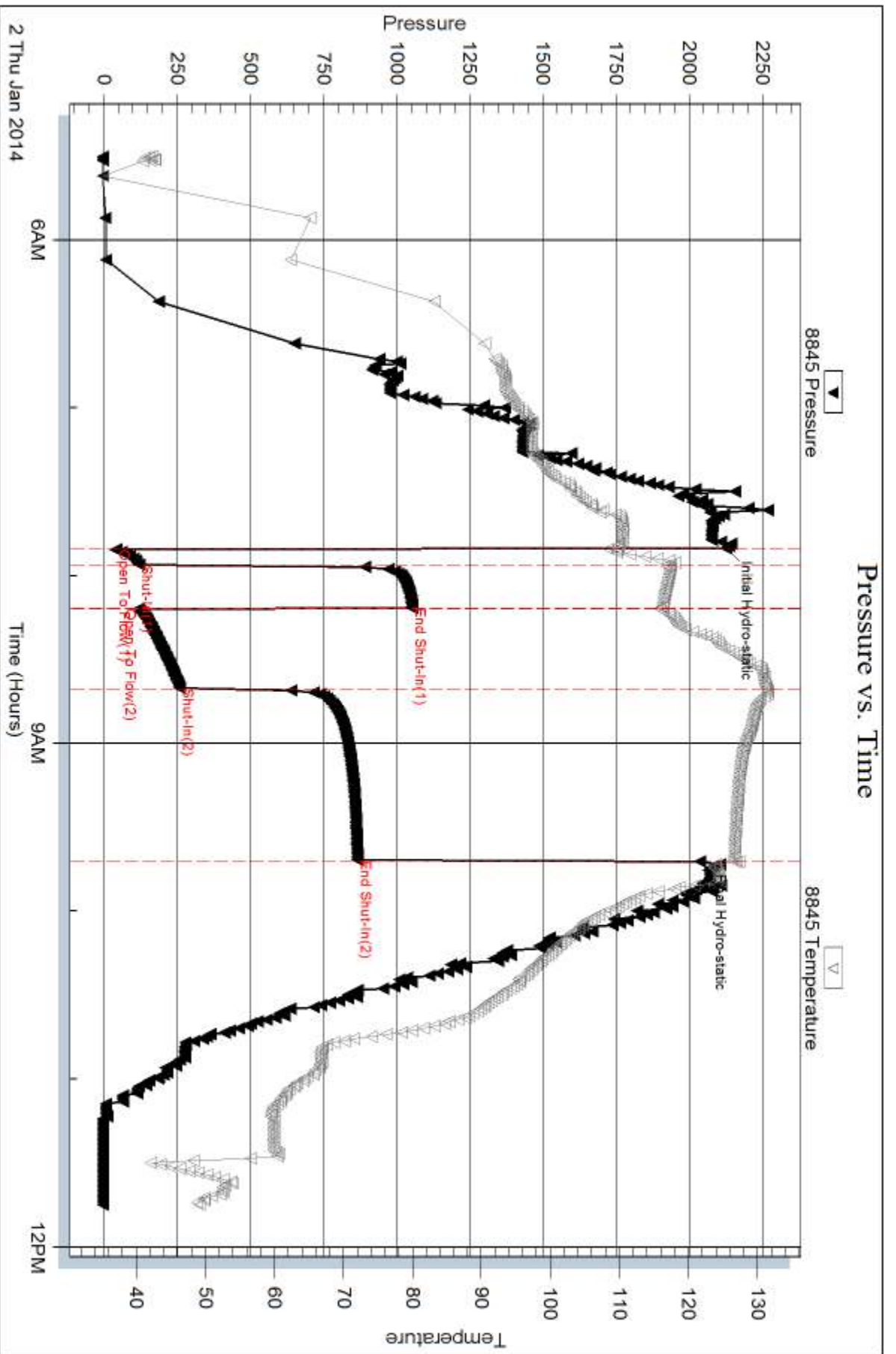
Serial #:

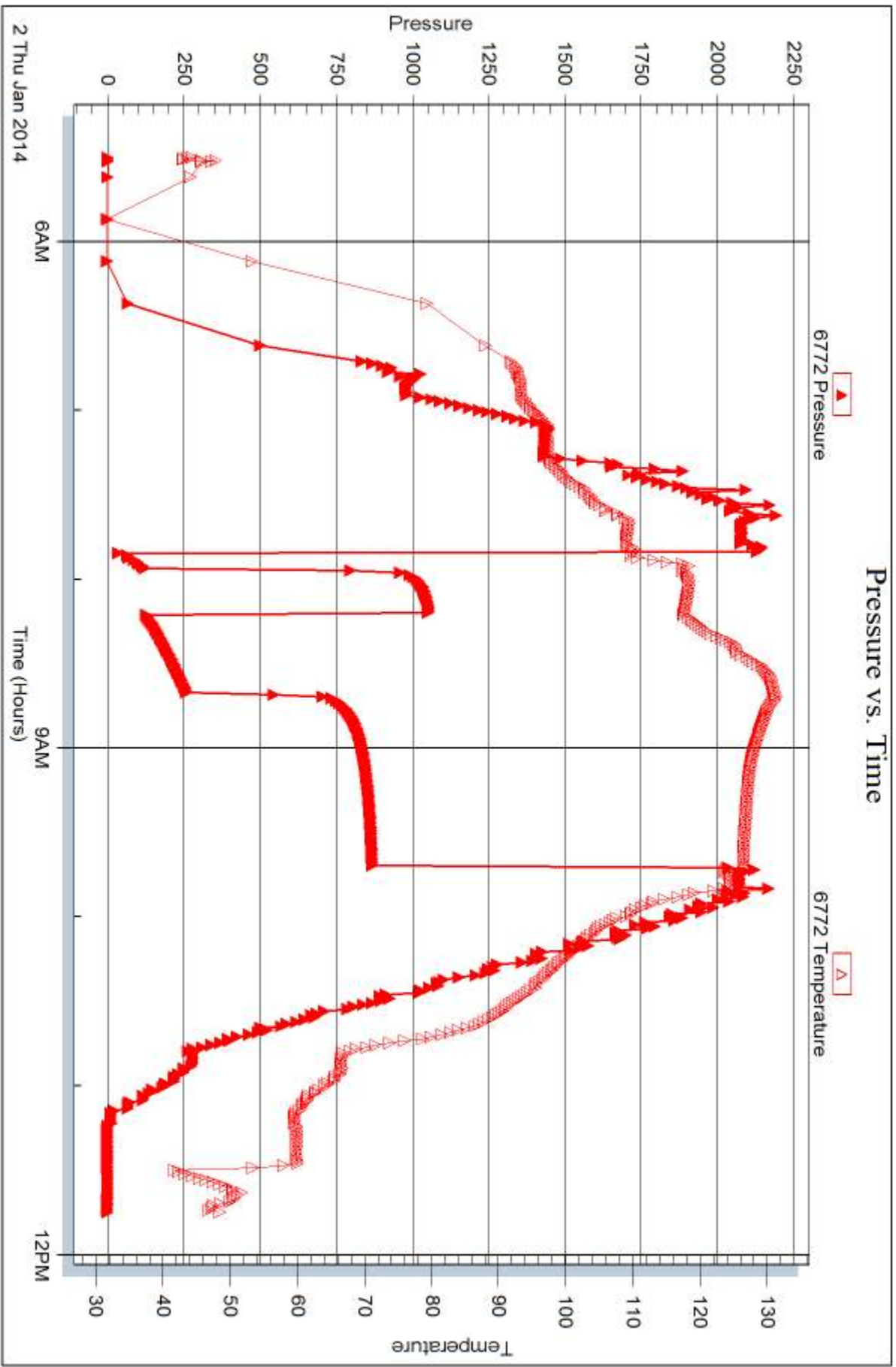
Laboratory Name:

Laboratory Location:

Recovery Comments: Water Salinity: .261 @ 43 degrees= 42,000 ppm









## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 West State Road #4  
Olmitz, KS 67564

ATTN: Vern Schrag

### **Dutoit #1-32**

#### **32-18s-30w Lane,KS**

Start Date: 2014.01.02 @ 23:18:00

End Date: 2014.01.03 @ 04:34:30

Job Ticket #: 55675                      DST #: 7

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

Printed: 2014.01.08 @ 09:34:10



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering Inc.  
562 West State Road #4  
Olmitz, KS 67564  
ATTN: Vern Schrag

**32-18s-30w Lane, KS**

**Dutoit #1-32**

Job Ticket: 55675

**DST#: 7**

Test Start: 2014.01.02 @ 23:18:00

## GENERAL INFORMATION:

Formation: **Altamont**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:10:30

Time Test Ended: 04:34:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Sam Esparza

Unit No: 64

**Interval: 4378.00 ft (KB) To 4395.00 ft (KB) (TVD)**

Reference Elevations: 2899.00 ft (KB)

Total Depth: 4395.00 ft (KB) (TVD)

2892.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

**Serial #: 8845 Outside**

Press@RunDepth: 166.47 psig @ 4379.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.02

End Date:

2014.01.03

Last Calib.:

2014.01.03

Start Time: 23:18:05

End Time:

04:34:29

Time On Btm:

2014.01.03 @ 01:10:15

Time Off Btm:

2014.01.03 @ 02:20:45

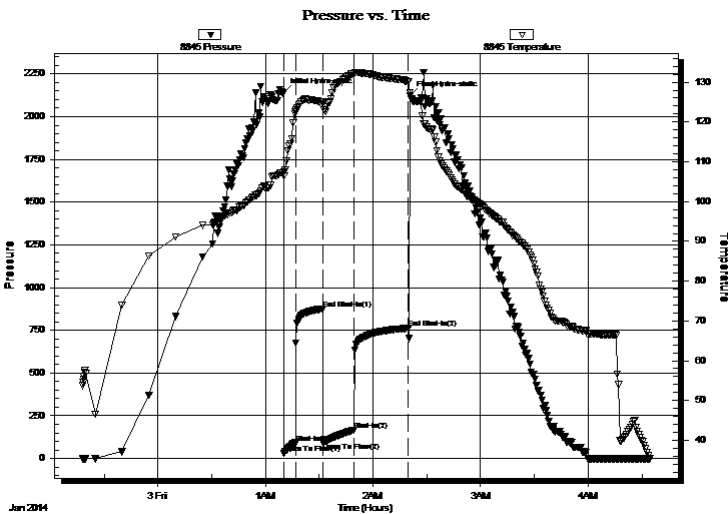
TEST COMMENT: IF: 8" Blow.

IS: Weak surface return.

FF: BOB @ 9 min.

FS: Weak surface return.

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2141.46         | 107.32       | Initial Hydro-static |
| 1           | 31.66           | 106.43       | Open To Flow (1)     |
| 7           | 91.06           | 122.53       | Shut-In(1)           |
| 22          | 875.00          | 125.12       | End Shut-In(1)       |
| 22          | 95.68           | 124.66       | Open To Flow (2)     |
| 39          | 166.47          | 132.16       | Shut-In(2)           |
| 70          | 761.90          | 130.17       | End Shut-In(2)       |
| 71          | 2121.35         | 127.36       | Final Hydro-static   |

## Recovery

| Length (ft) | Description                         | Volume (bbl) |
|-------------|-------------------------------------|--------------|
| 250.00      | MCW 10m 90w                         | 2.16         |
| 90.00       | OWCM 5o 35w 60m ( Oil scum on top ) | 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.

**32-18s-30w Lane, KS**

562 West State Road #4  
Olmitz, KS 67564

**Dutoit #1-32**

Job Ticket: 55675

**DST#: 7**

ATTN: Vern Schrag

Test Start: 2014.01.02 @ 23:18:00

## Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 4232.00 ft | Diameter: 3.80 inches | Volume: 59.36 bbl              | Tool Weight: 2500.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer: 30000.00 lb  |
| Drill Collar:             | Length: 148.00 ft  | Diameter: 2.25 inches | Volume: 0.73 bbl               | Weight to Pull Loose: 70000.00 lb  |
|                           |                    |                       | <u>Total Volume: 60.09 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 30.00 ft           |                       |                                | String Weight: Initial 60000.00 lb |
| Depth to Top Packer:      | 4378.00 ft         |                       |                                | Final 60000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 17.00 ft           |                       |                                |                                    |
| Tool Length:              | 45.00 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  |      |         | 4351.00 |                               |
| Shut In Tool    | 5.00  |      |         | 4356.00 |                               |
| Hydraulic tool  | 5.00  |      |         | 4361.00 |                               |
| Jars            | 5.00  |      |         | 4366.00 |                               |
| Safety Joint    | 3.00  |      |         | 4369.00 |                               |
| Packer          | 5.00  |      |         | 4374.00 | 28.00 Bottom Of Top Packer    |
| Packer          | 4.00  |      |         | 4378.00 |                               |
| Stubb           | 1.00  |      |         | 4379.00 |                               |
| Recorder        | 0.00  | 6772 | Outside | 4379.00 |                               |
| Recorder        | 0.00  | 8845 | Outside | 4379.00 |                               |
| Perforations    | 11.00 |      |         | 4390.00 |                               |
| Bullnose        | 5.00  |      |         | 4395.00 | 17.00 Bottom Packers & Anchor |

**Total Tool Length: 45.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Larson Engineering Inc.

**32-18s-30w Lane, KS**

562 West State Road #4  
Olmitz, KS 67564

**Dutoit #1-32**

Job Ticket: 55675

**DST#: 7**

ATTN: Vern Schrag

Test Start: 2014.01.02 @ 23:18:00

### 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:

60000 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2700.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description                         | Volume<br>bbl |
|--------------|-------------------------------------|---------------|
| 250.00       | MCW 10m 90w                         | 2.159         |
| 90.00        | OWCM 5o 35w 60m ( Oil scum on top ) | 1.262         |

Total Length: 340.00 ft      Total Volume: 3.421 bbl

Num Fluid Samples: 0

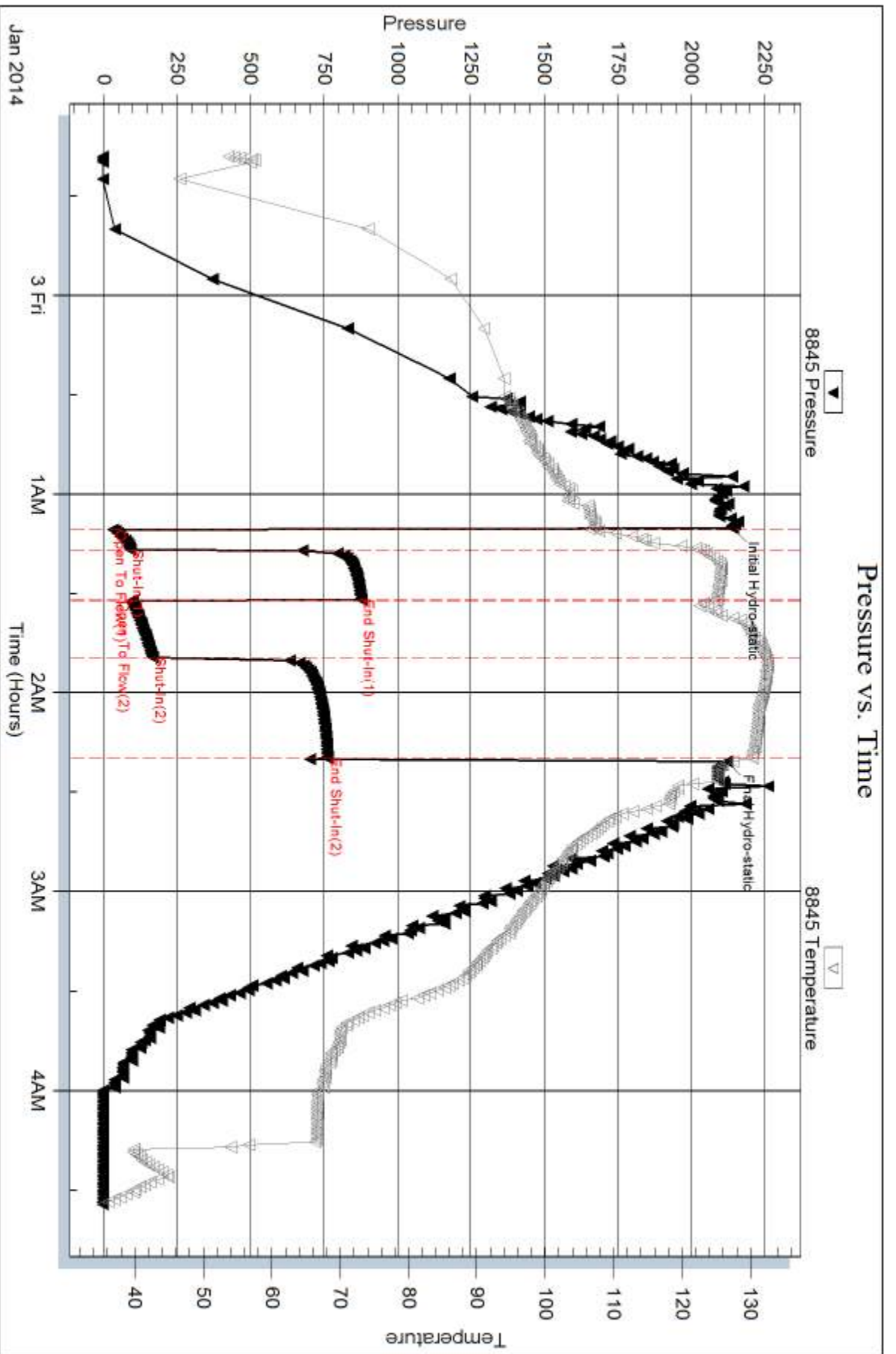
Num Gas Bombs: 0

Serial #:

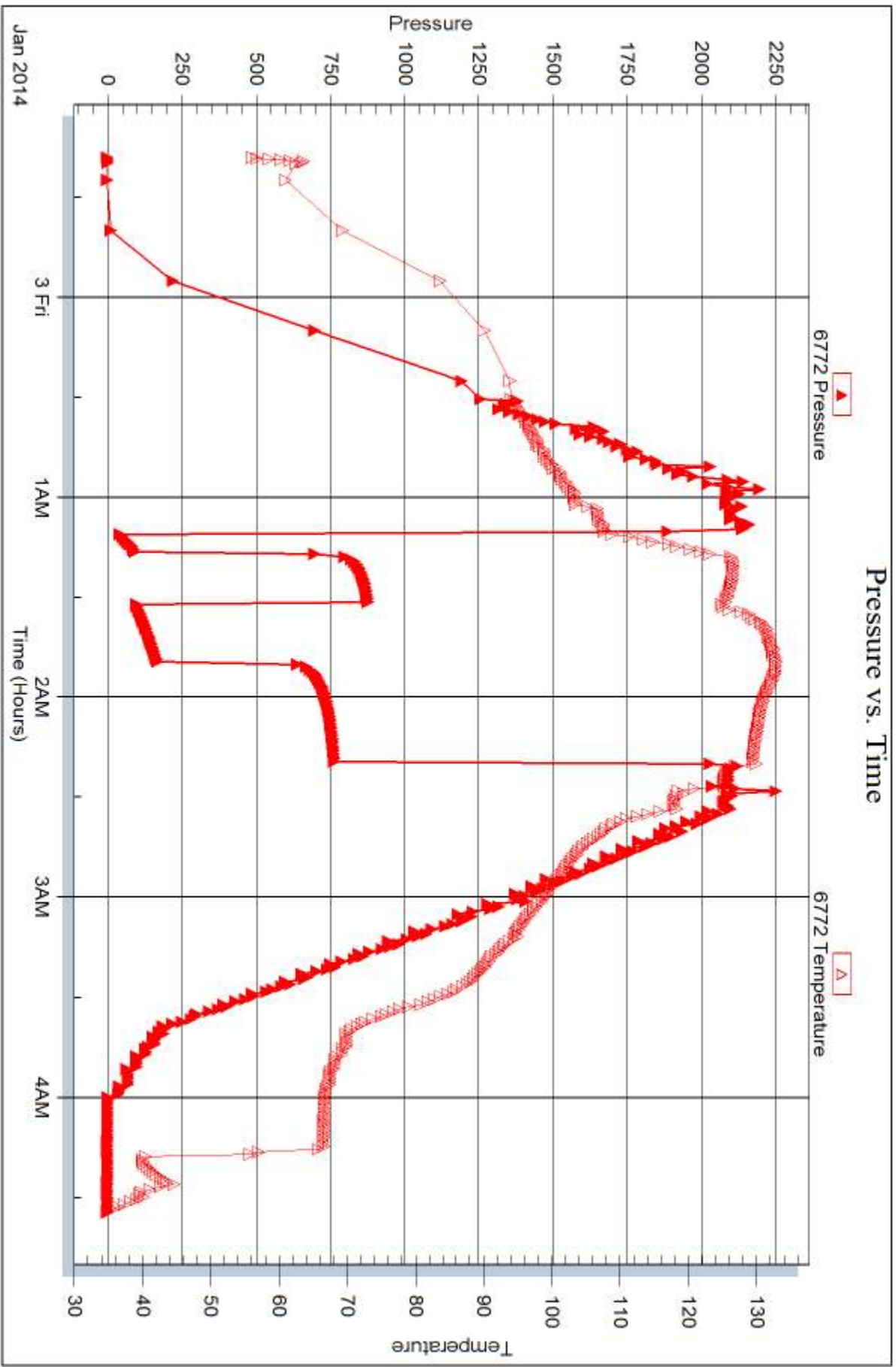
Laboratory Name:

Laboratory Location:

Recovery Comments: Water Salinity: .256 @ 33 degrees= 60,000 ppm









## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 West State Road #4  
Olmitz, KS 67564

ATTN: Vern Schrag

### **Dutoit #1-32**

#### **32-18s-30w Lane,KS**

Start Date: 2014.01.04 @ 00:05:00

End Date: 2014.01.04 @ 05:52:45

Job Ticket #: 56701                      DST #: 8

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.01.08 @ 09:33:10



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering Inc.  
 562 West State Road #4  
 Olmitz, KS 67564  
 ATTN: Vern Schrag

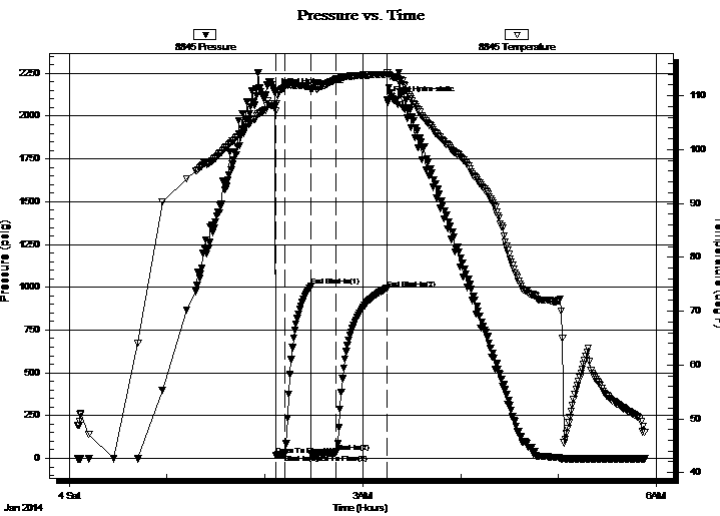
**32-18s-30w Lane, KS**  
**Dutoit #1-32**  
 Job Ticket: 56701 **DST#: 8**  
 Test Start: 2014.01.04 @ 00:05:00

## GENERAL INFORMATION:

Formation: **Cherokee**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 02:06:30 Tester: Sam Esparza  
 Time Test Ended: 05:52:45 Unit No: 64  
 Interval: **4432.00 ft (KB) To 4570.00 ft (KB) (TVD)** Reference Elevations: 2899.00 ft (KB)  
 Total Depth: 4570.00 ft (KB) (TVD) 2892.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 7.00 ft

**Serial #: 8845 Outside**  
 Press@RunDepth: 34.97 psig @ 4433.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.01.04 End Date: 2014.01.04 Last Calib.: 2014.01.04  
 Start Time: 00:05:05 End Time: 05:52:44 Time On Btm: 2014.01.04 @ 02:06:15  
 Time Off Btm: 2014.01.04 @ 03:15:00

TEST COMMENT: IF: 1/4" Blow .  
 IS: No Return.  
 FF: Weak Surface Blow .  
 FS: No Return.



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2136.34         | 108.08       | Initial Hydro-static |
| 1           | 18.69           | 107.15       | Open To Flow (1)     |
| 6           | 22.93           | 111.65       | Shut-In(1)           |
| 22          | 1004.92         | 111.76       | End Shut-In(1)       |
| 22          | 26.56           | 111.21       | Open To Flow (2)     |
| 38          | 34.97           | 113.01       | Shut-In(2)           |
| 69          | 992.18          | 113.99       | End Shut-In(2)       |
| 69          | 2093.24         | 114.34       | Final Hydro-static   |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 10.00       | Mud 100m    | 0.05         |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |

\* 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.

**32-18s-30w Lane, KS**

562 West State Road #4  
Olmitz, KS 67564

**Dutoit #1-32**

Job Ticket: 56701

**DST#: 8**

ATTN: Vern Schrag

Test Start: 2014.01.04 @ 00:05:00

## Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 4264.00 ft | Diameter: 3.80 inches | Volume: 59.81 bbl              | Tool Weight: 2500.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer: 30000.00 lb  |
| Drill Collar:             | Length: 148.00 ft  | Diameter: 2.25 inches | Volume: 0.73 bbl               | Weight to Pull Loose: 75000.00 lb  |
|                           |                    |                       | <u>Total Volume: 60.54 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 8.00 ft            |                       |                                | String Weight: Initial 60000.00 lb |
| Depth to Top Packer:      | 4432.00 ft         |                       |                                | Final 60000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 138.00 ft          |                       |                                |                                    |
| Tool Length:              | 166.00 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        |            |          | 4405.00    |                                |
| Shut In Tool     | 5.00        |            |          | 4410.00    |                                |
| Hydraulic tool   | 5.00        |            |          | 4415.00    |                                |
| Jars             | 5.00        |            |          | 4420.00    |                                |
| Safety Joint     | 3.00        |            |          | 4423.00    |                                |
| Packer           | 5.00        |            |          | 4428.00    | 28.00 Bottom Of Top Packer     |
| Packer           | 4.00        |            |          | 4432.00    |                                |
| Stubb            | 1.00        |            |          | 4433.00    |                                |
| Recorder         | 0.00        | 6772       | Outside  | 4433.00    |                                |
| Recorder         | 0.00        | 8845       | Outside  | 4433.00    |                                |
| Perforations     | 5.00        |            |          | 4438.00    |                                |
| Change Over Sub  | 1.00        |            |          | 4439.00    |                                |
| Drill Pipe       | 125.00      |            |          | 4564.00    |                                |
| Change Over Sub  | 1.00        |            |          | 4565.00    |                                |
| Bullnose         | 5.00        |            |          | 4570.00    | 138.00 Bottom Packers & Anchor |

**Total Tool Length: 166.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Larson Engineering Inc.

**32-18s-30w Lane, KS**

562 West State Road #4  
Olmitz, KS 67564

**Dutoit #1-32**

Job Ticket: 56701

**DST#: 8**

ATTN: Vern Schrag

Test Start: 2014.01.04 @ 00:05:00

### 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: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3600.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description | Volume<br>bbl |
|--------------|-------------|---------------|
| 10.00        | Mud 100m    | 0.049         |

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0

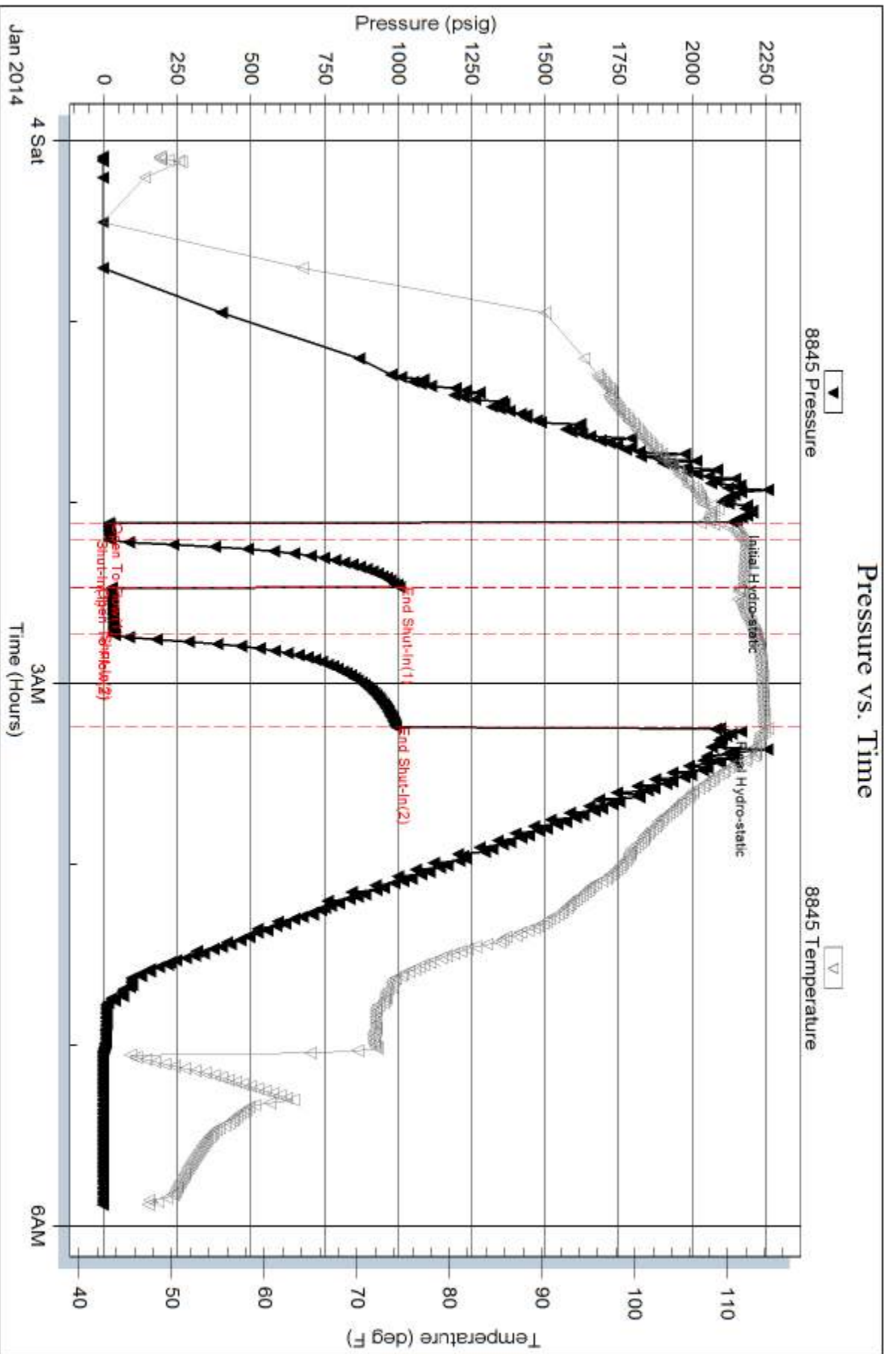
Num Gas Bombs: 0

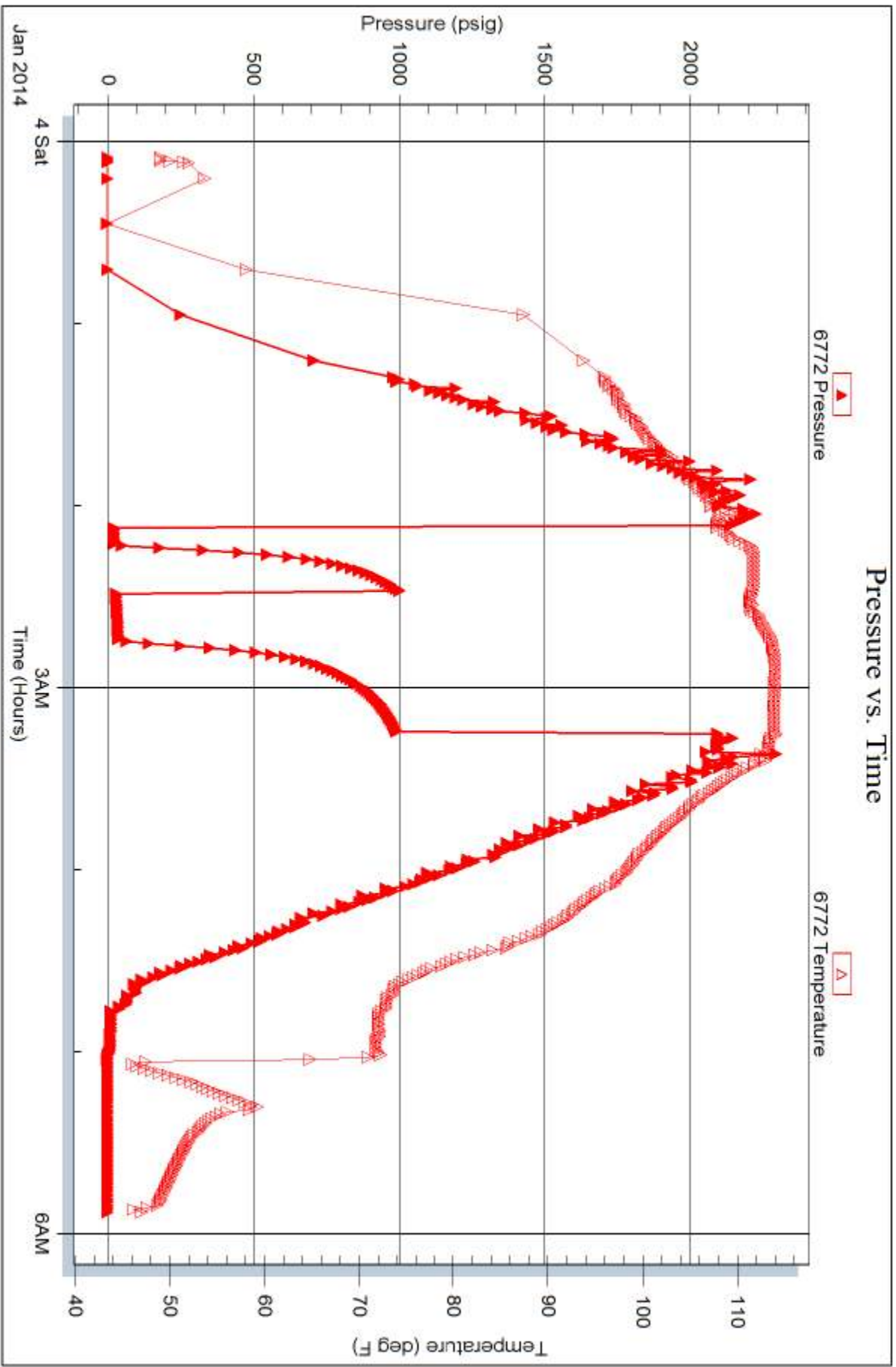
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:









# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 54559

Well Name & No. Dutoit #1-32 Test No. 1 Date 12-30-13  
 Company Larsen Engineering Inc Elevation 2899 KB 2892 GL  
 Address 562 W State Rd #4 Olmitz, KS 67564  
 Co. Rep / Geo. Wern Schrag Rig HD#3  
 Location: Sec. 32 Twp. 18-S Rge. 30-W Co. Lane State KS

Interval Tested 4126-4150 Zone Tested Lansing "H"  
 Anchor Length 24' Drill Pipe Run 3982' Mud Wt. 9.2  
 Top Packer Depth 4122 Drill Collars Run 14' Vis 55  
 Bottom Packer Depth 4126 Wt. Pipe Run Ø WL 8.0  
 Total Depth 4150 Chlorides 2100 ppm System LCM #1

Blow Description IP  
ISI  
FF  
FST  
HIT A BRIDGE!!!

| 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 | Feet of | %gas | %oil | %water | %mud |

Rec Total \_\_\_\_\_ BHT 93 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

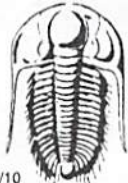
(A) Initial Hydrostatic 871  Test 1050 T-On Location 00:15  
 (B) First Initial Flow —  Jars 250 T-Started 01:11  
 (C) First Final Flow —  Safety Joint 75 T-Open \_\_\_\_\_  
 (D) Initial Shut-In —  Circ Sub NIC T-Pulled \_\_\_\_\_  
 (E) Second Initial Flow —  Hourly Standby \_\_\_\_\_ T-Out 04:36  
 (F) Second Final Flow —  Mileage 32 RIT 49.60 Comments \_\_\_\_\_  
 (G) Final Shut-In —  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 857  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open Ø  
 Initial Shut-In Ø  
 Final Flow \_\_\_\_\_  
 Final Shut-In \_\_\_\_\_

Sub Total 1424.60

Approved By James C. Schrag 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.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 55670

Well Name & No. Dutoit #1-32 Test No. 2 Date 12/30/13  
 Company Larson Engineering, Inc. Elevation 2899 KB 2892 GL  
 Address 562 West State Road 4 Olmitz, KS 67564  
 Co. Rep / Geo. Vern Schrag Rig HD #3  
 Location: Sec. 32 Twp. 18S Rge. 30W Co. Lane State KS

Interval Tested 4126-4150 Zone Tested Lansing "H"  
 Anchor Length 24' Drill Pipe Run 3980 Mud Wt. 9.1  
 Top Packer Depth 4122 Drill Collars Run 148 Vis 64  
 Bottom Packer Depth 4126 Wt. Pipe Run 0 WL 8.0  
 Total Depth 4150 Chlorides 2100 ppm System LCM 1

Blow Description IF: 1/4" Blow.  
ISI: No Return.  
FF: Weak surface Blow.  
FSI: No Return

| Rec      | Feet of                | %gas | %oil | %water     | %mud |
|----------|------------------------|------|------|------------|------|
| <u>5</u> | <u>Mud (Oil spots)</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 107 Gravity — API RW — @ — ° F Chlorides — ppm

|                                     |   |  |
|-------------------------------------|---|--|
| (A) Initial Hydrostatic <u>2103</u> | <input checked="" type="checkbox"/> Test <u>1250</u>            | T-On Location <u>10:30</u>                   |
| (B) First Initial Flow <u>20</u>    | <input checked="" type="checkbox"/> Jars <u>250</u>             | T-Started <u>10:42</u>                       |
| (C) First Final Flow <u>21</u>      | <input checked="" type="checkbox"/> Safety Joint <u>75</u>      | T-Open <u>12:22</u>                          |
| (D) Initial Shut-In <u>796</u>      | <input checked="" type="checkbox"/> Circ Sub <u>N/c</u>         | T-Pulled <u>13:28</u>                        |
| (E) Second Initial Flow <u>21</u>   | <input type="checkbox"/> Hourly Standby                         | T-Out <u>15:06</u>                           |
| (F) Second Final Flow <u>23</u>     | <input checked="" type="checkbox"/> Mileage <u>32 R/T</u> 49.60 | Comments                                     |
| (G) Final Shut-In <u>858</u>        | <input type="checkbox"/> Sampler                                |  |
| (H) Final Hydrostatic <u>2090</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>15</u>                | <input type="checkbox"/> Extra Recorder                         | Sub Total <u>0</u>                           |
| Final Shut-In <u>30</u>             | <input type="checkbox"/> Day Standby                            | Total <u>1624.60</u>                         |
|                                     | <input type="checkbox"/> Accessibility                          | MP/DST Disc't                                |
|                                     | Sub Total <u>1624.60</u>  |  |

Approved By

*Vern Schrag*

Our Representative

*[Signature]*

Trilobite Testing Inc. shall not be liable for damaged or any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 55671

Well Name & No. Dutoit #1-32 Test No. 3 Date 12/31/13  
 Company Larson Engineering, Inc. Elevation 2899 KB 2892 GL  
 Address 562 West State Road 4 Olinite, KS 67564  
 Co. Rep / Geo. Vern Schrag Rig HD#3  
 Location: Sec. 32 Twp. 18S Rge. 30W Co. Lane State KS

Interval Tested 4200-4212 Zone Tested "J"  
 Anchor Length 12' Drill Pipe Run 4044 Mud Wt. 9.1  
 Top Packer Depth 4196 Drill Collars Run 148 Vis 56  
 Bottom Packer Depth 4200 Wt. Pipe Run Ø WL 8.0  
 Total Depth 4212 Chlorides 2200 ppm System LCM 2

Blow Description IF: 5" Blow.  
ISI: Weak Surface Return.  
FF: RoB @ 13 min.  
FSI: 3/4" Return.

| Rec        | Feet of      | %gas      | %oil      | %water    | %mud      |
|------------|--------------|-----------|-----------|-----------|-----------|
| <u>45</u>  | <u>Go</u>    | <u>15</u> | <u>85</u> |           |           |
| <u>60</u>  | <u>GOWCM</u> | <u>10</u> | <u>20</u> | <u>30</u> | <u>40</u> |
| <u>120</u> | <u>MOCW</u>  |           | <u>5</u>  | <u>90</u> | <u>5</u>  |
| Rec        | Feet of      | %gas      | %oil      | %water    | %mud      |
| Rec        | Feet of      | %gas      | %oil      | %water    | %mud      |

Rec Total 225 BHT 122 Gravity 31 API RW 273 @ 30 °F Chlorides 64,000 ppm

|                         |             |  |                     |  |             |
|-------------------------|-------------|--|---------------------|--|-------------|
| (A) Initial Hydrostatic | <u>2124</u> | <input checked="" type="checkbox"/> Test         | <u>1250</u>         | T-On Location                                | <u>2:10</u> |
| (B) First Initial Flow  | <u>19</u>   | <input checked="" type="checkbox"/> Jars         | <u>250</u>          | T-Started                                    | <u>2:35</u> |
| (C) First Final Flow    | <u>61</u>   | <input checked="" type="checkbox"/> Safety Joint | <u>75</u>           | T-Open                                       | <u>4:24</u> |
| (D) Initial Shut-In     | <u>742</u>  | <input checked="" type="checkbox"/> Circ Sub     | <u>N/C</u>          | T-Pulled                                     | <u>5:32</u> |
| (E) Second Initial Flow | <u>64</u>   | <input type="checkbox"/> Hourly Standby          |                     | T-Out  | <u>7:46</u> |
| (F) Second Final Flow   | <u>115</u>  | <input checked="" type="checkbox"/> Mileage      | <u>32 R/T</u> 49.60 | Comments                                     |             |
| (G) Final Shut-In       | <u>734</u>  | <input type="checkbox"/> Sampler                 |                     |  |             |
| (H) Final Hydrostatic   | <u>2055</u> | <input type="checkbox"/> Straddle                |                     | <input type="checkbox"/> Ruined Shale Packer |             |

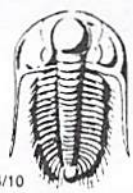
|                 |           |   |                |  |                |
|-----------------|-----------|---|----------------|--|----------------|
| Initial Open    | <u>5</u>  | <input type="checkbox"/> Shale Packer   |                | <input type="checkbox"/> Ruined Packer |                |
| Initial Shut-In | <u>15</u> | <input type="checkbox"/> Extra Packer   |                | <input type="checkbox"/> Extra Copies  |                |
| Final Flow      | <u>15</u> | <input type="checkbox"/> Extra Recorder |                | Sub Total                              | <u>0</u>       |
| Final Shut-In   | <u>30</u> | <input type="checkbox"/> Day Standby    |                | Total                                  | <u>1624.60</u> |
|                 |           | <input type="checkbox"/> Accessibility  |                | MP/DST Disc't                          |                |
|                 |           | Sub Total                               | <u>1624.60</u> |  |                |

Approved By \_\_\_\_\_

Our Representative 

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 55672

Well Name & No. Dutoit #1-32 Test No. 4 Date 12/31/13  
 Company Larson Engineering, Inc. Elevation 2899 KB 2897 GL  
 Address 562 West State Road 4 Olinitz, KS 67564  
 Co. Rep / Geo. Vern Schrag Rig AD #3  
 Location: Sec. 32 Twp. 16S Rge. 30W Co. Lane State KS

Interval Tested 4230-4242 Zone Tested "K"  
 Anchor Length 12' Drill Pipe Run 4074 Mud Wt. 9.1  
 Top Packer Depth 4226 Drill Collars Run 148 Vis 54  
 Bottom Packer Depth 4230 Wt. Pipe Run 0 WL 6.4  
 Total Depth 4242 Chlorides 3200 ppm System LCM 0

Blow Description IF: 4" Blow.  
ISI: Weak surface Return.  
FF: 8 1/2" Blow.  
FSI: Weak surface Return.

| Rec        | Feet of                               | %gas | %oil | %water    | %mud      |
|------------|---------------------------------------|------|------|-----------|-----------|
| <u>40</u>  | <u>WCM</u>                            |      |      | <u>30</u> | <u>70</u> |
| <u>180</u> | <u>MCW (oil spots on top of tool)</u> |      |      | <u>90</u> | <u>10</u> |
| Rec        | Feet of                               | %gas | %oil | %water    | %mud      |
| Rec        | Feet of                               | %gas | %oil | %water    | %mud      |
| Rec        | Feet of                               | %gas | %oil | %water    | %mud      |

Rec Total 220' BHT 126 Gravity — API RW 234 @ 42 ° F Chlorides 42,000 ppm

|                         |             |  |                     |  |                |
|-------------------------|-------------|--|---------------------|--|----------------|
| (A) Initial Hydrostatic | <u>2137</u> | <input checked="" type="checkbox"/> Test         | <u>1250</u>         | T-On Location                                | <u>16:00</u>   |
| (B) First Initial Flow  | <u>18</u>   | <input checked="" type="checkbox"/> Jars         | <u>250</u>          | T-Started                                    | <u>16:18</u>   |
| (C) First Final Flow    | <u>55</u>   | <input checked="" type="checkbox"/> Safety Joint | <u>75</u>           | T-Open                                       | <u>17:47</u>   |
| (D) Initial Shut-In     | <u>593</u>  | <input checked="" type="checkbox"/> Circ Sub     | <u>N/C</u>          | T-Pulled                                     | <u>18:54</u>   |
| (E) Second Initial Flow | <u>62</u>   | <input type="checkbox"/> Hourly Standby          |                     | T-Out  | <u>20:45</u>   |
| (F) Second Final Flow   | <u>112</u>  | <input checked="" type="checkbox"/> Mileage      | <u>32 RTT</u> 49.60 | Comments                                     |                |
| (G) Final Shut-In       | <u>595</u>  | <input type="checkbox"/> Sampler                 |                     |  |                |
| (H) Final Hydrostatic   | <u>2048</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>15</u>   | <input type="checkbox"/> Extra Recorder          |                     | Sub Total                                    | <u>0</u>       |
| Final Shut-In           | <u>30</u>   | <input type="checkbox"/> Day Standby             |                     | Total  | <u>1624.60</u> |
|                         |             | <input type="checkbox"/> Accessibility           |                     | MP/DST Disc't                                |                |
|                         |             | Sub Total  | <u>1624.60</u>      |  |                |

Approved By \_\_\_\_\_ Our Representative

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 55673

Well Name & No. Dutoit #1-32 Test No. 5 Date 1/1/14  
 Company Larson Engineering, Inc. Elevation 2899 KB 2892 GL  
 Address 562 West State Road 4 Olinitz, KS 67564  
 Co. Rep / Geo. Vern Schrag Rig HD #3  
 Location: Sec. 32 Twp. 18S Rge. 30W Co. Lane State KS

Interval Tested 4310-4325 Zone Tested Middle Creek  
 Anchor Length 15' Drill Pipe Run 4139 Mud Wt. 9.1  
 Top Packer Depth 4306 Drill Collars Run 148 Vis 64  
 Bottom Packer Depth 4310 Wt. Pipe Run Ø WL 6.8  
 Total Depth 4325 Chlorides 2300 ppm System LCM 2

Blow Description IF: 1" Blow.  
TST: No Return.  
FF: 1 3/4" Blow.  
FST: No Return.

| Rec       | Feet of                | %gas | %oil | %water     | %mud |
|-----------|------------------------|------|------|------------|------|
| <u>10</u> | <u>Mud (oil spots)</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 10 BHT 116 Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic 2132  Test 1250 T-On Location 12:00  
 (B) First Initial Flow 16  Jars 250 T-Started 12:20  
 (C) First Final Flow 22  Safety Joint 75 T-Open 14:10  
 (D) Initial Shut-In 804  Circ Sub N/C T-Pulled 15:16  
 (E) Second Initial Flow 23  Hourly Standby — T-Out 17:08 *Shut-in Tool*  
 (F) Second Final Flow 38  Mileage 32 R/T 49.60 Comments Broke Hard Band  
 (G) Final Shut-In 789  Sampler — by slamming tool down  
 (H) Final Hydrostatic 2064  Straddle — to hard!!!

Ruined Shale Packer  
 Ruined Packer  
 Extra Packer  
 Extra Copies  
 Extra Recorder  
 Day Standby  
 Accessibility

Initial Open 5  
 Initial Shut-In 15  
 Final Flow 15  
 Final Shut-In 30

Sub Total 1624.60  
 Total 1624.60  
 MP/DST Disc't —

Approved By \_\_\_\_\_ Our Representative

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 55674

Well Name & No. Dutoit #1-32 Test No. 6 Date 1/2/14  
 Company Larsen Engineering, Inc. Elevation 2899 KB 2892 GL  
 Address 562 West State Road 4 Olmitz, KS 67564  
 Co. Rep / Geo. Vern Schrag Rig HD #3  
 Location: Sec. 32 Twp. 18S Rge. 30W Co. Lane State KS

Interval Tested 4329 - 4380 Zone Tested Marmaton  
 Anchor Length 51 Drill Pipe Run 4173 Mud Wt. 9.0  
 Top Packer Depth ~~4325~~ 4325 Drill Collars Run 148 Vis 55  
 Bottom Packer Depth 4329 Wt. Pipe Run Ø WL 6.8  
 Total Depth 4380 Chlorides 2300 ppm System LCM 1  
 Blow Description IF: 10" Blow.  
ISI: Weak Surface Return.  
FF: BOB @ 7 min.  
FST: No Return.

| Rec        | Feet of    | %gas | %oil      | %water    | %mud |
|------------|------------|------|-----------|-----------|------|
| <u>155</u> | <u>WCM</u> |      | <u>30</u> | <u>70</u> |      |
| <u>440</u> | <u>MCW</u> |      | <u>80</u> | <u>20</u> |      |
| Rec        | Feet of    | %gas | %oil      | %water    | %mud |
| Rec        | Feet of    | %gas | %oil      | %water    | %mud |

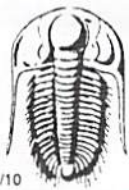
Rec Total 595 BHT 127 Gravity — API RW .261 @ 43 °F Chlorides 42,000 ppm

|                                     |   |  |
|-------------------------------------|---|--|
| (A) Initial Hydrostatic <u>2126</u> | <input checked="" type="checkbox"/> Test <u>1250</u>            | T-On Location <u>5:00</u>                    |
| (B) First Initial Flow <u>44</u>    | <input checked="" type="checkbox"/> Jars <u>250</u>             | T-Started <u>5:30</u>                        |
| (C) First Final Flow <u>121</u>     | <input checked="" type="checkbox"/> Safety Joint <u>75</u>      | T-Open <u>7:51</u>                           |
| (D) Initial Shut-In <u>1054</u>     | <input checked="" type="checkbox"/> Circ Sub <u>N/C</u>         | T-Pulled <u>9:42</u>                         |
| (E) Second Initial Flow <u>120</u>  | <input type="checkbox"/> Hourly Standby                         | T-Out <u>11:45</u>                           |
| (F) Second Final Flow <u>260</u>    | <input checked="" type="checkbox"/> Mileage <u>32 R/H</u> 49.60 | Comments                                     |
| (G) Final Shut-In <u>866</u>        | <input type="checkbox"/> Sampler                                |  |
| (H) Final Hydrostatic <u>2037</u>   | <input type="checkbox"/> Straddle                               | <input type="checkbox"/> Ruined Shale Packer |
| Initial Open <u>5</u>               | <input checked="" type="checkbox"/> Shale Packer <u>250</u>     | <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>0</u>                           |
| Final Shut-In <u>60</u>             | <input type="checkbox"/> Day Standby                            | Total <u>1874.60</u>                         |
|                                     | <input type="checkbox"/> Accessibility                          | MP/DST Disc't                                |
|                                     | Sub Total <u>1874.60</u>  |  |

Approved By \_\_\_\_\_ Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 55675

4/10

Well Name & No. Dutoit #1-32 Test No. 7 Date 1/2/14  
 Company Larson Engineering, Inc. Elevation 2899 KB 2892 GL  
 Address 562 West State Road 4 Omitz, KS 67564  
 Co. Rep / Geo. Lern Schrag Rig AD #3  
 Location: Sec. 32 Twp. 18S Rge. 30W Co. Lane State KS

Interval Tested 4378-4395 Zone Tested Altament  
 Anchor Length 17' Drill Pipe Run 4232 Mud Wt. 9.1  
 Top Packer Depth 4374 Drill Collars Run 148 Vis 51  
 Bottom Packer Depth 4378 Wt. Pipe Run Ø WL 7.2  
 Total Depth 4395 Chlorides 2700 ppm System LCM 1

Blow Description IF: 8" Blow.  
TSP: Weak surface Return.  
FF: BOB @ 9 min.

FST: Weak surface Return

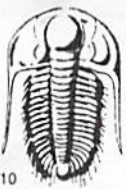
| Rec        | Feet of                         | %gas     | %oil      | %water    | %mud     |
|------------|---------------------------------|----------|-----------|-----------|----------|
| <u>90</u>  | <u>0.1 CM (oil seen on top)</u> | <u>5</u> | <u>35</u> | <u>60</u> | <u>0</u> |
| <u>250</u> | <u>MCW</u>                      |          | <u>90</u> | <u>10</u> | <u>0</u> |
| Rec        | Feet of                         | %gas     | %oil      | %water    | %mud     |
| Rec        | Feet of                         | %gas     | %oil      | %water    | %mud     |
| Rec        | Feet of                         | %gas     | %oil      | %water    | %mud     |

Rec Total 340 BHT 130 Gravity — API RW 256 @ 33 °F Chlorides 60,000 ppm

|                                     |   |  |
|-------------------------------------|---|--|
| (A) Initial Hydrostatic <u>2141</u> | <input checked="" type="checkbox"/> Test <u>1250</u>            | T-On Location <u>23:00</u>                   |
| (B) First Initial Flow <u>32</u>    | <input checked="" type="checkbox"/> Jars <u>250</u>             | T-Started <u>23:18</u>                       |
| (C) First Final Flow <u>91</u>      | <input checked="" type="checkbox"/> Safety Joint <u>75</u>      | T-Open <u>1:11</u>                           |
| (D) Initial Shut-In <u>875</u>      | <input checked="" type="checkbox"/> Circ Sub <u>N/C</u>         | T-Pulled <u>2:20</u>                         |
| (E) Second Initial Flow <u>96</u>   | <input type="checkbox"/> Hourly Standby                         | T-Out <u>4:35</u>                            |
| (F) Second Final Flow <u>166</u>    | <input checked="" type="checkbox"/> Mileage <u>32 R/T</u> 49.60 | Comments                                     |
| (G) Final Shut-In <u>762</u>        | <input type="checkbox"/> Sampler                                |  |
| (H) Final Hydrostatic <u>2121</u>   | <input type="checkbox"/> Straddle                               | <input type="checkbox"/> Ruined Shale Packer |
| Initial Open <u>5</u>               | <input checked="" type="checkbox"/> Shale Packer <u>250</u>     | <input type="checkbox"/> Ruined Packer       |
| Initial Shut-In <u>15</u>           | <input type="checkbox"/> Extra Packer                           | <input type="checkbox"/> Extra Copies        |
| Final Flow <u>15</u>                | <input type="checkbox"/> Extra Recorder                         | Sub Total <u>0</u>                           |
| Final Shut-In <u>30</u>             | <input type="checkbox"/> Day Standby                            | Total <u>1874.60</u>                         |
|                                     | <input type="checkbox"/> Accessibility                          | MP/DST Disc't                                |
|                                     | Sub Total <u>1874.60</u>  |  |

Approved By Lern Schrag Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 56701

Well Name & No. Dutoit #1-32 Test No. 8 Date 1/3/14  
 Company Larson Engineering, Inc. Elevation 2899 KB 2892 GL  
 Address 562 West State Road 4 Olmitz, KS 67564  
 Co. Rep / Geo. Vern Schrag Rig HD #3  
 Location: Sec. 32 Twp. 18S Rge. 30W Co. Lane State KS

Interval Tested 4432-4570 Zone Tested Cherokee  
 Anchor Length 138 Drill Pipe Run 4264 Mud Wt. 9.0  
 Top Packer Depth 4428 Drill Collars Run 148 Vis 53  
 Bottom Packer Depth 4432 Wt. Pipe Run Ø WL 7.2  
 Total Depth 4570 Chlorides 36.00 ppm System LCM 2

Blow Description IF: 4" Blow.  
ISI: No Return.  
FF: Weak Surface Blow.  
FSI: No Return.

| Rec       | Feet of    | %gas | %oil | %water     | %mud |
|-----------|------------|------|------|------------|------|
| <u>10</u> | <u>Mud</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 10 BHT 114 Gravity — API RW — @ — °F Chlorides — ppm

|                                     |  |  |
|-------------------------------------|--|--|
| (A) Initial Hydrostatic <u>2136</u> | <input checked="" type="checkbox"/> Test <u>1250</u>                   | T-On Location <u>23:35</u>                   |
| (B) First Initial Flow <u>19</u>    | <input checked="" type="checkbox"/> Jars <u>250</u>                    | T-Started <u>00:05</u>                       |
| (C) First Final Flow <u>23</u>      | <input checked="" type="checkbox"/> Safety Joint <u>75</u>             | T-Open <u>2:06</u>                           |
| (D) Initial Shut-In <u>1005</u>     | <input checked="" type="checkbox"/> Circ Sub <u>N/C</u>                | T-Pulled <u>3:13</u>                         |
| (E) Second Initial Flow <u>27</u>   | <input type="checkbox"/> Hourly Standby                                | T-Out <u>5:52</u>                            |
| (F) Second Final Flow <u>35</u>     | <input checked="" type="checkbox"/> Mileage <u>32 RTT</u> <u>49.60</u> | Comments <u>Loaded Tools</u>                 |
| (G) Final Shut-In <u>992</u>        | <input type="checkbox"/> Sampler                                       |  |
| (H) Final Hydrostatic <u>2093</u>   | <input type="checkbox"/> Straddle                                      | <input type="checkbox"/> Ruined Shale Packer |
|                                     | <input checked="" type="checkbox"/> Shale Packer <u>250</u>            | <input type="checkbox"/> Ruined Packer       |
| Initial Open <u>5</u>               | <input type="checkbox"/> Extra Packer                                  | <input type="checkbox"/> Extra Copies        |
| Initial Shut-In <u>15</u>           | <input type="checkbox"/> Extra Recorder                                | Sub Total <u>0</u>                           |
| Final Flow <u>15</u>                | <input type="checkbox"/> Day Standby                                   | Total <u>1874.60</u>                         |
| Final Shut-In <u>30</u>             | <input type="checkbox"/> Accessibility                                 | MP/DST Disc't                                |
|                                     | Sub Total <u>1874.60</u>   |  |

Approved By [Signature] Our Representative [Signature]

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