



## DRILL STEM TEST REPORT

Prepared For: **H&C Oil Operating Inc**

PO Box 86  
Plainville KS 67663-0086

ATTN: Charlie Ramsey

### **Steelsmith #25-2**

### **25-9s-25w Graham,KS**

Start Date: 2013.04.09 @ 00:30:30

End Date: 2013.04.09 @ 07:27:09

Job Ticket #: 52560                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.04.17 @ 15:11:46



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

H&C Oil Operating Inc  
PO Box 86  
Plainville KS 67663-0086  
ATTN: Charlie Ramsey

**25-9s-25w Graham,KS**  
**Steelsmith #25-2**  
Job Ticket: 52560 **DST#: 1**  
Test Start: 2013.04.09 @ 00:30:30

## GENERAL INFORMATION:

Formation: **LKC "C"**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 02:55:25  
Time Test Ended: 07:27:09  
Interval: **3936.00 ft (KB) To 3957.00 ft (KB) (TVD)**  
Total Depth: 3957.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Ray Schwager  
Unit No: 42  
Reference Elevations: 2590.00 ft (KB)  
2585.00 ft (CF)  
KB to GR/CF: 5.00 ft

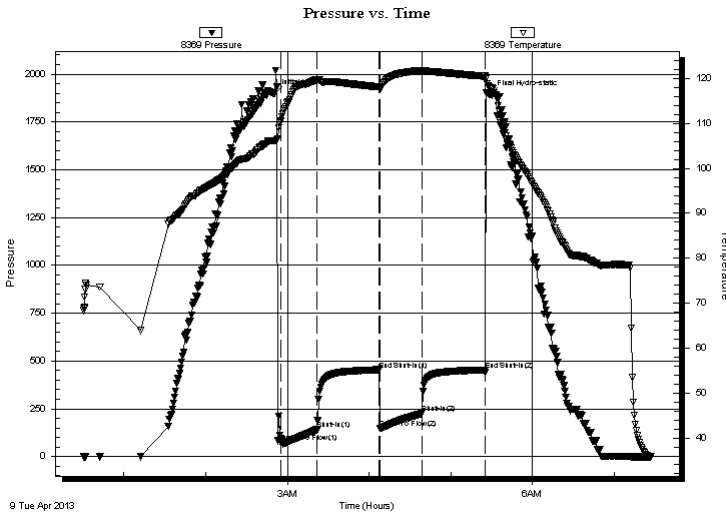
## Serial #: 8369

Inside

Press @ Run Depth: 225.90 psig @ 3937.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2013.04.09 End Date: 2013.04.09 Last Calib.: 2013.04.09  
Start Time: 00:30:30 End Time: 07:27:09 Time On Btm: 2013.04.09 @ 02:50:40  
Time Off Btm: 2013.04.09 @ 05:28:54

TEST COMMENT: 30-IFP-strg bl in 3 min  
45-ISIP-1 1/2" bl bk  
30-FFP-strg bl in 7 min  
45-FSIP-2" bl bk

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1899.27         | 106.10       | Initial Hydro-static |
| 5           | 72.80           | 110.59       | Open To Flow (1)     |
| 32          | 140.95          | 119.81       | Shut-In(1)           |
| 77          | 454.08          | 118.11       | End Shut-In(1)       |
| 78          | 149.15          | 117.62       | Open To Flow (2)     |
| 108         | 225.90          | 121.82       | Shut-In(2)           |
| 155         | 453.17          | 120.53       | End Shut-In(2)       |
| 159         | 1892.10         | 117.98       | Final Hydro-static   |

## Recovery

| Length (ft) | Description             | Volume (bbl) |
|-------------|-------------------------|--------------|
| 0.00        | 900'GIP                 | 0.00         |
| 375.00      | CO                      | 5.26         |
| 30.00       | MGO 10%G10%M80%O        | 0.42         |
| 124.00      | O&GCMW 10%G10%O10%M70%W | 1.74         |
|             |                         |              |
|             |                         |              |

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H&C Oil Operating Inc  
 PO Box 86  
 Plainville KS 67663-0086  
 ATTN: Charlie Ramsey

**25-9s-25w Graham,KS**  
**Steelsmith #25-2**  
 Job Ticket: 52560      **DST#: 1**  
 Test Start: 2013.04.09 @ 00:30:30

**Tool Information**

|                           |                    |                       |                                |                        |             |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 3935.00 ft | Diameter: 3.80 inches | Volume: 55.20 bbl              | Tool Weight:           | 2200.00 lb  |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer:  | 25000.00 lb |
| Drill Collar:             | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight to Pull Loose:  | 60000.00 lb |
|                           |                    |                       | <u>Total Volume: 55.20 bbl</u> | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 20.00 ft           |                       |                                | String Weight: Initial | 38000.00 lb |
| Depth to Top Packer:      | 3936.00 ft         |                       |                                | Final                  | 44000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                                |                        |             |
| Interval between Packers: | 21.00 ft           |                       |                                |                        |             |
| Tool Length:              | 42.00 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         |            |          | 3916.00    |                                    |
| Shut In Tool              | 5.00         |            |          | 3921.00    |                                    |
| Hydraulic tool            | 5.00         |            |          | 3926.00    |                                    |
| Packer                    | 5.00         |            |          | 3931.00    | 21.00      Bottom Of Top Packer    |
| Packer                    | 5.00         |            |          | 3936.00    |                                    |
| Stubb                     | 1.00         |            |          | 3937.00    |                                    |
| Recorder                  | 0.00         | 8369       | Inside   | 3937.00    |                                    |
| Recorder                  | 0.00         | 8700       | Outside  | 3937.00    |                                    |
| Perforations              | 17.00        |            |          | 3954.00    |                                    |
| Bullnose                  | 3.00         |            |          | 3957.00    | 21.00      Bottom Packers & Anchor |
| <b>Total Tool Length:</b> | <b>42.00</b> |            |          |            |                                    |



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H&C Oil Operating Inc  
PO Box 86  
Plainville KS 67663-0086  
ATTN: Charlie Ramsey

**25-9s-25w Graham,KS**  
**Steelsmith #25-2**  
Job Ticket: 52560      **DST#: 1**  
Test Start: 2013.04.09 @ 00:30:30

## Mud and Cushion Information

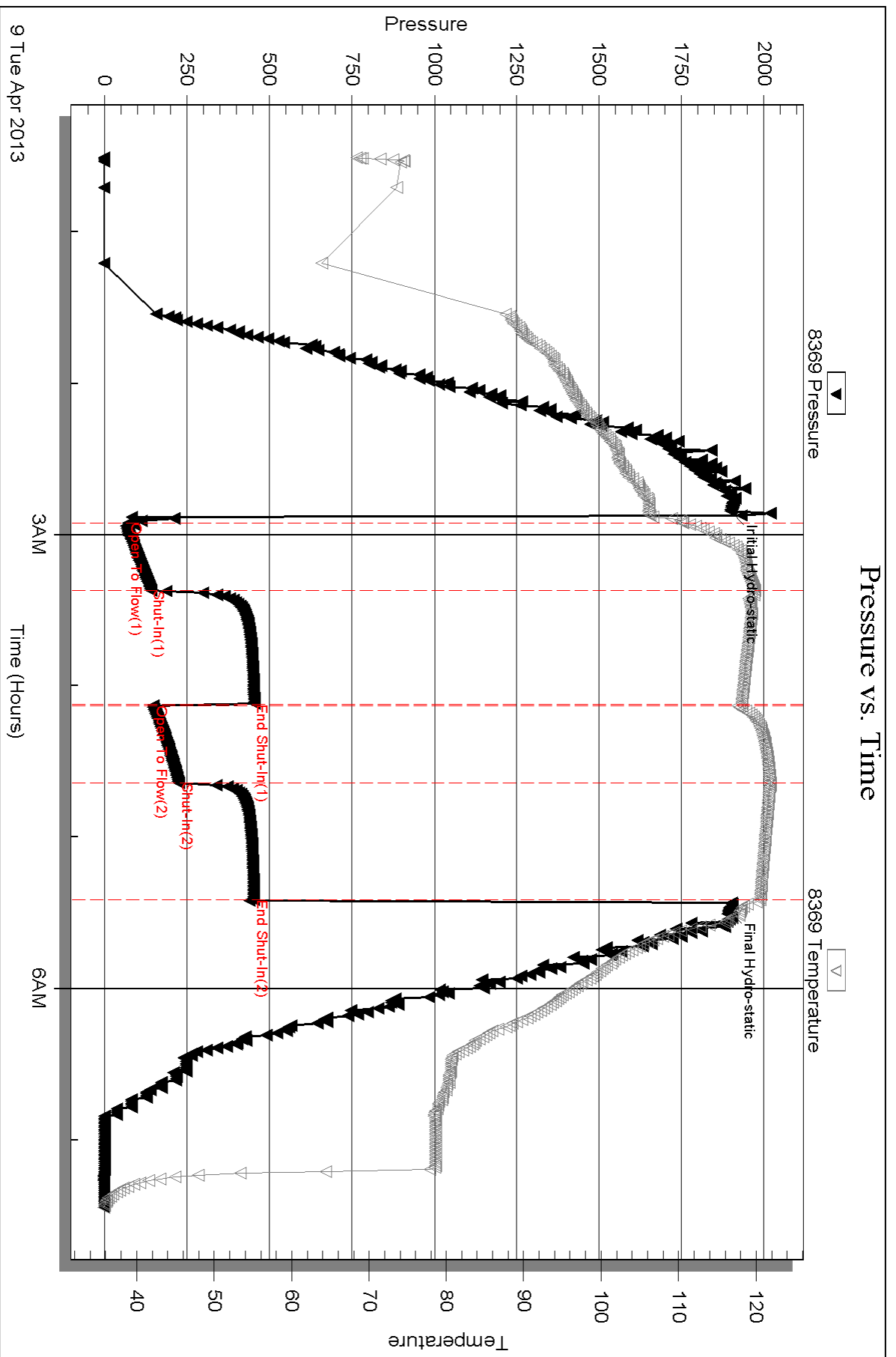
|                                  |                            |                           |
|----------------------------------|----------------------------|---------------------------|
| Mud Type: Gel Chem               | Cushion Type:              | Oil API: 38 deg API       |
| Mud Weight: 9.00 lb/gal          | Cushion Length: ft         | Water Salinity: 68000 ppm |
| Viscosity: 55.00 sec/qt          | Cushion Volume: bbl        |                           |
| Water Loss: 5.95 in <sup>3</sup> | Gas Cushion Type:          |                           |
| Resistivity: ohm.m               | Gas Cushion Pressure: psig |                           |
| Salinity: 1200.00 ppm            |                            |                           |
| Filter Cake: 1.00 inches         |                            |                           |

## Recovery Information

Recovery Table

| Length<br>ft | Description             | Volume<br>bbl |
|--------------|-------------------------|---------------|
| 0.00         | 900'GIP                 | 0.000         |
| 375.00       | CO                      | 5.260         |
| 30.00        | MGO 10%G10%M80%O        | 0.421         |
| 124.00       | O&GCMW 10%G10%O10%M70%W | 1.739         |

Total Length: 529.00 ft      Total Volume: 7.420 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments: RW .15@50F

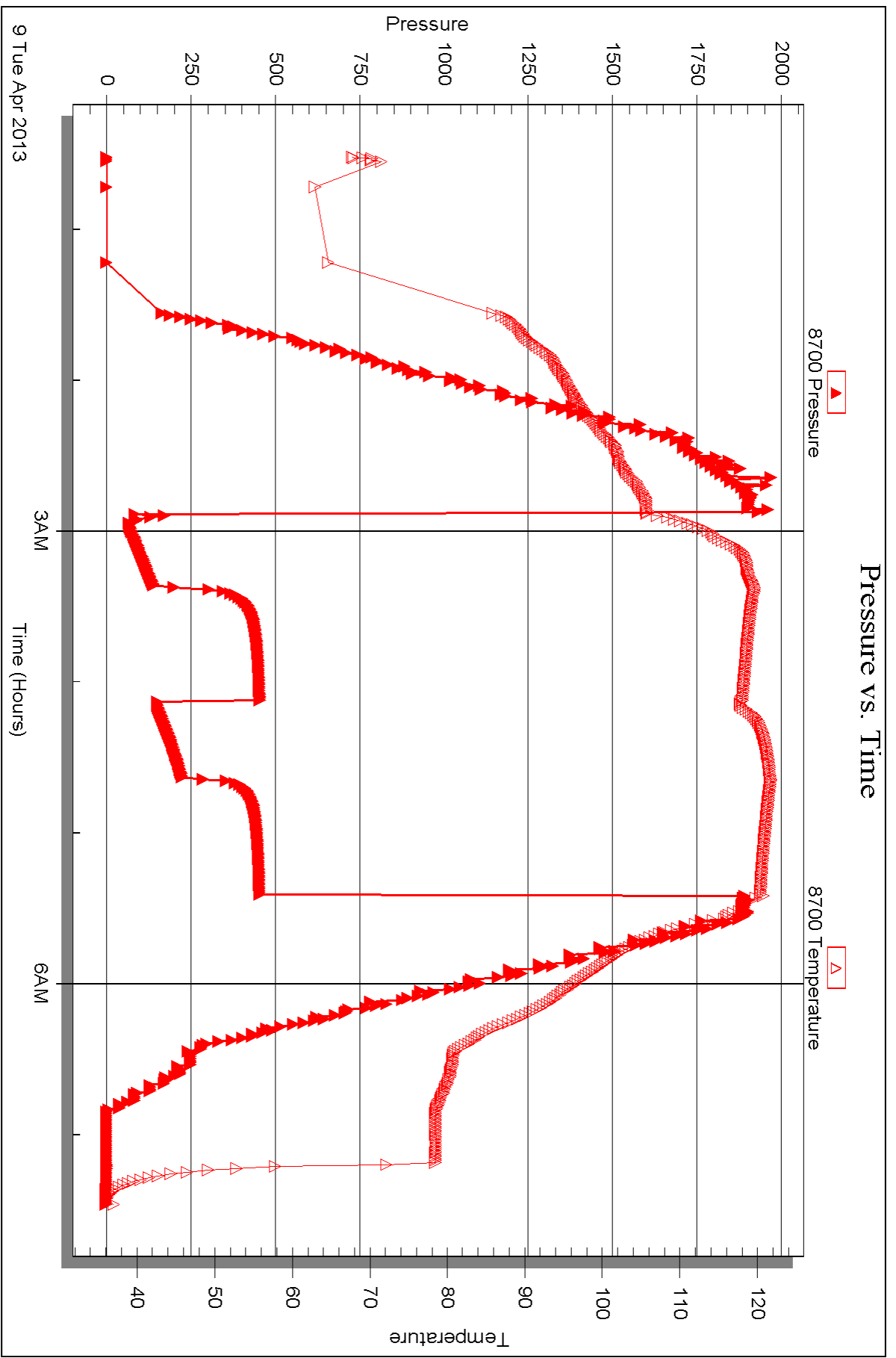


Serial #: 8700

Outside H&C Oil Operating Inc

Steelsmith #25-2

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 52560

Printed: 2013.04.17 @ 15:11:50



## DRILL STEM TEST REPORT

Prepared For: **H&C Oil Operating Inc**

PO Box 86  
Plainville KS 67663-0086

ATTN: Charlie Ramsey

### **Steelsmith #25-2**

### **25-9s-25w Graham,KS**

Start Date: 2013.04.11 @ 01:25:35

End Date: 2013.04.11 @ 07:46:14

Job Ticket #: 52561                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.04.17 @ 15:11:06









**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H&C Oil Operating Inc  
PO Box 86  
Plainville KS 67663-0086  
ATTN: Charlie Ramsey

**25-9s-25w Graham,KS**  
**Steelsmith #25-2**  
Job Ticket: 52561      **DST#: 2**  
Test Start: 2013.04.11 @ 01:25:35

**Tool Information**

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 3966.00 ft | Diameter: 3.80 inches | Volume: 55.63 bbl              | Tool Weight: 2200.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer: 25000.00 lb  |
| Drill Collar:             | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight to Pull Loose: 55000.00 lb  |
|                           |                    |                       | <u>Total Volume: 55.63 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 30.00 ft           |                       |                                | String Weight: Initial 42000.00 lb |
| Depth to Top Packer:      | 3957.00 ft         |                       |                                | Final 43000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 28.00 ft           |                       |                                |                                    |
| Tool Length:              | 49.00 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         |            |          | 3937.00    |                                    |
| Shut In Tool              | 5.00         |            |          | 3942.00    |                                    |
| Hydraulic tool            | 5.00         |            |          | 3947.00    |                                    |
| Packer                    | 5.00         |            |          | 3952.00    | 21.00      Bottom Of Top Packer    |
| Packer                    | 5.00         |            |          | 3957.00    |                                    |
| Stubb                     | 1.00         |            |          | 3958.00    |                                    |
| Recorder                  | 0.00         | 8369       | Inside   | 3958.00    |                                    |
| Recorder                  | 0.00         | 8700       | Outside  | 3958.00    |                                    |
| Perforations              | 24.00        |            |          | 3982.00    |                                    |
| Bullnose                  | 3.00         |            |          | 3985.00    | 28.00      Bottom Packers & Anchor |
| <b>Total Tool Length:</b> | <b>49.00</b> |            |          |            |                                    |



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H&C Oil Operating Inc  
PO Box 86  
Plainville KS 67663-0086  
ATTN: Charlie Ramsey

**25-9s-25w Graham,KS**  
**Steelsmith #25-2**  
Job Ticket: 52561      **DST#: 2**  
Test Start: 2013.04.11 @ 01:25:35

## Mud and Cushion Information

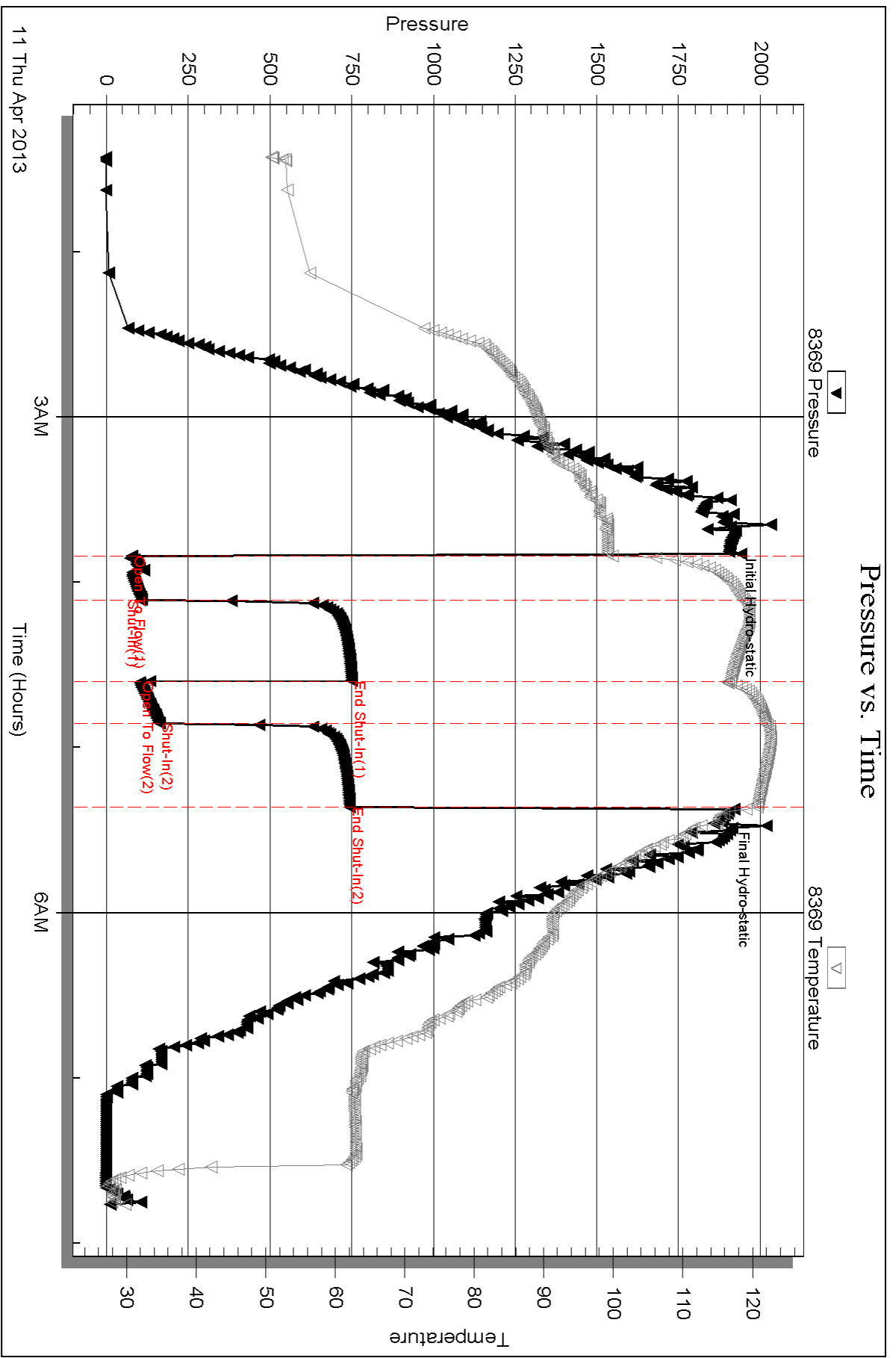
|                                  |                            |                     |
|----------------------------------|----------------------------|---------------------|
| Mud Type: Gel Chem               | Cushion Type:              | Oil API: 38 deg API |
| Mud Weight: 9.00 lb/gal          | Cushion Length: ft         | Water Salinity: ppm |
| Viscosity: 64.00 sec/qt          | Cushion Volume: bbl        |                     |
| Water Loss: 6.76 in <sup>3</sup> | Gas Cushion Type:          |                     |
| Resistivity: ohm.m               | Gas Cushion Pressure: psig |                     |
| Salinity: 1300.00 ppm            |                            |                     |
| Filter Cake: 1.00 inches         |                            |                     |

## Recovery Information

Recovery Table

| Length<br>ft | Description      | Volume<br>bbl |
|--------------|------------------|---------------|
| 0.00         | 2420' GIP        | 0.000         |
| 340.00       | CO               | 4.769         |
| 62.00        | GMO 20%G15%M65%O | 0.870         |

Total Length: 402.00 ft      Total Volume: 5.639 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:

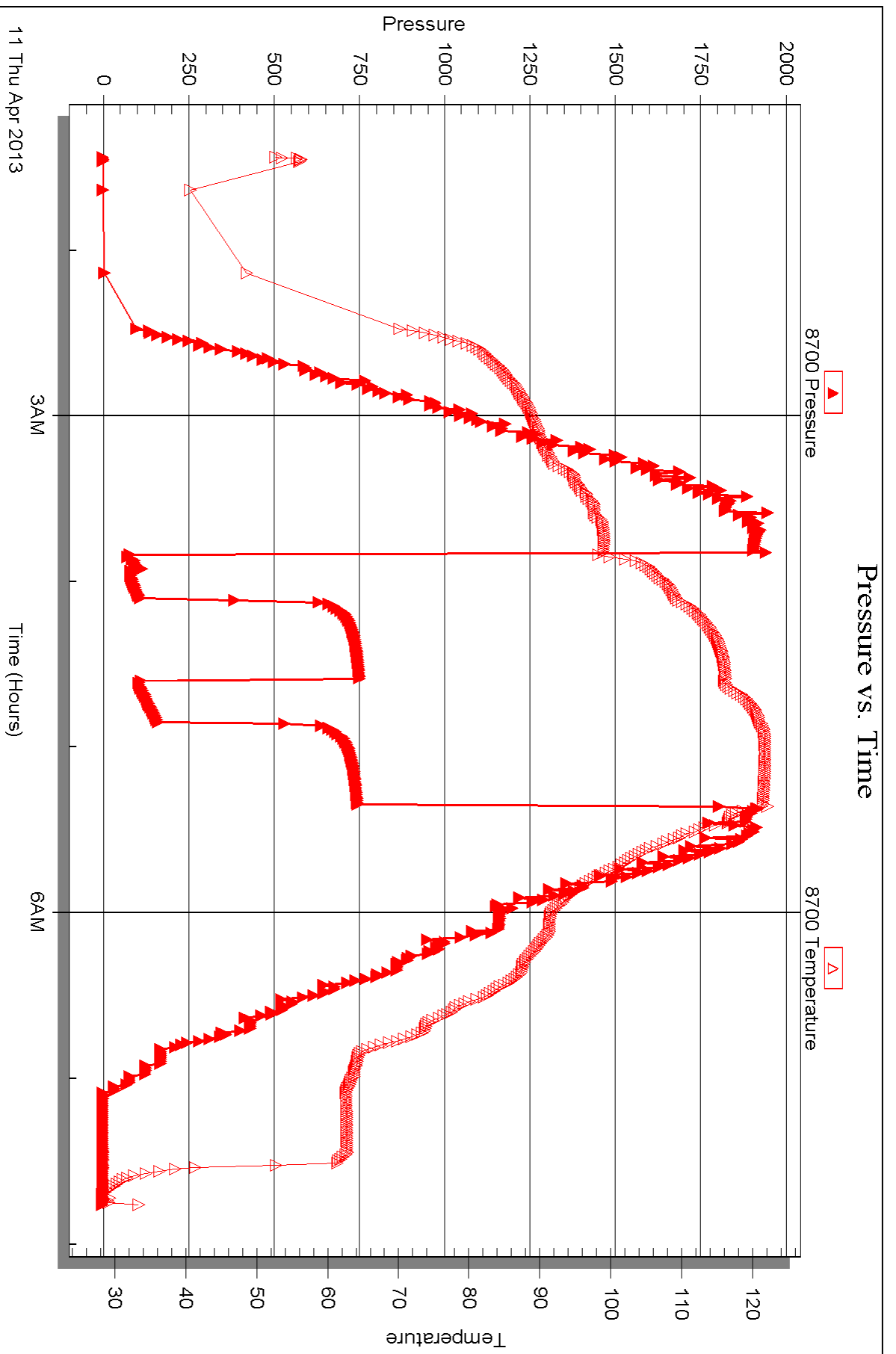


Serial #: 8700

Outside H&C Oil Operating Inc

Steelsmith #25-2

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **H&C Oil Operating Inc**

PO Box 86  
Plainville KS 67663-0086

ATTN: Charlie Ramsey

### **Steelsmith #25-2**

### **25-9s-25w Graham,KS**

Start Date: 2013.04.11 @ 16:55:36

End Date: 2013.04.11 @ 22:49:15

Job Ticket #: 52562                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.04.17 @ 14:57:36









**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H&C Oil Operating Inc  
PO Box 86  
Plainville KS 67663-0086  
ATTN: Charlie Ramsey

**25-9s-25w Graham,KS**  
**Steelsmith #25-2**  
Job Ticket: 52562      **DST#: 3**  
Test Start: 2013.04.11 @ 16:55:36

**Tool Information**

|                           |                    |                       |                                |                        |             |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 4027.00 ft | Diameter: 3.80 inches | Volume: 56.49 bbl              | Tool Weight:           | 2200.00 lb  |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer:  | 25000.00 lb |
| Drill Collar:             | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight to Pull Loose:  | 60000.00 lb |
|                           |                    |                       | <u>Total Volume: 56.49 bbl</u> | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 6.00 ft            |                       |                                | String Weight: Initial | 42000.00 lb |
| Depth to Top Packer:      | 4042.00 ft         |                       |                                | Final                  | 43000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                                |                        |             |
| Interval between Packers: | 31.00 ft           |                       |                                |                        |             |
| Tool Length:              | 52.00 ft           |                       |                                |                        |             |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                                |                        |             |

Tool Comments:

| <b>Tool Description</b> | <b>Length (ft)</b> | <b>Serial No.</b> | <b>Position</b> | <b>Depth (ft)</b> | <b>Accum. Lengths</b> |
|-------------------------|--------------------|-------------------|-----------------|-------------------|-----------------------|
|-------------------------|--------------------|-------------------|-----------------|-------------------|-----------------------|

|                 |       |      |         |         |                                    |
|-----------------|-------|------|---------|---------|------------------------------------|
| Change Over Sub | 1.00  |      |         | 4022.00 |                                    |
| Shut In Tool    | 5.00  |      |         | 4027.00 |                                    |
| Hydraulic tool  | 5.00  |      |         | 4032.00 |                                    |
| Packer          | 5.00  |      |         | 4037.00 | 21.00      Bottom Of Top Packer    |
| Packer          | 5.00  |      |         | 4042.00 |                                    |
| Stubb           | 1.00  |      |         | 4043.00 |                                    |
| Perforations    | 3.00  |      |         | 4046.00 |                                    |
| Recorder        | 0.00  | 8369 | Inside  | 4046.00 |                                    |
| Recorder        | 0.00  | 8700 | Outside | 4046.00 |                                    |
| Perforations    | 24.00 |      |         | 4070.00 |                                    |
| Bullnose        | 3.00  |      |         | 4073.00 | 31.00      Bottom Packers & Anchor |

**Total Tool Length: 52.00**



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

H&C Oil Operating Inc  
PO Box 86  
Plainville KS 67663-0086  
ATTN: Charlie Ramsey

**25-9s-25w Graham,KS**  
**Steelsmith #25-2**  
Job Ticket: 52562      **DST#: 3**  
Test Start: 2013.04.11 @ 16:55:36

**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: 65.00 sec/qt          | Cushion Volume: bbl        |                 |         |
| Water Loss: 6.78 in <sup>3</sup> | Gas Cushion Type:          |                 |         |
| Resistivity: ohm.m               | Gas Cushion Pressure: psig |                 |         |
| Salinity: 1100.00 ppm            |                            |                 |         |
| Filter Cake: 1.00 inches         |                            |                 |         |

**Recovery Information**

Recovery Table

| Length<br>ft | Description | Volume<br>bbl |
|--------------|-------------|---------------|
| 40.00        | Mud         | 0.561         |

Total Length: 40.00 ft      Total Volume: 0.561 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:

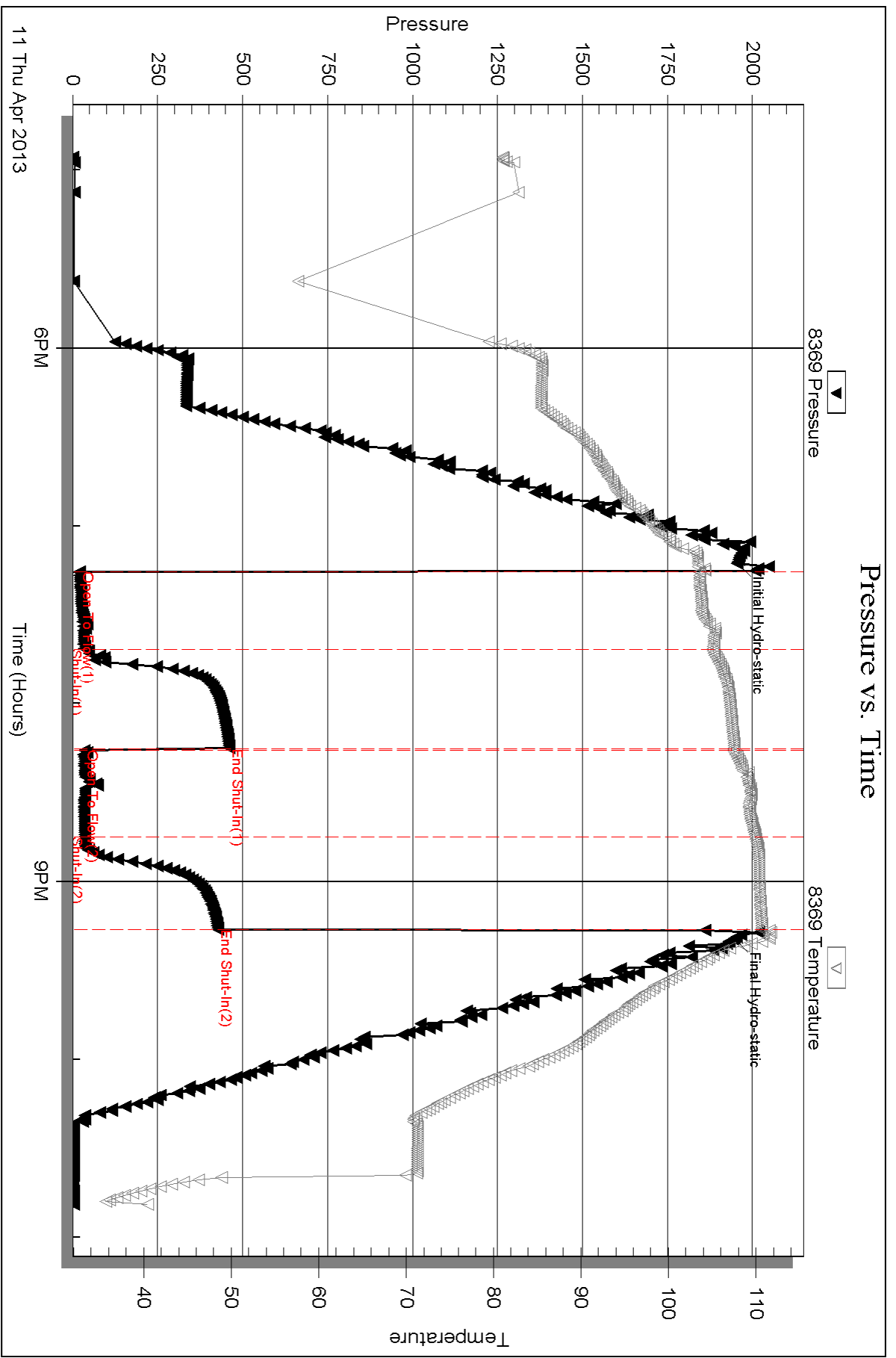
Serial #: 8369

Inside

H&C Oil Operating Inc

Steelsmith #25-2

DST Test Number: 3

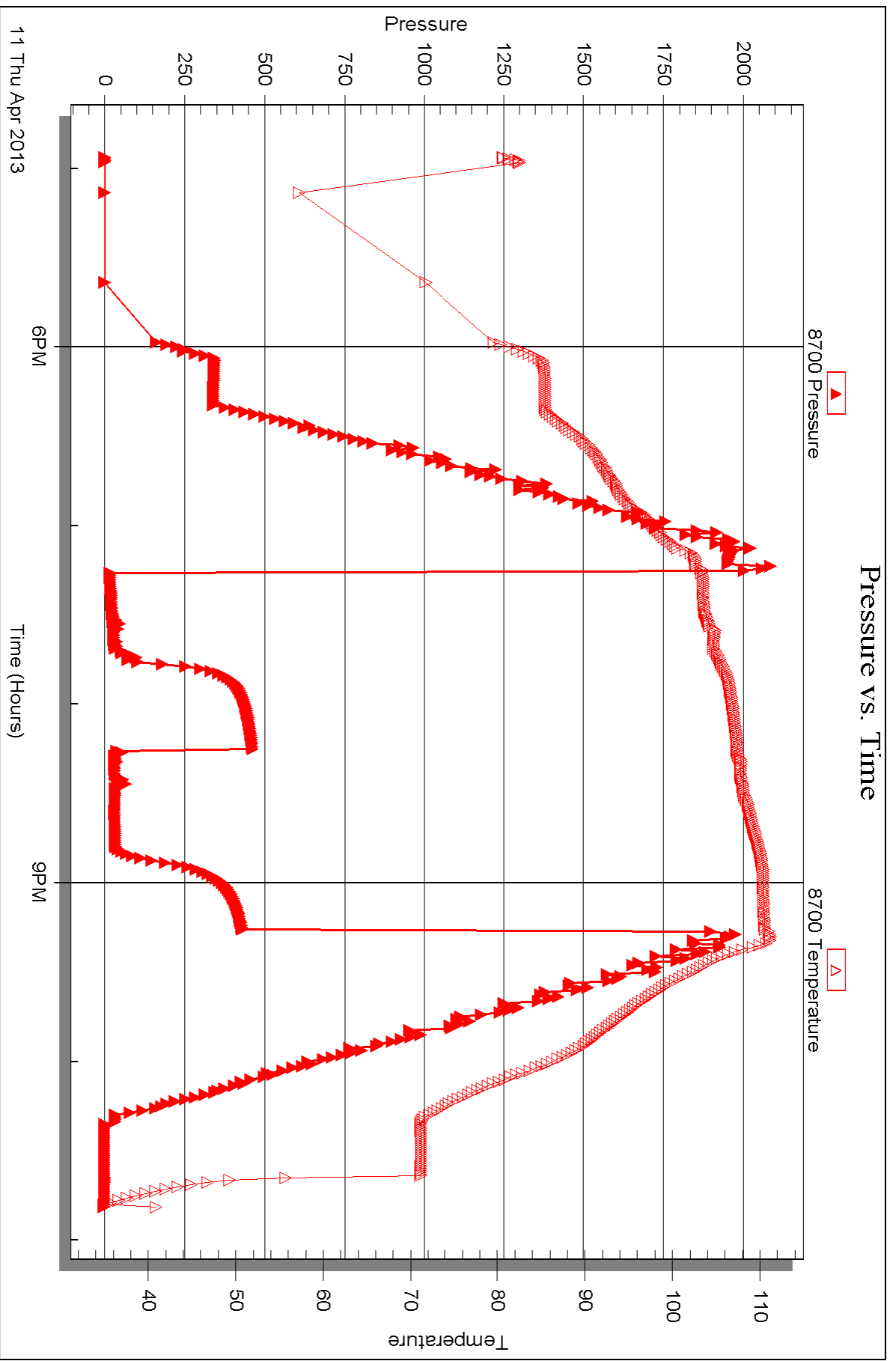


Serial #: 8700

Outside H&C Oil Operating Inc

Steelsmith #25-2

DST Test Number: 3





## DRILL STEM TEST REPORT

Prepared For: **H&C Oil Operating Inc**

PO Box 86  
Plainville KS 67663-0086

ATTN: Charlie Ramsey

### **Steelsmith #25-2**

### **25-9s-25w Graham,KS**

Start Date: 2013.04.12 @ 08:45:48

End Date: 2013.04.12 @ 14:59:57

Job Ticket #: 52563                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.04.17 @ 14:56:48



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

H&C Oil Operating Inc  
 PO Box 86  
 Plainville KS 67663-0086  
 ATTN: Charlie Ramsey

**25-9s-25w Graham,KS**  
**Steelsmith #25-2**  
 Job Ticket: 52563 **DST#: 4**  
 Test Start: 2013.04.12 @ 08:45:48

## GENERAL INFORMATION:

Formation: **LKC I,J,K**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 10:26:13 Tester: Ray Schwager  
 Time Test Ended: 14:59:57 Unit No: 42  
 Interval: **4073.00 ft (KB) To 4136.00 ft (KB) (TVD)** Reference Elevations: 2590.00 ft (KB)  
 Total Depth: 4136.00 ft (KB) (TVD) 2585.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

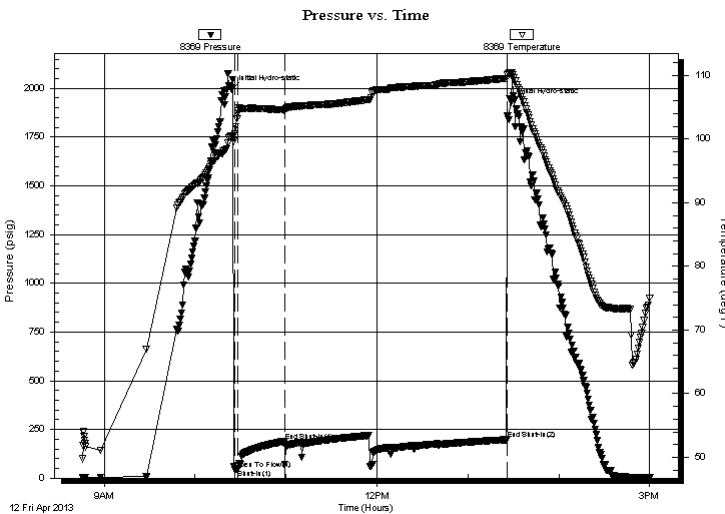
## Serial #: 8369

Inside

Press @ Run Depth: 47.62 psig @ 4075.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.04.12 End Date: 2013.04.12 Last Calib.: 2013.04.12  
 Start Time: 08:45:48 End Time: 14:59:57 Time On Btm: 2013.04.12 @ 10:23:58  
 Time Off Btm: 2013.04.12 @ 13:28:27

TEST COMMENT: 45-IFP-w k to a fr bl , 1/2" to 5 1/2" bl  
 45-ISIP-surface bl bk  
 45-FFP-surface to 1/4" bl  
 45-FSIP-no bl

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1995.21         | 100.49       | Initial Hydro-static |
| 3           | 47.13           | 100.91       | Open To Flow (1)     |
| 5           | 47.62           | 104.04       | Shut-In(1)           |
| 35          | 188.83          | 104.59       | End Shut-In(1)       |
| 182         | 197.18          | 109.56       | End Shut-In(2)       |
| 185         | 1929.00         | 110.49       | Final Hydro-static   |

## Recovery

| Length (ft) | Description                | Volume (bbl) |
|-------------|----------------------------|--------------|
| 70.00       | MW 45%M55%W w /show of oil | 0.98         |
|             |                            |              |
|             |                            |              |
|             |                            |              |
|             |                            |              |

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H&C Oil Operating Inc  
 PO Box 86  
 Plainville KS 67663-0086  
 ATTN: Charlie Ramsey

**25-9s-25w Graham,KS**  
**Steelsmith #25-2**  
 Job Ticket: 52563      **DST#: 4**  
 Test Start: 2013.04.12 @ 08:45:48

**Tool Information**

|                           |                    |                         |                   |                                    |
|---------------------------|--------------------|-------------------------|-------------------|------------------------------------|
| Drill Pipe:               | Length: 4057.00 ft | Diameter: 3.80 inches   | Volume: 56.91 bbl | Tool Weight: 2200.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches   | Volume: 0.00 bbl  | Weight set on Packer: 25000.00 lb  |
| Drill Collar:             | Length: 0.00 ft    | Diameter: 0.00 inches   | Volume: 0.00 bbl  | Weight to Pull Loose: 65000.00 lb  |
|                           |                    | Total Volume: 56.91 bbl |                   | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 5.00 ft            |                         |                   | String Weight: Initial 42000.00 lb |
| Depth to Top Packer:      | 4073.00 ft         |                         |                   | Final 42000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                         |                   |                                    |
| Interval between Packers: | 63.00 ft           |                         |                   |                                    |
| Tool Length:              | 84.00 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        |            |          | 4053.00    |                                    |
| Shut In Tool     | 5.00        |            |          | 4058.00    |                                    |
| Hydraulic tool   | 5.00        |            |          | 4063.00    |                                    |
| Packer           | 5.00        |            |          | 4068.00    | 21.00      Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 4073.00    |                                    |
| Stubb            | 1.00        |            |          | 4074.00    |                                    |
| Perforations     | 1.00        |            |          | 4075.00    |                                    |
| Recorder         | 0.00        | 8369       | Inside   | 4075.00    |                                    |
| Recorder         | 0.00        | 8700       | Outside  | 4075.00    |                                    |
| Blank Spacing    | 33.00       |            |          | 4108.00    |                                    |
| Perforations     | 25.00       |            |          | 4133.00    |                                    |
| Bullnose         | 3.00        |            |          | 4136.00    | 63.00      Bottom Packers & Anchor |

**Total Tool Length: 84.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H&C Oil Operating Inc  
PO Box 86  
Plainville KS 67663-0086  
ATTN: Charlie Ramsey

**25-9s-25w Graham,KS**  
**Steelsmith #25-2**  
Job Ticket: 52563      **DST#: 4**  
Test Start: 2013.04.12 @ 08:45:48

## 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: | 75000 ppm |
| Viscosity: 61.00 sec/qt          | Cushion Volume: bbl        |                 |           |
| Water Loss: 6.79 in <sup>3</sup> | Gas Cushion Type:          |                 |           |
| Resistivity: ohm.m               | Gas Cushion Pressure: psig |                 |           |
| Salinity: 1100.00 ppm            |                            |                 |           |
| Filter Cake: 1.00 inches         |                            |                 |           |

## Recovery Information

Recovery Table

| Length<br>ft | Description               | Volume<br>bbl |
|--------------|---------------------------|---------------|
| 70.00        | MW 45%M55%W w/show of oil | 0.982         |

Total Length: 70.00 ft      Total Volume: 0.982 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments: RW .11 @65F

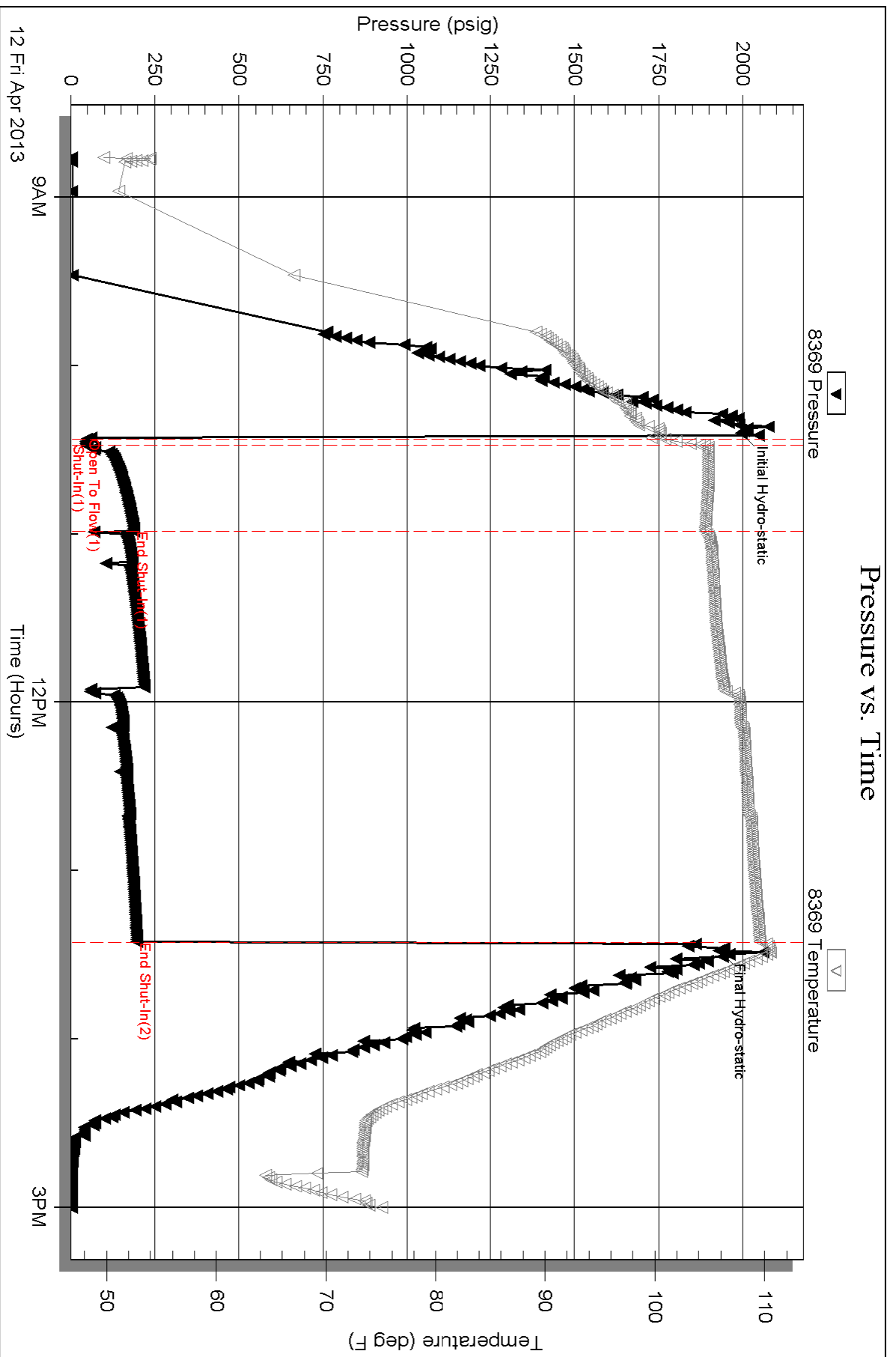
Serial #: 8369

Inside

H&C Oil Operating Inc

Steelsmith #25-2

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 52563

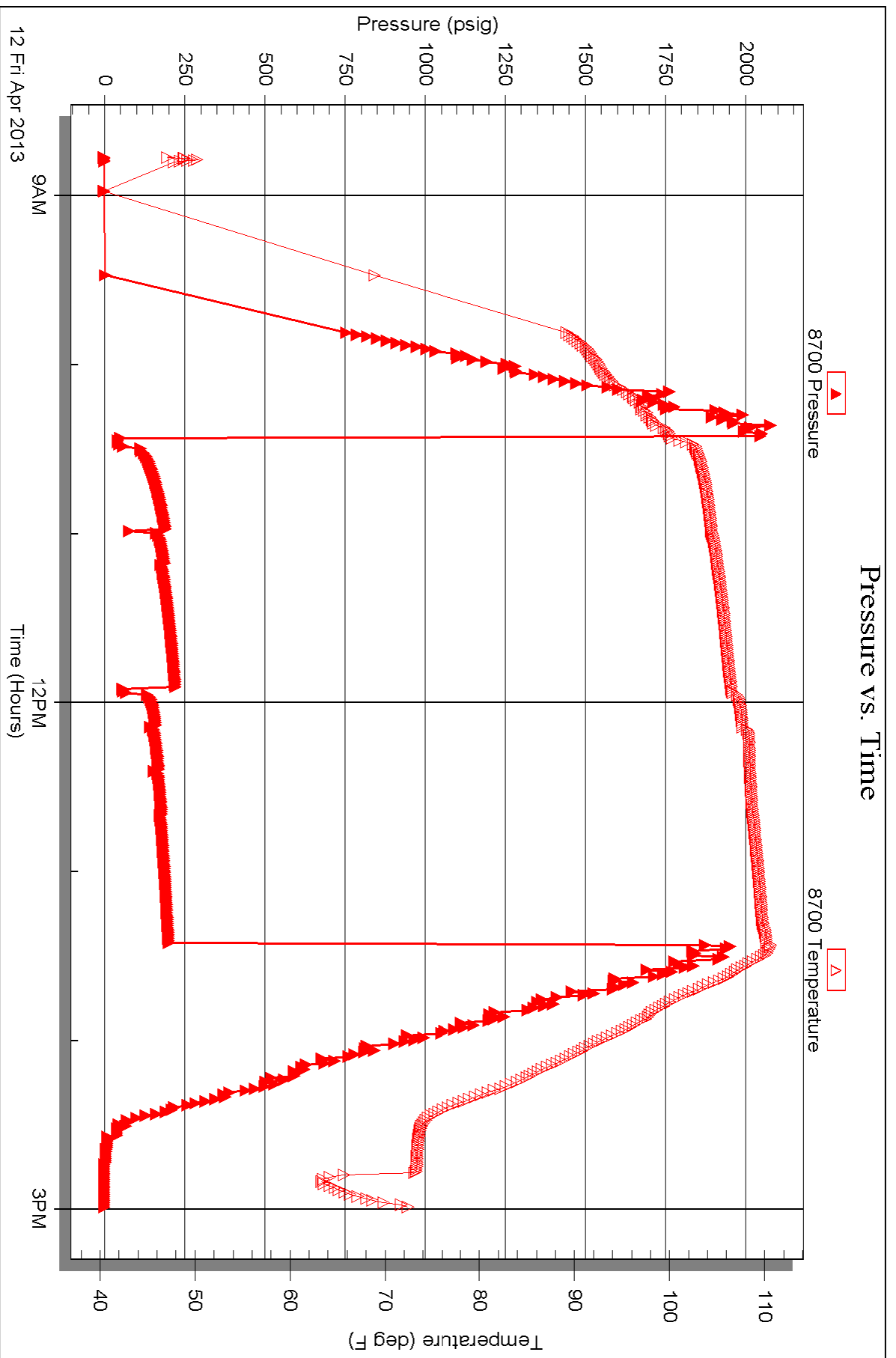
Printed: 2013.04.17 @ 14:56:50

Serial #: 8700

Outside H&C Oil Operating Inc

Steelsmith #25-2

DST Test Number: 4





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 52560

Well Name & No. STEELSMITH #25-2 Test No. 1 Date 4-8-13  
 Company H+C Oil Operating Inc Elevation 2590 KB 2585 GL  
 Address PO Box B6 Plainville, Mo 67663-0086  
 Co. Rep / Geo. MAEC Downing Rig Am Eagle 1193  
 Location: Sec. 25 Twp. 9<sup>s</sup> Rge. 25<sup>w</sup> Co. GRAHAM State K

Interval Tested 3936-3957 Zone Tested LKC "C"  
 Anchor Length 21 Drill Pipe Run 3935 Mud Wt. 8.8  
 Top Packer Depth 3931 Drill Collars Run - Vis 55  
 Bottom Packer Depth 3936 Wt. Pipe Run - WL 6  
 Total Depth 3957 Chlorides 1200 ppm System LCM 1#

Blow Description TFP - STRONG BLOW IN 3 MIN  
ISIP - 1 1/2" BLOW BACK  
FFP - STRONG BLOW IN 6 MIN  
FSTIP - 2" BLOW BACK

| Rec        | Feet of       | %gas      | %oil      | %water    | %mud      |
|------------|---------------|-----------|-----------|-----------|-----------|
| <u>900</u> | <u>GIP</u>    |           |           |           |           |
| <u>375</u> | <u>CO</u>     |           |           |           |           |
| <u>30</u>  | <u>AG0</u>    | <u>10</u> | <u>80</u> |           | <u>10</u> |
| <u>124</u> | <u>0+6CMW</u> | <u>10</u> | <u>10</u> | <u>70</u> | <u>10</u> |
| Rec        | Feet of       | %gas      | %oil      | %water    | %mud      |

Rec Total 529 BHT 120 Gravity 38 API RW .15 @ 50 °F Chlorides 68000 ppm

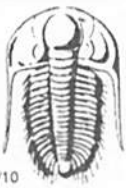
(A) Initial Hydrostatic 1899  Test 1150 T-On Location 2250  
 (B) First Initial Flow 72  Jars \_\_\_\_\_ T-Started 0030  
 (C) First Final Flow 140  Safety Joint \_\_\_\_\_ T-Open 0250  
 (D) Initial Shut-In 454  Circ Sub \_\_\_\_\_ T-Pulled 0520  
 (E) Second Initial Flow 149  Hourly Standby \_\_\_\_\_ T-Out 0727 4-9-13  
 (F) Second Final Flow 225  Mileage 123 RT 190.65 Comments Rig Backe down  
 (G) Final Shut-In 453  Sampler \_\_\_\_\_ called Back for next  
 (H) Final Hydrostatic 1892  Straddle \_\_\_\_\_ Test at 12am 4-11-13  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_

Initial Open 30  Extra Packer \_\_\_\_\_  
 Initial Shut-In 45  Extra Recorder \_\_\_\_\_  
 Final Flow 30  Day Standby \_\_\_\_\_  
 Final Shut-In 45  Accessibility \_\_\_\_\_  
 Sub Total 1340.65

Approved By \_\_\_\_\_ Our Representative RAY Schwager Thank you

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. 52561

4/10

Well Name & No. STEELSMITH #25-2 Test No. 2 Date 4-11-13  
 Company H+C Operating Inc Elevation 2590 KB 2585 GL  
 Address PO Box 86 Plainville, Mo 67663-0086  
 Co. Rep / Geo. MARC Downing Rig Am Eagle rig 3  
 Location: Sec. 25 Twp. 9<sup>s</sup> Rge. 25<sup>w</sup> Co. GRAHAM State Ks

Interval Tested 3957-3985 Zone Tested LKC "0"  
 Anchor Length 28 Drill Pipe Run 3966 Mud Wt. 9  
 Top Packer Depth 3952 Drill Collars Run — Vis 64  
 Bottom Packer Depth 3957 Wt. Pipe Run — WL 6.8  
 Total Depth 3985 Chlorides 1300 ppm System LCM 1#

Blow Description IFP - STRONG BLOW IN 1 MIN  
ISIP - STRONG BLOW BACK IN 10 MIN  
FFP - STRONG BLOW THRU-OUT  
FSIP - STRONG BLOW BACK IN 8 MIN

| Rec         | Feet of    | %gas      | %oil      | %water | %mud      |
|-------------|------------|-----------|-----------|--------|-----------|
| <u>2420</u> | <u>GIP</u> |           |           |        |           |
| <u>340</u>  | <u>CO</u>  |           |           |        |           |
| <u>62</u>   | <u>GMO</u> | <u>20</u> | <u>65</u> |        | <u>15</u> |
|             |            |           |           |        |           |
|             |            |           |           |        |           |

Rec Total 402 BHT 120 Gravity 38 API RW — @ — F Chlorides — ppm

(A) Initial Hydrostatic 1906  Test 1150 T-On Location 0050  
 (B) First Initial Flow 78  Jars — T-Started 0125  
 (C) First Final Flow 105  Safety Joint — T-Open 0350  
 (D) Initial Shut-In 749  Circ Sub — T-Pulled 0520  
 (E) Second Initial Flow 102  Hourly Standby — T-Out 0746  
 (F) Second Final Flow 162  Mileage 190.65 Comments —  
 (G) Final Shut-In 743  Sampler —  
 (H) Final Hydrostatic 1884  Straddle —  Ruined Shale Packer —  
 Shale Packer —  Ruined Packer —  
 Extra Packer —  Extra Copies —  
 Extra Recorder —

Initial Open 15  
 Initial Shut-In 30  
 Final Flow 15  
 Final Shut-In 30  
 Sub Total 1340.65  
 Sub Total 575  
 Total 1915.65  
 MP/DST Disc't —

Approved By \_\_\_\_\_ Our Representative Ray Schwager *thank you*

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 52562

Well Name & No. STEELSMITH #25-2 Test No. 3 Date 4-11-13  
 Company H + C OPERATING INC Elevation 2590 KB 2585 GL  
 Address PO Box 86 Plainville, KS 67663-0086  
 Co. Rep / Geo. MARC DOWNING Rig AM EAGLE RIG 3  
 Location: Sec. 25 Twp. 9<sup>s</sup> Rge. 25<sup>w</sup> Co. GRAHAM State KS

Interval Tested 4042-4073 Zone Tested LKC "H"  
 Anchor Length 31 Drill Pipe Run 4027 Mud Wt. 9.1  
 Top Packer Depth 4037 Drill Collars Run - Vis 65  
 Bottom Packer Depth 4042 Wt. Pipe Run - WL 6.8  
 Total Depth 4073 Chlorides 1100 ppm System LCM 1#

Blow Description IFP - WEAK BLOW THRU-OUT 1/2" TO 1 1/4" BLOW  
ISIP - NO BLOW  
FFP - NO BLOW, 1<sup>ST</sup> 6 MIN, THEN SURFACE BLOW THRU-OUT  
FSIP - NO BLOW

| Rec       | Feet of    | %gas | %oil | %water | %mud |
|-----------|------------|------|------|--------|------|
| <u>40</u> | <u>Mud</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 40 BHT 110 Gravity - API RW - @ - ° F Chlorides - ppm  
 (A) Initial Hydrostatic 1955  Test 1250 T-On Location 1615  
 (B) First Initial Flow 20  Jars T-Started 1655  
 (C) First Final Flow 34  Safety Joint T-Open 1915  
 (D) Initial Shut-In 460  Circ Sub T-Pulled 2115  
 (E) Second Initial Flow 34  Hourly Standby T-Out 2249  
 (F) Second Final Flow 36  Mileage 190.65 Comments \_\_\_\_\_  
 (G) Final Shut-In 427  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1946  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 30  
 Final Flow 30  
 Final Shut-In 30  
 Sub Total 0  
 Total 1340.65  
 MP/DST Disc't \_\_\_\_\_  
 Sub Total 1340.65

Approved By \_\_\_\_\_ Our Representative RAY SCHWAGER Thank you

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 52563

4/10

Well Name & No. STEELSMITH # 25-2 Test No. 4 Date 4-12-13  
 Company H+C OPERATING INC Elevation 2590 KB 2585 GL  
 Address PO BOX 86 PLAINVILLE, KS 67663-0086  
 Co. Rep / Geo. MARC DOWNING Rig AM EAGLE 1193  
 Location: Sec. 25 Twp. 9S Rge. 25W Co. GRAHAM State KS

Interval Tested 4073-4136 Zone Tested LKC IJK  
 Anchor Length 63 Drill Pipe Run 4057 Mud Wt. 9.2  
 Top Packer Depth 4068 Drill Collars Run - Vis 61  
 Bottom Packer Depth 4073 Wt. Pipe Run - WL 6.8  
 Total Depth 4136 Chlorides 1100 ppm System LCM 1#  
 Blow Description I FP - WEAK TO A FAIR BLOW 1/2" TO 5/8" BLOW  
ISIP - SURFACE BLOW BACK 1<sup>ST</sup> 20 MIN  
FFP - SURFACE TO 1/4" BLOW  
FSIP - NO BLOW

| Rec       | Feet of            | %gas | %oil | %water    | %mud      |
|-----------|--------------------|------|------|-----------|-----------|
| <u>70</u> | <u>Ø MW</u>        |      |      | <u>55</u> | <u>45</u> |
|           | <u>w/show foil</u> |      |      |           |           |
|           |                    |      |      |           |           |
|           |                    |      |      |           |           |
|           |                    |      |      |           |           |

Rec Total 70 BHT 110 Gravity - API RW .11 @ 65 ° F Chlorides 75000 ppm  
 (A) Initial Hydrostatic 1995  Test 1250 T-On Location 0830  
 (B) First Initial Flow 47  Jars - T-Started 0845  
 (C) First Final Flow 47  Safety Joint - T-Open 1025  
 (D) Initial Shut-In 188  Circ Sub - T-Pulled 1325  
 (E) Second Initial Flow -  Hourly Standby - T-Out 1459  
 (F) Second Final Flow -  Mileage 190.65 Comments \_\_\_\_\_  
 (G) Final Shut-In 195  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1929  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Initial Open 45  
 Initial Shut-In 45  
 Final Flow 45  
 Final Shut-In 45  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1340.65  
 Sub Total 1340.65  
 Sub Total 0  
 Total 1340.65  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative RAY SCHWAGER *thank you*  
 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.