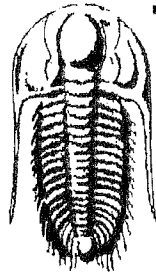


3-23s-16w

kan

MD



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **J & D Investments Co**

1584 Smokey Hill River Rd  
Hays KS 67601

ATTN: Bob Stolzie

**3 23S 16W Pawnee KS**

**Richards Trust #2**

Start Date: 2008.01.16 @ 16:22:10

End Date: 2008.01.17 @ 05:55:25

Job Ticket #: 29795 DST #: 1

15-K5-21569-0000

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

J & D Investments Co

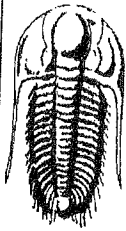
Richards Trust #2

3 23S 16W Pawnee KS

DST # 1

LKC "E" Zone

2008.01.16



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

J & D Investments Co

1584 Smokey Hill River Rd  
Hays KS 67601

ATTN: Bob Stolzle

**Richards Trust #2**

**3 23S 16W Pawnee KS**

Job Ticket: 29795

DST#: 1

Test Start: 2008.01.16 @ 16:22:10

### GENERAL INFORMATION:

Formation: **LKC "E" Zone**  
Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:58:10

Time Test Ended: 05:55:25

Interval: **3666.00 ft (KB) To 3698.00 ft (KB) (TVD)**

Total Depth: 3698.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole

Tester: Kevin taylor

Unit No: 23

Reference Elevations: 2053.00 ft (KB)

2045.00 ft (CF)

KB to GR/CF: 8.00 ft

**Serial #: 8319**

Inside

Press@RunDepth: 206.39 psig @ 3667.00 ft (KB)

Start Date: 2008.01.16

End Date:

2008.01.17

Start Time: 16:22:15

End Time:

05:55:25

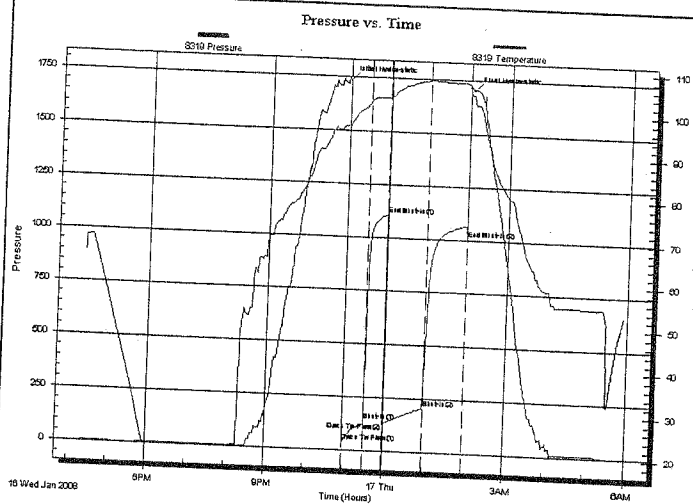
Capacity: 7000.00 psig

Last Calib.: 2008.01.17

Time On Btm: 2008.01.16 @ 22:57:55

Time Off Btm: 2008.01.17 @ 02:04:40

TEST COMMENT: IF Weak blow built to 4" in 30 min.  
ISI No blow  
FF Weak blow BOB in 36 min.  
FSI Surface blow dead in 38 min.



### PRESSURE SUMMARY

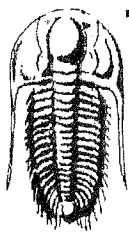
| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1737.27         | 96.49        | Initial Hydro-static |
| 1           | 40.72           | 95.76        | Open To Flow (1)     |
| 32          | 139.52          | 102.02       | Shut-In (1)          |
| 61          | 1105.91         | 102.94       | End Shut-In (1)      |
| 61          | 130.83          | 102.63       | Open To Flow (2)     |
| 121         | 206.39          | 107.35       | Shut-In (2)          |
| 181         | 1007.83         | 106.83       | End Shut-In (2)      |
| 187         | 1705.00         | 103.99       | Final Hydro-static   |

### Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 380.00      | Water       | 4.10         |
| 40.00       | Mud         | 0.56         |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |

### Gas Rates

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

TOOL DIAGRAM

J & D Investments Co

Richards Trust #2

1584 Smokey Hill River Rd  
Hays KS 67601

3 23S 16W Pawnee KS

Job Ticket: 29795

DST#: 1

ATTN: Bob Stolze

Test Start: 2008.01.16 @ 16:22:10

### Tool Information

|                 |                    |                       |                         |
|-----------------|--------------------|-----------------------|-------------------------|
| Drill Pipe:     | Length: 3480.00 ft | Diameter: 3.80 inches | Volume: 48.82 bbl       |
| Heavy Wt. Pipe: | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl        |
| Drill Collar:   | Length: 184.00 ft  | Diameter: 2.75 inches | Volume: 1.35 bbl        |
|                 |                    |                       | Total Volume: 50.17 bbl |

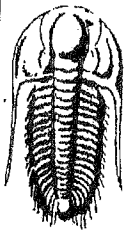
Drill Pipe Above KB: 20.00 ft  
Depth to Top Packer: 3666.00 ft  
Depth to Bottom Packer: ft  
Interval between Packers: 32.00 ft  
Tool Length: 54.00 ft  
Number of Packers: 2 Diameter: 6.75 inches

Tool Weight: 2200.00 lb  
Weight set on Packer: 24000.00 lb  
Weight to Pull Loose: 67000.00 lb  
Tool Chased 0.00 ft  
String Weight: Initial 62000.00 lb  
Final 64000.00 lb

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths                |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Change Over Sub  | 1.00        |            |          | 3645.00    |                               |
| Shut In Tool     | 5.00        |            |          | 3650.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 3655.00    |                               |
| Safety Joint     | 2.00        |            |          | 3657.00    |                               |
| Packer           | 5.00        |            |          | 3662.00    | 22.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 3666.00    |                               |
| Stubb            | 1.00        |            |          | 3667.00    |                               |
| Recorder         | 0.00        | 8319       | Inside   | 3667.00    |                               |
| Recorder         | 0.00        | 8289       | Inside   | 3667.00    |                               |
| Perforations     | 26.00       |            |          | 3693.00    |                               |
| Bullnose         | 5.00        |            |          | 3698.00    | 32.00 Bottom Packers & Anchor |

Total Tool Length: 54.00



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

### FLUID SUMMARY

J & D Investments Co

Richards Trust #2

1584 Smokey Hill River Rd  
Hays KS 67601

**3 23S 16W Pawnee KS**

Job Ticket: 29795

DST#: 1

ATTN: Bob Stolzle

Test Start: 2008.01.16 @ 16:22:10

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 47.00 sec/qt

Water Loss: 7.98 in<sup>3</sup>

Resistivity: ohm.m

Salinity: 7200.00 ppm

Filter Cake: 0.02 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API: deg API

Water Salinity: ppm

### Recovery Information

Recovery Table

| Length<br>ft | Description | Volume<br>bbl |
|--------------|-------------|---------------|
| 380.00       | Water       | 4.101         |
| 40.00        | Mud         | 0.561         |

Total Length: 420.00 ft

Total Volume: 4.662 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

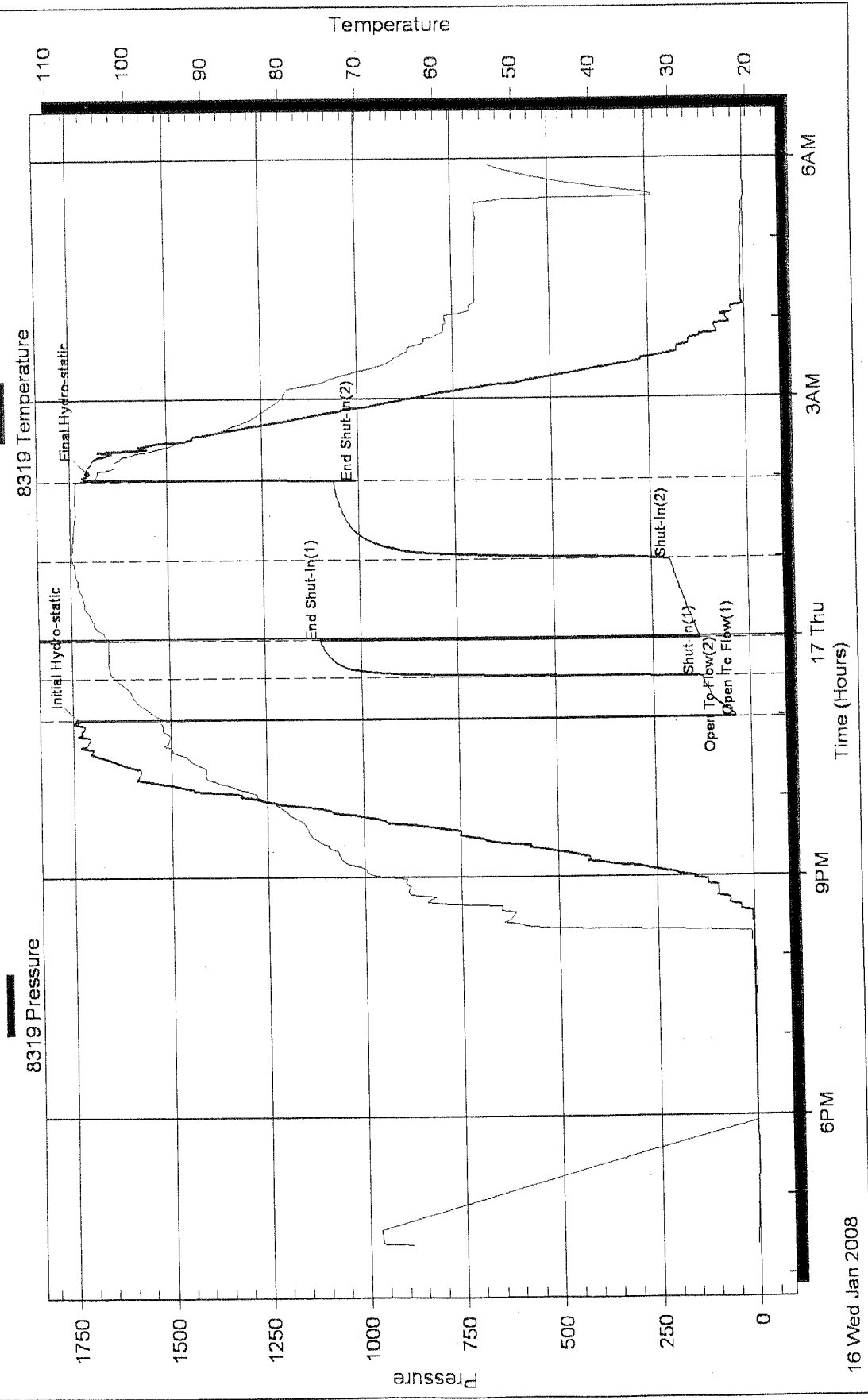
Serial #:

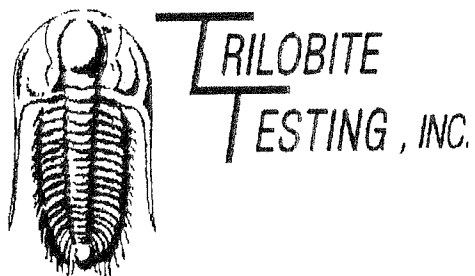
Laboratory Name:

Laboratory Location:

Recovery Comments:

# Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **J & D Investments Co**

1584 Smokey Hill River Rd  
Hays KS 67601

ATTN: Bob Stolzie

**3 23S 16W Pawnee KS**

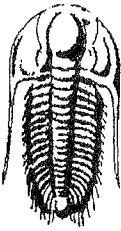
**Richards Trust #2**

Start Date: 2008.01.17 @ 17:40:28

End Date: 2008.01.18 @ 04:16:13

Job Ticket #: 29796      DST #: 2

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



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

J & D Investments Co  
1584 Smokey Hill River Rd  
Hays KS 67601  
ATTN: Bob Stolzle

Richards Trust #2

3 23S 16W Pawnee KS

Job Ticket: 29796

DST#: 2

Test Start: 2008.01.17 @ 17:40:28

### GENERAL INFORMATION:

Formation: LKC "G"

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:50:58

Time Test Ended: 04:16:13

Interval: 3707.00 ft (KB) To 3720.00 ft (KB) (TVD)

Total Depth: 3698.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole

Tester: Kevin Taylor

Unit No: 23

Reference Elevations: 2053.00 ft (KB)

2045.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8319

Inside

Press@RunDepth: 367.73 psig @ 3721.00 ft (KB)

Start Date: 2008.01.17 End Date:

Start Time: 17:40:33 End Time:

2008.01.18

04:16:13

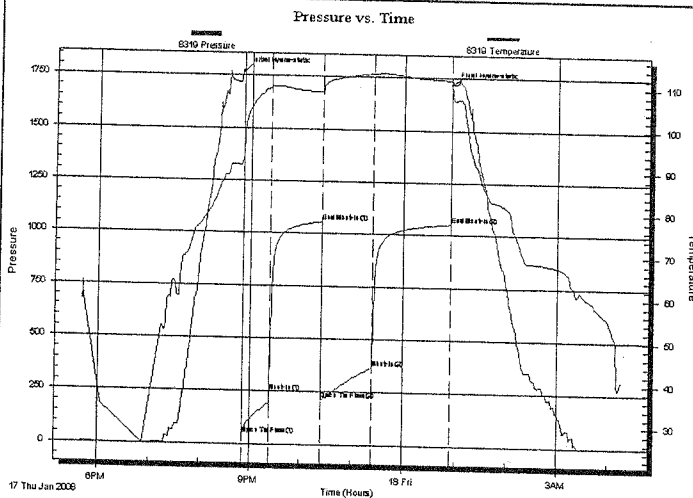
Capacity: 7000.00 psig

Last Calib.: 2008.01.18

Time On Btm: 2008.01.17 @ 20:50:43

Time Off Btm: 2008.01.18 @ 00:55:13

TEST COMMENT: IF Fair blow BOB In 5 min.  
ISI Weak blow built To 3 " in 35 min.  
FF Weak blow BOB In 9 min.  
FSI Weak blow built to 2 1/2 " in 25 min.



### PRESSURE SUMMARY

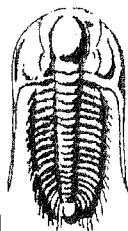
| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1770.18         | 93.62        | Initial Hydro-static |
| 1           | 45.46           | 93.17        | Open To Flow (1)     |
| 34          | 249.62          | 109.54       | Shut-In (1)          |
| 94          | 1055.32         | 108.44       | End Shut-In (1)      |
| 94          | 213.14          | 108.19       | Open To Flow (2)     |
| 153         | 367.73          | 112.86       | Shut-In (2)          |
| 244         | 1051.61         | 111.62       | End Shut-In (2)      |
| 245         | 1715.36         | 111.29       | Final Hydro-static   |

### Recovery

| Length (ft) | Description   | Volume (bbl) |
|-------------|---------------|--------------|
| 784.00      | GSYW 95%W 5%G | 9.77         |
| 35.00       | GSYO 95%O 5%G | 0.49         |
|             |               |              |
|             |               |              |
|             |               |              |
|             |               |              |

### Gas Rates

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



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

TOOL DIAGRAM

J & D Investments Co

Richards Trust #2

1584 Smokey Hill River Rd  
Hays KS 67601

3 23S 16W Pawnee KS

Job Ticket: 29796

DST#: 2

ATTN: Bob Stolze

Test Start: 2008.01.17 @ 17:40:28

### Tool Information

Drill Pipe: Length: 3543.00 ft Diameter: 3.80 inches Volume: 49.70 bbl  
Heavy Wt. Pipe: Length: 0.00 ft Diameter: 0.00 inches Volume: 0.00 bbl  
Drill Collar: Length: 184.00 ft Diameter: 2.75 inches Volume: 1.35 bbl  
Total Volume: 51.05 bbl

Tool Weight: 2200.00 lb

Weight set on Packer: 24000.00 lb

Weight to Pull Loose: 66000.00 lb

Tool Chased 0.00 ft

String Weight: Initial 64000.00 lb

Final 64000.00 lb

Drill Pipe Above KB: 29.00 ft

Depth to Top Packer: 3720.00 ft

Depth to Bottom Packer: ft

Interval between Packers: 13.00 ft

Tool Length: 35.00 ft

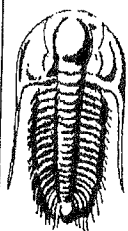
Number of Packers: 2 Diameter: 6.75 inches

Tool Comments:

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

|                 |      |      |        |         |                               |
|-----------------|------|------|--------|---------|-------------------------------|
| Change Over Sub | 1.00 |      |        | 3699.00 |                               |
| Shut In Tool    | 5.00 |      |        | 3704.00 |                               |
| Hydraulic tool  | 5.00 |      |        | 3709.00 |                               |
| Safety Joint    | 2.00 |      |        | 3711.00 |                               |
| Packer          | 5.00 |      |        | 3716.00 | 22.00 Bottom Of Top Packer    |
| Packer          | 4.00 |      |        | 3720.00 |                               |
| Stubb           | 1.00 |      |        | 3721.00 |                               |
| Recorder        | 0.00 | 8319 | Inside | 3721.00 |                               |
| Recorder        | 0.00 | 8289 | Inside | 3721.00 |                               |
| Perforations    | 7.00 |      |        | 3728.00 |                               |
| Bullnose        | 5.00 |      |        | 3733.00 | 13.00 Bottom Packers & Anchor |

Total Tool Length: 35.00



**TRILOBITE**  
**TESTING, INC**

## DRILL STEM TEST REPORT

### FLUID SUMMARY

J & D Investments Co

**Richards Trust #2**

1584 Smokey Hill River Rd  
Hays KS 67601

**3 23S 16W Pawnee KS**

Job Ticket: 29796

**DST#: 2**

ATTN: Bob Stolze

Test Start: 2008.01.17 @ 17:40:28

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 47.00 sec/qt

Water Loss: 7.98 in<sup>3</sup>

Resistivity: ohm.m

Salinity: 7200.00 ppm

Filter Cake: 0.02 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

deg API

ppm

### Recovery Information

Recovery Table

| Length<br>ft | Description   | Volume<br>bbl |
|--------------|---------------|---------------|
| 784.00       | GSYW 95%W 5%G | 9.768         |
| 35.00        | GSYO 95%O 5%G | 0.491         |

Total Length: 819.00 ft

Total Volume: 10.259 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

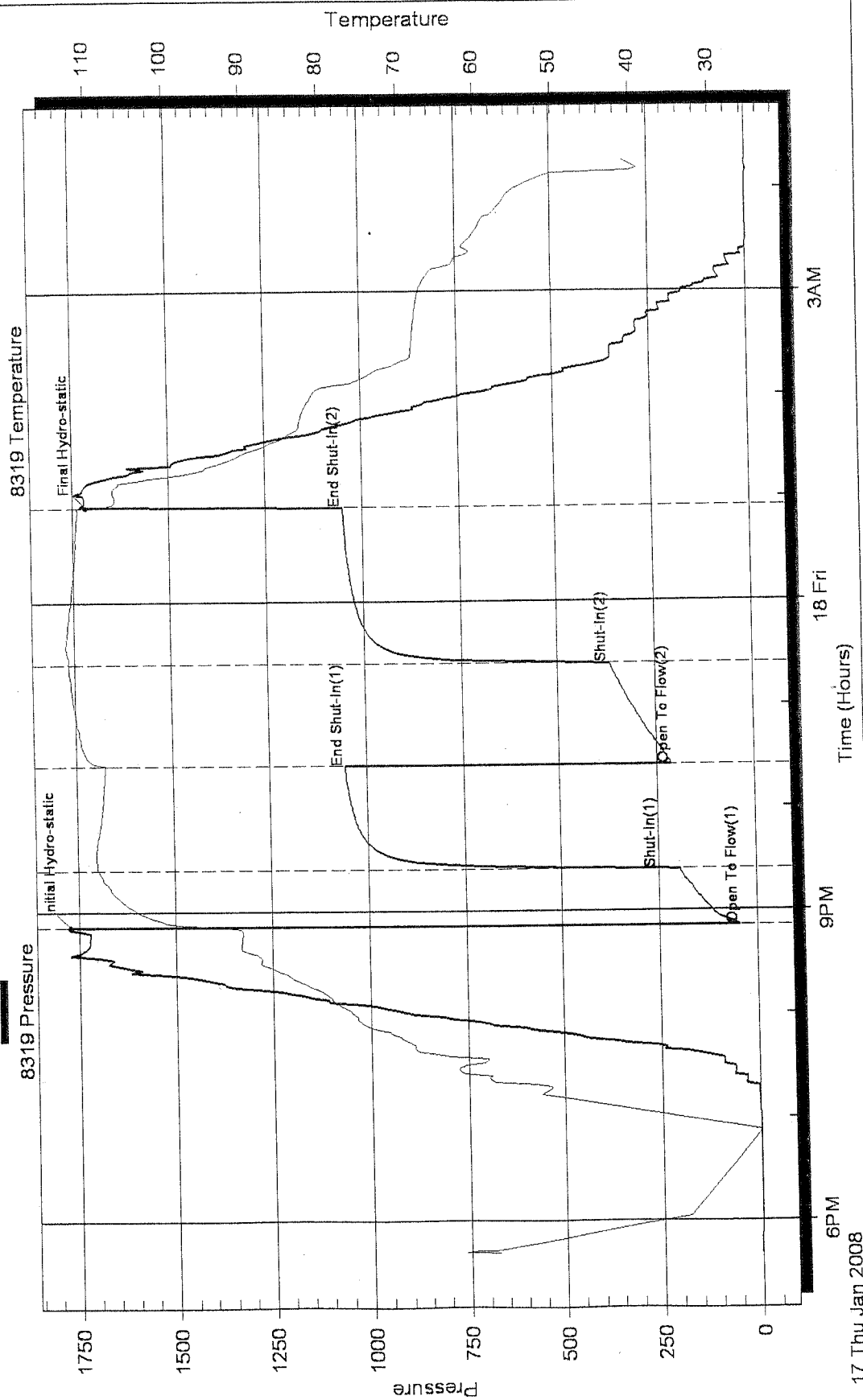
Serial #:

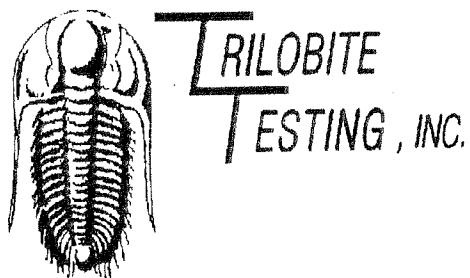
Laboratory Name:

Laboratory Location:

Recovery Comments:

# Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **J & D Investments Co**

1584 Smokey Hill River Rd  
Hays KS 67601

ATTN: Bob Stolze

**3 23S 16W Pawnee KS**

**Richards Trust #2**

Start Date: 2008.01.19 @ 08:38:29

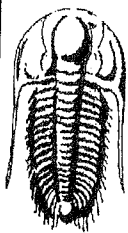
End Date: 2008.01.19 @ 20:56:44

Job Ticket #: 29797      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

J & D Investments Co  
1584 Smokey Hill River Rd  
Hays KS 67601

ATTN: Bob Stolzie

**Richards Trust #2**

**3 23S 16W Pawnee KS**

Job Ticket: 29797

DST#: 3

Test Start: 2008.01.19 @ 08:38:29

### GENERAL INFORMATION:

Formation: **Conglomerate**  
Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:19:44

Time Test Ended: 20:56:44

Interval: **3969.00 ft (KB) To 4000.00 ft (KB) (TVD)**

Total Depth: 4000.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole

Tester: Esak Hadley

Unit No: 23

Reference Elevations: 2053.00 ft (KB)

2045.00 ft (CF)

KB to GR/CF: 8.00 ft

**Serial #: 8319**

**Inside**

Press@RunDepth: 82.43 psig @ 3970.00 ft (KB)

Start Date: 2008.01.19

End Date:

2008.01.19

Start Time: 08:38:34

End Time:

20:56:44

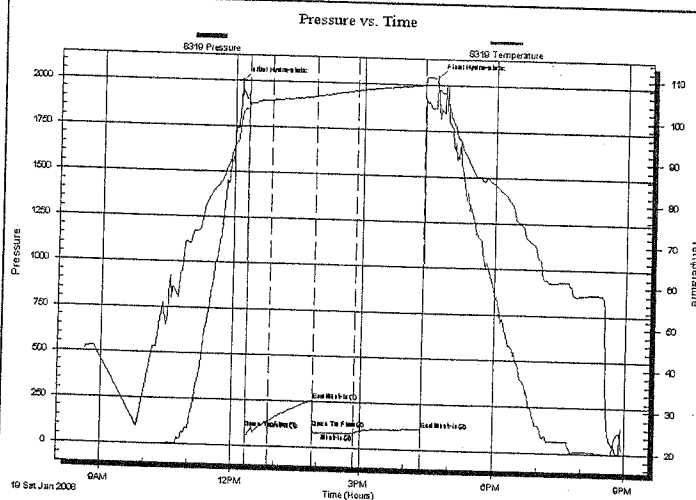
Capacity: 7000.00 psig

Last Calib.: 2008.01.19

Time On Btm: 2008.01.19 @ 12:09:44

Time Off Btm: 2008.01.19 @ 16:41:14

TEST COMMENT: IF Weak blow Slow increase to 2.5 "  
ISI Weak blow Surface blow (no more than 1/4 " )  
FF Weak blow Slow increase to 5 "  
FSI Weak blow Slow increase to 5 "



### PRESSURE SUMMARY

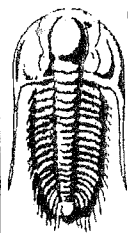
| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2000.47         | 99.12        | Initial Hydro-static |
| 10          | 97.15           | 100.69       | Open To Flow (1)     |
| 42          | 138.34          | 103.79       | Shut-In (1)          |
| 104         | 255.34          | 104.81       | End Shut-In (1)      |
| 104         | 105.03          | 104.86       | Open To Flow (2)     |
| 162         | 82.43           | 106.58       | Shut-In (2)          |
| 254         | 109.80          | 108.23       | End Shut-In (2)      |
| 272         | 2042.35         | 107.39       | Final Hydro-static   |

### Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 152.00      | DM          | 1.12         |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |

### Gas Rates

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



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

TOOL DIAGRAM

J & D Investments Co

Richards Trust #2

1584 Smokey Hill River Rd  
Hays KS 67601

3 23S 16W Pawnee KS

Job Ticket: 29797

DST#: 3

ATTN: Bob Stolze

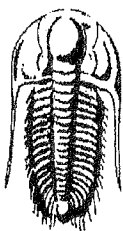
Test Start: 2008.01.19 @ 08:38:29

### Tool Information

|                           |                    |                       |                   |                                    |
|---------------------------|--------------------|-----------------------|-------------------|------------------------------------|
| Drill Pipe:               | Length: 3796.00 ft | Diameter: 3.80 inches | Volume: 53.25 bbl | Tool Weight: 2100.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl  | Weight set on Packer: 22000.00 lb  |
| Drill Collar:             | Length: 184.00 ft  | Diameter: 2.75 inches | Volume: 1.35 bbl  | Weight to Pull Loose: 80000.00 lb  |
|                           |                    | Total Volume:         | 54.60 bbl         | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 33.00 ft           |                       |                   | String Weight: Initial 65000.00 lb |
| Depth to Top Packer:      | 3969.00 ft         |                       |                   | Final 65000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                   |                                    |
| Interval between Packers: | 31.00 ft           |                       |                   |                                    |
| Tool Length:              | 53.00 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        |            |          | 3948.00    |                               |
| Shut In Tool     | 5.00        |            |          | 3953.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 3958.00    |                               |
| Safety Joint     | 2.00        |            |          | 3960.00    |                               |
| Packer           | 5.00        |            |          | 3965.00    | 22.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 3969.00    |                               |
| Stubb            | 1.00        |            |          | 3970.00    |                               |
| Recorder         | 0.00        | 8319       | Inside   | 3970.00    |                               |
| Recorder         | 0.00        | 8289       | Inside   | 3970.00    |                               |
| Perforations     | 25.00       |            |          | 3995.00    |                               |
| Bullnose         | 5.00        |            |          | 4000.00    | 31.00 Bottom Packers & Anchor |

Total Tool Length: 53.00



**TRILOBITE**  
**TESTING, INC**

## DRILL STEM TEST REPORT

FLUID SUMMARY

J & D Investments Co

Richards Trust #2

1584 Smokey Hill River Rd  
Hays KS 67601

3 23S 16W Pawnee KS

Job Ticket: 29797

DST#: 3

ATTN: Bob Stolze

Test Start: 2008.01.19 @ 08:38:29

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 51.00 sec/qt

Water Loss: 10.79 in<sup>3</sup>

Resistivity: 0.00 ohm.m

Salinity: 10500.00 ppm

Filter Cake: 0.20 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

deg API

ppm

### Recovery Information

Recovery Table

| Length<br>ft | Description | Volume<br>bbl |
|--------------|-------------|---------------|
| 152.00       | DM          | 1.117         |

Total Length: 152.00 ft

Total Volume: 1.117 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

# Pressure vs. Time

