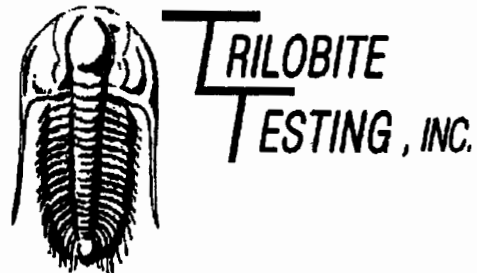


15-051-25927

31-15s-16w



## DRILL STEM TEST REPORT

Prepared For: **Samuel Gary Jr & Associates, Inc.**

1515 Wynkoop  
Ste 700  
Denver CO 80202

ATTN: Tom Fertal

**31-15-16 Ellis KS**

**MP Jacobs #1-31**

Start Date: 2009.11.22 @ 22:52:27

End Date: 2009.11.23 @ 06:43:57

Job Ticket #: 36784      DST #: 1

Trilobite Testing, Inc  
PO Box 1733 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

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

## DRILL STEM TEST REPORT

Samuel Gary Jr & Associates, Inc.

**MP Jacobs #1-31**

1515 Wynkoop  
Ste 700  
Denver CO 80202  
ATTN: Tom Fertal

**31-15-16 Ellis KS**

Job Ticket: 36784

**DST#: 1**

Test Start: 2009.11.22 @ 22:52:27

### GENERAL INFORMATION:

Formation: **LKC "F-G"**

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

Time Tool Opened: 00:49:57

Time Test Ended: 06:43:57

Test Type: **Conventional Bottom Hole**

Tester: **Kyle Kinderknecht**

Unit No: **47**

Interval: **3215.00 ft (KB) To 3263.00 ft (KB) (TVD)**

Total Depth: **3263.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Good**

Reference Elevations: **1884.00 ft (KB)**

**1875.00 ft (CF)**

KB to GR/CF: **9.00 ft**

**Serial #: 8319**

**Inside**

Press@RunDepth: **124.64 psig @ 3229.00 ft (KB)**

Start Date: **2009.11.22**

End Date:

**2009.11.23**

Start Time: **22:52:32**

End Time:

**06:43:56**

Capacity: **7000.00 psig**

Last Calib.: **2009.11.23**

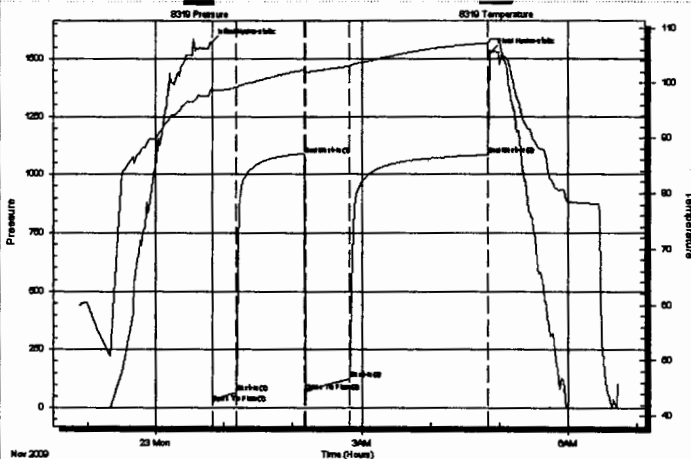
Time On Btm: **2009.11.23 @ 00:48:57**

Time Off Btm: **2009.11.23 @ 04:52:27**

**TEST COMMENT: IF 10"**

**FF BOB 38 min**

Pressure vs. Time



### PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1568.74         | 98.90        | Initial Hydro-static |
| 1           | 22.76           | 98.57        | Open To Flow (1)     |
| 22          | 66.25           | 99.18        | Shut-In(1)           |
| 82          | 1082.96         | 102.38       | End Shut-In(1)       |
| 82          | 69.50           | 102.11       | Open To Flow (2)     |
| 121         | 124.64          | 103.08       | Shut-In(2)           |
| 242         | 1083.01         | 107.25       | End Shut-In(2)       |
| 244         | 1529.83         | 108.06       | Final Hydro-static   |

### Recovery

| Length (ft) | Description       | Volume (bbl) |
|-------------|-------------------|--------------|
| 200.00      | Mdy Wtr 85%W 15%M | 2.55         |
| 3.00        | Free Oil          | 0.04         |
|             |                   |              |
|             |                   |              |
|             |                   |              |
|             |                   |              |

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

TOOL DIAGRAM

Samuel Gary Jr & Associates, Inc.

**MP Jacobs #1-31**

1515 Wynkoop  
Ste 700  
Denver CO 80202  
ATTN: Tom Fertal

**31-15-16 Ellis KS**

Job Ticket: 36784

**DST#: 1**

Test Start: 2009.11.22 @ 22:52:27

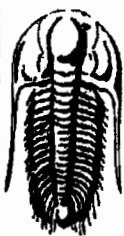
### Tool Information

|                           |                    |                       |                         |                                    |
|---------------------------|--------------------|-----------------------|-------------------------|------------------------------------|
| Drill Pipe:               | Length: 3172.00 ft | Diameter: 3.82 inches | Volume: 44.96 bbl       | Tool Weight: 2000.00 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: 31.00 ft   | Diameter: 2.25 inches | Volume: 0.15 bbl        | Weight to Pull Loose: 45000.00 lb  |
|                           |                    |                       | Total Volume: 45.11 bbl | Tool Chased: 0.00 ft               |
| Drill Pipe Above KB:      | 8.00 ft            |                       |                         | String Weight: Initial 40000.00 lb |
| Depth to Top Packer:      | 3215.00 ft         |                       |                         | Final 41000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                         |                                    |
| Interval between Packers: | 48.00 ft           |                       |                         |                                    |
| Tool Length:              | 68.00 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        |            |          | 3196.00    |                               |
| Shut In Tool     | 5.00        |            |          | 3201.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 3206.00    |                               |
| Packer           | 4.00        |            |          | 3210.00    | 20.00 Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 3215.00    |                               |
| Stubb            | 1.00        |            |          | 3216.00    |                               |
| Perforations     | 12.00       |            |          | 3228.00    |                               |
| Change Over Sub  | 1.00        |            |          | 3229.00    |                               |
| Recorder         | 0.00        | 8319       | Inside   | 3229.00    |                               |
| Recorder         | 0.00        | 8369       | Inside   | 3229.00    |                               |
| Blank Spacing    | 30.00       |            |          | 3259.00    |                               |
| Change Over Sub  | 1.00        |            |          | 3260.00    |                               |
| Bullnose         | 3.00        |            |          | 3263.00    | 48.00 Bottom Packers & Anchor |

**Total Tool Length: 68.00**



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

## DRILL STEM TEST REPORT

### FLUID SUMMARY

Samuel Gary Jr & Associates, Inc.

**MP Jacobs #1-31**

1515 Wynkoop  
Ste 700  
Denver CO 80202  
ATTN: Tom Fertal

**31-15-16 Ellis KS**

Job Ticket: 36784

**DST#: 1**

Test Start: 2009.11.22 @ 22:52:27

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 47.00 sec/qt

Water Loss: 9.18 in<sup>3</sup>

Resistivity: ohm.m

Salinity: 7500.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

deg API

Water Salinity:

60000 ppm

### Recovery Information

Recovery Table

| Length<br>ft | Description       | Volume<br>bbl |
|--------------|-------------------|---------------|
| 200.00       | Mdy Wtr 85%W 15%M | 2.548         |
| 3.00         | Free Oil          | 0.043         |

Total Length: 203.00 ft      Total Volume: 2.591 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .18 @ 50 deg.

Serial #: 8319

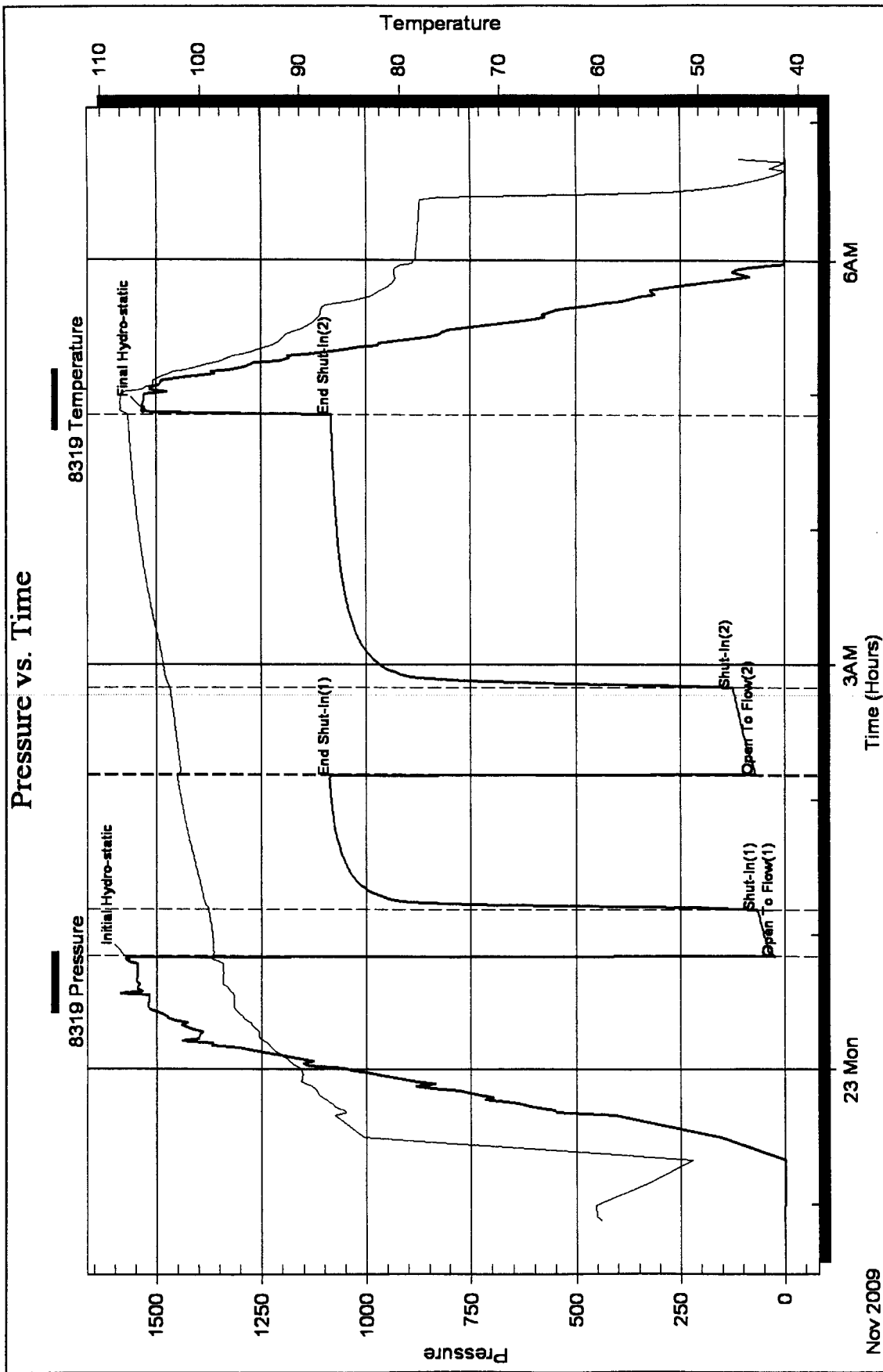
Inside

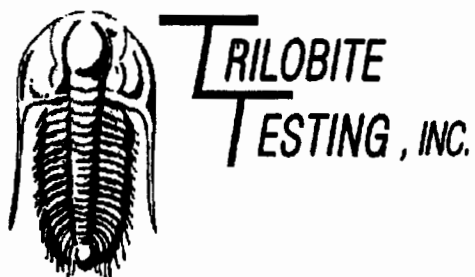
Samuel Gary Jr & Associates, Inc.

31-15-16 Ellis KS

DST Test Number: 1

# Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **Samuel Gary Jr & Associates, Inc.**

1515 Wynkoop  
Ste 700  
Denver CO 80202

ATTN: Tom Fertal

### 31-15-16 Ellis KS

#### MP Jacobs #1-31

Start Date: 2009.11.24 @ 13:07:45

End Date: 2009.11.24 @ 18:24:45

Job Ticket #: 36785      DST #: 2

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Samuel Gary Jr & Associates, Inc.

**MP Jacobs #1-31**

1515 Wynkoop  
Ste 700  
Denver CO 80202  
ATTN: Tom Fertal

**31-15-16 Ellis KS**

Job Ticket: 36785

**DST#: 2**

Test Start: 2009.11.24 @ 13:07:45

### GENERAL INFORMATION:

Formation: **LKC "C"**

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

Time Tool Opened: 14:41:45

Time Test Ended: 18:24:45

Test Type: **Conventional Straddle**

Tester: **Kyle Kinderknecht**

Unit No: **47**

Interval: **3177.00 ft (KB) To 3226.00 ft (KB) (TVD)**

Total Depth: **3599.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Good**

Reference Elevations: **1884.00 ft (KB)**

**1875.00 ft (CF)**

**KB to GR/CF: 9.00 ft**

**Serial #: 8319** **Inside**

Press@RunDepth: **24.85 psig @ 3184.00 ft (KB)**

Start Date: **2009.11.24**

End Date:

**2009.11.24**

Capacity: **7000.00 psig**

Last Calib.: **2009.11.24**

Start Time: **13:07:50**

End Time:

**18:24:44**

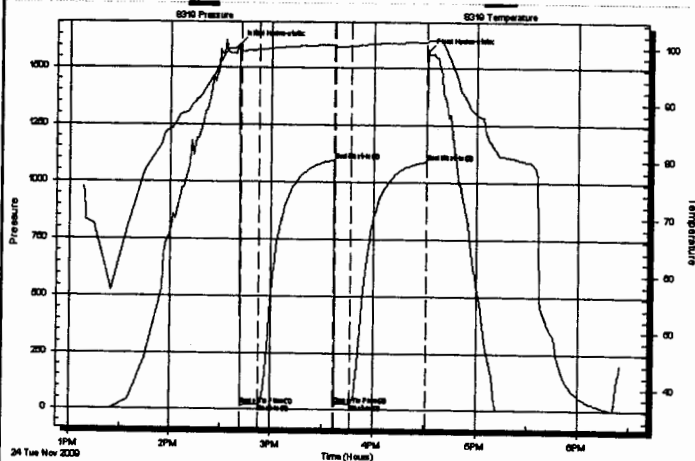
Time On Btm: **2009.11.24 @ 14:40:45**

Time Off Btm: **2009.11.24 @ 16:31:45**

TEST COMMENT: **IF 1/2" Died 7 min**

**FF No blow  
10 45 10 45**

Pressure vs. Time



### PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1600.88         | 99.67        | Initial Hydro-static |
| 1           | 18.68           | 99.32        | Open To Flow (1)     |
| 12          | 20.71           | 99.52        | Shut-In (1)          |
| 56          | 1094.26         | 100.44       | End Shut-In (1)      |
| 57          | 22.51           | 100.13       | Open To Flow (2)     |
| 66          | 24.85           | 100.21       | Shut-In (2)          |
| 110         | 1088.36         | 100.96       | End Shut-In (2)      |
| 111         | 1574.27         | 101.15       | Final Hydro-static   |

### Recovery

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

### Gas Rates

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Samuel Gary Jr & Associates, Inc.

**MP Jacobs #1-31**

1515 Wynkoop  
Ste 700  
Denver CO 80202  
ATTN: Tom Fertal

**31-15-16 Ellis KS**

Job Ticket: 36785

**DST#: 2**

Test Start: 2009.11.24 @ 13:07:45

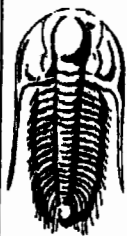
### Tool Information

|                           |                    |                       |                                |                        |             |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 3141.00 ft | Diameter: 3.82 inches | Volume: 44.52 bbl              | Tool Weight:           | 2000.00 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: 31.00 ft   | Diameter: 2.25 inches | Volume: 0.15 bbl               | Weight to Pull Loose:  | 55000.00 lb |
|                           |                    |                       | <b>Total Volume: 44.67 bbl</b> | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 15.00 ft           |                       |                                | String Weight: Initial | 48000.00 lb |
| Depth to Top Packer:      | 3177.00 ft         |                       |                                | Final                  | 48000.00 lb |
| Depth to Bottom Packer:   | 3226.00 ft         |                       |                                |                        |             |
| Interval between Packers: | 49.00 ft           |                       |                                |                        |             |
| Tool Length:              | 442.00 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        |            |          | 3158.00    |                                |
| Shut In Tool       | 5.00        |            |          | 3163.00    |                                |
| Hydraulic tool     | 5.00        |            |          | 3168.00    |                                |
| Packer             | 4.00        |            |          | 3172.00    | 20.00 Bottom Of Top Packer     |
| Packer             | 5.00        |            |          | 3177.00    |                                |
| Stubb              | 1.00        |            |          | 3178.00    |                                |
| Change Over Sub    | 1.00        |            |          | 3179.00    |                                |
| Perforations       | 5.00        |            |          | 3184.00    |                                |
| Recorder           | 0.00        | 8319       | Inside   | 3184.00    |                                |
| Blank Spacing      | 32.00       |            |          | 3216.00    |                                |
| Change Over Sub    | 1.00        |            |          | 3217.00    |                                |
| Perforations       | 5.00        |            |          | 3222.00    |                                |
| Recorder           | 0.00        | 13308      | Inside   | 3222.00    |                                |
| Blank Off Sub      | 1.00        |            |          | 3223.00    |                                |
| Blank Spacing      | 3.00        |            |          | 3226.00    | 49.00 Tool Interval            |
| Packer             | 0.00        |            |          | 3226.00    |                                |
| Stubb              | 1.00        |            |          | 3227.00    |                                |
| Recorder           | 0.00        | 8369       | Below    | 3227.00    |                                |
| Perforations       | 27.00       |            |          | 3254.00    |                                |
| Change Over Sub    | 1.00        |            |          | 3255.00    |                                |
| Blank Spacing      | 344.00      |            |          | 3599.00    | 373.00 Bottom Packers & Anchor |
| Total Tool Length: |             | 442.00     |          |            |                                |





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

## DRILL STEM TEST REPORT

### FLUID SUMMARY

Samuel Gary Jr & Associates, Inc.

**MP Jacobs #1-31**

1515 Wynkoop  
Ste 700  
Denver CO 80202  
ATTN: Tom Fertal

**31-15-16 Ellis KS**

Job Ticket: 36785

**DST#: 2**

Test Start: 2009.11.24 @ 13:07:45

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 10.00 lb/gal

Viscosity: 47.00 sec/qt

Water Loss: 9.99 in<sup>3</sup>

Resistivity: ohm.m

Salinity: 11000.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

deg API

ppm

### Recovery Information

Recovery Table

| Length<br>ft | Description | Volume<br>bbl |
|--------------|-------------|---------------|
| 10.00        | Mud         | 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:

Serial #: 8319

Inside

Samuel Gary Jr & Associates, Inc.

31-15-16 Ellis KS

DST Test Number: 2

# Pressure vs. Time

