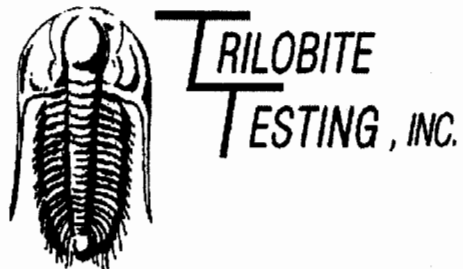


21-2s-25w



## DRILL STEM TEST REPORT

Prepared For: **Great Plains Energy Inc**

429 N. Linden Box 292  
Wahoo NE 68066

ATTN: Dan Blankenau

**21-2-25 Norton,Ks**

**Flying S Farms #1**

Start Date: 2005.09.03 @ 17:03:40

End Date: 2005.09.04 @ 00:36:54

Job Ticket #: 22534 DST #: 1

15-137-20444-00-00

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

RECEIVED  
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DEC 14 2007

CONSERVATION DIVISION  
WICHITA, KS



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Great Plains Energy Inc

429 N. Linden Box 292  
Wahoo NE 68066

ATTN: Dan Blankenau

**Flying S Farms #1**

**21-2-25 Norton, Ks**

Job Ticket: 22534

DST#: 1

Test Start: 2005.09.03 @ 17:03:40

### GENERAL INFORMATION:

Formation: **Toronto/L KC A**

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

Time Tool Opened: 18:53:24

Time Test Ended: 00:36:54

Test Type: **Conventional Bottom Hole**

Tester: **Shane McBride**

Unit No: **25**

Interval: **3476.00 ft (KB) To 3535.00 ft (KB) (TVD)**

Total Depth: **3535.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **2589.00 ft (KB)**

**2582.00 ft (CF)**

KB to GR/CF: **7.00 ft**

**Serial #: 6798**

**Inside**

Press@RunDepth: **142.64 psig @ 3477.00 ft (KB)**

Start Date: **2005.09.03**

End Date:

**2005.09.04**

Start Time: **17:03:40**

End Time:

**00:36:54**

Capacity: **7000.00 psig**

Last Calib.: **2005.09.04**

Time On Btm: **2005.09.03 @ 18:53:09**

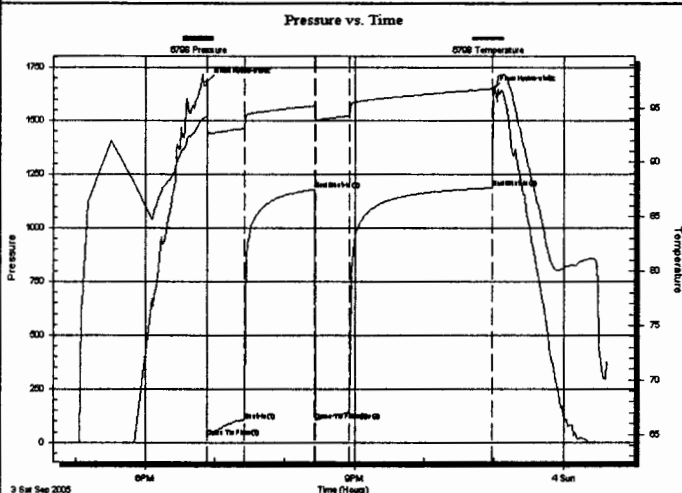
Time Off Btm: **2005.09.03 @ 22:58:39**

TEST COMMENT: **1/4" in @ open built to 9 1/2" in.**

**No return**

**Surface blow in 4 min built to 7 1/2" in.**

**No return**



### PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1682.79         | 94.16        | Initial Hydro-static |
| 1           | 27.35           | 92.63        | Open To Flow (1)     |
| 32          | 104.71          | 93.12        | Shut-In(1)           |
| 92          | 1180.22         | 95.20        | End Shut-In(1)       |
| 93          | 104.68          | 93.90        | Open To Flow (2)     |
| 122         | 142.64          | 94.29        | Shut-In(2)           |
| 245         | 1187.31         | 96.77        | End Shut-In(2)       |
| 246         | 1649.56         | 96.83        | Final Hydro-static   |

### Recovery

| Length (ft) | Description        | Volume (bbl) |
|-------------|--------------------|--------------|
| 124.00      | s m c w 5% m 95% w | 0.64         |
| 121.00      | m c w 20% m 80% w  | 1.70         |
|             |                    |              |
|             |                    |              |
|             |                    |              |
|             |                    |              |

### Gas Rates

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



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

## DRILL STEM TEST REPORT

TOOL DIAGRAM

Great Plains Energy Inc

429 N. Linden Box 292  
Wahoo NE 68066

ATTN: Dan Blankenau

Flying S Farms #1

21-2-25 Norton, Ks

Job Ticket: 22534

DST#: 1

Test Start: 2005.09.03 @ 17:03:40

### Tool Information

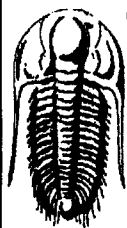
|                           |         |            |           |             |               |           |                        |             |
|---------------------------|---------|------------|-----------|-------------|---------------|-----------|------------------------|-------------|
| Drill Pipe:               | Length: | 3357.00 ft | Diameter: | 3.80 inches | Volume:       | 47.09 bbl | Tool Weight:           | 1500.00 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: | 121.00 ft  | Diameter: | 2.25 inches | Volume:       | 0.60 bbl  | Weight to Pull Loose:  | 68000.00 lb |
|                           |         |            |           |             | Total Volume: | 47.69 bbl | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      |         | 29.00 ft   |           |             |               |           | String Weight: Initial | 48000.00 lb |
| Depth to Top Packer:      |         | 3476.00 ft |           |             |               |           | Final                  | 51000.00 lb |
| Depth to Bottom Packer:   |         | ft         |           |             |               |           |                        |             |
| Interval between Packers: |         | 59.00 ft   |           |             |               |           |                        |             |
| Tool Length:              |         | 86.00 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        |            |          | 3450.00    |                               |
| Shut In Tool     | 5.00        |            |          | 3455.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 3460.00    |                               |
| Jars             | 5.00        |            |          | 3465.00    |                               |
| Safety Joint     | 2.00        |            |          | 3467.00    |                               |
| Packer           | 5.00        |            |          | 3472.00    | 27.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 3476.00    |                               |
| Stubb            | 1.00        |            |          | 3477.00    |                               |
| Recorder         | 0.00        | 6798       | Inside   | 3477.00    |                               |
| Perforations     | 20.00       |            |          | 3497.00    |                               |
| Change Over Sub  | 1.00        |            |          | 3498.00    |                               |
| Drill Pipe       | 31.00       |            |          | 3529.00    |                               |
| Change Over Sub  | 1.00        |            |          | 3530.00    |                               |
| Recorder         | 0.00        | 11058      | Outside  | 3530.00    |                               |
| Bulinose         | 5.00        |            |          | 3535.00    | 59.00 Bottom Packers & Anchor |

**Total Tool Length: 86.00**



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

## DRILL STEM TEST REPORT

### FLUID SUMMARY

Great Plains Energy Inc

**Flying S Farms #1**

429 N. Linden Box 292  
Wahoo NE 68066

**21-2-25 Norton, Ks**

Job Ticket: 22534

**DST#: 1**

ATTN: Dan Blankenau

Test Start: 2005.09.03 @ 17:03:40

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

42500 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbl

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

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description        | Volume<br>bbl |
|--------------|--------------------|---------------|
| 124.00       | s m c w 5% m 95% w | 0.637         |
| 121.00       | m c w 20% m 80% w  | 1.697         |

Total Length: 245.00 ft

Total Volume: 2.334 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

DST Test Number: 1

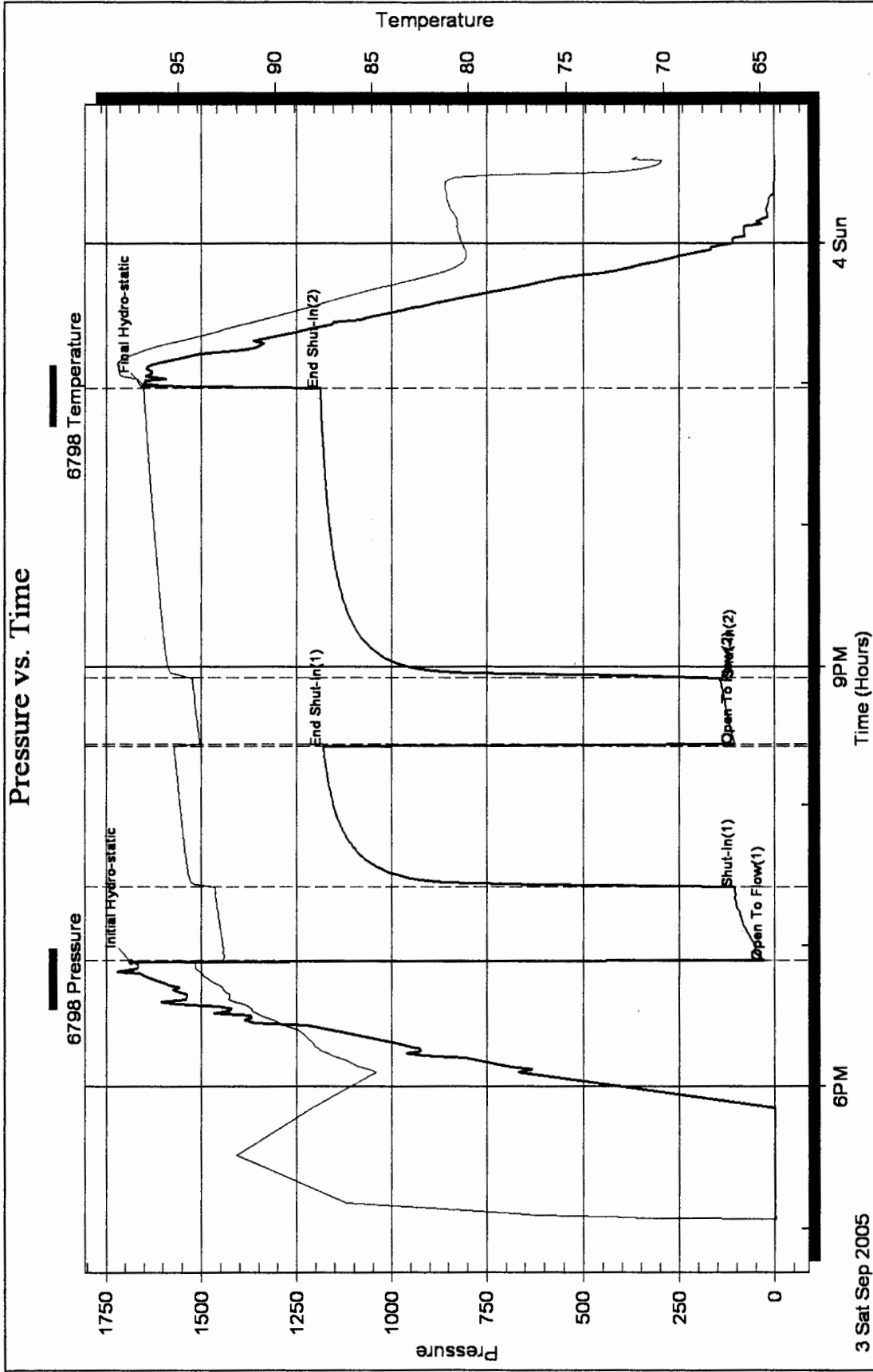
21-2-25 Norton, Ks

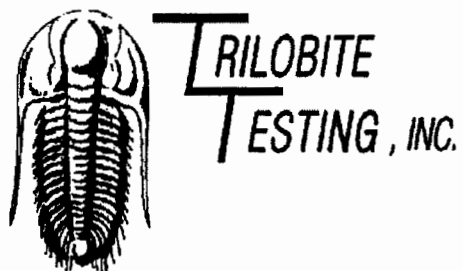
Great Plains Energy Inc

Inside

Serial #: 6798

# Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **Great Plains Energy Inc**

429 N. Linden Box 292  
Wahoo NE 68066

ATTN: Dan Blankenau

**21-2-25 Norton,Ks**

**Flying S Farms #1**

Start Date: 2005.09.04 @ 08:30:43

End Date: 2005.09.04 @ 14:25:42

Job Ticket #: 22535                      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

Great Plains Energy Inc

429 N. Linden Box 292  
Wahoo NE 68066

ATTN: Dan Blankenau

**Flying S Farms #1**

**21-2-25 Norton, Ks**

Job Ticket: 22535

**DST#: 2**

Test Start: 2005.09.04 @ 08:30:43

### GENERAL INFORMATION:

Formation: **L KC B/C**

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

Time Tool Opened: 09:53:57

Time Test Ended: 14:25:42

Test Type: **Conventional Bottom Hole**

Tester: **Shane McBride**

Unit No: **25**

Interval: **3539.00 ft (KB) To 3595.00 ft (KB) (TVD)**

Total Depth: **3595.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **2589.00 ft (KB)**

**2582.00 ft (CF)**

KB to GR/CF: **7.00 ft**

**Serial #: 6798** **Inside**

Press@RunDepth: **37.88 psig @ 3540.00 ft (KB)**

Start Date: **2005.09.04**

End Date:

**2005.09.04**

Start Time: **08:30:43**

End Time:

**14:14:42**

Capacity: **7000.00 psig**

Last Calib.: **2005.09.04**

Time On Btm: **2005.09.04 @ 09:53:12**

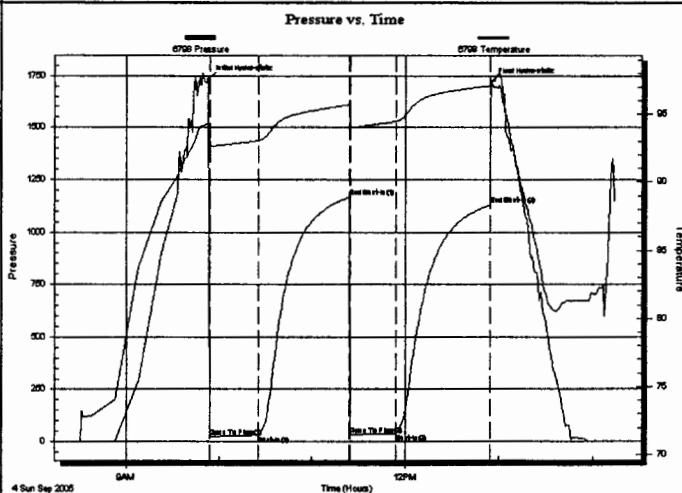
Time Off Btm: **2005.09.04 @ 12:55:27**

TEST COMMENT: **1/4" in @ open died in 8 min.**

**No return**

**Bubble to open tool, No blow**

**No return**



### PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1733.25         | 94.23        | Initial Hydro-static |
| 1           | 24.14           | 92.62        | Open To Flow (1)     |
| 32          | 30.12           | 93.03        | Shut-In (1)          |
| 91          | 1165.56         | 95.69        | End Shut-In (1)      |
| 92          | 32.72           | 94.13        | Open To Flow (2)     |
| 121         | 37.88           | 94.44        | Shut-In (2)          |
| 182         | 1128.95         | 97.10        | End Shut-In (2)      |
| 183         | 1719.40         | 97.46        | Final Hydro-static   |

### Recovery

| Length (ft) | Description     | Volume (bbl) |
|-------------|-----------------|--------------|
| 5.00        | mud w/oil spots | 0.02         |
|             |                 |              |
|             |                 |              |
|             |                 |              |
|             |                 |              |

### Gas Rates

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



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

## DRILL STEM TEST REPORT

TOOL DIAGRAM

Great Plains Energy Inc

429 N. Linden Box 292  
Wahoo NE 68066

ATTN: Dan Blankenau

**Flying S Farms #1**

**21-2-25 Norton, Ks**

Job Ticket: 22535

DST#: 2

Test Start: 2005.09.04 @ 08:30:43

### Tool Information

|                           |                    |                         |                   |                                    |
|---------------------------|--------------------|-------------------------|-------------------|------------------------------------|
| Drill Pipe:               | Length: 3420.00 ft | Diameter: 3.80 inches   | Volume: 47.97 bbl | Tool Weight: 1500.00 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: 121.00 ft  | Diameter: 2.25 inches   | Volume: 0.60 bbl  | Weight to Pull Loose: 70000.00 lb  |
|                           |                    | Total Volume: 48.57 bbl |                   | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 29.00 ft           |                         |                   | String Weight: Initial 49000.00 lb |
| Depth to Top Packer:      | 3539.00 ft         |                         |                   | Final 49000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                         |                   |                                    |
| Interval between Packers: | 56.00 ft           |                         |                   |                                    |
| Tool Length:              | 83.00 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        |            |          | 3513.00    |                               |
| Shut In Tool     | 5.00        |            |          | 3518.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 3523.00    |                               |
| Jars             | 5.00        |            |          | 3528.00    |                               |
| Safety Joint     | 2.00        |            |          | 3530.00    |                               |
| Packer           | 5.00        |            |          | 3535.00    | 27.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 3539.00    |                               |
| Stubb            | 1.00        |            |          | 3540.00    |                               |
| Recorder         | 0.00        | 6798       | Inside   | 3540.00    |                               |
| Perforations     | 17.00       |            |          | 3557.00    |                               |
| Change Over Sub  | 1.00        |            |          | 3558.00    |                               |
| Drill Pipe       | 31.00       |            |          | 3589.00    |                               |
| Change Over Sub  | 1.00        |            |          | 3590.00    |                               |
| Recorder         | 0.00        | 11058      | Outside  | 3590.00    |                               |
| Bullnose         | 5.00        |            |          | 3595.00    | 56.00 Bottom Packers & Anchor |

**Total Tool Length: 83.00**





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

### FLUID SUMMARY

Great Plains Energy Inc

Flying S Farms #1

429 N. Linden Box 292  
Wahoo NE 68066

21-2-25 Norton, Ks

Job Ticket: 22535

DST#: 2

ATTN: Dan Blankenau

Test Start: 2005.09.04 @ 08:30:43

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

1300 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbl

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

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1300.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description      | Volume<br>bbl |
|--------------|------------------|---------------|
| 5.00         | mud w /oil spots | 0.025         |

Total Length:

5.00 ft

Total Volume:

0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

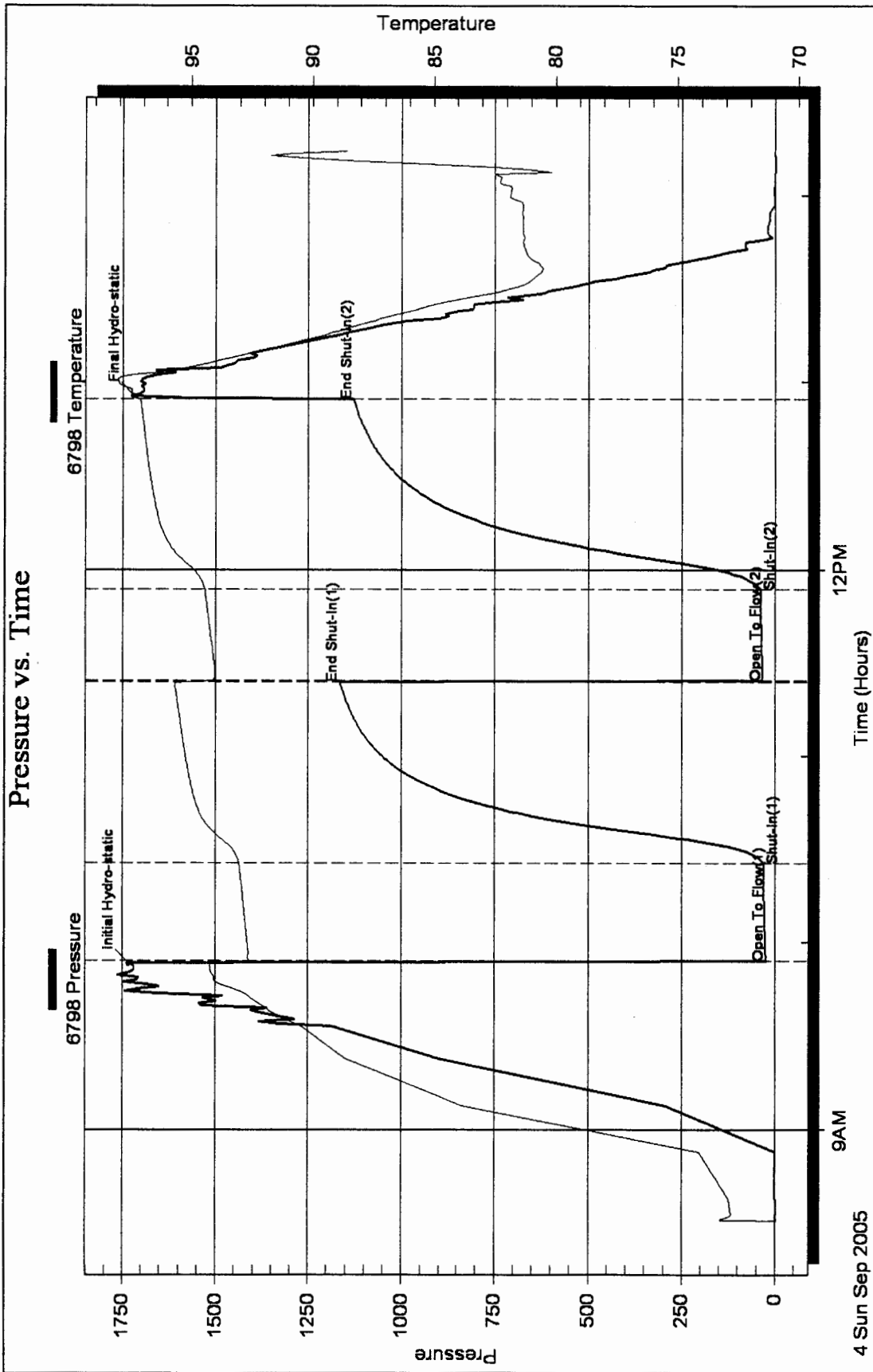
Serial #:

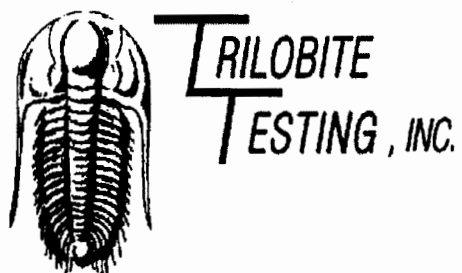
Laboratory Name:

Laboratory Location:

Recovery Comments:

# Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **Great Plains Energy Inc**

429 N. Linden Box 292  
Wahoo NE 68066

ATTN: Dan Blankenau

**21-2-25 Norton,Ks**

**Flying S Farms #1**

Start Date: 2005.09.04 @ 22:05:14

End Date: 2005.09.05 @ 05:10:13

Job Ticket #: 22536                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



**Great Plains Energy Inc**

ATTN: Dan Blankenau

**21-2-25 Norton, Ks**

Job Ticket: 22536

DST#: 3

Test Start: 2005.09.04 @ 22:05:14

Formation: L KC D-H

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:13:13

Time Test Ended: 05:10:13

**Test Type:** Conventional Bottom Hole

**Tester:** Shane McBride

Unit No: 25

Interval: 3567.00 ft (KB) To 3640.00 ft (KB) (TVD)

**Total Depth:** 3640.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2589.00 ft (KB)

2582.00 ft (CF)

KB to GR/CF: 7.00 ft

**Serial #: 6798**

## Inside

Press@RunDepth: 29.66 psig @ 3568.00 ft (KB)

Start Date: 2005.09.04

End Date: 2005.09.05

Start Time: 22:05:14

End Time: 04:52:13

Capacity: 7000.00 psia

**Last Calib.:** 2005.09.05

Time On Btm: 2005.09.05 @ 00:12:58

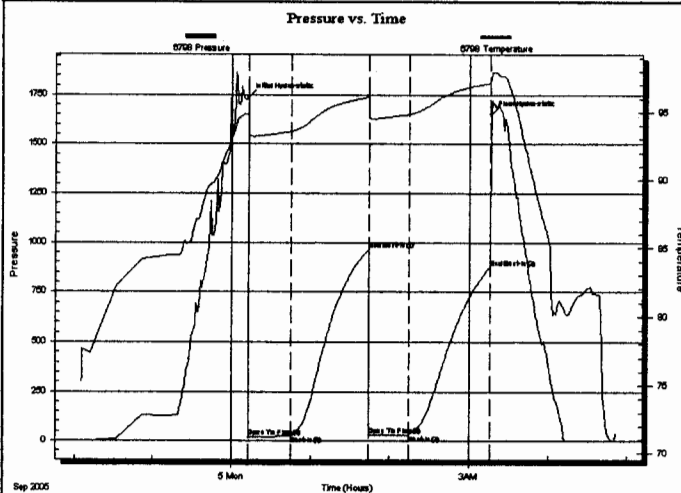
Time Off Btm: 2005.09.05 @ 03:16:28

**TEST COMMENT:** 1/4" in. @ open died in 12 min.

**No return**

Bubble to open tool No blow

No return



| Time<br>(Min.) | Pressure<br>(psig) | Temp<br>(deg F) | Annotation           |
|----------------|--------------------|-----------------|----------------------|
| 0              | 1739.75            | 94.88           | Initial Hydro-static |
| 1              | 18.31              | 93.30           | Open To Flow (1)     |
| 33             | 23.23              | 93.57           | Shut-In(1)           |
| 91             | 964.88             | 96.10           | End Shut-In(1)       |
| 92             | 28.96              | 94.55           | Open To Flow (2)     |
| 122            | 29.66              | 94.83           | Shut-In(2)           |
| 183            | 873.22             | 97.14           | End Shut-In(2)       |
| 184            | 1654.01            | 97.38           | Final Hydro-static   |

## Recovery

| Length (ft) | Description     | Volume (bbl) |
|-------------|-----------------|--------------|
| 5.00        | mud w/oil spots | 0.02         |
|             |                 |              |
|             |                 |              |
|             |                 |              |
|             |                 |              |
|             |                 |              |

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

TOOL DIAGRAM

Great Plains Energy Inc

Flying S Farms #1

429 N. Linden Box 292  
Wahoo NE 68066

21-2-25 Norton, Ks

Job Ticket: 22536

DST#: 3

ATTN: Dan Blankenau

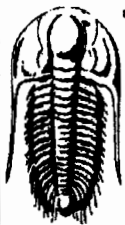
Test Start: 2005.09.04 @ 22:05:14

### Tool Information

|                           |                    |                       |                   |                        |             |
|---------------------------|--------------------|-----------------------|-------------------|------------------------|-------------|
| Drill Pipe:               | Length: 3450.00 ft | Diameter: 3.80 inches | Volume: 48.39 bbl | Tool Weight:           | 1500.00 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: 121.00 ft  | Diameter: 2.25 inches | Volume: 0.60 bbl  | Weight to Pull Loose:  | 70000.00 lb |
|                           |                    | Total Volume:         | 48.99 bbl         | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 31.00 ft           |                       |                   | String Weight: Initial | 49000.00 lb |
| Depth to Top Packer:      | 3567.00 ft         |                       |                   | Final                  | 49000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                   |                        |             |
| Interval between Packers: | 73.00 ft           |                       |                   |                        |             |
| Tool Length:              | 100.00 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        |            |          | 3541.00    |                               |
| Shut In Tool     | 5.00        |            |          | 3546.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 3551.00    |                               |
| Jars             | 5.00        |            |          | 3556.00    |                               |
| Safety Joint     | 2.00        |            |          | 3558.00    |                               |
| Packer           | 5.00        |            |          | 3563.00    | 27.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 3567.00    |                               |
| Stubb            | 1.00        |            |          | 3568.00    |                               |
| Recorder         | 0.00        | 6798       | Inside   | 3568.00    |                               |
| Perforations     | 3.00        |            |          | 3571.00    |                               |
| Change Over Sub  | 1.00        |            |          | 3572.00    |                               |
| Drill Pipe       | 62.00       |            |          | 3634.00    |                               |
| Change Over Sub  | 1.00        |            |          | 3635.00    |                               |
| Recorder         | 0.00        | 11058      | Outside  | 3635.00    |                               |
| Bullnose         | 5.00        |            |          | 3640.00    | 73.00 Bottom Packers & Anchor |

Total Tool Length: 100.00



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

## DRILL STEM TEST REPORT

### FLUID SUMMARY

Great Plains Energy Inc

**Flying S Farms #1**

429 N. Linden Box 292  
Wahoo NE 68066

**21-2-25 Norton, Ks**

Job Ticket: 22536

**DST#: 3**

ATTN: Dan Blankenau

Test Start: 2005.09.04 @ 22:05:14

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

1300 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbl

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

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1300.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description     | Volume<br>bbl |
|--------------|-----------------|---------------|
| 5.00         | mud w/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:

Serial #: 6798

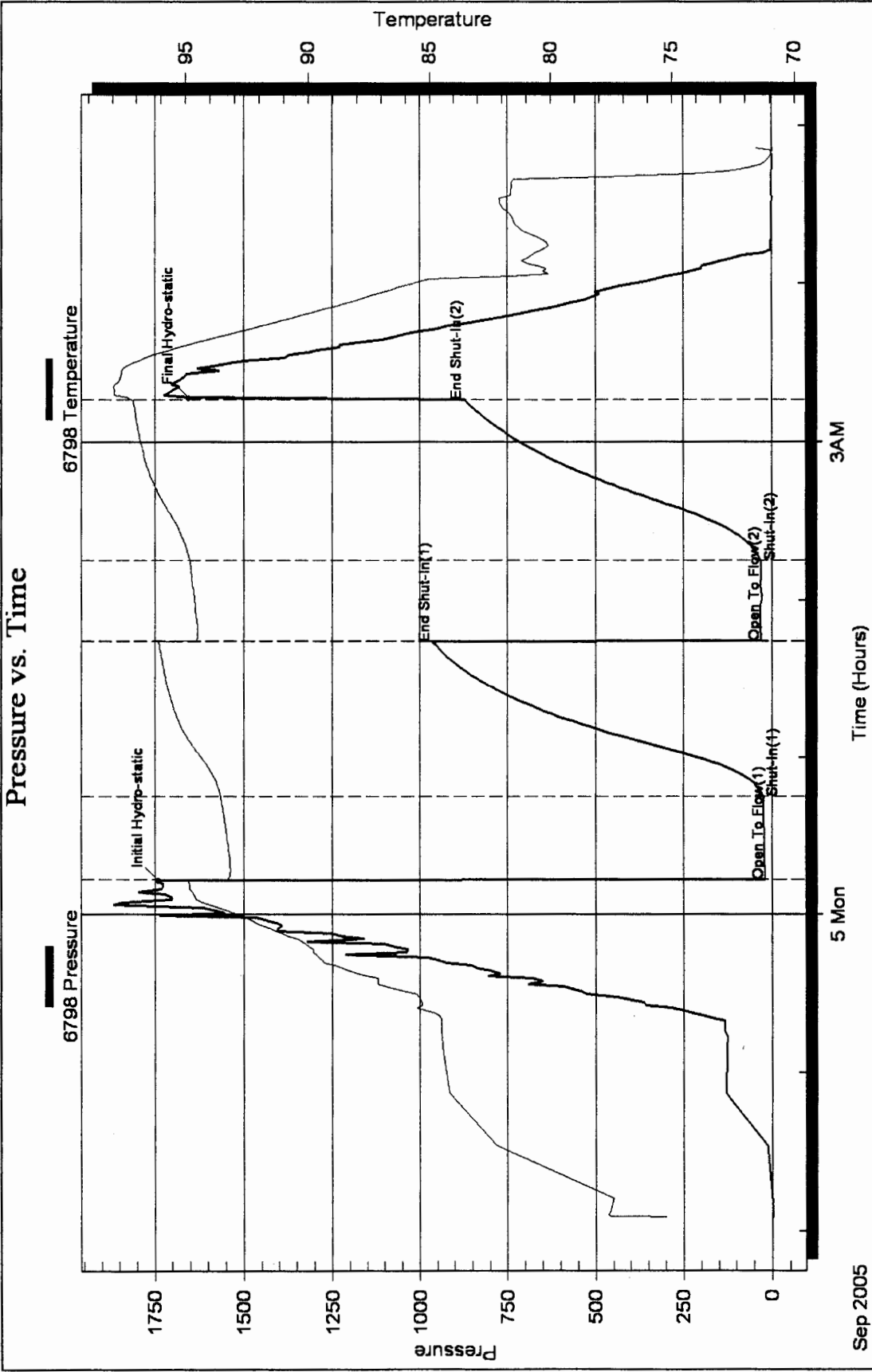
Inside

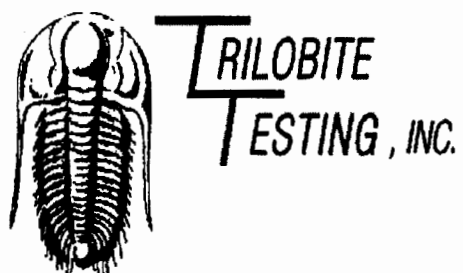
Great Plains Energy Inc

21-2-25 Norton, Ks

DST Test Number: 3

### Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **Great Plains Energy Inc**

429 N. Linden Box 292  
Wahoo NE 68066

ATTN: Dan Blankenau

**21-2-25 Norton,Ks**

**Flying S Farms #1**

Start Date: 2005.09.05 @ 16:40:23

End Date: 2005.09.06 @ 00:30:37

Job Ticket #: 22537      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Great Plains Energy Inc

429 N. Linden Box 292  
Wahoo NE 68066

ATTN: Dan Blankenau

**Flying S Farms #1**

**21-2-25 Norton, Ks**

Job Ticket: 22537

**DST#: 4**

Test Start: 2005.09.05 @ 16:40:23

### GENERAL INFORMATION:

Formation: L KC J-K

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:19:52

Time Test Ended: 00:30:37

Test Type: Conventional Bottom Hole

Tester: Shane McBride

Unit No: 25

Interval: 3640.00 ft (KB) To 3725.00 ft (KB) (TVD)

Total Depth: 3725.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2589.00 ft (KB)

2582.00 ft (CF)

KB to GR/CF: 7.00 ft

**Serial #: 6798**

**Inside**

Press@RunDepth: 48.52 psig @ 3641.00 ft (KB)

Start Date: 2005.09.05

End Date:

2005.09.06

Start Time: 16:40:23

End Time:

00:18:37

Capacity: 7000.00 psig

Last Calib.: 2005.09.06

Time On Btm: 2005.09.05 @ 18:19:37

Time Off Btm: 2005.09.05 @ 21:54:37

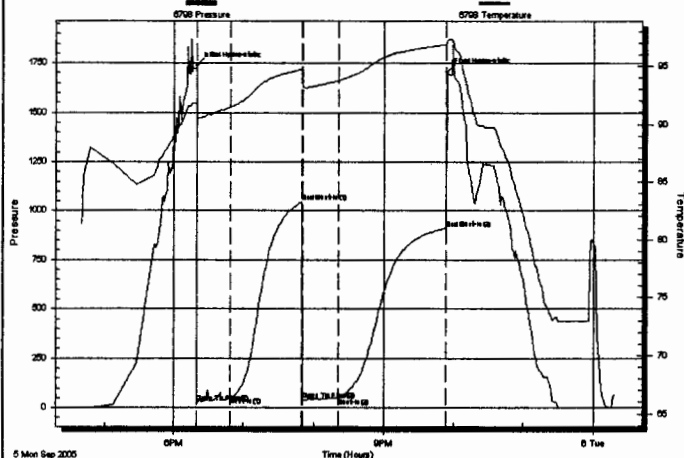
**TEST COMMENT:** 1/4" in blow died in 16 min.

No return

1/4" in blow died in 16 min.

No return

Pressure vs. Time



### PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1738.48         | 91.88        | Initial Hydro-static |
| 1           | 25.46           | 90.38        | Open To Flow (1)     |
| 29          | 52.74           | 91.45        | Shut-In(1)           |
| 90          | 1045.10         | 94.69        | End Shut-In(1)       |
| 91          | 38.45           | 93.15        | Open To Flow (2)     |
| 122         | 48.52           | 93.71        | Shut-In(2)           |
| 215         | 912.23          | 96.82        | End Shut-In(2)       |
| 215         | 1706.26         | 97.04        | Final Hydro-static   |

### Recovery

| Length (ft) | Description     | Volume (bbl) |
|-------------|-----------------|--------------|
| 35.00       | free oil        | 0.17         |
| 30.00       | m c o 35% m 65% | 0.15         |
|             |                 |              |
|             |                 |              |
|             |                 |              |
|             |                 |              |

### Gas Rates

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



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

## DRILL STEM TEST REPORT

TOOL DIAGRAM

Great Plains Energy Inc

Flying S Farms #1

429 N. Linden Box 292  
Wahoo NE 68066

21-2-25 Norton, Ks

Job Ticket: 22537

DST#: 4

ATTN: Dan Blankenau

Test Start: 2005.09.05 @ 16:40:23

### Tool Information

|                           |                    |                       |                         |                        |             |
|---------------------------|--------------------|-----------------------|-------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 3516.00 ft | Diameter: 3.80 inches | Volume: 49.32 bbl       | Tool Weight:           | 1500.00 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: 121.00 ft  | Diameter: 2.25 inches | Volume: 0.60 bbl        | Weight to Pull Loose:  | 70000.00 lb |
|                           |                    |                       | Total Volume: 49.92 bbl | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 24.00 ft           |                       |                         | String Weight: Initial | 50000.00 lb |
| Depth to Top Packer:      | 3640.00 ft         |                       |                         | Final                  | 51000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                         |                        |             |
| Interval between Packers: | 85.00 ft           |                       |                         |                        |             |
| Tool Length:              | 112.00 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  |       |         | 3614.00 |                               |
| Shut In Tool    | 5.00  |       |         | 3619.00 |                               |
| Hydraulic tool  | 5.00  |       |         | 3624.00 |                               |
| Jars            | 5.00  |       |         | 3629.00 |                               |
| Safety Joint    | 2.00  |       |         | 3631.00 |                               |
| Packer          | 5.00  |       |         | 3636.00 | 27.00 Bottom Of Top Packer    |
| Packer          | 4.00  |       |         | 3640.00 |                               |
| Stubb           | 1.00  |       |         | 3641.00 |                               |
| Recorder        | 0.00  | 6798  | Inside  | 3641.00 |                               |
| Perforations    | 15.00 |       |         | 3656.00 |                               |
| Change Over Sub | 1.00  |       |         | 3657.00 |                               |
| Drill Pipe      | 62.00 |       |         | 3719.00 |                               |
| Change Over Sub | 1.00  |       |         | 3720.00 |                               |
| Recorder        | 0.00  | 11058 | Outside | 3720.00 |                               |
| Bullnose        | 5.00  |       |         | 3725.00 | 85.00 Bottom Packers & Anchor |

Total Tool Length: 112.00



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

## DRILL STEM TEST REPORT

### FLUID SUMMARY

Great Plains Energy Inc

429 N. Linden Box 292  
Wahoo NE 68066

ATTN: Dan Blankenau

Flying S Farms #1

21-2-25 Norton, Ks

Job Ticket: 22537

DST#: 4

Test Start: 2005.09.05 @ 16:40:23

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 51.00 sec/qt

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

Resistivity: 0.00 ohm.m

Salinity: 1300.00 ppm

Filter Cake: 2.00 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

0 deg API

Water Salinity: 1300 ppm

### Recovery Information

Recovery Table

| Length<br>ft | Description       | Volume<br>bbl |
|--------------|-------------------|---------------|
| 35.00        | free oil          | 0.172         |
| 30.00        | m c o 35% m 65% o | 0.148         |

Total Length: 65.00 ft

Total Volume: 0.320 bbl

Num Fluid Samples: 0

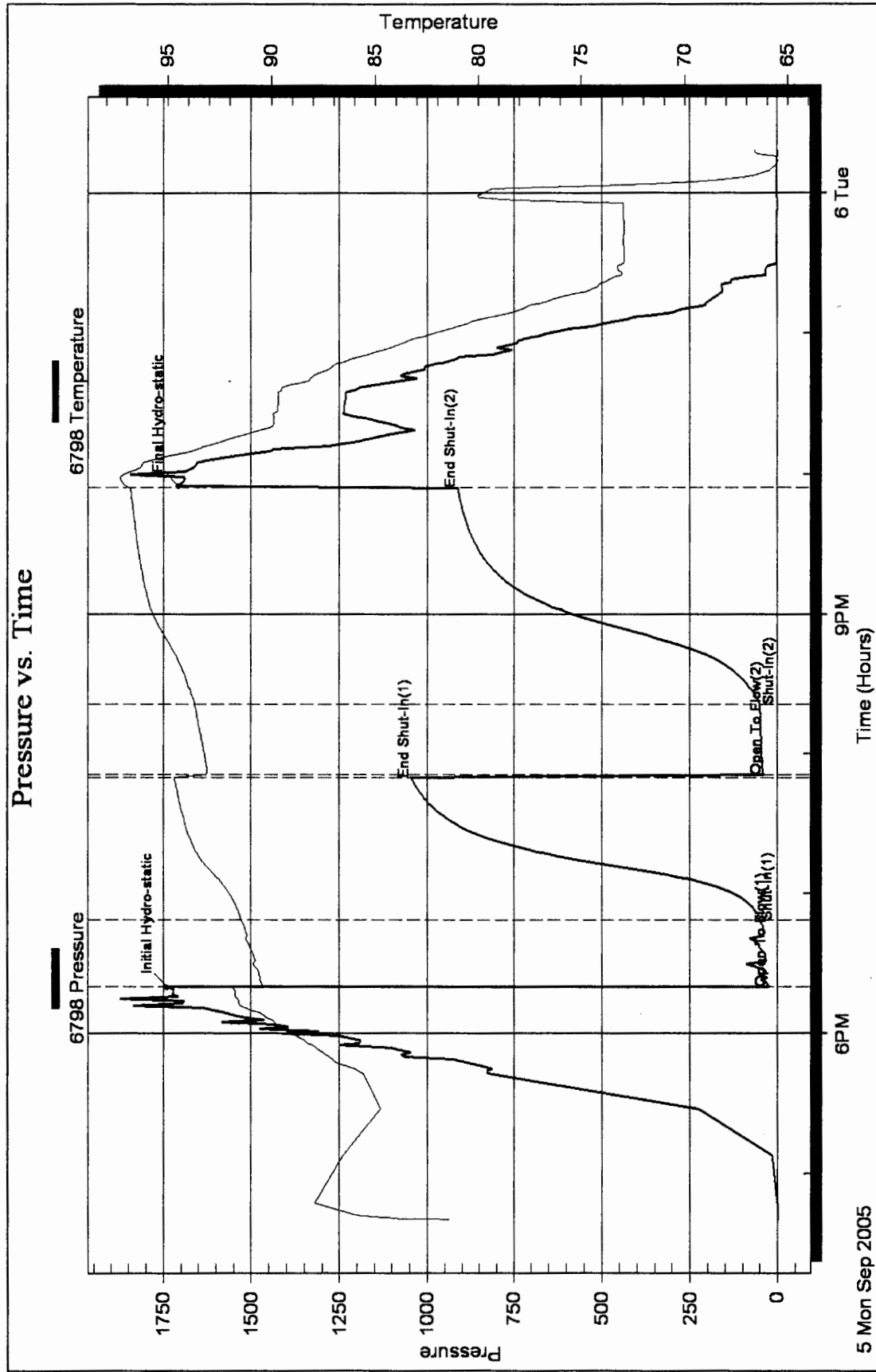
Num Gas Bombs: 0

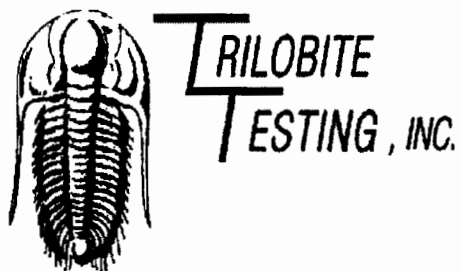
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





## DRILL STEM TEST REPORT

Prepared For: **Great Plains Energy Inc**

429 N. Linden Box 292  
Wahoo NE 68066

ATTN: Dan Blankenau

**21-2-25 Norton,Ks**

**Flying S Farms #1**

Start Date: 2005.09.06 @ 00:10:58

End Date: 2005.09.06 @ 08:40:57

Job Ticket #: 22538      DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



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

## DRILL STEM TEST REPORT

Great Plains Energy Inc

429 N. Linden Box 292  
Wahoo NE 68066

ATTN: Dan Blankenau

Flying S Farms #1

21-2-25 Norton, Ks

Job Ticket: 22538

DST#: 5

Test Start: 2005.09.06 @ 00:10:58

### GENERAL INFORMATION:

Formation: **Arbuckle/Reagan Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:05:57

Time Test Ended: 08:40:57

Test Type: Conventional Bottom Hole

Tester: Shane McBride

Unit No: 25

Interval: **3820.00 ft (KB) To 3947.00 ft (KB) (TVD)**

Total Depth: 3947.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2589.00 ft (KB)

2582.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 6798

Inside

Press@RunDepth: 1006.27 psig @ 3821.00 ft (KB)

Start Date: 2005.09.06

End Date:

2005.09.06

Start Time: 00:10:58

End Time:

08:13:57

Capacity: 7000.00 psig

Last Calib.: 2005.09.07

Time On Btm: 2005.09.06 @ 02:04:27

Time Off Btm: 2005.09.06 @ 06:07:42

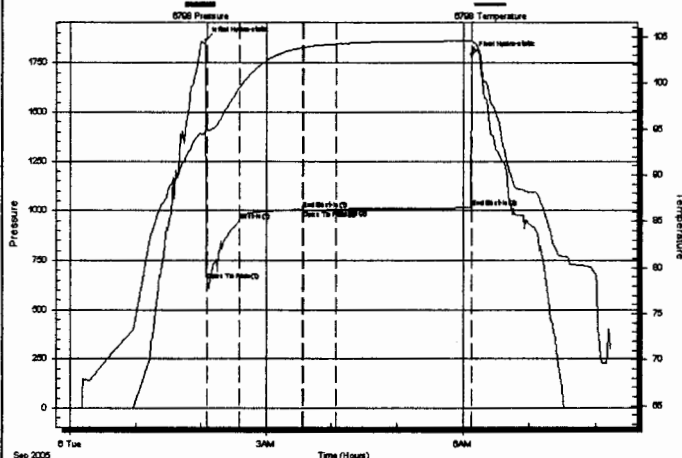
TEST COMMENT: Slide tool 3' to bottom, B.O.B. blow @ open

No return

Surface blow in 3 min. built to 7 1/2" in.

No return

Pressure vs. Time



### PRESSURE SUMMARY

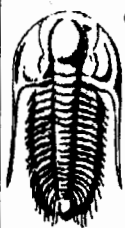
| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1863.66         | 95.04        | Initial Hydro-static |
| 2           | 648.26          | 94.92        | Open To Flow (1)     |
| 32          | 946.57          | 99.50        | Shut-In(1)           |
| 89          | 1005.54         | 103.85       | End Shut-In(1)       |
| 90          | 1001.29         | 103.86       | Open To Flow (2)     |
| 121         | 1006.27         | 104.24       | Shut-In(2)           |
| 243         | 1015.11         | 104.55       | End Shut-In(2)       |
| 244         | 1790.91         | 104.61       | Final Hydro-static   |

### Recovery

| Length (ft) | Description               | Volume (bbl) |
|-------------|---------------------------|--------------|
| 120.00      | water under circ sub 100w | 0.59         |
| 1780.00     | water reversed out 100w   | 24.96        |
| 120.00      | m c w 25m 75w             | 1.68         |
|             |                           |              |
|             |                           |              |
|             |                           |              |

### Gas Rates

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



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

## DRILL STEM TEST REPORT

TOOL DIAGRAM

Great Plains Energy Inc

**Flying S Farms #1**

429 N. Linden Box 292  
Wahoo NE 68066

**21-2-25 Norton, Ks**

Job Ticket: 22538

**DST#: 5**

ATTN: Dan Blankenau

Test Start: 2005.09.06 @ 00:10:58

### Tool Information

|                           |                    |                       |                                |                        |             |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 3699.00 ft | Diameter: 3.80 inches | Volume: 51.89 bbl              | Tool Weight:           | 1500.00 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: 121.00 ft  | Diameter: 2.25 inches | Volume: 0.60 bbl               | Weight to Pull Loose:  | 80000.00 lb |
|                           |                    |                       | <u>Total Volume: 52.49 bbl</u> | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 27.00 ft           |                       |                                | String Weight: Initial | 50000.00 lb |
| Depth to Top Packer:      | 3820.00 ft         |                       |                                | Final                  | 60000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                                |                        |             |
| Interval between Packers: | 127.00 ft          |                       |                                |                        |             |
| Tool Length:              | 154.00 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        |            |          | 3794.00    |                                |
| Shut In Tool     | 5.00        |            |          | 3799.00    |                                |
| Hydraulic tool   | 5.00        |            |          | 3804.00    |                                |
| Jars             | 5.00        |            |          | 3809.00    |                                |
| Safety Joint     | 2.00        |            |          | 3811.00    |                                |
| Packer           | 5.00        |            |          | 3816.00    | 27.00 Bottom Of Top Packer     |
| Packer           | 4.00        |            |          | 3820.00    |                                |
| Stubb            | 1.00        |            |          | 3821.00    |                                |
| Recorder         | 0.00        | 6798       | Inside   | 3821.00    |                                |
| Perforations     | 25.00       |            |          | 3846.00    |                                |
| Change Over Sub  | 1.00        |            |          | 3847.00    |                                |
| Drill Pipe       | 94.00       |            |          | 3941.00    |                                |
| Change Over Sub  | 1.00        |            |          | 3942.00    |                                |
| Recorder         | 0.00        | 11058      | Outside  | 3942.00    |                                |
| Bullnose         | 5.00        |            |          | 3947.00    | 127.00 Bottom Packers & Anchor |

**Total Tool Length: 154.00**



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

## DRILL STEM TEST REPORT

### FLUID SUMMARY

Great Plains Energy Inc

Flying S Farms #1

429 N. Linden Box 292  
Wahoo NE 68066

21-2-25 Norton, Ks

Job Ticket: 22538

DST#: 5

ATTN: Dan Blankenau

Test Start: 2005.09.06 @ 00:10:58

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

45000 ppm

Viscosity: 61.00 sec/qt

Cushion Volume:

bbl

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

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description               | Volume<br>bbl |
|--------------|---------------------------|---------------|
| 120.00       | water under circ sub 100w | 0.590         |
| 1780.00      | water reversed out 100w   | 24.960        |
| 120.00       | m c w 25m 75w             | 1.683         |

Total Length: 2020.00 ft

Total Volume: 27.233 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW.160 @ 71°F = 45000 chlor.



# Pressure vs. Time

