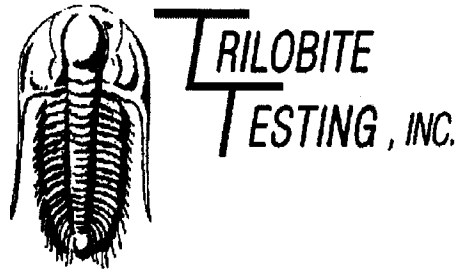


15-065-22935

32-9s-21w



## DRILL STEM TEST REPORT

Prepared For: **Pioneer Resources**

177 West Limestone Rd  
Phillipsburg Ks 67661

15-065-22935-0000

ATTN: Roger Wells

**32-9s-21w Graham Ks**

**Yost #1**

Start Date: 2004.01.02 @ 10:58:16

End Date: 2004.01.02 @ 18:27:15

Job Ticket #: 18225      DST #: 1

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Printed: 2004.01.06 @ 15:14:37 Page 1

Pioneer Resources

Yost #1

32-9s-21w Graham Ks

DST # 1

Lans C-D

2004.01.02

32-09s-21w



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TESTING, INC.**

## DRILL STEM TEST REPORT

Pioneer Resources

177 West Limestone Rd  
Phillipsburg Ks 67661

ATTN: Roger Wells

Yost #1

32-9s-21w Graham Ks

Job Ticket: 18225

DST#: 1

Test Start: 2004.01.02 @ 10:58:16

### GENERAL INFORMATION:

Formation: **Lans C-D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:07:15

Time Test Ended: 18:27:15

Interval: **3540.00 ft (KB) To 3585.00 ft (KB) (TVD)**

Total Depth: 3585.00 ft (KB) (TVD)

Hole Diameter: 7.85 inches Hole Condition: Fair

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Test Type: Conventional Bottom Hole

Tester: Ray Schwager

Unit No: 28

Reference Elevations: 2300.00 ft (KB)

2295.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6668

Inside

Press@RunDepth: 317.87 psig @ 3551.01 ft (KB)

Start Date: 2004.01.02

End Date:

2004.01.02

Start Time: 10:58:16

End Time:

18:27:15

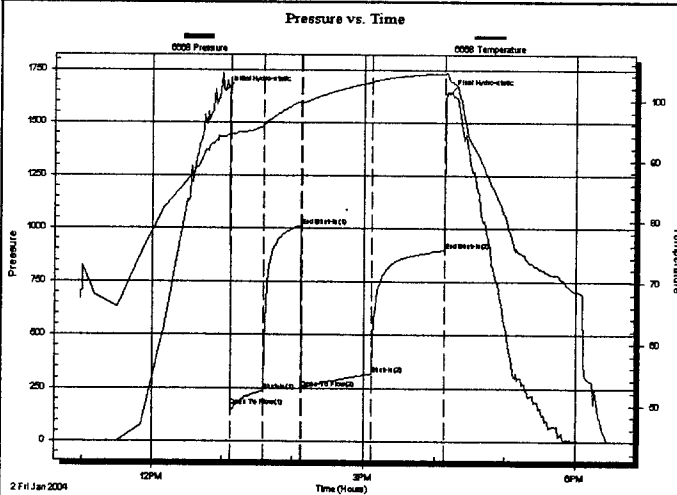
Capacity: 7000.00 psig

Last Calib.: 2004.01.02

Time On Btm: 2004.01.02 @ 13:03:15

Time Off Btm: 2004.01.02 @ 16:12:45

TEST COMMENT: IFP-strg bl in 1 min  
FFP-w k to strg in 30 min  
Times 30-30-60-60



### PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1654.02         | 94.08        | Initial Hydro-static |
| 4           | 162.73          | 94.35        | Open To Flow (1)     |
| 32          | 236.92          | 95.91        | Shut-In(1)           |
| 64          | 1012.10         | 99.89        | End Shut-In(1)       |
| 64          | 248.72          | 99.75        | Open To Flow (2)     |
| 123         | 317.87          | 102.99       | Shut-In(2)           |
| 185         | 897.11          | 104.46       | End Shut-In(2)       |
| 190         | 1640.10         | 103.17       | Final Hydro-static   |

### Recovery

| Length (ft) | Description                           | Volume (bbl) |
|-------------|---------------------------------------|--------------|
| 120.00      | O&GCWM 20%gas 10%oil 30%water 40%0.59 |              |
| 186.00      | O&GCWM 20%gas 10%oil 20%water 50%2.61 |              |
| 248.00      | O&GCM 15%gas 7%oil 78%mud             | 3.48         |
| 102.00      | Mud w/show of oil                     | 1.43         |
|             |                                       |              |
|             |                                       |              |

### Gas Rates

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



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## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Pioneer Resources

**Yost #1**

177 West Limestone Rd  
Phillipsburg Ks 67661

**32-9s-21w Graham Ks**

Job Ticket: 18225

**DST#: 1**

ATTN: Roger Wells

Test Start: 2004.01.02 @ 10:58:16

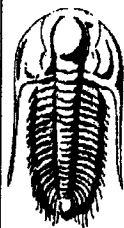
### Tool Information

|                           |                    |                         |                   |                                    |
|---------------------------|--------------------|-------------------------|-------------------|------------------------------------|
| Drill Pipe:               | Length: 3409.00 ft | Diameter: 3.80 inches   | Volume: 47.82 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: 120.00 ft  | Diameter: 2.25 inches   | Volume: 0.59 bbl  | Weight to Pull Loose: 65000.00 lb  |
|                           |                    | Total Volume: 48.41 bbl |                   | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 10.00 ft           |                         |                   | String Weight: Initial 48000.00 lb |
| Depth to Top Packer:      | 3540.00 ft         |                         |                   | Final 51000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                         |                   |                                    |
| Interval between Packers: | 45.02 ft           |                         |                   |                                    |
| Tool Length:              | 66.02 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        |            |          | 3520.00    |                               |
| Shut In Tool     | 5.00        |            |          | 3525.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 3530.00    |                               |
| Packer           | 5.00        |            |          | 3535.00    | 21.00 Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 3540.00    |                               |
| Stubb            | 1.00        |            |          | 3541.00    |                               |
| Perforations     | 10.00       |            |          | 3551.00    |                               |
| Recorder         | 0.01        | 6668       | Inside   | 3551.01    |                               |
| Perforations     | 31.00       |            |          | 3582.01    |                               |
| Recorder         | 0.01        | 11085      | Outside  | 3582.02    |                               |
| Bullnose         | 3.00        |            |          | 3585.02    | 45.02 Bottom Packers & Anchor |

**Total Tool Length: 66.02**

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## DRILL STEM TEST REPORT

### FLUID SUMMARY

Pioneer Resources

Yost #1

177 West Limestone Rd  
Phillipsburg Ks 67661

**32-9s-21w Graham Ks**

Job Ticket: 18225

DST#: 1

ATTN: Roger Wells

Test Start: 2004.01.02 @ 10:58:16

### 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:

19000 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.94 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description                          | Volume<br>bbl |
|--------------|--------------------------------------|---------------|
| 120.00       | O&GCWM 20%gas 10%oil 30%water 40%mud | 0.590         |
| 186.00       | O&GCWM 20%gas 10%oil 20%water 50%mud | 2.609         |
| 248.00       | O&GCM 15%gas 7%oil 78%mud            | 3.479         |
| 102.00       | Mud w/show of oil                    | 1.431         |

Total Length: 656.00 ft

Total Volume: 8.109 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW.48@50F

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DST Test Number: 1

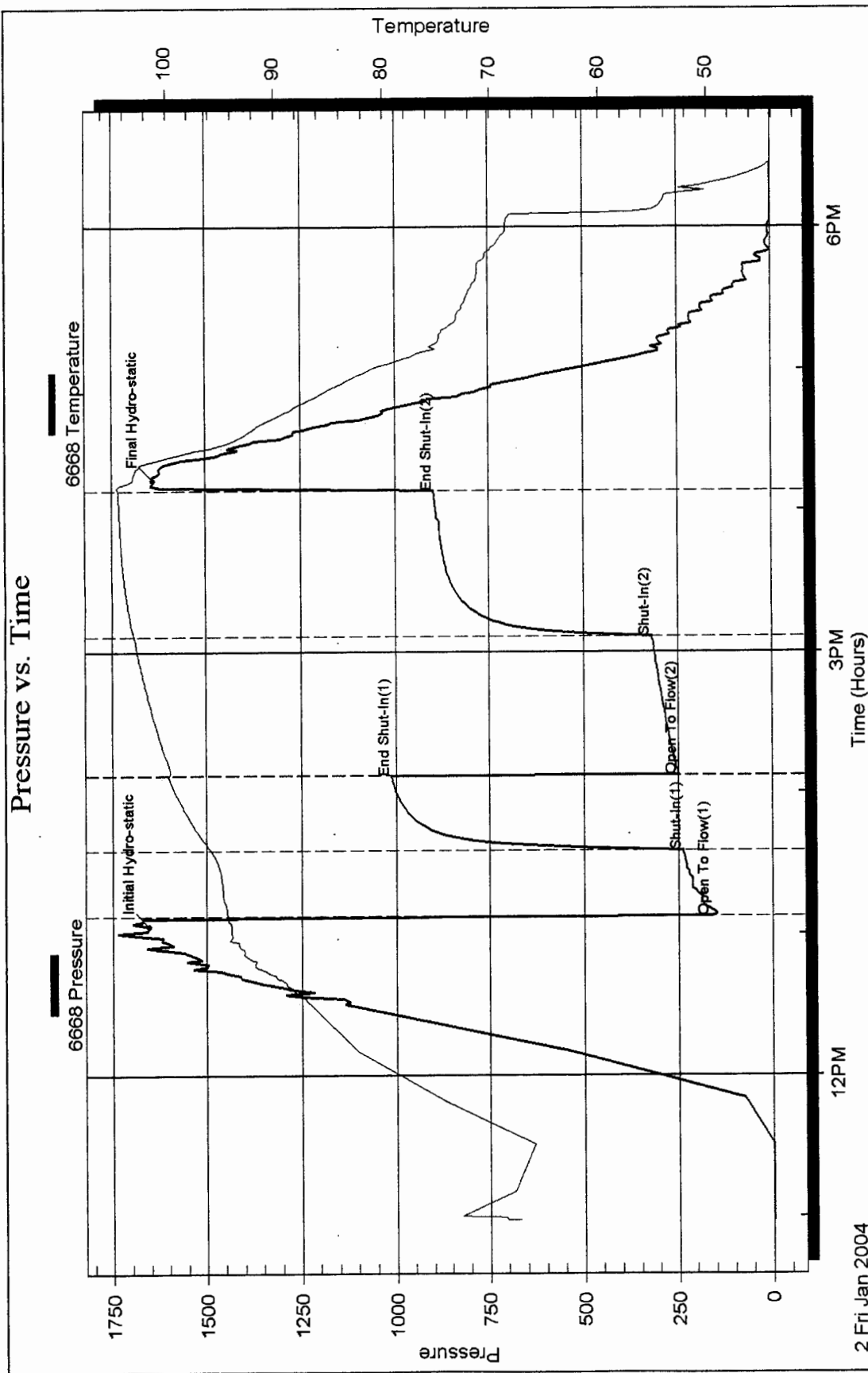
32-9s-21w Graham Ks

Pioneer Resources

Inside

Serial #: 6668

# Pressure vs. Time



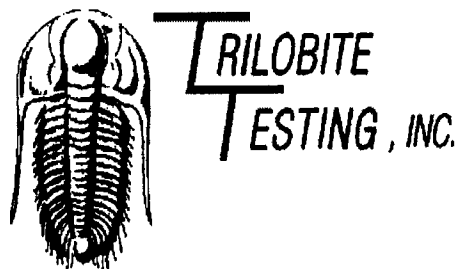
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K. J. J. J. J.

Ref. No: 18225

Trilobite Testing, Inc



## DRILL STEM TEST REPORT

Prepared For: **Pioneer Resources**

177 West Limestone Rd  
Phillipsburg Ks 67661

ATTN: Roger Wells

**32-9s-21w Graham Ks**

**Yost #1**

Start Date: 2004.01.03 @ 04:23:50

End Date: 2004.01.03 @ 10:44:49

Job Ticket #: 18376                      DST #: 2

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Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Pioneer Resources

177 West Limestone Rd  
Phillipsburg Ks 67661

ATTN: Roger Wells

Yost #1

32-9s-21w Graham Ks

Job Ticket: 18376

DST#: 2

Test Start: 2004.01.03 @ 04:23:50

### GENERAL INFORMATION:

Formation: **Lans "F"**

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

Time Tool Opened: 06:21:49

Time Test Ended: 10:44:49

Interval: **3598.00 ft (KB) To 3612.00 ft (KB) (TVD)**

Total Depth: **3612.00 ft (KB) (TVD)**

Hole Diameter: **7.85 inches** Hole Condition: **Fair**

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Test Type: **Conventional Bottom Hole**

Tester: **Ray Schwager**

Unit No: **28**

Reference Elevations: **2300.00 ft (KB)**

**2295.00 ft (CF)**

KB to GR/CF: **5.00 ft**

Serial #: **6668**

Inside

Press@RunDepth: **75.61 psig @ 3599.01 ft (KB)**

Start Date: **2004.01.03**

End Date:

2004.01.03

Capacity: **7000.00 psig**

Last Calib.: **2004.01.03**

Start Time: **04:23:50**

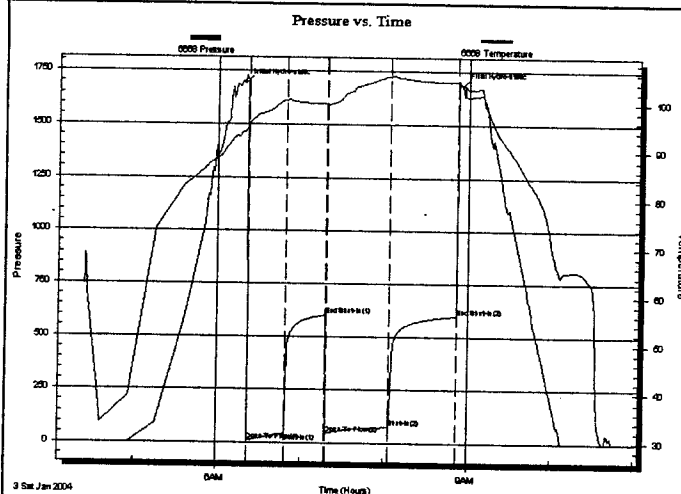
End Time:

10:44:49

Time On Btm: **2004.01.03 @ 06:19:19**

Time Off Btm: **2004.01.03 @ 08:55:19**

TEST COMMENT: IFF-w k bl thru-out 1/4" to 1 1/2" bl  
FFP-w k bl thru-out 1/4" bl  
Times 30-30-45-45



### PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1693.25         | 94.08        | Initial Hydro-static |
| 3           | 11.09           | 95.36        | Open To Flow (1)     |
| 30          | 43.74           | 100.51       | Shut-In(1)           |
| 59          | 600.48          | 99.98        | End Shut-In(1)       |
| 59          | 45.17           | 99.83        | Open To Flow (2)     |
| 105         | 75.61           | 105.52       | Shut-In(2)           |
| 153         | 596.71          | 104.50       | End Shut-In(2)       |
| 156         | 1683.65         | 103.79       | Final Hydro-static   |

### Recovery

| Length (ft) | Description                        | Volume (bbl) |
|-------------|------------------------------------|--------------|
| 10.00       | MW 15% mud 85% water w/show of oil | 0.05         |
| 120.00      | water RW.51@34F                    | 0.68         |
|             |                                    |              |
|             |                                    |              |
|             |                                    |              |
|             |                                    |              |

### Gas Rates

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



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## DRILL STEM TEST REPORT

TOOL DIAGRAM

Pioneer Resources

Yost #1

177 West Limestone Rd  
Phillipsburg Ks 67661

32-9s-21w Graham Ks

Job Ticket: 18376

DST#: 2

ATTN: Roger Wells

Test Start: 2004.01.03 @ 04:23:50

### Tool Information

|                           |                    |                       |                         |                                    |
|---------------------------|--------------------|-----------------------|-------------------------|------------------------------------|
| Drill Pipe:               | Length: 3475.00 ft | Diameter: 3.80 inches | Volume: 48.75 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: 120.00 ft  | Diameter: 2.25 inches | Volume: 0.59 bbl        | Weight to Pull Loose: 60000.00 lb  |
|                           |                    |                       | Total Volume: 49.34 bbl | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 18.00 ft           |                       |                         | String Weight: Initial 44000.00 lb |
| Depth to Top Packer:      | 3598.00 ft         |                       |                         | Final 44000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                         |                                    |
| Interval between Packers: | 14.02 ft           |                       |                         |                                    |
| Tool Length:              | 35.02 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        |            |          | 3578.00    |                               |
| Shut In Tool       | 5.00        |            |          | 3583.00    |                               |
| Hydraulic tool     | 5.00        |            |          | 3588.00    |                               |
| Packer             | 5.00        |            |          | 3593.00    | 21.00 Bottom Of Top Packer    |
| Packer             | 5.00        |            |          | 3598.00    |                               |
| Stubb              | 1.00        |            |          | 3599.00    |                               |
| Recorder           | 0.01        | 6668       | Inside   | 3599.01    |                               |
| Perforations       | 10.00       |            |          | 3609.01    |                               |
| Recorder           | 0.01        | 11085      | Outside  | 3609.02    |                               |
| Bullnose           | 3.00        |            |          | 3612.02    | 14.02 Bottom Packers & Anchor |
| Total Tool Length: | 35.02       |            |          |            |                               |

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## DRILL STEM TEST REPORT

### FLUID SUMMARY

Pioneer Resources

Yost #1

177 West Limestone Rd  
Phillipsburg Ks 67661

**32-9s-21w Graham Ks**

Job Ticket: 18376

**DST#: 2**

ATTN: Roger Wells

Test Start: 2004.01.03 @ 04:23:50

### 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:

30000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.92 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description                        | Volume<br>bbl |
|--------------|------------------------------------|---------------|
| 10.00        | MW 15% mud 85% water w/show of oil | 0.049         |
| 120.00       | water RW.51@34F                    | 0.681         |

Total Length: 130.00 ft

Total Volume: 0.730 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

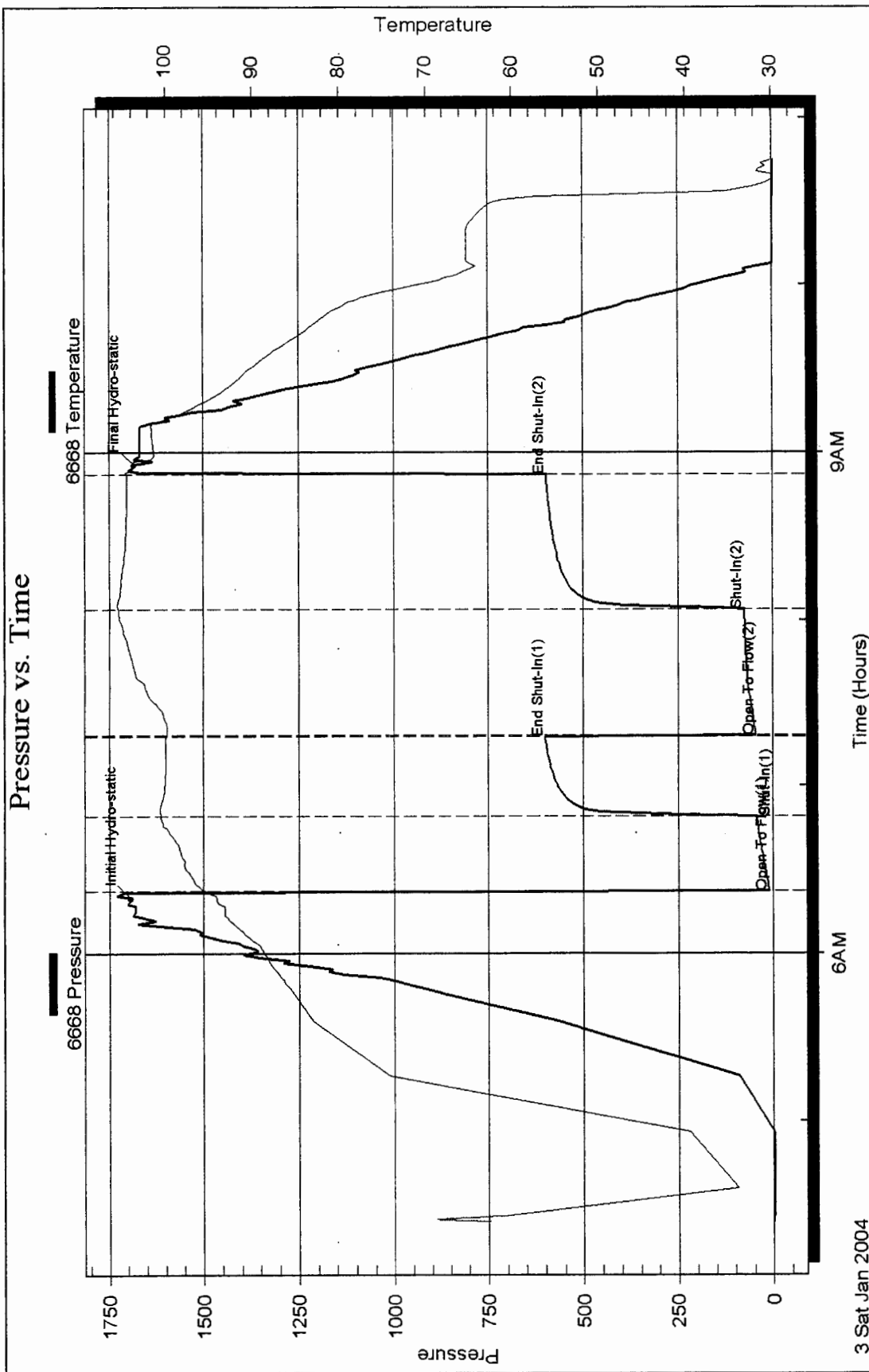
Recovery Comments:

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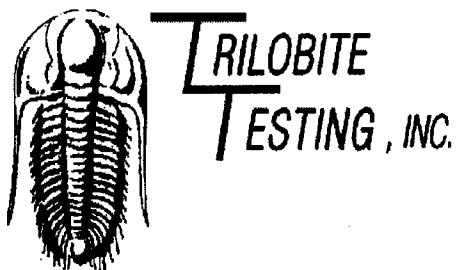
# Pressure vs. Time



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## DRILL STEM TEST REPORT

Prepared For: **Pioneer Resources**

177 West Limestone Rd  
Phillipsburg Ks 67661

ATTN: Roger Wells

**32-9s-21w Graham Ks**

**Yost #1**

Start Date: 2004.01.04 @ 15:01:16

End Date: 2004.01.04 @ 17:45:00

Job Ticket #: 18377

DST #: 3

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



## Pioneer Resources

ATTN: Roger Wells

### Yost #1

### 32-9s-21w Graham Ks

Job Ticket: 18377

DST#: 3

Test Start: 2004.01.04 @ 15:01:16

Formation: Arb

Deviated: No Whipstock:

Time Tool Opened: 17:30:00

Time Test Ended: 17:45:00

Interval: 3830.00 ft (KB) To 3881.00 ft (KB) (TVD)

**Total Depth:** 3881.00 ft (KB) (TVD)

Hole Diameter: 7.85 inches Hole Condition: Fair

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**Test Type:** Conventional Bottom Hole

Tester: Ray Schwager

Unit No: 28

Reference Elevations: 2300.00 ft (KB)

2295.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 6668**

## Inside

Press@RunDepth:                   psig   @       3833.01 ft (KB)

Start Date: 2004.01.04

End Date:

2004.01.04

Capacity: 7000.00 psig

Last Calib.: 1899.12.30

Start Time: 15:01:36

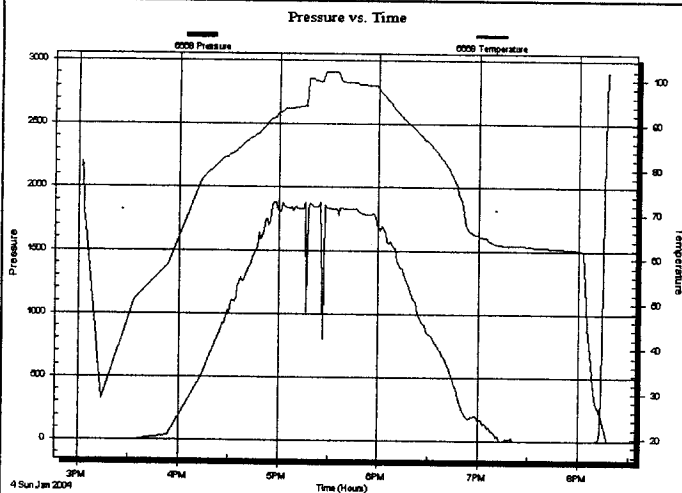
End Time:

20:18:05

Time On Btm:

Time Off Btmc

TEST COMMENT: Packer Failure



## PRESSURE SUMMARY

| Time<br>(Min.) | Pressure<br>(psig) | Temp<br>(deg F) | Annotation |
|----------------|--------------------|-----------------|------------|
|                |                    |                 |            |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 600.00      | mud         | 7.32         |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |

## Gas Rates

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



**TRILOBITE  
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## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Pioneer Resources

**Yost #1**

177 West Limestone Rd  
Phillipsburg Ks 67661

**32-9s-21w Graham Ks**

Job Ticket: 18377

**DST#: 3**

ATTN: Roger Wells

Test Start: 2004.01.04 @ 15:01:16

### Tool Information

|                           |                    |                         |                   |                                    |
|---------------------------|--------------------|-------------------------|-------------------|------------------------------------|
| Drill Pipe:               | Length: 3719.00 ft | Diameter: 3.80 inches   | Volume: 52.17 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: 120.00 ft  | Diameter: 2.25 inches   | Volume: 0.59 bbl  | Weight to Pull Loose: 68000.00 lb  |
|                           |                    | Total Volume: 52.76 bbl |                   | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 30.00 ft           |                         |                   | String Weight: Initial 44000.00 lb |
| Depth to Top Packer:      | 3830.00 ft         |                         |                   | Final 48000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                         |                   |                                    |
| Interval between Packers: | 51.02 ft           |                         |                   |                                    |
| Tool Length:              | 72.02 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        |            |          | 3810.00    |                               |
| Shut In Tool     | 5.00        |            |          | 3815.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 3820.00    |                               |
| Packer           | 5.00        |            |          | 3825.00    | 21.00 Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 3830.00    |                               |
| Stubb            | 1.00        |            |          | 3831.00    |                               |
| Perforations     | 1.00        |            |          | 3832.00    |                               |
| Change Over Sub  | 1.00        |            |          | 3833.00    |                               |
| Recorder         | 0.01        | 6668       | Inside   | 3833.01    |                               |
| Blank Spacing    | 30.00       |            |          | 3863.01    |                               |
| Change Over Sub  | 1.00        |            |          | 3864.01    |                               |
| Perforations     | 14.00       |            |          | 3878.01    |                               |
| Recorder         | 0.01        | 11085      | Outside  | 3878.02    |                               |
| Bullnose         | 3.00        |            |          | 3881.02    | 51.02 Bottom Packers & Anchor |

**Total Tool Length: 72.02**

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## DRILL STEM TEST REPORT

### FLUID SUMMARY

Pioneer Resources

Yost #1

177 West Limestone Rd  
Phillipsburg Ks 67661

32-9s-21w Graham Ks

Job Ticket: 18377

DST#: 3

ATTN: Roger Wells

Test Start: 2004.01.04 @ 15:01:16

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 46.00 sec/qt

Water Loss: 7.92 in<sup>3</sup>

Resistivity: ohm.m

Salinity: 2000.00 ppm

Filter Cake: 2.00 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 |
|--------------|-------------|---------------|
| 600.00       | mud         | 7.323         |

Total Length: 600.00 ft

Total Volume: 7.323 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 4#LCM

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DST Test Number: 3

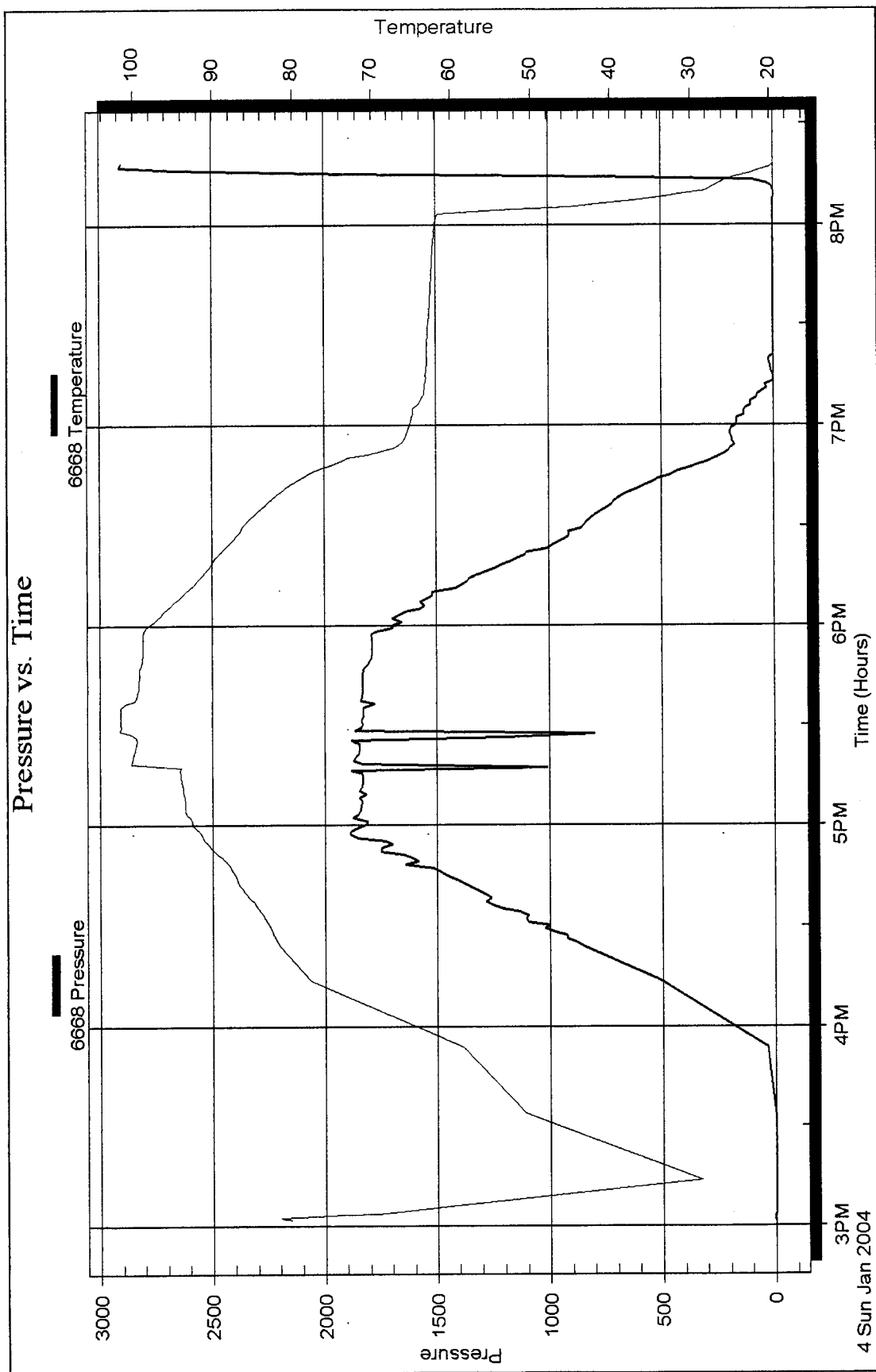
32-9s-21w Graham Ks

Pioneer Resources

Inside

Serial #: 6668

# Pressure vs. Time



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Ref. No: 18377

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