

## DRILL STEM TEST REPORT

Prepared For: **R L Investment LLC**

217 Saint Peter  
Morland, Ks. 67650

ATTN: Pat Deenihan

**19-8s-24w-Graham**

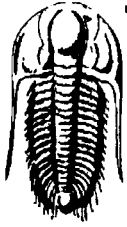
**Keith #2-19**

Start Date: 2005.10.23 @ 09:31:55

End Date: 2005.10.23 @ 16:39:55

Job Ticket #: 23814                      DST #: 1

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

R.L. Investment LLC

Keith #2-19

217 Saint Peter  
Morland, Ks. 67650

19-8s-24w-Graham

ATTN: Pat Deenihan

Job Ticket: 23814

DST#: 1

Test Start: 2005.10.23 @ 09:31:55

## GENERAL INFORMATION:

Formation: LKC-"B-D"

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:25:10

Time Test Ended: 16:39:55

Test Type: Conventional Bottom Hole

Tester: Jason Mclemore

Unit No: 32

Interval: 3715.00 ft (KB) To 3769.00 ft (KB) (TVD)

Total Depth: 3769.00 ft (KB) (TVD)

Hole Diameter: 7.80 inches Hole Condition: Good

Reference Elevations: 2397.00 ft (KB)

2392.00 ft (CF)

KB to GRVCF: 5.00 ft

Serial #: 6741

Inside

Press@RunDepth: 296.50 psig @ 3719.00 ft (KB)

Start Date: 2005.10.23

End Date:

2005.10.23

Capacity: 7000.00 psig

Last Calib.: 2005.10.23

Start Time: 09:31:57

End Time:

16:39:55

Time On Btm: 2005.10.23 @ 12:24:55

Time Off Btm: 2005.10.23 @ 14:26:25

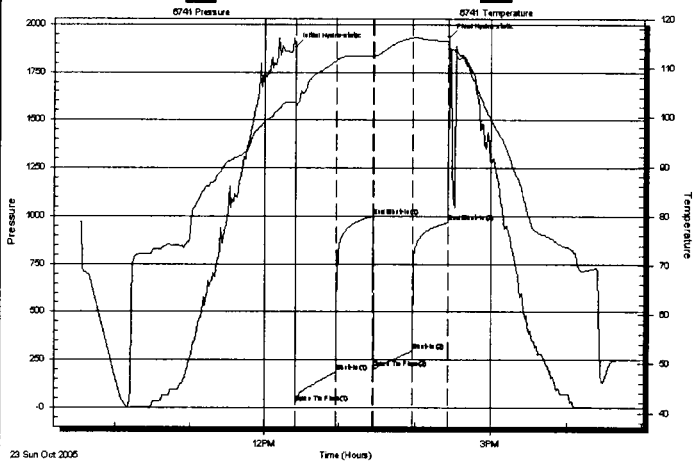
TEST COMMENT: FFP-Good Blow, BOB in 9-1/2 Min.

ISI-Dead

FFP-Good Blow, BOB in 12 Min.

FSI-Dead

Pressure vs. Time



## PRESSURE SUMMARY

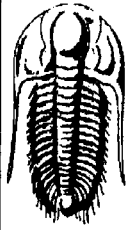
| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1881.84         | 102.94       | Initial Hydro-static |
| 1           | 23.29           | 102.37       | Open To Flow (1)     |
| 33          | 186.88          | 111.41       | Shut-In(1)           |
| 62          | 999.40          | 112.21       | End Shut-In(1)       |
| 62          | 205.27          | 112.00       | Open To Flow (2)     |
| 93          | 296.50          | 116.15       | Shut-In(2)           |
| 121         | 968.25          | 115.43       | End Shut-In(2)       |
| 122         | 1934.74         | 113.35       | Final Hydro-static   |

## Recovery

| Length (ft) | Description          | Volume (bbl) |
|-------------|----------------------|--------------|
| 405.00      | MW With Oil Specks   | 4.58         |
| 180.00      | VSOCMW-3%O-67%W-30%M | 2.52         |
|             |                      |              |
|             |                      |              |
|             |                      |              |

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

R.L Investment LLC

**Keith #2-19**

217 Saint Peter  
Morland, Ks. 67650

**19-8s-24w-Graham**

Job Ticket: 23814

**DST#: 1**

ATTN: Pat Deenihan

Test Start: 2005.10.23 @ 09:31:55

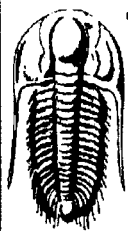
### Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 3608.00 ft | Diameter: 3.80 inches | Volume: 50.61 bbl              | Tool Weight: 2200.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 2.25 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: 48000.00 lb  |
|                           |                    |                       | <u>Total Volume: 51.21 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 35.00 ft           |                       |                                | String Weight: Initial 38000.00 lb |
| Depth to Top Packer:      | 3715.00 ft         |                       |                                | Final 44000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 54.00 ft           |                       |                                |                                    |
| Tool Length:              | 75.00 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        |            |          | 3695.00    |                               |
| Shut In Tool     | 5.00        |            |          | 3700.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 3705.00    |                               |
| Packer           | 5.00        |            |          | 3710.00    | 21.00 Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 3715.00    |                               |
| Stubb            | 1.00        |            |          | 3716.00    |                               |
| Perforations     | 2.00        |            |          | 3718.00    |                               |
| Change Over Sub  | 1.00        |            |          | 3719.00    |                               |
| Recorder         | 0.00        | 6741       | Inside   | 3719.00    |                               |
| Blank Spacing    | 31.00       |            |          | 3750.00    |                               |
| Change Over Sub  | 1.00        |            |          | 3751.00    |                               |
| Perforations     | 15.00       |            |          | 3766.00    |                               |
| Recorder         | 0.00        | 13221      | Outside  | 3766.00    |                               |
| Bullnose         | 3.00        |            |          | 3769.00    | 54.00 Bottom Packers & Anchor |

**Total Tool Length: 75.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

FLUID SUMMARY

RL Investment LLC

Keith #2-19

217 Saint Peter  
Morland, Ks. 67650

19-8s-24w-Graham

Job Ticket: 23814

DST#: 1

ATTN: Pat Deenihan

Test Start: 2005.10.23 @ 09:31:55

## 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: | 65000 ppm |
| Viscosity: 55.00 sec/qt          | Cushion Volume: bbl        |                 |           |
| Water Loss: 6.86 in <sup>3</sup> | Gas Cushion Type:          |                 |           |
| Resistivity: ohm.m               | Gas Cushion Pressure: psig |                 |           |
| Salinity: 1500.00 ppm            |                            |                 |           |
| Filter Cake: 2.00 inches         |                            |                 |           |

## Recovery Information

Recovery Table

| Length<br>ft | Description          | Volume<br>bbl |
|--------------|----------------------|---------------|
| 405.00       | MW With Oil Specks   | 4.579         |
| 180.00       | VSOCMW-3%O-67%W-30%M | 2.525         |

Total Length: 585.00 ft      Total Volume: 7.104 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

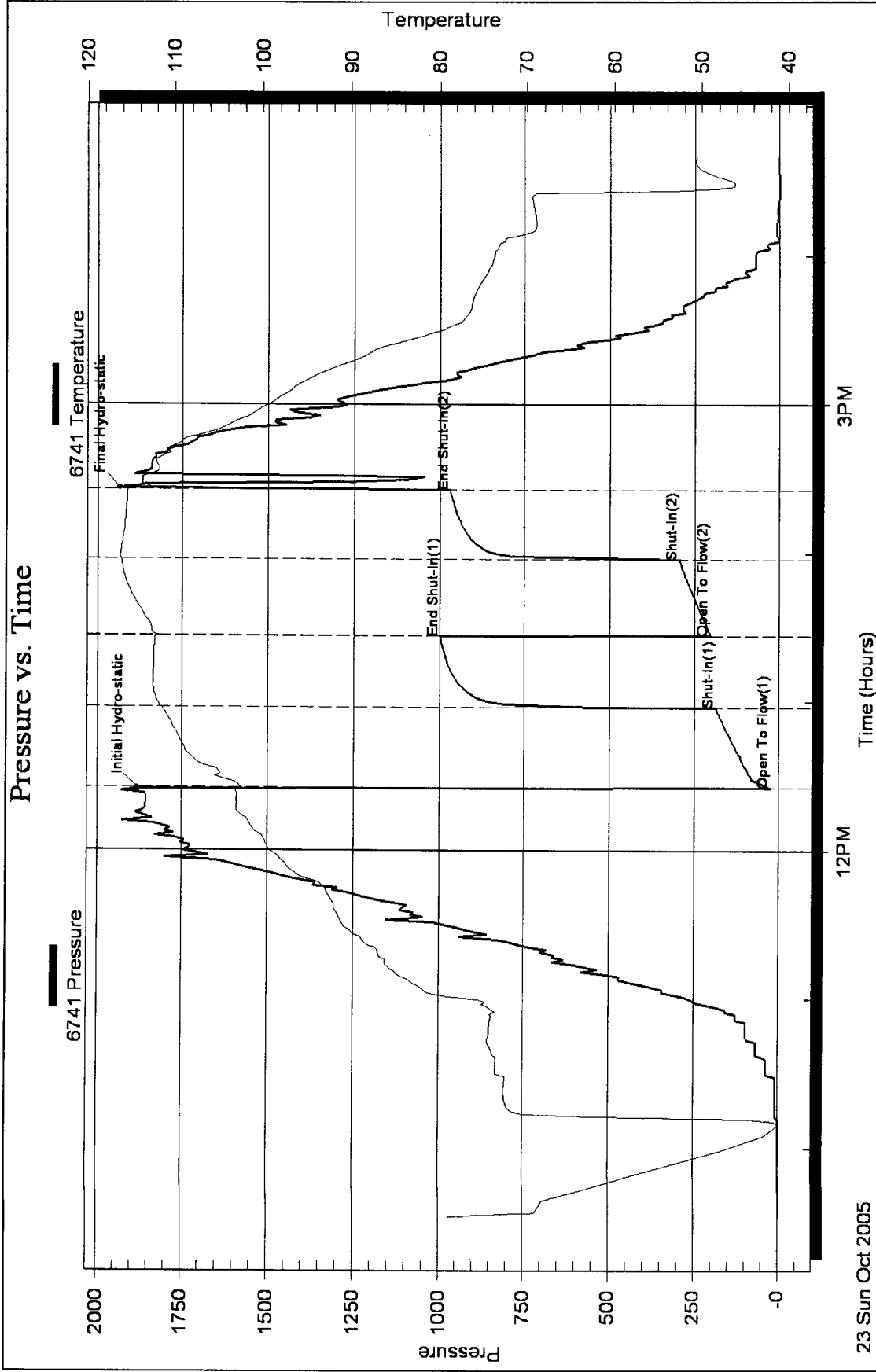
Serial #: 6741

Inside

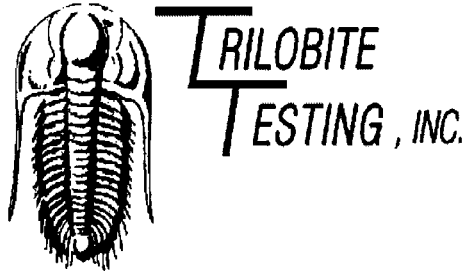
R L Investment LLC

19-8s-24w -Graham

DST Test Number: 1



23 Sun Oct 2005



## DRILL STEM TEST REPORT

Prepared For: **R L Investment LLC**

217 Saint Peter  
Morland, Ks. 67650

ATTN: Pat Deenihan

**19-8s-24w-Graham**

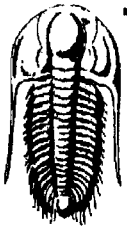
**Keith #2-19**

Start Date: 2005.10.24 @ 08:13:17

End Date: 2005.10.24 @ 15:24:17

Job Ticket #: 23815                      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

R.L Investment LLC

Keith #2-19

217 Saint Peter  
Morland, Ks. 67650

19-8s-24w-Graham

Job Ticket: 23815

DST#: 2

ATTN: Pat Deenihan

Test Start: 2005.10.24 @ 08:13:17

## GENERAL INFORMATION:

Formation: LKC-"K"

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:18:47

Time Test Ended: 15:24:17

Test Type: Conventional Bottom Hole

Tester: Jason Mclemore

Unit No: 32

Interval: 3897.00 ft (KB) To 3920.00 ft (KB) (TVD)

Total Depth: 3920.00 ft (KB) (TVD)

Hole Diameter: 7.80 inches Hole Condition: Good

Reference Elevations: 2397.00 ft (KB)

2392.00 ft (CF)

KB to GR/CF: 5.00 ft

## Serial #: 6741

Inside

Press@RunDepth: 66.55 psig @ 3899.00 ft (KB)

Start Date: 2005.10.24

End Date:

2005.10.24

Start Time: 08:13:19

End Time:

15:24:17

Capacity: 7000.00 psig

Last Calib.: 2005.10.24

Time On Btm: 2005.10.24 @ 10:18:32

Time Off Btm: 2005.10.24 @ 13:20:47

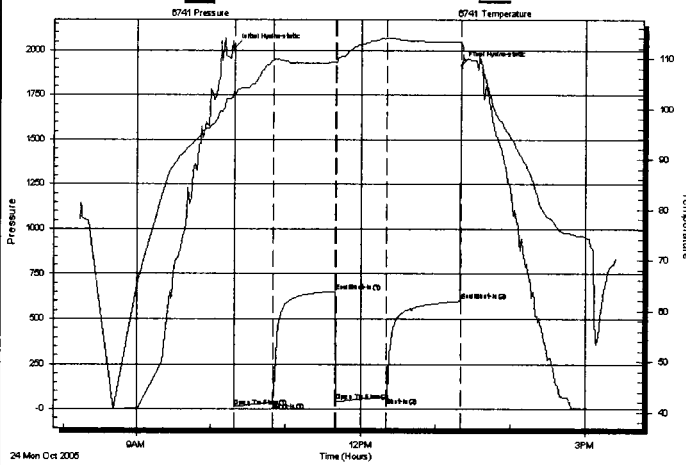
TEST COMMENT: IFF-Weak Blow, Built to 3-1/4"

ISI-Dead

FFP-Weak Blow, Built to 2-1/2"

FSI-Dead

Pressure vs. Time



## PRESSURE SUMMARY

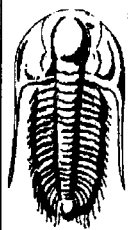
| Time (Mn.) | Pressure (psig) | Temp (deg F) | Annotation           |
|------------|-----------------|--------------|----------------------|
| 0          | 2017.53         | 103.57       | Initial Hydro-static |
| 1          | 13.04           | 103.26       | Open To Flow (1)     |
| 32         | 38.46           | 109.69       | Shut-In(1)           |
| 81         | 652.40          | 109.26       | End Shut-In(1)       |
| 82         | 41.69           | 109.05       | Open To Flow (2)     |
| 123        | 66.55           | 114.10       | Shut-In(2)           |
| 182        | 600.67          | 113.36       | End Shut-In(2)       |
| 183        | 1919.11         | 113.26       | Final Hydro-static   |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 120.00      | Muddy Water | 0.59         |
| 1.00        | Free Oil    | 0.00         |
|             |             |              |
|             |             |              |
|             |             |              |

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

R L Investment LLC

**Keith #2-19**

217 Saint Peter  
Morland, Ks. 67650

**19-8s-24w-Graham**

Job Ticket: 23815

**DST#: 2**

ATTN: Pat Deenihan

Test Start: 2005.10.24 @ 08:13:17

### Tool Information

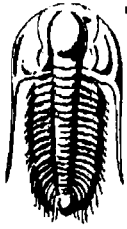
|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 3762.00 ft | Diameter: 3.80 inches | Volume: 52.77 bbl              | Tool Weight: 2200.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 2.25 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: 44000.00 lb  |
|                           |                    |                       | <u>Total Volume: 53.37 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 7.00 ft            |                       |                                | String Weight: Initial 41000.00 lb |
| Depth to Top Packer:      | 3897.00 ft         |                       |                                | Final 41000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 23.00 ft           |                       |                                |                                    |
| Tool Length:              | 44.00 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        |            |          | 3877.00    |                               |
| Shut In Tool     | 5.00        |            |          | 3882.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 3887.00    |                               |
| Packer           | 5.00        |            |          | 3892.00    | 21.00 Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 3897.00    |                               |
| Stubb            | 1.00        |            |          | 3898.00    |                               |
| Perforations     | 1.00        |            |          | 3899.00    |                               |
| Recorder         | 0.00        | 6741       | Inside   | 3899.00    |                               |
| Perforations     | 18.00       |            |          | 3917.00    |                               |
| Recorder         | 0.00        | 13252      | Outside  | 3917.00    |                               |
| Bullnose         | 3.00        |            |          | 3920.00    | 23.00 Bottom Packers & Anchor |

**Total Tool Length: 44.00**



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

R.L Investment LLC

**Keith #2-19**

217 Saint Peter  
Morland, Ks. 67650

**19-8s-24w-Graham**

Job Ticket: 23815

**DST#: 2**

ATTN: Pat Deenihan

Test Start: 2005.10.24 @ 08:13:17

**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:

27000 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbl

Water Loss: 6.84 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 2.00 inches

**Recovery Information**

Recovery Table

| Length<br>ft | Description | Volume<br>bbl |
|--------------|-------------|---------------|
| 120.00       | Muddy Water | 0.590         |
| 1.00         | Free Oil    | 0.005         |

Total Length: 121.00 ft

Total Volume: 0.595 bbl

Num Fluid Samples: 0

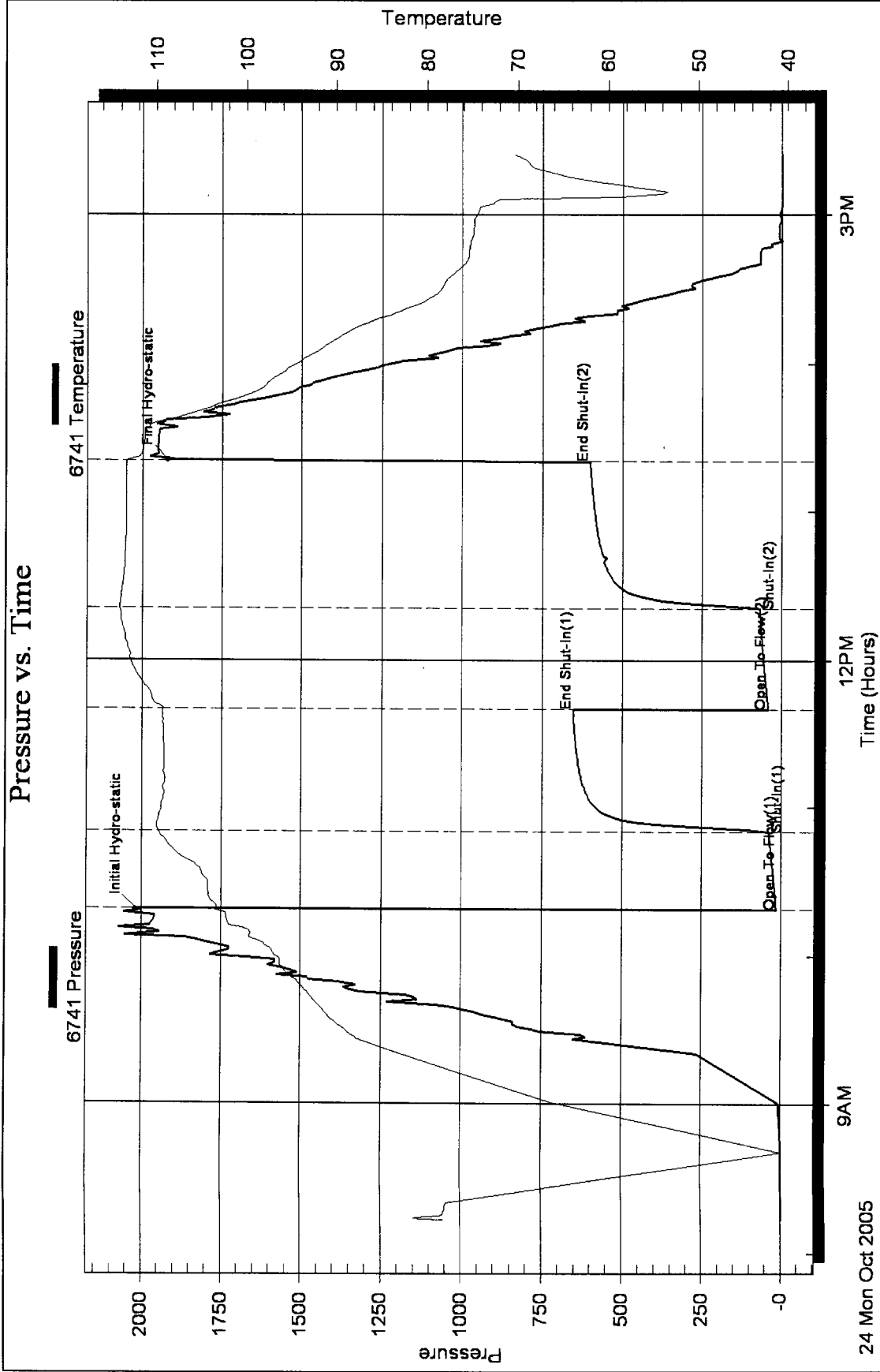
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



**CHART PAGE**  
This is a photocopy of the actual AK-1 recorder chart.

