

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

## DRILL STEM TEST REPORT

Prepared For: **Production Drilling Inc**

P O Box 680  
Hays Ks 67601

ATTN: Avon Weverling

**5-14-21-Trego-Ks**

**Flax #5**

Start Date: 2004.12.12 @ 20:25:46

End Date: 2004.12.13 @ 04:00:46

Job Ticket #: 21155                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Production Drilling Inc

Flax #5

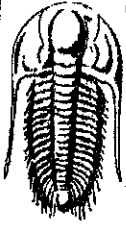
5-14-21-Trego-Ks

DST # 1

C-D-E-

L

2004.12.12



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Production Drilling Inc

**Flax #5**

P O Box 680  
Hays Ks 67601

**5-14-21-Trego-Ks**

Job Ticket: 21155

**DST#: 1**

ATTN: Avon Weverling

Test Start: 2004.12.12 @ 20:25:46

## GENERAL INFORMATION:

Formation: **C-DE- L**  
 Deviated: **No** Whipstock: **ft (KB)**  
 Time Tool Opened: 22:21:16  
 Time Test Ended: 04:00:46

Test Type: **Conventional Bottom Hole**  
 Tester: **Dan Bangle**  
 Unit No: **21**

Interval: **3602.00 ft (KB) To 3665.00 ft (KB) (TVD)**  
 Total Depth: **3665.00 ft (KB) (TVD)**  
 Hole Diameter: **7.88 inches** Hole Condition: **Good**

Reference Elevations: **2233.00 ft (KB)**  
**2225.00 ft (CF)**  
 KB to GR/CF: **8.00 ft**

**Serial #: 6799**

**Inside**

Press@RunDepth: **482.20 psig @ 3609.00 ft (KB)**

Capacity: **7000.00 psig**

Start Date: **2004.12.12**

End Date:

**2004.12.13**

Last Calib.:

**2004.12.13**

Start Time: **20:25:47**

End Time:

**04:00:46**

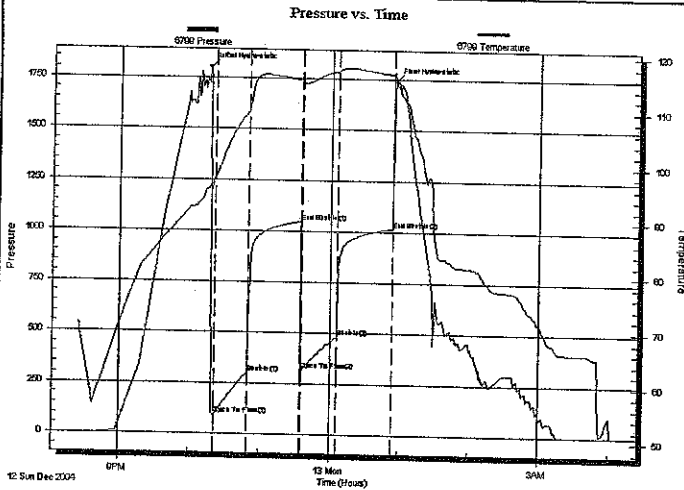
Time On Btm:

**2004.12.12 @ 22:16:16**

Time Off Btm:

**2004.12.13 @ 00:55:46**

**TEST COMMENT:** IF-Strong B-B in 1.5 min  
 ISI-Strong B-B in 6 min  
 FF-Strong B-B in 1.5 min  
 FSI-Strong B-B in 8 min - GTS in 20 min



## PRESSURE SUMMARY

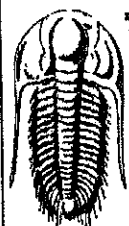
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1800.02	95.84	Initial Hydro-static
5	93.94	97.91	Open To Flow (1)
33	301.00	109.73	Shut-In(1)
78	1047.17	115.63	End Shut-In(1)
79	319.81	115.22	Open To Flow (2)
110	482.20	117.19	Shut-In(2)
158	1016.56	116.67	End Shut-In(2)
160	1737.29	115.70	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bb)
120.00	DM	1.41
1360.00	CGsyO 40%g 60%o	19.08
0.00	GTS on FSI	0.00

## Gas Rates

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



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## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Production Drilling Inc

**Flax #5**

P O Box 680  
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**5-14-21-Trego-Ks**

Job Ticket: 21155      **DST#: 1**

ATTN: Avon Weverling

Test Start: 2004.12.12 @ 20:25:46

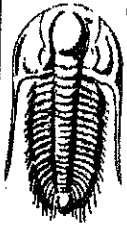
### Tool Information

Drill Pipe:	Length: 3567.00 ft	Diameter: 3.80 inches	Volume: 50.04 bbl	Tool Weight: 2500.00 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 50.19 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3602.00 ft			Final 42000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	63.00 ft			
Tool Length:	84.00 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			3582.00	
Shut In Tool	5.00			3587.00	
Hydraulic tool	5.00			3592.00	
Packer	5.00			3597.00	21.00      Bottom Of Top Packer
Packer	5.00			3602.00	
Stubb	1.00			3603.00	
Perforations	5.00			3608.00	
Change Over Sub	1.00			3609.00	
Recorder	0.00	6799	Inside	3609.00	
Drill Pipe	32.00			3641.00	
Change Over Sub	1.00			3642.00	
Recorder	0.00	13254	Outside	3642.00	
Perforations	20.00			3662.00	
Bullnose	3.00			3665.00	63.00      Bottom Packers & Anchor

**Total Tool Length: 84.00**



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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Production Drilling Inc

**Flax #5**

P O Box 680  
Hays Ks 67601

**5-14-21-Trego-Ks**

Job Ticket: 21155

**DST#: 1**

ATTN: Avon Weverling

Test Start: 2004.12.12 @ 20:25:46

## Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 49.00 sec/qt

Water Loss: 8.79 in<sup>3</sup>

Resistivity: ohm.m

Salinity: 6000.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

36 deg API

Water Salinity: ppm

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	DM	1.410
1360.00	CGsyO 40%g 60%o	19.077
0.00	GTS on FSI	0.000

Total Length: 1480.00 ft      Total Volume: 20.487 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

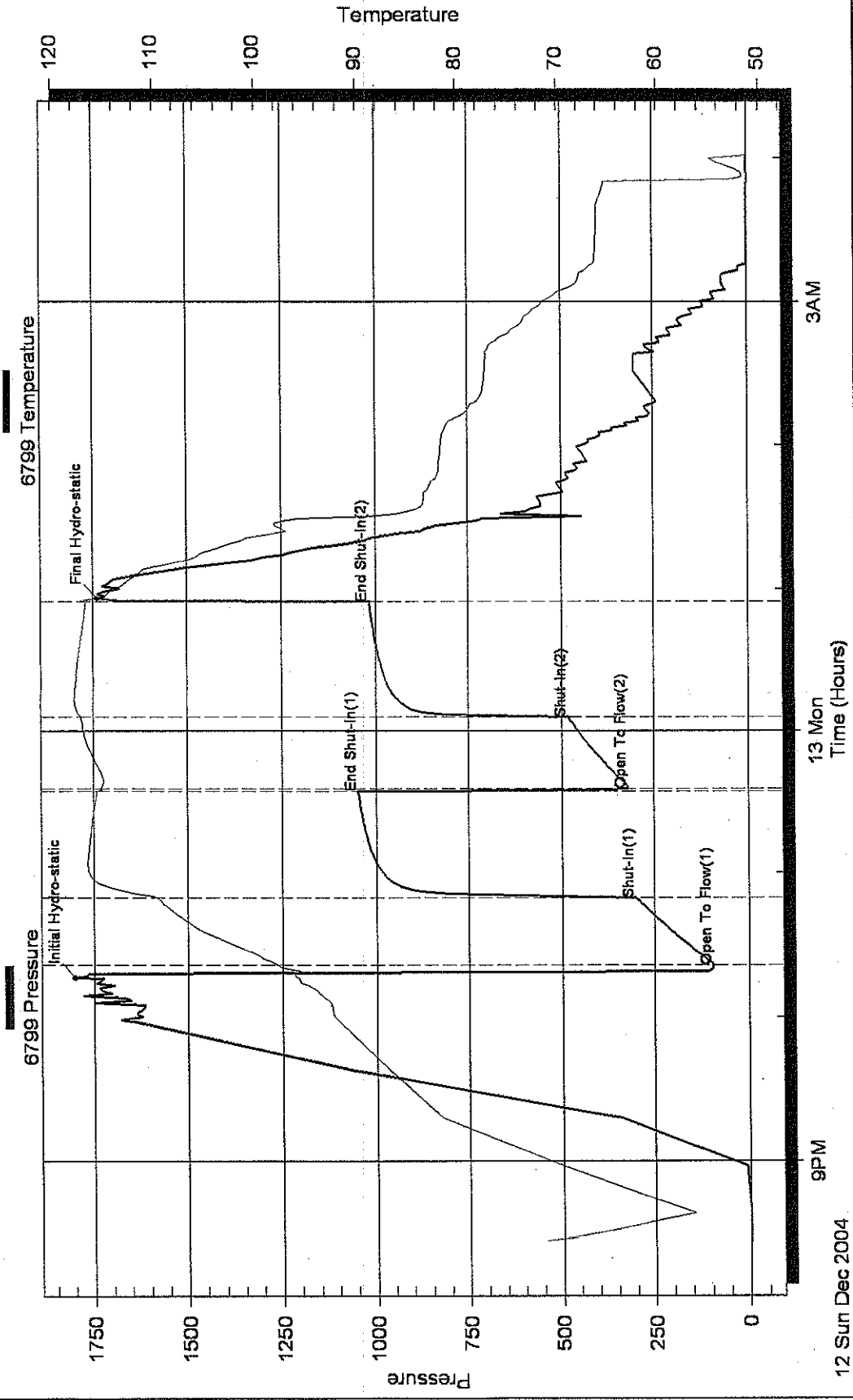
Serial #:

Laboratory Name:

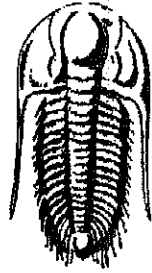
Laboratory Location:

Recovery Comments:

### Pressure vs. Time







**TRILOBITE  
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## DRILL STEM TEST REPORT

Prepared For: **Production Drilling Inc**

P O Box 680  
Hays Ks 67601

ATTN: Avon Weverling

**5-14-21-Trego-Ks**

**Flax #5**

Start Date: 2004.12.14 @ 06:55:04

End Date: 2004.12.14 @ 12:38:34

Job Ticket #: 21156                      DST #: 2

Production Drilling Inc

Flax #5

5-14-21-Trego-Ks

DST # 2

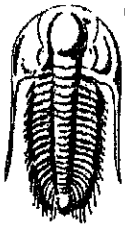
Cher Sd

2004.12.14

Trilobite Testing, Inc

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## DRILL STEM TEST REPORT

Production Drilling Inc

P O Box 680  
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ATTN: Avon Weverling

**Flax #5**

**5-14-21-Trego-Ks**

Job Ticket: 21156

DST#: 2

Test Start: 2004.12.14 @ 06:55:04

### GENERAL INFORMATION:

Formation: **Cher Sd**

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

Time Tool Opened: 08:45:34

Time Test Ended: 12:38:34

Interval: **3960.00 ft (KB) To 3990.00 ft (KB) (TVD)**

Total Depth: **3990.00 ft (KB) (TVD)**

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

Test Type: **Conventional Bottom Hole**

Tester: **Dan Bangle**

Unit No: **21**

Reference Elevations: **2233.00 ft (KB)**

**2225.00 ft (CF)**

KB to GRVCF: **8.00 ft**

**Serial #: 6799**

**Inside**

Press@RunDepth: **20.01 psig @ 3961.00 ft (KB)**

Start Date: **2004.12.14**

End Date:

**2004.12.14**

Start Time: **06:55:05**

End Time:

**12:38:34**

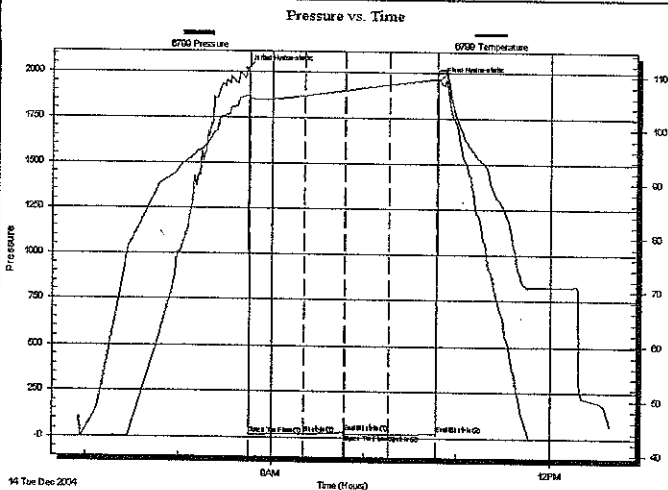
Capacity: **7000.00 psig**

Last Calib.: **2004.12.14**

Time On Btm: **2004.12.14 @ 08:43:34**

Time Off Btm: **2004.12.14 @ 10:48:34**

TEST COMMENT: IF-Weal died in 25 min  
FF-No blow  
Times-30-30-30-30



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2016.32	106.22	Initial Hydro-static
2	17.81	105.73	Open To Flow (1)
37	19.97	106.30	Shut-In(1)
63	30.63	107.34	End Shut-In(1)
64	18.98	107.35	Open To Flow (2)
93	20.01	108.47	Shut-In(2)
123	26.68	109.50	End Shut-In(2)
125	1959.97	111.24	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
5.00	DM	0.02

### Gas Rates

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



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**TOOL DIAGRAM**

Production Drilling, Inc

**Flax #5**

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**5-14-21-Trego-Ks**

Job Ticket: 21156

**DST#: 2**

ATTN: Avon Weverling

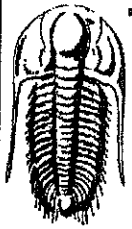
Test Start: 2004.12.14 @ 06:55:04

### Tool Information

Drill Pipe:	Length: 3941.00 ft	Diameter: 3.80 inches	Volume: 55.28 bbl	Tool Weight: 2500.00 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 45000.00 lb
			<u>Total Volume: 55.43 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3960.00 ft			Final 42000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	51.00 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			3940.00	
Shut In Tool	5.00			3945.00	
Hydraulic tool	5.00			3950.00	
Packer	5.00			3955.00	21.00 Bottom Of Top Packer
Packer	5.00			3960.00	
Stubb	1.00			3961.00	
Recorder	0.00	6799	Inside	3961.00	
Perforations	26.00			3987.00	
Recorder	0.00	13254	Outside	3987.00	
Bullnose	3.00			3990.00	30.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>51.00</b>				



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Job Ticket: 21156

**DST#: 2**

ATTN: Avon Weverling

Test Start: 2004.12.14 @ 06:55:04

**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:

ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6600.00 ppm

Filter Cake: inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbf
5.00	DM	0.025

Total Length: 5.00 ft

Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

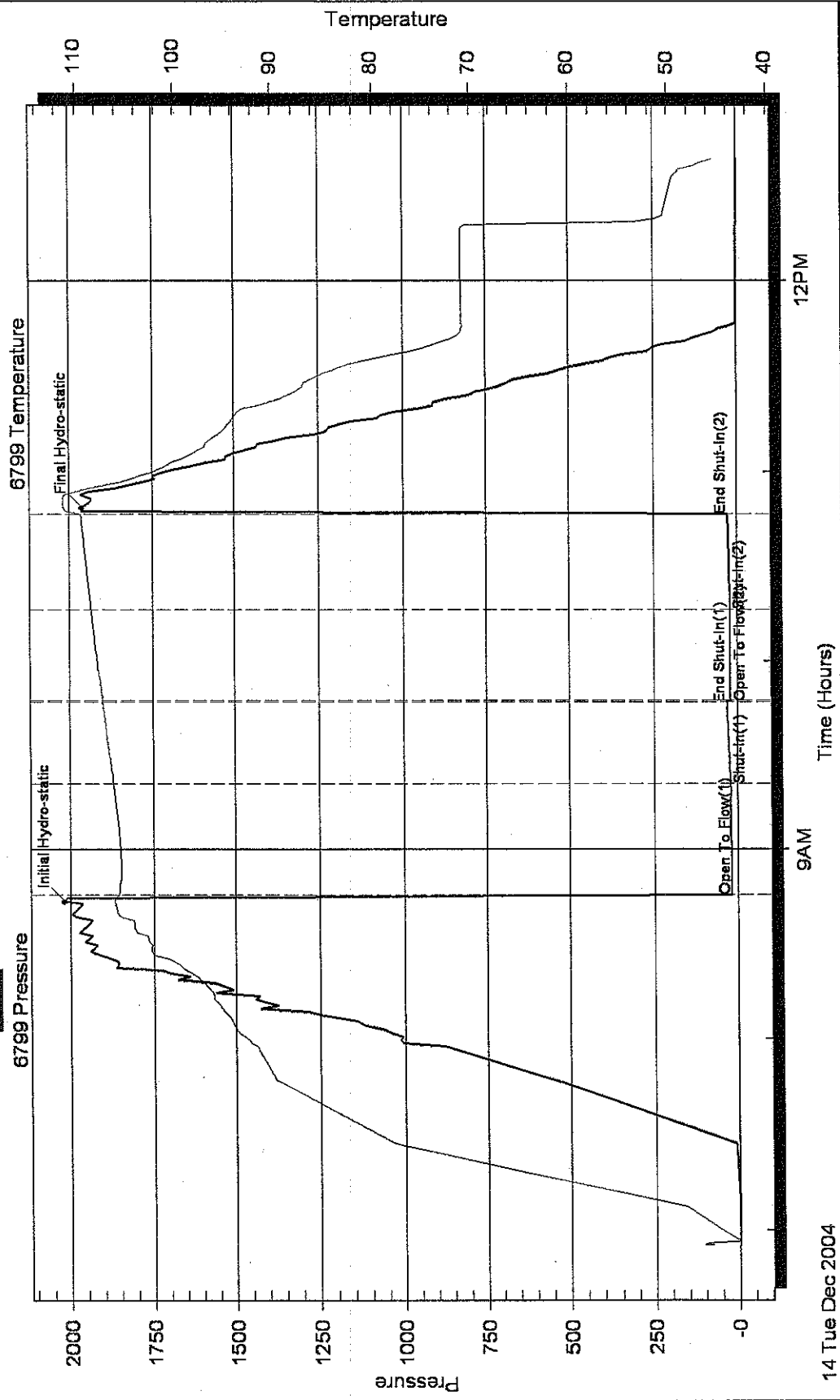
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time



14 Tue Dec 2004

