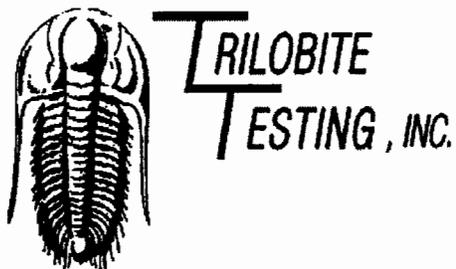


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## DRILL STEM TEST REPORT

Prepared For: **Raymond Oil Co. Inc.**

P.O.Box 48788  
Wichita, Ks. 67202

ATTN: Clark Sandberg

**34--30--13w**

**Lenkner # 1**

Start Date: 2003.12.06 @ 09:28:36

End Date: 2003.12.06 @ 16:07:43

Job Ticket #: 18490 . DST #: 1

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

Raymond Oil Co. Inc.

Lenkner # 1

34--30--13w

DST # 1

Ind. Cave

2003.12.06



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Raymond Oil Co. Inc.

**Lenkner # 1**

P.O.Box 48788  
Wichita, Ks. 67202

**34-30-13w**

Job Ticket: 18490

**DST#: 1**

ATTN: Clark Sandberg

Test Start: 2003.12.06 @ 09:28:36

## GENERAL INFORMATION:

Formation: **Ind.Cave**  
 Deviated: **No Whipstock:** ft (KB)  
 Time Tool Opened: 11:27:43  
 Time Test Ended: 16:07:43

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Test Type: **Conventional Bottom Hole**  
 Tester: **John Schmidt**  
 Unit No: **18**

Interval: **2875.00 ft (KB) To 2930.00 ft (KB) (TVD)**  
 Total Depth: **2930.00 ft (KB) (TVD)**  
 Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **1888.00 ft (KB)**  
**1875.00 ft (CF)**  
 KB to GR/CF: **13.00 ft**

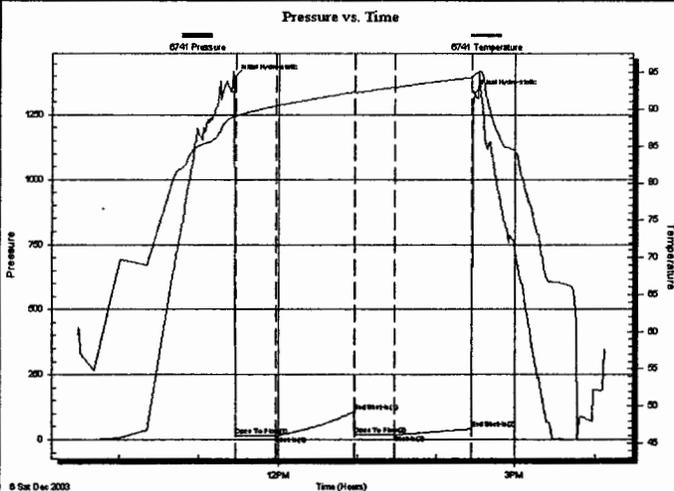
**Serial #: 6741**

**Inside**

Press@RunDepth: **17.99 psig @ 2880.00 ft (KB)**  
 Start Date: **2003.12.06** End Date: **2003.12.06**  
 Start Time: **09:28:37** End Time: **16:07:43**

Capacity: **7000.00 psig**  
 Last Calib.: **2003.12.06**  
 Time On Btm: **2003.12.06 @ 11:26:13**  
 Time Off Btm: **2003.12.06 @ 14:28:43**

TEST COMMENT: **IF-Weak surface blow 1/2" in** **ISI-Dead**  
**FF-Dead** **FSI-Dead**



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1395.28	89.01	Initial Hydro-static
2	13.96	89.00	Open To Flow (1)
32	15.11	90.43	Shut-In (1)
91	106.66	92.32	End Shut-In (1)
92	17.23	92.28	Open To Flow (2)
122	17.99	92.98	Shut-In (2)
181	39.46	94.32	End Shut-In (2)
183	1335.99	94.77	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	Drilling mud	0.21

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Raymond Oil Co. Inc.

**Lenkner # 1**

P.O.Box 48788  
Wichita, Ks. 67202

**34-30-13w**

Job Ticket: 18490

**DST#: 1**

ATTN: Clark Sandberg

Test Start: 2003.12.06 @ 09:28:36

### Tool Information

Drill Pipe:	Length: 2870.00 ft	Diameter: 3.80 inches	Volume: 40.26 bbl	Tool Weight: 3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 48000.00 lb
			<u>Total Volume: 40.26 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	2875.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	55.00 ft			
Tool Length:	77.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

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Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			2854.00	
Shut In Tool	5.00			2859.00	
Hydraulic tool	5.00			2864.00	
Safety Joint	2.00			2866.00	
Packer	4.00			2870.00	22.00 Bottom Of Top Packer
Packer	5.00			2875.00	
Stubb	1.00			2876.00	
Perforations	3.00			2879.00	
Change Over Sub	1.00			2880.00	
Recorder	0.00	6741	Inside	2880.00	
Blank Spacing	31.00			2911.00	
Change Over Sub	1.00			2912.00	
Recorder	0.00	11084	Outside	2912.00	
Perforations	15.00			2927.00	
Bullnose	3.00			2930.00	55.00 Bottom Packers & Anchor

**Total Tool Length: 77.00**



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Raymond Oil Co. Inc.

**Lenkner # 1**

P.O.Box 48788  
Wichita,Ks.67202

**34-30-13w**

Job Ticket: 18490

**DST#: 1**

ATTN: Clark Sandberg

Test Start: 2003.12.06 @ 09:28:36

**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: 58.00 sec/qt

Cushion Volume:

bbl

Water Loss: 11.97 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
15.00	Drilling mud	0.210

Total Length: 15.00 ft

Total Volume: 0.210 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

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Serial #: 6741

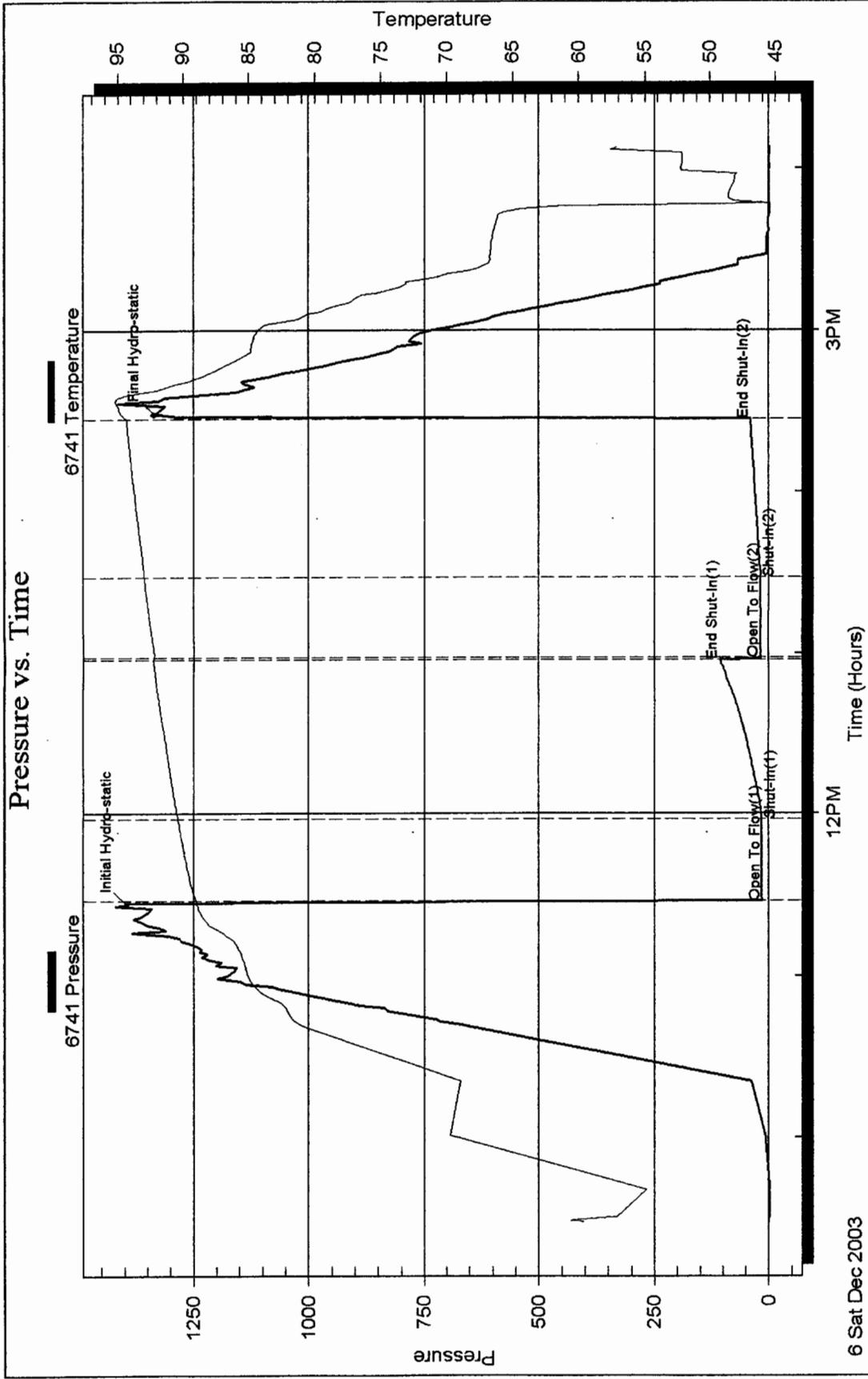
Inside

Raymond Oil Co. Inc.

34--30--13w

DST Test Number: 1

### Pressure vs. Time



6 Sat Dec 2003

12PM

3PM

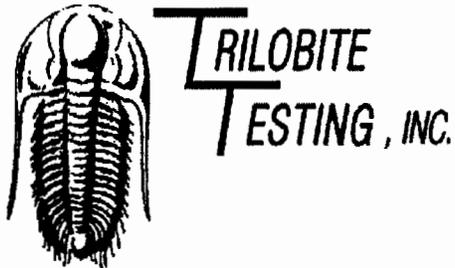
Time (Hours)

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Trilobite Testing, Inc

Ref. No: 18490

Printed: 2003.12.18 @ 14:06:22 Page 5



**DRILL STEM TEST REPORT**

Prepared For: **Raymond Oil Co. Inc.**

P.O.Box 48788  
Wichita, Ks. 67202

ATTN: Clark Sandberg

**34-30-13w**

**Lenkner # 1**

Start Date: 2003.12.09 @ 04:12:50

End Date: 2003.12.09 @ 16:06:35

Job Ticket #: 17994 . DST #: 2

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Raymond Oil Co. Inc.

Lenkner # 1

34-30-13w

DST # 2

Douglas Sand

2003.12.09

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



**TRIBOLITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Raymond Oil Co. Inc.

**Lenkner # 1**

P.O.Box 48788  
Wichita, Ks. 67202

**34-30-13w**

Job Ticket: 17994

**DST#: 2**

ATTN: Clark Sandberg

Test Start: 2003.12.09 @ 04:12:50

## GENERAL INFORMATION:

Formation: **Douglas Sand**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 08:17:05  
Time Test Ended: 16:06:35

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Test Type: Conventional Bottom Hole  
Tester: Nathan  
Unit No: 16

Interval: **3851.00 ft (KB) To 3865.00 ft (KB) (TVD)**  
Total Depth: 3865.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1888.00 ft (KB)  
1875.00 ft (CF)  
KB to GR/CF: 13.00 ft

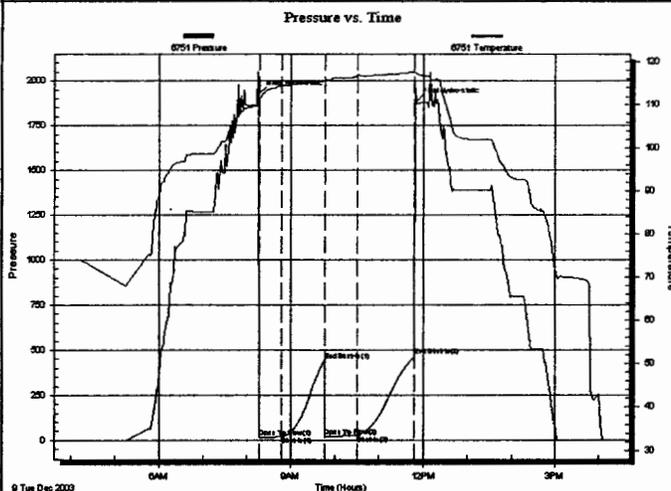
**Serial #: 6751**

**Inside**

Press@RunDepth: 24.53 psig @ 3852.00 ft (KB)  
Start Date: 2003.12.09 End Date: 2003.12.09  
Start Time: 04:13:00 End Time: 16:06:34

Capacity: 7000.00 psig  
Last Calib.: 1899.12.30  
Time On Btm: 2003.12.09 @ 08:16:35  
Time Off Btm: 2003.12.09 @ 11:50:20

**TEST COMMENT:** IF- Weak surface blow throughout open  
IS- No blow  
FF- Weak surface blow dead in 1 min.  
FSI- No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1928.42	111.13	Initial Hydro-static
1	14.30	111.09	Open To Flow (1)
32	19.47	114.45	Shut-In(1)
90	444.06	115.56	End Shut-In(1)
91	21.30	115.60	Open To Flow (2)
134	24.53	116.76	Shut-In(2)
212	466.01	117.67	End Shut-In(2)
214	1883.62	117.42	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
62.00	Mud	0.30
0.00	124 feet of gas in pipe	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Raymond Oil Co. Inc.

**Lenkner # 1**

P.O.Box 48788  
Wichita, Ks. 67202

**34-30-13w**

Job Ticket: 17994

**DST#: 2**

ATTN: Clark Sandberg

Test Start: 2003.12.09 @ 04:12:50

### Tool Information

Drill Pipe:	Length: 3724.00 ft	Diameter: 3.80 inches	Volume: 52.24 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: 24000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 52.85 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	3851.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	14.00 ft			
Tool Length:	36.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

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Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3830.00	
Shut In Tool	5.00			3835.00	
Hydraulic tool	5.00			3840.00	
Safety Joint	2.00			3842.00	
Packer	4.00			3846.00	22.00 Bottom Of Top Packer
Packer	5.00			3851.00	
Stubb	1.00			3852.00	
Recorder	0.00	6751	Inside	3852.00	
Perforations	10.00			3862.00	
Recorder	0.00	13630	Outside	3862.00	
Bullnose	3.00			3865.00	14.00 Bottom Packers & Anchor

**Total Tool Length: 36.00**



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Raymond Oil Co. Inc.

**Lenkner # 1**

P.O.Box 48788  
Wichita, Ks. 67202

**34-30-13w**

Job Ticket: 17994

**DST#: 2**

ATTN: Clark Sandberg

Test Start: 2003.12.09 @ 04:12:50

**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:

ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 11.91 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 0.02 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
62.00	Mud	0.305
0.00	124 feet of gas in pipe	0.000

Total Length: 62.00 ft

Total Volume: 0.305 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

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KCC WICHITA**

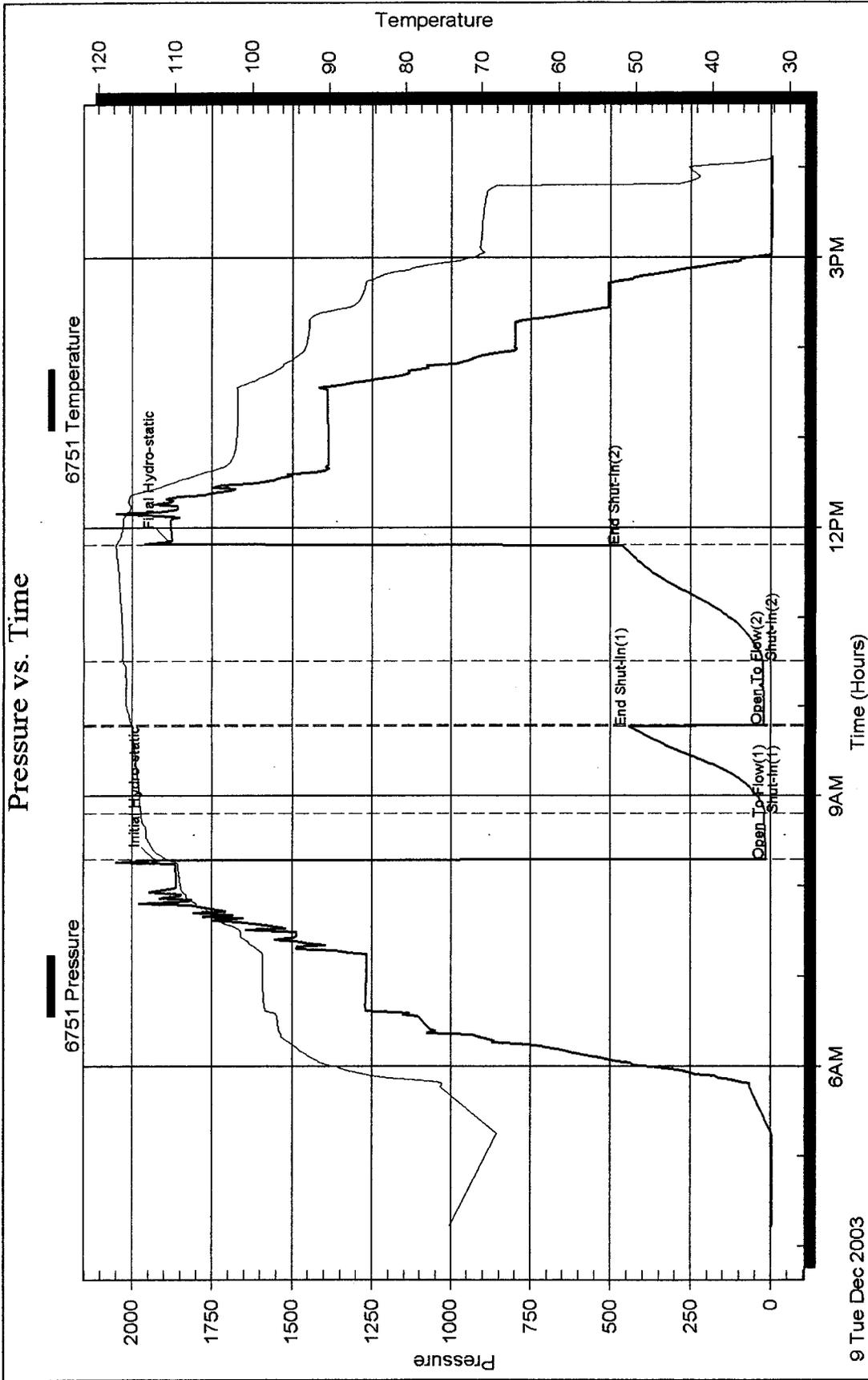
Serial #: 6751

Inside

Raymond Oil Co. Inc.

34--30--13w

DST Test Number: 2



9 Tue Dec 2003

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Trilobite Testing, Inc

Ref. No: 17994

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KCC WICHITA



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Raymond Oil Co. Inc.**

P.O.Box 48788  
Wichita, Ks. 67202

ATTN: Clark Sandberg

**34-30-13w**

**Lenkner # 1**

Start Date: 2003.12.10 @ 11:58:16

End Date: 2003.12.10 @ 20:18:01

Job Ticket #: 17995                      DST #: 3

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Raymond Oil Co. Inc.

**Lenkner # 1**

P.O.Box 48788  
Wichita, Ks. 67202

**34-30-13w**

Job Ticket: 17995

**DST#: 3**

ATTN: Clark Sandberg

Test Start: 2003.12.10 @ 11:58:16

## GENERAL INFORMATION:

Formation: **Lower Douglas Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:50:01

Time Test Ended: 20:18:01

Interval: **3923.00 ft (KB) To 3946.00 ft (KB) (TVD)**

Total Depth: 3946.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

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**KCC WICHITA**

Test Type: Conventional Bottom Hole

Tester: Nathan

Unit No: 16

Reference Elevations: 1888.00 ft (KB)

1875.00 ft (CF)

KB to GR/CF: 13.00 ft

**Serial #: 6751**

Inside

Press@RunDepth: 14.26 psig @ 3924.00 ft (KB)

Start Date: 2003.12.10

End Date: 2003.12.10

Start Time: 11:58:26

End Time: 20:18:01

Capacity: 7000.00 psig

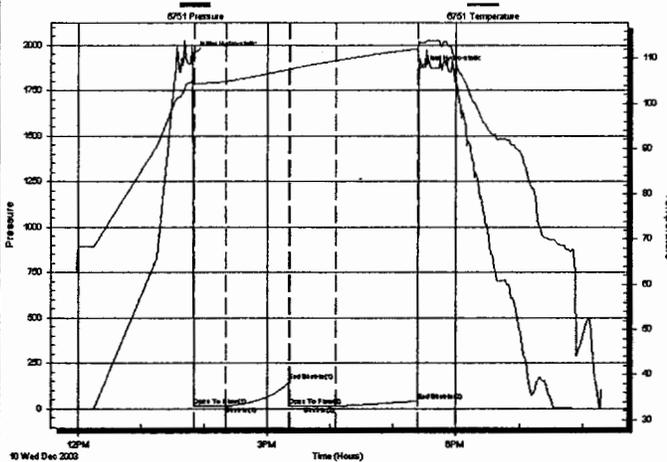
Last Calib.: 1899.12.30

Time On Btm: 2003.12.10 @ 13:49:01

Time Off Btm: 2003.12.10 @ 17:25:01

**TEST COMMENT:** IF- Weak surface blow building to 1 inch  
IS- No blow  
FF- Weak surface blow dead in 18 minutes  
FS- No blow

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1949.23	104.70	Initial Hydro-static
1	13.41	104.33	Open To Flow (1)
32	14.27	104.83	Shut-In(1)
92	150.48	107.49	End Shut-In(1)
92	16.01	107.43	Open To Flow (2)
137	14.26	109.44	Shut-In(2)
215	42.84	112.08	End Shut-In(2)
216	1868.56	113.60	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
40.00	Mud	0.56

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Raymond Oil Co. Inc.

**Lenkner # 1**

P.O.Box 48788  
Wichita, Ks. 67202

**34-30-13w**

Job Ticket: 17995

**DST#: 3**

ATTN: Clark Sandberg

Test Start: 2003.12.10 @ 11:58:16

**Tool Information**

Drill Pipe:	Length: 3907.00 ft	Diameter: 3.80 inches	Volume: 54.80 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: 24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 68000.00 lb
			<b>Total Volume: 54.80 bbl</b>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3923.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	23.00 ft			
Tool Length:	45.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

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Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3902.00	
Shut In Tool	5.00			3907.00	
Hydraulic tool	5.00			3912.00	
Safety Joint	2.00			3914.00	
Packer	4.00			3918.00	22.00 Bottom Of Top Packer
Packer	5.00			3923.00	
Stubb	1.00			3924.00	
Recorder	0.00	6751	Inside	3924.00	
Perforations	19.00			3943.00	
Recorder	0.00	13630	Outside	3943.00	
Bullnose	3.00			3946.00	23.00 Bottom Packers & Anchor

**Total Tool Length: 45.00**



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Raymond Oil Co. Inc.

**Lenkner # 1**

P.O.Box 48788  
Wichita, Ks. 67202

**34-30-13w**

Job Ticket: 17995

**DST#: 3**

ATTN: Clark Sandberg

Test Start: 2003.12.10 @ 11:58:16

**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:

18000 ppm

Viscosity: 42.00 sec/qt

Cushion Volume:

bbl

Water Loss: 16.74 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 8000.00 ppm

Filter Cake: 0.02 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
40.00	Mud	0.561

Total Length: 40.00 ft

Total Volume: 0.561 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

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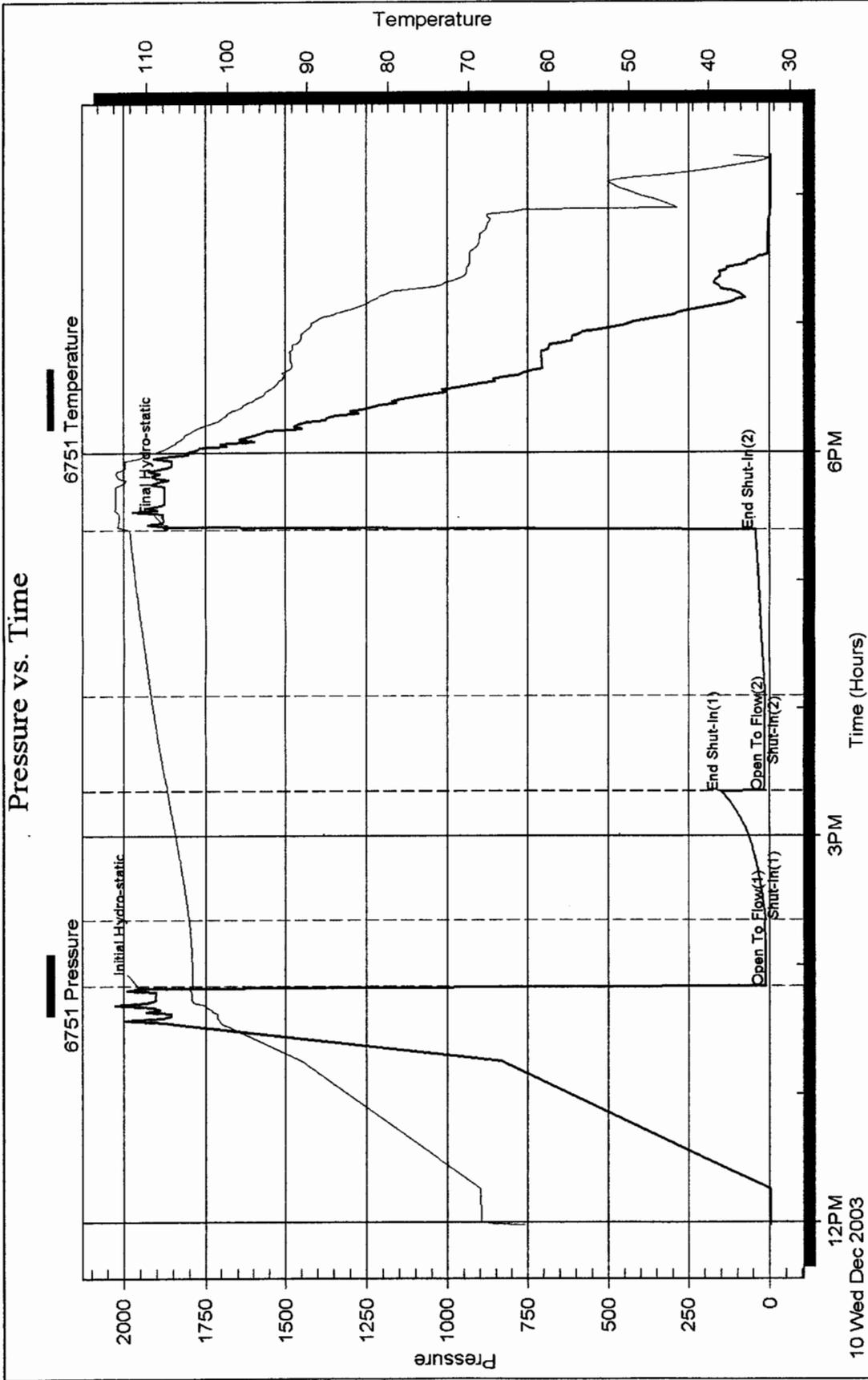
Serial #: 6751

Inside Raymond Oil Co. Inc.

34--30--13w

DST Test Number: 3

### Pressure vs. Time



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Tribite Testing, Inc

Ref. No: 17995

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

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## DRILL STEM TEST REPORT

Prepared For: **Raymond Oil Co. Inc.**

P.O.Box 48788  
Wichita, Ks. 67202

ATTN: Clark Sandberg

**34-30-13w**

**Lenkner # 1**

Start Date: 2003.12.11 @ 05:48:23

End Date: 2003.12.11 @ 17:29:08

Job Ticket #: 17996                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Raymond Oil Co. Inc.

Lenkner # 1

34-30-13w

DST # 4

Douglas Sand

2003.12.11



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Raymond Oil Co. Inc.

**Lenkner # 1**

P.O.Box 48788  
Wichita, Ks. 67202

**34-30-13w**

Job Ticket: 17996

**DST#: 4**

ATTN: Clark Sandberg

Test Start: 2003.12.11 @ 05:48:23

## GENERAL INFORMATION:

Formation: **Douglas Sand**  
 Deviated: **No Whipstock:** ft (KB)  
 Time Tool Opened: 10:05:38  
 Time Test Ended: 17:29:08

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Test Type: **Conventional Straddle**  
 Tester: **Nathan**  
 Unit No: **16**

Interval: **3921.00 ft (KB) To 3961.00 ft (KB) (TVD)**  
 Total Depth: **3978.00 ft (KB) (TVD)**  
 Hole Diameter: **7.88 inches** Hole Condition: **Poor**

Reference Elevations: **1888.00 ft (KB)**  
**1875.00 ft (CF)**  
 KB to GR/CF: **13.00 ft**

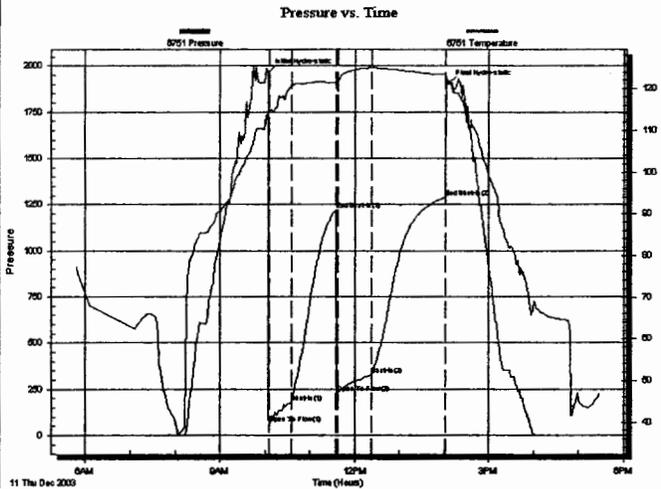
## Serial #: 6751

**Inside**

Press@RunDepth: **326.17 psig @ 3954.00 ft (KB)**  
 Start Date: **2003.12.11** End Date: **2003.12.11**  
 Start Time: **05:48:33** End Time: **17:29:07**

Capacity: **7000.00 psig**  
 Last Calib.: **1899.12.30**  
 Time On Btrn: **2003.12.11 @ 10:03:38**  
 Time Off Btrn: **2003.12.11 @ 14:05:53**

TEST COMMENT: IF- Strong blow building O.B.B. in 50 seconds  
 IS- Weak blow building to 6.5 inches  
 FF- Strong blow O.B.B. as soon as tool opened; GTS in 36 minutes  
 FS- Good blow building O.B.B. in 7 minutes



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1966.69	113.88	Initial Hydro-static
2	61.82	114.34	Open To Flow (1)
31	175.12	120.63	Shut-In(1)
91	1219.59	121.35	End Shut-In(1)
93	229.96	119.36	Open To Flow (2)
139	326.17	125.09	Shut-In(2)
238	1289.11	123.39	End Shut-In(2)
243	1900.98	121.84	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
434.00	20% mud 34% w ater 3% oil 43% gas	5.52
62.00	56% w ater 32% gas 10% mud 2% oil	0.87
248.00	gassy saltw ater	3.48
0.00	3241 feet of gas in pipe	0.00

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	1.00	5.76
Last Gas Rate	0.13	1.00	5.76



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Raymond Oil Co. Inc.

**Lenkner # 1**

P.O.Box 48788  
Wichita, Ks. 67202

**34-30-13w**

Job Ticket: 17996

**DST#: 4**

ATTN: Clark Sandberg

Test Start: 2003.12.11 @ 05:48:23

**Tool Information**

Drill Pipe:	Length: 3844.00 ft	Diameter: 3.80 inches	Volume: 53.92 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 62.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose: 76000.00 lb
			<u>Total Volume: 54.22 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3921.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	3961.00 ft			
Interval between Packers:	40.00 ft			
Tool Length:	79.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		
Tool Comments:				

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Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3900.00	
Shut In Tool	5.00			3905.00	
Hydraulic tool	5.00			3910.00	
Safety Joint	2.00			3912.00	
Packer	4.00			3916.00	22.00 Bottom Of Top Packer
Packer	5.00			3921.00	
Stubb	1.00			3922.00	
Change Over Sub	1.00			3923.00	
Blank Spacing	30.00			3953.00	
Change Over Sub	1.00			3954.00	
Recorder	0.00	6751	Inside	3954.00	
Perforations	7.00			3961.00	
Recorder	0.00	13630	Outside	3961.00	40.00 Tool Interval
Packer	1.00			3962.00	
Blank Off Sub	1.00			3963.00	
Perforations	12.00			3975.00	
Recorder	0.00	10242	Outside	3975.00	
Bullnose	3.00			3978.00	17.00 Bottom Packers & Anchor

**Total Tool Length: 79.00**



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**FLUID SUMMARY**

Raymond Oil Co. Inc.

**Lenkner # 1**

P.O.Box 48788  
Wichita, Ks. 67202

**34-30-13w**

Job Ticket: 17996

**DST#: 4**

ATTN: Clark Sandberg

Test Start: 2003.12.11 @ 05:48:23

### 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:

160000 ppm

Viscosity: 44.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 12.68 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 7000.00 ppm

Filter Cake: 0.02 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
434.00	20% mud 34% water 3% oil 43% gas	5.523
62.00	56% water 32% gas 10% mud 2% oil	0.870
248.00	gassy saltwater	3.479
0.00	3241 feet of gas in pipe	0.000

Total Length: 744.00 ft

Total Volume: 9.872 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

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**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**GAS RATES**

Raymond Oil Co. Inc.

**Lenkner # 1**

P.O.Box 48788  
Wichita, Ks. 67202

**34-30-13w**

Job Ticket: 17996

**DST#: 4**

ATTN: Clark Sandberg

Test Start: 2003.12.11 @ 05:48:23

### Gas Rates Information

Temperature: 59 deg C  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (mm)	Pressure (kPaa)	Gas Rate (m <sup>3</sup> /d)
2	40	0.13	1.00	5.76
2	45	0.13	1.00	5.76

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DST Test Number: 4

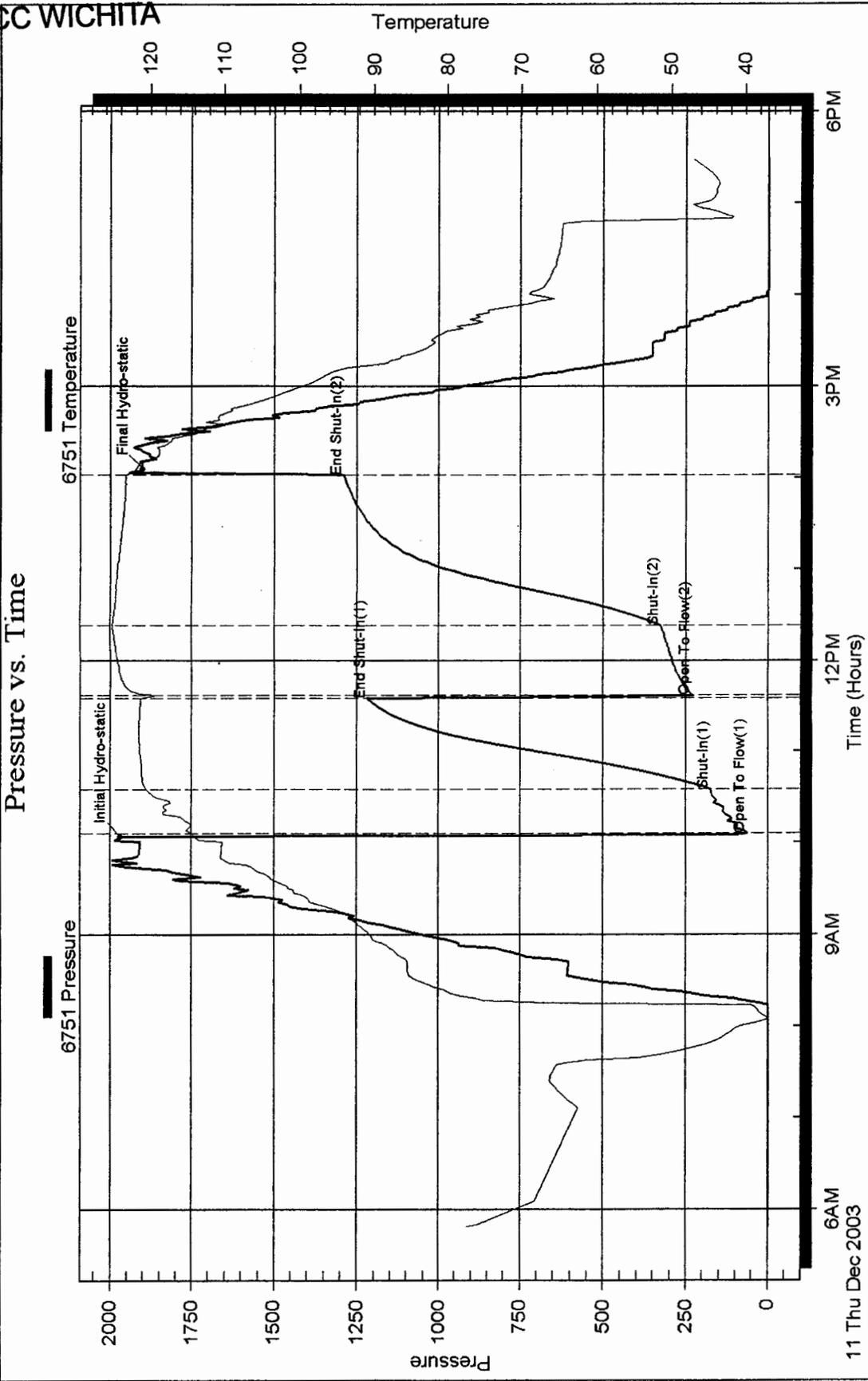
34--30--13w

Raymond Oil Co. Inc.

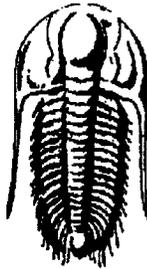
Inside

Serial #: 6751

### Pressure vs. Time



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

## DRILL STEM TEST REPORT

Prepared For: **Raymond Oil Co. Inc.**

P.O.Box 48788  
Wichita, Ks. 67202

ATTN: Clark Sandberg

**34-30-13w**

**Lenkner # 1**

Start Date: 2003.12.14 @ 19:37:17

End Date: 2003.12.15 @ 06:37:21

Job Ticket #: 17997                      DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Raymond Oil Co. Inc.

Lenkner # 1

34-30-13w

DST # 5

Mississippi

2003.12.14



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Raymond Oil Co. Inc.

**Lenkner # 1**

P.O.Box 48788  
Wichita, Ks. 67202

**34-30-13w**

Job Ticket: 17997

**DST#: 5**

ATTN: Clark Sandberg

Test Start: 2003.12.14 @ 19:37:17

**GENERAL INFORMATION:**

Formation: **Mississippi**  
 Deviated: **No** Whipstock: **ft (KB)**  
 Time Tool Opened: 23:35:22  
 Time Test Ended: 06:37:21

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Test Type: **Conventional Straddle**  
 Tester: **Nathan**  
 Unit No: **16**

Interval: **4449.00 ft (KB) To 4513.00 ft (KB) (TVD)**  
 Total Depth: **4675.00 ft (KB) (TVD)**  
 Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **1888.00 ft (KB)**  
**1875.00 ft (CF)**  
 KB to GR/CF: **13.00 ft**

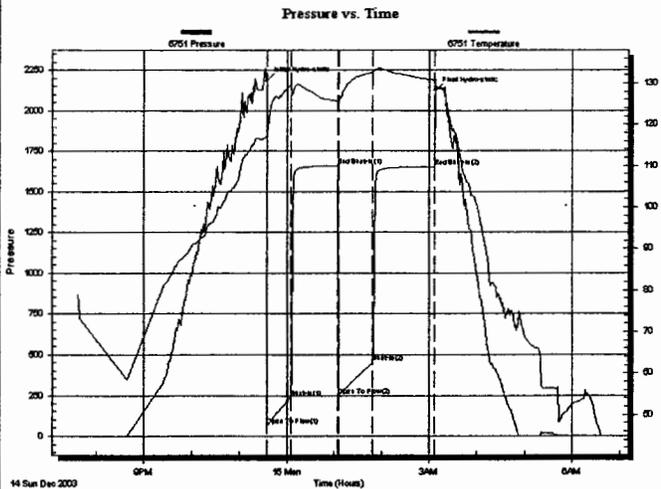
**Serial #: 6751**

**Inside**

Press@RunDepth: **449.85 psig @ 4484.00 ft (KB)**  
 Start Date: **2003.12.14** End Date: **2003.12.15**  
 Start Time: **19:37:17** End Time: **06:37:21**

Capacity: **7000.00 psig**  
 Last Calib.: **1899.12.30**  
 Time On Btm: **2003.12.14 @ 23:34:22**  
 Time Off Btm: **2003.12.15 @ 03:07:52**

**TEST COMMENT:** IF- Good blow building O.B.B. in 6 minutes 40 seconds  
 IS- Weak surface blow throughout  
 FF- Good blow building O.B.B. in 7 minutes 35 seconds  
 FS- Weak surface blow building to .5 inches



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2186.26	117.19	Initial Hydro-static
1	65.67	117.98	Open To Flow (1)
31	237.31	129.54	Shut-In(1)
91	1659.28	125.62	End Shut-In(1)
92	246.23	125.77	Open To Flow (2)
136	449.85	132.73	Shut-In(2)
214	1654.74	130.74	End Shut-In(2)
214	2124.63	130.91	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
620.00	GCMW 80% mud 10% gas 10% water	8.13
248.00	GCMW 80% water 12% gas 8% mud	3.48
0.00	186 feet of gas in pipe	0.00

**Gas Rates**

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



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Raymond Oil Co. Inc.  
P.O.Box 48788  
Wichita,Ks.67202  
ATTN: Clark Sandberg

**Lenkner # 1**  
**34-30-13w**  
Job Ticket: 17997      **DST#: 5**  
Test Start: 2003.12.14 @ 19:37:17

**Tool Information**

Drill Pipe:	Length: 4384.00 ft	Diameter: 3.80 inches	Volume: 61.50 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 62.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: 61.80 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4449.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	4513.00 ft			
Interval between Packers:	64.00 ft			
Tool Length:	250.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		
Tool Comments:				

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**KCC WICHITA**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4428.00	
Shut In Tool	5.00			4433.00	
Hydraulic tool	5.00			4438.00	
Safety Joint	2.00			4440.00	
Packer	4.00			4444.00	22.00      Bottom Of Top Packer
Packer	5.00			4449.00	
Stubb	1.00			4450.00	
Change Over Sub	1.00			4451.00	
Blank Spacing	32.00			4483.00	
Change Over Sub	1.00			4484.00	
Recorder	0.00	6751	Inside	4484.00	
Perforations	28.00			4512.00	
Recorder	0.00	13630	Outside	4512.00	
Blank Off Sub	1.00			4513.00	64.00      Tool Interval
Packer	2.00			4515.00	
Stubb	1.00			4516.00	
Change Over Sub	1.00			4517.00	
Blank Spacing	156.00			4673.00	
Change Over Sub	1.00			4674.00	
Recorder	0.00	10242	Outside	4674.00	
Bullnose	3.00			4677.00	164.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>250.00</b>				



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Raymond Oil Co. Inc.

**Lenkner # 1**

P.O.Box 48788  
Wichita, Ks. 67202

**34-30-13w**

Job Ticket: 17997

**DST#: 5**

ATTN: Clark Sandberg

Test Start: 2003.12.14 @ 19:37:17

**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:

72000 ppm

Viscosity: 42.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 15.90 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 0.02 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
620.00	GCMW 80% mud 10% gas 10% water	8.132
248.00	GCMW 80% water 12% gas 8% mud	3.479
0.00	186 feet of gas in pipe	0.000

Total Length: 868.00 ft      Total Volume: 11.611 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

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KCC WICHITA**

Serial #: 6751

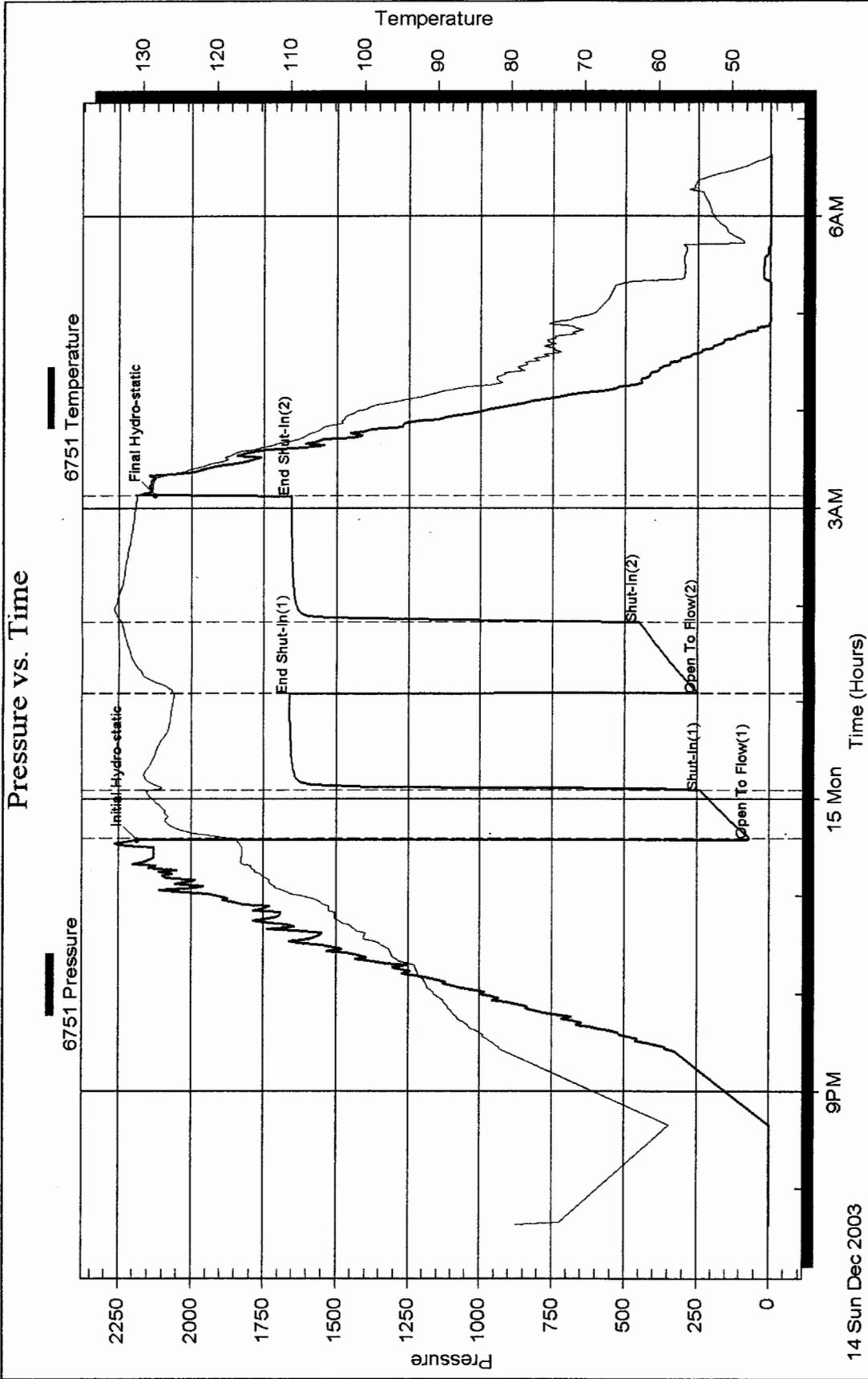
Inside

Raymond Oil Co. Inc.

34--30--13w

DST Test Number: 5

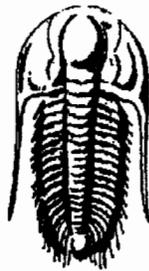
### Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 17997

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KCC WICHITA



**TRILOBITE  
TESTING, INC.**

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FEB 19 2004  
KCC WICHITA

## DRILL STEM TEST REPORT

Prepared For: **Raymond Oil Co. Inc.**

P.O.Box 48788  
Wichita, Ks. 67202

ATTN: Clark Sandberg

**34-30-13w**

**Lenkner # 1**

Start Date: 2003.12.15 @ 13:14:21

End Date: 2003.12.15 @ 22:30:06

Job Ticket #: 17998                      DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Raymond Oil Co. Inc.

Lenkner # 1

34-30-13w

DST # 6

Kansas City

2003.12.15



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Raymond Oil Co. Inc.

**Lenkner # 1**

P.O.Box 48788  
Wichita, Ks. 67202

**34-30-13w**

Job Ticket: 17998

**DST#: 6**

ATTN: Clark Sandberg

Test Start: 2003.12.15 @ 13:14:21

**GENERAL INFORMATION:**

Formation: **Kansas City**

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

Time Tool Opened: 15:23:21

Time Test Ended: 22:30:06

Interval: **4183.00 ft (KB) To 4207.00 ft (KB) (TVD)**

Total Depth: **4675.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Poor**

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Test Type: **Conventional Straddle**

Tester: **Nathan**

Unit No: **16**

Reference Elevations: **1888.00 ft (KB)**

**1875.00 ft (CF)**

KB to GR/CF: **13.00 ft**

**Serial #: 6751**

**Inside**

Press@RunDepth: **1479.25 psig @ 4184.00 ft (KB)**

Start Date: **2003.12.15**

End Date:

**2003.12.15**

Capacity: **7000.00 psig**

Last Calib.:

**1899.12.30**

Start Time: **13:14:31**

End Time:

**22:30:05**

Time On Btm:

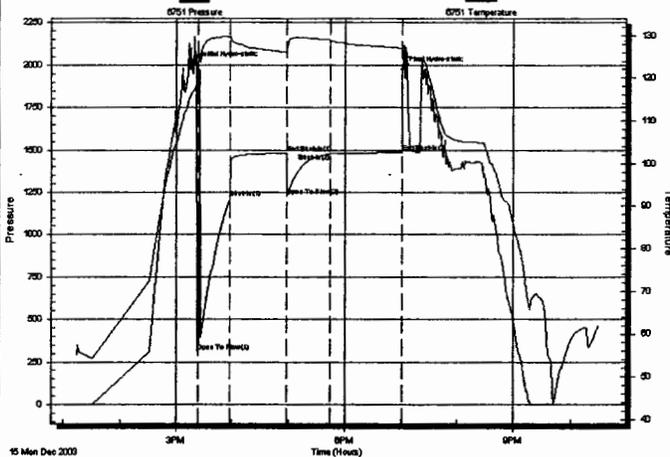
**2003.12.15 @ 15:21:06**

Time Off Btm:

**2003.12.15 @ 19:01:06**

**TEST COMMENT:** F- Strong blow O.B.B. in 50 seconds  
IS- Fair blow building to 4 inches  
FF- Strong blow O.B.B. in 30 seconds  
FS- Weak surface blow throughout

**Pressure vs. Time**



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2000.95	117.60	Initial Hydro-static
3	309.94	119.55	Open To Flow (1)
38	1218.85	129.71	Shut-In(1)
97	1481.49	126.05	End Shut-In(1)
98	1228.95	126.28	Open To Flow (2)
143	1479.25	128.89	Shut-In(2)
220	1484.89	127.02	End Shut-In(2)
221	1972.99	127.08	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
2976.00	Muddy salt water 86% water 14% mud	41.75

**Gas Rates**

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



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Raymond Oil Co. Inc.

**Lenkner # 1**

P.O.Box 48788  
Wichita, Ks. 67202

**34-30-13w**

Job Ticket: 17998

**DST#: 6**

ATTN: Clark Sandberg

Test Start: 2003.12.15 @ 13:14:21

**Tool Information**

Drill Pipe:	Length: 4190.00 ft	Diameter: 3.80 inches	Volume: 58.77 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 110000.0 lb
			<u>Total Volume: 58.77 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4183.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	4207.00 ft			
Interval between Packers:	24.00 ft			
Tool Length:	515.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments:  
Bottom packer did hold.

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Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4162.00	
Shut In Tool	5.00			4167.00	
Hydraulic tool	5.00			4172.00	
Safety Joint	2.00			4174.00	
Packer	4.00			4178.00	22.00 Bottom Of Top Packer
Packer	5.00			4183.00	
Stubb	1.00			4184.00	
Recorder	0.00	6751	Inside	4184.00	
Perforations	22.00			4206.00	
Recorder	0.00	13630	Outside	4206.00	
Blank Off Sub	1.00			4207.00	24.00 Tool Interval
Packer	1.00			4208.00	
Stubb	1.00			4209.00	
Change Over Sub	1.00			4210.00	
Blank Spacing	444.00			4654.00	
Change Over Sub	1.00			4655.00	
Perforations	18.00			4673.00	
Recorder	0.00	10242	Outside	4673.00	
Bullnose	3.00			4676.00	469.00 Bottom Packers & Anchor

**Total Tool Length: 515.00**



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Raymond Oil Co. Inc.

**Lenkner # 1**

P.O.Box 48788  
Wichita, Ks. 67202

**34-30-13w**

Job Ticket: 17998

**DST#: 6**

ATTN: Clark Sandberg

Test Start: 2003.12.15 @ 13:14:21

**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:

75000 ppm

Viscosity: 42.00 sec/qt

Cushion Volume:

bbl

Water Loss: 15.94 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 0.02 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
2976.00	Muddy saltwater 86%water 14%mud	41.745

Total Length: 2976.00 ft

Total Volume: 41.745 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

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KCC WICHITA**

Serial #: 6751

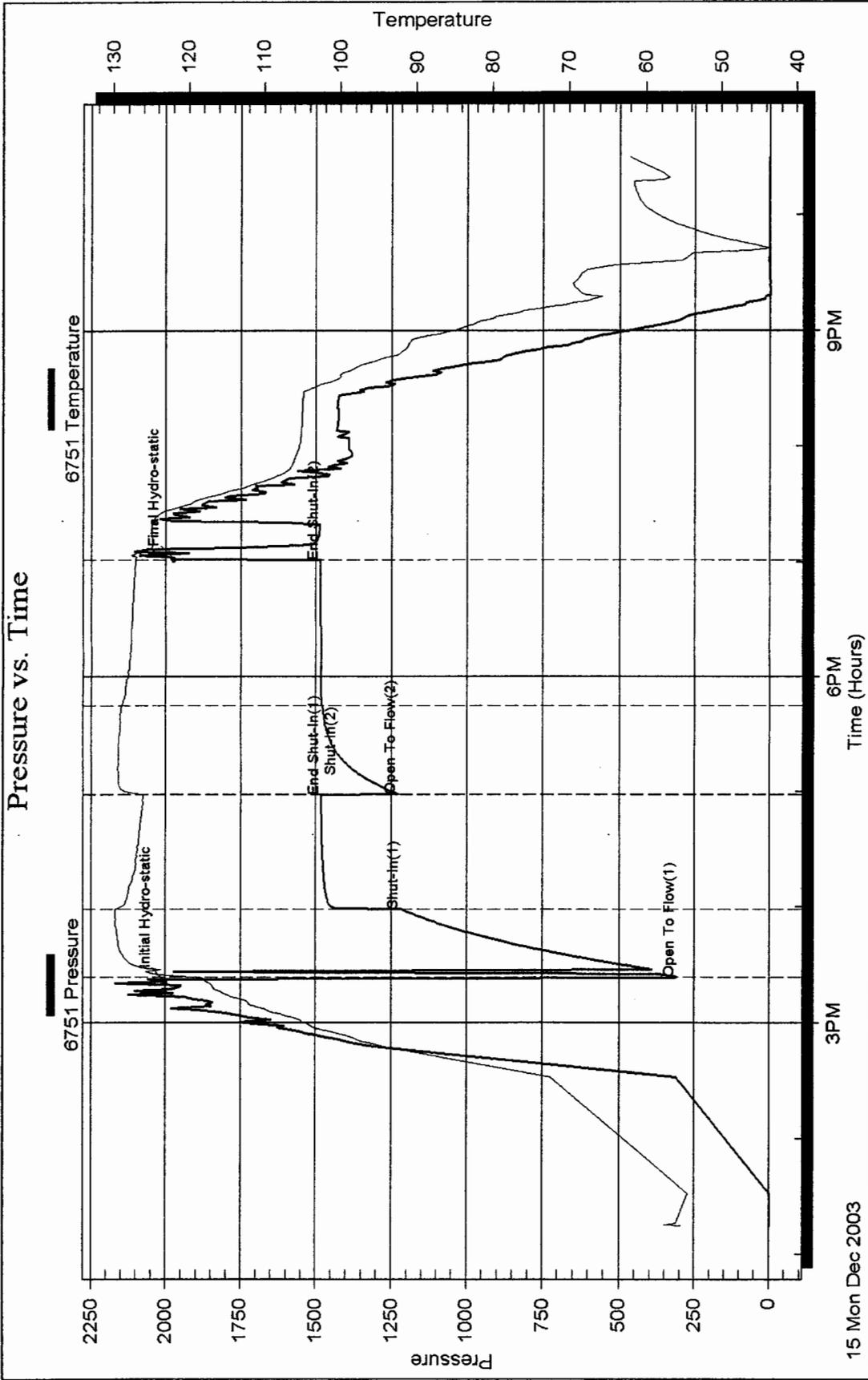
Inside

Raymond Oil Co. Inc.

34--30--13w

DST Test Number: 6

### Pressure vs. Time



15 Mon Dec 2003

3PM

6PM

9PM

Time (Hours)

6751 Pressure

6751 Temperature

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