



## DRILL STEM TEST REPORT

Prepared For: **Richardson Oil.**

1406 N.Charles  
Wichita, KS 67203

ATTN: Ken LeBlanc

**2-30S-19W**

**Parkin #2**

Start Date: 2004.11.08 @ 13:18:42

End Date: 2004.11.08 @ 21:34:27

Job Ticket #: 19202                      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

Richardson Oil.

**Parkin #2**

1406 N.Charles  
Wichita, KS 67203

**2-30S-19W**

Job Ticket: 19202

**DST#: 1**

ATTN: Ken LeBlanc

Test Start: 2004.11.08 @ 13:18:42

## GENERAL INFORMATION:

Formation: **Stotler**

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

Time Tool Opened: 15:36:42

Time Test Ended: 21:34:27

Test Type: **Conventional Bottom Hole**

Tester: **Darren L.Amerine**

Unit No: **30**

Interval: **3540.00 ft (KB) To 3550.00 ft (KB) (TVD)**

Reference Elevations: **2271.00 ft (KB)**

Total Depth: **3550.00 ft (KB) (TVD)**

**2266.00 ft (CF)**

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

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

## Serial #: 6625

**Inside**

Press@RunDepth: **130.80 psig @ 3542.00 ft (KB)**

Capacity: **7000.00 psig**

Start Date: **2004.11.08**

End Date:

**2004.11.08**

Last Calib.: **2004.11.08**

Start Time: **13:18:45**

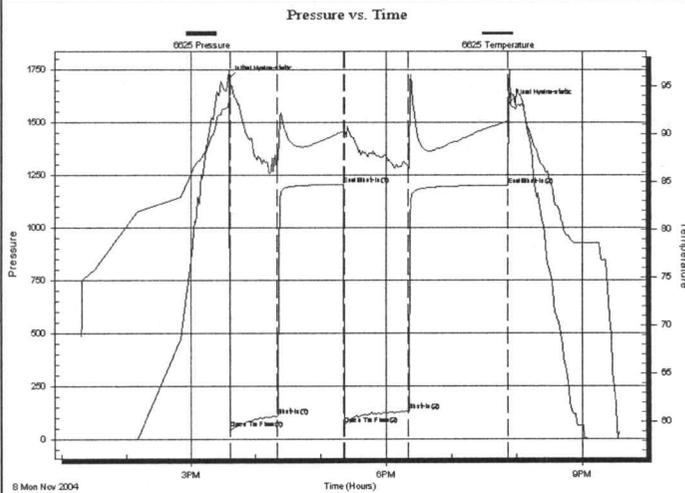
End Time:

**21:34:27**

Time On Btm: **2004.11.08 @ 15:34:57**

Time Off Btm: **2004.11.08 @ 19:52:57**

**TEST COMMENT:** IF: Strong blow b.o.b in 20 sec. slid tool 5' GTS in 5 mins. Gauge gas.  
IS: Bled down for 20 mins. no blow back.  
FF: Strong blow b.o.b in 10 sec. gauge gas.  
FSI: Bled down for 15 mins. no blow back.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1703.75	93.11	Initial Hydro-static
2	51.95	94.88	Open To Flow (1)
45	107.22	86.62	Shut-In(1)
106	1204.20	90.30	End Shut-In(1)
107	66.93	89.62	Open To Flow (2)
166	130.80	86.45	Shut-In(2)
258	1200.56	91.28	End Shut-In(2)
258	1589.54	94.97	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	3235' of gip	0.00
212.00	SGCWM 5% gas 20% mud 75% water	1.04
92.00	SGCWM 10% gas 65% mud 25% water	1.27

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.38	15.00	107.70
Last Gas Rate	0.38	44.50	215.76
Max. Gas Rate	0.38	44.50	215.76



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Richardson Oil.

**Parkin #2**

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Wichita, KS 67203

**2-30S-19W**

Job Ticket: 19202

**DST#: 1**

ATTN: Ken LeBlanc

Test Start: 2004.11.08 @ 13:18:42

**Tool Information**

Drill Pipe:	Length: 3326.00 ft	Diameter: 3.80 inches	Volume: 46.66 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 214.17 ft	Diameter: 2.25 inches	Volume: 1.05 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 47.71 bbl</u>	Tool Chased 5.00 ft
Drill Pipe Above KB:	24.17 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3540.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	10.00 ft			
Tool Length:	34.00 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			3517.00	
Shut In Tool	5.00			3522.00	
Hydraulic tool	5.00			3527.00	
Safety Joint	3.00			3530.00	
Packer	5.00			3535.00	24.00 Bottom Of Top Packer
Packer	5.00			3540.00	
Stubb	2.00			3542.00	
Recorder	0.00	6625	Inside	3542.00	
Anchor	5.00			3547.00	
Recorder	0.00	10332	Outside	3547.00	
Bullnose	3.00			3550.00	10.00 Bottom Packers & Anchor

**Total Tool Length: 34.00**



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FLUID SUMMARY

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**2-30S-19W**

Job Ticket: 19202

**DST#: 1**

ATTN: Ken LeBlanc

Test Start: 2004.11.08 @ 13:18:42

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 0.00 lb/gal	Cushion Length: ft	Water Salinity:	85000 ppm
Viscosity: 45.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.57 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 1.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 5000.00 ppm			
Filter Cake: 0.32 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	3235' of gip	0.000
212.00	SGCMW 5% gas 20% mud 75% water	1.043
92.00	SGCWM 10% gas 65% mud 25% water	1.271

Total Length: 304.00 ft      Total Volume: 2.314 bbl

Num Fluid Samples: 2

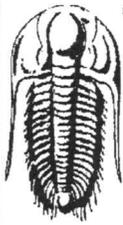
Num Gas Bombs: 0

Serial #:

Laboratory Name: Caraway

Laboratory Location: Liberal, KS

Recovery Comments: .09@70'degrees=85000



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**GAS RATES**

Richardson Oil.

**Parkin #2**

1406 N.Charles  
Wichita, KS 67203

**2-30S-19W**

Job Ticket: 19202

**DST#: 1**

ATTN: Ken LeBlanc

Test Start: 2004.11.08 @ 13:18:42

## 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)
1	10	0.38	15.00	107.70
1	10	0.38	15.00	107.70
1	10	0.38	15.00	107.70
1	15	0.38	19.00	122.35
1	20	0.38	25.00	144.33
1	25	0.38	29.50	160.82
1	30	0.38	32.00	169.97
1	35	0.38	35.00	180.96
1	40	0.38	36.50	186.46
1	45	0.38	37.50	190.12
2	5	0.38	29.00	158.98
2	10	0.38	35.00	180.96
2	15	0.38	39.00	195.62
2	20	0.38	41.00	202.94
2	25	0.38	42.00	206.61
2	30	0.38	42.50	208.44
2	35	0.38	43.00	210.27
2	40	0.38	43.50	212.10
2	45	0.38	44.00	213.93
2	50	0.38	44.00	213.93
2	55	0.38	44.50	215.76

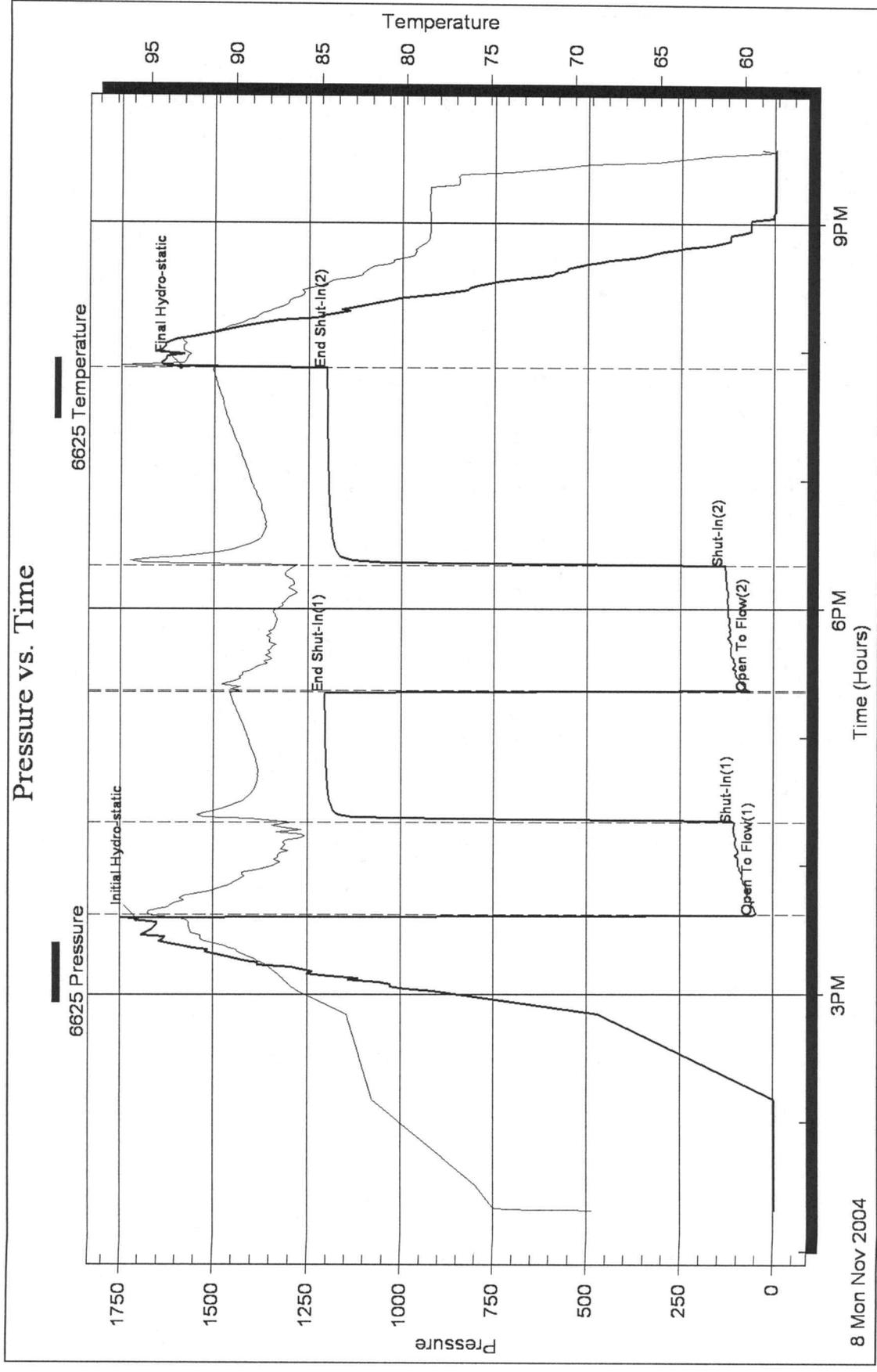
Serial #: 6625

Inside

Richardson Oil.

2-30S-19W

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Richardson Oil.**

1406 N.Charles  
Wichita, KS 67203

ATTN: Ken LeBlanc

**2-30S-19W**

**Parkin #2**

Start Date: 2004.11.12 @ 05:55:57

End Date: 2004.11.12 @ 14:31:42

Job Ticket #: 19243                      DST #: 2

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
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**TRILOBITE  
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## DRILL STEM TEST REPORT

Richardson Oil.

**Parkin #2**

1406 N.Charles  
Wichita, KS 67203

**2-30S-19W**

Job Ticket: 19243

**DST#: 2**

ATTN: Ken LeBlanc

Test Start: 2004.11.12 @ 05:55:57

### GENERAL INFORMATION:

Formation: **MM Alt., Pawnee, Ft. Sc**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:56:12

Time Test Ended: 14:31:42

Test Type: Conventional Bottom Hole

Tester: Steve Clark

Unit No: 19

Interval: **4810.00 ft (KB) To 4986.00 ft (KB) (TVD)**

Total Depth: 4986.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2271.00 ft (KB)

2266.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 6667** Inside

Press@RunDepth: 103.78 psig @ 4811.00 ft (KB)

Start Date: 2004.11.12

End Date: 2004.11.12

Start Time: 05:56:07

End Time: 14:31:41

Capacity: 7000.00 psig

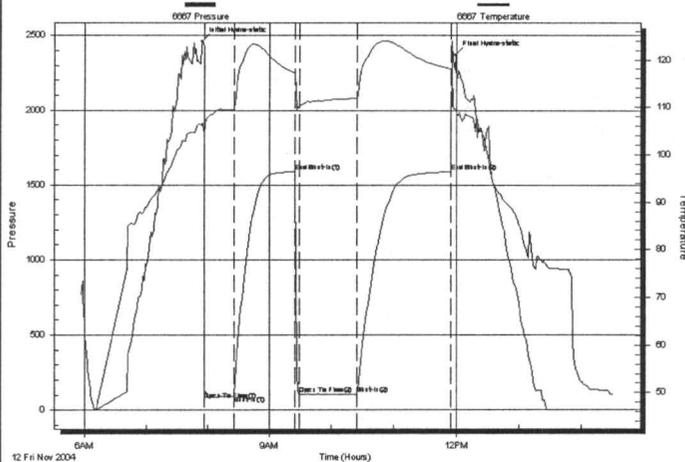
Last Calib.: 2004.11.12

Time On Btm: 2004.11.12 @ 07:54:12

Time Off Btm: 2004.11.12 @ 11:58:42

**TEST COMMENT:** IF-Srtg blw b.o.b., 4min, GTS-12min, gauge 8#@1/8=7.9mcf  
 IS-After bleed off, 1/8"blw, died 10min  
 FF-Strg blw b.o.b., gauge--1hr, 7#@3/16=17.4mcf  
 FS-After bleed off, 1/8"blw died 10min.

Pressure vs. Time



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2464.63	106.40	Initial Hydro-static
2	63.22	104.35	Open To Flow (1)
31	97.46	109.53	Shut-In(1)
91	1589.00	117.21	End Shut-In(1)
95	105.11	110.20	Open To Flow (2)
151	103.78	111.83	Shut-In(2)
241	1588.06	118.10	End Shut-In(2)
245	2373.95	109.45	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
300.00	Gassy Drilling mud	2.02

### Gas Rates

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



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## DRILL STEM TEST REPORT

TOOL DIAGRAM

Richardson Oil.

**Parkin #2**

1406 N.Charles  
Wichita, KS 67203

**2-30S-19W**

Job Ticket: 19243

**DST#: 2**

ATTN: Ken LeBlanc

Test Start: 2004.11.12 @ 05:55:57

### Tool Information

Drill Pipe:	Length: 4566.00 ft	Diameter: 3.80 inches	Volume: 64.05 bbl	Tool Weight: 2500.00 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: 240.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 65.23 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4810.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	176.00 ft			
Tool Length:	200.00 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			4787.00	
Shut In Tool	5.00			4792.00	
Hydraulic tool	5.00			4797.00	
Safety Joint	3.00			4800.00	
Packer	5.00			4805.00	24.00 Bottom Of Top Packer
Packer	5.00			4810.00	
Perforations	1.00			4811.00	
Recorder	0.00	6667	Inside	4811.00	
Perforations	17.00			4828.00	
Change Over Sub	1.00			4829.00	
Change Over Sub	1.00			4830.00	
Drill Pipe	153.00			4983.00	
Change Over Sub	1.00			4984.00	
Recorder	0.00	11019	Outside	4984.00	
Bullnose	2.00			4986.00	176.00 Bottom Packers & Anchor

**Total Tool Length: 200.00**



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**2-30S-19W**

Job Ticket: 19243

**DST#: 2**

ATTN: Ken LeBlanc

Test Start: 2004.11.12 @ 05:55:57

**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: 46.00 sec/qt

Cushion Volume:

bbl

Water Loss: 9.37 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 85000.00 ppm

Filter Cake: inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
300.00	Gassy Drilling mud	2.022

Total Length: 300.00 ft

Total Volume: 2.022 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6667

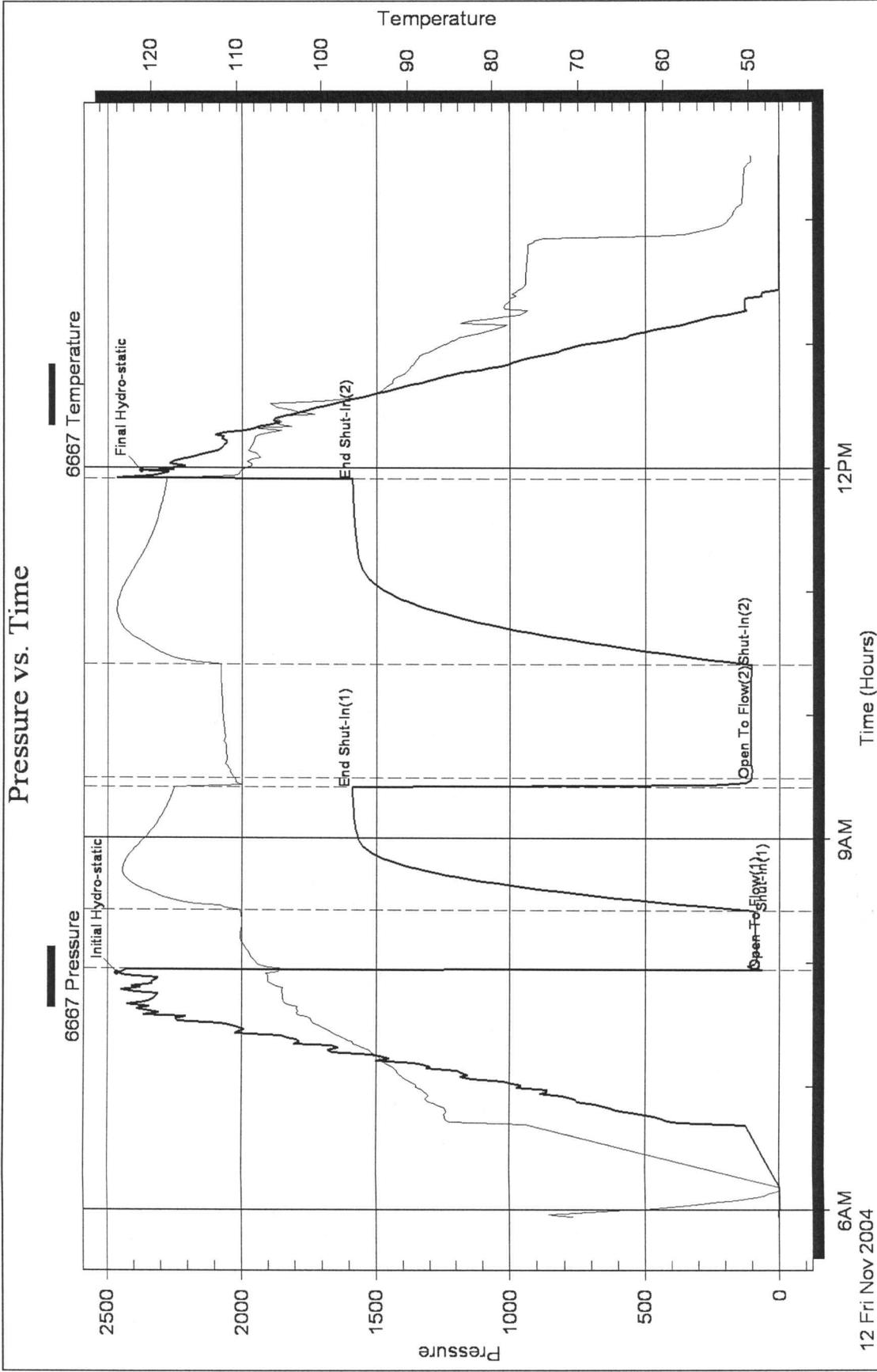
Inside

Richardson Oil.

2-30S-19W

DST Test Number: 2

### Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **Richardson Oil.**

1406 N.Charles  
Wichita, KS 67203

ATTN: Ken LeBlanc

**2-30S-19W**

**Parkin #2**

Start Date: 2004.11.13 @ 02:09:42

End Date: 2004.11.13 @ 09:28:57

Job Ticket #: 19244                      DST #: 3

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
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# DRILL STEM TEST REPORT

Richardson Oil.

**Parkin #2**

1406 N.Charles  
Wichita, KS 67203

**2-30S-19W**

Job Ticket: 19244

**DST#: 3**

ATTN: Ken LeBlanc

Test Start: 2004.11.13 @ 02:09:42

## GENERAL INFORMATION:

Formation: **Mississippian**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:29:27

Time Test Ended: 09:28:57

Test Type: Conventional Bottom Hole

Tester: Steve Clark

Unit No: 19

Interval: **5028.00 ft (KB) To 5060.00 ft (KB) (TVD)**

Reference Elevations: 2271.00 ft (KB)

Total Depth: 5060.00 ft (KB) (TVD)

2266.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6667** Inside

Press@RunDepth: 28.71 psig @ 5029.00 ft (KB)

Capacity: 7000.00 psig

Start Date: 2004.11.13

End Date:

2004.11.13

Last Calib.: 2004.11.13

Start Time: 02:09:52

End Time:

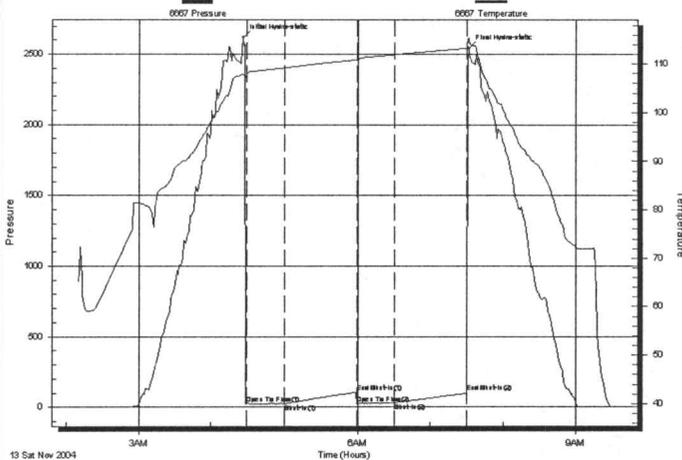
09:28:57

Time On Btm: 2004.11.13 @ 04:26:27

Time Off Btm: 2004.11.13 @ 07:31:27

TEST COMMENT: IF-Wk blw ,3" 30 min.  
IS- After bleed off,blw died  
FF-Wk blw ,21/2" 30min.  
FSI-After bleed off,blw died

Pressure vs. Time



## PRESSURE SUMMARY

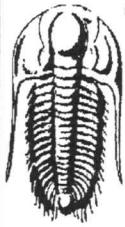
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2617.24	107.87	Initial Hydro-static
3	23.14	107.85	Open To Flow (1)
34	24.98	109.16	Shut-In(1)
93	105.28	110.82	End Shut-In(1)
93	21.81	110.81	Open To Flow (2)
124	28.71	111.90	Shut-In(2)
184	104.69	113.22	End Shut-In(2)
185	2542.17	115.38	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	Drilling mud	0.10

## Gas Rates

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



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TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Richardson Oil.

**Parkin #2**

1406 N.Charles  
Wichita, KS 67203

**2-30S-19W**

Job Ticket: 19244

**DST#: 3**

ATTN: Ken LeBlanc

Test Start: 2004.11.13 @ 02:09:42

### Tool Information

Drill Pipe:	Length: 4774.00 ft	Diameter: 3.80 inches	Volume: 66.97 bbl	Tool Weight: 2500.00 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: 240.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 68.15 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	5028.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	32.00 ft			
Tool Length:	56.00 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			5005.00	
Shut In Tool	5.00			5010.00	
Hydraulic tool	5.00			5015.00	
Safety Joint	3.00			5018.00	
Packer	5.00			5023.00	24.00 Bottom Of Top Packer
Packer	5.00			5028.00	
Perforations	1.00			5029.00	
Recorder	0.00	6667	Inside	5029.00	
Perforations	28.00			5057.00	
Recorder	0.00	11019	Outside	5057.00	
Bullnose	3.00			5060.00	32.00 Bottom Packers & Anchor

**Total Tool Length: 56.00**



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Job Ticket: 19244

**DST#: 3**

ATTN: Ken LeBlanc

Test Start: 2004.11.13 @ 02:09:42

### Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 10.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 49.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.38 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 8200.00 ppm			
Filter Cake: inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	Drilling mud	0.098

Total Length: 20.00 ft      Total Volume: 0.098 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6667

Inside

Richardson Oil.

2-30S-19W

DST Test Number: 3

### Pressure vs. Time

