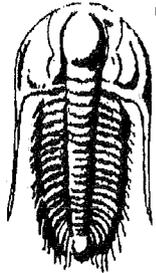


22-14s-16w

22-14s-16w
SE 3N 3E
SE NE SE



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **TDI Oil Operations**

1310 Bison Road
Hays KS 67601

ATTN: Tom Denning

22 14 16W Ellis KS

Tholen #9

Start Date: 2007.10.16 @ 13:25:10

End Date: 2007.10.16 @ 17:57:04

Job Ticket #: 30044 DST #: 1

15-051-25697

1625 FSL + 330 FEL

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

TDI Oil Operations

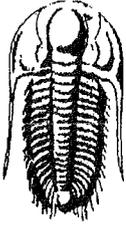
Tholen #9

22 14 16W Ellis KS

DST # 1

Tarkio

2007.10.16



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI Oil Operations

Tholen #9

1310 Bison Road
Hays KS 67601

22 14 16W Ellis KS

ATTN: Tom Denning

Job Ticket: 30044

DST#: 1

Test Start: 2007.10.16 @ 13:25:10

GENERAL INFORMATION:

Formation: **Tarkio**

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

Time Tool Opened: 15:25:35

Time Test Ended: 17:57:04

Test Type: **Conventional Bottom Hole**

Tester: **Ray Schwager**

Unit No: **42**

Interval: **2436.00 ft (KB) To 2475.00 ft (KB) (TVD)**

Reference Elevations: **1898.00 ft (KB)**

Total Depth: **2475.00 ft (KB) (TVD)**

1893.00 ft (CF)

Hole Diameter: **7.85 inches** Hole Condition: **Poor**

KB to GR/CF: 5.00 ft

Serial #: 6672 **Inside**

Press@RunDepth: **16.44 psig @ 2443.01 ft (KB)**

Capacity: **7000.00 psig**

Start Date: **2007.10.16**

End Date: **2007.10.16**

Last Calib.: **2007.10.16**

Start Time: **13:25:10**

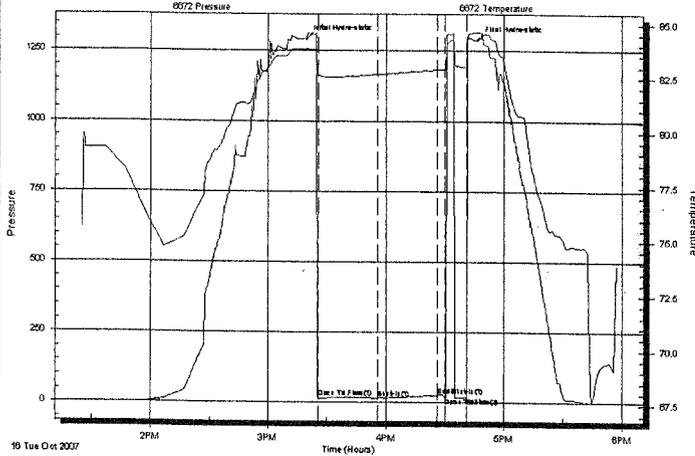
End Time: **17:57:04**

Time On Btm: **2007.10.16 @ 15:20:05**

Time Off Btm: **2007.10.16 @ 16:46:35**

TEST COMMENT: IFP Surface bl died in 5 min
FFP No bl flushed tool
Times 30 30 10 out

Pressure vs. Time



PRESSURE SUMMARY

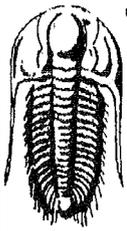
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1290.90	83.85	Initial Hydro-static
6	16.49	82.69	Open To Flow (1)
36	16.44	82.68	Shut-In(1)
66	26.52	82.90	End Shut-In(1)
70	16.95	82.91	Open To Flow (2)
81	17.58	83.04	Shut-In(2)
87	1287.41	84.63	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	M	0.07

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI Oil Operations

Tholen #9

1310 Bison Road
Hays KS 67601

22 14 16W Ellis KS

Job Ticket: 30044

DST#: 1

ATTN: Tom Denning

Test Start: 2007.10.16 @ 13:25:10

Tool Information

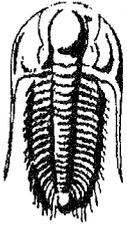
Drill Pipe:	Length: 2442.00 ft	Diameter: 3.80 inches	Volume: 34.25 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 30000.00 lb
			<u>Total Volume: 34.25 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 22000.00 lb
Depth to Top Packer:	2436.00 ft			Final 22000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	39.02 ft			
Tool Length:	60.02 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			2416.00	
Shut In Tool	5.00			2421.00	
Hydraulic tool	5.00			2426.00	
Packer	5.00			2431.00	21.00 Bottom Of Top Packer
Packer	5.00			2436.00	
Stubb	1.00			2437.00	
Perforations	6.00			2443.00	
Recorder	0.01	6672	Inside	2443.01	
Perforations	29.00			2472.01	
Recorder	0.01	13534	Outside	2472.02	
Bullnose	3.00			2475.02	39.02 Bottom Packers & Anchor

Total Tool Length: 60.02



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI Oil Operations

Tholen #9

1310 Bison Road
Hays KS 67601

22 14 16W Ellis KS

Job Ticket: 30044

DST#: 1

ATTN: Tom Denning

Test Start: 2007.10.16 @ 13:25:10

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 10.00 lb/gal

Viscosity: 52.00 sec/qt

Water Loss: 9.94 in³

Resistivity: ohm.m

Salinity: 88000.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

Water Salinity:

deg API

ppm

ft

bbl

psig

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	M	0.070

Total Length: 5.00 ft

Total Volume: 0.070 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

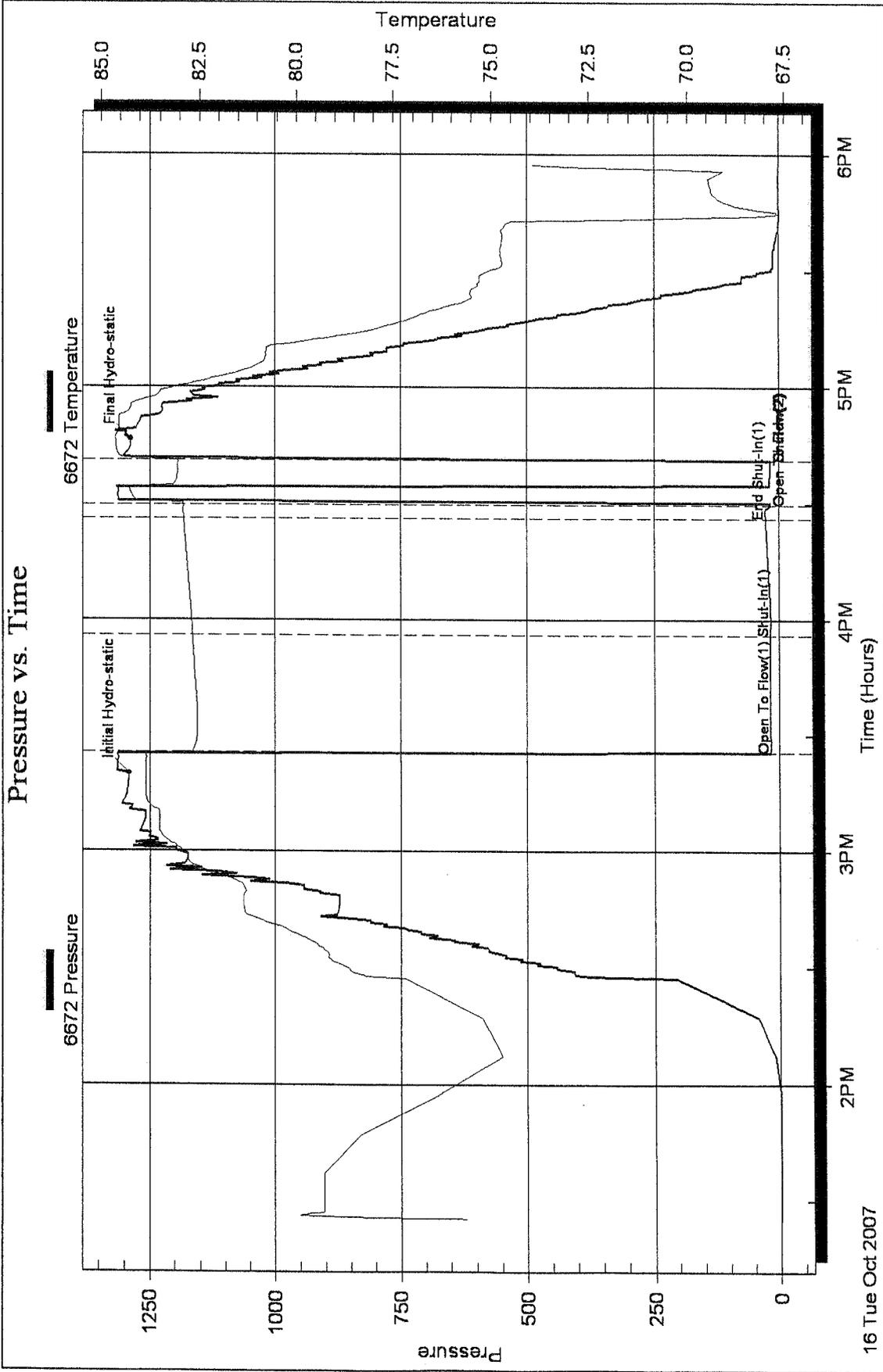
Serial #:

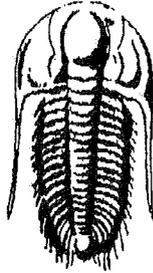
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **TDI Oil Operations**

1310 Bison Road
Hays KS 67601

ATTN: Tom Denning

22 14 16W Ellis KS

Tholen #9

Start Date: 2007.10.16 @ 23:45:07

End Date: 2007.10.17 @ 03:15:02

Job Ticket #: 30045 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

TDI Oil Operations

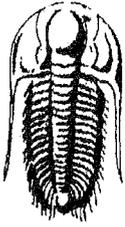
Tholen #9

22 14 16W Ellis KS

DST # 2

Tarkio

2007.10.16



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TDI Oil Operations

1310 Bison Road
Hays KS 67601

ATTN: Tom Denning

Tholen #9

22 14 16W Ellis KS

Job Ticket: 30045

DST#: 2

Test Start: 2007.10.16 @ 23:45:07

GENERAL INFORMATION:

Formation: **Tarkio**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:59:32

Time Test Ended: 03:15:02

Test Type: Conventional Bottom Hole

Tester: Ray Schwager

Unit No: 42

Interval: **2475.00 ft (KB) To 2515.00 ft (KB) (TVD)**

Total Depth: 2515.00 ft (KB) (TVD)

Hole Diameter: 7.85 inches Hole Condition: Poor

Reference Elevations: 1898.00 ft (KB)

1893.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6672 Inside

Press@RunDepth: 16.70 psig @ 2483.01 ft (KB)

Start Date: 2007.10.16

End Date: 2007.10.17

Capacity: 7000.00 psig

Last Calib.: 2007.10.17

Start Time: 23:45:07

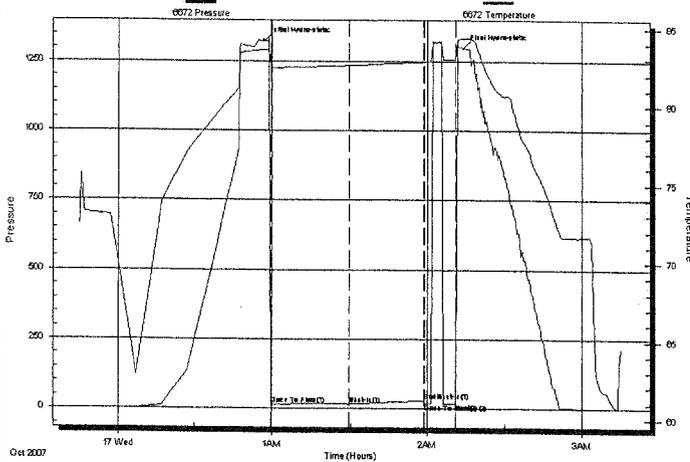
End Time: 03:15:02

Time On Btm: 2007.10.17 @ 00:57:02

Time Off Btm: 2007.10.17 @ 02:14:02

TEST COMMENT: IFP Surface bl died in 20 min
FFP No bl flushed tool got surge after flush
Times 30 30 10 out

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1323.04	83.64	Initial Hydro-static
3	16.65	82.52	Open To Flow (1)
33	16.70	82.64	Shut-In(1)
62	29.49	82.88	End Shut-In(1)
62	17.66	82.87	Open To Flow (2)
74	18.58	83.04	Shut-In(2)
77	1297.30	84.37	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	M	0.14

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI Oil Operations

Tholen #9

1310 Bison Road
Hays KS 67601

22 14 16W Ellis KS

Job Ticket: 30045

DST#: 2

ATTN: Tom Denning

Test Start: 2007.10.16 @ 23:45:07

Tool Information

Drill Pipe:	Length: 2470.00 ft	Diameter: 3.80 inches	Volume: 34.65 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	30000.00 lb
			<u>Total Volume: 34.65 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial	22000.00 lb
Depth to Top Packer:	2475.00 ft			Final	22000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	40.02 ft				
Tool Length:	61.02 ft				
Number of Packers:	2	Diameter: 6.75 inches			

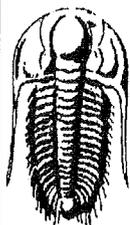
Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			2455.00	
Shut In Tool	5.00			2460.00	
Hydraulic tool	5.00			2465.00	
Packer	5.00			2470.00	21.00 Bottom Of Top Packer
Packer	5.00			2475.00	
Stubb	1.00			2476.00	
Perforations	7.00			2483.00	
Recorder	0.01	6672	inside	2483.01	
Perforations	29.00			2512.01	
Recorder	0.01	13534	Outside	2512.02	
Bullnose	3.00			2515.02	40.02 Bottom Packers & Anchor

Total Tool Length: 61.02



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI Oil Operations

Tholen #9

1310 Bison Road
Hays KS 67601

22 14 16W Ellis KS

Job Ticket: 30045

DST#: 2

ATTN: Tom Denning

Test Start: 2007.10.16 @ 23:45:07

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: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.93 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 88000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
10.00	M	0.140

Total Length: 10.00 ft

Total Volume: 0.140 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

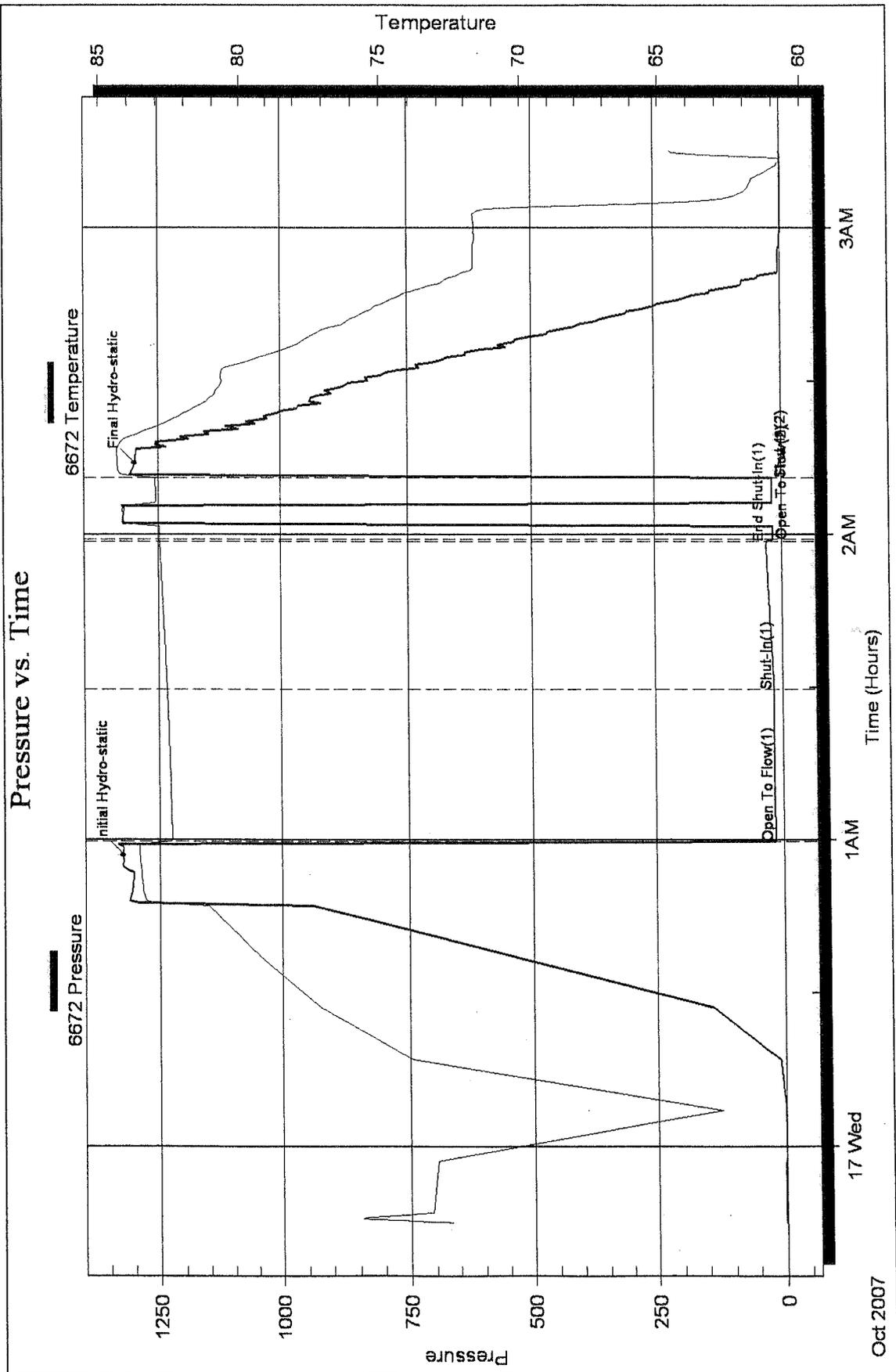
Serial #:

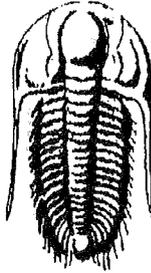
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **TDI Oil Operations**

1310 Bison Road
Hays KS 67601

ATTN: Tom Denning

22 14 16W Ellis KS

Tholen #9

Start Date: 2007.10.17 @ 15:12:06

End Date: 2007.10.17 @ 18:39:01

Job Ticket #: 30046 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

TDI Oil Operations

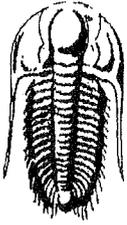
Tholen #9

22 14 16W Ellis KS

DST # 3

Tarkio

2007.10.17



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TDI Oil Operations

1310 Bison Road
Hays KS 67601

ATTN: Tom Denning

Tholen #9

22 14 16W Ellis KS

Job Ticket: 30046

DST#: 3

Test Start: 2007.10.17 @ 15:12:06

GENERAL INFORMATION:

Formation: **Tarkio**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:23:31

Time Test Ended: 18:39:01

Test Type: Conventional Bottom Hole

Tester: Ray Schwager

Unit No: 42

Interval: **2636.00 ft (KB) To 2665.00 ft (KB) (TVD)**

Total Depth: 2665.00 ft (KB) (TVD)

Hole Diameter: 7.85 inches Hole Condition: Poor

Reference Elevations: 1898.00 ft (KB)

1893.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6672 Inside

Press@RunDepth: 23.48 psig @ 2637.01 ft (KB)

Start Date: 2007.10.17

End Date:

2007.10.17

Start Time: 15:12:06

End Time:

18:39:01

Capacity: 7000.00 psig

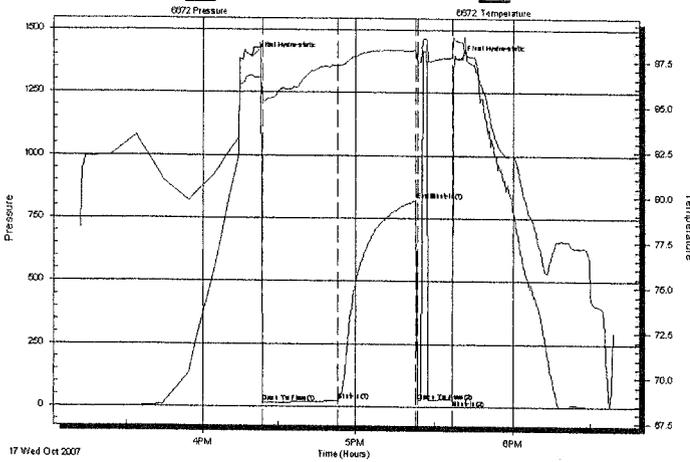
Last Calib.: 2007.10.17

Time On Btm: 2007.10.17 @ 16:19:31

Time Off Btm: 2007.10.17 @ 17:39:31

TEST COMMENT: IFP Wk bl thru-out surface bl
FFP No bl flushed tool got surge after flush
Times 30 30 10 out

Pressure vs. Time



PRESSURE SUMMARY

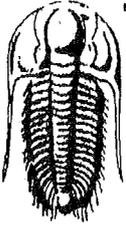
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1393.72	86.69	Initial Hydro-static
4	15.34	85.34	Open To Flow (1)
34	23.48	87.27	Shut-In(1)
64	821.76	88.10	End Shut-In(1)
64	25.48	87.42	Open To Flow (2)
77	31.12	87.73	Shut-In(2)
80	1384.54	88.60	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	M	0.28

Gas Rates

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



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI Oil Operations

Tholen #9

1310 Bison Road
Hays KS 67601

22 14 16W Ellis KS

Job Ticket: 30046

DST#: 3

ATTN: Tom Denning

Test Start: 2007.10.17 @ 15:12:06

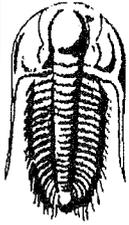
Tool Information

Drill Pipe:	Length: 2630.00 ft	Diameter: 3.80 inches	Volume: 36.89 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	30000.00 lb
			<u>Total Volume: 36.89 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial	22000.00 lb
Depth to Top Packer:	2636.00 ft			Final	22000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	29.02 ft				
Tool Length:	50.02 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			2616.00	
Shut In Tool	5.00			2621.00	
Hydraulic tool	5.00			2626.00	
Packer	5.00			2631.00	21.00 Bottom Of Top Packer
Packer	5.00			2636.00	
Stubb	1.00			2637.00	
Recorder	0.01	6672	Inside	2637.01	
Perforations	25.00			2662.01	
Recorder	0.01	13534	Outside	2662.02	
Bullnose	3.00			2665.02	29.02 Bottom Packers & Anchor
Total Tool Length:	50.02				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI Oil Operations

Tholen #9

1310 Bison Road
Hays KS 67601

22 14 16W Ellis KS

Job Ticket: 30046

DST#: 3

ATTN: Tom Denning

Test Start: 2007.10.17 @ 15:12:06

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 10.00 lb/gal

Viscosity: 47.00 sec/qt

Water Loss: 11.16 in³

Resistivity: ohm.m

Salinity: 82000.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	M	0.281

Total Length: 20.00 ft Total Volume: 0.281 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

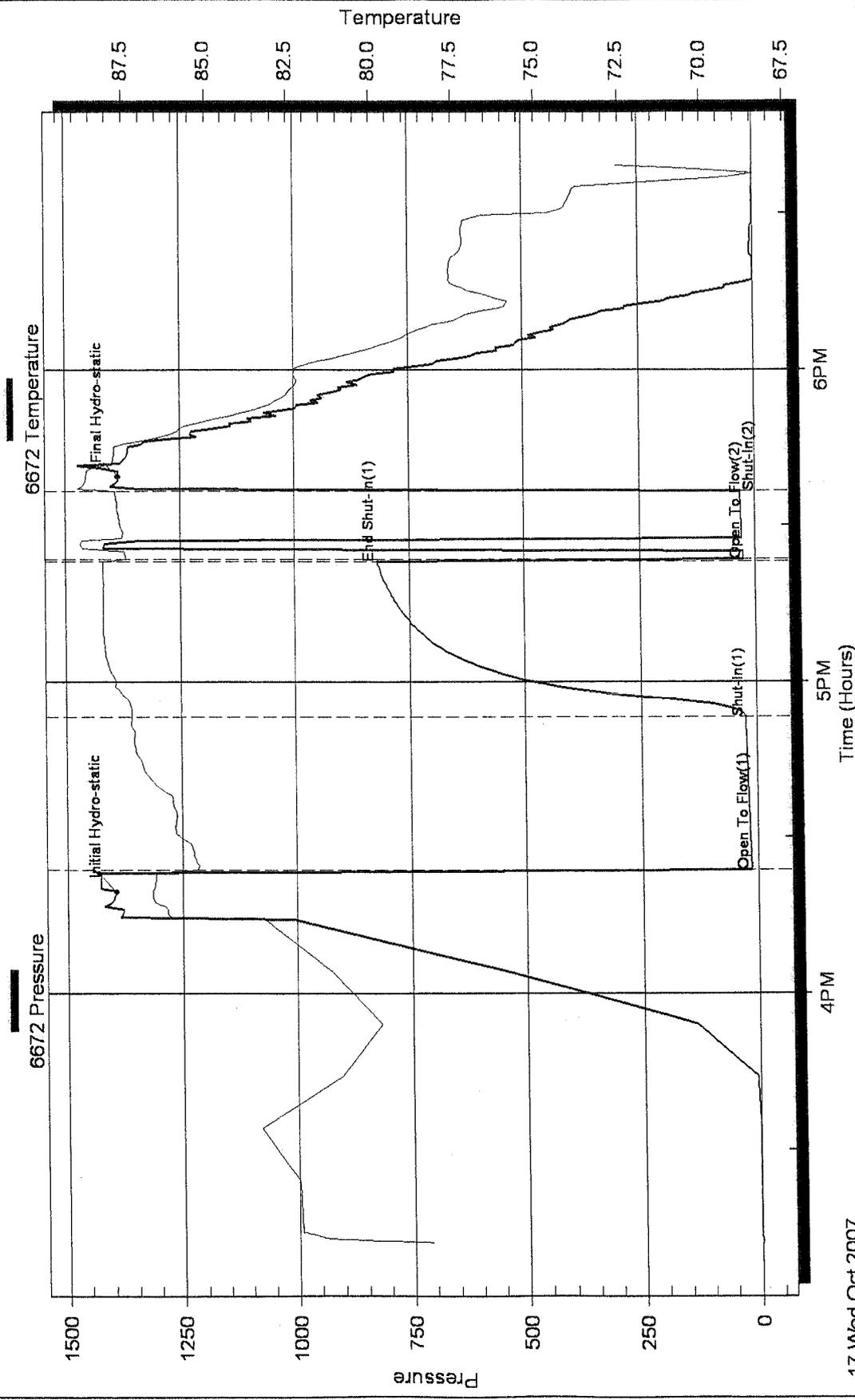
Serial #:

Laboratory Name:

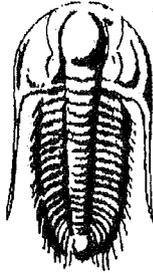
Laboratory Location:

Recovery Comments:

Pressure vs. Time



17 Wed Oct 2007



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **TDI Oil Operations**

1310 Bison Road
Hays KS 67601

ATTN: Tom Denning

22 14 16W Ellis KS

Tholen #9

Start Date: 2007.10.20 @ 14:22:06

End Date: 2007.10.20 @ 20:42:06

Job Ticket #: 30711 DST #: 4

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TDI Oil Operations

1310 Bison Road
Hays KS 67601

ATTN: Tom Denning

Tholen #9

22 14 16W Ellis KS

Job Ticket: 30711

DST#: 4

Test Start: 2007.10.20 @ 14:22:06

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:45:06

Time Test Ended: 20:42:06

Test Type: Conventional Straddle

Tester: John Schmidt

Unit No: 31

Interval: **3354.00 ft (KB) To 3432.00 ft (KB) (TVD)**

Total Depth: 3500.00 ft (KB) (TVD)

Hole Diameter: 7.85 inches Hole Condition: Fair

Reference Elevations: 1898.00 ft (KB)

1893.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6669

Inside

Press@RunDepth: 68.39 psig @ 3357.00 ft (KB)

Start Date: 2007.10.20

End Date: 2007.10.20

Capacity: 7000.00 psig

Last Calib.: 2007.10.20

Start Time: 14:22:11

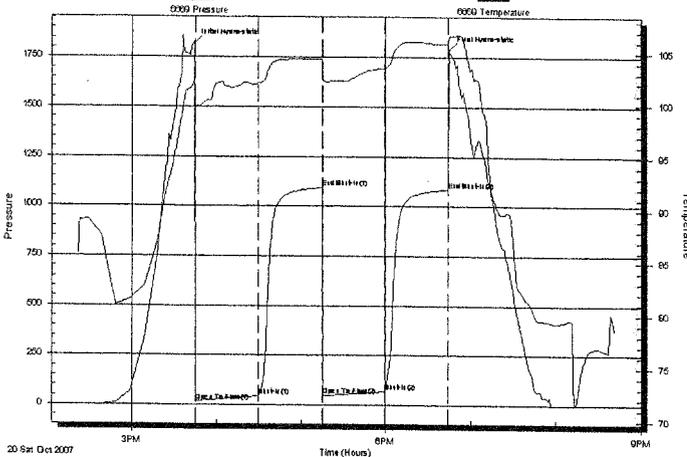
End Time: 20:42:05

Time On Btm: 2007.10.20 @ 15:44:36

Time Off Btm: 2007.10.20 @ 18:45:06

TEST COMMENT: IF Weak to good built to 7 "
ISI Dead
FF Weak to good built to 7 "
FSI Weak Surface

Pressure vs. Time



PRESSURE SUMMARY

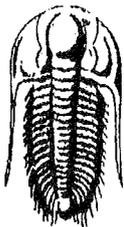
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1819.91	102.31	Initial Hydro-static
1	17.25	99.77	Open To Flow (1)
45	44.63	102.10	Shut-In(1)
91	1094.55	104.46	End Shut-In(1)
91	46.68	102.33	Open To Flow (2)
135	68.39	103.52	Shut-In(2)
180	1086.40	105.87	End Shut-In(2)
181	1789.02	106.52	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
125.00	OCM 25%O 75%M	1.75

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI Oil Operations

Tholen #9

1310 Bison Road
Hays KS 67601

22 14 16W Ellis KS

Job Ticket: 30711

DST#: 4

ATTN: Tom Denning

Test Start: 2007.10.20 @ 14:22:06

Tool Information

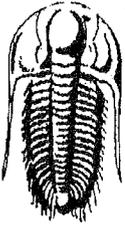
Drill Pipe:	Length: 3349.00 ft	Diameter: 3.80 inches	Volume: 46.98 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 30000.00 lb
			Total Volume: 46.98 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 25000.00 lb
Depth to Top Packer:	3354.00 ft			Final 26000.00 lb
Depth to Bottom Packer:	3432.00 ft			
Interval between Packers:	78.00 ft			
Tool Length:	166.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3335.00	
Shut In Tool	5.00			3340.00	
Hydraulic tool	5.00			3345.00	
Packer	4.00			3349.00	20.00 Bottom Of Top Packer
Packer	5.00			3354.00	
Stubb	1.00			3355.00	
Perforations	1.00			3356.00	
Change Over Sub	1.00			3357.00	
Recorder	0.00	6669	Inside	3357.00	
Blank Spacing	62.00			3419.00	
Perforations	12.00			3431.00	
Recorder	0.00	13308	Outside	3431.00	
Blank Off Sub	1.00			3432.00	78.00 Tool Interval
Packer	0.00			3432.00	
Stubb	1.00			3433.00	
Perforations	3.00			3436.00	
Change Over Sub	1.00			3437.00	
Recorder	0.00	11084	Below	3437.00	
Blank Spacing	63.00			3500.00	68.00 Bottom Packers & Anchor

Total Tool Length: 166.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI Oil Operations

Tholen #9

1310 Bison Road
Hays KS 67601

22 14 16W Ellis KS

Job Ticket: 30711

DST#: 4

ATTN: Tom Denning

Test Start: 2007.10.20 @ 14:22:06

Mud and Cushion Information

Mud Type:		Cushion Type:		Oil API:	deg API
Mud Weight:	10.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	50.00 sec/qt	Cushion Volume:	bbbl		
Water Loss:	3.99 in ³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	37500.00 ppm				
Filter Cake:	inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
125.00	OCM 25%O 75%M	1.753

Total Length: 125.00 ft Total Volume: 1.753 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

