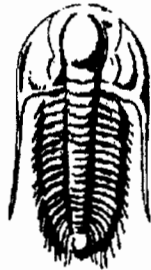


15-137-20420

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

## DRILL STEM TEST REPORT

Prepared For: **Black Diamond Oil Inc**

PO Box 641  
Hays, KS 67601

ATTN: Ken Vehige

**33-4s-22w-Norton**

**Van Diest #1**

Start Date: 2003.08.28 @ 18:32:23

End Date: 2003.08.29 @ 00:52:08

Job Ticket #: 18822                      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**

**TOOL DIAGRAM**

Black Diamond Oil Inc  
PO Box 641  
Hays, KS 67601  
ATTN: Ken Vehige

**Van Diest #1**  
**33-4s-22w-Norton**  
Job Ticket: 18822      DST#: 1  
Test Start: 2003.08.28 @ 18:32:23

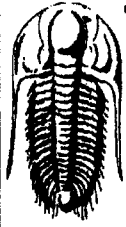
**Tool Information**

Drill Pipe:	Length: 3409.00 ft	Diameter: 3.80 inches	Volume: 47.82 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 47.82 bbl</u>	Tool Chased 9.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 34000.00 lb
Depth to Top Packer:	3419.00 ft			Final 34000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	58.00 ft			
Tool Length:	79.00 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			3399.00	
Shut In Tool	5.00			3404.00	
Hydraulic tool	5.00			3409.00	
Packer	5.00			3414.00	21.00      Bottom Of Top Packer
Packer	5.00			3419.00	
Stubb	1.00			3420.00	
Perforations	5.00			3425.00	
Change Over Sub	1.00			3426.00	
Recorder	0.00	6753	Inside	3426.00	
Blank Spacing	31.00			3457.00	
Change Over Sub	1.00			3458.00	
Perforations	16.00			3474.00	
Recorder	0.00	13252	Outside	3474.00	
Bullnose	3.00			3477.00	58.00      Bottom Packers & Anchor

**Total Tool Length: 79.00**



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Black Diamond Oil Inc

**Van Diest #1**

PO Box 641  
Hays, KS 67601

**33-4s-22w-Norton**

Job Ticket: 18822

**DST#: 1**

ATTN: Ken Vehige

Test Start: 2003.08.28 @ 18:32:23

**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:

ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.18 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 1.00 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
85.00	Mud	

Total Length: 85.00 ft

Total Volume: bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

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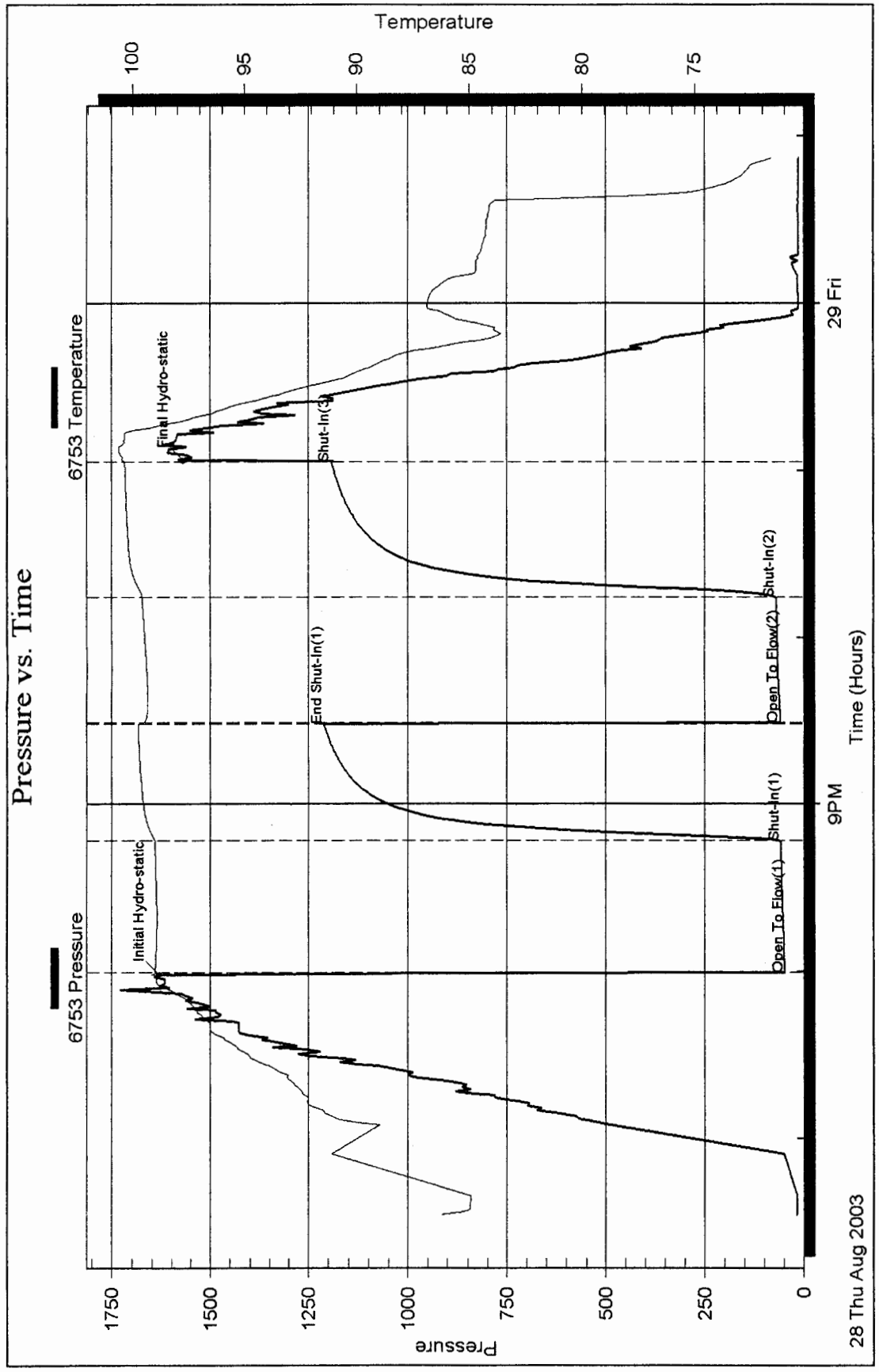
DST Test Number: 1

33-4s-22w - Norton

Black Diamond Oil Inc

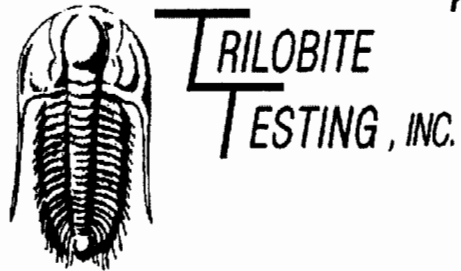
Inside

Serial #: 6753



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KCC WICHITA



## DRILL STEM TEST REPORT

Prepared For: **Black Diamond Oil Inc**

PO Box 641  
Hays, KS 67601

ATTN: Ken Vehige

**33-4s-22w-Norton**

**Van Diest #1**

Start Date: 2003.08.29 @ 07:14:03

End Date: 2003.08.29 @ 10:48:48

Job Ticket #: 18823      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**

Black Diamond Oil Inc  
PO Box 641  
Hays, KS 67601  
ATTN: Ken Vehige

**Van Diest #1**  
**33-4s-22w-Norton**  
Job Ticket: 18823      **DST#: 2**  
Test Start: 2003.08.29 @ 07:14:03

**GENERAL INFORMATION:**

Formation: **LKC-"C"**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 08:17:33  
Time Test Ended: 10:48:48  
Interval: **3482.00 ft (KB) To 4520.00 ft (KB) (TVD)**  
Total Depth: 3477.00 ft (KB) (TVD)  
Hole Diameter: 6.75 inches Hole Condition: Good

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KCC WICHITA**

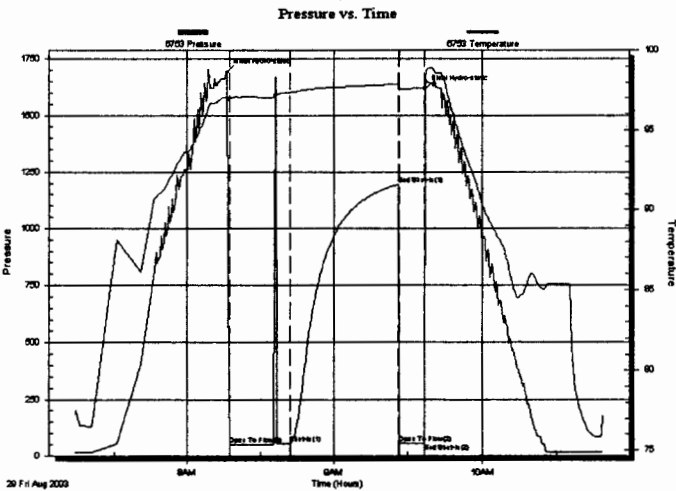
Test Type: Conventional Bottom Hole  
Tester: Jason McLemore  
Unit No: 24  
Reference Elevations: 2273.00 ft (KB)  
2265.00 ft (CF)  
KB to GR/CF: 8.00 ft

**Serial #: 6753**

**Inside**

Press@RunDepth: 54.18 psig @ 3489.00 ft (KB) Capacity: 7000.00 psig  
Start Date: 2003.08.29 End Date: 2003.08.29 Last Calib.: 1899.12.30  
Start Time: 07:14:05 End Time: 10:48:48 Time On Btm: 2003.08.29 @ 08:16:18  
Time Off Btm: 2003.08.29 @ 09:36:48

**TEST COMMENT:** FFP-Weak Blow ,3 1/2", open 30min. Flush Tool, Leave Open 10 min Longer, got a surge  
FFP- 10 Minutes Open, No Blow , Pull Tool



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1691.38	97.16	Initial Hydro-static
2	50.16	97.02	Open To Flow (1)
26	54.18	97.35	Shut-In(1)
70	1195.68	97.89	End Shut-In(1)
70	54.49	97.50	Open To Flow (2)
81	55.51	97.67	End Shut-In(2)
81	1614.66	98.24	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
50.00	Oil Specked Mud	0.70

**Gas Rates**

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



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Black Diamond Oil Inc  
PO Box 641  
Hays, KS 67601  
ATTN: Ken Vehige

**Van Diest #1**  
**33-4s-22w-Norton**  
Job Ticket: 18823      **DST#: 2**  
Test Start: 2003.08.29 @ 07:14:03

**Tool Information**

Drill Pipe:	Length: 3468.00 ft	Diameter: 3.80 inches	Volume: 48.65 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: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 40000.00 lb
			<u>Total Volume: 48.65 bbl</u>	Tool Chased 10.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 32000.00 lb
Depth to Top Packer:	3482.00 ft			Final 32000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	58.00 ft			
Tool Length:	79.00 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			3462.00	
Shut In Tool	5.00			3467.00	
Hydraulic tool	5.00			3472.00	
Packer	5.00			3477.00	21.00      Bottom Of Top Packer
Packer	5.00			3482.00	
Stubb	1.00			3483.00	
Perforations	5.00			3488.00	
Change Over Sub	1.00			3489.00	
Recorder	0.00	6753	Inside	3489.00	
Blank Spacing	31.00			3520.00	
Change Over Sub	1.00			3521.00	
Perforations	16.00			3537.00	
Recorder	0.00	13252	Outside	3537.00	
Bullnose	3.00			3540.00	58.00      Bottom Packers & Anchor

**Total Tool Length: 79.00**



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Black Diamond Oil Inc

Van Diest #1

PO Box 641  
Hays, KS 67601

33-4s-22w-Norton

Job Ticket: 18823

DST#: 2

ATTN: Ken Vehige

Test Start: 2003.08.29 @ 07:14:03

**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: 59.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.18 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 1.00 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
50.00	Oil Specked Mud	0.701

Total Length: 50.00 ft

Total Volume: 0.701 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

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DST Test Number: 2

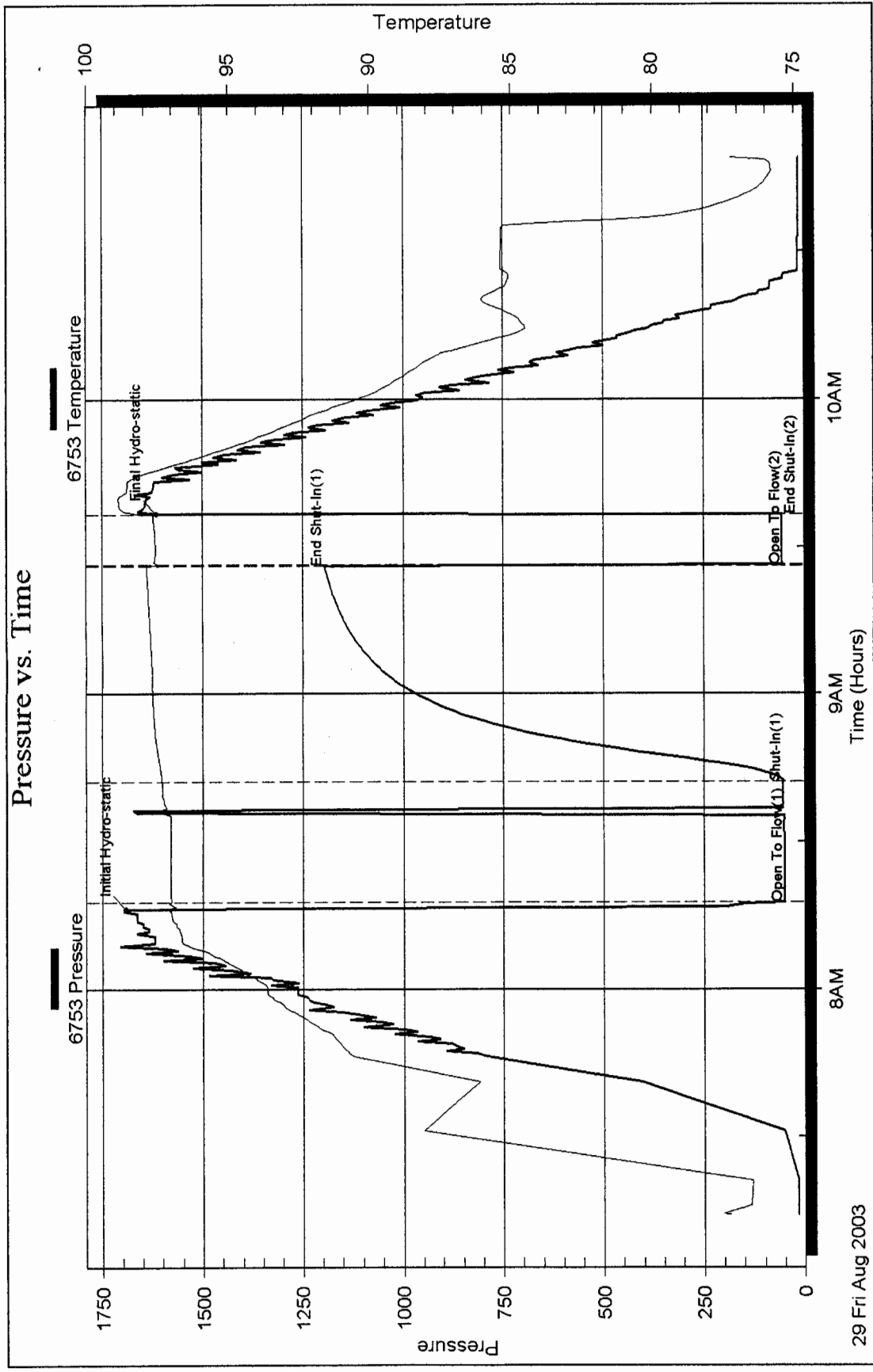
33-4s-22w -Norton

Black Diamond Oil Inc

Inside

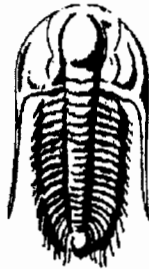
Serial #: 6753

### Pressure vs. Time



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

## DRILL STEM TEST REPORT

Prepared For: **Black Diamond Oil Inc**

PO Box 641  
Hays, KS 67601

ATTN: Ken Vehige

**33-4s-22w-Norton**

**Van Diest #1**

Start Date: 2003.08.29 @ 21:20:57

End Date: 2003.08.30 @ 03:31:57

Job Ticket #: 18824      DST #: 3

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Black Diamond Oil Inc

Van Diest #1

PO Box 641  
Hays, KS 67601

33-4s-22w-Norton

Job Ticket: 18824

DST#: 3

ATTN: Ken Vehige

Test Start: 2003.08.29 @ 21:20:57

### GENERAL INFORMATION:

Formation: LKC J-L  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 22:37:12  
Time Test Ended: 03:31:57

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**KCC WICHITA**

Test Type: Conventional Bottom Hole  
Tester: Jason McLemore  
Unit No: 24  
Reference Elevations: 2273.00 ft (KB)  
2265.00 ft (CF)  
KB to GR/CF: 8.00 ft

Interval: 3585.00 ft (KB) To 3655.00 ft (KB) (TVD)  
Total Depth: 3655.00 ft (KB) (TVD)  
Hole Diameter: 6.75 inches Hole Condition: Good

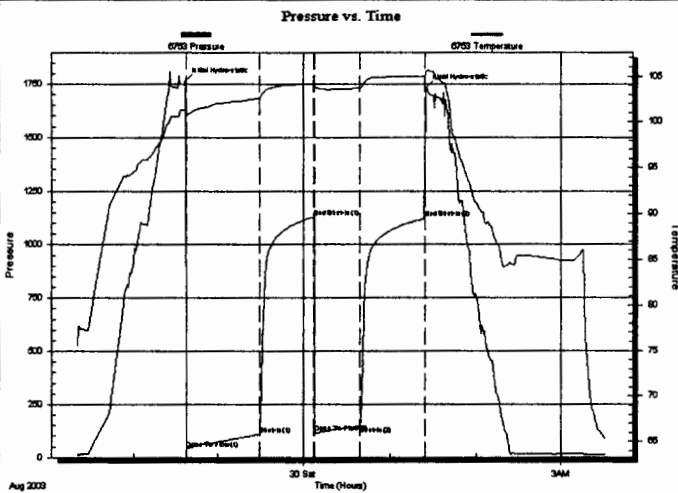
### Serial #: 6753

Inside

Press@RunDepth: 148.44 psig @ 3597.00 ft (KB)  
Start Date: 2003.08.29 End Date: 2003.08.30  
Start Time: 21:20:59 End Time: 03:31:57

Capacity: 7000.00 psig  
Last Calib.: 1899.12.30  
Time On Btm: 2003.08.29 @ 22:36:57  
Time Off Btm: 2003.08.30 @ 01:24:57

TEST COMMENT: IFP- Good Blow ,BOB in 10 min, Blow back after 4min, Built to 3"  
FFP- Good Blow ,Bob in 6 min,



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1761.61	101.35	Initial Hydro-static
1	39.19	100.59	Open To Flow (1)
52	107.07	102.57	Shut-in(1)
91	1129.05	104.16	End Shut-in(1)
91	115.94	103.90	Open To Flow (2)
123	148.44	103.72	Shut-in(2)
168	1120.53	104.97	End Shut-in(2)
168	1729.04	105.41	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
60.00	Heavy Mud Cut Oil 10%gas,65%oil,25% mud	0.84
150.00	Mud Cut Oil 85%oil, 15% mud	2.10
105.00	Gassy Oil 5%gas,95%oil	1.47
630.00	Gas in Pipe	8.84

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Black Diamond Oil Inc

**Van Diest #1**

PO Box 641  
Hays, KS 67601

**33-4s-22w-Norton**

Job Ticket: 18824

**DST#: 3**

ATTN: Ken Vehige

Test Start: 2003.08.29 @ 21:20:57

**Tool Information**

Drill Pipe:	Length: 3594.00 ft	Diameter: 3.80 inches	Volume: 50.41 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: lb
			<u>Total Volume: 50.41 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 29000.00 lb
Depth to Top Packer:	3585.00 ft			Final lb
Depth to Bottom Packer:	ft			
Interval between Packers:	70.00 ft			
Tool Length:	91.00 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			3565.00	
Shut In Tool	5.00			3570.00	
Hydraulic tool	5.00			3575.00	
Packer	5.00			3580.00	21.00 Bottom Of Top Packer
Packer	5.00			3585.00	
Stubb	1.00			3586.00	
Perforations	10.00			3596.00	
Change Over Sub	1.00			3597.00	
Recorder	0.00	6753	Inside	3597.00	
Blank Spacing	32.00			3629.00	
Change Over Sub	1.00			3630.00	
Perforations	22.00			3652.00	
Recorder	0.00	13252	Outside	3652.00	
Bullnose	3.00			3655.00	70.00 Bottom Packers & Anchor

**Total Tool Length: 91.00**



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Black Diamond Oil Inc

**Van Diest #1**

PO Box 641  
Hays, KS 67601

**33-4s-22w-Norton**

Job Ticket: 18824

**DST#: 3**

ATTN: Ken Vehige

Test Start: 2003.08.29 @ 21:20:57

**Mud and Cushion Information**

Mud Type: Gel Chem

Cushion Type:

Oil API:

36 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 1.00 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
60.00	Heavy Mud Cut Oil 10%gas,65%oil,25%mud	0.842
150.00	Mud Cut Oil 85%oil, 15%mud	2.104
105.00	Gassy Oil 5%gas,95%oil	1.473
630.00	Gas In Pipe	8.837

Total Length: 945.00 ft      Total Volume: 13.256 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

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Serial #: 6753

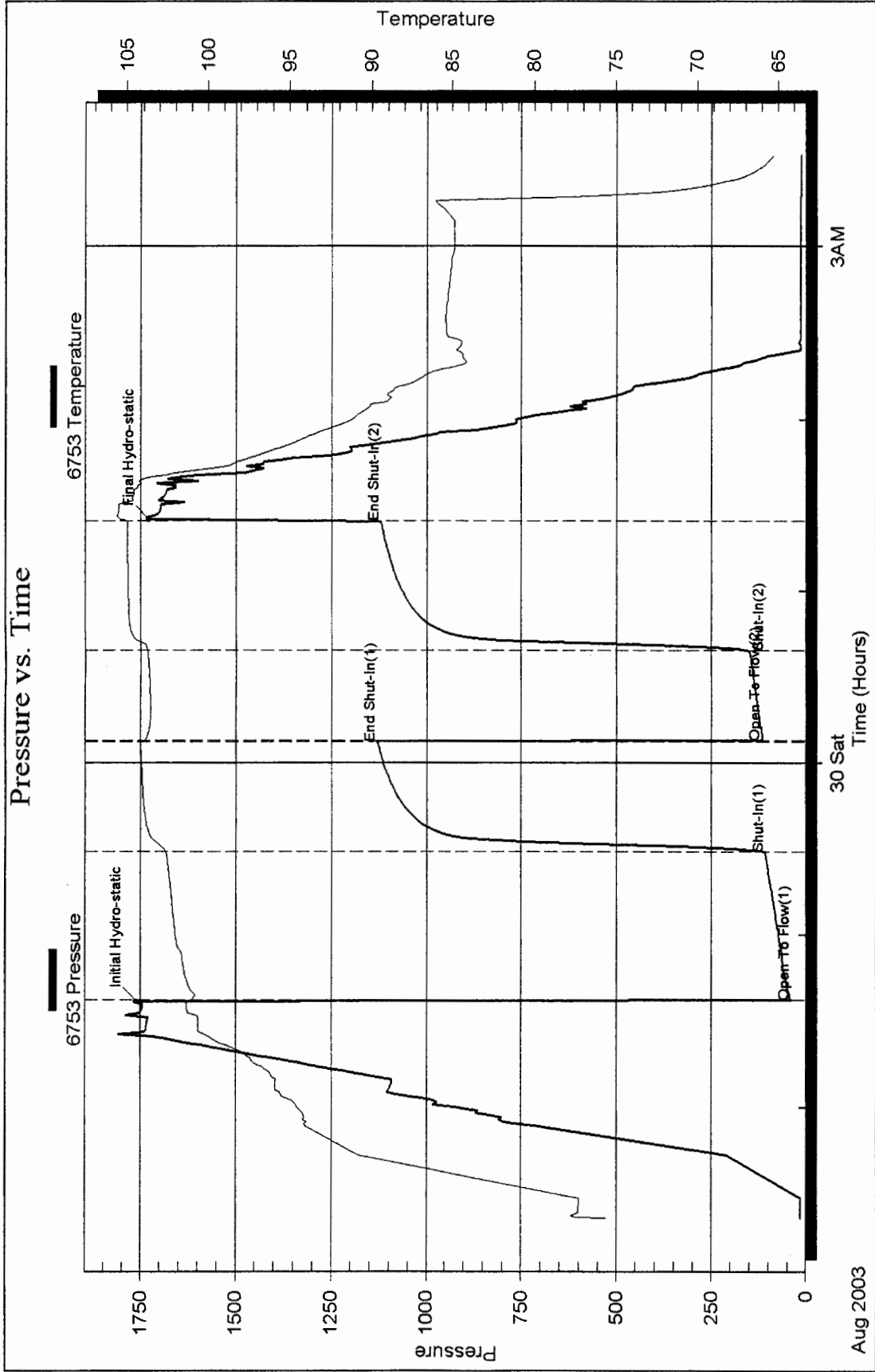
Inside

Black Diamond Oil Inc

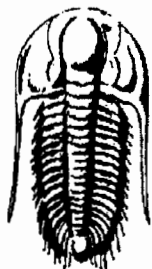
33-4s-22w-Norton

DST Test Number: 3

### Pressure vs. Time



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

**DRILL STEM TEST REPORT**

Prepared For: **Black Diamond Oil Inc**

PO Box 641  
Hays, KS 67601

ATTN: Ken Vehige

**33-4s-22w-Norton**

**Van Diest #1**

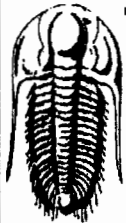
Start Date: 2003.08.30 @ 11:52:51

End Date: 2003.08.30 @ 16:16:06

Job Ticket #: 18825                      DST #: 4

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



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Black Diamond Oil Inc

Van Diest #1

PO Box 641  
Hays, KS 67601

33-4s-22w-Norton

Job Ticket: 18825

DST#: 4

ATTN: Ken Vehige

Test Start: 2003.08.30 @ 11:52:51

**GENERAL INFORMATION:**

Formation: **Gorham Sand**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 13:17:21  
 Time Test Ended: 16:16:06

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Test Type: Conventional Bottom Hole  
 Tester: Jason McLemore  
 Unit No: 24

Interval: **3704.00 ft (KB) To 3720.00 ft (KB) (TVD)**  
 Total Depth: 3477.00 ft (KB) (TVD)  
 Hole Diameter: 6.75 inches Hole Condition: Good

Reference Elevations: 2273.00 ft (KB)  
 2265.00 ft (CF)  
 KB to GR/CF: 8.00 ft

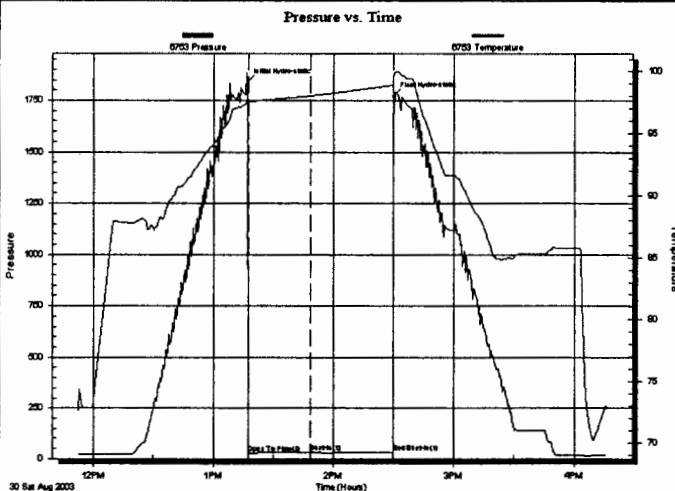
**Serial #: 6753**

Inside

Press@RunDepth: 30.21 psig @ 3705.00 ft (KB)  
 Start Date: 2003.08.30 End Date: 2003.08.30  
 Start Time: 11:52:53 End Time: 16:16:06

Capacity: 7000.00 psig  
 Last Calib.: 1899.12.30  
 Time On Btrm: 2003.08.30 @ 13:17:06  
 Time Off Btrm: 2003.08.30 @ 14:30:06

TEST COMMENT: IFF- Weak Surface Blow , No Blow back  
 FFP- Pull Tool



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1836.94	97.79	Initial Hydro-static
1	27.36	97.17	Open To Flow (1)
32	30.21	98.02	Shut-in(1)
73	31.36	98.88	End Shut-in(1)
73	1772.65	99.40	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
3.00	mud	0.04

**Gas Rates**

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Black Diamond Oil Inc

**Van Diest #1**

PO Box 641  
Hays, KS 67601

**33-4s-22w-Norton**

Job Ticket: 18825      **DST#: 4**

ATTN: Ken Vehige

Test Start: 2003.08.30 @ 11:52:51

### Tool Information

Drill Pipe:	Length: 3689.00 ft	Diameter: 3.80 inches	Volume: 51.75 bbl	Tool Weight: 1800.00 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 36000.00 lb
			<u>Total Volume: 51.75 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 28000.00 lb
Depth to Top Packer:	3704.00 ft			Final 28000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	16.00 ft			
Tool Length:	37.00 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			3684.00	
Shut In Tool	5.00			3689.00	
Hydraulic tool	5.00			3694.00	
Packer	5.00			3699.00	21.00      Bottom Of Top Packer
Packer	5.00			3704.00	
Stubb	1.00			3705.00	
Recorder	0.00	6753	Inside	3705.00	
Perforations	12.00			3717.00	
Recorder	0.00	13252	Outside	3717.00	
Bullnose	3.00			3720.00	16.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>37.00</b>				



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Black Diamond Oil Inc

**Van Diest #1**

PO Box 641  
Hays, KS 67601

**33-4s-22w-Norton**

Job Ticket: 18825

**DST#: 4**

ATTN: Ken Vehige

Test Start: 2003.08.30 @ 11:52:51

**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: 47.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Gas Cushion Pressure:

psig

Resistivity: ohm.m

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
3.00	mud	0.042

Total Length: 3.00 ft

Total Volume: 0.042 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

**RECEIVED  
FEB 17 2004  
KCC WICHITA**

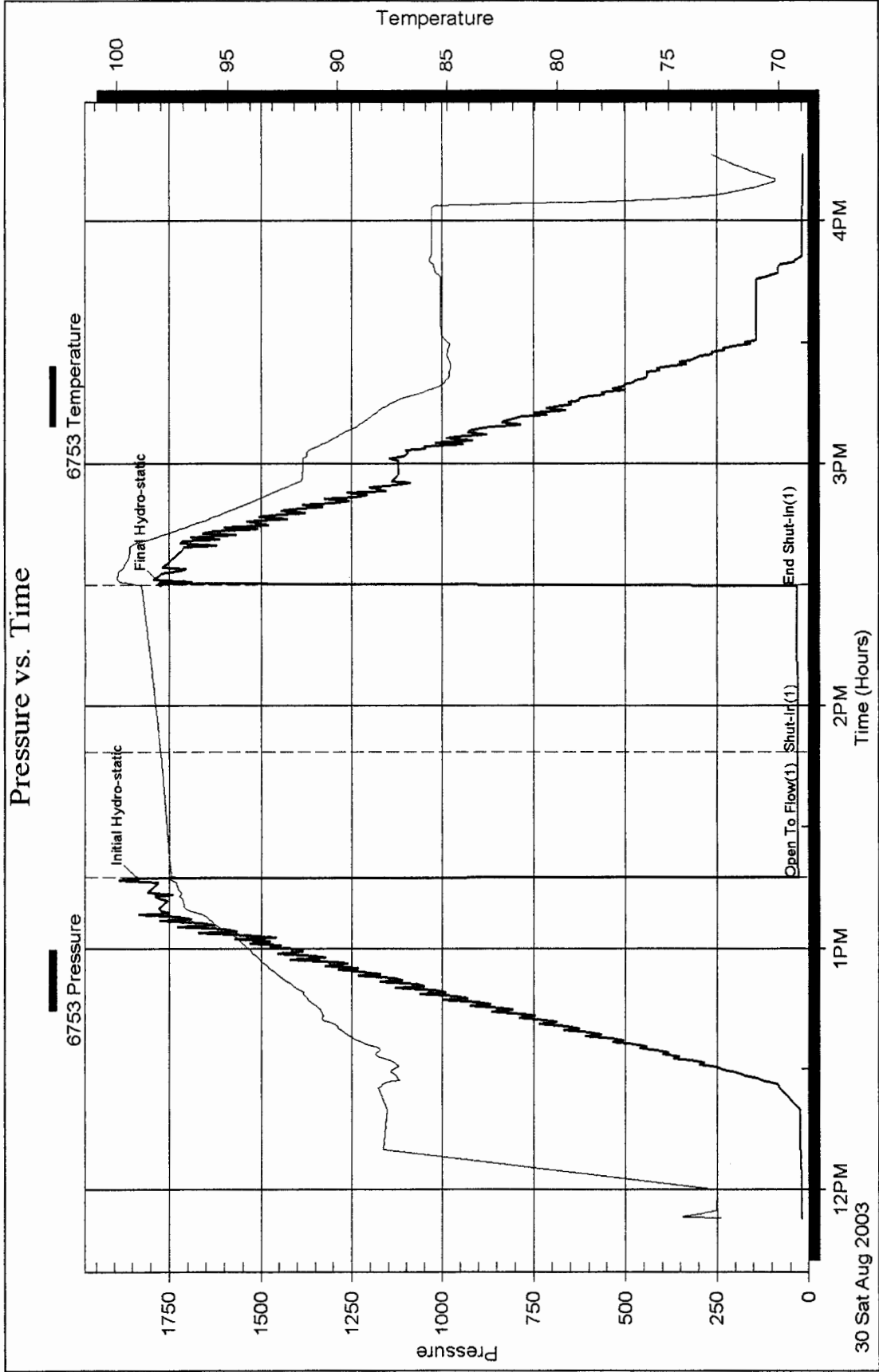
Serial #: 6753

Inside

Black Diamond Oil Inc

33-4s-22w-Norton

DST Test Number: 4



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