

15-137-20450

Black Diamond

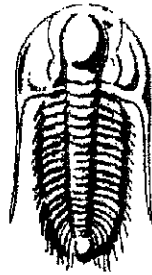
Fin/ Belden

28-4-22 Norton

DST # 1

Toronto

2006.02.26



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Black Diamond**

PO Box 641
Hays KS 67601

ATTN: Tony Richardson

28-4-22 Norton

Fin/ Belden

Start Date: 2006.02.26 @ 18:15:57

End Date: 2006.02.27 @ 01:00:57

Job Ticket #: 23629 DST#: 1

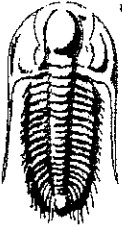
15-137-20450-00-00
2540 FNL 730 FWL
W2 W2

RECEIVED
APR 19 2006
KCC WICHITA

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

Fin/ Belden

PO Box 641
Hays KS 67601

28-4-22 Norton

Job Ticket: 23629

DST#: 1

ATTN: Tony Richardson

Test Start: 2006.02.26 @ 18:15:57

Tool Information

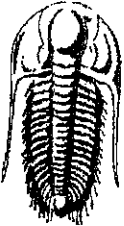
Drill Pipe:	Length: 3330.00 ft	Diameter: 3.80 inches	Volume: 46.71 bbl	Tool Weight: 20000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 47.31 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 38000.00 lb
Depth to Top Packer:	3446.00 ft			Final 38000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	46.02 ft			
Tool Length:	66.02 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
S.I. Tool	5.00			3431.00	
HYD S.I. Tool	5.00			3436.00	
Packer	5.00			3441.00	20.00 Bottom Of Top Packer
Packer	5.00			3446.00	
Stubb	1.00			3447.00	
Perforations	4.00			3451.00	
C.O. Sub	1.00			3452.00	
Recorder	0.01	6769	Inside	3452.01	
Blank Spacing	31.00			3483.01	
C.O. Sub	1.00			3484.01	
Perforations	5.00			3489.01	
Recorder	0.01	13548	Outside	3489.02	
Bullnose	3.00			3492.02	46.02 Bottom Packers & Anchor

Total Tool Length: 66.02



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond

Fin/ Belden

PO Box 641
Hays KS 67601

28-4-22 Norton

Job Ticket: 23629

DST#: 1

ATTN: Tony Richardson

Test Start: 2006.02.26 @ 18:15:57

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 46.00 sec/qt

Water Loss: 7.16 in³

Resistivity: ohm.m

Salinity: ppm

Filter Cake: 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
73.00	drilling mud	0.359

Total Length: 73.00 ft Total Volume: 0.359 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6769

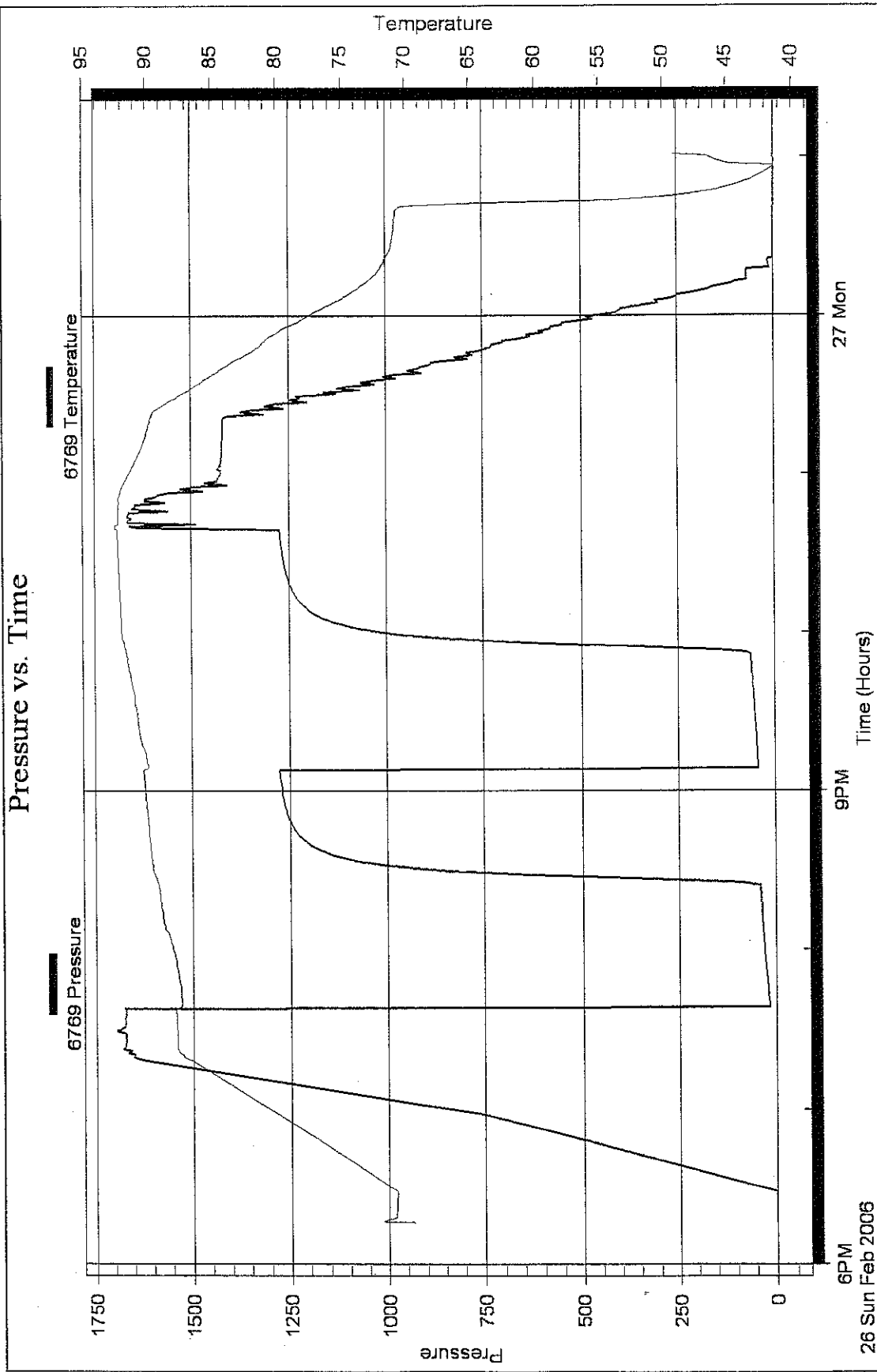
Inside

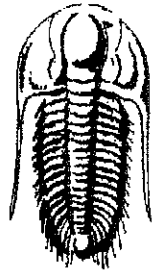
Black Diamond

28-4-22 Norton

DST Test Number: 1

Pressure vs. Time





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Black Diamond**

PO Box 641
Hays KS 67601

ATTN: Tony Richardson

28-4-22 Norton

Fin/ Belden

Start Date: 2006.02.22 @ 12:19:06

End Date: 2006.02.22 @ 12:21:06

Job Ticket #: 23630 DST #: 2

Black Diamond

Fin/ Belden

28-4-22 Norton

DST # 2

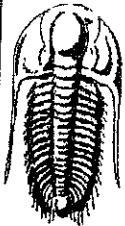
LKC-CDEFG

2006.02.22

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

Fin/ Belden

PO Box 641
Hays KS 67601

28-4-22 Norton

ATTN: Tony Richardson

Job Ticket: 23630

DST#: 2

Test Start: 2006.02.22 @ 12:19:06

GENERAL INFORMATION:

Formation: LKC-CDEFG

Deviated: No Whipstock: ft (KB)

Time Tool Opened:

Time Test Ended: 12:21:06

Test Type: Conventional Bottom Hole

Tester: Michael Armbrister

Unit No: 1

Interval: 3514.00 ft (KB) To 3596.00 ft (KB) (TVD)

Total Depth: 3596.00 ft (KB) (TVD)

Reference Elevations: 2310.00 ft (KB)

2305.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8167 Inside

Press@RunDepth: psig @ 3521.01 ft (KB)

Start Date: 2006.02.22

End Date:

2006.02.22

Capacity: 7000.00 psig

Last Calib.: 1899.12.30

Start Time: 12:19:07

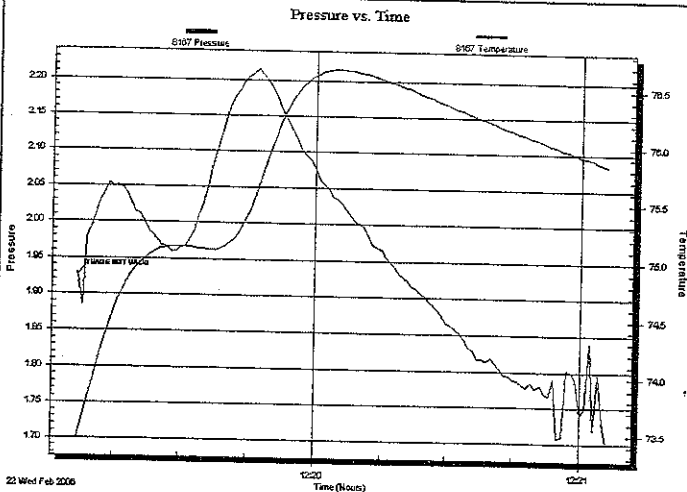
End Time:

12:21:06

Time On Btm:

Time Off Btm:

TEST COMMENT: IF- Weak surface blow
IS- No blow
PULLED
ATTACHED GAUGE NOT VALID



PRESSURE SUMMARY

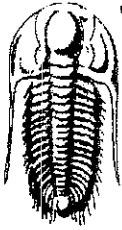
Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1.93	73.44	GUAGE NOT VALID

Recovery

Length (ft)	Description	Volume (bbt)

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Diamond

Fin/ Belden

PO Box 641
Hays KS 67601

28-4-22 Norton

Job Ticket: 23630

DST#: 2

ATTN: Tony Richardson

Test Start: 2006.02.22 @ 12:19:06

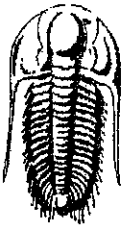
Tool Information

Drill Pipe:	Length: 3392.00 ft	Diameter: 3.80 inches	Volume: 47.58 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 48.18 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3514.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	82.02 ft			
Tool Length:	102.02 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:
Gauge not valid

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
S.I. Tool	5.00			3499.00	
HYD S.I. Tool	5.00			3504.00	
Packer	5.00			3509.00	20.00 Bottom Of Top Packer
Packer	5.00			3514.00	
Stubb	1.00			3515.00	
Perforations	5.00			3520.00	
C.O. Sub	1.00			3521.00	
Recorder	0.01	8167	Inside	3521.01	
Blank Spacing	62.00			3583.01	
C.O. Sub	1.00			3584.01	
Perforations	9.00			3593.01	
Recorder	0.01	13548	Outside	3593.02	
Bullnose	3.00			3596.02	82.02 Bottom Packers & Anchor

Total Tool Length: 102.02



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond

Fin/ Belden

PO Box 641
Hays KS 67601

28-4-22 Norton

Job Ticket: 23630

DST#: 2

ATTN: Tony Richardson

Test Start: 2006.02.22 @ 12:19:06

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 46.00 sec/qt

Water Loss: 7.15 in³

Resistivity: ohm.m

Salinity: ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

deg API

Water Salinity: ppm

Recovery Information

Recovery Table

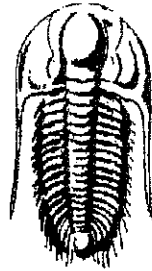
Length ft	Description	Volume bbl

Total Length: ft Total Volume: bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: ATTACHED GAUGE NOT VALID



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Black Diamond**

PO Box 641
Hays KS 67601

ATTN: Tony Richardson

28-4-22 Norton

Fin/ Belden

Start Date: 2006.02.27 @ 23:37:52

End Date: 2006.02.28 @ 04:12:37

Job Ticket #: 23631 DST #: 3

Black Diamond

Fin/ Belden

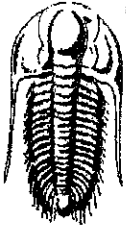
28-4-22 Norton

DST # 3

LKC- H I J

2006.02.27

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

Fin/ Belden

PO Box 641
Hays KS 67601

28-4-22 Norton

ATTN: Tony Richardson

Job Ticket: 23631

DST#: 3

Test Start: 2006.02.27 @ 23:37:52

GENERAL INFORMATION:

Formation: LKC- HI J

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:29:37

Time Test Ended: 04:12:37

Test Type: Conventional Bottom Hole

Tester: Michael Armbrister

Unit No: 1

Interval: 3586.00 ft (KB) To 3658.00 ft (KB) (TVD)

Total Depth: 3658.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2310.00 ft (KB)

2305.00 ft (CF)

KB to GRVCF: 5.00 ft

Serial #: 6769

Inside

Press@RunDepth: 18.15 psig @ 3589.01 ft (KB)

Start Date: 2006.02.27

End Date:

2006.02.28

Start Time: 23:37:54

End Time:

04:12:37

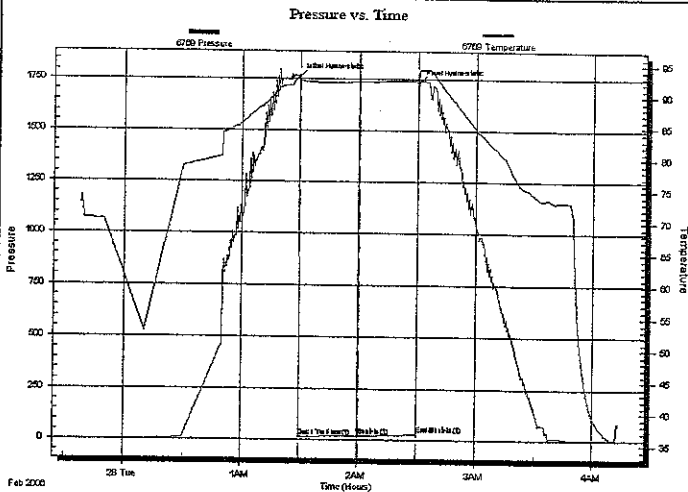
Capacity: 7000.00 psig

Last Calib.: 2006.02.28

Time On Btm: 2006.02.28 @ 01:29:22

Time Off Btm: 2006.02.28 @ 02:30:37

TEST COMMENT: IF- Weak surface blow
IS- No blow
PULLED



PRESSURE SUMMARY

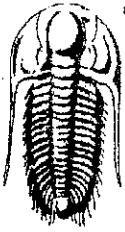
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1762.69	92.94	Initial Hydro-static
1	16.12	92.18	Open To Flow (1)
31	18.15	92.28	Shut-In(1)
61	28.86	92.58	End Shut-In(1)
62	1733.40	93.15	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
3.00	Drilling mud	0.01

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Diamond

Fin/ Belden

PO Box 641
Hays KS 67601

28-4-22 Norton

Job Ticket: 23631

DST#: 3

ATTN: Tony Richardson

Test Start: 2006.02.27 @ 23:37:52

Tool Information

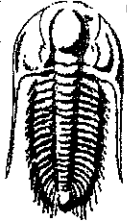
Drill Pipe:	Length: 3456.00 ft	Diameter: 3.80 inches	Volume: 48.48 bbl	Tool Weight: 20000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 49.08 bbl</u>	Tool Chased 10.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3586.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	72.02 ft			
Tool Length:	92.02 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

S.I. Tool	5.00			3571.00	
HYD S.I. Tool	5.00			3576.00	
Packer	5.00			3581.00	20.00 Bottom Of Top Packer
Packer	5.00			3586.00	
Stubb	1.00			3587.00	
Perforations	1.00			3588.00	
C.O. Sub	1.00			3589.00	
Recorder	0.01	6769	Inside	3589.01	
Blank Spacing	61.00			3650.01	
C.O. Sub	1.00			3651.01	
Perforations	4.00			3655.01	
Recorder	0.01	13548	Outside	3655.02	
Bullnose	3.00			3658.02	72.02 Bottom Packers & Anchor

Total Tool Length: 92.02



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond

Fin/ Belden

PO Box 641
Hays KS 67601

28-4-22 Norton

ATTN: Tony Richardson

Job Ticket: 23631

DST#: 3

Test Start: 2006.02.27 @ 23:37:52

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 56.00 sec/qt

Water Loss: 7.95 in³

Resistivity: ohm.m

Salinity: ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
3.00	Drilling mud	0.015

Total Length: 3.00 ft Total Volume: 0.015 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

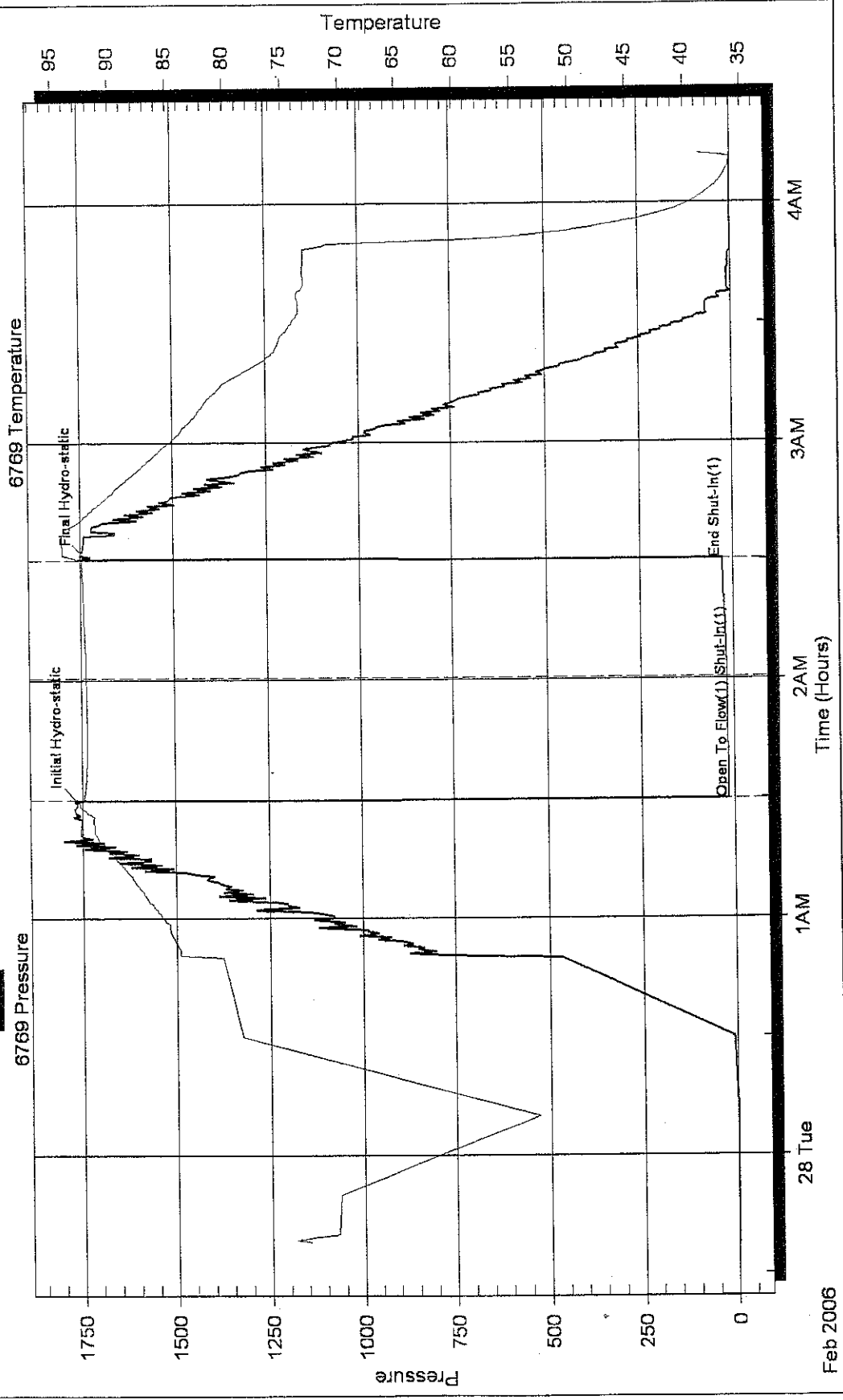
Serial #:

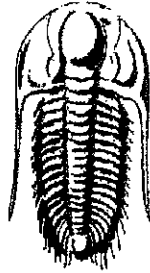
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Black Diamond**

PO Box 641
Hays KS 67601

ATTN: Tony Richardson

28-4-22 Norton

Fin/ Belden

Start Date: 2006.02.28 @ 11:36:36

End Date: 2006.02.28 @ 17:25:19

Job Ticket #: 23369 DST #: 4

Black Diamond

Fin/ Belden

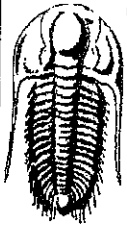
28-4-22 Norton

DST # 4

LKC "K, L"

2006.02.28

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

Fin/ Belden

PO Box 641
Hays KS 67601

28-4-22 Norton

ATTN: Tony Richardson

Job Ticket: 23369

DST#: 4

Test Start: 2006.02.28 @ 11:36:36

GENERAL INFORMATION:

Formation: **LKC "K, L"**
 Deviated: **No Whipstock:** ft (KB)
 Time Tool Opened: 13:12:19
 Time Test Ended: 17:25:19
 Interval: **3642.00 ft (KB) To 3690.00 ft (KB) (TVD)**
 Total Depth: **3690.00 ft (KB) (TVD)**
 Hole Diameter: **7.88 inches** Hole Condition: Fair

Test Type: Conventional Bottom Hole
 Tester: Brian Fairbank
 Unit No: 24

Reference Elevations: 2310.00 ft (KB)
 2305.00 ft (CF)
 KB to GR/CF: 5.00 ft

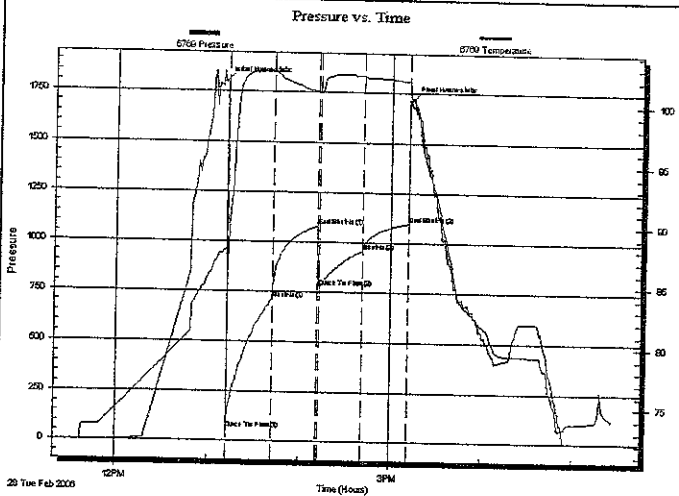
Serial #: 6769

Inside

Press@RunDepth: 958.20 psig @ 3650.01 ft (KB)
 Start Date: 2006.02.28 End Date: 2006.02.28
 Start Time: 11:36:36 End Time: 17:25:19

Capacity: 7000.00 psig
 Last Calib.: 2006.02.28
 Time On Btm: 2006.02.28 @ 13:10:49
 Time Off Btm: 2006.02.28 @ 15:14:04

TEST COMMENT: IFF - BOB 1 1/2 min
 ISI - sur. bloe back
 FFP - BOB 1 min.
 FSI - no blow back



PRESSURE SUMMARY

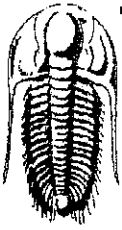
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1795.02	87.97	Initial Hydro-static
2	61.69	87.13	Open To Flow (1)
32	711.79	102.60	Shut-In(1)
61	1080.33	101.05	End Shut-In(1)
63	774.44	100.96	Open To Flow (2)
91	958.20	102.37	Shut-In(2)
121	1096.37	101.93	End Shut-In(2)
124	1715.87	99.85	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1242.00	MW 85% W, 15%M	16.31
80.00	MW 55% W, 45% M	1.12
168.00	GMW 5% G, 20% W, 75% M	2.36
248.00	MJD	3.48

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Diamond

Fin/ Belden

PO Box 641
Hays KS 67601

28-4-22 Norton

Job Ticket: 23369

DST#: 4

ATTN: Tony Richardson

Test Start: 2006.02.28 @ 11:36:36

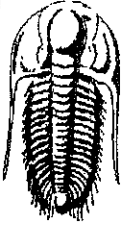
Tool Information

Drill Pipe:	Length: 3515.00 ft	Diameter: 3.80 inches	Volume: 49.31 bbl	Tool Weight: 20000.00 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: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 49.91 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3642.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	48.02 ft			
Tool Length:	68.02 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
S.I. Tool	5.00			3627.00	
HYD S.I. Tool	5.00			3632.00	
Packer	5.00			3637.00	20.00 Bottom Of Top Packer
Packer	5.00			3642.00	
Stubb	1.00			3643.00	
Perforations	6.00			3649.00	
C.O. Sub	1.00			3650.00	
Recorder	0.01	6769	Inside	3650.01	
Blank Spacing	31.00			3681.01	
C.O. Sub	1.00			3682.01	
Perforations	5.00			3687.01	
Recorder	0.01	13548	Outside	3687.02	
Bullnose	3.00			3690.02	48.02 Bottom Packers & Anchor

Total Tool Length: 68.02



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond

Fin/ Belden

PO Box 641
Hays KS 67601

28-4-22 Norton

ATTN: Tony Richardson

Job Ticket: 23369

DST#: 4

Test Start: 2006.02.28 @ 11:36:36

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: 44.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.93 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2000.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1242.00	MV 85% W, 15%M	16.311
80.00	MV 55% W, 45% M	1.122
168.00	GMV 5% G, 20% W, 75% M	2.357
248.00	MJD	3.479

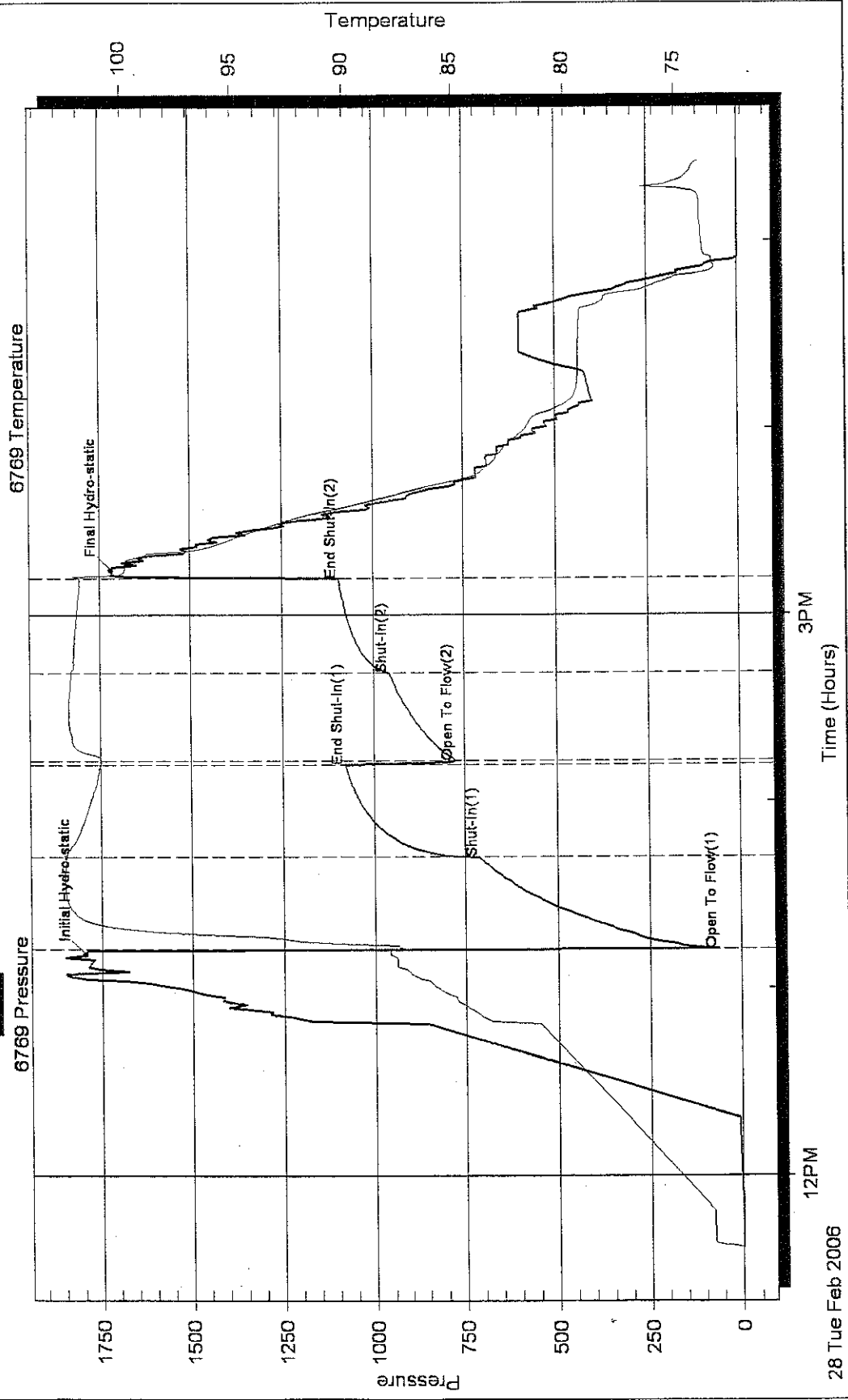
Total Length: 1738.00 ft Total Volume: 23.269 bbl

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

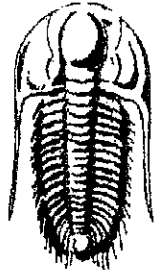
Laboratory Name: Laboratory Location:

Recovery Comments:

Pressure vs. Time



28 Tue Feb 2006 12PM 3PM
Time (Hours)



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Black Diamond**

PO Box 641
Hays KS 67601

ATTN: Tony Richardson

28-4-22 Norton

Fin/ Belden

Start Date: 2006.03.01 @ 02:02:32

End Date: 2006.03.01 @ 08:43:45

Job Ticket #: 23370 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Black Diamond

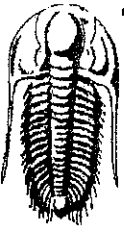
Fin/ Belden

28-4-22 Norton

DST # 5

Gorham Sand - Arbuck

2006.03.01



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Black Diamond

Fin/ Belden

PO Box 641
Hays KS 67601

28-4-22 Norton

ATTN: Tony Richardson

Job Ticket: 23370

DST#: 5

Test Start: 2006.03.01 @ 02:02:32

GENERAL INFORMATION:

Formation: **Gorham Sand - Arbuck**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 03:58:15
 Time Test Ended: 08:43:45

Test Type: Conventional Bottom Hole
 Tester: Brian Fairbank
 Unit No: 24

Interval: **3743.00 ft (KB) To 3752.00 ft (KB) (TVD)**
 Total Depth: 3752.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2310.00 ft (KB)
 2305.00 ft (CF)
 KB to GR/CF: 5.00 ft

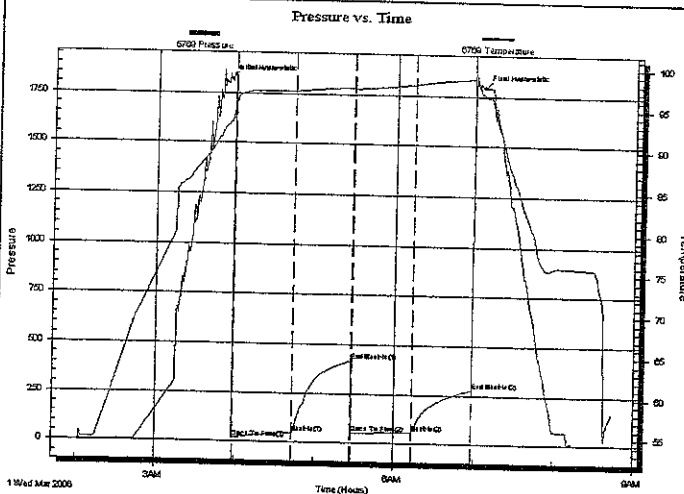
Serial #: 6769

Inside

Press@RunDepth: 55.28 psig @ 3744.01 ft (KB)
 Start Date: 2006.03.01 End Date: 2006.03.01
 Start Time: 02:02:32 End Time: 08:43:45

Capacity: 7000.00 psig
 Last Calib.: 2006.03.01
 Time On Btm: 2006.03.01 @ 03:54:30
 Time Off Btm: 2006.03.01 @ 07:05:15

TEST COMMENT: IFP - weak to good blow - 1/4" - 7 1/2"
 ISI - no blow back
 FFP - weak blow throughout sur. - 1 1/2"
 FSI - no blow back



PRESSURE SUMMARY

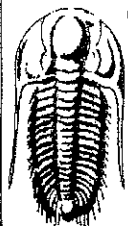
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1822.16	93.15	Initial Hydro-static
4	16.38	94.41	Open To Flow (1)
49	44.84	96.96	Shut-In(1)
93	416.59	97.48	End Shut-In(1)
94	48.65	97.36	Open To Flow (2)
139	55.28	97.95	Shut-In(2)
184	276.30	98.71	End Shut-In(2)
191	1794.20	96.63	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
160.00	GO 25% G, 75% O	1.13

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Diamond

Fin/ Belden

PO Box 641
Hays KS 67601

28-4-22 Norton

Job Ticket: 23370

DST#: 5

ATTN: Tony Richardson

Test Start: 2006.03.01 @ 02:02:32

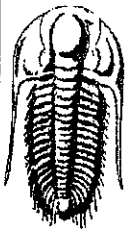
Tool Information

Drill Pipe:	Length: 3609.00 ft	Diameter: 3.80 inches	Volume: 50.62 bbl	Tool Weight: 20000.00 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: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 48000.00 lb
			<u>Total Volume: 51.22 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3743.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	9.02 ft			
Tool Length:	29.02 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

30 GIP

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
S.I. Tool	5.00			3728.00	
HYD S.I. Tool	5.00			3733.00	
Packer	5.00			3738.00	20.00 Bottom Of Top Packer
Packer	5.00			3743.00	
Stubb	1.00			3744.00	
Recorder	0.01	6769	Inside	3744.01	
Perforations	5.00			3749.01	
Recorder	0.01	13548	Outside	3749.02	
Bullnose	3.00			3752.02	9.02 Bottom Packers & Anchor
Total Tool Length:	29.02				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond

Fin/ Belden

PO Box 641
Hays KS 67601

28-4-22 Norton

Job Ticket: 23370

DST#: 5

ATTN: Tony Richardson

Test Start: 2006.03.01 @ 02:02:32

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

25 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 44.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.97 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
160.00	GO 25% G, 75% O	1.133

Total Length: 160.00 ft Total Volume: 1.133 bbf

Num Fluid Samples: 0

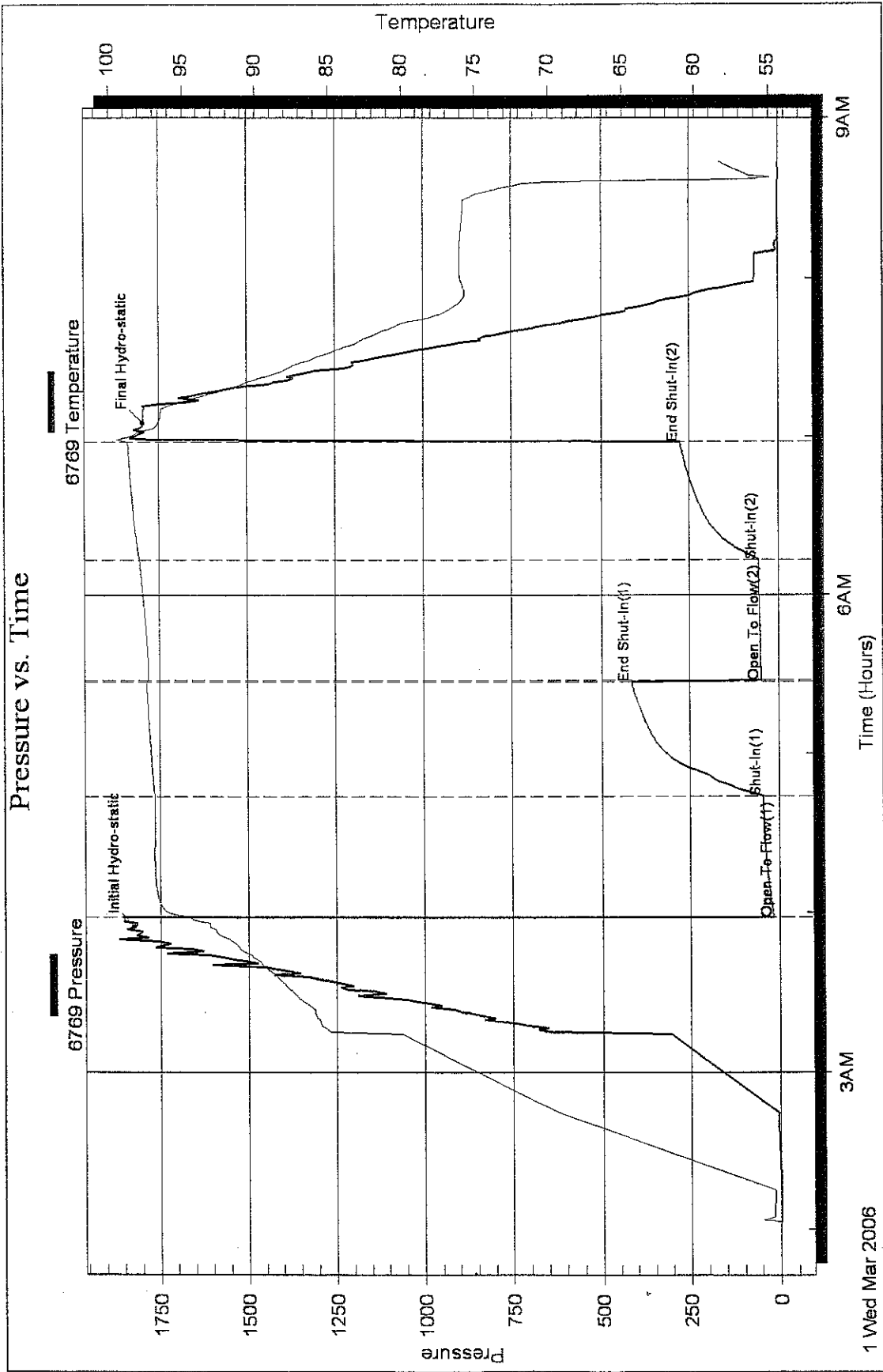
Num Gas Bombs: 0

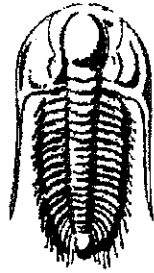
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Black Diamond**

PO Box 641
Hays KS 67601

ATTN: Tony Richardson

28-4-22 Norton

Fin/ Belden

Start Date: 2006.03.01 @ 19:28:37

End Date: 2006.03.02 @ 02:24:05

Job Ticket #: 23371 DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Black Diamond

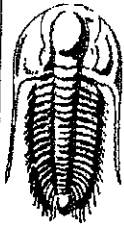
Fin/ Belden

28-4-22 Norton

DST # 6

Gorham Sand / Arbuck

2006.03.01



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Black Diamond

Fin/ Belden

PO Box 641
Hays KS 67601

28-4-22 Norton

Job Ticket: 23371

DST#: 6

ATTN: Tony Richardson

Test Start: 2006.03.01 @ 19:28:37

GENERAL INFORMATION:

Formation: **Gorham Sand / Arbuck**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:06:35

Time Test Ended: 02:24:05

Test Type: Conventional Bottom Hole

Tester: Brian Fairbank

Unit No: 24

Interval: **3743.00 ft (KB) To 3762.00 ft (KB) (TVD)**

Total Depth: 3762.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2310.00 ft (KB)

2305.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: **6769**

Inside

Press@RunDepth: 77.96 psig @ 3744.01 ft (KB)

Start Date: 2006.03.01

End Date: 2006.03.02

Capacity: 7000.00 psig

Last Calib.: 2006.03.02

Start Time: 19:28:37

End Time: 02:24:05

Time On Btm: 2006.03.01 @ 21:04:50

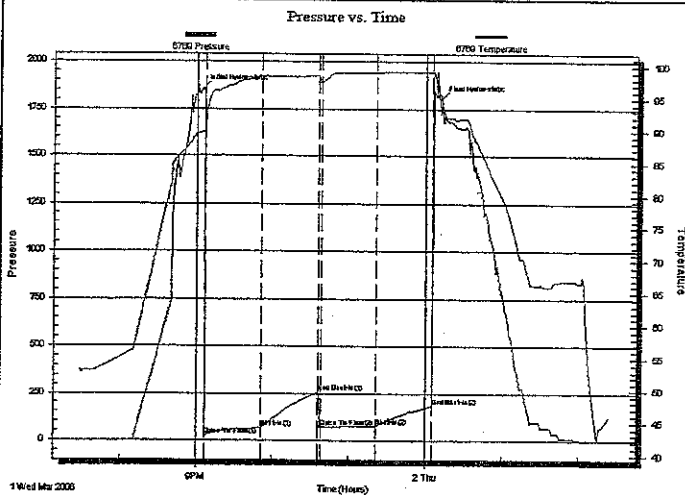
Time Off Btm: 2006.03.02 @ 00:11:35

TEST COMMENT: IFP - weak to good blow - 1" - 9 1/2"

ISI - no blow back

FFP - weak throughout - sur. - 3"

FSI - no blow back



PRESSURE SUMMARY

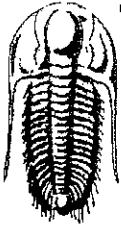
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1851.96	89.76	Initial Hydro-static
2	23.66	89.36	Open To Flow (1)
46	64.99	98.47	Shut-In (1)
91	256.59	98.45	End Shut-In (1)
93	70.07	97.37	Open To Flow (2)
137	77.96	99.01	Shut-In (2)
181	181.31	99.14	End Shut-In (2)
187	1802.16	95.69	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	MCO 50% O, 50% M	0.05
75.00	GMCO 5% G, 75% O, 20% M	0.37
110.00	GO 30% G, 70% O	1.21

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Diamond

Fin/ Belden

PO Box 641
Hays KS 67601

28-4-22 Norton

Job Ticket: 23371

DST#: 6

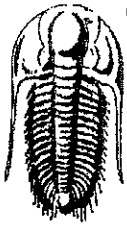
ATTN: Tony Richardson

Test Start: 2006.03.01 @ 19:28:37

Tool Information

Drill Pipe:	Length: 3609.00 ft	Diameter: 3.80 inches	Volume: 50.62 bbl	Tool Weight: 20000.00 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: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 52000.00 lb
			<u>Total Volume: 51.22 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3743.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	19.02 ft			
Tool Length:	39.02 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:	20' GIP			

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
S.I. Tool	5.00			3728.00	
HYD S.I. Tool	5.00			3733.00	
Packer	5.00			3738.00	20.00 Bottom Of Top Packer
Packer	5.00			3743.00	
Stubb	1.00			3744.00	
Recorder	0.01	6769	Inside	3744.01	
Perforations	15.00			3759.01	
Recorder	0.01	13548	Outside	3759.02	
Bullnose	3.00			3762.02	19.02 Bottom Packers & Anchor
Total Tool Length:	39.02				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond

Fin/ Belden

PO Box 641
Hays KS 67601

28-4-22 Norton

Job Ticket: 23371

DST#: 6

ATTN: Tony Richardson

Test Start: 2006.03.01 @ 19:28:37

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 16 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 59.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.95 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 45000.00 ppm		
Filter Cake: inches		

Recovery Information

Recovery Table

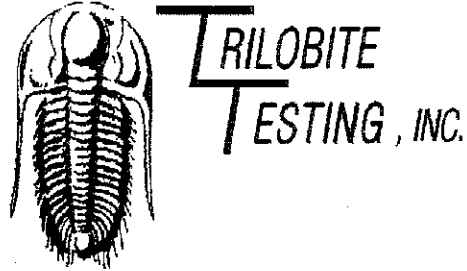
Length ft	Description	Volume bbl
10.00	MCO 50% O, 50% M	0.049
75.00	GMCO 5% G, 75% O, 20% M	0.369
110.00	GO 30% G, 70% O	1.206

Total Length: 195.00 ft Total Volume: 1.624 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:



DRILL STEM TEST REPORT

Prepared For: **Black Diamond**

PO Box 641
Hays KS 67601

ATTN: Tony Richardson

28-4-22 Norton

Fin/ Belden

Start Date: 2006.03.02 @ 07:46:10

End Date: 2006.03.02 @ 16:42:08

Job Ticket #: 23372 DST #: 7

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Black Diamond

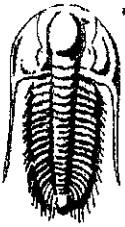
Fin/ Belden

28-4-22 Norton

DST # 7

Gorham Sand/Arbuckle

2006.03.02



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Black Diamond

Fin/ Belden

PO Box 641
Hays KS 67601

28-4-22 Norton

Job Ticket: 23372

DST#: 7

ATTN: Tony Richardson

Test Start: 2006.03.02 @ 07:46:10

GENERAL INFORMATION:

Formation: **Gorham Sand/Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:25:08

Time Test Ended: 16:42:08

Test Type: Conventional Bottom Hole

Tester: Brian Fairbank

Unit No: 24

Interval: **3743.00 ft (KB) To 3765.00 ft (KB) (TVD)**

Total Depth: 3765.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2310.00 ft (KB)

2305.00 ft (CF)

KB to GRVCF: 5.00 ft

Serial #: 6769

Inside

Press@RunDepth: 69.63 psig @ 3744.01 ft (KB)

Start Date: 2006.03.02

End Date:

2006.03.02

Start Time: 07:46:10

End Time:

16:42:08

Capacity: 7000.00 psig

Last Calib.: 2006.03.02

Time On Btm: 2006.03.02 @ 09:23:23

Time Off Btm: 2006.03.02 @ 15:13:38

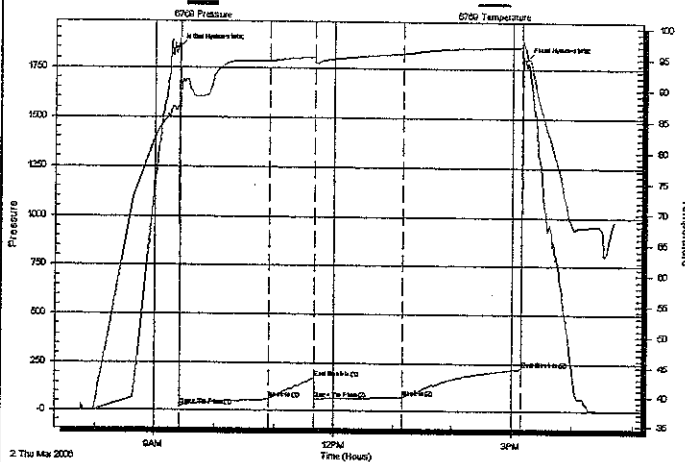
TEST COMMENT: IFP - weak to good blow - 1/2" - 7"

ISI - no blow back

FFP - 1/4" - 2 1/2" in 45 min. bleed off - no blow for 4 min. - 1 1/4" second 45 min.

FSI - intermittent weak surface blow back

Pressure vs. Time



PRESSURE SUMMARY

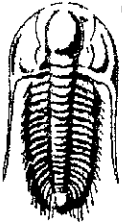
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1848.78	87.10	Initial Hydro-static
2	19.71	87.12	Open To Flow (1)
92	57.17	94.45	Shut-In(1)
136	172.80	95.23	End Shut-In(1)
137	58.80	94.59	Open To Flow (2)
226	69.63	95.83	Shut-In(2)
347	225.46	96.97	End Shut-In(2)
351	1792.84	96.69	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	HOCGM 5% G, 35% O, 60% M	0.30
90.00	GMO 15% G, 80% O, 5% M	0.70

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Diamond

Fin/ Belden

PO Box 641
Hays KS 67601

28-4-22 Norton

Job Ticket: 23372

DST#: 7

ATTN: Tony Richardson

Test Start: 2006.03.02 @ 07:46:10

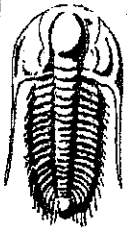
Tool Information

Drill Pipe:	Length: 3609.00 ft	Diameter: 3.80 inches	Volume: 50.62 bbl	Tool Weight: 20000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight set on Packer: 2500.00 lb
Drill Collar:	Length: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: 51.22 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3743.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	22.02 ft			
Tool Length:	42.02 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

adjusted weight gauge during test
20' GIP

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
S.I. Tool	5.00			3728.00	
HYD S.I. Tool	5.00			3733.00	
Packer	5.00			3738.00	20.00 Bottom Of Top Packer
Packer	5.00			3743.00	
Stubb	1.00			3744.00	
Recorder	0.01	6769	Inside	3744.01	
Perforations	18.00			3762.01	
Recorder	0.01	13548	Outside	3762.02	
Bullnose	3.00			3765.02	22.02 Bottom Packers & Anchor
Total Tool Length:	42.02				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond

Fin/ Belden

PO Box 641
Hays KS 67601

28-4-22 Norton

Job Ticket: 23372

DST#: 7

ATTN: Tony Richardson

Test Start: 2006.03.02 @ 07:46:10

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 59.00 sec/qt

Water Loss: 7.97 in³

Resistivity: ohm.m

Salinity: 4500.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbbl

psig

Oil API:

Water Salinity:

21 deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	HOCGM 5% G, 35% O, 60% M	0.295
90.00	GMO 15% G, 80% O, 5% M	0.698

Total Length: 150.00ft

Total Volume: 0.993 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

