

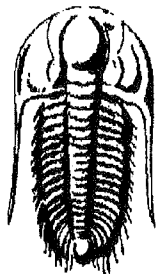
15-065-23350

2-8s-21w

RECEIVED
KANSAS CORPORATION COMMISSION

MAY 22 2008

CONSERVATION DIVISION
WICHITA, KS



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Black Diamond**

PO Box 641
Hays KS 67601

ATTN: Ken Vehige

2 8 21W Graham KS

Atkisson #1

Start Date: 2007.11.16 @ 08:53:32

End Date: 2007.11.16 @ 13:33:56

Job Ticket #: 30403 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Black Diamond

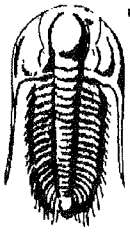
Atkisson #1

2 8 21W Graham KS

DST # 1

LKC "

2007.11.16



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Black Diamond

Atkisson #1

PO Box 641
Hays KS 67601

2 8 21W Graham KS

Job Ticket: 30403 DST#: 1

ATTN: Ken Vehige

Test Start: 2007.11.16 @ 08:53:32

GENERAL INFORMATION:

Formation: **LKC "**
 Deviated: **No** Whipstock: **ft (KB)**
 Time Tool Opened: 10:30:57
 Time Test Ended: 13:33:56

Test Type: Conventional Bottom Hole
 Tester: Brian Fairbank
 Unit No: 41

Interval: **3212.00 ft (KB) To 3275.00 ft (KB) (TVD)**
 Total Depth: **3275.00 ft (KB) (TVD)**
 Hole Diameter: **7.88 inches** Hole Condition:

Reference Elevations: **1983.00 ft (KB)**
1975.00 ft (CF)
 KB to GR/CF: **8.00 ft**

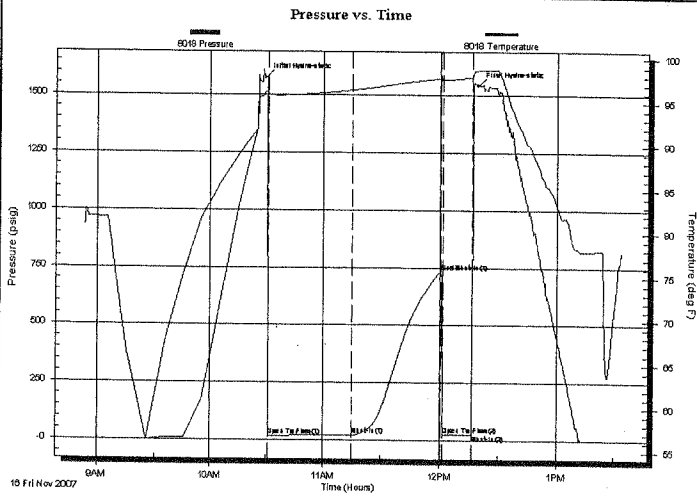
Serial #: 8018

Inside

Press@RunDepth: **21.60 psig @ 3219.01 ft (KB)**
 Start Date: **2007.11.16** End Date: **2007.11.16**
 Start Time: **08:53:32** End Time: **13:33:56**

Capacity: **7000.00 psig**
 Last Calib.: **2007.11.16**
 Time On Btm: **2007.11.16 @ 10:29:57**
 Time Off Btm: **2007.11.16 @ 12:19:27**

TEST COMMENT: IFF 1/4" blow died 43 min.
 ISI No blow back
 FFP Sur blow - died 9 min.
 TIME 45 45 15



PRESSURE SUMMARY

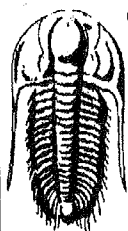
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1573.68	96.19	Initial Hydro-static
1	17.46	95.87	Open To Flow (1)
45	21.60	96.41	Shut-In(1)
91	731.79	97.76	End Shut-In(1)
92	23.34	97.57	Open To Flow (2)
107	24.84	97.89	Shut-In(2)
110	1541.47	98.67	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	VSOCM 5%O 95%M	0.02

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Diamond

Atkisson #1

PO Box 641
Hays KS 67601

2 8 21W Graham KS

Job Ticket: 30403

DST#: 1

ATTN: Ken Vehige

Test Start: 2007.11.16 @ 08:53:32

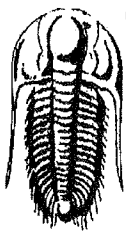
Tool Information

Drill Pipe:	Length: 3172.00 ft	Diameter: 3.80 inches	Volume: 44.49 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: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 44.64 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	3212.00 ft			Final 59000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	63.02 ft			
Tool Length:	83.02 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3197.00	
Hydraulic tool	5.00			3202.00	
Packer	5.00			3207.00	20.00 Bottom Of Top Packer
Packer	5.00			3212.00	
Stubb	1.00			3213.00	
Perforations	5.00			3218.00	
Change Over Sub	1.00			3219.00	
Recorder	0.01	8018	Inside	3219.01	
Recorder	0.01	8366	Outside	3219.02	
Blank Spacing	32.00			3251.02	
Change Over Sub	1.00			3252.02	
Perforations	20.00			3272.02	
Bullnose	3.00			3275.02	63.02 Bottom Packers & Anchor

Total Tool Length: 83.02



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond

Atkisson #1

PO Box 641
Hays KS 67601

2 8 21W Graham KS

Job Ticket: 30403

DST#: 1

ATTN: Ken Vehige

Test Start: 2007.11.16 @ 08:53:32

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 53.00 sec/qt

Water Loss: 8.77 in³

Resistivity: ohm.m

Salinity: 1000.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: ppm

deg API

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	VSOCM 5%O 95%M	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

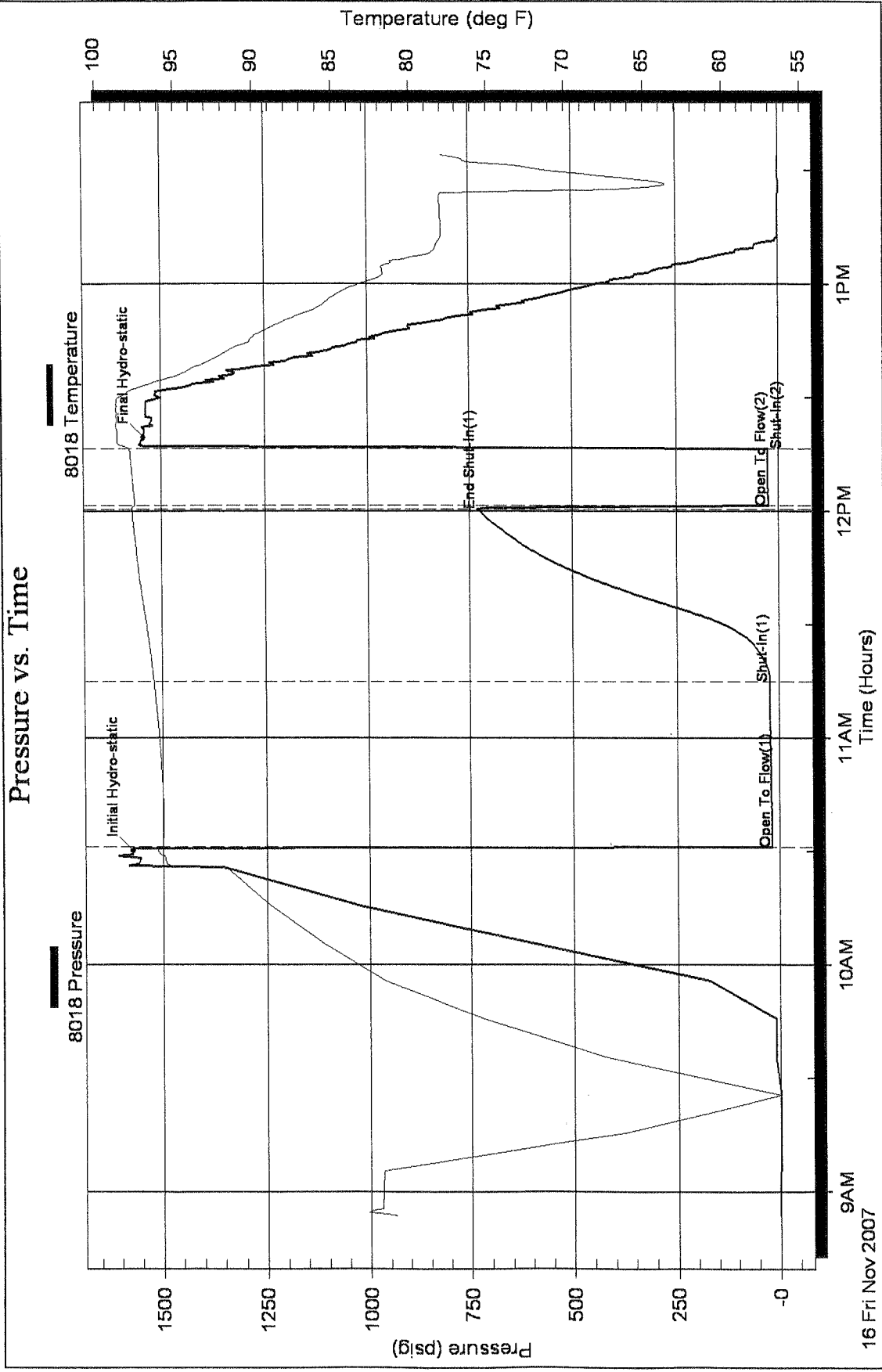
Serial #:

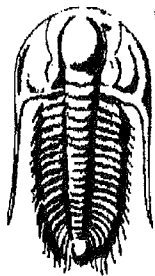
Laboratory Name:

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: Ken Vehige

2 8S 21W Graham KS

Atkisson #1

Start Date: 2007.11.16 @ 19:20:17

End Date: 2007.11.17 @ 01:35:11

Job Ticket #: 30404 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Black Diamond

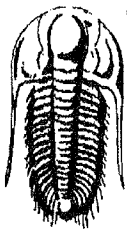
Atkisson #1

2 8S 21W Graham KS

DST # 2

LKC "D-E"

2007.11.16



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Black Diamond

Atkisson #1

PO Box 641
Hays KS 67601

2 8S 21W Graham KS

Job Ticket: 30404

DST#: 2

ATTN: Ken Vehige

Test Start: 2007.11.16 @ 19:20:17

GENERAL INFORMATION:

Formation: **LKC "D-E"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:59:12

Time Test Ended: 01:35:11

Test Type: Conventional Bottom Hole

Tester: Brian Fairbank

Unit No: 41

Interval: **3246.00 ft (KB) To 3300.00 ft (KB) (TVD)**

Total Depth: 3300.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition:

Reference Elevations: 1983.00 ft (KB)

1975.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: **8018**

Inside

Press@RunDepth: 52.60 psig @ 3249.01 ft (KB)

Start Date: 2007.11.16

End Date:

2007.11.17

Start Time: 19:20:17

End Time:

01:35:11

Capacity: 7000.00 psig

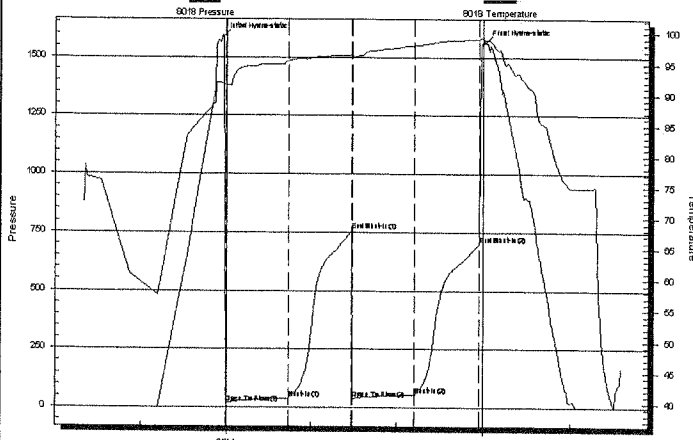
Last Calib.: 2007.11.17

Time On Btm: 2007.11.16 @ 20:57:42

Time Off Btm: 2007.11.17 @ 00:00:41

TEST COMMENT: IFP Weak to fair blow - 1/2" - 8"
ISI No blow back
FFP Weak to strong blow 1/2" - 9 1/2"
FSI No blow back

Pressure vs. Time



PRESSURE SUMMARY

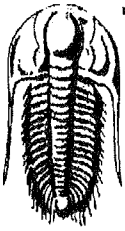
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1585.99	91.84	Initial Hydro-static
2	15.10	91.51	Open To Flow (1)
46	38.70	95.40	Shut-In(1)
91	756.72	96.41	End Shut-In(1)
92	36.07	96.12	Open To Flow (2)
135	52.60	97.97	Shut-In(2)
180	701.28	98.98	End Shut-In(2)
183	1562.35	98.85	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
90.00	HOCM 35%O 65%M	0.98

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Diamond

Atkisson #1

PO Box 641
Hays KS 67601

2 8S 21W Graham KS

Job Ticket: 30404

DST#: 2

ATTN: Ken Vehige

Test Start: 2007.11.16 @ 19:20:17

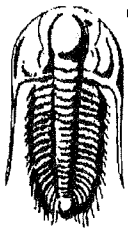
Tool Information

Drill Pipe:	Length: 3202.00 ft	Diameter: 3.80 inches	Volume: 44.92 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: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 80000.00 lb
		<u>Total Volume:</u>	<u>45.07 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	3246.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	54.02 ft			
Tool Length:	74.02 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3231.00	
Hydraulic tool	5.00			3236.00	
Packer	5.00			3241.00	20.00 Bottom Of Top Packer
Packer	5.00			3246.00	
Stubb	1.00			3247.00	
Perforations	1.00			3248.00	
Change Over Sub	1.00			3249.00	
Recorder	0.01	8018	Inside	3249.01	
Recorder	0.01	8366	Outside	3249.02	
Blank Spacing	32.00			3281.02	
Change Over Sub	1.00			3282.02	
Perforations	15.00			3297.02	
Bullnose	3.00			3300.02	54.02 Bottom Packers & Anchor

Total Tool Length: 74.02



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond

Atkisson #1

PO Box 641
Hays KS 67601

2 8S 21W Graham KS

Job Ticket: 30404

DST#: 2

ATTN: Ken Vehige

Test Start: 2007.11.16 @ 19:20:17

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 53.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.72 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1000.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	HOCM 35%O 65%M	0.980

Total Length: 90.00 ft Total Volume: 0.980 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

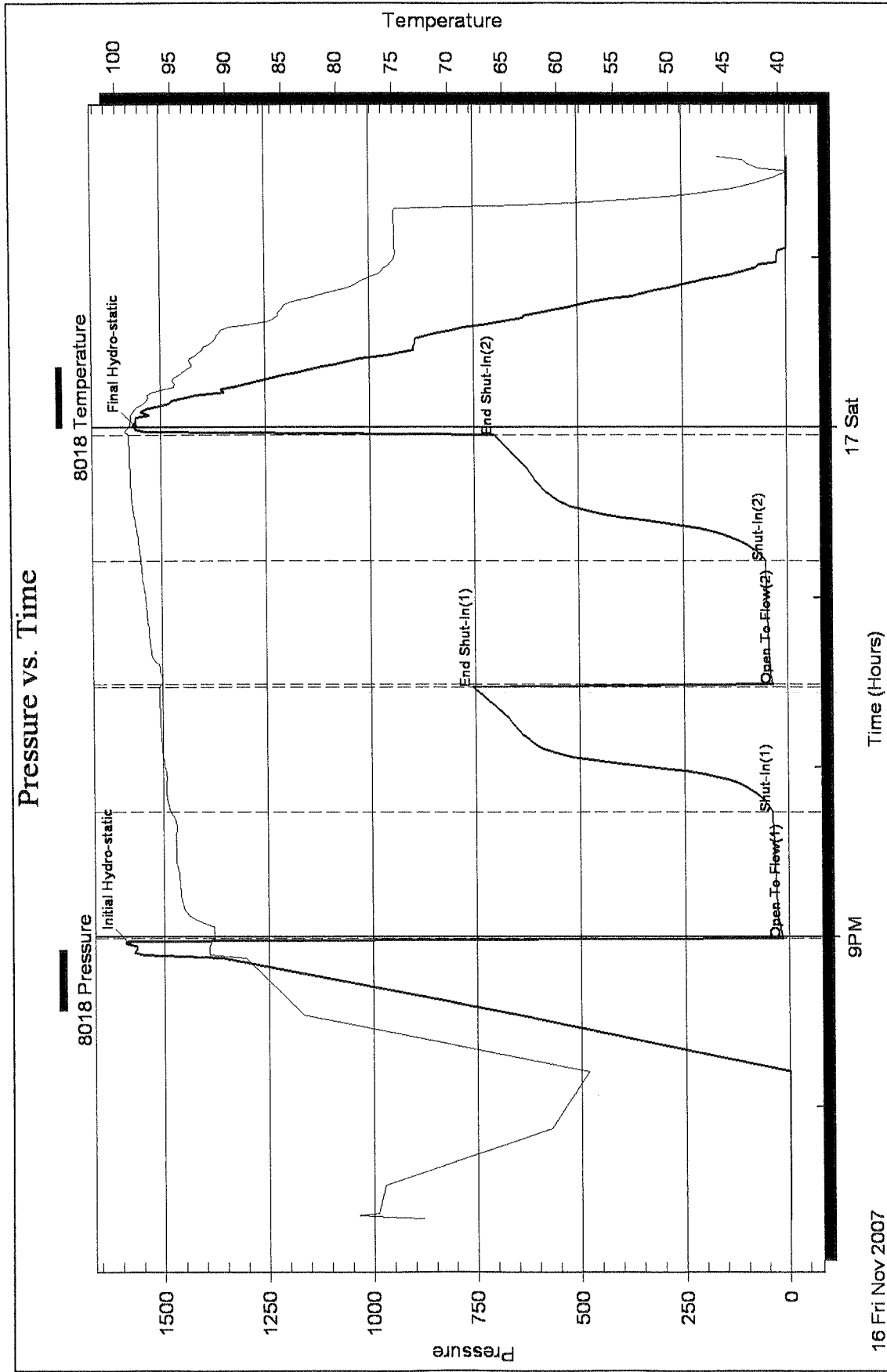
Serial #:

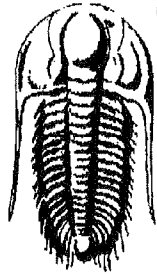
Laboratory Name:

Laboratory Location:

Recovery Comments: 60' GIP

Pressure vs. Time





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Black Diamond**

PO Box 641
Hays KS 67601

ATTN: Ken Vehige

2 8S 21W Graham KS

Atkisson #1

Start Date: 2007.11.17 @ 18:06:49

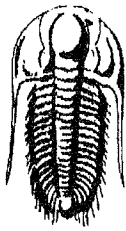
End Date: 2007.11.18 @ 00:53:19

Job Ticket #: 30405 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Black Diamond

Atkisson #1

PO Box 641
Hays KS 67601

2 8S 21W Graham KS

ATTN: Ken Vehige

Job Ticket: 30405

DST#: 3

Test Start: 2007.11.17 @ 18:06:49

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:39:19

Time Test Ended: 00:53:19

Test Type: Conventional Bottom Hole

Tester: Brian Fairbank

Unit No: 41

Interval: **3472.00 ft (KB) To 3492.00 ft (KB) (TVD)**

Total Depth: 3492.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition:

Reference Elevations: 1983.00 ft (KB)

1975.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: **8018**

Inside

Press@RunDepth: 39.57 psig @ 3474.01 ft (KB)

Start Date: 2007.11.17

End Date:

2007.11.18

Start Time: 18:06:54

End Time:

00:53:18

Capacity: 7000.00 psig

Last Calib.: 2007.11.18

Time On Btm: 2007.11.17 @ 19:38:49

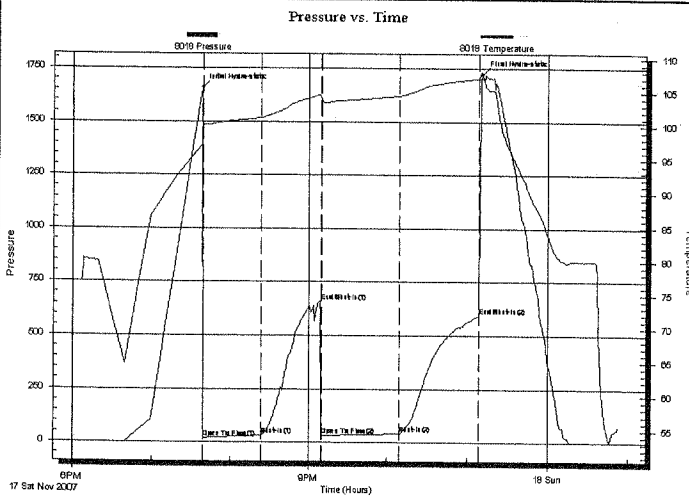
Time Off Btm: 2007.11.17 @ 23:11:49

TEST COMMENT: IFP Weak to fair blow 1/2" - 5 1/2"

ISI No blow back

FFP Weak to fair blow 1/4" - 4"

FSI No blow back



PRESSURE SUMMARY

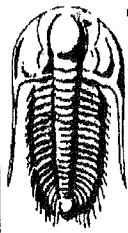
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1657.08	97.20	Initial Hydro-static
1	16.53	100.19	Open To Flow (1)
45	30.26	101.15	Shut-In(1)
91	658.84	104.59	End Shut-In(1)
92	30.41	103.99	Open To Flow (2)
151	39.57	104.44	Shut-In(2)
210	593.80	107.06	End Shut-In(2)
213	1723.12	106.93	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	OCM 30%O 70%M	0.05
80.00	G FREE OIL 25%G 75%O	0.93

Gas Rates

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



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Diamond

Atkisson #1

PO Box 641
Hays KS 67601

2 8S 21W Graham KS

Job Ticket: 30405

DST#: 3

ATTN: Ken Vehige

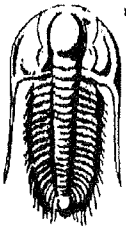
Test Start: 2007.11.17 @ 18:06:49

Tool Information

Drill Pipe:	Length: 3424.00 ft	Diameter: 3.80 inches	Volume: 48.03 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: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 65000.00 lb
		Total Volume:	48.18 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial 59000.00 lb
Depth to Top Packer:	3472.00 ft			Final 59000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.02 ft			
Tool Length:	40.02 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3457.00	
Hydraulic tool	5.00			3462.00	
Packer	5.00			3467.00	20.00 Bottom Of Top Packer
Packer	5.00			3472.00	
Stubb	1.00			3473.00	
Perforations	1.00			3474.00	
Recorder	0.01	8018	Inside	3474.01	
Recorder	0.01	8366	Outside	3474.02	
Perforations	15.00			3489.02	
Bullnose	3.00			3492.02	20.02 Bottom Packers & Anchor
Total Tool Length:	40.02				



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond

Atkisson #1

PO Box 641
Hays KS 67601

2 8S 21W Graham KS

Job Ticket: 30405

DST#: 3

ATTN: Ken Vehige

Test Start: 2007.11.17 @ 18:06:49

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: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.77 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	OCM 30%O 70%M	0.049
80.00	G FREE OIL 25%G 75%O	0.931

Total Length: 90.00 ft Total Volume: 0.980 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8018

Inside

Black Diamond

2 8S 21W Graham KS

DST Test Number: 3

Pressure vs. Time

