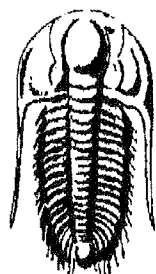


15-163-23779

9-7s-20w

KG S ✓



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Black Diamond**

PO Box 641
Hays, KS 67601

ATTN: Tony R

9-7-20 Rooks KS

Roy-Gager #1

Start Date: 2008.12.06 @ 23:46:15

End Date: 2008.12.07 @ 06:07:15

Job Ticket #: 34959 DST #: 1

KANSAS CORPORATION COMMISSION

APR 13 2009

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Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Black Diamond

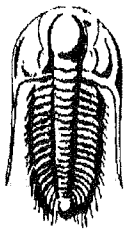
Roy-Gager #1

9-7-20 Rooks KS

DST # 1

LKC "E-G"

2008.12.06



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Black Diamond

PO Box 641
Hays, KS 67601

ATTN: Tony R

Roy-Gager #1

9-7-20 Rooks KS

Job Ticket: 34959

DST#: 1

Test Start: 2008.12.06 @ 23:46:15

GENERAL INFORMATION:

Formation: **LKC "E-G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:27:15

Time Test Ended: 06:07:15

Test Type: Conventional Bottom Hole

Tester: Kyle Kinderknecht

Unit No: 31

Interval: **3478.00 ft (KB) To 3530.00 ft (KB) (TVD)**

Total Depth: 3530.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2188.00 ft (KB)

2180.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8319

Inside

Press@RunDepth: 100.32 psig @ 3485.00 ft (KB)

Start Date: 2008.12.06

End Date:

2008.12.07

Capacity: 7000.00 psig

Last Calib.: 2008.12.07

Start Time: 23:46:20

End Time:

06:07:14

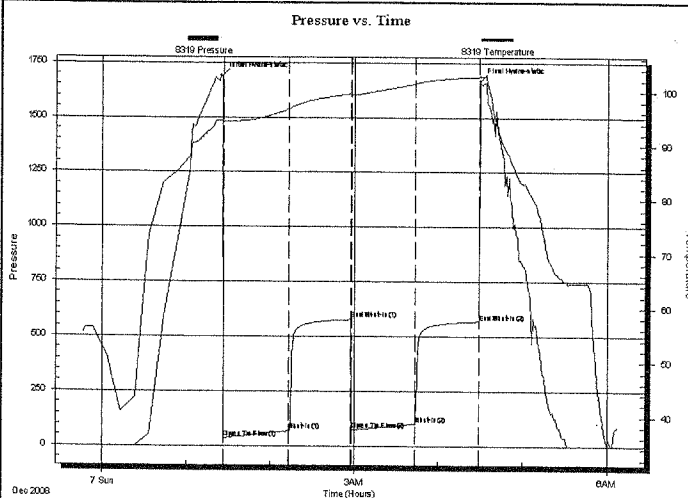
Time On Btm: 2008.12.07 @ 01:25:45

Time Off Btm: 2008.12.07 @ 04:29:45

TEST COMMENT: IF 5 1/2"

ISI Weak surface 5-6 min

FF 3"



PRESSURE SUMMARY

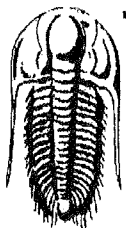
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1688.69	94.73	Initial Hydro-static
2	33.16	94.24	Open To Flow(1)
47	67.49	96.74	Shut-In(1)
92	577.09	99.56	End Shut-In(1)
93	72.46	99.39	Open To Flow(2)
137	100.32	101.38	Shut-In(2)
183	568.34	102.74	End Shut-In(2)
184	1666.96	102.89	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	Mdy Wtr	2.26

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Diamond

Roy-Gager #1

PO Box 641
Hays, KS 67601

9-7-20 Rooks KS

Job Ticket: 34959

DST#: 1

ATTN: Tony R

Test Start: 2008.12.06 @ 23:46:15

Tool Information

Drill Pipe:	Length: 3454.00 ft	Diameter: 3.82 inches	Volume: 48.96 bbl	Tool Weight:	1500.00 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
		Total Volume:	49.11 bbl	Tool Chased	5.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial	68000.00 lb
Depth to Top Packer:	3478.00 ft			Final	69000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	52.00 ft				
Tool Length:	72.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3459.00	
Shut In Tool	5.00			3464.00	
Hydraulic tool	5.00			3469.00	
Packer	4.00			3473.00	20.00 Bottom Of Top Packer
Packer	5.00			3478.00	
Stubb	1.00			3479.00	
Perforations	5.00			3484.00	
Change Over Sub	1.00			3485.00	
Recorder	0.00	8319	Inside	3485.00	
Recorder	0.00	8369	Inside	3485.00	
Blank Spacing	31.00			3516.00	
Change Over Sub	1.00			3517.00	
Perforations	10.00			3527.00	
Bullnose	3.00			3530.00	52.00 Bottom Packers & Anchor

Total Tool Length: 72.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond

Roy-Gager #1

PO Box 641
Hays, KS 67601

9-7-20 Rooks KS

Job Ticket: 34959

DST#: 1

ATTN: Tony R

Test Start: 2008.12.06 @ 23:46:15

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: lb/gal

Viscosity: sec/qt

Water Loss: in³

Resistivity: ohm.m

Salinity: ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

deg API

Water Salinity:

50000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	Mdy Wtr	2.265

Total Length: 180.00 ft Total Volume: 2.265 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

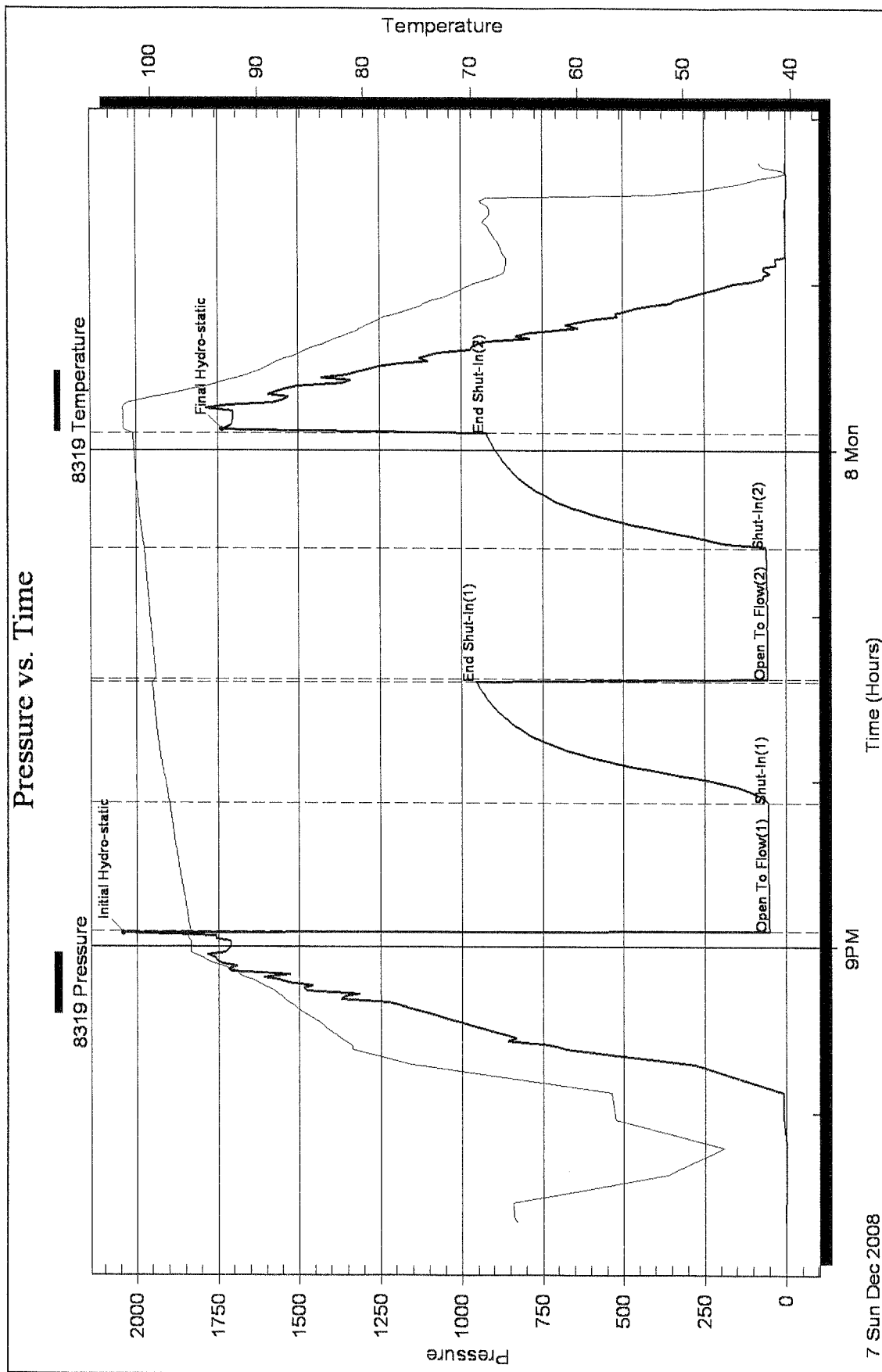
Serial #:

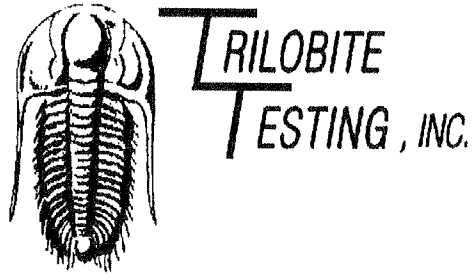
Laboratory Name:

Laboratory Location:

Recovery Comments: rw .22 @ 49 deg.

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Black Diamond**

PO Box 641
Hays, KS 67601

ATTN: Tony R

9-7-20 Rooks KS

Roy-Gager #1

Start Date: 2008.12.07 @ 19:20:26

End Date: 2008.12.08 @ 01:44:26

Job Ticket #: 34960 DST #: 2

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APR 13 2009

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Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Black Diamond

PO Box 641
Hays, KS 67601

ATTN: Tony R

Roy-Gager #1

9-7-20 Rooks KS

Job Ticket: 34960

DST#: 2

Test Start: 2008.12.07 @ 19:20:26

GENERAL INFORMATION:

Formation: **Arb**

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

Time Tool Opened: 21:05:26

Time Test Ended: 01:44:26

Interval: 3585.00 ft (KB) To 3660.00 ft (KB) (TVD)

Total Depth: 3660.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole

Tester: Kyle Kinderknecht

Unit No: 31

Reference Elevations: 2188.00 ft (KB)

2180.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8319

Inside

Press@RunDepth: 59.55 psig @ 3592.00 ft (KB)

Start Date: 2008.12.07

End Date:

2008.12.08

Start Time: 19:20:31

End Time:

01:44:25

Capacity: 7000.00 psig

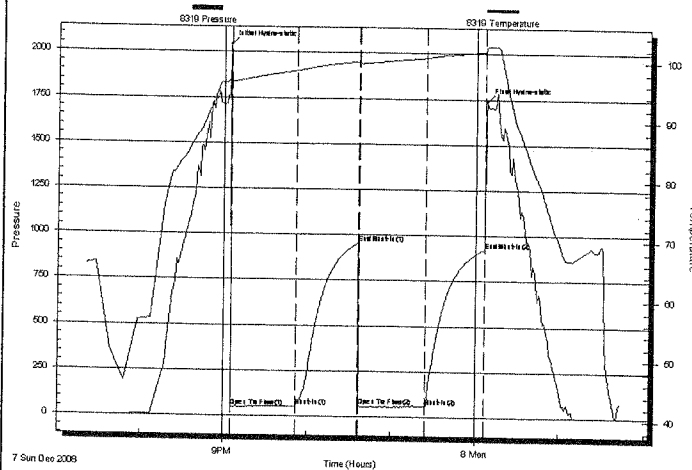
Last Calib.: 2008.12.08

Time On Btm: 2008.12.07 @ 21:04:56

Time Off Btm: 2008.12.08 @ 00:07:26

TEST COMMENT: IF Surface
FF Surface

Pressure vs. Time



PRESSURE SUMMARY

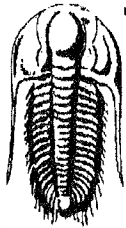
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2039.81	96.88	Initial Hydro-static
1	50.31	96.32	Open To Flow (1)
47	52.39	98.35	Shut-In(1)
91	954.76	99.92	End Shut-In(1)
92	56.50	99.66	Open To Flow (2)
140	59.55	100.63	Shut-In(2)
181	922.32	101.67	End Shut-In(2)
183	1736.15	102.53	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCM 10%O 90%M	0.56
30.00	OCM 5%O 95%M	0.43
0.00	TOOL 100%Oil	0.00

Gas Rates

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



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Diamond
PO Box 641
Hays, KS 67601
ATTN: Tony R

Roy-Gager #1

9-7-20 Rooks KS

Job Ticket: 34960

DST#: 2

Test Start: 2008.12.07 @ 19:20:26

Tool Information

Drill Pipe:	Length: 3544.00 ft	Diameter: 3.82 inches	Volume: 50.24 bbl	Tool Weight: 1500.00 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: 50.39 bbl</u>	Tool Chased 10.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	3585.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	75.00 ft			
Tool Length:	95.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3566.00	
Shut In Tool	5.00			3571.00	
Hydraulic tool	5.00			3576.00	
Packer	4.00			3580.00	20.00 Bottom Of Top Packer
Packer	5.00			3585.00	
Stubb	1.00			3586.00	
Perforations	5.00			3591.00	
Change Over Sub	1.00			3592.00	
Recorder	0.00	8319	Inside	3592.00	
Recorder	0.00	8369	Inside	3592.00	
Blank Spacing	63.00			3655.00	
Change Over Sub	1.00			3656.00	
Perforations	1.00			3657.00	
Bullnose	3.00			3660.00	75.00 Bottom Packers & Anchor

Total Tool Length: 95.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond

Roy-Gager #1

PO Box 641
Hays, KS 67601

9-7-20 Rooks KS

Job Ticket: 34960

DST#: 2

ATTN: Tony R

Test Start: 2008.12.07 @ 19:20:26

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 51.00 sec/qt

Water Loss: 8.78 in³

Resistivity: ohm.m

Salinity: 1000.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	OCM 10%O 90%M	0.564
30.00	OCM 5%O 95%M	0.425
0.00	TOOL 100%Oil	0.000

Total Length: 90.00 ft

Total Volume: 0.989 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

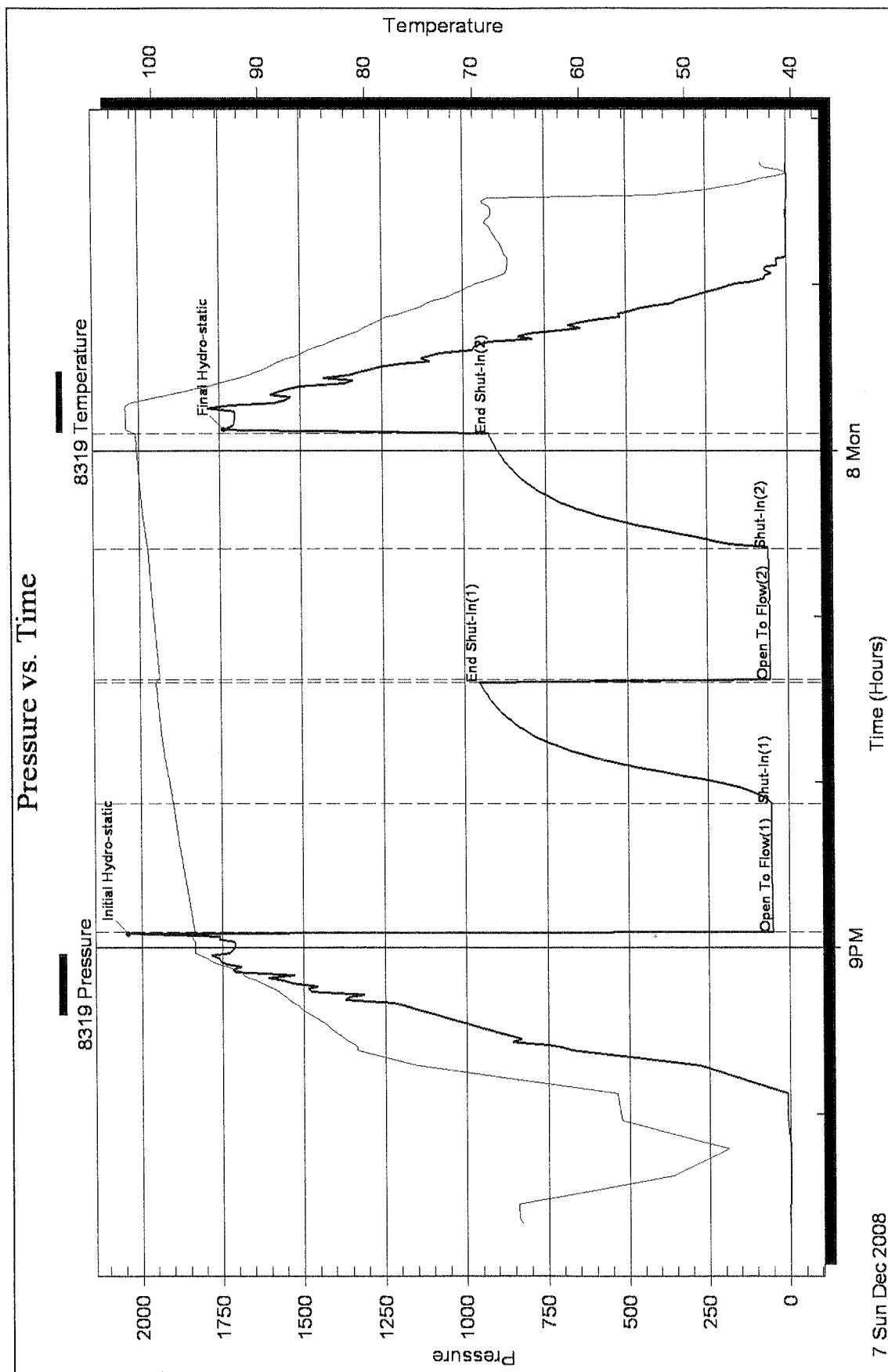
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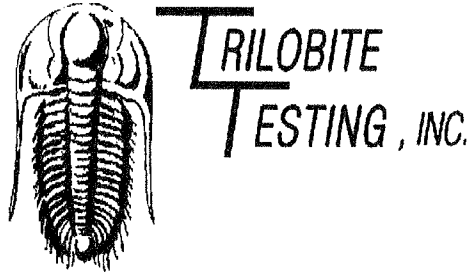
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Black Diamond**

PO Box 641
Hays, KS 67601

ATTN: Tony R

9-7-20 Rooks KS

Roy-Gager #1

Start Date: 2008.12.08 @ 08:48:00

End Date: 2008.12.08 @ 15:14:00

Job Ticket #: 34961 DST #: 3

KANSAS CORPORATION COMMISSION

APR 13 2009

RECEIVED

Trilobite Testing, Inc
PO Box 1733 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

Black Diamond
PO Box 641
Hays, KS 67601
ATTN: Tony R

Roy-Gager #1

9-7-20 Rooks KS

Job Ticket: 34961

DST#: 3

Test Start: 2008.12.08 @ 08:48:00

GENERAL INFORMATION:

Formation: **Tor-"A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:14:30

Time Test Ended: 15:14:00

Interval: **3370.00 ft (KB) To 3430.00 ft (KB) (TVD)**

Total Depth: 3670.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Straddle

Tester: Kyle Kinderknecht

Unit No: 31

Reference Elevations: 2188.00 ft (KB)

2180.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8319 Inside

Press@RunDepth: 535.96 psig @ 3382.00 ft (KB)

Start Date: 2008.12.08

End Date:

2008.12.08

Start Time: 08:48:05

End Time:

15:13:59

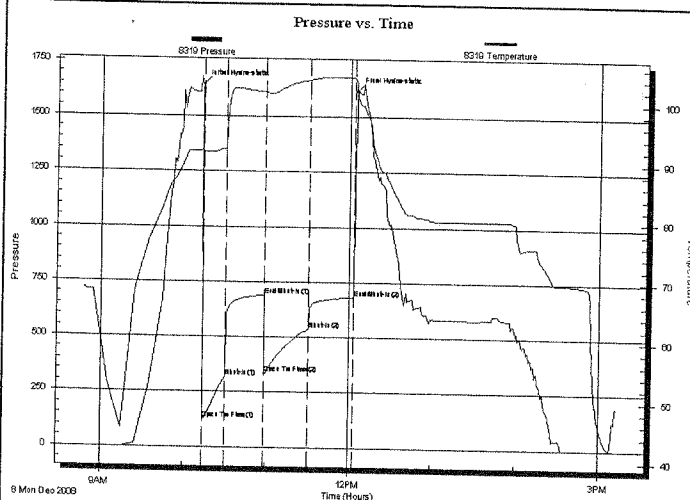
Capacity: 7000.00 psig

Last Calib.: 2008.12.08

Time On Btm: 2008.12.08 @ 10:14:00

Time Off Btm: 2008.12.08 @ 12:04:30

TEST COMMENT: IF BOB 1 min
ISI 4 1/2"
FF BOB 1 min
FSI 4"



PRESSURE SUMMARY

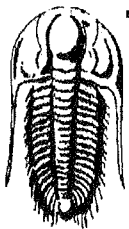
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1643.71	92.14	Initial Hydro-static
1	126.42	91.73	Open To Flow (1)
17	314.74	92.26	Shut-In(1)
45	689.41	101.87	End Shut-In(1)
45	336.29	101.75	Open To Flow (2)
77	535.96	103.80	Shut-In(2)
110	681.06	104.22	End Shut-In(2)
111	1616.27	103.55	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1400.00	Gsy Free Oil Reversed Out	19.56
0.00	650' GIP	0.00

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Diamond

Roy-Gager #1

PO Box 641
Hays, KS 67601

9-7-20 Rooks KS

Job Ticket: 34961

DST#: 3

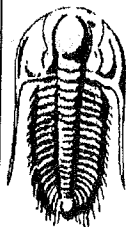
ATTN: Tony R

Test Start: 2008.12.08 @ 08:48:00

Tool Information

Drill Pipe:	Length: 3329.00 ft	Diameter: 3.82 inches	Volume: 47.19 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	82000.00 lb
		Total Volume:	47.34 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial	73000.00 lb
Depth to Top Packer:	3370.00 ft			Final	80000.00 lb
Depth to Bottom Packer:	3430.00 ft				
Interval between Packers:	60.00 ft				
Tool Length:	321.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3351.00	
Shut In Tool	5.00			3356.00	
Hydraulic tool	5.00			3361.00	
Packer	4.00			3365.00	20.00 Bottom Of Top Packer
Packer	5.00			3370.00	
Stubb	1.00			3371.00	
Perforations	10.00			3381.00	
Change Over Sub	1.00			3382.00	
Recorder	0.00	8319	Inside	3382.00	
Blank Spacing	32.00			3414.00	
Change Over Sub	1.00			3415.00	
Perforations	11.00			3426.00	
Recorder	0.00	13308	Inside	3426.00	
Blank Off Sub	1.00			3427.00	
Blank Spacing	3.00			3430.00	60.00 Tool Interval
Packer	0.00			3430.00	
Stubb	1.00			3431.00	
Recorder	0.00	8369	Below	3431.00	
Perforations	19.00			3450.00	
Change Over Sub	1.00			3451.00	
Blank Spacing	220.00			3671.00	241.00 Bottom Packers & Anchor
Total Tool Length:		321.00			



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond

Roy-Gager #1

PO Box 641
Hays, KS 67601

9-7-20 Rooks KS

Job Ticket: 34961

DST#: 3

ATTN: Tony R

Test Start: 2008.12.08 @ 08:48:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 51.00 sec/qt

Water Loss: 8.79 in³

Resistivity: ohm.m

Salinity: 1000.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

35 deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1400.00	Gsy Free Oil Reversed Out	19.559
0.00	650' GIP	0.000

Total Length: 1400.00 ft

Total Volume: 19.559 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

