15-097-21498

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Advantage Res.**

1775 Sherman St. Ste.1900
Denver, CO 80203-1902

ATTN: Brad Rine ORIGINAL

6 28s 17w Kiowa

Kelller-McElwain #1

Start Date: 2003.02.07 @ 23:13:08

End Date: 2003.02.08 @ 08:03:38

Job Ticket #: 16644 DST #: 1

Advantage Res. Kelller-McElwain #1 6 28s 17w Kiowa DST # 1 Chase 2003.02.07

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

ORIGINAL

DRILL STEM TEST REPORT

Advantage Res.

1775 Sherman St. Ste.1900
Denver, CO 80203-1902

ATTN: Brad Rine

Kelller-McElwain #1

6 28s 17w Kiowa

Job Ticket: 16644 **DST#: 1**

Test Start: 2003.02.07 @ 23:13:08

GENERAL INFORMATION:

Formation: **Chase**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 03:18:23
Time Test Ended: 08:03:38

Test Type: Conventional Bottom Hole
Tester: Wenrich
Unit No: 24

Interval: 2405.00 ft (KB) To 2440.00 ft (KB) (TVD)
Total Depth: 2440.00 ft (KB) (TVD)
Hole Diameter: 7.79 inches Hole Condition:

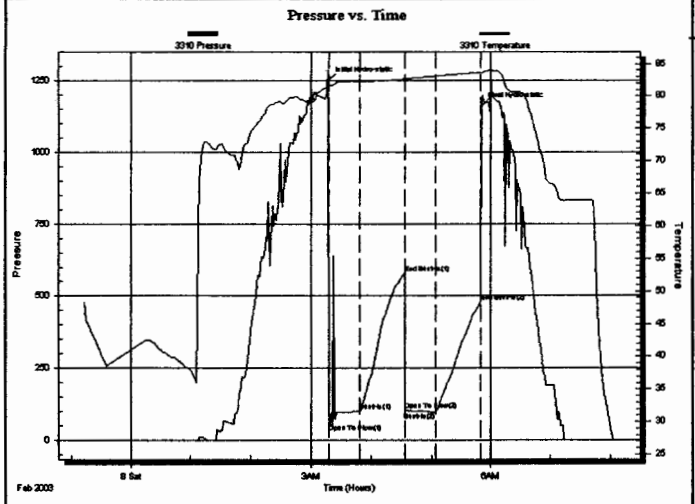
Reference Elevations: 2181.00 ft (KB)
2170.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 3310 **Inside**

Press@RunDepth: 96.39 psig @ 2406.00 ft (KB)
Start Date: 2003.02.07 End Date: 2003.02.08
Start Time: 23:13:13 End Time: 08:03:38

Capacity: 7000.00 psig
Last Calib.: 1899.12.30
Time On Btm: 2003.02.08 @ 03:17:38
Time Off Btm: 2003.02.08 @ 05:50:38

TEST COMMENT: IF:Weak blow .1/2" in bucket.
ISI:No blow .
FF:Weak blow .1/2" in bucket.
FSI:No blow .



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1252.06	81.36	Initial Hydro-static
1	26.38	81.64	Open To Flow (1)
31	98.65	82.33	Shut-In(1)
76	578.07	82.67	End Shut-In(1)
76	103.70	82.77	Open To Flow (2)
107	96.39	83.10	Shut-In(2)
153	479.49	83.66	End Shut-In(2)
153	1160.64	83.62	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
170.00	Mud	1.56

Gas Rates

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

ORIGINAL

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Advantage Res.

1775 Sherman St. Ste.1900
Denver, CO 80203-1902

ATTN: Brad Rine

Kelller-McElwain #1

6 28s 17w Kiowa

Job Ticket: 16644 **DST#: 1**

Test Start: 2003.02.07 @ 23:13:08

Tool Information

Drill Pipe:	Length:	2320.00 ft	Diameter:	3.80 inches	Volume:	32.54 bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	
Drill Collar:	Length:	90.00 ft	Diameter:	2.25 inches	Volume:	0.44 bbl	
					Total Volume:	32.98 bbl	

Drill Pipe Above KB:	25.00 ft
Depth to Top Packer:	2405.00 ft
Depth to Bottom Packer:	ft
Interval betw een Packers:	35.00 ft
Tool Length:	55.00 ft
Number of Packers:	2
Diameter:	6.75 inches

Tool Weight:		2100.00 lb
Weight set on Packer:		20000.00 lb
Weight to Pull Loose:		52000.00 lb
Tool Chased		0.00 ft
String Weight:	Initial	32000.00 lb
	Final	33000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
C.O. Sub	1.00			2386.00		
S.I. Tool	5.00			2391.00		
HMV	5.00			2396.00		
Packer	4.00			2400.00	20.00	Bottom Of Top Packer
Packer	5.00			2405.00		
Stubb	1.00			2406.00		
Recorder	0.00	3310	Inside	2406.00		
Perforations	32.00			2438.00		
Recorder	0.00	10242	Outside	2438.00		
Bullnose	2.00			2440.00	35.00	Bottom Packers & Anchor
Total Tool Length:	**55.00**					

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Advantage Res.

1775 Sherman St. Ste.1900
Denver, CO 80203-1902

ATTN: Brad Rine

Kelller-McElwain #1

6 28s 17w Kiowa

Job Ticket: 16644 **DST#: 1**

Test Start: 2003.02.07 @ 23:13:08

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:	28.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	166000.00 ppm				
Filter Cake:	0.20 inches				

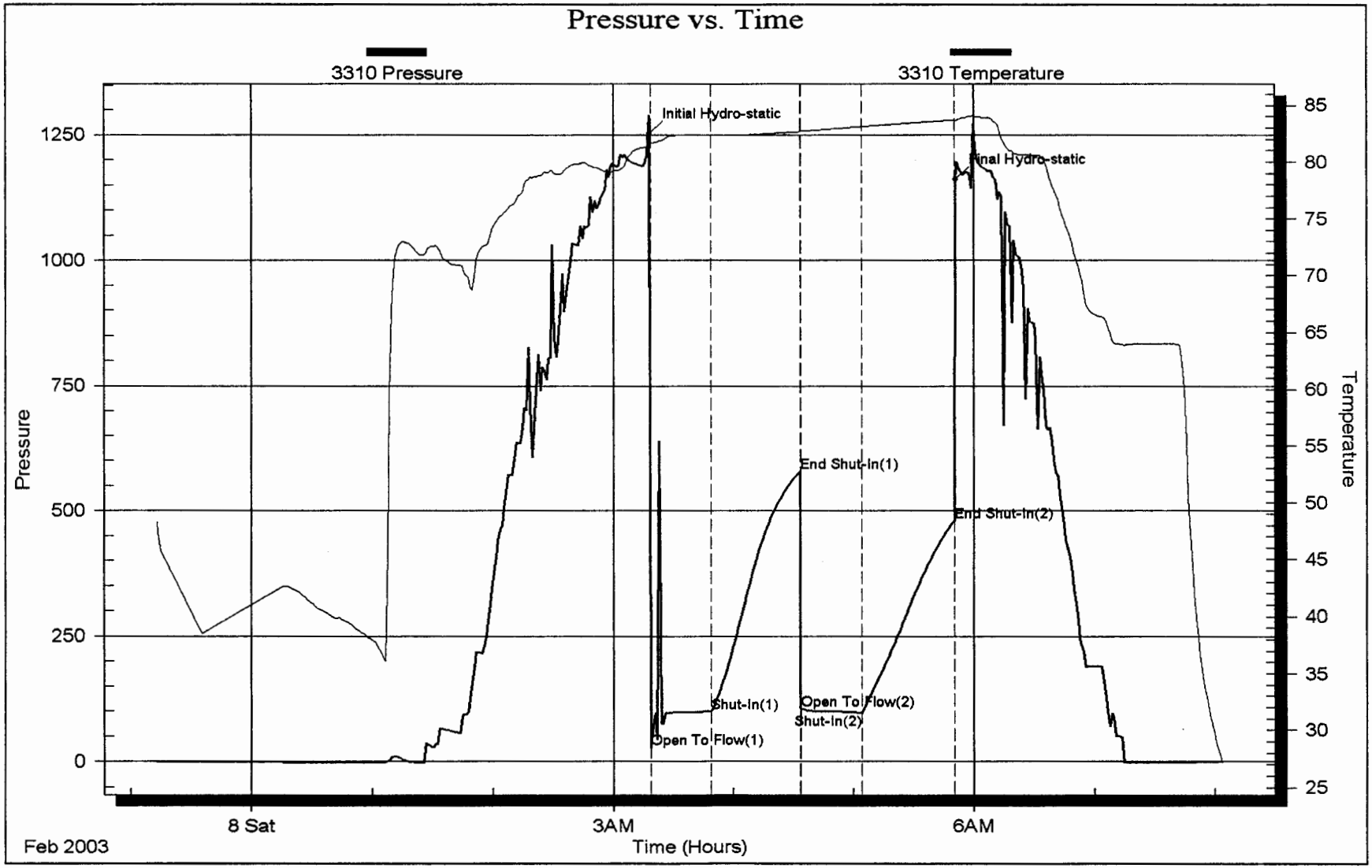
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
170.00	Mud	1.565

Total Length: 170.00 ft Total Volume: 1.565 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:


Pressure vs. Time
3310 Pressure
3310 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Shut-In(1)
Open To Flow(1)
Open To Flow(2)
Shut-In(2)
Pressure
Temperature
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1000
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500
250
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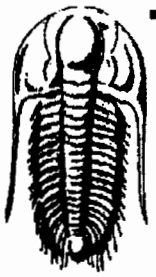
Feb 2003
Time (Hours)



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Advantage Res.**

1775 Sherman St. Ste.1900
Denver, CO 80203-1902

ATTN: Brad Rine

6 28s 17w Kiowa

Kelller-McElwain #1

Start Date: 2003.02.10 @ 14:15:19

End Date: 2003.02.10 @ 20:36:19

Job Ticket #: 16181 DST #: 2

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Advantage Res.

1775 Sherman St. Ste.1900
Denver, CO 80203-1902

ATTN: Brad Rine

Kelller-McElwain #1

6 28s 17w Kiowa

Job Ticket: 16181 **DST#: 2**

Test Start: 2003.02.10 @ 14:15:19

GENERAL INFORMATION:

Formation: **Bern**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:50:49
Time Test Ended: 20:36:19

Test Type: Conventional Bottom Hole
Tester: Rod Steinbrink
Unit No: 22

Interval: 3501.00 ft (KB) To 3530.00 ft (KB) (TVD)
Total Depth: 3530.00 ft (KB) (TVD)
Hole Diameter: 7.79 inches Hole Condition: Fair

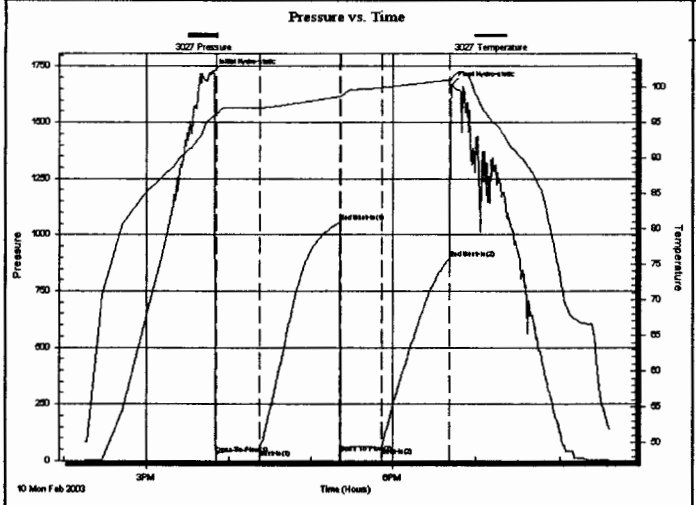
Reference Elevations: 2181.00 ft (KB)
2170.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 3027 **Inside**

Press@RunDepth: 59.38 psig @ 3507.00 ft (KB)
Start Date: 2003.02.10 End Date: 2003.02.10
Start Time: 14:15:24 End Time: 20:36:18

Capacity: 7000.00 psig
Last Calib.: 1899.12.30
Time On Btm: 2003.02.10 @ 15:48:19
Time Off Btm: 2003.02.10 @ 18:42:19

TEST COMMENT: IF; Fair to strong off bttm in 1 1/2 mins
ISI; No return blow
FF; Weak to fair off bttm in 20 mins.
FSI; No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1722.74	95.78	Initial Hydro-static
3	28.86	96.13	Open To Flow (1)
34	50.21	97.02	Shut-In(1)
93	1056.14	98.63	End Shut-In(1)
94	32.12	98.68	Open To Flow (2)
124	59.38	99.90	Shut-In(2)
173	894.28	100.98	End Shut-In(2)
174	1666.57	101.14	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
90.00	WM 85%w tr 15%mud	0.44

Gas Rates

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

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Advantage Res.

1775 Sherman St. Ste.1900
Denver, CO 80203-1902

ATTN: Brad Rine

Kelller-McElwain #1

6 28s 17w Kiowa

Job Ticket: 16181 **DST#: 2**

Test Start: 2003.02.10 @ 14:15:19

Tool Information

Drill Pipe:	Length:	34090.00 ft	Diameter:	3.80 inches	Volume:	478.19 bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	
Drill Collar:	Length:	90.00 ft	Diameter:	2.25 inches	Volume:	0.44 bbl	
					Total Volume:	478.63 bbl	

Drill Pipe Above KB:	30699.00 ft
Depth to Top Packer:	3501.00 ft
Depth to Bottom Packer:	ft
Interval between Packers:	34.00 ft
Tool Length:	54.00 ft
Number of Packers:	2
Diameter:	6.75 inches

Tool Weight:		2000.00 lb
Weight set on Packer:		25000.00 lb
Weight to Pull Loose:		50000.00 lb
Tool Chased		0.00 ft
String Weight:	Initial	42000.00 lb
	Final	42000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			3486.00		
Hydraulic tool	5.00			3491.00		
Packer	5.00			3496.00	20.00	Bottom Of Top Packer
Packer	5.00			3501.00		
Jars	5.00			3506.00		
Stubb	1.00			3507.00		
Recorder	0.00	3027	Inside	3507.00		
Perforations	23.00			3530.00		
Recorder	0.00	13371	Outside	3530.00		
Bullnose	5.00			3535.00	34.00	Bottom Packers & Anchor
Total Tool Length:	**54.00**					

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Advantage Res.

1775 Sherman St. Ste.1900
Denver, CO 80203-1902

ATTN: Brad Rine

Kellller-McElwain #1

6 28s 17w Kiowa

Job Ticket: 16181 **DST#: 2**

Test Start: 2003.02.10 @ 14:15:19

Mud and Cushion Information

Mud Type:	Water	Cushion Type:		Oil API:	deg API
Mud Weight:	lb/gal	Cushion Length:	ft	Water Salinity:	34000 ppm
Viscosity:	32.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	35000.00 ppm				
Filter Cake:	inches				

Recovery Information

Recovery Table

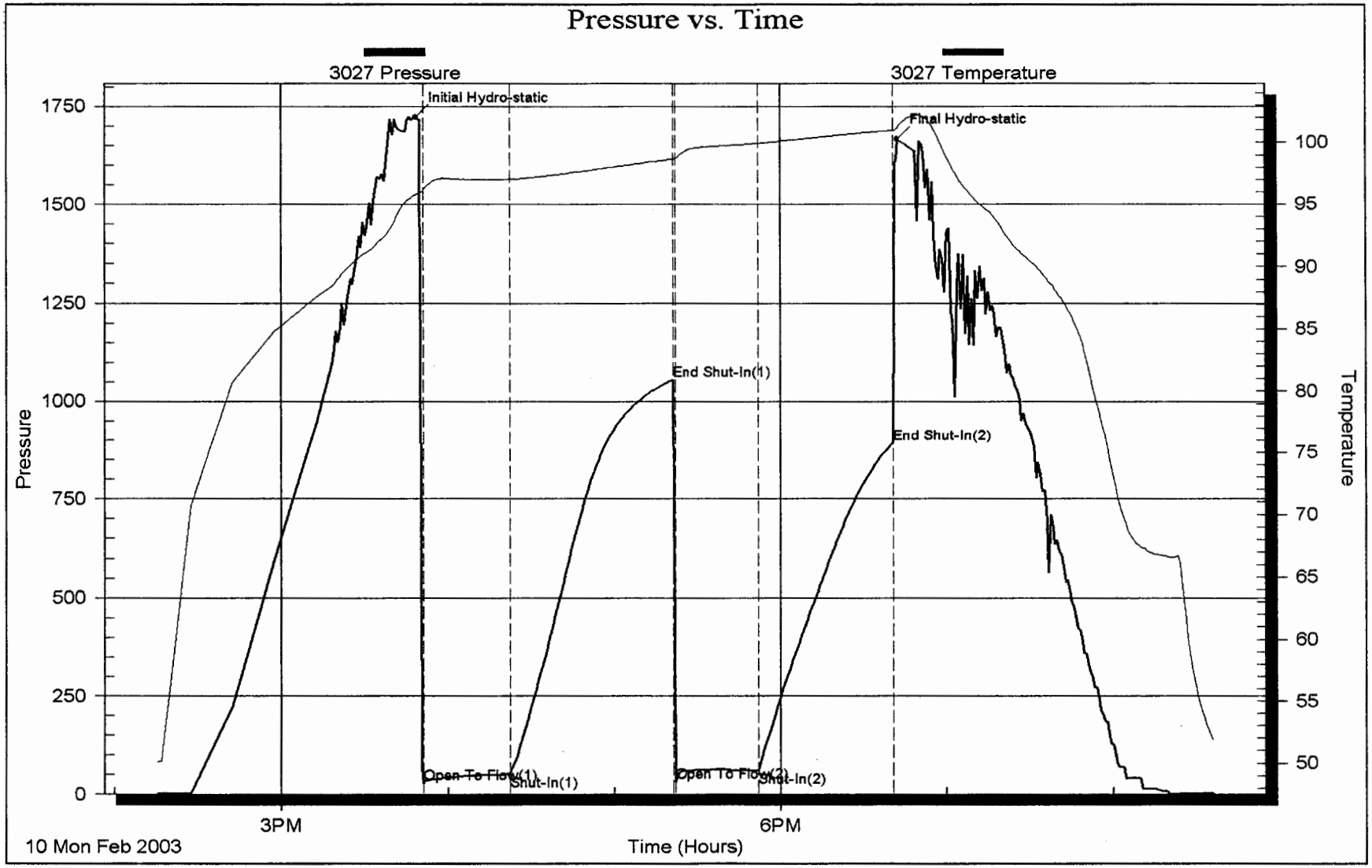
Length ft	Description	Volume bbl
90.00	WM 85%w tr 15%mud	0.443

Total Length: 90.00 ft Total Volume: 0.443 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: RW .20 @ 75 deg = 34,000


Pressure vs. Time
3027 Pressure
3027 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Open To Flow(1)
Shut-In(1)
Open To Flow(2)
Shut-In(2)
Pressure
Temperature
1750
1500
1250
1000
750
500
250
0
100
95
90
85
80
75
70
65
60
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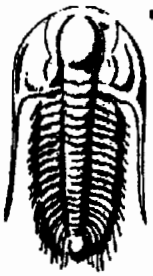
10 Mon Feb 2003
Time (Hours)



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Advantage Res.**

1775 Sherman St. Ste.1900
Denver, CO 80203-1902

ATTN: Brad Rine

6 28s 17w Kiowa

Kelller-McElwain #1

Start Date: 2003.02.13 @ 17:33:18

End Date: 2003.02.14 @ 03:39:48

Job Ticket #: 17424 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

Advantage Res.

1775 Sherman St. Ste.1900
Denver, CO 80203-1902

ATTN: Brad Rine

Kelller-McElwain #1

6 28s 17w Kiowa

Job Ticket: 17424 **DST#: 3**

Test Start: 2003.02.13 @ 17:33:18

GENERAL INFORMATION:

Formation: **Miss**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 20:17:48
Time Test Ended: 03:39:48

Test Type: Conventional Bottom Hole
Tester: Dan Bangle
Unit No: 21

Interval: 4700.00 ft (KB) To 4777.00 ft (KB) (TVD)
Total Depth: 4777.00 ft (KB) (TVD)
Hole Diameter: 7.79 inches Hole Condition: Good

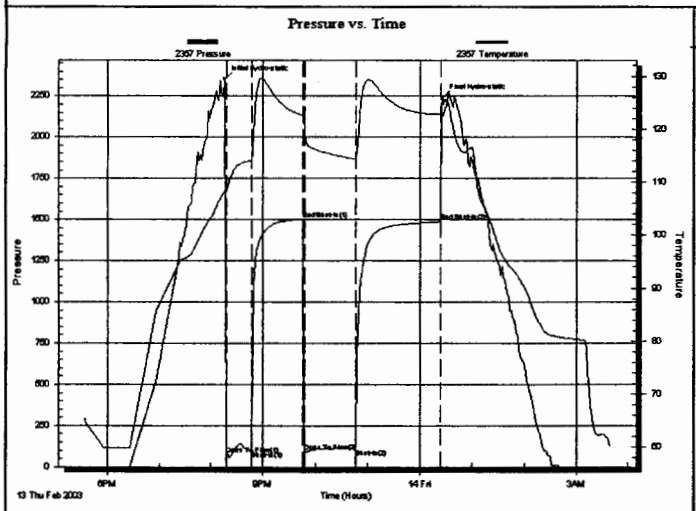
Reference Elevations: 2181.00 ft (KB)
2170.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 2357 **Inside**

Press@RunDepth: 112.05 psig @ 4703.00 ft (KB)
Start Date: 2003.02.13 End Date: 2003.02.14
Start Time: 17:33:23 End Time: 03:39:48

Capacity: 7000.00 psig
Last Calib.: 2003.02.14
Time On Btm: 2003.02.13 @ 20:15:18
Time Off Btm: 2003.02.14 @ 00:25:48

TEST COMMENT: IF-Strong BOB in 30 sec-GTS in 18 min - Gauged
FF-Strong-Gas sample taken
Times30-60-60-90



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2352.10	108.02	Initial Hydro-static
3	73.56	108.38	Open To Flow (1)
31	97.81	114.05	Shut-In(1)
91	1502.18	122.55	End Shut-In(1)
93	91.12	119.56	Open To Flow (2)
151	112.05	114.31	Shut-In(2)
249	1486.94	122.77	End Shut-In(2)
251	2240.67	122.40	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
185.00	Drilling Mud	1.80

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.75	25.00	615.42
Last Gas Rate	0.25	30.00	70.44
Max. Gas Rate	0.25	30.00	70.44

DRILL STEM TEST REPORT

TOOL DIAGRAM

Advantage Res.

1775 Sherman St. Ste.1900
Denver, CO 80203-1902

ATTN: Brad Rine

Kelller-McElwain #1

6 28s 17w Kiowa

Job Ticket: 17424 **DST#: 3**

Test Start: 2003.02.13 @ 17:33:18

Tool Information

Drill Pipe:	Length:	4612.00 ft	Diameter:	3.80 inches	Volume:	64.69 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:	87.00 ft	Diameter:	2.25 inches	Volume:	0.43 bbl	Weight to Pull Loose:		55000.00 lb
					Total Volume:	65.12 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		27.00 ft					String Weight:	Initial	50000.00 lb
Depth to Top Packer:		4700.00 ft						Final	50000.00 lb
Depth to Bottom Packer:		ft							
Interval betw een Packers:		77.00 ft							
Tool Length:		105.00 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
C.O. Sub	1.00			4673.00		
S.I. Tool	5.00			4678.00		
HMV	5.00			4683.00		
Jars	5.00			4688.00		
Safety Joint	2.00			4690.00		
Packer	5.00			4695.00	28.00	Bottom Of Top Packer
Packer	5.00			4700.00		
Stubb	1.00			4701.00		
Perforations	1.00			4702.00		
C.O. Sub	1.00			4703.00		
Recorder	0.00	2357	Inside	4703.00		
Blank Spacing	61.00			4764.00		
C.O. Sub	1.00			4765.00		
Recorder	0.00	13254	Outside	4765.00		
Perforations	9.00			4774.00		
Bullnose	3.00			4777.00	77.00	Bottom Packers & Anchor
Total Tool Length:	**105.00**					

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Advantage Res.

1775 Sherman St. Ste.1900
Denver, CO 80203-1902

ATTN: Brad Rine

Kelller-McElwain #1

6 28s 17w Kiowa

Job Ticket: 17424 **DST#: 3**

Test Start: 2003.02.13 @ 17:33:18

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:	11.18 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	6000.00 ppm				
Filter Cake:	inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
185.00	Drilling Mud	1.803

Total Length: 185.00 ft Total Volume: 1.803 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

GAS RATES

Advantage Res.

1775 Sherman St. Ste.1900
Denver, CO 80203-1902

ATTN: Brad Rine

Kelller-McElwain #1

6 28s 17w Kiowa

Job Ticket: 17424 **DST#: 3**

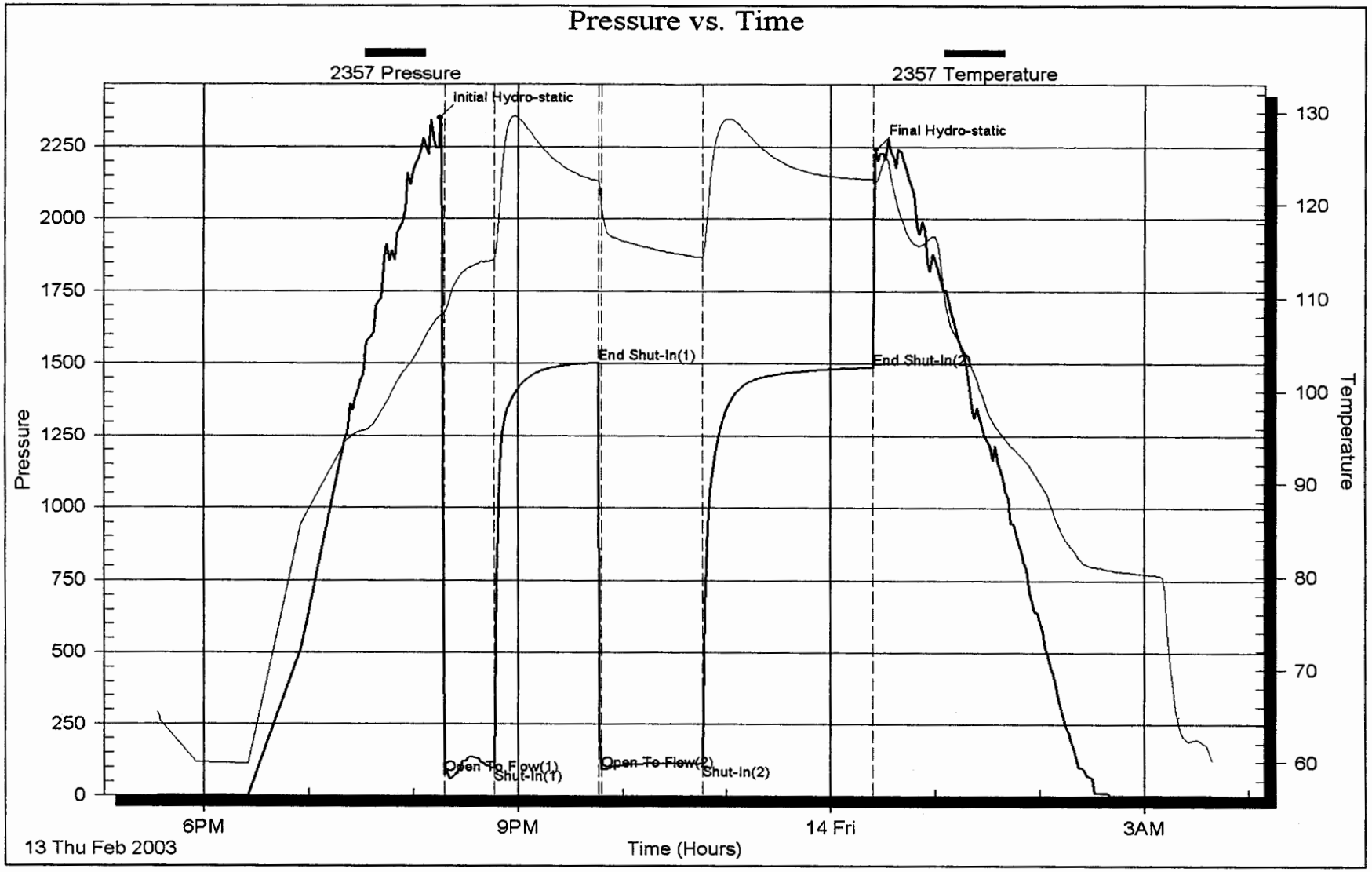
Test Start: 2003.02.13 @ 17:33:18

Gas Rates Information

Temperature: 59 deg C
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (mm)	Pressure (kPaa)	Gas Rate (m^3/d)
1	20	0.75	25.00	615.42
1	20	0.75	25.00	615.42
1	25	0.75	20.00	537.32
1	30	0.75	15.00	459.22
2	5	0.25	25.00	62.50
2	10	0.25	30.00	70.44
2	15	0.25	30.00	70.44
2	20	0.25	30.00	70.44
2	25	0.25	30.00	70.44
2	30	0.25	30.00	70.44
2	35	0.25	30.00	70.44
2	40	0.25	30.00	70.44
2	45	0.25	30.00	70.44
2	50	0.25	30.00	70.44
2	55	0.25	30.00	70.44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2357 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Open To Flow(1)
Shut-In(1)
Open To Flow(2)
Shut-In(2)
Pressure
Temperature
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120
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100
90
80
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14 Fri
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13 Thu Feb 2003
Time (Hours)