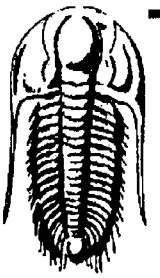


TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **High Bluff Operateing**

1732 Wazee STE 204
Denver Co 80202 - 1284

ATTN: K. O. Overby

18-34-24w

Klinger 1

Start Date: 2004.04.03 @ 11:11:22

End Date: 2004.04.03 @ 19:02:07

Job Ticket #: 18917 DST #: 1

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

High Bluff Operateing

1732 Wazee STE 204
Denver Co

ATTN: K. O. Overby

Klinger 1

18-34-24w

Job Ticket: 18917 **DST#: 1**

Test Start: 2004.04.03 @ 11:11:22

GENERAL INFORMATION:

Formation: **Cottage Grove**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 13:33:37
Time Test Ended: 19:02:07

Test Type: Conventional Bottom Hole
Tester: Kevin
Unit No: 27

Interval: 2920.00 ft (KB) To 3275.00 ft (KB) (TVD)
Total Depth: 3275.00 ft (KB) (TVD)
Hole Diameter: 7.78 inches Hole Condition: Good

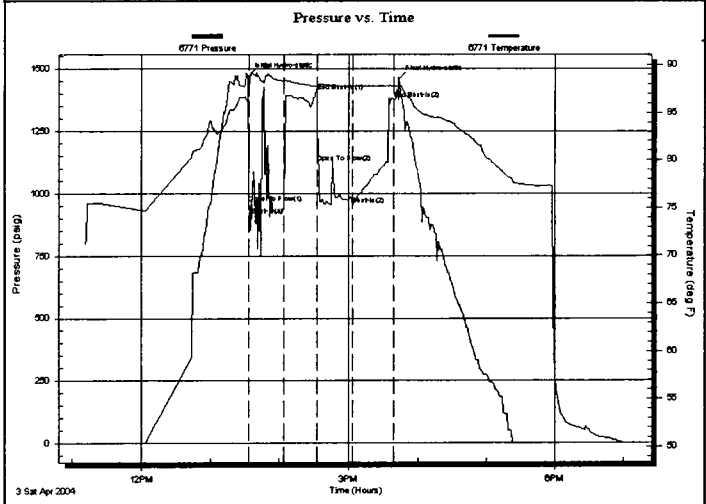
Reference Elevations: 2012.00 ft (KB)
2000.00 ft (CF)
KB to GR/CF: 12.00 ft

Serial #: 6771 **Inside**

Press@RunDepth: 952.50 psig @ 2927.00 ft (KB)
Start Date: 2004.04.03 End Date: 2004.04.03
Start Time: 11:11:27 End Time: 19:02:06

Capacity: 7000.00 psig
Last Calib.: 1899.12.30
Time On Btm: 2004.04.03 @ 13:32:22
Time Off Btm: 2004.04.03 @ 15:43:07

TEST COMMENT: IF- good blow packer failed
ISI- no blow back
FSI- good blow packer failed
FF- no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1468.34	86.09	Initial Hydro-static
2	959.83	87.56	Open To Flow (1)
32	944.16	88.27	Shut-In(1)
61	1408.15	87.77	End Shut-In(1)
61	1120.81	87.74	Open To Flow (2)
91	952.50	87.74	Shut-In(2)
126	1378.89	87.80	End Shut-In(2)
131	1459.25	87.83	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1023.00	100%mud	8.57

Gas Rates

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

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

High Bluff Operateing

1732 Wazee STE 204
Denver Co

ATTN: K. O. Overby

Klinger 1

18-34-24w

Job Ticket: 18917 **DST#: 1**

Test Start: 2004.04.03 @ 11:11:22

Tool Information

Drill Pipe:	Length:	2265.00 ft	Diameter:	3.80 inches	Volume:	31.77 bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	
Drill Collar:	Length:	635.00 ft	Diameter:	2.25 inches	Volume:	3.12 bbl	
					Total Volume:	34.89 bbl	

Drill Pipe Above KB:	7.00 ft
Depth to Top Packer:	2920.00 ft
Depth to Bottom Packer:	ft
Interval between Packers:	355.00 ft
Tool Length:	382.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:	1800.00 lb
Weight set on Packer:	30000.00 lb
Weight to Pull Loose:	110000.0 lb
Tool Chased	0.00 ft
String Weight: Initial	80000.00 lb
Final	82000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			2894.00		
Shut In Tool	5.00			2899.00		
Hydraulic tool	5.00			2904.00		
Jars	5.00			2909.00		
Safety Joint	2.00			2911.00		
Packer	5.00			2916.00	27.00	Bottom Of Top Packer
Packer	4.00			2920.00		
Stubb	1.00			2921.00		
Perforations	1.00			2922.00		
Perforations	5.00			2927.00		
Recorder	0.00	6771	Inside	2927.00		
Drill Pipe	345.00			3272.00		
Recorder	0.00	13761	Inside	3272.00		
Bullnose	3.00			3275.00	355.00	Bottom Packers & Anchor
Total Tool Length:	**382.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

High Bluff Operateing

1732 Wazee STE 204
Denver Co

ATTN: K. O. Overby

Klinger 1

18-34-24w

Job Ticket: 18917 **DST#: 1**

Test Start: 2004.04.03 @ 11:11:22

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:	30.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	4100.00 ppm				
Filter Cake:	inches				

Recovery Information

Recovery Table

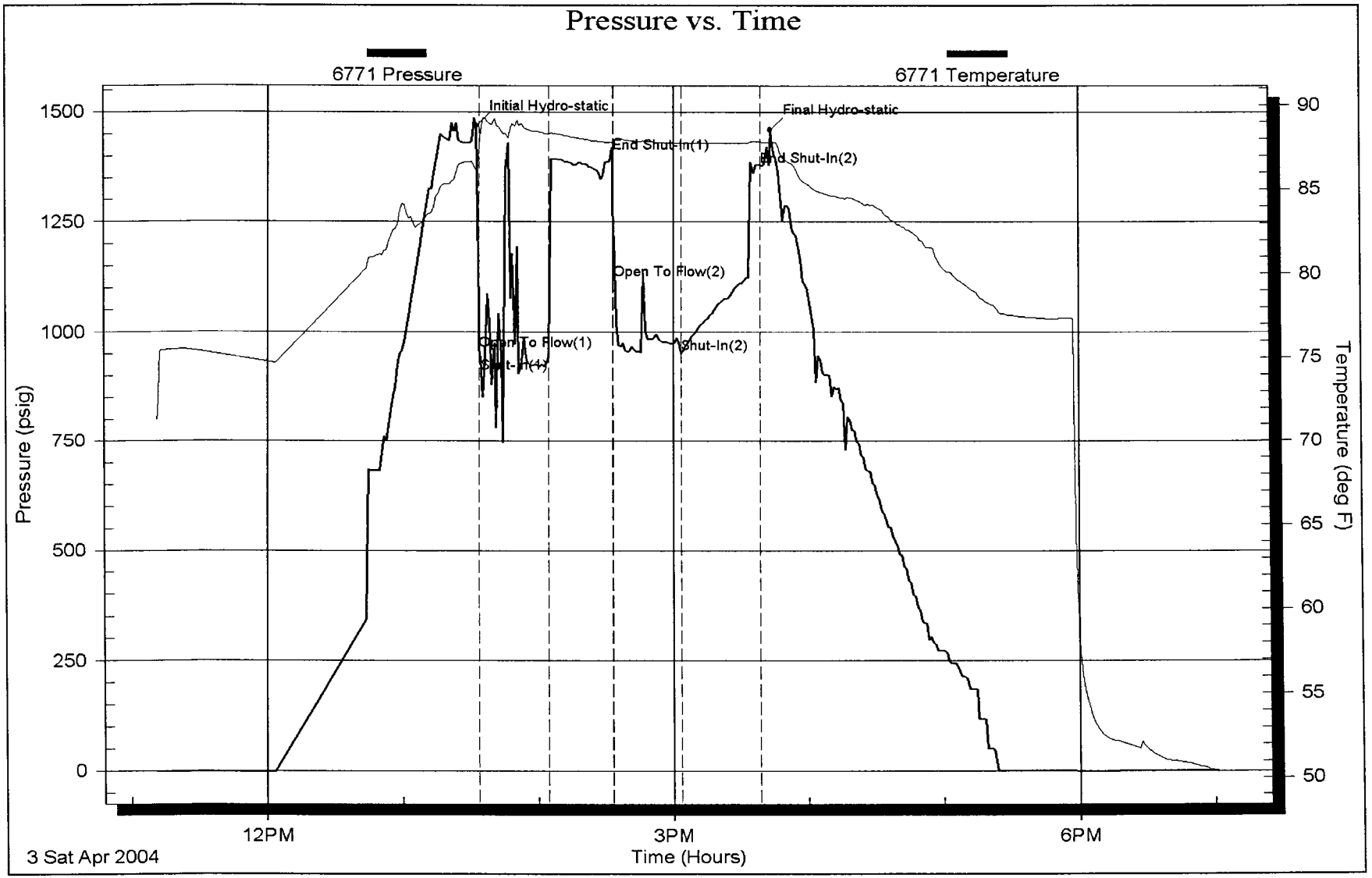
Length ft	Description	Volume bbl
1023.00	100%mud	8.565

Total Length: 1023.00 ft Total Volume: 8.565 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:


Pressure vs. Time
6771 Pressure
6771 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
Open To Flow(2)
Shut-In(2)
Open To Flow(1)
1500
1250
1000
750
500
250
0
90
85
80
75
70
65
60
55
50
Pressure (psig)
Temperature (deg F)
12PM
3PM
6PM
Time (Hours)
3 Sat Apr 2004

TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

INV 6330

No. 18917

05/03

Test Ticket

Well Name & No. Klinger #1 Test No. 1 Date 4/3/04

Company High bluff operating Zone Tested Cottage grove

Address 1732 Wazee STE 204 Denver Co. Elevation 2012 KB 2000 GL

Co. Rep / Geo. K.O. overby Cont. Val #2 Est. Ft. of Pay ____ Por. ____ %

Location: Sec. 18 Twp. 34 Rge. 24 w Co. Clark State KS

No. of Copies ____ Disbtribution Sheet (Y, N) ____ Turnkey (Y, N) ____ Evaluation (Y, N) ____

Interval Tested 2920 - 3275 Initial Str Wt./Lbs. 80,000 Unseated Str Wt/Lbs. 82,000

Anchor Length 355 Wt. Set Lbs. 30,000 Wt. Pulled Loose/Lbs. 110,000

Top Packer Depth 2915 Tool Weight 1800

Bottom Packer Depth 2920 Hole Size 7 7/8" ✓ Rubber Size 6 3/4" ✓

Total Depth 3275 Wt. Pipe Run 0 Drill Collar Run 635

Mud Wt. 9.8 LCM 0 Vis. 30 WL NA Drill Pipe Size 4.5 Ft. Run 2265

Blow Description IF- Good blow Packer Failed

ISI- No blow back

FF- Good blow Packer failed

FSI- No blow

Recovery - Total Feet 1023 GIP 0 Ft. in DC 635 Ft. in DP 388

Rec.	Feet of	%gas	%oil	%water	%mud
1023				100	

BHT ____ °F Gravity ____ °API D @ ____ °F Corrected Gravity ____ °API

RW ____ @ ____ °F Chlorides ____ ppm Recovery ____ Chlorides 4100 ppm System

	AK-1	Alpine	
(A) Initital Hydrostatic Mud		1468	PSI
(B) First Initial Flow Pressure	959	~~444~~	PSI
(C) First Final Flow Pressure	944	~~1408~~	PSI
(D) Initial Shut-In Pressure	1408	~~1120~~	PSI
(E) Second Initial Flow Pressure	1120	~~952~~	PSI
(F) Second Final Flow Pressure	952	~~1378~~	PSI
(G) Final Shut-In Pressure		1378	PSI
(Q) Final Hydrostatic Mud		1459	PSI

Recorder No.	6771	Test	✓ 700
(depth)	2922	Elec. Rec.	✓ 150
Recorder No.	13761	Jars	✓ 200
(depth)	3275	Safety Jt.	✓ 50
Recorder No.		Circ Sub	
(depth)		Sampler	
Initial Opening	30	Straddle	
Initial Shut-In	30	Ext. Packer	
Final Flow	30	Shale Packer	
Final Shut-In	30	Mileage	97 mi 164.90
T-On Location	09:30	Sub Total:	~~1197~~ 1264.90
T-Started	13:00	Std. By	[illegible] ~~120~~ 120
T-Open	15:20	Other	60
T-Pulled	17:20	Total:	~~[illegible]~~ ~~1247~~ 1444.90
T-Out	21:00		

Approved By K.O. Overby

Our Representative ____

CHART PAGE

This is a photocopy of the actual AK-1 recorder chart