



DRILL STEM TEST REPORT

Prepared For: **Grand Mesa Operating Co.**

200 E 1st Ste 307
Wichita KS 67202

ATTN: Pat Deenihan

18-19s-23w/Ness

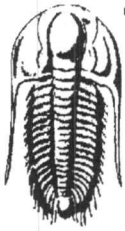
Rothe 2-18

Start Date: 2006.02.03 @ 07:45:52

End Date: 2006.02.03 @ 13:38:35

Job Ticket #: 23353 DST #: 1

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Grand Mesa Operating Co.

Rothe 2-18

200 E 1st Ste 307
Wichita KS 67202

18-19s-23w/Ness

ATTN: Pat Deenihan

Job Ticket: 23353

DST#: 1

Test Start: 2006.02.03 @ 07:45:52

GENERAL INFORMATION:

Formation: **Cherokee Sands**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 09:48:20
 Time Test Ended: 13:38:35

Test Type: Conventional Bottom Hole
 Tester: Brian Fairbank
 Unit No: 15

Interval: **4278.00 ft (KB) To 4316.00 ft (KB) (TVD)**
 Total Depth: 4316.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2267.00 ft (KB)
 2261.00 ft (CF)
 KB to GR/CF: 6.00 ft

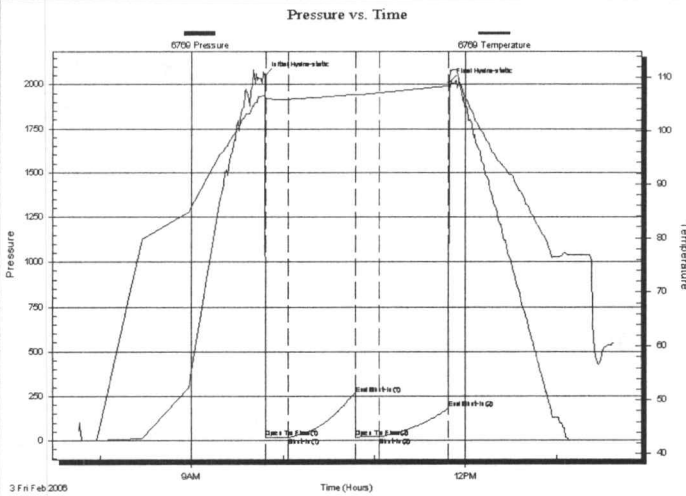
Serial #: 6769

Inside

Press@RunDepth: 19.12 psig @ 4279.02 ft (KB)
 Start Date: 2006.02.03 End Date: 2006.02.03
 Start Time: 07:45:52 End Time: 13:38:35

Capacity: 7000.00 psig
 Last Calib.: 2006.02.03
 Time On Btm: 2006.02.03 @ 09:48:05
 Time Off Btm: 2006.02.03 @ 11:49:05

TEST COMMENT: IFP - weak blow throughout 1/4"
 ISI - no blow back
 FFP - no blow
 FSI - no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2051.86	106.56	Initial Hydro-static
1	16.00	106.10	Open To Flow (1)
16	17.68	105.93	Shut-In(1)
60	263.34	106.84	End Shut-In(1)
60	18.71	106.78	Open To Flow (2)
76	19.12	107.11	Shut-In(2)
121	181.94	108.42	End Shut-In(2)
121	2011.48	109.36	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100%	0.02

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Grand Mesa Operating Co.

Rothe 2-18

200 E 1st Ste 307
Wichita KS 67202

18-19s-23w/Ness

Job Ticket: 23353

DST#: 1

ATTN: Pat Deenihan

Test Start: 2006.02.03 @ 07:45:52

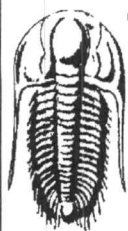
Tool Information

Drill Pipe:	Length: 4010.00 ft	Diameter: 3.80 inches	Volume: 56.25 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: 249.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 57.47 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	4278.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	38.03 ft			
Tool Length:	65.03 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
HYD S.I. Tool	5.00			4256.00	
HYD S.I. Tool	5.00			4261.00	
Jars	5.00			4266.00	
Safety Joint	2.00			4268.00	
Packer	5.00			4273.00	27.00 Bottom Of Top Packer
Packer	5.00			4278.00	
Stubb	1.00			4279.00	38.03 Tool Interval
Packer	0.01			4279.01	
Recorder	0.01	6769	Inside	4279.02	
Perforations	34.00			4313.02	
Recorder	0.01	13548	Outside	4313.03	
Bullnose	3.00			4316.03	1000064.03 Bottom Packers & Anchor

Total Tool Length: 65.03



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FLUID SUMMARY

Grand Mesa Operating Co.

Rothe 2-18

200 E 1st Ste 307
Wichita KS 67202

18-19s-23w/Ness

Job Ticket: 23353

DST#: 1

ATTN: Pat Deenihan

Test Start: 2006.02.03 @ 07:45:52

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: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.57 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3000.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud 100%	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

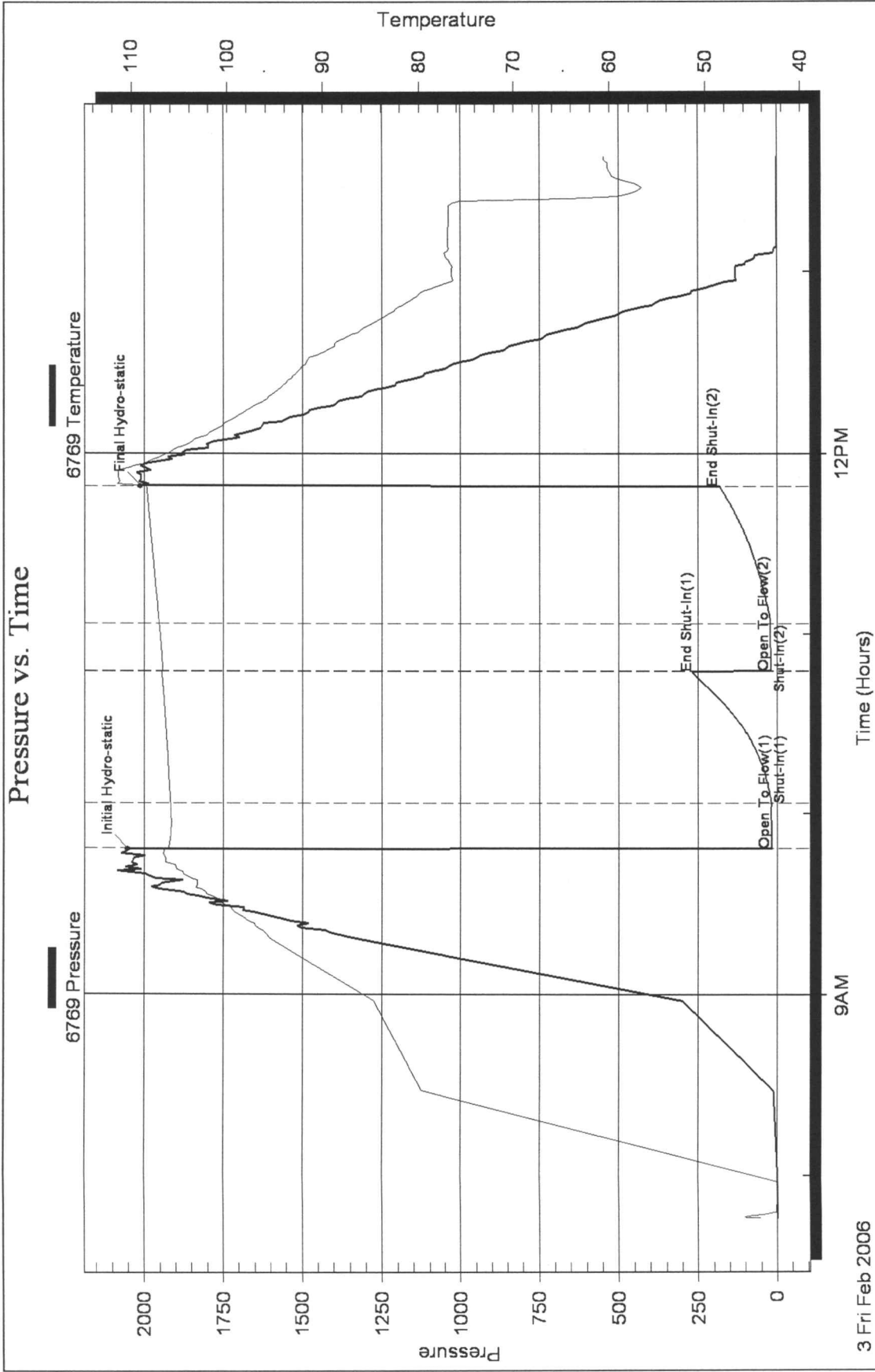
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





DRILL STEM TEST REPORT

Prepared For: **Grand Mesa Operating Co.**

200 E 1st Ste 307
Wichita KS 67202

ATTN: Pat Deenihan

18-19s-23w/Ness

Rothe 2-18

Start Date: 2006.02.03 @ 19:51:47

End Date: 2006.02.04 @ 02:24:30

Job Ticket #: 23354 DST #: 2

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



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DRILL STEM TEST REPORT

Grand Mesa Operating Co.

Rothe 2-18

200 E 1st Ste 307
Wichita KS 67202

18-19s-23w/Ness

ATTN: Pat Deenihan

Job Ticket: 23354

DST#: 2

Test Start: 2006.02.03 @ 19:51:47

GENERAL INFORMATION:

Formation: **Cherokee Sands**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:07:45

Time Test Ended: 02:24:30

Test Type: Conventional Bottom Hole

Tester: Brian Fairbank

Unit No: 15

Interval: **4277.00 ft (KB) To 4326.00 ft (KB) (TVD)**

Reference Elevations: 2267.00 ft (KB)

Total Depth: 4326.00 ft (KB) (TVD)

2261.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 6.00 ft

Serial #: 6769 Inside

Press@RunDepth: 57.90 psig @ 4288.01 ft (KB)

Capacity: 7000.00 psig

Start Date: 2006.02.03

End Date:

2006.02.04

Last Calib.: 2006.02.04

Start Time: 19:51:47

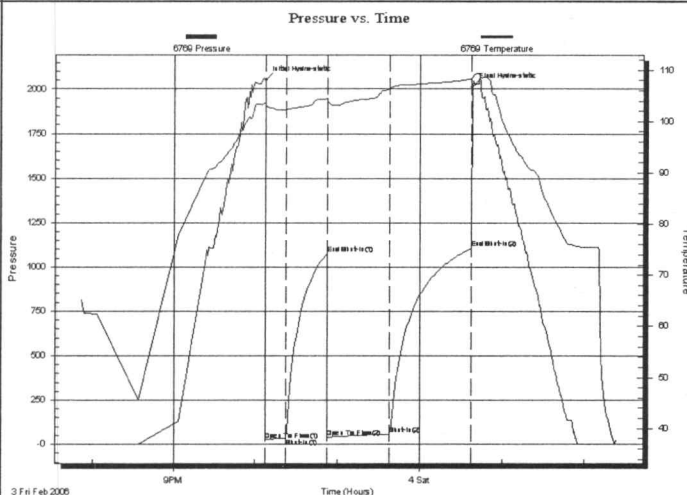
End Time:

02:24:30

Time On Btm: 2006.02.03 @ 22:07:30

Time Off Btm: 2006.02.04 @ 00:37:30

TEST COMMENT: IFP - weak blow throughout - 1/2" - 1 1/4"
ISI - no blow back
FFP - weak blow throughout - 1/4" - 1/2"
FSI - no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2049.12	103.48	Initial Hydro-static
1	23.75	102.63	Open To Flow (1)
15	35.49	102.31	Shut-In(1)
45	1077.34	104.38	End Shut-In(1)
46	38.28	103.99	Open To Flow (2)
91	57.90	106.53	Shut-In(2)
150	1105.89	108.23	End Shut-In(2)
151	2011.98	108.54	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
64.00	MO 2%O, 98%M	0.31

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Grand Mesa Operating Co.

Rothe 2-18

200 E 1st Ste 307
Wichita KS 67202

18-19s-23w/Ness

Job Ticket: 23354

DST#: 2

ATTN: Pat Deenihan

Test Start: 2006.02.03 @ 19:51:47

Tool Information

Drill Pipe:	Length: 4011.00 ft	Diameter: 3.80 inches	Volume: 56.26 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: 249.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: 57.48 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	4277.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	49.02 ft			
Tool Length:	76.02 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			4255.00	
HYD S.I. Tool	5.00			4260.00	
Jars	5.00			4265.00	
Safety Joint	2.00			4267.00	
Packer	5.00			4272.00	27.00 Bottom Of Top Packer
Packer	5.00			4277.00	
Stubb	1.00			4278.00	
Perforations	10.00			4288.00	
Recorder	0.01	6769	Inside	4288.01	
C.O. Sub	1.00			4289.01	
Blank Spacing	31.00			4320.01	
C.O. Sub	1.00			4321.01	
Perforations	2.00			4323.01	
Recorder	0.01	13548	Outside	4323.02	
Bullnose	3.00			4326.02	49.02 Bottom Packers & Anchor

Total Tool Length: 76.02



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FLUID SUMMARY

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Rothe 2-18

200 E 1st Ste 307
Wichita KS 67202

18-19s-23w/Ness

Job Ticket: 23354

DST#: 2

ATTN: Pat Deenihan

Test Start: 2006.02.03 @ 19:51:47

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: 50.00 sec/qt

Cushion Volume:

bbl

Water Loss: 9.55 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
64.00	MO 2%O, 98%M	0.315

Total Length: 64.00 ft

Total Volume: 0.315 bbl

Num Fluid Samples: 0

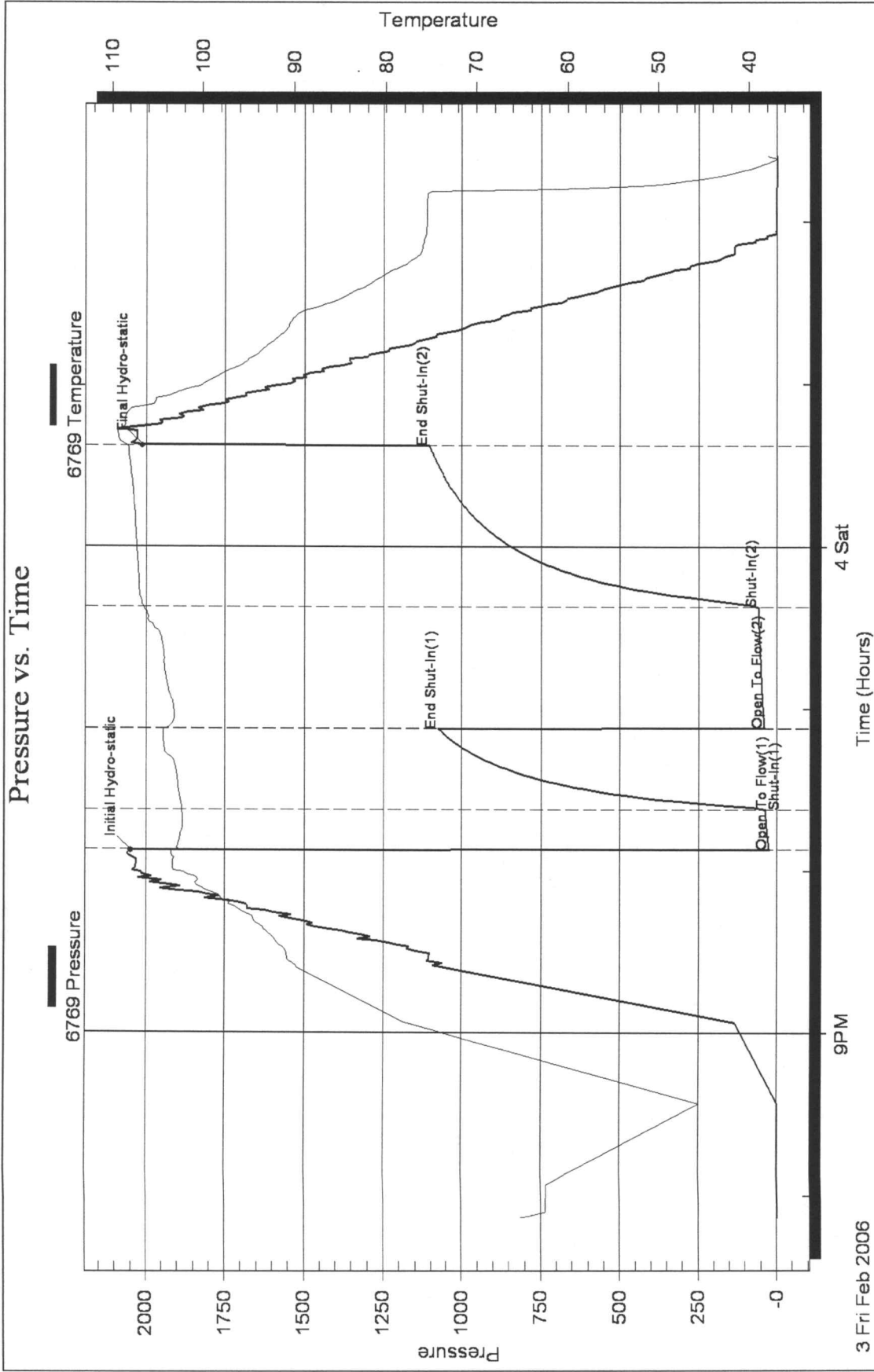
Num Gas Bombs: 0

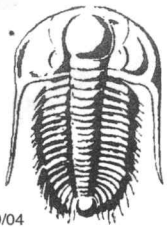
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

8380

No 23353

Test Ticket

Well Name & No. Rothe #2-18 Test No. 1 Date 2-3-06
 Company Grand Mesa Operating Co. Zone Tested Cherokee Sand
 Address 200 E 1st Ste. 307 Wichita Ks 67202 Elevation 2263 KB 2261 GL
 Co. Rep / Geo. Pat Deenihan Cont. Mallard Est. Ft. of Pay - Por. - %
 Location: Sec. 18 Twp. 19^s Rge. 23^w Co. Ness State Ks
 No. of Copies Reg Distribution Sheet (Y, N) _____ Turnkey (Y, N) _____ Evaluation (Y, N) _____

Interval Tested 4278 - 4316 Initial Str Wt./Lbs. 54,000 Unseated Str Wt/Lbs. 54,000
 Anchor Length 38 Wt. Set Lbs. 25,000 Wt. Pulled Loose/Lbs. 70,000
 Top Packer Depth 4273 Tool Weight 2500
 Bottom Packer Depth 4278 Hole Size 7 7/8" Rubber Size 6 3/4"
 Total Depth 4316 Wt. Pipe Run - Drill Collar Run 249
 Mud Wt. 9.1 LCM _____ Vis. 50 WL 9.6 Drill Pipe Size 4 1/2 X H Ft. Run 4010
 Blow Description IFP - weak blow throughout - 1/4"
ISI - no blow back
FFP - no blow
FSI - no blow back

Recovery - Total Feet 5 GIP 0 Ft. in DC 5 Ft. in DP 0
 Rec. 5 Feet of mud %gas _____ %oil _____ %water 100 %mud _____
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud _____
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud _____
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud _____
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud _____
 BHT 108 °F Gravity _____ °API D @ _____ °F Corrected Gravity _____ °API
 RW _____ @ _____ °F Chlorides _____ ppm Recovery _____ Chlorides 3000 ppm System

	AK-1	Alpine	Recorder No.	Test
(A) Initial Hydrostatic Mud	2035	PSI	6767	1180
(B) First Initial Flow Pressure	16	PSI	(depth) 4279	Jars ✓ 200
(C) First Final Flow Pressure	17	PSI	Recorder No. 13548	Safety Jt. ✓ 50
(D) Initial Shut-In Pressure	263	PSI	(depth) 4313	Circ Sub _____
(E) Second Initial Flow Pressure	18	PSI	Recorder No. _____	Sampler _____
(F) Second Final Flow Pressure	19	PSI	(depth) _____	Straddle _____
(G) Final Shut-In Pressure	182	PSI	Initial Opening 15	Ext. Packer _____
(Q) Final Hydrostatic Mud	2008	PSI	Initial Shut-In 45	Shale Packer _____
			Final Flow 15	Ruined Packer _____
			Final Shut-In 45	Mileage ✓ 124.5

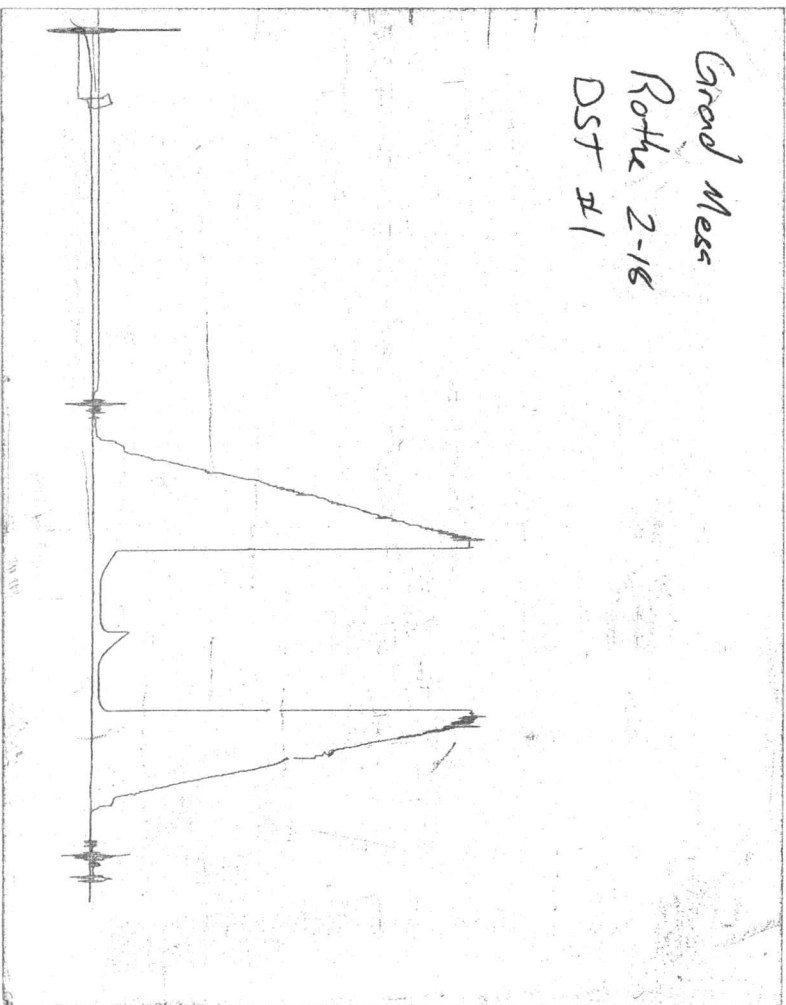
TRILOBITE TESTING INC. SHALL NOT BE LIABLE FOR DAMAGED OF ANY KIND OF THE PROPERTY OR PERSONNEL OF THE ONE FOR WHOM A TEST IS MADE, OR FOR ANY LOSS SUFFERED OR SUSTAINED, DIRECTLY OR INDIRECTLY, THROUGH THE USE OF ITS EQUIPMENT, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST OR DAMAGED IN THE HOLE SHALL BE PAID FOR AT COST BY THE PARTY FOR WHOM THE TEST IS MADE.

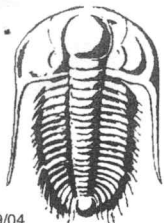
Approved By Patrick Deenihan

Our Representative Brian Fairbank (Thanky)

T-On Location 0715 Sub Total: 1474
 T-Started 0745 Std. By _____
 T-Open 0948 Other _____
 T-Pulled 1148 Total: _____
 T-Out 13:38

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





TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

No 23354

Test Ticket

Well Name & No. Rothe #2-18 Test No. 2 Date 2-3-06
 Company Grand Mesa Operating Co. Zone Tested Charkee Sand #2
 Address 200 E. 1st Ste 307 Wichita, Ks 67202 Elevation 2267 KB 2261 GL
 Co. Rep / Geo. Pat Deenihan Cont. Mallard Est. Ft. of Pay - Por. - %
 Location: Sec. 18 Twp. 19S Rge. 23W Co. Ness State K
 No. of Copies Key Distribution Sheet (Y, N) _____ Turnkey (Y, N) _____ Evaluation (Y, N) _____

Interval Tested 4277-4326 Initial Str Wt./Lbs. 52,000 Unseated Str Wt./Lbs. 52,000
 Anchor Length 49 Wt. Set Lbs. 25,000 Wt. Pulled Loose/Lbs. 58,000
 Top Packer Depth 4272 Tool Weight 25,000
 Bottom Packer Depth 4277 Hole Size 7 7/8" Rubber Size 6 3/4"
 Total Depth 4326 Wt. Pipe Run - Drill Collar Run 249
 Mud Wt. 9.1 LCM _____ Vis. 50 WL 9.6 Drill Pipe Size 4 1/2 XH Ft. Run 4011
 Blow Description IFP - weak blow throughout - 1/2" - 1/4"
ISI - no blow back
FFP - weak blow throughout - 1/4" - 1/2"
FSI - no blow back

Recovery - Total Feet 64 GIP 0 Ft. in DC 64 Ft. in DP 0
 Rec. 64 Feet of MO %gas 2 %oil _____ %water 98 %mud _____
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud _____
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud _____
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud _____
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud _____
 BHT 108 °F Gravity _____ °API D @ _____ °F Corrected Gravity _____ °API
 RW _____ @ _____ °F Chlorides _____ ppm Recovery _____ Chlorides 3000 ppm System

	AK-1	Alpine	Recorder No.	Test
(A) Initial Hydrostatic Mud		<u>2031</u> PSI	<u>6769</u>	<u>1100</u>
(B) First Initial Flow Pressure		<u>23</u> PSI	(depth) <u>4288</u>	Jars <u>200</u>
(C) First Final Flow Pressure		<u>35</u> PSI	Recorder No. <u>13548</u>	Safety Jt. <u>50</u>
(D) Initial Shut-In Pressure		<u>1077</u> PSI	(depth) <u>4323</u>	Circ Sub _____
(E) Second Initial Flow Pressure		<u>38</u> PSI	Recorder No. _____	Sampler _____
(F) Second Final Flow Pressure		<u>58</u> PSI	(depth) _____	Straddle _____
(G) Final Shut-In Pressure		<u>1105</u> PSI	Initial Opening <u>15</u>	Ext. Packer _____
(Q) Final Hydrostatic Mud		<u>2028</u> PSI	Initial Shut-In <u>30</u>	Shale Packer _____

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Approved By _____

Our Representative Brian Fairbank (Hank)

Final Flow 45 Ruined Packer _____
 Final Shut-In 60 Mileage 8 RT
T-On Location 1837 Sub Total: 1358
 T-Started 1951 Std. By _____
 T-Open 2207 Other _____
 T-Pulled 0037 Total: _____
 T-Out 0222

CHART PAGE

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

