



## DRILL STEM TEST REPORT

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

200 E. First, Ste. 307  
Wichita ks. 67202

ATTN: Pat Deenihan

**10-23s-10w Reno Ks.**

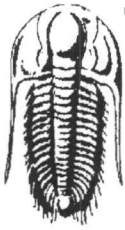
**Keesling #1-10**

Start Date: 2006.01.02 @ 13:53:14

End Date: 2006.01.02 @ 19:55:44

Job Ticket #: 22012                      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.

**Keesling #1-10**

200 E First, Ste. 307  
Wichita ks. 67202

**10-23s-10w Reno Ks.**

ATTN: Pat Deenihan

Job Ticket: 22012      **DST#: 1**

Test Start: 2006.01.02 @ 13:53:14

**GENERAL INFORMATION:**

Formation: **Viola**  
 Deviated: **No Whipstock:**      ft (KB)  
 Time Tool Opened: 15:43:44  
 Time Test Ended: 19:55:44

Test Type: **Conventional Bottom Hole**  
 Tester: **Gary Pevoteaux**  
 Unit No: **23**

Interval: **3666.00 ft (KB) To 3775.00 ft (KB) (TVD)**  
 Total Depth: **3775.00 ft (KB) (TVD)**  
 Hole Diameter: **7.88 inches** Hole Condition: **Poor**

Reference Elevations: **1772.00 ft (KB)**  
**1763.00 ft (CF)**  
 KB to GR/CF: **9.00 ft**

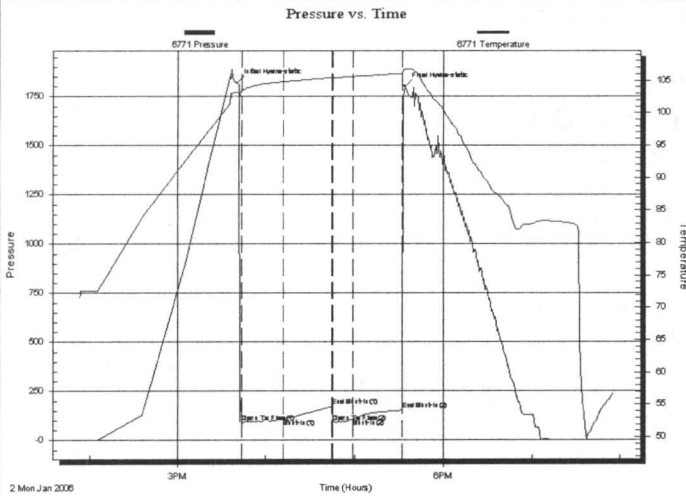
**Serial #: 6771**

**Inside**

Press@RunDepth: **108.36 psig @ 3667.00 ft (KB)**  
 Start Date: **2006.01.02**      End Date: **2006.01.02**  
 Start Time: **13:53:19**      End Time: **19:55:43**

Capacity: **7000.00 psig**  
 Last Calib.: **2006.01.02**  
 Time On Btm: **2006.01.02 @ 15:40:29**  
 Time Off Btm: **2006.01.02 @ 17:33:44**

**TEST COMMENT:** IF: Fair decreasing blow . 5 - 1 1/2". Lost approx. 15 ft. of mud on backside as tool opened. IS: No blow. FF: No blow. FS: No blow.



**PRESSURE SUMMARY**

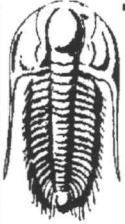
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1817.83	103.17	Initial Hydro-static
4	90.88	103.36	Open To Flow (1)
32	108.29	104.79	Shut-In(1)
65	172.28	105.40	End Shut-In(1)
65	92.05	105.38	Open To Flow (2)
79	108.36	105.58	Shut-In(2)
112	152.88	106.03	End Shut-In(2)
114	1800.97	106.69	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
135.00	Drig. mud	0.66

**Gas Rates**

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



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Grand Mesa Operating Co.

**Keesling #1-10**

200 E First, Ste. 307  
Wichita ks. 67202

**10-23s-10w Reno Ks.**

Job Ticket: 22012

**DST#: 1**

ATTN: Pat Deenihan

Test Start: 2006.01.02 @ 13:53:14

**Tool Information**

Drill Pipe:	Length: 3409.00 ft	Diameter: 3.80 inches	Volume: 47.82 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 248.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: 49.04 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	3666.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	109.00 ft			
Tool Length:	129.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

**Tool Description**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3647.00	
Shut In Tool	5.00			3652.00	
Hydraulic tool	5.00			3657.00	
Packer	4.00			3661.00	20.00 Bottom Of Top Packer
Packer	5.00			3666.00	
Stubb	1.00			3667.00	
Recorder	0.00	6771	Inside	3667.00	
Perforations	8.00			3675.00	
Change Over Sub	1.00			3676.00	
Blank Spacing	93.00			3769.00	
Change Over Sub	1.00			3770.00	
Recorder	0.00	13222	Outside	3770.00	
Bullnose	5.00			3775.00	109.00 Bottom Packers & Anchor

**Total Tool Length: 129.00**



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TESTING, INC.**

## DRILL STEM TEST REPORT

FLUID SUMMARY

Grand Mesa Operating Co.

**Keesling #1-10**

200 E First, Ste. 307  
Wichita ks. 67202

**10-23s-10w Reno Ks.**

Job Ticket: 22012

DST#: 1

ATTN: Pat Deenihan

Test Start: 2006.01.02 @ 13:53:14

### 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:

5000 ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 0.20 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
135.00	Drig.mud	0.664

Total Length: 135.00 ft

Total Volume: 0.664 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

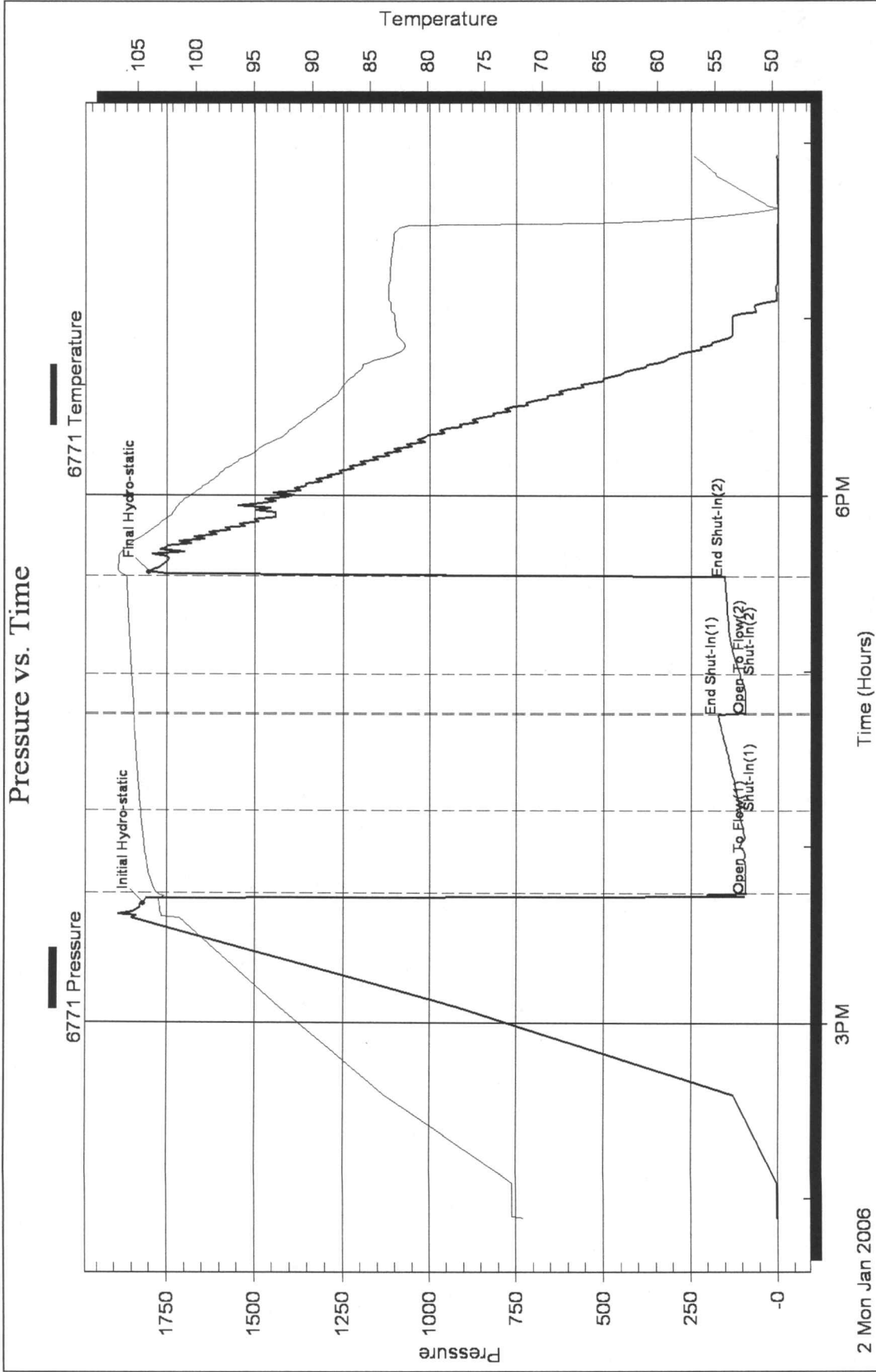
Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time





## DRILL STEM TEST REPORT

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

200 E. First, Ste. 307  
Wichita ks. 67202

ATTN: Pat Deenihan

**10-23s-10w Reno Ks.**

**Keesling #1-10**

Start Date: 2006.01.03 @ 09:03:52

End Date: 2006.01.03 @ 15:35:37

Job Ticket #: 22013                      DST #: 2

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



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TESTING, INC.**

## DRILL STEM TEST REPORT

Grand Mesa Operating Co.

**Keesling #1-10**

200 E.First, Ste.307  
Wichita ks.67202

**10-23s-10w Reno Ks.**

ATTN: Pat Deenihan

Job Ticket: 22013

**DST#: 2**

Test Start: 2006.01.03 @ 09:03:52

### GENERAL INFORMATION:

Formation: **Viola**

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

Time Tool Opened: 11:09:07

Time Test Ended: 15:35:37

Test Type: **Conventional Bottom Hole**

Tester: **Gary Pevoteaux**

Unit No: **23**

Interval: **3799.00 ft (KB) To 3826.00 ft (KB) (TVD)**

Reference Elevations: **1772.00 ft (KB)**

Total Depth: **3826.00 ft (KB) (TVD)**

**1763.00 ft (CF)**

Hole Diameter: **7.88 inches** Hole Condition: **Poor**

KB to GR/CF: **9.00 ft**

**Serial #: 6771** **Inside**

Press@RunDepth: **670.06 psig @ 3800.00 ft (KB)**

Capacity: **7000.00 psig**

Start Date: **2006.01.03**

End Date: **2006.01.03**

Last Calib.: **2006.01.03**

Start Time: **09:03:57**

End Time: **15:35:36**

Time On Btm: **2006.01.03 @ 11:05:52**

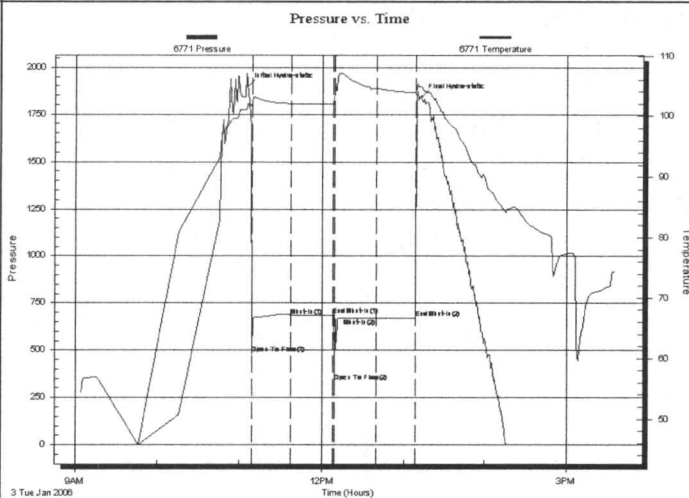
Time Off Btm: **2006.01.03 @ 13:12:52**

**TEST COMMENT:** IF:Weak blow . 3" decreasing to 1 1/2".

IS:No blow .

FF:Fair blow . 5" decreasing to 3".

FS:No blow .



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1898.24	101.97	Initial Hydro-static
4	482.32	102.09	Open To Flow (1)
32	680.70	102.01	Shut-In(1)
62	684.50	101.94	End Shut-In(1)
64	331.37	105.66	Open To Flow (2)
94	670.06	104.50	Shut-In(2)
123	670.17	103.81	End Shut-In(2)
127	1842.09	104.81	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
125.00	GCM w /trace of oil >1%o 18%g 82%w	0.61
75.00	Drig.mud	0.37

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Grand Mesa Operating Co.

**Keesling #1-10**

200 E First, Ste. 307  
Wichita ks. 67202

**10-23s-10w Reno Ks.**

Job Ticket: 22013

**DST#: 2**

ATTN: Pat Deenihan

Test Start: 2006.01.03 @ 09:03:52

### Tool Information

Drill Pipe:	Length: 3533.00 ft	Diameter: 3.80 inches	Volume: 49.56 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 248.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose: 96000.00 lb
			<u>Total Volume: 50.78 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	3799.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	27.00 ft			
Tool Length:	54.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3773.00	
Shut In Tool	5.00			3778.00	
Hydraulic tool	5.00			3783.00	
Jars	5.00			3788.00	
Safety Joint	2.00			3790.00	
Packer	4.00			3794.00	27.00 Bottom Of Top Packer
Packer	5.00			3799.00	
Stubb	1.00			3800.00	
Recorder	0.00	6771	Inside	3800.00	
Perforations	21.00			3821.00	
Recorder	0.00	13222	Outside	3821.00	
Bullnose	5.00			3826.00	27.00 Bottom Packers & Anchor

**Total Tool Length: 54.00**



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## DRILL STEM TEST REPORT

FLUID SUMMARY

Grand Mesa Operating Co.

**Keesling #1-10**

200 E.First, Ste.307  
Wichita ks.67202

**10-23s-10w Reno Ks.**

Job Ticket: 22013

**DST#: 2**

ATTN: Pat Deenihan

Test Start: 2006.01.03 @ 09:03:52

### 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:	5000 ppm
Viscosity: 57.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.79 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 5000.00 ppm			
Filter Cake: 0.20 inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
125.00	GCM w/trace of oil >1%o 18%g 82%m	0.615
75.00	Drig.mud	0.369

Total Length: 200.00 ft      Total Volume: 0.984 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments: LCM6#/bl.

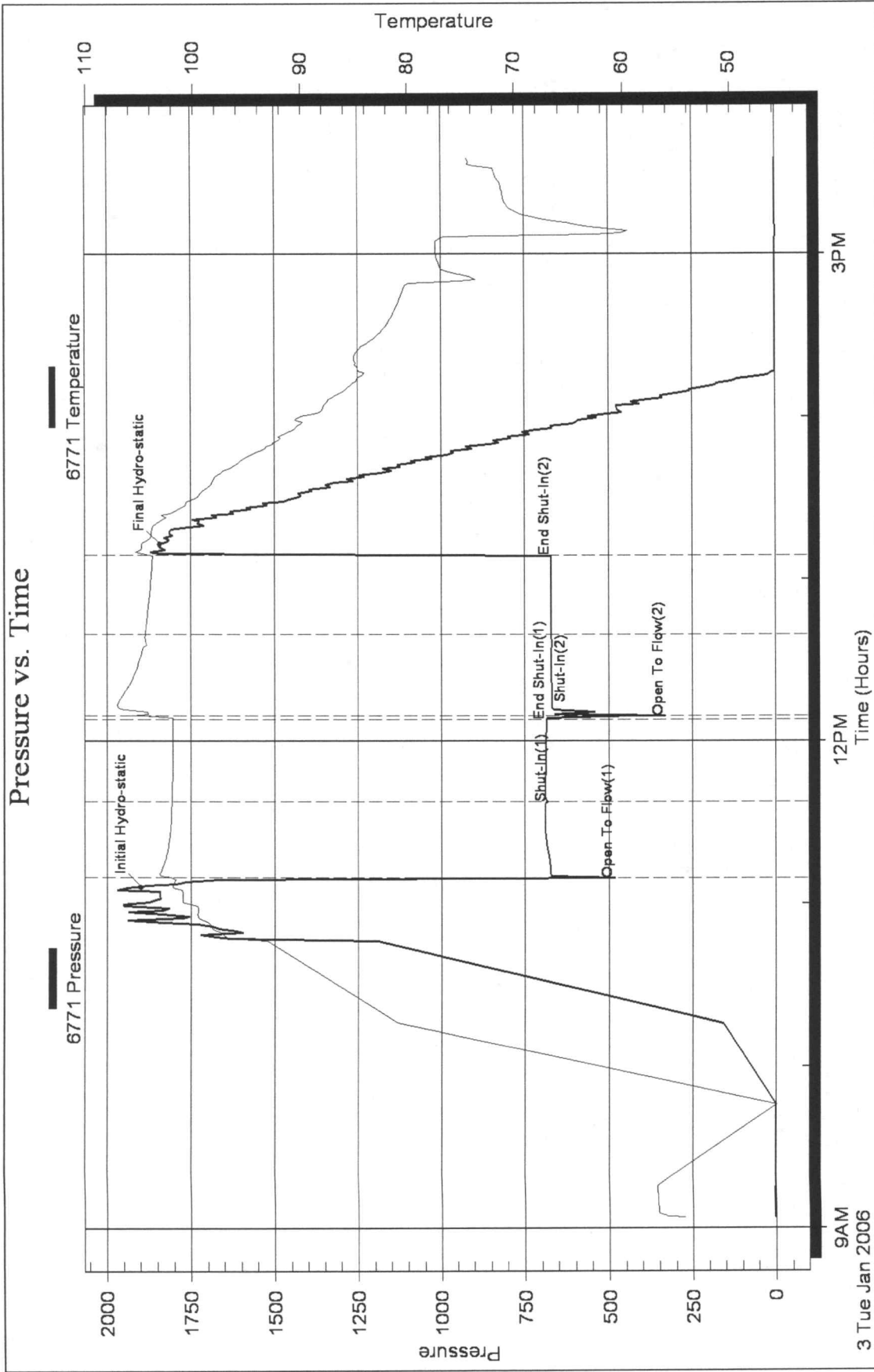
Serial #: 6771

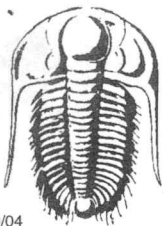
Inside

Grand Mesa Operating Co.

10-23s-10w Reno Ks.

DST Test Number: 2





# TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

INV 8284

No 22012

9/04

## Test Ticket

Well Name & No. Keestling # 1-10 Test No. 1 Date 1-2-06  
 Company Grand Mesa Operating Co. Zone Tested Viola  
 Address 200 E. First St. Ste. 307, Wichita, KS 67202 Elevation 1772 KB 1763 GL  
 Co. Rep / Geo. Pat Durihan Cont. Stirling Dlg. #1 Est. Ft. of Pay \_\_\_\_\_ Por. \_\_\_\_\_ %  
 Location: Sec. 10 Twp. 23 S Rge. 10 W Co. Renew State Ks.  
 No. of Copies 5 Distribution Sheet (Y, N) N Turnkey (Y, N) \_\_\_\_\_ Evaluation (Y, N) \_\_\_\_\_

Interval Tested 3666 - 3775' Initial Str Wt./Lbs. 64,000 Unseated Str Wt./Lbs. 4,000  
 Anchor Length 109' Wt. Set Lbs. 22,000 Wt. Pulled Loose/Lbs. 22,000  
 Top Packer Depth 3661' Tool Weight 2400#  
 Bottom Packer Depth 3666' Hole Size 7 7/8" Rubber Size 6 3/4"  
 Total Depth 3775' Wt. Pipe Run None Drill Collar Run 248'  
 Mud Wt. 9.4 LCM ~ Vis. 48 WL 9.6 cc Drill Pipe Size 4 1/2" Ft. Run 3409'  
 Blow Description IF: Fair decreasing blow, 5 - 1 1/2". Lost approx 15 ft. of mud on backside as tool opened. ISI: No blow.  
FF: No blow FSI: No blow.

Recovery - Total Feet 135 GIP 0 Ft. in DC 135 Ft. in DP 0  
 Rec. 135 Feet of Very Mud. %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 \_\_\_\_\_  
 Rec. \_\_\_\_\_ Feet of \_\_\_\_\_ %gas \_\_\_\_\_ %oil \_\_\_\_\_ %water \_\_\_\_\_ %mud \_\_\_\_\_  
 BHT 106 °F Gravity N/A °API D @ \_\_\_\_\_ °F Corrected Gravity N/A °API  
 RW N/C @ \_\_\_\_\_ °F Chlorides 5000 ppm Recovery \_\_\_\_\_ Chlorides 5000 ppm System

	AK-1	Alpine	Recorder No.	Test
(A) Initial Hydrostatic Mud		<u>1218</u> PSI	<u>6271</u>	<u>1000</u>
(B) First Initial Flow Pressure		<u>91</u> PSI	<u>3667'</u>	Jars _____
(C) First Final Flow Pressure		<u>108</u> PSI	<u>13222</u>	Safety Jt. _____
(D) Initial Shut-In Pressure		<u>112</u> PSI	<u>3770'</u>	Circ Sub _____
(E) Second Initial Flow Pressure		<u>92</u> PSI	<u>~</u>	Sampler _____
(F) Second Final Flow Pressure		<u>108</u> PSI	<u>~</u>	Straddle _____
(G) Final Shut-In Pressure		<u>153</u> PSI	<u>30</u>	Ext. Packer _____
(Q) Final Hydrostatic Mud		<u>1801</u> PSI	<u>30</u>	Shale Packer _____

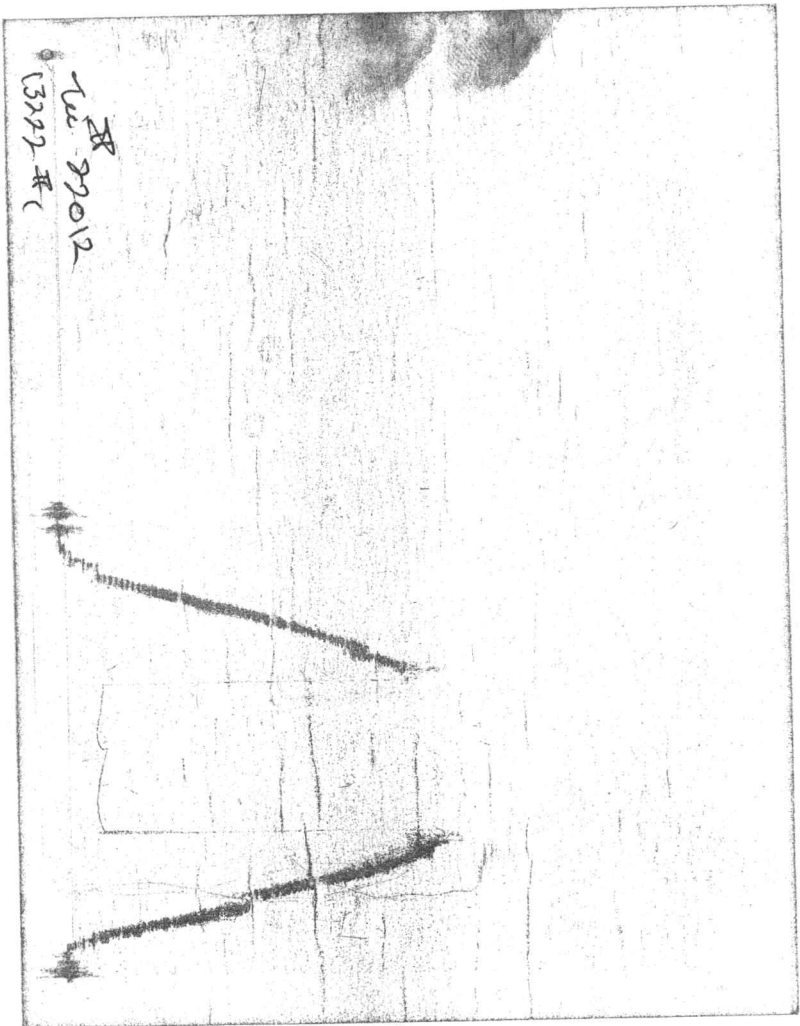
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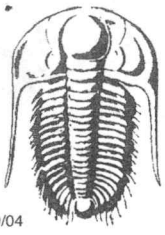
Approved By \_\_\_\_\_  
 Our Representative Cory Durihan

Final Flow	<u>15</u>	Ruined Packer	_____
Final Shut-In	<u>30</u>	Mileage	<u>85</u>
T-On Location	<u>1245</u>	Sub Total:	<u>1085</u>
T-Started	<u>1353</u>	Std. By	_____
T-Open	<u>1543</u>	Other	_____
T-Pulled	<u>1733</u>	Total:	<u>1085.00</u>
T-Out	<u>1955</u>		

**CHART PAGE**

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





# TRILOBITE TESTING INC.

No 22013

P.O. Box 362 • Hays, Kansas 67601

## Test Ticket

Well Name & No. Keesling # 1-10 Test No. 2 Date 1-3-06  
 Company Grand Mesa Operating Co Zone Tested Nicola  
 Address 200 E. First St. Ste. 307, Wichita Ks. 67202 Elevation 1772 KB 1763 GL  
 Co. Rep / Geo. Pat Durihan Cont. Stirling Dalg #1 Est. Ft. of Pay \_\_\_\_\_ Por. \_\_\_\_\_ %  
 Location: Sec. 10 Twp. 23<sup>S</sup> Rge. 10<sup>W</sup> Co. Renew State Ks.  
 No. of Copies 5 Distribution Sheet (Y, N) N Turnkey (Y, N) \_\_\_\_\_ Evaluation (Y, N) \_\_\_\_\_

Interval Tested 3799 - 3826' Initial Str Wt./Lbs. 66,000 Unseated Str Wt./Lbs. 66,000  
 Anchor Length 27' Wt. Set Lbs. 20,000 Wt. Pulled Loose/Lbs. 96,000  
 Top Packer Depth 3794' Tool Weight 8100 #  
 Bottom Packer Depth 3799' Hole Size 7 7/8" ✓ Rubber Size 6 3/4" ✓  
 Total Depth 3826' Wt. Pipe Run None Drill Collar Run 248'  
 Mud Wt. 9.2 LCM 6 #/32 Vis. 57 WL 8.8 cc Drill Pipe Size 4 1/2" Ft. Run 3533  
 Blow Description IF: Weak below. 3" decreasing to 1 1/2". ISI: No below.

FF: Fair below. 5" decreasing to 3". FSI: No below.  
COMMENT: Chart shows that tool plugged during both flows.

Recovery - Total Feet 300 GIP ~ Ft. in DC 200 Ft. in DP 0  
 Rec. 75 Feet of Only Mud %gas \_\_\_\_\_ %oil \_\_\_\_\_ %water \_\_\_\_\_ %mud \_\_\_\_\_  
 Rec. 125 Feet of GCM w/a trace of oil %gas 41 %oil \_\_\_\_\_ %water 82 %mud \_\_\_\_\_  
 Rec. \_\_\_\_\_ Feet of \_\_\_\_\_ %gas \_\_\_\_\_ %oil \_\_\_\_\_ %water \_\_\_\_\_ %mud \_\_\_\_\_  
 Rec. \_\_\_\_\_ Feet of \_\_\_\_\_ %gas \_\_\_\_\_ %oil \_\_\_\_\_ %water \_\_\_\_\_ %mud \_\_\_\_\_  
 Rec. \_\_\_\_\_ Feet of \_\_\_\_\_ %gas \_\_\_\_\_ %oil \_\_\_\_\_ %water \_\_\_\_\_ %mud \_\_\_\_\_  
 BHT 104 °F Gravity N/A °API D @ ~ °F Corrected Gravity N/A °API \_\_\_\_\_  
 RW N.C. @ ~ °F Chlorides 5000 ppm Recovery \_\_\_\_\_ Chlorides 5000 ppm System \_\_\_\_\_

	AK-1	Alpine	Recorder No.	Test
(A) Initial Hydrostatic Mud	1898 PSI	1898 PSI	6771	✓ 1000
(B) First Initial Flow Pressure	482 PSI	482 PSI	(depth) 3800'	✓ 200
(C) First Final Flow Pressure	681 PSI	681 PSI	13222	✓ 50
(D) Initial Shut-In Pressure	685 PSI	685 PSI	(depth) 3821'	Circ Sub _____
(E) Second Initial Flow Pressure	331 PSI	331 PSI	Recorder No. _____	Sampler _____
(F) Second Final Flow Pressure	670 PSI	670 PSI	(depth) _____	Straddle _____
(G) Final Shut-In Pressure	670 PSI	670 PSI	Initial Opening 30	Ext. Packer _____
(Q) Final Hydrostatic Mud	1842 PSI	1842 PSI	Initial Shut-In 30	Shale Packer _____
			Final Flow 30	Ruined Packer _____
			Final Shut-In 30	Mileage <u>✓ 85<sup>00</sup></u>
			T-On Location 0815	Sub Total: <u>1335<sup>00</sup></u>
			T-Started 0909	Std. By _____
			T-Open 1109	Other _____
			T-Pulled 1309	Total: <u>1335<sup>00</sup></u>
			T-Out 1535	

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Approved By Pat  
 Our Representative Gary Durihan

**CHART PAGE**

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

