



## DRILL STEM TEST REPORT

Prepared For: **Grand Mesa Operating**

1700 N Waterfront Parkway  
Building 600  
Wichita, KS 67206+5514

ATTN: Steve Stribling

**33/13S/31W/Gove**

**Hess 2-33**

Start Date: 2011.06.01 @ 10:00:00

End Date: 2011.06.01 @ 20:38:00

Job Ticket #: 15793                      DST #: 3

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2011.06.02 @ 10:09:27

Grand Mesa Operating  
Hess 2-33  
33/13S/31W/Gove  
DST # 3  
Lansing Zone D  
2011.06.01



# DRILL STEM TEST REPORT

Grand Mesa Operating  
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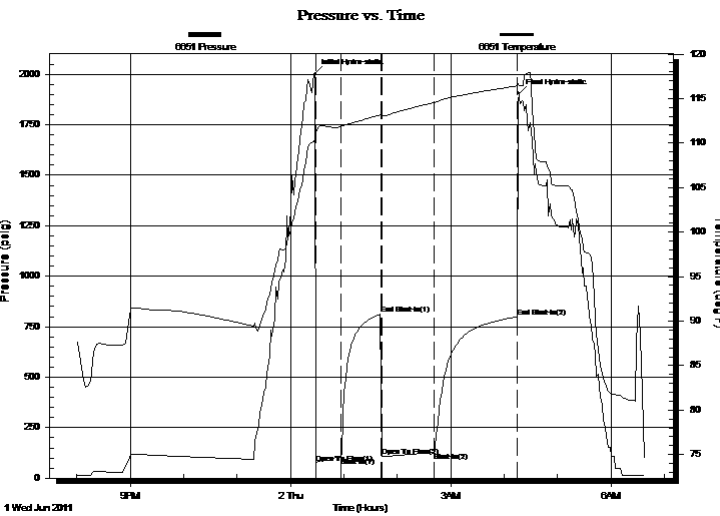
**Hess 2-33**  
**33/13S/31W/Gove**  
 Job Ticket: 15793 **DST#: 3**  
 Test Start: 2011.06.01 @ 10:00:00

## GENERAL INFORMATION:

Formation: **Lansing Zone D**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 14:28:30  
 Time Test Ended: 20:38:00  
 Interval: **3967.00 ft (KB) To 3992.00 ft (KB) (TVD)**  
 Total Depth: 3992.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ken Swinney  
 Unit No: 3325 Scott City/94  
 Reference Elevations: 2877.00 ft (KB)  
 2872.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 6651 Outside**  
 Press @ Run Depth: 127.30 psig @ 3989.00 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2011.06.01 End Date: 2011.06.02 Last Calib.: 2011.06.02  
 Start Time: 20:01:00 End Time: 06:38:00 Time On Btm: 2011.06.02 @ 00:27:30  
 Time Off Btm: 2011.06.02 @ 04:16:30

**TEST COMMENT:** 1ST Open 30 Minutes/Weak blow /Built to 2 inches/Died to 1 inch in bucket of water  
 1ST Shut In 45 Minutes/No Blow Back  
 2ND Open 60 Minutes/Weak blow /Buile to 1/2 inch/Died to 1/4 inch in bucket of water  
 2ND Shut In 90 Minutes/No Blow Back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2001.48	110.38	Initial Hydro-static
1	73.41	110.88	Open To Flow (1)
30	103.96	111.81	Shut-In(1)
74	811.65	113.19	End Shut-In(1)
75	107.37	113.03	Open To Flow (2)
134	127.30	114.56	Shut-In(2)
228	798.43	116.42	End Shut-In(2)
229	1904.62	116.46	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Clean Oil 100% oil	0.02
85.00	Oil cut mud w ith trace of water	0.42
0.00	85% mud 10% oil 5% w ater	0.00
120.00	oil and w ater cut mud	1.46
0.00	60% mud 30% w ater 10% oil	0.00

## Gas Rates

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



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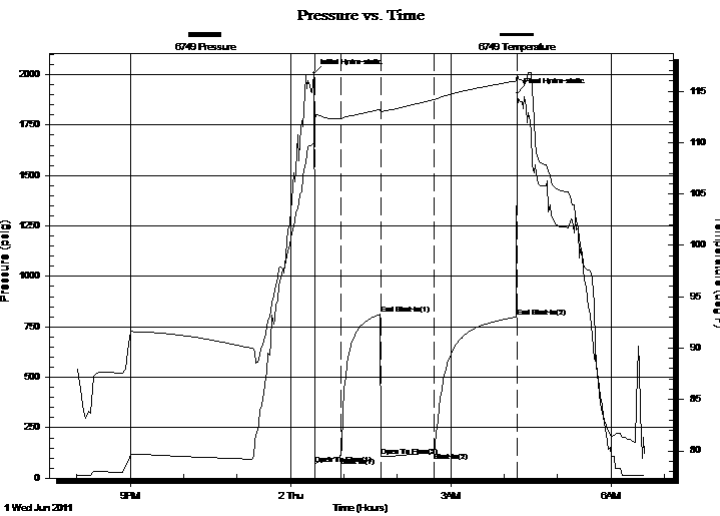
**Hess 2-33**  
**33/13S/31W/Gove**  
 Job Ticket: 15793 **DST#: 3**  
 Test Start: 2011.06.01 @ 10:00:00

## GENERAL INFORMATION:

Formation: **Lansing Zone D**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 14:28:30  
 Time Test Ended: 20:38:00  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ken Swinney  
 Unit No: 3325 Scott City/94  
 Interval: **3967.00 ft (KB) To 3992.00 ft (KB) (TVD)**  
 Reference Elevations: 2877.00 ft (KB)  
 Total Depth: 3992.00 ft (KB) (TVD) 2872.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

**Serial #: 6749 Inside**  
 Press @ Run Depth: 798.47 psig @ 3988.00 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2011.06.01 End Date: 2011.06.02 Last Calib.: 2011.06.02  
 Start Time: 20:01:00 End Time: 06:39:00 Time On Btm: 2011.06.02 @ 00:26:30  
 Time Off Btm: 2011.06.02 @ 04:15:00

**TEST COMMENT:** 1ST Open 30 Minutes/Weak blow /Built to 2 inches/Died to 1 inch in bucket of water  
 1ST Shut In 45 Minutes/No Blow Back  
 2ND Open 60 Minutes/Weak blow /Buile to 1/2 inch/Died to 1/4 inch in bucket of water  
 2ND Shut In 90 Minutes/No Blow Back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2006.84	110.01	Initial Hydro-static
2	70.45	112.22	Open To Flow (1)
30	103.49	112.34	Shut-In(1)
75	812.33	113.25	End Shut-In(1)
76	106.54	113.02	Open To Flow (2)
135	126.97	114.18	Shut-In(2)
228	798.47	116.02	End Shut-In(2)
229	1908.38	116.61	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Clean Oil 100% oil	0.02
85.00	Oil cut mud w ith trace of water	0.42
0.00	85% mud 10% oil 5% w ater	0.00
120.00	oil and w ater cut mud	1.46
0.00	60% mud 30% w ater 10% oil	0.00

## Gas Rates

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



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**TOOL DIAGRAM**

Grand Mesa Operating

**Hess 2-33**

1700 N Waterfront Parkway  
 Building 600  
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 ATTN: Steve Stribling

**33/13S/31W/Gove**

Job Ticket: 15793

**DST#: 3**

Test Start: 2011.06.01 @ 10:00:00

**Tool Information**

Drill Pipe:	Length: 3820.00 ft	Diameter: 3.88 inches	Volume: 55.86 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:	20000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	64000.00 lb
			<u>Total Volume: 56.45 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	2.00 ft			String Weight: Initial	54000.00 lb
Depth to Top Packer:	3967.00 ft			Final	54000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	25.00 ft				
Tool Length:	54.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Shut-in tool	5.00			3943.00	
Hydraulic tool	5.00			3948.00	
Change over sub	1.00			3949.00	
Jars	6.00			3955.00	
Safety Joint	2.00			3957.00	
Packer	5.00			3962.00	29.00 Bottom Of Top Packer
Packer	5.00			3967.00	
Anchor	20.00			3987.00	
Recorder	1.00	6749	Inside	3988.00	
Recorder	1.00	6651	Outside	3989.00	
Bullnose	3.00			3992.00	25.00 Bottom Packers & Anchor

**Total Tool Length: 54.00**



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## FLUID SUMMARY

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Job Ticket: 15793

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Test Start: 2011.06.01 @ 10:00:00

### Mud and Cushion Information

Mud Type: Gel Chem  
 Mud Weight: 9.00 lb/gal  
 Viscosity: 54.00 sec/qt  
 Water Loss: 7.20 in<sup>3</sup>  
 Resistivity: ohm.m  
 Salinity: 3000.00 ppm  
 Filter Cake: 1.00 inches

Cushion Type:  
 Cushion Length: ft  
 Cushion Volume: bbl  
 Gas Cushion Type:  
 Gas Cushion Pressure: psig

Oil API: deg API  
 Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Clean Oil 100% oil	0.025
85.00	Oil cut mud with trace of water	0.418
0.00	85% mud 10% oil 5% water	0.000
120.00	oil and water cut mud	1.464
0.00	60% mud 30% water 10% oil	0.000

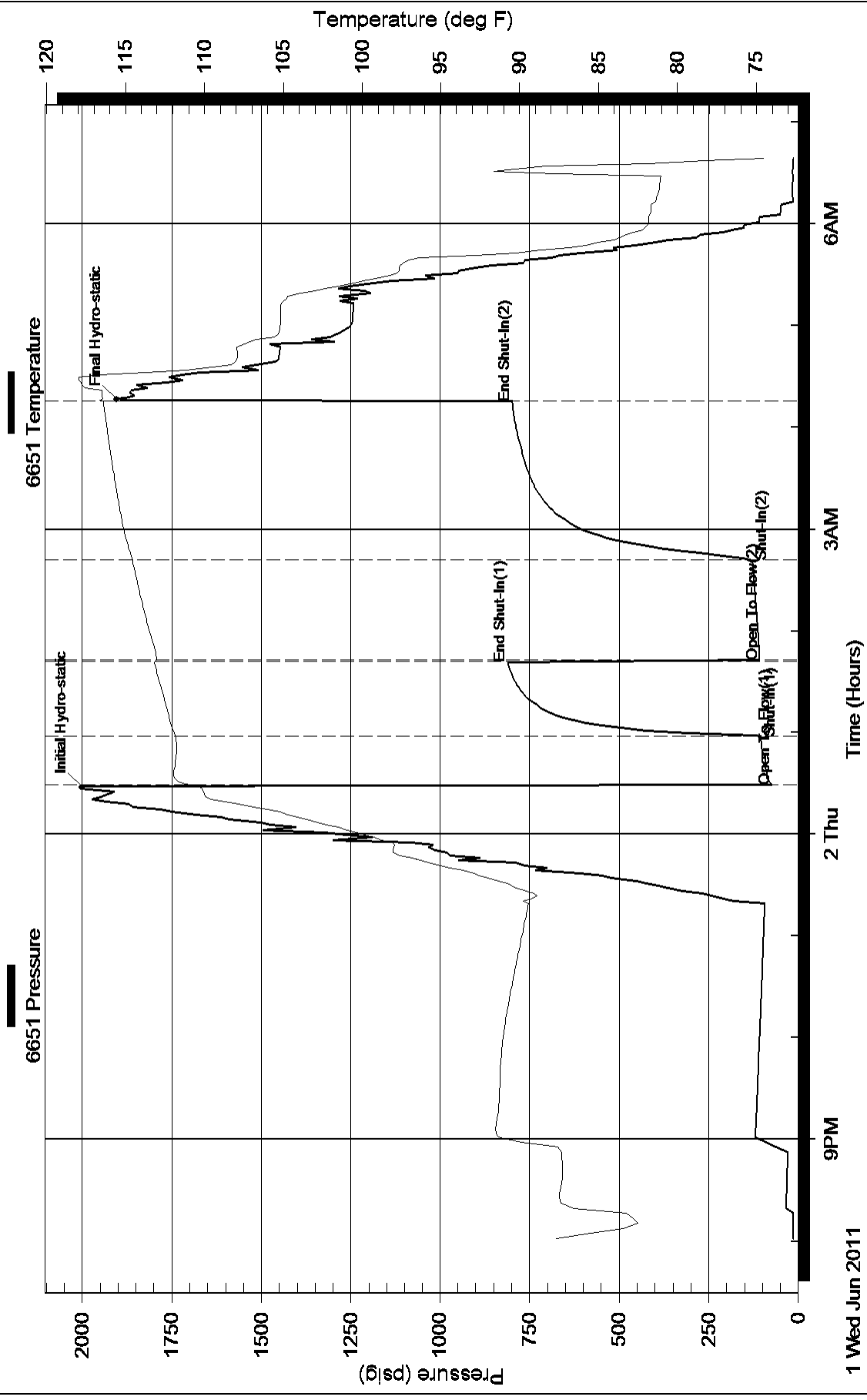
Total Length: 210.00 ft      Total Volume: 1.907 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:

### Pressure vs. Time



### Pressure vs. Time

