



DRILL STEM TEST REPORT

Prepared For: **GRAND MESA OPERATING**

1700 N WATERFRONT PKWY BLDG 600
WICHITA KS 67206

ATTN: MAC ARMSTRONG

9-14S-31W GOVE

HUND 1-9

Start Date: 2011.02.22 @ 10:00:00

End Date: 2011.02.22 @ 16:54:00

Job Ticket #: 1070 DST #: 2

Eagle Testers LLC.

P.O.Box 1011, Great Bend, KS 67530

620-617-7548

Printed: 2011.02.22 @ 10:27:59

GRAND MESA OPERATING
HUND 1-9
9-14S-31W GOVE
DST # 2
LKC-E-
2011.02.22



DRILL STEM TEST REPORT

GRAND MESA OPERATING

HUND 1-9

1700 N WATERFRONT PKWY BLDG 600
WICHITA KS 67206

9-14S-31W GOVE

Job Ticket: 1070

DST#: 2

ATTN: MAC ARMSTRONG

Test Start: 2011.02.22 @ 10:00:00

GENERAL INFORMATION:

Formation: **LKC-E-**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:28:00

Time Test Ended: 16:54:00

Interval: **4068.00 ft (KB) To 4100.00 ft (KB) (TVD)**

Total Depth: 4100.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Initial)

Tester: DAVID NICHOLS

Unit No: 15 52 MILES RT OAKLE

Reference Elevations: 2953.00 ft (KB)

2946.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: **6666**

Inside

Press @ RunDepth: 55.26 psig @ 4096.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2011.02.22

End Date:

2011.02.22

Last Calib.:

2011.02.22

Start Time: 10:00:00

End Time:

16:54:00

Time On Btm:

2011.02.22 @ 12:26:30

Time Off Btm:

2011.02.22 @ 14:53:00

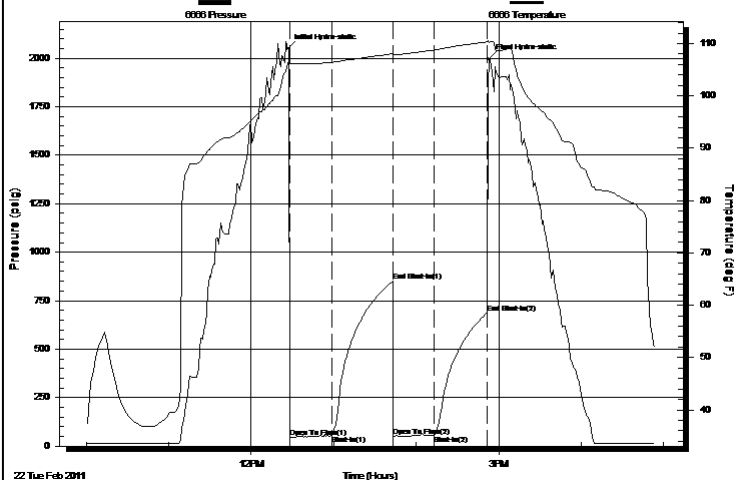
TEST COMMENT: 30-INITIAL OPENING WEAK BLOW BUILT TO 2 INCHES INTO WATER

45-INITIAL SHUT IN NO BLOW BACK

30-FINAL OPENING SURFACE BLOW

30-FINAL SHUT IN NO BLOW BACK

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2048.15	106.19	Initial Hydro-static
2	44.77	106.16	Open To Flow (1)
32	53.56	106.40	Shut-In(1)
77	849.58	108.06	End Shut-In(1)
77	51.55	107.85	Open To Flow (2)
107	55.26	108.77	Shut-In(2)
145	685.88	110.31	End Shut-In(2)
147	1996.18	110.26	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	MUD 100#MUD	0.10

Gas Rates

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



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Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:28:00

Time Test Ended: 16:54:00

Test Type: Conventional Bottom Hole (Initial)

Tester: DAVID NICHOLS

Unit No: 15 52 MILES RT OAKLE

Interval: 4068.00 ft (KB) To 4100.00 ft (KB) (TVD)

Reference Elevations: 2953.00 ft (KB)

Total Depth: 4100.00 ft (KB) (TVD)

2946.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 6651

Outside

Press @ RunDepth: 684.85 psig @ 4097.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2011.02.22

End Date:

2011.02.22

Last Calib.:

2011.02.22

Start Time: 10:00:00

End Time:

17:01:00

Time On Btm:

2011.02.22 @ 12:24:30

Time Off Btm:

2011.02.22 @ 14:52:30

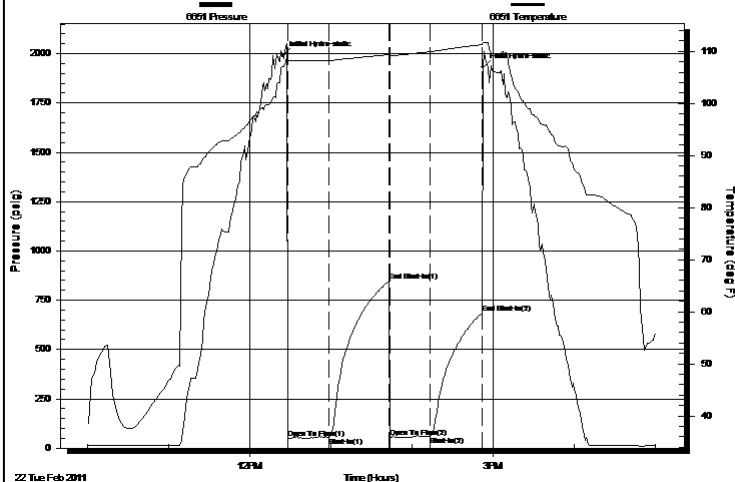
TEST COMMENT: 30-INITIAL OPENING WEAK BLOW BUILT TO 2 INCHES INTO WATER

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30-FINAL OPENING SURFACE BLOW

30-FINAL SHUT IN NO BLOW BACK

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1989.77	107.08	Initial Hydro-static
4	49.02	108.35	Open To Flow (1)
34	52.64	108.25	Shut-In(1)
79	848.63	109.42	End Shut-In(1)
80	55.57	109.20	Open To Flow (2)
109	57.82	109.93	Shut-In(2)
148	684.85	111.29	End Shut-In(2)
148	1931.10	111.68	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	MUD 100#MUD	0.10

Gas Rates

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



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TOOL DIAGRAM

GRAND MESA OPERATING

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DST#: 2

ATTN: MAC ARMSTRONG

Test Start: 2011.02.22 @ 10:00:00

Tool Information

Drill Pipe:	Length: 3922.00 ft	Diameter: 3.88 inches	Volume: 57.36 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:	55000.00 lb
			<u>Total Volume: 57.95 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	2.75 ft			String Weight: Initial	48000.00 lb
Depth to Top Packer:	4068.00 ft			Final	48000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	32.00 ft				
Tool Length:	60.75 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut-in tool	5.00			4044.25	
Hydraulic tool	5.00			4049.25	
Change over sub	0.75			4050.00	
Jars	6.00			4056.00	
Safety Joint	2.00			4058.00	
Packer	5.00			4063.00	28.75 Bottom Of Top Packer
Packer	5.00			4068.00	
Anchor	27.00			4095.00	
Recorder	1.00	6666	Inside	4096.00	
Recorder	1.00	6651	Outside	4097.00	
Bull plug	3.00			4100.00	32.00 Bottom Packers & Anchor

Total Tool Length: 60.75



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FLUID SUMMARY

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Test Start: 2011.02.22 @ 10:00:00

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: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.80 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1900.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	MUD 100#MUD	0.098

Total Length: 20.00 ft Total Volume: 0.098 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

