



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: 2011.02.23 @ 05:00:00

End Date: 2011.02.23 @ 11:20:30

Job Ticket #: 1071 DST #: 3

Eagle Testers LLC.

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

620-617-7548

Printed: 2011.02.23 @ 05:25:48

GRAND MESA OPERATING
HUND 1-9
9-14S-31W GOVE
DST # 3
LKC-H-
2011.02.23



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: 1071

DST#: 3

ATTN: MAC ARMSTRONG

Test Start: 2011.02.23 @ 05:00:00

GENERAL INFORMATION:

Formation: **LKC -H-**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:01:30

Time Test Ended: 11:20:30

Test Type: Conventional Bottom Hole (Initial)

Tester: DAVID NICHOLS

Unit No: 15 52 MILES RT OAKLE

Interval: 4156.00 ft (KB) To 4194.00 ft (KB) (TVD)

Reference Elevations: 2953.00 ft (KB)

Total Depth: 4194.00 ft (KB) (TVD)

2946.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 6651

Inside

Press @ Run Depth: 82.53 psig @ 4190.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2011.02.23

End Date:

2011.02.23

Last Calib.:

2011.02.23

Start Time: 05:00:00

End Time:

11:20:30

Time On Btm:

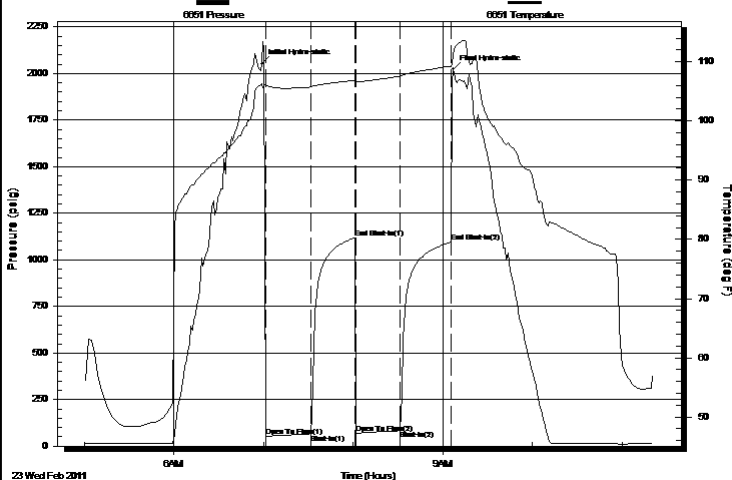
2011.02.23 @ 06:59:00

Time Off Btm:

2011.02.23 @ 09:07:00

TEST COMMENT: 30-INITIAL OPENING SURFACE BLOW
30-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	2052.42	106.25	Initial Hydro-static
3	52.73	105.92	Open To Flow (1)
33	66.02	105.71	Shut-In(1)
63	1118.94	106.91	End Shut-In(1)
63	71.09	106.52	Open To Flow (2)
93	82.53	107.56	Shut-In(2)
127	1094.46	109.25	End Shut-In(2)
128	2022.63	111.17	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
65.00	MUD 100%MUD	0.32

Gas Rates

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



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9-14S-31W GOVE

Job Ticket: 1071

DST#: 3

ATTN: MAC ARMSTRONG

Test Start: 2011.02.23 @ 05:00:00

GENERAL INFORMATION:

Formation: **LKC -H-**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:01:30

Time Test Ended: 11:20:30

Test Type: Conventional Bottom Hole (Initial)

Tester: DAVID NICHOLS

Unit No: 15 52 MILES RT OAKLE

Interval: **4156.00 ft (KB) To 4194.00 ft (KB) (TVD)**

Reference Elevations: 2953.00 ft (KB)

Total Depth: 4194.00 ft (KB) (TVD)

2946.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: **6666**

Outside

Press @ RunDepth: 1093.31 psig @ 4191.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2011.02.23

End Date:

2011.02.23

Last Calib.:

2011.02.23

Start Time: 05:00:00

End Time:

11:28:00

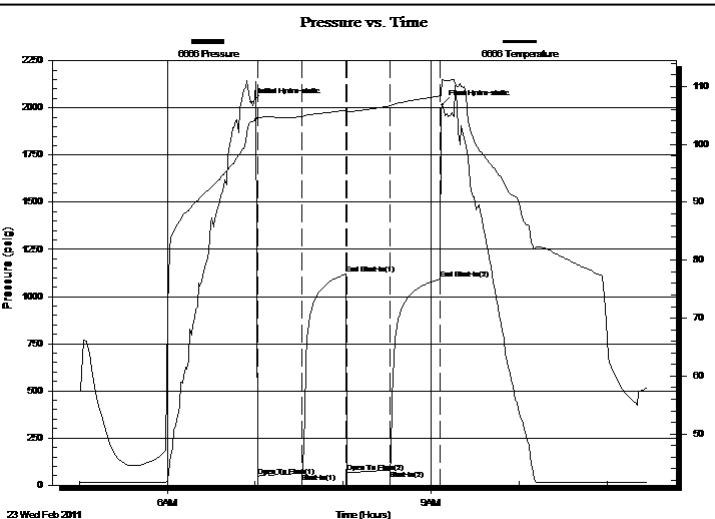
Time On Btm:

2011.02.23 @ 06:57:30

Time Off Btm:

2011.02.23 @ 09:07:30

TEST COMMENT: 30-INITIAL OPENING SURFACE BLOW
30-INITIAL SHUT IN NO BLOW BACK
30-FINAL OPENING SURFACE BLOW
30-FINAL SHUT IN NO BLOW BACK



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2028.70	103.85	Initial Hydro-static
4	47.30	104.25	Open To Flow (1)
35	63.17	104.72	Shut-In(1)
65	1118.73	105.86	End Shut-In(1)
65	66.35	105.64	Open To Flow (2)
95	79.92	106.60	Shut-In(2)
129	1093.31	108.34	End Shut-In(2)
130	2016.18	111.18	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
65.00	MUD 100%MUD	0.32

Gas Rates

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



DRILL STEM TEST REPORT

TOOL DIAGRAM

GRAND MESA OPERATING

HUND 1-9

1700 N WATERFRONT PKWY BLDG 600
WICHITA KS 67206

9-14S-31W GOVE

Job Ticket: 1071

DST#: 3

ATTN: MAC ARMSTRONG

Test Start: 2011.02.23 @ 05:00:00

Tool Information

Drill Pipe:	Length: 4010.00 ft	Diameter: 3.88 inches	Volume: 58.64 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: 59.23 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	2.75 ft			String Weight: Initial	48000.00 lb
Depth to Top Packer:	4156.00 ft			Final	48000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	38.00 ft				
Tool Length:	66.75 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			4132.25	
Hydraulic tool	5.00			4137.25	
Change over sub	0.75			4138.00	
Jars	6.00			4144.00	
Safety Joint	2.00			4146.00	
Packer	5.00			4151.00	28.75 Bottom Of Top Packer
Packer	5.00			4156.00	
Anchor	33.00			4189.00	
Recorder	1.00	6651	Inside	4190.00	
Recorder	1.00	6666	Outside	4191.00	
Bull plug	3.00			4194.00	38.00 Bottom Packers & Anchor

Total Tool Length: 66.75



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FLUID SUMMARY

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Job Ticket: 1071

DST#: 3

ATTN: MAC ARMSTRONG

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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: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.80 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
65.00	MUD 100%MUD	0.320

Total Length: 65.00 ft Total Volume: 0.320 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

