



## DRILL STEM TEST REPORT

Prepared For: **GRAND MESA OPERATING COMPANY**

1700 N WATERFRONT PKWY BLDG 600  
WICHITA KS 67206

ATTN: BOB PETERSON

### **26-12S-32W LOGAN**

#### **G ANDERSEN 2-26**

Start Date: 2010.10.04 @ 23:00:00

End Date: 2010.10.05 @ 06:16:00

Job Ticket #: 1029                      DST #: 1

Eagle Testers LLC.

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

620-617-7548

Printed: 2010.10.05 @ 00:06:50



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ATTN: BOB PETERSON

Job Ticket: 1029

**DST#: 1**

Test Start: 2010.10.04 @ 23:00:00

## GENERAL INFORMATION:

Formation: **LKC -C-**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:04:00

Time Test Ended: 06:16:00

Test Type: Conventional Bottom Hole (Initial)

Tester: DAVID NICHOLS

Unit No: 15

**Interval: 4037.00 ft (KB) To 4075.00 ft (KB) (TVD)**

Reference Elevations: 2995.00 ft (KB)

Total Depth: 4075.00 ft (KB) (TVD)

2990.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6666**

**Inside**

Press @ Run Depth: 421.41 psig @ 4071.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2010.10.04

End Date: 2010.10.05

Last Calib.: 2010.10.04

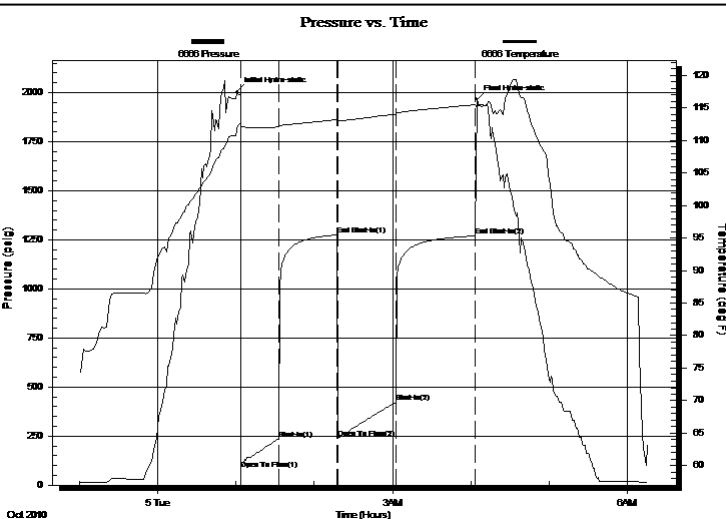
Start Time: 23:00:00

End Time: 06:16:00

Time On Btm: 2010.10.05 @ 01:01:00

Time Off Btm: 2010.10.05 @ 04:04:30

**TEST COMMENT:** 30-INITIAL OPENING FAIR BLOW BOTTOM BUCKET IN 9 1/2 MINS  
45-INITIAL SHUT IN NO BLOW BACK  
45-FINAL OPENING FAIR BLOW BOTTOM BUCKET IN 13 MINS  
60-FINAL SHUT IN NO BLOW BACK



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2003.57	111.86	Initial Hydro-static
3	83.13	112.22	Open To Flow (1)
32	235.96	112.05	Shut-In(1)
77	1275.23	113.19	End Shut-In(1)
78	240.89	112.99	Open To Flow (2)
122	421.41	114.03	Shut-In(2)
183	1269.69	115.45	End Shut-In(2)
184	1965.96	115.02	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
180.00	MUD WITH A SHOW OF WATER 95%MUD5%WATER	1.47
180.00	MUD CUT WATER 40%MUD60%WATER	2.63
370.00	WATER TRACE OF MUD 5%MUD95%WATER	5.41
60.00	MUDDY WATER 20%MUD80%WATER	0.88
60.00	MUD CUT WATER 50%MUD50%WATER	0.88

## Gas Rates

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



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1700 N WATERFRONT PKWY BLDG 600  
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**26-12S-32W LOGAN**

ATTN: BOB PETERSON

Job Ticket: 1029

**DST#: 1**

Test Start: 2010.10.04 @ 23:00:00

## GENERAL INFORMATION:

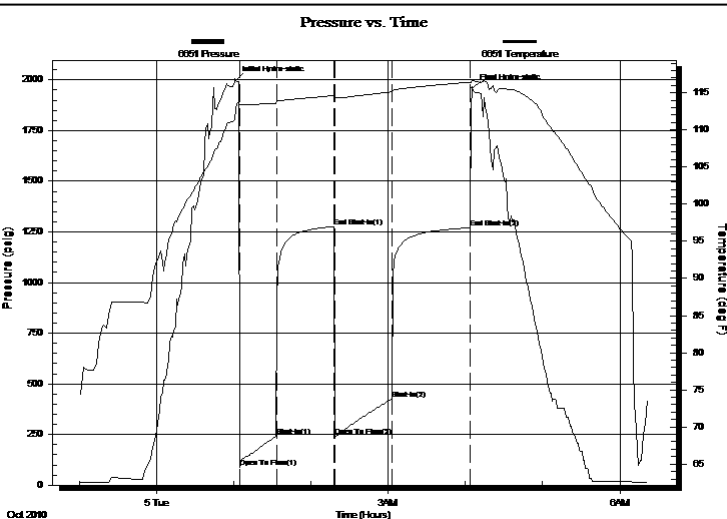
Formation: **LKC -C-**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 01:04:00  
 Tester: DAVID NICHOLS  
 Time Test Ended: 06:16:00  
 Unit No: 15  
 Interval: **4037.00 ft (KB) To 4075.00 ft (KB) (TVD)**  
 Reference Elevations: 2995.00 ft (KB)  
 Total Depth: 4075.00 ft (KB) (TVD)  
 2990.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 KB to GR/CF: 5.00 ft

## Serial #: 6651

**Outside**

Press @ Run Depth: 1270.13 psig @ 4072.00 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2010.10.04 End Date: 2010.10.05 Last Calib.: 2010.10.04  
 Start Time: 23:00:00 End Time: 06:21:30 Time On Btm: 2010.10.05 @ 01:01:30  
 Time Off Btm: 2010.10.05 @ 04:05:30

**TEST COMMENT:** 30-INITIAL OPENING FAIR BLOW BOTTOM BUCKET IN 9 1/2 MINS  
 45-INITIAL SHUT IN NO BLOW BACK  
 45-FINAL OPENING FAIR BLOW BOTTOM BUCKET IN 13 MINS  
 60-FINAL SHUT IN NO BLOW BACK



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1998.83	112.81	Initial Hydro-static
3	88.73	113.37	Open To Flow (1)
32	242.96	113.62	Shut-In(1)
76	1275.83	114.62	End Shut-In(1)
77	239.33	114.35	Open To Flow (2)
122	424.75	115.14	Shut-In(2)
182	1270.13	116.45	End Shut-In(2)
184	1958.00	116.66	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
180.00	MUD WITH A SHOW OF WATER 95%MUD5%WATER	1.47
180.00	MUD CUT WATER 40%MUD60%WATER	2.63
370.00	WATER TRACE OF MUD 5%MUD95%WATER	5.41
60.00	MUDDY WATER 20%MUD80%WATER	0.88
60.00	MUD CUT WATER 50%MUD50%WATER	0.88

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

GRAND MESA OPERATING COMPANY

**G ANDERSEN 2-26**

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WICHITA KS 67206

**26-12S-32W LOGAN**

Job Ticket: 1029

**DST#: 1**

ATTN: BOB PETERSON

Test Start: 2010.10.04 @ 23:00:00

## Tool Information

Drill Pipe:	Length: 3896.00 ft	Diameter: 3.88 inches	Volume: 56.98 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: 60000.00 lb
			<u>Total Volume: 57.57 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	2.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	4037.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	38.00 ft			
Tool Length:	61.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
SHUT IN TOOL	5.00			4019.00	
HYD S.I. Tool	5.00			4024.00	
jars	6.00			4030.00	
safty joint	2.00			4032.00	
TRAVEL COLER	2.00			4034.00	
Packer	3.00			4037.00	23.00 Bottom Of Top Packer
travel collar	2.00			4039.00	38.00 Tool Interval
Packer	3.00			4042.00	
Anchor	28.00			4070.00	
Recorder	1.00	6666	Inside	4071.00	
Recorder	1.00	6651	Outside	4072.00	
BULL PLUG	3.00			4075.00	100060.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>61.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

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**26-12S-32W LOGAN**

Job Ticket: 1029

**DST#: 1**

ATTN: BOB PETERSON

Test Start: 2010.10.04 @ 23:00:00

### 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: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.20 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
180.00	MUD WITH A SHOW OF WATER 95%MUD 5%	1.468
180.00	MUD CUT WATER 40%MUD60%WATER	2.632
370.00	WATER TRACE OF MUD 5%MUD95%WATER	5.411
60.00	MUDDY WATER 20%M80%WATER	0.877
60.00	MUD CUT WATER 50%MUD50%WATER	0.877

Total Length: 850.00 ft      Total Volume: 11.265 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RECOVERY CHLORIDES 46,000



### Pressure vs. Time

