



## DRILL STEM TEST REPORT

Prepared For: **GRAND MESA OPERATING**

1700 N WATERFRONT PKWY BLDG 600  
WICHITA KS 67206

ATTN: MACK ARMSTRONG

**34-12S-32W LOGAN**

**DALE 1-34**

Start Date: 2011.04.02 @ 21:00:00

End Date: 2011.04.03 @ 04:17:30

Job Ticket #: 1009                      DST #: 2

Eagle Testers LLC.

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

620-617-7548

Printed: 2011.04.02 @ 22:03:03

GRAND MESA OPERATING  
DALE 1-34  
34-12S-32W LOGAN  
DST # 2  
LKC-J-  
2011.04.02



# DRILL STEM TEST REPORT

GRAND MESA OPERATING

DALE 1-34

1700 N WATERFRONT PKWY BLDG 600  
WICHITA KS 67206

34-12S-32W LOGAN

Job Ticket: 1009

DST#: 2

ATTN: MACK ARMSTRONG

Test Start: 2011.04.02 @ 21:00:00

## GENERAL INFORMATION:

Formation: **LKC -J-**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:31:00

Time Test Ended: 04:17:30

Test Type: Conventional Bottom Hole (Initial)

Tester: DAVID NICHOLS

Unit No: 15 21 MRT OAKLEY

Interval: **4200.00 ft (KB) To 4232.00 ft (KB) (TVD)**

Reference Elevations: 2989.00 ft (KB)

Total Depth: 4232.00 ft (KB) (TVD)

2983.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 6.00 ft

Serial #: **6663**

Inside

Press @ RunDepth: 150.11 psig @ 4228.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2011.04.02

End Date:

2011.04.03

Last Calib.:

2011.04.02

Start Time: 21:00:00

End Time:

04:17:30

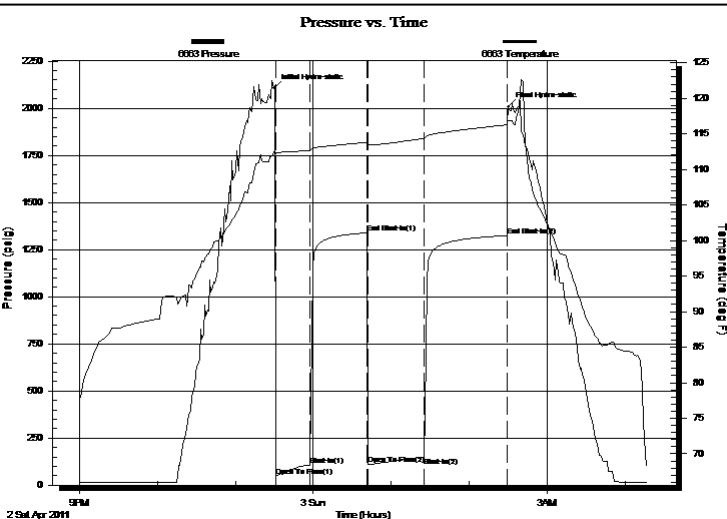
Time On Btm:

2011.04.02 @ 23:30:00

Time Off Btm:

2011.04.03 @ 02:30:30

TEST COMMENT: 30-INITIAL OPENING WEAK BLOW BUILT TO 4 INCHES INTO WATER  
45-INITIAL SHUT IN NO BLOW BACK  
45-FINAL OPENING VERY WEAK SURFACE BLOW DIED AFTER 15 MINS  
60-FINAL SHUT IN NO BLOW BACK



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2107.53	112.51	Initial Hydro-static
1	47.47	112.19	Open To Flow (1)
28	106.40	112.61	Shut-In(1)
72	1338.99	113.84	End Shut-In(1)
72	108.56	113.49	Open To Flow (2)
116	150.11	114.36	Shut-In(2)
179	1324.58	116.27	End Shut-In(2)
181	2007.52	116.90	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
225.00	MUDDY WATER WITH A SPOT OF OIL	2.13
0.00	40%MUD 60 % WATER	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

GRAND MESA OPERATING

DALE 1-34

1700 N WATERFRONT PKWY BLDG 600  
WICHITA KS 67206

34-12S-32W LOGAN

Job Ticket: 1009

DST#: 2

ATTN: MACK ARMSTRONG

Test Start: 2011.04.02 @ 21:00:00

## GENERAL INFORMATION:

Formation: **LKC -J-**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:31:00

Time Test Ended: 04:17:30

Test Type: Conventional Bottom Hole (Initial)

Tester: DAVID NICHOLS

Unit No: 15 21 MRT OAKLEY

Interval: **4200.00 ft (KB) To 4232.00 ft (KB) (TVD)**

Reference Elevations: 2989.00 ft (KB)

Total Depth: 4232.00 ft (KB) (TVD)

2983.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 6.00 ft

**Serial #: 6666 Outside**

Press @ RunDepth: 1323.36 psig @ 4229.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2011.04.02

End Date:

2011.04.03

Last Calib.:

2011.04.02

Start Time: 21:00:00

End Time:

04:18:00

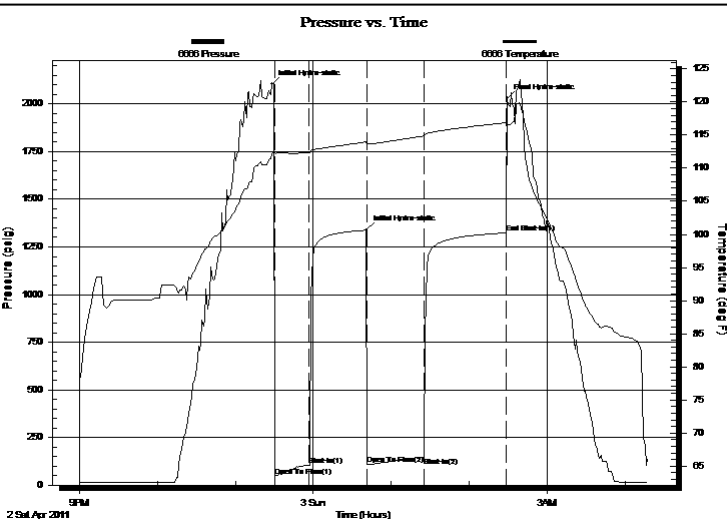
Time On Btm:

2011.04.02 @ 23:28:30

Time Off Btm:

2011.04.03 @ 02:29:30

TEST COMMENT: 30-INITIAL OPENING WEAK BLOW BUILT TO 4 INCHES INTO WATER  
45-INITIAL SHUT IN NO BLOW BACK  
45-FINAL OPENING VERY WEAK SURFACE BLOW DIED AFTER 15 MINS  
60-FINAL SHUT IN NO BLOW BACK



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2102.93	112.17	Initial Hydro-static
2	45.49	112.28	Open To Flow (1)
29	104.60	112.36	Shut-In(1)
73	1337.77	113.99	Initial Hydro-static
73	106.95	113.71	Open To Flow (2)
117	147.99	114.86	Shut-In(2)
180	1323.36	116.88	End Shut-In(1)
181	2030.58	116.69	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
225.00	MUDDY WATER WITH A SPOT OF OIL	2.13
0.00	40%MUD 60 % WATER	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

GRAND MESA OPERATING

**DALE 1-34**

1700 N WATERFRONT PKWY BLDG 600  
WICHITA KS 67206

**34-12S-32W LOGAN**

Job Ticket: 1009

**DST#: 2**

ATTN: MACK ARMSTRONG

Test Start: 2011.04.02 @ 21:00:00

## Tool Information

Drill Pipe:	Length: 4054.00 ft	Diameter: 3.88 inches	Volume: 59.29 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: 65000.00 lb
			<u>Total Volume: 59.88 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4200.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	32.00 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			4176.00	
Hydraulic tool	5.00			4181.00	
Change over sub	1.00			4182.00	
Jars	6.00			4188.00	
Safety Joint	2.00			4190.00	
Packer	5.00			4195.00	29.00 Bottom Of Top Packer
Packer	5.00			4200.00	
Anchor	27.00			4227.00	
Recorder	1.00	6663	Inside	4228.00	
Recorder	1.00	6666	Outside	4229.00	
Bullnose	3.00			4232.00	32.00 Bottom Packers & Anchor

**Total Tool Length: 61.00**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

GRAND MESA OPERATING

DALE 1-34

1700 N WATERFRONT PKWY BLDG 600  
WICHITA KS 67206

34-12S-32W LOGAN

Job Ticket: 1009

DST#: 2

ATTN: MACK ARMSTRONG

Test Start: 2011.04.02 @ 21:00:00

### 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: 66.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 71.96 in<sup>3</sup>

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 bbbl
225.00	MUDDY WATER WITH A SPOT OF OIL	2.126
0.00	40%MUD 60 % WATER	0.000

Total Length: 225.00 ft      Total Volume: 2.126 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

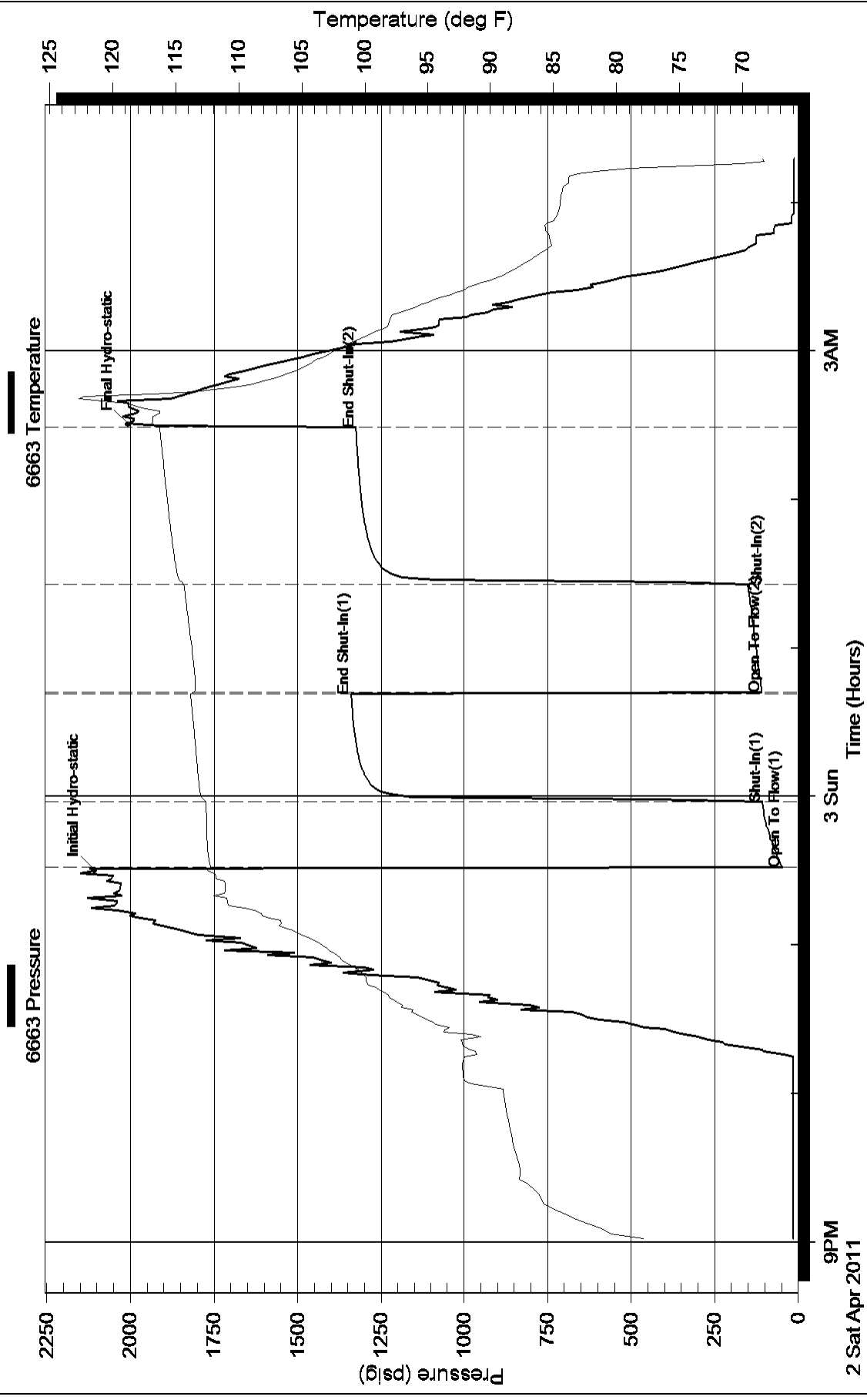
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

# Pressure vs. Time



# Pressure vs. Time

