



## 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: 2010.10.05 @ 16:00:00

End Date: 2010.10.06 @ 00:26:00

Job Ticket #: 1030                      DST #: 2

Eagle Testers LLC.

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

620-617-7548

Printed: 2010.10.05 @ 16:29:52



# DRILL STEM TEST REPORT

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ATTN: BOB PETERSON

Job Ticket: 1030

**DST#: 2**

Test Start: 2010.10.05 @ 16:00:00

## GENERAL INFORMATION:

Formation: **LKC -E-**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:05:30

Time Test Ended: 00:26:00

Test Type: Conventional Bottom Hole (Initial)

Tester: DAVID NICHOLS

Unit No: 15

**Interval: 4080.00 ft (KB) To 4107.00 ft (KB) (TVD)**

Reference Elevations: 2995.00 ft (KB)

Total Depth: 4107.00 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: 652.16 psig @ 4103.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2010.10.05 End Date: 2010.10.06

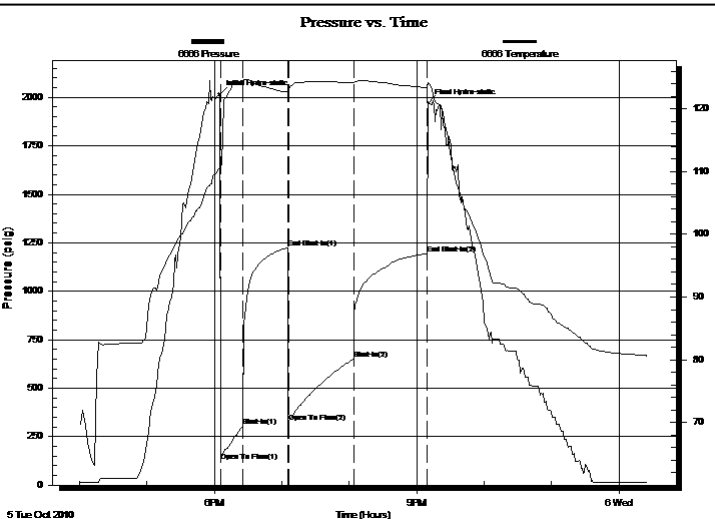
Last Calib.: 2010.10.05

Start Time: 16:00:00 End Time: 00:26:00

Time On Btm: 2010.10.05 @ 18:04:30

Time Off Btm: 2010.10.05 @ 21:10:30

**TEST COMMENT:** 30-INITIAL OPENING GOOD BLOW BOTTOM BUCKET IN 2 MINS  
40-INITIAL SHUT IN NO BLOW BACK  
60-FINAL OPENING GOOD BLOW BOTTOM BUCKET IN 4 MINS  
60-FINAL SHUT IN VERY WEAK SURFACE BLOW



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2014.84	110.63	Initial Hydro-static
1	123.89	110.41	Open To Flow (1)
21	303.59	124.45	Shut-In(1)
61	1224.83	122.68	End Shut-In(1)
62	326.54	122.70	Open To Flow (2)
120	652.16	124.20	Shut-In(2)
185	1194.46	123.36	End Shut-In(2)
186	1970.22	124.13	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	WATER CUT GASSY OIL 15%GAS 55%OIL	0.59
0.00	30%WATER	0.00
240.00	GASSY OIL WITH A TRACE OF WATER	3.51
0.00	5%GAS 85%OIL 10%WATER	0.00
480.00	WATER CUT GASSY OIL	7.02
0.00	5%GAS 60%OIL 35%WATER	0.00

## Gas Rates

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



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Job Ticket: 1030

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Time Test Ended: 00:26:00

Test Type: Conventional Bottom Hole (Initial)

Tester: DAVID NICHOLS

Unit No: 15

**Interval: 4080.00 ft (KB) To 4107.00 ft (KB) (TVD)**

Reference Elevations: 2995.00 ft (KB)

Total Depth: 4107.00 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 @ RunDepth: 1195.94 psig @ 4104.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2010.10.05 End Date: 2010.10.06

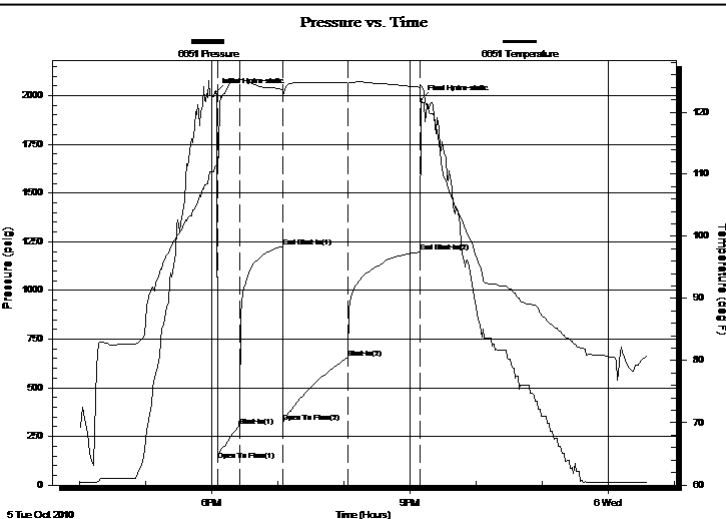
Last Calib.: 2010.10.05

Start Time: 16:00:00 End Time: 00:36:00

Time On Btm: 2010.10.05 @ 18:04:00

Time Off Btm: 2010.10.05 @ 21:10:30

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60-FINAL OPENING GOOD BLOW BOTTOM BUCKET IN 4 MINS  
60-FINAL SHUT IN VERY WEAK SURFACE BLOW



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2017.13	111.40	Initial Hydro-static
2	130.08	111.04	Open To Flow (1)
21	303.33	125.00	Shut-In(1)
61	1225.68	123.60	End Shut-In(1)
61	323.40	122.95	Open To Flow (2)
120	654.35	124.67	Shut-In(2)
186	1195.94	124.01	End Shut-In(2)
187	1978.46	124.25	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	WATER CUT GASSY OIL 15%GAS 55%OIL	0.59
0.00	30%WATER	0.00
240.00	GASSY OIL WITH A TRACE OF WATER	3.51
0.00	5%GAS 85%OIL 10%WATER	0.00
480.00	WATER CUT GASSY OIL	7.02
0.00	5%GAS 60%OIL 35%WATER	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

GRAND MESA OPERATING COMPANY

**G ANDERSEN 2-26**

1700 N WATERFRONT PKWY BLDG 600  
WICHITA KS 67206

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

Job Ticket: 1030

**DST#: 2**

ATTN: BOB PETERSON

Test Start: 2010.10.05 @ 16:00:00

## Tool Information

Drill Pipe:	Length: 3940.00 ft	Diameter: 3.88 inches	Volume: 57.62 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: 58.21 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	4080.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	27.00 ft			
Tool Length:	50.00 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			4062.00	
HYD S.I. Tool	5.00			4067.00	
jars	6.00			4073.00	
safty joint	2.00			4075.00	
TRAVEL COLER	2.00			4077.00	
Packer	3.00			4080.00	23.00 Bottom Of Top Packer
travel collar	2.00			4082.00	27.00 Tool Interval
Packer	3.00			4085.00	
Anchor	17.00			4102.00	
Recorder	1.00	6666	Inside	4103.00	
Recorder	1.00	6651	Outside	4104.00	
BULL PLUG	3.00			4107.00	1000049.00 Bottom Packers & Anchor

**Total Tool Length: 50.00**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

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Job Ticket: 1030      **DST#: 2**  
Test Start: 2010.10.05 @ 16:00:00

### Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 32 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 57.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.99 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 1800.00 ppm		
Filter Cake: inches		

### Recovery Information

Recovery Table

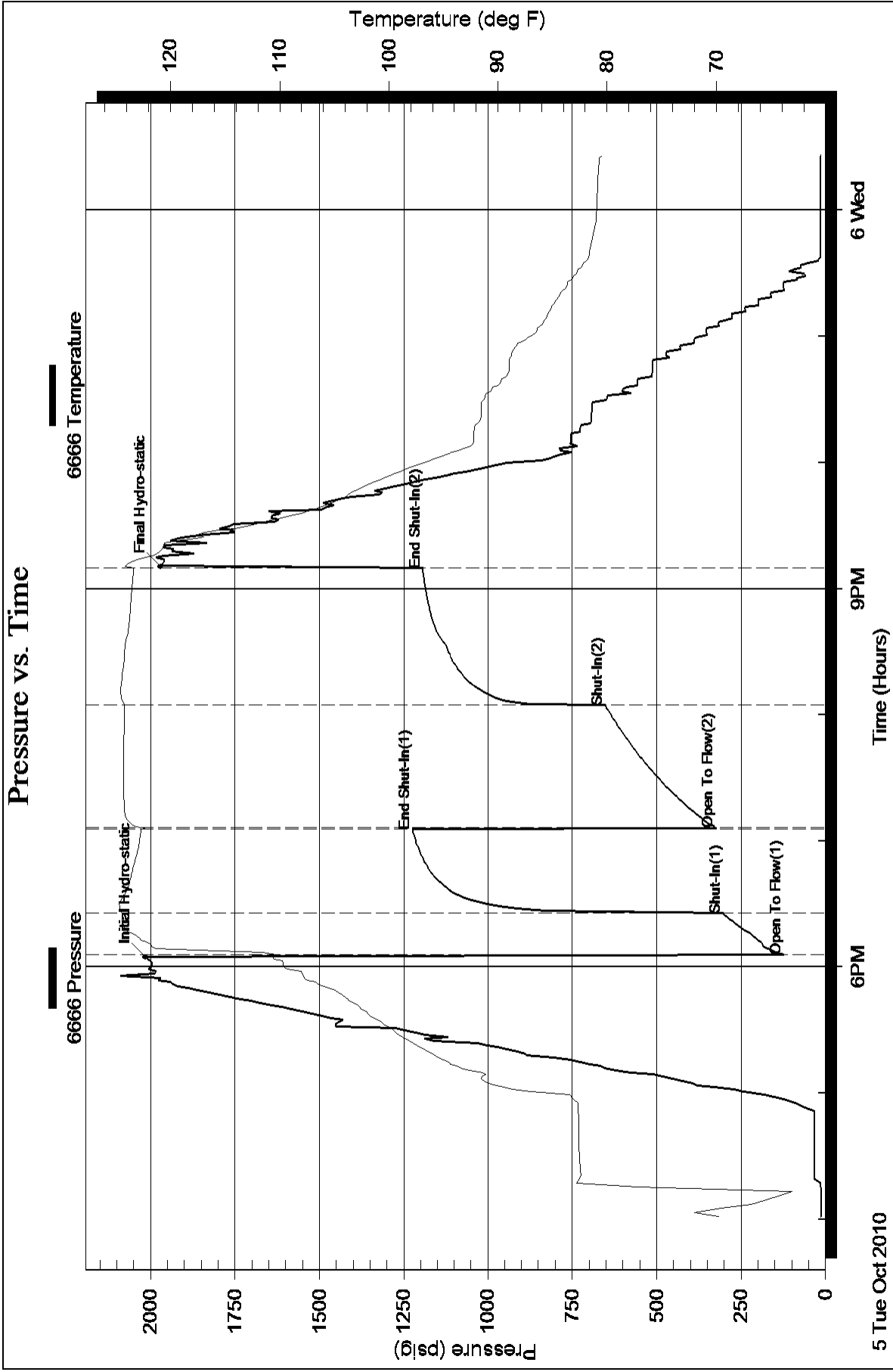
Length ft	Description	Volume bbl
120.00	WATER CUT GASSY OIL 15%GAS 55%OIL	0.590
0.00	30%WATER	0.000
240.00	GASSY OIL WITH A TRACE OF WATER	3.510
0.00	5%GAS 85%OIL 10%WATER	0.000
480.00	WATER CUT GASSY OIL	7.020
0.00	5%GAS 60%OIL 35%WATER	0.000
120.00	OIL CUT WATER 40%OIL 60%WATER	1.755
420.00	CLEAN WATER 100%WATER	6.142

Total Length: 1380.00 ft      Total Volume: 19.017 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments: RECOVERY CHLORIDES 46,0000



### Pressure vs. Time

