



# DRILL STEM TEST REPORT

EOG Resources, Inc.  
 3817 NW Expressway STE 500 OKC, OK 73114  
 ATTN: Jackie Sessions

Helen 18-1  
 18/35/36  
 Job Ticket: 37543  
 Test Start: 2010.06.07 @ 07:07:40

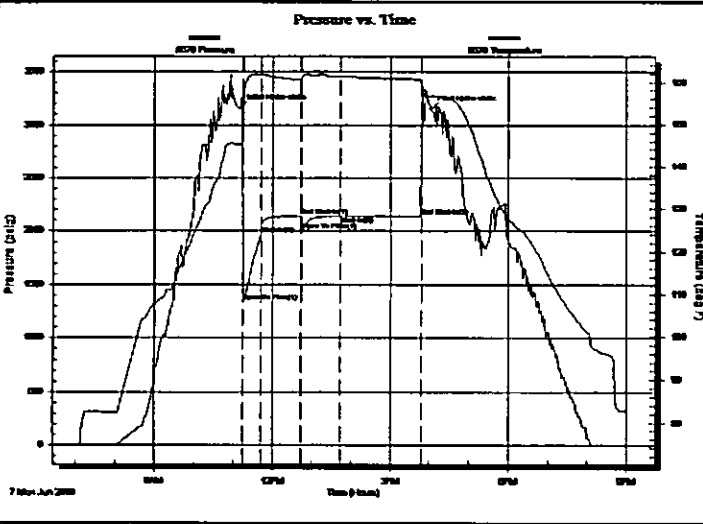
KCC  
 AUG 18 2010  
 CONFIDENTIAL  
 DST#: 1

## GENERAL INFORMATION:

Formation: **Upper St. Louis**  
 Deviated: **No Whipstock** ft (KB)  
 Time Tool Opened: 11:14:27  
 Time Test Ended: 21:02:27  
 Interval: **6810.00 ft (KB) To 6826.00 ft (KB) (TVD)**  
 Total Depth: **6874.00 ft (KB) (TVD)**  
 Hole Diameter: **7.78 inches** Hole Condition: **Good**  
 Test Type: **Conventional Straddle**  
 Tester: **Chris Hagman**  
 Unit No: **34**  
 Reference Elevations: **3074.00 ft (KB)**  
**3063.00 ft (CF)**  
 KB to GR/CF: **11.00 ft**

Serial #: **8676** Inside  
 Press@RunDepth: **2139.82 psig @ 6815.00 ft (KB)** Capacity: **8000.00 psig**  
 Start Date: **2010.06.07** End Date: **2010.06.07** Last Calib.: **2010.06.07**  
 Start Time: **07:07:40** End Time: **21:02:27** Time On Btm: **2010.06.07 @ 11:10:27**  
 Time Off Btm: **2010.06.07 @ 16:02:08**

TEST COMMENT: IF: BOB 30 sec., strong dieing blow  
 IS: No blow back  
 FF: BOB 1 min., strong dieing blow  
 FS: No blow back



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3154.74	145.22	Initial Hydro-static
4	1334.83	147.18	Open To Flow (1)
33	1966.34	161.72	Shut-in(1)
94	2139.34	160.49	End Shut-in(1)
95	2006.86	160.47	Open To Flow (2)
153	2139.82	161.28	Shut-in(2)
277	2141.48	160.65	End Shut-in(2)
292	3153.47	156.65	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
4544.00	100% water	60.36

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

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# DRILL STEM TEST REPORT

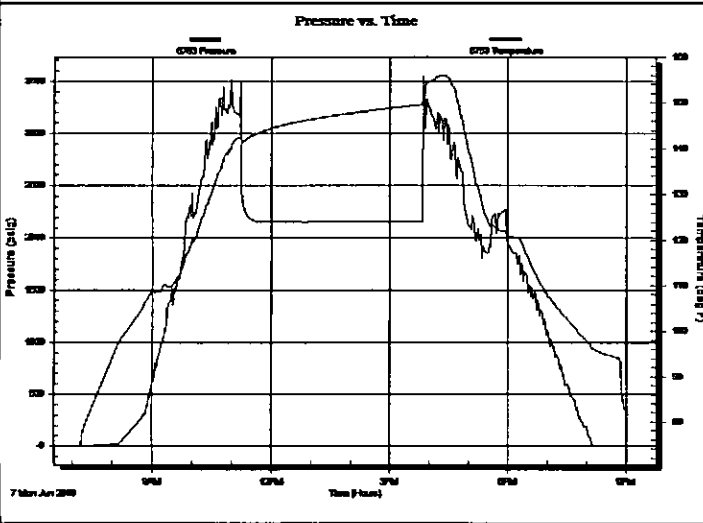
EOG Resources, Inc. Helen 18-1  
 3817 NW Expressway STE 500 OKC, OK 73114 18/35/36  
 ATTN: Jackie Sessions Job Ticket: 37543 **DST#: 1**  
Test Start: 2010.06.07 @ 07:07:40

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 Tester: **Chris Hagman**  
 Time Test Ended: **21:02:27**  
 Unit No: **34**  
 Interval: **6810.00 ft (KB) To 6826.00 ft (KB) (TVD)**  
 Reference Elevations: **3074.00 ft (KB)**  
 Total Depth: **6874.00 ft (KB) (TVD)**  
**3063.00 ft (CF)**  
 Hole Diameter: **7.78 inches** Hole Condition: **Good**  
 KB to GR/CF: **11.00 ft**

**Serial #: 6753 Below (Straddle)**  
 Press@RunDepth: psig @ **6842.00 ft (KB)** Capacity: **8000.00 psig**  
 Start Date: **2010.06.07** End Date: **2010.06.07** Last Calib.: **2010.06.07**  
 Start Time: **07:12:54** End Time: **21:05:03** Time On Btm:  
 Time Off Btm:

TEST COMMENT: IF: BOB 30 sec., strong dieing blow  
 IS: No blow back  
 FF: BOB 1 min., strong dieing blow  
 FS: No blow back



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery		
Length (ft)	Description	Volume (bbl)
4544.00	100% water	60.36

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

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**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

EOG Resources, Inc.

**Helen 18-1**

3817 NW Expressway STE 500 OKC, OK 73114

**18/35/36**

ATTN: Jackie Sessions

Job Ticket: 37543

**DST#: 1**

Test Start: 2010.06.07 @ 07:07:40

**Tool Information**

Drill Pipe:	Length: 6421.00 ft	Diameter: 3.80 inches	Volume: 90.07 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: 30000.00 lb
Drill Collar:	Length: 371.00 ft	Diameter: 2.25 inches	Volume: 1.82 bbl	Weight to Pull Loose: 150000.0 lb
			<u>Total Volume: 91.89 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 108000.0 lb
Depth to Top Packer:	6810.00 ft			Final 130000.0 lb
Depth to Bottom Packer:	6878.00 ft			
Interval between Packers:	68.00 ft			
Tool Length:	95.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

**Tool Comments:**

Graphs did not match, good straddle

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			6784.00	
Shut In Tool	5.00			6789.00	
Sampler	3.00			6792.00	
Hydraulic tool	5.00			6797.00	
Jars	5.00			6802.00	
Safety Joint	3.00			6805.00	
Packer	5.00			6810.00	27.00 Bottom Of Top Packer
Packer - Shale	4.00			6814.00	
Stubb	1.00			6815.00	
Recorder	0.00	8676	Inside	6815.00	
Recorder	0.00	8374	Inside	6815.00	
Perforations	10.00			6825.00	
Blank Off Sub	1.00			6826.00	
Packer - Shale	4.00			6830.00	
Stubb	1.00			6831.00	
Perforations	10.00			6841.00	
Change Over Sub	1.00			6842.00	
Recorder	0.00	6753	Below	6842.00	
Drill Pipe	32.00			6874.00	
Change Over Sub	1.00			6875.00	
Bullnose	3.00			6878.00	68.00 Anchor Tool

**Total Tool Length: 95.00**



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**FLUID SUMMARY**

EOG Resources, Inc.

**Helen 18-1**

3817 NW Expressway STE 500 OKC, OK 73114

**18/35/36**

ATTN: Jackie Sessions

Job Ticket: 37543

**DST#: 1**

Test Start: 2010.06.07 @ 07:07:40

**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:

85000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.98 cm<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2300.00 ppm

Filter Cake: inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
4544.00	100% water	60.361

Total Length: 4544.00 ft      Total Volume: 60.361 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW=.069@93F=85,000ppm

Sampler=4000ml Water @ 200psi



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**GAS RATES**

EOG Resources, Inc.

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**18/35/36**

ATTN: Jackie Sessions

Job Ticket: 37543

**DST#: 1**

Test Start: 2010.06.07 @ 07:07:40

## Gas Rates Information

Temperature: 59 deg C  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (mm)	Pressure (kPaa)	Gas Rate (m <sup>3</sup> /d)
		0.00	0.00	0.00

