



Weatherford®

Completion Systems

DRILL STEM TEST REPORT

Prepared For: **EOG Resources Inc.**

3817 NW Expressway Suite 500, Ok. city Ok,
73112

ATTN: Preston

32/37/29 29-32-37W

Kuharic 29-1

Start Date: 2007.07.14 @ 16:15:11

End Date: 2007.07.15 @ 03:25:11

Job Ticket #: 27337 DST #: 1

CONFIDENTIAL
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KCC

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KANSAS CORPORATION COMMISSION

NOV 02 2007

CONSERVATION DIVISION
WICHITA, KS

ALPINE OIL SERVICES CORPORATION
2460, 240 - 4 Avenue S.W. Calgary, AB. T2P 4H4
ph: 263-7800 fax: 264-7260



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DRILL STEM TEST REPORT

EOG Resources Inc.

Kuharic 29-1

3817 NW Expressway Suite 500, Ok. city Ok,
73112

32/37/29

Job Ticket: 27337

DST#: 1

ATTN: Preston

Test Start: 2007.07.14 @ 16:15:11

GENERAL INFORMATION:

Formation: **Morrow sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:54:56

Time Test Ended: 03:25:11

Test Type: Conventional Bottom Hole

Tester: Harley Davidson

Unit No: 33

Interval: **5792.00 ft (KB) To 5800.00 ft (KB) (TVD)**

Reference Elevations: 3166.00 ft (KB)

Total Depth: 5800.00 ft (KB) (TVD)

3154.00 ft (CF)

Hole Diameter: 7.78 inches Hole Condition: Fair

KB to GR/CF: 12.00 ft

Serial #: 6751

Press@RunDepth: 292.38 psig @ ft (KB)

Capacity: 7000.00 psig

Start Date: 2007.07.14

End Date:

2007.07.15

Last Calib.: 1899.12.30

Start Time: 16:15:12

End Time:

03:25:11

Time On Btm: 2007.07.14 @ 19:44:26

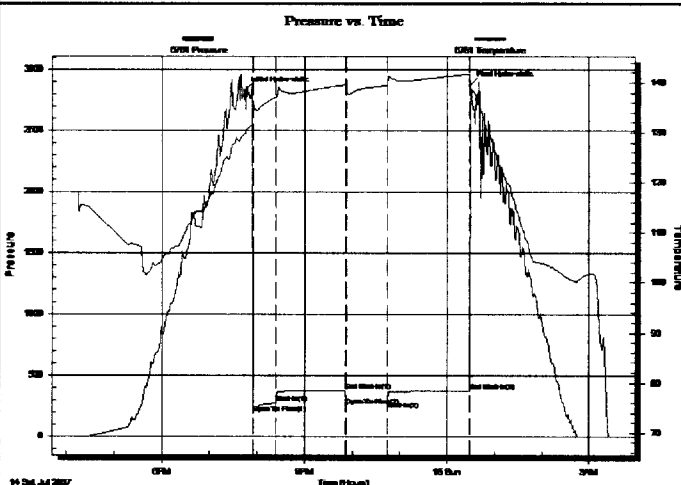
Time Off Btm: 2007.07.15 @ 00:29:26

TEST COMMENT: IF- Strong blow , BOB ASAO, GTS, 3 1/2min.

IS- No blow back.

FF- Strong blow GTS, BOB, ASAO.

FS- No blow back.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2825.41	129.77	Initial Hydro-static
11	196.02	136.07	Open To Flow (1)
39	278.90	136.99	Shut-In(1)
126	376.97	139.61	End Shut-In(1)
128	261.17	138.73	Open To Flow (2)
180	292.38	139.55	Shut-In(2)
284	376.50	141.74	End Shut-In(2)
285	2872.72	139.25	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	100% mud NO WATER	0.15

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	1.00	25.00	1132.70
Last Gas Rate	1.00	38.00	1506.44
Max. Gas Rate	1.00	38.00	1506.44



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DRILL STEM TEST REPORT

TOOL DIAGRAM

EOG Resources Inc.

Kuharic 29-1

3817 NW Expressway Suite 500, Ok. city Ok,
73112

32/37/29

Job Ticket: 27337

DST#: 1

ATTN: Preston

Test Start: 2007.07.14 @ 16:15:11

Tool Information

Drill Pipe:	Length: 5451.00 ft	Diameter: 3.80 inches	Volume: 76.46 bbl	Tool Weight:	1800.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 340.00 ft	Diameter: 2.25 inches	Volume: 1.67 bbl	Weight to Pull Loose:	120000.0 lb
			<u>Total Volume: 78.13 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial	72000.00 lb
Depth to Top Packer:	5792.00 ft			Final	72000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	8.00 ft				
Tool Length:	39.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	2.00			5763.00	
Shut In Tool	5.00			5768.00	
Sampler	3.00			5771.00	
Hydraulic tool	5.00			5776.00	
Jars	5.00			5781.00	
Safety Joint	2.00			5783.00	
Packer	5.00			5788.00	31.00 Bottom Of Top Packer
Packer	4.00			5792.00	
Stubb	1.00			5793.00	
Perforations	1.00			5794.00	
Perforations	2.00			5796.00	
Recorder	0.00	6751		5796.00	
Recorder	0.00	11018	Outside	5796.00	
Bullnose	4.00			5800.00	8.00 Bottom Packers & Anchor

Total Tool Length: 39.00



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FLUID SUMMARY

EOG Resources Inc.

Kuharic 29-1

3817 NW Expressway Suite 500, Ok. city Ok,
73112

32/37/29

Job Ticket: 27337

DST#: 1

ATTN: Preston

Test Start: 2007.07.14 @ 16:15:11

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 43.00 sec/qt

Water Loss: 8.35 cm³

Resistivity: ohm.m

Salinity: 1100.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

deg API

Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	100% mud NO WATER	0.148

Total Length: 30.00 ft Total Volume: 0.148 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler Data- 32 CFD gas @ 370 PSI



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DRILL STEM TEST REPORT

GAS RATES

EOG Resources Inc.

Kuharic 29-1

3817 NW Expressway Suite 500, Ok. city Ok,
73112

32/37/29

Job Ticket: 27337

DST#: 1

ATTN: Preston

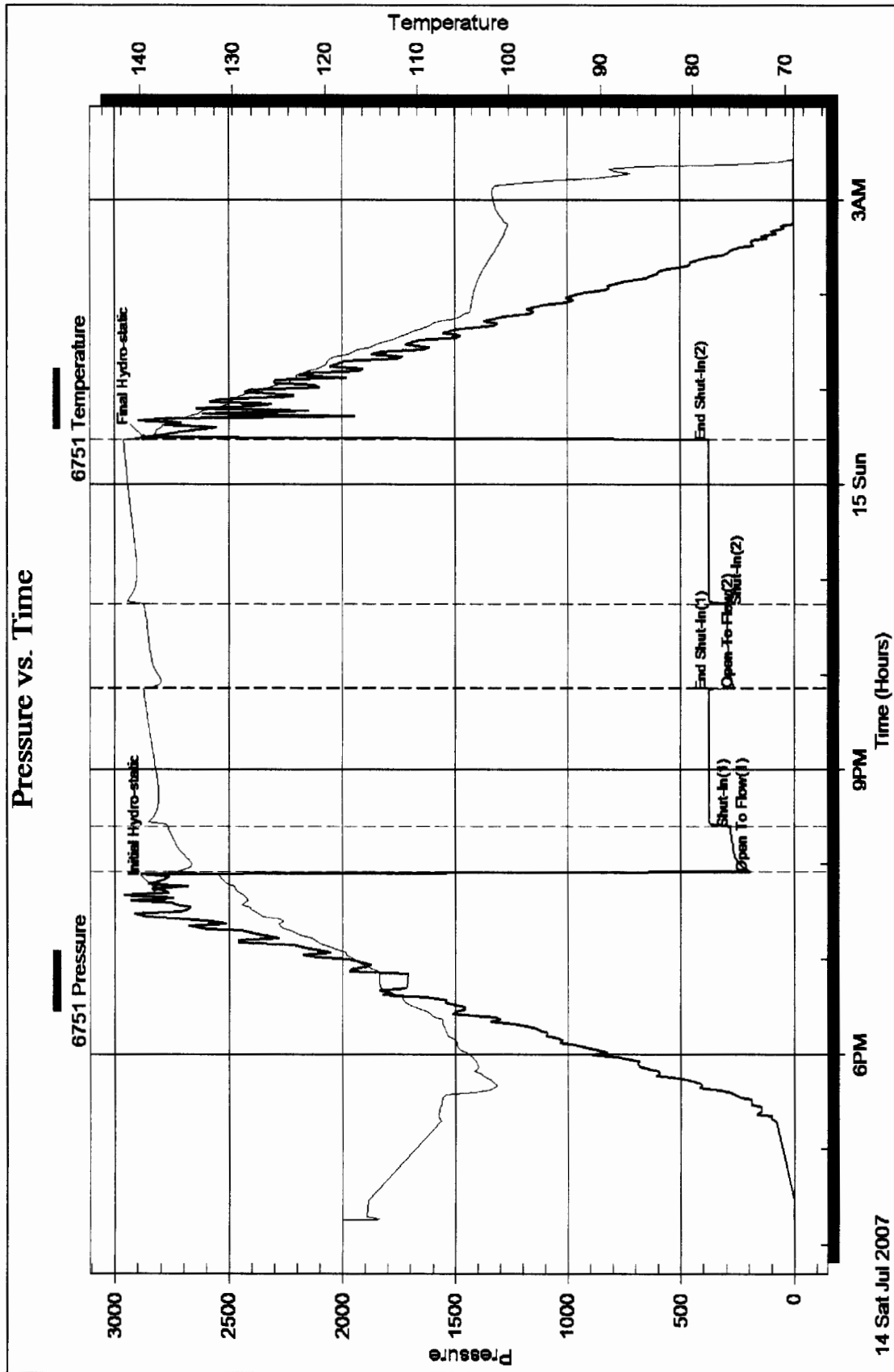
Test Start: 2007.07.14 @ 16:15:11

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 (m³/d)
1	10	1.00	25.00	1132.70
1	10	1.00	25.00	1132.70
1	20	1.00	29.00	1247.70
2	10	1.00	33.00	1362.69
2	20	1.00	38.00	1506.44
2	30	1.00	38.00	1506.44
2	40	1.00	38.00	1506.44
2	50	1.00	38.00	1506.44
2	60	1.00	38.00	1506.44





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DRILL STEM TEST REPORT

Prepared For: **EOG Resources Inc.**

3817 NW Expressway Suite 500, Ok. city Ok,
73112

ATTN: Preston

32/37/29

Kuharic 29-1

Start Date: 2007.07.15 @ 21:35:55

End Date: 2007.07.16 @ 08:41:55

Job Ticket #: 27154 DST #: 2

ALPINE OIL SERVICES CORPORATION
2460, 240 - 4 Avenue S.W. Calgary, AB. T2P 4H4
ph: 263-7800 fax: 264-7260



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DRILL STEM TEST REPORT

EOG Resources Inc.

Kuharic 29-13817 NW Expressway Suite 500, Ok. city Ok,
73112**32/37/29**

Job Ticket: 27154

DST#: 2

ATTN: Preston

Test Start: 2007.07.15 @ 21:35:55

GENERAL INFORMATION:

Formation: **Lower Mower**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:51:40

Time Test Ended: 08:41:55

Test Type: Conventional Bottom Hole

Tester: Delton Drown

Unit No: 28

Interval: **6017.00 ft (KB) To 6049.00 ft (KB) (TVD)**

Total Depth: 6049.00 ft (KB) (TVD)

Hole Diameter: 7.78 inches Hole Condition: Fair

Reference Elevations: 3166.00 ft (KB)

3154.00 ft (CF)

KB to GR/CF: 12.00 ft

Serial #: 6625 Inside

Press@RunDepth: 613.16 psig @ 6018.00 ft (KB)

Start Date: 2007.07.15

End Date:

2007.07.16

Capacity: 7000.00 psig

Last Calib.: 1899.12.30

Start Time: 21:35:56

End Time:

08:41:55

Time On Btm: 2007.07.16 @ 00:50:25

Time Off Btm: 2007.07.16 @ 05:22:55

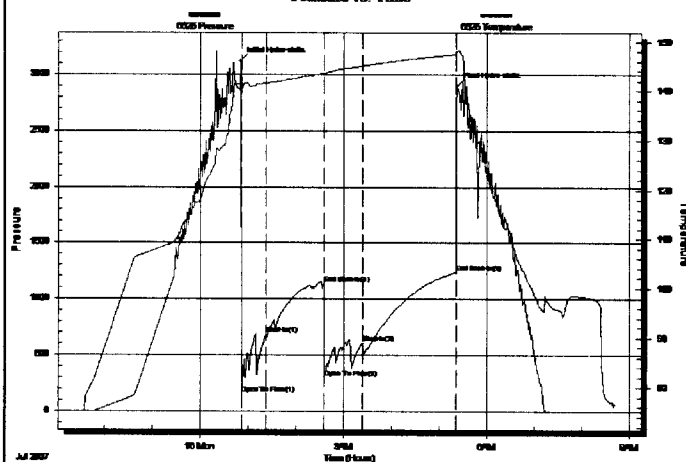
TEST COMMENT: IF: Weak surface blow, died at 10 min.

IS: No return blow.

FF: No blow.

FSI: No return blow.

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3120.10	141.30	Initial Hydro-static
2	155.87	140.06	Open To Flow (1)
33	682.12	141.57	Shut-In(1)
106	1136.88	143.50	End Shut-In(1)
106	299.82	143.44	Open To Flow (2)
154	613.16	145.03	Shut-In(2)
271	1232.57	147.42	End Shut-In(2)
273	2899.89	148.05	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	Oil spot mud; spot O/100%M	0.15
93.00	Heavy mud; 100%M	0.46

Gas Rates

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

EOG Resources Inc.

Kuharic 29-1

3817 NW Expressway Suite 500, Ok. city Ok,
73112

32/37/29

Job Ticket: 27154

DST#: 2

ATTN: Preston

Test Start: 2007.07.15 @ 21:35:55

Tool Information

Drill Pipe:	Length: 5644.00 ft	Diameter: 3.80 inches	Volume: 79.17 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: 25000.00 lb
Drill Collar:	Length: 368.00 ft	Diameter: 2.25 inches	Volume: 1.81 bbl	Weight to Pull Loose: 120000.0 lb
			Total Volume: 80.98 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 76000.00 lb
Depth to Top Packer:	6017.00 ft			Final 76000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	32.00 ft			
Tool Length:	62.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			5988.00	
Shut In Tool	5.00			5993.00	
Sampler	3.00			5996.00	
Hydraulic tool	5.00			6001.00	
Jars	5.00			6006.00	
Safety Joint	2.00			6008.00	
Packer	5.00		Fluid	6013.00	30.00 Bottom Of Top Packer
Packer	4.00			6017.00	
Stubb	1.00			6018.00	
Recorder	0.00	6625	Inside	6018.00	
Perforations	28.00			6046.00	
Recorder	0.00	13761	Inside	6046.00	
Bullnose	3.00			6049.00	32.00 Bottom Packers & Anchor

Total Tool Length: 62.00



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32/37/29

Job Ticket: 27154

DST#: 2

ATTN: Preston

Test Start: 2007.07.15 @ 21:35:55

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:

2750 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbl

Water Loss: 9.57 cm³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	Oil spot mud; spot O/100%M	0.148
93.00	Heavy mud; 100%M	0.457

Total Length: 123.00 ft Total Volume: 0.605 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler Data=100% mud

RW=1.880@81F=2750ppm



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GAS RATES

EOG Resources Inc.

Kuharic 29-1

3817 NW Expressway Suite 500, Ok. city Ok,
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32/37/29

Job Ticket: 27154

DST#: 2

ATTN: Preston

Test Start: 2007.07.15 @ 21:35:55

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 (m³/d)
		0.00	0.00	0.00

Pressure vs. Time

