

KCC
FEB 18 2011
CONFIDENTIAL



Weatherford®

Completion Systems

DRILL STEM TEST REPORT

Prepared For: **EOG Resources**

3817 NW EXPWY STE500
Oklahoma City Ok, 73112

ATTN: Mike Knox

21/32s/37w

Laura 21-1

Start Date: 2010.11.08 @ 02:59:11

End Date: 2010.11.08 @ 16:34:56

Job Ticket #: 39356 DST #: 1

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

Printed: 2010.11.11 @ 08:07:54 Page 1
RECEIVED
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KCC WICHITA

EOG Resources

Laura 21-1

21/32s/37w

DST # 1

Morrow

2010.11.08



Weatherford® Completion Systems

DRILL STEM TEST REPORT

EOG Resources

Laura 21-1

3817 NW EXPWY STE500
Oklahoma City Ok, 73112

21/32s/37w

Job Ticket: 39356

DST#: 1

ATTN: Mike Knox

Test Start: 2010.11.08 @ 02:59:11

GENERAL INFORMATION:

Formation: **Morrow**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:04:26

Time Test Ended: 16:34:56

Test Type: Conventional Bottom Hole

Tester: Mike Slomp

Unit No: 53

Interval: 5649.00 ft (KB) To 5721.00 ft (KB) (TVD)

Total Depth: 5721.00 ft (KB) (TVD)

Hole Diameter: 7.78 inches Hole Condition: Good

Reference Elevations: 3151.00 ft (KB)

3139.00 ft (CF)

KB to GR/CF: 12.00 ft

Serial #: 8677

Inside

Press@RunDepth: 35.97 psig @ 5651.00 ft (KB)

Start Date: 2010.11.08

End Date:

2010.11.08

Capacity: 8000.00 psig

Last Calib.: 2010.11.08

Start Time: 02:59:12

End Time:

16:34:56

Time On Btm: 2010.11.08 @ 07:02:41

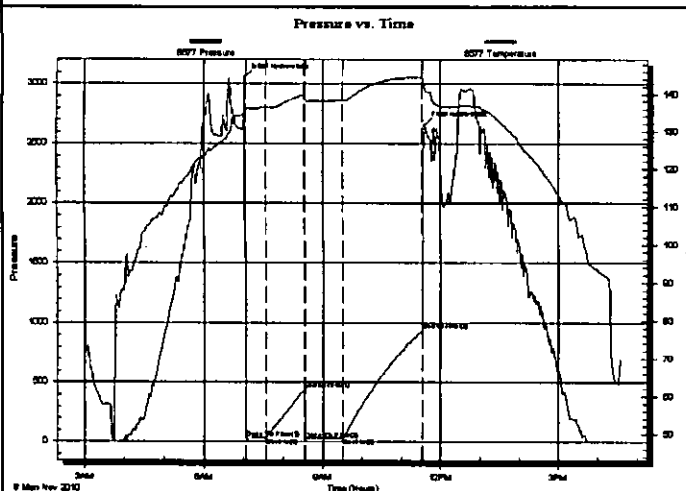
Time Off Btm: 2010.11.08 @ 11:35:41

TEST COMMENT: IF- Strong blow , BOB in 30 seconds

IS- No blow back

FF- Strong blow , BOB ASAO

FSI- No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3059.17	134.91	Initial Hydro-static
2	29.20	136.02	Open To Flow (1)
32	32.44	136.34	Shut-In(1)
90	442.79	139.76	End Shut-In(1)
91	20.98	138.53	Open To Flow (2)
149	35.97	138.33	Shut-In(2)
270	938.57	144.44	End Shut-In(2)
273	2660.14	140.81	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
882.00	100% mud	9.02

Gas Rates

	Choke (Inches)	Pressure (psig)	Gas Rate (Mc/d)
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DRILL STEM TEST REPORT

EOG Resources

Laura 21-1

3817 NW EXPWY STE500
Oklahoma City Ok, 73112

21/32s/37w

Job Ticket: 39356

DST#: 1

ATTN: Mike Knox

Test Start: 2010.11.08 @ 02:59:11

GENERAL INFORMATION:

Formation: **Morrow**Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 07:04:26

Time Test Ended: 16:34:56

Interval: **5649.00 ft (KB) To 5721.00 ft (KB) (TVD)**Total Depth: **5721.00 ft (KB) (TVD)**Hole Diameter: **7.78 inches** Hole Condition: **Good**Test Type: **Conventional Bottom Hole**Tester: **Mike Slomp**Unit No: **53**Reference Elevations: **3151.00 ft (KB)****3139.00 ft (CF)**KB to GR/CF: **12.00 ft**Serial #: **8678**

Inside

Press@RunDepth: **psig @ 5651.00 ft (KB)**Start Date: **2010.11.08**

End Date:

2010.11.08

Capacity: **8000.00 psig**

Last Calib.:

2010.11.08

Start Time: **03:05:40**

End Time:

16:36:09

Time On Btm:

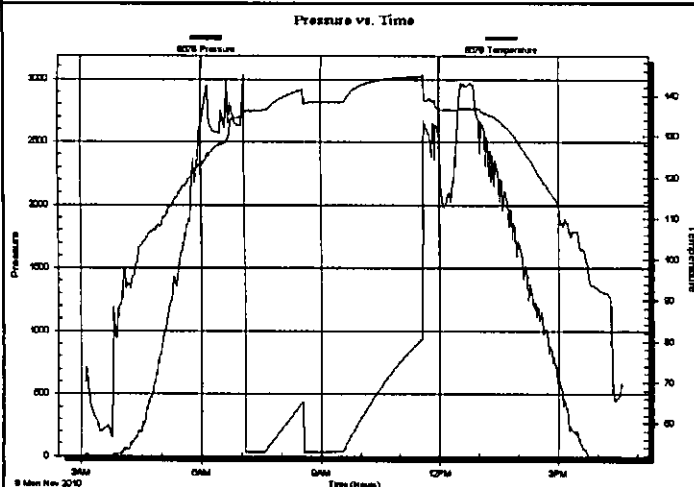
Time Off Btm:

TEST COMMENT: IF- Strong blow , BOB in 30 seconds

IS- No blow back

FF- Strong blow , BOB ASAO

FSI- No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
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Recovery

Length (ft)	Description	Volume (bbl)
882.00	100% mud	9.02

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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DRILL STEM TEST REPORT

TOOL DIAGRAM

EOG Resources

Laura 21-1

3817 NW EXPWY STE500
Oklahoma City Ok, 73112

21/32s/37w

Job Ticket: 39356

DST#: 1

ATTN: Mike Knox

Test Start: 2010.11.08 @ 02:59:11

Tool Information

Drill Pipe:	Length: 5262.00 ft	Diameter: 3.80 inches	Volume: 73.81 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: 90000.00 lb
		Total Volume:	75.62 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 86000.00 lb
Depth to Top Packer:	5649.00 ft			Final 96000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	72.00 ft			
Tool Length:	101.00 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			5625.00	
Sampler	3.00			5628.00	
Hydraulic tool	5.00			5633.00	
Jars	5.00			5638.00	
Safety Joint	2.00			5640.00	
Packer	5.00			5645.00	29.00 Bottom Of Top Packer
Packer	4.00			5649.00	
Stubb	1.00			5650.00	
Perforations	1.00			5651.00	
Recorder	0.00	8678	Inside	5651.00	
Recorder	0.00	8677	Inside	5651.00	
Perforations	5.00			5656.00	
Change Over Sub	1.00			5657.00	
Drill Pipe	60.00			5717.00	
Change Over Sub	1.00			5718.00	
Bullnose	3.00			5721.00	72.00 Bottom Packers & Anchor
Total Tool Length:	101.00				



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DRILL STEM TEST REPORT

FLUID SUMMARY

EOG Resources

Laura 21-1

3817 NW EXPWY STE500
Oklahoma City Ok, 73112

21/32s/37w

Job Ticket: 39356

DST#: 1

ATTN: Mike Knox

Test Start: 2010.11.08 @ 02:59:11

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: 50.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.97 cm³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
882.00	100% mud	9.020

Total Length: 882.00 ft Total Volume: 9.020 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler-750 PSI, 8 cu/ft air



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DRILL STEM TEST REPORT

GAS RATES

EOG Resources

Laura 21-1

3817 NW EXPWY STE500
Oklahoma City Ok, 73112

21/32s/37w

Job Ticket: 39356

DST#: 1

ATTN: Mike Knox

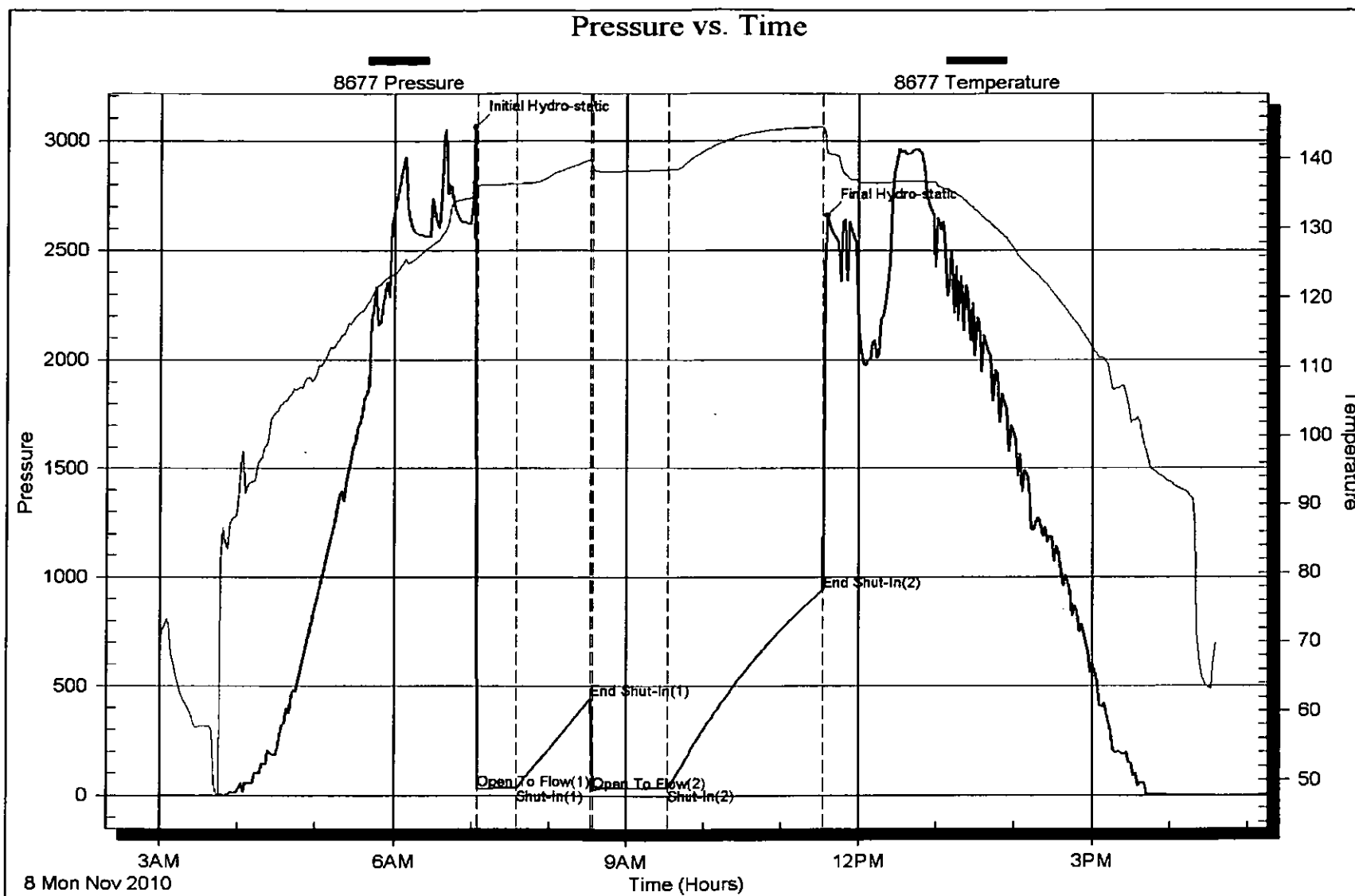
Test Start: 2010.11.08 @ 02:59:11

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)
		0.00	0.00	0.00

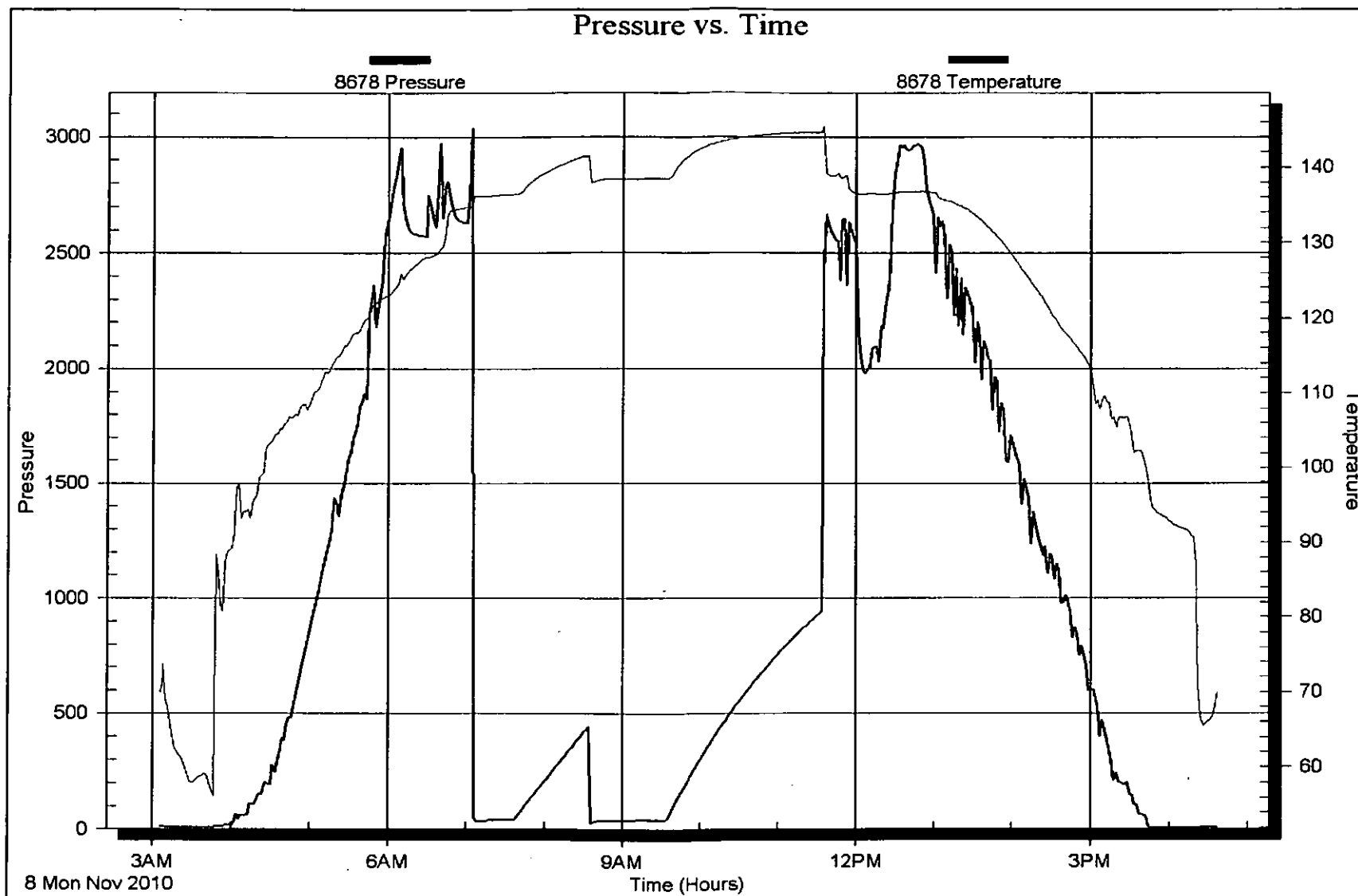


Serial #: 8678

Inside EOG Resources

21/32s/37w

DST Test Number: 1



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DRILL STEM TEST REPORT

Prepared For: **EOG Resources**

3817 NW EXPWY STE500
Oklahoma City Ok, 73112

ATTN: Mike Knox

21/32s/37w

Laura 21-1

Start Date: 2010.11.10 @ 02:20:35

End Date: 2010.11.10 @ 17:04:20

Job Ticket #: 39357 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

3817 NW EXPWY STE500
Oklahoma City Ok, 73112

ATTN: Mike Knox

Laura 21-1

21/32s/37w

Job Ticket: 39357

DST#: 2

Test Start: 2010.11.10 @ 02:20:35

GENERAL INFORMATION:

Formation: St. Louis

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:52:50

Time Test Ended: 17:04:20

Test Type: Conventional Bottom Hole

Tester: Mike Slomp

Unit No: 53

Interval: 6334.00 ft (KB) To 6385.00 ft (KB) (TVD)

Total Depth: 6385.00 ft (KB) (TVD)

Hole Diameter: 7.78 inches Hole Condition: Good

Reference Elevations: 3151.00 ft (KB)

3139.00 ft (CF)

KB to GR/CF: 12.00 ft

Serial #: 8677

Inside

Press@RunDepth: 186.25 psig @ 6336.00 ft (KB)

Start Date: 2010.11.10

End Date:

2010.11.10

Capacity: 8000.00 psig

Last Calib.: 2010.11.10

Start Time: 02:20:36

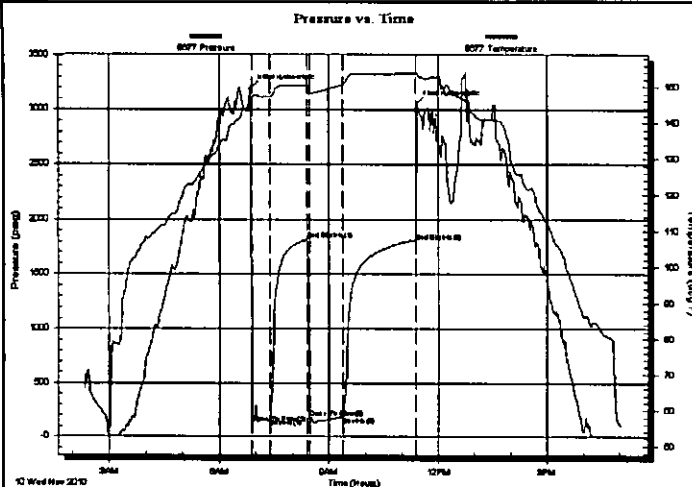
End Time:

17:04:20

Time On Btm: 2010.11.10 @ 06:50:50

Time Off Btm: 2010.11.10 @ 11:24:35

TEST COMMENT: IF- BOB in 4 min, GTS at shut in
IS- No blow back
FF-BOB in 1 min GTS ASAO, TSTM
FSI- No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3191.78	144.50	Initial Hydro-static
2	128.95	144.52	Open To Flow (1)
32	164.57	147.10	Shut-In (1)
92	1815.49	150.46	End Shut-In (1)
98	181.62	148.00	Open To Flow (2)
152	186.25	150.55	Shut-In (2)
272	1802.35	153.88	End Shut-In (2)
274	3058.77	154.08	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1227.00	OCGM25%gas30%oil45%mud	13.86

Gas Rates

	Choke (Inches)	Pressure (psig)	Gas Rate (Mcf/d)
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DRILL STEM TEST REPORT

EOG Resources

3817 NW EXPWY STE500
Oklahoma City Ok, 73112

ATTN: Mike Knox

Laura 21-1

21/32s/37w

Job Ticket: 39357

OST#: 2

Test Start: 2010.11.10 @ 02:20:35

GENERAL INFORMATION:

Formation: St. Louis

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:52:50

Time Test Ended: 17:04:20

Test Type: Conventional Bottom Hole

Tester: Mike Slomp

Unit No: 53

Interval: 6334.00 ft (KB) To 6385.00 ft (KB) (TVD)

Total Depth: 6385.00 ft (KB) (TVD)

Hole Diameter: 7.78 inches Hole Condition: Good

Reference Elevations: 3151.00 ft (KB)

3139.00 ft (CF)

KB to GR/CF: 12.00 ft

Serial #: 8678

Inside

Press@RunDepth: psig @ 6336.00 ft (KB)

Start Date: 2010.11.10

End Date:

2010.11.10

Capacity: 8000.00 psig

Last Calib.:

2010.11.10

Start Time: 02:25:24

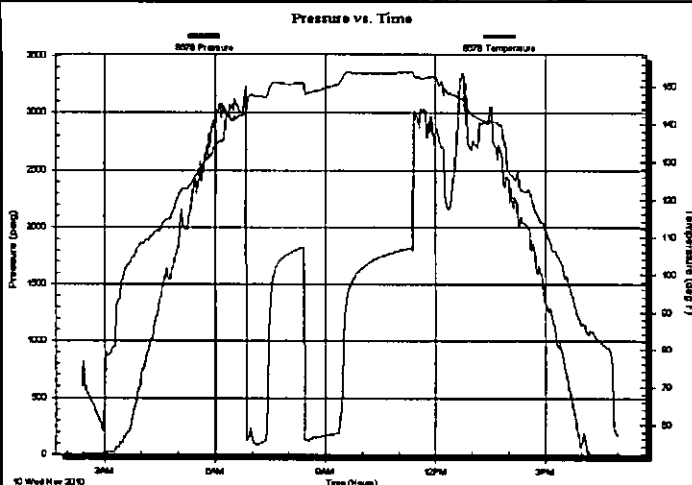
End Time:

17:03:08

Time On Btm:

Time Off Btm:

TEST COMMENT: IF- BOB in 4 min, GTS at shut in
IS- No blow back
FF-BOB in 1 min GTS ASAO, TSTM
FSI- No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
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Recovery

Length (ft)	Description	Volume (bbl)
1227.00	OCGM25%gas30%oil45%mud	13.86

Gas Rates

	Choke (Inches)	Pressure (psig)	Gas Rate (Mcf/d)
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DRILL STEM TEST REPORT

TOOL DIAGRAM

EOG Resources

Laura 21-1

3817 NW EXPWY STE500
 Oklahoma City Ok, 73112

21/32s/37w

Job Ticket: 39357

DST#: 2

ATTN: Mike Knox

Test Start: 2010.11.10 @ 02:20:35

Tool Information

Drill Pipe:	Length: 5947.00 ft	Diameter: 3.80 inches	Volume: 83.42 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:	85.23 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial	90000.00 lb
Depth to Top Packer:	6334.00 ft			Final	100000.0 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	51.00 ft				
Tool Length:	80.00 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			6310.00		
Sampler	3.00			6313.00		
Hydraulic tool	5.00			6318.00		
Jars	5.00			6323.00		
Safety Joint	2.00			6325.00		
Packer	5.00			6330.00	29.00	Bottom Of Top Packer
Packer	4.00			6334.00		
Stubb	1.00			6335.00		
Perforations	1.00			6336.00		
Recorder	0.00	8678	inside	6336.00		
Recorder	0.00	8677	inside	6336.00		
Perforations	13.00			6349.00		
Change Over Sub	1.00			6350.00		
Drill Pipe	31.00			6381.00		
Change Over Sub	1.00			6382.00		
Bullnose	3.00			6385.00	51.00	Bottom Packers & Anchor
Total Tool Length:	80.00					



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DRILL STEM TEST REPORT

FLUID SUMMARY

EOG Resources

Laura 21-1

3817 NW EXPWY STE500
Oklahoma City Ok, 73112

21/32s/37w

Job Ticket: 39357

DST#: 2

ATTN: Mike Knox

Test Start: 2010.11.10 @ 02:20:35

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 50.00 sec/qt

Water Loss: 8.39 cm³

Resistivity: ohm.m

Salinity: 1200.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

36 deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1227.00	OCCM25%gas30%oil45%mud	13.859

Total Length: 1227.00 ft Total Volume: 13.859 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler- 1300psi, 1000ml oil, 7 cu/ft gas



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DRILL STEM TEST REPORT

GAS RATES

EOG Resources

Laura 21-1

3817 NW EXPWY STE500
Oklahoma City Ok, 73112

21/32s/37w

Job Ticket: 39357

DST#: 2

ATTN: Mike Knox

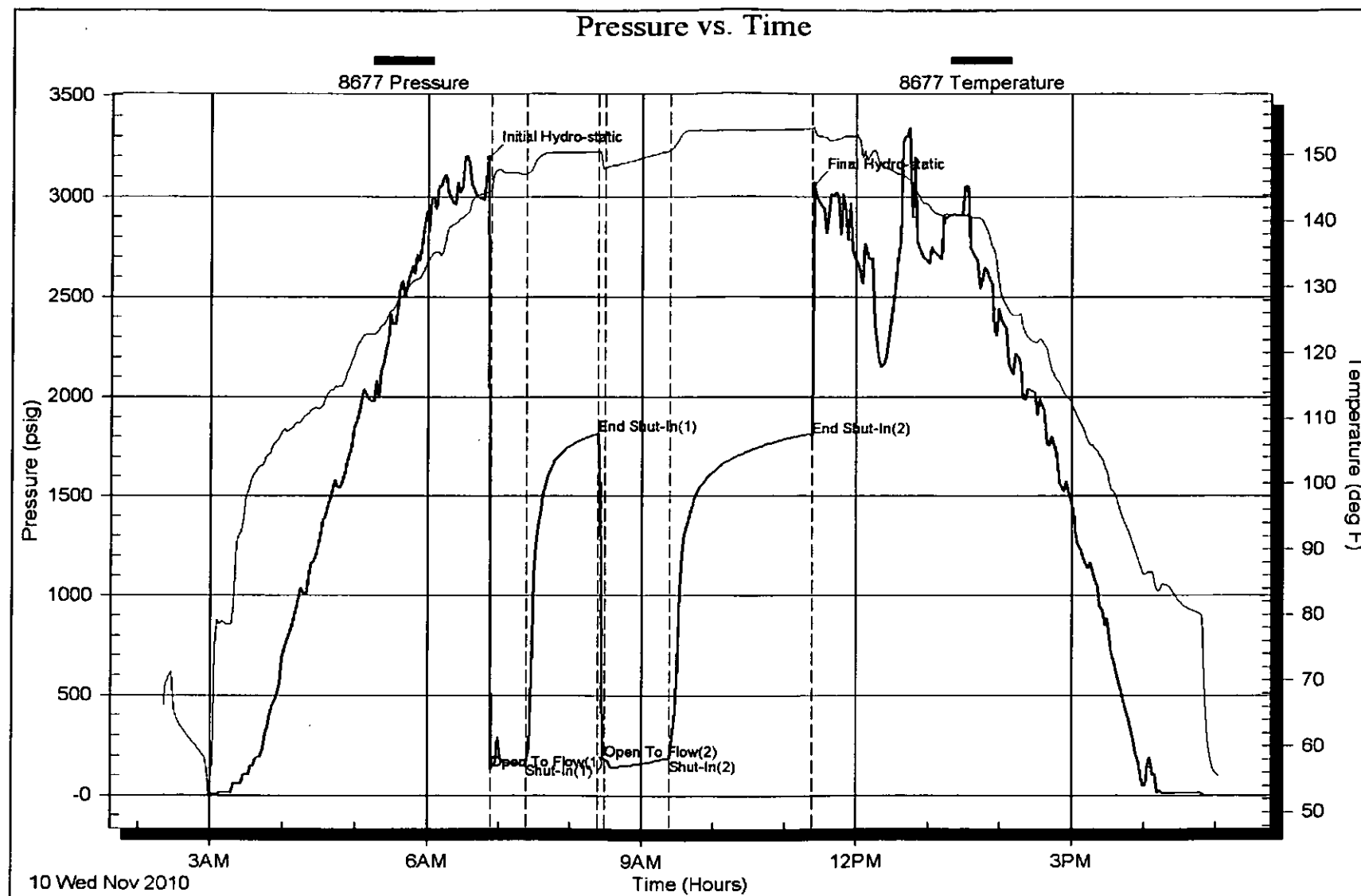
Test Start: 2010.11.10 @ 02:20:35

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



Serial #: 8678

Inside

EOG Resources

21/32s/37w

DST Test Number: 2

