



## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration Incorporated**

8400 East 22ND Street North #700  
PO Box 783188  
Wichita, Kansas 67278+3188

ATTN: Terry Mcleod

**Derstein 17A #1**

**17/28S/22W/Ford**

Start Date: 2012.05.20 @ 22:29:00

End Date: 2012.05.21 @ 05:59:00

Job Ticket #: 17640                      DST #: 2

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2012.05.21 @ 06:19:11

Ritchie Exploration Incorporated

17/28S/22W/Ford

Derstein 17A #1

DST # 2

Mississippi

2012.05.20



# DRILL STEM TEST REPORT

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17/28S/22W/Ford

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Derstein 17A #1

Job Ticket: 17640

DST#: 2

Test Start: 2012.05.20 @ 22:29:00

## GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:42:30

Time Test Ended: 05:59:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 3325 Great Bend/172

Interval: **5118.00 ft (KB) To 5138.00 ft (KB) (TVD)**

Reference Elevations: 2443.00 ft (KB)

Total Depth: 5138.00 ft (KB) (TVD)

2432.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 6749

Inside

Press @ RunDepth: 61.36 psia @ 5134.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2012.05.20

End Date: 2012.05.21

Last Calib.: 2012.05.21

Start Time: 22:29:00

End Time: 05:59:00

Time On Btm: 2012.05.21 @ 00:40:30

Time Off Btm: 2012.05.21 @ 04:05:30

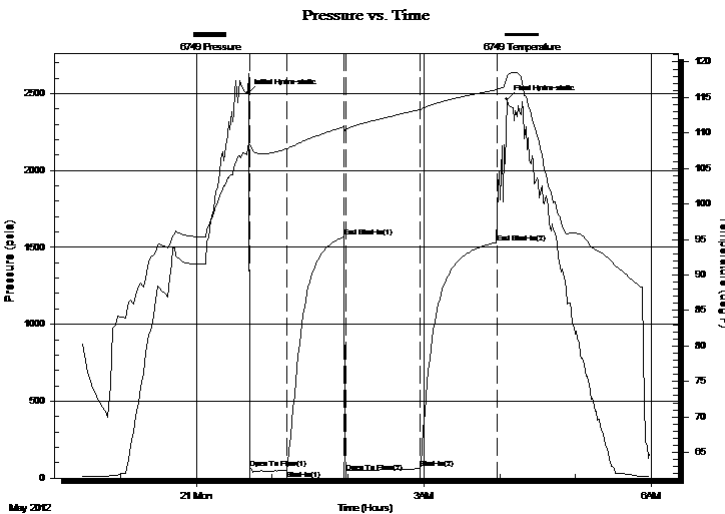
TEST COMMENT: 1ST Open 30 Minutes/Good blow/Blow to bottom of bucket in 10 minutes

1ST Shut In 45 Minutes/No blow back

2ND Open 60 Minutes/Strong blow/Blow to bottom of bucket in 30 seconds/Gas to surface in 7 minutes

2ND Shut In 60 Minutes/No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2500.74	107.88	Initial Hydro-static
2	60.79	108.36	Open To Flow (1)
31	48.72	107.76	Shut-In(1)
77	1568.98	110.86	End Shut-In(1)
78	39.17	110.54	Open To Flow (2)
137	61.36	113.31	Shut-In(2)
198	1531.89	116.09	End Shut-In(2)
205	2461.46	117.92	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
75.00	Slightly Gassy Watery Mud	1.10
0.00	Gas 5% Water 45% Mud 50%	0.00
0.00	Recovery Chlorides 55,000 ppm	0.00

## Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	0.25	8.64	13.71
Last Gas Rate	0.38	5.33	19.51
Max. Gas Rate	0.25	9.65	15.31



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Tester: Ken Swinney

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Reference Elevations: 2443.00 ft (KB)

Total Depth: 5138.00 ft (KB) (TVD)

2432.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: **6999** Outside

Press @ RunDepth: 1532.28 psia @ 5135.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2012.05.20

End Date: 2012.05.21

Last Calib.: 2012.05.21

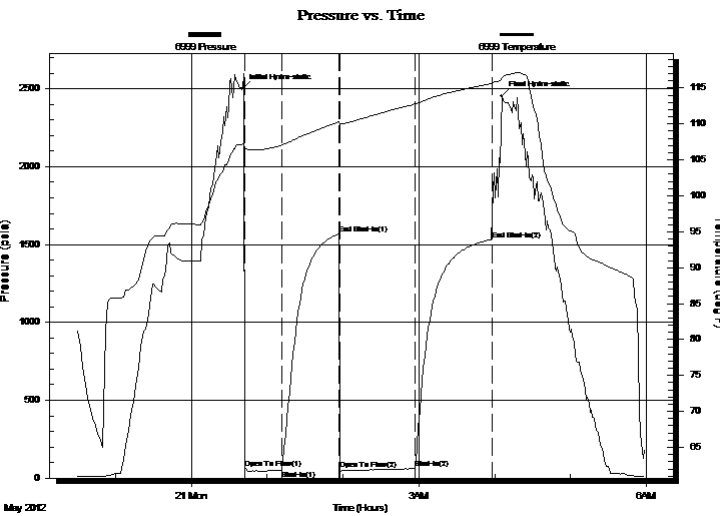
Start Time: 22:29:00

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TEST COMMENT: 1ST Open 30 Minutes/Good blow/Blow to bottom of bucket in 10 minutes  
 1ST Shut In 45 Minutes/No blow back  
 2ND Open 60 Minutes/Strong blow/Blow to bottom of bucket in 30 seconds/Gas to surface in 7 minutes  
 2ND Shut In 60 Minutes/No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2498.13	107.25	Initial Hydro-static
2	60.01	106.56	Open To Flow (1)
31	48.77	107.05	Shut-In(1)
77	1569.44	110.29	End Shut-In(1)
77	55.65	109.85	Open To Flow (2)
137	61.50	112.78	Shut-In(2)
198	1532.28	115.63	End Shut-In(2)
205	2454.00	116.50	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
75.00	Slightly Gassy Watery Mud	1.10
0.00	Gas 5% Water 45% Mud 50%	0.00
0.00	Recovery Chlorides 55,000 ppm	0.00

## Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	0.25	8.64	13.71
Last Gas Rate	0.38	5.33	19.51
Max. Gas Rate	0.25	9.65	15.31



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration Incorporated

**17/28S/22W/Ford**

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 PO Box 783188  
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**Derstein 17A #1**

Job Ticket: 17640

**DST#: 2**

Test Start: 2012.05.20 @ 22:29:00

## Tool Information

Drill Pipe:	Length: 5106.00 ft	Diameter: 3.88 inches	Volume: 74.67 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 120000.0 lb
			<u>Total Volume: 74.67 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 69500.00 lb
Depth to Top Packer:	5118.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	47.00 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			5096.00	
Hydraulic Tool	5.00			5101.00	
Jars	5.00			5106.00	
Safety Joint	2.00			5108.00	
Packer	5.00			5113.00	27.00 Bottom Of Top Packer
Packer	5.00			5118.00	
Anchor	15.00			5133.00	
Recorder	1.00	6749	Inside	5134.00	
Recorder	1.00	6999	Outside	5135.00	
Bullnose	3.00			5138.00	20.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>47.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

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**DST#: 2**

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### Mud and Cushion Information

Mud Type: Gel Chem  
 Mud Weight: 9.00 lb/gal  
 Viscosity: 60.00 sec/qt  
 Water Loss: 14.39 in<sup>3</sup>  
 Resistivity: ohm.m  
 Salinity: 10200.00 ppm  
 Filter Cake: 1.00 inches

Cushion Type:  
 Cushion Length: ft  
 Cushion Volume: bbl  
 Gas Cushion Type:  
 Gas Cushion Pressure: psia

Oil API: deg API  
 Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
75.00	Sightly Gassy Watery Mud	1.097
0.00	Gas 5% Water 45% Mud 50%	0.000
0.00	Recovery Chlorides 55,000 ppm	0.000

Total Length: 75.00 ft      Total Volume: 1.097 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



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**GAS RATES**

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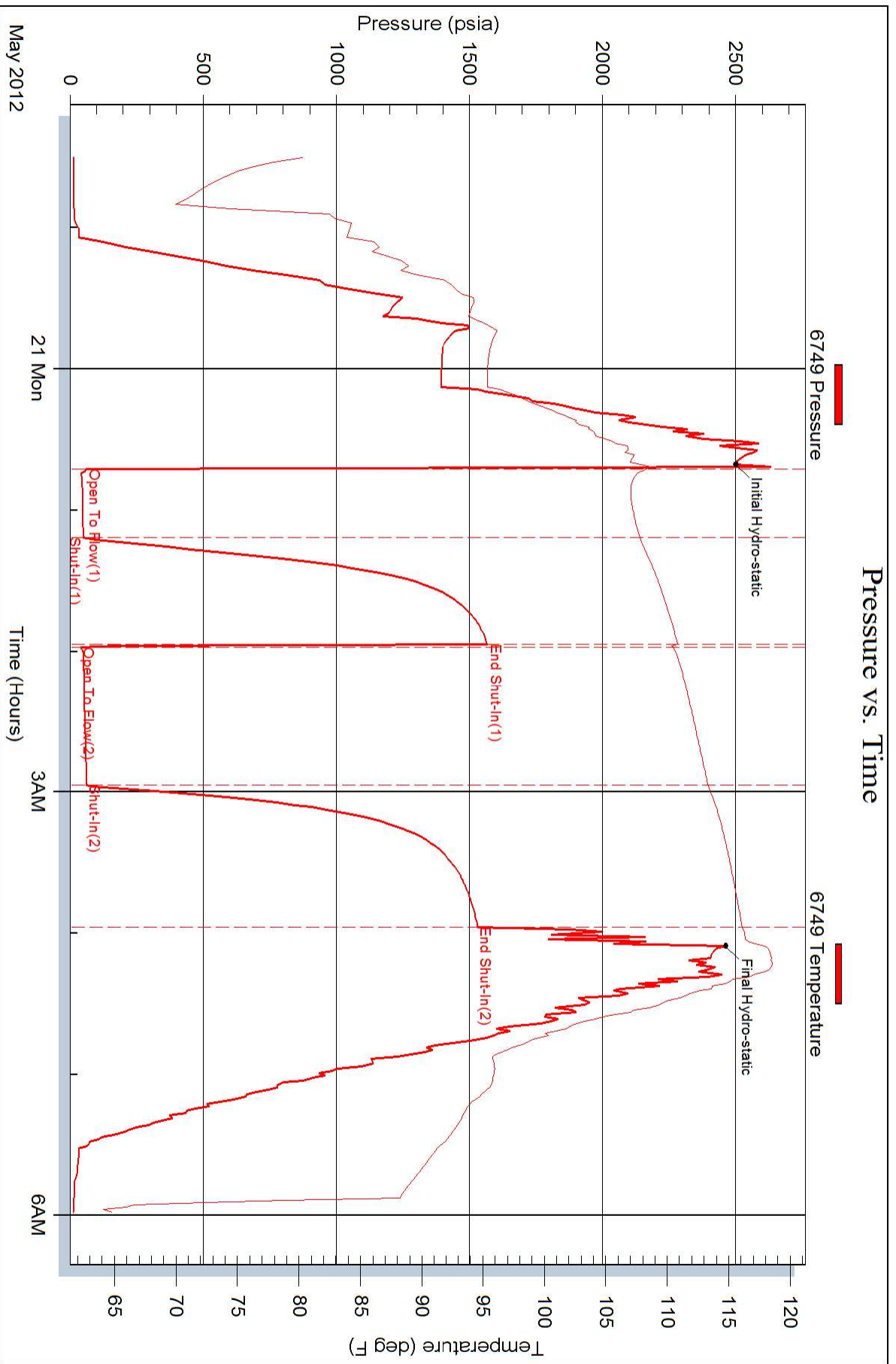
## Gas Rates Information

Temperature: 59 (deg F)  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
2	7	0.25	8.64	13.71
2	7	0.25	8.64	13.71
2	10	0.25	9.65	15.31
2	20	0.38	6.36	23.31
2	30	0.38	5.57	20.40
2	40	0.38	5.49	20.10
2	50	0.38	5.33	19.51

# Pressure vs. Time



### Pressure vs. Time

