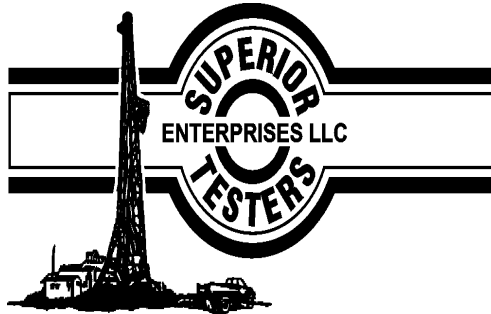




DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 East 22nd St. North #700
Wichita Kansas 67278

ATTN: Bob

Stout P #8

6-18s-10w-Rice

Start Date: 2013.03.23 @ 03:50:00

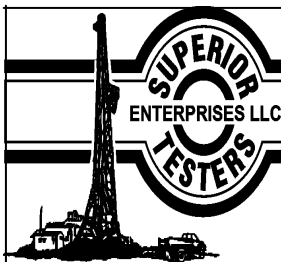
End Date: 2013.03.23 @ 09:25:00

Job Ticket #: 17430 DST #: 1

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

Printed: 2013.03.23 @ 09:40:51

Ritchie Exploration
6-18s-10w-Rice
Stout P #8
DST # 1
Oread
2013.03.23



DRILL STEM TEST REPORT

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17430

DST#: 1

ATTN: Bob

Test Start: 2013.03.23 @ 03:50:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:28:30

Time Test Ended: 09:25:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Ellis

Unit No: 3315-Great Bend-70

Interval: 2729.00 ft (KB) To 2806.00 ft (KB) (TVD)

Reference Elevations: 1799.00 ft (KB)

Total Depth: 2806.00 ft (KB) (TVD)

1790.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 9.00 ft

Serial #: 6839

Press@RunDepth: 104.54 psia @ ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.03.23

End Date:

2013.03.23

Last Calib.:

2013.03.23

Start Time: 03:50:00

End Time:

09:25:00

Time On Btm:

2013.03.23 @ 05:28:00

Time Off Btm:

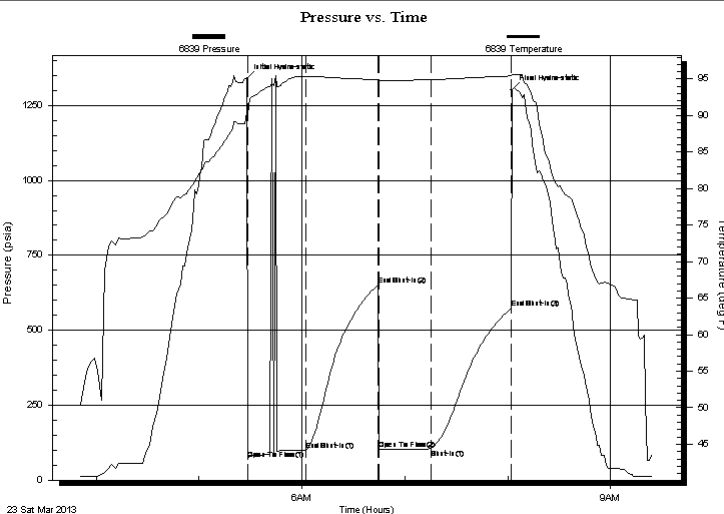
2013.03.23 @ 08:02:30

TEST COMMENT: 1st Open 30 minutes Weak blow blew 1 inch into a 5 gallon bucket of w ater.

1st Shut in 45 minutes No blow back

2nd Open 30 minutes Very weak surface blow died off after 15 minutes

2nd Shut in 45 minutes No blow back .



PRESSURE SUMMARY

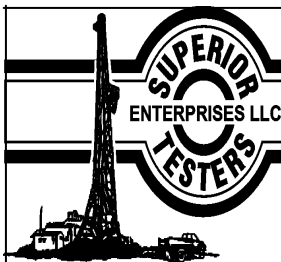
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1338.66	90.45	Initial Hydro-static
1	69.88	90.29	Open To Flow (1)
35	99.31	95.39	End Shut-In(1)
77	652.04	94.94	End Shut-In(2)
77	101.58	94.77	Open To Flow (2)
108	104.54	94.91	Shut-In(1)
154	573.13	95.42	End Shut-In(3)
155	1301.29	95.62	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
75.00	Mud 100%	1.05

Gas Rates

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

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17430

DST#: 1

ATTN: Bob

Test Start: 2013.03.23 @ 03:50:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:28:30

Time Test Ended: 09:25:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Ellis

Unit No: 3315-Great Bend-70

Interval: **2729.00 ft (KB) To 2806.00 ft (KB) (TVD)**

Reference Elevations: 1799.00 ft (KB)

Total Depth: 2806.00 ft (KB) (TVD)

1790.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 9.00 ft

Serial #: 8524

Press@RunDepth: 572.43 psia @ ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.03.23

End Date: 2013.03.23

Last Calib.: 1899.12.30

Start Time: 03:50:00

End Time: 09:24:00

Time On Btm: 2013.03.23 @ 05:27:30

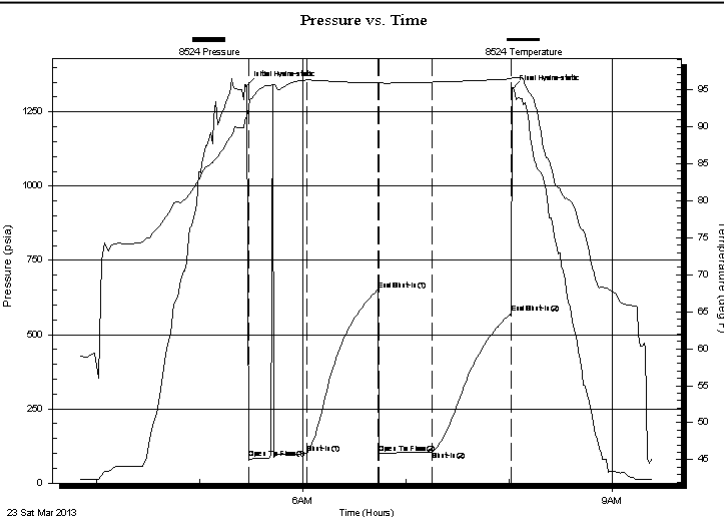
Time Off Btm: 2013.03.23 @ 08:02:00

TEST COMMENT: 1st Open 30 minutes Weak blow blew 1 inch into a 5 gallon bucket of water.

1st Shut in 45 minutes No blow back

2nd Open 30 minutes Very weak surface blow died off after 15 minutes

2nd Shut in 45 minutes No blow back.



PRESSURE SUMMARY

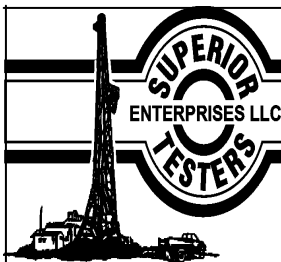
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1337.98	91.38	Initial Hydro-static
1	82.37	92.51	Open To Flow (1)
35	100.19	96.29	Shut-In(1)
77	651.62	95.92	End Shut-In(1)
77	100.88	95.79	Open To Flow (2)
108	105.89	96.01	Shut-In(2)
154	572.43	96.45	End Shut-In(2)
155	1326.74	96.65	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
75.00	Mud 100%	1.05

Gas Rates

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

TOOL DIAGRAM

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17430

DST#: 1

ATTN: Bob

Test Start: 2013.03.23 @ 03:50:00

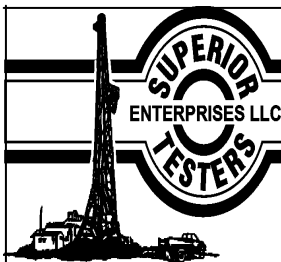
Tool Information

Drill Pipe:	Length: 2709.00 ft	Diameter: 3.80 inches	Volume: 38.00 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: 45000.00 lb
			Total Volume: 38.00 bbl	Tool Chased 12.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 31000.00 lb
Depth to Top Packer:	2729.00 ft			Final 31000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	77.59 ft			
Tool Length:	105.59 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut-In Tool	5.00			2706.00	
Hydrolic Tool	5.00			2711.00	
Safety Joint	2.00			2713.00	
Jars	6.00			2719.00	
Packer	5.00			2724.00	28.00 Bottom Of Top Packer
Packer	5.00			2729.00	
Anchor	5.00			2734.00	
Change Over Sub	0.75			2734.75	
Drill Pipe	31.09			2765.84	
Change Over Sub	0.75			2766.59	
Anchor	35.00			2801.59	
Recorder	1.00	8524	Inside	2802.59	
Recorder	1.00	6839	Inside	2803.59	
Bullnose	3.00			2806.59	77.59 Bottom Packers & Anchor

Total Tool Length: 105.59



DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17430

DST#: 1

ATTN: Bob

Test Start: 2013.03.23 @ 03:50:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 10.00 lb/gal

Viscosity: 29.00 sec/qt

Water Loss: in³

Resistivity: ohm.m

Salinity: 87000.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psia

Oil API:

Water Salinity:

deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
75.00	Mud 100%	1.052

Total Length: 75.00 ft Total Volume: 1.052 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

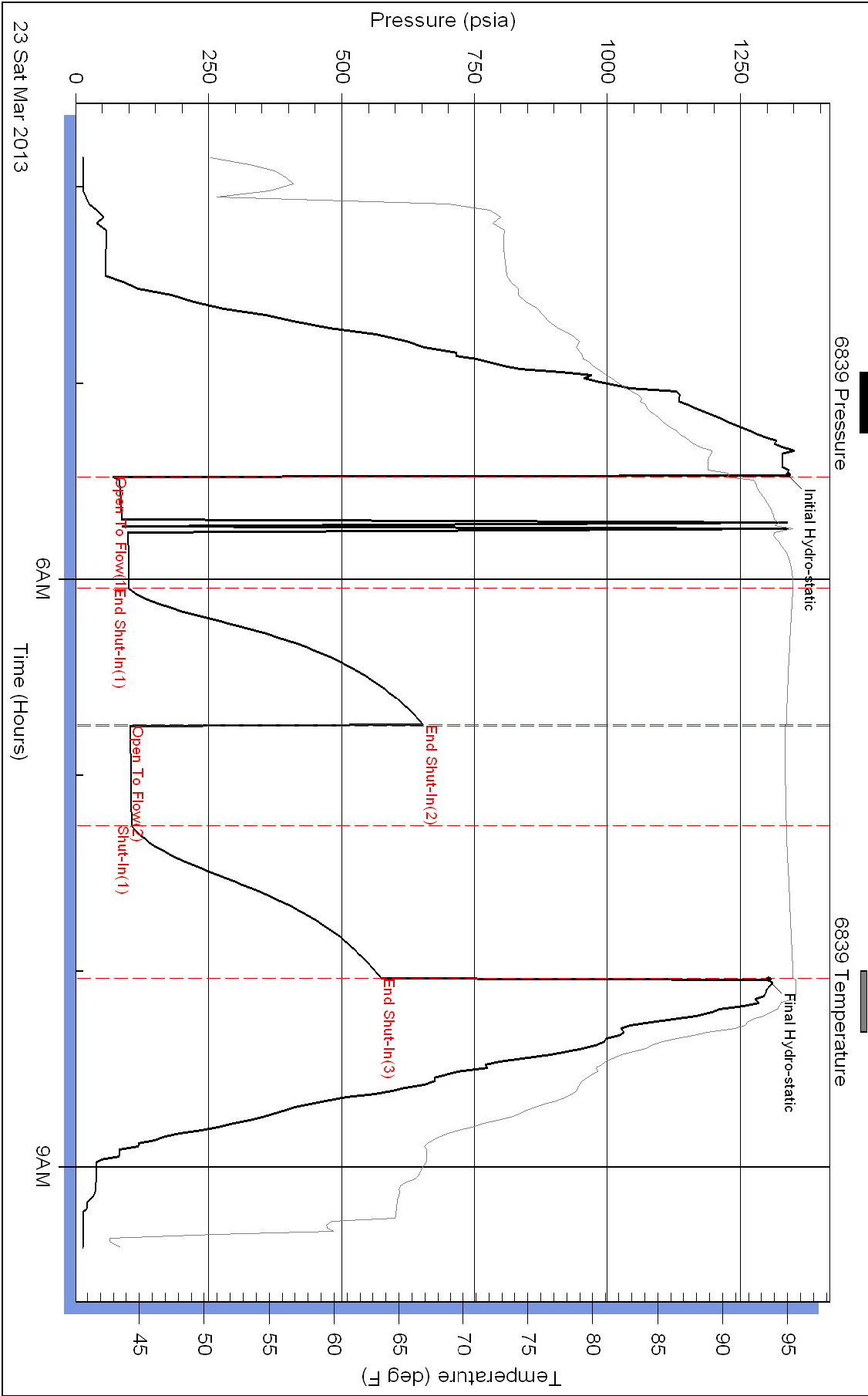
Serial #:

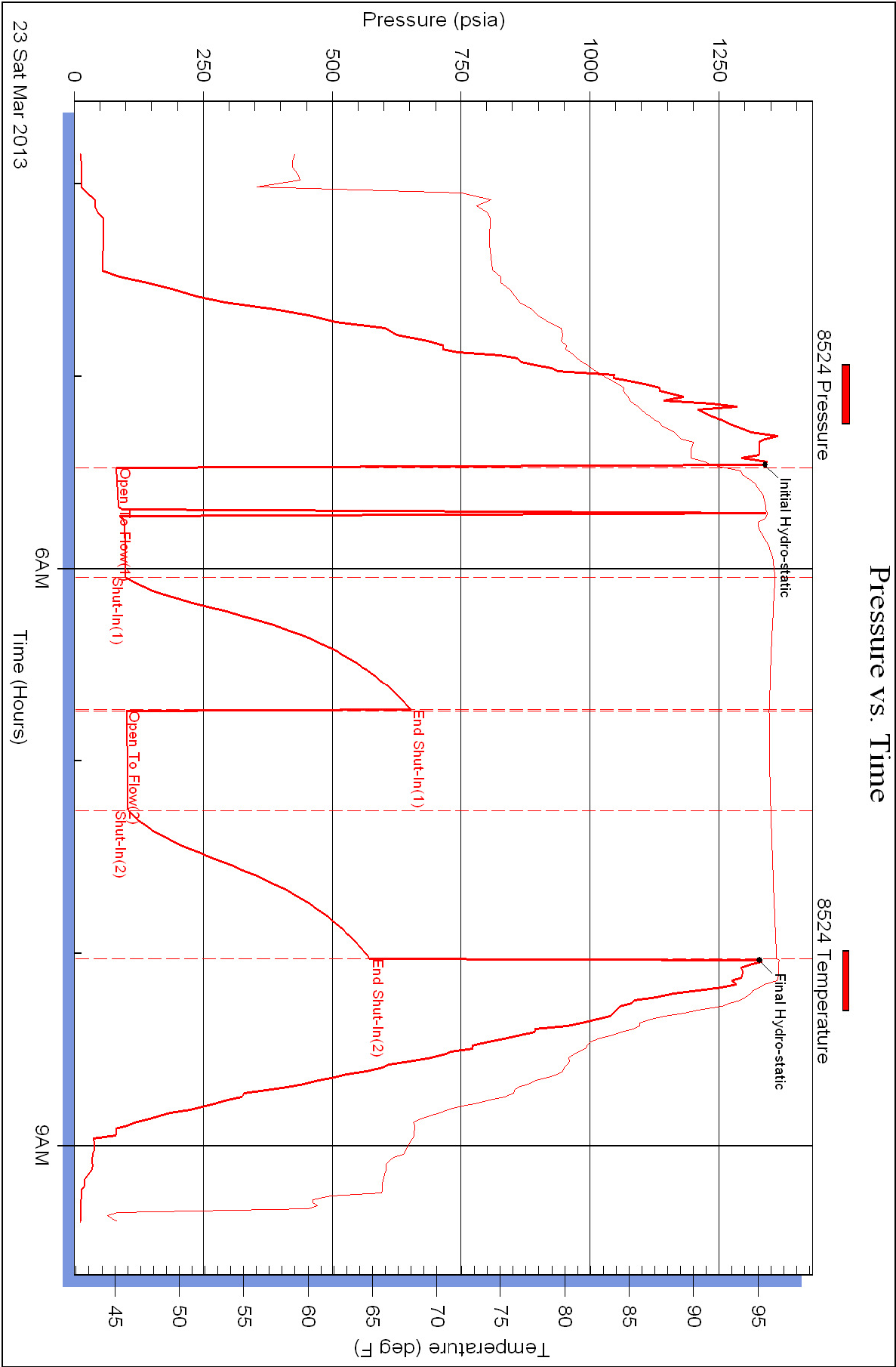
Laboratory Name:

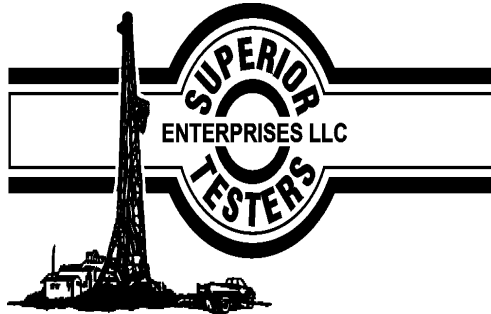
Laboratory Location:

Recovery Comments: Slid 12 ft. to bottom.

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 East 22nd St. North #700
Wichita Kansas 67278

ATTN: Bob

Stout P #8

6-18s-10w-Rice

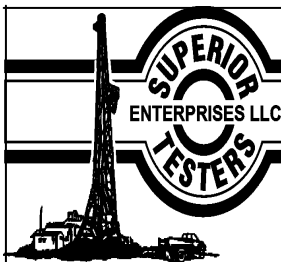
Start Date: 2013.03.24 @ 12:30:00

End Date: 2013.03.24 @ 16:51:00

Job Ticket #: 17431 DST #: 2

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

Printed: 2013.03.24 @ 05:02:41



DRILL STEM TEST REPORT

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17431

DST#:2

ATTN: Bob

Test Start: 2013.03.24 @ 12:30:00

GENERAL INFORMATION:

Formation: **Lansing A-E**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:19:30

Time Test Ended: 16:51:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Ellis

Unit No: 3315-Great Bend-70

Interval: 2932.00 ft (KB) To 3009.00 ft (KB) (TVD)

Total Depth: 3009.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 1799.00 ft (KB)

1790.00 ft (CF)

KB to GR/CF: 9.00 ft

Serial #: 6839 Inside

Press@RunDepth: psia @ 3006.79 ft (KB)

Start Date: 2013.03.24

End Date:

2013.03.24

Capacity: 5000.00 psia

Last Calib.: 2013.03.24

Start Time: 12:30:00

End Time:

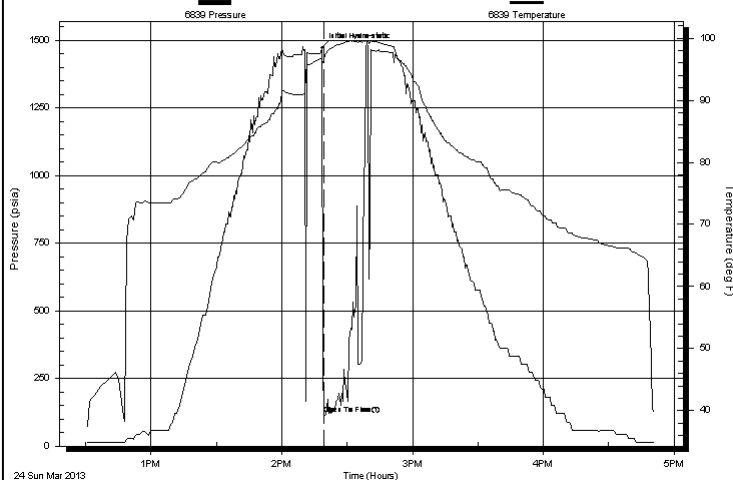
16:51:00

Time On Btm: 2013.03.24 @ 14:18:30

Time Off Btm:

TEST COMMENT: 1st Open held for 5 minutes slowly lost mud.
Packer failure

Pressure vs. Time



PRESSURE SUMMARY

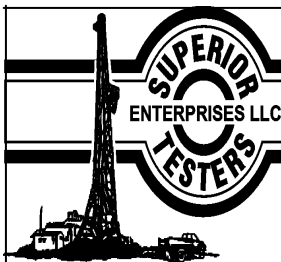
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1471.80	96.79	Initial Hydro-static
1	116.89	96.62	Open To Flow (1)

Recovery

Length (ft)	Description	Volume (bbl)
360.00	Mud 100%	5.05
0.00	Packer Failure	0.00

Gas Rates

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

TOOL DIAGRAM

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17431

DST#: 2

ATTN: Bob

Test Start: 2013.03.24 @ 12:30:00

Tool Information

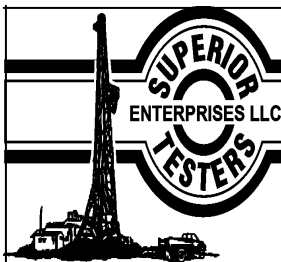
Drill Pipe:	Length:	2928.00 ft	Diameter:	3.80 inches	Volume:	41.07 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight to Pull Loose:	60000.00 lb
					Total Volume:	41.07 bbl	Tool Chased	12.00 ft
Drill Pipe Above KB:	24.00 ft							
Depth to Top Packer:	2932.00 ft							
Depth to Bottom Packer:	ft							
Interval between Packers:	77.79 ft							
Tool Length:	105.79 ft							
Number of Packers:	2		Diameter:	6.75 inches				
Tool Comments:								

Tool Description

Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut-In Tool	5.00		2909.00	
Hydrolic Tool	5.00		2914.00	
Safety Joint	2.00		2916.00	
Jars	6.00		2922.00	
Packer	5.00		2927.00	28.00 Bottom Of Top Packer
Packer	5.00		2932.00	
Anchor	5.00		2937.00	
Change Over Sub	0.75		2937.75	
Drill Pipe	63.29		3001.04	
Change Over Sub	0.75		3001.79	
Anchor	3.00		3004.79	
Recorder	1.00	8524	Inside	3005.79
Recorder	1.00	6839	Inside	3006.79
Bullnose	3.00		3009.79	77.79 Bottom Packers & Anchor

Total Tool Length: 105.79



DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17431

DST#: 2

ATTN: Bob

Test Start: 2013.03.24 @ 12:30:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 45.00 sec/qt

Water Loss: 6.40 in³

Resistivity: ohm.m

Salinity: 4200.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psia

Oil API:

Water Salinity:

deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
360.00	Mud 100%	5.050
0.00	Packer Failure	0.000

Total Length: 360.00 ft

Total Volume: 5.050 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

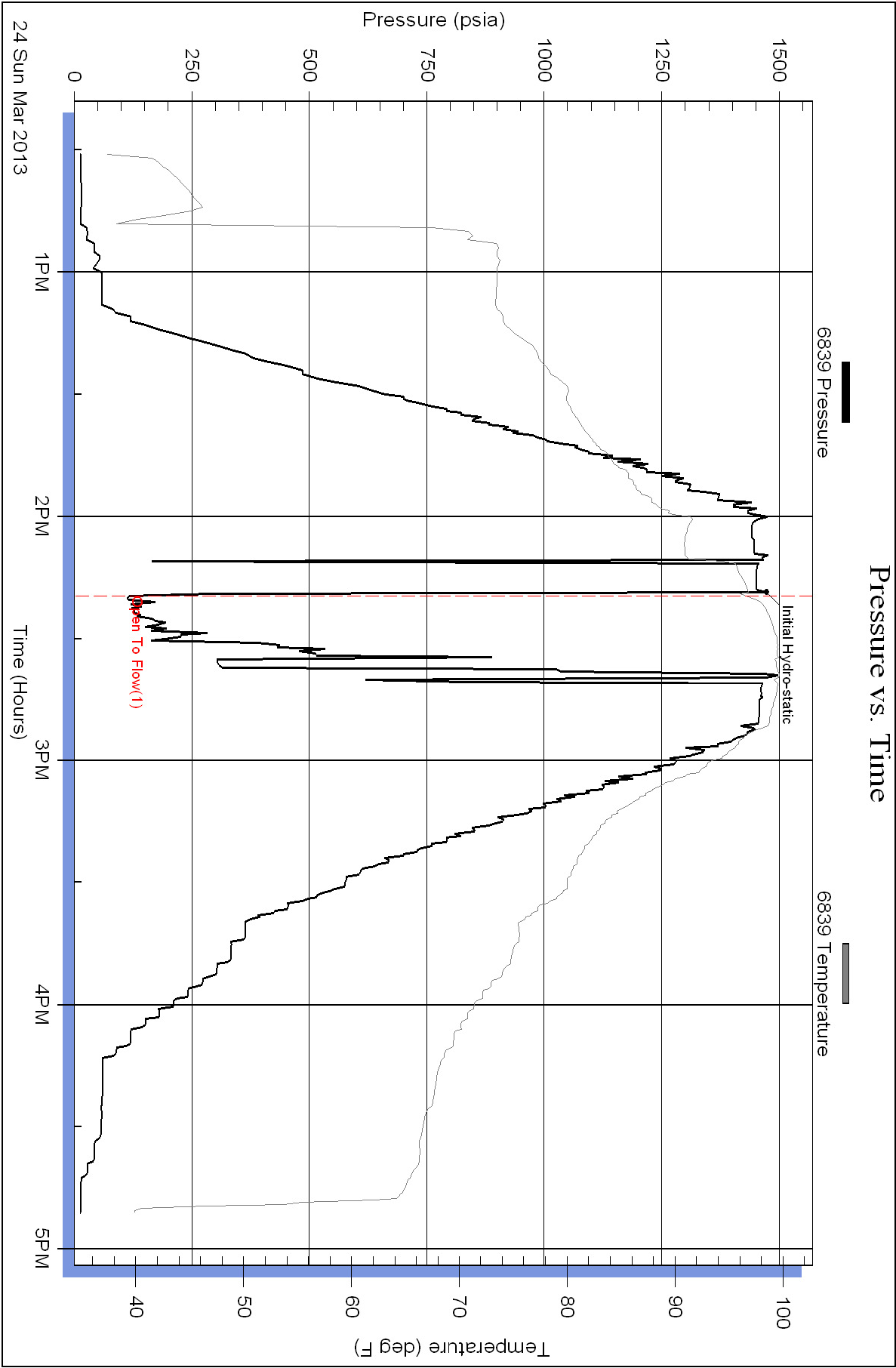
Serial #: 6839

Inside

Richie Exploration

Stout P #8

DST Test Number: 2



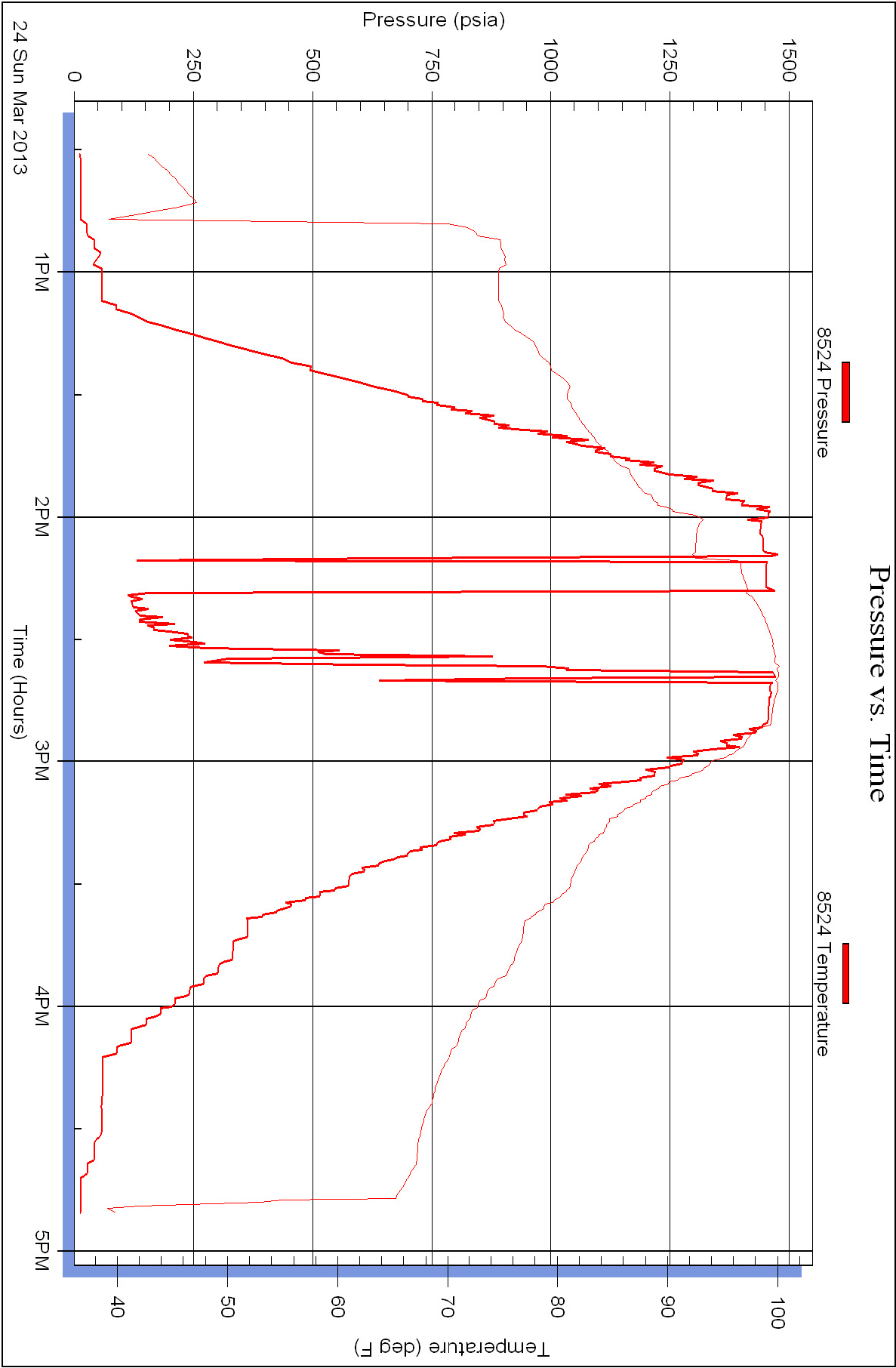
Serial #: 8524

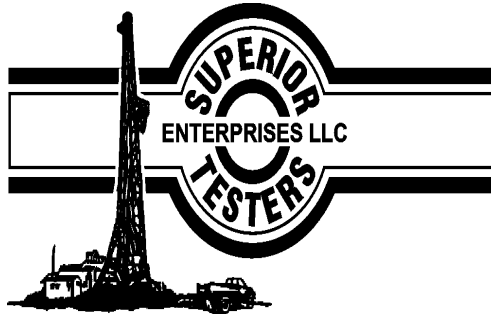
Inside

Ritchie Exploration

Stout P #8

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 East 22nd St. North #700
Wichita Kansas 67278

ATTN: Bob

Stout P #8

6-18s-10w-Rice

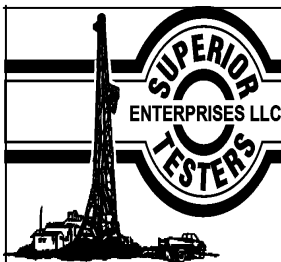
Start Date: 2013.03.24 @ 10:55:00

End Date: 2013.03.24 @ 17:14:30

Job Ticket #: 17432 DST #: 3

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

Printed: 2013.03.24 @ 17:36:53



DRILL STEM TEST REPORT

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17432

DST#: 3

ATTN: Bob

Test Start: 2013.03.24 @ 10:55:00

GENERAL INFORMATION:

Formation: **Lansing A-E**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:42:30

Time Test Ended: 17:14:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Ellis

Unit No: 3315-Great Bend-70

Interval: **2931.00 ft (KB) To 3009.00 ft (KB) (TVD)**

Reference Elevations: 1799.00 ft (KB)

Total Depth: 3009.00 ft (KB) (TVD)

1790.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 9.00 ft

Serial #: **8524** Inside

Press@RunDepth: 328.03 psia @ 3005.79 ft (KB)

Capacity: psia

Start Date: 2013.03.24

End Date:

2013.03.24

Last Calib.:

1899.12.30

Start Time: 10:55:00

End Time:

17:14:30

Time On Btm:

2013.03.24 @ 12:41:30

Time Off Btm:

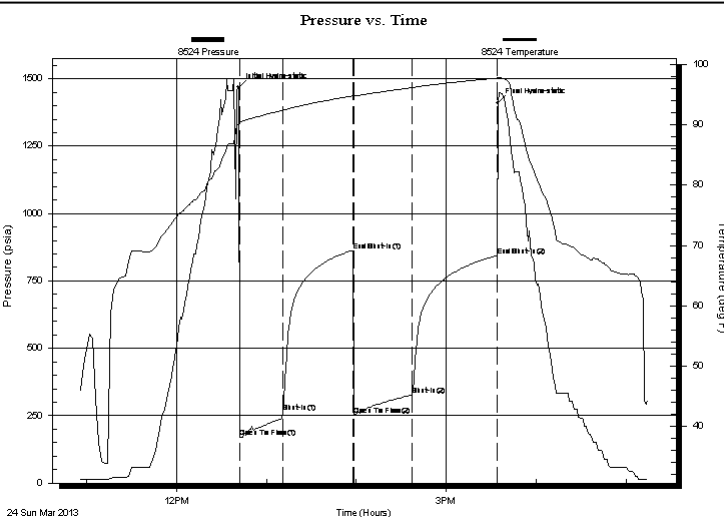
2013.03.24 @ 15:34:30

TEST COMMENT: 1st Open 30 minutes Good building blow built to bottom bucket 3.5 minutes.

1st Shut in 45 minutes Yes blow back

2nd Open 45 minutes Good building blow blew bottom bucket 4 minutes.

2nd Shut in 60 minutes Yes blow back



PRESSURE SUMMARY

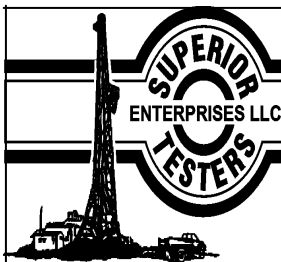
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1467.74	90.10	Initial Hydro-static
1	169.69	90.29	Open To Flow (1)
30	262.50	92.41	Shut-In(1)
76	861.13	94.78	End Shut-In(1)
77	253.34	94.75	Open To Flow (2)
116	328.03	96.15	Shut-In(2)
173	843.73	97.73	End Shut-In(2)
173	1410.50	97.85	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
244.00	Oil cut mud 4%Oil 96% Mud	3.42
183.00	Gassy oil cut muddy w ater	2.57
0.00	5%Gas 3%Oil 10%Mud 82%Water	0.00
0.00	Chlorides 57,000 .3ohms 59 degrees	0.00

Gas Rates

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

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17432

DST#: 3

ATTN: Bob

Test Start: 2013.03.24 @ 10:55:00

GENERAL INFORMATION:

Formation: **Lansing A-E**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:42:30

Time Test Ended: 17:14:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Ellis

Unit No: 3315-Great Bend-70

Interval: 2931.00 ft (KB) To 3009.00 ft (KB) (TVD)

Reference Elevations: 1799.00 ft (KB)

Total Depth: 3009.00 ft (KB) (TVD)

1790.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 9.00 ft

Serial #: 6839

Inside

Press@RunDepth: 843.78 psia @ 3006.79 ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.03.24

End Date:

2013.03.24

Last Calib.:

2013.03.24

Start Time: 10:55:00

End Time:

17:15:00

Time On Btm:

2013.03.24 @ 12:42:00

Time Off Btm:

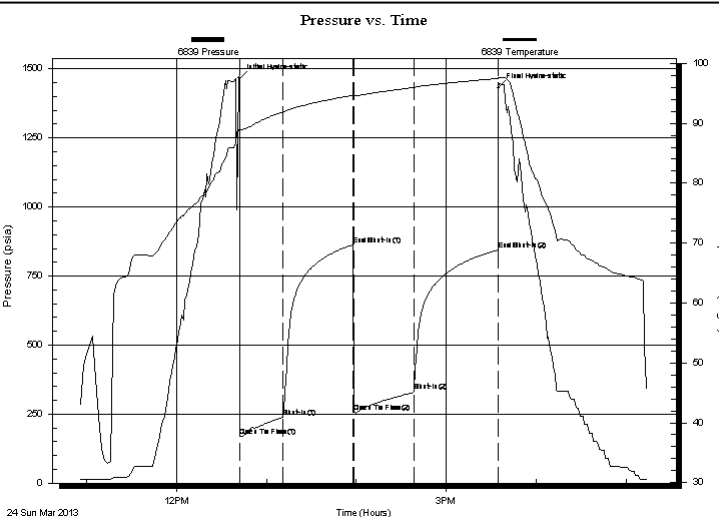
2013.03.24 @ 15:35:00

TEST COMMENT: 1st Open 30 minutes Good building blow built to bottom bucket 3.5 minutes.

1st Shut in 45 minutes Yes blow back

2nd Open 45 minutes Good building blow blew bottom bucket 4 minutes.

2nd Shut in 60 minutes Yes blow back



PRESSURE SUMMARY

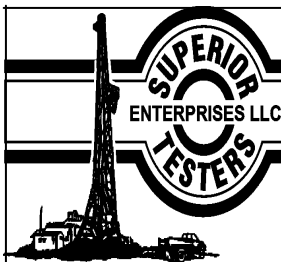
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1466.48	89.02	Initial Hydro-static
1	168.80	88.91	Open To Flow (1)
29	239.30	91.88	Shut-In(1)
76	863.25	94.66	End Shut-In(1)
77	255.17	94.53	Open To Flow (2)
117	332.54	95.99	Shut-In(2)
173	843.78	97.48	End Shut-In(2)
173	1431.86	97.64	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
244.00	Oil cut mud 4%Oil 96% Mud	3.42
183.00	Gassy oil cut muddy w ater	2.57
0.00	5%Gas 3%Oil 10%Mud 82%Water	0.00
0.00	Chlorides 57,000 .3ohms 59 degrees	0.00

Gas Rates

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

TOOL DIAGRAM

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17432

DST#: 3

ATTN: Bob

Test Start: 2013.03.24 @ 10:55:00

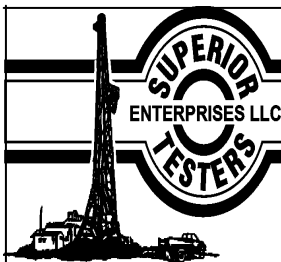
Tool Information

Drill Pipe:	Length:	2928.00 ft	Diameter:	3.80 inches	Volume:	41.07 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:	20000.00 lb
Drill Collar:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight to Pull Loose:	45000.00 lb
					Total Volume:	41.07 bbl	Tool Chased	6.00 ft
Drill Pipe Above KB:	25.00 ft							
Depth to Top Packer:	2931.00 ft							
Depth to Bottom Packer:	ft							
Interval between Packers:	78.79 ft							
Tool Length:	106.79 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			2908.00	
Hydrolic Tool	5.00			2913.00	
Safety Joint	2.00			2915.00	
Jars	6.00			2921.00	
Packer	5.00			2926.00	28.00 Bottom Of Top Packer
Packer	5.00			2931.00	
Anchor	5.00			2936.00	
Change Over Sub	0.75			2936.75	
Drill Pipe	62.29			2999.04	
Change Over Sub	0.75			2999.79	
Anchor	5.00			3004.79	
Recorder	1.00	8524	Inside	3005.79	
Recorder	1.00	6839	Inside	3006.79	
Bullnose	3.00			3009.79	78.79 Bottom Packers & Anchor

Total Tool Length: 106.79



DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17432

DST#: 3

ATTN: Bob

Test Start: 2013.03.24 @ 10:55:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 50.00 sec/qt

Water Loss: 6.80 in³

Resistivity: ohm.m

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

Water Salinity:

deg API

ppm

ft

bbl

psia

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
244.00	Oil cut mud 4%Oil 96% Mud	3.423
183.00	Gassy oil cut muddy w ater	2.567
0.00	5%Gas 3%Oil 10%Mud 82%Water	0.000
0.00	Chlorides 57,000 .3ohms 59 degrees	0.000

Total Length: 427.00 ft

Total Volume: 5.990 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

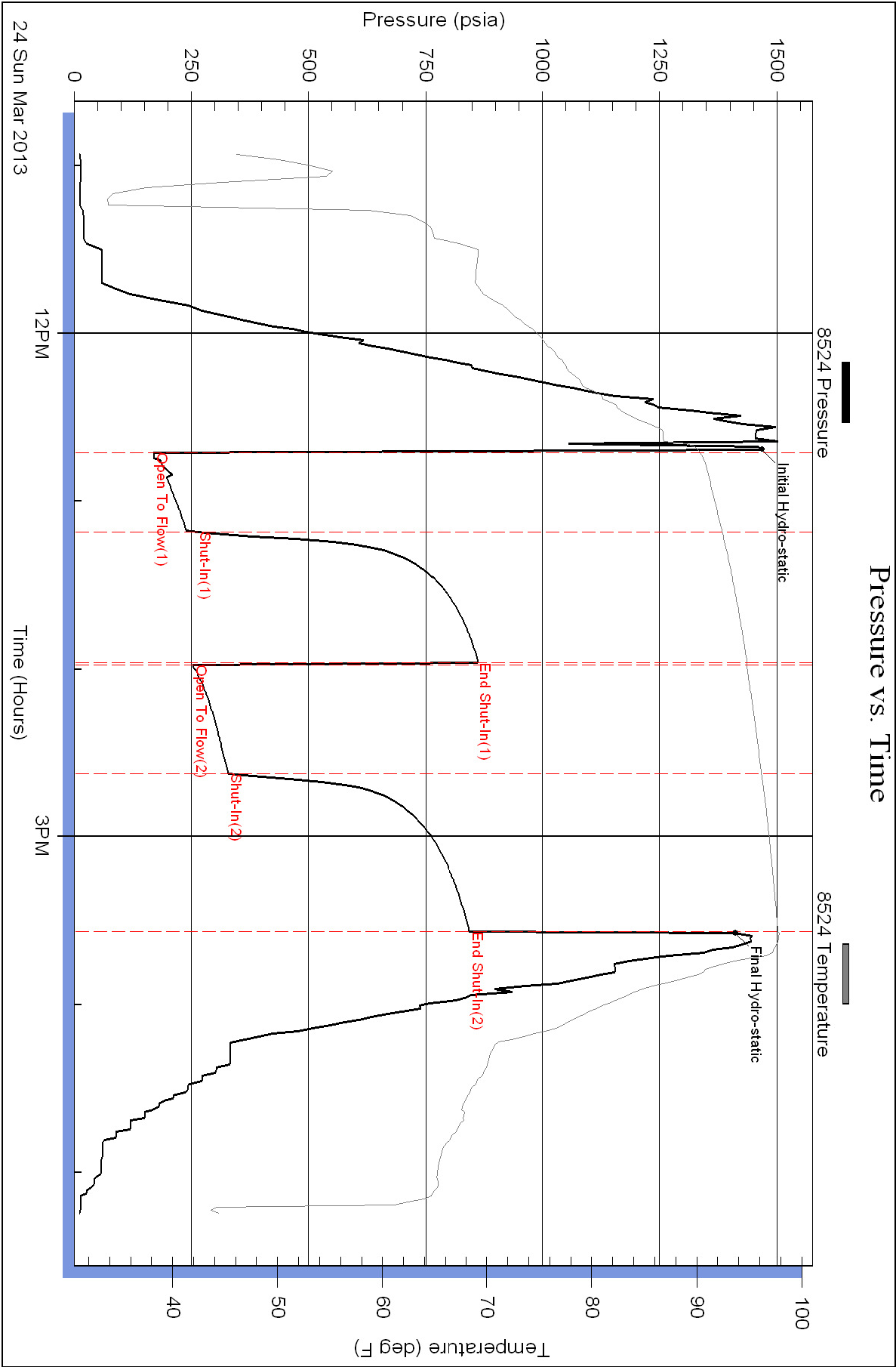
Serial #: 8524

Inside

Ritchie Exploration

Scout P#8

DST Test Number: 3



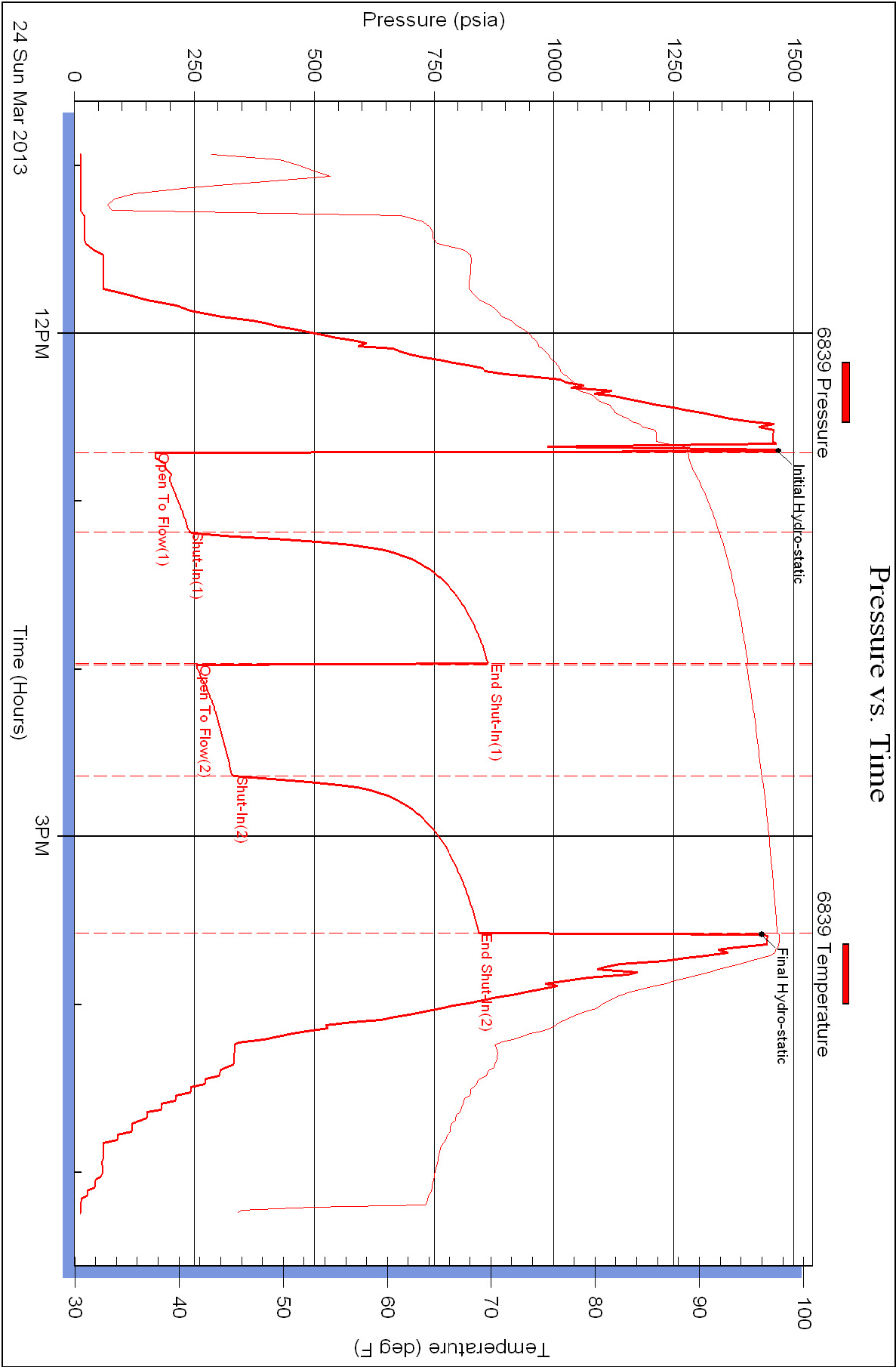
Serial #: 6839

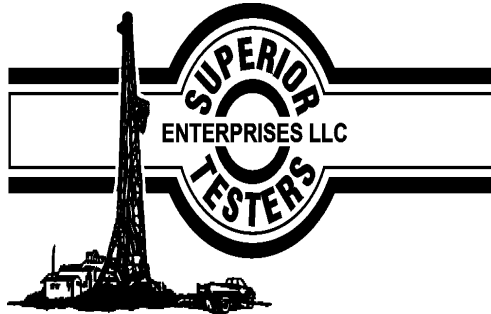
Inside

Ritchie Exploration

Stout P #8

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 East 22nd St. North #700
Wichita Kansas 67278

ATTN: Bob

Stout P #8

6-18s-10w-Rice

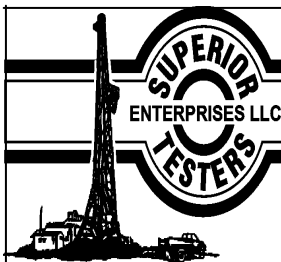
Start Date: 2013.03.25 @ 02:12:00

End Date: 2013.03.25 @ 07:27:00

Job Ticket #: 17433 DST #: 4

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

Printed: 2013.03.25 @ 07:45:16



DRILL STEM TEST REPORT

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17433

DST#: 4

ATTN: Bob

Test Start: 2013.03.25 @ 02:12:00

GENERAL INFORMATION:

Formation: **Lansing G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:41:30

Time Test Ended: 07:27:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Elis

Unit No: 3315-Great Bend-70

Interval: **3032.00 ft (KB) To 3051.00 ft (KB) (TVD)**

Reference Elevations: 1799.00 ft (KB)

Total Depth: 3051.00 ft (KB) (TVD)

1790.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 9.00 ft

Serial #: **8524** Inside

Press@RunDepth: 45.31 psia @ 3047.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.03.25

End Date:

2013.03.25

Last Calib.:

2013.03.25

Start Time: 02:12:00

End Time:

07:27:00

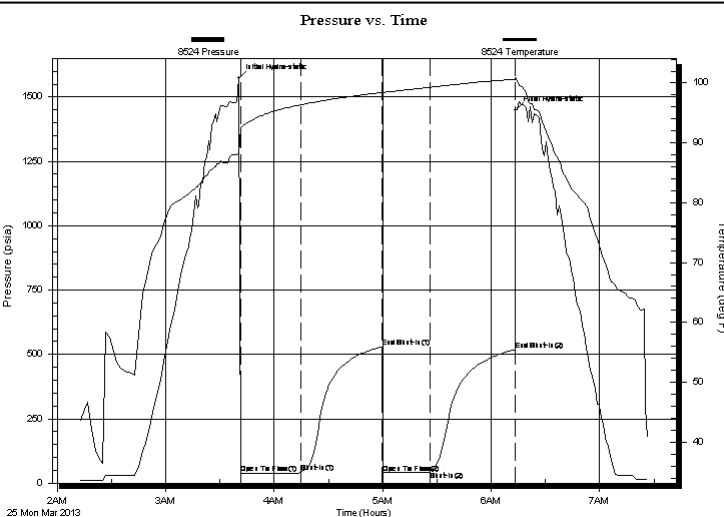
Time On Btm:

2013.03.25 @ 03:40:30

Time Off Btm:

2013.03.25 @ 06:13:30

TEST COMMENT: 1st Open 30 minutes Weak surface blow through out.
1st Shut in 45 minutes No blow back
2nd Open 30 minutes Weak surface blow .
2nd Shut in 45 minutes No blow back



PRESSURE SUMMARY

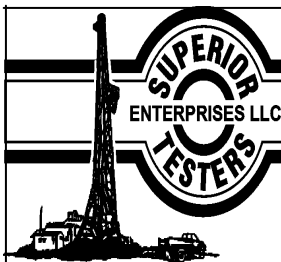
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1573.38	88.22	Initial Hydro-static
1	38.89	92.60	Open To Flow (1)
35	42.45	96.38	Shut-In(1)
79	528.63	98.41	End Shut-In(1)
80	39.76	98.34	Open To Flow (2)
106	45.31	99.30	Shut-In(2)
153	517.76	100.65	End Shut-In(2)
153	1449.00	100.95	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud 100%	0.14

Gas Rates

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

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17433

DST#: 4

ATTN: Bob

Test Start: 2013.03.25 @ 02:12:00

GENERAL INFORMATION:

Formation: **Lansing G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:41:30

Time Test Ended: 07:27:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Elis

Unit No: 3315-Great Bend-70

Interval: 3032.00 ft (KB) To 3051.00 ft (KB) (TVD)

Reference Elevations: 1799.00 ft (KB)

Total Depth: 3051.00 ft (KB) (TVD)

1790.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 9.00 ft

Serial #: 6839 Outside

Press@RunDepth: 517.50 psia @ 3048.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.03.25

End Date:

2013.03.25

Last Calib.:

2013.03.25

Start Time: 02:12:00

End Time:

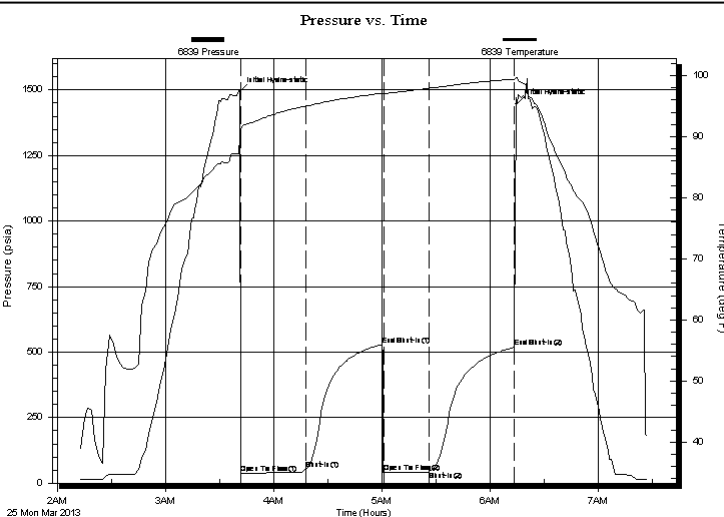
07:27:30

Time On Btm:

2013.03.25 @ 03:41:30

Time Off Btm:

TEST COMMENT: 1st Open 30 minutes Weak surface blow through out.
1st Shut in 45 minutes No blow back
2nd Open 30 minutes Weak surface blow .
2nd Shut in 45 minutes No blow back



PRESSURE SUMMARY

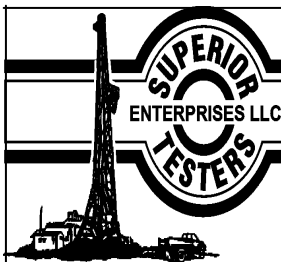
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1493.87	89.86	Initial Hydro-static
1	39.04	91.22	Open To Flow (1)
37	53.94	95.01	Shut-In (1)
79	528.48	97.10	End Shut-In (1)
80	40.75	97.02	Open To Flow (2)
105	44.69	97.92	Shut-In (2)
152	517.50	99.44	End Shut-In (2)
154	1447.47	99.70	Initial Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud 100%	0.14

Gas Rates

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

TOOL DIAGRAM

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17433

DST#: 4

ATTN: Bob

Test Start: 2013.03.25 @ 02:12:00

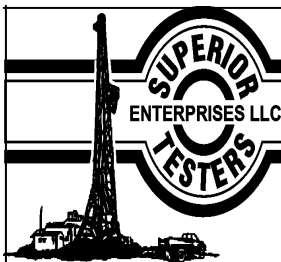
Tool Information

Drill Pipe:	Length: 3024.00 ft	Diameter: 3.80 inches	Volume: 42.42 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: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 45000.00 lb
		Total Volume:	42.42 bbl	Tool Chased 1.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 34000.00 lb
Depth to Top Packer:	3032.00 ft			Final 34000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	19.00 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			3009.00	
Hydrolic Tool	5.00			3014.00	
Safety Joint	2.00			3016.00	
Jars	6.00			3022.00	
Packer	5.00			3027.00	28.00 Bottom Of Top Packer
Packer	5.00			3032.00	
Anchor	14.00			3046.00	
Recorder	1.00	8524	Inside	3047.00	
Recorder	1.00	6839	Outside	3048.00	
Bullnose	3.00			3051.00	19.00 Bottom Packers & Anchor
Total Tool Length:	47.00				



DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17433

DST#: 4

ATTN: Bob

Test Start: 2013.03.25 @ 02:12:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 50.00 sec/qt

Water Loss: 6.80 in³

Resistivity: ohm.m

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

Water Salinity:

deg API

ppm

ft

bbl

psia

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Mud 100%	0.140

Total Length: 10.00 ft Total Volume: 0.140 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

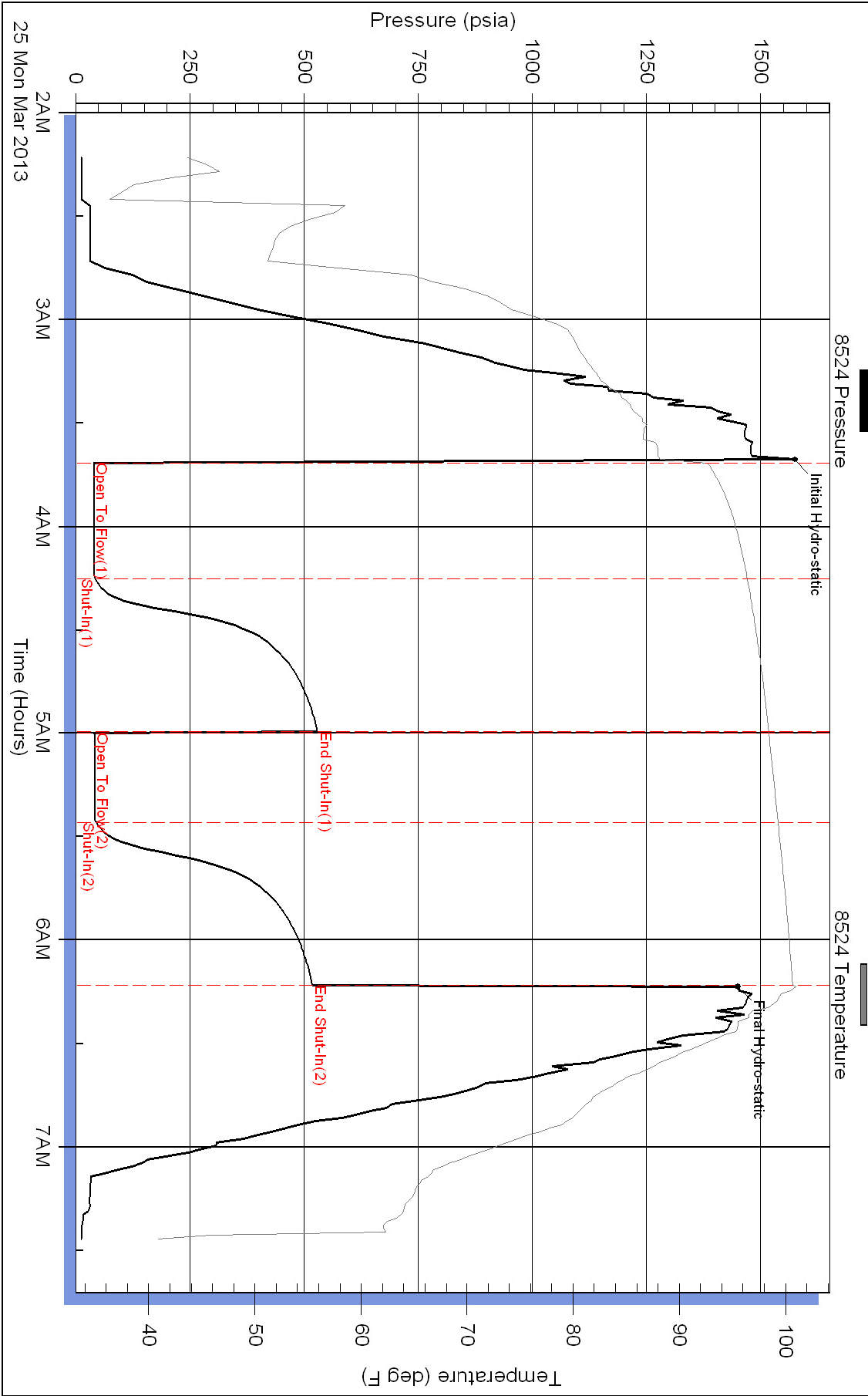
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Shell packer

Pressure vs. Time

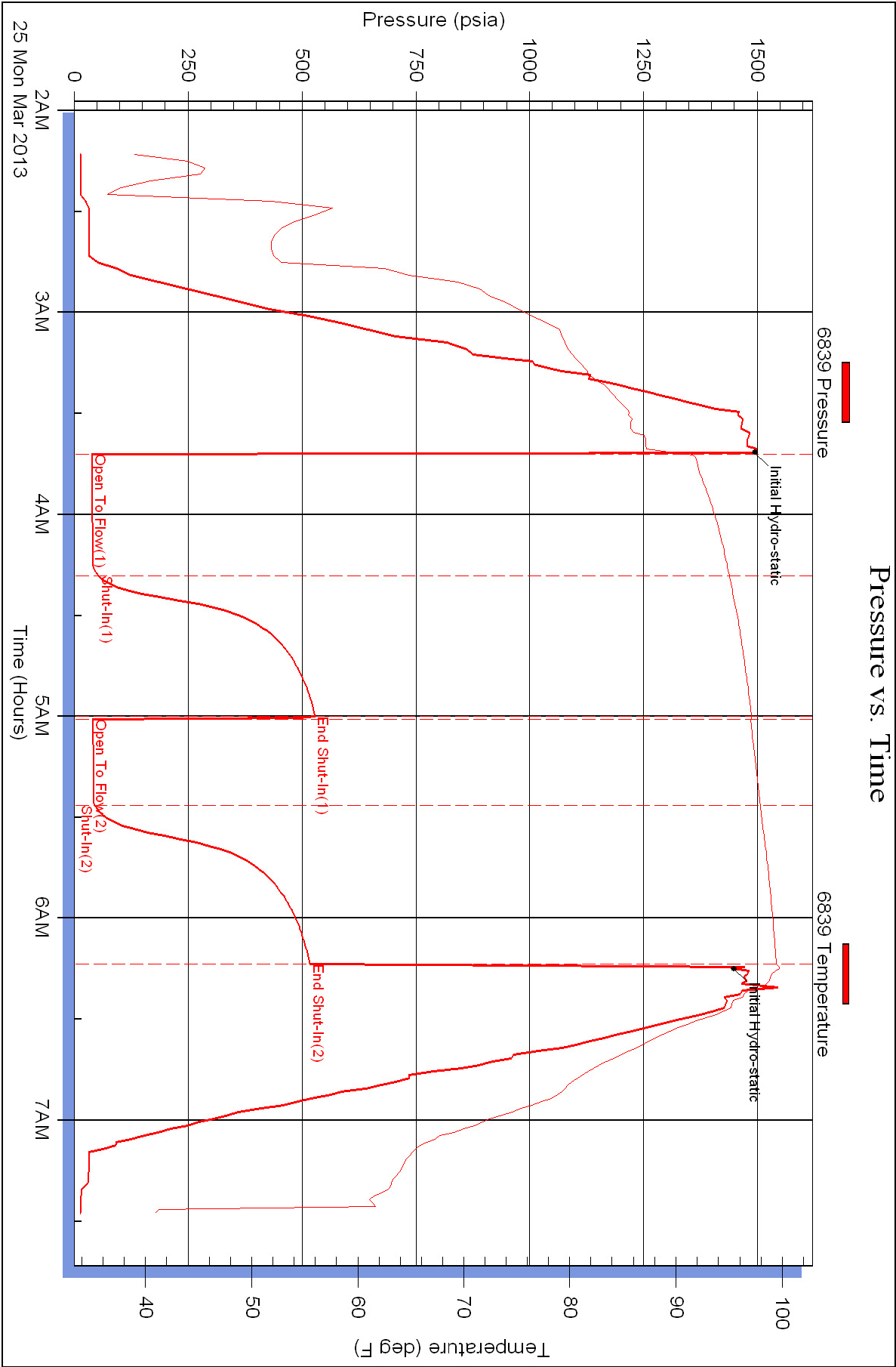


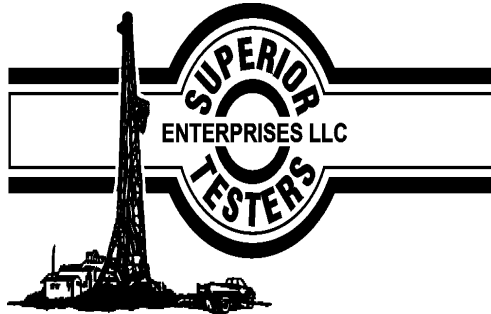
Serial #: 6839

Outside Ritchie Exploration

Stout P#8

DST Test Number: 4





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 East 22nd St. North #700
Wichita Kansas 67278

ATTN: Bob

Stout P #8

6-18s-10w-Rice

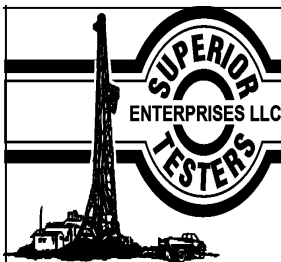
Start Date: 2013.03.25 @ 05:32:00

End Date: 2013.03.25 @ 11:06:30

Job Ticket #: 17434 DST #: 5

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

Printed: 2013.03.25 @ 23:21:53



DRILL STEM TEST REPORT

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17434

DST#: 5

ATTN: Bob

Test Start: 2013.03.25 @ 05:32:00

GENERAL INFORMATION:

Formation: **Lansing H-I-J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:47:30

Time Test Ended: 11:06:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Ellis

Unit No: 3315-Great Bend-70

Interval: **3082.00 ft (KB) To 3155.00 ft (KB) (TVD)**

Reference Elevations: 1799.00 ft (KB)

Total Depth: 3155.00 ft (KB) (TVD)

1790.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 9.00 ft

Serial #: 6839

Inside

Press@RunDepth: 88.07 psia @ 3152.17 ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.03.25

End Date:

2013.03.25

Last Calib.:

2013.03.25

Start Time: 05:32:00

End Time:

11:06:30

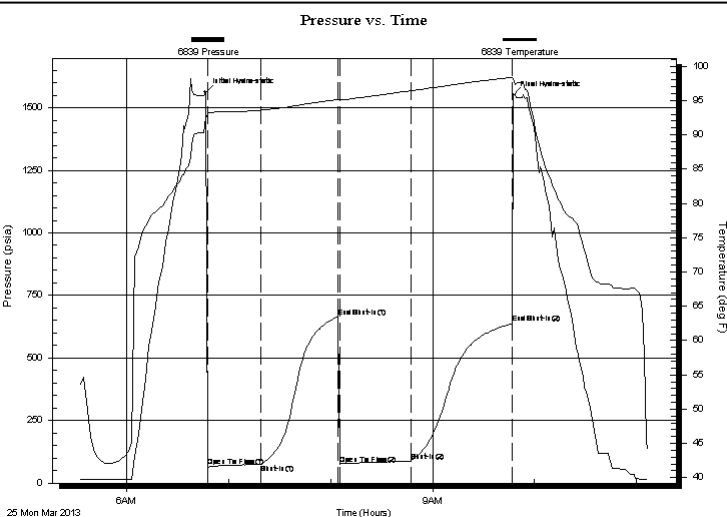
Time On Btm:

2013.03.25 @ 06:46:30

Time Off Btm:

2013.03.25 @ 09:47:30

TEST COMMENT: 1st Open 30 minutes Weak building blow built to 2 inches into the water.
1st Shut in 45 minutes No blow back.
2nd Open 45 minutes Weak building blow built to 4.5 inches into the water.
2nd Shut in 60 minutes No blow back



PRESSURE SUMMARY

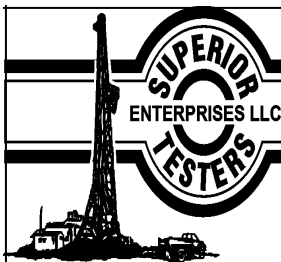
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1562.47	92.46	Initial Hydro-static
1	68.10	93.00	Open To Flow (1)
33	75.36	93.59	Shut-In(1)
78	664.82	95.16	End Shut-In(1)
79	74.76	95.05	Open To Flow (2)
121	88.07	96.41	Shut-In(2)
181	638.21	98.37	End Shut-In(2)
181	1550.36	98.18	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
55.00	Oil spotted mud 100% Mud	0.77

Gas Rates

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

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17434

DST#: 5

ATTN: Bob

Test Start: 2013.03.25 @ 05:32:00

GENERAL INFORMATION:

Formation: **Lansing H-I-J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:47:30

Time Test Ended: 11:06:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Ellis

Unit No: 3315-Great Bend-70

Interval: 3082.00 ft (KB) To 3155.00 ft (KB) (TVD)

Reference Elevations: 1799.00 ft (KB)

Total Depth: 3155.00 ft (KB) (TVD)

1790.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 9.00 ft

Serial #: 8524 Inside

Press@RunDepth: 637.11 psia @ 3151.17 ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.03.25

End Date:

2013.03.25

Last Calib.: 2013.03.25

Start Time: 05:32:00

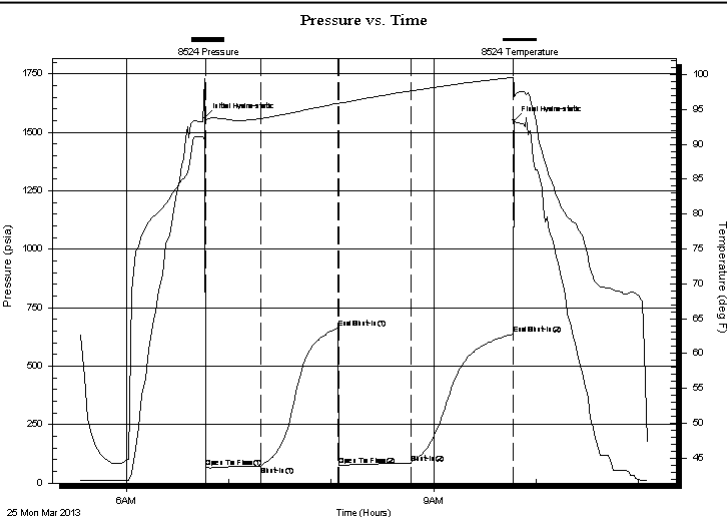
End Time:

11:05:30

Time On Btm: 2013.03.25 @ 06:46:00

Time Off Btm: 2013.03.25 @ 09:47:00

TEST COMMENT: 1st Open 30 minutes Weak building blow built to 2 inches into the water.
1st Shut in 45 minutes No blow back.
2nd Open 45 minutes Weak building blow built to 4.5 inches into the water.
2nd Shut in 60 minutes No blow back



PRESSURE SUMMARY

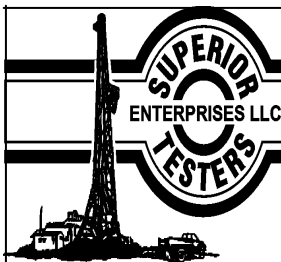
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1560.58	92.65	Initial Hydro-static
1	66.04	93.31	Open To Flow (1)
33	73.69	93.68	Shut-In(1)
78	663.71	95.87	End Shut-In(1)
79	76.32	95.87	Open To Flow (2)
121	86.47	97.64	Shut-In(2)
181	637.11	99.58	End Shut-In(2)
181	1551.68	98.21	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
55.00	Oil spotted mud 100% Mud	0.77

Gas Rates

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

TOOL DIAGRAM

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17434

DST#: 5

ATTN: Bob

Test Start: 2013.03.25 @ 05:32:00

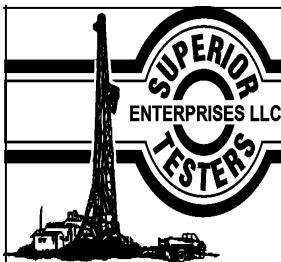
Tool Information

Drill Pipe:	Length:	3083.00 ft	Diameter:	3.80 inches	Volume:	43.25 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:	45000.00 lb
					Total Volume:	43.25 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	29.00 ft							
Depth to Top Packer:	3082.00 ft							
Depth to Bottom Packer:	ft							
Interval between Packers:	73.17 ft							
Tool Length:	101.17 ft							
Number of Packers:	2		Diameter:	6.75 inches				
Tool Comments: Shell Packer								

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut-In Tool	5.00			3059.00	
Hydrolic Tool	5.00			3064.00	
Safety Joint	2.00			3066.00	
Jars	6.00			3072.00	
Packer	5.00			3077.00	28.00 Bottom Of Top Packer
Packer	5.00			3082.00	
Anchor	5.00			3087.00	
Change Over Sub	0.75			3087.75	
Drill Pipe	31.67			3119.42	
Change Over Sub	0.75			3120.17	
Anchor	30.00			3150.17	
Recorder	1.00	8524	Inside	3151.17	
Recorder	1.00	6839	Inside	3152.17	
Bullnose	3.00			3155.17	73.17 Bottom Packers & Anchor

Total Tool Length: 101.17



DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17434

DST#: 5

ATTN: Bob

Test Start: 2013.03.25 @ 05:32:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 50.00 sec/qt

Water Loss: 7.20 in³

Resistivity: ohm.m

Salinity: 7000.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psia

Oil API:

Water Salinity:

deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
55.00	Oil spotted mud 100% Mud	0.772

Total Length: 55.00 ft

Total Volume: 0.772 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

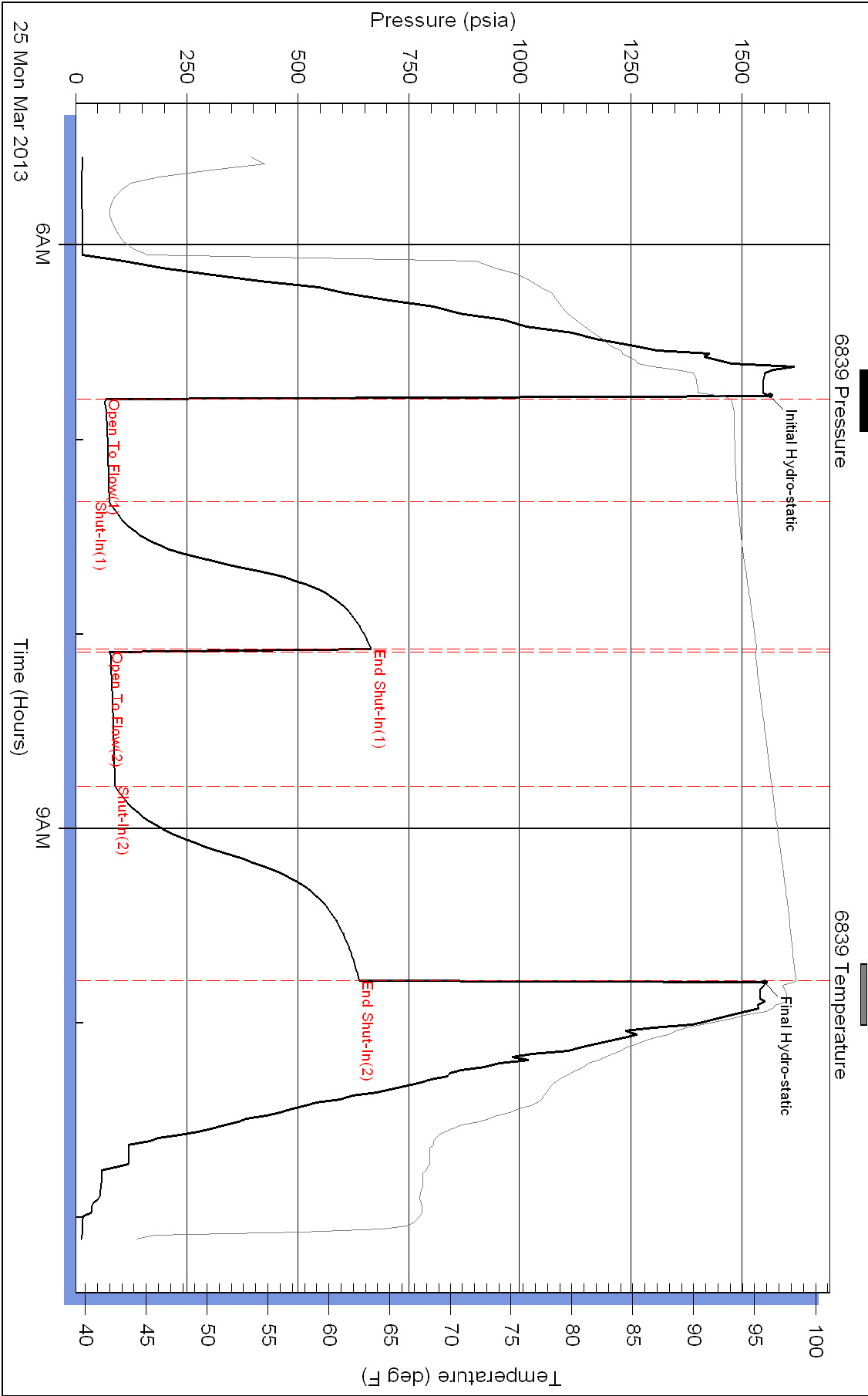
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



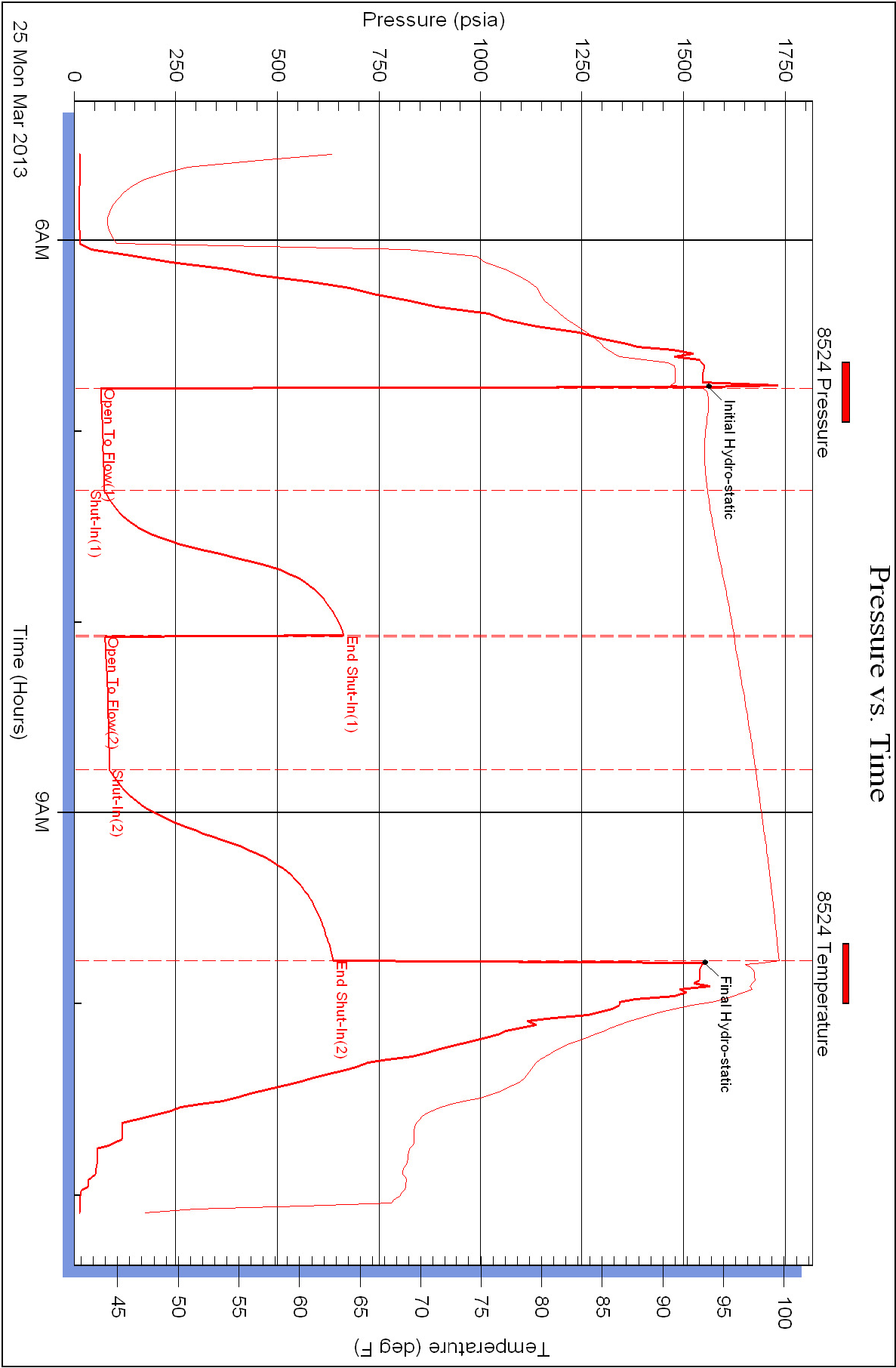
Serial #: 8524

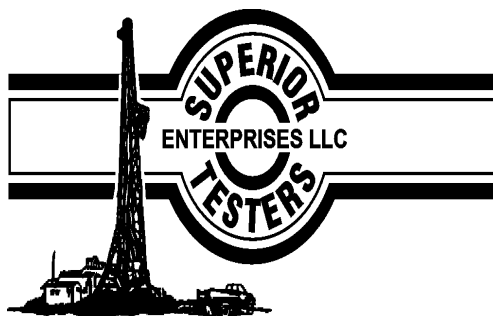
Inside

Ritchie Exploration

Scout P #8

DST Test Number: 5





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 East 22nd St. North #700
Wichita Kansas 67278

ATTN: Bob

Stout P #8

6-18s-10w-Rice

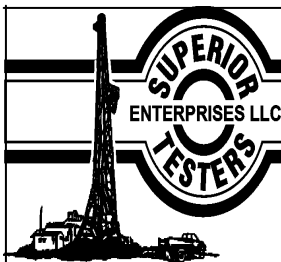
Start Date: 2013.03.26 @ 09:32:00

End Date: 2013.03.26 @ 13:50:00

Job Ticket #: 17435 DST #: 6

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

Printed: 2013.03.26 @ 14:07:23



DRILL STEM TEST REPORT

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17435

DST#: 6

ATTN: Bob

Test Start: 2013.03.26 @ 09:32:00

GENERAL INFORMATION:

Formation: **Lansing K-L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:44:30

Time Test Ended: 13:50:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Ellis

Unit No: 3315-Great Bend-70

Interval: 3172.00 ft (KB) To 3212.00 ft (KB) (TVD)

Reference Elevations: 1799.00 ft (KB)

Total Depth: 3212.00 ft (KB) (TVD)

1790.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 9.00 ft

Serial #: 6839 Outside

Press@RunDepth: 48.48 psia @ 3209.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.03.26

End Date:

2013.03.26

Last Calib.:

2013.03.26

Start Time: 09:32:00

End Time:

13:50:00

Time On Btm:

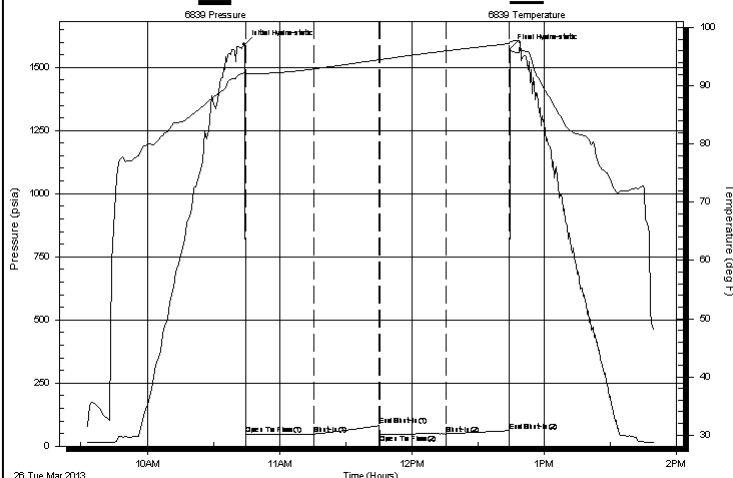
2013.03.26 @ 10:44:00

Time Off Btm:

2013.03.26 @ 12:44:30

TEST COMMENT: 1st Open 30 minutes Weak surface blow died off after 15 minutes .
1st Shut in 30 minutes No blow back
2nd Open 30 minutes Weak surface blow died off after 10 minutes.
2nd Shut in 30 minutes No blow back

Pressure vs. Time



PRESSURE SUMMARY

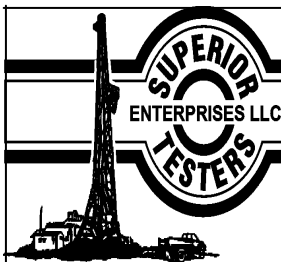
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1590.13	92.39	Initial Hydro-static
1	46.07	92.11	Open To Flow (1)
32	47.33	92.91	Shut-In(1)
61	81.42	94.50	End Shut-In(1)
62	48.09	94.52	Open To Flow (2)
92	48.48	96.03	Shut-In(2)
120	59.59	97.25	End Shut-In(2)
121	1574.09	97.62	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
4.00	Oil spotted mud mud 100%	0.06

Gas Rates

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

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17435

DST#: 6

ATTN: Bob

Test Start: 2013.03.26 @ 09:32:00

GENERAL INFORMATION:

Formation: **Lansing K-L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:44:30

Time Test Ended: 13:50:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Ellis

Unit No: 3315-Great Bend-70

Interval: **3172.00 ft (KB) To 3212.00 ft (KB) (TVD)**

Reference Elevations: 1799.00 ft (KB)

Total Depth: 3212.00 ft (KB) (TVD)

1790.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 9.00 ft

Serial #: **8524** Inside

Press@RunDepth: 61.91 psia @ 3208.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.03.26

End Date:

2013.03.26

Last Calib.:

2013.03.26

Start Time: 09:32:00

End Time:

13:49:30

Time On Btm:

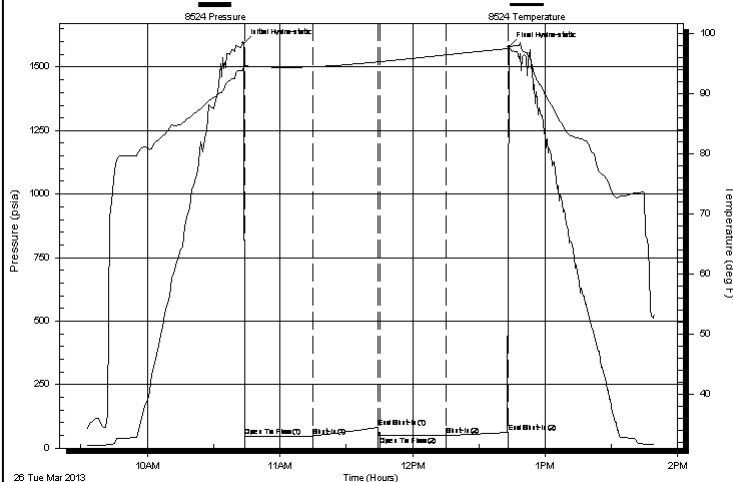
2013.03.26 @ 10:43:30

Time Off Btm:

2013.03.26 @ 12:43:30

TEST COMMENT: 1st Open 30 minutes Weak surface blow died off after 15 minutes .
1st Shut in 30 minutes No blow back
2nd Open 30 minutes Weak surface blow died off after 10 minutes.
2nd Shut in 30 minutes No blow back

Pressure vs. Time



PRESSURE SUMMARY

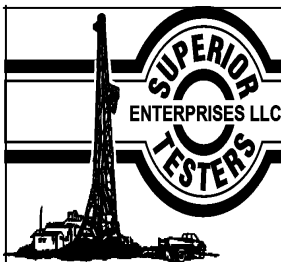
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1592.69	94.74	Initial Hydro-static
1	46.69	94.69	Open To Flow (1)
32	48.13	94.54	Shut-In(1)
61	81.21	95.36	End Shut-In(1)
62	48.58	95.38	Open To Flow (2)
92	49.14	96.51	Shut-In(2)
120	61.91	97.57	End Shut-In(2)
120	1580.03	98.15	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
4.00	Oil spotted mud mud 100%	0.06

Gas Rates

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

TOOL DIAGRAM

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17435

DST#: 6

ATTN: Bob

Test Start: 2013.03.26 @ 09:32:00

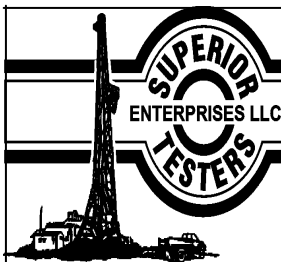
Tool Information

Drill Pipe:	Length:	3172.00 ft	Diameter:	3.80 inches	Volume:	44.49 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:	42000.00 lb
					Total Volume:	44.49 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		28.00 ft					String Weight: Initial	36000.00 lb
Depth to Top Packer:		3172.00 ft					Final	36000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		40.00 ft						
Tool Length:		68.00 ft						
Number of Packers:		2	Diameter:	6.75 inches				

Tool Comments: Shell Packer

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut-In Tool	5.00			3149.00	
Hydrolic Tool	5.00			3154.00	
Safety Joint	2.00			3156.00	
Jars	6.00			3162.00	
Packer	5.00			3167.00	28.00 Bottom Of Top Packer
Packer	5.00			3172.00	
Anchor	35.00			3207.00	
Recorder	1.00	8524	Inside	3208.00	
Recorder	1.00	6839	Outside	3209.00	
Bullnose	3.00			3212.00	40.00 Bottom Packers & Anchor
Total Tool Length:	68.00				



DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17435

DST#: 6

ATTN: Bob

Test Start: 2013.03.26 @ 09:32:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 50.00 sec/qt

Water Loss: 7.20 in³

Resistivity: ohm.m

Salinity: 7000.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

Water Salinity:

deg API

ppm

ft

bbl

psia

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
4.00	Oil spotted mud mud 100%	0.056

Total Length: 4.00 ft Total Volume: 0.056 bbl

Num Fluid Samples: 0

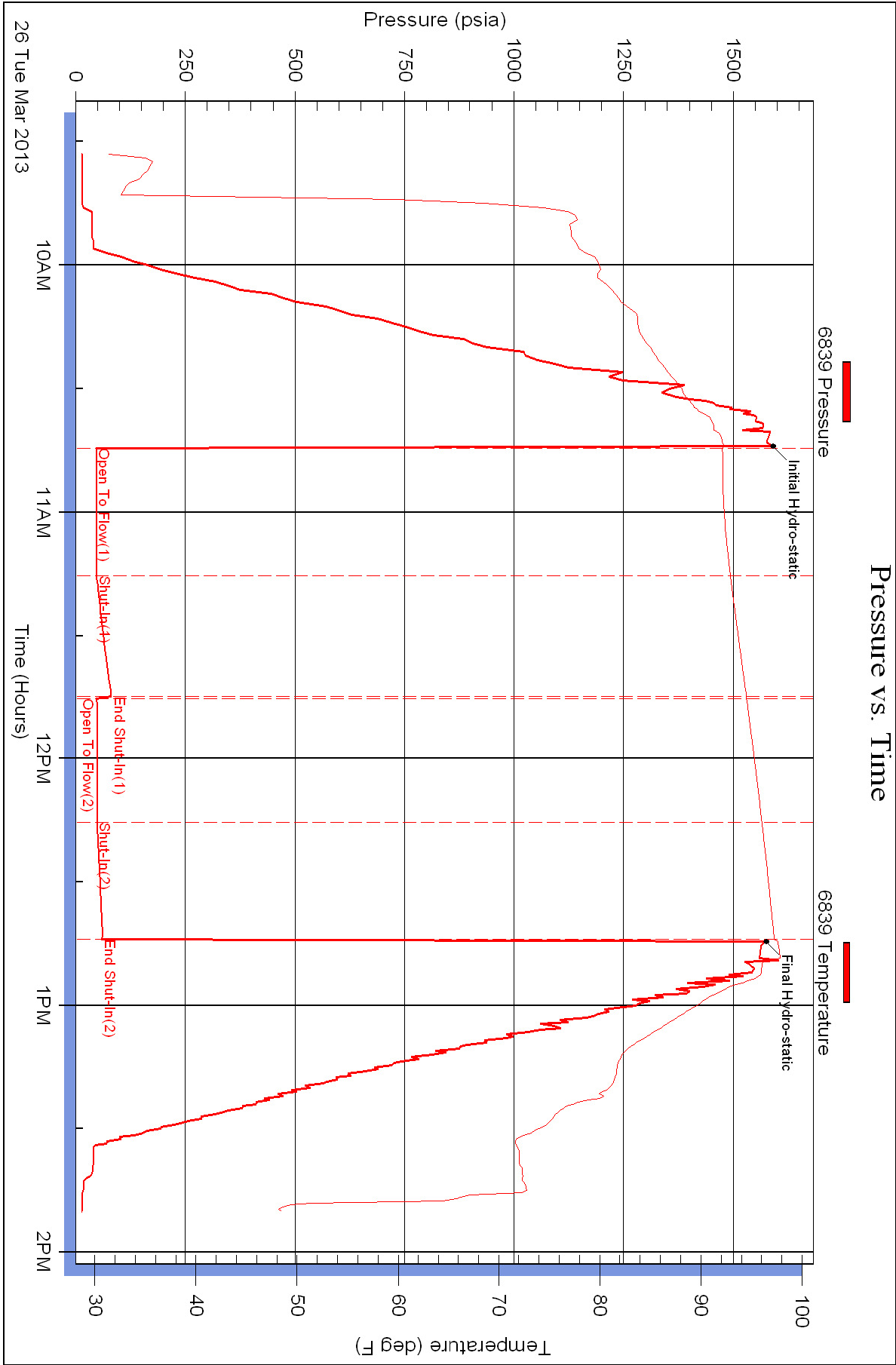
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



Serial #: 8524

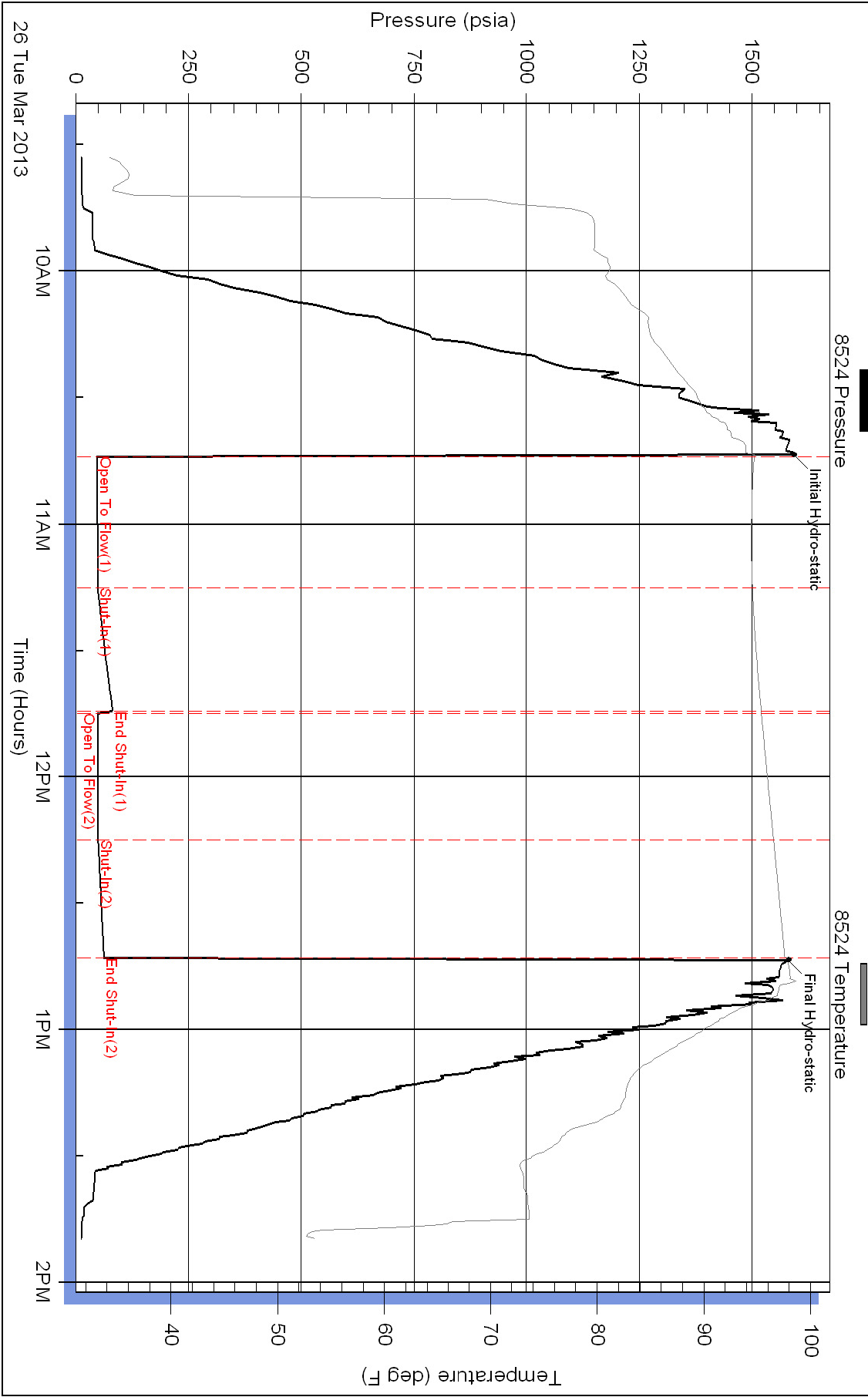
Inside

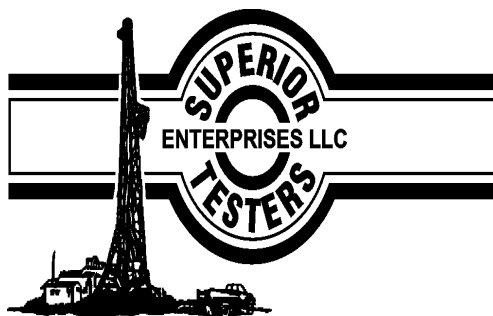
Ritchie Exploration

Scout P#8

DST Test Number: 6

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 East 22nd St. North #700
Wichita Kansas 67278

ATTN: Bob

Stout P #8

6-18s-10w-Rice

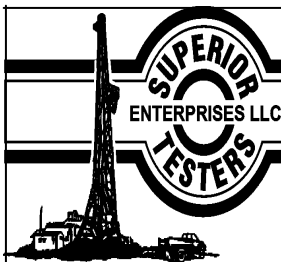
Start Date: 2013.03.26 @ 07:30:00

End Date: 2013.03.26 @ 13:04:00

Job Ticket #: 17436 DST #: 7

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

Printed: 2013.03.27 @ 02:19:46



DRILL STEM TEST REPORT

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17436

DST#: 7

ATTN: Bob

Test Start: 2013.03.26 @ 07:30:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:38:30

Time Test Ended: 13:04:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Ellis

Unit No: 3315-Great Bend-70

Interval: **3210.00 ft (KB) To 3225.00 ft (KB) (TVD)**

Reference Elevations: 1799.00 ft (KB)

Total Depth: 3225.00 ft (KB) (TVD)

1790.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 9.00 ft

Serial #: **6839** Outside

Press@RunDepth: 165.24 psia @ 3222.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.03.26

End Date:

2013.03.26

Last Calib.:

2013.03.27

Start Time: 07:30:00

End Time:

13:04:00

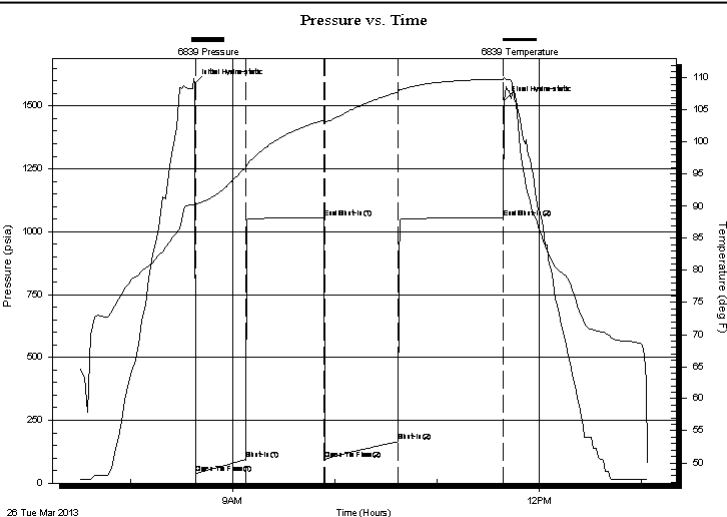
Time On Btm:

2013.03.26 @ 08:38:00

Time Off Btm:

2013.03.26 @ 11:39:30

TEST COMMENT: 1st Open 30 minutes Fair building blow built to the bottom of a 5 gallon bucket in 16 minutes.
1st Shut in 45 minutes No blow back
2nd Open 45 minutes Fair building blow built to the bottom of a 5 gallon bucket of water in 17 minutes.
2nd Shut in 60 minutes No blow back



PRESSURE SUMMARY

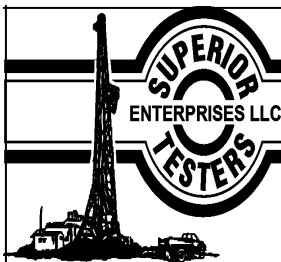
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1589.99	90.36	Initial Hydro-static
1	37.27	90.17	Open To Flow (1)
30	93.22	96.00	Shut-In (1)
76	1054.08	103.40	End Shut-In (1)
76	95.36	103.18	Open To Flow (2)
120	165.24	107.78	Shut-In (2)
181	1053.95	109.78	End Shut-In (2)
182	1521.84	110.09	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
244.00	Clean Oil 100%	3.42
61.00	Oil cut mud 60% Oil 40% Mud	0.86
0.00	Gravity of oil 41 corrected	0.00

Gas Rates

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

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17436

DST#: 7

ATTN: Bob

Test Start: 2013.03.26 @ 07:30:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:38:30

Time Test Ended: 13:04:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Ellis

Unit No: 3315-Great Bend-70

Interval: **3210.00 ft (KB) To 3225.00 ft (KB) (TVD)**

Reference Elevations: 1799.00 ft (KB)

Total Depth: 3225.00 ft (KB) (TVD)

1790.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 9.00 ft

Serial #: **8524** Inside

Press@RunDepth: 1054.04 psia @ 3221.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.03.26

End Date:

2013.03.26

Last Calib.:

2013.03.27

Start Time: 07:30:00

End Time:

13:03:30

Time On Btm:

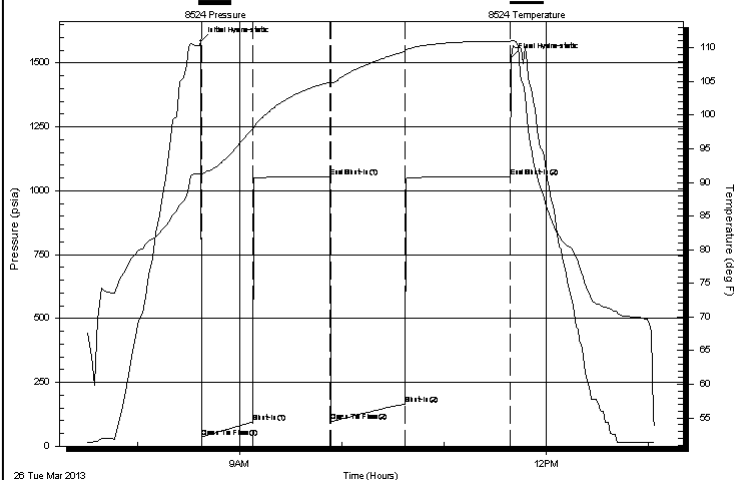
2013.03.26 @ 08:37:30

Time Off Btm:

2013.03.26 @ 11:39:30

TEST COMMENT: 1st Open 30 minutes Fair building blow built to the bottom of a 5 gallon bucket in 16 minutes.
1st Shut in 45 minutes No blow back
2nd Open 45 minutes Fair building blow built to the bottom of a 5 gallon bucket of water in 17 minutes.
2nd Shut in 60 minutes No blow back

Pressure vs. Time



PRESSURE SUMMARY

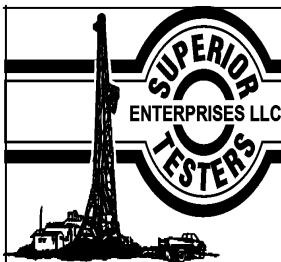
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1585.43	91.12	Initial Hydro-static
1	36.09	90.92	Open To Flow (1)
30	94.21	97.87	Shut-In(1)
76	1053.97	104.90	End Shut-In(1)
76	95.44	104.69	Open To Flow (2)
120	165.56	109.44	Shut-In(2)
182	1054.04	110.94	End Shut-In(2)
182	1522.01	111.08	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
244.00	Clean Oil 100%	3.42
61.00	Oil cut mud 60%Oil 40%Mud	0.86
0.00	Gravity of oil 41 corrected	0.00

Gas Rates

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

TOOL DIAGRAM

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17436

DST#: 7

ATTN: Bob

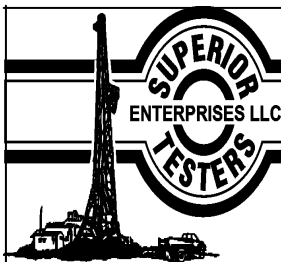
Test Start: 2013.03.26 @ 07:30:00

Tool Information

Drill Pipe:	Length:	3208.00 ft	Diameter:	3.80 inches	Volume:	45.00 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:	43000.00 lb
					Total Volume:	45.00 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		26.00 ft					String Weight: Initial	46000.00 lb
Depth to Top Packer:		3210.00 ft					Final	46000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		15.00 ft						
Tool Length:		43.00 ft						
Number of Packers:		2	Diameter:	6.75 inches				
Tool Comments:								

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut-In Tool	5.00			3187.00	
Hydrolic Tool	5.00			3192.00	
Safety Joint	2.00			3194.00	
Jars	6.00			3200.00	
Packer	5.00			3205.00	28.00 Bottom Of Top Packer
Packer	5.00			3210.00	
Anchor	10.00			3220.00	
Recorder	1.00	8524	Inside	3221.00	
Recorder	1.00	6839	Outside	3222.00	
Bullnose	3.00			3225.00	15.00 Bottom Packers & Anchor
Total Tool Length:	43.00				



DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

6-18s-10w-Rice

8100 East 22nd St. North #700
Wichita Kansas 67278

Stout P #8

Job Ticket: 17436

DST#: 7

ATTN: Bob

Test Start: 2013.03.26 @ 07:30:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 47.00 sec/qt

Water Loss: 8.40 in³

Resistivity: ohm.m

Salinity: 8100.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psia

Oil API:

Water Salinity:

deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
244.00	Clean Oil 100%	3.423
61.00	Oil cut mud 60%Oil 40%Mud	0.856
0.00	Gravity of oil 41 corrected	0.000

Total Length: 305.00 ft

Total Volume: 4.279 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

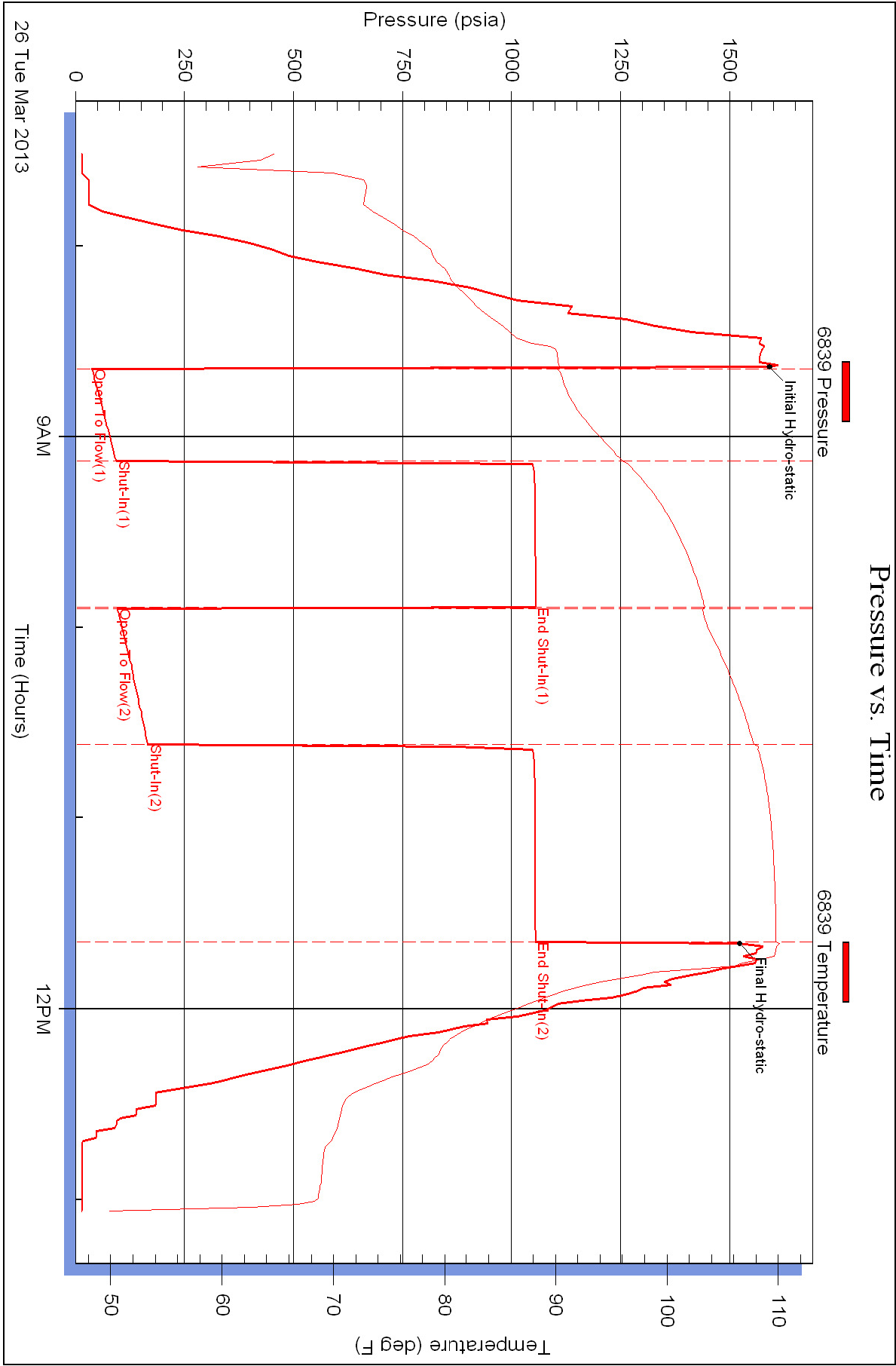
Serial #: 6839

Outside

Ritchie Exploration

Stout P#8

DST Test Number: 7



Pressure vs. Time

