



DRILL STEM TEST REPORT

Prepared For: **Valhalla Exploratoin LLC.**

8100 East 22nd St. N BLDG.
1800-2 Wichita Kansas
67226

ATTN: Adam Nighswonger

Hullman 1-14

14-22s-13w-Stafford

Start Date: 2013.10.29 @ 09:05:00

End Date: 2013.10.29 @ 16:38:30

Job Ticket #: 18528 DST #: 1

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

Printed: 2013.10.29 @ 14:55:32



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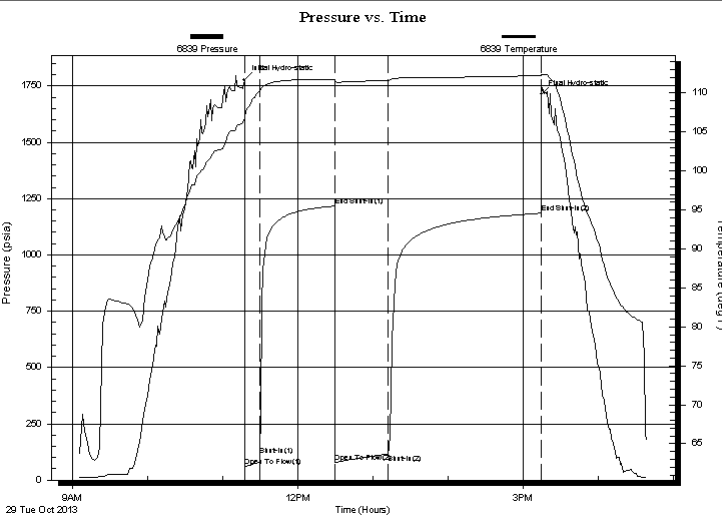
14-22s-13w-Stafford
Hullman 1-14
 Job Ticket: 18528 **DST#: 1**
 Test Start: 2013.10.29 @ 09:05:00

GENERAL INFORMATION:

Formation: **Lansin I-K**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 11:18:00 Tester: Dustin Ellis
 Time Test Ended: 16:38:30 Unit No: 3315-Great Bend-36
 Interval: **3534.00 ft (KB) To 3600.00 ft (KB) (TVD)** Reference Elevations: 1897.00 ft (KB)
 Total Depth: 3600.00 ft (KB) (TVD) 1889.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Poor KB to GR/CF: 8.00 ft

Serial #: 6839 Outside
 Press @ RunDepth: 116.80 psia @ 3597.83 ft (KB) Capacity: 5000.00 psia
 Start Date: 2013.10.29 End Date: 2013.10.29 Last Calib.: 2013.10.29
 Start Time: 09:05:00 End Time: 16:38:30 Time On Btm: 2013.10.29 @ 11:17:30
 Time Off Btm: 2013.10.29 @ 15:14:30

TEST COMMENT: 1st Open 10 minutes Fair building blow built to 3 inches into a 5 gallon bucket of water.
 1st Shut in 60 minutes No blow back
 2nd Open 45 minutes Fair building blow built to 4.5 inches.
 2nd Shut in 120 minutes No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1776.38	106.68	Initial Hydro-static
1	60.71	106.89	Open To Flow (1)
13	109.15	110.27	Shut-In(1)
72	1216.82	111.74	End Shut-In(1)
73	78.36	111.45	Open To Flow (2)
115	116.80	111.63	Shut-In(2)
237	1184.98	112.23	End Shut-In(2)
237	1712.47	112.37	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	Water 100%	0.42
41.00	Muddy water -Mud 15% Water 85%	0.58
0.00	Chlorides 18,000 .2ohms @58degrees	0.00

Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)



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DST#: 1

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GENERAL INFORMATION:

Formation: **Lansin I-K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:18:00

Time Test Ended: 16:38:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Ellis

Unit No: 3315-Great Bend-36

Interval: 3534.00 ft (KB) To 3600.00 ft (KB) (TVD)

Reference Elevations: 1897.00 ft (KB)

Total Depth: 3600.00 ft (KB) (TVD)

1889.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8524 Inside

Press @ RunDepth: 1188.88 psia @ 3596.83 ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.10.29

End Date: 2013.10.29

Last Calib.: 2013.10.29

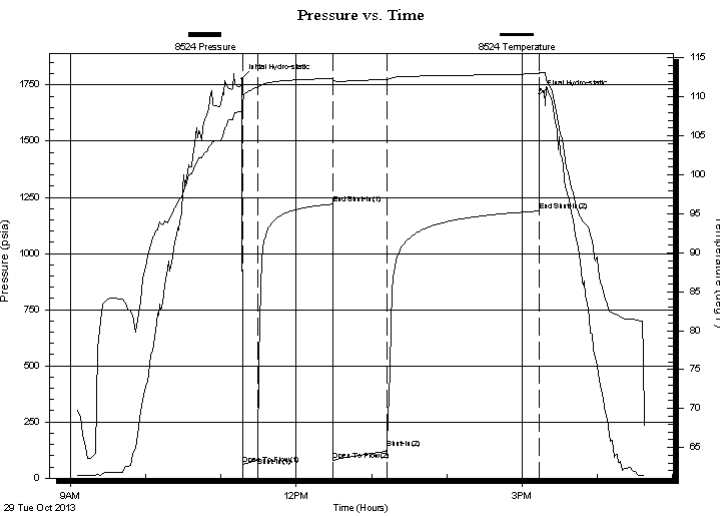
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PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1777.95	108.66	Initial Hydro-static
1	61.64	108.95	Open To Flow (1)
13	92.93	111.22	Shut-In(1)
72	1219.59	112.35	End Shut-In(1)
73	80.68	112.03	Open To Flow (2)
115	133.04	112.23	Shut-In(2)
237	1188.88	112.97	End Shut-In(2)
238	1707.97	113.13	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	Water 100%	0.42
41.00	Muddy water -Mud 15% Water 85%	0.58
0.00	Chlorides 18,000 .2ohms @58degrees	0.00

Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)



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TOOL DIAGRAM

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Tool Information

Drill Pipe:	Length: 3543.00 ft	Diameter: 3.80 inches	Volume: 49.70 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: 72000.00 lb
			<u>Total Volume: 49.70 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 51000.00 lb
Depth to Top Packer:	3534.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	66.83 ft			
Tool Length:	86.83 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			3519.00	
Hydraulic Tool	5.00			3524.00	
Packer	5.00			3529.00	20.00 Bottom Of Top Packer
Packer	5.00			3534.00	
Anchor	5.00			3539.00	
Change Over Sub	0.75			3539.75	
Drill Pipe	31.33			3571.08	
Change Over Sub	0.75			3571.83	
Anchor	24.00			3595.83	
Recorder	1.00	8524	Inside	3596.83	
Recorder	1.00	6839	Outside	3597.83	
Bull Plug	3.00			3600.83	66.83 Bottom Packers & Anchor

Total Tool Length: 86.83



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FLUID SUMMARY

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Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 58.00 sec/qt

Water Loss: 8.00 in³

Resistivity: ohm.m

Salinity: 7400.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psia

Oil API:

Water Salinity: deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	Water 100%	0.421
41.00	Muddy water -Mud 15% Water 85%	0.575
0.00	Chlorides 18,000 .2ohms @58degrees	0.000

Total Length: 71.00 ft Total Volume: 0.996 bbl

Num Fluid Samples: 0

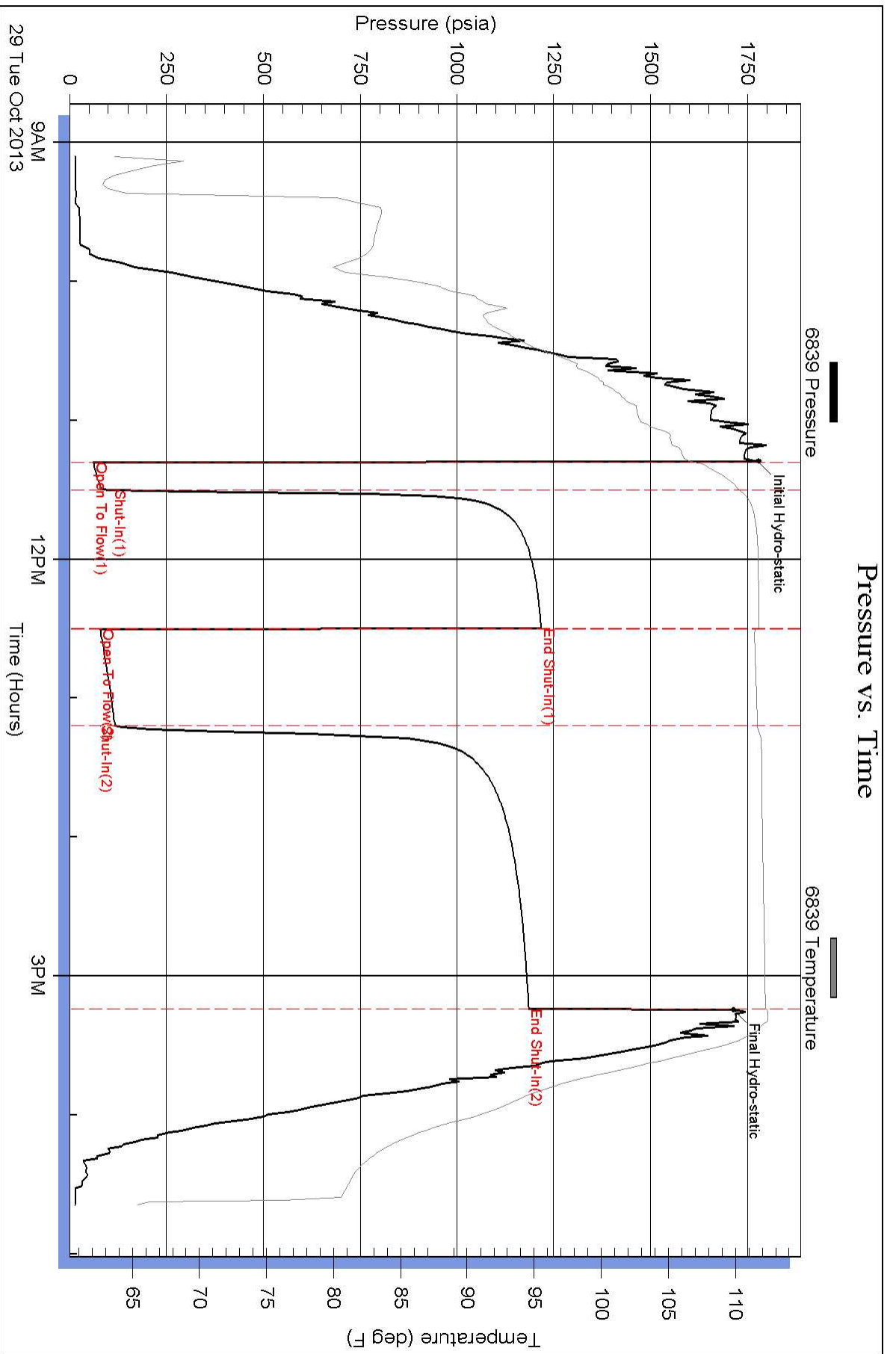
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



Pressure vs. Time

