



DRILL STEM TEST REPORT

Prepared For: **Valhalla Exploration LLC**

8100 East 22nd Street North
Building 1800-2
Wichita, Kansas 67226

ATTN: Derek Patterson

Barclay #1-3

Stafford 3-21s-14w

Start Date: 2014.01.09 @ 00:00:00

End Date: 2014.01.09 @ 00:00:00

Job Ticket #: 17112 DST #: 1

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

Printed: 2014.01.09 @ 22:02:52

Valhalla Exploration LLC
Stafford 3-21s-14w
Barclay #1-3
DST # 1
Viola
2014.01.09



DRILL STEM TEST REPORT

Valhalla Exploration LLC

Stafford 3-21s-14w

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Barclay #1-3

Job Ticket: 17112

DST#: 1

Test Start: 2014.01.09 @ 00:00:00

GENERAL INFORMATION:

Formation: **Viola**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:00:00

Time Test Ended: 00:00:00

Test Type: Conventional Straddle (Initial)

Tester: Gene Budig

Unit No: 3320

Interval: 3550.00 ft (KB) To 3600.00 ft (KB) (TVD)

Reference Elevations: 1931.00 ft (KB)

Total Depth: 3760.00 ft (KB) (TVD)

1923.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8405 Inside

Press@RunDepth: 220.69 psia @ 3598.24 ft (KB)

Capacity: 5000.00 psia

Start Date: 2014.01.09

End Date: 2014.01.09

Last Calib.: 2014.01.09

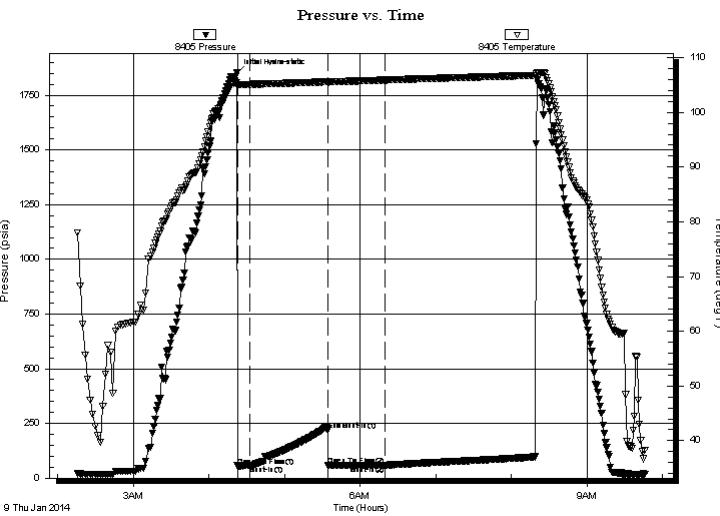
Start Time: 02:15:00

End Time: 09:46:00

Time On Btm: 2014.01.09 @ 04:22:00

Time Off Btm:

TEST COMMENT: 1st Opening 10 Minutes-Weak blow built to 1/2 inch and decreased to a weak surface blow
 1st Shut-In 60 Minutes-No blow back
 2nd Opening 45 Minutes-No blow
 2nd Shut-In 120 Minutes -No blow back



PRESSURE SUMMARY

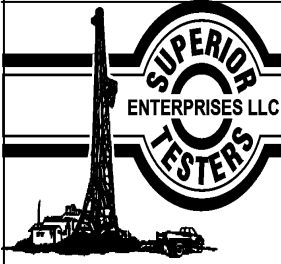
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1850.57	105.48	Initial Hydro-static
1	55.70	104.80	Open To Flow (1)
11	57.28	105.13	Shut-In(1)
72	220.69	105.60	End Shut-In(1)
73	58.47	105.57	Open To Flow (2)
118	58.34	105.92	Shut-In(2)

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Drilling mud	0.14
	2 inches of clean oil	

Gas Rates

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



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Tester: Gene Budig

Unit No: 3320

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Reference Elevations: 1931.00 ft (KB)

Total Depth: 3760.00 ft (KB) (TVD)

1923.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6999 Outside

Press@RunDepth: 90.75 psia @ 3599.24 ft (KB)

Capacity: 5000.00 psia

Start Date: 2014.01.09

End Date: 2014.01.09

Last Calib.: 2014.01.09

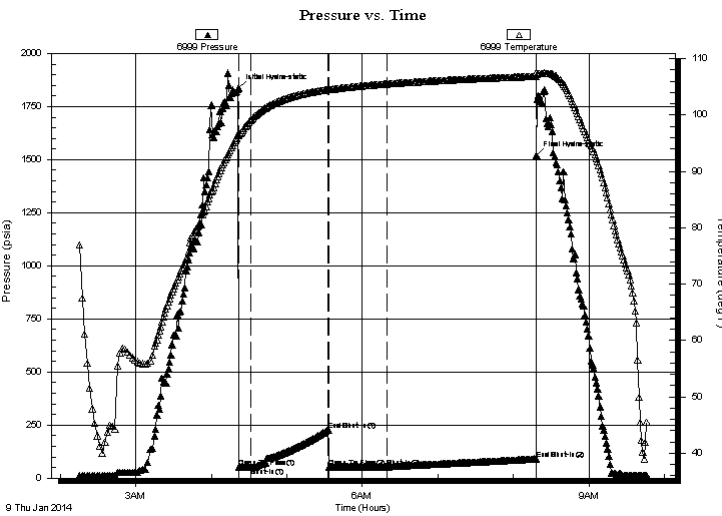
Start Time: 02:15:00

End Time: 09:45:53

Time On Btm: 2014.01.09 @ 04:21:23

Time Off Btm: 2014.01.09 @ 08:18:23

TEST COMMENT: 1st Opening 10 Minutes-Weak blow built to 1/2 inch and decreased to a weak surface blow
 1st Shut-In 60 Minutes-No blow back
 2nd Opening 45 Minutes-No blow
 2nd Shut-In 120 Minutes -No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1836.41	96.50	Initial Hydro-static
1	50.03	96.34	Open To Flow (1)
10	51.43	99.13	Shut-In(1)
72	228.06	104.53	End Shut-In(1)
72	52.73	104.52	Open To Flow (2)
118	52.77	105.52	Shut-In(2)
237	90.75	106.88	End Shut-In(2)
237	1519.41	107.58	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Drilling mud	0.14
	2 inches of clean oil	

Gas Rates

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



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TOOL DIAGRAM

Valhalla Exploration LLC

Stafford 3-21s-14w

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Barclay #1-3

Job Ticket: 17112

DST#: 1

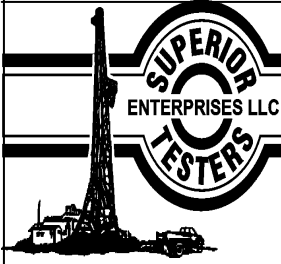
Test Start: 2014.01.09 @ 00:00:00

Tool Information

Drill Pipe:	Length: 3547.00 ft	Diameter: 3.80 inches	Volume: 49.76 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.86 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	84000.00 lb
			<u>Total Volume: 49.76 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial	57000.00 lb
Depth to Top Packer:	3550.00 ft			Final	57000.00 lb
Depth to Bottom Packer:	3600.24 ft				
Interval between Packers:	50.24 ft				
Tool Length:	243.17 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			3527.00	
Hydraulic Tool	5.00			3532.00	
Safety Joint	2.00			3534.00	
Jars	6.00			3540.00	
Top Packer	5.00			3545.00	
Packer	5.00			3550.00	28.00 Bottom Of Top Packer
Anchor	5.00			3555.00	
Change Over Sub	0.75			3555.75	
Drill Pipe	31.74			3587.49	
Change Over Sub	0.75			3588.24	
Anchor	9.00			3597.24	
Recorder	1.00	8405	Inside	3598.24	
Recorder	1.00	6999	Outside	3599.24	
Blank Off Sub	1.00			3600.24	50.24 Tool Interval
Packer	5.00			3605.24	
C.O. Sub	0.75			3605.99	
Drill Pipe	155.93			3761.92	
C.O. Sub	0.75			3762.67	
Recorder	1.00	8419	Outside	3763.67	
Bullnose	1.50			3765.17	164.93 Bottom Packers & Anchor

Total Tool Length: 243.17



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FLUID SUMMARY

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Mud and Cushion Information

Mud Type: Gel Chem
 Mud Weight: 10.00 lb/gal
 Viscosity: 48.00 sec/qt
 Water Loss: 8.80 in³
 Resistivity: ohm.m
 Salinity: 6700.00 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
10.00	Drilling mud	0.140
	2 inches of clean oil	

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:

