



DRILL STEM TEST REPORT

Prepared For: **Valhalla Exploration L.L.C**

8100 E 22nd St N bldg 1800-2 Wichita KS
67208

ATTN: Adam Nighswonger

Morrison#1-1

1-21-14w Stafford

Start Date: 2014.06.01 @ 16:55:00

End Date: 2014.06.01 @ 23:04:30

Job Ticket #: 19245 DST #: 1

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

Printed: 2014.06.02 @ 00:19:33



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Job Ticket: 19245

DST#: 1

Test Start: 2014.06.01 @ 16:55:00

GENERAL INFORMATION:

Formation: LKC " D-F"

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:19:30

Time Test Ended: 23:04:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Jared Scheck

Unit No: 3320 Great Bend - 25

Interval: 3360.00 ft (KB) To 3410.00 ft (KB) (TVD)

Reference Elevations: 1924.00 ft (KB)

Total Depth: 3410.00 ft (KB) (TVD)

1916.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8525

Press@RunDepth: 85.97 psig @ ft (KB)

Capacity: 5000.00 psig

Start Date: 2014.06.01 End Date: 2014.06.01

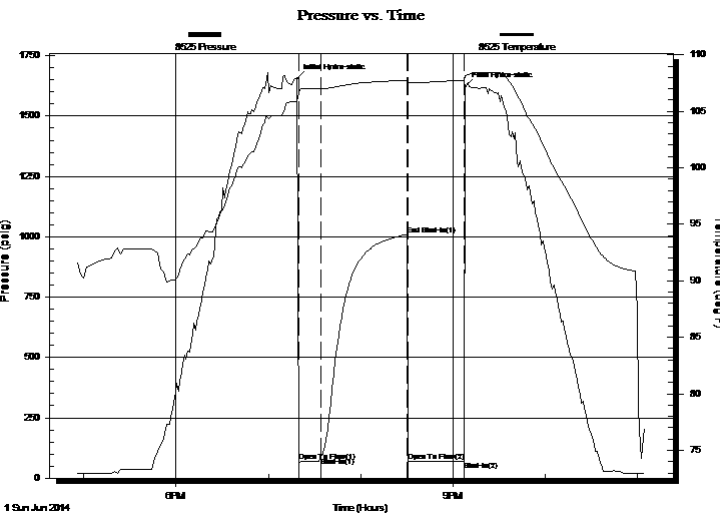
Last Calib.: 2014.06.02

Start Time: 16:55:00 End Time: 23:04:30

Time On Btm: 2014.06.01 @ 19:18:30

Time Off Btm: 2014.06.01 @ 21:08:00

TEST COMMENT: 1st Opening 10 Minutes-Weak blow built 3/4 inch into water
 1st Shut-in 60 Minutes-No blow back
 2nd Opening 30 Minutes-Weak blow did not build
 2nd Shut-in Pull Tool



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1654.00	105.83	Initial Hydro-static
1	68.33	106.58	Open To Flow (1)
16	85.97	107.00	Shut-In(1)
72	1008.79	107.76	End Shut-In(1)
73	70.42	107.57	Open To Flow (2)
109	71.00	107.76	Shut-In(2)
110	1622.87	108.16	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	spot oil mud 1%oil 99%mud	0.42

Gas Rates

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



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Reference Elevations: 1924.00 ft (KB)

Total Depth: 3410.00 ft (KB) (TVD)

1916.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 6666

Press@RunDepth: 1001.01 psig @ ft (KB)

Capacity: 5000.00 psig

Start Date: 2014.06.01

End Date: 2014.06.01

Last Calib.: 2014.06.02

Start Time: 16:55:00

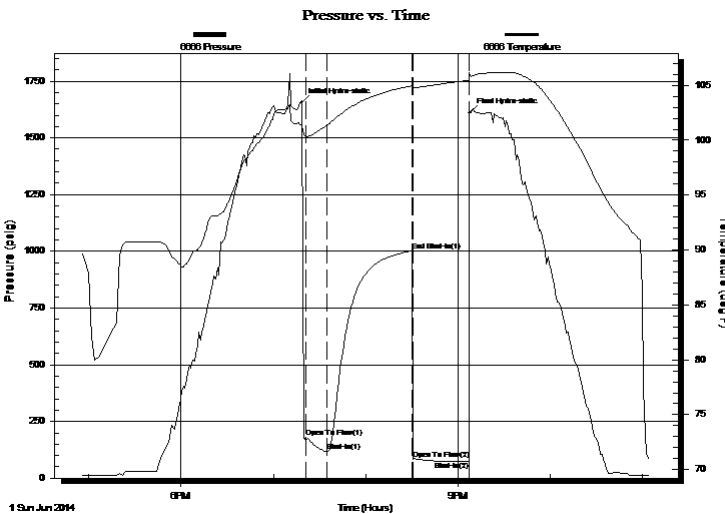
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 1st Shut-in 60 Minutes-No blow back
 2nd Opening 30 Minutes-Weak blow did not build
 2nd Shut-in Pull Tool

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1655.93	101.37	Initial Hydro-static
3	181.88	100.37	Open To Flow (1)
17	116.68	101.38	Shut-In(1)
72	1001.01	104.96	End Shut-In(1)
72	84.13	104.71	Open To Flow (2)
109	73.16	105.44	Shut-In(2)
109	1610.46	106.13	Final Hydro-static

Recovery

Gas Rates

Length (ft)	Description	Volume (bbl)
30.00	spot oil mud 1%oil 99%mud	0.42

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



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TOOL DIAGRAM

Valhalla Exploration L.L.C

1-21-14w Stafford

8100 E 22nd St N bldg 1800-2 Wichita KS 67208

Morrison#1-1

Job Ticket: 19245

DST#: 1

ATTN: Adam Nighswonger

Test Start: 2014.06.01 @ 16:55:00

Tool Information

Drill Pipe:	Length: 3357.00 ft	Diameter: 3.80 inches	Volume: 47.09 bbl	Tool Weight: 1000.00 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: 80000.00 lb
			<u>Total Volume: 47.09 bbl</u>	Tool Chased 10.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3360.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	78.00 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			3337.00	
Hydraulic Tool	5.00			3342.00	
Jars	6.00			3348.00	
Safety Joint	2.00			3350.00	
Top Packer	5.00			3355.00	
Packer	5.00			3360.00	28.00 Bottom Of Top Packer
Anchor	45.00			3405.00	
Recorder	1.00	8525	Inside	3406.00	
Recorder	1.00	6666	Outside	3407.00	
Bull Plug	3.00			3410.00	50.00 Anchor Tool
Total Tool Length:	78.00				



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FLUID SUMMARY

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Test Start: 2014.06.01 @ 16:55:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 42.00 sec/qt

Water Loss: 11.20 in³

Resistivity: ohm.m

Salinity: 6000.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	spot oil mud 1%oil 99%mud	0.421

Total Length: 30.00 ft Total Volume: 0.421 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

