



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: 2014.06.02 @ 11:45:00

End Date: 2014.06.02 @ 00:00:00

Job Ticket #: 19246 DST #: 2

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

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Test Start: 2014.06.02 @ 11:45:00

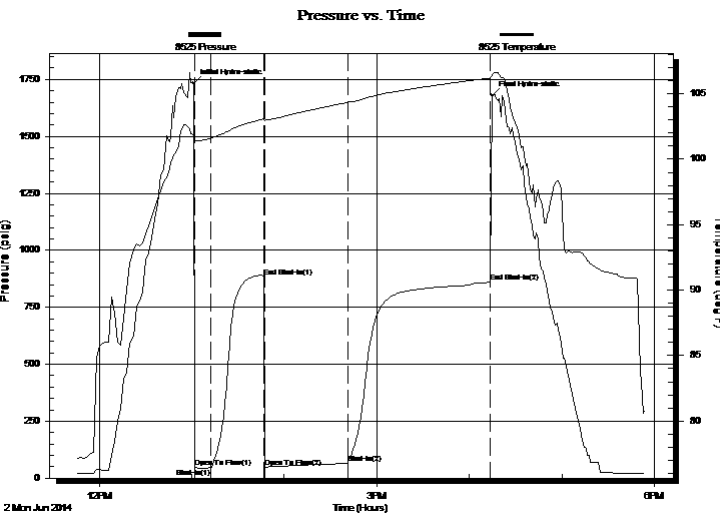
GENERAL INFORMATION:

Formation: **LKC "J"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 13:00:00 Tester: Jared Scheck
 Time Test Ended: 00:00:00 Unit No: 3335-Great Bend -25
Interval: 3476.00 ft (KB) To 3500.00 ft (KB) (TVD) Reference Elevations: 1924.00 ft (KB)
 Total Depth: 3500.00 ft (KB) (TVD) 1916.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

Serial #: 8525

Press@RunDepth: 859.26 psig @ ft (KB) Capacity: 5000.00 psig
 Start Date: 2014.06.02 End Date: 2014.06.02 Last Calib.: 2014.06.02
 Start Time: 11:45:00 End Time: 17:53:30 Time On Btm: 2014.06.02 @ 13:01:00
 Time Off Btm: 2014.06.02 @ 16:14:30

TEST COMMENT: 1st Opening 10 Minutes-Strong blow built bottom of bucket in 8 minutes
 1st Shut-in 45 Minutes-No blow back
 2nd Opening 45 Minutes-Strong blow built bottom of bucket in 1 minute2
 2nd Shut-in 90 Minutes-



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1732.01	101.83	Initial Hydro-static
1	47.36	101.46	Open To Flow (1)
12	45.12	101.63	Shut-In(1)
46	883.23	103.08	End Shut-In(1)
47	47.44	102.98	Open To Flow (2)
100	65.33	104.34	Shut-In(2)
193	859.26	106.21	End Shut-In(2)
194	1679.05	106.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
70.00	gas mud oil 10%gas 40%mud 50%oil	0.98
0.00	1150 feet gas in pipe	0.00

Gas Rates

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



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Job Ticket: 19246

DST#: 2

Test Start: 2014.06.02 @ 11:45:00

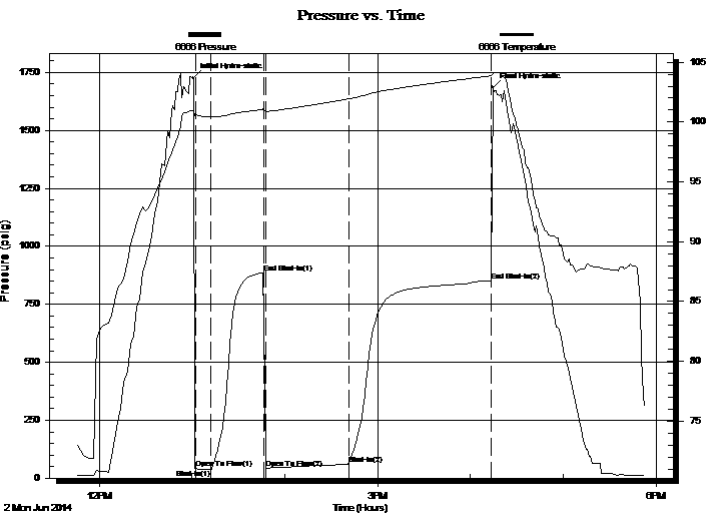
GENERAL INFORMATION:

Formation: **LKC "J"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 13:00:00
 Time Test Ended: 00:00:00
 Interval: **3476.00 ft (KB) To 3500.00 ft (KB) (TVD)**
 Total Depth: 3500.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Jared Scheck
 Unit No: 3335-Great Bend -25
 Reference Elevations: 1924.00 ft (KB)
 1916.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 6666

Press@RunDepth: 851.67 psig @ ft (KB) Capacity: 5000.00 psig
 Start Date: 2014.06.02 End Date: 2014.06.02 Last Calib.: 2014.06.02
 Start Time: 11:45:00 End Time: 17:53:00 Time On Btm: 2014.06.02 @ 13:01:00
 Time Off Btm: 2014.06.02 @ 16:14:30

TEST COMMENT: 1st Opening 10 Minutes-Strong blow built bottom of bucket in 8 minutes
 1st Shut-in 45 Minutes-No blow back
 2nd Opening 45 Minutes-Strong blow built bottom of bucket in 1 minute2
 2nd Shut-in 90 Minutes-



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1726.79	100.96	Initial Hydro-static
1	42.19	100.65	Open To Flow (1)
11	40.04	100.42	Shut-In(1)
45	886.50	101.07	End Shut-In(1)
47	42.52	100.90	Open To Flow (2)
100	59.51	101.92	Shut-In(2)
193	851.67	103.86	End Shut-In(2)
194	1685.66	104.06	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
70.00	gas mud oil 10%gas 40%mud 50%oil	0.98
0.00	1150 feet gas in pipe	0.00

Gas Rates

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



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TOOL DIAGRAM

Valhalla Exploration L.L.C

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ATTN: Adam Nighswonger

Test Start: 2014.06.02 @ 11:45:00

Tool Information

Drill Pipe:	Length: 3453.00 ft	Diameter: 3.80 inches	Volume: 48.44 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: lb
			Total Volume: 48.44 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3476.00 ft			Final lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	52.00 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			3453.00	
Hydraulic Tool	5.00			3458.00	
Jars	6.00			3464.00	
Safety Joint	2.00			3466.00	
Top Packer	5.00			3471.00	
Packer	5.00			3476.00	28.00 Bottom Of Top Packer
Anchor	19.00			3495.00	
Recorder	1.00	8525	Inside	3496.00	
Recorder	1.00	6666	Outside	3497.00	
Bull Plug	3.00			3500.00	24.00 Anchor Tool
Total Tool Length:	52.00				



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FLUID SUMMARY

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Test Start: 2014.06.02 @ 11:45:00

Mud and Cushion Information

Mud Type: Gel Chem
 Mud Weight: 9.00 lb/gal
 Viscosity: 432.00 sec/qt
 Water Loss: 9.60 in³
 Resistivity: ohm.m
 Salinity: 7500.00 ppm
 Filter Cake: 1.00 inches

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

Oil API: deg API
 Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
70.00	gas mud oil 10%gas 40%mud 50%oil	0.982
0.00	1150 feet gas in pipe	0.000

Total Length: 70.00 ft Total Volume: 0.982 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

