



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: 2014.06.03 @ 10:00:00

End Date: 2014.06.03 @ 16:17:30

Job Ticket #: 19247 DST #: 3

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

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Job Ticket: 19247

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Test Start: 2014.06.03 @ 10:00:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:24:30

Time Test Ended: 16:17:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Jared Scheck

Unit No: 3335-Great Bend -25

Interval: **3574.00 ft (KB) To 3634.00 ft (KB) (TVD)**

Reference Elevations: 1924.00 ft (KB)

Total Depth: 3634.00 ft (KB) (TVD)

1916.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6666

Press@RunDepth: 495.58 psig @ ft (KB)

Capacity: 5000.00 psig

Start Date: 2014.06.03

End Date: 2014.06.03

Last Calib.: 2014.06.03

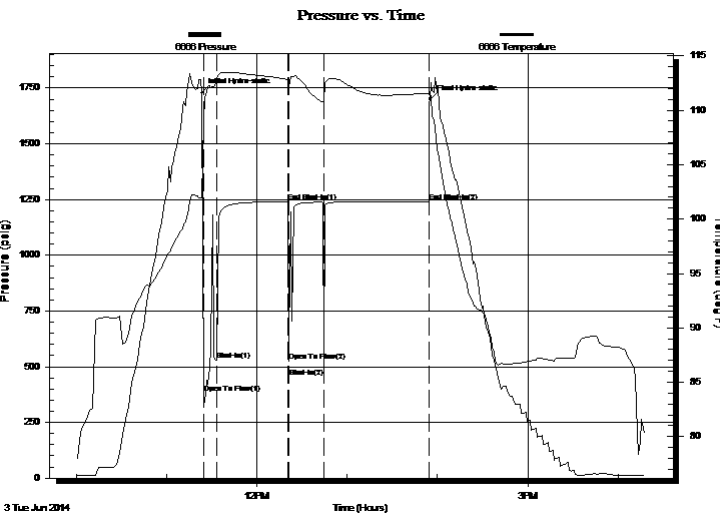
Start Time: 10:00:00

End Time: 16:17:30

Time On Btm: 2014.06.03 @ 11:23:30

Time Off Btm: 2014.06.03 @ 13:55:00

TEST COMMENT: 1st Opening 10 Minutes-Strong blow built bottom of bucket in 1 minute
 1st Shut-in 45 Minutes-4 inch blow back
 2nd Opening 30 Minutes-Strong blow buyilt bottom of bucket in 2 minutes
 2nd Shut-in 60 Minutes-1/2 inch blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1728.04	101.98	Initial Hydro-static
1	382.78	108.95	Open To Flow (1)
10	527.92	112.95	Shut-In(1)
57	1239.69	112.83	End Shut-In(1)
58	524.66	112.03	Open To Flow (2)
81	495.58	110.67	Shut-In(2)
151	1241.17	111.53	End Shut-In(2)
152	1699.26	111.57	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
745.00	gas oil 10%gas 90%oil	10.45
0.00	250 gas in pipe	0.00
0.00	gravity oil 31	0.00

Gas Rates

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



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Time Test Ended: 16:17:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Jared Scheck

Unit No: 3335-Great Bend -25

Interval: 3574.00 ft (KB) To 3634.00 ft (KB) (TVD)

Reference Elevations: 1924.00 ft (KB)

Total Depth: 3634.00 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: 1252.75 psig @ ft (KB)

Capacity: 5000.00 psig

Start Date: 2014.06.03

End Date: 2014.06.03

Last Calib.: 2014.06.03

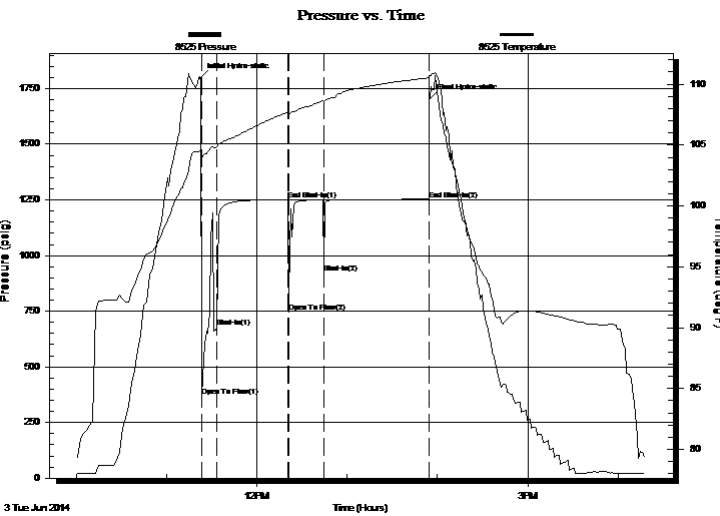
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 2nd Shut-in 60 Minutes-1/2 inch blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1797.53	104.53	Initial Hydro-static
1	370.12	103.87	Open To Flow (1)
11	678.85	104.85	Shut-In(1)
58	1250.17	107.68	End Shut-In(1)
59	747.78	107.51	Open To Flow (2)
82	920.45	108.54	Shut-In(2)
152	1252.75	110.52	End Shut-In(2)
153	1704.15	110.67	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
745.00	gas oil 10%gas 90%oil	10.45
0.00	250 gas in pipe	0.00
0.00	gravity oil 31	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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Morrison#1-1

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DST#: 3

ATTN: Adam Nighswonger

Test Start: 2014.06.03 @ 10:00:00

Tool Information

Drill Pipe:	Length: 3576.00 ft	Diameter: 3.80 inches	Volume: 50.16 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: 70000.00 lb
			Total Volume: 50.16 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	3574.00 ft			Final 59000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	60.00 ft			
Tool Length:	88.00 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			3551.00	
Hydraulic Tool	5.00			3556.00	
Jars	6.00			3562.00	
Safety Joint	2.00			3564.00	
Top Packer	5.00			3569.00	
Packer	5.00			3574.00	28.00 Bottom Of Top Packer
Anchor	0.00			3574.00	
Change Over Sub	0.75			3574.75	
Drill Pipe	31.50			3606.25	
Change Over Sub	0.75			3607.00	
Anchor	22.00			3629.00	
Recorder	1.00	6666	Inside	3630.00	
Recorder	1.00	8525	Outside	3631.00	
Bull Plug	3.00			3634.00	60.00 Anchor Tool

Total Tool Length: 88.00



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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: 56.00 sec/qt

Water Loss: 8.80 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
745.00	gas oil 10%gas 90%oil	10.450
0.00	250 gas in pipe	0.000
0.00	gravity oil 31	0.000

Total Length: 745.00 ft Total Volume: 10.450 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

