



## DRILL STEM TEST REPORT

Prepared For: **Valhalla Exploration L.L.C**  
133 N Glendale Wichita KS 67206

ATTN: Derek Patterson

### **Helmerts#1-1**

#### **1-22s-12w Stafford**

Start Date: 2012.05.09 @ 20:00:00

End Date: 2012.05.10 @ 02:21:30

Job Ticket #: 17138                      DST #: 4

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

Printed: 2012.05.10 @ 03:26:28



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 Job Ticket: 17138 **DST#: 4**  
 Test Start: 2012.05.09 @ 20:00:00

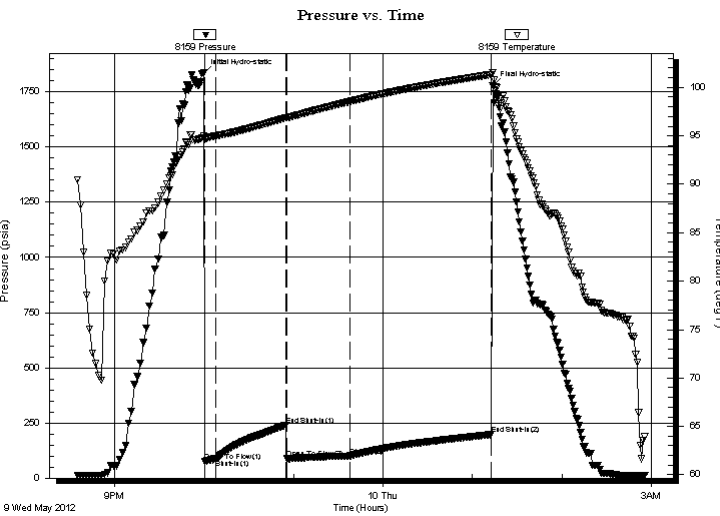
## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 21:26:30 Tester: Jared Scheck  
 Time Test Ended: 02:21:30 Unit No: 3320-50-Great Bend  
 Interval: **3522.00 ft (KB) To 3592.00 ft (KB) (TVD)** Reference Elevations: 1814.00 ft (KB)  
 Total Depth: 3592.00 ft (KB) (TVD) 1807.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Poor KB to GR/CF: 7.00 ft

## Serial #: 8159

Press @ RunDepth: 100.54 psia @ ft (KB) Capacity: 5000.00 psia  
 Start Date: 2012.05.09 End Date: 2012.05.10 Last Calib.: 2012.05.10  
 Start Time: 20:34:00 End Time: 02:55:30 Time On Btm: 2012.05.09 @ 21:59:30  
 Time Off Btm: 2012.05.10 @ 01:13:30

**TEST COMMENT:** 1st Opening 5 Minutes-Weak blow built 2 1/4 inches into water in 5 minutes Tool chased 2 feet  
 1st Shut-in 45 Minutes-No blow back  
 2nd Opening 45 Minutes-Weak blow built 4 inches into water in 45 minutes  
 2nd Shut-in 90 Minutes-No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1835.02	95.00	Initial Hydro-static
1	76.98	94.63	Open To Flow (1)
8	85.01	94.99	Shut-In(1)
55	240.39	96.85	End Shut-In(1)
56	88.32	96.85	Open To Flow (2)
99	100.54	98.56	Shut-In(2)
193	197.85	101.33	End Shut-In(2)
194	1779.00	101.55	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
90.00	Muddy oil 20%Oil 80%Mud	0.44

## Gas Rates

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



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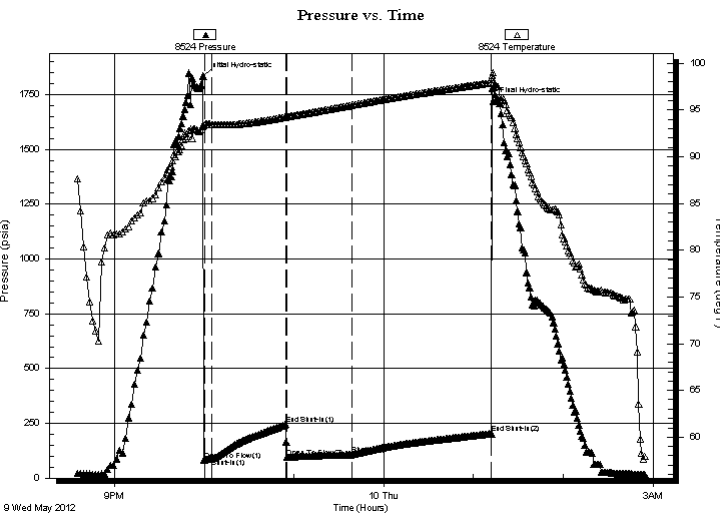
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 Unit No: 3320-50-Great Bend  
 Interval: **3522.00 ft (KB) To 3592.00 ft (KB) (TVD)**  
 Reference Elevations: 1814.00 ft (KB)  
 Total Depth: 3592.00 ft (KB) (TVD)  
 1807.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Poor  
 KB to GR/CF: 7.00 ft

## Serial #: 8524

Press @ RunDepth: 203.13 psia @ ft (KB)      Capacity: 5000.00 psia  
 Start Date: 2012.05.09      End Date: 2012.05.10      Last Calib.: 2012.05.10  
 Start Time: 20:34:00      End Time: 02:55:00      Time On Btm: 2012.05.09 @ 21:59:00  
 Time Off Btm: 2012.05.10 @ 01:13:00

**TEST COMMENT:** 1st Opening 5 Minutes-Weak blow built 2 1/4 inches into water in 5 minutes Tool chased 2 feet  
 1st Shut-in 45 Minutes-No blow back  
 2nd Opening 45 Minutes-Weak blow built 4 inches into water in 45 minutes  
 2nd Shut-in 90 Minutes-No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1834.19	93.39	Initial Hydro-static
1	83.76	93.46	Open To Flow (1)
6	90.39	93.46	Shut-In(1)
55	244.45	94.24	End Shut-In(1)
56	94.95	94.28	Open To Flow (2)
100	107.87	95.51	Shut-In(2)
193	203.13	97.92	End Shut-In(2)
194	1719.56	99.03	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
90.00	Muddy oil 20%Oil 80%Mud	0.44

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Valhalla Exploration L.L.C  
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**1-22s-12w Stafford**  
**Helmerts#1-1**  
 Job Ticket: 17138      **DST#: 4**  
 Test Start: 2012.05.09 @ 20:00:00

**Tool Information**

Drill Pipe:	Length: 3399.00 ft	Diameter: 3.80 inches	Volume: 47.68 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: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume: 48.27 bbl</u>	Tool Chased	2.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3522.00 ft			Final	50000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	70.00 ft				
Tool Length:	98.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments: Tool chased 2 feet to bottom

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
SHut-InTool	5.00		Inside	3499.00	
Hydraulic Tool	5.00			3504.00	
Jars	6.00			3510.00	
Safety Joint	2.00			3512.00	
Packer	5.00			3517.00	28.00      Bottom Of Top Packer
Packer	5.00			3522.00	
Anchor	0.00			3522.00	
Change Over Sub	0.75			3522.75	
Drill Pipe	30.50		Outside	3553.25	
Change Over Sub	0.75		Outside	3554.00	
Anchor	33.00			3587.00	
Recorder	1.00	8159	Inside	3588.00	
Recorder	1.00	8524	Outside	3589.00	
Bullnose	3.00			3592.00	70.00      Bottom Packers & Anchor

**Total Tool Length: 98.00**



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## FLUID SUMMARY

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### Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.00 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psia		
Salinity: 9300.00 ppm			
Filter Cake: 1.00 inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	Muddy oil 20%Oil 80%Mud	0.443

Total Length: 90.00 ft      Total Volume: 0.443 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

