



## 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: 2012.05.10 @ 20:45:00

End Date: 2012.05.11 @ 04:09:00

Job Ticket #: 17140                      DST #: 5

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

Printed: 2012.05.11 @ 05:12:15

Valhalla Exploration L.L.C  
1-22s-12w Stafford  
Helmerts#1-1  
DST # 5  
Viola  
2012.05.10



# DRILL STEM TEST REPORT

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 133 N Glendale Wichita KS 67206  
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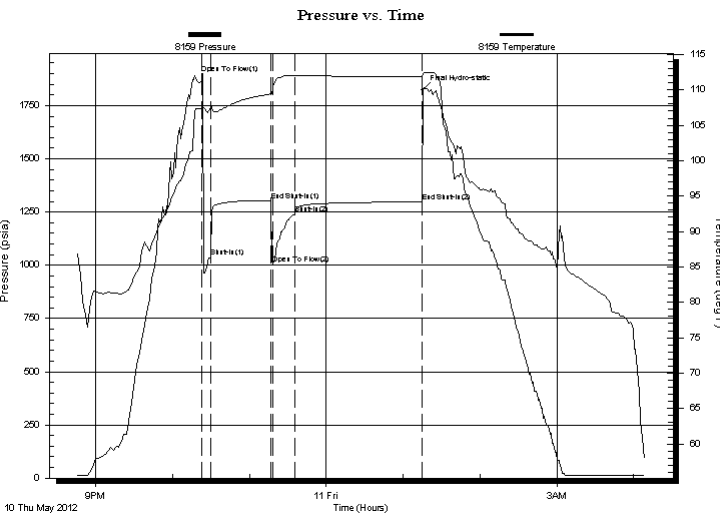
**1-22s-12w Stafford**  
**Helmerts#1-1**  
 Job Ticket: 17140 **DST#: 5**  
 Test Start: 2012.05.10 @ 20:45:00

## GENERAL INFORMATION:

Formation: **Viola**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Straddle (Initial)  
 Time Tool Opened: 22:23:00 Tester: Jared Scheck  
 Time Test Ended: 04:09:00 Unit No: 3320-Great Bend-50  
 Interval: **3460.00 ft (KB) To 3528.00 ft (KB) (TVD)** Reference Elevations: 1814.00 ft (KB)  
 Total Depth: 3711.00 ft (KB) (TVD) 1807.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 7.00 ft

**Serial #: 8159 Inside**  
 Press @ Run Depth: 1239.72 psia @ 3534.00 ft (KB) Capacity: 5000.00 psia  
 Start Date: 2012.05.10 End Date: 2012.05.11 Last Calib.: 2012.05.11  
 Start Time: 20:45:00 End Time: 04:09:00 Time On Btm:  
 Time Off Btm: 2012.05.11 @ 01:15:30

**TEST COMMENT:** 1st Opening 5 Minutes-Strong blow built bottom of bucket in 1 minute  
 1st Shut-in 45 Minutes-No blow back  
 2nd Opening 30 Minutes-Strong blow built bottom of bucket in 1 minute  
 2nd Shut-in 90 Minutes-No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1898.60	107.38	Open To Flow (1)
7	1037.15	107.77	Shut-In(1)
54	1304.59	109.41	End Shut-In(1)
55	1005.82	110.12	Open To Flow (2)
73	1239.72	112.06	Shut-In(2)
172	1298.40	111.93	End Shut-In(2)
173	1823.16	112.16	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
2640.00	muddy water 30% mud 70% water	35.94
0.00	Chlorides 25,000	0.00
0.00	Resistivity .3 @ 65 degrees	0.00

## Gas Rates

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



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**1-22s-12w Stafford**  
**Helmerts#1-1**  
 Job Ticket: 17140 **DST#: 5**  
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Formation: **Viola**  
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 Test Type: Conventional Straddle (Initial)  
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 Total Depth: 3711.00 ft (KB) (TVD) 1807.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 7.00 ft

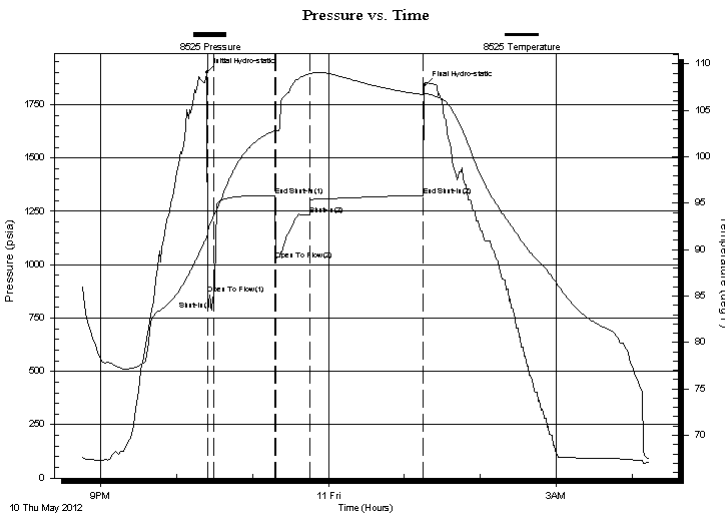
## Serial #: 8525

## Outside

Press @ Run Depth: 1323.13 psia @ 3527.25 ft (KB) Capacity: psia  
 Start Date: 2012.05.10 End Date: 2012.05.11 Last Calib.: 1899.12.30  
 Start Time: 20:45:00 End Time: 04:14:00 Time On Btm: 2012.05.10 @ 22:24:00  
 Time Off Btm: 2012.05.11 @ 01:16:00

**TEST COMMENT:** 1st Opening 5 Minutes-Strong blow built bottom of bucket in 1 minute  
 1st Shut-in 45 Minutes-No blow back  
 2nd Opening 30 Minutes-Strong blow built bottom of bucket in 1 minute  
 2nd Shut-in 90 Minutes-No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1899.69	91.42	Initial Hydro-static
1	863.02	91.94	Open To Flow (1)
6	832.05	93.60	Shut-In(1)
54	1323.75	102.78	End Shut-In(1)
55	1023.80	102.74	Open To Flow (2)
81	1232.27	108.93	Shut-In(2)
171	1323.13	106.69	End Shut-In(2)
172	1839.50	106.79	Final Hydro-static

## Recovery

## Gas Rates

Length (ft)	Description	Volume (bbl)
2640.00	muddy water 30% mud 70% water	35.94
0.00	Chlorides 25,000	0.00
0.00	Resistivity .3 @ 65 degrees	0.00

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Valhalla Exploration L.L.C  
 133 N Glendale Wichita KS 67206  
 A T T N : Derek Patterson

**1-22s-12w Stafford**  
**Helmers#1-1**  
 Job Ticket: 17140      **DST#: 5**  
 Test Start: 2012.05.10 @ 20:45:00

**Tool Information**

Drill Pipe:	Length: 3342.00 ft	Diameter: 3.80 inches	Volume: 46.88 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:	70000.00 lb
			<u>Total Volume: 47.47 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3460.00 ft			Final	62000.00 lb
Depth to Bottom Packer:	3528.00 ft				
Interval between Packers:	68.00 ft				
Tool Length:	286.00 ft				
Number of Packers:	3	Diameter:	6.75 inches		
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
SHut-InTool	5.00		Inside	3437.00	
Hydraulic Tool	5.00			3442.00	
Jars	6.00			3448.00	
Safety Joint	2.00			3450.00	
Packer	5.00			3455.00	28.00      Bottom Of Top Packer
Packer	5.00			3460.00	
Anchor	66.50			3526.50	
Change Over Sub	0.75			3527.25	
Recorder	0.00	8525	Outside	3527.25	
blank off Sub	0.75		Outside	3528.00	68.00      Tool Interval
Packer	5.00			3533.00	
Recorder	1.00	8159	Inside	3534.00	
Recorder	1.00		Outside	3535.00	
tail pipe	183.00			3718.00	190.00      Bottom Packers & Anchor

**Total Tool Length: 286.00**



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## FLUID SUMMARY

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 Job Ticket: 17140      **DST#: 5**  
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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			

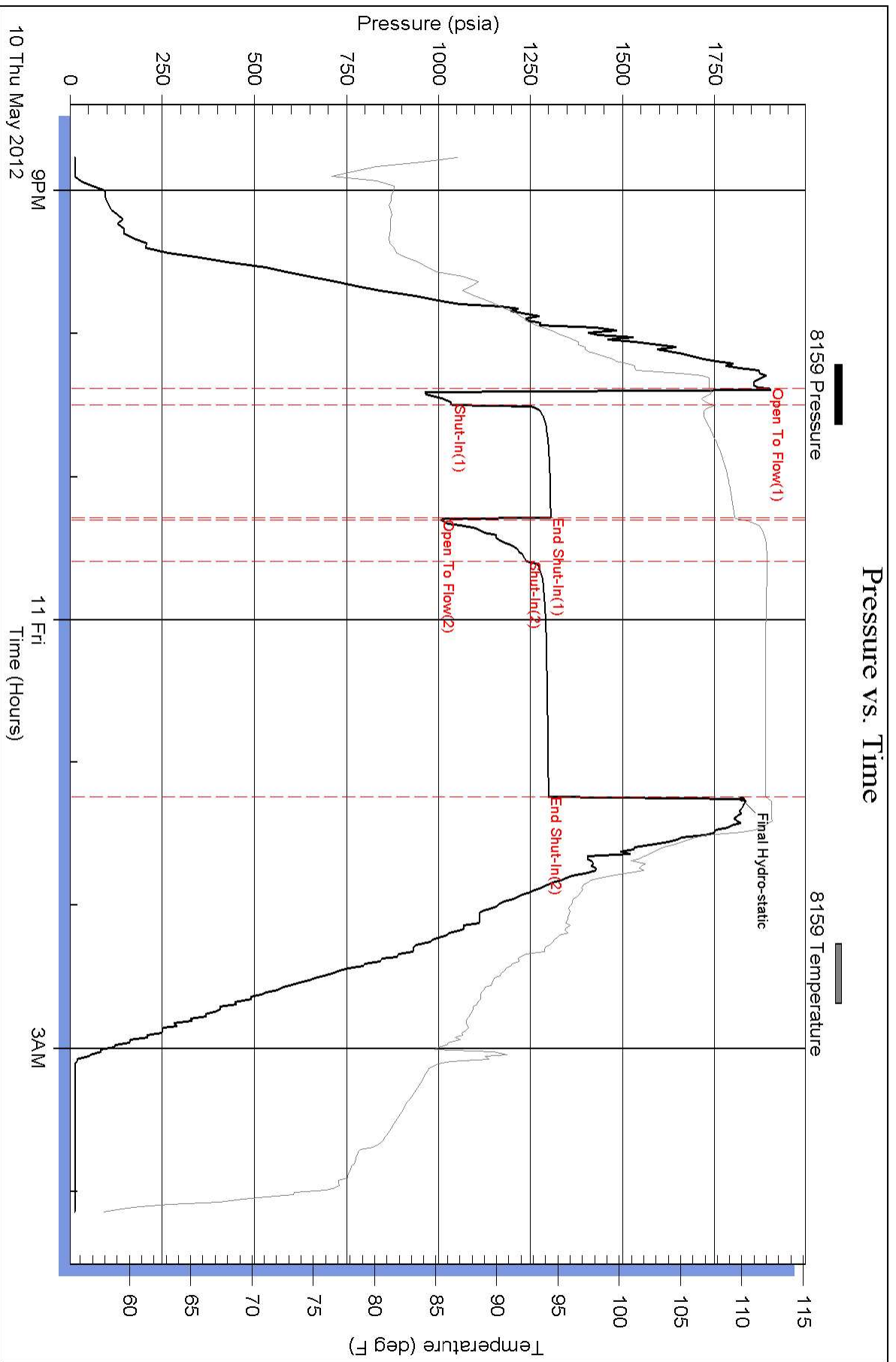
### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2640.00	muddy w ater 30%mud 70%w ater	35.939
0.00	Chlorides 25,000	0.000
0.00	Resistivity .3 @ 65 degrees	0.000

Total Length: 2640.00 ft      Total Volume: 35.939 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

### Pressure vs. Time



### Pressure vs. Time

