



## DRILL STEM TEST REPORT

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

133 N Glendale st Whichita KS 67208+4022

ATTN: Derek Patterson

### **Morgenstern #1-12**

#### **12-16s-14w**

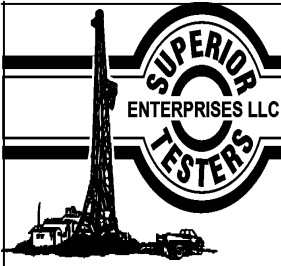
Start Date: 2012.12.15 @ 09:50:00

End Date: 2012.12.15 @ 17:43:00

Job Ticket #: 16990                      DST #: 1

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

Printed: 2012.12.15 @ 18:00:36



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Job Ticket: 16990

**DST#: 1**

ATTN: Derek Patterson

Test Start: 2012.12.15 @ 09:50:00

## GENERAL INFORMATION:

Formation: **Lansing A+B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:45:30

Time Test Ended: 17:43:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Jared Scheck

Unit No: 3320-Great Bend-50

**Interval: 3116.00 ft (KB) To 3160.00 ft (KB) (TVD)**

Reference Elevations: 1932.00 ft (KB)

Total Depth: 3160.00 ft (KB) (TVD)

1924.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

## Serial #: 6731

Press@RunDepth: 78.44 psia @ ft (KB)

Capacity: 5000.00 psia

Start Date: 2012.12.15

End Date: 2012.12.15

Last Calib.: 2012.12.15

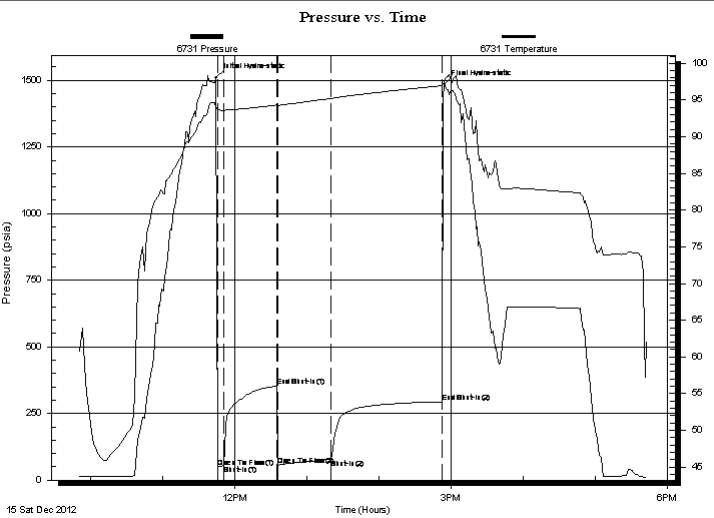
Start Time: 09:50:00

End Time: 17:43:00

Time On Btm: 2012.12.15 @ 11:44:30

Time Off Btm: 2012.12.15 @ 14:54:00

**TEST COMMENT:** 1st Opening 5 Minutes-Weak blow built 1 1/2 inches into bucket w ater in 5 minutes  
 1st Shut-in 45 Minutes-No blow back  
 2nd Opening 45 Minutes-Weak blow built 5 inches into bucket w ater in 45 minutes  
 2nd Shut-in 90 Minutes-No blow back



## PRESSURE SUMMARY

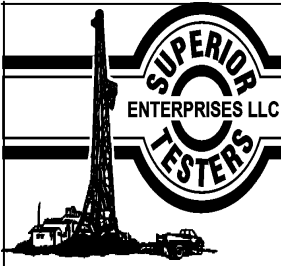
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1509.97	94.15	Initial Hydro-static
1	49.22	93.72	Open To Flow (1)
6	54.05	93.60	Shut-In(1)
50	352.19	94.31	End Shut-In(1)
51	54.90	94.26	Open To Flow (2)
95	78.44	95.20	Shut-In(2)
188	293.86	96.97	End Shut-In(2)
190	1484.40	97.41	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
70.00	water 90% w ater 10% mud	0.98
0.00	chlorides 20,000 resistivity .4@70degree	0.00

## Gas Rates

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



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Tester: Jared Scheck

Unit No: 3320-Great Bend-50

**Interval: 3116.00 ft (KB) To 3160.00 ft (KB) (TVD)**

Reference Elevations: 1932.00 ft (KB)

Total Depth: 3160.00 ft (KB) (TVD)

1924.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

## Serial #: 8159

Press@RunDepth: 295.79 psia @ ft (KB)

Capacity: 5000.00 psia

Start Date: 2012.12.15

End Date: 2012.12.15

Last Calib.: 2012.12.15

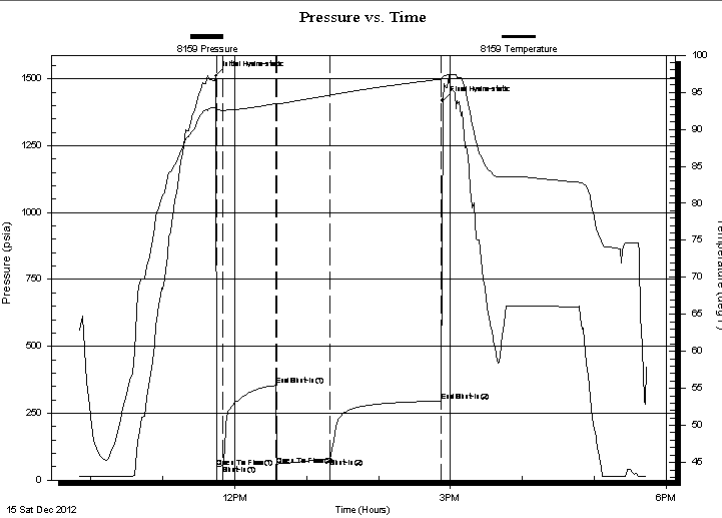
Start Time: 09:50:00

End Time: 17:43:30

Time On Btm: 2012.12.15 @ 11:44:30

Time Off Btm: 2012.12.15 @ 14:53:30

**TEST COMMENT:** 1st Opening 5 Minutes-Weak blow built 1 1/2 inches into bucket w ater in 5 minutes  
 1st Shut-in 45 Minutes-No blow back  
 2nd Opening 45 Minutes-Weak blow built 5 inches into bucket w ater in 45 minutes  
 2nd Shut-in 90 Minutes-No blow back



## PRESSURE SUMMARY

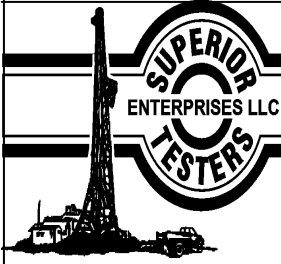
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1510.77	92.99	Initial Hydro-static
1	49.96	92.64	Open To Flow (1)
6	55.10	92.54	Shut-In(1)
50	353.84	93.46	End Shut-In(1)
51	55.90	93.41	Open To Flow (2)
95	79.96	94.59	Shut-In(2)
188	295.79	96.78	End Shut-In(2)
189	1418.46	97.10	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
70.00	water 90% w ater 10% mud	0.98
0.00	chlorides 20,000 resistivity .4@70degree	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Valhalla Exploration L.L.C

**12-16s-14w**

133 N Glendale st Whichita KS 67208+4022

**Morgenstern #1-12**

Job Ticket: 16990

**DST#: 1**

ATTN: Derek Patterson

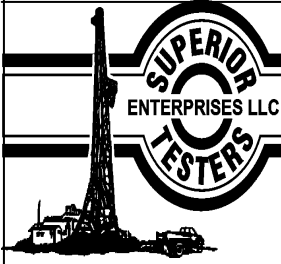
Test Start: 2012.12.15 @ 09:50:00

## Tool Information

Drill Pipe:	Length: 3108.00 ft	Diameter: 3.80 inches	Volume: 43.60 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: 45000.00 lb
			<u>Total Volume: 43.60 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3116.00 ft			Final 42000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	44.00 ft			
Tool Length:	72.00 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			3093.00	
Hydraulic Tool	5.00			3098.00	
Jars	6.00			3104.00	
Safety Joint	2.00			3106.00	
Packer	5.00			3111.00	28.00 Bottom Of Top Packer
Packer	5.00			3116.00	
Anchor	39.00			3155.00	
Recorder	1.00	6731	Inside	3156.00	
Recorder	1.00	8159	Outside	3157.00	
Bullnose	3.00			3160.00	44.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>72.00</b>				



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## FLUID SUMMARY

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Test Start: 2012.12.15 @ 09:50:00

### 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: 52.00 sec/qt

Cushion Volume: bbl

Water Loss: 6.40 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psia

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
70.00	w ater 90% w ater 10% mud	0.982
0.00	chlorides 20,000 resistivity .4@70degree	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:

