



## DRILL STEM TEST REPORT

Prepared For: **Valhalla Exploration LLC.**

133 North Glendale ST.  
Wichita Kansas 67208

ATTN: Adam Kennedy

### **Morgenstern #1-33**

### **33-17s-13w-Barton**

Start Date: 2012.10.14 @ 02:25:00

End Date: 2012.10.14 @ 08:42:30

Job Ticket #: 17857                      DST #: 2

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

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**Morgenstern #1-33**

Job Ticket: 17857

**DST#: 2**

ATTN: Adam Kennedy

Test Start: 2012.10.14 @ 02:25:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:53:30

Time Test Ended: 08:42:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Ellis

Unit No: 3315-Great Bend-25

**Interval: 3344.00 ft (KB) To 3364.00 ft (KB) (TVD)**

Reference Elevations: 1877.00 ft (KB)

Total Depth: 3364.00 ft (KB) (TVD)

1869.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8400 Outside**

Press @ RunDepth: 308.81 psia @ 3361.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2012.10.14

End Date:

2012.10.14

Last Calib.:

2012.10.14

Start Time: 02:25:00

End Time:

08:42:30

Time On Btm:

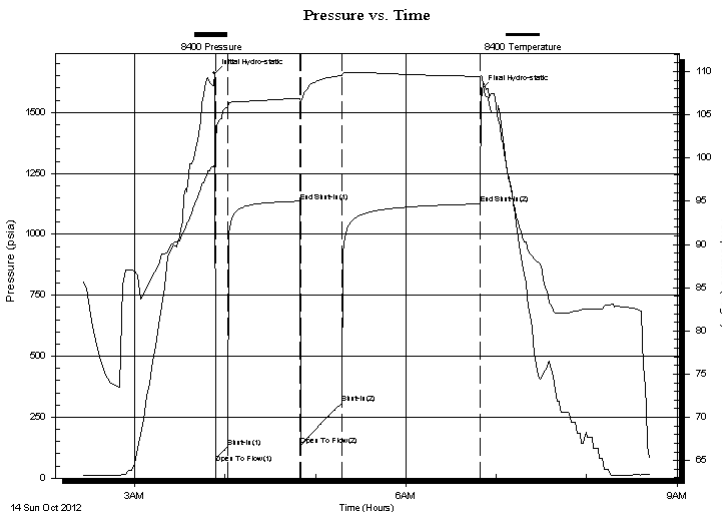
2012.10.14 @ 03:53:00

Time Off Btm:

2012.10.14 @ 06:50:00

**TEST COMMENT:** 1st Open 10 minutes Fair building blow blew bottom bucket 5 minutes.  
1st Shut in 45 minutes No blow  
2nd Open 30 minutes Fair building blow blew bottom bucket 5 minutes.  
2nd Shut in 90 minutes No blow back.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1661.22	99.27	Initial Hydro-static
1	60.30	101.74	Open To Flow (1)
9	127.13	105.89	Shut-In(1)
57	1135.67	106.89	End Shut-In(1)
58	134.51	106.55	Open To Flow (2)
85	308.81	109.55	Shut-In(2)
177	1124.86	109.45	End Shut-In(2)
177	1595.21	109.56	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
248.00	Oil cut watery mud	3.48
0.00	Oil 35%Mud30%Water35%	0.00
360.00	Water cut mud Water 95% Mud 5%	5.05
0.00	Chlorides 36,000@ 68 degrees	0.00

## Gas Rates

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



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 ATTN: Adam Kennedy

**33-17s-13w-Barton**

**Morgenstern #1-33**

Job Ticket: 17857

**DST#: 2**

Test Start: 2012.10.14 @ 02:25:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 03:53:30 Tester: Dustin Ellis  
 Time Test Ended: 08:42:30 Unit No: 3315-Great Bend-25  
 Interval: **3344.00 ft (KB) To 3364.00 ft (KB) (TVD)** Reference Elevations: 1877.00 ft (KB)  
 Total Depth: 3364.00 ft (KB) (TVD) 1869.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

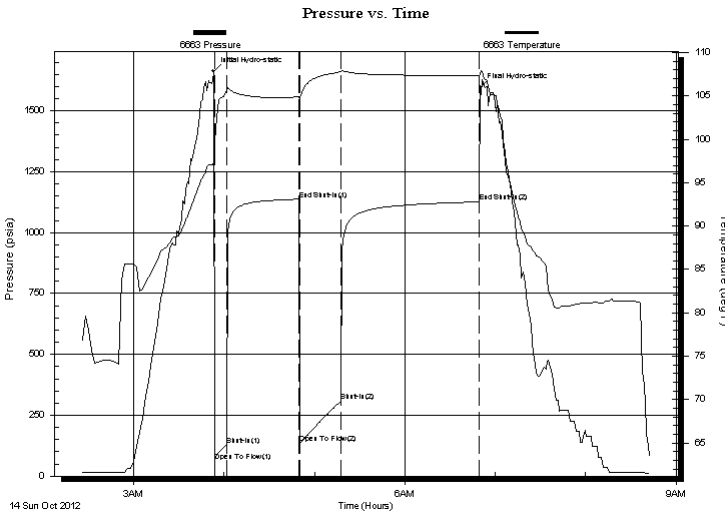
## Serial #: 6663

**Inside**

Press @ Run Depth: 1124.80 psia @ 3360.00 ft (KB) Capacity: 5000.00 psia  
 Start Date: 2012.10.14 End Date: 2012.10.14 Last Calib.: 2012.10.14  
 Start Time: 02:25:00 End Time: 08:42:30 Time On Btm: 2012.10.14 @ 03:53:00  
 Time Off Btm: 2012.10.14 @ 06:50:00

**TEST COMMENT:** 1st Open 10 minutes Fair building blow blew bottom bucket 5 minutes.  
 1st Shut in 45 minutes No blow  
 2nd Open 30 minutes Fair building blow blew bottom bucket 5 minutes.  
 2nd Shut in 90 minutes No blow back.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1662.68	97.42	Initial Hydro-static
1	59.23	99.61	Open To Flow (1)
9	126.70	105.63	Shut-In(1)
57	1136.69	104.87	End Shut-In(1)
57	134.03	104.59	Open To Flow (2)
85	309.24	107.79	Shut-In(2)
177	1124.80	107.32	End Shut-In(2)
177	1596.74	107.44	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
248.00	Oil cut watery mud	3.48
0.00	Oil 35%Mud30%Water35%	0.00
360.00	Water cut mud Water 95% Mud 5%	5.05
0.00	Chlorides 36,000@ 68 degrees	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Valhalla Exploration LLC.

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**Morgenstern #1-33**

Job Ticket: 17857

**DST#: 2**

ATTN: Adam Kennedy

Test Start: 2012.10.14 @ 02:25:00

## Tool Information

Drill Pipe:	Length: 3326.00 ft	Diameter: 3.80 inches	Volume: 46.66 bbl	Tool Weight: 2000.00 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: 46.66 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3344.00 ft			Final 45000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	48.00 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			3321.00	
Hydraulic Tool	5.00			3326.00	
Jars	6.00			3332.00	
Safety Joint	2.00			3334.00	
Packer	5.00			3339.00	28.00 Bottom Of Top Packer
Packer	5.00			3344.00	
Anchor	15.00			3359.00	
Recorder	1.00	6663	Inside	3360.00	
Recorder	1.00	8400	Outside	3361.00	
Bull Plug	3.00			3364.00	20.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>48.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

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Job Ticket: 17857

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ATTN: Adam Kennedy

Test Start: 2012.10.14 @ 02:25:00

### Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 49.00 sec/qt  
Water Loss: 8.80 in<sup>3</sup>  
Resistivity: 0.40 ohm.m  
Salinity: 6700.00 ppm  
Filter Cake: 1.00 inches

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

Oil API: deg API  
Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
248.00	Oil cut watery mud	3.479
0.00	Oil 35%Mud30%Water35%	0.000
360.00	Water cut mud Water 95% Mud 5%	5.050
0.00	Chlorides 36,000@ 68 degrees	0.000

Total Length: 608.00 ft      Total Volume: 8.529 bbl

Num Fluid Samples: 0

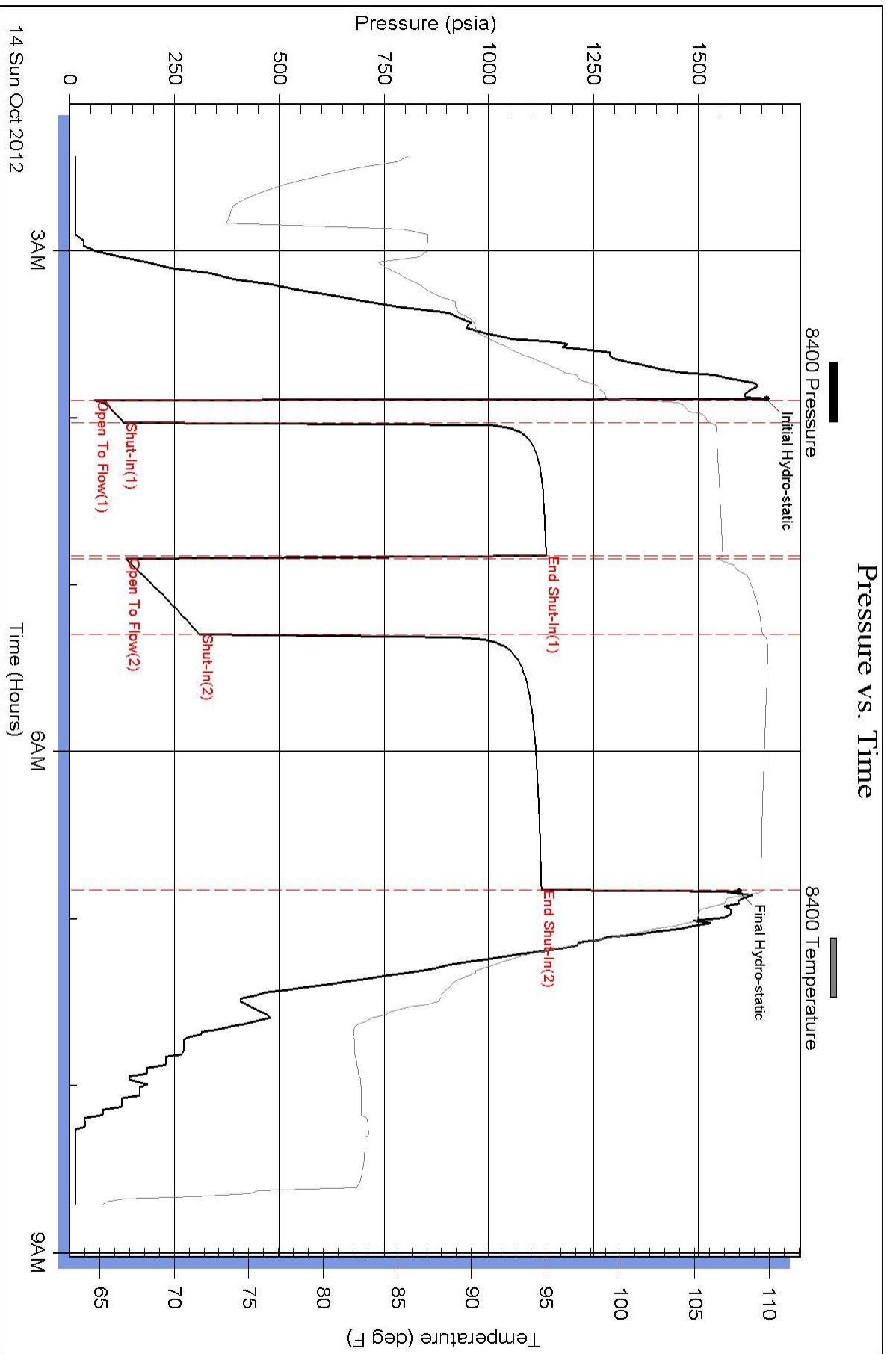
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



### Pressure vs. Time

