



KANSAS CORPORATION COMMISSION 1108449  
OIL & GAS CONSERVATION DIVISION

Form ACO-1  
June 2009  
Form Must Be Typed  
Form must be Signed  
All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 33483  
Name: Valhalla Exploration LLC  
Address 1: 133 N GLENDALE ST  
Address 2: \_\_\_\_\_  
City: WICHITA State: KS Zip: 67208 + 4022  
Contact Person: Kris Kennedy  
Phone: ( 316 ) 558-5202  
CONTRACTOR: License # 33350  
Name: Southwind Drilling, Inc.  
Wellsite Geologist: Derek W. Patterson  
Purchaser: \_\_\_\_\_

Designate Type of Completion:  
 New Well     Re-Entry     Workover  
 Oil     WSW     SWD     SLOW  
 Gas     D&A     ENHR     SIGW  
 OG     GSW     Temp. Abd.  
 CM (Coal Bed Methane)  
 Cathodic     Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:  
Operator: \_\_\_\_\_  
Well Name: \_\_\_\_\_  
Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_  
 Deepening     Re-perf.     Conv. to ENHR     Conv. to SWD  
 Conv. to GSW  
 Plug Back: \_\_\_\_\_ Plug Back Total Depth \_\_\_\_\_  
 Commingled    Permit #: \_\_\_\_\_  
 Dual Completion    Permit #: \_\_\_\_\_  
 SWD    Permit #: \_\_\_\_\_  
 ENHR    Permit #: \_\_\_\_\_  
 GSW    Permit #: \_\_\_\_\_  
12/10/2012    12/16/2012    12/17/2012  
Spud Date or    Date Reached TD    Completion Date or  
Recompletion Date       Recompletion Date

API No. 15 - 15-009-25777-00-00  
Spot Description: \_\_\_\_\_  
SE SE SW Sec. 12 Twp. 16 S. R. 14  East  West  
330 Feet from  North /  South Line of Section  
2310 Feet from  East /  West Line of Section  
Footages Calculated from Nearest Outside Section Corner:  
 NE     NW     SE     SW  
County: Barton  
Lease Name: Morgenstern Well #: 1-12  
Field Name: \_\_\_\_\_  
Producing Formation: N/A  
Elevation: Ground: 1921 Kelly Bushing: 1932  
Total Depth: 3440 Plug Back Total Depth: \_\_\_\_\_  
Amount of Surface Pipe Set and Cemented at: 470 Feet  
Multiple Stage Cementing Collar Used?  Yes  No  
If yes, show depth set: \_\_\_\_\_ Feet  
If Alternate II completion, cement circulated from: \_\_\_\_\_  
feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

Drilling Fluid Management Plan  
(Data must be collected from the Reserve Pit)  
Chloride content: 8000 ppm Fluid volume: 600 bbls  
Dewatering method used: Evaporated  
Location of fluid disposal if hauled offsite: \_\_\_\_\_  
Operator Name: \_\_\_\_\_  
Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_  
Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West  
County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

Letter of Confidentiality Received  
Date: \_\_\_\_\_  
 Confidential Release Date: \_\_\_\_\_  
 Wireline Log Received  
 Geologist Report Received  
 UIC Distribution  
ALT  I  II  III Approved by: Deanna Garrison Date: 01/23/2013



1108449

Operator Name: Valhalla Exploration LLC Lease Name: Morgenstern Well #: 1-12  
 Sec. 12 Twp. 16 S. R. 14  East  West County: Barton

**INSTRUCTIONS:** Show important tops and base of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed. Attach complete copy of all Electric Wireline Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Electric Log Run <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Submitted Electronically <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no, Submit Copy)</i>  List All E. Logs Run: <b>Attached</b>	<input checked="" type="checkbox"/> Log    Formation (Top), Depth and Datum <input type="checkbox"/> Sample  <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Name</th> <th style="text-align: left;">Top</th> <th style="text-align: left;">Datum</th> </tr> </thead> <tbody> <tr> <td>Topeka</td> <td>2813</td> <td>-881</td> </tr> <tr> <td>Heebner</td> <td>3044</td> <td>-1112</td> </tr> <tr> <td>Brown Lime</td> <td>3109</td> <td>-1177</td> </tr> <tr> <td>Lansing</td> <td>3123</td> <td>-1191</td> </tr> <tr> <td>BKC</td> <td>3333</td> <td>-1401</td> </tr> <tr> <td>Arbuckle</td> <td>3336</td> <td>-1404</td> </tr> <tr> <td>RTD</td> <td>3440</td> <td>-1508</td> </tr> </tbody> </table>	Name	Top	Datum	Topeka	2813	-881	Heebner	3044	-1112	Brown Lime	3109	-1177	Lansing	3123	-1191	BKC	3333	-1401	Arbuckle	3336	-1404	RTD	3440	-1508
Name	Top	Datum																							
Topeka	2813	-881																							
Heebner	3044	-1112																							
Brown Lime	3109	-1177																							
Lansing	3123	-1191																							
BKC	3333	-1401																							
Arbuckle	3336	-1404																							
RTD	3440	-1508																							

CASING RECORD <input checked="" type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface	12.25	8.625	23	470	common	250	3% cc 2% gel

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
— Perforate				
— Protect Casing	-			
— Plug Back TD				
— Plug Off Zone	-			

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

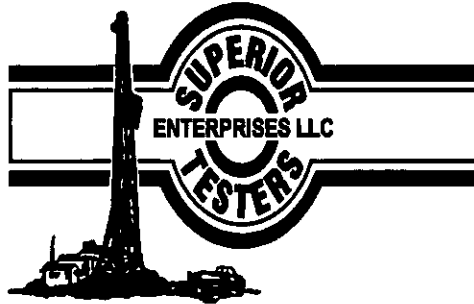
TUBING RECORD:    Size:    Set At:    Packer At:    Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Date of First, Resumed Production, SWD or ENHR.    Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain) _____	
Estimated Production Per 24 Hours	Oil    Bbls.    Gas    Mcf    Water    Bbls.    Gas-Oil Ratio    Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other (Specify) _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Valhalla Exploration LLC
Well Name	Morgenstern 1-12
Doc ID	1108449

All Electric Logs Run

Dual Induction
CDNL
Micro
Sonic



## DRILL STEM TEST REPORT

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

133 N Glendale st Wichita KS 67208+4022

ATTN: Derek Patterson

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

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

Start Date: 2012.12.15 @ 09:50:00

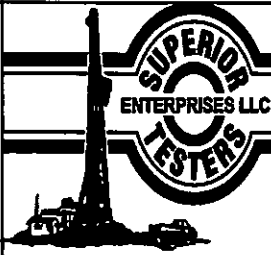
End Date: 2012.12.15 @ 17:43:00

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

Valhalla Exploration L.L.C      12-16s-14w      Morgenstern #1-12      DST # 1      Lansing A+B      2012.12.15



# DRILL STEM TEST REPORT

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

## 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

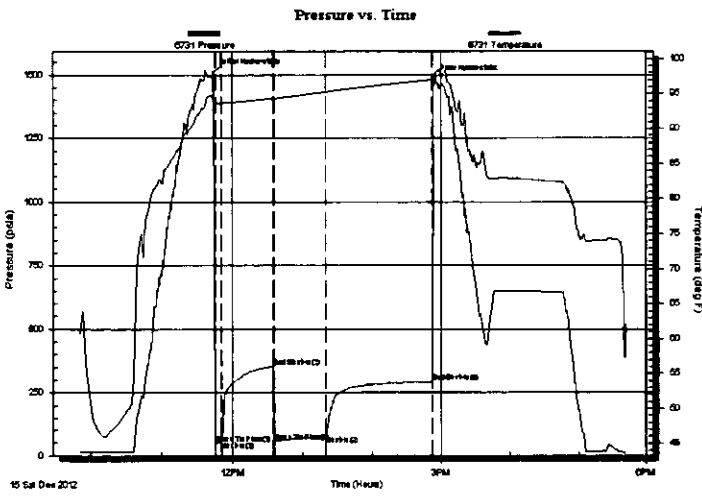
Start Time: 09:50:00

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 water in 5 minutes  
 1st Shut-in 45 Minutes-No blow back  
 2nd Opening 45 Minutes-Weak blow built 5 inches into bucket water in 45 minutes  
 2nd Shut-in 90 Minutes-No blow back



## PRESSURE SUMMARY

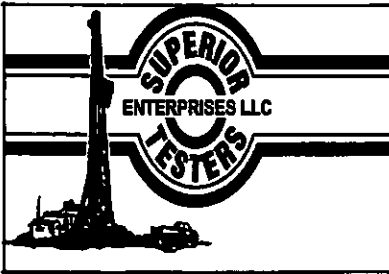
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1509.97	94.15	Initial Hydro-static
1	49.22	93.72	Open To Flow (1)
6	54.05	93.60	Shut-In(1)
50	352.19	94.31	End Shut-In(1)
51	54.90	94.26	Open To Flow (2)
95	78.44	95.20	Shut-In(2)
188	293.86	96.97	End Shut-In(2)
190	1484.40	97.41	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
70.00	w ater 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

Valhalla Exploration L.L.C  
 133 N Glendale st Whichita KS 67208+4022  
 ATTN: Derek Patterson

**12-16s-14w**  
**Morgenstern #1-12**  
 Job Ticket: 16990 **DST#:1**  
 Test Start: 2012.12.15 @ 09:50:00

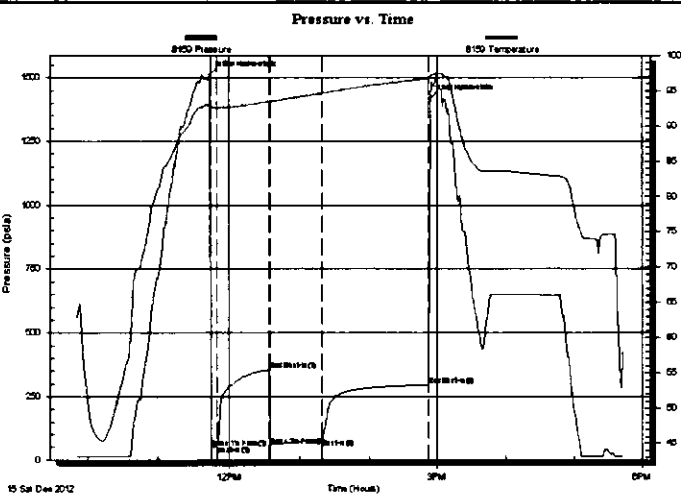
## GENERAL INFORMATION:

Formation: **Lansing A+B**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 11:45:30  
 Time Test Ended: 17:43:00  
 Interval: **3116.00 ft (KB) To 3160.00 ft (KB) (TVD)**  
 Total Depth: 3160.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Jared Scheck  
 Unit No: 3320-Great Bend-50  
 Reference Elevations: 1932.00 ft (KB)  
 1924.00 ft (CF)  
 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 water in 5 minutes  
 1st Shut-in 45 Minutes-No blow back  
 2nd Opening 45 Minutes-Weak blow built 5 inches into bucket water in 45 minutes  
 2nd Shut-in 90 Minutes-No blow back



## PRESSURE SUMMARY

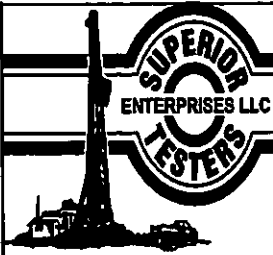
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1510.77	92.99	Initial Hydro-static
1	49.96	92.64	Open To Flow (1)
6	55.10	92.54	Shut-In(1)
50	353.84	93.46	End Shut-In(1)
51	55.90	93.41	Open To Flow (2)
95	79.96	94.59	Shut-In(2)
188	295.79	96.78	End Shut-In(2)
189	1418.46	97.10	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
70.00	w ater 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  
 133 N Glendale st Whichita KS 67208+4022  
 ATTN: Derek Patterson

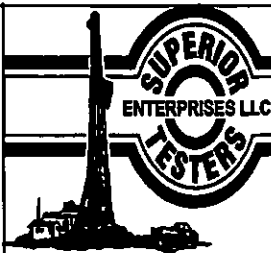
**12-16s-14w**  
**Morgenstern #1-12**  
 Job Ticket: 16990      **DST#: 1**  
 Test Start: 2012.12.15 @ 09:50:00

**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
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>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

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

### 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

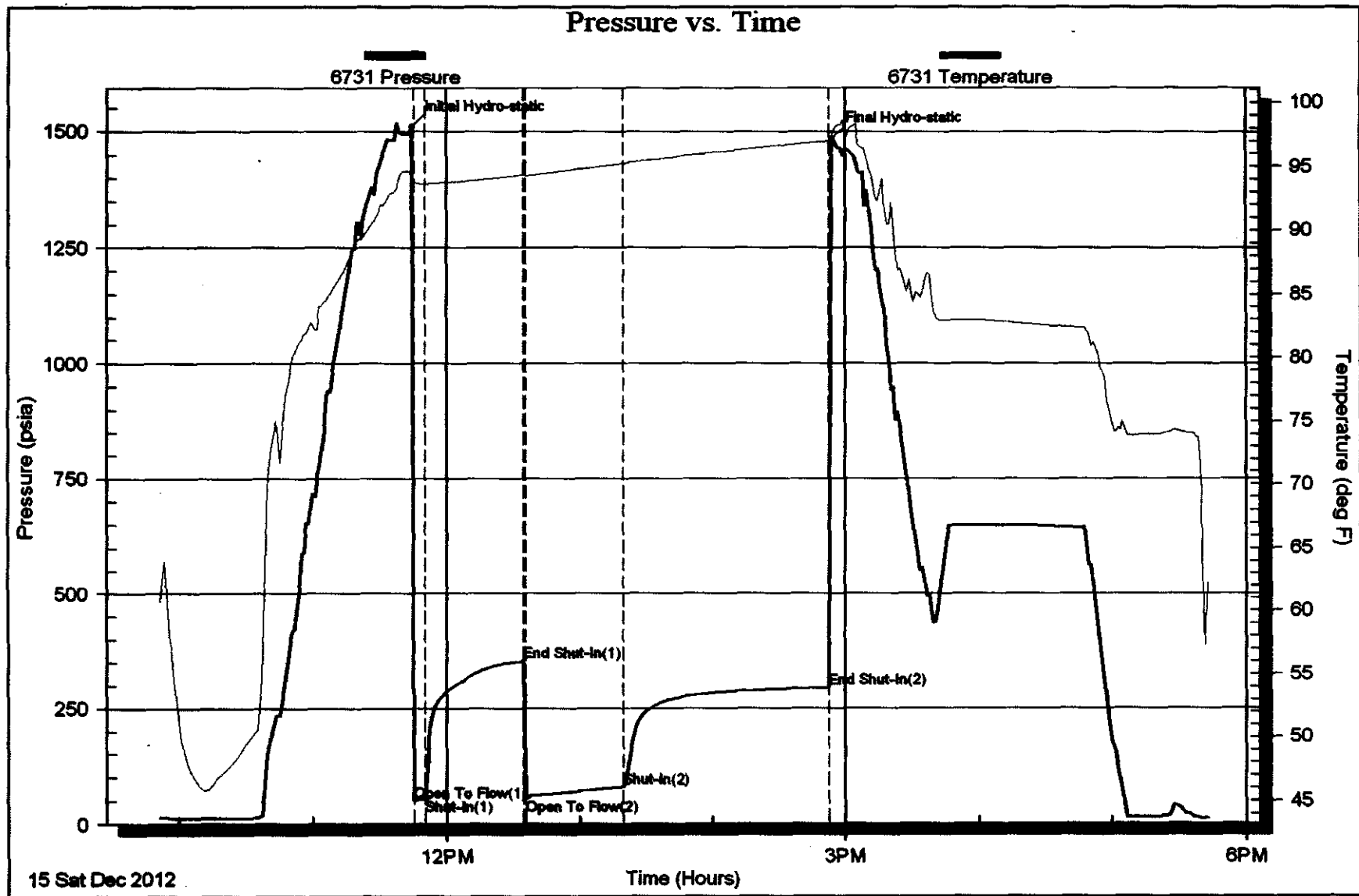
Total Length: 70.00 ft      Total Volume: 0.982 bbl

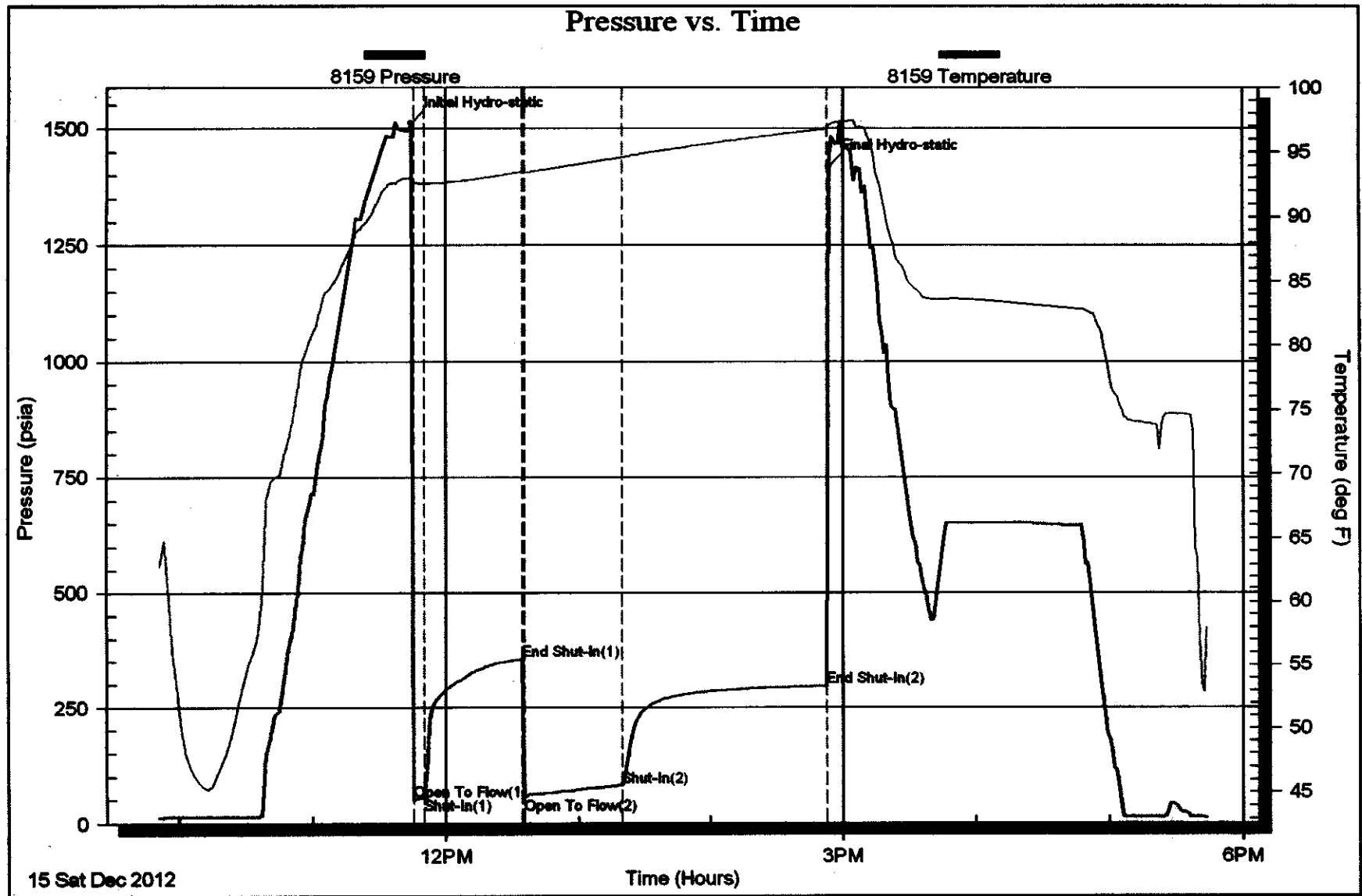
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

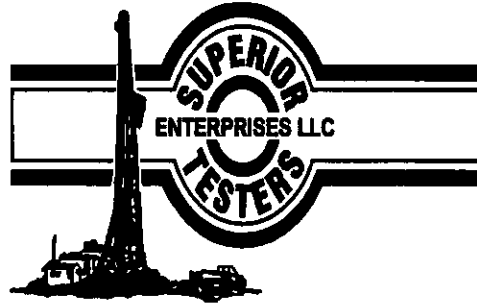
Recovery Comments:







15 Sat Dec 2012



## 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: 2012.12.16 @ 10:17:00

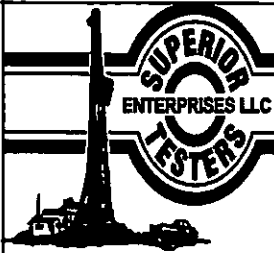
End Date: 2012.12.16 @ 17:09:30

Job Ticket #: 16991                      DST #: 2

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

Printed: 2012.12.16 @ 17:21:43

Valhalla Exploration L.L.C  
12-16s-14w  
Morgenstern #1-12  
DST # 2  
Arbuckle  
2012.12.16



# DRILL STEM TEST REPORT

Valhalla Exploration L.L.C  
 133 N Glendale st Whichita KS 67208+4022  
 ATTN: Derek Patterson

**12-16s-14w**  
**Morgenstern #1-12**  
 Job Ticket: 16991      **DST#:2**  
 Test Start: 2012.12.16 @ 10:17:00

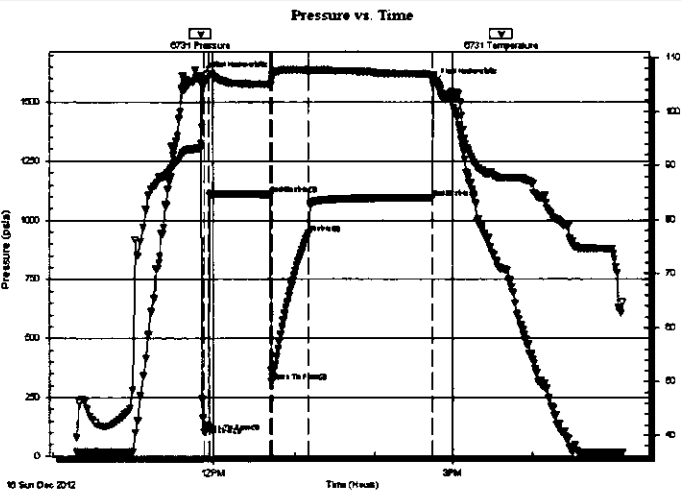
## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 11:53:00  
 Time Test Ended: 17:09:30  
 Interval: **3332.00 ft (KB) To 3344.00 ft (KB) (TVD)**  
 Total Depth: 3344.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Jared Scheck  
 Unit No: 3320-Great Bend-50  
 Reference Elevations: 1932.00 ft (KB)  
 1924.00 ft (CF)  
 KB to GR/CF: 8.00 ft

## Serial #: 6731

Press@RunDepth: 946.70 psia @ ft (KB) Capacity: 5000.00 psia  
 Start Date: 2012.12.16 End Date: 2012.12.16 Last Calib.: 2012.12.16  
 Start Time: 10:17:00 End Time: 17:09:30 Time On Btm: 2012.12.16 @ 11:51:00  
 Time Off Btm: 2012.12.16 @ 14:45:00

**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

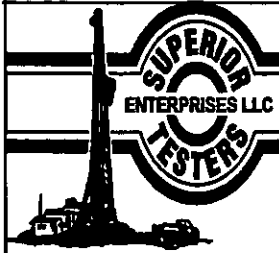
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1612.14	94.11	Initial Hydro-static
2	105.04	105.75	Open To Flow (1)
6	124.28	106.91	Shut-in(1)
51	1110.17	105.09	End Shut-in(1)
52	318.15	106.00	Open To Flow (2)
80	946.70	107.62	Shut-in(2)
173	1096.11	106.81	End Shut-in(2)
174	1586.59	106.59	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
360.00	w ater mud 40%w ater 60% mud	5.05
1620.00	oil cut muddy w ater 5% oil 25% mud 70% w 2.72	
0.00	chlorides 15,000 resistivity .6@55degree 0.00	

## Gas Rates

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



# DRILL STEM TEST REPORT

Valhalla Exploration L.L.C  
 133 N Glendale st Whichita KS 67208+4022  
 ATTN: Derek Patterson

**12-16s-14w**  
**Morgenstern #1-12**  
 Job Ticket: 16991      **DST#: 2**  
 Test Start: 2012.12.16 @ 10:17:00

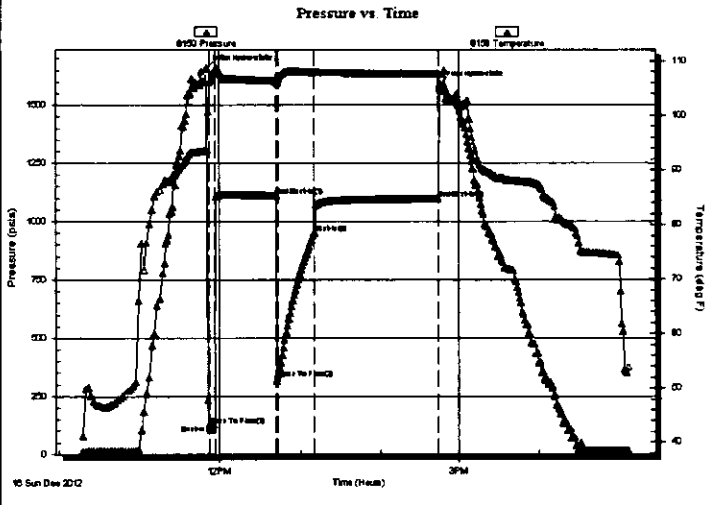
## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 11:53:00  
 Time Test Ended: 17:09:30  
 Interval: **3332.00 ft (KB) To 3344.00 ft (KB) (TVD)**  
 Total Depth: 3344.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Jared Scheck  
 Unit No: 3320-Great Bend-50  
 Reference Elevations: 1932.00 ft (KB)  
 1924.00 ft (CF)  
 KB to GR/CF: 8.00 ft

## Serial #: 8159

Press@RunDepth: 1097.72 psia @ ft (KB) Capacity: 5000.00 psia  
 Start Date: 2012.12.16 End Date: 2012.12.16 Last Calib.: 2012.12.16  
 Start Time: 10:17:00 End Time: 17:10:00 Time On Btm: 2012.12.16 @ 11:50:30  
 Time Off Btm: 2012.12.16 @ 14:45:00

**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

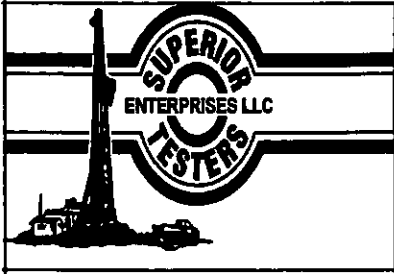
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1658.07	93.70	Initial Hydro-static
2	127.22	106.21	Open To Flow (1)
6	125.41	108.39	Shut-in(1)
52	1111.74	106.39	End Shut-in(1)
53	327.71	106.09	Open To Flow (2)
80	950.08	107.98	Shut-in(2)
174	1097.72	107.62	End Shut-in(2)
175	1588.77	105.66	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
360.00	w ater mud 40%w ater 60% mud	5.05
1620.00	oil cut muddy w ater 5% oil 25% mud 70% w 2.72	
0.00	chlorides 15,000 resistivity .6@55degree 0.00	

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Valhalla Exploration L.L.C  
 133 N Glendale st Whichita KS 67208+4022  
 ATTN: Derek Patterson

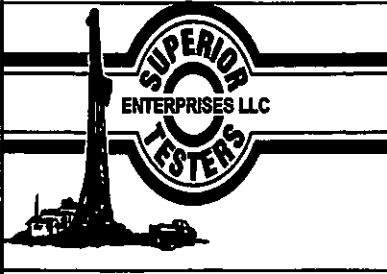
**12-16s-14w**  
**Morgenstern #1-12**  
 Job Ticket: 16991      **DST#: 2**  
 Test Start: 2012.12.16 @ 10:17:00

**Tool Information**

Drill Pipe:	Length: 3328.00 ft	Diameter: 3.80 inches	Volume: 46.68 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 46.68 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 43000.00 lb
Depth to Top Packer:	3332.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	12.00 ft			
Tool Length:	40.00 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			3309.00	
Hydraulic Tool	5.00			3314.00	
Jars	6.00			3320.00	
Safety Joint	2.00			3322.00	
Packer	5.00			3327.00	28.00      Bottom Of Top Packer
Packer	5.00			3332.00	
Anchor	7.00			3339.00	
Recorder	1.00	6731	Inside	3340.00	
Recorder	1.00	8159	Outside	3341.00	
Bullnose	3.00			3344.00	12.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>40.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

Valhalla Exploration L.L.C

12-16s-14w

133 N Glendale st Whichita KS 67208+4022

Morgenstern #1-12

Job Ticket: 16991

DST#: 2

ATTN: Derek Patterson

Test Start: 2012.12.16 @ 10:17:00

### 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: 51.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.20 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psia

Salinity: 8000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
360.00	w ater mud 40%w ater 60%mud	5.050
1620.00	oil cut muddy w ater5%oil 25%mud 70%w ater	22.724
0.00	chlorides 15,000 resistivity .6@55degree	0.000

Total Length: 1980.00 ft      Total Volume: 27.774 bbl

Num Fluid Samples: 0

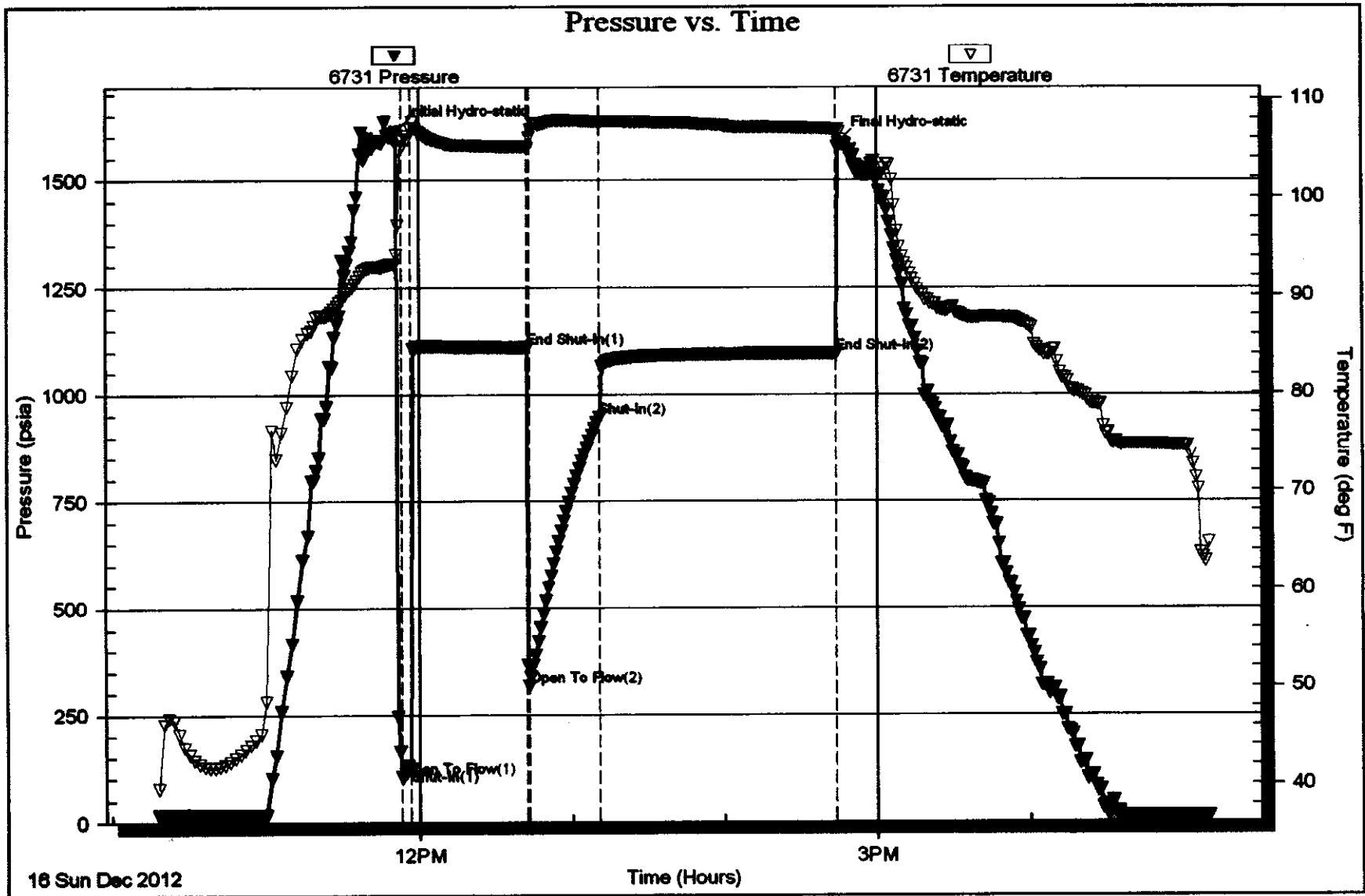
Num Gas Bombs: 0

Serial #:

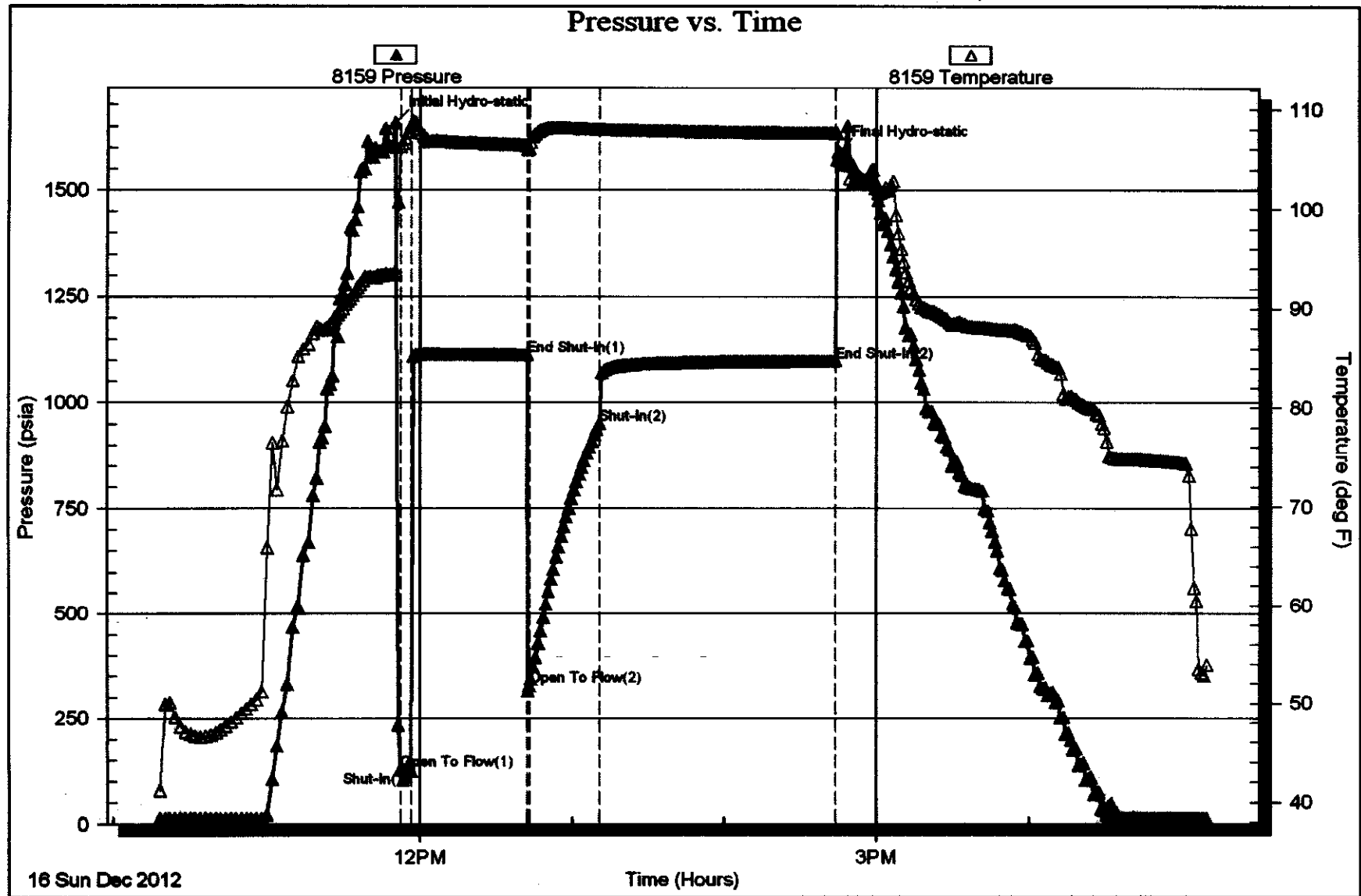
Laboratory Name:

Laboratory Location:

Recovery Comments: chlorides 15,000 resistivity .6 @ 55 degrees









**QUALITY OILWELL CEMENTING, INC.**

PO Box 32 - 740 West Wichita Ave. Russell KS 67665  
 Phone: 785-324-1041 fax: 785-483-1087  
 Email: cementing@ruraltel.net

Date: 1/2/2013  
 Invoice # 6244

P.O.#:  
 Due Date: 2/1/2013  
 Division: Russell

# Invoice

**Contact:**  
**VALHALLA EXPLORATION**  
**Address/Job Location:**  
**VALHALLA EXPLORATION**  
**133 N GLENDALE STREET**  
**WICHITA, KS 67208**

**Reference:**  
**MORGENSTERN 1-12**

**Description of Work:**  
**SURFACE JOB**

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 991.39	No				
Common-Class A	264	\$ 3,594.32	Yes				
Bulk Truck Matl-Material Service Charge	264	\$ 573.28	No				
Calcium Chloride	9	\$ 465.71	Yes				
Pump Truck Mileage-Job to Nearest Camp	18	\$ 195.04	No				
Bulk Truck Mileage-Job to Nearest Bulk Plant	18	\$ 114.13	No				
8 5/8" Wooden Plug	1	\$ 91.20	Yes				
Premium Gel (Bentonite)	5	\$ 88.38	Yes				

**Invoice Terms:**

Net 30

	<b>SubTotal:</b>	\$ 6,113.42
	<b>Discount Available <u>ONLY</u> if Invoice is Paid &amp; Received within listed terms of invoice:</b>	\$ (917.01)
<hr/>		
	SubTotal for Taxable Items:	\$ 3,603.66
	SubTotal for Non-Taxable Items:	\$ 1,592.74
<hr/>		
	<b>Total:</b>	\$ 5,196.41
	<b>Tax:</b>	\$ 263.07
	<b>Amount Due:</b>	\$ 5,459.48
	<b>Applied Payments:</b>	
	<b>Balance Due:</b>	\$ 5,459.48

7.30% Barton County Sales Tax

**Thank You For Your Business!**

Past Due Invoices are subject to a service charge (annual rate of 24%)  
 This does not include any applicable taxes unless it is listed.  
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# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 6244

Date	12-11-12	Sec.	17	Twp.	16	Range	14	County	Barton	State	MS	On Location	9:30 AM	Finish	11:30 AM
								Location	281 and 210 1/2 E Ninto						

Lease	Morgenstern	Well No.	1-12	Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Contractor	Southward 6				
Type Job	Surface				
Hole Size	12 1/4	T.D.	480	Charge To	Vahalla Exploration
Csg.	8 5/8	Depth	474.23	Street	
Tbg. Size		Depth		City	State
Tool		Depth		The above was done to satisfaction and supervision of owner agent or contractor.	
Cement Left in Csg.	20 ft	Shoe Joint	20 ft	Cement Amount Ordered	250 com 9% CC

Meas Line	Displace	29 1/4 BBL	2% gel
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EQUIPMENT				Common
Pumptrk	5	No.	Cementor/Helper	250
			Heath	Poz. Mix
Bulktrk	8	No.	Driver	Gel. 5
			Heath	Calcium 9
Bulktrk	9	No.	Driver	
			Heath	

JOB SERVICES & REMARKS		Hulls
Remarks:		Salt
Rat Hole		Flowseal
Mouse Hole		Kol-Seal
Centralizers		Mud CLR 48
Baskets		CFL-117 or CD110 CAF 38
D/V or Port Collar		Sand
		Handling 264
Cement did Circulate		Mileage

FLOAT EQUIPMENT	
Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	
	Wood Pig

Pumptrk Charge	Surface	Tax	
Mileage	18	Discount	
		Total Charge	

X Signature *W. P. [Signature]*