



## DRILL STEM TEST REPORT

Prepared For: **Hess Oil Company**

PO Box 1009  
McPherson KS 67460

ATTN: David Gould

### **Younger #1**

#### **35-13s-19w Ellis,KS**

Start Date: 2014.12.17 @ 02:05:00

End Date: 2014.12.17 @ 11:45:30

Job Ticket #: 53829                      DST #: 1

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.12.23 @ 16:45:11



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Hess Oil Company  
PO Box 1009  
McPherson KS 67460  
ATTN: David Gould

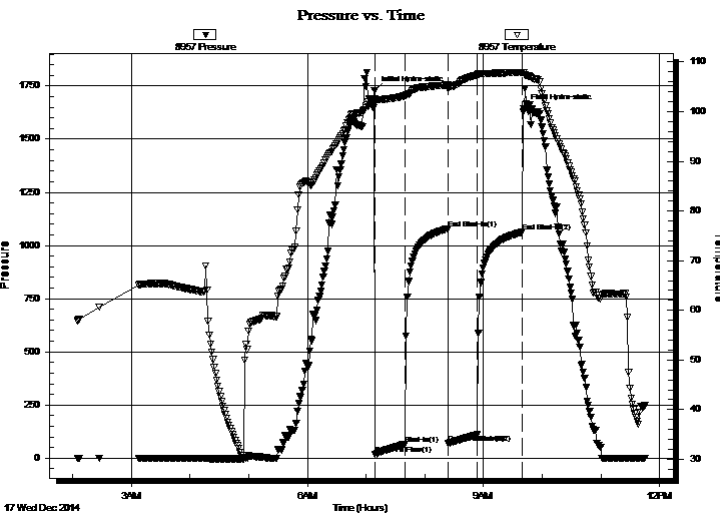
**35-13s-19w Ellis,KS**  
**Younger #1**  
Job Ticket: 53829      **DST#: 1**  
Test Start: 2014.12.17 @ 02:05:00

## GENERAL INFORMATION:

Formation: **Oread**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 07:09:15  
Time Test Ended: 11:45:30  
Interval: **3396.00 ft (KB) To 3419.00 ft (KB) (TVD)**  
Total Depth: 3419.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 2174.00 ft (KB)  
2169.00 ft (CF)  
KB to GR/CF: 5.00 ft  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Brett Dickinson  
Unit No: 59

**Serial #: 8957      Outside**  
Press@RunDepth: 109.80 psig @ 3416.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2014.12.17      End Date: 2014.12.17      Last Calib.: 2014.12.17  
Start Time: 02:05:05      End Time: 11:45:30      Time On Btm: 2014.12.17 @ 07:08:30  
Time Off Btm: 2014.12.17 @ 09:41:15

TEST COMMENT: IF-2 1/4" blow  
IS-No blow  
FF-2" blow  
FS-No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1726.77	102.59	Initial Hydro-static
1	17.94	101.85	Open To Flow (1)
32	66.00	103.16	Shut-In(1)
76	1079.05	105.34	End Shut-In(1)
76	68.85	104.69	Open To Flow (2)
105	109.80	107.37	Shut-In(2)
152	1062.97	107.88	End Shut-In(2)
153	1643.90	107.90	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
125.00	SMCW 5%M 95%W	0.61
60.00	OS MCW 30%M 70%W	0.30

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hess Oil Company  
PO Box 1009  
McPherson KS 67460  
ATTN: David Gould

**35-13s-19w Ellis,KS**  
**Younger #1**  
Job Ticket: 53829      **DST#: 1**  
Test Start: 2014.12.17 @ 02:05:00

**Tool Information**

Drill Pipe:	Length: 3135.00 ft	Diameter: 3.80 inches	Volume: 43.98 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 248.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 45.20 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	3396.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	23.00 ft			
Tool Length:	51.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Shut In Tool	5.00			3373.00	
Hydraulic tool	5.00			3378.00	
Jars	5.00			3383.00	
Safety Joint	3.00			3386.00	
Packer	5.00			3391.00	28.00      Bottom Of Top Packer
Packer	5.00			3396.00	
Stubb	1.00			3397.00	
Perforations	19.00			3416.00	
Recorder	0.00	8736	Inside	3416.00	
Recorder	0.00	8957	Outside	3416.00	
Bullnose	3.00			3419.00	23.00      Bottom Packers & Anchor

**Total Tool Length: 51.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Hess Oil Company  
PO Box 1009  
McPherson KS 67460  
ATTN: David Gould

**35-13s-19w Ellis,KS**  
**Younger #1**  
Job Ticket: 53829      **DST#: 1**  
Test Start: 2014.12.17 @ 02:05:00

## 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:	82000 ppm
Viscosity: 53.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.58 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2200.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
125.00	SMCW 5%M 95%W	0.615
60.00	OS MCW 30%M 70%W	0.295

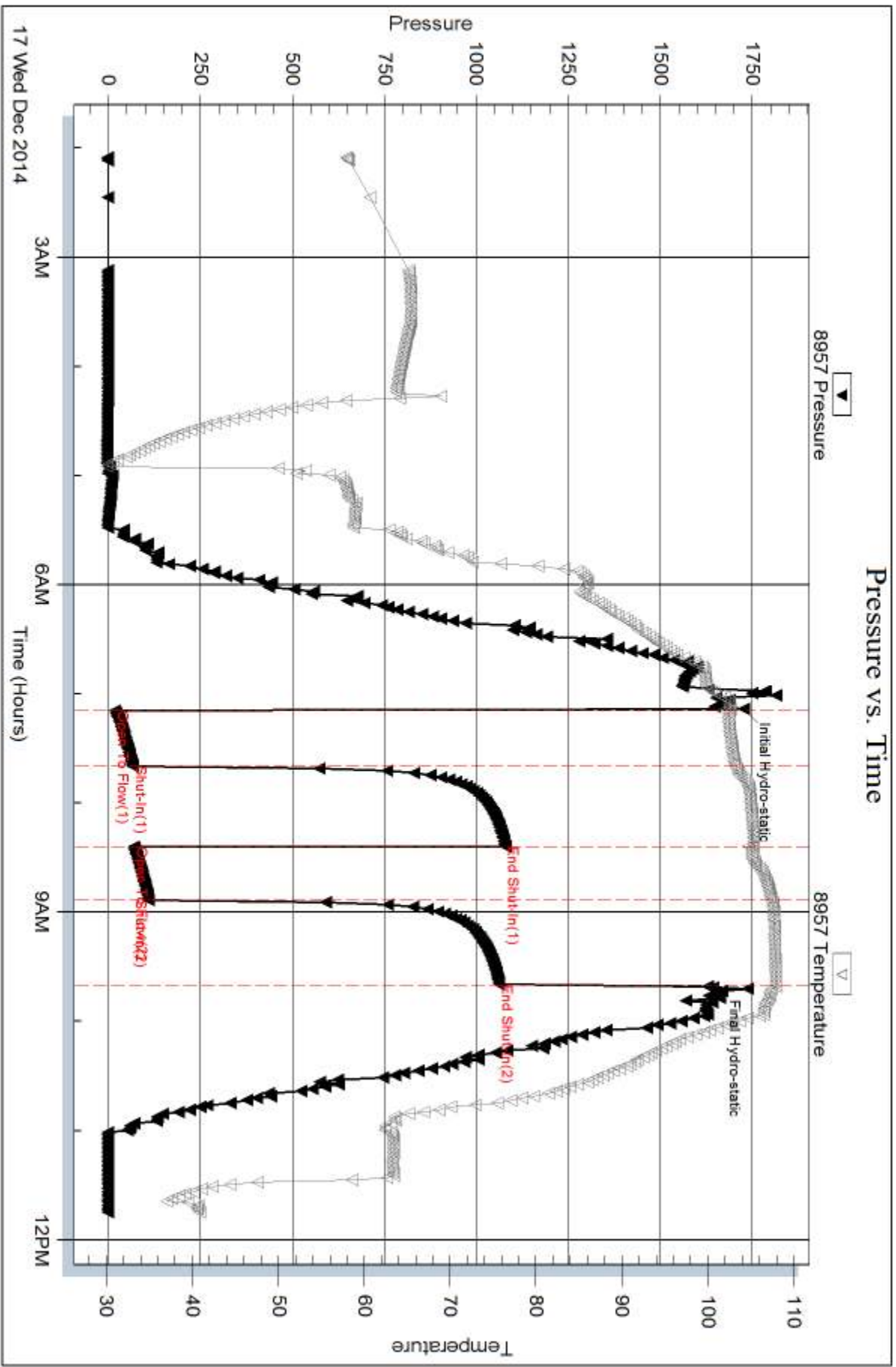
Total Length: 185.00 ft      Total Volume: 0.910 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

Serial #: 8957

Outside Hess Oil Company

Younger #1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 53829

Printed: 2014, 12, 23 @ 16:45:12

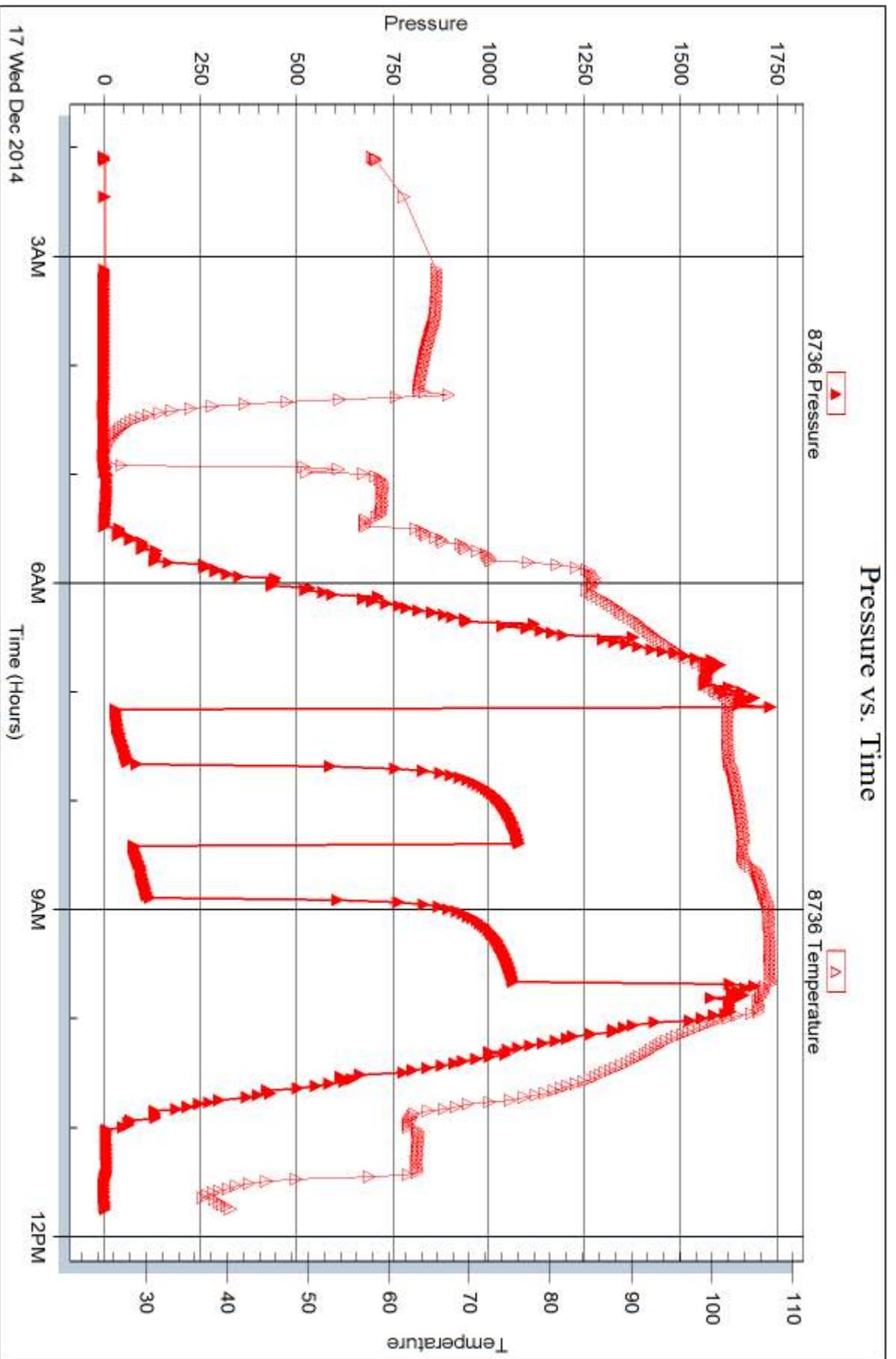
Serial #: 8736

Inside

Hess Oil Company

Younger #1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 53829

Printed: 2014, 12, 23 @ 16:45:12



## DRILL STEM TEST REPORT

Prepared For: **Hess Oil Company**

PO Box 1009  
McPherson KS 67460

ATTN: David Gould

### **Younger #1**

#### **35-13s-19w Ellis,KS**

Start Date: 2014.12.17 @ 23:55:00

End Date: 2014.12.18 @ 09:50:00

Job Ticket #: 53830                      DST #: 2

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.12.23 @ 16:44:48









**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hess Oil Company  
PO Box 1009  
McPherson KS 67460  
ATTN: David Gould

**35-13s-19w Ellis,KS**  
**Younger #1**  
Job Ticket: 53830      **DST#: 2**  
Test Start: 2014.12.17 @ 23:55:00

**Tool Information**

Drill Pipe:	Length: 3230.00 ft	Diameter: 3.80 inches	Volume: 45.31 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 248.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 46.53 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	3490.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	40.00 ft			
Tool Length:	68.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Shut In Tool	5.00			3467.00	
Hydraulic tool	5.00			3472.00	
Jars	5.00			3477.00	
Safety Joint	3.00			3480.00	
Packer	5.00			3485.00	28.00      Bottom Of Top Packer
Packer	5.00			3490.00	
Stubb	1.00			3491.00	
Perforations	36.00			3527.00	
Recorder	0.00	8736	Inside	3527.00	
Recorder	0.00	8957	Outside	3527.00	
Bullnose	3.00			3530.00	40.00      Bottom Packers & Anchor

**Total Tool Length: 68.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Hess Oil Company  
PO Box 1009  
McPherson KS 67460  
ATTN: David Gould

**35-13s-19w Ellis,KS**  
**Younger #1**  
Job Ticket: 53830      **DST#: 2**  
Test Start: 2014.12.17 @ 23:55:00

### Mud and Cushion Information

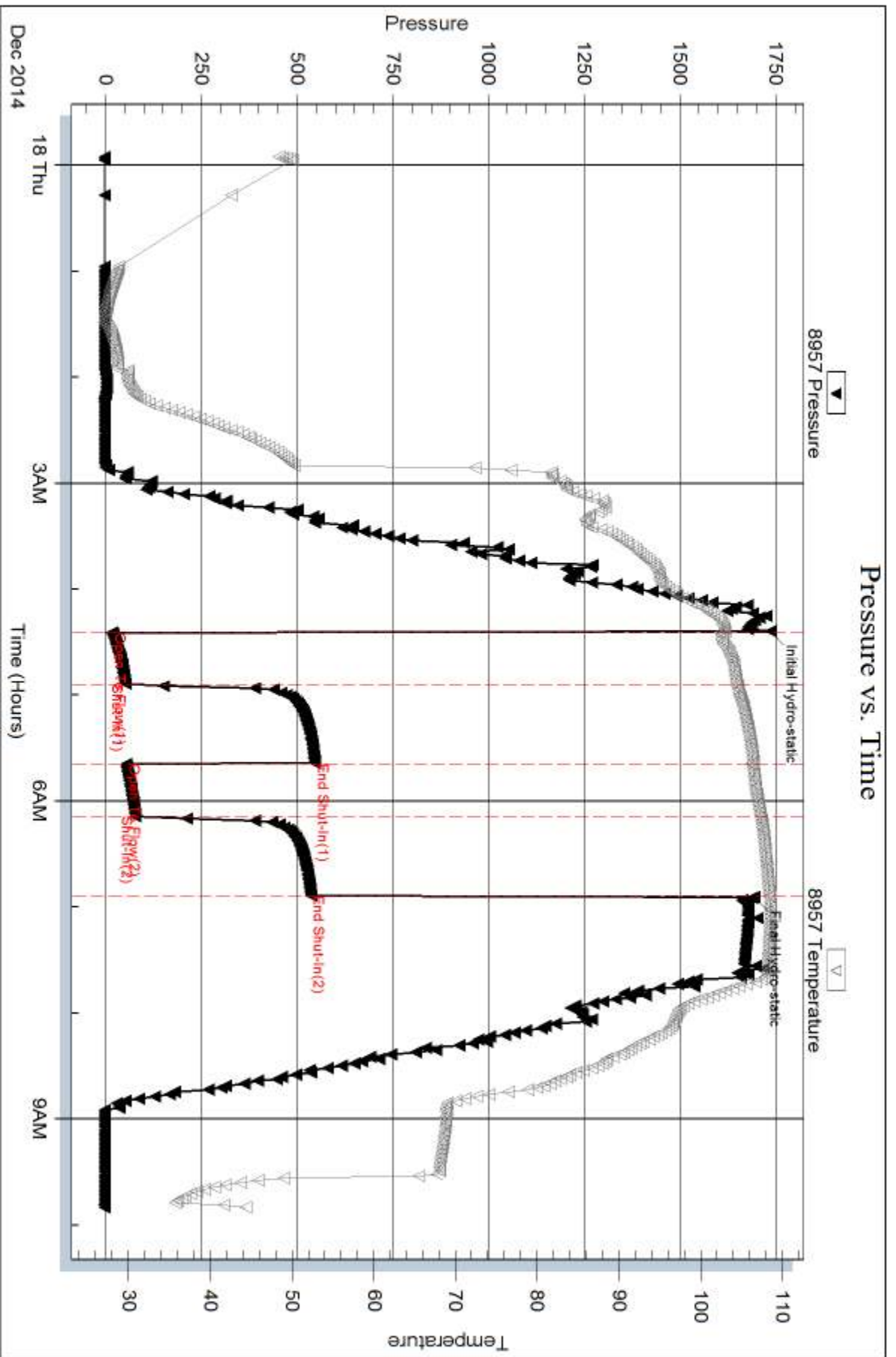
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	35000 ppm
Viscosity: 53.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.58 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2200.00 ppm			
Filter Cake: inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	MCW 70%W 30%M	0.295
65.00	VSWCM 10%W 90%M	0.320

Total Length: 125.00 ft      Total Volume: 0.615 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:



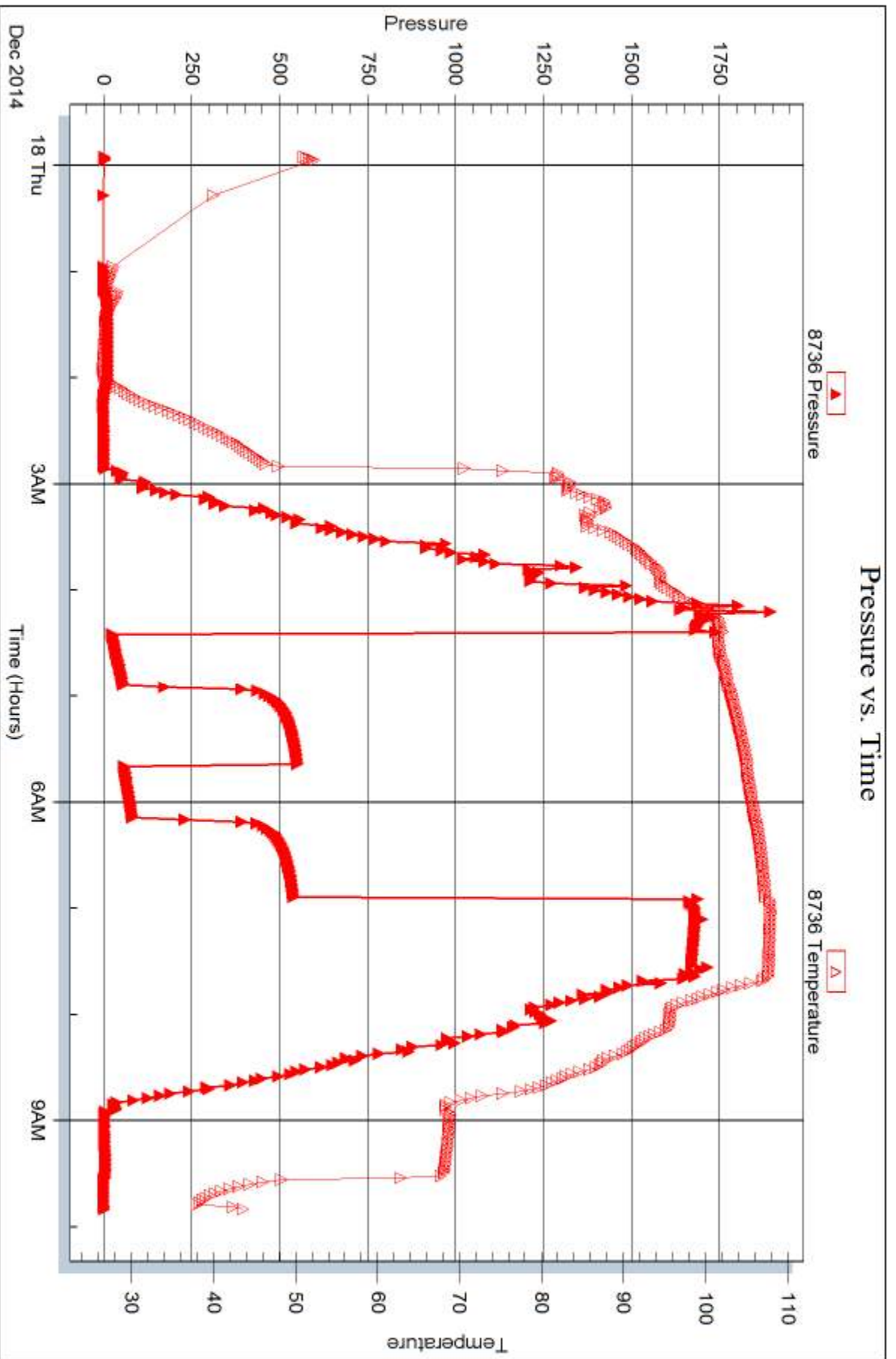
Serial #: 8736

Inside

Hess Oil Company

Younger #1

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Hess Oil Company**

PO Box 1009  
McPherson KS 67460

ATTN: David Gould

### **Younger #1**

#### **35-13s-19w Ellis,KS**

Start Date: 2014.12.18 @ 18:25:00

End Date: 2014.12.19 @ 02:33:15

Job Ticket #: 53831                      DST #: 3

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.12.23 @ 16:44:25



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Hess Oil Company  
PO Box 1009  
McPherson KS 67460  
ATTN: David Gould

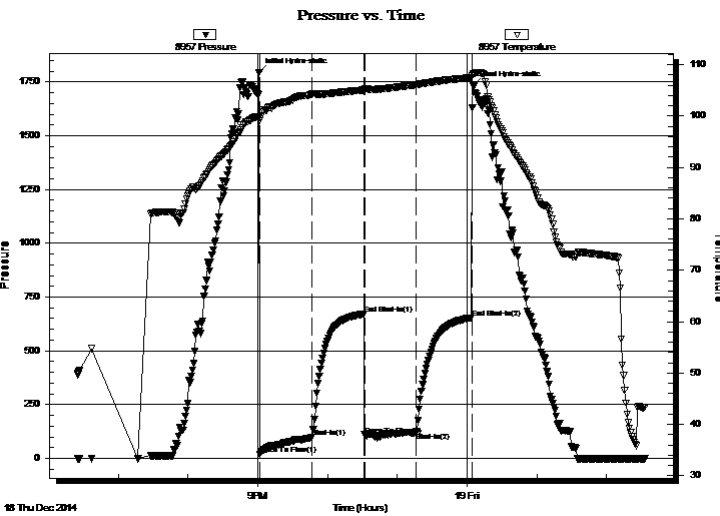
**35-13s-19w Ellis,KS**  
**Younger #1**  
Job Ticket: 53831      **DST#: 3**  
Test Start: 2014.12.18 @ 18:25:00

## GENERAL INFORMATION:

Formation: **LKC**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 21:01:45  
Time Test Ended: 02:33:15  
Interval: **3535.00 ft (KB) To 3564.00 ft (KB) (TVD)**  
Total Depth: 3564.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 2174.00 ft (KB)  
2169.00 ft (CF)  
KB to GR/CF: 5.00 ft  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Brett Dickinson  
Unit No: 59

**Serial #: 8957      Outside**  
Press@RunDepth: 120.16 psig @ 3561.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2014.12.18      End Date: 2014.12.19      Last Calib.: 2014.12.19  
Start Time: 18:25:05      End Time: 02:33:14      Time On Btm: 2014.12.18 @ 21:01:15  
Time Off Btm: 2014.12.19 @ 00:05:30

TEST COMMENT: IF-BOB in 18 min  
IS- No blow  
FF-BOB in 10 min  
FSI- 1 1/2" blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1794.64	99.87	Initial Hydro-static
1	20.09	99.06	Open To Flow (1)
46	97.72	104.25	Shut-In(1)
90	671.72	105.04	End Shut-In(1)
92	105.93	105.25	Open To Flow (2)
136	120.16	106.07	Shut-In(2)
183	654.10	107.44	End Shut-In(2)
185	1733.87	108.11	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
250.00	GO 20%G 80%O	1.25
50.00	GOCM 20%G 20%O 60%M	0.70
0.00	750ft GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hess Oil Company  
PO Box 1009  
McPherson KS 67460  
ATTN: David Gould

**35-13s-19w Ellis,KS**  
**Younger #1**  
Job Ticket: 53831      **DST#: 3**  
Test Start: 2014.12.18 @ 18:25:00

**Tool Information**

Drill Pipe:	Length: 3262.00 ft	Diameter: 3.80 inches	Volume: 45.76 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 248.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 46.98 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	3535.00 ft			Final 59000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	29.00 ft			
Tool Length:	57.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Shut In Tool	5.00			3512.00	
Hydraulic tool	5.00			3517.00	
Jars	5.00			3522.00	
Safety Joint	3.00			3525.00	
Packer	5.00			3530.00	28.00      Bottom Of Top Packer
Packer	5.00			3535.00	
Stubb	1.00			3536.00	
Perforations	25.00			3561.00	
Recorder	0.00	8736	Inside	3561.00	
Recorder	0.00	8957	Outside	3561.00	
Bullnose	3.00			3564.00	29.00      Bottom Packers & Anchor

**Total Tool Length: 57.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Hess Oil Company  
PO Box 1009  
McPherson KS 67460  
ATTN: David Gould

**35-13s-19w Ellis,KS**  
**Younger #1**  
Job Ticket: 53831      **DST#: 3**  
Test Start: 2014.12.18 @ 18:25:00

## Mud and Cushion Information

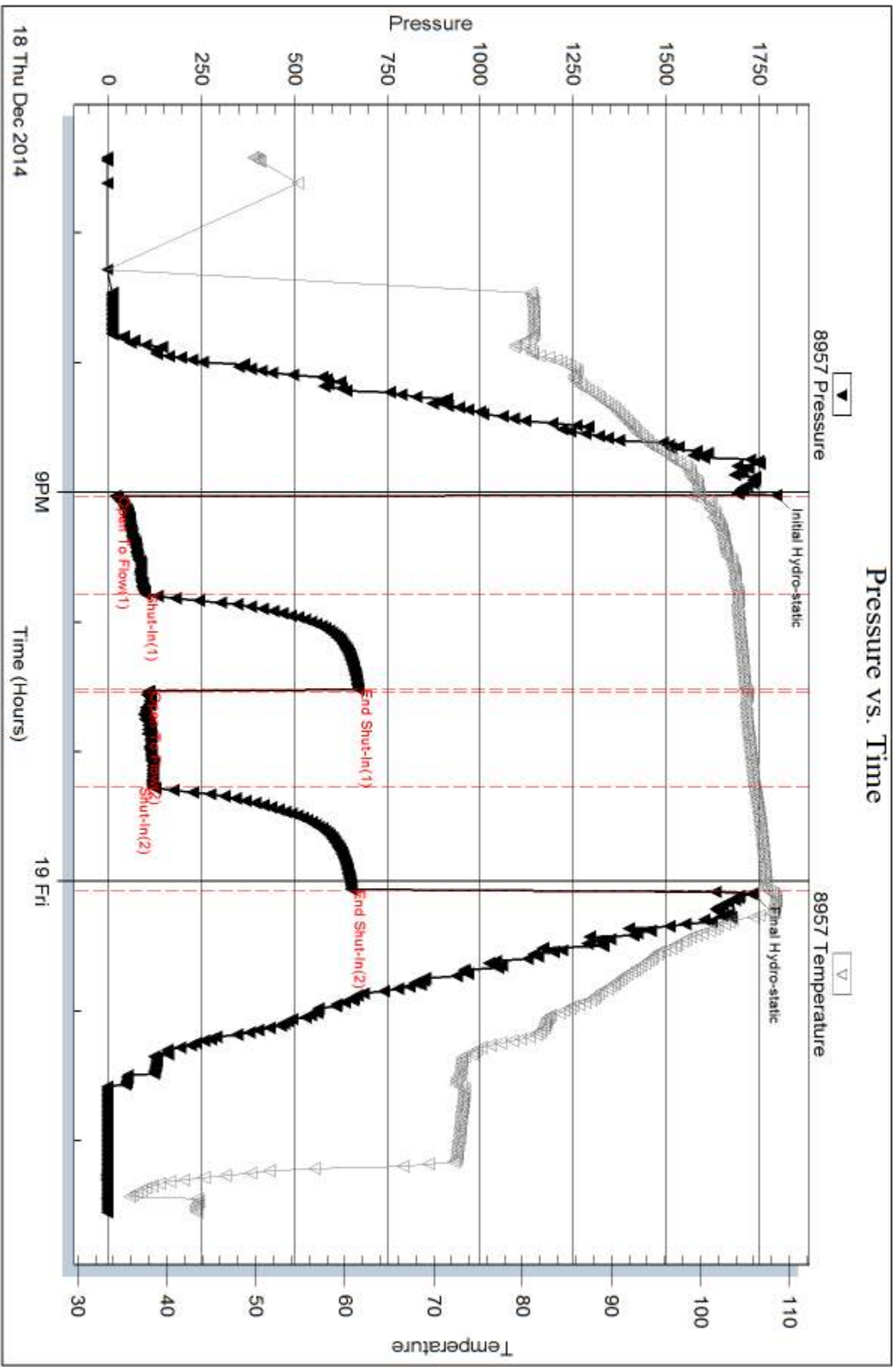
Mud Type: Gel Chem	Cushion Type:	Oil API: 35 deg API
Mud Weight: 92.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 47.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.58 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 2700.00 ppm		
Filter Cake: inches		

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
250.00	GO 20%G 80%O	1.248
50.00	GOCM 20%G 20%O 60%M	0.701
0.00	750ft GIP	0.000

Total Length: 300.00 ft      Total Volume: 1.949 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:



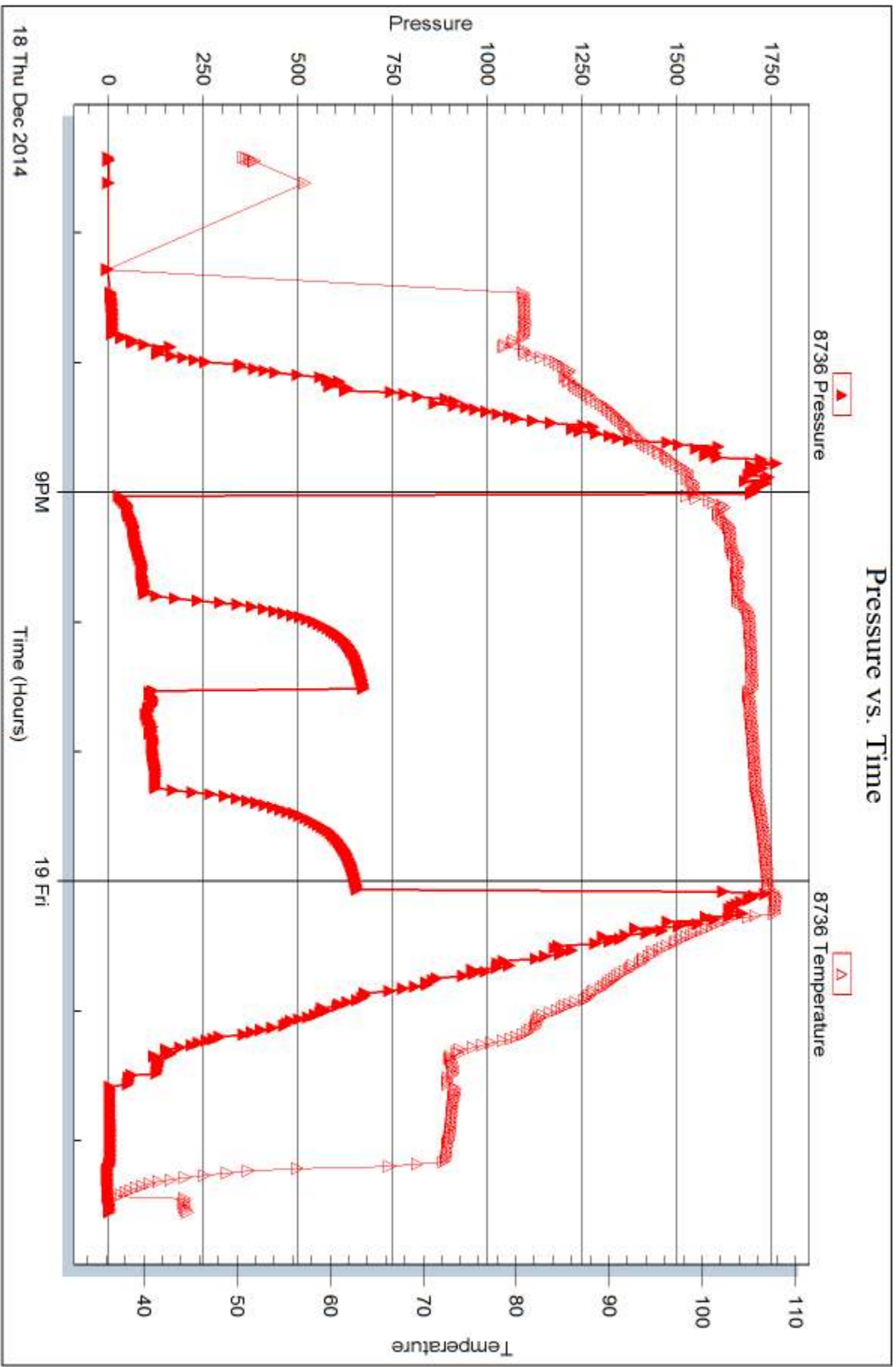
Serial #: 8736

Inside

Hess Oil Company

Younger #1

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 53831

Printed: 2014, 12, 23 @ 16:44:27



## DRILL STEM TEST REPORT

Prepared For: **Hess Oil Company**

PO Box 1009  
McPherson KS 67460

ATTN: David Gould

### **Younger #1**

#### **35-13s-19w Ellis,KS**

Start Date: 2014.12.19 @ 12:10:00

End Date: 2014.12.19 @ 18:20:15

Job Ticket #: 53832                      DST #: 4

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.12.23 @ 16:43:17

Hess Oil Company  
35-13s-19w Ellis,KS  
Younger #1  
DST # 4  
KC  
2014.12.19



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Hess Oil Company  
PO Box 1009  
McPherson KS 67460  
ATTN: David Gould

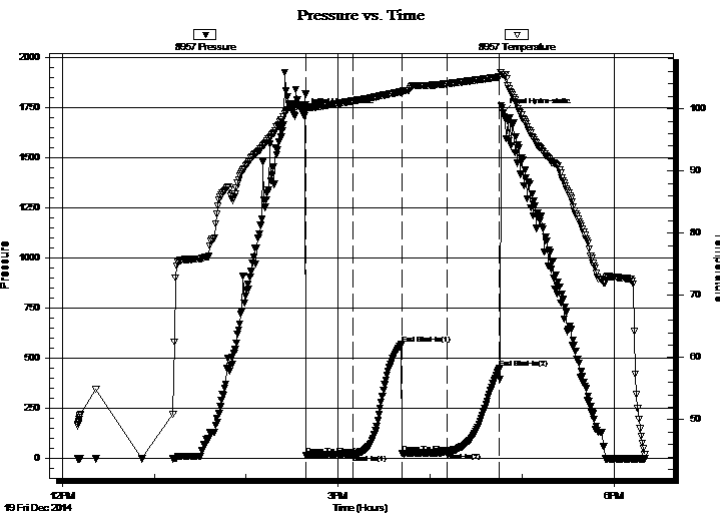
**35-13s-19w Ellis,KS**  
**Younger #1**  
Job Ticket: 53832      **DST#: 4**  
Test Start: 2014.12.19 @ 12:10:00

## GENERAL INFORMATION:

Formation: **KC**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 14:38:45  
Time Test Ended: 18:20:15  
Interval: **3566.00 ft (KB) To 3600.00 ft (KB) (TVD)**  
Total Depth: 3600.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Brett Dickinson  
Unit No: 59  
Reference Elevations: 2174.00 ft (KB)  
2169.00 ft (CF)  
KB to GR/CF: 5.00 ft

**Serial #: 8957      Outside**  
Press@RunDepth: 28.91 psig @ 3597.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2014.12.19      End Date: 2014.12.19      Last Calib.: 2014.12.19  
Start Time: 12:10:05      End Time: 18:20:14      Time On Btm: 2014.12.19 @ 14:38:00  
Time Off Btm: 2014.12.19 @ 16:47:30

TEST COMMENT: IF-weak surface blow  
IS-No blow  
FF-No blow  
FS-No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1726.03	100.45	Initial Hydro-static
1	16.44	99.71	Open To Flow (1)
32	21.09	101.24	Shut-In(1)
64	570.31	102.72	End Shut-In(1)
64	24.13	102.41	Open To Flow (2)
94	28.91	104.02	Shut-In(2)
127	448.85	105.10	End Shut-In(2)
130	1723.87	105.45	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	OS Mud	0.10

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hess Oil Company  
PO Box 1009  
McPherson KS 67460  
ATTN: David Gould

**35-13s-19w Ellis,KS**  
**Younger #1**  
Job Ticket: 53832      **DST#: 4**  
Test Start: 2014.12.19 @ 12:10:00

**Tool Information**

Drill Pipe:	Length: 3292.00 ft	Diameter: 3.80 inches	Volume: 46.18 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 248.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 47.40 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	2.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	3566.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	34.00 ft				
Tool Length:	62.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Shut In Tool	5.00			3543.00	
Hydraulic tool	5.00			3548.00	
Jars	5.00			3553.00	
Safety Joint	3.00			3556.00	
Packer	5.00			3561.00	28.00      Bottom Of Top Packer
Packer	5.00			3566.00	
Stubb	1.00			3567.00	
Perforations	30.00			3597.00	
Recorder	0.00	8736	Inside	3597.00	
Recorder	0.00	8957	Outside	3597.00	
Bullnose	3.00			3600.00	34.00      Bottom Packers & Anchor

**Total Tool Length: 62.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Hess Oil Company  
PO Box 1009  
McPherson KS 67460  
ATTN: David Gould

**35-13s-19w Ellis,KS**  
**Younger #1**  
Job Ticket: 53832      **DST#: 4**  
Test Start: 2014.12.19 @ 12:10:00

### Mud and Cushion Information

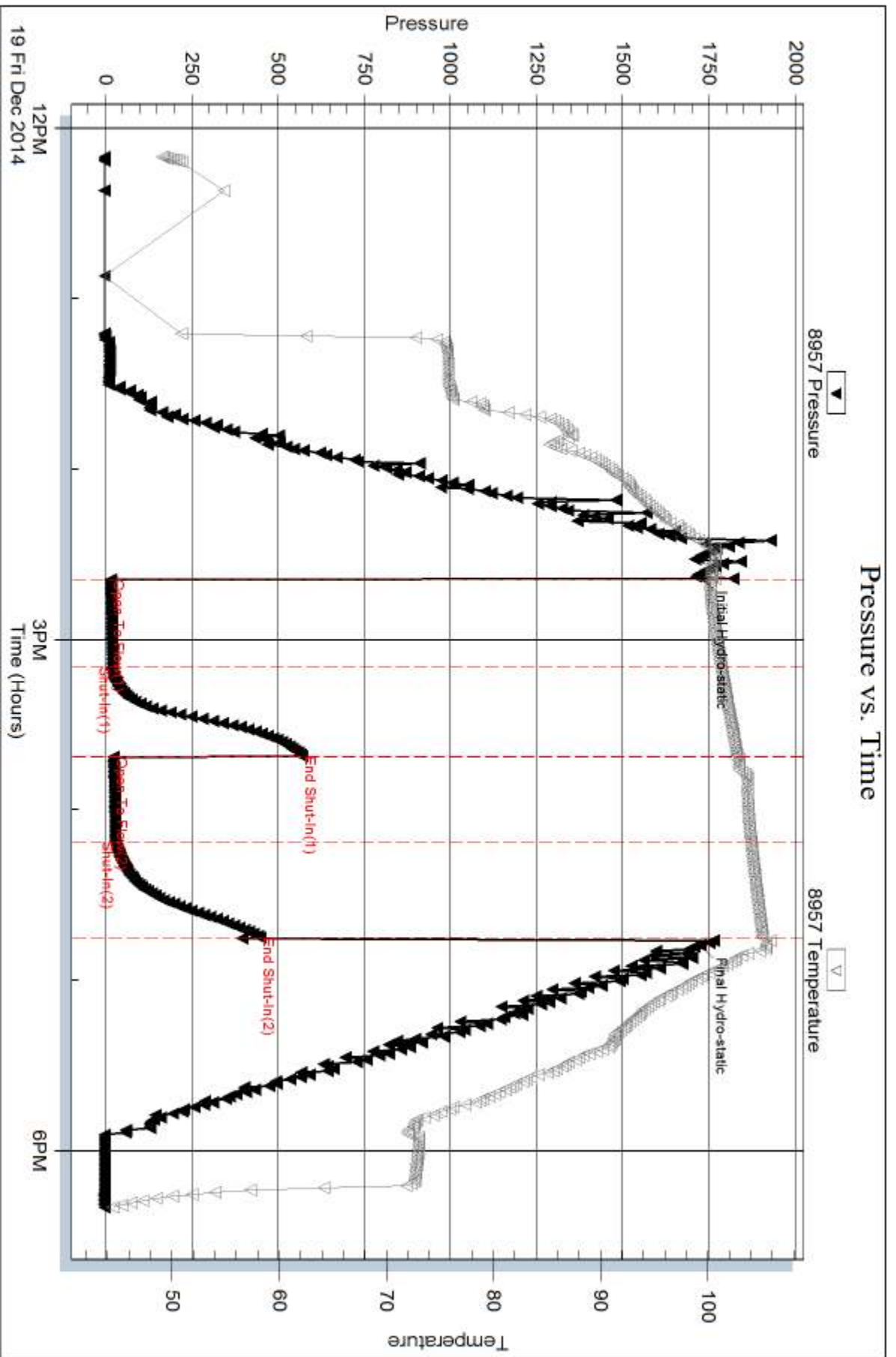
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 53.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.57 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2200.00 ppm			
Filter Cake: inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	OS Mud	0.098

Total Length: 20.00 ft      Total Volume: 0.098 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:



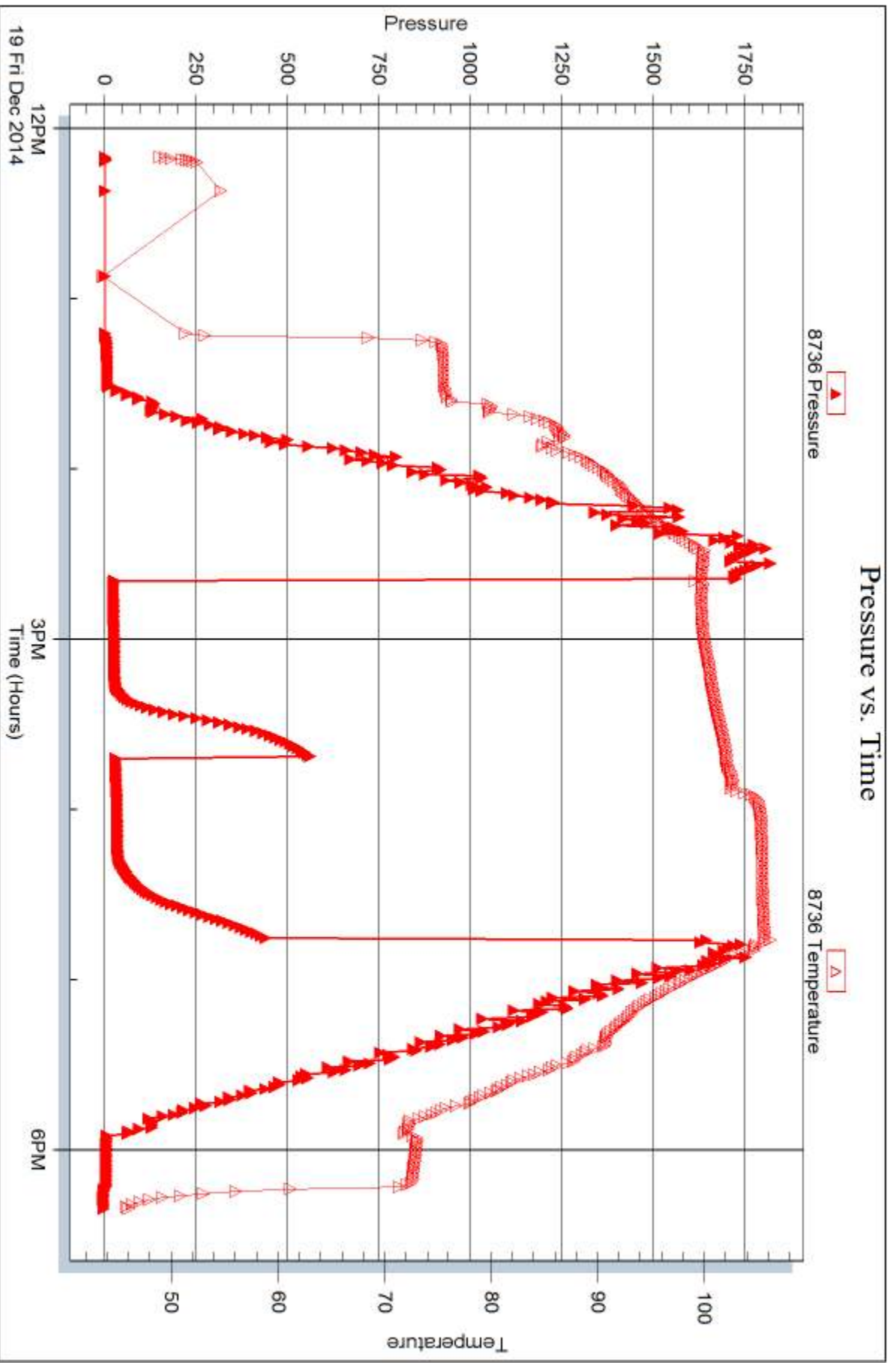
Serial #: 8736

Inside

Hess Oil Company

Younger #1

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 53832

Printed: 2014, 12, 23 @ 16:43:19



## DRILL STEM TEST REPORT

Prepared For: **Hess Oil Company**

PO Box 1009  
McPherson KS 67460

ATTN: David Gould

### **Younger #1**

#### **35-13s-19w Ellis,KS**

Start Date: 2014.12.20 @ 19:30:00

End Date: 2014.12.21 @ 06:22:15

Job Ticket #: 53833                      DST #: 5

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.12.23 @ 16:42:55

Hess Oil Company  
35-13s-19w Ellis,KS  
Younger #1  
DST # 5  
KC  
2014.12.20



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Hess Oil Company  
PO Box 1009  
McPherson KS 67460  
ATTN: David Gould

**35-13s-19w Ellis,KS**  
**Younger #1**  
Job Ticket: 53833      **DST#: 5**  
Test Start: 2014.12.20 @ 19:30:00

## GENERAL INFORMATION:

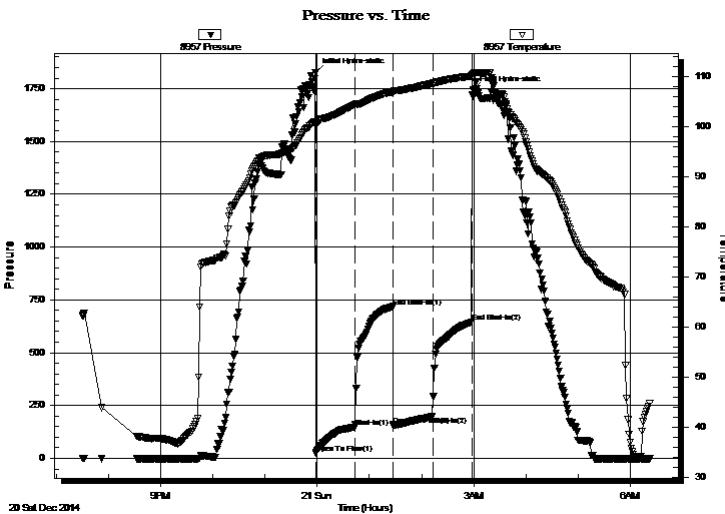
Formation: **KC**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 23:58:15  
Time Test Ended: 06:22:15  
Interval: **3608.00 ft (KB) To 3700.00 ft (KB) (TVD)**  
Total Depth: 3708.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 2174.00 ft (KB)  
2169.00 ft (CF)  
KB to GR/CF: 5.00 ft

## Serial #: 8957 Outside

Press@RunDepth: 197.19 psig @ 3697.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2014.12.20 End Date: 2014.12.21 Last Calib.: 2014.12.21  
Start Time: 19:30:05 End Time: 06:22:15 Time On Btm: 2014.12.20 @ 23:57:45  
Time Off Btm: 2014.12.21 @ 02:59:00

TEST COMMENT: IF-BOB in 24 min  
IS-Surface blow  
FF-BOB in 30 min  
FS-Surface blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1827.13	101.02	Initial Hydro-static
1	23.48	100.43	Open To Flow (1)
46	148.45	104.52	Shut-In(1)
90	718.28	107.08	End Shut-In(1)
90	155.61	107.00	Open To Flow (2)
135	197.19	108.73	Shut-In(2)
180	643.82	110.16	End Shut-In(2)
182	1743.43	110.57	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
235.00	MCW 80%W 20%M	1.16
125.00	VSOWCM 2%O 30%W 68%M	1.63
15.00	SGMCO 5%G 85%O 10%M	0.21
0.00	120ft GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hess Oil Company  
PO Box 1009  
McPherson KS 67460  
ATTN: David Gould

**35-13s-19w Ellis,KS**  
**Younger #1**  
Job Ticket: 53833      **DST#: 5**  
Test Start: 2014.12.20 @ 19:30:00

**Tool Information**

Drill Pipe:	Length: 3355.00 ft	Diameter: 3.80 inches	Volume: 47.06 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 248.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 48.28 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 59000.00 lb
Depth to Top Packer:	3608.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	92.00 ft			
Tool Length:	120.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Shut In Tool	5.00			3585.00	
Hydraulic tool	5.00			3590.00	
Jars	5.00			3595.00	
Safety Joint	3.00			3598.00	
Packer	5.00			3603.00	28.00      Bottom Of Top Packer
Packer	5.00			3608.00	
Stubb	1.00			3609.00	
Perforations	3.00			3612.00	
Change Over Sub	1.00			3613.00	
Drill Pipe	63.00			3676.00	
Change Over Sub	1.00			3677.00	
Perforations	20.00			3697.00	
Recorder	0.00	8736	Inside	3697.00	
Recorder	0.00	8957	Outside	3697.00	
Bullnose	3.00			3700.00	92.00      Bottom Packers & Anchor

**Total Tool Length: 120.00**





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Hess Oil Company

**35-13s-19w Ellis,KS**

PO Box 1009  
McPherson KS 67460

**Younger #1**

Job Ticket: 53833

**DST#: 5**

ATTN: David Gould

Test Start: 2014.12.20 @ 19:30:00

## 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:

55000 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2200.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
235.00	MCW 80%W 20%M	1.156
125.00	VSOWCM 2%O 30%W 68%M	1.635
15.00	SGMCO 5%G 85%O 10%M	0.210
0.00	120ft GIP	0.000

Total Length: 375.00 ft

Total Volume: 3.001 bbl

Num Fluid Samples: 0

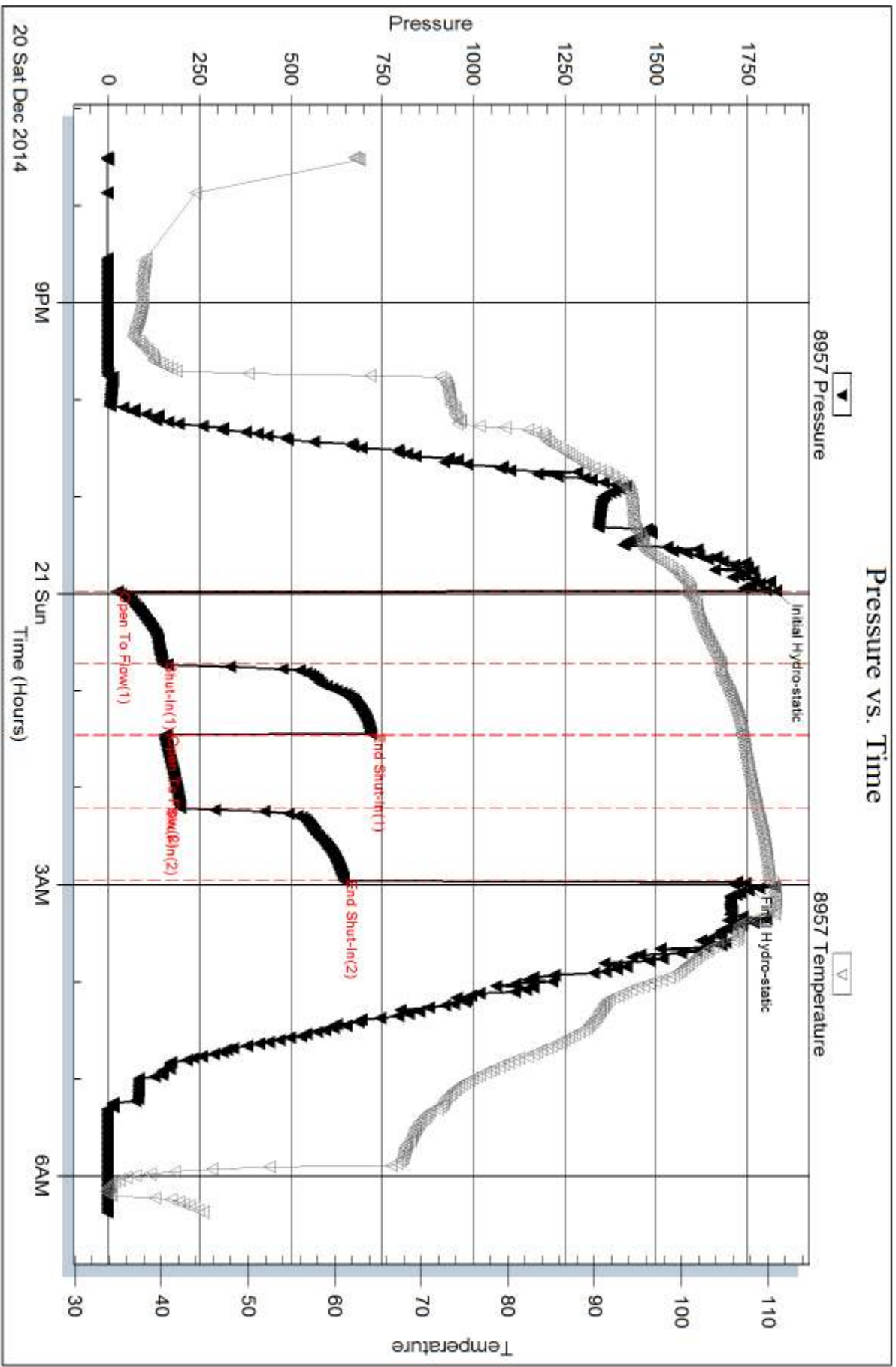
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



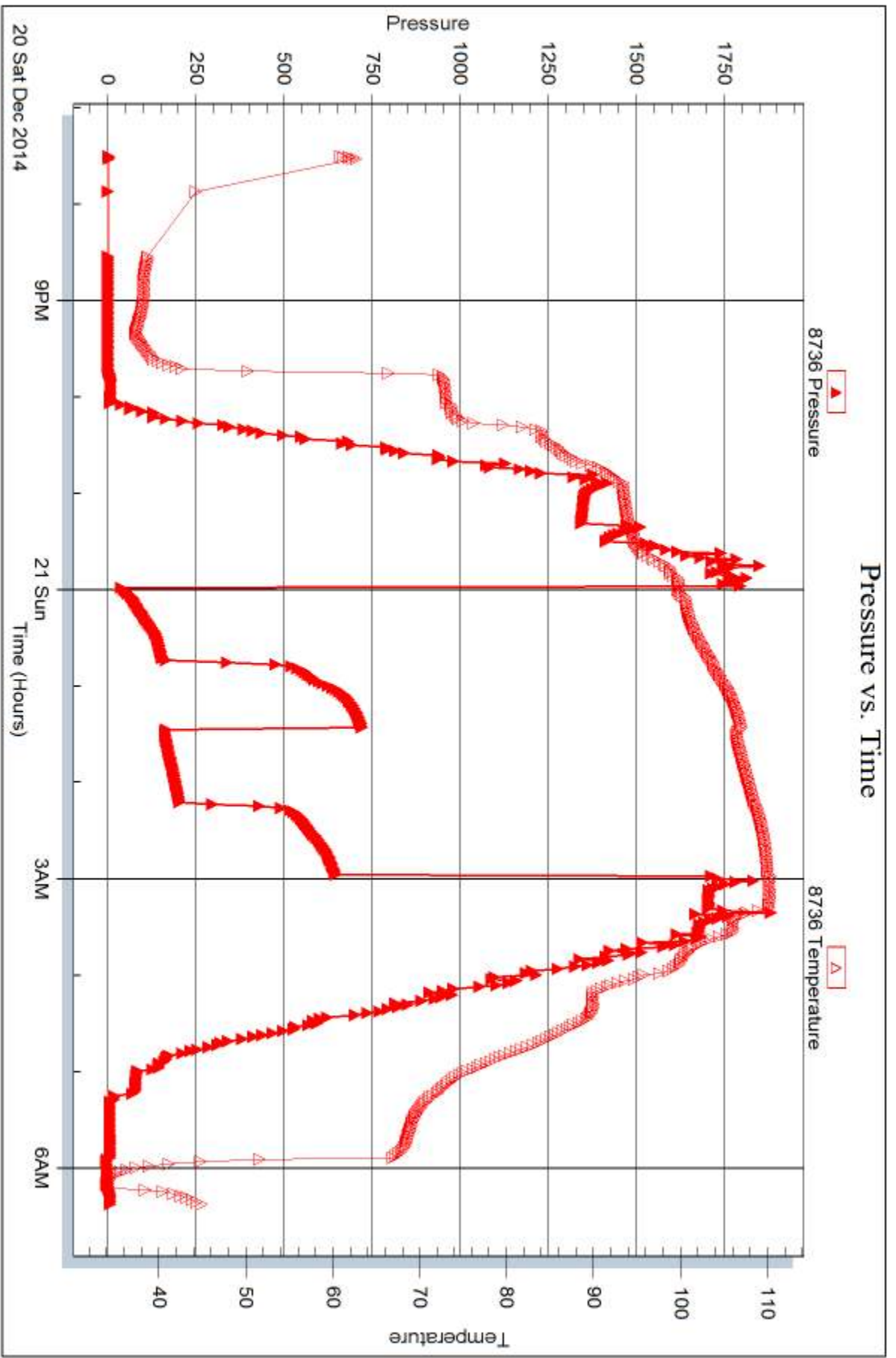
Serial #: 8736

Inside

Hess Oil Company

Younger #1

DST Test Number: 5





## DRILL STEM TEST REPORT

Prepared For: **Hess Oil Company**

PO Box 1009  
McPherson KS 67460

ATTN: David Gould

### **Younger #1**

#### **35-13s-19w Ellis,KS**

Start Date: 2014.12.21 @ 22:50:00

End Date: 2014.12.22 @ 08:53:45

Job Ticket #: 53834                      DST #: 6

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.12.23 @ 16:41:50



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Hess Oil Company  
 PO Box 1009  
 McPherson KS 67460  
 ATTN: David Gould

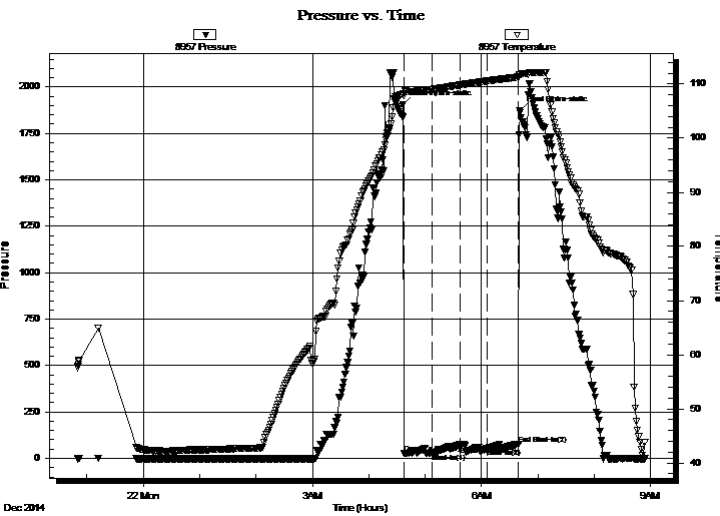
**35-13s-19w Ellis,KS**  
**Younger #1**  
 Job Ticket: 53834      **DST#: 6**  
 Test Start: 2014.12.21 @ 22:50:00

## GENERAL INFORMATION:

Formation: **Cong. Sd.**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 04:37:15  
 Time Test Ended: 08:53:45  
 Interval: **3791.00 ft (KB) To 3807.00 ft (KB) (TVD)**  
 Total Depth: 3807.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Brett Dickinson  
 Unit No: 59  
 Reference Elevations: 2174.00 ft (KB)  
 2169.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8957 Outside**  
 Press@RunDepth: 53.65 psig @ 3804.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.12.21 End Date: 2014.12.22 Last Calib.: 2014.12.22  
 Start Time: 22:50:05 End Time: 08:53:45 Time On Btm: 2014.12.22 @ 04:36:30  
 Time Off Btm: 2014.12.22 @ 06:40:30

TEST COMMENT: IF-1/4" blow  
 IS-No blow  
 FF-No blow  
 FS-No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1903.96	108.18	Initial Hydro-static
1	26.08	107.88	Open To Flow (1)
31	26.74	108.98	Shut-In(1)
60	74.37	109.82	End Shut-In(1)
61	63.93	109.82	Open To Flow (2)
90	53.65	110.57	Shut-In(2)
123	75.28	111.29	End Shut-In(2)
124	1872.77	111.81	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	Mud	0.07

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hess Oil Company  
PO Box 1009  
McPherson KS 67460  
ATTN: David Gould

**35-13s-19w Ellis,KS**  
**Younger #1**  
Job Ticket: 53834      **DST#: 6**  
Test Start: 2014.12.21 @ 22:50:00

**Tool Information**

Drill Pipe:	Length: 3543.00 ft	Diameter: 3.80 inches	Volume: 49.70 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 248.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 50.92 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial	59000.00 lb
Depth to Top Packer:	3791.00 ft			Final	59000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	16.00 ft				
Tool Length:	44.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Shut In Tool	5.00			3768.00	
Hydraulic tool	5.00			3773.00	
Jars	5.00			3778.00	
Safety Joint	3.00			3781.00	
Packer	5.00			3786.00	28.00      Bottom Of Top Packer
Packer	5.00			3791.00	
Stubb	1.00			3792.00	
Perforations	12.00			3804.00	
Recorder	0.00	8736	Inside	3804.00	
Recorder	0.00	8957	Outside	3804.00	
Bullnose	3.00			3807.00	16.00      Bottom Packers & Anchor

**Total Tool Length: 44.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Hess Oil Company  
PO Box 1009  
McPherson KS 67460  
ATTN: David Gould

**35-13s-19w Ellis,KS**  
**Younger #1**  
Job Ticket: 53834      **DST#: 6**  
Test Start: 2014.12.21 @ 22:50:00

### 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: 7.58 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2700.00 ppm			
Filter Cake: inches			

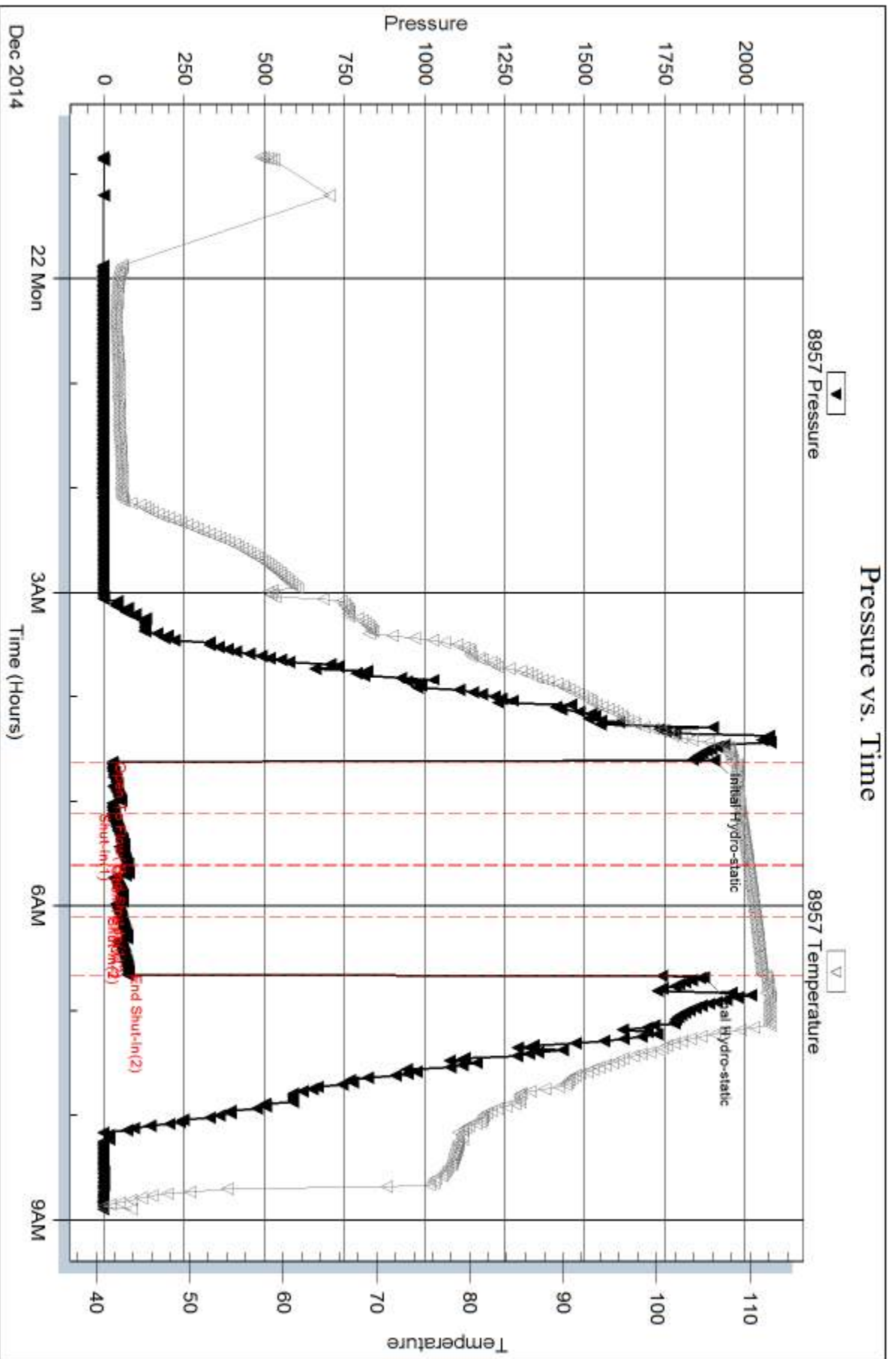
### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	Mud	0.074

Total Length: 15.00 ft      Total Volume: 0.074 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:





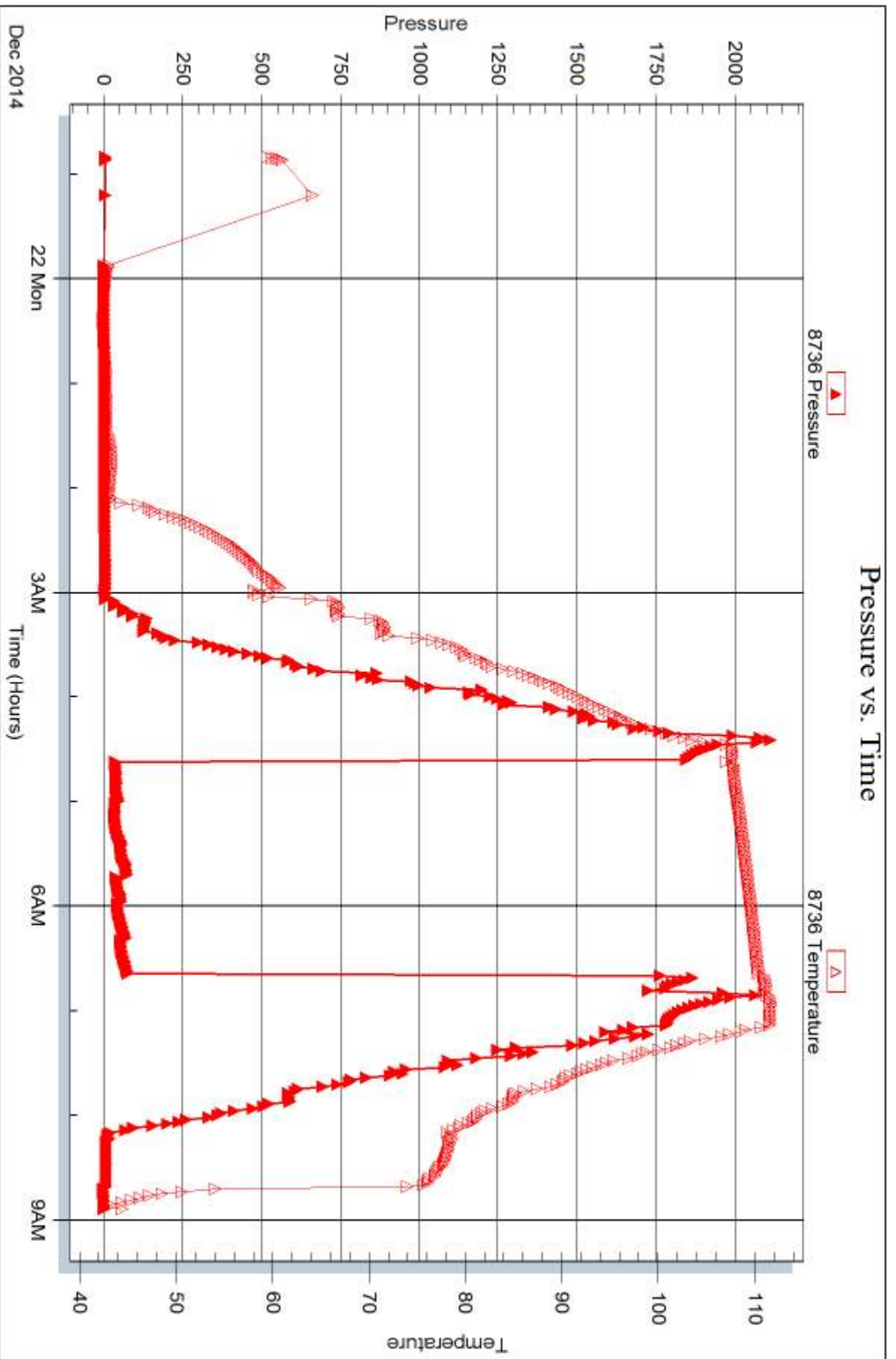
Serial #: 8736

Inside

Hess Oil Company

Younger #1

DST Test Number: 6



Trilobite Testing, Inc

Ref. No: 53834

Printed: 2014, 12, 23 @ 16:41:52



## DRILL STEM TEST REPORT

Prepared For: **Hess Oil Company**

PO Box 1009  
McPherson KS 67460

ATTN: David Gould

### **Younger #1**

#### **35-13s-19w Ellis,KS**

Start Date: 2014.12.22 @ 17:55:00

End Date: 2014.12.23 @ 02:46:15

Job Ticket #: 53835                      DST #: 7

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.12.23 @ 16:41:12



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Hess Oil Company  
PO Box 1009  
McPherson KS 67460  
ATTN: David Gould

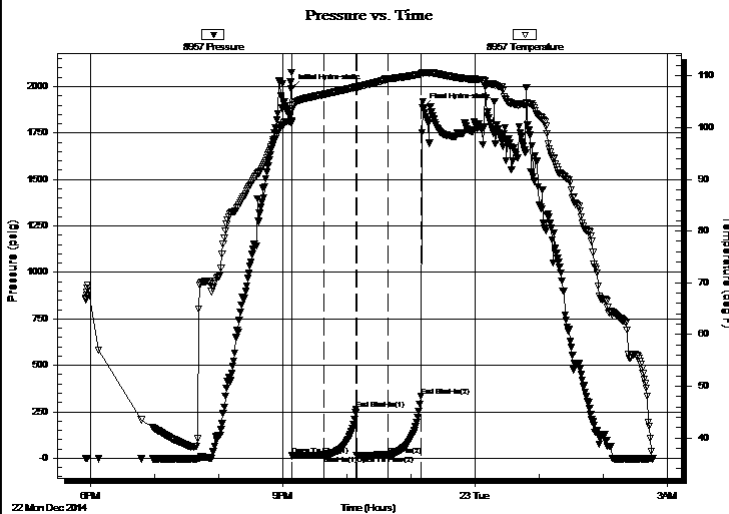
**35-13s-19w Ellis,KS**  
**Younger #1**  
Job Ticket: 53835      **DST#: 7**  
Test Start: 2014.12.22 @ 17:55:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 21:08:15  
Time Test Ended: 02:46:15  
Interval: **3843.00 ft (KB) To 3853.00 ft (KB) (TVD)**  
Total Depth: 3851.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 2174.00 ft (KB)  
2169.00 ft (CF)  
KB to GR/CF: 5.00 ft  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Brett Dickinson  
Unit No: 59

**Serial #: 8957      Outside**  
Press@RunDepth: 18.06 psig @ 3848.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2014.12.22      End Date: 2014.12.23      Last Calib.: 2014.12.23  
Start Time: 17:55:05      End Time: 02:46:15      Time On Btm: 2014.12.22 @ 21:07:30  
Time Off Btm: 2014.12.22 @ 23:10:30

TEST COMMENT: IF-1/2" blow  
IS-No blow  
FF-No blow  
FS-No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1988.86	101.24	Initial Hydro-static
1	13.77	101.02	Open To Flow (1)
31	18.10	106.46	Shut-In(1)
61	265.22	107.87	End Shut-In(1)
61	16.43	107.72	Open To Flow (2)
90	18.06	109.42	Shut-In(2)
122	335.43	110.37	End Shut-In(2)
123	1884.12	110.60	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
30.00	Mud	0.15

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hess Oil Company  
PO Box 1009  
McPherson KS 67460  
ATTN: David Gould

**35-13s-19w Ellis,KS**  
**Younger #1**  
Job Ticket: 53835      **DST#: 7**  
Test Start: 2014.12.22 @ 17:55:00

**Tool Information**

Drill Pipe:	Length: 3572.00 ft	Diameter: 3.80 inches	Volume: 50.11 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 248.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 51.33 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 61000.00 lb
Depth to Top Packer:	3843.00 ft			Final 61000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	8.00 ft			
Tool Length:	36.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Shut In Tool	5.00			3820.00	
Hydraulic tool	5.00			3825.00	
Jars	5.00			3830.00	
Safety Joint	3.00			3833.00	
Packer	5.00			3838.00	28.00      Bottom Of Top Packer
Packer	5.00			3843.00	
Stubb	1.00			3844.00	
Perforations	4.00			3848.00	
Recorder	0.00	8736	Inside	3848.00	
Recorder	0.00	8957	Outside	3848.00	
Bullnose	3.00			3851.00	8.00      Bottom Packers & Anchor

**Total Tool Length: 36.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Hess Oil Company  
PO Box 1009  
McPherson KS 67460  
ATTN: David Gould

**35-13s-19w Ellis,KS**  
**Younger #1**  
Job Ticket: 53835      **DST#: 7**  
Test Start: 2014.12.22 @ 17:55:00

## 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: 53.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.58 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2200.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	Mud	0.148

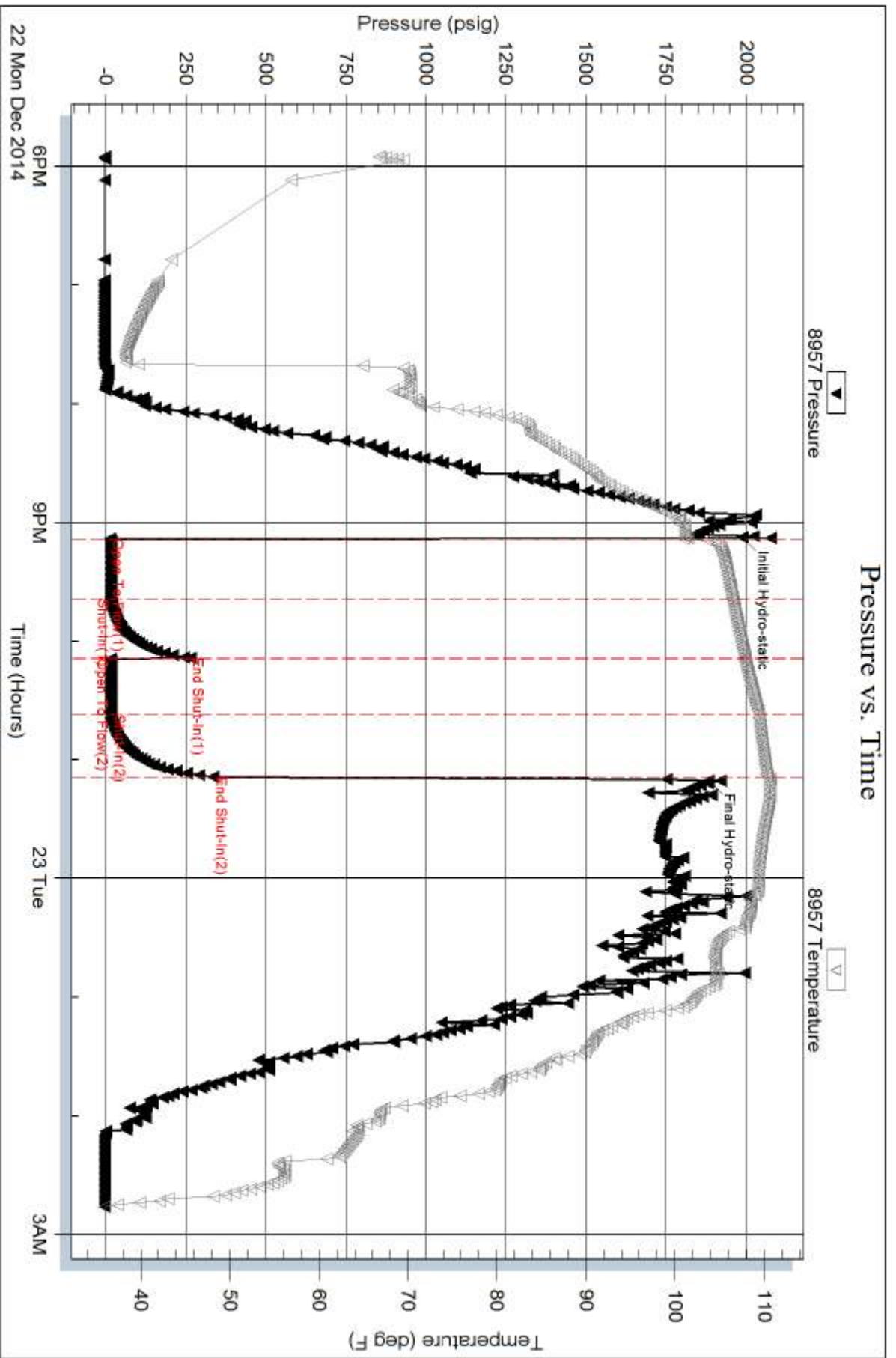
Total Length: 30.00 ft      Total Volume: 0.148 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:

Serial #: 8957

Outside Hess Oil Company

Younger #1

DST Test Number: 7



Trilobite Testing, Inc

Ref. No: 53835

Printed: 2014.12.23 @ 16:41:13



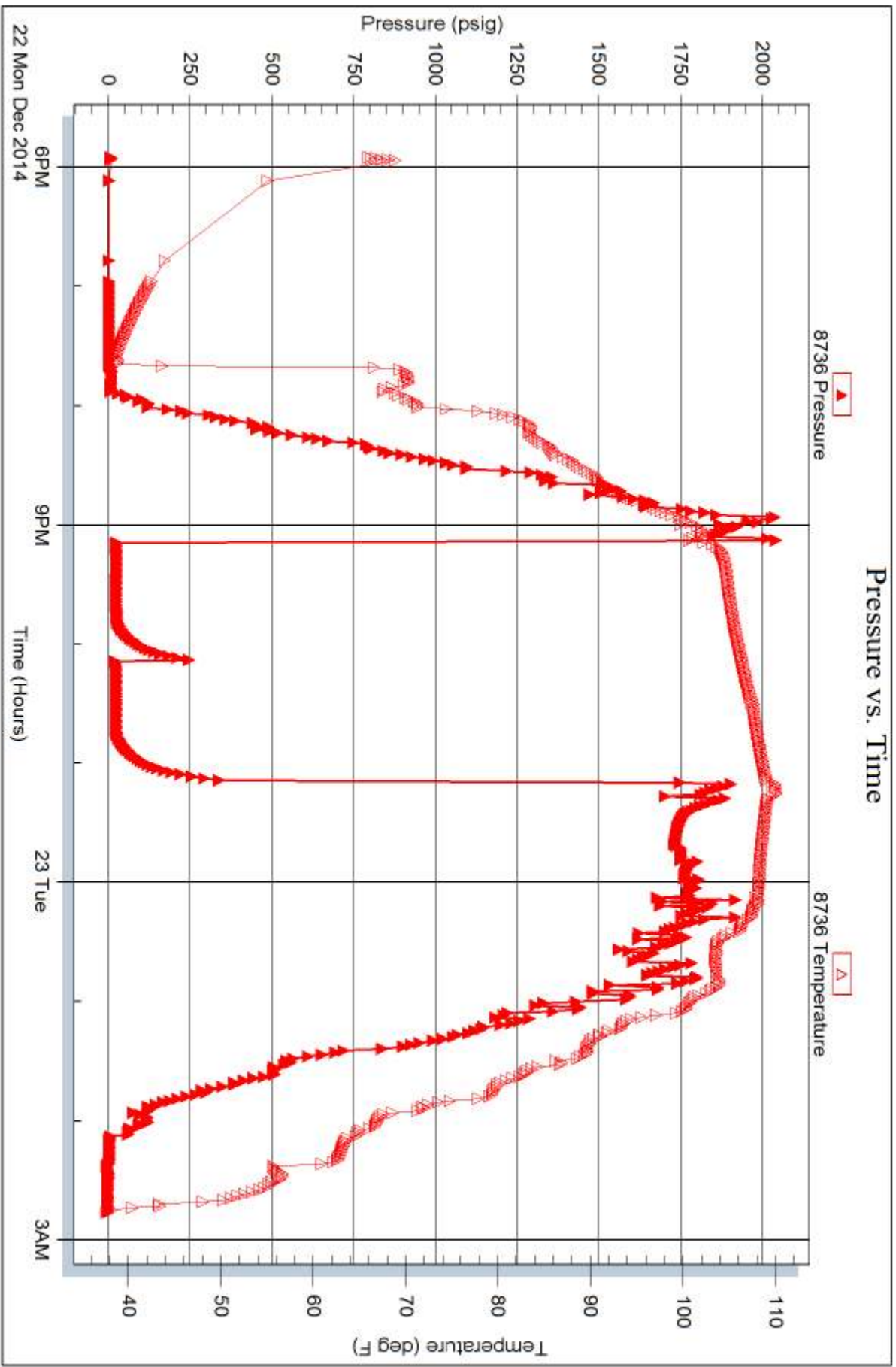
Serial #: 8736

Inside

Hess Oil Company

Younger #1

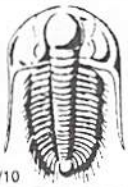
DST Test Number: 7



Trilobite Testing, Inc

Ref. No: 53835

Printed: 2014, 12, 23 @ 16:41:14



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 53829

Well Name & No. Younger #1 Test No. 1 Date 12/17/14  
 Company Hess Oil Company Elevation 2174 KB 2169 GL  
 Address PO Box 1009 McPherson KS 67460  
 Co. Rep / Geo. David Gould Rig Mallard  
 Location: Sec. 35 Twp. 13s Rge. 19w Co. Ellis State KS

Interval Tested 3396 - 3419 Zone Tested Oriad  
 Anchor Length 23 Drill Pipe Run \_\_\_\_\_ Mud Wt. 9.0  
 Top Packer Depth 3391 Drill Collars Run 248 Vis 52  
 Bottom Packer Depth 3396 Wt. Pipe Run — WL 7.6  
 Total Depth 3419 Chlorides 2,200 ppm System LCM 2#

Blow Description IF - 2 1/4 in blow  
ISI - No blow  
FF - 2 in blow  
FSI - No blow

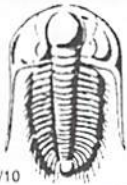
Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>OSMCW</u>		<u>70</u>	<u>30</u>	
<u>125</u>	<u>SMCW</u>		<u>95</u>	<u>5</u>	
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Rec Total 185 BHT 108 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides 82,000 ppm  
 (A) Initial Hydrostatic 1,728  Test 1150 T-On Location 21:00  
 (B) First Initial Flow 18  Jars 250 T-Started 2:05  
 (C) First Final Flow 66  Safety Joint 75 T-Open 7:05  
 (D) Initial Shut-In 1,079  Circ Sub \_\_\_\_\_ T-Pulled 9:35  
 (E) Second Initial Flow 69  Hourly Standby .75h 75 T-Out 11:45  
 (F) Second Final Flow 110  Mileage 20.1 31  
 (G) Final Shut-In 1,063  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1,644  Straddle \_\_\_\_\_

Initial Open 30  Ruined Shale Packer \_\_\_\_\_  
 Initial Shut-In 45  Ruined Packer \_\_\_\_\_  
 Final Flow 30  Extra Copies \_\_\_\_\_  
 Final Shut-In 45  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1581.00  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1581.00

Approved By \_\_\_\_\_ Our Representative Brett Dickinson

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 53830

Well Name & No. Younger #1 Test No. 2 Date 12/17/14  
 Company Hess Oil Company Elevation 2174 KB 2169 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. David Gould Rig Mallard  
 Location: Sec. 35 Twp. 13s Rge. 19w Co. Ellis State KS

Interval Tested 3490 - 3530 Zone Tested LKC  
 Anchor Length 40 Drill Pipe Run \_\_\_\_\_ Mud Wt. 9.3  
 Top Packer Depth 3485 Drill Collars Run 248 Vis 52  
 Bottom Packer Depth 3490 Wt. Pipe Run - WL 7.6  
 Total Depth 3530 Chlorides 2,700 ppm System LCM 2#

Blow Description IF - 3in blow  
ISI - No blow  
FF - 1 1/2 in blow  
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>65</u>	<u>VSWCM</u>		<u>10</u>	<u>90</u>	
<u>60</u>	<u>MCW</u>		<u>20</u>	<u>30</u>	
_____	_____				
_____	_____				
_____	_____				

Rec Total 125 BHT 108 Gravity \_\_\_\_\_ API RW .4 @ 35 °F Chlorides 35,000 ppm  
 (A) Initial Hydrostatic 1,736  Test 1150 T-On Location 23:45  
 (B) First Initial Flow 18  Jars 250 T-Started 23:55  
 (C) First Final Flow 52  Safety Joint 75 T-Open 4:25  
 (D) Initial Shut-In 546  Circ Sub \_\_\_\_\_ T-Pulled 6:53  
 (E) Second Initial Flow 55  Hourly Standby 1h 100 T-Out 9:50  
 (F) Second Final Flow 78  Mileage 20rt 31 Comments \_\_\_\_\_  
 (G) Final Shut-In 536  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1,694  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 45  
 Final Flow 30  
 Final Shut-In 45  
 Sub Total 1606  
 Total 1606  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Brett Dickinson

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 53831

Well Name & No. Younger #1 Test No. 3 Date 12/18/14  
 Company Hess Oil Company Elevation 2174 KB 2169 GL  
 Address PO Box 1009 McPherson KS 67460  
 Co. Rep / Geo. David Gould Rig Mallard  
 Location: Sec. 35 Twp. 13s Rge. 19w Co. Ellis State KS

Interval Tested 3535-3564 Zone Tested LKC  
 Anchor Length 29 Drill Pipe Run \_\_\_\_\_ Mud Wt. 9.2  
 Top Packer Depth 3530 Drill Collars Run 248 Vis 47  
 Bottom Packer Depth 3535 Wt. Pipe Run \_\_\_\_\_ WL 7.6  
 Total Depth 3564 Chlorides 2,700 ppm System LCM 2#

Blow Description IF - BOB in 18 min  
ISI - No blow  
FF - BOB in 10 min  
FSI - 1 1/2 in blow

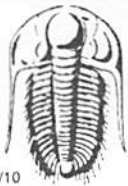
Rec	Feet of	%gas	%oil	%water	%mud
<u>50</u>	<u>GOCM</u>	<u>20</u>	<u>20</u>	<u>60</u>	
<u>250</u>	<u>60</u>	<u>20</u>	<u>80</u>		
Rec	Feet of <u>7.50 FT GIP</u>	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 300 BHT 107 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>1,795</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>18:10</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>18:25</u>
(C) First Final Flow <u>98</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>21:02</u>
(D) Initial Shut-In <u>672</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>00:02</u>
(E) Second Initial Flow <u>106</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>2:35</u>
(F) Second Final Flow <u>120</u>	<input checked="" type="checkbox"/> Mileage <u>20.1</u> 31	Comments _____
(G) Final Shut-In <u>654</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1,734</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open <u>45</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>45</u>	<input type="checkbox"/> Day Standby _____	Total <u>1506</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1506</u>	

Approved By \_\_\_\_\_ Our Representative Brett Dierman

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 53832

4/10

Well Name & No. Younger #1 Test No. 4 Date 12/19/14  
 Company Hess Oil Company Elevation 2174 KB 2169 GL  
 Address PO Box 1009 McPherson KS 67460  
 Co. Rep / Geo. David Gould Rig Mallard  
 Location: Sec. 35 Twp. 13s Rge. 19w Co. Ellis State KS

Interval Tested 3566 - 3600 Zone Tested KC  
 Anchor Length 34 Drill Pipe Run \_\_\_\_\_ Mud Wt. 9.3  
 Top Packer Depth 3561 Drill Collars Run 248 Vis 58  
 Bottom Packer Depth 3566 Wt. Pipe Run - WL 7.4  
 Total Depth 3600 Chlorides 2,700 ppm System LCM 2#

Blow Description IF - weak surface blow  
ISF - No blow  
FF - No blow  
FSF - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>OS Mud</u>				
_____	_____				
_____	_____				
_____	_____				
_____	_____				

Rec Total 20 BHT 105 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ ° F Chlorides \_\_\_\_\_ ppm

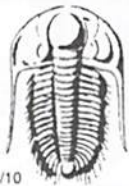
(A) Initial Hydrostatic 1,726  Test 1150 T-On Location 11:55  
 (B) First Initial Flow 16  Jars 250 T-Started 12:10  
 (C) First Final Flow 21  Safety Joint 75 T-Open 14:35  
 (D) Initial Shut-In 570  Circ Sub \_\_\_\_\_ T-Pulled 16:35  
 (E) Second Initial Flow 24  Hourly Standby \_\_\_\_\_ T-Out 18:20  
 (F) Second Final Flow 29  Mileage 20 rt 31 Comments \_\_\_\_\_  
 (G) Final Shut-In 449  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1,724  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 30  
 Final Flow 30  
 Final Shut-In 30

Sub Total 1506  
 Total 1506  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Ben Duhin

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 53833

Well Name & No. Younger #1 Test No. 5 Date 12/20/14  
 Company Hess Oil Company Elevation 2174 KB 2169 GL  
 Address PO Box 1009 McPherson KS 67460  
 Co. Rep / Geo. David Gould Rig Mallard  
 Location: Sec. 35 Twp. 13s Rge. 19w Co. Ellis State KS

Interval Tested 3608-3700 Zone Tested KC  
 Anchor Length 92 Drill Pipe Run \_\_\_\_\_ Mud Wt. \_\_\_\_\_  
 Top Packer Depth 3603 Drill Collars Run 248 Vis \_\_\_\_\_  
 Bottom Packer Depth 3608 Wt. Pipe Run — WL \_\_\_\_\_  
 Total Depth 3700 Chlorides \_\_\_\_\_ ppm System LCM \_\_\_\_\_  
 Blow Description IF - BOB in 24min  
ISI - weak surface blow  
FF - BOB in 30min  
FSI -

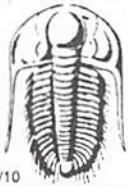
Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>SGMCO</u>	<u>5</u>	<u>85</u>	<u>10</u>	<u>10</u>
<u>125</u>	<u>VSO WCM</u>		<u>2</u>	<u>30</u>	<u>68</u>
<u>235</u>	<u>MCH</u>		<u>80</u>	<u>20</u>	<u>20</u>
____	<u>120 FT GFP</u>				
____	____				

Rec Total 390 BHT 110 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>1,827</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>19:10</u>
(B) First Initial Flow <u>23</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>19:30</u>
(C) First Final Flow <u>148</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>23:58</u>
(D) Initial Shut-In <u>718</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>2:58</u>
(E) Second Initial Flow <u>156</u>	<input checked="" type="checkbox"/> Hourly Standby _____	T-Out <u>6:20</u>
(F) Second Final Flow <u>197</u>	<input checked="" type="checkbox"/> Mileage <u>20RT 31</u>	Comments _____
(G) Final Shut-In <u>644</u>	<input type="checkbox"/> Sampler _____	<input type="checkbox"/> Ruined Shale Packer _____
(H) Final Hydrostatic <u>1,743</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Packer _____
Initial Open <u>45</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Extra Copies _____
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer _____	Sub Total <u>0</u>
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder _____	Total <u>1506</u>
Final Shut-In <u>43</u>	<input type="checkbox"/> Day Standby _____	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility _____	
	Sub Total <u>1506</u>	

Approved By \_\_\_\_\_ Our Representative Batt Dickins

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 53834

Well Name & No. Younger #1 Test No. 6 Date 12/21/14  
 Company Hess Oil Company Elevation 2174 KB 2169 GL  
 Address PO Box 1009 McPherson KS 67460  
 Co. Rep / Geo. David Gould Rig Mallard  
 Location: Sec. 35 Twp. 13s Rge. 19w Co. Ellis State KS

Interval Tested 3791 - 3807 Zone Tested Cong. Sd.  
 Anchor Length 16 Drill Pipe Run \_\_\_\_\_ Mud Wt. 9.3  
 Top Packer Depth 3786 Drill Collars Run 248 Vis 52  
 Bottom Packer Depth 3791 Wt. Pipe Run — WL 7.4  
 Total Depth 3807 Chlorides 2,700 ppm System LCM 2#

Blow Description IF - 1/4 in blow  
ISF - No blow  
FF - No blow  
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>Mud</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 15 BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ ° F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic \_\_\_\_\_  Test 1150 T-On Location 21:35  
 (B) First Initial Flow \_\_\_\_\_  Jars 250 T-Started 22:50  
 (C) First Final Flow \_\_\_\_\_  Safety Joint 75 T-Open 4:35  
 (D) Initial Shut-In \_\_\_\_\_  Circ Sub \_\_\_\_\_ T-Pulled 6:35  
 (E) Second Initial Flow \_\_\_\_\_  Hourly Standby 1h 100 T-Out 8:55  
 (F) Second Final Flow \_\_\_\_\_  Mileage 20.7 31 Comments \_\_\_\_\_  
 (G) Final Shut-In \_\_\_\_\_  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic \_\_\_\_\_  Straddle \_\_\_\_\_

Initial Open 30  Shale Packer \_\_\_\_\_  
 Initial Shut-In 30  Shale Packer \_\_\_\_\_  
 Final Flow 30  Extra Packer \_\_\_\_\_  
 Final Shut-In 30  Extra Recorder \_\_\_\_\_  
 Sub Total 0  
 Total 1606  
 Sub Total 1606 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Beth Dickinson

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 53835

Well Name & No. Younger #1 Test No. 7 Date 12/22/14  
 Company Hess Oil Company Elevation 2174 KB 2169 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. David Gould Rig Mallard  
 Location: Sec. 35 Twp. 13s Rge. 19w Co. Ellis State KS

Interval Tested 3843 - 3851 Zone Tested Arb.  
 Anchor Length 8 Drill Pipe Run \_\_\_\_\_ Mud Wt. \_\_\_\_\_  
 Top Packer Depth 3838 Drill Collars Run 248 Vis \_\_\_\_\_  
 Bottom Packer Depth 3843 Wt. Pipe Run - WL \_\_\_\_\_  
 Total Depth 3851 Chlorides \_\_\_\_\_ ppm System LCM \_\_\_\_\_

Blow Description IF - 1/2 in blow  
ISI - No blow  
FF - No blow  
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>Mud</u>				
____	____				
____	____				
____	____				

Rec Total 30 BHT 110 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ ° F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>1,989</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>17:20</u>
(B) First Initial Flow <u>14</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>17:55</u>
(C) First Final Flow <u>18</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>21:05</u>
(D) Initial Shut-In <u>265</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>23:05</u>
(E) Second Initial Flow <u>16</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>21:45</u>
(F) Second Final Flow <u>18</u>	<input checked="" type="checkbox"/> Mileage <u>20 on T</u> 31 31	Comments _____
(G) Final Shut-In <u>335</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1,884</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____

Initial Open 30  
 Initial Shut-In 30  
 Final Flow 30  
 Final Shut-In 30

Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Sub Total 1537

Sub Total 0  
 Total 1537  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Britt Duhon

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