



## DRILL STEM TEST REPORT

Prepared For: **Hutchinson Oil Co**

PO Box 521  
Derby, KS 67037

ATTN: Jeff Burk

**KD #1**

**35-23s-12w Stafford,KS**

Start Date: 2014.01.19 @ 07:10:15

End Date: 2014.01.19 @ 13:35:45

Job Ticket #: 51921                      DST #: 1

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.01.23 @ 15:14:15

Hutchinson Oil Co  
35-23s-12w Stafford,KS  
KD #1  
DST # 1  
LKC "B-F"  
2014.01.19



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Hutchinson Oil Co  
PO Box 521  
Derby, KS 67037  
ATTN: Jeff Burk

**35-23s-12w Stafford,KS**

**KD #1**

Job Ticket: 51921

**DST#: 1**

Test Start: 2014.01.19 @ 07:10:15

## GENERAL INFORMATION:

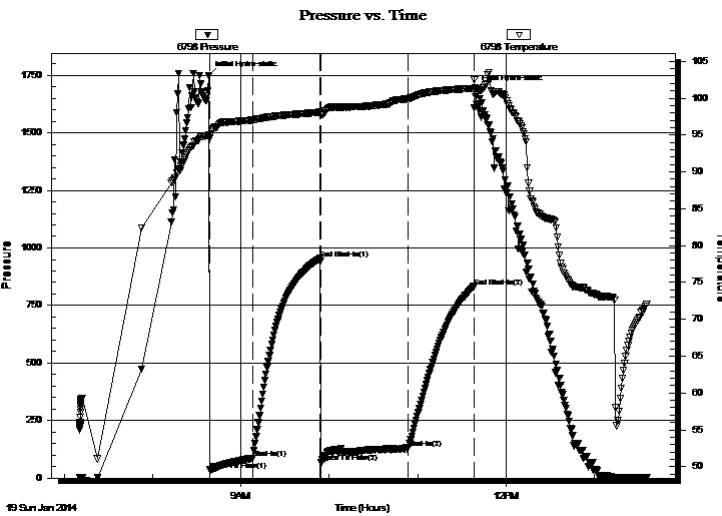
Formation: **LKC "B-F"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 08:39:00  
 Tester: Leal Cason  
 Time Test Ended: 13:35:45  
 Unit No: 74  
 Interval: **3408.00 ft (KB) To 3487.00 ft (KB) (TVD)**  
 Reference Elevations: 1862.00 ft (KB)  
 Total Depth: 3487.00 ft (KB) (TVD)  
 1849.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Good  
 KB to GR/CF: 13.00 ft

## Serial #: 6798

Inside

Press@RunDepth: 129.24 psig @ 3409.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.01.19 End Date: 2014.01.19 Last Calib.: 2014.01.19  
 Start Time: 07:10:16 End Time: 13:35:45 Time On Btm: 2014.01.19 @ 08:38:00  
 Time Off Btm: 2014.01.19 @ 11:39:15

TEST COMMENT: IF: Strong Blow , BOB in 90 seconds  
 IS: No Blow Back  
 FF: Strong Blow , BOB in 30 seconds, GTS in 45 minutes, TSTM, Caught Sample  
 FS: Weak Surface Blow Back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1746.63	94.96	Initial Hydro-static
1	35.75	94.55	Open To Flow (1)
30	86.52	97.03	Shut-In(1)
76	954.24	98.08	End Shut-In(1)
77	67.03	97.77	Open To Flow (2)
136	129.24	99.90	Shut-In(2)
181	832.01	101.33	End Shut-In(2)
182	1688.84	101.48	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	GTS	0.00
329.00	GWMCO 35%G 10%W 25%M 30%O	1.62

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hutchinson Oil Co

**35-23s-12w Stafford,KS**

PO Box 521  
Derby, KS 67037

**KD #1**

Job Ticket: 51921

**DST#: 1**

ATTN: Jeff Burk

Test Start: 2014.01.19 @ 07:10:15

## Tool Information

Drill Pipe:	Length: 3092.00 ft	Diameter: 3.80 inches	Volume: 43.37 bbl	Tool Weight:	2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 329.00 ft	Diameter: 2.25 inches	Volume: 1.62 bbl	Weight to Pull Loose:	75000.00 lb
			<u>Total Volume: 44.99 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial	68000.00 lb
Depth to Top Packer:	3408.00 ft			Final	68000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	79.00 ft				
Tool Length:	98.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3394.00	
Hydraulic tool	5.00			3399.00	
Packer	5.00			3404.00	19.00 Bottom Of Top Packer
Packer	4.00			3408.00	
Stubb	1.00			3409.00	
Recorder	0.00	6798	Inside	3409.00	
Recorder	0.00	8367	Outside	3409.00	
Perforations	5.00			3414.00	
Change Over Sub	1.00			3415.00	
Drill Pipe	64.00			3479.00	
Change Over Sub	1.00			3480.00	
Perforations	4.00			3484.00	
Bullnose	3.00			3487.00	79.00 Bottom Packers & Anchor

**Total Tool Length: 98.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Hutchinson Oil Co

**35-23s-12w Stafford,KS**

PO Box 521  
Derby, KS 67037

**KD #1**

Job Ticket: 51921

**DST#: 1**

ATTN: Jeff Burk

Test Start: 2014.01.19 @ 07:10:15

## 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:

bbbl

Water Loss: 7.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 0.02 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	GTS	0.000
329.00	GWMCO 35%G 10%W 25%M 30%O	1.618

Total Length: 329.00 ft

Total Volume: 1.618 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

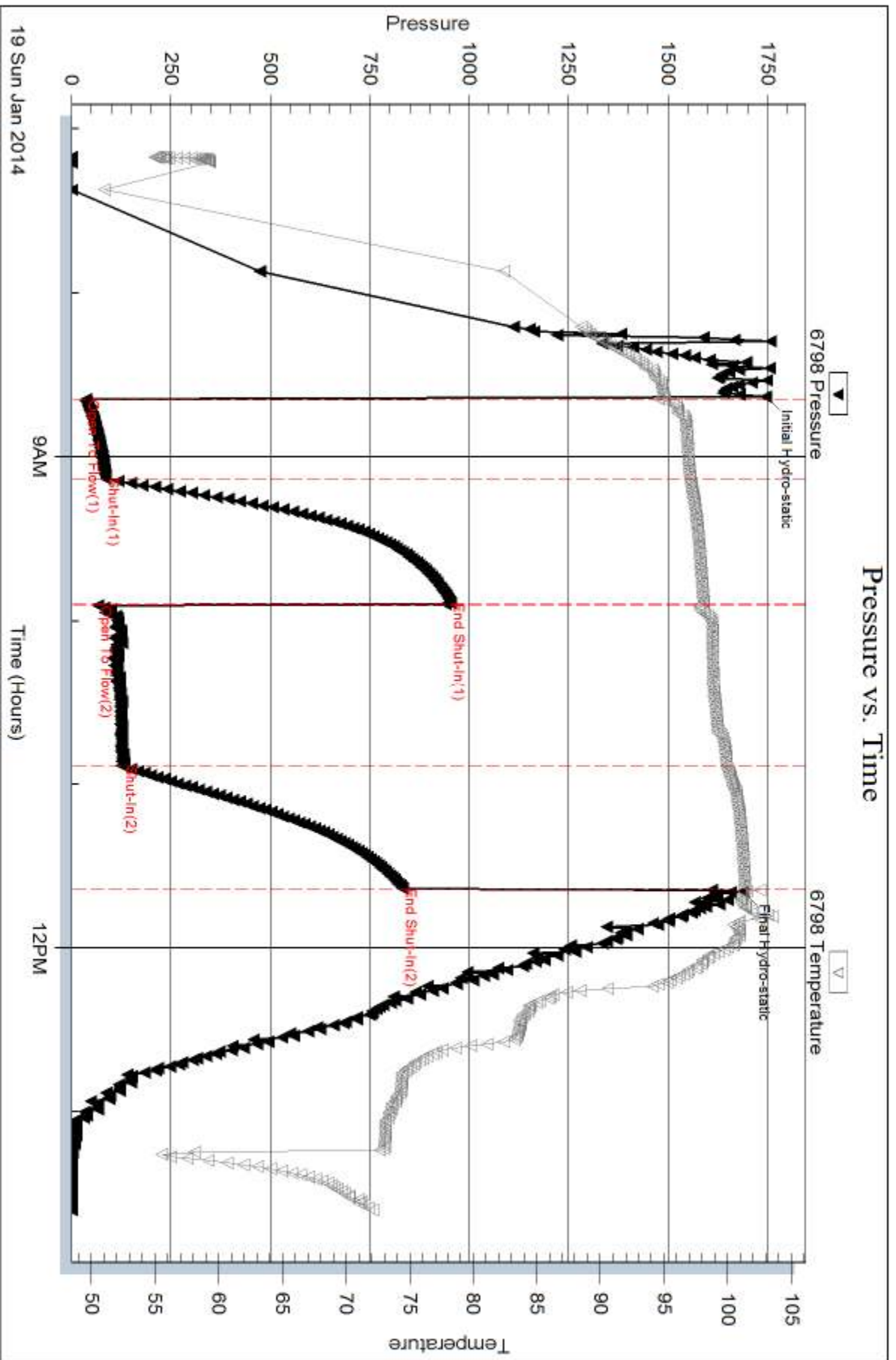
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time

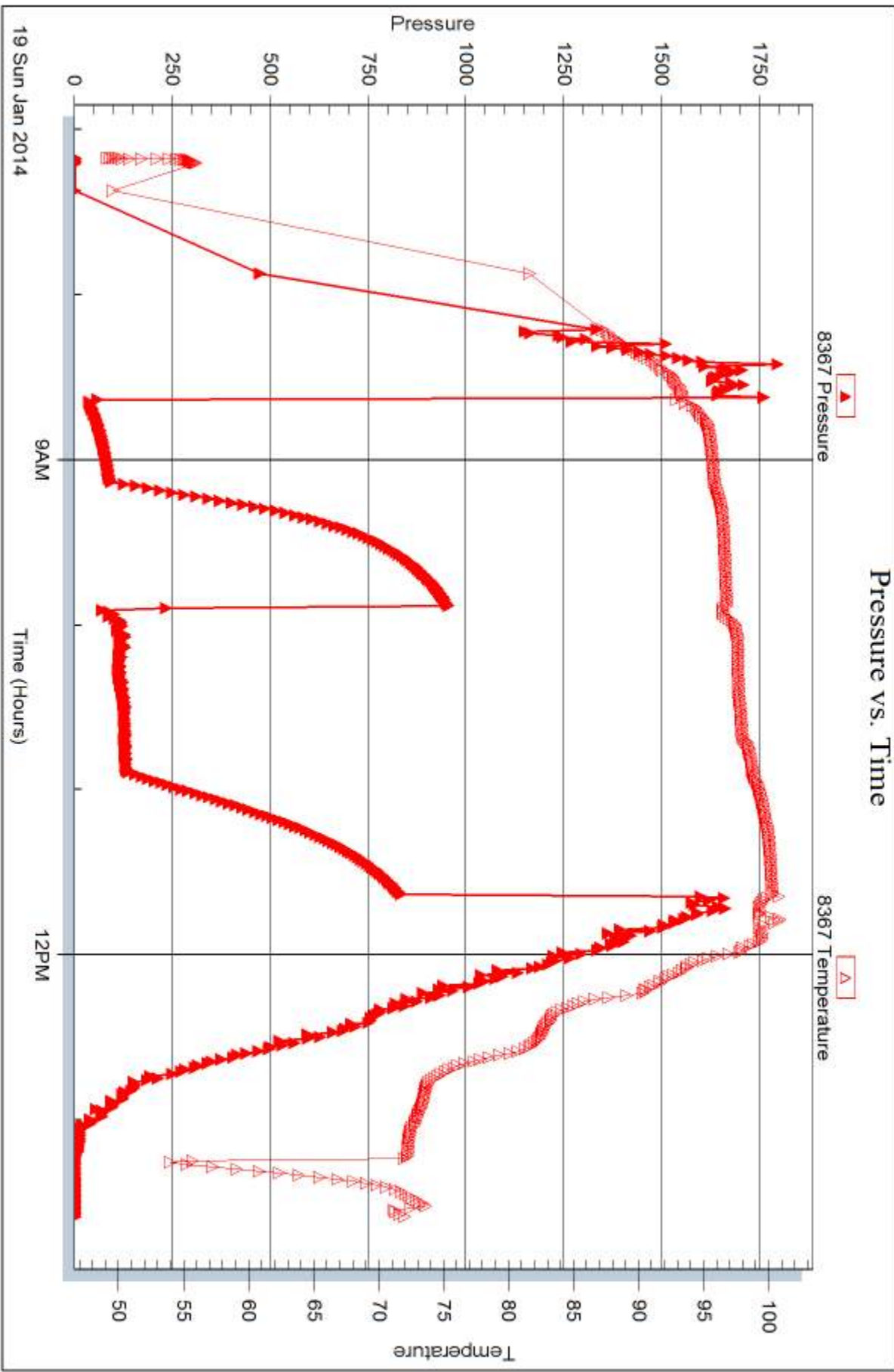


Serial #: 8367

Outside Hutchinson Oil Co

KD#1

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 51921

Printed: 2014.01.23 @ 15:14:17



## DRILL STEM TEST REPORT

Prepared For: **Hutchinson Oil Co**

PO Box 521  
Derby, KS 67037

ATTN: Jeff Burk

### **KD #1**

#### **35-23s-12w Stafford,KS**

Start Date: 2014.01.19 @ 19:41:31

End Date: 2014.01.20 @ 02:29:16

Job Ticket #: 51922                      DST #: 2

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.01.23 @ 15:13:54

Hutchinson Oil Co  
35-23s-12w Stafford,KS  
KD #1  
DST # 2  
LKC "G"  
2014.01.19





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Hutchinson Oil Co  
 PO Box 521  
 Derby, KS 67037  
 ATTN: Jeff Burk

**35-23s-12w Stafford, KS**

**KD #1**

Job Ticket: 51922

**DST#: 2**

Test Start: 2014.01.19 @ 19:41:31

## GENERAL INFORMATION:

Formation: **LKC "G"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 21:22:01  
 Time Test Ended: 02:29:16  
 Interval: **3487.00 ft (KB) To 3501.00 ft (KB) (TVD)**  
 Total Depth: 3501.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Leal Cason  
 Unit No: 74  
 Reference Elevations: 1862.00 ft (KB)  
 1849.00 ft (CF)  
 KB to GR/CF: 13.00 ft

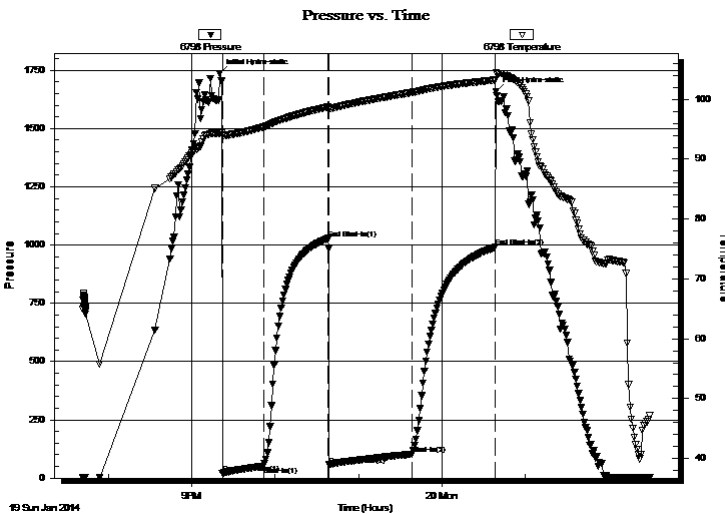
## Serial #: 6798

Inside

Press@RunDepth: 103.63 psig @ 3488.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.01.19 End Date: 2014.01.20 Last Calib.: 2014.01.20  
 Start Time: 19:41:32 End Time: 02:29:16 Time On Btm: 2014.01.19 @ 21:20:16  
 Time Off Btm: 2014.01.20 @ 00:39:01

TEST COMMENT: IF: Fair Blow , Built to 8 inches  
 IS: No Blow Back  
 FF: Weak Blow , Built to 3 inches  
 FS: No Blow Back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1736.59	94.37	Initial Hydro-static
2	19.48	93.96	Open To Flow (1)
32	51.78	95.41	Shut-In(1)
78	1028.20	98.74	End Shut-In(1)
79	57.21	98.48	Open To Flow (2)
139	103.63	101.16	Shut-In(2)
198	990.52	103.23	End Shut-In(2)
199	1658.83	104.51	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	62 GIP	0.00
120.00	Water	0.59
62.00	SOMCW 5%O 45%M 50%W	0.30

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE**  
**TESTING, INC**

# DRILL STEM TEST REPORT

Hutchinson Oil Co

**35-23s-12w Stafford,KS**

PO Box 521  
Derby, KS 67037

**KD #1**

Job Ticket: 51922

**DST#: 2**

ATTN: Jeff Burk

Test Start: 2014.01.19 @ 19:41:31

## GENERAL INFORMATION:

Formation: **LKC "G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:22:01

Time Test Ended: 02:29:16

Test Type: Conventional Bottom Hole (Reset)

Tester: Leal Cason

Unit No: 74

**Interval: 3487.00 ft (KB) To 3501.00 ft (KB) (TVD)**

Total Depth: 3501.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 1862.00 ft (KB)

1849.00 ft (CF)

KB to GR/CF: 13.00 ft

**Serial #: 8367**

**Outside**

Press@RunDepth: psig @ 3488.00 ft (KB)

Start Date: 2014.01.19

End Date:

2014.01.20

Capacity: 8000.00 psig

Last Calib.:

2014.01.20

Start Time: 19:41:32

End Time:

02:29:01

Time On Btm:

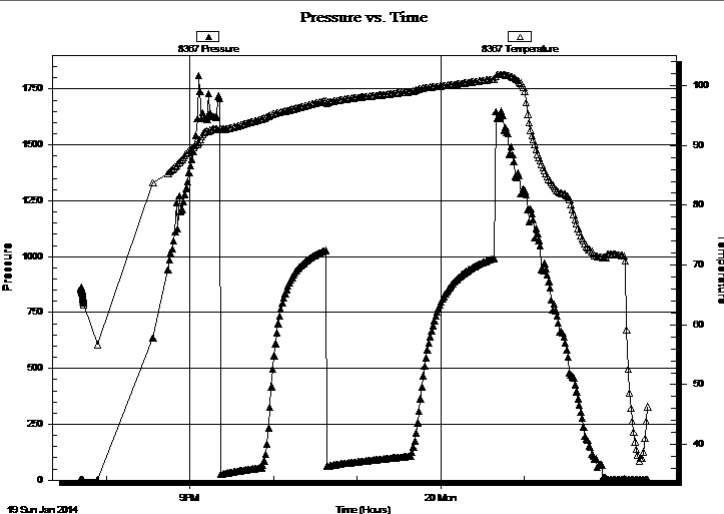
Time Off Btm:

TEST COMMENT: IF: Fair Blow , Built to 8 inches

IS: No Blow Back

FF: Weak Blow , Built to 3 inches

FS: No Blow Back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	62 GIP	0.00
120.00	Water	0.59
62.00	SOMCW 5%O 45%M 50%W	0.30

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hutchinson Oil Co

**35-23s-12w Stafford,KS**

PO Box 521  
Derby, KS 67037

**KD #1**

Job Ticket: 51922

**DST#: 2**

ATTN: Jeff Burk

Test Start: 2014.01.19 @ 19:41:31

## Tool Information

Drill Pipe:	Length: 3156.00 ft	Diameter: 3.80 inches	Volume: 44.27 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 329.00 ft	Diameter: 2.25 inches	Volume: 1.62 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 45.89 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	3487.00 ft			Final 69000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	14.00 ft			
Tool Length:	33.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3473.00	
Hydraulic tool	5.00			3478.00	
Packer	5.00			3483.00	19.00 Bottom Of Top Packer
Packer	4.00			3487.00	
Stubb	1.00			3488.00	
Recorder	0.00	6798	Inside	3488.00	
Recorder	0.00	8367	Outside	3488.00	
Perforations	10.00			3498.00	
Bullnose	3.00			3501.00	14.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>33.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Hutchinson Oil Co

**35-23s-12w Stafford,KS**

PO Box 521  
Derby, KS 67037

**KD #1**

Job Ticket: 51922

**DST#: 2**

ATTN: Jeff Burk

Test Start: 2014.01.19 @ 19:41:31

## 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:

80000 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 0.02 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	62 GIP	0.000
120.00	Water	0.590
62.00	SOMCW 5%O 45%M 50%W	0.305

Total Length: 182.00 ft      Total Volume: 0.895 bbl

Num Fluid Samples: 0

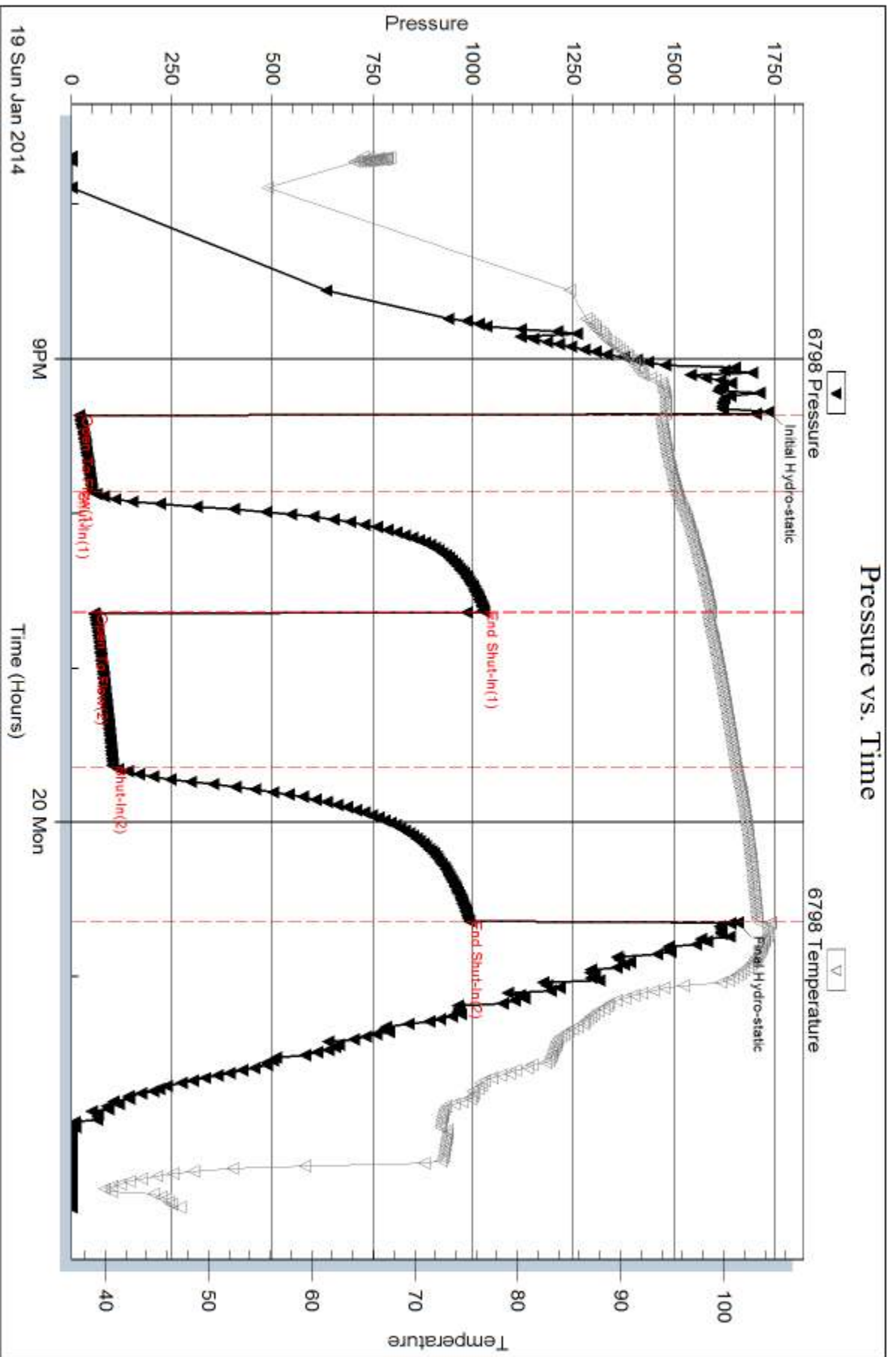
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW w as .17 @ 40 degrees

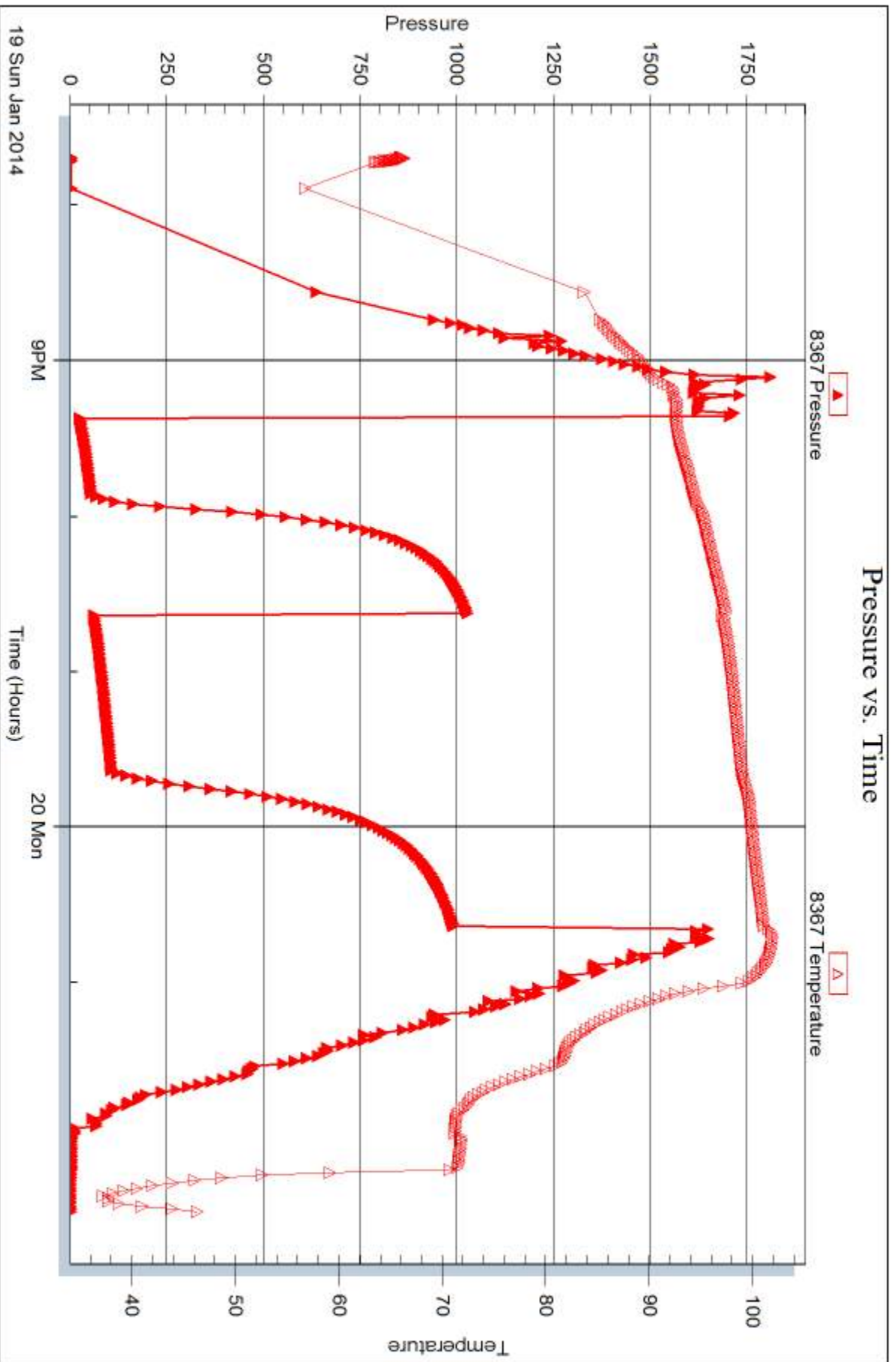


Serial #: 8367

Outside Hutchinson Oil Co

KD#1

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Hutchinson Oil Co**

PO Box 521  
Derby, KS 67037

ATTN: Jeff Burk

### **KD #1**

#### **35-23s-12w Stafford,KS**

Start Date: 2014.01.20 @ 15:23:49

End Date: 2014.01.20 @ 23:05:04

Job Ticket #: 51923                      DST #: 3

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.01.23 @ 15:13:29

Hutchinson Oil Co  
35-23s-12w Stafford,KS  
KD #1  
DST # 3  
LKC "H-K"  
2014.01.20



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Hutchinson Oil Co  
 PO Box 521  
 Derby, KS 67037  
 ATTN: Jeff Burk

**35-23s-12w Stafford, KS**

**KD #1**

Job Ticket: 51923

**DST#: 3**

Test Start: 2014.01.20 @ 15:23:49

## GENERAL INFORMATION:

Formation: **LKC "H-K"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 17:24:49  
 Tester: Leal Cason  
 Time Test Ended: 23:05:04  
 Unit No: 74  
 Interval: **3533.00 ft (KB) To 3620.00 ft (KB) (TVD)**  
 Reference Elevations: 1862.00 ft (KB)  
 Total Depth: 3620.00 ft (KB) (TVD)  
 1849.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Good  
 KB to GR/CF: 13.00 ft

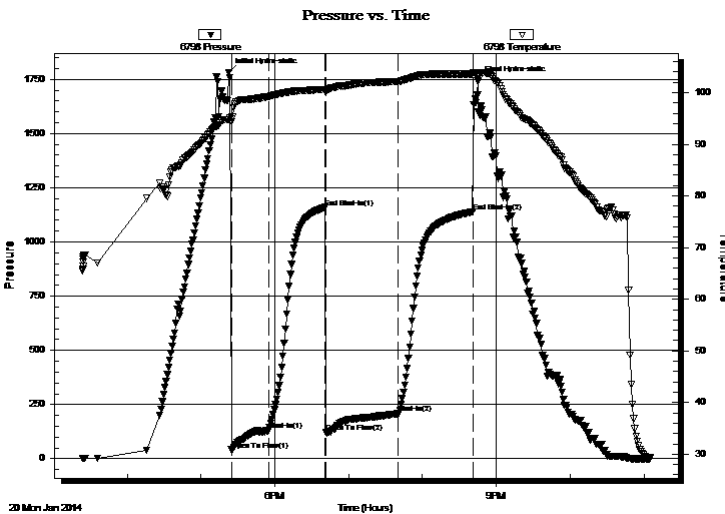
## Serial #: 6798

Inside

Press@RunDepth: 208.65 psig @ 3534.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.01.20 End Date: 2014.01.20 Last Calib.: 2014.01.20  
 Start Time: 15:23:50 End Time: 23:05:04 Time On Btm: 2014.01.20 @ 17:22:34  
 Time Off Btm: 2014.01.20 @ 20:44:49

TEST COMMENT: IF: Strong Blow , BOB in 3 minutes  
 IS: Weak Surface Blow Back  
 FF: Strong Blow , BOB in 30 seconds  
 FS: 1 1/2 inch Blow Back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1781.67	94.82	Initial Hydro-static
3	38.45	94.89	Open To Flow (1)
33	132.84	99.25	Shut-In(1)
78	1159.56	100.62	End Shut-In(1)
79	123.31	100.17	Open To Flow (2)
138	208.65	102.16	Shut-In(2)
199	1139.03	103.59	End Shut-In(2)
203	1741.75	103.06	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	2827 GIP	0.00
300.00	GMCO 40%G 20%M 40%O	1.48
72.00	GOCM 2%G 5%O 93%M	0.75

\* Recovery from multiple tests

## Gas Rates

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





# DRILL STEM TEST REPORT

Hutchinson Oil Co  
 PO Box 521  
 Derby, KS 67037  
 ATTN: Jeff Burk

**35-23s-12w Stafford, KS**

**KD #1**

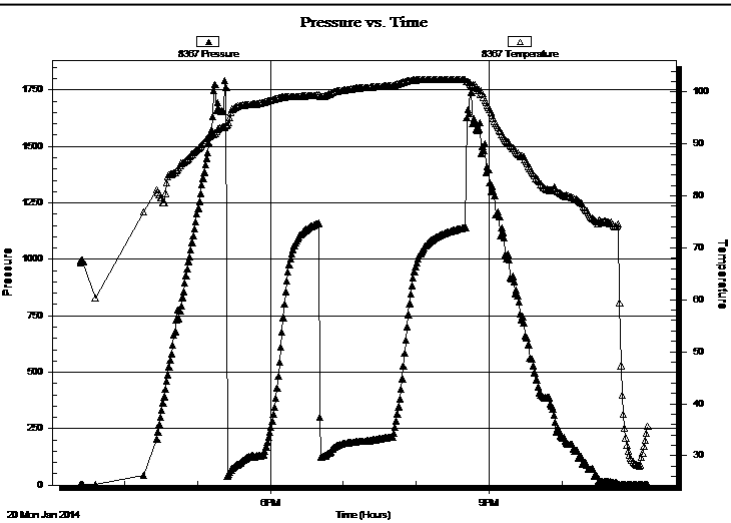
Job Ticket: 51923      **DST#: 3**  
 Test Start: 2014.01.20 @ 15:23:49

### GENERAL INFORMATION:

Formation: <b>LKC "H-K"</b>	
Deviated:      No      Whipstock:                  ft (KB)	Test Type:    Conventional Bottom Hole (Reset)
Time Tool Opened:    17:24:49	Tester:        Leal Cason
Time Test Ended:    23:05:04	Unit No:      74
<b>Interval:          3533.00 ft (KB) To    3620.00 ft (KB) (TVD)</b>	Reference Elevations:    1862.00 ft (KB)
Total Depth:        3620.00 ft (KB) (TVD)	1849.00 ft (CF)
Hole Diameter:      7.88 inches    Hole Condition:    Good	KB to GR/CF:          13.00 ft

<b>Serial #: 8367</b>	<b>Outside</b>		
Press@RunDepth:          psig @      3534.00 ft (KB)		Capacity:                  8000.00 psig	
Start Date:                  2014.01.20      End Date:              2014.01.20		Last Calib.:                2014.01.20	
Start Time:                  15:23:50          End Time:              23:10:49		Time On Btm:	
		Time Off Btm:	

**TEST COMMENT:** IF: Strong Blow , BOB in 3 minutes  
 IS: Weak Surface Blow Back  
 FF: Strong Blow , BOB in 30 seconds  
 FS: 1 1/2 inch Blow Back



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery		
Length (ft)	Description	Volume (bbl)
0.00	2827 GIP	0.00
300.00	GMCO 40%G 20%M 40%O	1.48
72.00	GOCM 2%G 5%O 93%M	0.75

\* Recovery from multiple tests

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hutchinson Oil Co

**35-23s-12w Stafford,KS**

PO Box 521  
Derby, KS 67037

**KD #1**

Job Ticket: 51923

**DST#: 3**

ATTN: Jeff Burk

Test Start: 2014.01.20 @ 15:23:49

## Tool Information

Drill Pipe:	Length: 3188.00 ft	Diameter: 3.80 inches	Volume: 44.72 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 329.00 ft	Diameter: 2.25 inches	Volume: 1.62 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 46.34 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	3533.00 ft			Final 71000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	87.00 ft			
Tool Length:	106.00 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			3519.00	
Hydraulic tool	5.00			3524.00	
Packer	5.00			3529.00	19.00 Bottom Of Top Packer
Packer	4.00			3533.00	
Stubb	1.00			3534.00	
Recorder	0.00	6798	Inside	3534.00	
Recorder	0.00	8367	Outside	3534.00	
Perforations	7.00			3541.00	
Change Over Sub	1.00			3542.00	
Drill Pipe	64.00			3606.00	
Change Over Sub	1.00			3607.00	
Perforations	10.00			3617.00	
Bullnose	3.00			3620.00	87.00 Bottom Packers & Anchor

**Total Tool Length: 106.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Hutchinson Oil Co

**35-23s-12w Stafford,KS**

PO Box 521  
Derby, KS 67037

**KD #1**

Job Ticket: 51923

**DST#: 3**

ATTN: Jeff Burk

Test Start: 2014.01.20 @ 15:23:49

## 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:

bbbl

Water Loss: 7.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 0.02 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	2827 GIP	0.000
300.00	GMCO 40%G 20%M 40%O	1.475
72.00	GOCM 2%G 5%O 93%M	0.746

Total Length: 372.00 ft      Total Volume: 2.221 bbl

Num Fluid Samples: 0

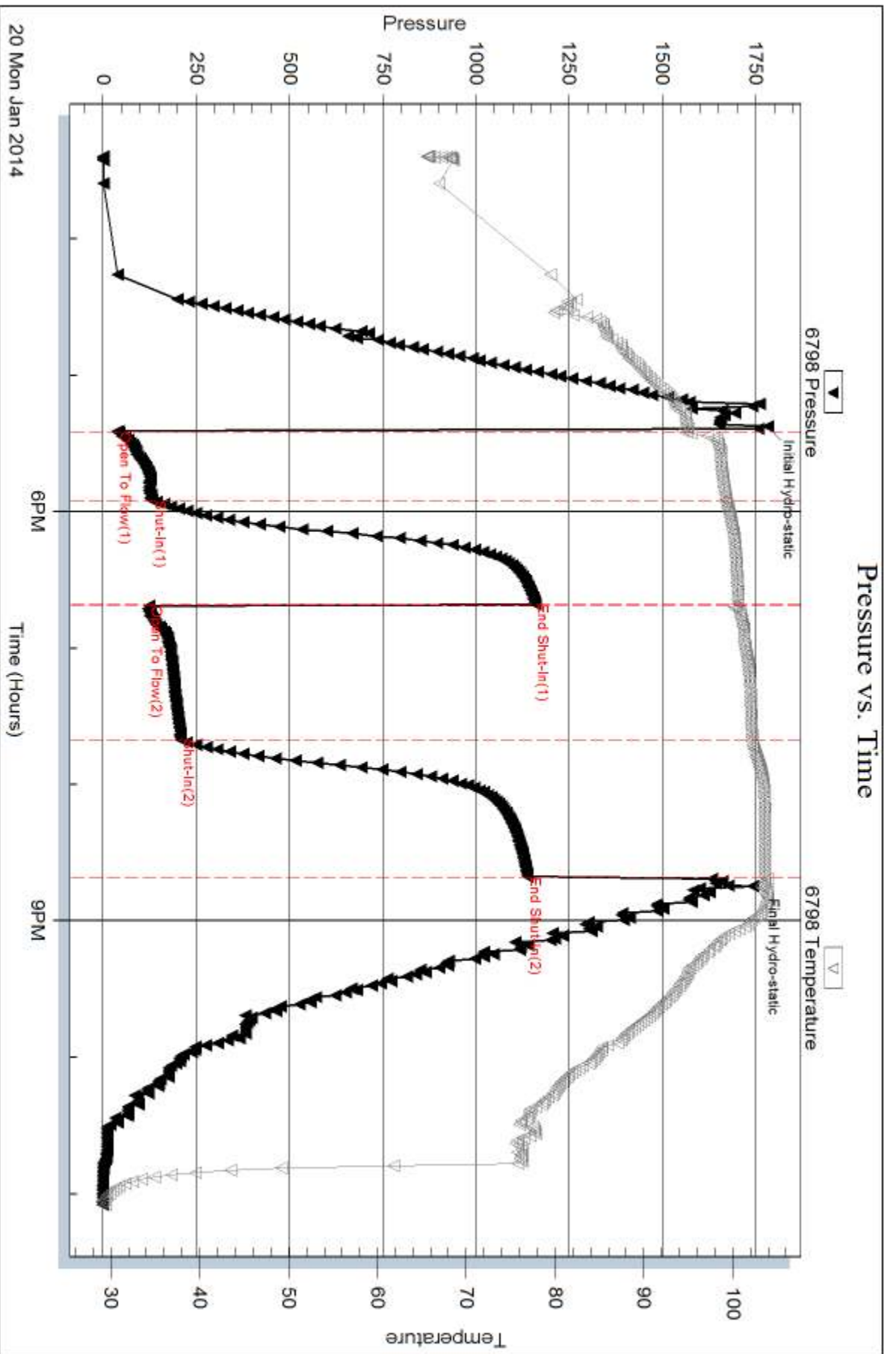
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

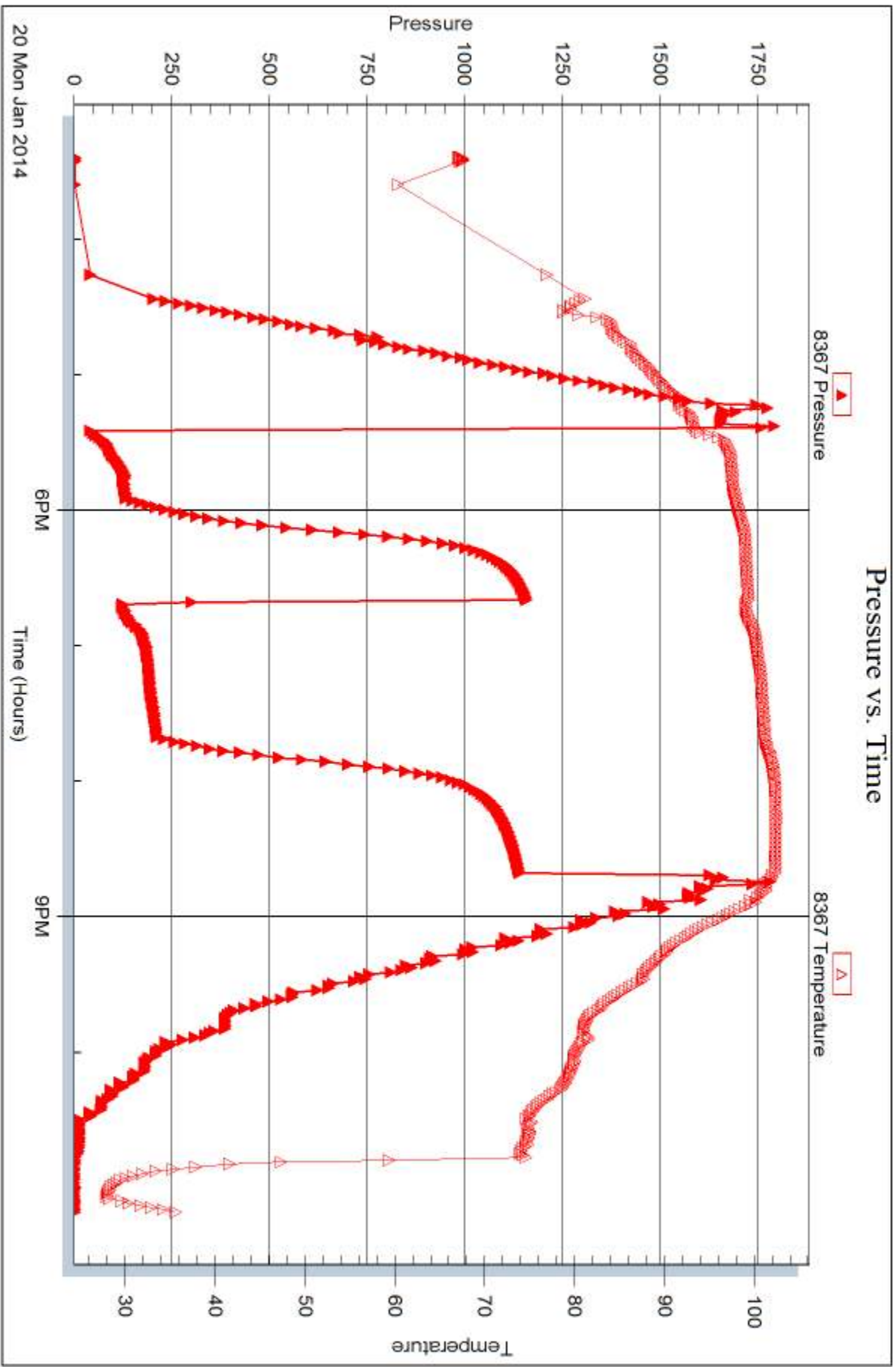


Serial #: 8367

Outside Hutchinson Oil Co

KD#1

DST Test Number: 3



Tribble Testing, Inc

Ref. No: 51923

Printed: 2014.01.23 @ 15:13:32



## DRILL STEM TEST REPORT

Prepared For: **Hutchinson Oil Co**

PO Box 521  
Derby, KS 67037

ATTN: Jeff Burk

### **KD #1**

#### **35-23s-12w Stafford,KS**

Start Date: 2014.01.21 @ 19:36:07

End Date: 2014.01.22 @ 03:16:22

Job Ticket #: 51924                      DST #: 4

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.01.23 @ 15:12:50

Hutchinson Oil Co  
35-23s-12w Stafford,KS  
KD #1  
DST # 4  
Arbuckle  
2014.01.21



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Hutchinson Oil Co  
PO Box 521  
Derby, KS 67037  
ATTN: Jeff Burk

**35-23s-12w Stafford,KS**

**KD #1**

Job Ticket: 51924

**DST#: 4**

Test Start: 2014.01.21 @ 19:36:07

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 21:57:07  
 Time Test Ended: 03:16:22  
 Interval: **3817.00 ft (KB) To 3885.00 ft (KB) (TVD)**  
 Total Depth: 3885.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Leal Cason  
 Unit No: 74  
 Reference Elevations: 1862.00 ft (KB)  
 1849.00 ft (CF)  
 KB to GR/CF: 13.00 ft

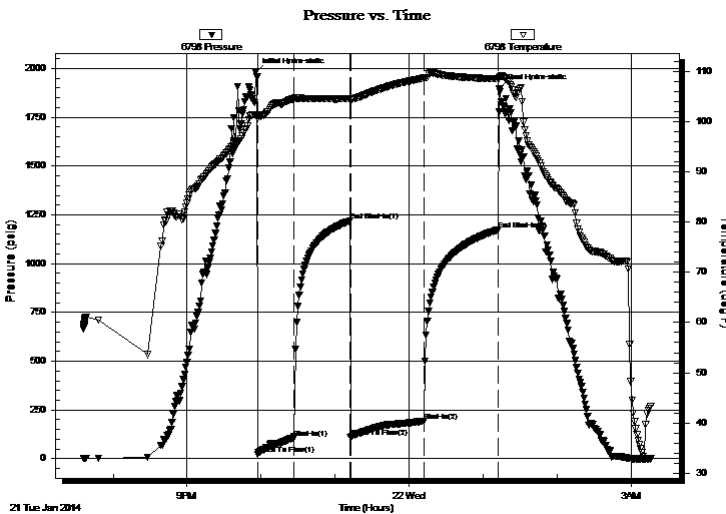
**Serial #: 6798**

**Inside**

Press@RunDepth: 192.78 psig @ 3818.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.01.21 End Date: 2014.01.22 Last Calib.: 2014.01.22  
 Start Time: 19:36:08 End Time: 03:16:22 Time On Btm: 2014.01.21 @ 21:55:52  
 Time Off Btm: 2014.01.22 @ 01:13:22

TEST COMMENT: IF: Weak 1 1/2 inch Blow  
 IS: No Blow Back  
 FF: Weak 1 inch Blow  
 FS: No Blow Back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1980.15	101.24	Initial Hydro-static
2	24.49	100.56	Open To Flow (1)
31	107.68	104.50	Shut-In(1)
77	1218.72	104.56	End Shut-In(1)
77	111.63	104.27	Open To Flow (2)
137	192.78	108.62	Shut-In(2)
197	1174.41	108.48	End Shut-In(2)
198	1896.79	108.71	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	Water	0.59
266.00	MCW 40%M 60%W	1.83

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

Hutchinson Oil Co  
PO Box 521  
Derby, KS 67037  
ATTN: Jeff Burk

**35-23s-12w Stafford,KS**

**KD #1**

Job Ticket: 51924

**DST#: 4**

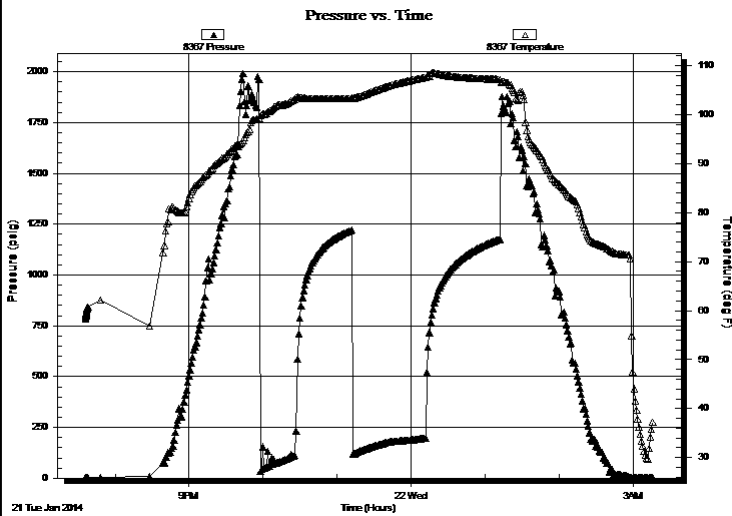
Test Start: 2014.01.21 @ 19:36:07

**GENERAL INFORMATION:**

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 21:57:07 Tester: Leal Cason  
 Time Test Ended: 03:16:22 Unit No: 74  
**Interval: 3817.00 ft (KB) To 3885.00 ft (KB) (TVD)** Reference Elevations: 1862.00 ft (KB)  
 Total Depth: 3885.00 ft (KB) (TVD) 1849.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 13.00 ft

**Serial #: 8367 Outside**  
 Press@RunDepth: psig @ 3818.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.01.21 End Date: 2014.01.22 Last Calib.: 2014.01.22  
 Start Time: 19:36:08 End Time: 03:16:22 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** IF: Weak 1 1/2 inch Blow  
 IS: No Blow Back  
 FF: Weak 1 inch Blow  
 FS: No Blow Back



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

**Recovery**

Length (ft)	Description	Volume (bbl)
120.00	Water	0.59
266.00	MCW 40%M 60%W	1.83

\* Recovery from multiple tests

**Gas Rates**

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hutchinson Oil Co

**35-23s-12w Stafford,KS**

PO Box 521  
Derby, KS 67037

**KD #1**

Job Ticket: 51924

**DST#: 4**

ATTN: Jeff Burk

Test Start: 2014.01.21 @ 19:36:07

## Tool Information

Drill Pipe:	Length: 3475.00 ft	Diameter: 3.80 inches	Volume: 48.75 bbl	Tool Weight:	2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 329.00 ft	Diameter: 2.25 inches	Volume: 1.62 bbl	Weight to Pull Loose:	75000.00 lb
			<u>Total Volume: 50.37 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial	70000.00 lb
Depth to Top Packer:	3817.00 ft			Final	70000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	68.00 ft				
Tool Length:	87.00 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			3803.00	
Hydraulic tool	5.00			3808.00	
Packer	5.00			3813.00	19.00 Bottom Of Top Packer
Packer	4.00			3817.00	
Stubb	1.00			3818.00	
Recorder	0.00	6798	Inside	3818.00	
Recorder	0.00	8367	Outside	3818.00	
Perforations	10.00			3828.00	
Change Over Sub	1.00			3829.00	
Drill Pipe	32.00			3861.00	
Change Over Sub	1.00			3862.00	
Perforations	20.00			3882.00	
Bullnose	3.00			3885.00	68.00 Bottom Packers & Anchor

**Total Tool Length: 87.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Hutchinson Oil Co

**35-23s-12w Stafford,KS**

PO Box 521  
Derby, KS 67037

**KD #1**

Job Ticket: 51924

**DST#: 4**

ATTN: Jeff Burk

Test Start: 2014.01.21 @ 19:36:07

### 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:

31000 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 0.02 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
120.00	Water	0.590
266.00	MCW 40%M 60%W	1.827

Total Length: 386.00 ft      Total Volume: 2.417 bbl

Num Fluid Samples: 0

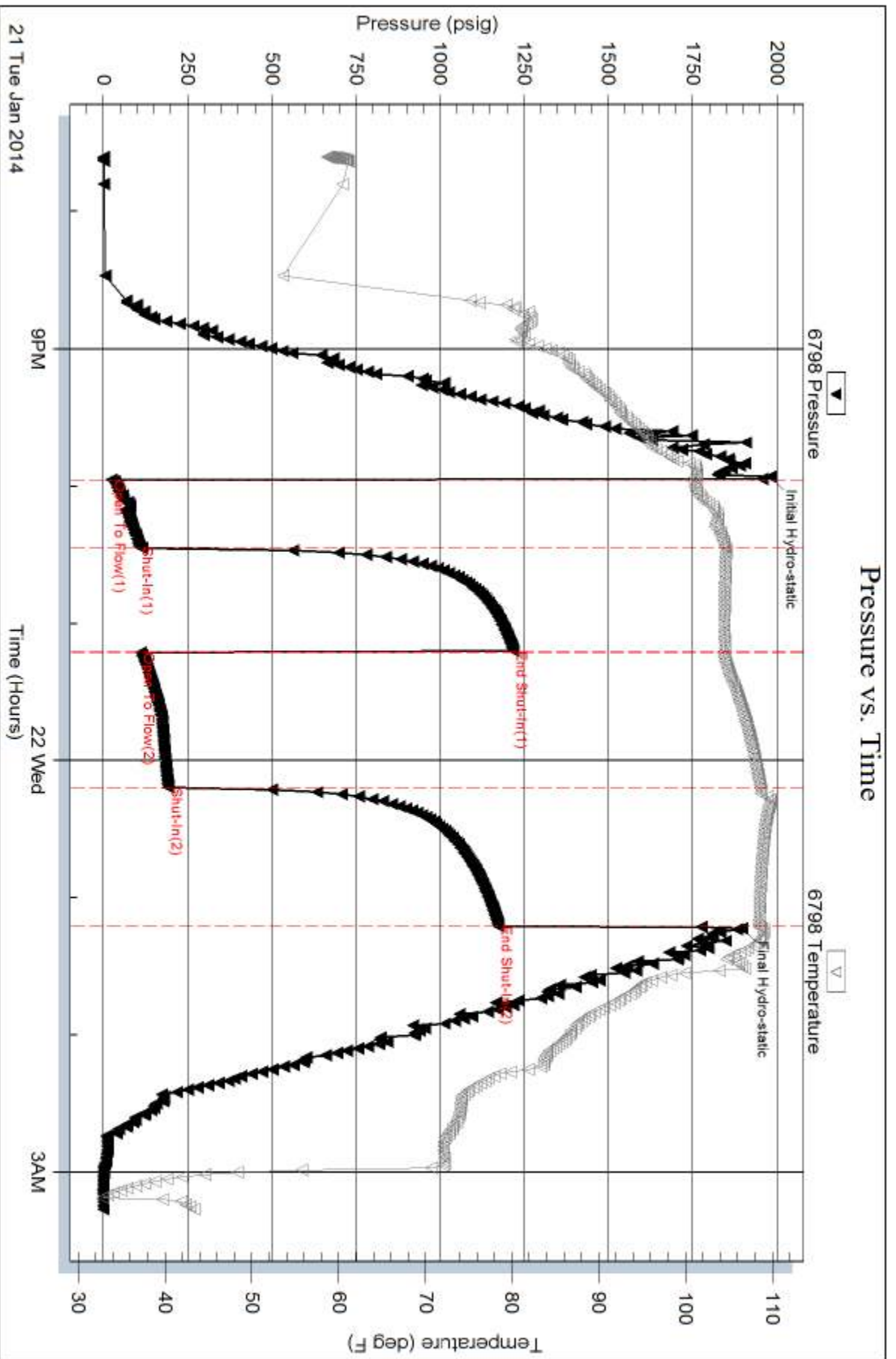
Num Gas Bombs: 0

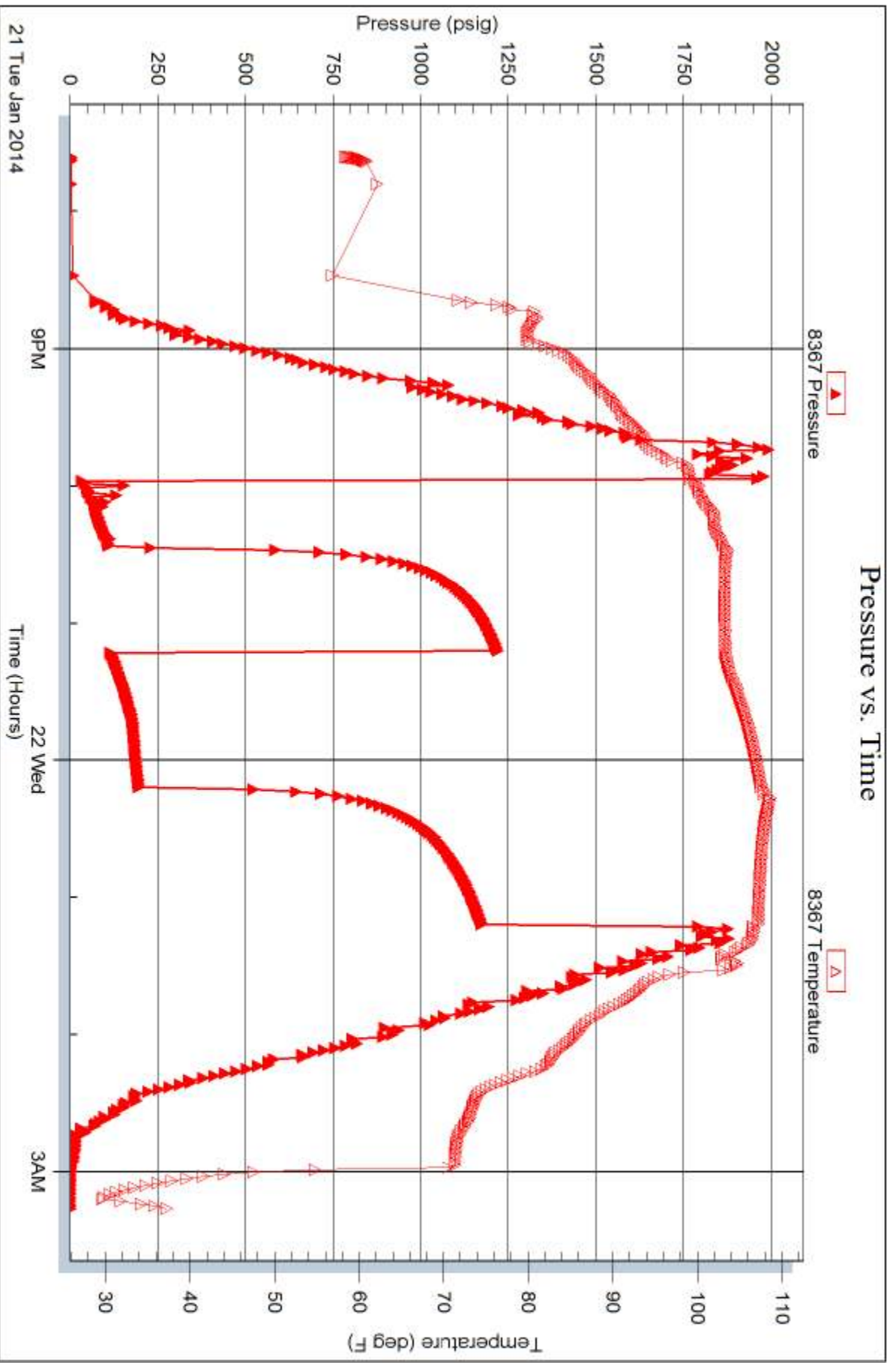
Serial #:

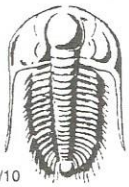
Laboratory Name:

Laboratory Location:

Recovery Comments: RW w as .4 @ 40 degrees







# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 51921

Well Name & No. KDI Test No. 1 Date 01/19/14  
 Company Hutchinson Oil CO Elevation 1862 KB 1849 GL  
 Address PO Box 521 Derby, KS 67037  
 Co. Rep / Geo. Jeff Burk Rig Sterling 5  
 Location: Sec. 35 Twp. 23S Rge. 12W Co. Stafford State KS

Interval Tested 3408 - 3487 Zone Tested Lansing "B-F"  
 Anchor Length 79 Drill Pipe Run ~~3092~~ 3092 Mud Wt. 8.7  
 Top Packer Depth 3403 Drill Collars Run 329 Vis 51  
 Bottom Packer Depth 3408 Wt. Pipe Run 0 WL 8.0  
 Total Depth 3487 Chlorides 5000 ppm System LCM 2

Blow Description IF: strong Blow, BOB in 90 seconds  
ISI: NO Blow Back

FF: Strong Blow, BOB in 30 seconds, GTS in 45 minutes, TSTM, caught sample

FSI: weak surface Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>3092</u>	<u>GIP</u>				
<u>329</u>	<u><del>GW</del> GWMC0</u>	<u>35</u>	<u>30</u>	<u>10</u>	<u>25</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

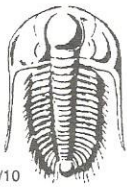
Rec Total 329 BHT 102 Gravity NIC API RW NIC @ NIC °F Chlorides NIC ppm

(A) Initial Hydrostatic 1747  Test 1150 T-On Location 05:45  
 (B) First Initial Flow 36  Jars \_\_\_\_\_ T-Started 07:10  
 (C) First Final Flow 87  Safety Joint \_\_\_\_\_ T-Open 08:39  
 (D) Initial Shut-In 954  Circ Sub \_\_\_\_\_ T-Pulled 11:38  
 (E) Second Initial Flow 67  Hourly Standby \_\_\_\_\_ T-Out 13:35  
 (F) Second Final Flow 129  Mileage (60) 93 Comments \_\_\_\_\_  
 (G) Final Shut-In 832  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1689  Straddle \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_

Initial Open 30  Extra Packer \_\_\_\_\_  
 Initial Shut-In 45  Extra Recorder \_\_\_\_\_  
 Final Flow 60  Day Standby \_\_\_\_\_  
 Final Shut-In 45  Accessibility \_\_\_\_\_  
 Sub Total 1243 Sub Total 0  
 Total 1243 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative [Signature]

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. 51922

4/10

Well Name & No. KD 1 Test No. 2 Date 01/19/14  
 Company Hutchinson Oil Co Elevation 1862 KB 1849 GL  
 Address PO Box 521 Derby, KS 67037  
 Co. Rep / Geo. Jeff Burk Rig Sterling 5  
 Location: Sec. 35 Twp. 23S Rge. 12W Co. Stafford State KS

Interval Tested 3487 - 3501 Zone Tested Lansing "G"  
 Anchor Length 14 Drill Pipe Run 3156 Mud Wt. 8.7  
 Top Packer Depth 3482 Drill Collars Run 329 Vis 5'  
 Bottom Packer Depth 3487 Wt. Pipe Run 0 WL 8.0  
 Total Depth 3501 Chlorides 5000 ppm System LCM 2

Blow Description IF: Fair Blow, Built to 8 inches  
ISI: NO BLOW BACK  
FF: weak Blow, Built to 3 inches  
FSI: NO BLOW BACK

Rec	Feet of	%gas	%oil	%water	%mud
<u>62</u>	<u>GIP</u>				
<u>62</u>	<u>50 MCW</u>		<u>5</u>	<u>50</u>	<u>45</u>
<u>120</u>	<u>WATER</u>				

Rec Total 182 BHT 104 Gravity WIC API RW .17 @ 40 ° F Chlorides 80,000 ppm

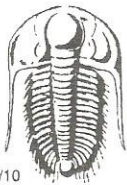
(A) Initial Hydrostatic 1737  Test 1150 T-On Location 19:15  
 (B) First Initial Flow 19  Jars \_\_\_\_\_ T-Started 19:41  
 (C) First Final Flow 52  Safety Joint \_\_\_\_\_ T-Open 21:22  
 (D) Initial Shut-In 1028  Circ Sub \_\_\_\_\_ T-Pulled 00:38  
 (E) Second Initial Flow 57  Hourly Standby \_\_\_\_\_ T-Out 02:29  
 (F) Second Final Flow 104  Mileage 60 93 Comments \_\_\_\_\_  
 (G) Final Shut-In 991  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1659  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_

Initial Open 30  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Shut-In 45  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Flow 60  Day Standby \_\_\_\_\_ Total 1243  
 Final Shut-In 60  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1243

Approved By [Signature]

Our Representative [Signature]

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. 51923

4/10

Well Name & No. KDI Test No. 3 Date 01/20/14  
 Company Hutchinson oil CO Elevation 1862 KB 1849 GL  
 Address PO BOX 521 Derby, KS 67037  
 Co. Rep / Geo. Jeff Burk Rig Sterling 5  
 Location: Sec. 35 Twp. 23S Rge. 12W Co. Stafford State KS

Interval Tested 3533 - 3620 Zone Tested Lansing "H-K"  
 Anchor Length 87 Drill Pipe Run 3188 Mud Wt. 8.9  
 Top Packer Depth 3528 Drill Collars Run 329 Vis 50  
 Bottom Packer Depth 3533 Wt. Pipe Run 0 WL 8.8  
 Total Depth 3620 Chlorides 5000 ppm System LCM 1

Blow Description IF: strong Blow, BOB in 3 minutes  
ISI: weak surface Blow Back  
FF: strong Blow, BOB in 30 seconds  
FSI: 1 1/2 inch Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>2927</u>	<u>GIP</u>				
<u>72</u>	<u>GOCM</u>	<u>2</u>	<u>5</u>	<u>93</u>	
<u>300</u>	<u>GMCO</u>	<u>40</u>	<u>40</u>	<u>20</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

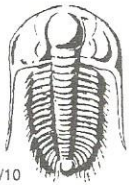
Rec Total 372 BHT 103 Gravity N/C API RW N/C @ N/C °F Chlorides N/C ppm

(A) Initial Hydrostatic <u>1782</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>14:30</u>
(B) First Initial Flow <u>38</u>	<input type="checkbox"/> Jars	T-Started <u>15:23</u>
(C) First Final Flow <u>133</u>	<input type="checkbox"/> Safety Joint	T-Open <u>17:24</u>
(D) Initial Shut-In <u>1160</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>20:40</u>
(E) Second Initial Flow <u>123</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>23:05</u>
(F) Second Final Flow <u>209</u>	<input checked="" type="checkbox"/> Mileage <u>60</u> <u>93</u>	Comments
(G) Final Shut-In <u>1139</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1742</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</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>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1243</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1243</u>	

Approved By [Signature]

Our Representative [Signature]

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. 51924

Well Name & No. KD 1 Test No. 4 Date 01/21/14  
 Company Hutchinson oil co Elevation 1862 KB 1849 GL  
 Address PO Box 521 Derby, KS 67037  
 Co. Rep / Geo. Jeff Burk Rig Sterling 5  
 Location: Sec. 35 Twp. 23S Rge. 12W Co. Stafford State KS

Interval Tested 3817 - 3885 Zone Tested Arbuckle  
 Anchor Length 68 Drill Pipe Run 3475 Mud Wt. 8.9  
 Top Packer Depth 3812 Drill Collars Run 329 Vis 52  
 Bottom Packer Depth 3817 Wt. Pipe Run 0 WL 8.8  
 Total Depth 3885 Chlorides 5000 ppm System LCM  
 Blow Description IF: weak 1 1/2 inch Blow  
ISI: NO Blow Back

FF: weak 1 inch Blow  
FSI: NO Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>266</u>	<u>MCW</u>			<u>60</u>	<u>40</u>
<u>120</u>	<u>water</u>				

Rec Total 386 BHT 108 Gravity NIC API RW .4 @ 40 ° F Chlorides 31000 ppm

(A) Initial Hydrostatic <u>1980</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>18:30</u>
(B) First Initial Flow <u>24</u>	<input type="checkbox"/> Jars	T-Started <u>19:36</u>
(C) First Final Flow <u>108</u>	<input type="checkbox"/> Safety Joint	T-Open <u>21:57</u>
(D) Initial Shut-In <u>1219</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>01:12</u>
(E) Second Initial Flow <u>112</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>03:16</u>
(F) Second Final Flow <u>193</u>	<input checked="" type="checkbox"/> Mileage <u>60</u> <u>93</u>	Comments
(G) Final Shut-In <u>1174</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1897</u>	<input type="checkbox"/> Straddle	
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Recorder	Extra Copies
Initial Shut-In <u>45</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
Final Flow <u>60</u>	<input type="checkbox"/> Accessibility	Total <u>1243</u>
Final Shut-In <u>60</u>	Sub Total <u>1243</u>	MP/DST Disc't

Approved By [Signature] Our Representative [Signature]

TriLOBITE TESTING Inc. shall not be liable for damaged or 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.