



## DRILL STEM TEST REPORT

Prepared For: **Hertel Oil Co LLC**

704 E 12th St  
Hays KS 67601-3440

ATTN: Randy Kilian

### **CWD #1**

### **35 14s 19w Ellis,KS**

Start Date: 2014.05.19 @ 09:37:00

End Date: 2014.05.19 @ 17:53:00

Job Ticket #: 58868                      DST #: 1

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

Printed: 2014.05.21 @ 10:49:37



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Hertel Oil Co LLC  
 704 E 12th St  
 Hays KS 67601-3440  
 ATTN: Randy Kilian

**35 14s 19w Ellis,KS**  
**CWD #1**  
 Job Ticket: 58868 **DST#: 1**  
 Test Start: 2014.05.19 @ 09:37:00

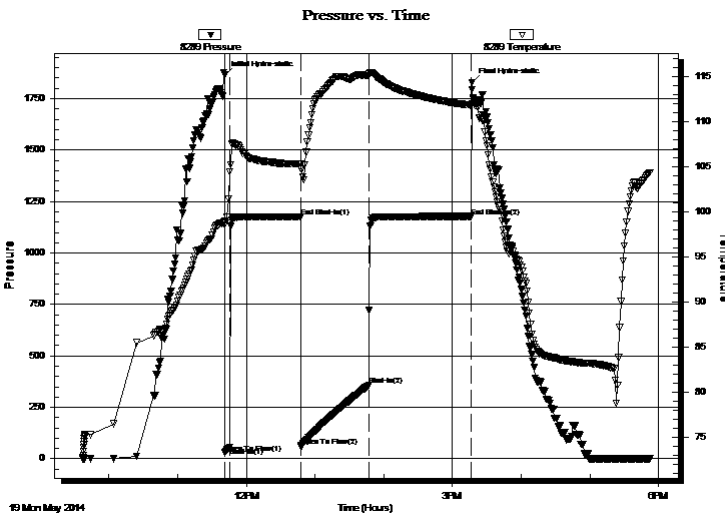
## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 11:41:15 Tester: Jim Svaty  
 Time Test Ended: 17:53:00 Unit No: 76  
 Interval: **3656.00 ft (KB) To 3720.00 ft (KB) (TVD)** Reference Elevations: 2110.00 ft (KB)  
 Total Depth: 3720.00 ft (KB) (TVD) 2102.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

**Serial #: 8289 Outside**  
 Press@RunDepth: 357.39 psig @ 3660.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.05.19 End Date: 2014.05.19 Last Calib.: 2014.05.19  
 Start Time: 09:37:02 End Time: 17:53:00 Time On Btm: 2014.05.19 @ 11:41:00  
 Time Off Btm: 2014.05.19 @ 15:17:00

TEST COMMENT: 5-IFP- Surface Blow Building to 7"  
 60-ISIP- No Blow  
 60-FFP- BOB in 8 min.  
 90-FSIP- No Blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1864.08	98.95	Initial Hydro-static
1	27.82	98.54	Open To Flow (1)
5	56.63	104.41	Shut-In(1)
67	1176.55	105.33	End Shut-In(1)
67	61.08	104.80	Open To Flow (2)
126	357.39	115.12	Shut-In(2)
216	1177.61	111.82	End Shut-In(2)
216	1826.78	112.03	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
125.00	MCW 20% m 80% w	1.49
250.00	OMCW 5% o 20% m 75% w	3.51
375.00	OMCW 20% o 40% m 40% w	5.26
1.00	CO 100%	0.01

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hertel Oil Co LLC

**35 14s 19w Ellis,KS**

704 E 12th St  
Hays KS 67601-3440

**CWD #1**

Job Ticket: 58868

**DST#: 1**

ATTN: Randy Kilian

Test Start: 2014.05.19 @ 09:37:00

## Tool Information

Drill Pipe:	Length: 3631.00 ft	Diameter: 3.80 inches	Volume: 50.93 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 29.00 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: 51.07 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3656.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	64.00 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**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3634.00	
Shut In Tool	5.00			3639.00	
Hydraulic tool	5.00			3644.00	
Safety Joint	2.00			3646.00	
Packer	5.00			3651.00	23.00 Bottom Of Top Packer
Packer	5.00			3656.00	
Stubb	1.00			3657.00	
Perforations	2.00			3659.00	
Change Over Sub	1.00			3660.00	
Recorder	0.00	8789	Inside	3660.00	
Recorder	0.00	8289	Outside	3660.00	
Blank Spacing	31.00			3691.00	
Change Over Sub	1.00			3692.00	
Perforations	25.00			3717.00	
Bullnose	3.00			3720.00	64.00 Bottom Packers & Anchor

**Total Tool Length: 87.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Hertel Oil Co LLC

**35 14s 19w Ellis,KS**

704 E 12th St  
Hays KS 67601-3440

**CWD #1**

Job Ticket: 58868

**DST#: 1**

ATTN: Randy Kilian

Test Start: 2014.05.19 @ 09:37:00

### 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:

18000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.57 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5800.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
125.00	MCW 20%m 80%w	1.489
250.00	OMCW 5%o 20%m 75%w	3.507
375.00	OMCW 20%o 40%m 40%w	5.260
1.00	CO 100%	0.014

Total Length: 751.00 ft

Total Volume: 10.270 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

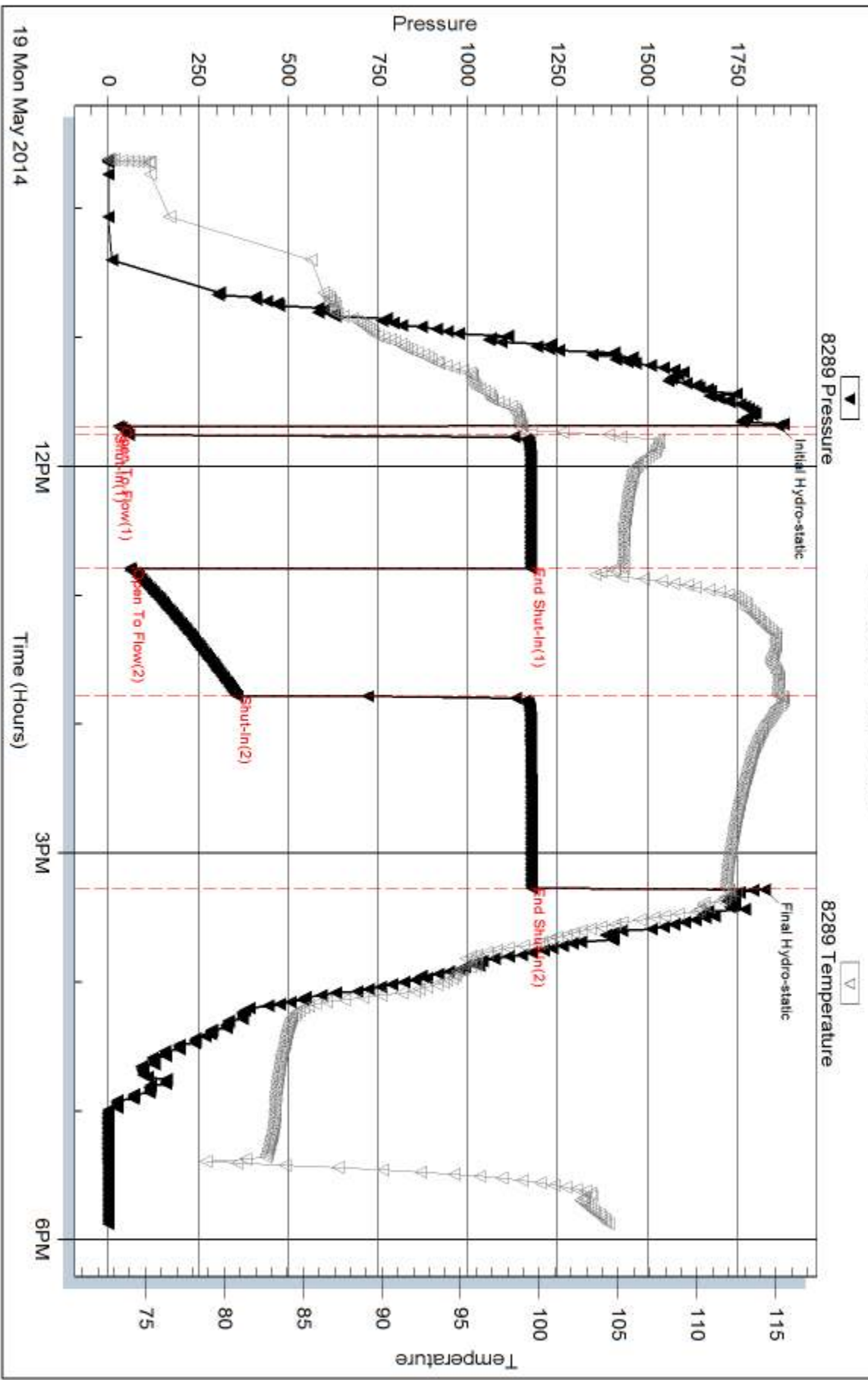
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .259 @ 98

### Pressure vs. Time



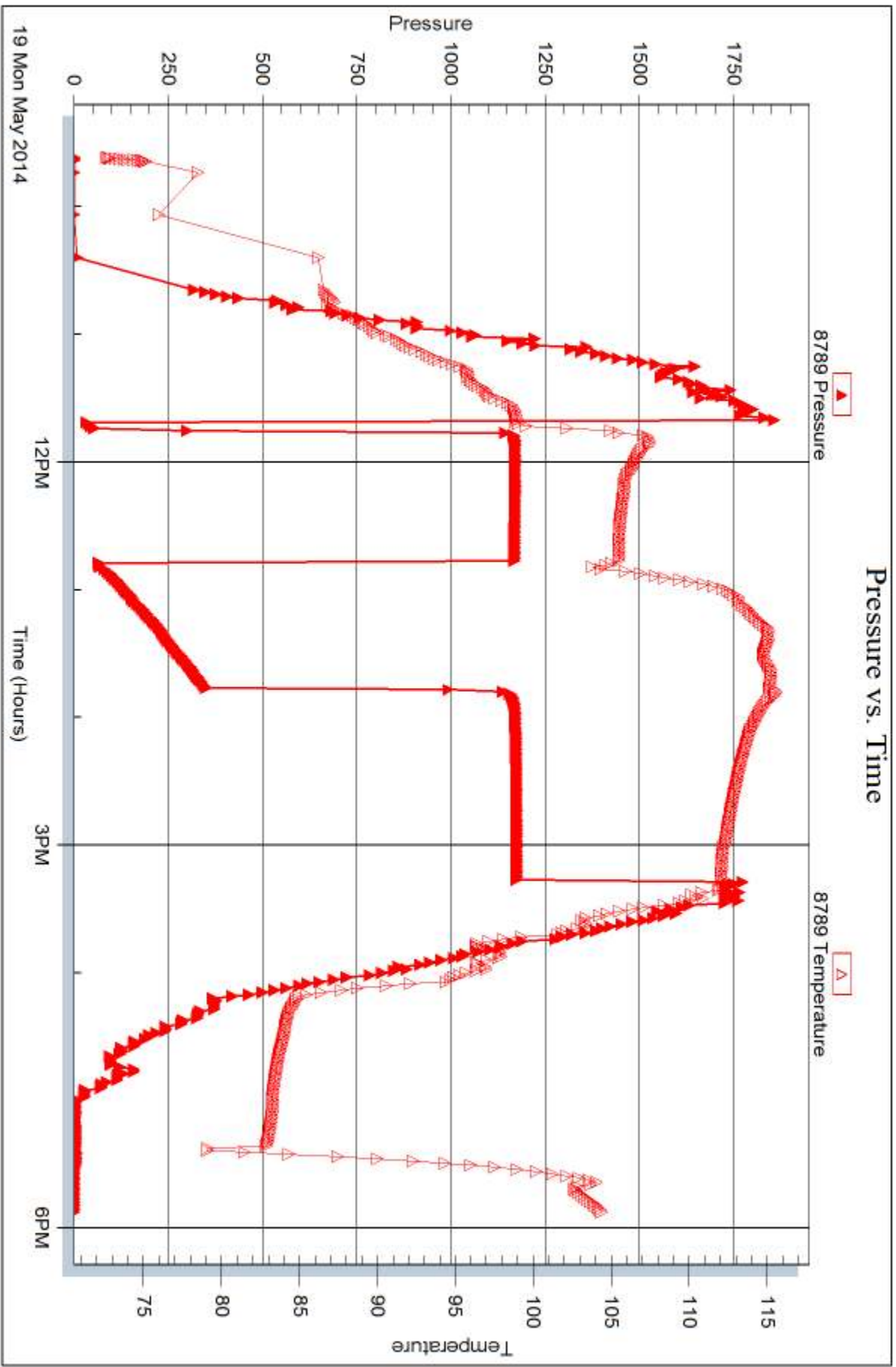
Serial #: 8789

Inside

Hertel Oil Co LLC

CWD #1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 58868

Printed: 2014.05.21 @ 10:49:38



## DRILL STEM TEST REPORT

Prepared For: **Hertel Oil Co LLC**

704 E 12th St  
Hays KS 67601-3440

ATTN: Randy Kilian

### **CWD #1**

#### **35 14s 19w Ellis,KS**

Start Date: 2014.05.20 @ 04:40:00

End Date: 2014.05.20 @ 12:22:00

Job Ticket #: 58869                      DST #: 2

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

Printed: 2014.05.21 @ 10:49:11





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Hertel Oil Co LLC  
704 E 12th St  
Hays KS 67601-3440  
ATTN: Randy Kilian

**35 14s 19w Ellis,KS**  
**CWD #1**  
Job Ticket: 58869 **DST#: 2**  
Test Start: 2014.05.20 @ 04:40:00

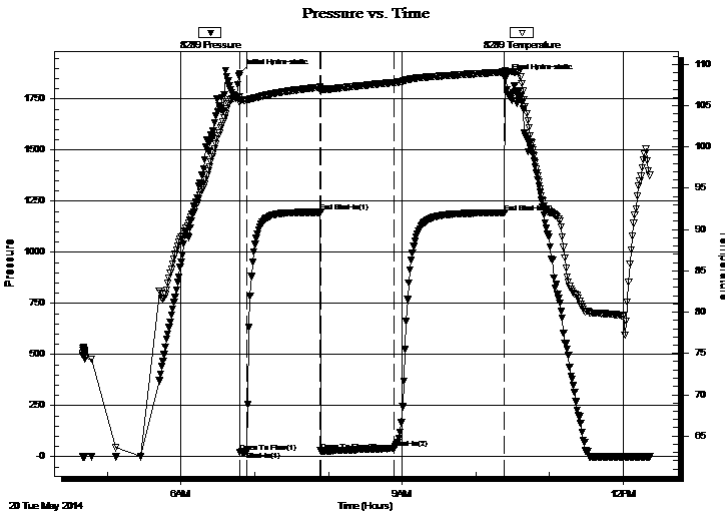
## GENERAL INFORMATION:

Formation: **Arbuckle**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 06:48:00  
Time Test Ended: 12:22:00  
Interval: **3688.00 ft (KB) To 3715.00 ft (KB) (TVD)**  
Total Depth: 3770.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Straddle (Reset)  
Tester: Jim Svaty  
Unit No: 76  
Reference Elevations: 2110.00 ft (KB)  
2102.00 ft (CF)  
KB to GR/CF: 8.00 ft

**Serial #: 8289 Outside**  
Press@RunDepth: 40.90 psig @ 3701.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2014.05.20 End Date: 2014.05.20 Last Calib.: 2014.05.20  
Start Time: 04:40:02 End Time: 12:22:00 Time On Btm: 2014.05.20 @ 06:47:45  
Time Off Btm: 2014.05.20 @ 10:23:45

TEST COMMENT: 5-IFP- Surface Blow Building to 1 1/4"  
60-ISIP- No Blow  
60-FFP- Surface Blow Building to 2 1/2"  
90-FSIP- No Blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1876.48	106.08	Initial Hydro-static
1	23.11	105.41	Open To Flow (1)
6	24.28	105.61	Shut-In(1)
66	1196.57	107.23	End Shut-In(1)
66	27.81	106.78	Open To Flow (2)
126	40.90	107.79	Shut-In(2)
216	1194.17	109.07	End Shut-In(2)
216	1851.60	109.27	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	OCM 5%o 95%m	0.21
15.00	MCO 5%m 95%o	0.21

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hertel Oil Co LLC

**35 14s 19w Ellis,KS**

704 E 12th St  
Hays KS 67601-3440

**CWD #1**

Job Ticket: 58869

**DST#: 2**

ATTN: Randy Kilian

Test Start: 2014.05.20 @ 04:40:00

## Tool Information

Drill Pipe:	Length: 3692.00 ft	Diameter: 3.80 inches	Volume: 51.79 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: 51.79 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3688.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	3715.00 ft			
Interval between Packers:	27.00 ft			
Tool Length:	104.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Change Over Sub	1.00			3666.00	
Shut In Tool	5.00			3671.00	
Hydraulic tool	5.00			3676.00	
Safety Joint	2.00			3678.00	
Packer	5.00			3683.00	23.00 Bottom Of Top Packer
Packer	5.00			3688.00	
Stubb	1.00			3689.00	
Perforations	12.00			3701.00	
Recorder	0.00	8789	Inside	3701.00	
Recorder	0.00	8289	Outside	3701.00	
Perforations	10.00			3711.00	
Blank Off Sub	1.00			3712.00	
Blank Spacing	3.00			3715.00	27.00 Tool Interval
Packer	1.00			3716.00	
Perforations	17.00			3733.00	
Change Over Sub	1.00			3734.00	
Recorder	0.00	6668	Below	3734.00	
Blank Spacing	31.00			3765.00	
Change Over Sub	1.00			3766.00	
Bullnose	3.00			3769.00	54.00 Bottom Packers & Anchor

**Total Tool Length: 104.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Hertel Oil Co LLC

**35 14s 19w Ellis,KS**

704 E 12th St  
Hays KS 67601-3440

**CWD #1**

Job Ticket: 58869

**DST#: 2**

ATTN: Randy Kilian

Test Start: 2014.05.20 @ 04:40:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

24 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5900.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	OCM 5%o 95%m	0.210
15.00	MCO 5%m 95%o	0.210

Total Length: 30.00 ft      Total Volume: 0.420 bbl

Num Fluid Samples: 0

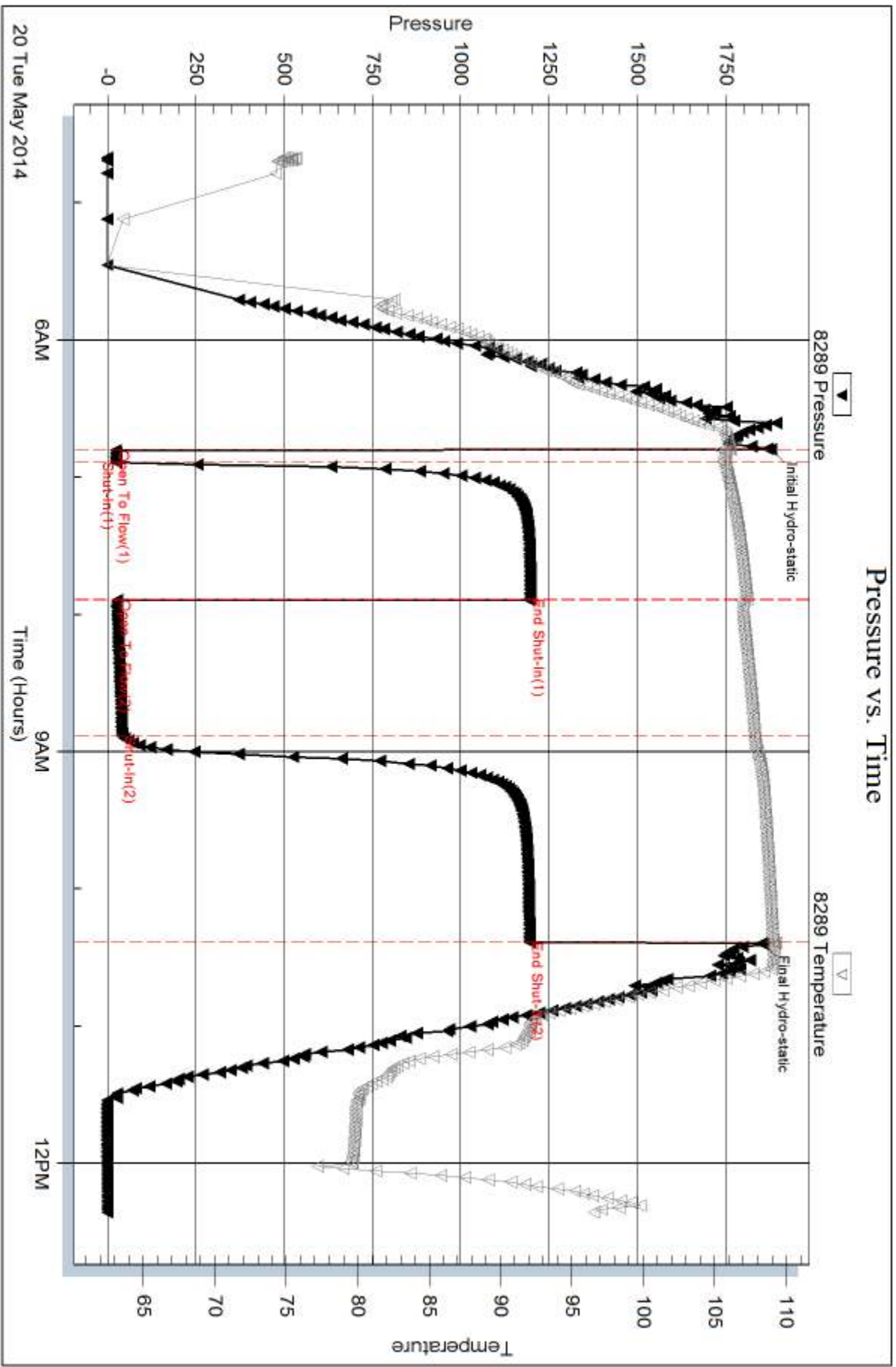
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

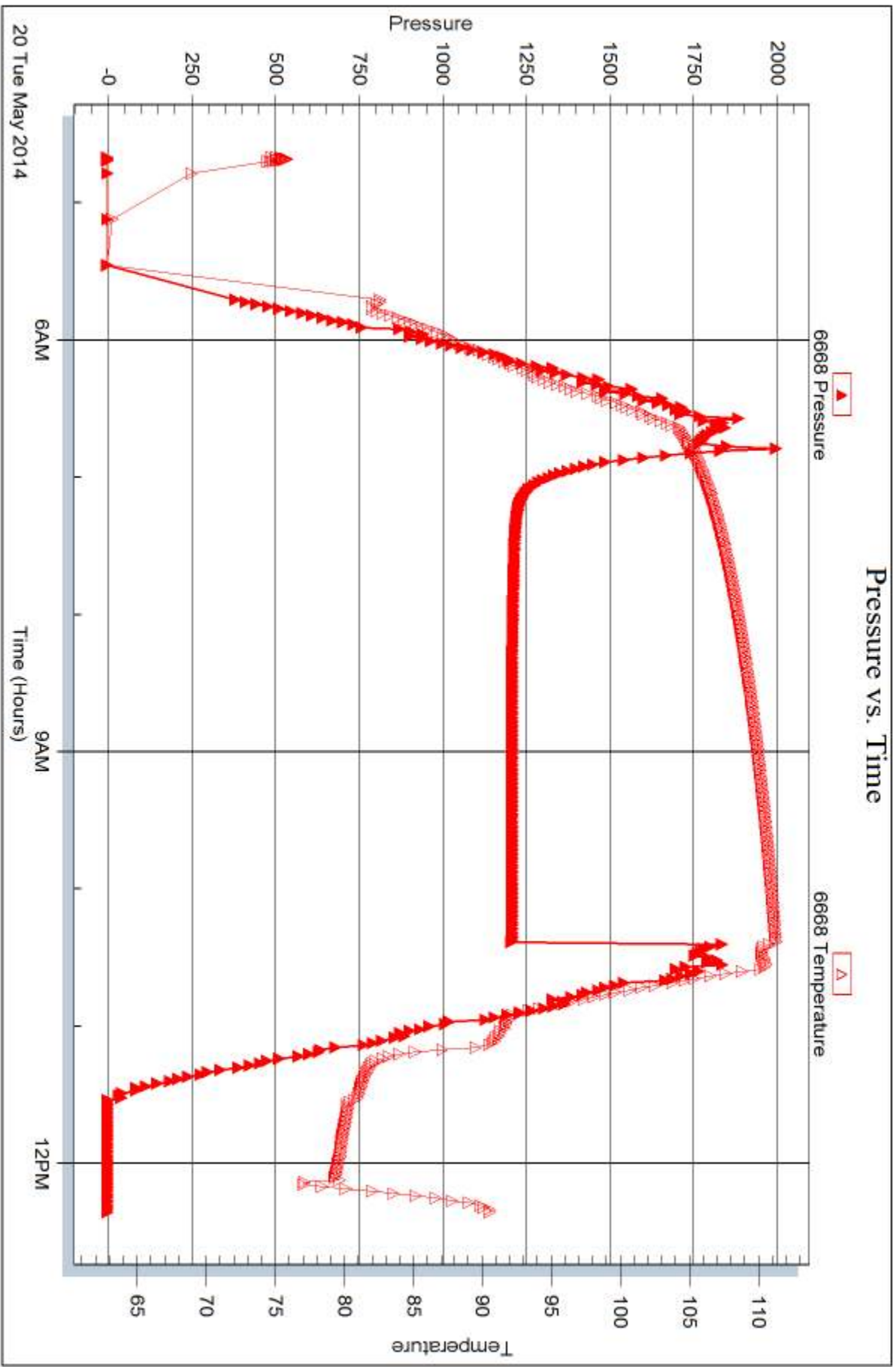


Serial #: 6668

Below (Stratfield) Oil Co LLC

CWD #1

DST Test Number: 2



Tribble Testing, Inc

Ref. No: 58869

Printed: 2014.05.21 @ 10:49:12

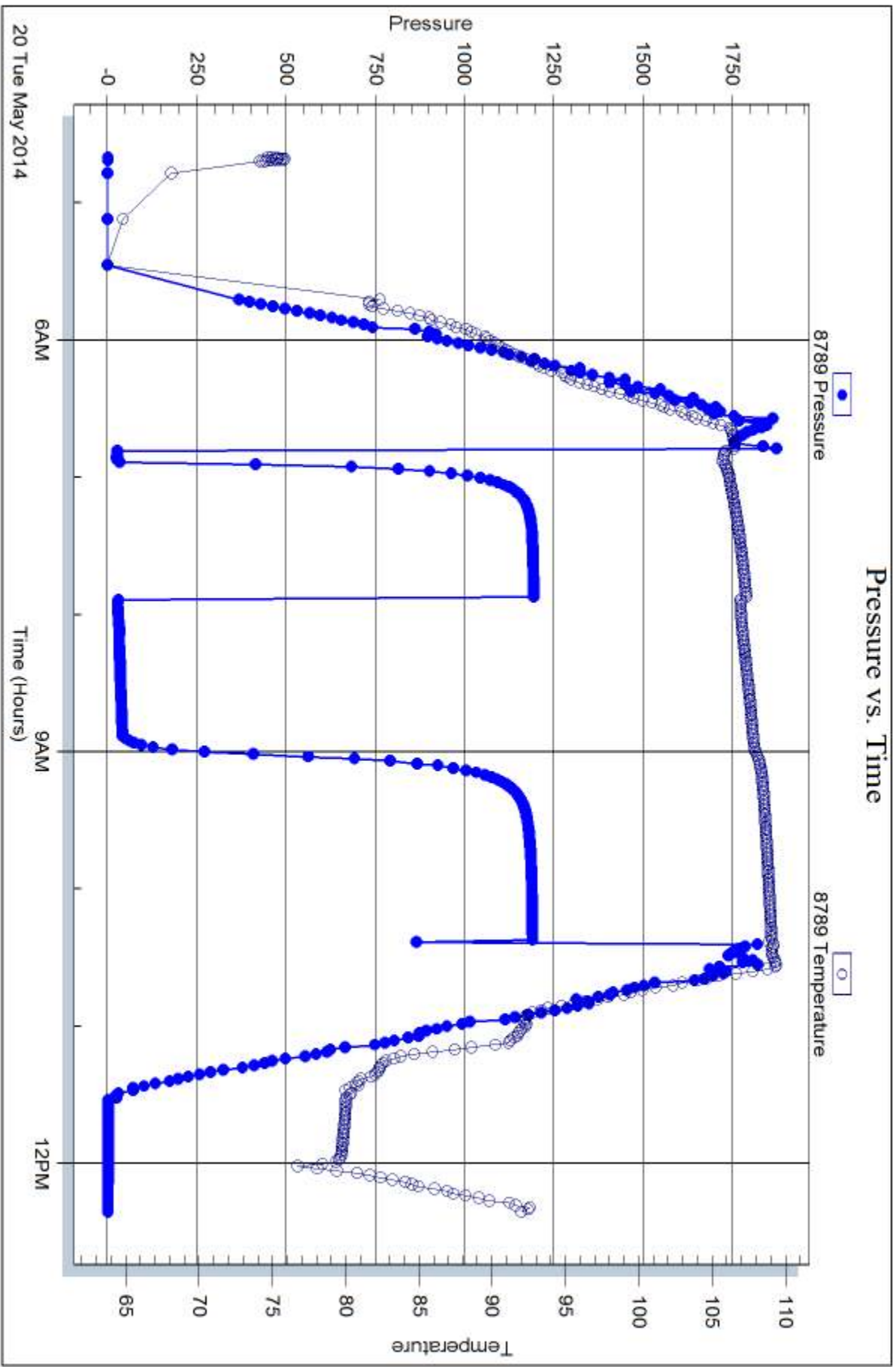
Serial #: 8789

Inside

Hertel Oil Co LLC

CWD #1

DST Test Number: 2







## DRILL STEM TEST REPORT

Prepared For: **Hertel Oil Co LLC**

704 E 12th St  
Hays KS 67601-3440

ATTN: Randy Kilian

### **CWD #1**

### **35 14s 19w Ellis,KS**

Start Date: 2014.05.20 @ 13:23:00

End Date: 2014.05.20 @ 20:58:00

Job Ticket #: 58870                      DST #: 3

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

Printed: 2014.05.21 @ 10:48:41

Hertel Oil Co LLC 35 14s 19w Ellis,KS CWD #1 DST # 3 LKC "I-J" 2014.05.20



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Hertel Oil Co LLC  
704 E 12th St  
Hays KS 67601-3440  
ATTN: Randy Kilian

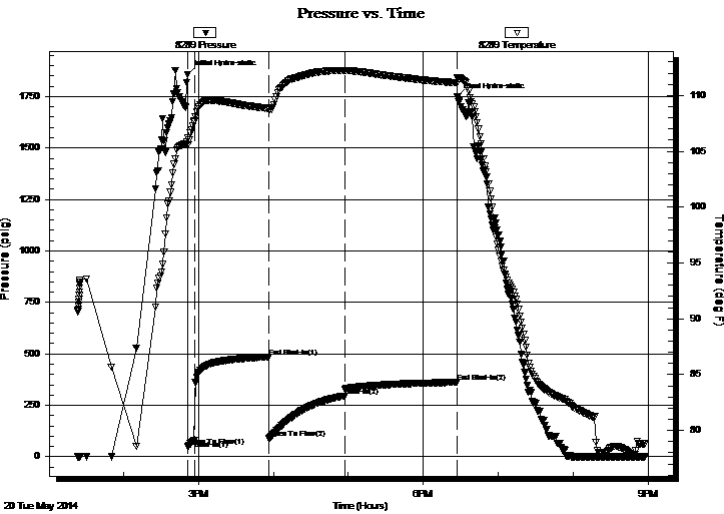
**35 14s 19w Ellis,KS**  
**CWD #1**  
Job Ticket: 58870      **DST#: 3**  
Test Start: 2014.05.20 @ 13:23:00

## GENERAL INFORMATION:

Formation: **LKC "I-J"**  
Deviated: No Whipstock:                      ft (KB)  
Time Tool Opened: 14:51:30  
Time Test Ended: 20:58:00  
Interval: **3545.00 ft (KB) To 3595.00 ft (KB) (TVD)**  
Total Depth: 3770.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 2110.00 ft (KB)  
2102.00 ft (CF)  
KB to GR/CF: 8.00 ft  
Test Type: Conventional Straddle (Reset)  
Tester: Jim Svaty  
Unit No: 76

**Serial #: 8289      Outside**  
Press@RunDepth: 295.65 psig @ 3549.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2014.05.20      End Date: 2014.05.20      Last Calib.: 2014.05.20  
Start Time: 13:23:02      End Time: 20:58:00      Time On Btm: 2014.05.20 @ 14:51:15  
Time Off Btm: 2014.05.20 @ 18:27:15

**TEST COMMENT:** 5-IFP- BOB in 3 min.  
60-ISIP- Surface Blow in 2min. Died in 40 min.  
60-FFP- BOB in 5 min.  
90-FSIP- BOB in 12 min. Died Back in 68 min.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1858.07	106.16	Initial Hydro-static
1	48.93	105.60	Open To Flow (1)
6	80.42	107.72	Shut-In(1)
65	484.29	108.84	End Shut-In(1)
66	87.30	108.69	Open To Flow (2)
126	295.65	112.23	Shut-In(2)
216	361.54	111.12	End Shut-In(2)
216	1747.37	111.58	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
437.00	OMCW 3%o 22%m 75%w	6.13
115.00	GOCM 5%o 10%g 85%m	1.61
40.00	OCM 50%o 50%m	0.56
10.00	CO 100%	0.14

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hertel Oil Co LLC

**35 14s 19w Ellis,KS**

704 E 12th St  
Hays KS 67601-3440

**CWD #1**

Job Ticket: 58870

**DST#: 3**

ATTN: Randy Kilian

Test Start: 2014.05.20 @ 13:23:00

## Tool Information

Drill Pipe:	Length: 3536.00 ft	Diameter: 3.80 inches	Volume: 49.60 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 49.60 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3545.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	3595.00 ft			
Interval between Packers:	50.00 ft			
Tool Length:	248.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3523.00	
Shut In Tool	5.00			3528.00	
Hydraulic tool	5.00			3533.00	
Safety Joint	2.00			3535.00	
Packer	5.00			3540.00	23.00 Bottom Of Top Packer
Packer	5.00			3545.00	
Stubb	1.00			3546.00	
Perforations	2.00			3548.00	
Change Over Sub	1.00			3549.00	
Recorder	0.00	8789	Inside	3549.00	
Recorder	0.00	8289	Outside	3549.00	
Blank Spacing	31.00			3580.00	
Change Over Sub	1.00			3581.00	
Perforations	10.00			3591.00	
Blank Off Sub	1.00			3592.00	
Blank Spacing	3.00			3595.00	50.00 Tool Interval
Packer	1.00			3596.00	
Perforations	12.00			3608.00	
Change Over Sub	1.00			3609.00	
Recorder	0.00	6668	Below	3609.00	
Blank Spacing	157.00			3766.00	
Change Over Sub	1.00			3767.00	
Bullnose	3.00			3770.00	175.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>248.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Hertel Oil Co LLC

**35 14s 19w Ellis,KS**

704 E 12th St  
Hays KS 67601-3440

**CWD #1**

Job Ticket: 58870

**DST#: 3**

ATTN: Randy Kilian

Test Start: 2014.05.20 @ 13:23:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

34 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

40000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5900.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
437.00	OMCW 3%o 22%m 75%w	6.130
115.00	GOCM 5%o 10%g 85%m	1.613
40.00	OCM 50%o 50%m	0.561
10.00	CO 100%	0.140

Total Length: 602.00 ft

Total Volume: 8.444 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

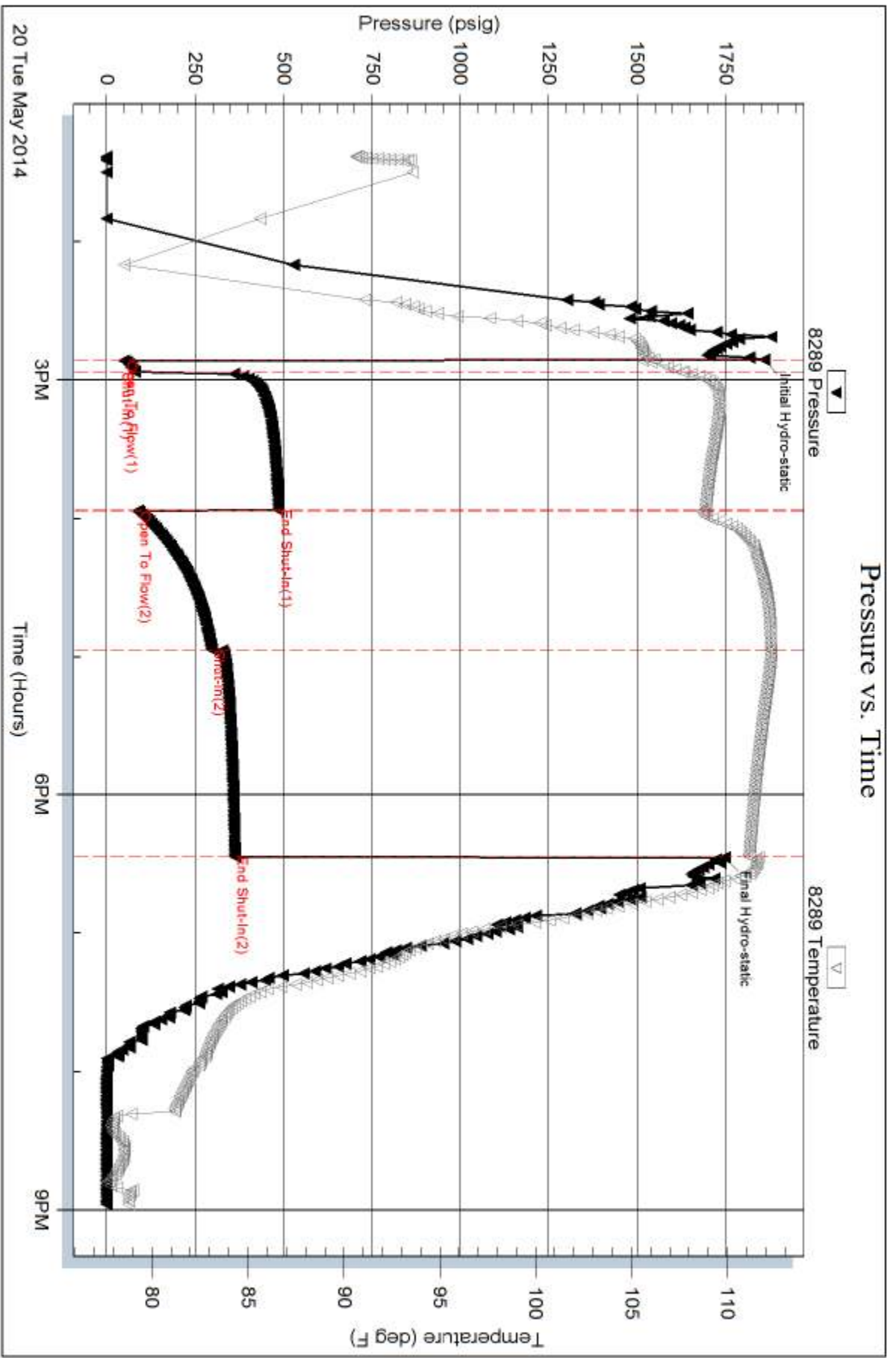
Recovery Comments: .145 @ 84

Serial #: 8289

Outside Hertel Oil Co LLC

CWD #1

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 58870

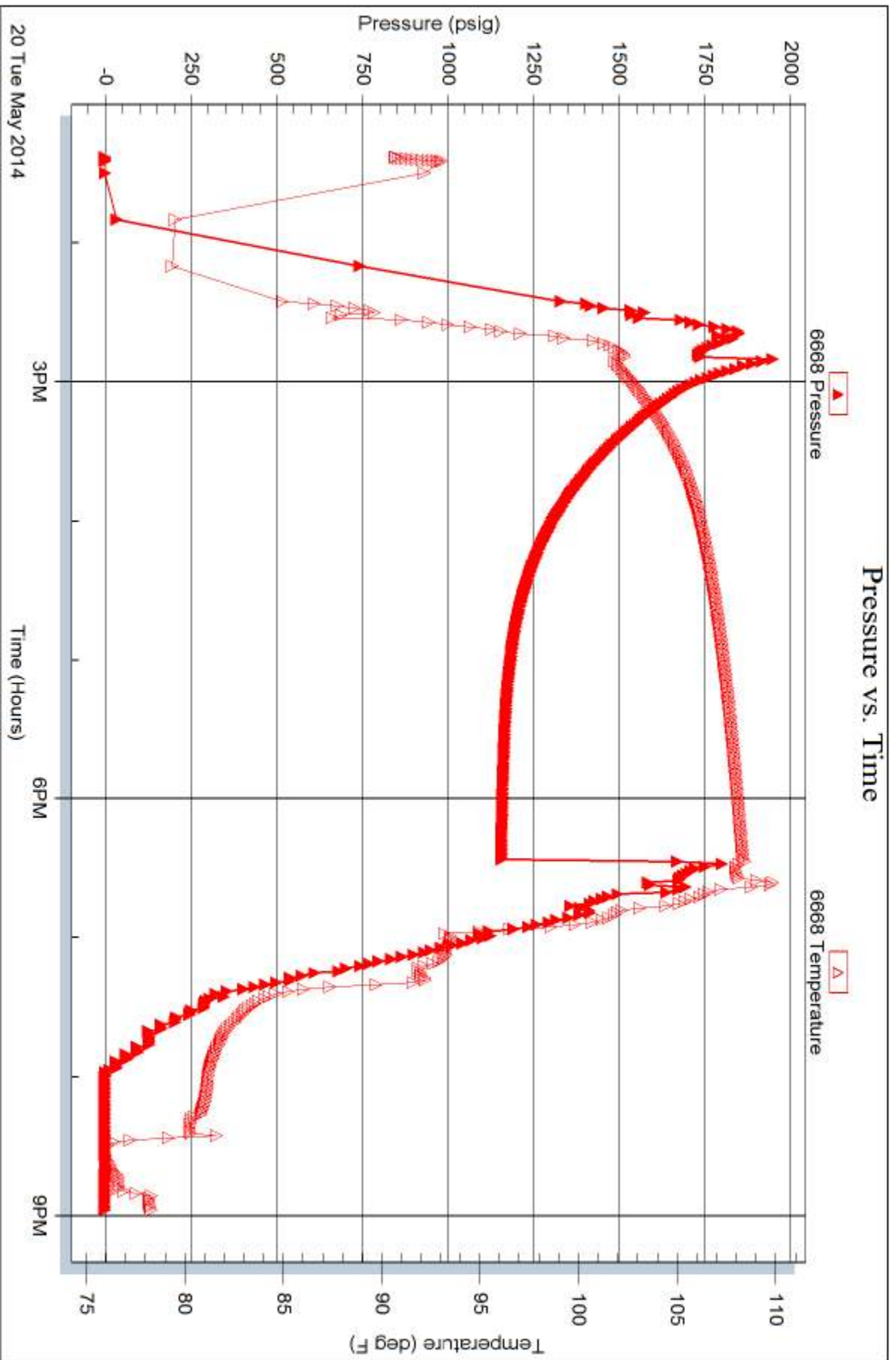
Printed: 2014.05.21 @ 10:48:43

Serial #: 6668

Below (Stratfield) Oil Co LLC

CWD #1

DST Test Number: 3



Tribble Testing, Inc

Ref. No: 58870

Printed: 2014.05.21 @ 10:48:43



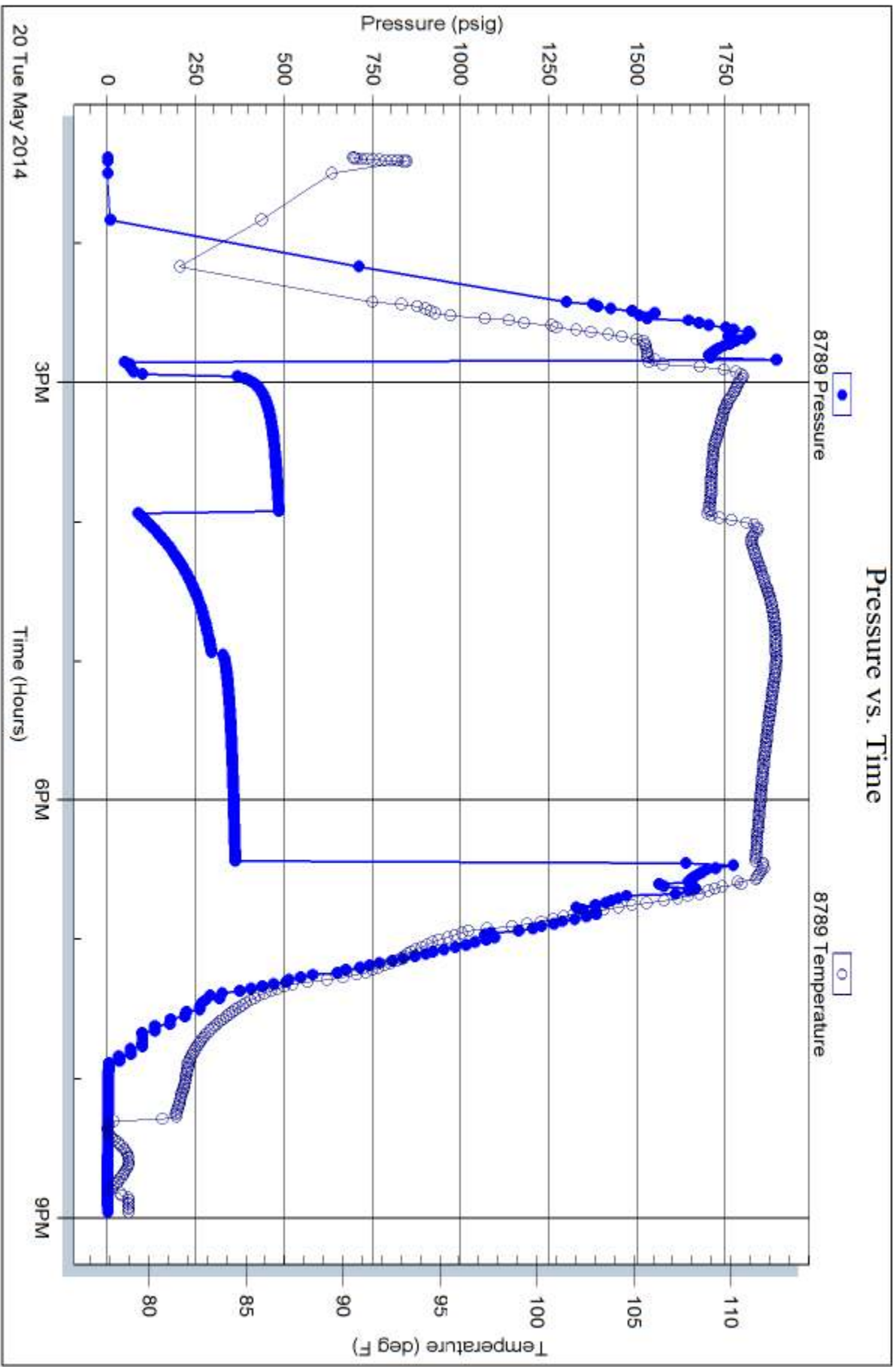
Serial #: 8789

Inside

Hertel Oil Co LLC

CWD #1

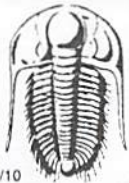
DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 58870

Printed: 2014.05.21 @ 10:48:43



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58868

Well Name & No. CWD #1 Test No. 1 Date 5-19-14  
 Company Hertel Oil Co. LLC Elevation 2110 KB 2102 GL  
 Address 704 E 12th St. HAYS KS 67601-3440  
 Co. Rep / Geo. Randy Kilian Rig Discovery #2  
 Location: Sec. 35 Twp. 14<sup>s</sup> Rge. 19<sup>w</sup> Co. Ellis State KS

Interval Tested 3656-3720 Zone Tested Arbuckle  
 Anchor Length 64 Drill Pipe Run 3631 Mud Wt. 9.2  
 Top Packer Depth 3651 Drill Collars Run 0 Vis 60+  
 Bottom Packer Depth 3656 Wt. Pipe Run 0 WL 7.6  
 Total Depth 3720 Chlorides 5800 ppm System LCM 2

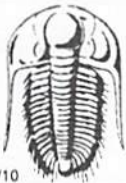
Blow Description IFP - Surface Blow Building to 7in.  
ISIP - No Blow  
FFP - BOB in 8min.  
FSIP - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>125</u>	<u>MCW</u>		<u>80</u>	<u>20</u>	
<u>250</u>	<u>0mcw</u>	<u>5</u>	<u>75</u>	<u>20</u>	
<u>375</u>	<u>0mcw</u>	<u>20</u>	<u>40</u>	<u>40</u>	
<u>1</u>	<u>CO</u>				

Rec Total 751 BHT 112 Gravity \_\_\_\_\_ API RW 1259 @ 98 °F Chlorides 18000 ppm  
 (A) Initial Hydrostatic 1864  Test 1150 T-On Location 4:50  
 (B) First Initial Flow 27  Jars \_\_\_\_\_ T-Started ~~11:41~~ 9:37  
 (C) First Final Flow 56  Safety Joint 75 T-Open 11:41  
 (D) Initial Shut-In 1176  Circ Sub \_\_\_\_\_ T-Pulled 15:16  
 (E) Second Initial Flow 61  Hourly Standby \_\_\_\_\_ T-Out 17:53  
 (F) Second Final Flow 357  Mileage 25 RT 38.75 Comments \_\_\_\_\_  
 (G) Final Shut-In 1177  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1826  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Initial Open 5  Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Initial Shut-In 60  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Final Flow 60  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Shut-In 90  Day Standby \_\_\_\_\_ Total 1263.75  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1263.75

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. 58869

4/10

Well Name & No. CWD #1 Test No. 2 Date 5-20-14  
 Company Hertel Oil Co. LLC Elevation 2110 KB 2102 GL  
 Address 704 E 12th St Hays KS 67601-3440  
 Co. Rep / Geo. RANDY RILIAN Rig Discovery #2  
 Location: Sec. 35 Twp. 14<sup>s</sup> Rge. 19W Co. Ellis State KS

Interval Tested 3688-3715 Zone Tested Arbuckle  
 Anchor Length 27 (SSR) Drill Pipe Run 3692 Mud Wt. 9.2  
 Top Packer Depth 3688 Drill Collars Run 0 Vis 60  
 Bottom Packer Depth 3715 Wt. Pipe Run 0 WL 8.0  
 Total Depth 3770 Chlorides 5900 ppm System LCM 2

Blow Description IFP - Surface Blow Building to 1 1/4 in.  
ISIP - No. Blow  
FFP - Surface Blow Building to 2 1/2 in.  
FSIP - No. Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>OCM</u>	<u>5</u>		<u>95</u>	
<u>15</u>	<u>MCO</u>	<u>95</u>		<u>5</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30 BHT 109 Gravity 24 API RW @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>1876</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>3:46</u>
(B) First Initial Flow <u>23</u>	<input type="checkbox"/> Jars _____	T-Started <u>4:40</u>
(C) First Final Flow <u>24</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>6:49</u>
(D) Initial Shut-In <u>1196</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>10:24</u>
(E) Second Initial Flow <u>27</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>12:22</u>
(F) Second Final Flow <u>40</u>	<input checked="" type="checkbox"/> Mileage <u>38.75</u>	Comments _____
(G) Final Shut-In <u>1194</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1851</u>	<input checked="" type="checkbox"/> Straddle <u>600</u>	<input type="checkbox"/> Ruined Shale Packer _____

Initial Open 5  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90

Sub Total 1863.75

MP/DST Disc't \_\_\_\_\_

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

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58870

4/10

Well Name & No. CWD #1 Test No. 3 Date 5-20-14  
 Company Hertel Oil Co. LLC Elevation 2110 KB 2102 GL  
 Address 704 E 12th St Hays KS 67601-3440  
 Co. Rep / Geo. Randy Kilian Rig Discovery #2  
 Location: Sec. 35 Twp. 14<sup>s</sup> Rge. 19w Co. Ellis State KS

Interval Tested 3545-3595 Zone Tested LKC "I+J"  
 Anchor Length 50 (175TP) Drill Pipe Run 3536 Mud Wt. 9.2  
 Top Packer Depth 3545 Drill Collars Run 0 Vis 60  
 Bottom Packer Depth 3595 Wt. Pipe Run 0 WL 8.0  
 Total Depth 3770 Chlorides 5900 ppm System LCM 2

Blow Description IFP- BOB in 3min.  
ISIP- Surface Blow in 2min. Dried in 40min.  
FFP BOB in 5min.  
FSIP- BOB in 12min. Dried Back in 68min.

Rec	Feet of	%gas	%oil	%water	%mud
<u>437</u>	<u>0mcw</u>	<u>3</u>	<u>75</u>	<u>22</u>	
<u>112</u>	<u>0cm</u>	<u>10</u>	<u>5</u>	<u>85</u>	
<u>40</u>	<u>0cm</u>	<u>50</u>		<u>50</u>	
<u>10</u>	<u>0</u>	<u>100</u>			
Rec	Feet of <u>458 DIP</u>	%gas	%oil	%water	%mud
Rec Total	<u>602</u> BHT <u>111</u>	Gravity <u>34</u>	API RW <u>.145</u> @ <u>84</u> °F	Chlorides <u>40000</u>	ppm

(A) Initial Hydrostatic 1858  Test 1150 T-On Location 3:46  
 (B) First Initial Flow 48  Jars 13:23  
 (C) First Final Flow 80  Safety Joint 75 T-Open 14:52  
 (D) Initial Shut-In 484  Circ Sub 18:27  
 (E) Second Initial Flow 87  Hourly Standby 20:58  
 (F) Second Final Flow 295  Mileage  
 (G) Final Shut-In 361  Sampler  
 (H) Final Hydrostatic 1747  Straddle 600  Ruined Shale Packer  
 Ruined Packer

Initial Open 5  Extra Packer  Extra Copies  
 Initial Shut-In 60  Extra Recorder Sub Total 0  
 Final Flow 60  Day Standby Total 1825  
 Final Shut-In 90  Accessibility MP/DST Disc't  
 Sub Total 1825

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

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