



## DRILL STEM TEST REPORT

Prepared For: **Investment Equipment**

PO Box 578  
Chapman, KS 67431

ATTN: Marc Downing

### **Schweitzer #6**

### **6-8s-23w Graham,KS**

Start Date: 2013.03.31 @ 08:45:00

End Date: 2013.03.31 @ 15:21:30

Job Ticket #: 50596                      DST #: 1

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

Printed: 2013.04.10 @ 16:20:54



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Investment Equipment  
 PO Box 578  
 Chapman, KS 67431  
 ATTN: Marc Downing

**6-8s-23w Graham,KS**  
**Schweitzer #6**  
 Job Ticket: 50596 **DST#: 1**  
 Test Start: 2013.03.31 @ 08:45:00

## GENERAL INFORMATION:

Formation: **LKC-I,J**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 11:06:00  
 Tester: Chuck Kreuzer Jr.  
 Time Test Ended: 15:21:30  
 Unit No: 61  
**Interval: 3676.00 ft (KB) To 3718.00 ft (KB) (TVD)**  
 Reference Elevations: 2287.00 ft (KB)  
 Total Depth: 3718.00 ft (KB) (TVD)  
 2279.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Good  
 KB to GR/CF: 8.00 ft

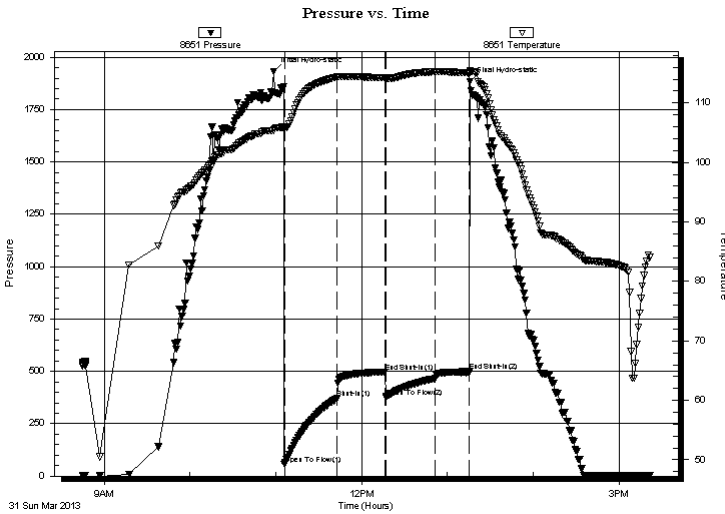
## Serial #: 8651

**Outside**

Press @ Run Depth: 465.64 psig @ 3678.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.03.31 End Date: 2013.03.31 Last Calib.: 2013.03.31  
 Start Time: 08:45:01 End Time: 15:21:30 Time On Btm: 2013.03.31 @ 10:58:30  
 Time Off Btm: 2013.03.31 @ 13:16:00

**TEST COMMENT:** IF: Weak blow, Built to 2". over 15 min Started to Die. Died to surface over 30 min  
 IS: No blow back  
 FF: No blow  
 FS: No blow.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1932.52	105.39	Initial Hydro-static
8	56.12	105.60	Open To Flow (1)
45	370.62	114.34	Shut-In(1)
78	496.62	114.19	End Shut-In(1)
79	378.04	114.16	Open To Flow (2)
113	465.64	115.23	Shut-In(2)
137	499.29	115.02	End Shut-In(2)
138	1882.80	115.47	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
279.00	Water-100%	3.91
186.00	mw -20% m80 %w	2.61
186.00	vsgocmw -5%g5%o40%m50%w	2.61
124.00	vsocw m-5%o45%w 55%m	1.74
63.00	vsocw m-5%o25%w 70%m	0.88

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Investment Equipment

**6-8s-23w Graham,KS**

PO Box 578  
Chapman, KS 67431

**Schweitzer #6**

Job Ticket: 50596

**DST#: 1**

ATTN: Marc Downing

Test Start: 2013.03.31 @ 08:45:00

## Tool Information

Drill Pipe:	Length: 3689.00 ft	Diameter: 3.80 inches	Volume: 51.75 bbl	Tool Weight: 2200.00 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 52000.00 lb
			<u>Total Volume: 51.75 bbl</u>	Tool Chased 3.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial 47000.00 lb
Depth to Top Packer:	3676.00 ft			Final 49000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	47.00 ft			
Tool Length:	67.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3661.00	
Hydraulic tool	5.00			3666.00	
Packer	5.00			3671.00	20.00 Bottom Of Top Packer
Packer	5.00			3676.00	
Stubb	1.00			3677.00	
Perforations	1.00			3678.00	
Recorder	0.00	8791	Inside	3678.00	
Recorder	0.00	8651	Outside	3678.00	
Blank Spacing	26.00			3704.00	
Perforations	16.00			3720.00	
Bullnose	3.00			3723.00	47.00 Bottom Packers & Anchor

**Total Tool Length: 67.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Investment Equipment

**6-8s-23w Graham,KS**

PO Box 578  
Chapman, KS 67431

**Schweitzer #6**

Job Ticket: 50596

**DST#: 1**

ATTN: Marc Downing

Test Start: 2013.03.31 @ 08:45:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
279.00	Water-100%	3.914
186.00	mw -20% m80 %w	2.609
186.00	vsgocmw -5%g5%o40%m50%w	2.609
124.00	vsocw m-5%o45%w 55%m	1.739
63.00	vsocw m-5%o25%w 70%m	0.884

Total Length: 838.00 ft

Total Volume: 11.755 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

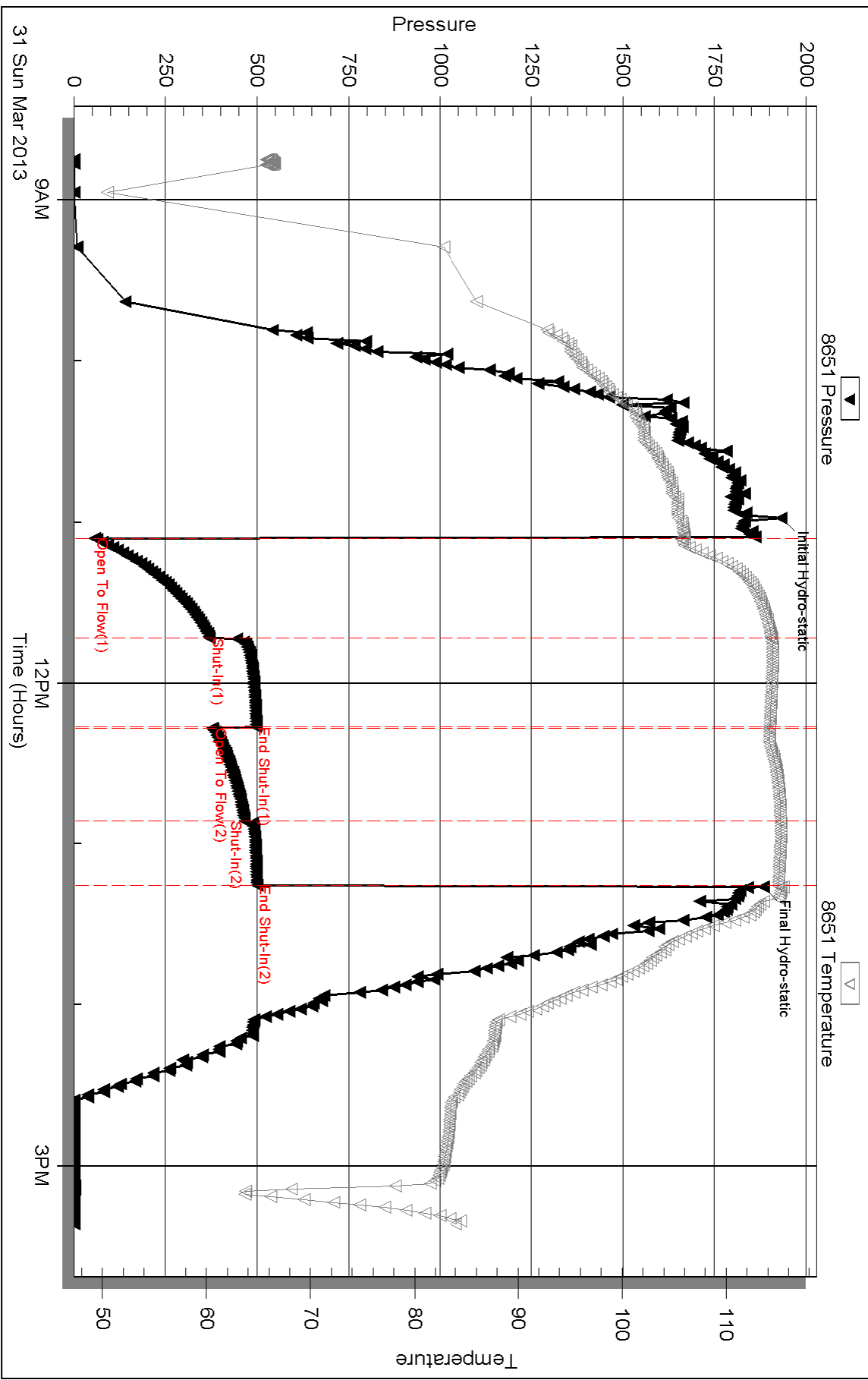
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time



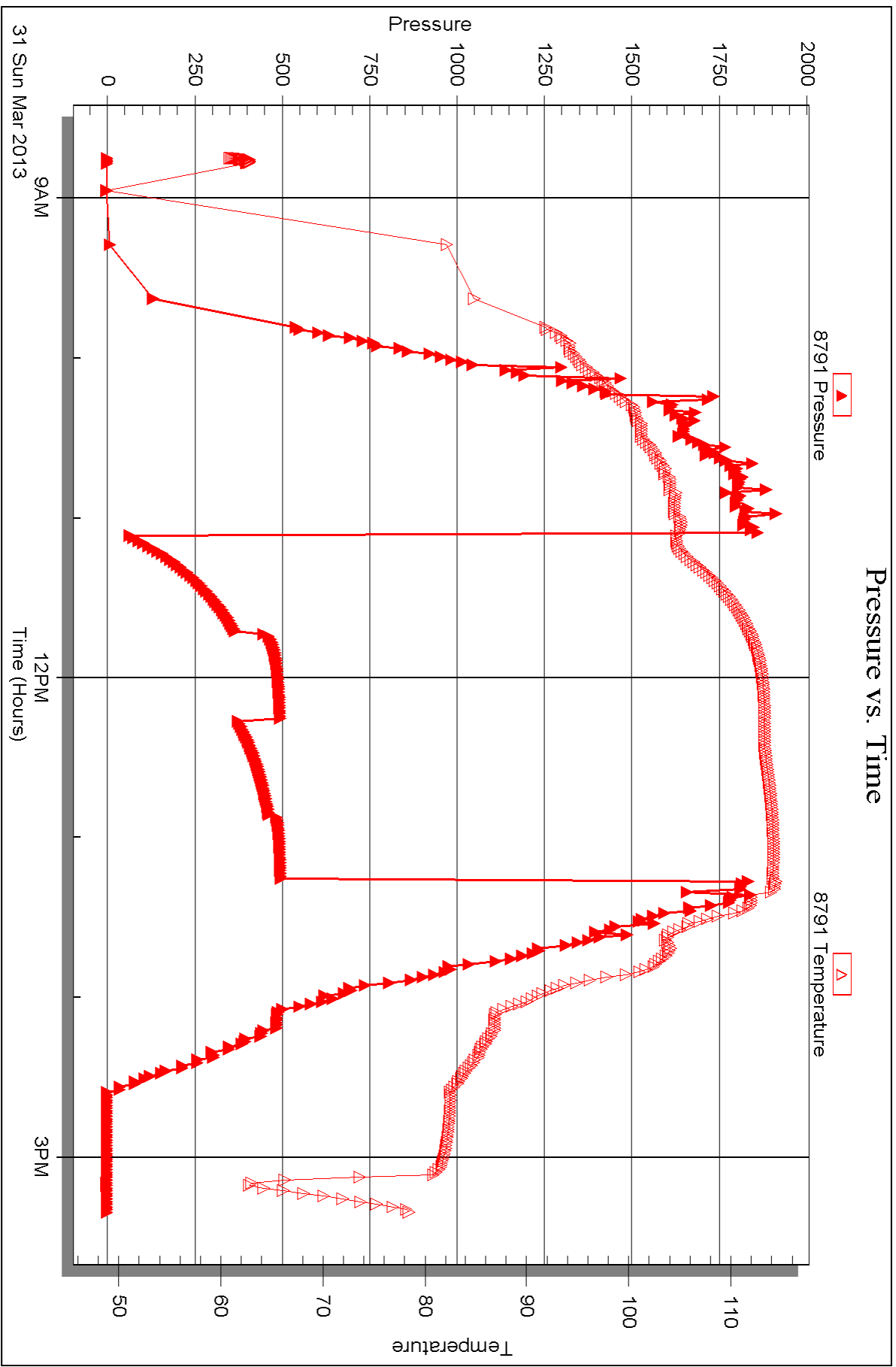
Serial #: 8791

Inside

Investment Equipment

Schw elzer #6

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 50596

Printed: 2013.04.10 @ 16:20:57



## DRILL STEM TEST REPORT

Prepared For: **Investment Equipment**

PO Box 578  
Chapman, KS 67431

ATTN: Marc Downing

### **Schweitzer #6**

### **6-8s-23w Graham,KS**

Start Date: 2013.03.31 @ 22:00:00

End Date: 2013.04.01 @ 06:26:30

Job Ticket #: 50597                      DST #: 2

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

Printed: 2013.04.10 @ 16:20:10

Investment Equipment  
6-8s-23w Graham,KS  
Schweitzer #6  
DST # 2  
LKC-K  
2013.03.31





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Investment Equipment  
 PO Box 578  
 Chapman, KS 67431  
 ATTN: Marc Downing

**6-8s-23w Graham,KS**  
**Schweitzer #6**  
 Job Ticket: 50597      **DST#: 2**  
 Test Start: 2013.03.31 @ 22:00:00

## GENERAL INFORMATION:

Formation: **LKC-K**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 00:25:00  
 Time Test Ended: 06:26:30  
 Interval: **3714.00 ft (KB) To 3735.00 ft (KB) (TVD)**  
 Total Depth: 3735.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Chuck Kreuzer Jr.  
 Unit No: 61  
 Reference Elevations: 2287.00 ft (KB)  
 2279.00 ft (CF)  
 KB to GR/CF: 8.00 ft

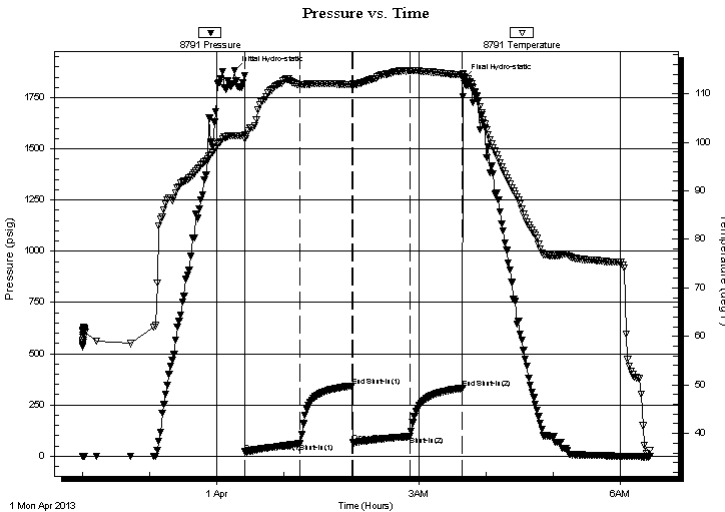
## Serial #: 8791

Inside

Press @ Run Depth: 96.79 psig @ 3716.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2013.03.31      End Date: 2013.04.01      Last Calib.: 2013.04.01  
 Start Time: 22:00:01      End Time: 06:26:30      Time On Btm: 2013.04.01 @ 00:15:30  
 Time Off Btm: 2013.04.01 @ 03:40:00

**TEST COMMENT:** IF: Weak blow, Built to 4" over 45 min  
 IS: No blow back over 45 min  
 FF: Weak blow, Built to 1" over 45 min  
 FS: No blow back over 45 min

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1882.43	101.34	Initial Hydro-static
10	20.85	100.78	Open To Flow (1)
59	60.84	111.88	Shut-In(1)
105	342.68	111.83	End Shut-In(1)
106	65.52	111.97	Open To Flow (2)
157	96.79	114.75	Shut-In(2)
204	331.27	113.83	End Shut-In(2)
205	1840.87	113.45	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
62.00	w cm-35%w 65%m	0.87
97.00	mcw -20%m 80%w	1.36
25.00	oil-100%o	0.35

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

### DRILL STEM TEST REPORT

Investment Equipment  
PO Box 578  
Chapman, KS 67431  
ATTN: Marc Downing

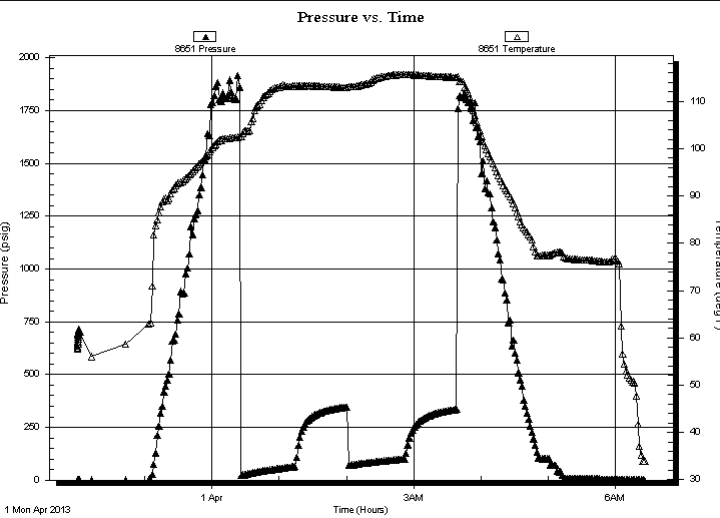
**6-8s-23w Graham, KS**  
**Schweitzer #6**  
Job Ticket: 50597      **DST#: 2**  
Test Start: 2013.03.31 @ 22:00:00

#### GENERAL INFORMATION:

Formation:	<b>LKC-K</b>				
Deviated:	No Whipstock:	ft (KB)	Test Type:	Conventional Bottom Hole (Reset)	
Time Tool Opened:	00:25:00		Tester:	Chuck Kreutzer Jr.	
Time Test Ended:	06:26:30		Unit No:	61	
<b>Interval:</b>	<b>3714.00 ft (KB) To 3735.00 ft (KB) (TVD)</b>		Reference Elevations:	2287.00 ft (KB)	
Total Depth:	3735.00 ft (KB) (TVD)			2279.00 ft (CF)	
Hole Diameter:	7.88 inches	Hole Condition: Good	KB to GR/CF:	8.00 ft	

<b>Serial #: 8651</b>	<b>Outside</b>				
Press @ Run Depth:	psig @	3716.00 ft (KB)	Capacity:	8000.00 psig	
Start Date:	2013.03.31	End Date:	2013.04.01	Last Calib.:	2013.04.01
Start Time:	22:00:01	End Time:	06:26:30	Time On Btm:	
				Time Off Btm:	

**TEST COMMENT:** IF: Weak blow , Built to 4" over 45 min  
IS: No blow back over 45 min  
FF: Weak blow , Built to 1" over 45 min  
FS: No blow back over 45 min



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

Recovery		
Length (ft)	Description	Volume (bbl)
62.00	w cm-35%w 65%m	0.87
97.00	mcw -20%m 80%w	1.36
25.00	oil-100%o	0.35

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Investment Equipment

**6-8s-23w Graham,KS**

PO Box 578  
Chapman, KS 67431

**Schweitzer #6**

Job Ticket: 50597

**DST#: 2**

ATTN: Marc Downing

Test Start: 2013.03.31 @ 22:00:00

## Tool Information

Drill Pipe:	Length: 3717.00 ft	Diameter: 3.80 inches	Volume: 52.14 bbl	Tool Weight: 2200.00 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 52000.00 lb
			<u>Total Volume: 52.14 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 47000.00 lb
Depth to Top Packer:	3714.00 ft			Final 49000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	21.00 ft			
Tool Length:	41.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3699.00	
Hydraulic tool	5.00			3704.00	
Packer	5.00			3709.00	20.00 Bottom Of Top Packer
Packer	5.00			3714.00	
Stubb	1.00			3715.00	
Perforations	1.00			3716.00	
Recorder	0.00	8791	Inside	3716.00	
Recorder	0.00	8651	Outside	3716.00	
Perforations	16.00			3732.00	
Bullnose	3.00			3735.00	21.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>41.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Investment Equipment

**6-8s-23w Graham,KS**

PO Box 578  
Chapman, KS 67431

**Schweitzer #6**

Job Ticket: 50597

**DST#: 2**

ATTN: Marc Downing

Test Start: 2013.03.31 @ 22:00:00

## 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: 73.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	w cm-35%w 65%m	0.870
97.00	mcw -20%m80%w	1.361
25.00	oil-100%o	0.351

Total Length: 184.00 ft

Total Volume: 2.582 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

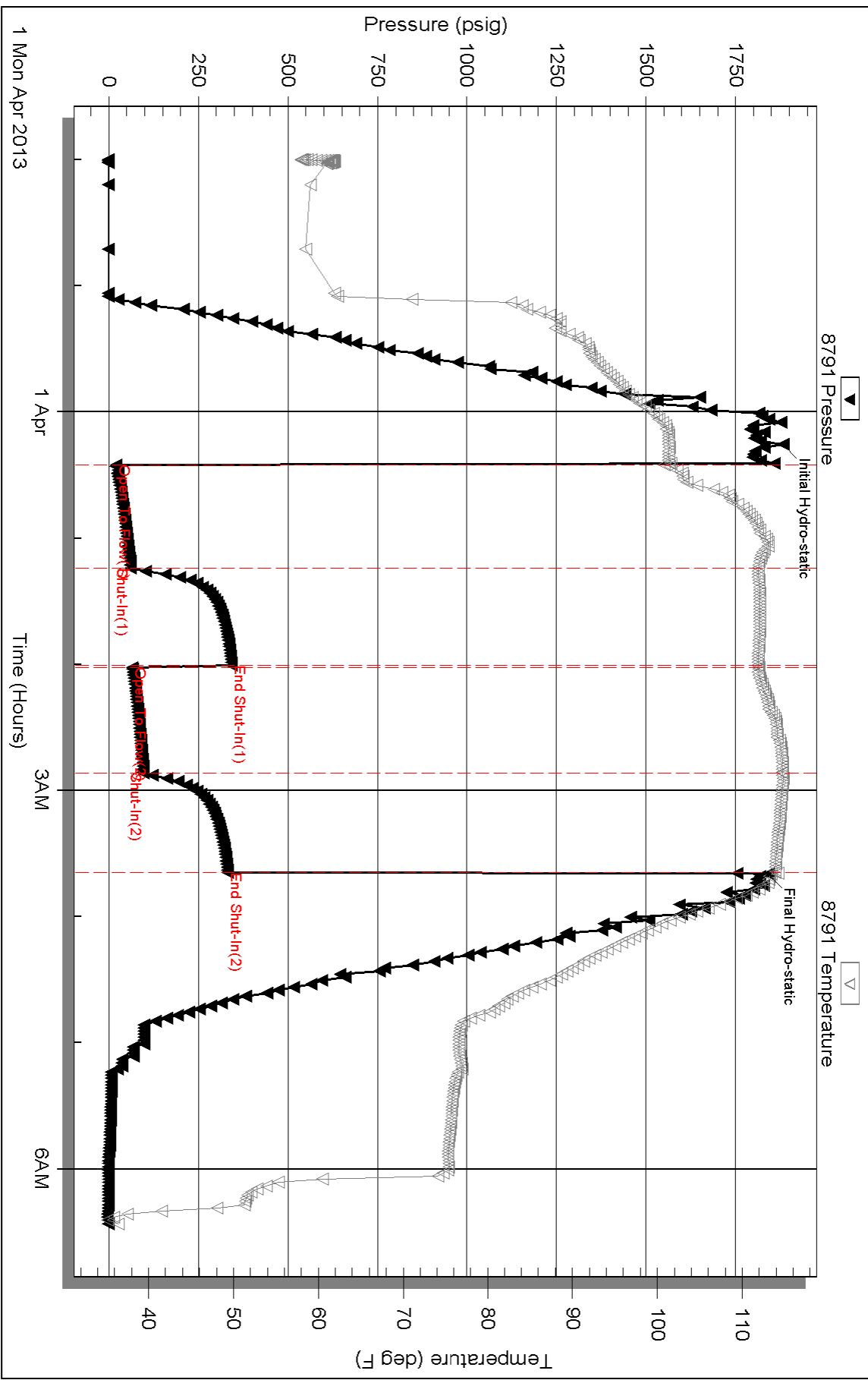
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

# Pressure vs. Time

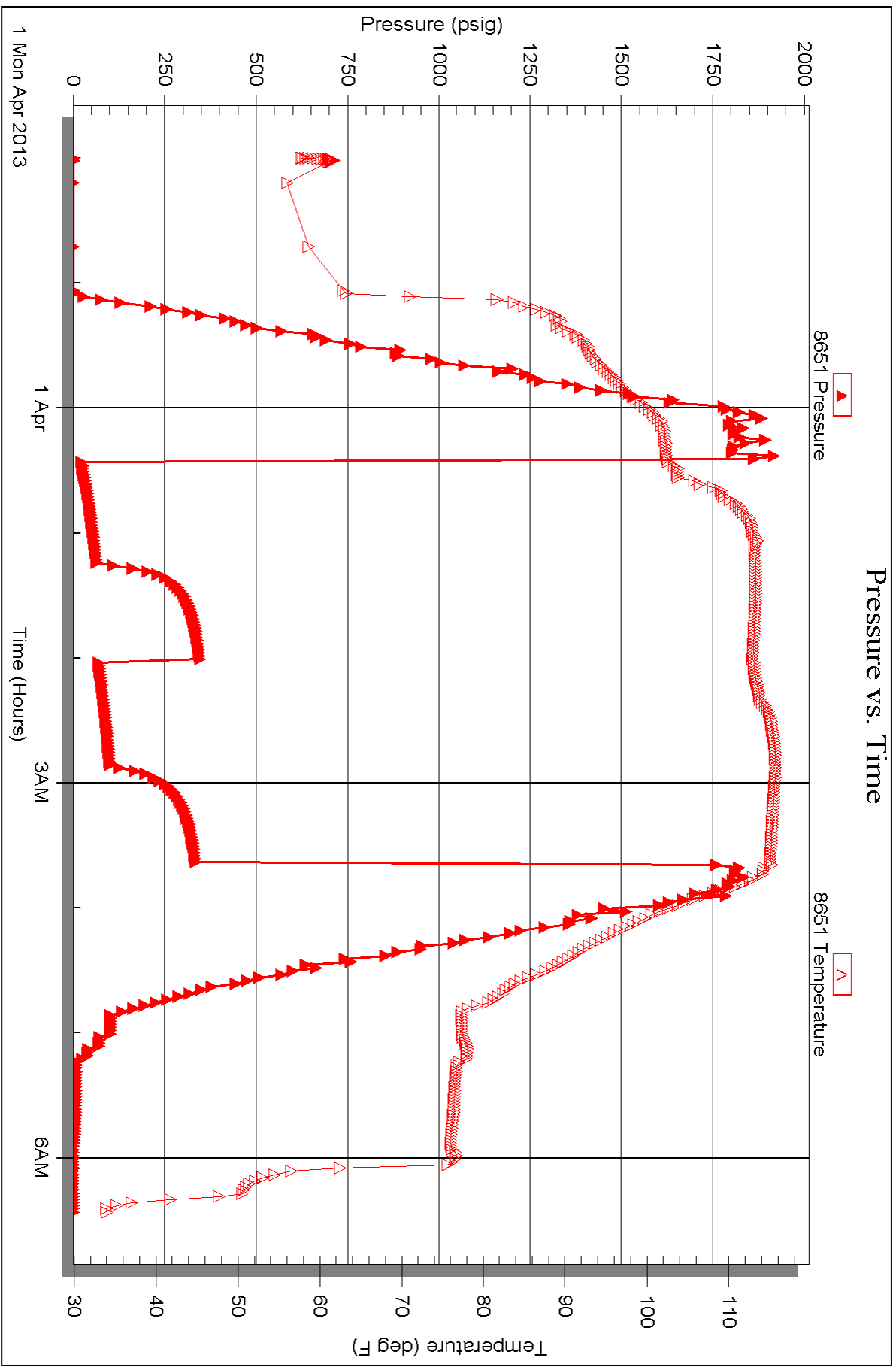


Serial #: 8651

Outside Investment Equipment

Schwelzer #6

DST Test Number: 2





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 50596

4/10

Well Name & No. Schweitzer #6 Test No. 1 Date 3-31-2013  
 Company Investment Equipment LLC. Elevation 2287 KB 2279 GL  
 Address 17509 COUNTY Rd 14 Ft. Morgan Co. 80701  
 Co. Rep / Geo. Mark Downing Rig Maverick  
 Location: Sec. 6 Twp. 8 Rge. 23 Co. Graham State Ks.

Interval Tested 3676 3718 Zone Tested LKC-ETJ  
 Anchor Length 42 Drill Pipe Run 3680 Mud Wt. 9.4  
 Top Packer Depth 3671 Drill Collars Run 0- Vis 73  
 Bottom Packer Depth 3676 Wt. Pipe Run 0- WL 7.6  
 Total Depth 3718 Chlorides 1000 ppm System LCM 1 1/2 #

Blow Description IF: Weak blow, Built to 2 in. over 15 mins. Started to Die. Died to surface over 30 mins

ISI: No blow back

FF: No blow

FSI: No blow back.

Rec	Feet of	%gas	%oil	%water	%mud
<u>63</u>	<u>VSO CWM</u>	<u>5</u>	<u>25</u>	<u>70</u>	<u>0</u>
<u>124</u>	<u>VSO CWM</u>	<u>5</u>	<u>45</u>	<u>50</u>	<u>0</u>
<u>186</u>	<u>VSGO CWM</u>	<u>5</u>	<u>50</u>	<u>40</u>	<u>0</u>
<u>186</u>	<u>MW</u>		<u>80</u>	<u>20</u>	<u>0</u>
<u>279</u>	<u>Water</u>		<u>100</u>		<u>0</u>

Rec Total 838 BHT 115 Gravity API RW .14 @ 65.8 °F Chlorides 55,000 ppm

(A) Initial Hydrostatic 1933  Test 1150 T-On Location 8:10  
 (B) First Initial Flow 56  Jars T-Started 8:45  
 (C) First Final Flow 371  Safety Joint T-Open 11:06  
 (D) Initial Shut-In 497  Circ Sub T-Pulled 13:20  
 (E) Second Initial Flow 378  Hourly Standby T-Out 15:21  
 (F) Second Final Flow 466  Mileage 72 x 2 = 144 x 1.55 = 223.20 Comments Connection on 2nd hose  
 (G) Final Shut-In 499  Sampler came loose. Didn't notice till  
 (H) Final Hydrostatic 1883  Straddle we pulled tool loose  
 Ruined Shale Packer  
 Shale Packer  
 Ruined Packer  
 Extra Packer  
 Extra Copies  
 Extra Recorder  
 Sub Total 0  
 Total 1373.20  
 Day Standby  
 Accessibility  
 MP/DST Disc't  
 Sub Total 1373.20

Approved By \_\_\_\_\_

Our Representative Chuck Kays

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. 50597

Well Name & No. Schweitzer #6 Test No. 2 Date 3-31-2013  
 Company Investment Equipment LLC. Elevation 22 KB 2279 GL  
 Address 17509 county Rd. 11 Ft. Morgan Co. 80701  
 Co. Rep / Geo. Marz Downing Rig Maverick  
 Location: Sec. 6 Twp. 8 Rge. 23 Co. Graham State Ks

Interval Tested 3714 3735 Zone Tested LKC-K  
 Anchor Length 21 Drill Pipe Run 3717 Mud Wt. 9.4  
 Top Packer Depth 3709 Drill Collars Run 0 Vis 73  
 Bottom Packer Depth 3714 Wt. Pipe Run 0 WL 7.6  
 Total Depth 3735 Chlorides 1000 ppm System LCM 1 1/2 #

Blow Description IF: Weak blow, Built to 4 in. over 4.5 mins.  
ISF: No blow back  
FF: Weak blow, Built to fin. over 4.5 mins.  
FST: No blow back.

Rec	Feet of	%gas	%oil	%water	%mud
<u>25</u>	<u>oil</u>	<u>100</u>			
<u>98</u>	<u>MCW</u>			<u>80%</u>	<u>20</u>
<u>60</u>	<u>MCW</u>			<u>80%</u>	<u>20</u>
<u>62</u>	<u>WCM</u>			<u>35%</u>	<u>65</u>

Rec Total 184 BHT 113 Gravity 29 API RW \_\_\_\_\_ @ \_\_\_\_\_ ° F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1882  Test 1150 T-On Location 21:15  
 (B) First Initial Flow 21  Jars \_\_\_\_\_ T-Started 22:00  
 (C) First Final Flow 61  Safety Joint \_\_\_\_\_ T-Open 00:25  
 (D) Initial Shut-In 343  Circ Sub \_\_\_\_\_ T-Pulled 9:40  
 (E) Second Initial Flow 66  Hourly Standby \_\_\_\_\_ T-Out 06:26  
 (F) Second Final Flow 97  Mileage 72x2 = 144x1.55 223.20 Comments \_\_\_\_\_  
 (G) Final Shut-In 331  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1841  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1373.20  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1373.20

Initial Open 45  
 Initial Shut-In 45  
 Final Flow 45  
 Final Shut-In 45

Approved By \_\_\_\_\_ Our Representative Chris Hoyer Jr

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.