

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

## DRILL STEM TEST REPORT

Prepared For: **TDI, Inc.**

1310 Bison Road  
Hays, KS 67601

ATTN: Herb Deines

### **Scott #2**

### **10-15s-19w Ellis,KS**

Start Date: 2012.08.27 @ 21:08:23

End Date: 2012.08.28 @ 04:29:53

Job Ticket #: 47857                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.09.10 @ 15:08:47

TDI, Inc.  
10-15s-19w Ellis,KS  
Scott #2  
DST # 1  
A-B-C  
2012.08.27



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

TDI, Inc.  
1310 Bison Road  
Hays, KS 67601  
ATTN: Herb Deines

**10-15s-19w Ellis, KS**  
**Scott #2**  
Job Ticket: 47857      **DST#: 1**  
Test Start: 2012.08.27 @ 21:08:23

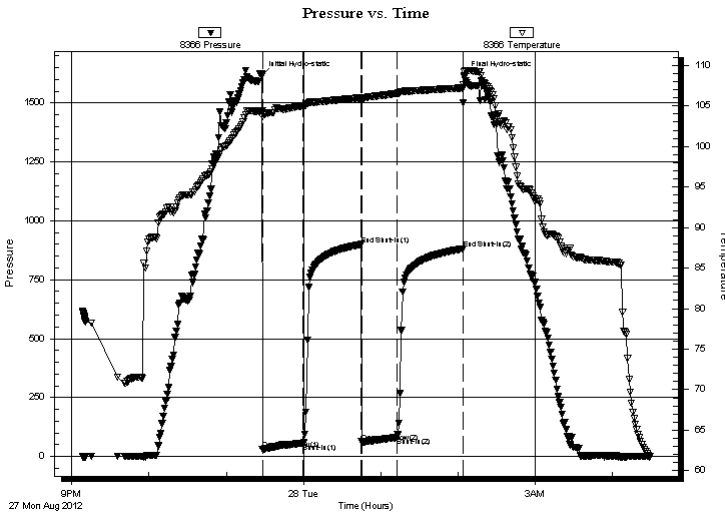
## GENERAL INFORMATION:

Formation: **A-B-C**  
Deviated: No Whipstock: 0.00 ft (KB)  
Time Tool Opened: 23:28:08  
Time Test Ended: 04:29:53  
Interval: **3336.00 ft (KB) To 3385.00 ft (KB) (TVD)**  
Total Depth: 3385.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Jason McLemore  
Unit No: 54  
Reference Elevations: 2048.00 ft (KB)  
2040.00 ft (CF)  
KB to GR/CF: 8.00 ft

**Serial #: 8366**      **Inside**  
Press @ Run Depth: 80.37 psig @ 3372.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2012.08.27      End Date: 2012.08.28      Last Calib.: 2012.08.28  
Start Time: 21:08:25      End Time: 04:29:53      Time On Btm: 2012.08.27 @ 23:27:53  
Time Off Btm: 2012.08.28 @ 02:04:53

**TEST COMMENT:** IFP-Weak Blow , Built to 4-1/4"  
ISI-Dead  
FFP-Weak Blow , Built to 4-1/4"  
FSI-Dead

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1618.12	104.45	Initial Hydro-static
1	29.26	103.66	Open To Flow (1)
32	57.43	105.02	Shut-In(1)
77	899.51	106.00	End Shut-In(1)
78	61.60	105.74	Open To Flow (2)
105	80.37	106.54	Shut-In(2)
156	881.39	107.21	End Shut-In(2)
157	1615.94	109.17	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
70.00	Watery Mud-50%W-50%M	0.98

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

TDI, Inc.  
1310 Bison Road  
Hays, KS 67601  
ATTN: Herb Deines

**10-15s-19w Ellis,KS**  
**Scott #2**  
Job Ticket: 47857      **DST#: 1**  
Test Start: 2012.08.27 @ 21:08:23

**Tool Information**

Drill Pipe:	Length: 3346.00 ft	Diameter: 3.80 inches	Volume: 46.94 bbl	Tool Weight:	2000.00 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	38000.00 lb
			<u>Total Volume: 46.94 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial	35000.00 lb
Depth to Top Packer:	3336.00 ft			Final	35000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	49.00 ft				
Tool Length:	70.00 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>
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Change Over Sub	1.00			3316.00	
Shut In Tool	5.00			3321.00	
Hydraulic tool	5.00			3326.00	
Packer	5.00			3331.00	21.00      Bottom Of Top Packer
Packer	5.00			3336.00	
Stubb	1.00			3337.00	
Perforations	2.00			3339.00	
Change Over Sub	1.00			3340.00	
Blank Spacing	31.00			3371.00	
Change Over Sub	1.00			3372.00	
Recorder	0.00	8366	Inside	3372.00	
Recorder	0.00	8289	Outside	3372.00	
Perforations	10.00			3382.00	
Bullnose	3.00			3385.00	49.00      Bottom Packers & Anchor

**Total Tool Length: 70.00**



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

TDI, Inc.

**10-15s-19w Ellis,KS**

1310 Bison Road  
Hays, KS 67601

**Scott #2**

Job Ticket: 47857

**DST#: 1**

ATTN: Herb Deines

Test Start: 2012.08.27 @ 21:08:23

**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:

33000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3900.00 ppm

Filter Cake: inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbf
70.00	Watery Mud-50%W-50%M	0.982

Total Length: 70.00 ft      Total Volume: 0.982 bbf

Num Fluid Samples: 0

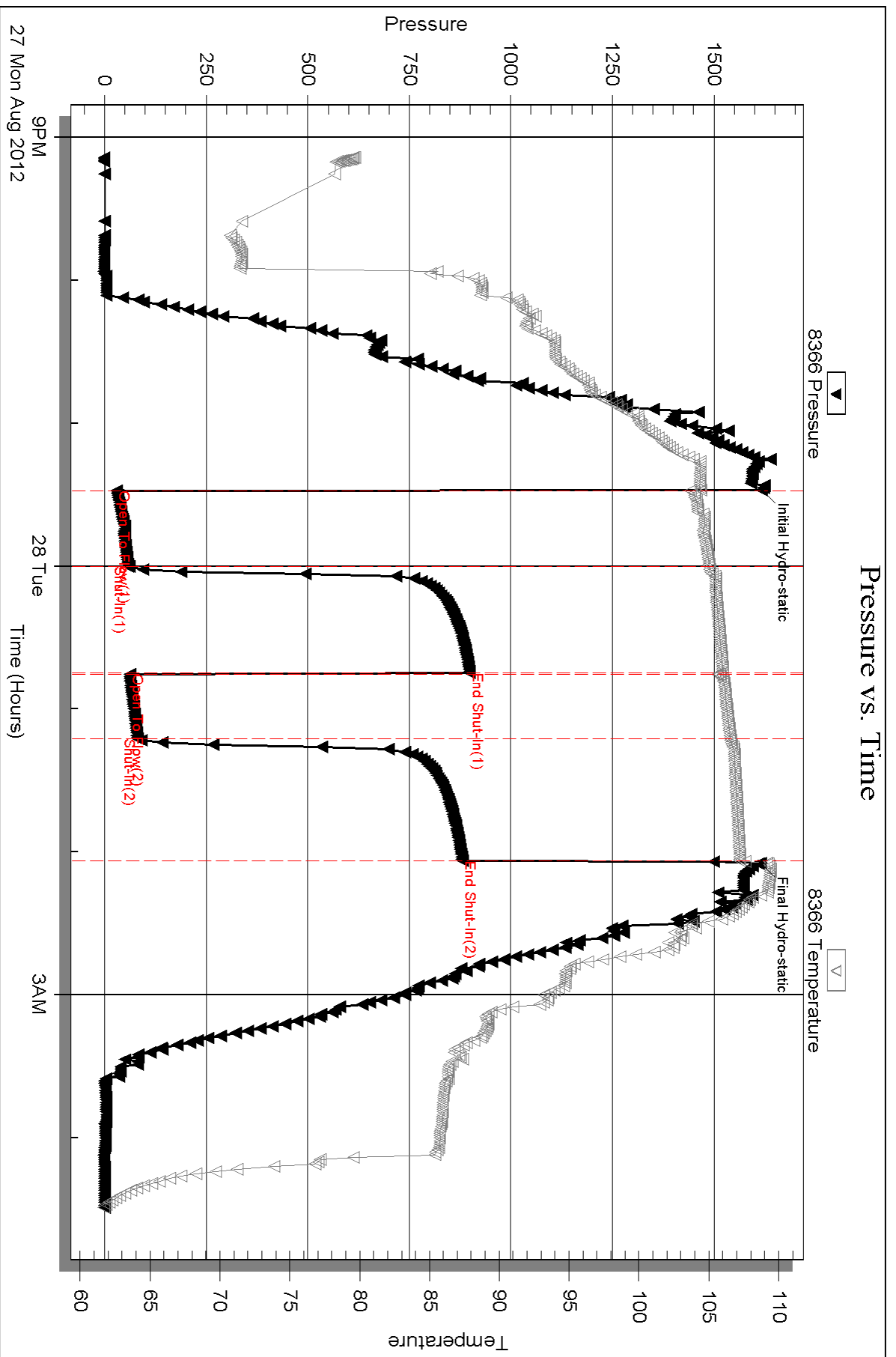
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

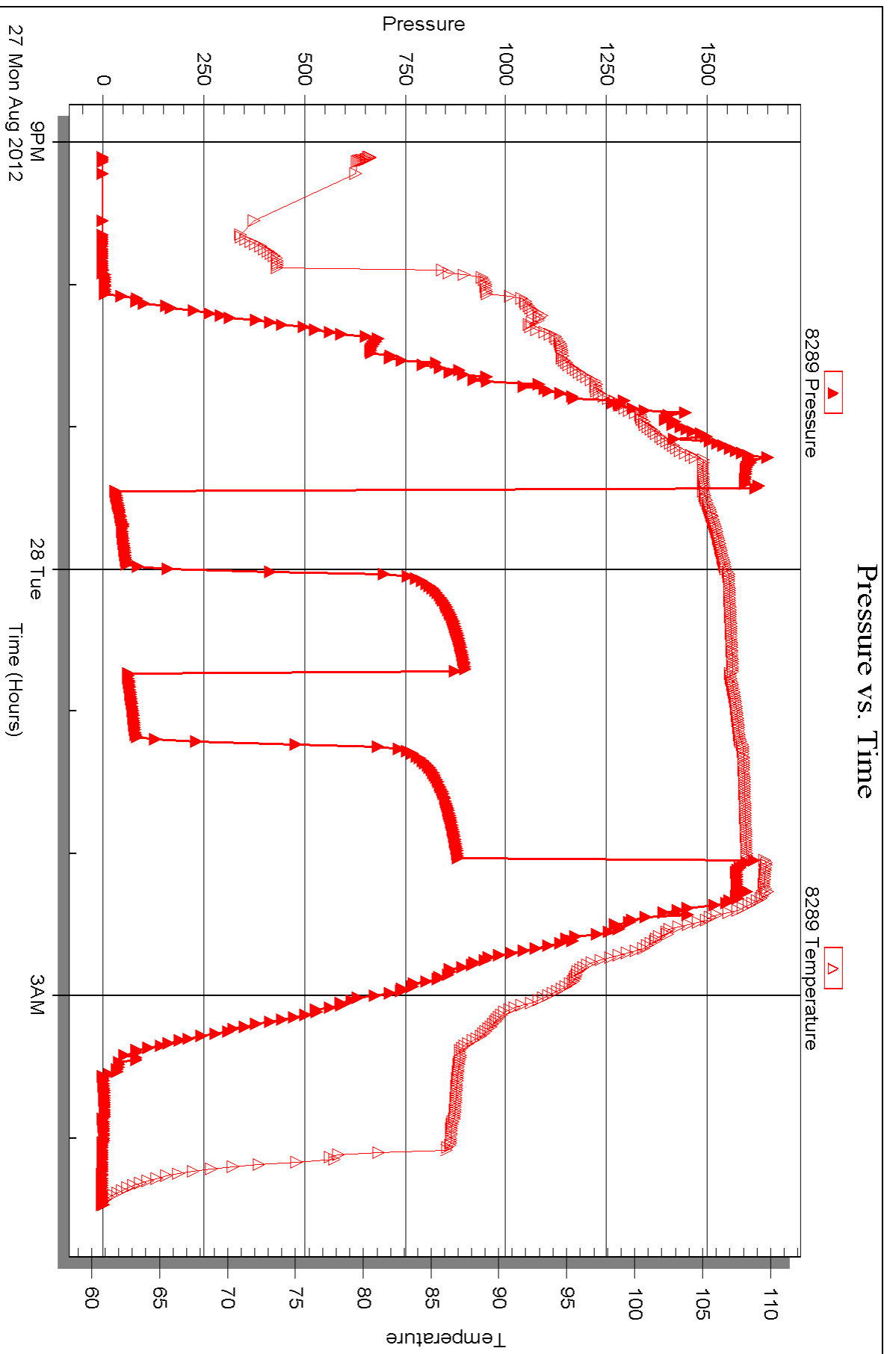


Serial #: 8289

Outside TDI, Inc.

Scott #2

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **TDI, Inc.**

1310 Bison Road  
Hays, KS 67601

ATTN: Herb Deines

### **Scott #2**

### **10-15s-19w Ellis,KS**

Start Date: 2012.08.28 @ 17:47:41

End Date: 2012.08.29 @ 01:01:26

Job Ticket #: 47858                      DST #: 2

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

Printed: 2012.09.10 @ 15:08:04

TDI, Inc.  
10-15s-19w Ellis,KS  
Scott #2  
DST # 2  
H-I-J  
2012.08.28





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

TDI, Inc.  
1310 Bison Road  
Hays, KS 67601  
ATTN: Herb Deines

**10-15s-19w Ellis,KS**  
**Scott #2**  
Job Ticket: 47858 **DST#: 2**  
Test Start: 2012.08.28 @ 17:47:41

## GENERAL INFORMATION:

Formation: **H-I-J**  
 Deviated: No Whipstock: 0.00 ft (KB)  
 Time Tool Opened: 20:00:56  
 Time Test Ended: 01:01:26  
 Interval: **3464.00 ft (KB) To 3565.00 ft (KB) (TVD)**  
 Total Depth: 3545.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Jason McLemore  
 Unit No: 54  
 Reference Elevations: 2048.00 ft (KB)  
 2040.00 ft (CF)  
 KB to GR/CF: 8.00 ft

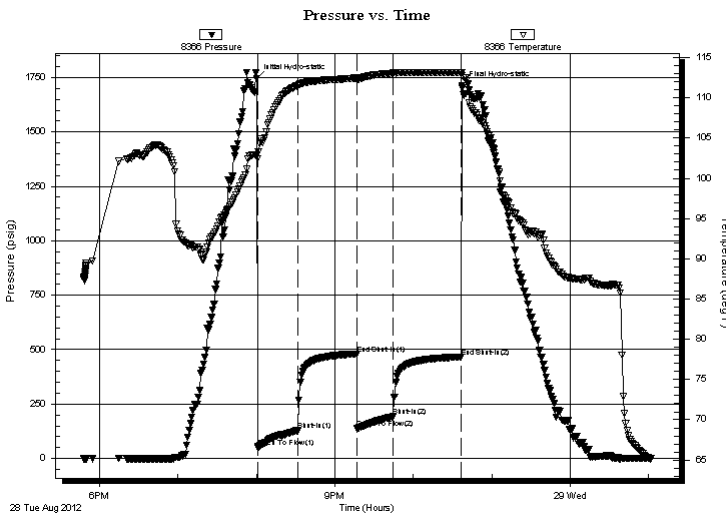
## Serial #: 8366

Inside

Press @ Run Depth: 192.20 psig @ 3532.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.08.28 End Date: 2012.08.29 Last Calib.: 2012.08.29  
 Start Time: 17:47:43 End Time: 01:01:26 Time On Btm: 2012.08.28 @ 20:00:11  
 Time Off Btm: 2012.08.28 @ 22:37:11

TEST COMMENT: IFP-Good Blow , BOB in 17 Min.  
 ISI-Dead  
 FFP-Fair, Built to 9"  
 FSI-Dead

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1744.62	102.97	Initial Hydro-static
1	52.26	102.42	Open To Flow (1)
32	127.79	111.53	Shut-In(1)
77	480.85	112.48	End Shut-In(1)
77	136.94	112.29	Open To Flow (2)
105	192.20	113.07	Shut-In(2)
157	466.78	113.14	End Shut-In(2)
157	1711.85	113.16	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
305.00	Watery Mud W/Oil Scum-70%M-30%W	4.28

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

TDI, Inc.  
1310 Bison Road  
Hays, KS 67601  
ATTN: Herb Deines

**10-15s-19w Ellis,KS**  
**Scott #2**  
Job Ticket: 47858      **DST#: 2**  
Test Start: 2012.08.28 @ 17:47:41

**Tool Information**

Drill Pipe:	Length: 3468.00 ft	Diameter: 3.80 inches	Volume: 48.65 bbl	Tool Weight:	2000.00 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	40000.00 lb
			<u>Total Volume: 48.65 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial	35000.00 lb
Depth to Top Packer:	3464.00 ft			Final	36000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	81.00 ft				
Tool Length:	102.00 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>
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Change Over Sub	1.00			3444.00	
Shut In Tool	5.00			3449.00	
Hydraulic tool	5.00			3454.00	
Packer	5.00			3459.00	21.00      Bottom Of Top Packer
Packer	5.00			3464.00	
Stubb	1.00			3465.00	
Perforations	2.00			3467.00	
Change Over Sub	1.00			3468.00	
Blank Spacing	63.00			3531.00	
Change Over Sub	1.00			3532.00	
Recorder	0.00	8366	Inside	3532.00	
Recorder	0.00	8289	Outside	3532.00	
Perforations	10.00			3542.00	
Bullnose	3.00			3545.00	81.00      Bottom Packers & Anchor

**Total Tool Length: 102.00**



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

TDI, Inc.  
1310 Bison Road  
Hays, KS 67601  
ATTN: Herb Deines

**10-15s-19w Ellis,KS**  
**Scott #2**  
Job Ticket: 47858      **DST#: 2**  
Test Start: 2012.08.28 @ 17:47:41

**Mud and Cushion Information**

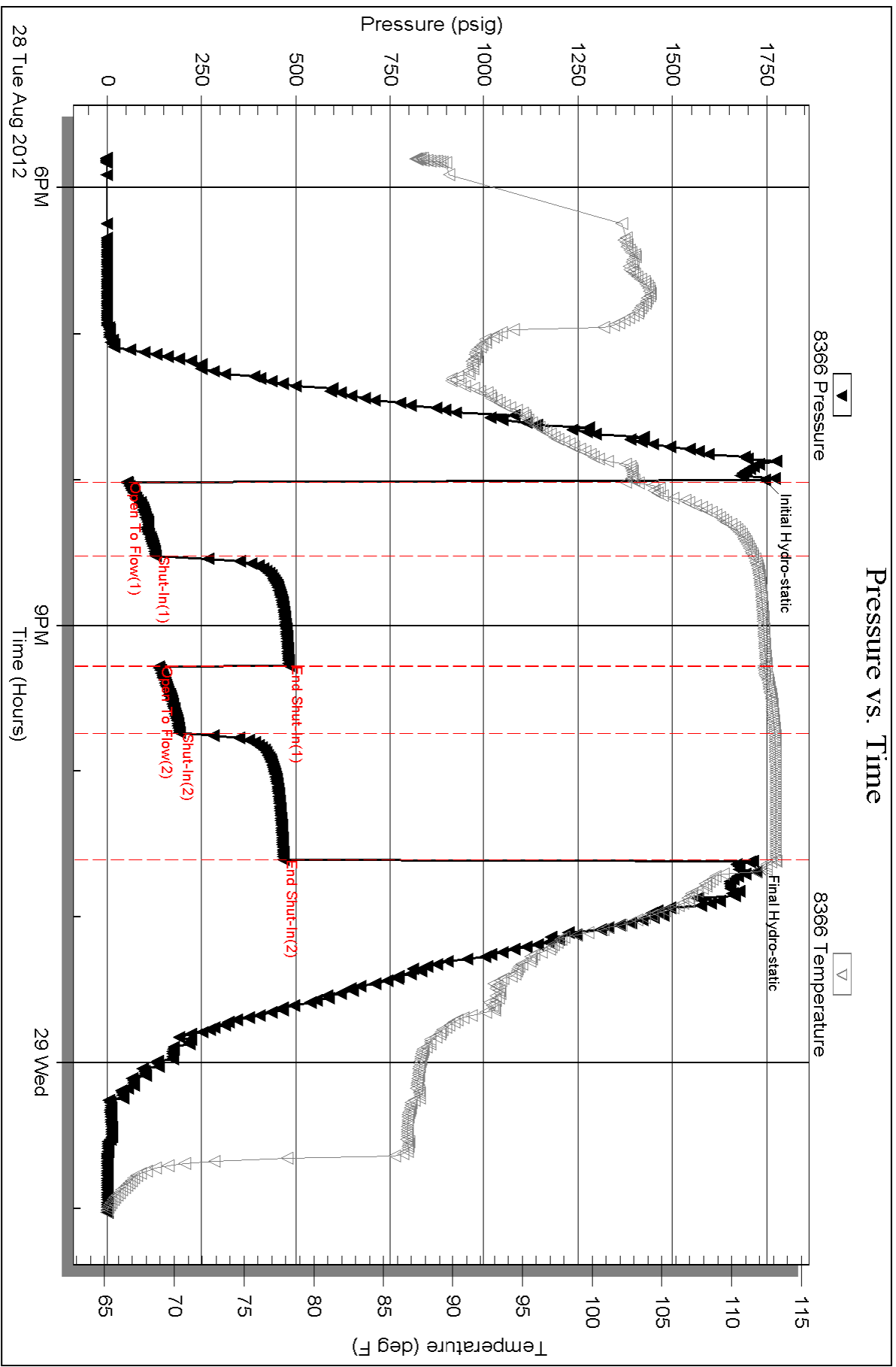
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	20500 ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.18 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3900.00 ppm			
Filter Cake: inches			

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
305.00	Watery Mud W/Oil Scum-70%M-30%W	4.278

Total Length: 305.00 ft      Total Volume: 4.278 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

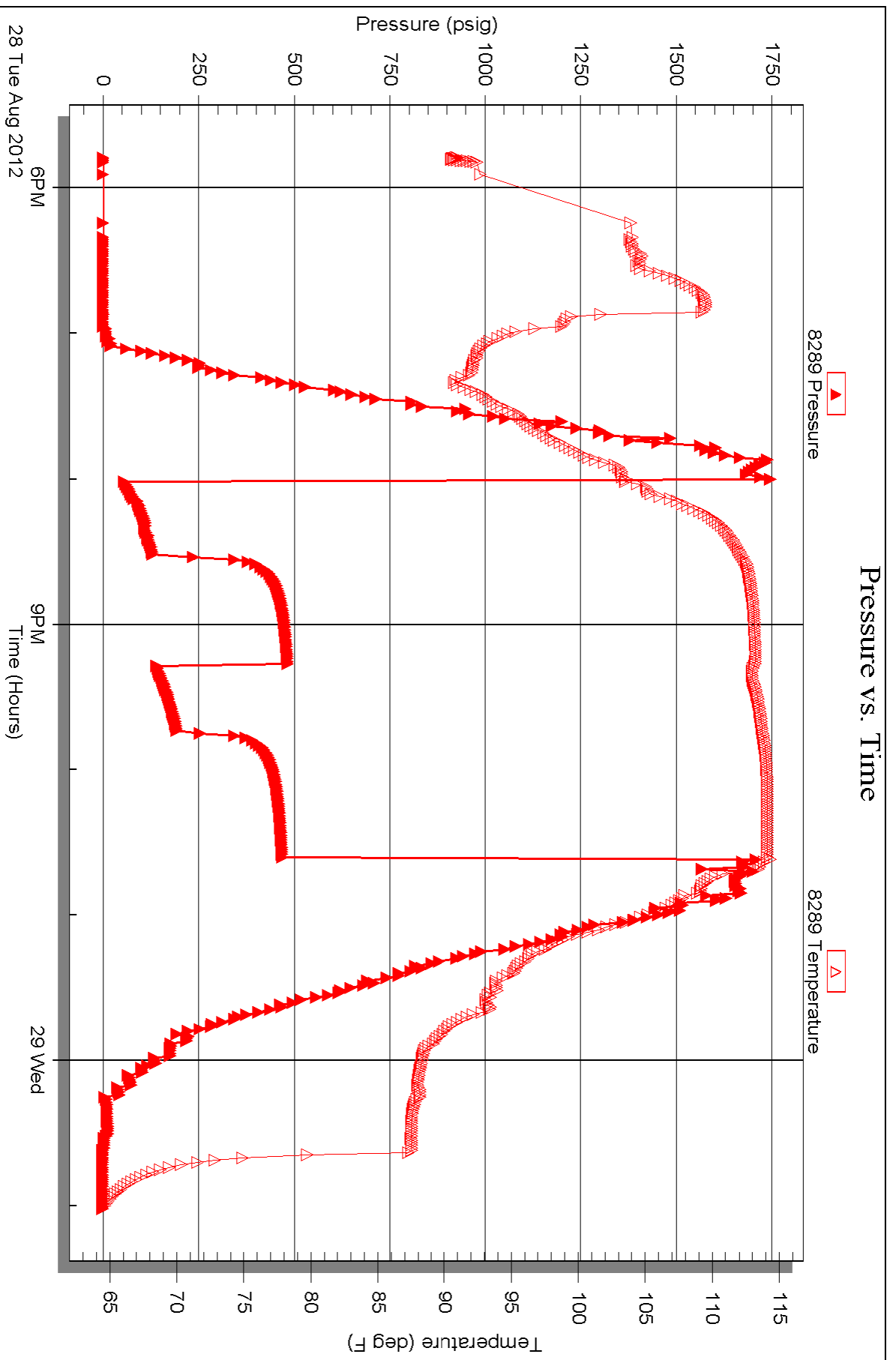


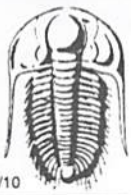
Serial #: 8289

Outside TDI, Inc.

Scott #2

DST Test Number: 2





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 47857

Well Name & No. Scott #2 Test No. 1 Date 8-27-12  
 Company TDI, Inc. Elevation 2048 KB 2040 GL  
 Address 1310 Bison Road, Hays, KS 67601  
 Co. Rep / Geo. Herb Deines Rig Southwind #4  
 Location: Sec. 10 Twp. 15s Rge. 19w Co. Ellis State KS

Interval Tested 3336 - 3385 Zone Tested ABC  
 Anchor Length 49' Drill Pipe Run 3346 Mud Wt. 8.9  
 Top Packer Depth 3331 Drill Collars Run 0 Vis 5.4  
 Bottom Packer Depth 3336 Wt. Pipe Run 0 WL 7.2  
 Total Depth 3385 Chlorides 3,900 ppm System LCM 1<sup>st</sup>  
 Blow Description IFP - Weak Blow, Built to 4 1/4"  
ISI - Dead  
FFP - Weak Blow, Built to 4 1/4"  
FSI - Dead

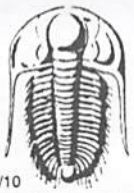
Rec	Feet of	%gas	%oil	%water	%mud
<u>70</u>	<u>watery Mud</u>		<u>50</u>	<u>50</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 70 BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW 1230 @ 65 °F Chlorides 31,000 ppm  
 (A) Initial Hydrostatic 1618  Test 1150 T-On Location 20:56  
 (B) First Initial Flow 29  Jars \_\_\_\_\_ T-Started 21:06  
 (C) First Final Flow 57  Safety Joint \_\_\_\_\_ T-Open 23:27  
 (D) Initial Shut-In 900  Circ Sub \_\_\_\_\_ T-Pulled 1:57  
 (E) Second Initial Flow 62  Hourly Standby \_\_\_\_\_ T-Out 4:31  
 (F) Second Final Flow 80  Mileage 24 ft 37.20 Comments \_\_\_\_\_  
 (G) Final Shut-In 881  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1616  Straddle \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Initial Open 30  Shale Packer \_\_\_\_\_  
 Initial Shut-In 45  Extra Packer \_\_\_\_\_  
 Final Flow 30  Extra Recorder \_\_\_\_\_  
 Final Shut-In 45  Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1187.20 Sub Total 1187.20  
 MP/DST Disc't \_\_\_\_\_

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

Our Representative Jason McLenon

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.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 47858

Well Name & No. Scott # 2 Test No. 2 Date 8-28-12  
 Company TDI, Inc Elevation 2048 KB 2040 GL  
 Address 1310 Bison Road, Hays, KS, 67601  
 Co. Rep / Geo. Herb Deines Rig Southwind # 4  
 Location: Sec. 10 Twp. 15s Rge. 19w Co. Ellis State KS

Interval Tested 3464-3545 Zone Tested H-I-J  
 Anchor Length 81 Drill Pipe Run 3468 Mud Wt. 9.2  
 Top Packer Depth 3459 Drill Collars Run 0 Vis 58  
 Bottom Packer Depth 3464 Wt. Pipe Run 0 WL 7.2  
 Total Depth 3545 Chlorides 4,000 ppm System LCM 2<sup>#</sup>  
 Blow Description IFP - Good Blow, BOB in 17 min.  
ISF - Dead  
FFP - Fair, Built to 9'  
FSI - Dead

Rec	Feet of	%gas	%oil	%water	%mud
<u>305</u>	<u>Watery Mud w/Oil scum</u>		<u>30</u>	<u>70</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 305 BHT 112° Gravity \_\_\_\_\_ API RW 293 @ 71 ° F Chlorides 20,500 ppm

(A) Initial Hydrostatic 1745  Test 1150 T-On Location 17:37  
 (B) First Initial Flow 52  Jars \_\_\_\_\_ T-Started 17:45  
 (C) First Final Flow 128  Safety Joint \_\_\_\_\_ T-Open 20:01  
 (D) Initial Shut-In 481  Circ Sub \_\_\_\_\_ T-Pulled 22:31  
 (E) Second Initial Flow 137  Hourly Standby \_\_\_\_\_ T-Out 1:00  
 (F) Second Final Flow 192  Mileage 24.4 37.20 Comments \_\_\_\_\_  
 (G) Final Shut-In 467  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1712  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 30  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 45  Day Standby \_\_\_\_\_ Total 1187.20  
 Final Flow 30  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 45 Sub Total 1187.20

Approved By \_\_\_\_\_ Our Representative Jason McSammon Thank you

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.