

## DRILL STEM TEST REPORT

Prepared For: **American Warrior Inc**

PO Box 399  
Garden City, KS 67846

ATTN: Jason T Alm

### **HCH #1-22**

#### **22-20s-22w Ness, KS**

Start Date: 2018.02.21 @ 16:18:37

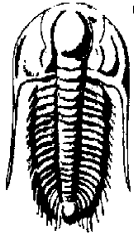
End Date: 2018.02.21 @ 21:52:37

Job Ticket #: 64302                      DST #: 1

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

Printed: 2018.02.23 @ 10:19:06

American Warrior Inc  
22-20s-22w Ness, KS  
HCH #1-22  
DST # 1  
Miss  
2018.02.21



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

American Warrior Inc  
 PO Box 399  
 Garden City, KS 67846  
 ATTN: Jason T Alm

**22-20s-22w Ness, KS**

**HCH #1-22**

Job Ticket: 64302

**DST#: 1**

Test Start: 2018.02.21 @ 16:18:37

## GENERAL INFORMATION:

Formation: **Miss**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 18:26:07  
 Time Test Ended: 21:52:37  
 Interval: **4331.00 ft (KB) To 4417.00 ft (KB) (TVD)**  
 Total Depth: 4417.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Brandon Turley  
 Unit No: 79  
 Reference Elevations: 2251.00 ft (KB)  
 2243.00 ft (CF)  
 KB to GR/CF: 8.00 ft

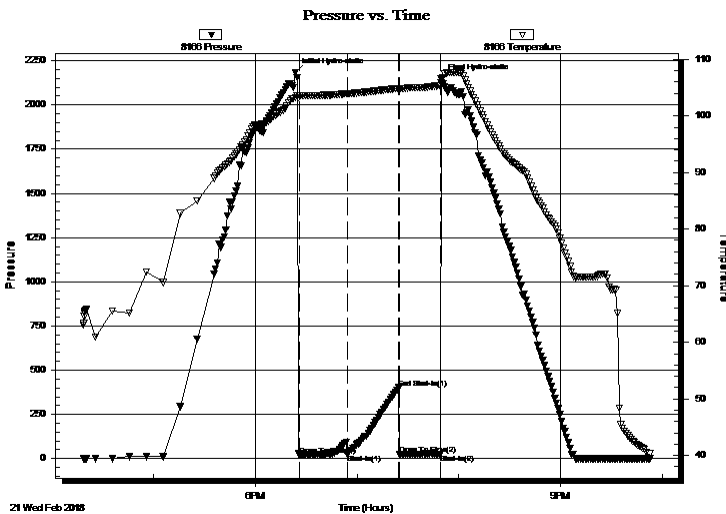
**Serial #: 8166**

**Outside**

Press@RunDepth: 24.46 psig @ 4332.00 ft (KB)  
 Start Date: 2018.02.21 End Date: 2018.02.21  
 Start Time: 16:18:42 End Time: 21:52:36  
 Capacity: 8000.00 psig  
 Last Calib.: 2018.02.21  
 Time On Btm: 2018.02.21 @ 18:23:37  
 Time Off Btm: 2018.02.21 @ 19:49:37

TEST COMMENT: IF: 1/4" blow built to 1 1/4"  
 IS: No return.  
 FF: No blow.  
 FS: Pulled tool.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2183.74	103.21	Initial Hydro-static
3	20.36	103.52	Open To Flow (1)
31	24.46	103.90	Shut-In(1)
61	400.75	104.87	End Shut-In(1)
62	23.91	104.68	Open To Flow (2)
86	25.00	105.37	Shut-In(2)
86	2149.54	105.92	Final Hydro-static

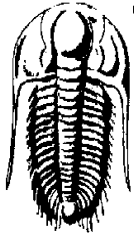
## Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud 100%m	0.05

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

American Warrior Inc  
PO Box 399  
Garden City, KS 67846  
ATTN: Jason T Alm

**22-20s-22w Ness, KS**  
**HCH #1-22**  
Job Ticket: 64302      **DST#: 1**  
Test Start: 2018.02.21 @ 16:18:37

**Tool Information**

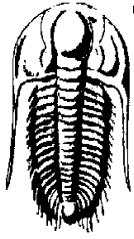
Drill Pipe:	Length: 4281.00 ft	Diameter: 3.80 inches	Volume: 60.05 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	95000.00 lb
			<u>Total Volume: 60.20 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial	64000.00 lb
Depth to Top Packer:	4331.00 ft			Final	64000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	86.00 ft				
Tool Length:	113.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Stubb	1.00			4305.00	
Shut In Tool	5.00			4310.00	
Hydraulic tool	5.00			4315.00	
Jars	5.00			4320.00	
Safety Joint	2.00			4322.00	
Packer	5.00			4327.00	27.00      Bottom Of Top Packer
Packer	4.00			4331.00	
Stubb	1.00			4332.00	
Recorder	0.00	6651	Inside	4332.00	
Recorder	0.00	8166	Outside	4332.00	
Perforations	15.00			4347.00	
Change Over Sub	1.00			4348.00	
Drill Pipe	63.00			4411.00	
Change Over Sub	1.00			4412.00	
Bullnose	5.00			4417.00	86.00      Bottom Packers & Anchor

**Total Tool Length: 113.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

American Warrior Inc  
PO Box 399  
Garden City, KS 67846  
ATTN: Jason T Alm

**22-20s-22w Ness, KS**  
**HCH #1-22**  
Job Ticket: 64302      **DST#: 1**  
Test Start: 2018.02.21 @ 16:18:37

## Mud and Cushion Information

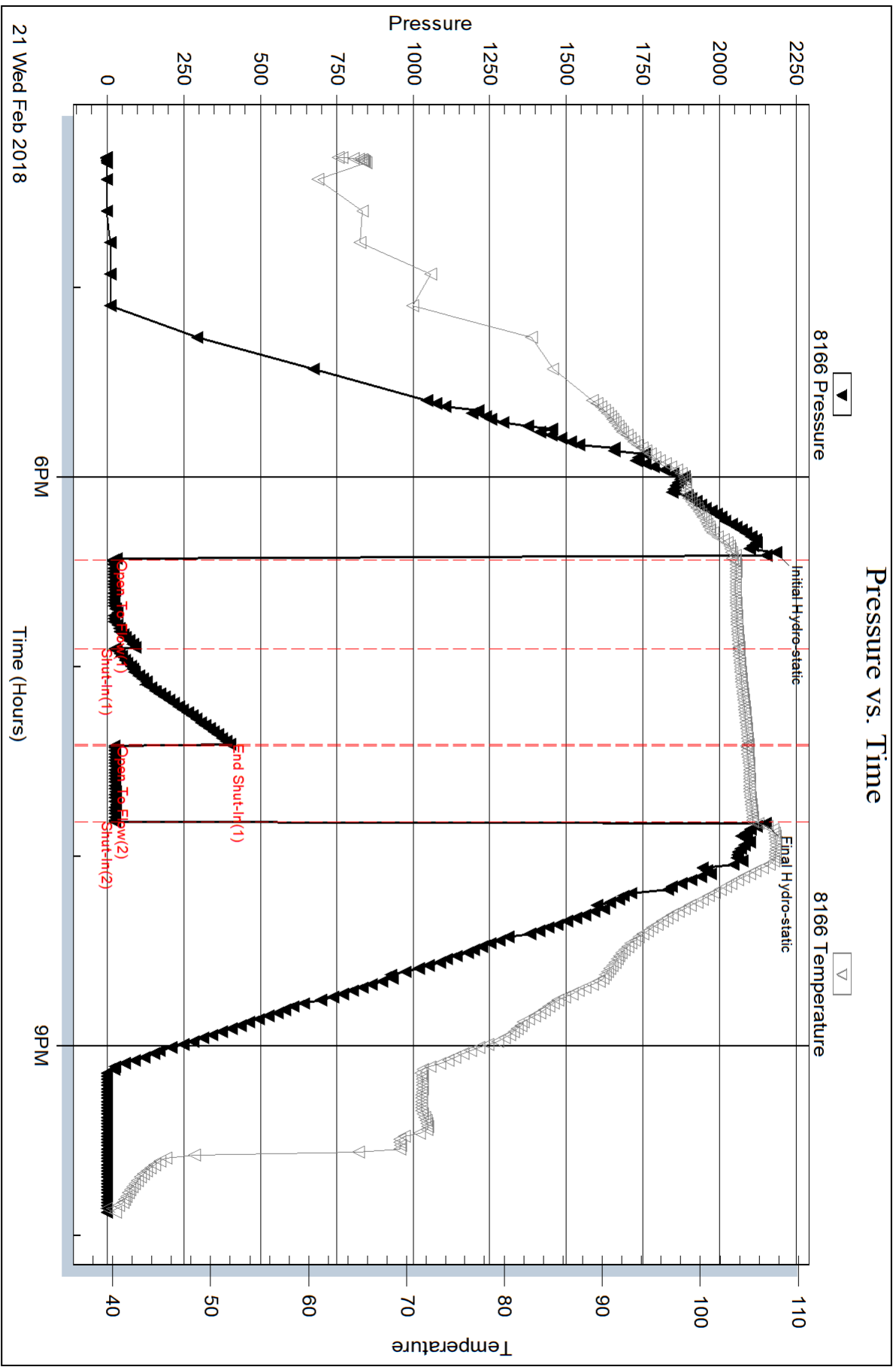
Mud Type: Gel Chem	Cushion Type:	Oil API:	0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	0 ppm
Viscosity: 62.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.99 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 8200.00 ppm			
Filter Cake: 1.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	mud 100%m	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:



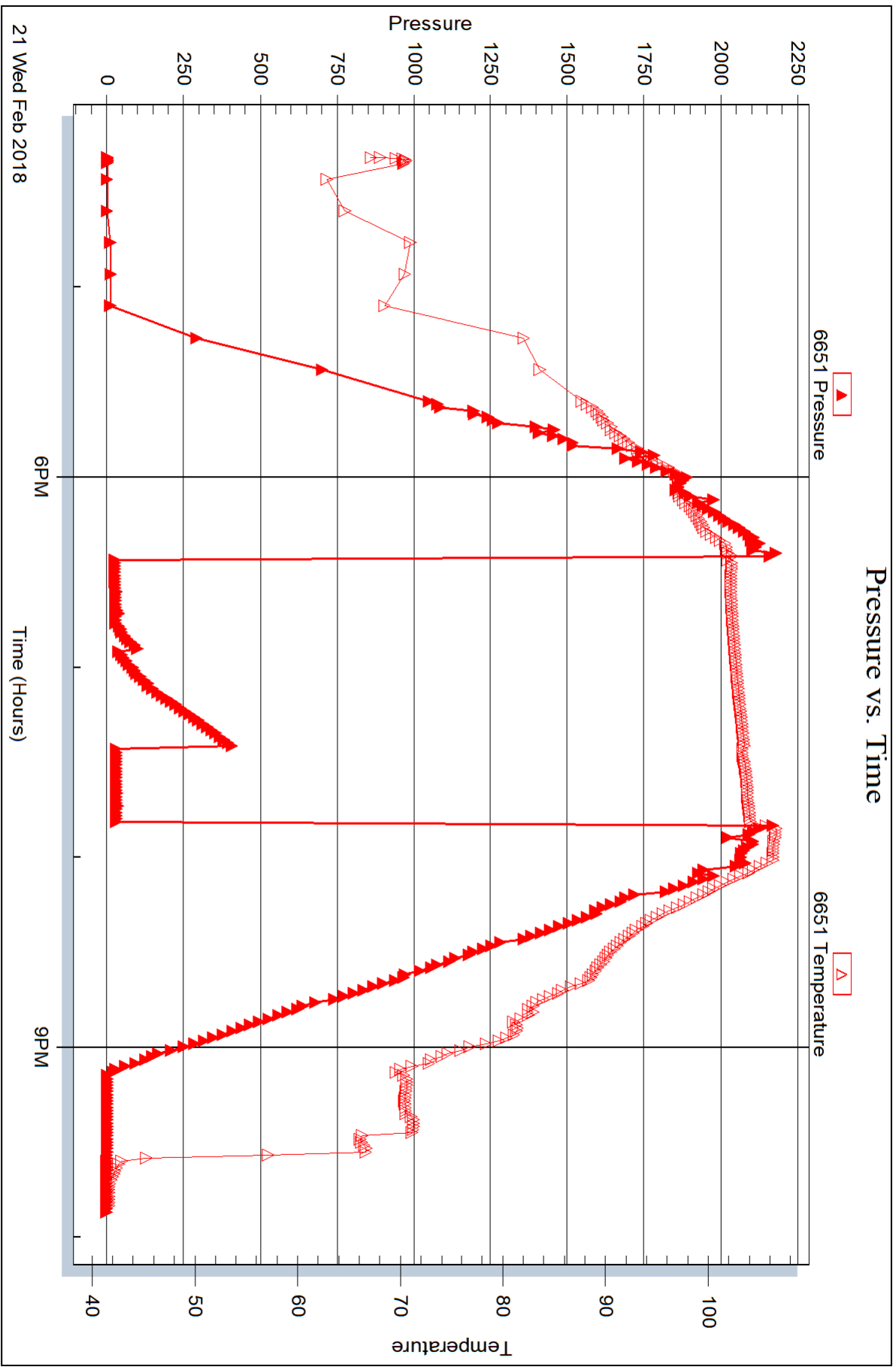
Serial #: 6651

Inside

American Warrior Inc

HCH #1-22

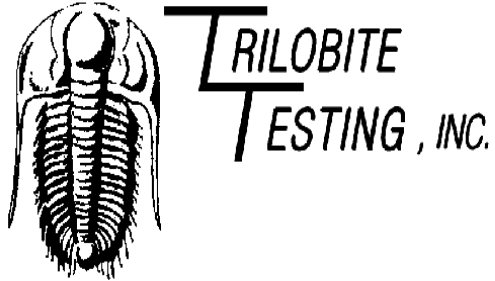
DST Test Number: 1



Triobite Testing, Inc

Ref. No: 64302

Printed: 2018.02.23 @ 10:19:07



## DRILL STEM TEST REPORT

Prepared For: **American Warrior Inc**

PO Box 399  
Garden City, KS 67846

ATTN: Jason T Alm

### **HCH #1-22**

#### **22-20s-22w Ness, KS**

Start Date: 2018.02.22 @ 04:16:33

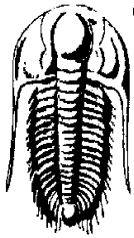
End Date: 2018.02.22 @ 09:44:03

Job Ticket #: 64303                      DST #: 2

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

Printed: 2018.02.23 @ 10:18:34

American Warrior Inc  
22-20s-22w Ness, KS  
HCH #1-22  
DST # 2  
Miss  
2018.02.22



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

American Warrior Inc  
 PO Box 399  
 Garden City, KS 67846  
 ATTN: Jason T Alm

**22-20s-22w Ness, KS**

**HCH #1-22**

Job Ticket: 64303

**DST#: 2**

Test Start: 2018.02.22 @ 04:16:33

## GENERAL INFORMATION:

Formation: **Miss**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 06:04:33 Tester: Brandon Turley  
 Time Test Ended: 09:44:03 Unit No: 79  
 Interval: **4417.00 ft (KB) To 4427.00 ft (KB) (TVD)** Reference Elevations: 2251.00 ft (KB)  
 Total Depth: 4427.00 ft (KB) (TVD) 2243.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 8.00 ft

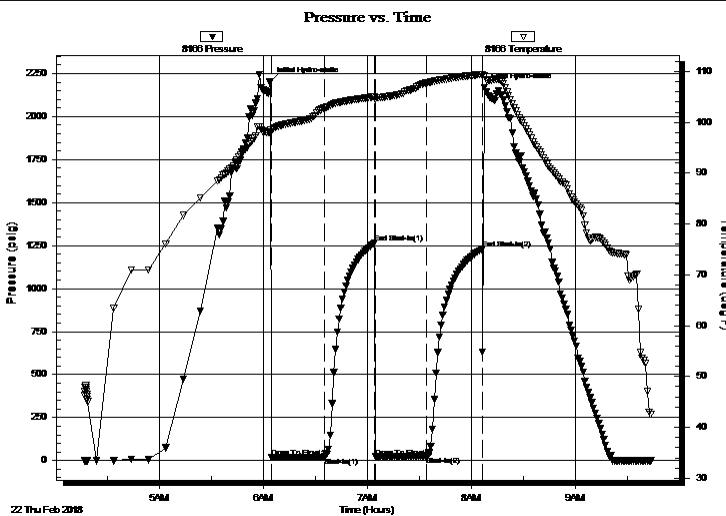
## Serial #: 8166

**Outside**

Press@RunDepth: 23.33 psig @ 4418.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2018.02.22 End Date: 2018.02.22 Last Calib.: 2018.02.22  
 Start Time: 04:16:38 End Time: 09:44:02 Time On Btm: 2018.02.22 @ 06:04:03  
 Time Off Btm: 2018.02.22 @ 08:07:33

TEST COMMENT: IF: Surface blow built to 1"  
 IS: No return.  
 FF: Surface blow built to 1/4"  
 FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2204.51	98.48	Initial Hydro-static
1	18.20	98.09	Open To Flow (1)
31	20.63	102.83	Shut-In(1)
60	1264.01	105.07	End Shut-In(1)
61	21.08	104.41	Open To Flow (2)
90	23.33	107.77	Shut-In(2)
122	1230.09	109.42	End Shut-In(2)
124	2170.10	109.08	Final Hydro-static

## Recovery

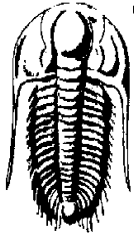
Length (ft)	Description	Volume (bbl)
15.00	wcm 5%w 95%m	0.07

## Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

American Warrior Inc  
PO Box 399  
Garden City, KS 67846  
ATTN: Jason T Alm

**22-20s-22w Ness, KS**  
**HCH #1-22**  
Job Ticket: 64303      **DST#: 2**  
Test Start: 2018.02.22 @ 04:16:33

**Tool Information**

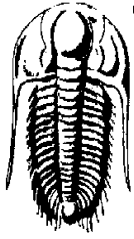
Drill Pipe:	Length: 4376.00 ft	Diameter: 3.80 inches	Volume: 61.38 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 61.53 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial	64000.00 lb
Depth to Top Packer:	4417.00 ft			Final	64000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	10.00 ft				
Tool Length:	37.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Stubb	1.00			4391.00	
Shut In Tool	5.00			4396.00	
Hydraulic tool	5.00			4401.00	
Jars	5.00			4406.00	
Safety Joint	2.00			4408.00	
Packer	5.00			4413.00	27.00      Bottom Of Top Packer
Packer	4.00			4417.00	
Stubb	1.00			4418.00	
Recorder	0.00	6651	Inside	4418.00	
Recorder	0.00	8166	Outside	4418.00	
Perforations	4.00			4422.00	
Bullnose	5.00			4427.00	10.00      Bottom Packers & Anchor

**Total Tool Length: 37.00**



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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

American Warrior Inc  
PO Box 399  
Garden City, KS 67846  
ATTN: Jason T Alm

**22-20s-22w Ness, KS**  
**HCH #1-22**  
Job Ticket: 64303      **DST#: 2**  
Test Start: 2018.02.22 @ 04:16:33

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	0 ppm
Viscosity: 62.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.98 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 8200.00 ppm			
Filter Cake: 1.00 inches			

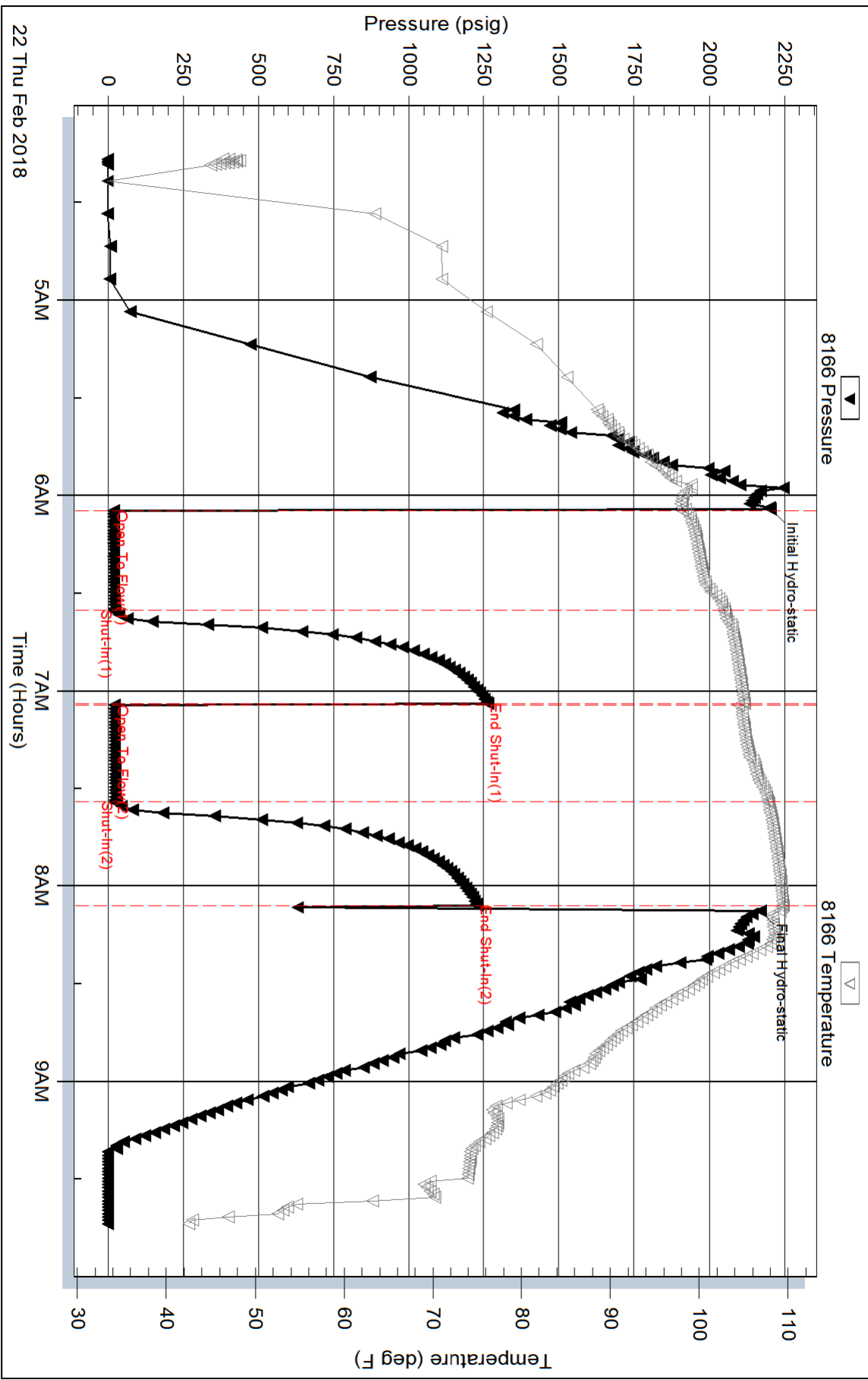
## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	w cm 5%w 95%m	0.074

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

### Pressure vs. Time



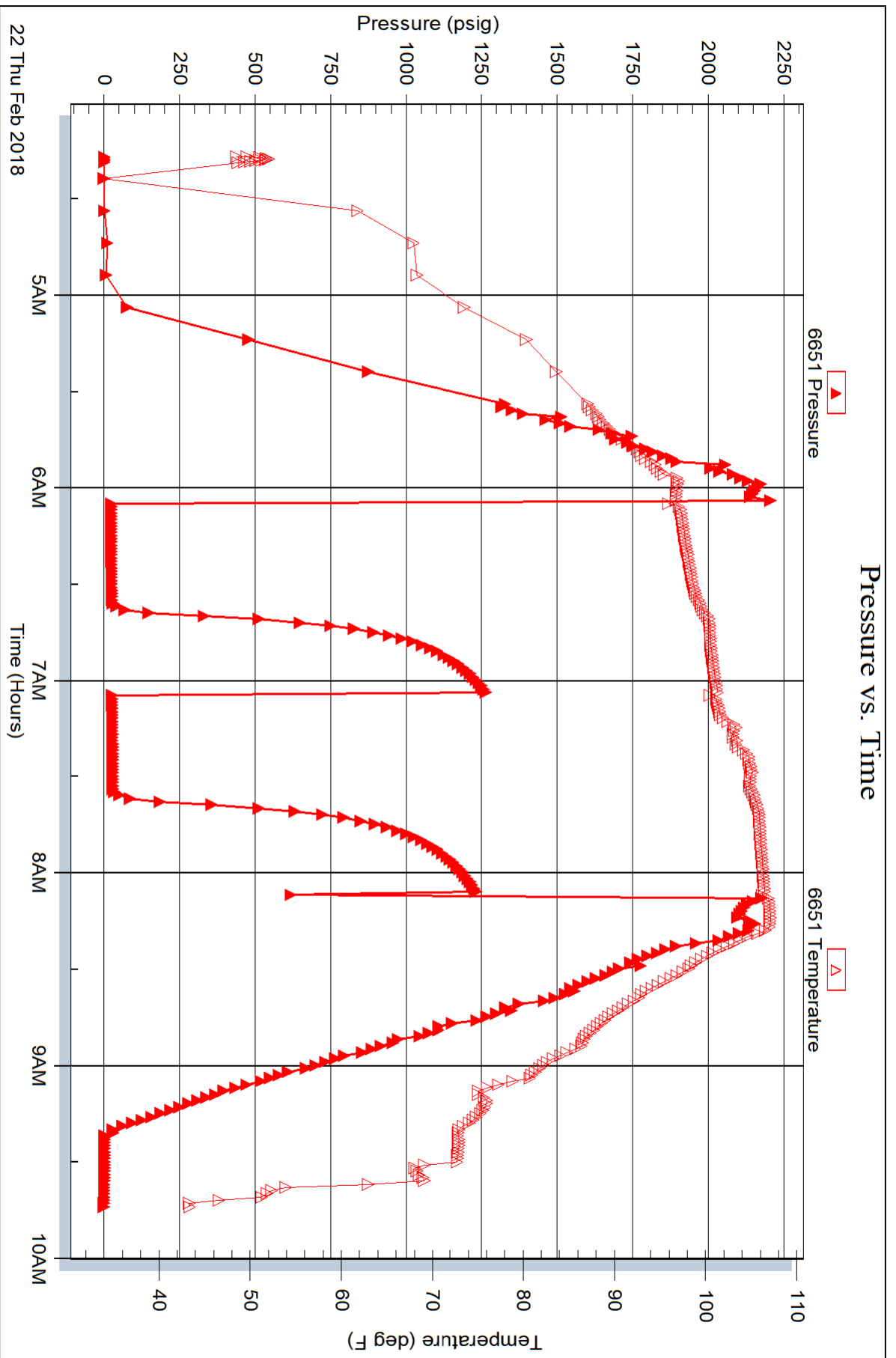
Serial #: 6651

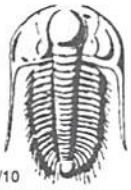
Inside

American Warrior Inc

HCH #1-22

DST Test Number: 2





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **64302**

Well Name & No. HCH #1-22 Test No. 1 Date 2-21-18  
 Company American Warrior Inc Elevation 2251 KB 2243 GL  
 Address P.O. Box 399 Garden city, KS 67846  
 Co. Rep / Geo. Jason T Alm Rig Discovery #4  
 Location: Sec. 22 Twp. 20 S Rge. 22 W Co. Neos State KS

Interval Tested 4331 4417 Zone Tested MISS  
 Anchor Length 86 Drill Pipe Run 4281 Mud Wt. 9.2  
 Top Packer Depth 4326 Drill Collars Run 31 Vis 62  
 Bottom Packer Depth 4331 Wt. Pipe Run --- WL 8.0  
 Total Depth 4417 Chlorides 8200 ppm System LCM 1  
 Blow Description IF: 1/4 blow built to 1 1/4,  
IS: NO return,  
FF: NO blow,  
FS: Pulled tool,

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>mud</u>			<u>100</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 10 BHT 105 Gravity --- API RW --- @ --- °F Chlorides --- ppm

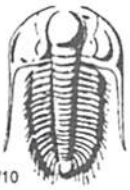
(A) Initial Hydrostatic 2183  Test 1150 T-On Location 15:00  
 (B) First Initial Flow 20  Jars 250 T-Started 16:18  
 (C) First Final Flow 24  Safety Joint 75 T-Open 18:25  
 (D) Initial Shut-In 400  Circ Sub NIC T-Pulled 19:45  
 (E) Second Initial Flow 23  Hourly Standby \_\_\_\_\_ T-Out 21:53  
 (F) Second Final Flow 25  Mileage 154 - 130rt 130  
 (G) Final Shut-In \_\_\_\_\_  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2149  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 30  
 Final Flow 20  
 Final Shut-In Pull

Sub Total 1605 Total 1605 MP/DST Disc't \_\_\_\_\_

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. **64303**

Well Name & No. HCH 1-22 Test No. 2 Date 2-22-18  
 Company American warrior inc Elevation 2251 KB 2243 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Jason T Alm Rig Discovery #4  
 Location: Sec. 22 Twp. 20<sup>s</sup> Rge. 22<sup>w</sup> Co. Ness State KS

Interval Tested 4417 4427 Zone Tested MISS  
 Anchor Length 10 Drill Pipe Run 4376 Mud Wt. 9.2  
 Top Packer Depth 4412 Drill Collars Run 31 Vis 62  
 Bottom Packer Depth 4417 Wt. Pipe Run \_\_\_\_\_ WL 8.0  
 Total Depth 4427 Chlorides 8200 ppm System LCM 1  
 Blow Description IF: Surface blow built to 1.  
IS: No return.  
FF: Surface blow built to 1/4.  
FS:

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>wcm</u>		<u>5</u>	<u>95</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 15 BHT 109 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>2204</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>4:10</u>
(B) First Initial Flow <u>18</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>4:16</u>
(C) First Final Flow <u>20</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>6:04</u>
(D) Initial Shut-In <u>1264</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIL</u>	T-Pulled <u>8:04</u>
(E) Second Initial Flow <u>21</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>9:45</u>
(F) Second Final Flow <u>23</u>	<input checked="" type="checkbox"/> Mileage <u>154</u> - 130	Comments _____
(G) Final Shut-In <u>1230</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>2170</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>30</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby _____	Total <u>1605</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1605</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.