



## DRILL STEM TEST REPORT

Prepared For: **American Warrior inc.**

PO Box 399  
Garden City KS 67846

ATTN: Jason Alm

### **Denise #1-33**

#### **33-17s-21w Ness,KS**

Start Date: 2013.12.02 @ 08:07:01

End Date: 2013.12.02 @ 14:51:30

Job Ticket #: 54348                      DST #: 1

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

Printed: 2013.12.05 @ 11:58:35



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

American Warrior inc.  
 PO Box 399  
 Garden City KS 67846  
 ATTN: Jason Alm

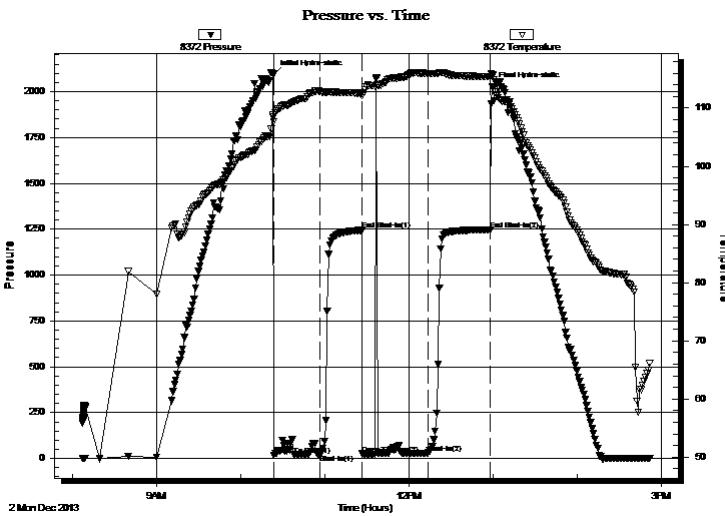
**33-17s-21w Ness,KS**  
**Denise #1-33**  
 Job Ticket: 54348 **DST#: 1**  
 Test Start: 2013.12.02 @ 08:07:01

## GENERAL INFORMATION:

Formation: **Miss**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 10:23:30  
 Time Test Ended: 14:51:30  
 Interval: **4199.00 ft (KB) To 4205.00 ft (KB) (TVD)**  
 Total Depth: 4205.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Andy Carreira  
 Unit No: 68  
 Reference Elevations: 2154.00 ft (KB)  
 2146.00 ft (CF)  
 KB to GR/CF: 8.00 ft

**Serial #: 8372 Inside**  
 Press@RunDepth: 29.25 psig @ 4200.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.12.02 End Date: 2013.12.02 Last Calib.: 2013.12.02  
 Start Time: 08:07:01 End Time: 14:51:30 Time On Btm: 2013.12.02 @ 10:23:00  
 Time Off Btm: 2013.12.02 @ 12:59:00

**TEST COMMENT:** IF:(30min) Surging blow built to 1"  
 IS:(30min) No Return  
 FF:(45min) 1" blow in 7 min. Flushed, Surged, 2" blow in 3 min. Built to 4.5"  
 FS:(45min) No Return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2094.94	108.76	Initial Hydro-static
1	18.52	107.63	Open To Flow (1)
34	20.83	112.83	Shut-In(1)
63	1244.20	112.59	End Shut-In(1)
64	25.11	112.11	Open To Flow (2)
110	29.25	115.92	Shut-In(2)
155	1248.07	115.40	End Shut-In(2)
156	2027.78	115.61	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
30.00	OCGM g=5% o=10% m=85%	0.42
0.00	GIP=30 ft	0.00

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

American Warrior inc.

**33-17s-21w Ness,KS**

PO Box 399  
Garden City KS 67846

**Denise #1-33**

Job Ticket: 54348

**DST#: 1**

ATTN: Jason Alm

Test Start: 2013.12.02 @ 08:07:01

## Tool Information

Drill Pipe:	Length: 4180.00 ft	Diameter: 3.80 inches	Volume: 58.63 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 58.63 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4199.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	6.00 ft			
Tool Length:	34.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4172.00	
Shut In Tool	5.00			4177.00	
Hydraulic tool	5.00			4182.00	
Jars	5.00			4187.00	
Safety Joint	3.00			4190.00	
Packer	5.00			4195.00	28.00 Bottom Of Top Packer
Packer	4.00			4199.00	
Stubb	1.00			4200.00	
Recorder	0.00	8372	Inside	4200.00	
Recorder	0.00	8321	Outside	4200.00	
Perforations	2.00			4202.00	
Bullnose	3.00			4205.00	6.00 Bottom Packers & Anchor

**Total Tool Length: 34.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

American Warrior inc.

**33-17s-21w Ness,KS**

PO Box 399  
Garden City KS 67846

**Denise #1-33**

Job Ticket: 54348

**DST#: 1**

ATTN: Jason Alm

Test Start: 2013.12.02 @ 08:07:01

### 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: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.97 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7300.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
30.00	OCGM g=5% o=10% m=85%	0.421
0.00	GIP=30 ft	0.000

Total Length: 30.00 ft      Total Volume: 0.421 bbl

Num Fluid Samples: 0

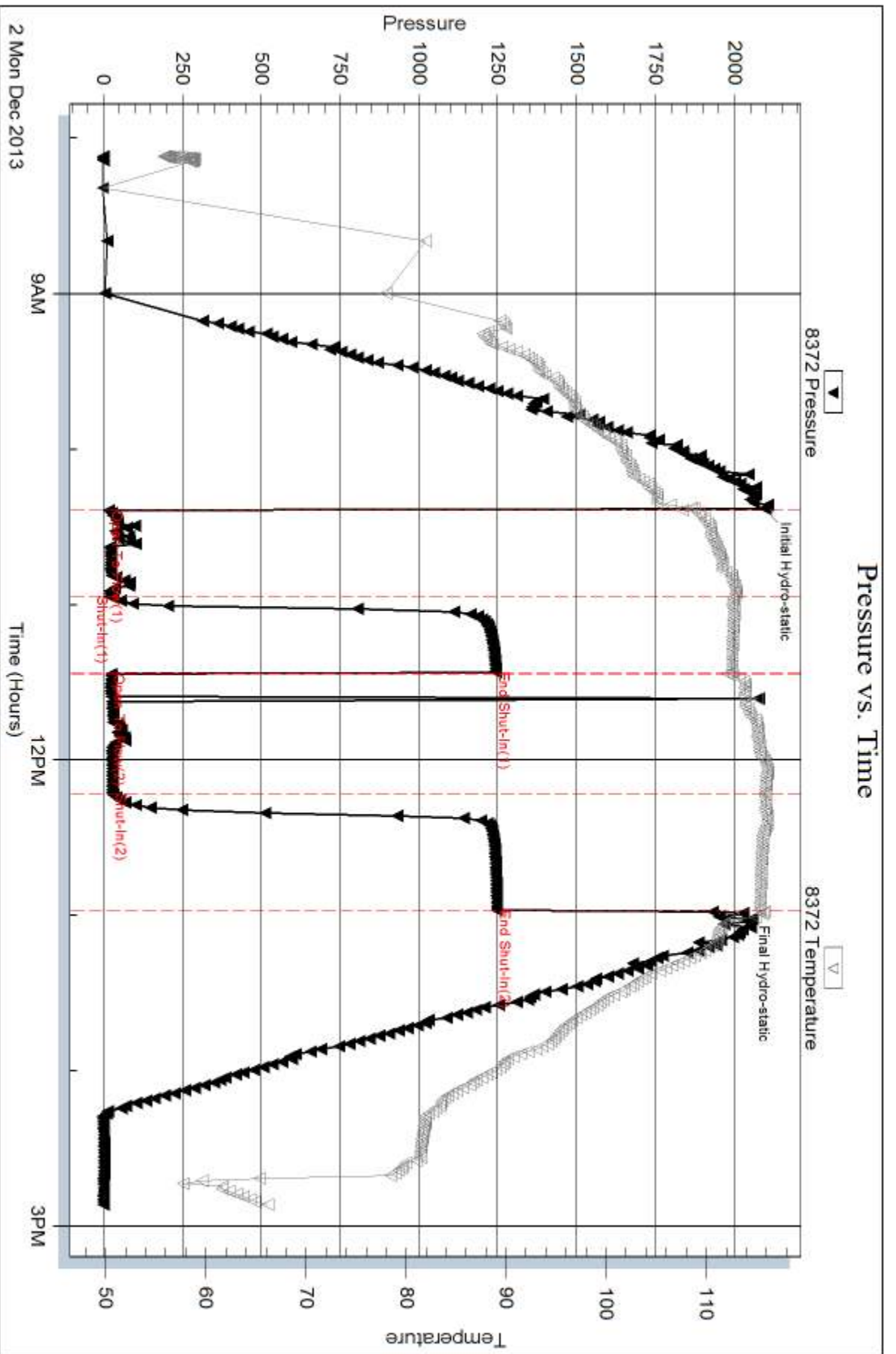
Num Gas Bombs: 0

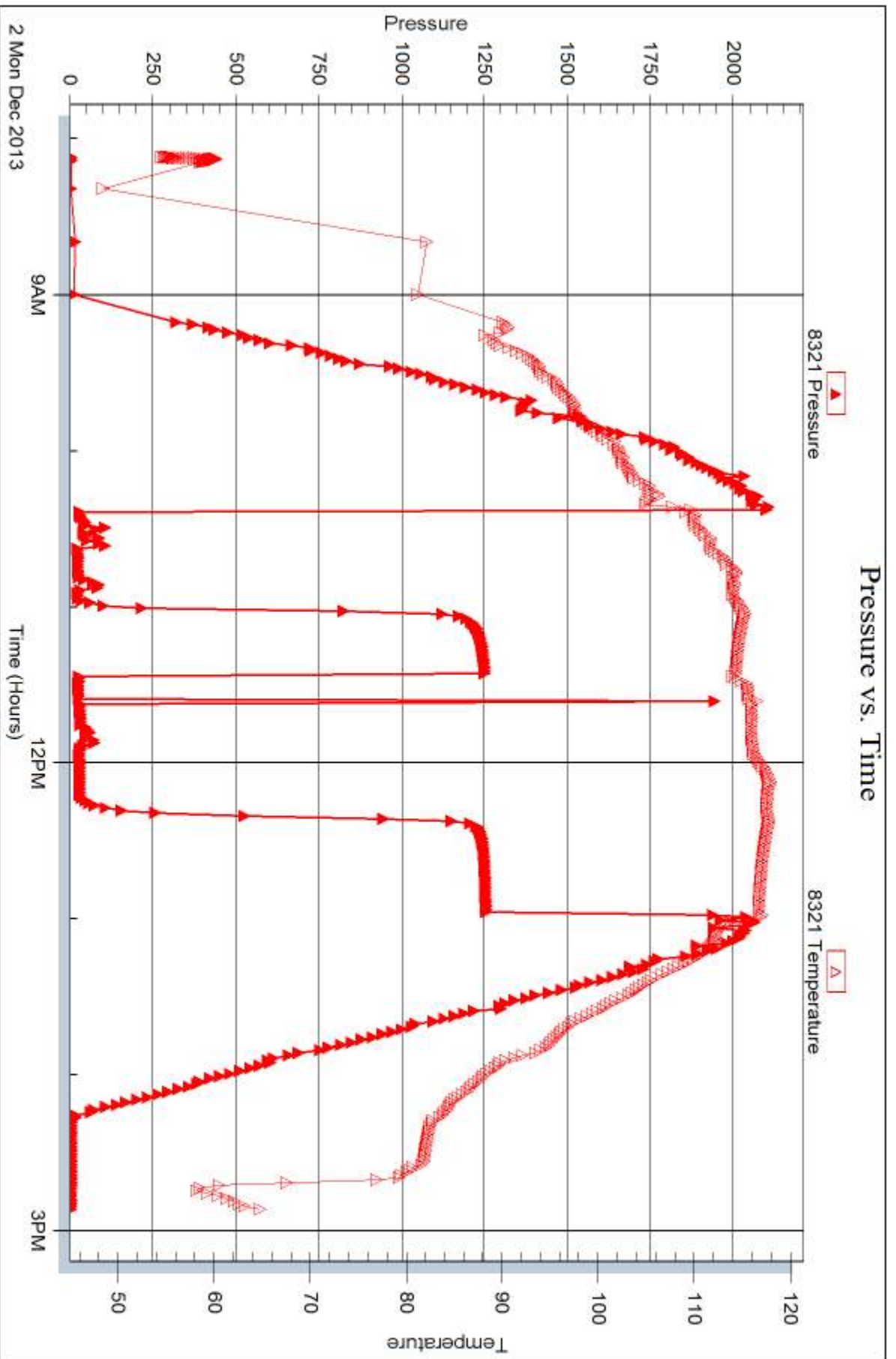
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **American Warrior inc.**

PO Box 399  
Garden City KS 67846

ATTN: Jason Alm

### **Denise #1-33**

#### **33-17s-21w Ness,KS**

Start Date: 2013.12.02 @ 20:36:01

End Date: 2013.12.03 @ 03:54:30

Job Ticket #: 54349                      DST #: 2

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

Printed: 2013.12.05 @ 11:57:48





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

American Warrior inc.  
 PO Box 399  
 Garden City KS 67846  
 ATTN: Jason Alm

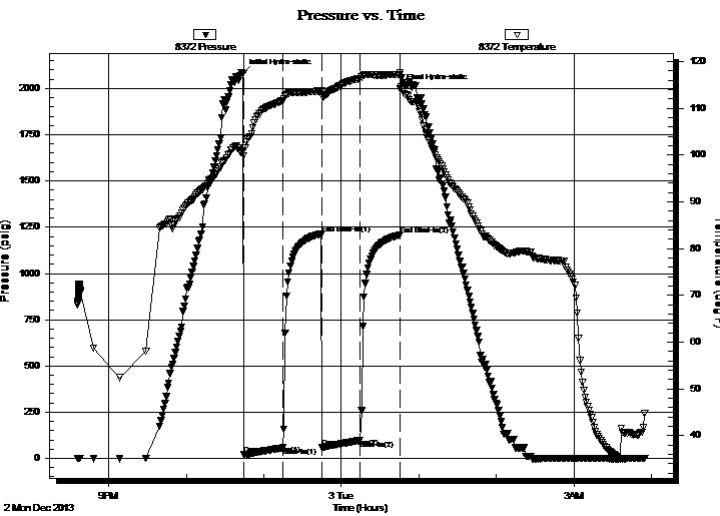
**33-17s-21w Ness,KS**  
**Denise #1-33**  
 Job Ticket: 54349 **DST#: 2**  
 Test Start: 2013.12.02 @ 20:36:01

## GENERAL INFORMATION:

Formation: **Miss**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 22:44:30  
 Time Test Ended: 03:54:30  
 Interval: **4200.00 ft (KB) To 4208.00 ft (KB) (TVD)**  
 Total Depth: 4208.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Andy Carreira  
 Unit No: 68  
 Reference Elevations: 2154.00 ft (KB)  
 2146.00 ft (CF)  
 KB to GR/CF: 8.00 ft

**Serial #: 8372 Inside**  
 Press@RunDepth: 96.50 psig @ 4201.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.12.02 End Date: 2013.12.03 Last Calib.: 2013.12.03  
 Start Time: 20:36:01 End Time: 03:54:30 Time On Btm: 2013.12.02 @ 22:44:00  
 Time Off Btm: 2013.12.03 @ 00:45:30

**TEST COMMENT:** IF:(30min) BOB in 8 min.  
 IS:(30min) No Return  
 FF:(30min) BOB in 6 min.  
 FS:(30min) Return Blow 30 sec. after Bleed-off. Built to 3"



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2080.65	100.98	Initial Hydro-static
1	22.64	99.82	Open To Flow (1)
31	57.55	111.66	Shut-In(1)
61	1214.78	113.70	End Shut-In(1)
61	58.82	112.61	Open To Flow (2)
91	96.50	116.44	Shut-In(2)
121	1207.64	117.27	End Shut-In(2)
122	1998.92	117.69	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCMW o=10% m=30% w=60%	0.84
60.00	OCGW g=10% o=40% w=50%	0.84
95.00	GO g=15% o=85%	1.33
0.00	GIP= 850 ft	0.00

\* Recovery from multiple tests

## Gas Rates

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



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# DRILL STEM TEST REPORT

American Warrior inc.  
PO Box 399  
Garden City KS 67846  
ATTN: Jason Alm

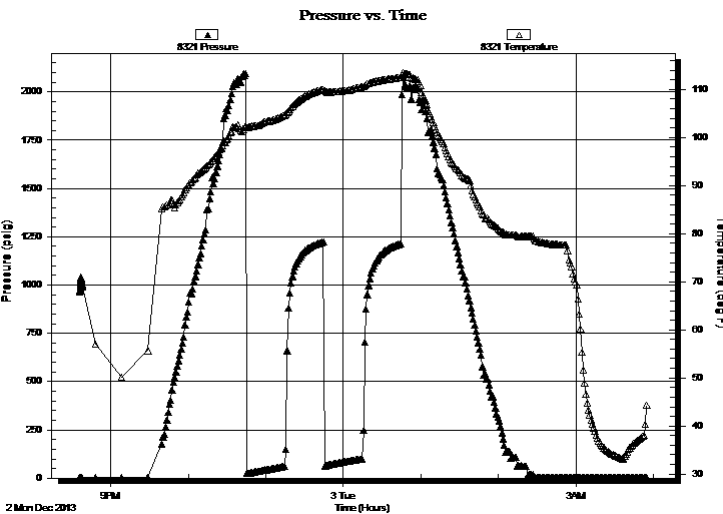
**33-17s-21w Ness, KS**  
**Denise #1-33**  
Job Ticket: 54349 **DST#: 2**  
Test Start: 2013.12.02 @ 20:36:01

### GENERAL INFORMATION:

Formation: **Miss**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 22:44:30  
Time Test Ended: 03:54:30  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Andy Carreira  
Unit No: 68  
Interval: **4200.00 ft (KB) To 4208.00 ft (KB) (TVD)**  
Reference Elevations: 2154.00 ft (KB)  
Total Depth: 4208.00 ft (KB) (TVD) 2146.00 ft (CF)  
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

**Serial #: 8321** **Outside**  
Press@RunDepth: psig @ 4201.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2013.12.02 End Date: 2013.12.03 Last Calib.: 2013.12.03  
Start Time: 20:36:01 End Time: 03:54:30 Time On Btm:  
Time Off Btm:

TEST COMMENT: IF:(30min) BOB in 8 min.  
IS:(30min) No Return  
FF:(30min) BOB in 6 min.  
FS:(30min) Return Blow 30 sec. after Bleed-off. Built to 3"



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCMW o=10% m=30% w=60%	0.84
60.00	OCGW g=10% o=40% w=50%	0.84
95.00	GO g=15% o=85%	1.33
0.00	GIP= 850 ft	0.00

### 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 Alm

**33-17s-21w Ness,KS**  
**Denise #1-33**  
Job Ticket: 54349      **DST#: 2**  
Test Start: 2013.12.02 @ 20:36:01

**Tool Information**

Drill Pipe:	Length: 4182.00 ft	Diameter: 3.80 inches	Volume: 58.66 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 64000.00 lb
		Total Volume: 58.66 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4200.00 ft			Final 59000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	8.00 ft			
Tool Length:	36.00 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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Change Over Sub	1.00			4173.00	
Shut In Tool	5.00			4178.00	
Hydraulic tool	5.00			4183.00	
Jars	5.00			4188.00	
Safety Joint	3.00			4191.00	
Packer	5.00			4196.00	28.00      Bottom Of Top Packer
Packer	4.00			4200.00	
Stubb	1.00			4201.00	
Recorder	0.00	8372	Inside	4201.00	
Recorder	0.00	8321	Outside	4201.00	
Perforations	4.00			4205.00	
Bullnose	3.00			4208.00	8.00      Bottom Packers & Anchor

**Total Tool Length: 36.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

American Warrior inc.

**33-17s-21w Ness,KS**

PO Box 399  
Garden City KS 67846

**Denise #1-33**

Job Ticket: 54349

**DST#: 2**

ATTN: Jason Alm

Test Start: 2013.12.02 @ 20:36:01

## 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:

14000 ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.95 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7300.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
60.00	OCMW o=10% m=30% w =60%	0.842
60.00	OCGW g=10% o=40% w =50%	0.842
95.00	GO g=15% o=85%	1.333
0.00	GIP= 850 ft	0.000

Total Length: 215.00 ft      Total Volume: 3.017 bbl

Num Fluid Samples: 0

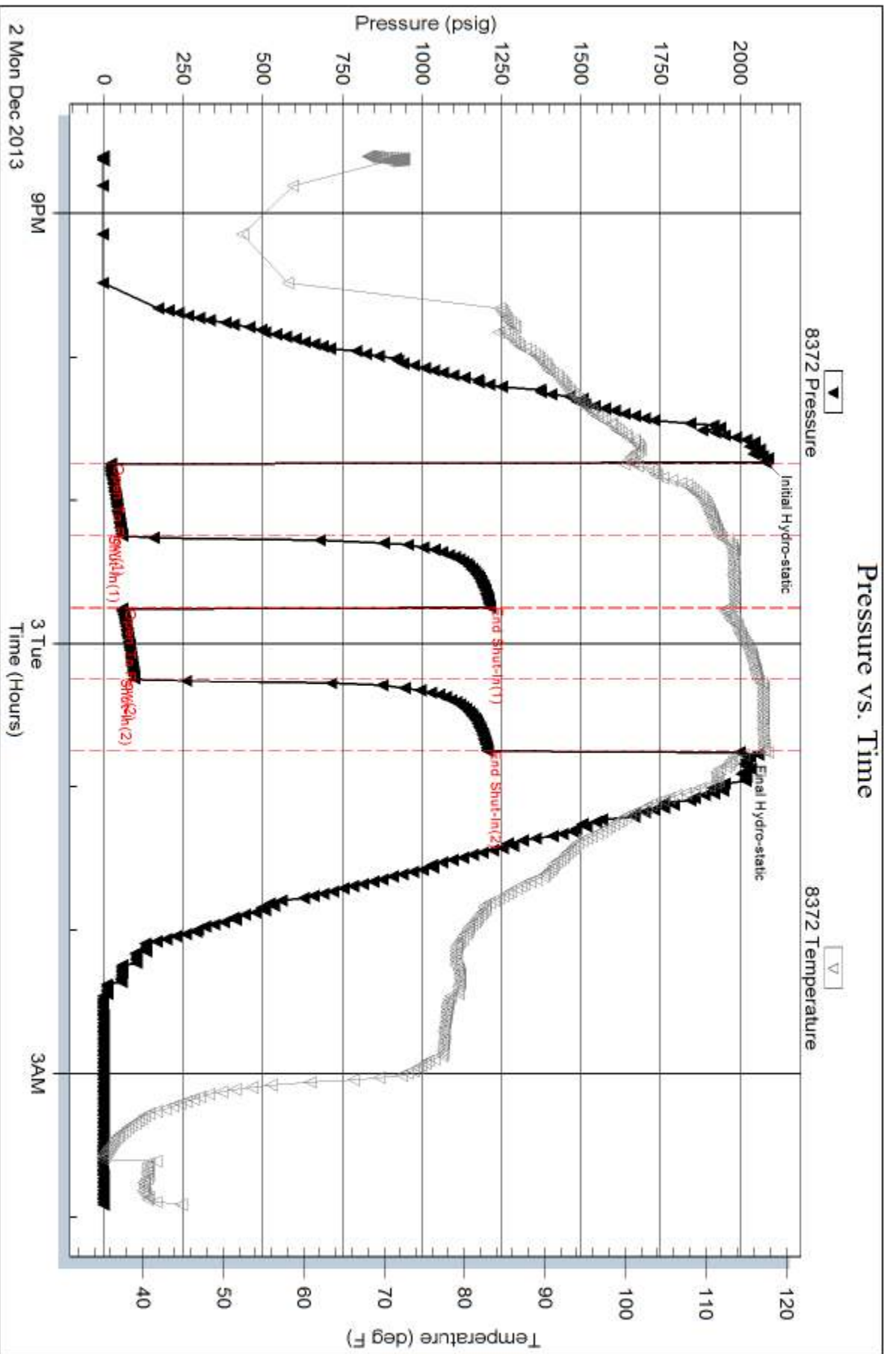
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Resistivity - .71 @ 48 = 14000

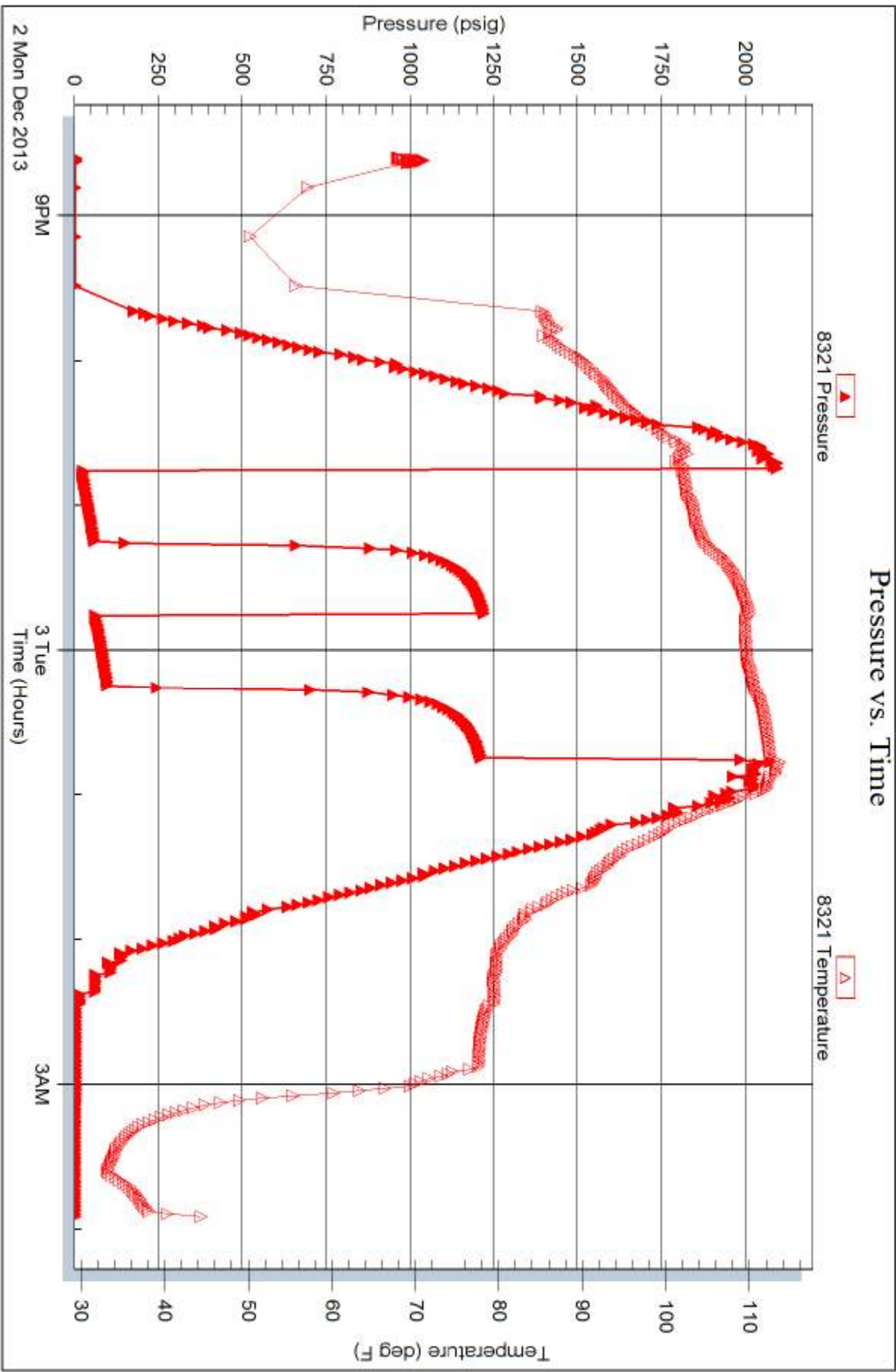


Serial #: 8321

Outside American Warrior inc.

Denise #1-33

DST Test Number: 2





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 54348

Well Name & No. DENISE #1-33 Test No. 1 Date 12-2-13  
 Company AMERICAN WARRIOR INC Elevation 2154 KB 2146 GL  
 Address PO BOX 399 GARDEN CITY KS 67846  
 Co. Rep / Geo. JASON ALM Rig DISCOVERY #3  
 Location: Sec. 33 Twp. 17s Rge. 21w Co. NESS State Ks

Interval Tested 4199-4205 Zone Tested MISS  
 Anchor Length 6' Drill Pipe Run 4180 Mud Wt. 9.3  
 Top Packer Depth 4194 Drill Collars Run 0 Vis 65+  
 Bottom Packer Depth 4199 Wt. Pipe Run 0 WL 9.0  
 Total Depth 4205 Chlorides 7300 ppm System LCM TR

Blow Description IF: Surging blow built to 1"  
ISF: NO RETURN  
FF: 1" blow in 7min. Flushw, surged 2" in 3min Built to 4 1/2"  
FSI NO RETURN

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>OCBM</u>	<u>5%</u>	<u>10%</u>	<u></u>	<u>85%</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of <u>GIP = 30 ft</u>	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30 BHT 115° Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>2094</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>06:28</u>
(B) First Initial Flow <u>18</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>08:07</u>
(C) First Final Flow <u>20</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>10:25</u>
(D) Initial Shut-In <u>1244</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>12:55</u>
(E) Second Initial Flow <u>25</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>14:52</u>
(F) Second Final Flow <u>29</u>	<input checked="" type="checkbox"/> Mileage <u>100RT</u> <u>155</u>	Comments _____
(G) Final Shut-In <u>1248</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>2027</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____

Initial Open 30  
 Initial Shut-In 30  
 Final Flow 45  
 Final Shut-In 45

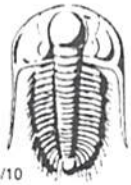
Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Sub Total 1730

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. 54349

Well Name & No. DENISE #1-33 Test No. 2 Date 12-2-13  
 Company AMERICAN WARRIOR INC. Elevation 2154 KB 2146 GL  
 Address PO BOX 399 GARDEN CITY KS, 67846  
 Co. Rep / Geo. JASON ALM Rig DISCOVERY #3  
 Location: Sec. 33 Twp. 17s Rge. 21w Co. NESS State Ks.

Interval Tested 4200-4208 Zone Tested MISS  
 Anchor Length 8' Drill Pipe Run ~~4182~~ Mud Wt. 9.3  
 Top Packer Depth 4195 Drill Collars Run 0 Vis 65+  
 Bottom Packer Depth 4200 Wt. Pipe Run 0 WL 9.0  
 Total Depth 4208 Chlorides 7300 ppm System LCM TR.

Blow Description IF: BOB IN 8min  
ISI: NO RETURN  
FF: BOB IN 6min  
FBI: RETURN blow 30 sec. after bleed-off built to 3"

Rec	Feet of	%gas	%oil	%water	%mud
<u>95</u>	<u>AGU</u>	<u>15</u>	<u>85</u>		
<u>60</u>	<u>20CGW</u>	<u>10</u>	<u>40</u>	<u>50</u>	
<u>60</u>	<u>OCMW</u>		<u>10</u>	<u>60</u>	<u>30</u>
	<u>GIP = 850'</u>				

Rec Total 215 BHT 117° Gravity 46 API RW .71 @ 48° F Chlorides 14000 ppm  
 (A) Initial Hydrostatic 2080  Test 1250 T-On Location 19:20  
 (B) First Initial Flow 22  Jars 250 T-Started 20:36  
 (C) First Final Flow 57  Safety Joint 75 T-Open 22:45  
 (D) Initial Shut-In 1214  Circ Sub \_\_\_\_\_ T-Pulled 00:45  
 (E) Second Initial Flow 58  Hourly Standby \_\_\_\_\_ T-Out 03:55  
 (F) Second Final Flow 96  Mileage 100RT 155 Comments \_\_\_\_\_  
 (G) Final Shut-In 1207  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1998  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1730  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 30  
 Final Flow 30  
 Final Shut-In 30  
 Sub Total 1730

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.