

**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared for: **American Warrior Inc.**
Garden City, Ks
67846-0399
CONFIDENTIAL
ORIGINAL **KCC**

ATTN: Cecil O. Brate

AUG 01 2001

7--22s--12w Stafford

CONFIDENTIAL

Craford "A"-#1

Start Date: 2001.06.17 @ 01:43:11

End Date: 2001.06.17 @ 07:26:11

Job Ticket #: 15433

DST #: 1

AUG 02 2001

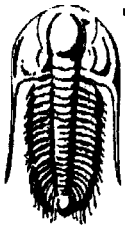
CONSERVATION DIVISION

Release

NOV 06 2003

**From
Confidential!**

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

American Warrior Inc.

Garden City, Ks
67846-0399

ATTN: Cecil O. Brate

Craford "A"-#1

7--22s--12w Stafford

Job Ticket: 15433

DST#: 1

Test Start: 2001.06.17 @ 01:43:11

GENERAL INFORMATION:

Formation: LKC-H-I-J

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:27:56

Time Test Ended: 07:26:11

Test Type: Conventional Bottom Hole

Tester: John Schmidt

Unit No: 18

Interval: 3436.00 ft (KB) To 3495.00 ft (KB) (TVD)

Total Depth: 3495.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1888.00 ft (KB)

1880.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 3227

Inside

Press@RunDepth: 64.47 psig @ 3440.01 ft (KB)

Capacity: 7000.00 psig

Start Date: 2001.06.17

End Date:

Last Calib.: 2001.01.17

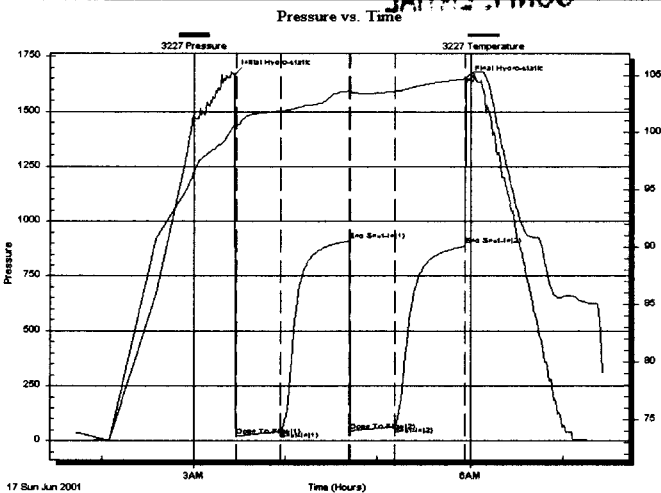
Start Time: 01:43:13

End Time:

Time On Btm: 2001.06.17 @ 03:26:41

Time Off Btm: 2001.06.17 @ 05:58:11

TEST COMMENT: IF-Fair B.O.B.in 13min. ISF-no blow
FF-Fair 9" in FSI-no blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1667.39	100.61	Initial Hydro-static
2	19.47	100.58	Open To Flow (1)
31	41.56	101.86	Shut-In (1)
75	907.82	103.60	End Shut-In (1)
76	42.84	103.53	Open To Flow (2)
105	64.47	103.59	Shut-In (2)
150	887.07	104.68	End Shut-In (2)
152	1642.78	104.87	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	Mud cut w ater 55%w 45%w	0.84
45.00	Oil cut mud 5%o 95%w	0.63
0.00	255 Ft. gas in pipe	0.00

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

American Warrior Inc.

Craford "A"-#1

Garden City, Ks
67846-0399

7-22s-12w Stafford

Job Ticket: 15433

DST#: 1

ATTN: Cecil O. Brate

Test Start: 2001.06.17 @ 01:43:11

Tool Information

Drill Pipe:	Length: 3430.00 ft	Diameter: 3.80 inches	Volume: 48.11 bbl	Tool Weight: 3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 55000.00 lb
		Total Volume: 48.11 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 41000.00 lb
Depth to Top Packer:	3436.00 ft			Final 42000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	59.02 ft			
Tool Length:	79.02 ft			
Number of Packers:	1	Diameter: 6.75 inches		
Tool Comments:				

ORIGINAL
KCC

AUG 01 2001

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Tool Description

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

C.O. Sub	1.00			3417.00	
S.I. Tool	5.00			3422.00	
HMV	5.00			3427.00	
Packer	4.00			3431.00	20.00 Bottom Of Top Packer
Packer	5.00			3436.00	
Stubb	1.00			3437.00	
Perforations	2.00			3439.00	
C.O. Sub	1.00			3440.00	
Recorder	0.01	3227	Inside	3440.01	
Blank Spacing	31.00			3471.01	
C.O. Sub	1.00			3472.01	
Perforations	20.00			3492.01	
Recorder	0.01	13308	Outside	3492.02	
Bullnose	3.00			3495.02	59.02 Bottom Packers & Anchor

Total Tool Length: 79.02



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

American Warrior Inc.

Craford "A"-#1

Garden City, Ks
67846-0399

7-22s-12w Stafford

Job Ticket: 15433

DST#: 1

ATTN: Cecil O.Brata

Test Start: 2001.06.17 @ 01:43:11

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:

32000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbl

Water Loss: 11.95 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	Mud cut w ater 55%w 45%m	0.842
45.00	Oil cut mud 5%o 95%m	0.631
0.00	255 Ft. gas in pipe	0.000

Total Length: 105.00 ft

Total Volume: 1.473 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

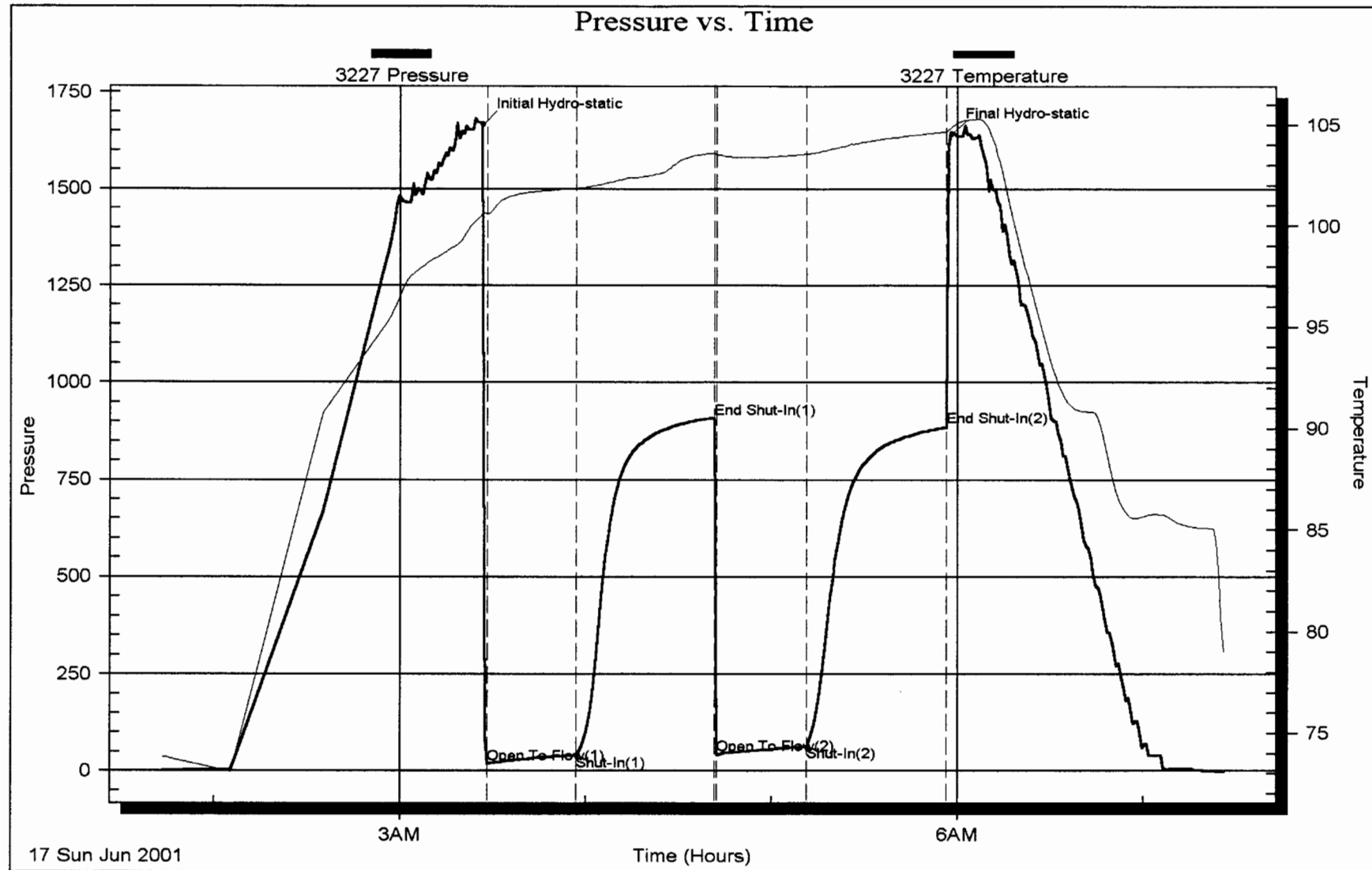
Recovery Comments:

Serial #: 3227

Inside American Warrior Inc.

7--22s--12w Stafford

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **American Warrior Inc.**

Garden City, Ks
67846-0399

ATTN: Cecil O. Brate

7--22s--12w Stafford

Craford "A"-#1

Start Date: 2001.06.17 @ 22:16:59

End Date: 2001.06.18 @ 04:57:44

Job Ticket #: 15434 DST #: 2

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

American Warrior Inc.

Garden City, Ks
67846-0399

ATTN: Cecil O. Brate

Craford "A"-#1

7--22s--12w Stafford

Job Ticket: 15434

DST#: 2

Test Start: 2001.06.17 @ 22:16:59

GENERAL INFORMATION:

Formation: **Arb.**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 00:03:59

Time Test Ended: 04:57:44

Test Type: **Conventional Bottom Hole**

Tester: **John Schmidt**

Unit No: **18**

Interval: **3608.00 ft (KB) To 3673.00 ft (KB) (TVD)**

Total Depth: **3495.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **1888.00 ft (KB)**

1880.00 ft (CF)

KB to GR/CF: **8.00 ft**

Serial #: **3227**

Inside

Press@RunDepth: **354.13 psig @ 3612.01 ft (KB)**

Start Date: **2001.06.17**

End Date:

2001.06.18

Capacity: **7000.00 psig**

Last Calib.: **2001.01.18**

Start Time: **22:17:01**

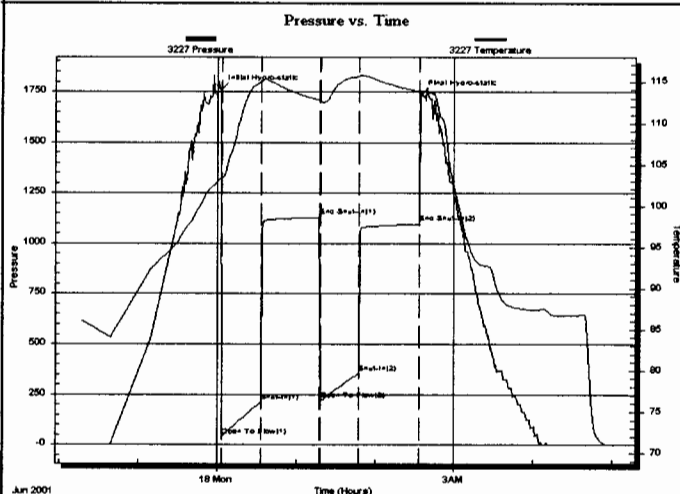
End Time:

04:57:44

Time On Btm: **2001.06.18 @ 00:02:44**

Time Off Btm: **2001.06.18 @ 02:35:14**

TEST COMMENT: IF-Strong B.O.B.in 3min ISI-Weak Surf.1"
FF-Strong B.O.B.in 4min FSI-no blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1760.70	103.38	Initial Hydro-static
2	41.46	103.38	Open To Flow (1)
31	212.47	114.98	Shut-In(1)
75	1129.98	112.78	End Shut-In(1)
76	217.54	112.65	Open To Flow (2)
105	354.13	115.62	Shut-In(2)
151	1096.96	113.84	End Shut-In(2)
153	1736.29	113.86	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
600.00	Gassy oil cut mud 5%g 2%o 93%w	8.42
60.00	Gas mud oil cut w ater 45%g 5%o 40%w	0.84
180.00	Gas oil w ater cut mud 30%g 15%o 25%w	2.52
20.00	Gas w ater mud cut oil 20%g 52%o 8%w	0.28m
0.00	420 Ft. gas in pipe	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

American Warrior Inc.

Craford "A"-#1

Garden City, Ks
67846-0399

7--22s--12w Stafford

Job Ticket: 15434

DST#: 2

ATTN: Cecil O. Brate

Test Start: 2001.06.17 @ 22:16:59

Tool Information

Drill Pipe:	Length: 3613.00 ft	Diameter: 3.80 inches	Volume: 50.68 bbl	Tool Weight: 3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 55000.00 lb
		Total Volume: 50.68 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 43000.00 lb
Depth to Top Packer:	3608.00 ft			Final 49000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	65.02 ft			
Tool Length:	85.02 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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C.O. Sub	1.00			3589.00	
S.I. Tool	5.00			3594.00	
HMV	5.00			3599.00	
Packer	4.00			3603.00	20.00 Bottom Of Top Packer
Packer	5.00			3608.00	
Stubb	1.00			3609.00	
Perforations	2.00			3611.00	
C.O. Sub	1.00			3612.00	
Recorder	0.01	3227	Inside	3612.01	
Blank Spacing	31.00			3643.01	
C.O. Sub	1.00			3644.01	
Perforations	26.00			3670.01	
Recorder	0.01	13308	Outside	3670.02	
Bullnose	3.00			3673.02	65.02 Bottom Packers & Anchor

Total Tool Length: 85.02



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

American Warrior Inc.

Craford "A"-#1

Garden City, Ks
67846-0399

7--22s--12w Stafford

Job Ticket: 15434

DST#: 2

ATTN: Cecil O.Brake

Test Start: 2001.06.17 @ 22:16:59

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:

28000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
600.00	Gassy oil cut mud 5%g 2%o 93%w	8.416
60.00	Gas mud oil cut w ater 45%g 5%o 40%w	0.842
180.00	Gas oil w ater cut mud 30%g 15%o 25%w 3	2.525
20.00	Gas w ater mud cut oil 20%g 52%o 8%w 20%	0.281
0.00	420 Ft. gas in pipe	0.000

Total Length: 860.00 ft

Total Volume: 12.064 bbl

Num Fluid Samples: 0

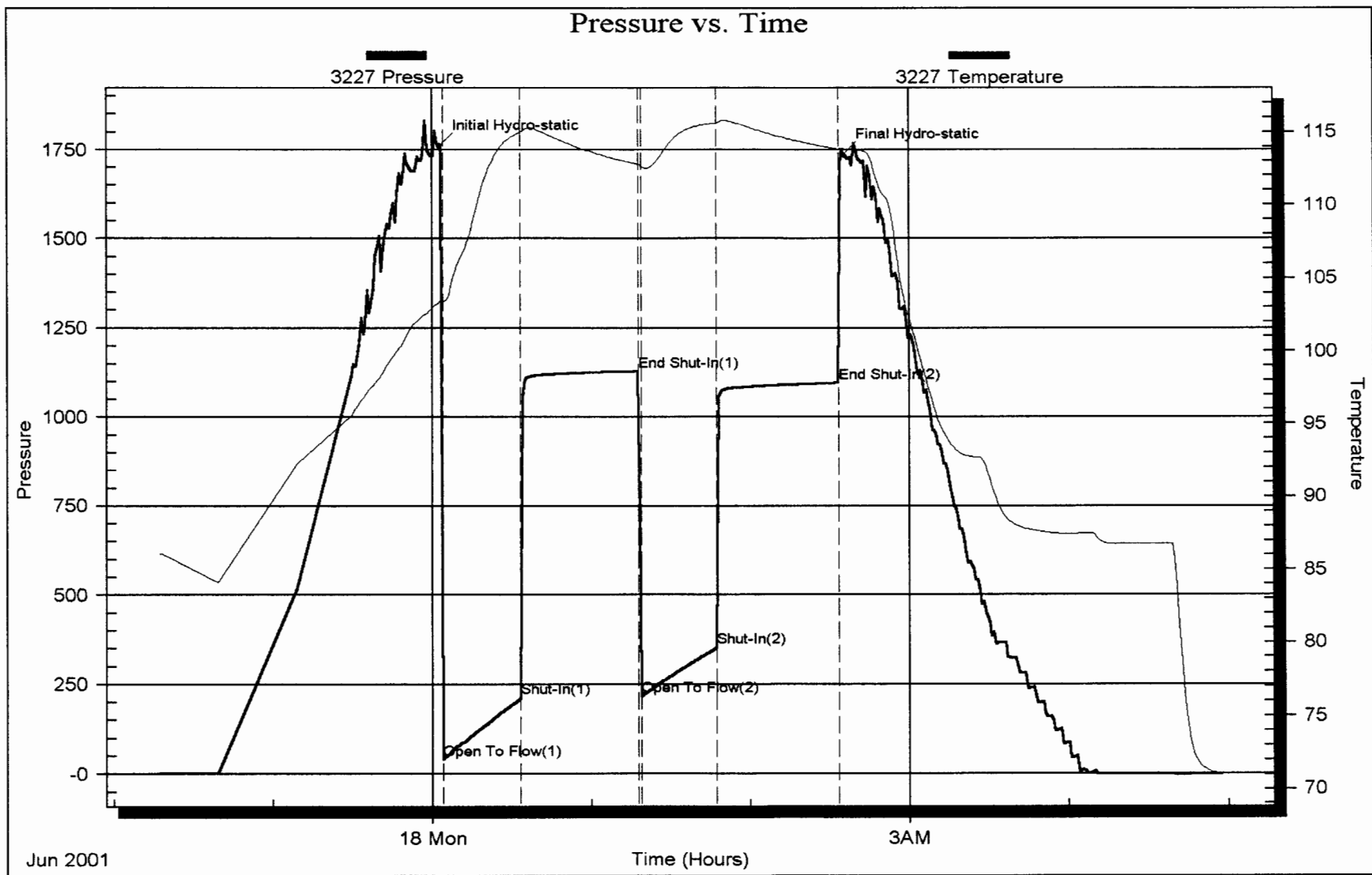
Num Gas Bombs: 0

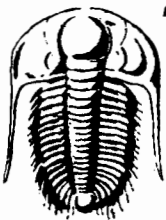
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

No 15433

Test Ticket

Well Name & No. <u>CRAWFORD "A" #1</u>	Test No. <u>*1</u>	Date <u>6-17-01</u>
Company <u>AMERICAN WARRIOR, INC.</u>	Zone Tested <u>LKC-H-I-J</u>	
Address <u>GARDEN CITY, KS. 67846-0399</u>	Elevation <u>1888</u> KB <u>1880</u> GL	
Co. Rep / Geo. <u>RON NELSON</u>	Cont. <u>DUKE #2</u>	Est. Ft. of Pay <u> </u> Por. <u> </u> %
Location: Sec. <u>7</u> Twp. <u>22 S</u> Rge. <u>12 W</u>	Co. <u>STAFFORD</u> State <u>KS</u>	
No. of Copies <u> </u>	Distribution Sheet (Y, N) <u> </u>	Turnkey (Y, N) <u> </u> Evaluation (Y, N) <u> </u>

Interval Tested <u>3436 TO 3495</u>	Initial Str Wt./Lbs. <u>4,000</u>	Unseated Str Wt./Lbs. <u>42,000</u>
Anchor Length <u>59'</u>	Wt. Set Lbs. <u>20,000</u>	Wt. Pulled Loose/Lbs. <u>59,000</u>
Top Packer Depth <u>3431</u>	Tool Weight <u>3,000</u>	
Bottom Packer Depth <u>3436</u>	Hole Size — 7 7/8" <u>✓</u>	Rubber Size — 6 3/4" <u>✓</u>
Total Depth <u>3495</u>	Wt. Pipe Run <u>0</u>	Drill Collar Run <u>0</u>
Mud Wt. <u>9.2</u> LCM <u>0</u> Vis. <u>50</u> WL <u>12.0</u>	Drill Pipe Size <u>4 1/2 XH</u>	Ft. Run <u>3430</u>
Blow Description <u>FE- FAIR B.O.B. IN 13 MIN</u>	<u>FST- NO BLOW</u>	
<u>FE- FAIR 9" IN</u>	<u>FST- NO BLOW</u>	

Recovery — Total Feet <u>105</u>	GIP <u>255'</u>	Ft. in DC <u>0</u>	Ft. in DP <u> </u>
Rec. <u>45'</u>	Feet Of <u>O.C.M.</u>	%gas <u>5</u> %oil <u> </u>	%water <u>95</u> %mud <u> </u>
Rec. <u>60</u>	Feet Of <u>M.C.W.</u>	%gas <u> </u> %oil <u>55</u>	%water <u>45</u> %mud <u> </u>
Rec. <u> </u>	Feet Of <u> </u>	%gas <u> </u> %oil <u> </u>	%water <u> </u> %mud <u> </u>
Rec. <u> </u>	Feet Of <u> </u>	%gas <u> </u> %oil <u> </u>	%water <u> </u> %mud <u> </u>
Rec. <u> </u>	Feet Of <u> </u>	%gas <u> </u> %oil <u> </u>	%water <u> </u> %mud <u> </u>
BHT <u>104</u>	°F Gravity <u> </u>	°API D@ <u> </u>	°F Corrected Gravity <u> </u> °API <u> </u>
RW <u>.21</u> @ <u>73</u>	°F Chlorides <u>32,000</u>	ppm Recovery <u> </u>	Chlorides <u> </u> ppm System <u> </u>

(A) Initial Hydrostatic Mud	AK-1 <u>1667</u>	Alpine <u>3227</u>	PSI Recorder No. <u>3227</u>	T-On Location <u>12:45</u>
(B) First Initial Flow Pressure	<u>19</u>	PSI (depth) <u>3440</u>	T-Started <u>01:30</u>	
(C) First Final Flow Pressure	<u>41</u>	PSI Recorder No. <u>13308</u>	T-Open <u>03:15</u>	<u>7:45</u>
(D) Initial Shut-In Pressure	<u>907</u>	PSI (depth) <u>3492</u>	T-Pulled <u>05:45</u>	
(E) Second Initial Flow Pressure	<u>42</u>	PSI Recorder No. <u> </u>	T-Out <u>07:30</u>	
(F) Second Final Flow Pressure	<u>64</u>	PSI (depth) <u> </u>	T-Off Location <u>08:00</u>	
(G) Final Shut-in Pressure	<u>887</u>	PSI Initial Opening <u>30</u>	Test <u>BOTTOM HOLE</u>	<u>700</u>
(Q) Final Hydrostatic Mud	<u>1642</u>	PSI Initial Shut-in <u>45</u>	Jars <u> </u>	
		Final Flow <u>30</u>	Safety Joint <u> </u>	
		Final Shut-in <u>45</u>	Straddle <u> </u>	

TRILOBITE TESTING INC. SHALL NOT BE LIABLE FOR DAMAGE 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.

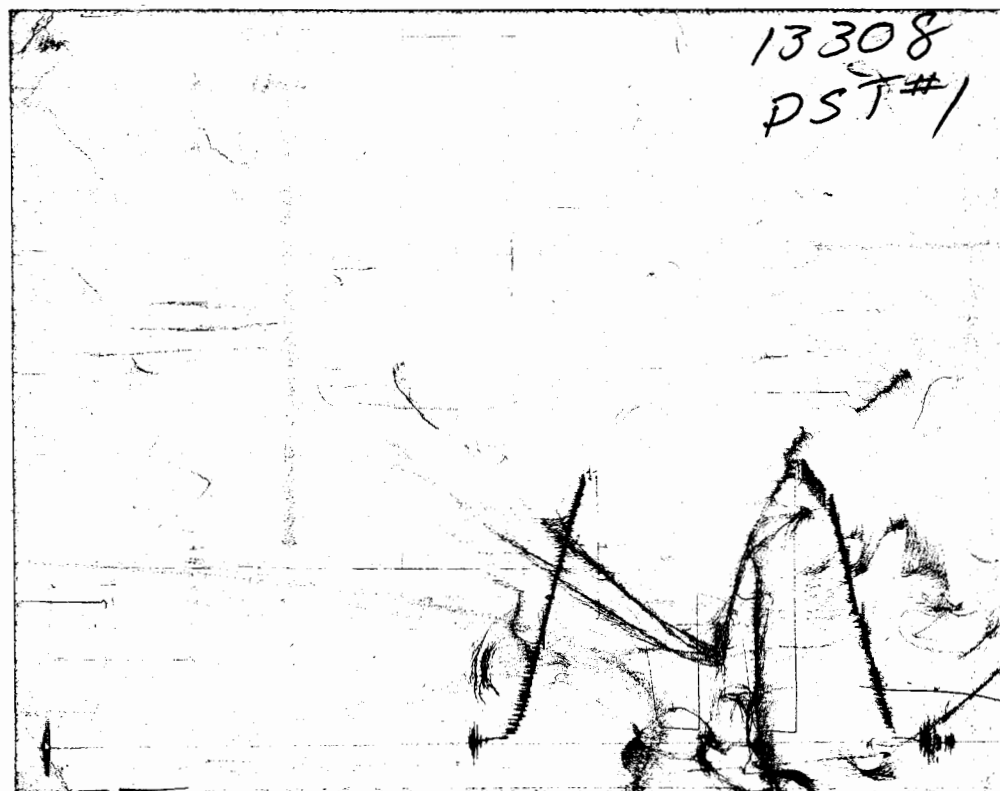
Approved By

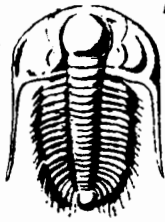
Our Representative John J. Schmidt

Extra Packer
 Elec. Rec. ✓ 150
 Mileage 40
 Other
 TOTAL PRICE \$ 890

CHART PAGE

This is a photocopy of the actual AK-1 recorder chart





TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

No 15434

Test Ticket

Well Name & No. <u>CRAWFORD "A" #1</u>	Test No. <u>#2</u>	Date <u>6-17-01</u>
Company <u>AMERICAN WARRIOR, INC.</u>	Zone Tested <u>ARB</u>	
Address <u>GARDEN CITY, KS. 67846-0399</u>	Elevation <u>1888</u> KB <u>1880</u> GL	
Co. Rep / Geo. <u>RON NELSON</u>	Cont. <u>DUKE #2</u>	Est. Ft. of Pay <u> </u> Por. <u> </u> %
Location: Sec. <u>7</u> Twp. <u>22S</u> Rge. <u>12W</u>	Co. <u>STAFFORD</u> State <u>KS</u>	
No. of Copies <u> </u> Distribution Sheet (Y, N) <u> </u>	Turnkey (Y, N) <u> </u>	Evaluation (Y, N) <u> </u>

Interval Tested <u>3608 TO 3673</u>	Initial Str Wt./Lbs. <u>43,000</u> Unseated Str Wt./Lbs. <u>49,000</u>
Anchor Length <u>65'</u>	Wt. Set Lbs. <u>20,000</u> Wt. Pulled Loose/Lbs. <u>55,000</u>
Top Packer Depth <u>3603</u>	Tool Weight <u>3,000</u>
Bottom Packer Depth <u>3608</u>	Hole Size — 7 7/8" <u>✓</u> Rubber Size — 6 3/4" <u>✓</u>
Total Depth <u>3673</u>	Wt. Pipe Run <u>0</u> Drill Collar Run <u>0</u>
Mud Wt. <u>9.2</u> LCM <u>—</u> Vis. <u>52</u> WL <u>10.4</u>	Drill Pipe Size <u>4 1/2 XH</u> Ft. Run <u>3613</u>
Blow Description <u>I.F. - STRONG B.O.B. IN 3 MIN F.S.I. - WEAK SUR.</u>	
<u>F.F. - STRONG B.O.B. IN 4 MIN. F.S.I. - NO BLOW</u>	

Recovery — Total Feet <u>860'</u> GIP <u>420'</u>	Ft. in DC <u> </u> Ft. in DP <u> </u>
Rec. <u>20'</u> Feet Of <u>GWMCO</u>	20 %gas 52 %oil 8 %water 20 %mud
Rec. <u>180'</u> Feet Of <u>GOWCM</u>	30 %gas 15 %oil 25 %water 30 %mud
Rec. <u>60'</u> Feet Of <u>GMOCW</u>	45 %gas 5 %oil 40 %water 10 %mud
Rec. <u>600</u> Feet Of <u>GOCW</u>	5 %gas 2 %oil 93 %water %mud
Rec. <u> </u> Feet Of <u> </u>	%gas %oil %water %mud
BHT <u>113</u> °F Gravity <u> </u> °API D@ <u> </u> °F Corrected Gravity <u> </u> °API	
RW <u>123</u> @ <u>74</u> °F Chlorides <u>28,000</u> ppm Recovery Chlorides <u> </u> ppm System	

(A) Initial Hydrostatic Mud	AK-1 <u>1760</u> Alpine	PSI Recorder No. <u>3227</u>	T-On Location <u>21:15</u>
(B) First Initial Flow Pressure	<u>41</u> PSI	(depth) <u>3612</u>	T-Started <u>22:15</u> 8:30
(C) First Final Flow Pressure	<u>212</u> PSI	Recorder No. <u>13308</u>	T-Open <u>23:52</u>
(D) Initial Shut-In Pressure	<u>1129</u> PSI	(depth) <u>3670</u>	T-Pulled <u>02:22</u>
(E) Second Initial Flow Pressure	<u>217</u> PSI	Recorder No. <u> </u>	T-Out <u>04:45</u>
(F) Second Final Flow Pressure	<u>354</u> PSI	(depth) <u> </u>	T-Off Location <u>05:45</u>
(G) Final Shut-in Pressure	<u>1096</u> PSI	Initial Opening <u>30</u>	Test <u>BOTTOM HOLE</u> 760
(Q) Final Hydrostatic Mud	<u>1736</u> PSI	Initial Shut-in <u>45</u>	Jars <u> </u>
		Final Flow <u>30</u>	Safety Joint <u> </u>
		Final Shut-in <u>45</u>	Straddle <u> </u>

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Approved By

Our Representative John J. Schmidt

Extra Packer
 Elec. Rec. 150
 Mileage 40
 Other
 TOTAL PRICE 890

CHART PAGE

This is a photocopy of the actual AK-1 recorder chart

