



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1251551  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed  
Form must be Signed  
All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic       Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

- Deepening       Re-perf.       Conv. to ENHR       Conv. to SWD
- Plug Back       Conv. to GSW       Conv. to Producer
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27       NAD83       WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_



1251551

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
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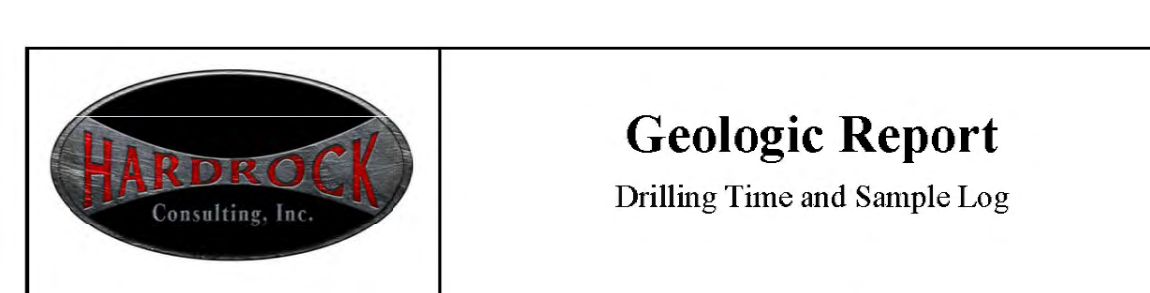
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	American Warrior, Inc.
Well Name	Kathryn 2-1
Doc ID	1251551

Tops

Name	Top	Datum
Anhydrite	1457	796
Heebner	3764	-1511
Lansing	3815	-1562
Base Kanss City	4146	-1893
Pawnee	4273	-2020
Ft. Scott	4295	-2042
Cherokee	4311	-2058
Mississippian	4370	-2117
TD	4391	-2138



# Geologic Report

Drilling Time and Sample Log

Operator <b>American Warrior, Inc.</b>		KB Elevation 2253'
Lease <b>Kathryn</b>	No. <b>2-1</b>	DF 2245'
API # <b>15-135-25846-0000</b>		Casing Record Surface 8 5/8" @ 220'
Field <b>Unknown</b>		Production 5 1/2" @ 4390'
Location <b>1800' FSL &amp; 1850' FEL</b>		Electrical Surveys None
Sec. <b>1</b>	Twp. <b>20s</b>	Rge. <b>21w</b>
County <b>Ness</b>	State <b>Kansas</b>	
<b>Formation</b>	<b>Log Tops</b>	<b>Sample Tops</b>
Anhydrite		1457' +796
Base		1486' +767
Heebner		3764' -1511
Lansing		3815' -1562
BKc		4146' -1893
Pawnee		4273' -2020
Fort Scott		4295' -2042
Cherokee		4311' -2058
Mississippian		4370' -2117
<b>Total Depth</b>		<b>4391' -2138</b>
Reference Well For Structural Comparison American Warrior, Inc. Kathryn #1-1 2250' FSL & 1600' FEL Sec. 1 T20s R21w Ness Co. Kansas		

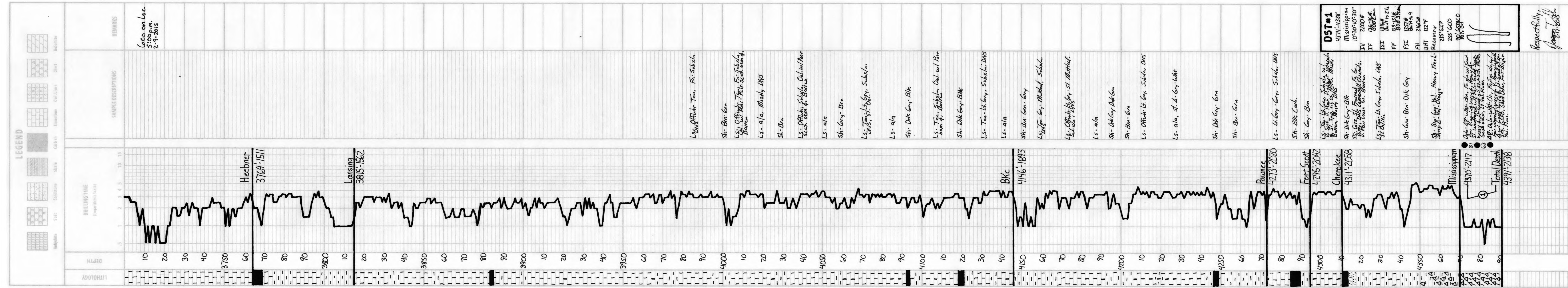
Drilling Contractor	Discovery Drilling Co. Inc.	Rig #3
Commenced	2-5-2015	Completed 2-12-2015
Samples Saved From	4000'	To RTD
Drilling Time Kept From	3700'	To RTD
Samples Examined From	4000'	To RTD
Geological Supervision From	4000'	To RTD

Displacement 3600' Mud Type Chemical

### Summary and Recommendations

The location for the Kathryn #2-1 was found via 3-D seismic survey. The new well ran structurally higher than expected via the survey. One Drill Stem Test was conducted which recovered commercial amounts of oil from the Mississippian Osage Formation. After all gathered data had been examined the decision was made to run 5 1/2 inch production casing to further evaluate the Kathryn #2-1 well.

Respectfully Submitted,  
  
Jason T Alm  
Hard Rock Consulting, Inc.



# **Geological Report**

American Warrior, Inc.

**Kathryn #2-1**

1800' FSL & 1850' FEL

Sec. 1 T20s R21w

Ness County, Kansas



**American Warrior, Inc.**

## General Data

Well Data: American Warrior, Inc.  
Kathryn #2-1  
1800' FSL & 1850' FEL  
Sec. 1 T20s R21w  
Ness County, Kansas  
API # 15-135-25846-0000

Drilling Contractor: Discovery Drilling Rig #3

Geologist: Jason T Alm

Spud Date: January 5, 2015

Completion Date: January 12, 2015

Elevation: 2245' Ground Level  
2253' Kelly Bushing

Directions: Bazine KS, 4 mi East on Hwy 96 to the HH Rd. 8  
mi South to 50 Rd. East 1 ½ mi, North into location.

Casing: 220' 8 5/8" surface casing  
4390' 5 1/2" production casing

Samples: 10' wet and dry, 4000' to RTD

Drilling Time: 3700' to RTD

Electric Logs: None

Drillstem Tests: One, Trilobite Testing, Inc. "Brett Dickinson"

Problems: None

Remarks: None

## Formation Tops

<b>Formation</b>	<b>American Warrior, Inc.</b>
	<b>Kathryn #2-1</b>
	<b>Sec. 1 T20s R21w</b>
	<b>1800' FSL &amp; 1850' FEL</b>
Anhydrite	<b>1457', +796</b>
Base	<b>1486', +767</b>
Heebner	<b>3764', -1511</b>
Lansing	<b>3815', -1562</b>
BKc	<b>4146', -1893</b>
Pawnee	<b>4273', -2020</b>
Fort Scott	<b>4295', -2042</b>
Cherokee	<b>4311', -2058</b>
Mississippian	<b>4370', -2117</b>
RTD	<b>4391', -2138</b>

## Sample Zone Descriptions

**Mississippian Osage (4370', -2117):**      **Covered in DST #1**

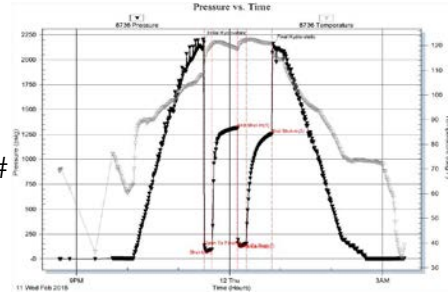
Δ – Dolo – Fine sucrosic crystalline with fair inter-crystalline and vuggy porosity, very heavy weathered chert with good vuggy porosity, light to good oil stain and saturation, good show of free oil, good odor, fair to bright yellow fluorescents, 31-63 units hotwire.

**Drill Stem Tests**  
Trilobite Testing, Inc.  
"Brett Dickinson"

**DST #1**      **Mississippian Osage**

Interval (4374' – 4388') Anchor Length 14'

- IHP    – 2200 #
- IFP    – 10" – B.O.B. 2 min.      136-96 #
- ISI    – 30" – Built to 2 ½ in.      1316 #
- FFP    – 10" – B.O.B. 3 ½ min.    159-151 #
- FSI    – 30" – Built to 4 in.      1257 #
- FHP    – 2160 #
- BHT    – 122°F



Recovery:      215' GIP  
                  255' GCO  
                  90' GSMCO    80% Oil

**Structural Comparison**

	<b>American Warrior, Inc. Kathryn #2-1 Sec. 1 T20s R21w 1800' FSL &amp; 1850' FEL</b>	American Warrior, Inc. Kathryn #2-1 Sec. 1 T20s R21w 2250' FSL & 1600' FEL		Ritchie A Scott Young Kathryn #1 Sec. 1 T20s R21w 2310' FSL & 1980' FEL	
<b>Formation</b>					
Anhydrite	<b>1457', +796</b>	1458', +794	<b>(+2)</b>	1462', +791	<b>(+5)</b>
Base	<b>1486', +767</b>	1482', +770	<b>(-3)</b>	1491', +762	<b>(+5)</b>
Heebner	<b>3764', -1511</b>	3762', -1510	<b>(-1)</b>	3777', -1524	<b>(+13)</b>
Lansing	<b>3815', -1562</b>	3810', -1558	<b>(-4)</b>	3829', -1576	<b>(+14)</b>
BKc	<b>4146', -1893</b>	NA	<b>NA</b>	4160', -1907	<b>(+14)</b>
Pawnee	<b>4273', -2020</b>	4270', -2018	<b>(-2)</b>	NA	<b>NA</b>
Fort Scott	<b>4295', -2042</b>	4294', -2042	<b>FL</b>	4312', -2059	<b>(+17)</b>
Cherokee	<b>4311', -2058</b>	4311', -2059	<b>(+1)</b>	NA	<b>NA</b>
Mississippian	<b>4370', -2117</b>	4374', -2122	<b>(+5)</b>	4382', -2129	<b>(+12)</b>



## **Summary**

The location for the Kathryn #2-1 was found via 3-D seismic survey. The new well ran structurally higher than expected via the survey. One Drill Stem Test was conducted which recovered commercial amounts of oil from the Mississippian Osage Formation. After all gathered data had been examined the decision was made to run 5 ½ inch production casing to further evaluate the Kathryn #2-1 well.

## **Recommended Perforations**

**Mississippian Osage**

**(4370' – 4385')**

**DST #1**

Respectfully Submitted,

Jason T Alm  
Hard Rock Consulting, Inc.



**JOB LOG**

**SWIFT Services, Inc.**

DATE Feb 14 PAGE NO. 7

CUSTOMER Alma Darrist WELL NO. 2-1 LEASE Kathryn JOB TYPE Cement surface pipe TICKET NO. 28165

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
								150 sk standard cement 2% oil 3% CC 8 1/2 x 23" casing TD = 221' 5 jts total pipe 220' 33'
	1730							on loc TRX 114
	1740							start 8 1/2 casing in well
	1800							circulate well
	1806	3 3/4	36				200	Mix std 2% 3% cement 150 sk @ 14.7 gpm
	1822	3 3/4	13				200	Displace
	1830							kick jet collar Cement to surface
								{ 150 sk mixed / 15 top pit }
	1845							wash truck
								Rack up
	1915							job complete
								✓ looks Blk Flint & JARED



Services, Inc.

CHARGE TO: American Warrior  
 ADDRESS: \_\_\_\_\_  
 CITY, STATE, ZIP CODE: \_\_\_\_\_

TICKET 28169

PAGE 1 OF 2

1. SERVICE LOCATION <u>Wm City KS</u>	WELL/PROJECT NO. <u>2-1</u>	LEASEE <u>Kathryn</u>	COUNTY/PARISH <u>And</u>	STATE <u>KS</u>	CITY <u>Bazine</u>	DATE <u>12 Feb 15</u>	OWNER
2. TICKET TYPE <input type="checkbox"/> SERVICE <input type="checkbox"/> SALES	CONTRACTOR	RIG NAME NO. <u>3</u>	JOB PURPOSE <u>Development count long strings</u>	WELL CATEGORY <u>Production</u>	DELIVERED TO <u>Production</u>	ORDER NO.	WELL LOCATION <u>1-20-21</u>
3. REFERRAL LOCATION	INVOICE INSTRUCTIONS						

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING		DESCRIPTION	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT							
575				MILEAGE	25	mi			5.00	125.00
57B				Pump Charges	1	ea			1250.00	1250.00
402				Centralizers	5	in	5	ea	60.00	300.00
403				Count Basket	5	in	2	ea	250.00	500.00
404				Post Colbar	5	in	1	ea	2500.00	2500.00
406				latch down plug & bottle	5	in	1	ea	225.00	225.00
407				insert float shoe w/ overflow	5	in	1	ea	300.00	300.00
419				Rotating head rental	5	in	1	ea	200.00	200.00

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMERS AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

DATE SIGNED \_\_\_\_\_ TIME SIGNED \_\_\_\_\_

A.M.  P.M.

REMIT PAYMENT TO:  
 SWIFT SERVICES, INC.  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300

SURVEY	OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?	AGREE	UNDECIDED	DIS-AGREE	PAGE TOTAL	5900.00
	WE UNDERSTOOD AND MET YOUR NEEDS?				TAX	4947.75
	OUR SERVICE WAS PERFORMED WITHOUT DELAY?				TOTAL	10347.75
	WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?					
	ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/> YES	<input type="checkbox"/> NO			

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES

SWIFT OPERATOR: \_\_\_\_\_ APPROVAL: \_\_\_\_\_

Thank You!



PO Box 466  
Ness City, KS 67560  
Off: 785-798-2300

TICKET CONTINUATION

TICKET No. 28169

PRICE REFERENCE	SECONDARY REFERENCE / PART NUMBER	LOC	ACCT	DE	TIME	DESCRIPTION	WELLY		DATE	UNIT PRICE	AMOUNT
							QTY	U/M			
325						Standard cement (For 412)	75	sk	12 Feb 15	2143.75	
284						Calced	800	lb		30.00	240.00
283						Gr. Ct	900	lb		0.20	180.00
282						brkwt - 322	125	lb		8.00	1000.00
276						Flocel	50	lb		2.25	112.50
290						D-air	2	gal		42.00	84.00
281						mud flush	500	gal		1.25	625.00
281						KCL liquid	2	gal		25.00	50.00
582						Drayage (min)	1	ea		250.00	250.00
581						Service charge	1	ea		1.50	262.50

MILEAGE CHARGE TOTAL WEIGHT 10000 LODED MILES

CUBIC FEET TON MILES

CONTINUATION TOTAL 4947.75

JOB LOG

SWIFT Services, Inc.

DATE 12 Feb 1957 PAGE NO. 1

CUSTOMER		WELL NO.		LEASE		JOB TYPE		TICKET NO.	
American Warrior		2-1		Kathryn		count long string		29169	
CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS	
				T	C	TUBING	CASING		
								175sk EA-2 count w/ 1/4" # floccle	
								5 1/2" x 15.5" casing 11 1/2" ID = 4391'	
								Centralizer 1, 2, 3, 4, 7.5 Basket 5, 7.5	
								Post collar = 7.5 1446' total pipe 4393'	
								Shoejt 3951'	
	1030							on loc TRV 114	
	1110							Start 5 1/2" x 15.5 casing in well	
	1240							Drop ball - circulate - <del>15 min</del>	
	1328	3 1/2	12				200	Pump 12 bbl mud flush	
		3 1/2	20				200	Pump 20 bbl KEL flush	
			7					Plug RH - MH <del>305k</del> - <del>205k</del>	
	1345	3 1/2	35				200	Mix EA-2 count <del>125sk</del> e 15.3ppg	
	1400							Drop latch down plug	
								wash out pump line	
	1405	6					200	Displace plug	
		6	88				600		
		6	98				850		
	1430	6	104				1500	Land plug	
								Release pressure to truck - dried up	
	1435							wash truck	
								Back up	
	1500							job complete	
								Thnk	
								Blow, flat free	



Services, Inc.

CHARGE TO: American Warrior  
 ADDRESS  
 CITY, STATE, ZIP CODE

TICKET 28175

PAGE 1 OF 1

1. SERVICE LOCATIONS Avon City KS WELL/PROJECT NO. 2-1 LEASE Kathryn COUNTY/PARISH Neos STATE KS CITY Bazine DATE 17 Feb 15 OWNER  
 2. TICKET TYPE  SERVICE  SALES CONTRACTOR #-D RIG NAME/NO. David SHIPPED WPT DELIVERED TO Location ORDER NO.  
 3. WELL TYPE D-1 WELL CATEGORY Development JOB PURPOSE connect part collar WELL PERMIT NO. 1-20-21  
 4. REFERRAL LOCATION INVOICE INSTRUCTIONS

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT	DF							
575					MILEAGE	25	mi			5.00	125.00
576D					Pump charge	1	ea			1250.00	1250.00
33D					SMB cement	110	sk			1575	1732.50
276					Flare	25	lb			2.25	56.25
29D					D-air	2	gal			42.00	84.00
581					Service charge	175	sk			1.50	262.50
582					Drillage (min)	1	ea			250.00	250.00
104					part roller opening tool rental	1	ea			200.00	200.00

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY provisions.  
 MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS  
 DATE SIGNED Scott TIME SIGNED 5:30  A.M.  P.M.  
 REMIT PAYMENT TO:  
 SWIFT SERVICES, INC.  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300  
 SURVEY  CUSTOMER DID NOT WISH TO RESPOND  
 OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?  YES  NO  
 WE UNDERSTOOD AND MET YOUR NEEDS?  YES  NO  
 OUR SERVICE WAS PERFORMED WITHOUT DELAY?  YES  NO  
 WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?  YES  NO  
 ARE YOU SATISFIED WITH OUR SERVICE?  YES  NO  
 TAX 8.15%  
 TOTAL 4087.72

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby accepts the materials and services listed on this ticket.  
 SWIFT OPERATOR [Signature] APPROVAL [Signature]  
 Thank You!







## DRILL STEM TEST REPORT

Prepared For: **American Warrior, Inc.**

PO Box 399  
Garden City KS 67846

ATTN: Jason Alm

**Kathryn #2-1**

**1-20s-21w Ness, KS**

Start Date: 2015.02.11 @ 20:40:00

End Date: 2015.02.12 @ 03:25:00

Job Ticket #: 53847                      DST #: 1

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

Printed: 2015.02.12 @ 11:20:15



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

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

**1-20s-21w Ness, KS**  
**Kathryn #2-1**  
Job Ticket: 53847 **DST#: 1**  
Test Start: 2015.02.11 @ 20:40:00

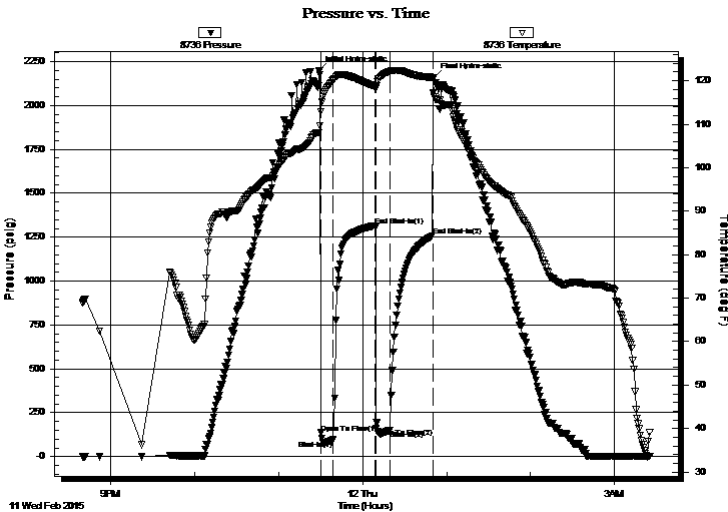
## GENERAL INFORMATION:

Formation: **Mississippi**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 23:30:15  
Time Test Ended: 03:25:00  
Interval: **4374.00 ft (KB) To 4388.00 ft (KB) (TVD)**  
Total Depth: 4388.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Brett Dickinson  
Unit No: 81  
Reference Elevations: 2253.00 ft (KB)  
2245.00 ft (CF)  
KB to GR/CF: 8.00 ft

**Serial #: 8736 Outside**  
Press@RunDepth: 151.06 psig @ 4385.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2015.02.11 End Date: 2015.02.12 Last Calib.: 2015.02.12  
Start Time: 20:40:05 End Time: 03:24:59 Time On Btm: 2015.02.11 @ 23:29:00  
Time Off Btm: 2015.02.12 @ 00:51:15

TEST COMMENT: IF-BOB in 2 min  
IS-2 1/2" blow  
FF-BOB in 3 1/2 min  
FS-4" blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2200.03	108.08	Initial Hydro-static
2	135.55	112.84	Open To Flow (1)
10	95.78	120.11	Shut-In(1)
40	1315.87	118.67	End Shut-In(1)
41	159.34	118.13	Open To Flow (2)
51	151.06	122.10	Shut-In(2)
81	1257.17	120.75	End Shut-In(2)
83	2159.62	116.42	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
90.00	GSMCO 15%G 80%O 5%M	0.99
255.00	GO 10%G 90%O	3.58
0.00	215' GIP	0.00

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

American Warrior, Inc.

**1-20s-21w Ness, KS**

PO Box 399  
Garden City KS 67846

**Kathryn #2-1**

Job Ticket: 53847

**DST#: 1**

ATTN: Jason Alm

Test Start: 2015.02.11 @ 20:40:00

## Tool Information

Drill Pipe:	Length: 4342.00 ft	Diameter: 3.80 inches	Volume: 60.91 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 67000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4374.00 ft			Final 61000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	14.00 ft			
Tool Length:	42.00 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			4351.00	
Hydraulic tool	5.00			4356.00	
Jars	5.00			4361.00	
Safety Joint	3.00			4364.00	
Packer	5.00			4369.00	28.00 Bottom Of Top Packer
Packer	5.00			4374.00	
Stubb	1.00			4375.00	
Perforations	10.00			4385.00	
Recorder	0.00	8934	Inside	4385.00	
Recorder	0.00	8736	Outside	4385.00	
Bullnose	3.00			4388.00	14.00 Bottom Packers & Anchor

**Total Tool Length: 42.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

American Warrior, Inc.

**1-20s-21w Ness, KS**

PO Box 399  
Garden City KS 67846

**Kathryn #2-1**

Job Ticket: 53847

**DST#: 1**

ATTN: Jason Alm

Test Start: 2015.02.11 @ 20:40:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

38 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3800.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
90.00	GSMCO 15%G 80%O 5%M	0.989
255.00	GO 10%G 90%O	3.577
0.00	215' GIP	0.000

Total Length: 345.00 ft      Total Volume: 4.566 bbl

Num Fluid Samples: 0

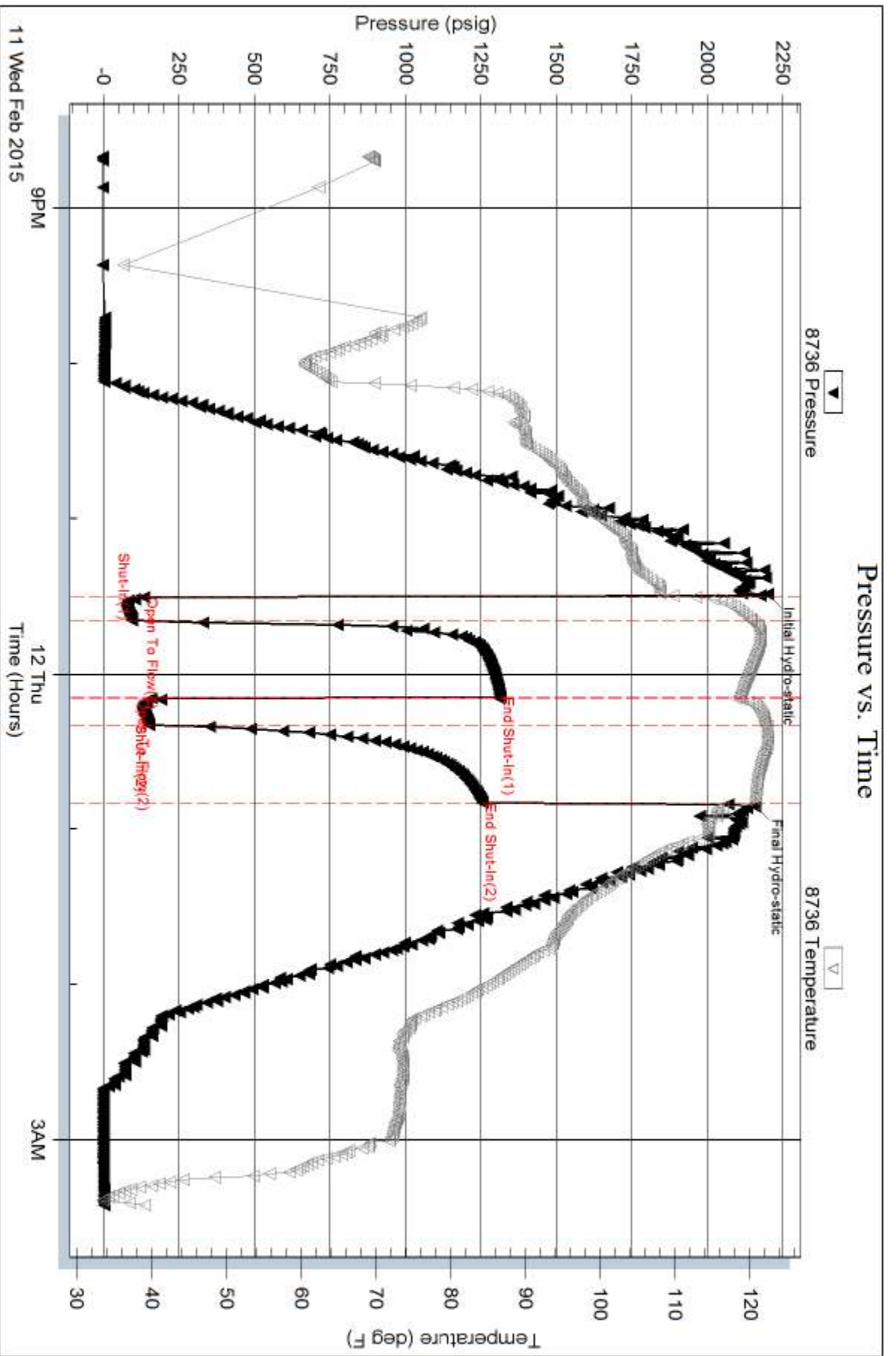
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



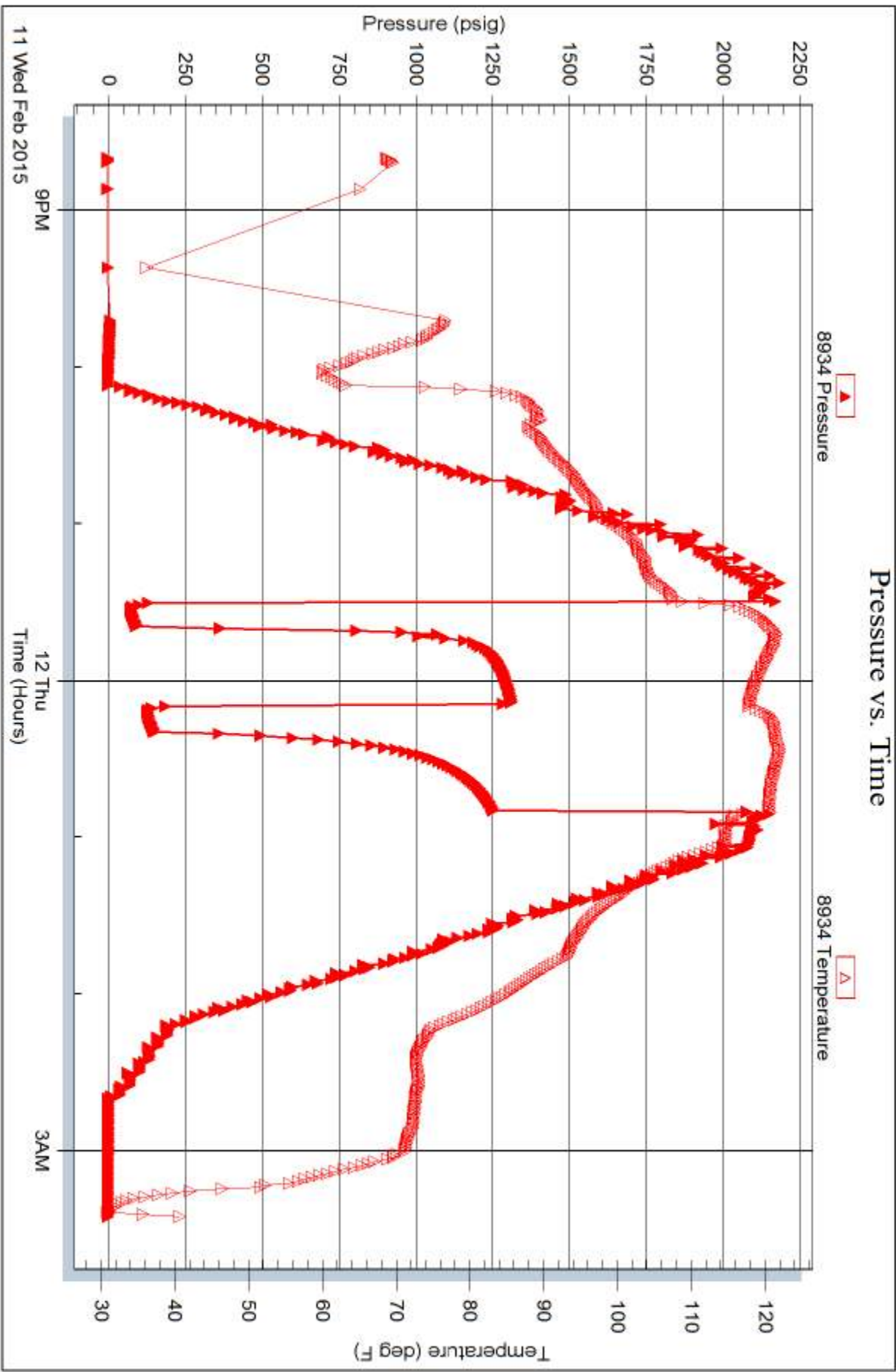
Serial #: 8934

Inside

American Warrior, Inc.

Kathryn #2-1

DST Test Number: 1



Tribble Testing, Inc

Ref. No: 53847

Printed: 2015.02.12 @ 11:20:16



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 53847

Well Name & No. Kathryn #2-1 Test No. 1 Date 2-11-815  
 Company American Warrior, Inc. Elevation 2253 KB 2245 GL  
 Address PO Box 399 Garden City ~~KS~~ KS 67846  
 Co. Rep / Geo. Jason Alm Rig Discovery #3  
 Location: Sec. 1 Twp. 20 Rge. 21w Co. Ness State KS

Interval Tested 4374-4388 Zone Tested Miss  
 Anchor Length 14 Drill Pipe Run \_\_\_\_\_ Mud Wt. 9.0  
 Top Packer Depth 4369 Drill Collars Run 30 Vis 65  
 Bottom Packer Depth 4374 Wt. Pipe Run - WL 8.0  
 Total Depth 4388 Chlorides 3,800 ppm System LCM \_\_\_\_\_

Blow Description IF - BOB in 2 min  
ISI - 2 1/2 in blow  
FF - BOB in 3 1/2 min  
FSI - 4 in blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>GS MCO</u>	<u>15</u>	<u>80</u>	<u>5</u>	
<u>255</u>	<u>SGO</u>	<u>10</u>	<u>90</u>		
	<u>215 FT GIP</u>				

Rec Total 345 BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic	<u>2200</u>	<input checked="" type="checkbox"/> Test	<u>1150</u>	T-On Location	<u>19:50</u>
(B) First Initial Flow	<u>136</u>	<input checked="" type="checkbox"/> Jars	<u>250</u>	T-Started	<u>20:40</u>
(C) First Final Flow	<u>96</u>	<input checked="" type="checkbox"/> Safety Joint	<u>75</u>	T-Open	<u>23:30</u>
(D) Initial Shut-In	<u>1,316</u>	<input type="checkbox"/> Circ Sub		T-Pulled	<u>00:50</u>
(E) Second Initial Flow	<u>159</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>3:25</u>
(F) Second Final Flow	<u>151</u>	<input checked="" type="checkbox"/> Mileage	<u>112 RT 112</u>	Comments	
(G) Final Shut-In	<u>1,257</u>	<input type="checkbox"/> Sampler			
(H) Final Hydrostatic	<u>2,160</u>	<input type="checkbox"/> Straddle		<input type="checkbox"/> Ruined Shale Packer	

Initial Open 10  
 Initial Shut-In 30  
 Final Flow 10  
 Final Shut-In 3.0

Shale Packer  
 Extra Packer  
 Extra Recorder  
 Day Standby  
 Accessibility

Sub Total 1587

T-Open Location 19:50  
 T-Started 20:40  
 T-Open 23:30  
 T-Pulled 00:50  
 T-Out 3:25

Sub Total 0  
 Total 1587  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Burt Fisher

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