KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1048367

Form ACO-1
June 2009
Form Must Be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 4058
Name: American Warrior, Inc.
Address 1: 3118 Cummings Rd
Address 2: PO BOX 399
City: GARDEN CITY State: KS Zip: 67846 + ____
Contact Person: Scott Corsair
Phone: (785) 398-2270
CONTRACTOR: License # 31548
Name: Discovery Drilling
Wellsite Geologist: Jason Alm
Purchaser: NCRA

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
☐ Conv. to GSW
☐ Plug Back: Plug Back Total Depth
☐ Commingled Permit #:
☐ Dual Completion Permit #:
☐ SWD Permit #:
☐ ENHR Permit #:
☐ GSW Permit #:

06/19/2010	06/26/2010	08/22/2010
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-135-25080-00-00
Spot Description:
W2 - NE - NE - SW Sec. 19 Twp. 18 S. R. 21 ☐ East ☐ West
2295 Feet from ☐ North / ☐ South Line of Section
2022 Feet from ☐ East / ☐ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☐ SE ☐ SW
County: Ness
Lease Name: Brehm-Kleweno Well #: 3-19
Field Name: Wunder
Producing Formation: Mississippian
Elevation: Ground: 2139 Kelly Bushing: 2147
Total Depth: 4235 Plug Back Total Depth: 4234
Amount of Surface Pipe Set and Cemented at: 1413 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: 25000 ppm Fluid volume: 240 bbls
Dewatering method used: Evaporated

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

☐ **Letter of Confidentiality Received**
Date:
☐ **Confidential Release Date:**
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☐ **I** ☐ **II** ☐ **III** **Approved by:** Deanna Garrison **Date:** 12/20/2010

Side Two

1048367

Operator Name: American Warrior, Inc. Lease Name: Brehm-Kleweno Well #: 3-19

Sec. 19 Twp. 18 S. R. 21 ☐ East ☐ West County: Ness

INSTRUCTIONS: Show important tops and base 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. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken ☐ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☐ Yes ☐ No

Cores Taken ☐ Yes ☐ No
Electric Log Run ☐ Yes ☐ No
Electric Log Submitted Electronically ☐ Yes ☐ No
(If no, Submit Copy)

List All E. Logs Run:

Dual Induction
Dual Compensated Porosity
Dual Receiver Cement Bond

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
Attached	Attached	Attached

CASING RECORD ☐ New ☐ 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
Surface	12.25	8.625	23	1413	SMD	450	1/4# Flocele
Production	7.875	5.5	15.5	4234	EA-2	175	

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
____ Perforate ____ Protect Casing ____ Plug Back TD ____ Plug Off Zone	-			
	-			

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record *(Amount and Kind of Material Used)*	Depth
4	4223-4233		

TUBING RECORD: Size: 2.375 Set At: 4210 Packer At:

Liner Run: ☐ Yes ☐ No

Date of First, Resumed Production, SWD or ENHR. 10/22/2010

Producing Method: ☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)* _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	25		2		39

DISPOSITION OF GAS:
☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION:
☐ Open Hole ☑ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*
☐ Other *(Specify)* _____

PRODUCTION INTERVAL:
4223-4233

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	American Warrior, Inc.
Well Name	Brehm-Kleweno 3-19
Doc ID	1048367

Tops

Name	Top	Datum
Anhydrite	1400	+747
Heebner	3602	-1455
Lansing	3648	-1501
BKC	3967	-1820
Pawnee	4048	-1901
Ft. Scott	4126	-1979
Cherokee	4144	-1997
Mississippian	4221	-2074
LTD	4235	-2088

SWIFT Services, Inc.

TICKET 17661

PAGE 1 OF 2

CHARGE TO:	[illegible]
ADDRESS	
CITY, STATE, ZIP CODE	

SERVICE LOCATIONS	WELL/PROJECT NO.	LEASE	COUNTY/PARISH	STATE	CITY	DATE	OWNER
1. [illegible] 2. Ness City [illegible] 3. 4.	[illegible]	[illegible]	Ness	[illegible]		[illegible]	[illegible]

TICKET TYPE	CONTRACTOR	RIG NAME/NO.	SHIPPED VIA	DELIVERED TO	ORDER NO.
☐ SERVICE ☐ SALES	[illegible]		[illegible]	[illegible]	

WELL TYPE	WELL CATEGORY	JOB PURPOSE	WELL PERMIT NO.	WELL LOCATION
[illegible]	Development	[illegible]		

REFERRAL LOCATION

INVOICE INSTRUCTIONS [illegible]

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	LOC	ACCT	DF	DESCRIPTION	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
[illegible]	[illegible]	1	[illegible]		MILEAGE [illegible]	[illegible]				[illegible]	[illegible]
5760	[illegible]	1	FROM		[illegible]	1	[illegible]	[illegible]		[illegible]	[illegible]
221		1			[illegible]	[illegible]	[illegible]			[illegible]	[illegible]
281		1			[illegible]	[illegible]	[illegible]			[illegible]	[illegible]
290		1	PABLO		[illegible]	[illegible]	[illegible]			[illegible]	[illegible]
330	[illegible]	2			[illegible]	[illegible]	[illegible]			[illegible]	[illegible]
276	[illegible]	2			[illegible]	[illegible]	[illegible]			[illegible]	[illegible]
581		2			[illegible]	[illegible]	[illegible]			[illegible]	[illegible]
[illegible]		2			[illegible]	440	[illegible]			[illegible]	400

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

X [signature]

DATE SIGNED [illegible] TIME SIGNED [illegible] ☐ A.M. ☐ P.M.

REMIT PAYMENT TO:

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

SURVEY	AGREE	UN-DECIDED	DIS-AGREE
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?			
WE UNDERSTOOD AND MET YOUR NEEDS?			
OUR SERVICE WAS PERFORMED WITHOUT DELAY?			
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?			

ARE YOU SATISFIED WITH OUR SERVICE? ☐ YES ☐ NO

☐ CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL	[illegible]
TAX	
TOTAL	

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

SWIFT OPERATOR [illegible] APPROVAL

Thank You!

JOB LOG

SWIFT Services, Inc.

CUSTOMER	WELL NO.	LEASE	JOB TYPE	TICKET NO.	DATE	PAGE NO.
American Warrior Inc	3-19	Brown/Klewano	Deep Surface			

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T	PUMPS C	PRESSURE (PSI) TUBING	PRESSURE (PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
	1600							on loc w/ [illegible]
								TD 1413
								8⅝ x 1413' x 10' x 23#
	1740							Start Csg
								Break Circ.
	1905	4	0				50	Start Mud Flush
		4.0	12/0				50	Start KCL Flush
	1913	5.5	20/0				[illegible]	Start cmt 1 100sks SMD @ 11.8
	1921	[illegible]	45/0				100	" " 2 150sks SMD @ 12.5
	1931	5.5	57/0				100	" " 3 100sks SMD @ 13.5
	1935	5.5	34/0				100	" " 4 100sks SMD @ 14.5
	1943		26					End Cement
								Drop Plug
	1951	6	0				50	Start Displacement
	1955	5	40				150	Circ Cement
	2008		90				500/800	Land Plug
							350	Shut In

450sks SMD

circ 100 sks to Pit

Thank you

Nick, Josh & Blaine

SWIFT Services, Inc.
PO Box 466
Ness City, KS 67560
Off: 785-798-2300

TICKET CONTINUATION

TICKET No. 17661

CUSTOMER: American Warrior Inc | WELL: [illegible] | DATE: [illegible] | PAGE 2 OF 2

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING LOC	ACCT	DF	TIME	DESCRIPTION	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
409		1				Centralizers	3	ea	8 5/8		90 00	270 00
410		1				Top Plug	1	ea			100 00	100 00
412						Baffle	1	ea			100 00	100 00

SERVICE CHARGE | CUBIC FEET

MILEAGE CHARGE | TOTAL WEIGHT | LOADED MILES | TON MILES

CONTINUATION TOTAL: 470 00

SWIFT Services, Inc.

TICKET 17666

PAGE 1 OF 2

Field	Entry
CHARGE TO	American Warrior Inc
ADDRESS	
CITY, STATE, ZIP CODE	

Field	Entry
SERVICE LOCATIONS	1. Hays Ks 2. Ness City Ks 3. 4.
REFERRAL LOCATION	
WELL/PROJECT NO.	#3-11
LEASE	B. [illegible]
COUNTY/PARISH	Ness
STATE	Ks
CITY	
DATE	6-26-16
OWNER	Same
TICKET TYPE	☒ SERVICE ☐ SALES
CONTRACTOR	[illegible] Drlg #3
RIG NAME/NO.	
SHIPPED VIA	[illegible]
DELIVERED TO	Location
ORDER NO.	
WELL TYPE	Oil
WELL CATEGORY	development
JOB PURPOSE	Long string
WELL PERMIT NO.	
WELL LOCATION	
INVOICE INSTRUCTIONS	

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	LOC	ACCT	DF	DESCRIPTION	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
[illegible]		1			MILEAGE #112	[illegible]	mi			5.00	[illegible]
578		[illegible]			Pump Charge (Longstring)	1	ea	4234'		1400.00	1400.00
221		1			KCL	2	gal			25.00	50.00
281		1			Mud Flush	500	gal			1.00	500.00
290		1			D-Air	2	gal			35.00	70.00
402		1			Centralizers	5	ea	5½"		55.00	275.00
403		1			Basket	1	ea			200.00	200.00
[illegible]		1			LD Plug & Baffle	1	ea			225.00	225.00
407		1			Insert Float Shoe w/ Fill	1	ea			225.00	225.00
419		1			Rotating Head	1	ea			150.00	150.00

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

X [signature]

DATE SIGNED 6-26-16 TIME SIGNED [illegible] ☒ A.M. ☐ P.M.

REMIT PAYMENT TO:

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

SURVEY	AGREE	UN-DECIDED	DIS-AGREE
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?			
WE UNDERSTOOD AND MET YOUR NEEDS?			
OUR SERVICE WAS PERFORMED WITHOUT DELAY?			
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?			

ARE YOU SATISFIED WITH OUR SERVICE? ☐ YES ☐ NO

☐ CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL	3245.00
Page 2	3762.00
	7007.00
TAX	
TOTAL	

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

SWIFT OPERATOR [signature] APPROVAL

Thank You!

SWIFT Services, Inc.

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

TICKET CONTINUATION

TICKET No. 17666

CUSTOMER: American Warrior Inc | WELL: #3-11 Bockenkleuer | DATE: 6-26-10 | PAGE 2 | OF 2

PRICE REFERENCE	SECONDARY REFERENCE/PART NUMBER	ACCOUNTING LOC	ACCT	DF	TIME	DESCRIPTION	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
325		2				Standard Cement	175	sks			12 00	2100 00
276		2				Flocele	50	#			1 50	75 00
283		2				Salt	900	#			15	135 00
284		2				Calseal	8	sks			30 00	240 00
292		2				Halad-322	100	#			7 00	700 00
582		2				Minimum Drayage	1	ea			250 00	250 00
581		2				SERVICE CHARGE 175 sks	CUBIC FEET				1 50	262 50
583		2				MILEAGE CHARGE TOTAL WEIGHT 16300 LOADED MILES 10	TON MILES 183				1 00	250 00

CONTINUATION TOTAL: 3762 50

JOB LOG

SWIFT Services, Inc.

DATE	PAGE NO.
6-26-10	1

CUSTOMER	WELL NO.	LEASE	JOB TYPE	TICKET NO.
American Warrior Inc	8 3-11	Brehm Klausen	Longstring	17666

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T	PUMPS C	PRESSURE (PSI) TUBING	PRESSURE (PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
	0500							on loc w/ FE
								RTD 4234'
								5½" x 15.5# x 4234' x 42'
								Cent. 1,2,3,4,80
								Basket 5
								cmt 100,103
	0550							Start F.E.
	0720							Break circ
	[illegible]	2.5	7/5					Plug RH + MH
	[illegible]	4	0				200	Start Preflushes 500 gal Mud flush 20 Bbl KCL Flush
		6	32/0				250	Start Cement
	[illegible]		30					End Cement
								Wash P+L
								Drop LD Plug
	[illegible]	7	0				200	Start Displacement
	[illegible]	[illegible]	73				300	Catch Cement
	[illegible]		100				1500	Land Plug
								Release Pressure
								Float Held

Thank you

Nick, Josh B., 4

Geological Report

American Warrior, Inc.
Brehm-Kleweno #3-19
2310’ FSL & 2000’ FWL
Sec. 19 T18s R21w
Ness County, Kansas

American Warrior, Inc.

General Data

Well Data:	American Warrior, Inc. Brehm-Kleweno #3-19 2310' FSL & 2000' FWL Sec. 19 T18s R21w Ness County, Kansas API # 15-135-25080-0000
Drilling Contractor:	Discovery Drilling Co, Inc. Rig #3
Geologist:	Jason Alm
Spud Date:	June 19, 2010
Completion Date:	June 26, 2010
Elevation:	2139' Ground Level 2147' Kelly Bushing
Directions:	Bazine KS, North on DD rd. 2 mi. East on 150 rd. ½ mi. South into location.
Casing:	1404' 8 5/8" surface casing 4234' 5 1/2" production casing
Samples:	10' wet and dry, 3500' to RTD
Drilling Time:	3500' to RTD
Electric Logs:	Log-Tech, Inc. "Brett Becker" CNL/CDL, DIL
Drillstem Tests:	Three, Trilobite Testing, Inc. "Brian Fairbank"
Problems:	During DST #2, mud leaked past packers causing mud only recovery.
Remarks:	None

Formation Tops

Formation	American Warrior, Inc. Brehm-Kleweno #3-19 Sec. 19 T18s R21w 2310' FSL & 2000' FWL
Anhydrite	**1400', +747**
Base	**1436', +711**
Heebner	**3602', -1455**
Lansing	**3648', -1501**
BKc	**3967', -1820**
Pawnee	**4048', -1901**
Fort Scott	**4126', -1979**
Cherokee	**4144', -1997**
Mississippian	**4221',-2074**
LTD	**4235', -2088**
RTD	**4234', -2087**

Sample Zone Descriptions

Fort Scott **(4126', -1979): Covered in DST #1**

Ls – Fine crystalline with poor to fair inter-crystalline porosity, light to fair oil stain with light scattered saturation, slight show of free oil when broken, light odor, bright yellow fluorescents, 60 units hotwire.

Mississippian Osage **(4221', -2074): Covered in DST #2,3**

Dolo – Δ – Fine sucrosic crystalline with fair inter-crystalline and vuggy porosity, heavy chert, triptolitic, heavily weathered with fair vuggy porosity, light to heavy oil stain and saturation, good odor, bright yellow fluorescents, 65 units hotwire.

Drill Stem Tests

Trilobite Testing, Inc.
"Brian Fairbank"

DST #1 **Fort Scott**

Interval (4105' – 4147') Anchor Length 42'

IHP	– 2013 #	
IFP	– 45" – Built to 8.5 in.	19-28 #
ISI	– 45" – Dead	667 #
FFP	– 45" – B.O.B. 28 min.	19-34 #
FSI	– 45" – Dead	560 #
FHP	– 1982 #	
BHT	– 115˚F	

Recovery: 295' GIP
45' GHOCM 30% Oil

DST #2 **Mississippian Osage**

Interval (4181' – 4232') Anchor Length 51'
Had mud leaking by packers throughout test

DST #3 **Mississippian Osage**

Interval (4224' – 4234') Anchor Length 10'

IHP	– 2145 #	
IFP	– 30" – B.O.B. 24 min.	26-49 #
ISI	– 30" – W.S.B.	1199 #
FFP	– 30" – B.O.B. 20 min.	54-77 #
FSI	– 30" – Built to 4.5 in.	278 #
FHP	– 1999 #	
BHT	– 113˚F	

Recovery:

220' GIP	
160' CGO	
45' GWOCM	20% Oil, 5% Water
15' GWMCO	50% Oil, 5% Water

Structural Comparison

Formation	**American Warrior, Inc. Brehm-Kleweno #3-19 Sec. 19 T18s R21w 2310' FSL & 2000' FWL**	Mack Oil Co. Roth #1 Sec. 19 T18s R21w 2310' FNL & 500' FWL		American Warrior, Inc. Brehm-Kleweno #1-19 Sec. 19 T18s R21w 1965' FNL & 1245' FWL	
Anhydrite	**1400', +747**	1416', +734	**(+13)**	1402', +740	**(+7)**
Base	**1436', +711**	NA	**NA**	1436', +706	**(+5)**
Heebner	**3602', -1455**	NA	**NA**	3594', -1452	**(-3)**
Lansing	**3648', -1501**	3664', -1505	**(+4)**	3642', -1500	**(-1)**
BKc	**3967', -1820**	NA	**NA**	3962', -1821	**(+1)**
Pawnee	**4048', -1901**	4068', -1909	**(+8)**	4042', -1900	**(-1)**
Fort Scott	**4126', -1979**	4142', -1983	**(+4)**	4120', -1978	**(-1)**
Cherokee	**4144', -1997**	NA	**NA**	4140', -1998	**(+1)**
Mississippian	**4221',-2074**	4239', -2080	**(+6)**	4227', -2085	**(+11)**

Summary

The location for the Brehm-Kleweno #3-19 was found via 3-D seismic survey. The new well ran structurally as expected via the survey. Three drill stem tests were conducted one of which recovered commercial amounts of oil from the Mississippian Osage Formation. After all gathered data had examined the decision was made to run 5 1/2 inch production casing to further evaluate the Brehm-Kleweno #3-19 well.

Recommended Perforations

Primary:

Mississippian Osage: (4221' – 4232') DST #3

Before Abandonment:

Fort Scott: (4128' – 4134') DST #2

Respectfully Submitted,

Jason Alm
Hard Rock Consulting, Inc.

Hard Rock Consulting, Inc.
Jason Alm Petroleum Geologist
P.O. Box 1260
Hays, KS 67601

API # 15-135-25080-0000

GEOLOGIST'S REPORT
DRILLING TIME AND SAMPLE LOG

OPERATOR American Warrior, Inc.
LEASE Brehm-Klewenow WELL NO. 3-19
FIELD Wildcat
LOCATION 2310' FSL & 2000' FWL
SEC. 19 TWP. 18s RGE. 21w
COUNTY Ness STATE Kansas

ELEVATION
KB 2147'
DF
GL 2139'
Measurements Are All From Kelly Bushing

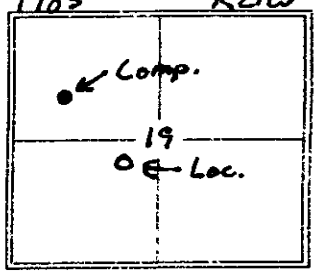
CONTRACTOR Discovery Drilling Co, Inc Rig #3
COMM: 6-19-2010 COMP: 6-26-2010
RTD 4234' LOG TD 4235'
SAMPLES SAVED FROM 3500' TO RTD
DRILLING TIME KEPT FROM 3500' TO RTD
SAMPLES EXAMINED FROM 3500' TO RTD
GEOLOGICAL SUPERVISION FROM 3600' TO RTD
MUD UP 3400' TYPE MUD Chemical

CASING RECORD
SURFACE 8 5/8" @ 1404'
PRODUCTION 5 1/2" @ 4234'

ELECTRICAL SURVEYS
Log Tech
CNL/CDL, DIL

FORMATION	LOG TOP	LOG DATUM	SAMPLE TOP	SAMPLE DATUM	STRUCT. COMP.
Anhydrite	1406'	+747	1400'	+747	+7
Base	1436'	+711	1436'	+712	+5
Heebner	3602'	-1455	3604'	-1457	-3
Lansing	3648'	-1501	3649'	-1502	-1
BKC	3967'	-1820	3967'	-1870	+1
Pawnee	4048'	-1901	4048'	-1904	-1
Fort Scott	4126'	-1979	4126'	-1979	-1
Cherokee	4144'	-1997	4145'	-1998	+1
Mississippian	4221'	-2074	4222'	-2075	+11
Total Depth	4235'	-2088	4234'	-2087	

T18s R21w



REFERENCE WELL FOR STRUCTURAL COMPARISON American Warrior, Inc
Brehm-Klewenow #1-19 1965' FNL & 1245' FWL Sec. 19 T18s R21w

DATE	DEPTH	NO	SIZE	MAKE	TYPE	DEPTH

FORMATION	INTERVAL	DESCRIPTION OF SHOW

OUT	FEET	HOURS

LOG ANALYSIS

O SW

DRILL STEM TESTS

No.	Interval	IFP/Time	ISIP/Time	FFP/Time	FSIP/Time	IHH-FHH	RECOVERY

REMARKS AND RECOMMENDATIONS The location for the Brehm - Klewено #3-19 was found via 3-D seismic survey. The new well ran structurally as expected via the survey. Three drill stem tests were conducted, one of which recovered commercial amounts of oil from the Mississippian Osage Formation. After all gathered data had been examined the decision was made to run 5½ inch production casing to further evaluate the Brehm - Kleweno #3-19 well.

Respectfully Submitted,

Jason A[illegible]

6-26-2016

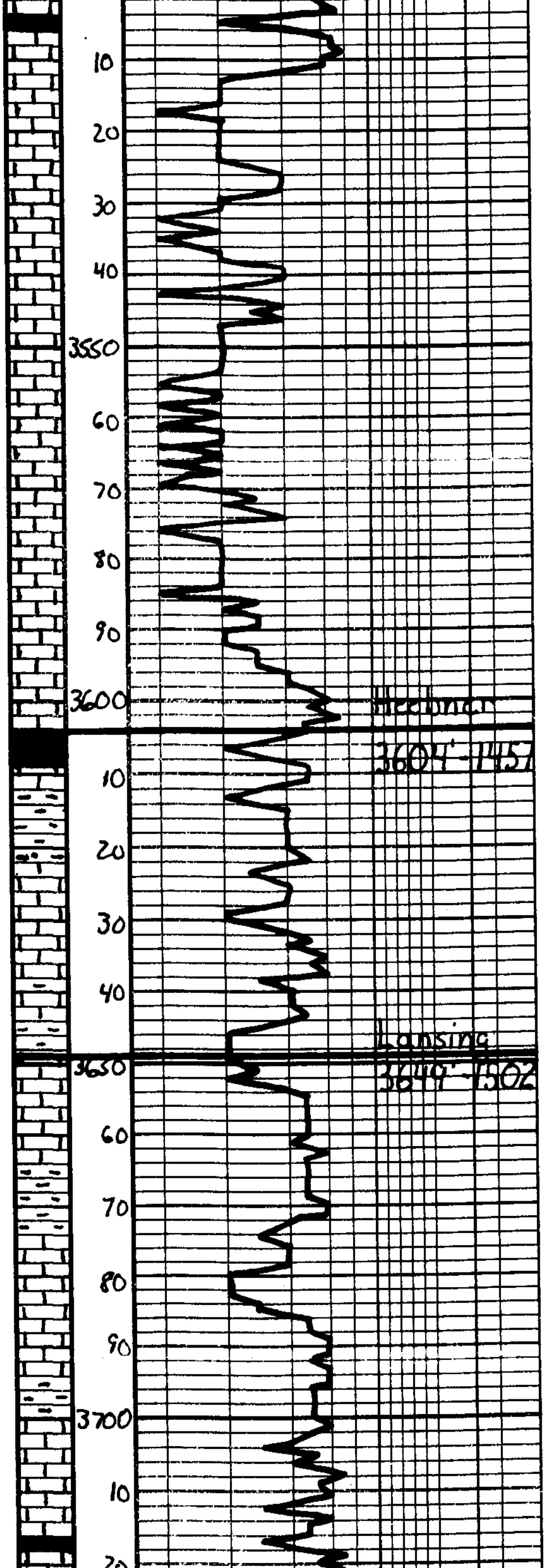
7514

LEGEND

Anhydrite Salt Sandstone Shale Carb sh Limestone Ool.Lime Chert Dolomite

LOG 7702

LITHOLOGY	DEPTH	DRILLING TIME (Logarithmic Scale) .5 1 2 3 4 5 10 15 20 30	SAMPLE DESCRIPTIONS	REMARKS



Sh - Dk Gy - Blk

Geo on Location
12:30 a.m. 6-23-20[illegible]

LS - Tan - Lt. Gy, Fn xln
Fossil, Sl. Mottled, Barren

LS - a/a

LS - Tan - Lt. Gy, Fn xln
Fossil, Barren, Chalky

LS - a/a

LS - a/a

LS - a/a, Mottled

Sh - Blk, Carb., Fissile

Sh - Gy - Brn - Grn

LS - Offwh - Lt. Gy, Fn xln
w/ [illegible] interxtl [illegible] Barren

Sh - Gy - Brn

Sh - Gy - Brn - Grn

LS - Tan - Lt. Gy, Fn - Subxln
Sl. Fossiliferous, Mostly DNS

Sh - Gy - Brn

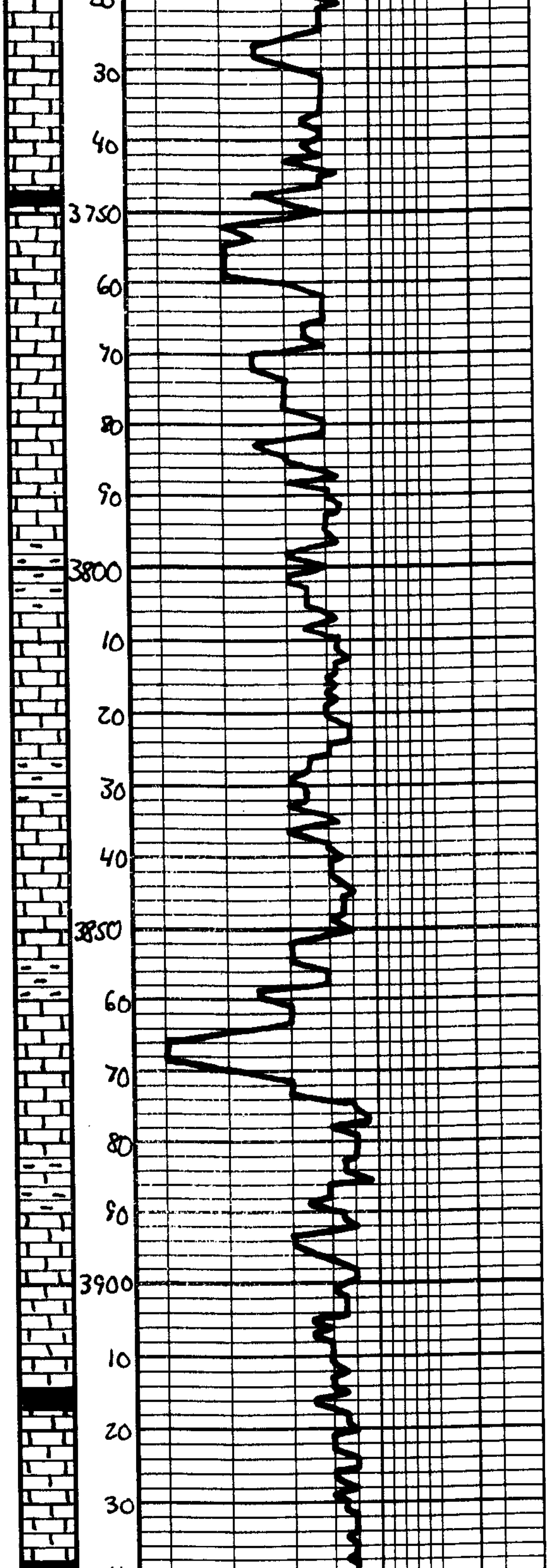
LS - Tan - Lt. Gy, Fn xln Fossil
ool. w/ poor oom [illegible] Barren

LS - a/a, DNS

Sh - Gy - Brn

LS - Offwh - Lt. Gy, Fn xln,
Fossil ool. [illegible]
Barren, Sl. [illegible]

Sh - Dk Gy - Blk



LS - Tan - Lt. Brn, Fn xln, Fossil ool w/ Fair oom & Barren

LS - a/a, DNS

Sh - Gry - Dk Gry

LS - Tan - Lt Gry - Fn xln, Fossil ool w/ Poor - Fair oom & Barren

LS - a/a

LS - a/a

Sh - Gry - Brn - Grn

LS - Tan - Lt. Gry, Subxln, DNS

LS - a/a

Sh - Gry - Brn

LS - Offwh - Tan, Fn - Subxln, Sl. Fossil ool, Mainly DNS

LS - a/a

Sh - Gry - Brn

LS - Offwh - Lt. Gry, Fn xln, Fossil ool, w/ [illegible] oom & Barren, Sl. S. Wht

LS - a/a, DNS

Sh - Gry - Brn

LS - Tan - Lt Gry, Fn - Subxln, DNS, Sl Fossil ool

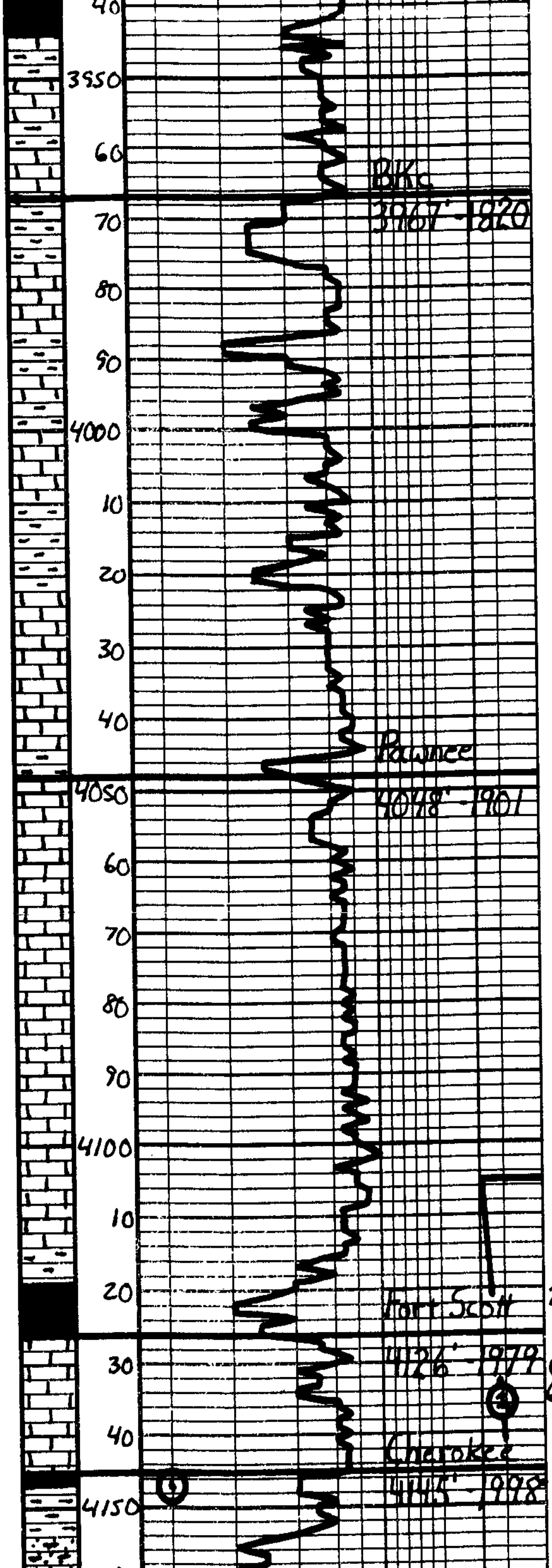
Mud
Vis. 53
Wt. 9.1

LS - a/a

Sh - Dk Gry

LS - Tan - Lt Gry, Subxln, DNS

LS - a/a



Sh - Dk Gry - Blk

LS - Tan - Gry, Subxln, DNS

Sh - Gry - Brn

LS - a/a

Sh - Gry - Brn - Grn

LS - Tan - Gry - Sl. Mottled, Subxln, DNS

Sh - Gry - Brn - Grn

Sh - a/a

LS - Tan - Lt. Gry, Subxln, DNS

Sh - Gry - Brn - Grn

LS - Tan - Lt Gry, Subxln, DNS Sl. f - Wht

LS - a/a

Sh - Gry - Grn

LS - Tan - Gry, Subxln, DNS Sl. f - Wht

LS - a/a

LS - Gry, Subxln, DNS

LS - a/a

LS - a/a

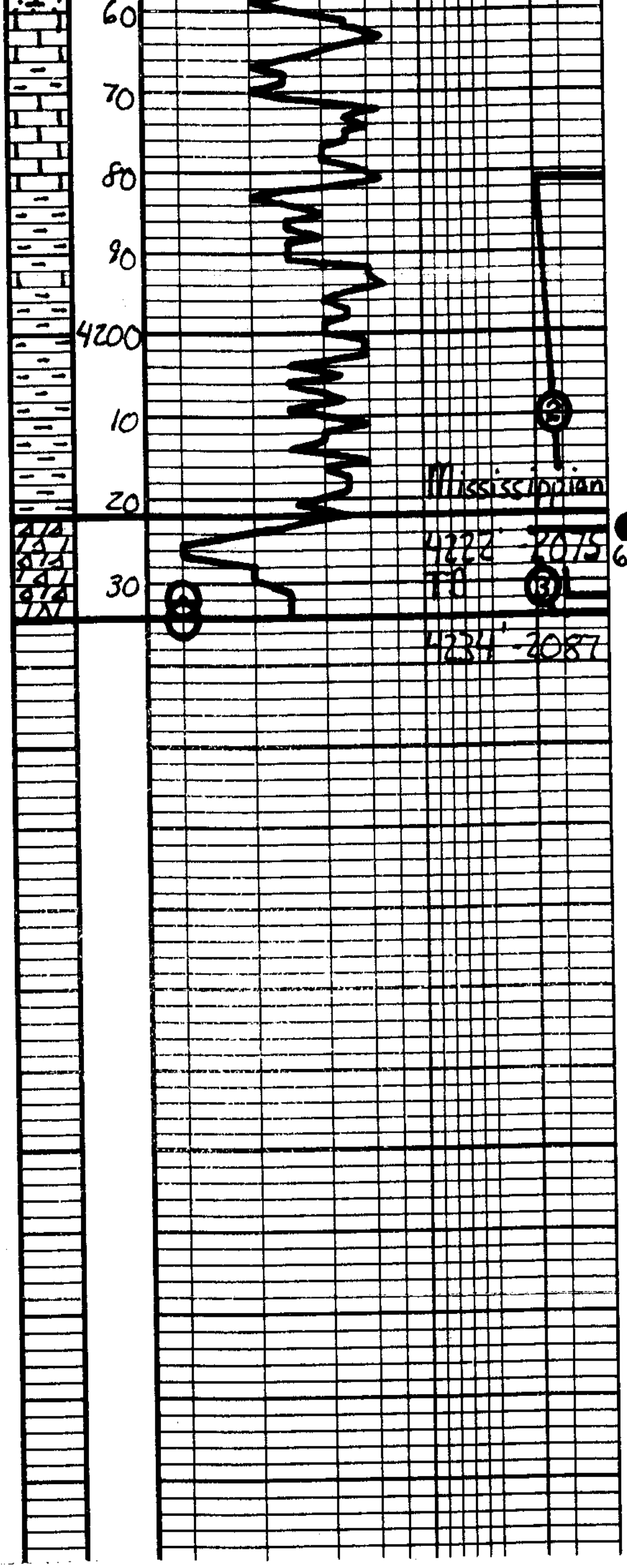
Sh - Blk, Carb.

LS - Tan - Lt. Brn, Fn xln w/ [illegible] fair intercln [illegible] [illegible] 1st [illegible] [illegible] [illegible] Sl. SFO when broken, Lt. [illegible]

Sh - Dk Gry - Blk

SS - Qtz, Fn Gr, Angular - Well Cemented - Poorly Sorted w/ [illegible]

DST #1	
Fort Scott	
4105' - 4147'	
45" - 45" - 45" - 45"	
IH	2013#
IF	19 - 28# Built to 8.5 in.
ISI	667# Dead
FF	19 - 34# BOB 28 min.
FSI	560# Dead
FH	1982#
BHT	115°F
Recovery:	



Strg sh. NSFO, No Odor, Few Angular Reaction Lo.

Sh - Gry - Brn

Ls - Tan - Gry, Subxln, DNS

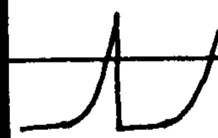
Sh - Gry - Brn - Grn

Sh - Brn - Grn - Gry, Sl. Wht. Wl.

Sh - AV - a/a

Dolo - AV - OffWh - Brn, Fn Suc. Xaful Fair intercryst. & vuggy ϕ, Dolomitic, Trip, Weathered in/ Fair Vuggy ϕ, Lt. Brn oil St - Sat. SFO, Good Odor.

296' GIP
45' GMOCM 30% Oil



DST#2

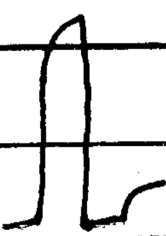
Mississippian
4181'-4232'
Test Tool Issues

DST#3

Mississippian
4224'-4234'
30"-30"-30"-30"

IH 2145#
IF 26-49# BOB 24 min.
ISI 1159# W.S.B.
FF 54-77# BOB 20 min.
FSI 278# Built to 4.5 in.
FH 1999#
BHT 113°F

Recovery:
220' GIP
160' CGO
45' GWOCM 20% Oil, 5% Water
15' GWMCO 50% Oil, 5% Water



Respectfully,
Jason
6-26-2010

DRILL STEM TEST REPORT

Am Warrior

PO Box 399
Garden City, Ks
67846
ATTN: Jason Alm

Brehm-Kleweno 3-19

19-18s-21w/Ness

Job Ticket: 38954 **DST#: 1**

Test Start: 2010.06.24 @ 08:45:07

GENERAL INFORMATION:

Formation: **Ft. Scott**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:01:32
Time Test Ended: 15:48:01

Test Type: Conventional Bottom Hole
Tester: Brian Fairbank
Unit No: 41

Interval: 4105.00 ft (KB) To 4147.00 ft (KB) (TVD)
Total Depth: 4147.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition:

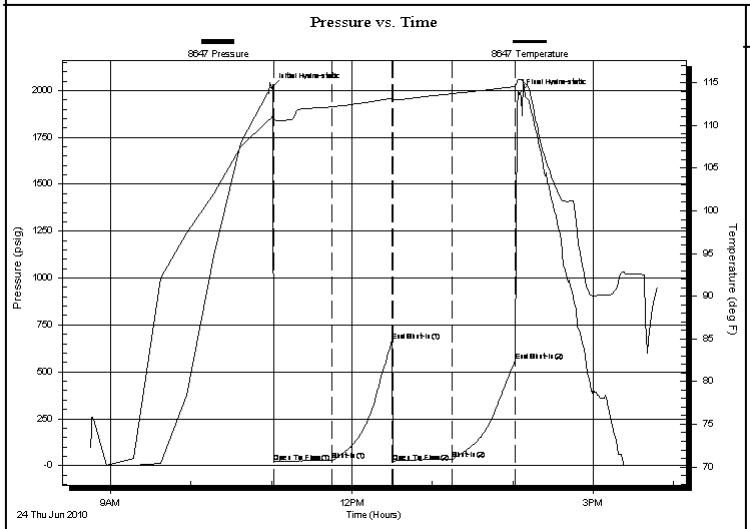
Reference Elevations: 2147.00 ft (KB)
2139.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8647 **Inside**

Press@RunDepth: 33.80 psig @ 4108.00 ft (KB)
Start Date: 2010.06.24 End Date: 2010.06.24
Start Time: 08:45:07 End Time: 15:48:01

Capacity: 8000.00 psig
Last Calib.: 2010.06.24
Time On Btm: 2010.06.24 @ 11:00:32
Time Off Btm: 2010.06.24 @ 14:05:01

TEST COMMENT: IFP - weak to good blow 1/4" - 8 1/2"
ISI - no blow back
FFP - BOB 28 min.
FSI - no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2012.53	111.04	Initial Hydro-static
1	19.08	110.63	Open To Flow (1)
45	27.80	112.18	Shut-In(1)
90	666.96	113.18	End Shut-In(1)
90	18.91	113.00	Open To Flow (2)
134	33.80	113.71	Shut-In(2)
182	559.60	114.56	End Shut-In(2)
185	1982.31	115.39	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
45.00	GHOCM 10%G, 30%O, 60%M	0.35
0.00	295' GIP	0.00

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Am Warrior

PO Box 399
Garden City, Ks
67846

ATTN: Jason Alm

Brehm-Kleweno 3-19

19-18s-21w/Ness

Job Ticket: 38954 **DST#: 1**

Test Start: 2010.06.24 @ 08:45:07

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:			Oil API:		deg API
Mud Weight:		lb/gal	Cushion Length:	ft	Water Salinity:		ppm
Viscosity:		sec/qt	Cushion Volume:	bbl			
Water Loss:		in³	Gas Cushion Type:				
Resistivity:		ohm.m	Gas Cushion Pressure:	psig			
Salinity:		ppm					
Filter Cake:		inches					

Recovery Information

Recovery Table

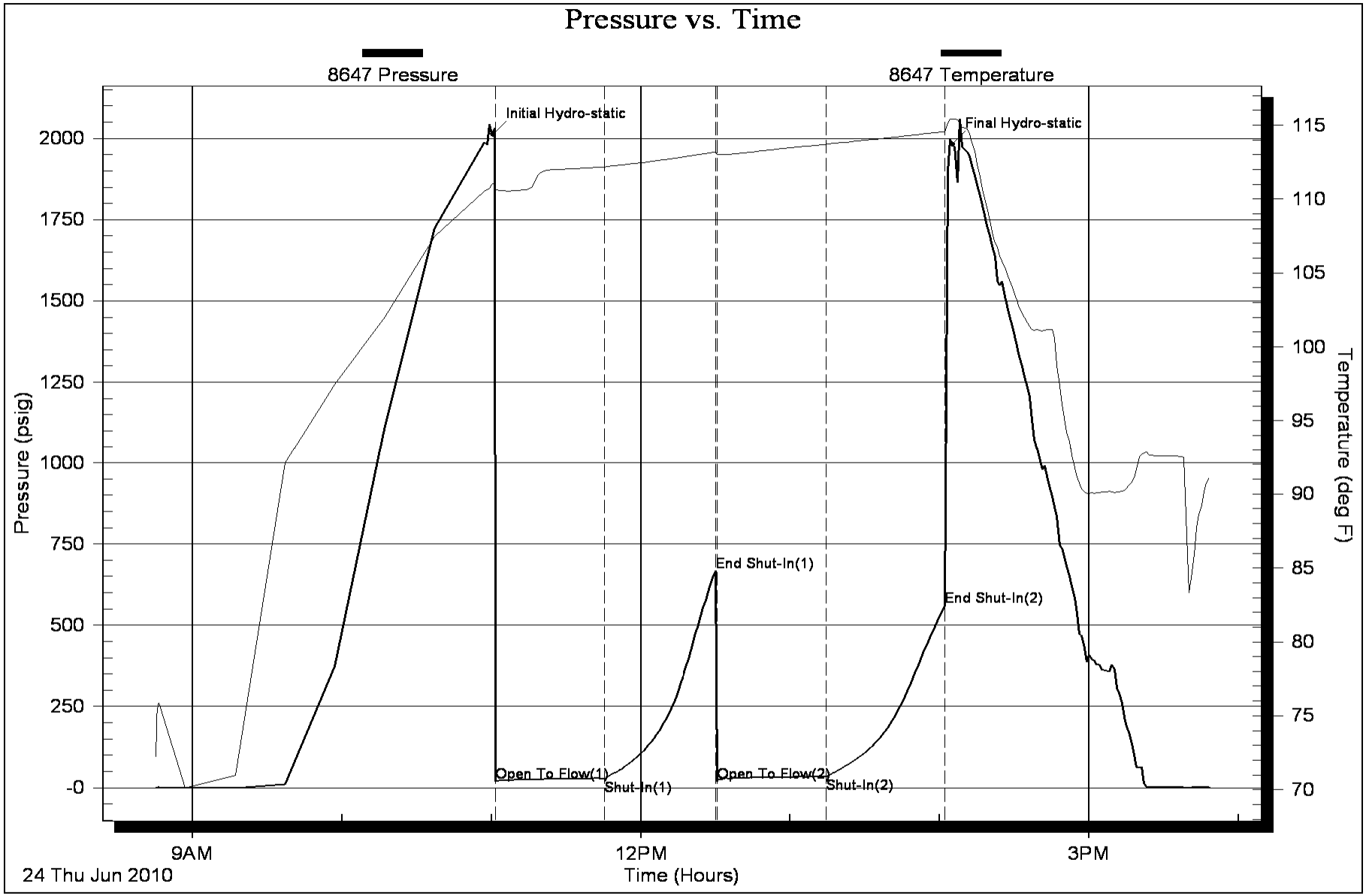
Length ft	Description	Volume bbl
45.00	GHOCM 10%G, 30%O, 60%M	0.349
0.00	295' GIP	0.000

Total Length: 45.00 ft Total Volume: 0.349 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:


Pressure vs. Time
8647 Pressure
8647 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Open To Flow(1)
Shut-In(1)
Open To Flow(2)
Shut-In(2)
2000
1750
1500
1250
1000
750
500
250
-0
Pressure (psig)
115
110
105
100
95
90
85
80
75
70
Temperature (deg F)
9AM
12PM
3PM
24 Thu Jun 2010
Time (Hours)

DRILL STEM TEST REPORT

Am Warrior

PO Box 399
Garden City, Ks
67846
ATTN: Jason Alm

Brehm-Kleweno 3-19

19-18s-21w/Ness

Job Ticket: 38955 **DST#: 2**

Test Start: 2010.06.25 @ 01:02:37

GENERAL INFORMATION:

Formation: **Miss**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 03:05:32
Time Test Ended: 06:57:01

Test Type: Conventional Bottom Hole
Tester: Brian Fairbank
Unit No: 41

Interval: 4181.00 ft (KB) To 4232.00 ft (KB) (TVD)
Total Depth: 4232.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition:

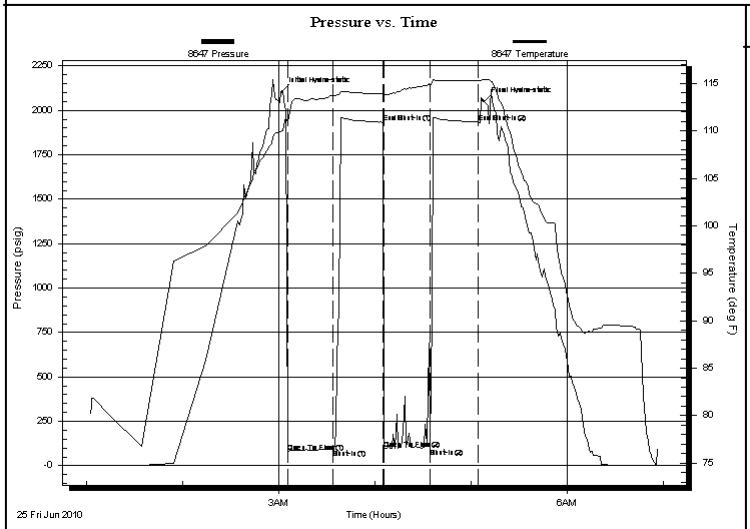
Reference Elevations: 2147.00 ft (KB)
2139.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8647 **Inside**

Press@RunDepth: 101.32 psig @ 4190.00 ft (KB)
Start Date: 2010.06.25 End Date: 2010.06.25
Start Time: 01:02:37 End Time: 06:57:01

Capacity: 8000.00 psig
Last Calib.: 2010.06.25
Time On Btm: 2010.06.25 @ 03:02:02
Time Off Btm: 2010.06.25 @ 05:08:02

TEST COMMENT: IFP - packer failure - reset packers - weak to fair blow - surging blow 1" - 3 1/2"
ISI - no blow back
FFP - sur blow - died 6 min.
FSI - no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2103.24	110.01	Initial Hydro-static
4	78.14	111.00	Open To Flow (1)
32	90.21	113.67	Shut-In(1)
63	1929.16	113.98	End Shut-In(1)
64	93.95	113.61	Open To Flow (2)
93	101.32	114.81	Shut-In(2)
123	1932.31	115.31	End Shut-In(2)
126	2050.84	115.38	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
130.00	drl mud 100%	1.54

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Am Warrior

PO Box 399
Garden City, Ks
67846

ATTN: Jason Alm

Brehm-Kleweno 3-19

19-18s-21w/Ness

Job Ticket: 38955 **DST#: 2**

Test Start: 2010.06.25 @ 01:02:37

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:	51.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	8.75 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	4800.00 ppm				
Filter Cake:	inches				

Recovery Information

Recovery Table

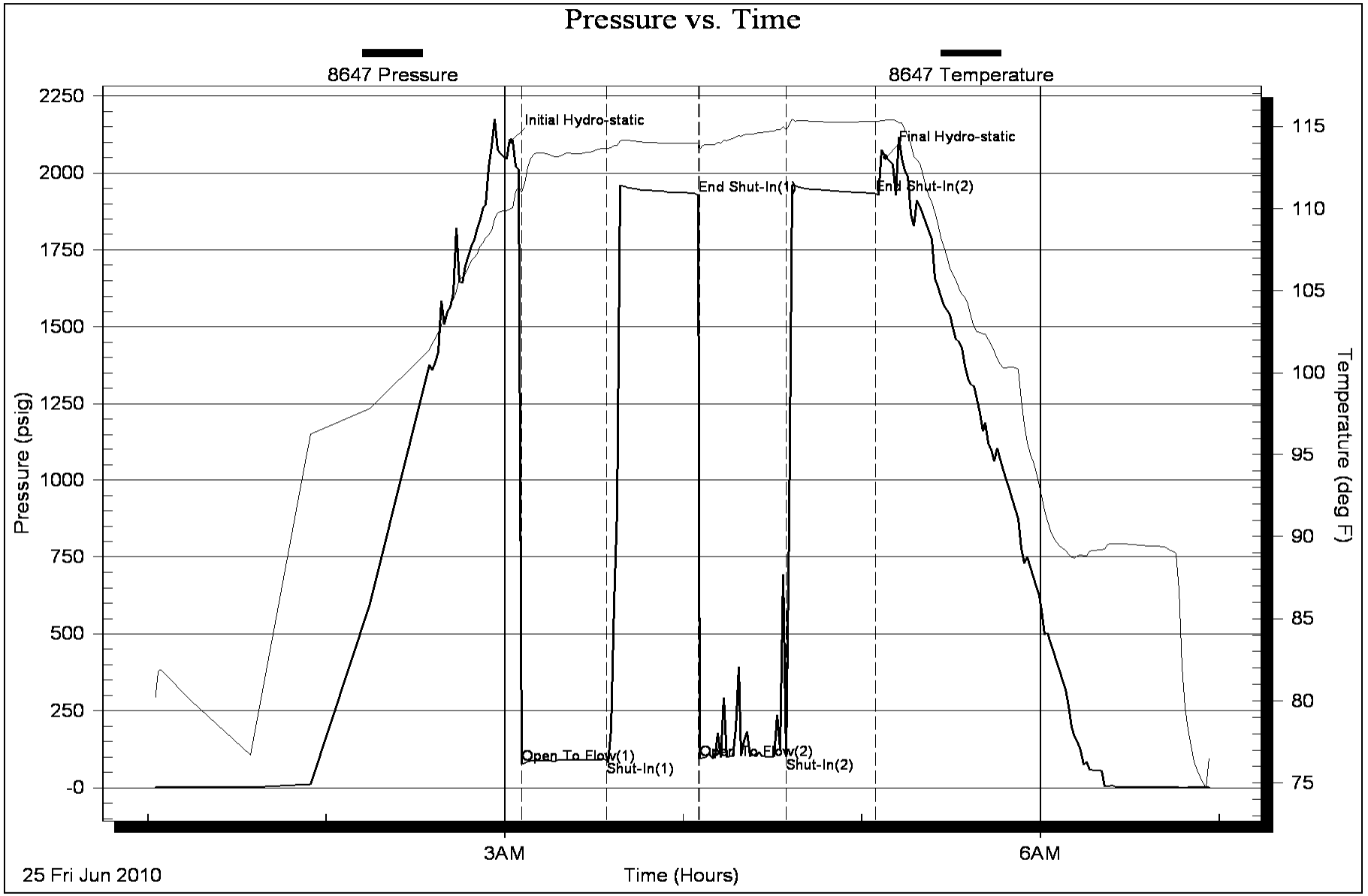
Length ft	Description	Volume bbl
130.00	drl mud 100%	1.541

Total Length: 130.00 ft Total Volume: 1.541 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:


Pressure vs. Time
8647 Pressure
8647 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Open To Flow(1)
Shut-In(1)
Open To Flow(2)
Shut-In(2)
Pressure (psig)
Temperature (deg F)
2250
2000
1750
1500
1250
1000
750
500
250
-0
115
110
105
100
95
90
85
80
75
3AM
6AM
25 Fri Jun 2010
Time (Hours)

DRILL STEM TEST REPORT

Am Warrior

PO Box 399
Garden City, Ks
67846
ATTN: Jason Alm

Brehm-Kleweno 3-19

19-18s-21w/Ness

Job Ticket: 38956 **DST#: 3**

Test Start: 2010.06.25 @ 12:11:27

GENERAL INFORMATION:

Formation: **Miss (2)**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 14:13:22
Time Test Ended: 18:09:21

Test Type: Conventional Bottom Hole
Tester: Brian Fairbank
Unit No: 41

Interval: 4224.00 ft (KB) To 4234.00 ft (KB) (TVD)
Total Depth: 4234.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition:

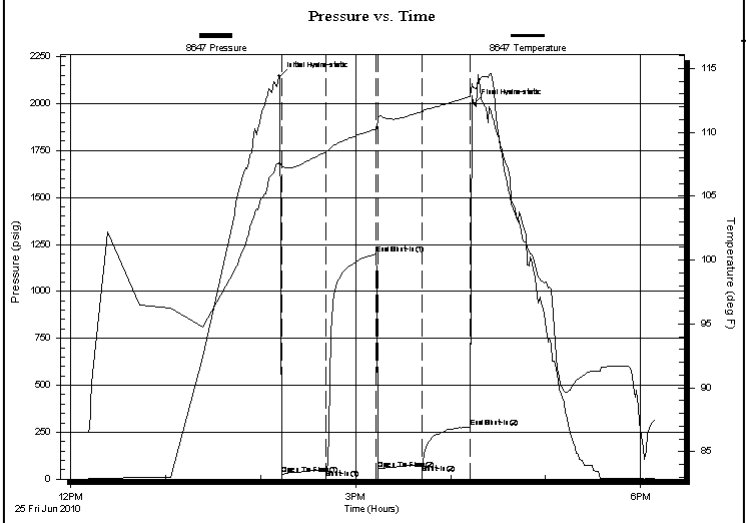
Reference Elevations: 2147.00 ft (KB)
2139.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8647 **Inside**

Press@RunDepth: 77.21 psig @ 4227.00 ft (KB)
Start Date: 2010.06.25 End Date: 2010.06.25
Start Time: 12:11:27 End Time: 18:09:21

Capacity: 8000.00 psig
Last Calib.: 2010.06.25
Time On Btm: 2010.06.25 @ 14:11:52
Time Off Btm: 2010.06.25 @ 16:14:52

TEST COMMENT: IFP - BOB 24 min.
ISI - weak sur blow back
FFP - BOB 20 min.
FSI - 4 1/2" blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2145.75	107.66	Initial Hydro-static
2	26.39	107.28	Open To Flow (1)
30	49.83	108.48	Shut-In(1)
61	1198.99	110.25	End Shut-In(1)
63	54.77	111.16	Open To Flow (2)
90	77.21	111.62	Shut-In(2)
121	278.05	112.78	End Shut-In(2)
123	1999.15	113.45	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	GW & MCO 10%G, 50%O, 5%W, 35%M	0.07
45.00	GWOCM 5%G, 20%O, 5%W, 70%M	0.49
160.00	FREE OIL 95%O, 5%M	2.24
0.00	220' GIP	0.00

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Am Warrior

PO Box 399
Garden City, Ks
67846

ATTN: Jason Alm

Brehm-Kleweno 3-19

19-18s-21w/Ness

Job Ticket: 38956 **DST#: 3**

Test Start: 2010.06.25 @ 12:11:27

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	39 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	14000 ppm
Viscosity:	66.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	10.37 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	6500.00 ppm				
Filter Cake:	inches				

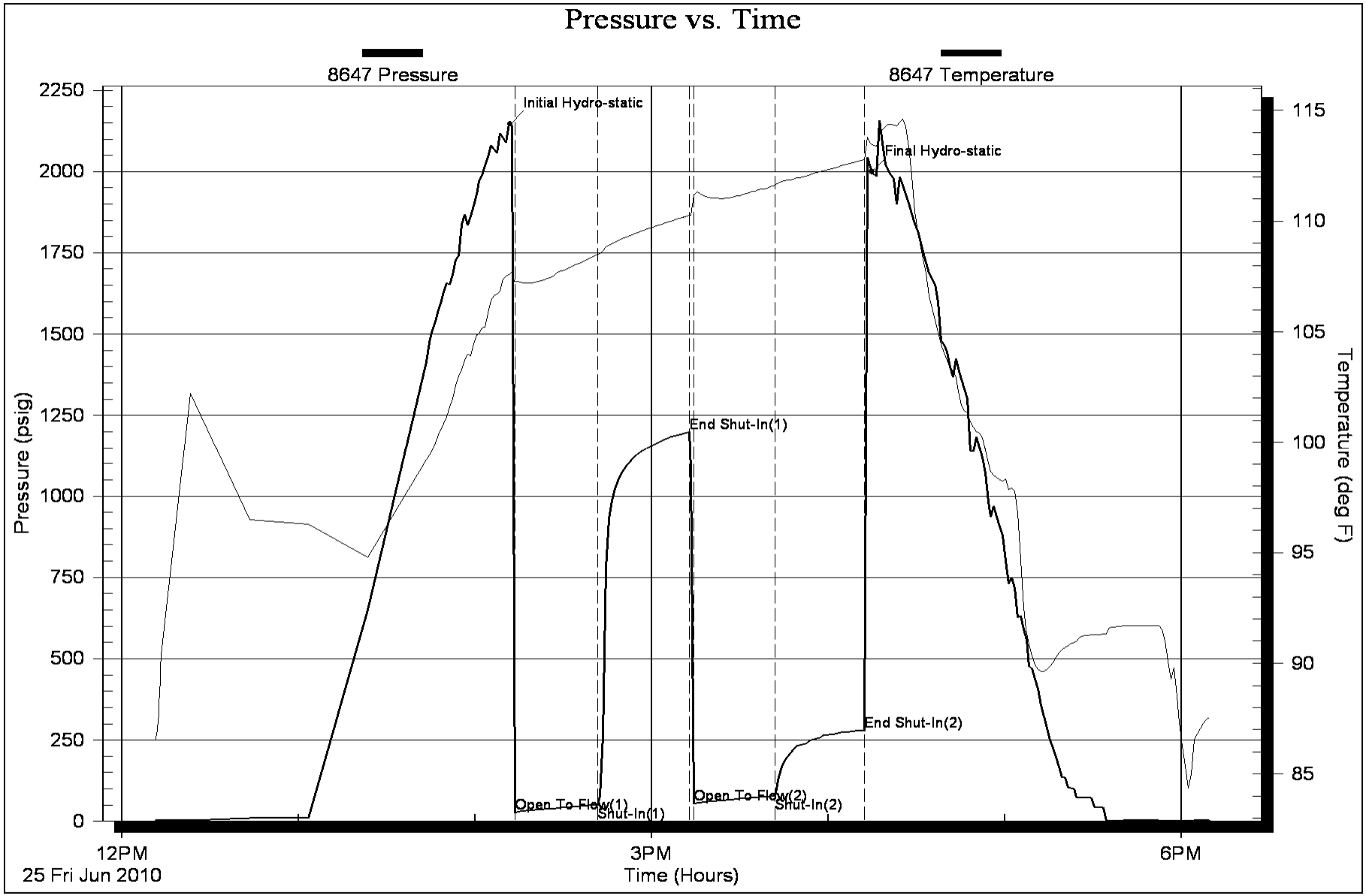
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	GW & MCO 10%G, 50%O, 5%W, 35%M	0.074
45.00	GWOCM 5%G, 20%O, 5%W, 70%M	0.485
160.00	FREE OIL 95%O, 5%M	2.244
0.00	220' GIP	0.000

Total Length: 220.00 ft Total Volume: 2.803 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:


Pressure vs. Time
8647 Pressure
8647 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Open To Flow(1)
Shut-In(1)
Open To Flow(2)
Shut-In(2)
Pressure (psig)
Temperature (deg F)
2250
2000
1750
1500
1250
1000
750
500
250
0
115
110
105
100
95
90
85
12PM
25 Fri Jun 2010
3PM
Time (Hours)
6PM