

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

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

Gas DH EOR

OG GSW

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 EOR Conv. to SWD
 Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or
Recompletion Date Recompletion Date

API No.: _____

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 Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

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 Geologist Report / Mud Logs <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
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------

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				

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
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)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Liberal Yard #1717 - Phone 620-624-2277 - 1700 S. Country Estates Road, Liberal KS 67901

PRESSURE PUMPING

Job Log

Customer:	American Warrior	Cement Pump No.:	38117, 19919 3Hrs.	Operator TRK No.:	96816
Address:		Ticket #:	1718 15925 L	Bulk TRK No.:	19827, 19808 Oscar 19827, 19808
City, State, Zip:		Job Type:	Z42- Cement Surface Casing		
Service District:	1718 - Liberal, Ks.	Well Type:	OIL		
Well Name and No.:	Sunray 3-12	Well Location:	12,16,42	County:	Greeley State: Ks

Type of Cmt	Sacks	Additives	Truck Loaded On	
A-Serv Lite	100	2% Calcium Chloride, 1/4# Polyflake	19827, 19808 Oscar	Front Back
Premium Plus Cement	150	2% Calcium Chloride, 1/4# Polyflake	19827, 19808	Front Back
Premium Plus Cement	300	2% Calcium Chloride	27808, 37725 Marc	Front Back

Lead/Tail:	Weight #1 Gal.	Cu/Ft/sk	Water Requirements	CU. FT.	Man Hours / Personnel	
Lead:	12.3	2.06	11.46	206	TT Man Hours:	63
Tail:	14.8	1.34	6.33	201	# of Men on Job:	4

Time (am/pm)	(BPM)	Volume (BBLs)	Pumps		Pressure (PSI)		Description of Operation and Materials
			T	C	Tubing	Casing	
19:45							ON LOCATION & SAFETY MEETING
20:00							RIG UP
9:00 PM							RIG TO CIRCULATE
9:15 PM							PRESSURE TEST TO 1800PSI
9:16 PM	5	36.6 slurry				60	PUMP LEAD 100SX @ 12.3#
21:31	5.3	35.7 slurry				60	PUMP TAIL 150SX @ 14.8#
21:45							SHUTDOWN / DROP PLUG
9:51 PM	5.2	10				110	DISPLACE
	5	20				180	9:55PM 15BBLs IN, CEMENT RETURNS
21:58	5.1	25.5				200	REACH DISPLACEMENT / SHUTDOWN
22:00							CLOSE IN
23:00							CEMENT FELL BACK
8:45							RIG UP & RUN 1" 30'
9:25		11.9 slurry					PUMP 50SX W/ 2% CC @ 14.8#
9:30							CEMENT TO SURFACE
10:05							CEMENT HAS NOT FALLEN BACK
							JOB COMPLETE

Size Hole	12 1/4"	Depth			TYPE	Swage	
Size & Wt. Csg.	8 5/8" 24#	Depth	422.37'	New / Used	Packer	Depth	
Landing Press.	135.1psi	Depth			Retainer	Depth	
Shoe Amount	20'	Type			Perfs	CIBP	

Customer Signature: <i>[Signature]</i>	Basic Representative:	Daniel Beck
	Basic Signature:	<i>[Signature]</i>
	Date of Service:	10/1/2018



Services, Inc.

TICKET 031852

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

PAGE 1 OF 1

SERVICE LOCATIONS: Ass Aug K5
 WELL/PROJECT NO: 3-2 LEASE: SUNRAY COUNTY/PARISH: Greene STATE: KS CITY: TRIBUNE DATE: 11-1-18 OWNER:
 TICKET TYPE: SERVICE SALES CONTRACTOR: CO TOURS RIG NAME/NO.: 8 SHIPPED: YES DELIVERED TO: location ORDER NO.:
 WELL TYPE: oil WELL CATEGORY: Development JOB PURPOSE: convert pit collar WELL PERMIT NO.:
 WELL LOCATION: WELL PERMIT NO.:
 INVOICE INSTRUCTIONS

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.			UNIT PRICE	AMOUNT
		LOC	ACCT	DF		U/M	U/M	U/M		
575		1			MILEAGE	140	mi		5.00	700.00
576D		1			Pump Charge	1	ea		1300.00	1300.00
330		1			SMD cement	300	sk		16.25	4875.00
276		1			Fluore	75	lb		2.50	187.50
290		1			D-AIR	2	gal		42.00	84.00
104		1			Pit Collar Tool Rental	5 1/2	hr		200.00	200.00
581		1			service charge	300	sk		1.75	525.00
583		1			Dayage	2985.15			0.85	1776.25

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

DATE SIGNED: 11/1/18 TIME SIGNED: 1:30 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? 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
 CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL: 9617.75
 TAX: 95.10
 TOTAL: 10048.94

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

Thank You!

JOB LOG

SWIFT Services, Inc.

DATE 11-1-8	PAGE NO. 1
TICKET NO. 31852	

CUSTOMER American Warrior	WELL NO. 3-12	LEASE Sunray	JOB TYRE cement port collar
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CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
								300 sk SMD cement w/ 1/4" floccle 2 3/4" x 5 1/2" port collar - 2649'
	0945							on loc - TRR 114
	1000		3			1000	1000	test to 1000psi - held open port collar
	1011	3 1/2 3 1/2	- 31			400 50		inj rate 3 1/2 bpm @ 500psi mix SMD - blow at surface - mix SMD cement @ 11.2 ppg - circ fluid to surface - less than full returns - slow to 2 bpm - no returns - shut down - wait
	1030		70					
	1105	2				150		mix SMD - 4 more bbls 11.2 ppg - blow for a short time - shut down & wait
	1200	2				150		Mix SMD @ 11.2 ppg - immediate blow - - 2 bbl to circ -
		2	76			150		
		2	125			250		- pressure gain - - constant circ - full returns -
		2	160			250		- 300sk mixed - no cement - no floccle
			9 1/2					Displace cement Shut port collar
	1250					1000	1000	test to 1000psi - held Run 5 joints Reverse hole clean - 2 cement plugs wash truck pull tool Back up job complete
			20					

STUFF BUCKLE, INC.

11-1-8

31829

CONFIDENTIAL

2000

3-12

3-12

3-12

3000 and count of 1/2 truck
3000's but note - 2000

on the TRX in

lot to work - 1/2

car - but note

with 2nd count of 1/2 truck

- 1/2 of truck

- 1/2 of truck - 1/2

- 1/2 of truck - 1/2

1/2 of truck - 1/2

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1/2 of truck - 1/2



CHARGE TO: American Blanner Inc.
 ADDRESS
 CITY, STATE, ZIP CODE

TICKET 031818
 PAGE 1 OF 2

SERVICE LOCATIONS
 1. Ness City, KS WELL/PROJECT NO. 3-12 LEASE Suway COUNTY/PARISH Greeley STATE KS CITY Tribune DATE 10/8/2018 OWNER
 2. TICKET TYPE SERVICE SALES CONTRACTOR Duke RIG NAME/NO. 5 SHIPPED VIA CT DELIVERED TO Location ORDER NO.
 3. WELL TYPE Oil WELL CATEGORY Development JOB PURPOSE Longstring 5 1/2" WELL PERMIT NO.
 4. REFERRAL LOCATION Oil INVOICE INSTRUCTIONS Development WELL LOCATION Tribune, 13-N, 9-W
1 1/4-N, 1/2-E, 1/4-S

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	MILEAGE	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT	DF								
575					Trk #112			150	M.		5.00	750.00
578					Pump Change - Longstring	5 1/2 in		1	job		1300.00	1300.00
409					Centralizer - Turbo	5 1/2 in		10	ea.		85.00	850.00
403					Cement Basket	5 1/2 in.		2	ea.		275.00	550.00
404					Port Collar	5 1/2 in		1	ea.		2500.00	2500.00
406					Latch Down Plug + Baffle	5 1/2 in.		1	ea.		250.00	250.00
407					Insert float shoe w/ Arb Fill	5 1/2 in.		1	ea.		325.00	325.00

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.

X Rick Rickers

DATE SIGNED 10/9/2018 TIME SIGNED 1:30 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	DISAGREE
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 2 TOTAL 14052.68

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

Thank You!



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

TICKET CONTINUATION

TICKET No. 031818

CUSTOMER American Blower Inc
WELL Survey 3-12
DATE 10/8/2018
PAGE 2 OF 2

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			TIME	DESCRIPTION	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT	DF								
221						Liquid KCL	2	gal			25.00	50.00
281						Mud Flush	500	gal			1.50	750.00
290						D-Air	2	gal			42.00	84.00
325						Standard Cement	200	sk			13.00	2600.00
279						Bentonite Gel	4	sk			30.00	120.00
283						Salt	1100	lb			0.20	220.00
292						Halad 322	150	lb			8.00	1200.00
276						Flocele	56	lb			2.50	140.00
581						SERVICE CHARGE					1.75	350.00
583						MILEAGE CHANGE					0.95	130.00
							TOTAL WEIGHT					
							LOADED MILES					
							CUBIC FEET					
							TON MILES					
CONTINUATION TOTAL												6805.00

JOB LOG

SWIFT Services, Inc.

DATE 10/8/2018 PAGE NO.

CUSTOMER		WELL NO.		LEASE		JOB TYPE		TICKET NO.	
American Warrior Inc		3-12		Sunray		Long String		031818	
CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS	
				T	C	TUBING	CASING		
	1930								On Location 5 1/2" 15.5lb RTD=5220 LTD=5220 TP=5217 JSJ=20.97 #1 PC=2713 #62 Out: #42
									Turbo=1,2,3,4,5,7,9,11,13,61 Cement Baskets=3,62
	2010								Start 5 1/2" 15.5lb Casing in Well
	2030								Drop Ball - Circulate
	0015	6 1/2	12		✓	300			Pump 500 gal Mudflush
		6 1/2	20		✓	300			Pump 20 bbl KCL flush
	0020	0	7-5		✓	0			Plug RH MH [30,20]
	0030	4 1/2	37		✓	300			Mix 150 Standard Cement @ 14.9 ppg
									Wash out pump + lines Release latch down Plug
	0045	6 1/2	0		✓	100			Start Displacement
		6 1/2	93		✓	300			lift Pressure
		6 1/2	122		✓	800			Max Lift Pressure
	0105	6 1/2	123.6		✓	1800			Land Latch down Plug
									Release Pressure * Plug Hold *
									Wash-up Truck
	0130								Job Complete
									Thank You
									Gideon, Dave, Preston, Kirby

Geological Report

American Warrior, Inc.

Sunray #3-12

1323' FNL & 1057' FWL

Sec 12, T16s, 42w

Greeley County, Kansas



American Warrior, Inc.

General Data

Well Data: American Warrior, Inc.
Sunray #3-12
1323' FNL & 1057' FWL
Sec. 12, T16s, R42w
Greeley County, Kansas
API # 15-071-20886-00-00

Drilling Contractor: Duke Drilling Co. Rig #5

Geologist: Luke Thompson

Spud Date: October 1, 2018

Completion Date: October 9, 2018

Elevation 3776 G.L.
3787' K.B.

Directions: From the South side of Tribune, KS at the intersection of Hwy 96 & Hwy 27 – Go North 13 miles on Hwy 27 – Now go West 9 miles on Co. Rd. D – Now go North 1.5 miles on Co. Rd. 7 – Now go East 0.25 miles into at the tank battery – Now go North .2 miles to well.

Casing: 437' 8 5/8" 23# Surface Casing
5217' 5 1/2" 15.5# Production Casing

Samples: 4000' to RTD 10' Wet & Dry

Drilling Time: 3800' to RTD

Electric Logs: Pioneer Energy Services "Dan Schmidt"
Stack-Micro

Drillstem Tests: No Tests

Problems: Lost Circulation approx. 200 bbls after wiper trip

Formation Tops

Sunray #3-12

Sec. 12, T16s, R42w

1323' FNL & 1057' FWL

Anhydrite	2692	1095
Anhydrite Base	2720	1067
Heebner	4070	-283
Toronto	4090	-303
Lansing	4132	-345
Stark	4399	-612
Hush	4449	-662
BKC	4490	-703
Marmaton	4550	-763
Pawnee	4646	-859
Fort Scott	4692	-905
Cherokee	4701	-914
Morrow	4967	-1180
Morrow SD	4978	-1191
St Gen	5118	-1331
LTD	5220	-1433

Sample Zone Descriptions

Morrow Sand

(4978', -1191):

No DST

Sandstone, clear/white, fine to medium grained, sub-round to sub-angular, semi-spherical, fair sorting, fair cement, occasionally glauconitic, scattered fair-good inter-crystalline porosity, very slight fleeting odor (Gas?), no stain, no show of free oil, scattered fair-good gold/green fluorescence, fair stream cut, excellent flush cut when broke. Gas 1100 units hotwire.

Structural Comparison

<u>Formation</u>	American Warrior, Inc. Sunray #3-12 Sec. 12, T16s, R42w 1323' FNL & 1057' FWL			American Warrior, Inc. Sunray #1-12 Sec. 12, T16s, R42w 2324' FNL & 1117' FWL			American Warrior, Inc. Sunray #2-12 Sec. 12, T16s, R42w 1378' FNL & 2060' FWL	
Heebner	4070	-283	3	4077	-286	-1	4064	-282
Lansing	4132	-345	8	4144	-353	-1	4126	-344
Stark	4399	-612	2	4405	-614	-2	4392	-610
BKC	4490	-703	0	4494	-703	-3	4482	-700
Marmaton	4550	-763	-10	4544	-753	-3	4542	-760
Pawnee	4646	-859	-10	4640	-849	-4	4637	-855
Fort Scott	4692	-905	-9	4687	-896	-5	4682	-900
Cherokee	4701	-914	-10	4695	-904	-6	4690	-908
Morrow	4967	-1180	-6	4965	-1174	-8	4954	-1172
Morrow SD	4978	-1191	1	4983	-1192	0	4973	-1191
St. Gen	5118	-1331	8	5130	-1339	21	5134	-1352

Summary

The location for the Sunray #3-12 well was found via 3-D seismic survey. The new well ran structurally as expected. No drill stem test was conducted. After all the gathered data had been examined, the decision was made to run 5 ½” casing to further evaluate the Sunray #3-12.

Respectfully Submitted,

Lukas Thompson
American Warrior, Inc.

Perforations

Primary:	Morrow Sand	(4984' – 4989') Production
	Morrow Sand	(4977' – 4984') Gas Injection
BFA:	Lansing A	(4132' – 4138')
	Lansing K	(4459' – 4465')
	Marmaton	(4564' – 4568')
	Cherokee	(4752' – 4757')



American Warrior, Inc.

Luke Thompson - Geologist
 3118 Cummings Rd
 Garden City, KS 67846
 (785) 493-1254 office
 (620) 275-2963 cell

WELL Sunray #3-12	API #: 15-071-20886-00-00	LOCATION: Greeley County, KS 1323' FNL & 1057' FWL 12-16s-42w	Elevation KB: 3787' GL: 3776' Measurements from KB
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Lithology Key

	Limestone		Cherty Shale
	Sandy Limestone		Shale
	Shaley Limestone		Silty Shale
	Fossil Limestone		Shaley Sandstone
	Cherty Limestone		Sandstone
	Oolitic Limestone		Cherty Dolomite
	Silty Limestone		Dolomite
	Shale Interbed		Oolitic Dolomite
	Limestone Interbed		CFS
	Black Shale		

Curve Data:

Left Column:
 ROP (min/foot)
 Gamma Ray

Right Column:
 Gas (units)
 Gas wrap 10x
 Density Porosity
 Neutron Porosity

Geologist: Luke Thompson (American Warrior, Inc.)

Drilling Contractor: Duke Rig #5

Drilling Time from: 3800' - TD

Samples from: 4000' - RTD

Geological Supervision from: 3800' - TD

Correlating Log: Sunray #1-12 (AWI 12-16s-42w)

Surface Casing: 437' 8 5/8" 23#

Production Casing: 5217' 5 1/2" 15.5#

RTD: 5220'

LTD: 5220'

Formation	Top	Log Datum	Sample Top	Sample Datum	Correlating Well Structural Comparison
Heebner	4070	-283	4071	-284	3
Toronto	4090	-303	4091	-304	4
Lansing	4132	-345	4134	-347	8
Stark	4399	-612	4401	-614	2
Hush	4449	-662	4447	-660	-1
BKC	4490	-703	4490	-703	0
Marmaton	4550	-763	4551	-764	-10
Pawnee	4646	-859	4647	-860	-10
Fort Scott	4692	-905	4693	-906	-9
Cherokee	4701	-914	4702	-915	-10
Morrow	4967	-1180	4967	-1180	-6
Morrow SD	4978	-1191	4976	-1189	1
St Gen	5118	-1331	5117	-1330	8
TD	5220	-1433	5220	-1433	

Status: OIL

Conclusion: The location for the Sunray #3-12 was found via 3-D seismic survey. The well ran structurally as expected. No DST was conducted. The decision was made to run 5 1/2" production casing to further evaluate Sunray #2-12.

