

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

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](mailto: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
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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				

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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Form	ACO1 - Well Completion
Operator	Shakespeare Oil Co., Inc.
Well Name	FRAHM 1-34
Doc ID	1420133

All Electric Logs Run

Array Induction
Photo Density
Comp Neutron
Microlog
Sonic

Form	ACO1 - Well Completion
Operator	Shakespeare Oil Co., Inc.
Well Name	FRAHM 1-34
Doc ID	1420133

Tops

Name	Top	Datum
Base Anhydrite	2874	+557
Heebner	4152	-721
Lansing	4192	-761
Muncie Creek	4334	-903
Stark Shale	4422	-991
Hushpuckney	4458	-1027
Marmaton	4548	-1117
Pawnee	4606	-1175
L. Cherokee Shale	4705	-1274
Johnson	4762	-1331
Mississippian	4857	-1426





REMIT TO  
 QES Pressure Pumping LLC  
 Dept:970  
 P.O.Box 4346  
 Houston, TX 77210-4346

MAIN OFFICE

P.O.Box884  
 Chanute, KS 66720  
 620/431-9210, 1-800/467-8676  
 Fax 620/431-0012

Invoice

Invoice#

813945

Invoice Date: 08/27/18

Terms: Net 30

Page 1

SHAKESPEARE OIL CO

202 W MAIN ST  
 SALEM IL 62881  
 USA

FRAHM 1-34

PKA

INT

Part No	Description	Quantity	Unit Price	Discount(%)	Total
CE0450	Cement Pump Charge 0 - 1500'	1.000	1,500.0000	30.000	1,050.00
CE0002	Equipment Mileage Charge - Heavy Equipment	40.000	7.1500	30.000	200.20
CE0710	Cement Delivery Charge	1.000	768.0000	30.000	537.60
CC5829	Lite-Weight Blend V (60:40:4)	255.000	16.0000	30.000	2,856.00
CC6075	Celloflake	64.000	3.0000	30.000	134.40
CP8228	8 5/8" Wooden Plug	1.000	165.0000	30.000	115.50
Subtotal					6,991.00
Discounted Amount					2,097.30
SubTotal After Discount					4,893.70
Amount Due 7,345.96 If paid after 09/26/18					

Tax: 248.47

Total: 5,142.17

DW

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 AUG 29 2018

502-5

DH

J



11420  
11304

TICKET NUMBER 55255  
LOCATION Oakley, KS  
FOREMAN Walt Dinkel

PRESSURE PUMPING LLC  
PO Box 884, Chanute, KS 66720  
620-431-9210 or 800-467-8676

FIELD TICKET & TREATMENT REPORT  
CEMENT

Invoice # 813945

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY	
8-26-18	7524	Frahm 1-34	34	9S	36W	Thomas	
CUSTOMER <u>Shakespeare Oil Co.</u>		Brewster South to Rt H, 1 East 1/4 South		TRUCK #	DRIVER	TRUCK #	DRIVER
MAILING ADDRESS <u>202 W. Main</u>				731	Cory Davis		
CITY <u>Salem</u>		STATE <u>IL</u>	ZIP CODE <u>62881</u>	693	Steve Cline-Smith		
				697	Walt Dinkel		

JOB TYPE PTA HOLE SIZE 7 7/8 HOLE DEPTH 4950 CASING SIZE & WEIGHT \_\_\_\_\_  
 CASING DEPTH \_\_\_\_\_ DRILL PIPE 4 1/2 XH TUBING \_\_\_\_\_ OTHER \_\_\_\_\_  
 SLURRY WEIGHT 13.5 SLURRY VOL \_\_\_\_\_ WATER gal/sk \_\_\_\_\_ CEMENT LEFT In CASING \_\_\_\_\_  
 DISPLACEMENT \_\_\_\_\_ DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE 5- BPM

REMARKS: Safety meeting, Rig up on Duke #2, Plug as ordered

- 50 - SKs @ 2860'
  - 100 - SKs @ 1940'
  - 50 - SKs @ 320'
  - 10 - SKs @ 40' w/ Plug
  - 30 - SKs in RH
  - 15 - SKs in MH
- 255 SKs @ 6 7/8" per, 4% Gel, 114# Flu. Sol

Thank You  
Walt + Crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
Ceo 450	1	PUMP CHARGE	1,500.00	1,500.00
Ceo 002	40	MILEAGE	7.15	286.00
Ceo 710	10.97	Tow Mileage Delivery	1.25	768.00
CC 5829	255 SKs	Lightweight Blend V	16.00	4,080.00
CC 6075	64 #	Flu. Sol. 1	3.00	192.00
CP 8228	1	8 5/8 Woodland Plug	165.00	165.00
				6,991.00
		Less 30% Disc		2,097.30
				4,893.70
		SALES TAX		248.48
		ESTIMATED TOTAL		5,142.18

AVIN 3737 AUTHORIZATION Dion Vasquez TITLE Toolpusher DATE \_\_\_\_\_

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.

# SWIFT



P. O. Box 466  
Ness City, KS 67560  
Off: 785-798-2300



## Invoice

DATE	INVOICE #
8/15/2018	27363

BILL TO
Shakespeare Oil Company, Inc 202 West Main Street Salem, IL 62881

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1-34	Frahm	Thomas	Duke Drilling Rig ...	Oil	Development	Shallow Surface	Jonathan
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				100	Miles	5.00	500.00
576D-S	Pump Charge - Shallow Surface (< 500 Ft.)				1	Job	875.00	875.00
290	D-Air				2	Gallon(s)	42.00	84.00T
325	Standard Cement				215	Sacks	13.00	2,795.00T
278	Calcium Chloride				9	Sack(s)	40.00	360.00T
279	Bentonite Gel				3	Sack(s)	30.00	90.00T
580	Additional Hours (If Circulate More Than 1 Hour)				2	Hours	250.00	500.00T
581D	Service Charge Cement				215	Sacks	1.75	376.25
583D	Drayage				1,048	Ton Miles	0.85	890.80
	Subtotal							6,471.05
	Sales Tax Thomas County						8.00%	306.32

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502-5  
DH

RECEIVED

AUG 24 2018

**We Appreciate Your Business!**

<b>Total</b>	\$6,777.37
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DW





Services, Inc.

CHARGE TO: Shakespeare D-1  
 ADDRESS  
 CITY, STATE, ZIP CODE

TICKET 27363

LEASE: Frabm COUNTY/PARISH: Thomas STATE: KS CITY: Location

PAGE 1 OF 1

1. Hays, KS WELLPROJECT NO. 1-34 CONTRACTOR Duke Drilling Co RIG NAME/NO. #2 SHIPPED VIA CS DELIVERED TO Well Permit No. DATE 08/15/18 OWNER

2. Ness City, KS TICKET TYPE SALES WELLCATEGORY Development JOB PURPOSE Shallow Surface WELLPERMIT NO.

3. D-1 INVOICE INSTRUCTIONS

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	MILEAGE #	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT	DF								
575		1			110	100	mi				5.00	500.00
5765		1			Pump Charge - Shallow Surface	1	EA				875.00	875.00
290		1			D-1:~	2	gal				42.00	84.00
325		2			Standard Cement	215	5SKS				13.00	2795.00
278		2			Calcium Chloride (30%)	9	SKS				40.00	360.00
279		2			Bentonite Gel (20%)	3	SKS				30.00	90.00
580		1			Additional hours	2	hr				250.00	500.00
581		2			Service Charge	215					1.75	376.25
583		2			Drayage	100	mi				3.71	371.00

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 Dion Vaguer DATE SIGNED 8/15/18 TIME SIGNED AM

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

SURVEY:  CUSTOMER DID NOT WISH TO RESPOND

TOTAL 1,997.27

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

SWIFT OPERATOR [Signature] APPROVAL [Signature]

Thank You!

JOB LOG

SWIFT Services, Inc.

DATE 08/15/18 PAGE NO. 1

CUSTOMER Shakespeare Oil WELL NO. 1-34 LEASE Frahm JOB TYPE Shallow Surface TICKET NO. 27363

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1930							On location, Setup trucks 265' of 8 5/8" x 23 #
	2115							Break Circulation
	2125	4	5			200		Start Water Ahead
		4				250		Start Cmt - 165 sks 3% CC 2% gel
		4	40					Fin Cmt Start Displacement
	2140	4	18.5					Fin Displacement Shut in, Jet Cellar - No Cement Drop Weight on Rope to 60 Ft - Stacked out there. Pulled Rope. Cmt on Weight. Call in for more Cmt and 1" pipe, Wash up truck and wait for Cmt.
	2230							
	0130							Cmt on location w/ 1" pipe. Run 2 Its 1".
	0200	1/2						Pump Cmt.
		1/2	12					Cmt Circulating to surface.
	0230							Shut Down. Pull 1" pipe. Wash up truck.
	0300							Rack up Job Complete
								Thanks Jon, Austin, Kirby



**WESLEY D. HANSEN Consulting Petroleum Geologist**

212 N. Market, Suite 257, Wichita, KS 67202  
Cellular: 316-772-6188

**KGS  
AAPG  
Kansas License #418**



**Scale 1:240 (5"=100') Imperial  
Measured Depth Log**

**Well Name:** Shakespeare Oil Company, Inc. #1-34 Frahm  
**API:** 15-193-21027

**Location:** 2040' FNL, 460' FWL of Section 34-9S-36W

**License Number:** 7311

**Region:** Thomas County, KS

**Spud Date:** 8-15-2018

**Drilling Completed:** 8-26-2018

**Surface Coordinates:** 2040' FNL, 460' FWL of Section 34-9S-36W

**Bottom Hole Vertical hole**

**Coordinates:**

**Ground Elevation (ft):** 3423'

**K.B. Elevation (ft):** 3431'

**Logged Interval (ft):** 3700'

**To:** RTD

**Total Depth (ft):** 4950

**Formation:** Mississippian at RTD

**Type of Drilling Fluid:** Chemical - Displaced at +or- 3500'

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

#### **OPERATOR**

**Company:** Shakespeare Oil Company, Inc.

**Address:** 202 W. Main Street  
Salem, IL 62881

#### **GEOLOGIST**

**Name:** Wesley D. Hansen

**Company:** Wesley D. Hansen - Consulting Petroleum Geologist

**Address:** 212 N. Market, Suite 257  
Wichita, KS 67202  
Cellular: 316-772-6188

## COMMENTS

Contractor: Duke Drilling Co., Inc. Rig #2  
 Pusher: Dion Vasquez

Surface Casing: 8 5/8" set at 264' w/215 sx  
 Production Casing: P&A

Mud by: Mudco - Reid Atkins was the engineer

DST's by: Trilobite - Chris Hagman was the tester

Logs by: Weatherford - MAI/MFE, MPD/MPN, MMS, MML - Hayden Lejeune was the engineer

Deviation Surveys: 3/4 deg. @ 264'; 3/4 deg. @ 1496'; 1 deg. @ 2504'; 1 deg. @ 3506'; 3/4 deg. @ 4280'; 1 1/4 deg. @ 4950'

Bit #	Size	MFG	Type	Depth Out	Footage Cut	Hours on bit
1	12 1/4"		rr	264'	264'	2
2	7 7/8"	Varel	HA-20	4950'	4686'	134 1/4

## FORMATION TOPS AND STRUCTURAL COMPARISON

FORMATION	SAMPLE TOPS		LOG TOPS		COMPARISON WELLS	
	Depth	Datum	Depth	Datum	(1)	(2)
					(1) Sunburst Expl. Shalz A#1 35-9S-36W KB 3407'	
					(2) SOCO Frahm Comm #1-27 27-9S-36W KB 3395'	
Anhydrite	2851'	+580	2845'	+586	+590	+589
Base of Anhydrite	2879'	+552	2872'	+554	+560	+559
Heebner Shale	4156'	-725	4152'	-721	-713	-717
Lansing	4199'	-768	4192'	-761	-754	-755
Muncie Creek Sh.	4340'	-909	4334'	-903	-888	-893
Stark Shale	4426'	-995	4422'	-991	-973	-977
Hushpuckney Sh.	4463'	-1032	4457'	-1026	-1008	-1013
Marmaton	4554'	-1123	4548'	-1117	-1072	-1087
Pawnee	4612'	-1181	4606'	-1175	-1151	-1159
Lwr. Cher. Shale	4708'	-1277	4704'	-1273	-1248	-1257
Johnson	4752'	-1321	4748'	-1317	-1278	-1300
Mississippian	4860'	-1429	4856'	-1425	-1420	-1417
RTD	4950'	-1519				
LTD			4945'	-1513		

# DRILL STEM TESTS

DST No. 1 Lansing "B" thru "D"  
Interval: 4216'-4280'  
Times: 15-30-30-60  
Recovery: 1365' SW, chl. 64,000  
FP: 180-415/430-694 SIP: 1168-1185  
HP: 2140-2080 BHT: 127 deg. F

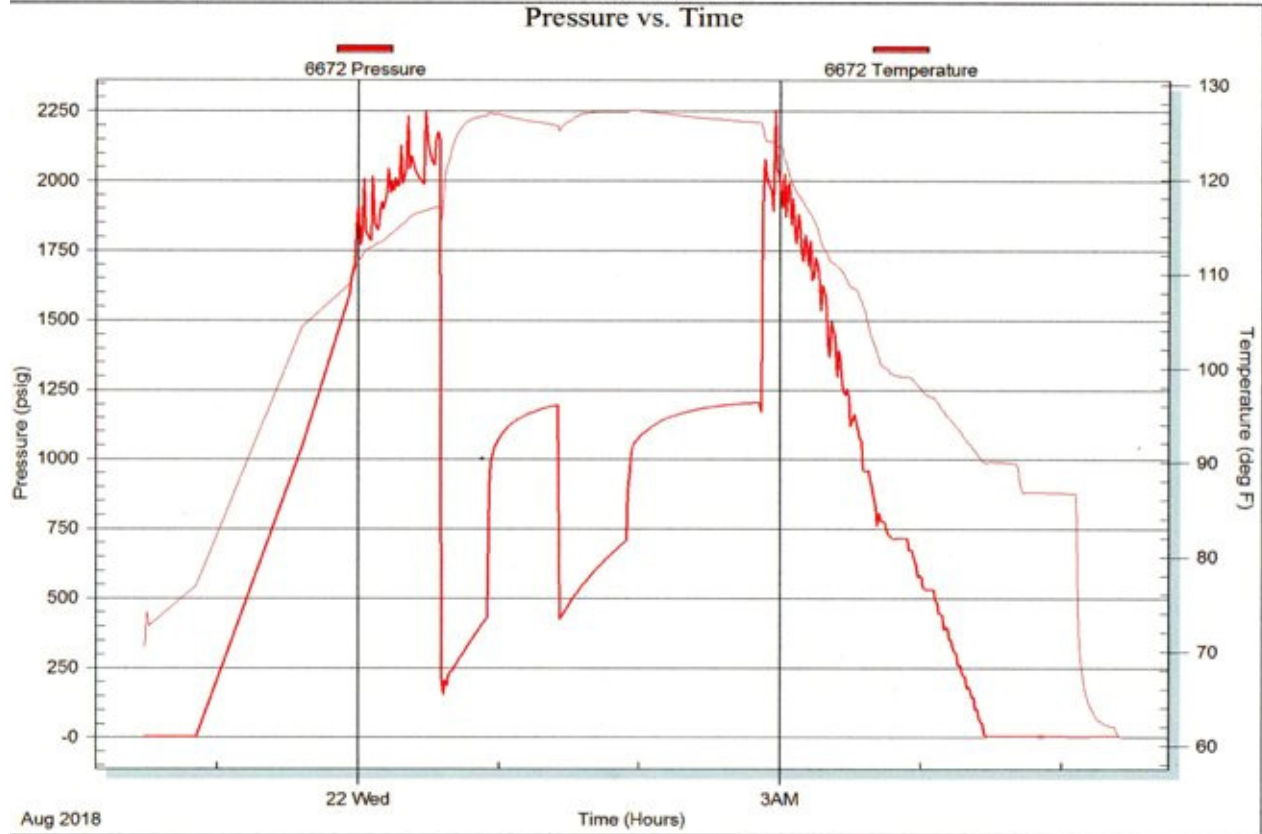
IFP: B.O.B. in 2.5 minutes, built to 81 inches  
ISIP: no return blow  
FFP: B.O.B. in 2 minutes, built to 91 inches  
FSIP: no return blow

Serial #: 6672

Outside Shakespeare Oil Co. Inc

Frahm 1-34

DST Test Number: 1



Yalobite Testing, Inc

Ref. No: 64041

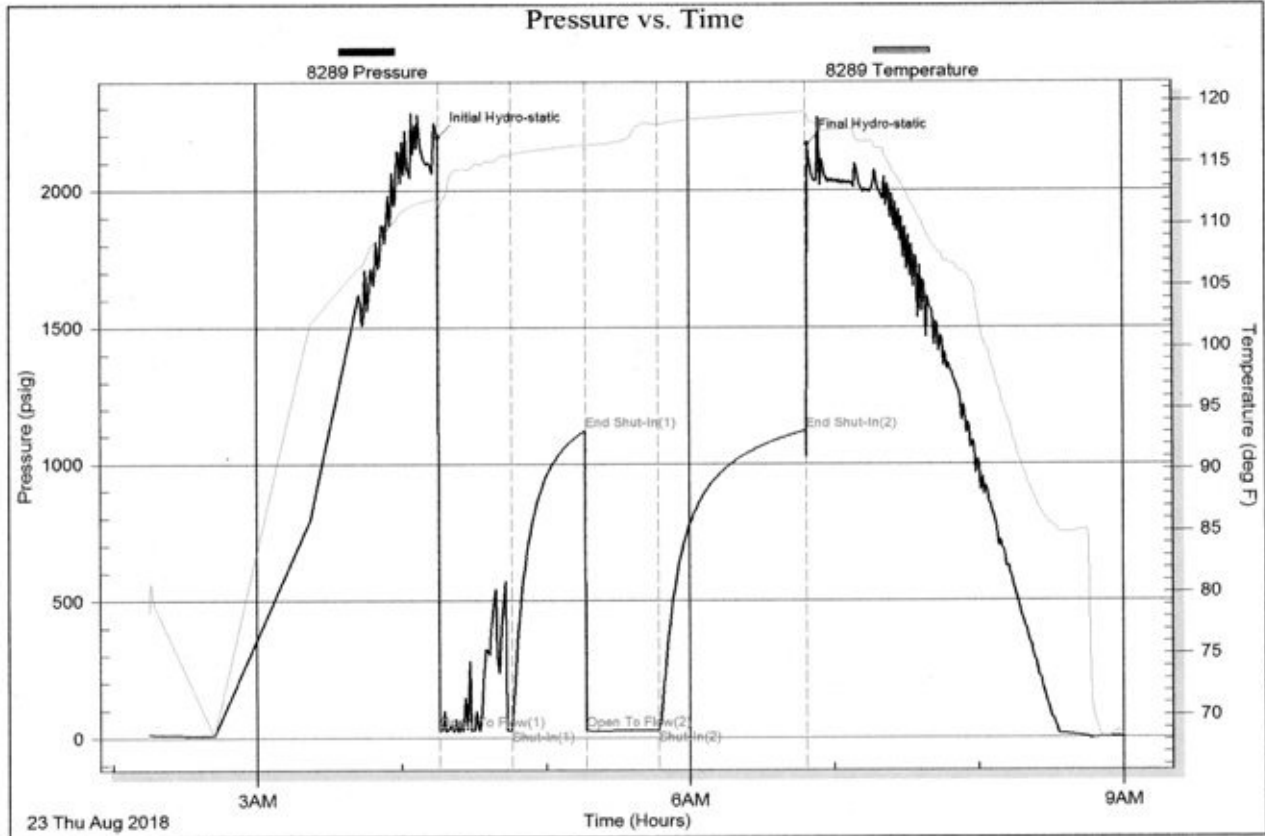
Printed: 2018.08.22 @ 05:42:22

# DRILL STEM TESTS

DST No. 2 Lansing "H" thru "J"  
 Interval: 4330'-4420'  
 Times: 30-30-30-60  
 Recovery: 10' muddy water  
 FP: 27-27/26-28 SIP: 1120-1118  
 HP: 2193-2166 BHT: 119 deg. F

IFP: weak blow built to 1.3 inches  
 ISIP: no return blow  
 FFP: no blow  
 FSIP: no return blow

Serial #: 8289    Inside    Shakespeare Oil Co, Inc    Frahm 1-34    DST Test Number: 2



Trikobite Testing, Inc

Ref. No: 64042

Printed: 2018.08.23 @ 09:25:33

## ROCK TYPES

Anhy  
 Cht  
 Coal  
 Congl  
 Dol  
 Gyp  
 Lmst

Salt  
 Shale  
 Shcol  
 Shgy  
 Sltst  
 Ss  
 Carb sh

Dol  
 Dtd  
 Gry sh  
 Sandylms  
 redshale  
 Shale  
 Sltstn

Shlyslts  
 Sltys  
 Sdy dolo  
 Silty dolo  
 Shy dolo  
 Shaly ls

### ACCESSORIES

#### FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite

- Plant
- Strom
- Fuss
- Oomold

#### MINERAL

- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Breclrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr

- Glau
- Gyp
- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff
- Chlorite
- Dol
- Sand
- Slty

#### STRINGER

- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg
- Carbsh
- Clystn
- Dol
- Grysh
- Grystl
- Lms
- Sandylms
- Sh
- Sltstn

### OTHER SYMBOLS

#### INTERVALS

- Core
- Dst
- Dst

#### EVENTS

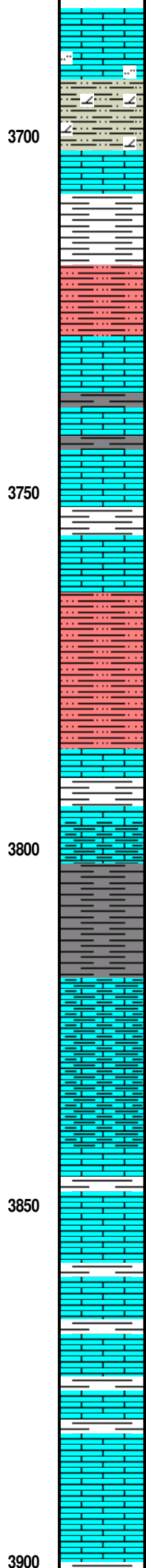
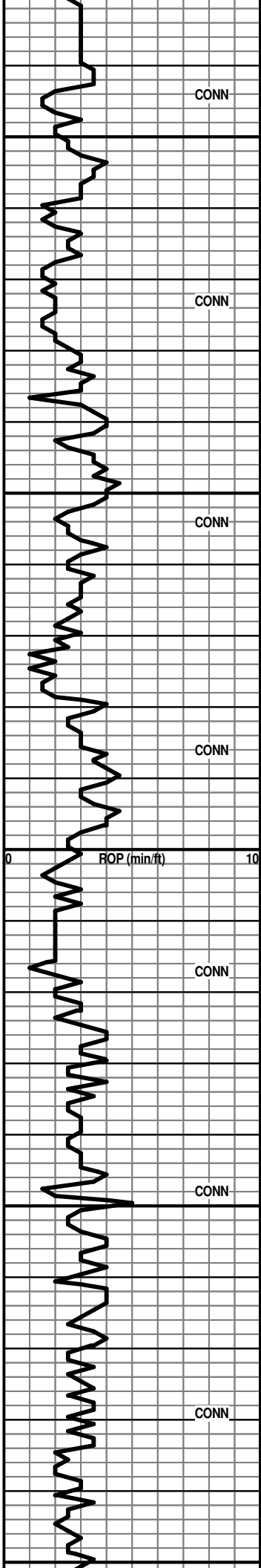
- Rft
- Dst top/base

#### OIL SHOWS

- Even
- Spotted
- Quest.

- Trace
- Dead
- Gas show

Curve Track 1 ROP (min/ft)	Depth	Lithology	Geological Descriptions	Remarks
	3600			<p><b>Report Depth and Activity</b></p> <p>8-15-2018 MIRU, spud at 3:45 PM</p> <p>8-16 WOC @ 264'</p> <p>8-17 Drlg. @ 1906'</p> <p>lost returns at 1716' and 1906' (320 bbls)</p> <p>8-18 Drlg. @ 2880'</p> <p>8-19 Drlg. @ 3295'</p> <p>8-20 Drlg. @ 3786'</p> <p>8-21 Drlg. @ 4158'</p> <p>8-22 TIH post DST #1 @ 4280'</p> <p>8-23 TOH with DST #2 @ 4420'</p> <p>8-24 Drlg. @ 4623'</p> <p>8-25 Drlg. @ 4917'</p> <p>8-26 RTD @ 4950', logs complete, P&amp;A</p> <p>vis 51 wt. 8.8 lcm 2#</p>



Ls: tan mic-vfxln, dense; lesser offwhite mic-vfxln, subchalky to occ chalky; scatt. orange shale

Ls: influx lt gray, tan vfxln dense, vsI silty IP

sl influx red stained silty Dolomite/dolomitic Siltst; Ls: lt gray, tan vfxln dense

Ls: various dense AA; scatt. silty Dolo AA; Sh: influx red-brn, some med to dark gray

Sh: flood red, red-brn, silty IP

Ls: flood lt gray, tan vf-cryptoxln; Sh: decr. % with incr. med to dark gray, black

Ls: mix AA with influx med gray, shaly and med brn sl gran., NVP; Sh: red-brn, med to dark gray

Ls: various tan, brn, gray dense; Sh: influx red-brn, med to dark gray, some gray-green

Ls: flood lt gray, tan vf-cryptoxln; lesser mottled red/offwhite dense; Sh: lt red, red-brn soft to firm

flood Sh: lt red-brn, silty to vfg sandy, finely micac.

pred. Sh: lt red-brn silty and vfg sandy, calcar., finely micac., firm; Ls: lt gray, lt brn vf-cryptoxln

AA with Ls: lt brn cryptoxln

Ls: strong influx mottled med to dark gray shaly, sl gran. with Sh: med to dark gray

Sh: abund. med to dark gray, silty, micac.; gray, red-brn; lesser Ls: mottled gray AA; some med brn cryptoxln

Ls: good influx mottled med to dark gray dense, shaly with Sh: dark gray to black carbon.

very pred. Ls: mottled med to dark gray dense, shaly AA; Sh: dark gray to black

mix AA with influx Ls: lt gray, tan mic-vfxln dense and some tan, lt brn cryptoxln

Ls: influx tan, offwhite mic-vfxln dense, subchalky to occ chalky; lesser tan, lt gray vf-cryptoxln; Sh: lesser med to dark gray, red-brn

Ls: mix AA, more lt to med brn vf-cryptoxln; Sh: incr. % med to dark gray, black, some red. red-brn

pred. Ls's: various tan, lt brn, lt gray pred. vfxln dense; Sh: new lt green

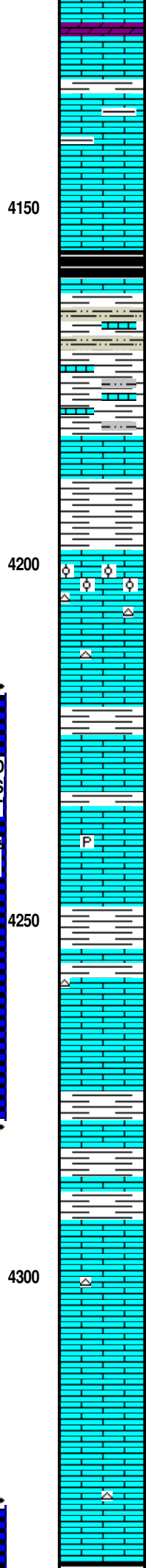
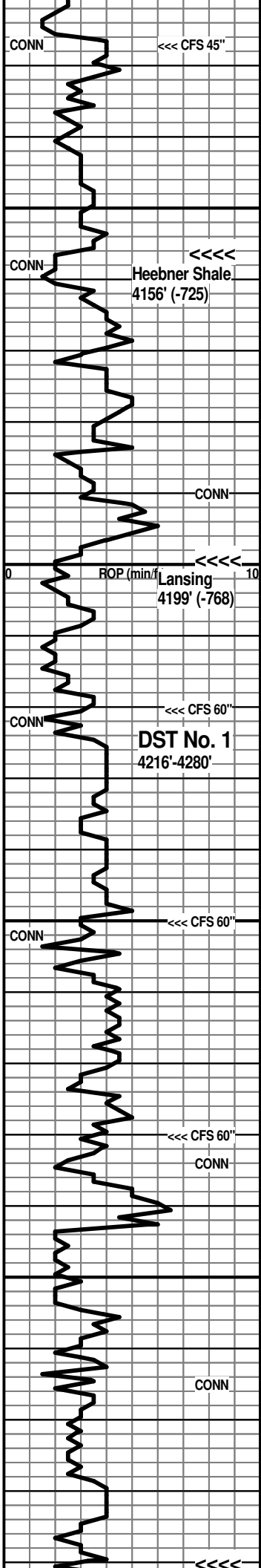
Ls: influx tan, lt brn fn-vfxln, gran. IP with some inter-particle por.; influx white chalky; fairly minor shale %

Ls: pred. tan, some lt gray mic-vfxln dense; some fn gran.; decr. white chalky; Sh: fairly minor med gray, red-brn

MudCo Mud Check at 3790'  
 7:15 AM on 8-20-2018  
 wt vis wl pH chl  
 8.9 69 6.8 11.0 3000  
 PV YP GelS lcm solids  
 23 19 14/37 3# 4.5%







Ls: mix AA, lt brn vfxln, incr. white chalky; Dolo: some tan vfxln

trashy from short trip; Ls: lt to med gray, lt to med brn vf-cryptoxln, N.S.; Sh: vc gray, red-brn

Ls: influx white chalky; various gray, brn dense AA; spls still shaly

Ls: tan, offwhite, lt gray mic-vfxln dense, subchalky IP; common white chalky; trace tan opq chert; Sh: sl influx black carbon.

Ls: med to dark brn, sl gran., NVP; Sh: black carbon., lt to med gray, some red-brn with gray micac. Siltst and silty shale

Shale and Siltst mix AA with some lt gray mushy and lt green shales; abund. Ls's in spls

Ls: abund. tan, offwhite gran., subchalky IP; lesser lt brn cryptoxln; scatt. tan sl gran. with spotty black tarry stain, no odor, nfo, no fluor.

Sh: influx med to dark gray, black; abund. Ls's in spls

Ls: pred. tan, offwhite mic-vfxln dense; lesser white chalky; several chips tan, lt brn gran., oolitic IP with poor inter-particle por. with dark black spotty stain, vsl sfo on break, no odor, no fluor.; Chert: sl influx lt gray, tan opq

Ls: flood tan, offwhite mic-vfxln dense, subchalky to white chalky; scatt. chert AA, N.S.

Sh: vc gray, some black, dark red-brn, lt gray-green

Ls: very pred. tan, lt brn pred. gran. with poor-NVP, some with micxln matrix, N.S.

Ls: good influx lt to med brn cryptoxln, sl pyritic IP; several chips tan gran. with dark brn spotty stain, trace oil spots on break, vsl odor, no fluor.

CFS 4250' spls- flood Ls: tan, offwhite mic-vfxln dense, subchalky, rarely sl pyritic, N.S.

Sh: med to dark gray, gray-green

Ls: tan, offwhite mic-vfxln dense and tan, lt brn vf-cryptoxln, N.S.; scatt. tan mic-vfxln dense, speckled, with scatt. vug. por. with dark stain, vsl sfo, no odor, dull even fluor.; occ tan cryptoxln with patchy stain; some lt gray opq chert

Ls: very pred. offwhite, tan mic-vfxln dense, subchalky IP, N.S.; lesser tan, lt gray vf-cryptoxln, N.S.; scatt. tan mic-vfxln with fair-good ppt por. with stain; tan gran. with spotty stain

Sh: lt to med gray, gray-green, some black carbon.

Ls: tan, offwhite mic-vfxln dense and tan, lt gray, lt brn cryptoxln, NVP, N.S.

Ls: mix AA; occ tan dense with speckled dead black stain; one chip med brn cryptoxln with edge stain; Sh: med to dark gray, some dark red-brn

Ls: tan mic-vfxln dense, subchalky IP; other tan, lt brn vf-cryptoxln, NVP; sl influx white chalky, trace dead stain AA; some Chert: tan, lt gray subtransl. to opq

Ls: tan mic-vfxln subchalky; incr. white chalky; lesser tan, lt brn cryptoxln; trace dead stain AA

Ls: flood tan mic-vfxln dense, subchalky IP; influx white chalky; lesser tan, lt brn cryptoxln to sl gran.. NVP, N.S.

Ls: mix AA, incr. tan, lt gray cryptoxln; scatt. offwhite, lt gray chert

Sh: sl influx black carbon., some med grav. gray-green;

short tripped +- 25 stands at 4127'

**Heebner Shale 4156' (-725)**

**MudCo Mud Check at 4175'**  
 7:45 AM on 8-21-2018  
 wt vis wl pH chl  
 9.2 67 7.2 11.0 3500  
 PV YP GeIS lcm solids  
 21 18 12/31 2# 5.8%

WOB 30-40K  
 RPM 70  
 SPM 58  
 PP 750#

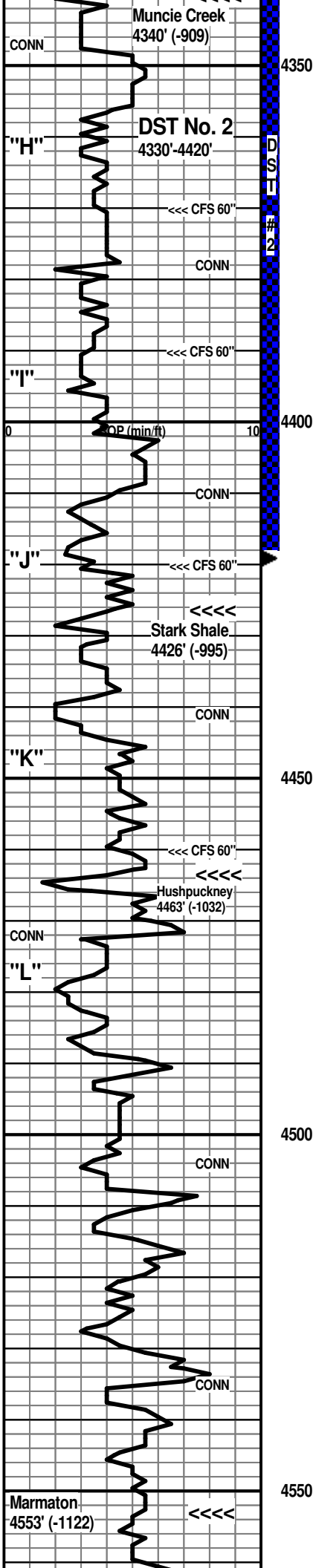
**Lansing 4199' (-768)**

DST No. 1 Lansing "B" thru "D"  
 Interval: 4216'-4280'  
 Times: 15-30-30-60  
 IFP: B.O.B. in 2.5 minutes, built to 81 inches  
 ISIP: no return blow  
 FFP: B.O.B. in 2 minutes, built to 91 inches  
 FSIP: no return blow  
 Recovery: 1365' SW, chl. 64,000  
 FP: 180-415/430-694 SIP: 1168-1185  
 HP: 2140-2080 BHT: 127 deg. F

CFS 4280' spls - Ls: mix AA, incr. tan, lt brn cryptoxln, NVP; other offwhite, tan mic-vfxln dense, subchalky; occ tan sl gran. to cryptoxln with some vuggy por., lt oily sheen, good cut, no odor

Pipe strap at 4280' was 0.06' short to the board.

**MudCo Mud Check at 4280'**  
 7:00 AM on 8-22-2018  
 wt vis wl pH chl  
 9.3 65 9.6 10.0 5000  
 PV YP GeIS lcm solids  
 17 18 13/39 2# 6.5%



It to med brn, lt gray cryptoxln; trace offwhite vfxln with ppt dark brn stain, vsI show minute oil on break, no odor

Ls: still mix subchalky to chalky with lt to med brn, lt gray vf-cryptoxln, NVP, N.S.; trace shows in 1-2 chips tan gran. with ppt brn stain, nfo, no odor, patchy stain dry

CFS 4370' spls - Ls: mix AA, trace offwhite subchalky with very spotty stain; 4-5 chips tan, offwhite sl granular with poor por., very spotty lt brn stain, trace minute oil on break, no odor

Ls: more lt to med brn, med to dark gray cryptoxln, NVP; scatt. trace shows AA

CFS 4390' spls - Sh: sl influx vc gray, black, some red-brn; Ls: mix AA, common cryptoxln AA; common tan, offwhite mic-vfxln dense; 2 chips tan oolitic with dark stain on inter-oid contacts, trace sfo, some oil on break; other tan, offwhite with ppt por. on edge with dark stain, nfo, no odor

Ls: various tan, lt brn, lt gray cryptoxln, NVP and tan, offwhite mic-vfxln dense, N.S.; numerous chips tan, offwhite fn-vfxln with patchy ppt and interxln por. with ppt stain, vsI odor, sl sfo, patchy stain dry; some tan gran. with some inter-particle and small vuggy por. with brn stain, no odor, some subsat. to sat. stain dry

CFS 4420' spls - Ls: very pred. various cryptoxln AA, trace pyritic; scatt. shows from above; Sh: sl incr. % gray, black, dark gray-green, red-brn

30' spl - trashy, flood Sh: med to dark gray, lt to dark gray-green, some black, dark red-brn; Ls: pred. tan, lt gray vf-cryptoxln; 40' spl - Sh: mix AA with influx black carbon.; some Sst: lt gray vfg, quartzitic IP, NVP, with gray micac. Siltst

50' spl - Sh: very abund. mix AA; Ls: 2-3 chips offwhite fn-vfxln with spotty ppt brn stain, ft odor, trace minute oil on break, tight; new dark brn, med gray cryptoxln, NVP, N.S.

60' spl - Ls: 4-5 chips tan, offwhite fnxln with spotty ppt brn stain, no odor, shows of oil on break, looks tight

CFS 4460' spls - Ls: mix tan, offwhite mic-vfxln dense, subchalky to chalky and lt gray, tan vf-cryptoxln, NVP, N.S.; scatt. offwhite opq chert

Sh: good influx black carbon.; Ls: mottled dark gray, dark brn cryptoxln to gran/ool., NVP, N.S.; some tan oolitic with offwhite micxln matrix, N.S.

Ls: mix AA with good influx tan, brn oolitic to gran. with micxln matrix, subchalky IP; fair influx white chalky, N.S.

Ls: pred. tan, offwhite mic-vfxln dense, subchalky to white chalky and tan, lt gray vfxln dense, N.S.; Sh: fairly minor % dark gray to black

Sh: incr. % dark gray, black, gray-green; Ls: influx med to dark brn, some dark gray gran. to cryptoxln, NVP, N.S.

Ls: flood pink cryptoxln; other various cryptoxln AA; Sh: gray-green, dark red-brn; scatt. Sst: offwhite, lt gray, vfg, calcar.

Ls: influx tan, lt brn gran., poor-NVP, N.S.; trace oolitic with spar matrix; common tan, offwhite mic-vfxln dense, subchalky IP; Sh: med to dark gray, black, dark red-brn, gray-green

pred Ls: offwhite, tan mic-vfxln dense, subchalky; with white chalky and lesser tan, lt brn vf-cryptoxln; Sh: med to dark gray

Ls: AA with influx tan, lt brn sl gran., NVP, N.S.; Sh: incr. % med to dark gray, gray-green

Sh: med to dark gray, dark red-brn, dark red-maroon, dark brn, soft lt red; Ls: sl influx reddish tinted cryptoxln; other dense and cryptoxln AA

Sh: mix AA decr. %; Ls: influx lt to med brn, lt gray gran. to cryptoxln, poor-NVP, N.S.; other offwhite, lt gray mic-vfxln dense

**Muncie Creek 4340' (-909)**

DST No. 2 Lansing "H" thru "J"  
Interval: 4330'-4420'  
Times: 30-30-30-60  
IFP: weak blow built to 1.3 inches  
ISIP: no return blow  
FFP: no blow  
FSIP: no return blow  
Recovery: 10' muddy water  
FP: 27-27/26-28 SIP: 1120-1118  
HP: 2193-2166 BHT: 119 deg. F

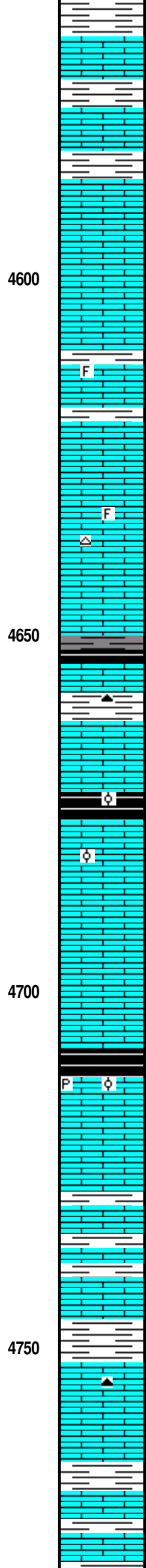
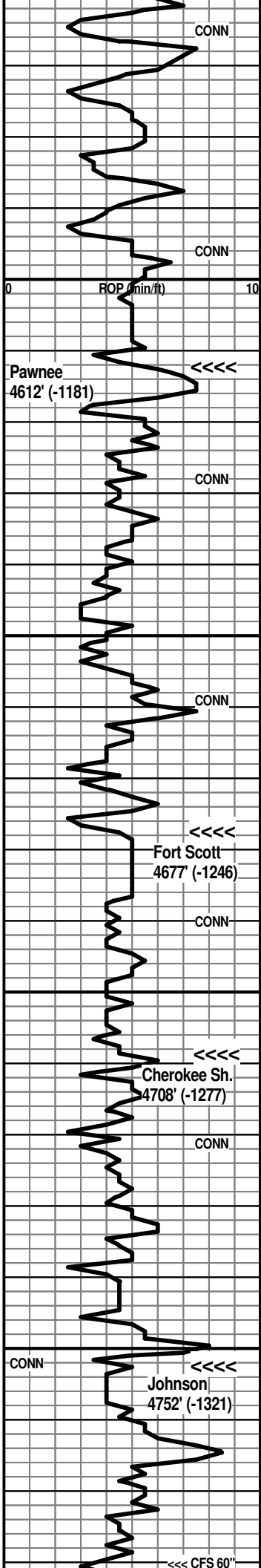
**MudCo Mud Check at 4420'**  
5:25 AM on 8-23-2018  
wt vis wl pH chl  
9.3 56 9.6 10.0 5600  
PV YP GeIS lcm solids  
14 16 11/26 2# 6.4%

**Stark Shale 4426' (-995)**

**Hushpuckney 4463' (-1032)**

**Note: Portions of the lithology column were corrected to the Elogs**

**Marmaton 4553' (-1122)**



flood Sh: med to dark gray, gray-green, dark red-brn, dark red-maroon; Ls: lt gray, lt to med brn sl gran. to cryptoxln

shales AA, more dark gray to black, some offwhite soft, clayey; Ls: various brn, gray, tan pred. cryptoxln

Ls: tan, lt brn gran. with micxln to subchalky matrix; lt to med brn, lt gray sl gran. to cryptoxln, N.S.; Sh: pred. med to dark gray, lesser dark red-brn

Ls: various gran. to cryptoxln and dense AA; Sh: pred. med to dark gray, some grayish purple, dark red-maroon

Ls: influx lt brn, lt to med gray cryptoxln, gran. IP, NVP; decr. shale %

Ls: various cryptoxln and gran. AA; sl influx mottled brn, gray foss. IP and dark brn, dark gray cryptoxln; Sh: beds of med to dark gray, gray-green

Ls: good influx lt gray, lt brn vf-cryptoxln, NVP, N.S.; Sh: some med to dark gray, dark red-brn

Ls: mix lt to med gray, lt brn cryptoxln to mottled sl gran., occ foss., poor-NVP, N.S.; some mottled dark gray, dark brn opq chert; Sh: fairly minor dark gray to black

60' spl - Sh: fair-good % med to dark gray, dark red-brn; Ls: mix mottled gran. AA with tan, lt gray, offwhite mic-vfxln dense and lt to med brn cryptoxln

70' spl - Ls: mix AA, sl influx med to dark brn, gray cryptoxln, NVP; Chert: dark gray, dark brn opq; Sh: mix AA with definite influx black carbon.

80' spl - Ls: various dense and cryptoxln AA; influx tan, offwhite, lt gray mic-vfxln dense; Chert: AA, increase %; Sh: med to dark gray, black, gray-green

90' spl - Ls: new med to dark brn cryptoxln and med to dark brn, mottled gran./oolitic with NVP; other various dense AA; Sh: med to dark gray, black carbon., gray-green, some dark red-brn

4700' spl - Ls: mottled gran./oolitic AA; with various brn, gray cryptoxln and lt gray, tan, offwhite mic-vfxln dense; Sh: influx black carbon.; abund. various shales AA; scatt. lt to dark gray opq chert

10' spl - Sh: med to dark gray, gray-green, dark red-brn, some black; Ls: various brn, gray, tan pred. cryptoxln; other tan, offwhite mic-vfxln dense; one chip tan sl gran. with dark stain (prob. cave)

20' spl - flood Sh: abund. gray-green, green, lesser dark gray to black carbon., dark red-maroon, med to dark red-brn; Ls: mix AA, occ pyrite

30' spl - influx Ls: mottled med to dark brn, dark gray gran./oolitic, NVP, N.S.; other tan vfxln dense; much decr. shale %

40' spl - flood Ls: pred. tan vfxln dense; lesser offwhite mic-vfxln dense, subchalky; Sh: fairly minor med to dark gray, black carbon.

50' spl - flood Ls: lt to med brn, lt gray mottled gran. IP to vf-cryptoxln, NVP, N.S.; Sh: minor AA

60' spl - Ls: influx tan, offwhite mic-vfxln dense and lt gray silty; common tan, lt brn, lt gray cryptoxln; some lt gray siltst and lt gray quartzite; minor Sh % AA

70' spl - Ls: abund. tan, offwhite mic-vfxln dense; lesser tan, lt brn cryptoxln; Chert: sl influx mottled orange/brn, dark brn, dark gray; minor shale %

80' spl - Ls: flood lt to med brn gran. to cryptoxln, mottled IP; Sh: good influx med to dark gray, some black, common gray-green, lt green, dark red-brn, trace dark purple

CFS 4780' spls - Ls: mix various brn, gray cryptoxln to sl mottled gran. and tan vfxln dense; 3 chips tan vfxln with spotty brn stain, no odor, nfo; Sh: vc gray, black, gray-green, lt green, dark red-brn, dark grayish purple

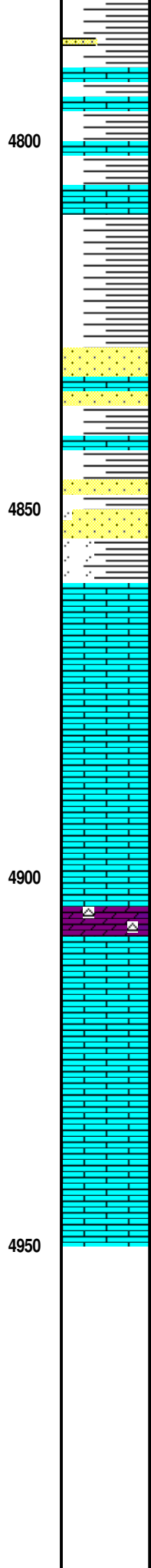
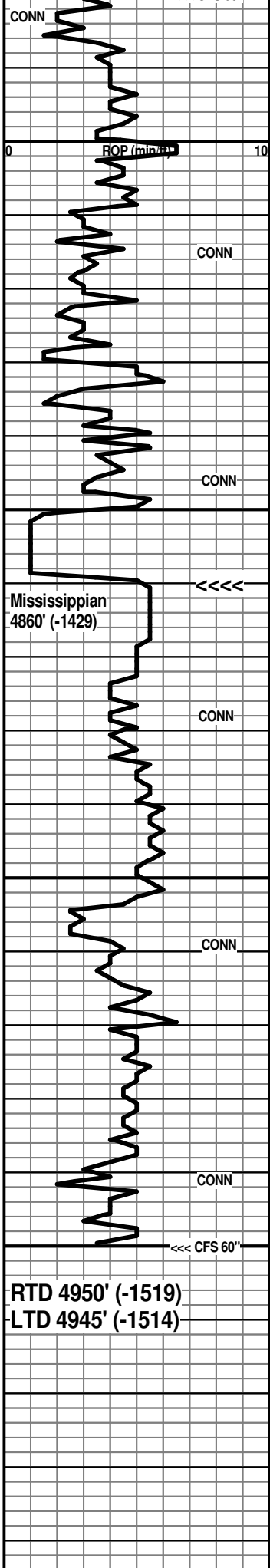
MudCo Mud Check at 4618'  
 6:15 AM on 8-24-2018  
 wt vis wl pH chl  
 9.4 67 10.4 10.0 6000  
 PV YP GelS lcm solids  
 17 19 13/40 1# 7.3%

**Pawnee 4612' (-1181)**

**Fort Scott 4677' (-1246)**

**Cherokee Sh. 4708' (-1277)**

**Johnson 4752' (-1321)**



Sh: multi-colored AA; trace gray vfg tight Sst: Ls: mix offwhite, tan mic-vfxln and lt to med brn, gray cryptoxln

becoming very pred. multi-colored shales

mix multi-colored shales and Ls: various cryptoxln and dense

flood Sh: vc gray, gray-green, red-brn, green, mottled dark yellow/brn and yellow/green, very soft offwhite clayey; trace gray shaly vfg Sst; common Ls fragments

40' spl - pred. Sh: multi-colored AA; with sl influx Sst: pred. lt gray vfg, friable to tight with some good por.; some shaly and calcar., N.S.

50' spl - shales AA with Ls: some tan, cream, med brn vf-cryptoxln, mottled IP; with Sst: lt gray, offwhite vfg, shaly IP, vs! glauc. IP; some red vfg sandy shale to shaly red Sst

Sh: multi-colored AA with scatt. Sst: lt gray, offwhite vf-fg, shaly IP, N.S.; various brn, tan and gray dense Ls

70' spl - Sh: multi-colored AA with influx dark mustard yellow and lt green; Sst: fn to med loose qtz grains, occ coarse, no visible shows; Ls: influx tan gran. with micxln matrix

Ls: flood tan, lt brn gran. with micxln matrix; offwhite subchalky; some med brn cryptoxln

Ls: becoming pred. offwhite subchalky with sl influx med brn, very smooth cryptoxln

Ls: mix med brn cryptoxln AA and offwhite subchalky; decr. tan, lt brn gran.

Ls: mix AA; Morrow shales sloughing

Ls: mix AA with some lt brn opq chert and tan sucrosic Dolo., N.S.

Ls: tan, lt brn cryptoxln to sl gran., N.S.

Ls: influx white chalky; med brn cryptoxln AA

Ls: chalky and cryptoxln AA

Because of the negative DST results, poor sample shows and negative Elog evaluation, the #1-34 Frahm was declared a dry hole.

Respectfully submitted,

Wesley D. Hansen  
Petroleum Geologist  
Kansas License No. 418

**Mississippian 4860' (-1429)**

badly sloughing Morrow shales to RTD

RTD reached at approx. 9:30 AM on 8-25-2018  
- CFS 60" - short tripped 10-12 stands - CTCH  
1 1/4 hours - drop survey - TOFL

Waited on loggers approx. 3 hours  
Weatherford credited 3 hours of rig time



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Shakespeare Oil Co, Inc

**34/9s/36w Thomas KS**

202 W Main St.  
Salem IL 62881

**Frahm 1-34**

Job Ticket: 64041

**DST#: 1**

ATTN: Wes Hansen

Test Start: 2018.08.21 @ 22:29:00

## GENERAL INFORMATION:

Formation: **Lansing B-D**

Deviated: No Whipstock: 3431.00 ft (KB)

Time Tool Opened: 00:35:45

Time Test Ended: 05:24:54

Test Type: Conventional Bottom Hole (Initial)

Tester: Chris Hagman

Unit No: 75

**Interval: 4216.00 ft (KB) To 4280.00 ft (KB) (TVD)**

Reference Elevations: 3431.00 ft (KB)

Total Depth: 4280.00 ft (KB) (TVD)

3426.00 ft (CF)

Hole Diameter: 7.80 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8289**

**Inside**

Press@RunDepth: 694.20 psig @ 4218.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.08.21

End Date:

2018.08.22

Last Calib.: 1899.12.30

Start Time: 22:29:02

End Time:

05:24:55

Time On Btm: 2018.08.22 @ 00:35:25

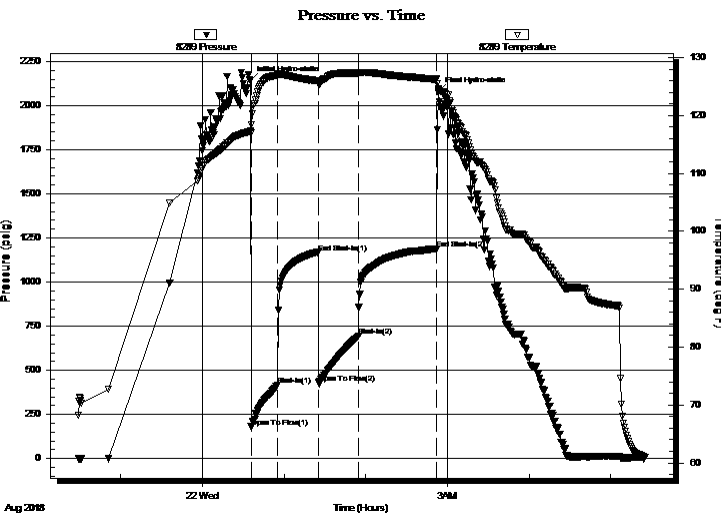
Time Off Btm: 2018.08.22 @ 02:53:09

TEST COMMENT: IF: BOB 2.5 min., 81.3 inches in 15 min.

IS: No blow back

FF: BOB 2 min., 91.1 inches in 30 min.

FS: No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2140.21	117.24	Initial Hydro-static
1	179.54	116.99	Open To Flow (1)
20	414.87	126.95	Shut-In(1)
50	1167.79	125.87	End Shut-In(1)
50	429.60	125.44	Open To Flow (2)
80	694.20	127.29	Shut-In(2)
137	1185.34	126.25	End Shut-In(2)
138	2079.61	124.65	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1365.00	100% W	19.15

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Shakespeare Oil Co, Inc

**34/9s/36w Thomas KS**

202 W Main St.  
Salem IL 62881

**Frahm 1-34**

Job Ticket: 64041

**DST#: 1**

ATTN: Wes Hansen

Test Start: 2018.08.21 @ 22:29:00

## 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:

64000 ppm

Viscosity: 67.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.20 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3500.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1365.00	100% W	19.147

Total Length: 1365.00 ft      Total Volume: 19.147 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

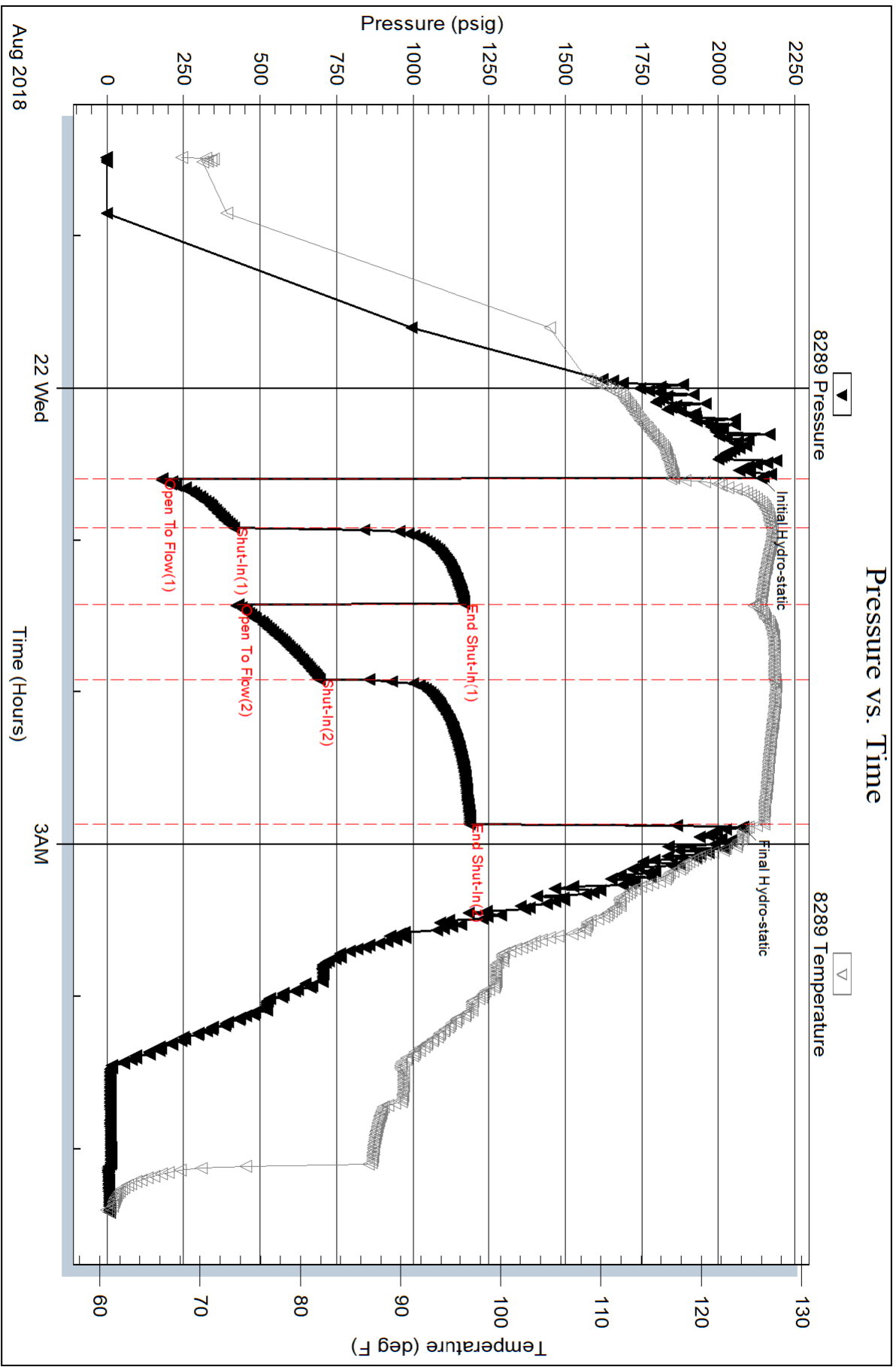
Serial #:

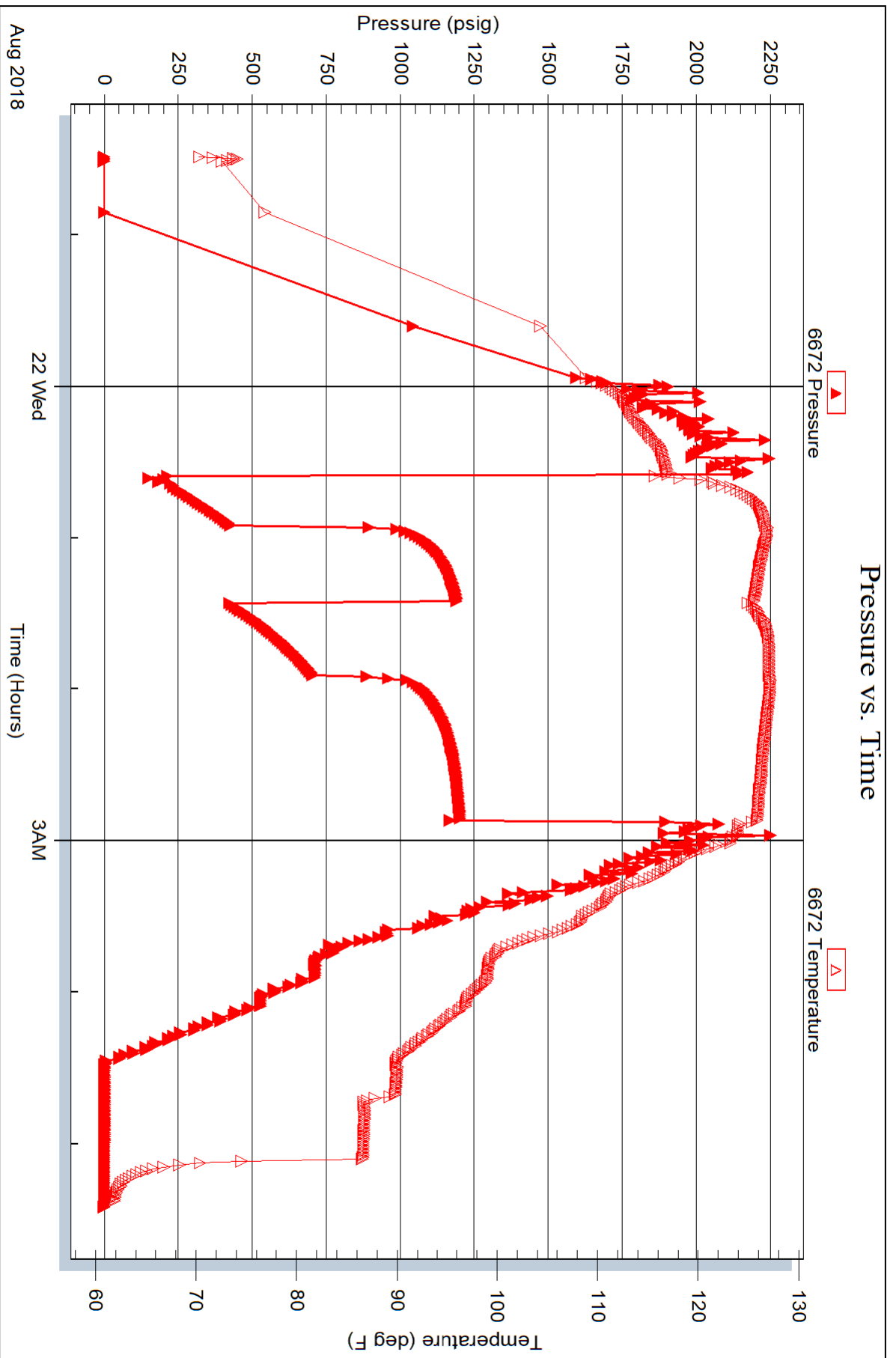
Laboratory Name:

Laboratory Location:

Recovery Comments: RW=.120 @ 77F = 64,000 ppm









**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Shakespeare Oil Co, Inc

**34/9s/36w Thomas KS**

202 W Main St.  
Salem IL 62881

**Frahm 1-34**

Job Ticket: 64042

**DST#: 2**

ATTN: Wes Hansen

Test Start: 2018.08.23 @ 02:15:00

## GENERAL INFORMATION:

Formation: **Lansing H-J**

Deviated: No Whipstock: 3431.00 ft (KB)

Time Tool Opened: 04:15:40

Time Test Ended: 09:00:35

Test Type: Conventional Bottom Hole (Initial)

Tester: Chris Hagman

Unit No: 75

**Interval: 4330.00 ft (KB) To 4420.00 ft (KB) (TVD)**

Reference Elevations: 3431.00 ft (KB)

Total Depth: 4420.00 ft (KB) (TVD)

3426.00 ft (CF)

Hole Diameter: 7.80 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8289**

**Inside**

Press@RunDepth: 27.56 psig @ 4332.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.08.23

End Date:

2018.08.23

Last Calib.: 1899.12.30

Start Time: 02:15:02

End Time:

09:00:35

Time On Btm: 2018.08.23 @ 04:15:20

Time Off Btm: 2018.08.23 @ 06:49:09

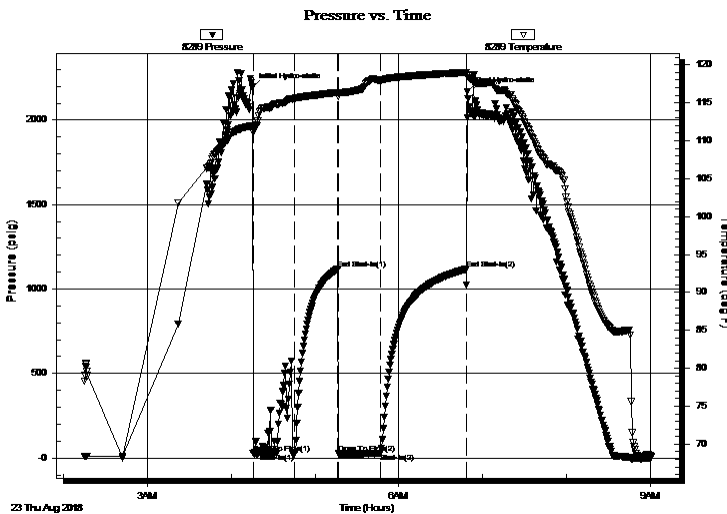
TEST COMMENT: IF: Weak surface blow, 1.3 inches in 30 min.

IS: No blow back

FF: No blow

FS: No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2193.24	111.91	Initial Hydro-static
1	26.69	111.12	Open To Flow (1)
31	27.00	115.54	Shut-In(1)
62	1120.40	116.38	End Shut-In(1)
62	25.56	115.81	Open To Flow (2)
92	27.56	118.00	Shut-In(2)
153	1118.26	119.00	End Shut-In(2)
154	2166.23	118.55	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	muddy water 30%M, 70%W	0.14

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Shakespeare Oil Co, Inc

**34/9s/36w Thomas KS**

202 W Main St.  
Salem IL 62881

**Frahm 1-34**

Job Ticket: 64042

**DST#: 2**

ATTN: Wes Hansen

Test Start: 2018.08.23 @ 02:15:00

## 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:

29000 ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	muddy water 30%M, 70%W	0.140

Total Length: 10.00 ft      Total Volume: 0.140 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW=.224@78F=29000 ppm

# Pressure vs. Time

