

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 Recompletion Date _____ 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. 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) (Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
---	--	------------------------------------

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	OTTLEY 4-27
Doc ID	1458406

All Electric Logs Run

Array Induction
Photo Density
Comp Neutron
Microlog

Form	ACO1 - Well Completion
Operator	Shakespeare Oil Co., Inc.
Well Name	OTTLEY 4-27
Doc ID	1458406

Tops

Name	Top	Datum
Base Anhydrite	2119	+554
Heebner	3621	-948
Lansing	3657	-984
Muncie Creek	3816	-1143
Stark Shale	3904	-1231
Marmaton	4043	-1370
Pawnee	4111	-1438
L. Cherokee Shale	4188	-1515
Johnson	4229	-1556
Mississippian	4305	-1632

Form	ACO1 - Well Completion
Operator	Shakespeare Oil Co., Inc.
Well Name	OTTLEY 4-27
Doc ID	1458406

Perforations

Shots Per Foot	Perforation Top	Perforation Bottom	BridgePlugType	BridgePlugSet At	Material Record
4	4272	4278			750 gal 7.5% RWR-2
4	4282	4304			750 gal 7.5% RWR-2
4	4247	4250			750 gal 15% NeFe
4	4230	4240			750 gal 15% NeFe
4	4096	4102			750 gal 15% NeFe, 500 gal 15% NeFe
4	4072	4074			750 gal 15% NeFe, 1000 gal 15% NeFe
4	3910	3914			250 gal 15% RWR-1
4	3874	3878			250 gal 15% NeFe
4	3836	3838			

GLOBAL OIL FIELD SERVICES, LLC

24 S. Lincoln
RUSSELL, KS 67665

Invoice

Date	Invoice #
3/13/2019	0013396

Bill To
SHAKESPEARE OIL COMPANY INC 202 W MAIN SALEM, IL 62881

RECEIVED
MAR 18 2019

INT

P.O. No.	Terms	Project
<u>OTTLEY#4-27</u>	Due on receipt	<i>Surface Cmt</i>

Quantity	Description	Rate	Amount
144	COMMON CEMENT	16.50	2,376.00
36	POZ	9.50	342.00
7	CALCIUM-CHLORIDE	80.00	560.00
4	BENTONITE GEL	30.00	120.00
191	HANDLING	1.90	362.90
	BULK MILEAGE	750.00	750.00
1	TRI-PLEX PUMP CHARGE FOR SURFACE	850.00	850.00
45	HEAVY EQUIPMENT. ONE WAY	6.50	292.50
45	LMV- ONE WAY	2.75	123.75
	15% DISCOUNT IF PAID WITHIN 15 DAYS OF INVOICE		
	LOGAN CO SALES TAX	8.00%	0.00

*502-5
DH*

Thank you for your business.

Phone #	Fax #
785-445-3525	785-445-3526

Total \$5,777.15

DW

GLOBAL OIL FIELD SERVICES, LLC

0013398

REMIT TO 24 S. Lincoln
Russell, KS 67665

SERVICE POINT: Russell KS

DATE <u>3-8-14</u>	SEC.	TWP.	RANGE	CALLED OUT	ON LOCATION	JOB START	JOB FINISH <u>2:45am</u>
LEASE <u>Ottley</u>	WELL #. <u>427</u>	LOCATION <u>South of Oakley¹⁵⁵ + Taylor Rd</u>			COUNTY <u>Logan</u>	STATE <u>KS</u>	
OLD OR NEW (CIRCLE ONE)			<u>1 well + 2 south</u>				

CONTRACTOR Duke Drilling Rig #2

TYPE OF JOB Surface

HOLE SIZE 12 1/4 T.D.

CASING SIZE 8 7/8 DEPTH

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG. 5.5'

PERFS

DISPLACEMENT

OWNER Shakespeare Oil

CEMENT AMOUNT ORDERED 180 sks 80/20 3/16" 2% Gel

COMMON @

POZMIX @

GEL @

CHLORIDE @

ASC @

HANDLING @

MILEAGE @

EQUIPMENT

PUMP TRUCK CEMENTER Cody

HELPER Taron

BULK TRUCK DRIVER Taron P - Taron L

DRIVER

REMARKS:
Ran casing + Lj + Hooked to Rig + Broke circulation + Hooked to truck + pumped 180 sks of cement + displaced 15 1/4 bbls of 420 + shut in.

Cement D.N Circulate to Surface.

CHARGE TO: Shakespeare Oil

STREET

CITY STATE ZIP

Global Oil Field Services, LLC
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Dion Vasquez

SIGNATURE Dion Vasquez

SERVICE

DEPTH OF JOB

PUMP TRUCK CHARGE

EXTRA FOOTAGE @

MILEAGE @

MANIFOLD @

TOTAL

PLUG & FLOAT EQUIPMENT

@

@

@

@

TOTAL

SALES TAX (If Any)

TOTAL CHARGES

DISCOUNT IF PAID IN 30 DAYS



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



Invoice

DATE	INVOICE #
3/19/2019	32096

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

- Acidizing
- Cement
- Tool Rental

INT

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#4-27	Ottley	Logan	Duke Drlg Rig #2	Oil	Development	Cement 4 1/2 Lo...	Blaine
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				80	Miles	5.00	400.00
578D-L	Pump Charge - Long String				1	Job	1,300.00	1,300.00
325	Standard Cement				225	Sacks	13.00	2,925.00T
284	Calseal				11	Sack(s)	35.00	385.00T
283	Salt				1,100	Lb(s)	0.20	220.00T
292	Halad 322				200	Lb(s)	8.00	1,600.00T
276	Flocele				25	Lb(s)	2.50	62.50T
280	Flocheck 21				500	Gallon(s)	3.50	1,750.00T
221	Liquid KCL (Clayfix)				2	Gallon(s)	25.00	50.00T
290	D-Air				2	Gallon(s)	42.00	84.00T
581D	Service Charge Cement				225	Sacks	1.75	393.75
583D	Drayage				987	Ton Miles	0.85	838.95
	Subtotal							10,009.20
	Sales Tax Logan County						8.00%	566.12

RECEIVED
MAR 25 2019

*502-5
DH*

We Appreciate Your Business!

Total

\$10,575.32

DW



Services, Inc.

TICKET 032096

CHARGE TO: Shalespace
 ADDRESS _____
 CITY, STATE, ZIP CODE _____

PAGE 1 OF 1

SERVICE LOCATIONS 15 WELL PROJECT NO. 15 LEASE 01111 COUNTY/PARISH Logan STATE KS CITY Cable DATE 19 MAR 19 OWNER _____
 1. 15 TICKET TYPE SALES CONTRACTOR _____ RIG NAME/NO. _____ SHIPPED VIA OT DELIVERED TO location ORDER NO. _____
 2. _____ WELL TYPE _____ WELL CATEGORY Development JOB PURPOSE cause long string 4 1/2" WELL PERMIT NO. _____
 3. _____ REFERRAL LOCATION _____ INVOICE INSTRUCTIONS _____ WELL LOCATION R7-14-32
 4. _____

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING		DESCRIPTION	MILEAGE	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT	
		LOC	ACCT									DF
575				TRV 1VA		80	00			5700	400.00	
578				Long String		1	ea			1300.00	1300.00	
325				Standard cement (for 4-2)		225	sk			13.00	2925.00	
284				Cable		1100	lb		11	62	385.00	
283				Sold		1100	lb			0.120	330.00	
292				Hub - 322		200	lb			8.00	1600.00	
276				Circle		75	lb			2.50	62.50	
280				Hub - 21		500	gal			3.50	1750.00	
221				40L liquid		25	00			25.00	58.00	
200				D-air		2	gal			42.00	84.00	
581				Service charge		225	sk			1.75	393.75	
583				Drillage		246	lb		487	TM	0.85	838.95

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.

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

DATE SIGNED _____ TIME SIGNED _____
 A.M. P.M.
 CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

SWIFT OPERATOR BCI APPROVAL _____
 TOTAL 10575.32
 Thank You!

JOB LOG

SWIFT Services, Inc.

DATE 19 MAR 19 PAGE NO. 1

CUSTOMER *Shakopee* WELL NO. *4-27* LEASE *Ottley* JOB TYPE *cement long string* TICKET NO. *32096*

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
								<i>225 sk EA-Z cement w/ flocc & oil/solite Flocc flush 4 1/2" x 10.5" 100 jts set 4399' TD=4400' port collar 2068'</i>
	<i>1330</i>							<i>on bc TRK 114</i>
	<i>1410</i>							<i>Running pipe drop ball - circulate - ROTATE</i>
	<i>1510</i>	<i>3 1/2</i>	<i>15</i>			<i>200</i>		<i>Pump 15 bbl KCL flush</i>
		<i>3 1/2</i>	<i>12</i>			<i>200</i>		<i>Pump 500 gal Flocc</i>
		<i>3 1/2</i>	<i>5</i>			<i>200</i>		<i>Pump 5 bbl KCL flush</i>
	<i>1515</i>		<i>6</i>					<i>Plug BH 30sk</i>
		<i>3 1/2</i>	<i>48</i>			<i>200</i>		<i>Mix EA-Z cement 195sk @ 15.3ppg</i>
								<i>Drop latch down plug WASH out Pump & line</i>
	<i>1540</i>	<i>6</i>				<i>200</i>		<i>Displace plug</i>
		<i>6</i>	<i>50</i>			<i>400</i>		
		<i>6</i>	<i>66</i>			<i>800</i>		
	<i>1600</i>	<i>6</i>	<i>69</i>			<i>1500</i>		<i>Land plug</i>
								<i>Release pressure to truck - dived up</i>
	<i>1608</i>							<i>wash truck</i>
								<i>Rack up</i>
	<i>1640</i>							<i>job complete Trucks Blaine, Flint & 1540</i>

SWIFT



Services, Inc.

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



Invoice

DATE	INVOICE #
3/21/2019	27492

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

- Acidizing
- Cement
- Tool Rental

INT

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#6-17 4-27	Ottley	Logan	Cheyenne Well	Oil	Development	Cement Port Collar	Jonathan

PRICE REF.	DESCRIPTION	QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way	80	Miles	5.00	400.00
576D-D	Pump Charge - Deep Surface (> 500 Ft.) & Port Collars	1	Job	1,300.00	1,300.00
290	D-Air	2	Gallon(s)	42.00	84.00T
330	Swift Multi-Density Standard (MIDCON II)	200	Sacks	16.25	3,250.00T
276	Flocele	50	Lb(s)	2.50	125.00T
581D	Service Charge Cement	300	Sacks	1.75	525.00
583D	Drayage	1,194.16	Ton Miles	0.85	1,015.04
	Subtotal				6,699.04
	Sales Tax Logan County			8.00%	276.72

RECEIVED
MAR 26 2019

*503-5
DN*

We Appreciate Your Business!

Total

\$6,975.76

DW



CHARGE TO: Shakespeare Oil and Gas
 ADDRESS _____
 CITY, STATE, ZIP CODE _____

TICKET 27492
 PAGE 1 OF 1

SERVICE LOCATIONS
 1. Hayes, KS WELLS/PROJECT NO. 4-27 LEASE Otley COUNTY/PARISH Loren STATE KS DATE 03/21/19 OWNER _____
 2. Ness City, KS TICKET TYPE SALES CONTRACTOR Cheyenne Well Service RIG NAME/NO. _____ SHIPPED VIA CT DELIVERED TO Locations ORDER NO. _____
 3. WELLS TYPE D1 WELLS CATEGORY Ness JOB PURPOSE Cement Port Collar WELLS PERMIT NO. _____
 4. REFERRAL LOCATION _____ INVOICE INSTRUCTIONS _____

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	MILEAGE #	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT	DF								
575		1			MILEAGE #113	80	mi.				5.00	400.00
576D		1			Pump Charge - Port Collar	1	EA				1300.00	1300.00
290		1			D-Air	2	gal				42.00	84.00
330		2			Swift Mt. Nessity Standard	200	SKS				1.625	325.00
276		2			Floacle	50	lbs				2.50	125.00
81		2			Service Charge Cement	300	SKS				1.75	525.00
583		2			Drayage	80	mi.				10.15	812.00

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY provisions.
 MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

DATE SIGNED _____ TIME SIGNED _____
 A.M. P.M.

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

SURVEY
 OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?
 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

TOTAL 1995.76

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!

JOB LOG

SWIFT Services, Inc.

DATE

03/21/19

PAGE NO.

1

CUSTOMER

Shale Spence

WELL NO.

~~6-17~~ 4-27

LEASE

Ottley

JOB TYPE

Port Collar

TICKET NO.

27492

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1300							On location, set up trucks, 2 3/8" x 4 1/2" Port Collar - 2068'
	1325						1500	Test P.C. Open P.C.
		3	3				400	Test
	1345	3				400	X	Start Cement
	1410	4	90			300		Bring Cmt Weight up
	1415	4	100			400		Finish Cmt, Start Displacement
	1420	2	107			500		Finish Displacement,
	1425							Close P.C.
							1500	Test P.C., Holding Run 4 JTs
	1440	3					400	Reverse Out
		3	8				400	2 Flays, Then Clean.
		3	20				300	Fin Reverse Out
								Wash up truck Rack up
	1500							Job Complete
								Thanks Jon, Austin, Isaac
								Circulated 20 SKs to pit.

Tim J. Lauer

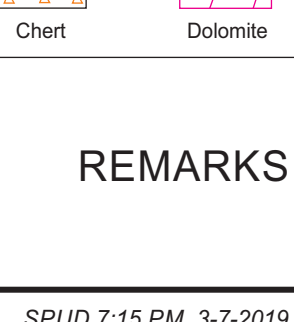
Petroleum Geologist

Office 316.832.0530
Cell 316.253.1275

GEOLOGIST'S REPORT DRILLING TIME AND SAMPLE LOG

<p>COMPANY <u>Shakespeare Oil Company, Inc</u></p> <p>LEASE <u>#4-27 Otley</u></p> <p>FIELD <u>APPX SE20' SW1/4 NW1/4</u></p> <p>LOCATION <u>2235' FNL, 520' FWL, NW1/4</u></p> <p>SEC <u>27</u> TWPSP <u>14s</u> RGE <u>32w</u></p> <p>COUNTY <u>Logan</u> STATE <u>Kansas</u></p> <p>CONTRACTOR <u>Duke Drilling Rig #2</u></p> <p>SPUD <u>3-7-2019</u> COMP <u>3-19-2019</u></p> <p>RTD <u>4400'</u> LTD <u>4400'</u></p> <p>MUD UP <u>3363'</u> TYPE MUD <u>Chemical</u></p> <p>SAMPLES SAVED FROM <u>3500'</u> TO <u>RTD</u></p> <p>DRILLING TIME KEPT FROM <u>3450'</u> TO <u>RTD</u></p> <p>SAMPLES EXAMINED FROM <u>3500'</u> TO <u>RTD</u></p> <p>GEOLOGICAL SURVEY FROM <u>3470'</u> TO <u>RTD</u></p> <p>GEOLOGIST ON WELL <u>Tim J. Lauer</u></p>	<p>ELEVATIONS</p> <p>KB <u>2673'</u></p> <p>DF _____</p> <p>GL <u>2665'</u></p> <p>Measurements Are All From <u>Kelly Bushing</u></p> <p>CASING</p> <p>SURFACE <u>8-5/8" @ 264'</u></p> <p>PRODUCTION <u>4-1/2" @ 4399'</u></p> <p>ELECTRICAL SURVEYS</p> <p><u>Weatherford DCPL, DIL, ML</u> <u>Engineer: Bandar BinOstur</u></p>
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FORMATION TOPS	ELECTRIC LOG SAMPLE LOG
Base Anhydrite	2119 (+554) 2120 (+553)
Heebner	3262 (-948) 3624 (-951)
Lansing	3658 (-985) 3665 (-987)
Stark	3903 (-1230) 3905 (-1232)
Marmaton	4043 (-1370) 4043 (-1370)
Pawnee	4110 (-1437) 4117 (-1444)
L. Cherokee Shale	4168 (-1513) 4189 (-1516)
Johnson Zone	4229 (-1536) 4230 (-1537)
Mississippian	4306 (-1633) 4307 (-1634)
Total Depth	4400 (-1727) 4400 (-1727)



REMARKS Due to drill stem test results, and log evaluation, operator elected to run production casing to further test the location.

Respectfully submitted,

Tim J. Lauer
3/20/2019

Lat: 38.808963764
Long: 100.871232007
NAD 83
API: 15-109-21586-00-00

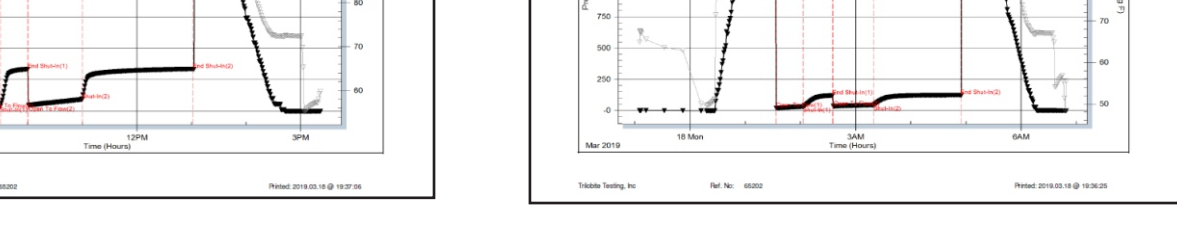
LEGEND

	Anhydrite		Sandstone		Limestone		Shale		Carb Sh		Cherty LS		Chert		Dolomite
--	-----------	--	-----------	--	-----------	--	-------	--	---------	--	-----------	--	-------	--	----------

DEPTH	SAMPLE DESCRIPTION	REMARKS
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<p>DRILLING TIME IN MINUTES PER FOOT</p> <p>Rate of Penetration Decreases</p> <p>5 10 15</p>	<p>2050</p> <p>Anhy 2099 (+574)</p> <p>2100</p> <p>B/Anhy 2120 (+553)</p> <p>2150</p> <p>3450</p> <p>Drilling Time skip 2160' to 3450'</p> <p>3500</p> <p>Heeb 3624 (-951)</p> <p>3600</p> <p>Tor 3640 (-967)</p> <p>3650</p> <p>Lans 3660 (-987)</p> <p>3700</p> <p>CFS 63'</p> <p>CFS 121'</p> <p>CFS 151'</p> <p>CFS 67'</p> <p>CFS 83'</p> <p>3800</p> <p>Mun. Crk 3823 (-1151)</p> <p>CFS 67'</p> <p>CFS 83'</p> <p>3900</p> <p>Stark 3905 (-1232)</p> <p>CFS 115'</p> <p>CFS 200'</p> <p>3950</p> <p>Hush 3944 (-1271)</p> <p>CFS 149'</p> <p>4000</p> <p>BKC 4004 (-1331)</p> <p>CFS 149'</p> <p>4050</p> <p>Marm 4043 (-1370)</p> <p>CFS 131'</p> <p>4100</p> <p>Pawnee 4117 (-1444)</p> <p>CFS 122'</p> <p>CFS 142'</p> <p>4150</p> <p>Cher 4163 (-1490)</p> <p>CFS 220'</p> <p>CFS 156'</p> <p>4200</p> <p>Mrw 4189 (-1516)</p> <p>CFS 156'</p> <p>4250</p> <p>Mrw Sd 4270 (-1592)</p> <p>CFS 156'</p> <p>4300</p> <p>Penn Cgl? 4307 (-1630)</p> <p>CFS 156'</p> <p>4350</p> <p>Miss 4307 (-1630)</p> <p>CFS 156'</p> <p>4400</p> <p>RTD 4400 (-1727)</p> <p>CFS 156'</p> <p>Weatherford LTD 4400 (-1727)</p> <p>CFS 156'</p>	<p>SPUD 7:15 PM 3-7-2019 RTD 6:00 PM 3-18-2019</p> <p>"BIT RECORD"</p> <p>1) JZ HA-23C (New) Under Surface to 4400' RTD'</p> <p>"VERTICAL SURVEYS"</p> <p>1" @ 264' 1" @ 2304' 1" @ 3432' 1 1/4" @ 3754' 1 1/4" @ 4115' 1" @ 4305'</p> <p>3-7-2019 - MIRT, RURT Prep to set Surf Csg.</p> <p>3-8-2019 - 7:00 AM PTD @ 264' COG set 8-5/8" @ 264'</p> <p>3-9-2019 - 7:00 AM Drig @ 1550'</p> <p>3-10-2019 - 7:00 AM Drig @ 2525'</p> <p>3-11-2019 - 7:00 AM Drig @ 3140'</p> <p>3-12-2019 - 7:00 AM Drig @ 3635'</p> <p>3-13-2019 - 7:00 AM PTD @ 3754' GIH after DST (1)</p> <p>3-14-2019 - 7:00 AM PTD @ 3960' COOH for DST (2)</p> <p>3-15-2019 - 7:00 AM Drig @ 4100'</p> <p>3-16-2019 - 7:00 AM CFS @ 4170'</p> <p>3-17-2019 - 7:00 AM PTD @ 4270' COOH for DST(5)</p> <p>3-18-2019 - 7:00 AM PTD @ 4305' GIH after DST(6)</p> <p>3-19-2019 - 7:00 AM RTD @ 4400' Ran Weatherford OH logs Ran 4 1/2" Prod. Csg. set at 430' w/ 1 1/2" x 3/4" Port collar at 2068' Plug dn. 4:30 pm 3-19-2019</p> <p>Call Point 3363' 5:00 PM 3-11-2019</p> <p>Geologist on location 3471' 11:55 PM 3-11-2019</p> <p>Displace native fluid at 3363' Added Premix to bring mud up</p> <p>Mud Check at 3660: vis: 48 wt. 8.8 Chlor. 2,000 LCM: #1 Ph: 10.5 WL: 6.4</p> <p>30 Stand Short trip Pulled 40K over stands 2-6</p> <p>Pipe Strap on DST (1) Board: 3775.04' Strap: 3775.04' DIFF: 0.16' short</p> <p>DST (1) 3704'-3754' 30-30-30-45</p> <p>Blow: weak 14" blow thru-out IFP no blowback on ISIP no blowback on FSIP</p> <p>10' Mud, GSFO on top 30-30-30-45 (0% gas, 0% oil, 100% mud, 0% wtr)</p> <p>IHP: 1768 FFP: 17-18 IFP: 16-17 FSP: 215' ISIP: 436' FHP: 1749</p> <p>Temp: 100°F</p> <p>Chlorides MUD: 2,000 PPM DST: NA (no water recovered)</p> <p>Rw = NA</p> <p>*Note: Both Shut-in curves still building</p> <p>Mud Check at 3754 after DST: vis: 48 wt. 9.2 Chlor. 5,000 LCM: #1 Ph: 10.5 WL: 7.2</p> <p>DST (2) 3948'-3960' 30-30-30-60</p> <p>Blow: weak surface blow thru-out IFP no blowback on ISIP no blowback on FSIP</p> <p>4' Mud, SFO on top of tool (0% gas, 0% oil, 100% mud, 0% wtr)</p> <p>IHP: 1902 FFP: 16-16 IFP: 16-17 FSP: 97' ISIP: 54' FHP: 1872</p> <p>Temp: 103°F</p> <p>Chlorides MUD: 3,200 PPM DST: NA (no water recovered)</p> <p>Rw = NA</p> <p>*Note: Both Shut-in curves still building</p> <p>Mud Check at 3960 during DST: vis: 47 wt. 9.2 Chlor. 3,200 LCM: #1 Ph: 10.0 WL: 8.0</p> <p>Rig Check at 3970: vis: 48 wt. 9.1 LCM: #1</p> <p>DST (3) 4082'-4115' 30-30-30-60</p> <p>Blow: weak surf blow, died 15" on IFP no blowback on ISIP no blowback on FSIP</p> <p>3' Mud, SFO on top of tool (0% gas, 0% oil, 100% mud, 0% wtr)</p> <p>IHP: 2000 FFP: 17-18 IFP: 16-17 FSP: 351' ISIP: 382' FHP: 1981</p> <p>Temp: 103°F</p> <p>Chlorides MUD: 5,000 PPM DST: NA</p> <p>Rw = NA</p> <p>*Note: Both Shut-in curves still building.</p> <p>Mud Check at 4115 before DST: vis: 63 wt. 9.3 Chlor. 9,000 LCM: #1 Ph: 10.5 WL: 8.8</p> <p>15 Stand Short Trip at 4115 pulled 20-45K over on stands 2-3</p> <p>DST (4) 4210'-4270' 15-30-60-120</p> <p>Blow: strong, BoB in 4" built to 30" on IFP strong, BoB in 2" built to 98" on FFP no blowback on ISIP</p> <p>1200' GISP 120' GMCW (10% gas, 30% oil, 20% mud, 20% wtr)</p> <p>60' GMCW (10% gas, 10% oil, 40% mud, 60% wtr)</p> <p>180' Total Fluid</p> <p>IHP: 2071 FFP: 45-92 IFP: 20-31 FSP: 207' ISIP: 333 FHP: 2042</p> <p>Temp: 115°F</p> <p>Chlorides MUD: 8,000 PPM DST: NA</p> <p>Rw = 0.185 Incurves broken over.</p> <p>Both Shut-in curves broken over.</p> <p>Rig Check at 4205: vis: 57 wt. 9.3 LCM: #1</p> <p>Mud Check at 4270 before DST: vis: 57 wt. 9.3 Chlor. 3,000 LCM: #1 Ph: 10.0 WL: 8.8</p> <p>DST (5) 4210'-4270' 15-30-60-120</p> <p>Blow: fair, built to 6" on IFP fair-gd, built to 8 1/2" on FFP; no blowback on ISIP</p> <p>50' GISP 70' GOCM (30% gas, 30% oil, 40% mud, 0% wtr)</p> <p>IHP: 2088 FFP: 31-43 IFP: 20-31 FSP: 123 ISIP: 119 FHP: 2011</p> <p>Temp: 115°F</p> <p>Chlorides MUD: 9,000 PPM DST: NA</p> <p>Rw = NA</p> <p>Both Shut-in curves broken over.</p> <p>Mud Check at 4319: vis: 57 wt. 9.1 Chlor. 7,000 LCM: #1 Ph: 10.0 WL: 8.8</p>
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COMPANY & WELL <u>Shakespeare #4-27 Otley</u>	ELEVATIONS
LOCATION <u>2235' FNL, 520' FWL, NW1/4</u>	KB <u>2673'</u>
SEC <u>27</u> TWPSP <u>14s</u> RGE <u>32w</u>	GL <u>2665'</u>
COUNTY <u>Logan</u> STATE <u>Kansas</u>	





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Co

27 14s 32w Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 4-27

Job Ticket: 65197

DST#: 1

ATTN: Tim Lauer

Test Start: 2019.03.12 @ 23:20:00

GENERAL INFORMATION:

Formation: **LKC C-D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:22:00

Time Test Ended: 05:24:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Bradley Walter

Unit No: 78

Interval: **3704.00 ft (KB) To 3754.00 ft (KB) (TVD)**

Reference Elevations: 2673.00 ft (KB)

Total Depth: 3754.00 ft (KB) (TVD)

2665.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: **8522**

Inside

Press@RunDepth: 18.09 psig @ 3705.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.03.12

End Date: 2019.03.13

Last Calib.: 2019.03.13

Start Time: 23:20:05

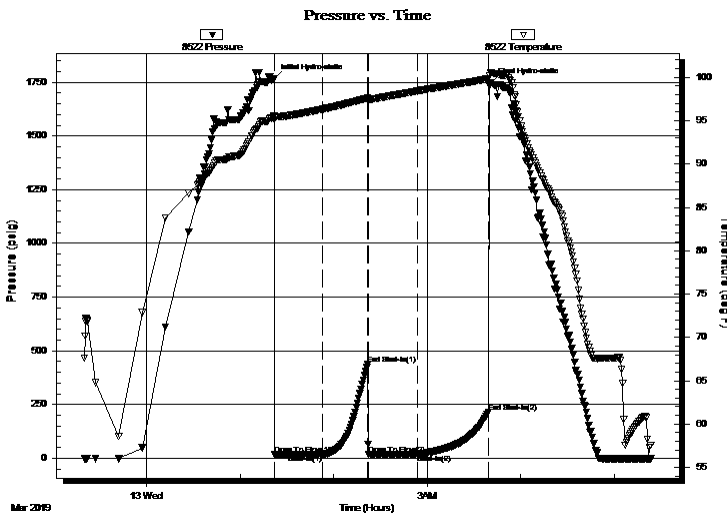
End Time: 05:23:59

Time On Btm: 2019.03.13 @ 01:21:45

Time Off Btm: 2019.03.13 @ 03:41:15

TEST COMMENT: 30- IF: 1/4" blow .
30- IS: No return.
30- FF: No blow .
45- FSI: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1766.28	95.55	Initial Hydro-static
1	16.49	95.13	Open To Flow (1)
32	16.75	96.33	Shut-In(1)
60	436.05	97.60	End Shut-In(1)
61	17.47	97.35	Open To Flow (2)
92	18.09	98.42	Shut-In(2)
138	214.93	99.84	End Shut-In(2)
140	1748.55	100.52	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud 100m (puddle of oil on top)	0.14

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Shakespeare Oil Co

27 14s 32w Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 4-27

Job Ticket: 65197

DST#: 1

ATTN: Tim Lauer

Test Start: 2019.03.12 @ 23:20:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.40 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	mud 100m (puddle of oil on top)	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:

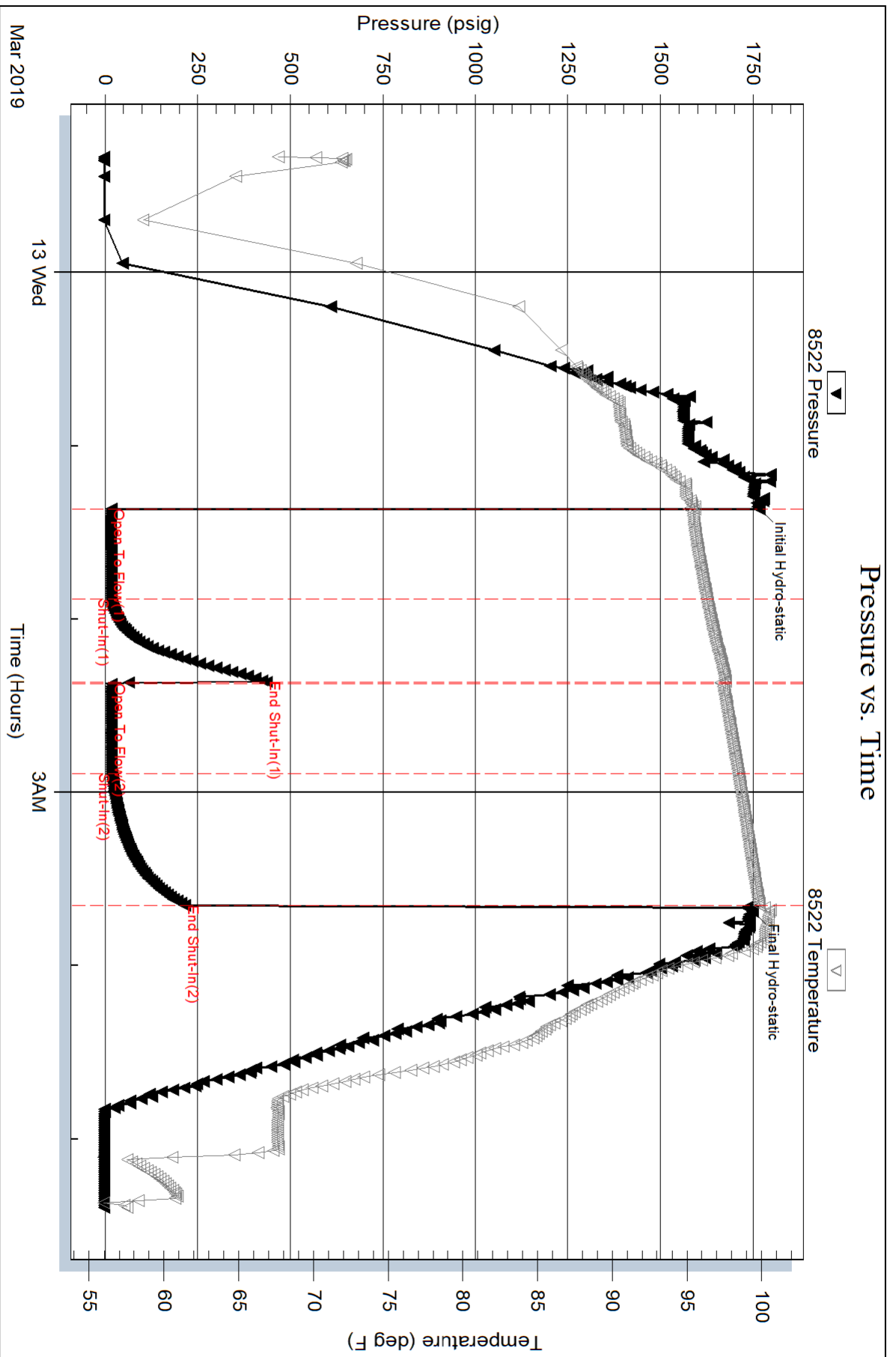
Serial #: 8522

Inside

Shakespeare Oil Co

Ottley 4-27

DST Test Number: 1

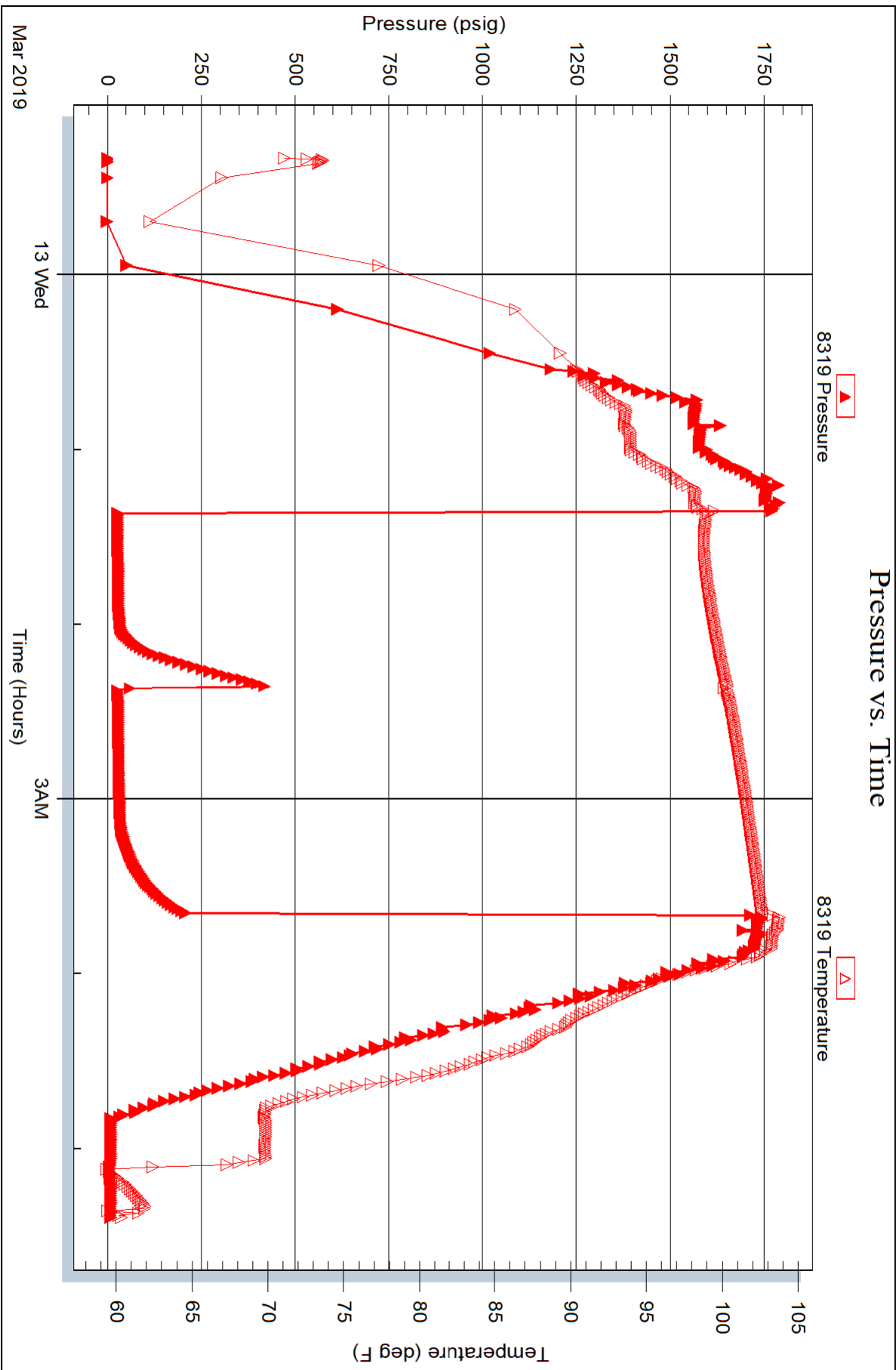


Serial #: 8319

Outside Shakespeare Oil Co

Ottley 4-27

DST Test Number: 1





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Shakespeare Oil Co

27 14s 32w Logan,KS

202 W Main St.
Salem, IL 62881

Ottley 4-27

Job Ticket: 65198

DST#: 2

ATTN: Tim Lauer

Test Start: 2019.03.14 @ 08:19:00

GENERAL INFORMATION:

Formation: **LKC- L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:55:15

Time Test Ended: 15:44:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

Interval: 3948.00 ft (KB) To 3960.00 ft (KB) (TVD)

Reference Elevations: 2673.00 ft (KB)

Total Depth: 3960.00 ft (KB) (TVD)

2665.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8522

Inside

Press@RunDepth: 16.44 psig @ 3949.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.03.14

End Date:

2019.03.14

Last Calib.:

2019.03.14

Start Time: 08:19:05

End Time:

15:44:44

Time On Btm:

2019.03.14 @ 10:55:00

Time Off Btm:

2019.03.14 @ 13:24:15

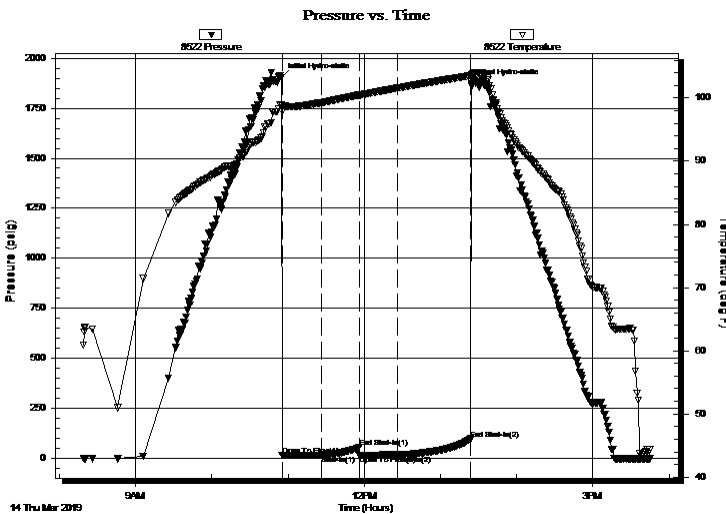
TEST COMMENT: 30- IF: Surface blow .

30- IS: No return.

30- FF: No blow .

30- FSI: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1901.95	98.97	Initial Hydro-static
1	13.05	97.87	Open To Flow (1)
31	15.91	99.27	Shut-In(1)
61	54.29	100.49	End Shut-In(1)
62	15.64	100.44	Open To Flow (2)
91	16.44	101.57	Shut-In(2)
149	96.73	103.55	End Shut-In(2)
150	1872.11	103.71	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
4.00	mud 100m (Spots of oil on top)	0.06

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Shakespeare Oil Co

27 14s 32w Logan,KS

202 W Main St.
Salem, IL 62881

Ottley 4-27

Job Ticket: 65198

DST#: 2

ATTN: Tim Lauer

Test Start: 2019.03.14 @ 08:19:00

GENERAL INFORMATION:

Formation: **LKC- L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:55:15

Time Test Ended: 15:44:45

Interval: 3948.00 ft (KB) To 3960.00 ft (KB) (TVD)

Total Depth: 3960.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

Reference Elevations: 2673.00 ft (KB)

2665.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8319 Outside

Press@RunDepth: psig @ 3949.00 ft (KB)

Start Date: 2019.03.14

End Date: 2019.03.14

Capacity: 8000.00 psig

Last Calib.: 2019.03.14

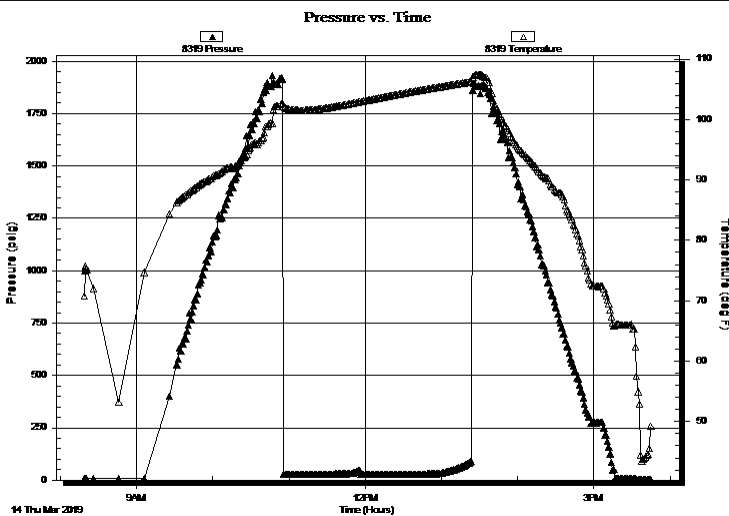
Start Time: 08:19:05

End Time: 15:44:44

Time On Btm:

Time Off Btm:

TEST COMMENT: 30- IF: Surface blow .
30- IS: No return.
30- FF: No blow .
30- FSI: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
4.00	mud 100m (Spots of oil on top)	0.06

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Shakespeare Oil Co

27 14s 32w Logan,KS

202 W Main St.
Salem, IL 62881

Ottley 4-27

Job Ticket: 65198

DST#: 2

ATTN: Tim Lauer

Test Start: 2019.03.14 @ 08:19:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2400.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
4.00	mud 100m (Spots of oil on top)	0.056

Total Length: 4.00 ft Total Volume: 0.056 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

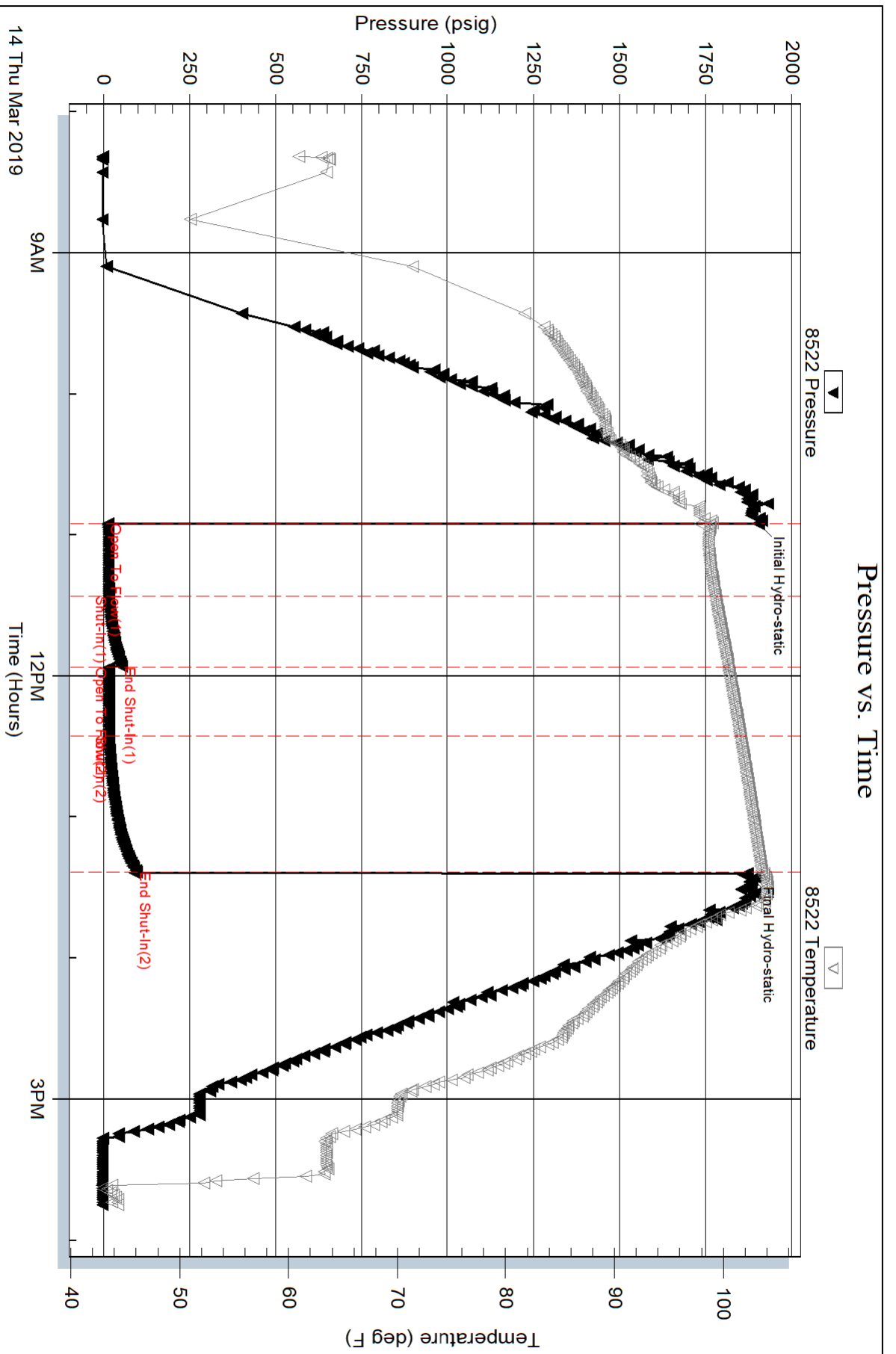
Serial #: 8522

Inside

Shakespeare Oil Co

Ottley 4-27

DST Test Number: 2

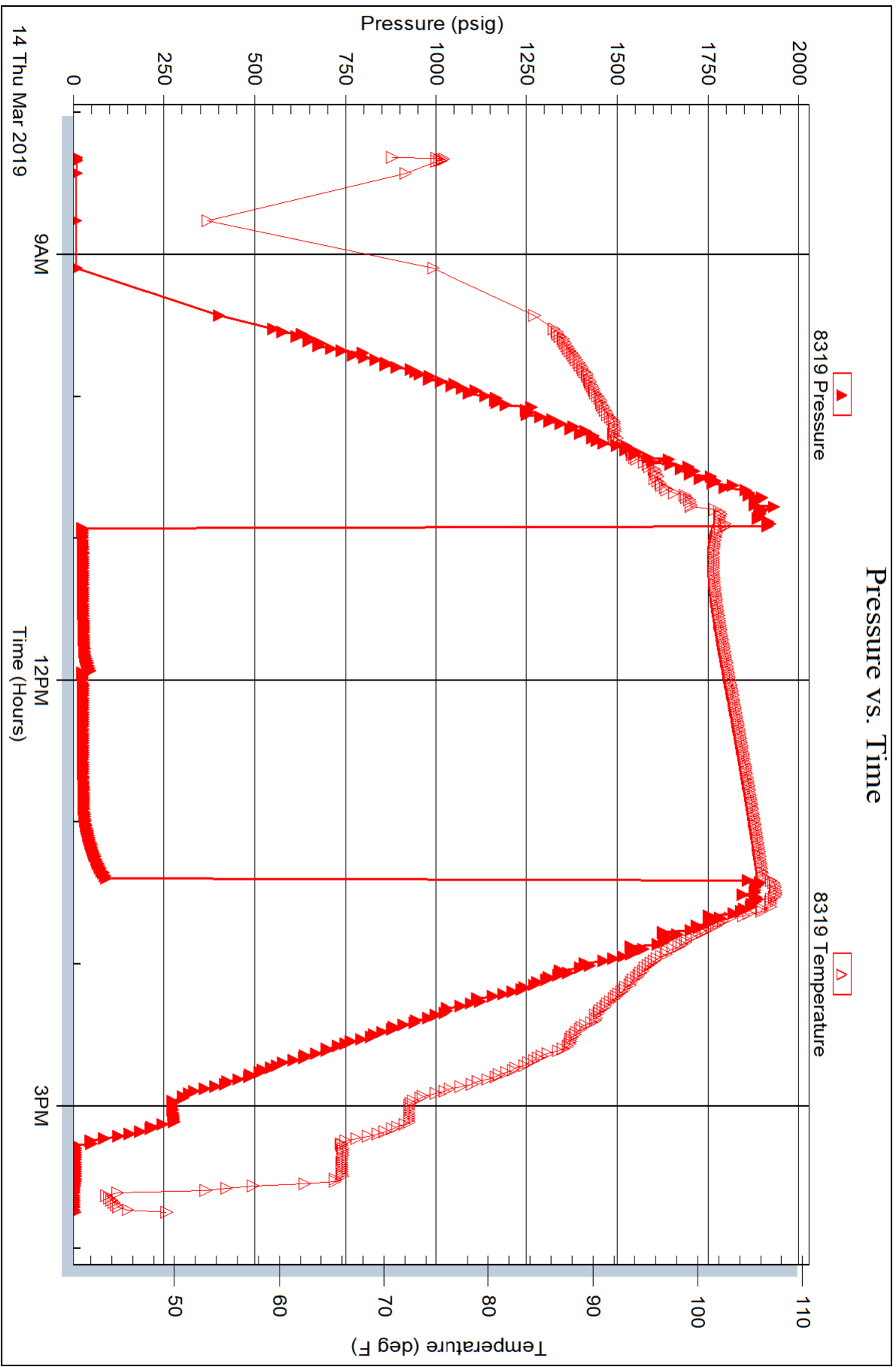


Serial #: 8319

Outside Shakespeare Oil Co

Otley 4-27

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 65198

Printed: 2019.03.14 @ 16:27:50



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Co

27 14s 32w Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 4-27

Job Ticket: 65199

DST#: 3

ATTN: Tim Lauer

Test Start: 2019.03.15 @ 13:15:00

GENERAL INFORMATION:

Formation: **Marmaton C**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:22:45

Time Test Ended: 19:22:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

Interval: **4082.00 ft (KB) To 4115.00 ft (KB) (TVD)**

Reference Elevations: 2673.00 ft (KB)

Total Depth: 4115.00 ft (KB) (TVD)

2665.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: **8522** Inside

Press@RunDepth: 18.09 psig @ 4083.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.03.15

End Date:

2019.03.15

Last Calib.: 2019.03.15

Start Time: 13:15:05

End Time:

19:22:44

Time On Btm: 2019.03.15 @ 15:22:30

Time Off Btm: 2019.03.15 @ 17:25:00

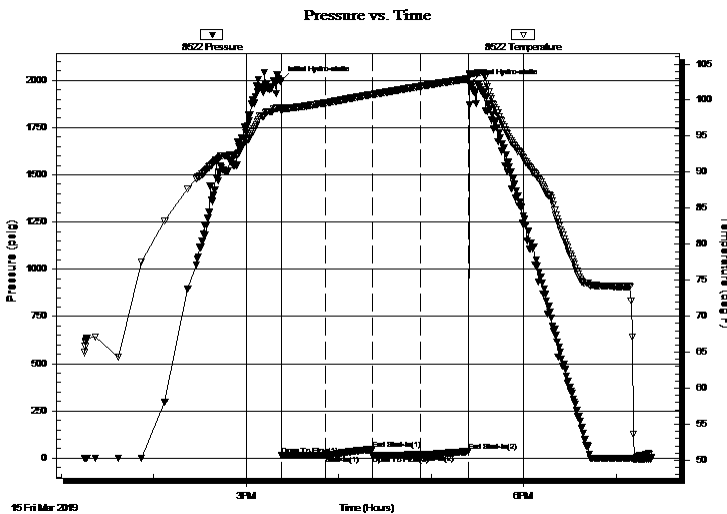
TEST COMMENT: 30- IF: Surface blow, died @ 15 min.

30- ISI: No return.

30- FF: No blow.

30- FSI: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1999.71	98.97	Initial Hydro-static
1	15.97	98.46	Open To Flow (1)
29	16.68	99.61	Shut-In(1)
59	47.22	100.79	End Shut-In(1)
60	16.97	100.75	Open To Flow (2)
91	18.09	101.91	Shut-In(2)
122	35.40	102.96	End Shut-In(2)
123	1980.87	103.54	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
3.00	mud 100m (puddle of oil on top)	0.04

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Co

27 14s 32w Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 4-27

Job Ticket: 65199

DST#: 3

ATTN: Tim Lauer

Test Start: 2019.03.15 @ 13:15:00

GENERAL INFORMATION:

Formation: **Marmaton C**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:22:45

Time Test Ended: 19:22:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

Interval: **4082.00 ft (KB) To 4115.00 ft (KB) (TVD)**

Reference Elevations: 2673.00 ft (KB)

Total Depth: 4115.00 ft (KB) (TVD)

2665.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8319 Outside

Press@RunDepth: psig @ 4083.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.03.15

End Date: 2019.03.15

Last Calib.: 2019.03.15

Start Time: 13:15:05

End Time: 19:22:44

Time On Btm:

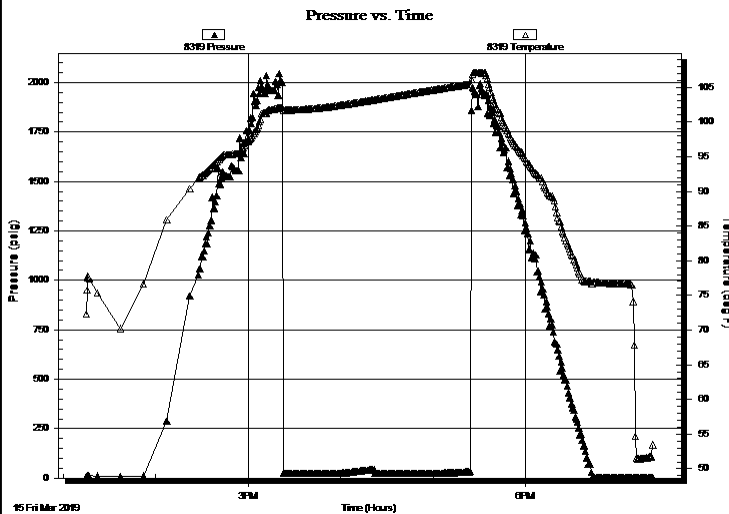
Time Off Btm:

TEST COMMENT: 30- IF: Surface blow , died @ 15 min.

30- IS: No return.

30- FF: No blow .

30- FSI: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
3.00	mud 100m (puddle of oil on top)	0.04

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Shakespeare Oil Co

27 14s 32w Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 4-27

Job Ticket: 65199

DST#: 3

ATTN: Tim Lauer

Test Start: 2019.03.15 @ 13:15:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 63.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
3.00	mud 100m (puddle of oil on top)	0.042

Total Length: 3.00 ft Total Volume: 0.042 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8522

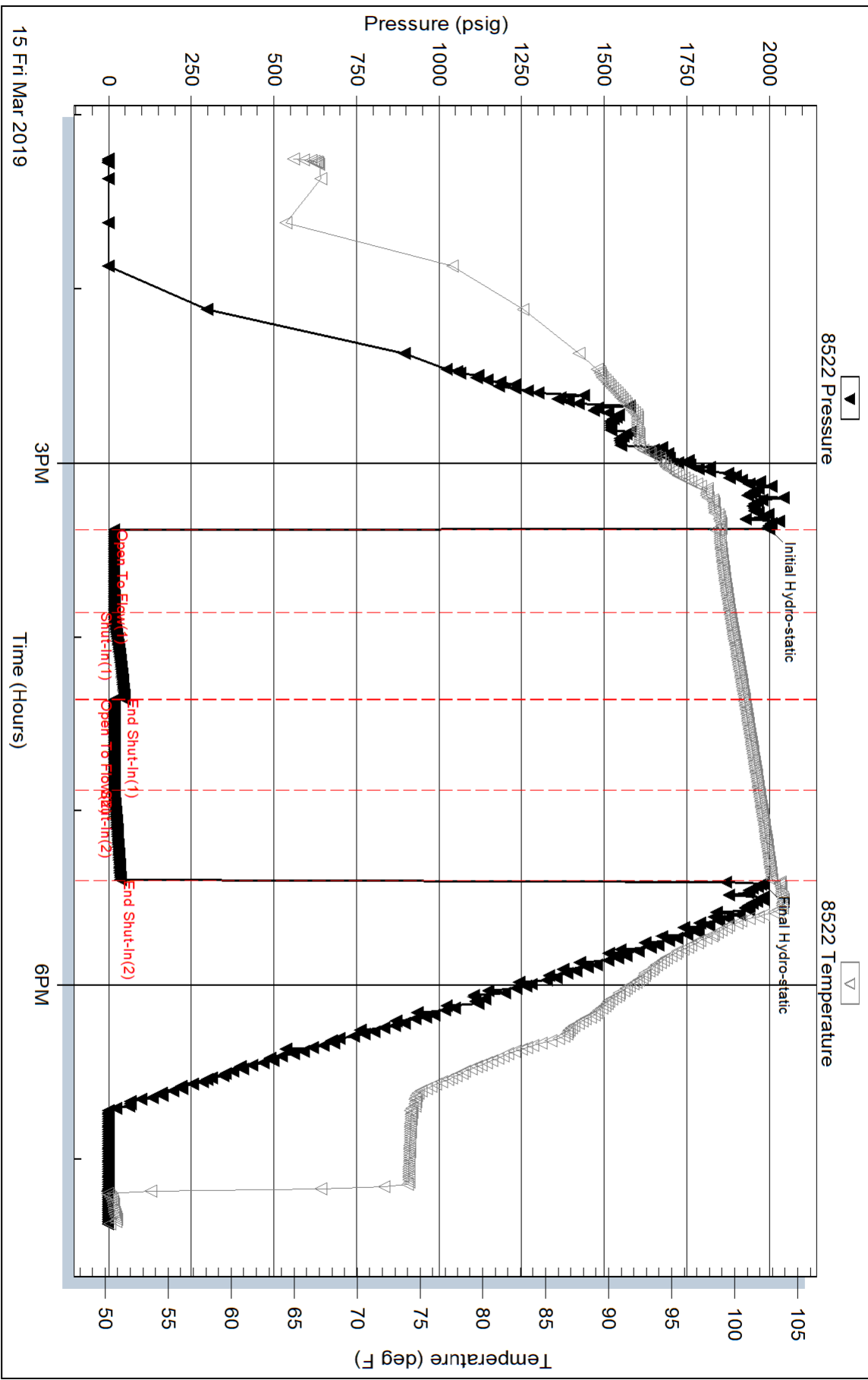
Inside

Shakespeare Oil Co

Ottley 4-27

DST Test Number: 3

Pressure vs. Time

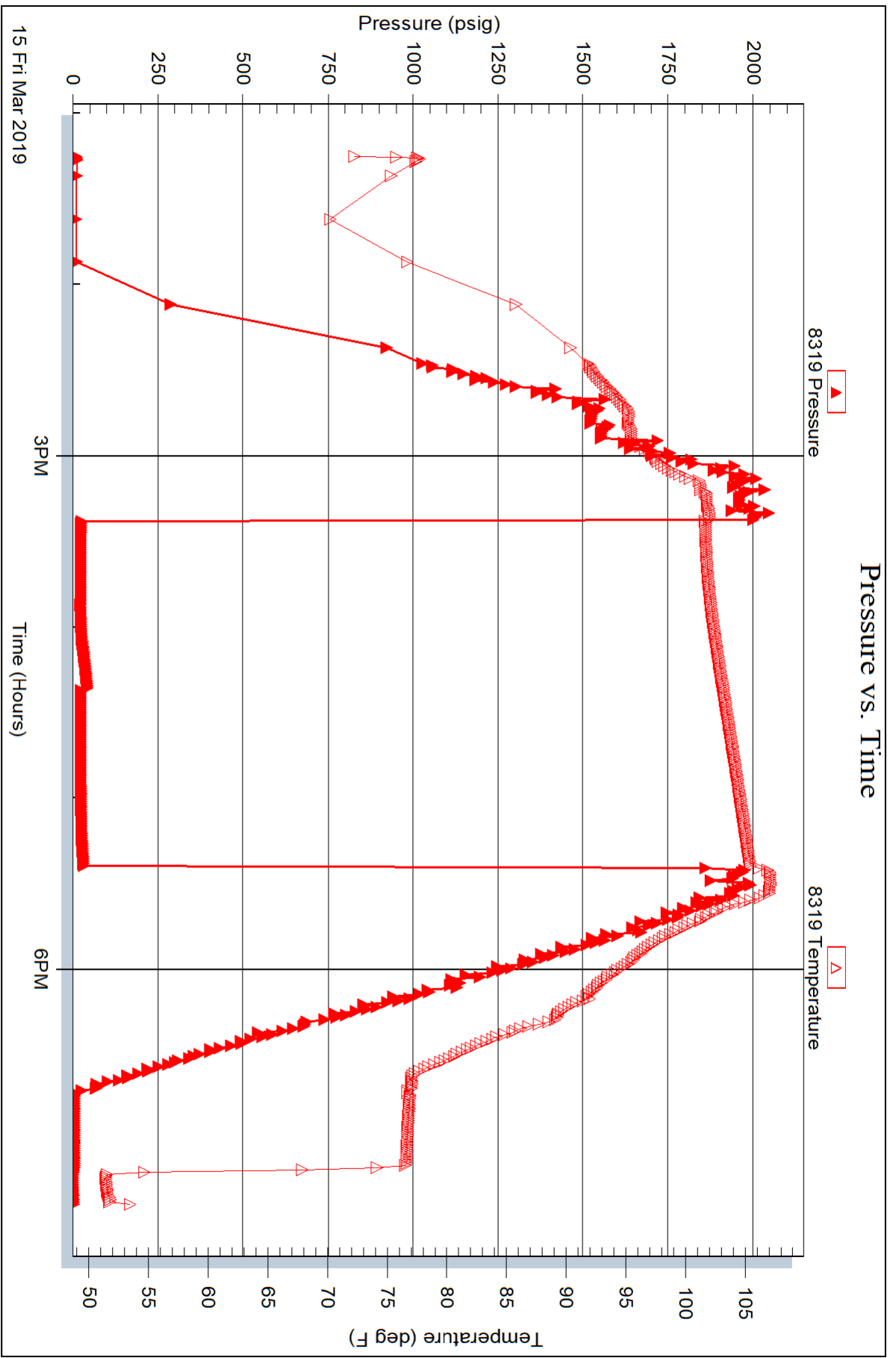


Serial #: 8319

Outside Shakespeare Oil Co

Ottley 4-27

DST Test Number: 3





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Shakespeare Oil Co

27 14s 32w Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 4-27

Job Ticket: 65200

DST#: 4

ATTN: Tim Lauer

Test Start: 2019.03.16 @ 12:42:00

GENERAL INFORMATION:

Formation: **Pawnee - Ft Scott**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 14:47:00
 Time Test Ended: 18:43:45
 Interval: **4125.00 ft (KB) To 4195.00 ft (KB) (TVD)**
 Total Depth: 4195.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Bradley Walter
 Unit No: 78
 Reference Elevations: 2673.00 ft (KB)
 2665.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8319

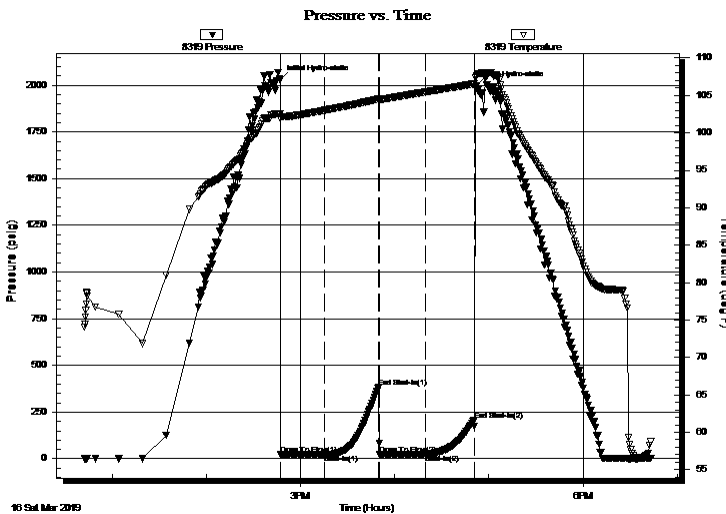
Outside

Press@RunDepth: 25.69 psig @ 4126.00 ft (KB)
 Start Date: 2019.03.16 End Date: 2019.03.16
 Start Time: 12:42:05 End Time: 18:43:44

Capacity: 8000.00 psig
 Last Calib.: 2019.03.16
 Time On Btm: 2019.03.16 @ 14:46:45
 Time Off Btm: 2019.03.16 @ 16:52:00

TEST COMMENT: 30- IF: 1/4" blow, receded to surface.
 30- ISI: No return.
 30- FF: No blow.
 30- FSI: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2029.76	102.60	Initial Hydro-static
1	22.08	101.94	Open To Flow (1)
29	24.36	103.01	Shut-In(1)
63	381.60	104.52	End Shut-In(1)
64	25.45	104.45	Open To Flow (2)
93	25.69	105.46	Shut-In(2)
124	206.89	106.56	End Shut-In(2)
126	1999.18	107.56	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
6.00	mud 100m (puddle of oil on top)	0.08

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Shakespeare Oil Co

27 14s 32w Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 4-27

Job Ticket: 65200

DST#: 4

ATTN: Tim Lauer

Test Start: 2019.03.16 @ 12:42:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
6.00	mud 100m (puddle of oil on top)	0.084

Total Length: 6.00 ft Total Volume: 0.084 bbl

Num Fluid Samples: 0

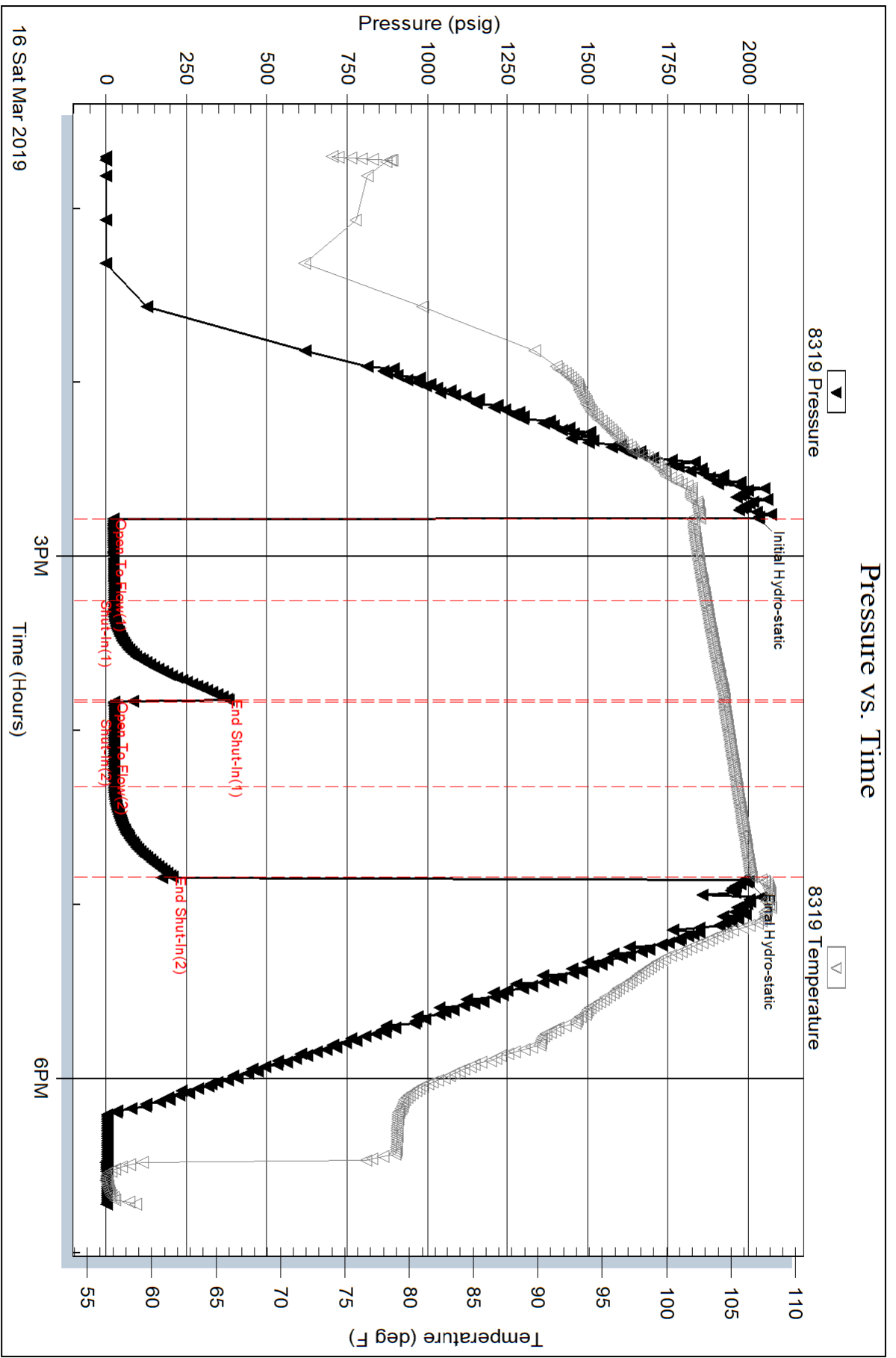
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Co

27 14s 32w Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 4-27

Job Ticket: 65201

DST#: 5

ATTN: Tim Lauer

Test Start: 2019.03.17 @ 07:33:00

GENERAL INFORMATION:

Formation: **Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:15:15

Time Test Ended: 15:22:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

Interval: **4210.00 ft (KB) To 4270.00 ft (KB) (TVD)**

Reference Elevations: 2673.00 ft (KB)

Total Depth: 4270.00 ft (KB) (TVD)

2665.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8522 Inside

Press@RunDepth: 92.32 psig @ 4211.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.03.17 End Date: 2019.03.17

Last Calib.: 2019.03.17

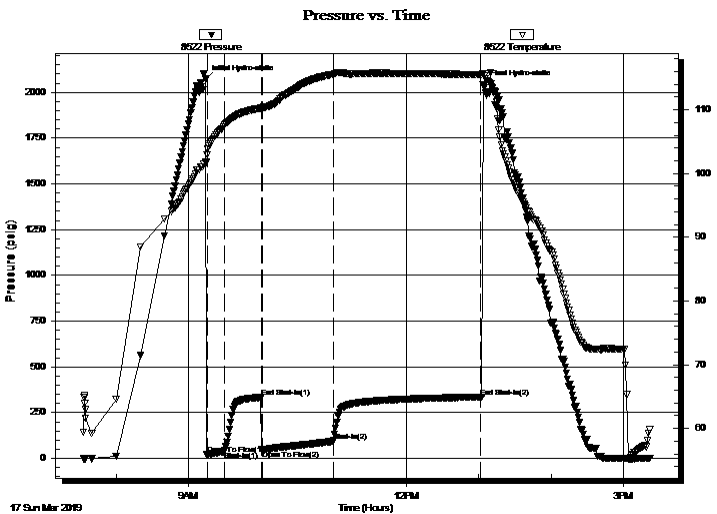
Start Time: 07:33:05 End Time: 15:21:59

Time On Btm: 2019.03.17 @ 09:14:15

Time Off Btm: 2019.03.17 @ 13:03:45

TEST COMMENT: 15- IF: BOB @ 4 min. built to 30".
30- IS: No return.
60- FF: BOB @ 2 min, built to 79"
120- FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2071.67	101.82	Initial Hydro-static
1	20.23	102.90	Open To Flow (1)
16	37.13	107.55	Shut-In(1)
46	333.50	110.25	End Shut-In(1)
47	45.25	110.32	Open To Flow (2)
106	92.32	115.55	Shut-In(2)
228	334.91	115.50	End Shut-In(2)
230	2042.24	115.72	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	gomcw 10g 10o 20m 60w	0.84
120.00	gmw co 10g 20m 20w 50o	1.68
0.00	1200' GIP	0.00

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Co
 202 W Main St.
 Salem, IL 62881
 ATTN: Tim Lauer

27 14s 32w Logan, Ks

Ottley 4-27

Job Ticket: 65201

DST#: 5

Test Start: 2019.03.17 @ 07:33:00

GENERAL INFORMATION:

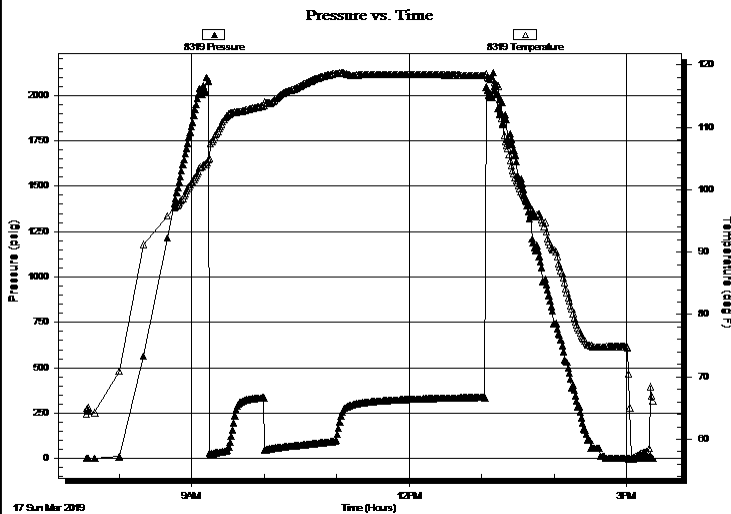
Formation: **Johnson**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 09:15:15
 Time Test Ended: 15:22:00
 Interval: **4210.00 ft (KB) To 4270.00 ft (KB) (TVD)**
 Total Depth: 4270.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Bradley Walter
 Unit No: 78
 Reference Elevations: 2673.00 ft (KB)
 2665.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8319

Outside

Press@RunDepth: psig @ 4211.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.03.17 End Date: 2019.03.17 Last Calib.: 2019.03.17
 Start Time: 07:33:05 End Time: 15:21:59 Time On Btm:
 Time Off Btm:

TEST COMMENT: 15- IF: BOB @ 4 min. built to 30".
 30- IS: No return.
 60- FF: BOB @ 2 min, built to 79"
 120- FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
60.00	gomcw 10g 10o 20m 60w	0.84
120.00	gmw co 10g 20m 20w 50o	1.68
0.00	1200' GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Shakespeare Oil Co

27 14s 32w Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 4-27

Job Ticket: 65201

DST#: 5

ATTN: Tim Lauer

Test Start: 2019.03.17 @ 07:33:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

48000 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 9000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	gomcw 10g 10o 20m 60w	0.842
120.00	gmw co 10g 20m 20w 50o	1.683
0.00	1200' GIP	0.000

Total Length: 180.00 ft Total Volume: 2.525 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw is .185 @ 59 = 48000ppm

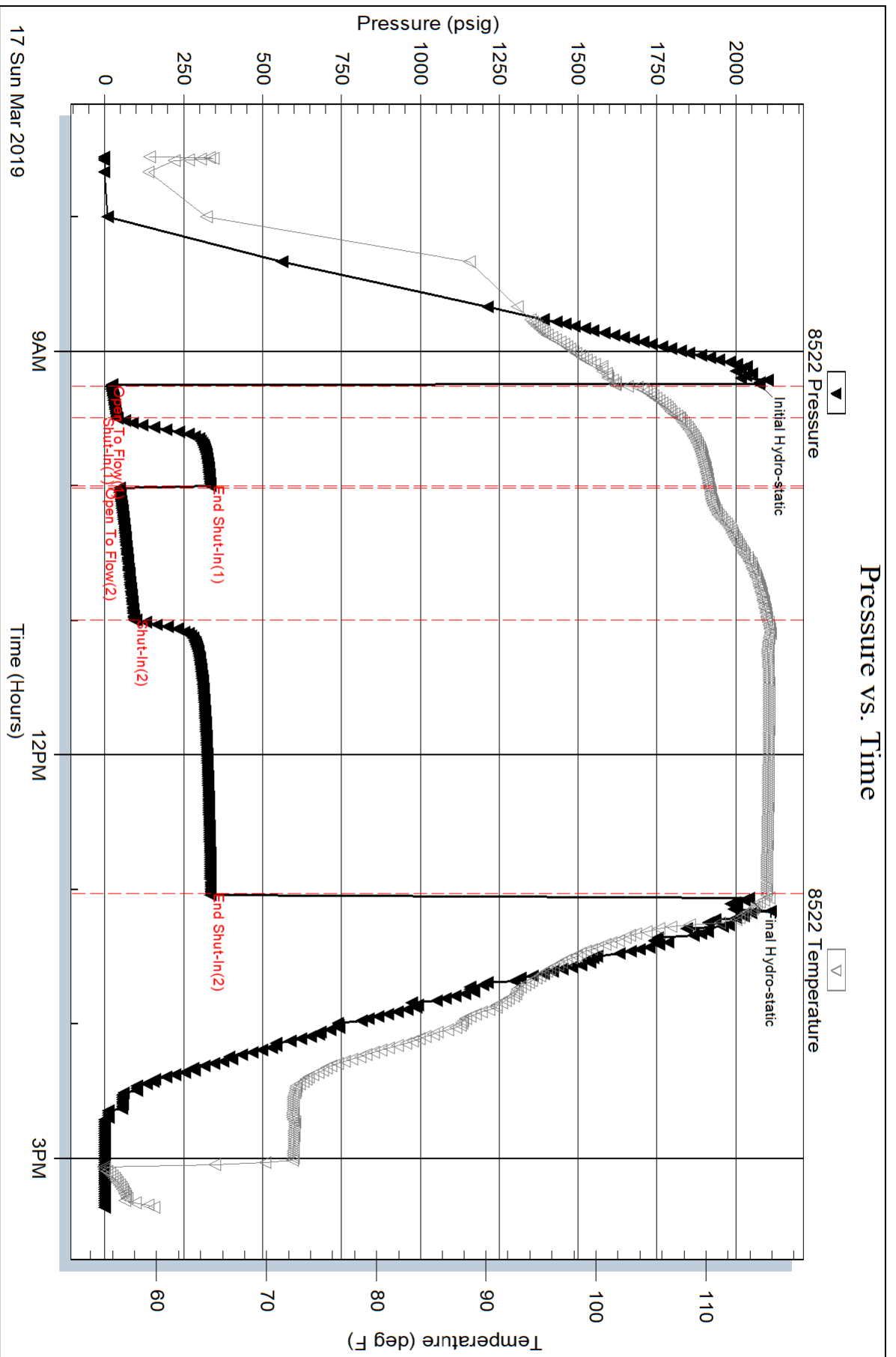
Serial #: 8522

Inside

Shakespeare Oil Co

Ottley 4-27

DST Test Number: 5



Triobite Testing, Inc

Ref. No: 65201

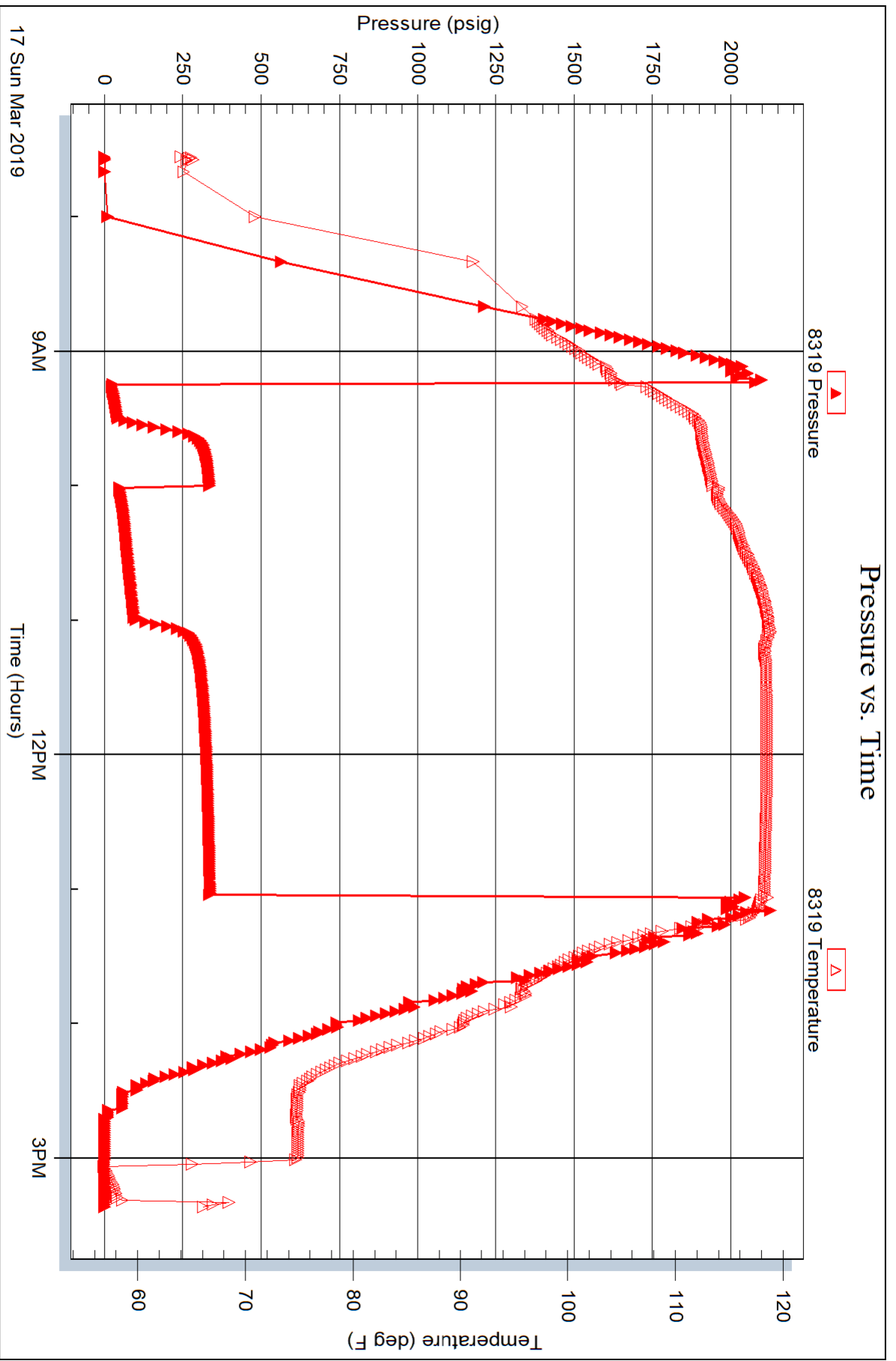
Printed: 2019.03.17 @ 17:50:37

Serial #: 8319

Outside Shakespeare Oil Co

Ottley 4-27

DST Test Number: 5





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Co

27 14s 32w Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 4-27

Job Ticket: 65202

DST#: 6

ATTN: Tim Lauer

Test Start: 2019.03.17 @ 23:05:00

GENERAL INFORMATION:

Formation: **Morrow Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:33:30

Time Test Ended: 06:49:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

Interval: **4270.00 ft (KB) To 4305.00 ft (KB) (TVD)**

Reference Elevations: 2673.00 ft (KB)

Total Depth: 4305.00 ft (KB) (TVD)

2665.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: **8522**

Inside

Press@RunDepth: 43.37 psig @ 4271.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.03.17

End Date:

2019.03.18

Last Calib.: 2019.03.18

Start Time: 23:05:05

End Time:

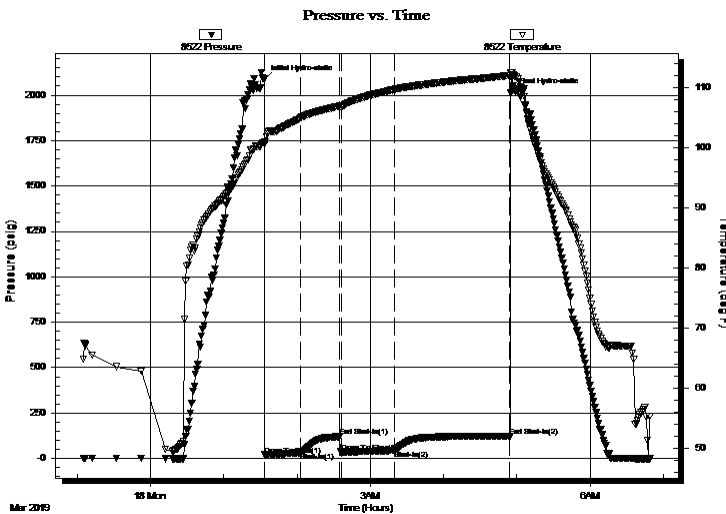
06:49:29

Time On Btm: 2019.03.18 @ 01:33:00

Time Off Btm: 2019.03.18 @ 04:55:00

TEST COMMENT: 30- IF: 6" blow.
30- IS: No return.
45- FF: 8 1/2" blow.
90- FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2087.54	100.81	Initial Hydro-static
1	19.58	100.63	Open To Flow (1)
30	31.05	104.99	Shut-In(1)
62	119.44	106.91	End Shut-In(1)
63	31.19	106.85	Open To Flow (2)
107	43.37	109.66	Shut-In(2)
202	123.12	112.00	End Shut-In(2)
202	2011.47	112.50	Final Hydro-static

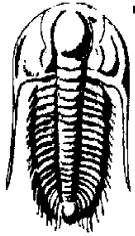
Recovery

Length (ft)	Description	Volume (bbl)
70.00	gmco 30g 30m 40o	0.98
0.00	50' GIP	0.00

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Co

27 14s 32w Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 4-27

Job Ticket: 65202

DST#: 6

ATTN: Tim Lauer

Test Start: 2019.03.17 @ 23:05:00

GENERAL INFORMATION:

Formation: **Morrow Sand**

Deviated: No Whipstock: ft (KB)

Test Type: Conventional Bottom Hole (Reset)

Time Tool Opened: 01:33:30

Tester: Bradley Walter

Time Test Ended: 06:49:30

Unit No: 78

Interval: **4270.00 ft (KB) To 4305.00 ft (KB) (TVD)**

Reference Elevations: 2673.00 ft (KB)

Total Depth: 4305.00 ft (KB) (TVD)

2665.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8319 Outside

Press@RunDepth: psig @ 4271.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.03.17

End Date: 2019.03.18

Last Calib.: 2019.03.18

Start Time: 23:05:05

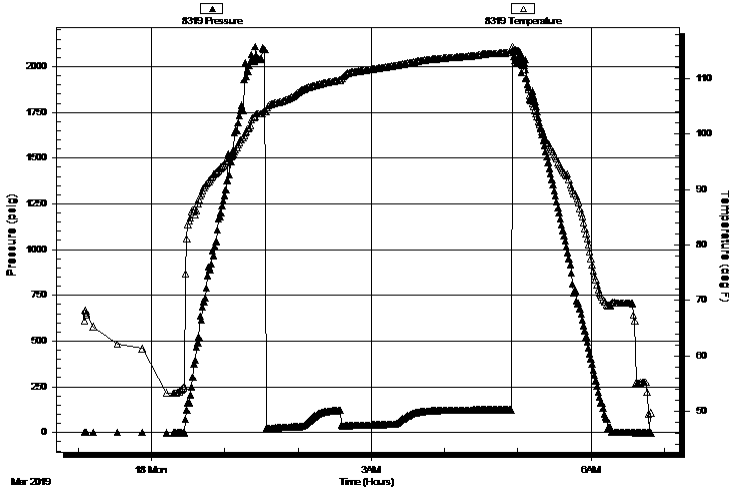
End Time: 06:49:29

Time On Btm:

Time Off Btm:

TEST COMMENT:
 30- IF: 6" blow.
 30- IS: No return.
 45- FF: 8 1/2" blow.
 90- FS: No return.

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
70.00	gmco 30g 30m 40o	0.98
0.00	50' GIP	0.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Shakespeare Oil Co

27 14s 32w Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 4-27

Job Ticket: 65202

DST#: 6

ATTN: Tim Lauer

Test Start: 2019.03.17 @ 23:05:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 9000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
70.00	gmco 30g 30m 40o	0.982
0.00	50' GIP	0.000

Total Length: 70.00 ft Total Volume: 0.982 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8522

Inside

Shakespeare Oil Co

Ottley 4-27

DST Test Number: 6

