

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
--	---

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	HEIER COMM 1-22
Doc ID	1733999

All Electric Logs Run

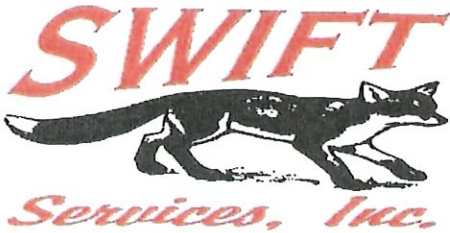
Neutron/Density
Dual Induction
Microlog
Sonic

Form	ACO1 - Well Completion
Operator	Shakespeare Oil Co., Inc.
Well Name	HEIER COMM 1-22
Doc ID	1733999

Tops

Name	Top	Datum
Andydrite	2220	+507
Heebner	3808	-1081
Muncie Creek	3987	-1260
Stark Shale	4075	-1348
Hushpuckney	4106	-1379
Pawnee	4253	-1526
Johnson	4408	-1681
Mississippian	4440	-1713





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



# Invoice

DATE	INVOICE #
8/31/2023	36672

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

• Acidizing  
 RECEIVED Cement  
 SEP 12 2023 • Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1-22	Heier Comm	Gove	Southwind Drlg	Oil	Development	Surface Pipe	Gideon
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				75	Miles	8.00	600.00
576D-S	Pump Charge - Shallow Surface (< 500 Ft.)				1	Job	1,200.00	1,200.00
325	Standard Cement				170	Sacks	16.00	2,720.00T
279	Bentonite Gel				3	Sack(s)	50.00	150.00T
278	Calcium Chloride				8	Sack(s)	55.00	440.00T
290	D-Air				2	Gallon(s)	42.00	84.00T
276	Flocele				50	Lb(s)	4.00	200.00T
581D	Service Charge Cement				170	Sacks	2.00	340.00
583D	Drayage				627	Ton Miles	1.00	627.00
	Subtotal							6,361.00
	Sales Tax Gove County						8.50%	305.49
<b>We Appreciate Your Business!</b>							<b>Total</b>	\$6,666.49

502-5 Qy

DW



Services, Inc.

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

PAGE 1 OF 1

TICKET 36672

1. SERVICE LOCATIONS <u>Ness City, KS</u>	WELL/PROJECT NO. <u>1-22</u>	LEASE <u>Heier Comm</u>	COUNTY/PARISH <u>Grove</u>	STATE <u>KS</u>	CITY <u>Grove</u>	DATE <u>8-31-2023</u>	OWNER
2. TICKET TYPE <input checked="" type="checkbox"/> SERVICE <input type="checkbox"/> SALES	CONTRACTOR <u>Southwind</u>	RIG NAME/NO.	SHIPPED VIA <u>CT</u>	DELIVERED TO <u>Location</u>	WELL PERMIT NO.	ORDER NO.	
3. WELL TYPE <u>O/I</u>	WELL CATEGORY <u>Development</u>	JOB PURPOSE <u>SURFACE Pipe</u>	WELL LOCATION <u>Grove 3-N-2-W</u>		WELL PERMIT NO.		
4. REFERRAL LOCATION	INVOICE INSTRUCTIONS <u>S-INTD</u>						

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	LOC	ACCT	DF	DESCRIPTION	QTY.		UNIT		AMOUNT
						U/M	U/M	PRICE		
<u>575</u>		<u>1</u>			MILEAGE <u>Truck #115</u>		<u>75</u>	<u>MI</u>	<u>8.00</u>	<u>600.00</u>
<u>5765</u>		<u>1</u>			<u>Pump Charge - SURFACE</u>		<u>1</u>	<u>JOB</u>	<u>1,200.00</u>	<u>1,200.00</u>
<u>326</u>		<u>1</u>			<u>STANDARD CEMENT</u>		<u>170</u>	<u>SKS</u>	<u>16.00</u>	<u>2720.00</u>
<u>279</u>		<u>1</u>			<u>BENTONITE GEL</u>		<u>3</u>	<u>SKS</u>	<u>50.00</u>	<u>150.00</u>
<u>278</u>		<u>1</u>			<u>Calcium Chloride</u>		<u>8</u>	<u>SKS</u>	<u>55.00</u>	<u>440.00</u>
<u>290</u>		<u>1</u>			<u>D-Air</u>		<u>2</u>	<u>gel</u>	<u>42.00</u>	<u>84.00</u>
<u>276</u>		<u>1</u>			<u>Flocke</u>		<u>50</u>	<u>lbs</u>	<u>4.00</u>	<u>200.00</u>
<u>581</u>		<u>1</u>			<u>Cement Service Charge</u>		<u>170</u>	<u>SKS</u>	<u>2.00</u>	<u>340.00</u>
<u>5883</u>		<u>1</u>			<u>Drayage</u>		<u>16700</u>	<u>lbs</u>	<u>1.00</u>	<u>167.00</u>

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 8/31/2023 TIME SIGNED  A.M.  P.M.

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?  
 CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL 1

TOTAL 6666.49

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

SWIFT OPERATOR Judson Jewell APPROVAL

Thank You!

JOB LOG

SWIFT Services, Inc.

DATE 8-31-2023 PAGE NO. 1

CUSTOMER		WELL NO.		LEASE		JOB TYPE		TICKET NO.	
Shakespeare Oil + Gas		1-22		Heter Comm		SURFACE Pipe		36672	
CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS	
				T	C	TUBING	CASING		
	2030								ON LOCATION 8 5/8"
									RTD: 226'
	2045								Begin 8 5/8" Csg in well
	2215								Break Circulation
	<del>2230</del>								
	<del>2245</del>	4	5			250			Pump 5 bbl H2O SPACER
	2300	4	41			150			Mix 170 sks of STANDARD Cement @ 14.7 PPG
		4	0			100			Begin Displacement
		4	9			300			* Circulate CMT to surface *
	2340	-	13			200			KO Pump * Shut in * - Release PSI * Hold *
									Wash up Truck #115
	1230								Job Complete
									170 sks of STANDARD Cement w/ 2% gel, 3% CC
									* Approx 15 sks to the Pit *
									"Plug Down" @ 11:30 PM CST
									Thanks!
									Gudum, Tyler, Brett



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



# Invoice

DATE	INVOICE #
9/10/2023	36336

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

**RECEIVED**

SEP 15 2023

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1-22	Heier Comm	Gove	Southwind Rig #8	Oil	Development	Cement Long Str...	Jonathan
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				70	Miles	8.00	560.00
578D-L	Pump Charge - Long String				1	Job	1,700.00	1,700.00
290	D-Air				2	Gallon(s)	42.00	84.00T
281	Mud Flush				500	Gallon(s)	2.50	1,250.00T
221	Liquid KCL (Clayfix)				2	Gallon(s)	25.00	50.00
402-4	4 1/2" Centralizer				1	Each	80.00	80.00T
403-4	4 1/2" Cement Basket				3	Each	275.00	825.00T
404-4	4 1/2" Port Collar				1	Each	2,500.00	2,500.00T
406-4	4 1/2" Latch Down Plug & Baffle				1	Each	250.00	250.00T
407-4	4 1/2" Insert Float Shoe With Auto Fill				1	Each	325.00	325.00T
409-4	4 1/2" Turbolizer				14	Each	95.00	1,330.00T
419-4	4 1/2" Rotating Head Rental				1	Each	300.00	300.00T
325	Standard Cement				225	Sacks	16.00	3,600.00T
284	Calseal				21	Sack(s)	50.00	1,050.00T
283	Salt				1,200	Lb(s)	0.25	300.00T
292	Halad 322				212	Lb(s)	9.00	1,908.00T
277	Gilsonite (Coal Seal)				750	Lb(s)	1.50	1,125.00T
276	Flocele				20	Lb(s)	4.00	80.00T
581D	Service Charge Cement				225	Sacks	2.00	450.00
583D	Drayage				853.37	Ton Miles	1.00	853.37
	Subtotal							18,620.37
	Sales Tax Gove County						8.50%	1,275.60

502-5 9

**We Appreciate Your Business!**

**Total**

\$19,895.97

DW



Services, Inc.

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

TICKET 36336

CITY, STATE, ZIP CODE

PAGE 1 OF 2

SERVICE LOCATIONS	WELL/PROJECT NO.	LEASE	COUNTY/PARISH	STATE	CITY	DATE	OWNER
1. <u>Hays, KS</u>	<u>1-222</u>	<u>Heier Comm</u>	<u>Barre</u>	<u>KS</u>		<u>09/16/23</u>	<u>Same</u>
2. <u>Ness City, KS</u>	TICKET TYPE <input checked="" type="checkbox"/> SERVICE <input type="checkbox"/> SALES	CONTRACTOR <u>Southwind Drilling</u>	RIG NAME/NO. <u>Rig 8</u>	SHIPPED VIA <u>CT</u>	DELIVERED TO <u>Location</u>	ORDER NO.	
3.	WELL TYPE <u>D-1</u>	WELL CATEGORY <u>Development</u>	JOB PURPOSE <u>Cement Long Strings</u>		WELL PERMIT NO.	WELL LOCATION	
4.	REFERRAL LOCATION INVOICE INSTRUCTIONS						

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.			UNIT PRICE	AMOUNT
		LOC	ACCT	DF		UM	UM	UM		
875		1			MILEAGE #114	70	mi		8.00	560.00
578		1			Pump Charge - Long strings	1	EA		1700.00	1700.00
29D		1			D-Air	2	gal		42.00	84.00
281		1			Mud Flush	500	gal		2.50	1250.00
221		1			Liquid RCL	2	gal		25.00	50.00
4D2		1			Centralizers 4 1/2"	1	EA		80.00	80.00
4D3		1			Cement Barrel 4 1/2"	3	EA		27.50	82.50
4D4		1			Port Cellar 4 1/2"	1	EA		2500.00	2500.00
4B6		1			Latch Down Plug + Baffle 4 1/2"	1	EA		250.00	250.00
4B7		1			Insert Float Shoe w/Arrest 4 1/2"	1	EA		325.00	325.00
4B9		1			Turbalizers 4 1/2"	14	EA		95.00	1330.00
419		1			Rotating Head Rental 4 1/2"	1	EA		300.00	300.00

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MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS  
 X [Signature]  
 DATE SIGNED TIME SIGNED  A.M.  P.M.

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

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

Page 1	9254.00
Page 2	91366.31
Subtotal	181620.32
TOTAL	19895.97

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!



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

TICKET CONTINUATION

TICKET No. 36336

CUSTOMER  
Shakespeare Oil

WELL  
Heier Comm 1-22

DATE  
09/16/23

PAGE 2 OF 2

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			TIME	DESCRIPTION	WELL		UNIT PRICE	AMOUNT
		LOC	ACCT	DF			QTY	U/M		
325		2				Standard Cement	225	SKS	16.00	3600.00
294		2				Cal Seal	21	SKS	50.00	1050.00
283		2				Salt	1800	lbs	0.25	360.00
292		2				Halod 322	212	lbs	9.00	1908.00
277		2				Giskenite	750	lbs	1.50	1125.00
276		2				F10scle	20	lbs	4.00	80.00
581		2				Cement	225	SKS	2.00	450.00
583		2				MILEAGE CHARGE	24382	TOTAL WEIGHT	1.00	853.37
						LOADED MILES	70			
						TON MILES	853.37			

CONTINUATION TOTAL 9,366.37

JOB LOG

SWIFT Services, Inc.

DATE: 09/10/23 PAGE NO. 1

CUSTOMER: Shakespeare Oil WELL NO.: 1-22 LEASE: Heier Comm JOB TYPE: Long String TICKET NO.: 36336

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1700							On location w/float Equipment
								RTD - 4488'
								Total Pipe - 4485.8' of 4 1/2" x 11.6 #
								Baffle Plate - 4442'
								Turbos - 1, 4, 5, 108, 6, 7, 8, 9, 10,
								11, 12, 13, 109, & 14
								Centralizers - 52
								Baskets - Pin of 15, 50, 51
								Port Collar - Top of 51 @ 2250'
	1800							Start Pipe
	2038							Break Circulation on Bottom
	2130							Hook up to Swift
		2	7					Plug Rathole w/ 30 SKS
		2	5					Plug Manschok w/ 15 SKS
	2150	5	12			400		Pump Mud flush
		5	20			400		Pump KCL spacer
		3 1/2				400		Start Cement
		3 1/2	45			Vac		Finish Cement, Shut Down
								Drop Plug, Washout Pump & Lines
	2220	10				300		Start Displacement
		8	45			500		Catch Pressure
		6 3/4	67			900		Lift
	2230	6 3/4	68 1/2			1750		Land Plug
								Release, Dry
								Wash up
								Ball up
	2300							Job Complete
								Thank You
								Jon, Joe & Josh

# SWIFT



Services, Inc.

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



## Invoice

DATE	INVOICE #
9/15/2023	36690

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

**RECEIVED**  
SEP 29 2023

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1-22	Heier Comm	Gove	Wild West Well	Oil	Development	Port Collar	Preston

PRICE REF.	DESCRIPTION	QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way	80	Miles	8.00	640.00
576D-D	Pump Charge - Deep Surface (> 500 Ft.) & Port Collars	1	Job	1,700.00	1,700.00
330	Swift Multi-Density Standard (MIDCON II)	210	Sacks	21.00	4,410.00T
276	Flocele	53	Lb(s)	4.00	212.00T
290	D-Air	2	Gallon(s)	42.00	84.00T
581D	Service Charge Cement	325	Sacks	2.00	650.00
583D	Drayage	1,293	Ton Miles	1.00	1,293.00
	Subtotal				8,989.00
	Sales Tax Gove County			8.50%	400.01

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**We Appreciate Your Business!** **Total** \$9,389.01

DW



JOB LOG

SWIFT Services, Inc.

DATE 9-15-23 PAGE NO. 1

CUSTOMER *Shake Spare oil* WELL NO. *1-22* LEASE *Hier Community* JOB TYPE *Part Celler* TICKET NO. *36690*

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	9:45							ON location 2 7/8" 4 1/2" PC 2250'
	10:00						1000	Test BS hold ✓
	10:30							Open PC
	10:35	3 1/2				500		Injection Rate
	10:40	4	116			500		mix 210 SK smd @ 11.2 ppg displace cnt
	11:15		7.5				1000	close PC & test hold ✓ Run 5 joints
	11:25	3	25				400	Reverse clean
	11:40							Wash pump truck
	12:00							Job Complete Thanks! Preston, Kirby Brett



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

Well Name: HEIER COMM  
Well Id: #1-22  
Location: 2500' FNL, 230' FEL, NE/4 Sec 22-T12S-R29W, Gove County, Kansas  
License Number: API: 15-063-22434 Region: Gove County  
Spud Date: 08/31/2023 Drilling Completed: 09/09/2023  
Surface Coordinates: NAD83  
Lat: 38.996189329, Long: -100.520091924  
Bottom Hole Vertical hole  
Coordinates:  
Ground Elevation (ft): 2717' K.B. Elevation (ft): 2727'  
Logged Interval (ft): 3600' To: RTD Total Depth (ft): 4488'  
Formation: Mississippian at RTD  
Type of Drilling Fluid: Chemical

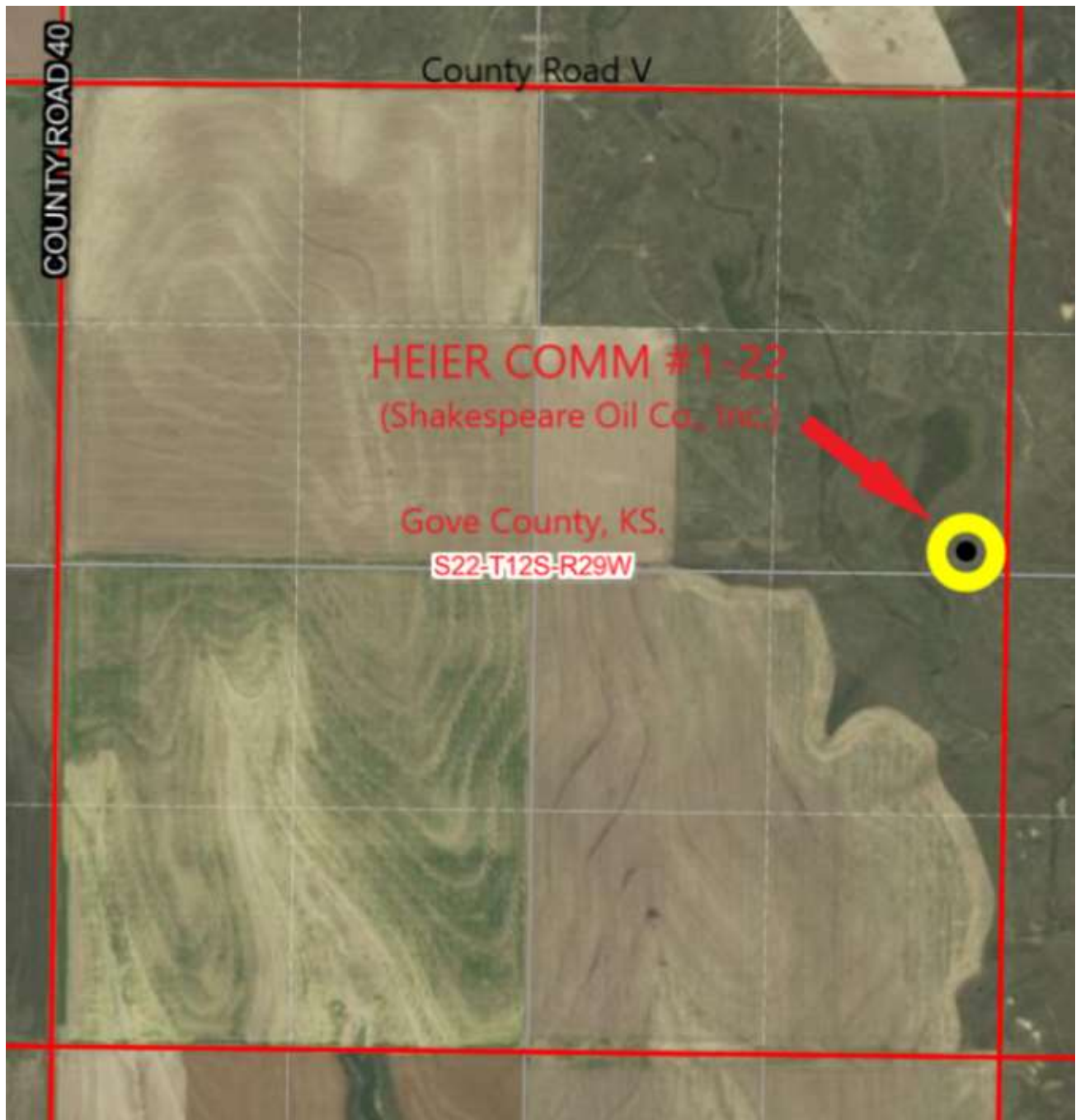
Printed by MudLog from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

OPERATOR

Company: SHAKESPEARE OIL COMPANY, INC.  
Address: 202 West Main Street  
Salem, IL 62881  
618-548-1585

WELLSITE GEOLOGIST

Name: Kent R. Matson  
Company: Matson Geological Services, LLC  
Address: 33300 W. 15th Street S.  
Garden Plain, Kansas 67050  
316-644-1975; [kent4m@hotmail.com](mailto:kent4m@hotmail.com)



#### COMMENTS

Shakespeare Oil Company, Inc., Geologist: Toby Eck, 316-305-0572 (cell).

Contractor: Southwind Drilling Company, Inc.: Rig #8.

Tool Pusher: Doug Roberts, 620-617-6023 (cell).

Surface Casing: 8 5/8" set at 223' (KB) w/170sx cement.

Production Casing: Based on field observations of drill cuttings, DST results and electric log evaluation, 4.5" production casing was installed.

Mud by: Mud-Co/Service Mud, Inc., Reid Atkins, 785-694-3741 (cell) and Tony Maestas, 316-772-6679 (cell).

DST's by: Trilobite Testing; Martine Salinas, 785-639-2040 (cell); Bradley Walter (Walt), 785-623-1407 (cell).

Logs by: ELI Wireline (DI w/GR, CND, Micro, Sonic), Cole Robben, 785-735-7112 (office).

RTD= 4488'

LTD= 4488'

## FORMATION TOPS

FORMATION	SAMPLE TOPS		LOG TOPS	
	Depth	Datum	Depth	Datum
Oread	3762'	-1035	3762'	-1035
Heebner Shale	3808'	-1081	3808'	-1081
Lansing	3847'	-1120	3843'	-1116
Muncie Creek Shale	3988'	-1261	3988'	-1261
Stark Shale	4077'	-1350	4074'	-1347
Hushpuckney Shale	4109'	-1382	4106'	-1379
Base of KC	4135'	-1408	4132'	-1405
Marmaton	4173'	-1446	4172'	-1445
Pawnee	4254'	-1527	4253'	-1526
Myrick Station	4306'	-1579	4305'	-1578
Fort Scott	4336'	-1609	4334'	-1607
Cherokee Shale	4363'	-1636	4362	-1635
Johnson	4409'	-1682	4408'	-1681
Mississippian	4441'	-1714	4440'	-1713
RTD	4488'	-1761		
LTD			4488'	-1761

## ROCK TYPES

### LITHOLOGY

	Anhy
	Cht
	Coal
	Congl
	Dol
	Gyp
	Lmst
	Salt
	Shale
	Shcol
	Shgy
	Sltst
	Ss
	Carb sh
	Dol
	Dtd
	Gry sh
	Sandy lms
	Shale
	Sltstn
	Shlyslts

	Sitysh
	Sdy dolo
	Silty dolo
	Shy dolo
	Shaly ls

### FOSSIL

	Algae
	Amph
	Belm
	Bioclst
	Brach
	Bryozoa
	Cephal
	Coral
	Crin
	Echin
	Fish
	Foram
	Fossil
	Gastro
	Oolite

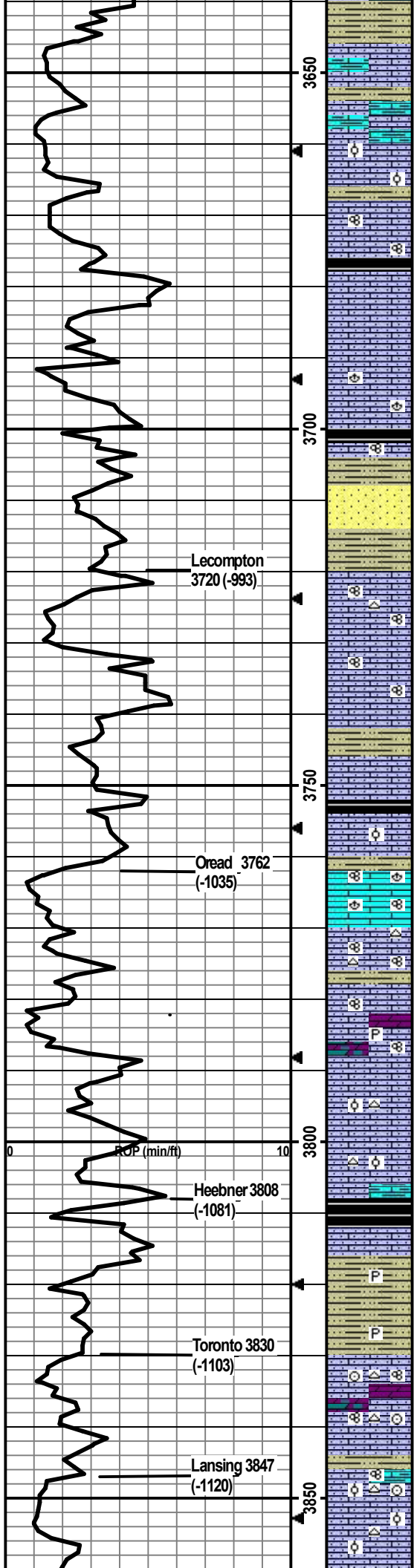
	Ostra
	Pelec
	Pellet
	Pisolite
	Plant
	Strom
	Fuss
	Oomold

### MINERAL

	Anhy
	Arggrn
	Arg
	Bent
	Bit
	Brecfrag
	Calc
	Carb
	Chtdk
	Chtlit
	Dol
	Feldspar

	Ferrpel
	Ferr
	Glau
	Gyp
	Hvymn
	Kaol
	Marl
	Minxl
	Nodule
	Phos
	Pyr
	Salt
	Sandy
	Silt
	Sil
	Sulphur
	Tuff
	Chlorite
	Dol
	Sand
	Sly

Rate of Penetration (ROP) ROP (min/ft)	DEPTH	Lithology	CFS Point	Oil Shows	Geological Descriptions	Remarks
	0 10 34 3500 3550 3600				<p><b>Morning Report Depth/Activity (7:00 am)</b>            08/31/2023: MIRU. Spud, drill to 226', set SC @ 223' KB.            09/01: WOC @ 226'.            09/02: Drilling @ 1843'.            09/03: Drilling @ 3121'.            09/04: Drilling @ 3790'.            09/05: DST #1 @ 3938'.            09/06: TOH w/test tool for DST #2 @ 4040'.            09/07: Drill string stuck while TIH w/bit after DST #3 @ 4102'.            09/08: CFS @ 4235'.            09/09: CFS @ 4361'. TD @ 4488', 08:48pm.            09/10: Electric logged.</p> <p>Anhydrite: Top @ 2221' (+506), Base @ 2251' (+476), (based on drill time). E-Log Top @ 2220' (+507), Base @ 2248' (+479).</p> <p>Geologist on location @ 3597', 09/03/2023.</p> <p>Oil Shows indicator: Left Block 0-10 tray pcs w/show, Middle Block 10-20 tray pcs w/show, Right Block 20+ tray pcs w/show</p> <p><b>NOTE: RED TEXT INDICATES THE PRESENCE OF OIL.</b></p> <p>Formation tops and lithologies have been adjusted to correlate to the electric log.</p> <p>ROP Data begins @ 3600' on 09/03/2023. Recorded from drillers geograph record, and geologist's auto-reader switch on geograph.</p> <p>Drill cutting samples at 10' intervals start at 3600'.</p> <p>LS: cm/lt bm/lt-m gry, micro-m xtal, min chalky, silty/sndy, foss frags/fush/crin, no vis por, no odor, ns.</p> <p>LS: cm/lt-m bm/lt-m gry, micro-m xtal, min chalky, silty/sndy, foss frags, min ppt-vf in-xtal por, no odor, ns.</p> <p>SH: lt-dk gry/dk red-bm, some vry silty/sndy, carb, soft-firm.</p> <p>LS: cm/lt-m bm/lt-m gry, chalky, silty/sndy/arg, cm/lt bm chert, foss frags, some ppt-vf in-xtal por, no odor, ns.</p>	<p>Mud-Co/Service Mud Inc. Check #1 @ 0' 08/31/23, predrilling instructions.</p> <p>Mud-Co/Service Mud Inc. Check #2 @ 1960' 09/02/23 08:30am wt vis pH chl 8.5 30 7 900 Filt LCM n/c 1</p> <p>Mud-Co/Service Mud Inc. Check #3 @ 3269' 09/03/23 09:40am wt vis pH chl 9.3 29 7.0 2400 Filt LCM n/c 1</p> <p><b>Displaced drilling mud @ 3453'-3470'.</b></p> <p><b>Bit Trip @ 3597' conn; replaced PDC bit with Tricone Button bit.</b></p> <p><b>Pipe strap TOH for Bit Trip @ 3597' was 2.18' long to board.</b></p> <p>Mud-Co/Service Mud Inc. Check #4 @ 3826' 09/04/23 09:30am wt vis pH chl 9.0 52 10.5 1200 Filt LCM 7.2 4</p> <p>Mud-Co/Service Mud Inc. Check #5 @ 3938' 09/05/23 08:50am wt vis pH chl 9.2 57 10.5 1400 Filt LCM 8.0 3</p> <p>Mud-Co/Service Mud Inc. Check #6 @ 4040' 09/06/23 10:00am wt vis pH chl 9.1 66 10.0 2200 Filt LCM 8.8 3</p> <p>Mud-Co/Service Mud Inc. Check #7 @ 4102' 09/07/23 09:00am wt vis pH chl 8.4 71 10.0 2500 Filt LCM 8.8 3</p> <p>Mud-Co/Service Mud Inc. Check #8 @ 4239' 09/08/23 08:00am wt vis pH chl 9.2 48 11.0 2600 Filt LCM 7.2 3</p> <p>Mud-Co/Service Mud Inc. Check #9 @ 4366' 09/09/23 09:00am wt vis pH chl 9.2 58 11.0 3000 Filt LCM 8.0 2</p>



SH: lt-dk gry/red-bm, some vry silty/sndy, carb, soft-firm.

LS: cm/lt bm/lt gry, vf-m xtal, silty/sndy/arg, chalky, foss frags/grainy, some ppt-vf in-xtal por, no odor, ns.

LS: cm, vf-f xtal, silty/sndy, some chalky, foss frags/fn ool/grainy, vf-f in-xtal/in-ool por, no odor, ns.

LS: wht/cm/min lt bm, vf-f xtal, chalky, silty/sndy, foss frags/fusln, vf-f in-xtal por w/med in-fusln por, no odor, ns.

LS: cm/lt bm/lt gry, vf-f xtal, silty/sndy, chalky, foss frags, ppt-f in-xtal por, no odor, ns.

LS: cm/lt gry/lt-m bm, vf-m xtal, chalky, silty/sndy, foss frags/brac, no vis por, no odor, ns.

LS: cm/lt-m bm/lt-m gry, vf-m xtal, silty/sndy, chalky, foss frags/fusln, min med in-fusln por, no odor, ns.

SH: lt-dk gry/blk, some vry silty/sndy, carb, soft-firm.

SH: lt-dk gry, some vry silty/sndy, carb, soft-firm. SS: wht/lt gry, vf-f, carb, friable, no odor, ns.

LS: cm/lt bm, vf-m xtal, chalky, silty/sndy, min wht/cm chert, foss frags/fusln, some ppt-f in-xtal por/min med in-fusln por, no odor, ns.

LS: cm/lt gry/lt bm, vf-m xtal, chalky, silty/sndy, foss frags/fusln, no vis por, no odor, ns.

SH: lt gry/bm/red-bm, vry silty/sndy, carb, soft-firm.

LS: cm/lt-m gry, vf-m xtal, vry silty/sndy, chalky, foss frags/grainy, min ppt-vf in-xtal por, no odor, ns.

LS: cm/lt bm/lt gry, micro-m xtal, some chalky, silty/sndy, foss frags/some fn ool, some vf-f in-xtal/in-ool por, no odor, ns.

LS: cm/lt gry-bm/lt bm, micro-m xtal, chalky, foss frags/fusln/brac, no vis por, no odor, ns.

LS: cm/lt bm, vf-m xtal, chalky, silty/sndy, wht/cm chert, foss frags/fusln/grainy, vf-m in-xtal por, no odor, ns.

LS: cm/lt bm/lt gry, vf-m xtal, silty/sndy, some chalky, lt bm dolo, min pyrite, foss frags/fusln/grainy, vf-crs/vug in-xtal por, no odor, ns.

LS: cm/lt gry/lt bm/dk bm and dk gry mottling, vf-m xtal, silty/sndy, some chalky, min cm/wht chert, foss frags/grainy/min ool, vf-f in-xtal por, no odor, ns.

LS: cm/lt-m gry/lt-m bm, vf-m xtal, silty/sndy/some arg, chalky, min lt gry chert, foss frags/min ool, min vf-f in-xtal por, no odor, ns.

SH: blk, slt silty, carb, firm.

LS: cm/lt bm/lt-m gry/dk bm mottling, vf-crs xtals, some vry silty/sndy/arg, chalky, foss frags, some vf-f in-xtal por, no odor, ns.

SH: lt-dk gry, some vry silty, min pyrite, carb, soft-firm.

LS: cm/lt bm/min lt gry, vf-m xtal, silty/sndy/min arg, chalky, wht/cm/lt orange chert, lt bm dolo, foss frags/crin/fusln/grainy, vf-m in-xtal por, no odor, ns.

LS: cm/lt-m bm/lt-m gry, vf-crs xtal, silty/sndy, some arg, chalky, wht/cm/lt bm chert, foss frags/fusln/crin/ool/grainy, vf-m in-xtal/in-ool por, no odor, ns.

LS: cm/lt-m bm/min lt gry, vf-m xtal, silty/sndy, smpl vry chalky, min wht/cm chert, foss frags/ool/grainy, vf-crs in-xtal/in-ool por, no odor, ns.

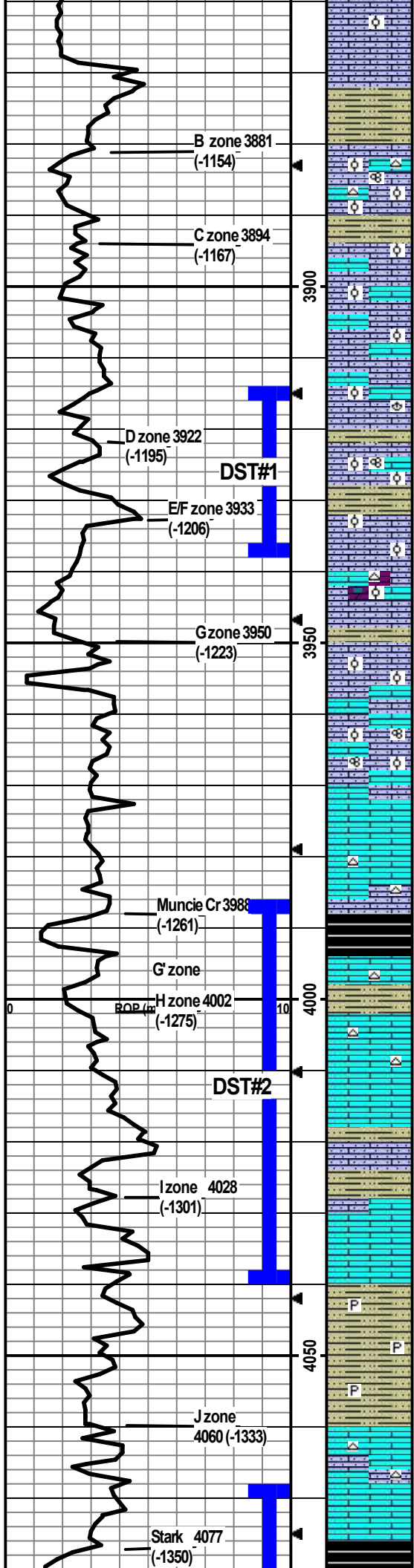
**Survey Record**  
 Deg @ Ft  
 0.25 @ 226'  
 1.25 @ 3597'  
 1.25 @ 4488'

**DST1) 3914-3938**  
**Lansing D & E/F**  
**zones**

10/20/30/60  
 1st) BOB blow at 7min; Weak SB BB built to 1/2".  
 2nd) BOB blow at 10min; SB BB built to 4.5" decreased to 1.5".  
 IFP 44-104#  
 ISIP 1236#  
 FFP 73-135#  
 FSIP 1250#  
 HP 1945-1857#  
 Recvd: 275' total fluid. 260' CGO (18%G, 82%O), 15' GOCM (15%G, 15%O, 70%M).

CFS @ 3840'  
 Stop/30"/60"

CFS @ 3860'  
 Stop/30"/60"



LS: cm/lt bm, vf-m xtal, silty/sndy, chalky, foss frags/ool, min vf-m in-xtal por, no odor, ns.

SH: m-dk red-bm/min lt-m gry, some vry silty/sndy, slt carb, soft-firm.

LS: cm/min lt-m bm, micro-m xtal, some silty/sndy, some chalky, wht/crm foss chert, foss frags/fusln/ool, vf-m in-xtal/in-ool por, no odor, ns.

LS: cm, micro-m, some silty/sndy, chalky, foss frags/ool, min vf-m in-xtal/in-ool por, no odor, ns.

LS: wht/crm/lt gry, micro-m xtal, some silty/sndy, chalky, foss frags/ool, min vf-m in-xtal/in-ool por, no odor, ns.

LS: cm/min lt gry, micro-m xtal, some silty/sndy, some chalky, foss frags/brac/ool, min vf-m in-xtal por, no odor, ns.

LS: cm/lt bm, micro-m xtal, some silty/sndy, chalky, foss frags/fusln/ool, 10 pcs w/sfo, ppt-m in-xtal/in-ool por, dul yel fluor, no odor, sfo.

LS: cm/lt bm, micro-m xtal, chalky, silty/sndy, foss frags/ool, 14 pcs w/sfo, vf-m in-xtal/in-ool por, dul yel fluor, no odor, sfo. 60min: some crs por, slt odor.

LS: wht/crm, micro-m xtal, min chalky, some silty/sndy, min cm/lt gry chert, some dolo, foss frags/fn ool, some ppt-f in-xtal por, no odor, ns.

SH: lt-dk gry/dk brn/red-brn/dk green, some vry silty, slt carb, soft-firm.

LS: wht/crm, micro-m xtal, chalky, some silty/sndy, foss frags/ool, some vf-f in-xtal por, no odor, ns.

LS: wht/crm/lt gry/lt bm, micro-m xtal, chalky, some silty/sndy, foss frags/ool/fusln, min vf-f in-xtal por, no odor, ns.

LS: wht/crm/lt gry, micro-m xtal, some chalky, foss frags, no vis por, no odor, ns.

LS: wht/crm/lt bm/lt gry, micro-m xtal, chalky, some silty/sndy, wht/lt gry chert, foss frags, no vis por, no odor, ns.

SH: dk gry/blk, some silty, carb, firm/vry firm.

LS: cm/lt-dk bm, micro-m xtal, some chalky, glassy, min bm chert, min foss frags, no vis por, no odor, ns.

LS: wht/crm/lt gry/dk gry incls, micro-m xtal, some chalky, wht/lt gry chert, foss frags, 5 pcs w/sfo wf-m in-xtal por, dul yel fluor, no odor, sfo.

LS: cm/lt gry, micro-m, some chalky, foss frags, 6 pcs w/sfo, vf-m in-xtal por, dul yel fluor, no odor, sfo.

SH: lt-dk gry/dk brn/red-brn, some silty, carb, soft-firm.

LS: cm/lt bm/min lt gry, micro-m xtal, some chalky, min silty/sndy, foss frags, 22 pcs w/sfo/some staining, vf-m in-xtal por, dul yel fluor, slt odor, sfo.

LS: wht/crm/lt gry, micro-m xtal, chalky, min foss frags, 15 pcs w/sfo w/ppt-m in-xtal por/min crs por, dul yel fluor, slt odor, sfo.

SH: lt-dk gry/dk red-bm/dk maroon, some vry silty/sndy, some pyrite, carb, soft-firm.

SH flood as above. LS: cm/lt-m bm/lt gry, micro-m xtal, foss frags/fusln/dense ool, min ppt-f in-xtal por, no odor, ns.

LS: cm/lt gry, micro-m xtal, chalky, some silty, wht/lt gry chert, foss frags, no vis por, no odor, ns.

LS: cm/lt gry, micro-m xtal, chalky, min foss frags, 26 pcs w/staining/sfo, vf-m in-xtal por/frac por, dul yel fluor, gd odor, sfo.

SH: dk gry/blk, some silty, carb, soft-firm.

CFS @ 3890'  
Stop/30"/60"

CFS @ 3910'  
Stop/30"/60"

CFS @ 3928'  
Stop/30"/60"

CFS @ 3938'  
Stop/30"/60"

**DST2) 3986-4040  
Lansing H & I  
zones**

15/30/30/30  
1st SB blow built to 3/4"; No BB.  
2nd) No blow; No BB.  
IFP 26-30#  
ISIP 721#  
FFP 32-42#  
FSIP 597#  
HP 1957-1923#  
Recvd: 10' OSM (2%O, 98%M).

CFS @ 4000'  
Stop/30"/60"

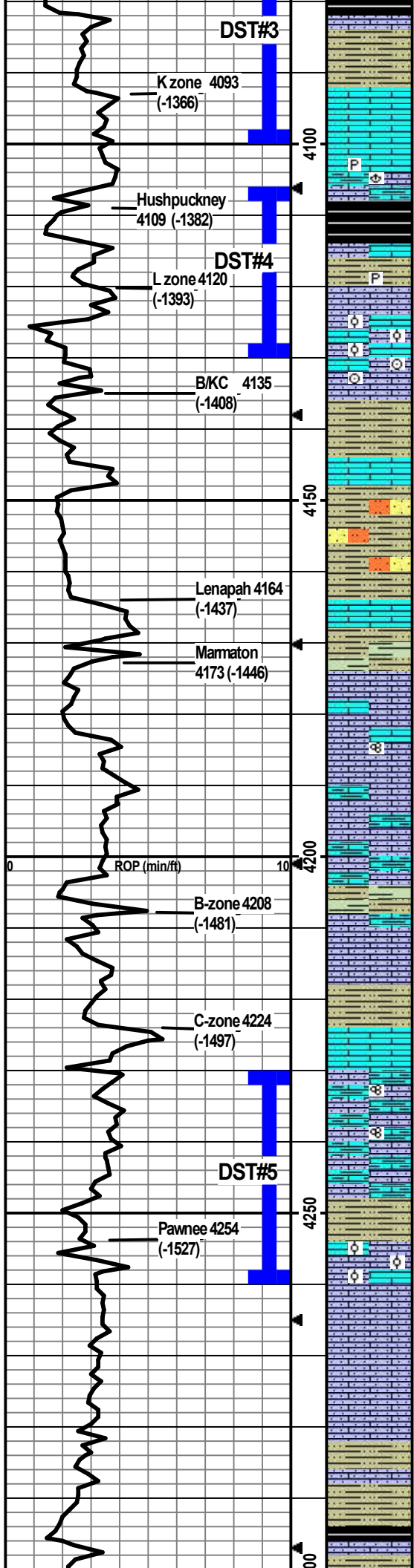
CFS @ 4018'  
Stop/30"/60"

CFS @ 4040'  
Stop/30"/60"

CFS @ 4070'  
Stop/30"/60"

**DST3) 4068-4102  
Lansing J-base &  
K zones**

15/30/30/30  
1st Blow built to 1/4"; No BB.  
2nd) No blow; No BB.



SH: lt-dk gry/blk/dk red-bm/dk maroon, some vry silty/sndy, carb, soft-firm.

LS: cm/lt-m gry/lt-m bm/dk gry mottling, micro-m xtal, some silty/sndy/arg, some chalky, foss frags, 2 pcs in 30min/5 pcs in 60min w/o/staining/fo on break, ppt-m in-xtal por, dul yel fluor, no odor, sfo.

IFP 25-27#  
ISIP 62#  
FFP 27-28#  
FSIP 42#  
HP 1993-1981#  
Recvd: 3' Mud w/oil specks.

CFS @4102  
Stop/30"/60"

NOTE: Drill string stuck about 40' off bottom TIH w/bit after DST #3 @4102'. Spotted 78 bbls of oil to free up. Stuck from approx. 3:45am to 9:00am Thurs. Sept 7.

LS: wht/cm/lt-m gry/lt bm, micro-m xtal, chalky, some vry silty/arg, min pyrite, foss frags/brac, no vis por, no odor, ns.

SH: lt-dk gry/blk/min red-bm, some vry silty/sndy, some pyritic, carb, soft-firm.

LS: lt-m bm, micro-m xtal, some silty/sndy, some glassy, foss frags, no vis por, no odor, ns.

LS: cm/lt-m bm/lt gry, micro-m xtal, min chalky, some silty/sndy, foss frags/abund ool, approx 10-15% of smpl w/sfo, f-m in-xtal por/crs oo-castic por, dul yel fluor, stg odor, gd sfo.

CFS @4130  
Stop/30"/60"

**DST4) 4106-4230 Lansing L-zone**

10/15/15/15  
1st) Blow built to 1/4"; No BB.  
2nd) No blow; No BB.  
IFP 26-27#  
ISIP 702#  
FFP 27-28#  
FSIP 597#  
HP 1978-1970#  
Recvd: 4' Mud w/oil spots.

LS: wht/cm/lt gry, micro-m xtal, chalky, some silty, foss frags/crin, no vis por, (odor from spotted oil), ns.

SH: lt-dk gry/lt green, some silty/sndy, carb, soft-firm.

SH: lt-dk gry/lt green, some silty/sndy, carb, soft-firm.

LS: wht/cm, micro-m xtal, chalky, foss frags, no vis por, (odor from spotted oil), ns.

SH: lt-dk gry/lt red-bm, some vry silty/sndy, carb, soft-firm. Sltstn/SS: lt wht-gry/lt red-bm, vf-f, arg/carb matrix, friable, (odor from spotted oil), ns.

LS: cm/lt gry/lt bm, micro-m xtal, some chalky, some silty, foss frags, no vis por, (odor from spotted oil), ns.

SH: lt-dk gry/red-bm, some vry silty, soft-firm.

SH: lt-dk gry/min bm/min red-brn, some vry silty/sndy, soft-firm.

LS: cm/lt gry/lt bm/lt yel/some red mottling, micro-m xtal, some chalky, some silty, min foss frags, no vis por, (odor from spotted oil), ns.

LS: cm/lt gry/lt maroon/dk red frac mottling, micro-m xtal, some chalky, some silty/sndy, foss frags/min fusln, no vis por, (odor from spotted oil), ns.

CFS @4190  
Stop/30"/60"

LS: wht/cm/lt gry, vf-m xtal, vry silty/sndy/arg, chalky, foss frags, no vis por, (odor from spotted oil), ns.

SH: lt-dk gry/red-brn/lt gry-green, some silty/sndy, carb, soft-firm.

LS: cm/lt gry/lt bm, micro-m xtal, chalky, silty/sndy/arg, foss frags, no vis por, (odor from spotted oil), ns.

LS: cm/lt gry/lt bm, micro-m xtal, some silty/sndy, chalky, min foss frags, no vis por, (odor from spotted oil), ns.

SH: lt-m gry/lt-m red-bm/lt maroon/must yel, some vry silty/sndy, carb, soft-firm.

CFS @4215  
Stop/30"/60"

LS: cm/lt-m bm/lt-m red-bm/lt maroon, micro-m xtal, some vry silty/sndy/arg, chalky, foss frags, no vis por, (odor from spotted oil), ns.

LS: cm/lt gry/lt bm/lt gry-bm, micro-m xtal, some vry silty/sndy/arg, some chalky, foss frags/fusln, no vis por, (slt odor from spotted oil), ns.

CFS @4235  
Stop/30"/60"

LS: as above, no odor, ns.

SH: lt-dk gry, some vry silty, carb, soft-firm.

LS: cm, micro-m xtal, chalky, some silty, foss frags/ool, 44 pcs w/sfo w/f-m in-xtal/in-ool por, dul-brite yel fluor, gd odor, gd sfo.

CFS @4260  
Stop/30"/60"

**DST5) 4231-4260 Pawnee**

10/30/30/60  
1st) BOB at 7min; No BB.  
2nd) BOB at 3min; No BB.  
IFP 31-36#  
ISIP 1139#  
FFP 49-60#  
FSIP 702#  
HP 2079-2065#  
Recvd: 975' GIP, 15' Oil (100%O), 85' GOCM (20%G, 35%O, 45%M).

LS: cm/min lt bm/min lt gry, vf-f xtal, silty/sndy, chalky, foss frags, no vis por, no odor, ns.

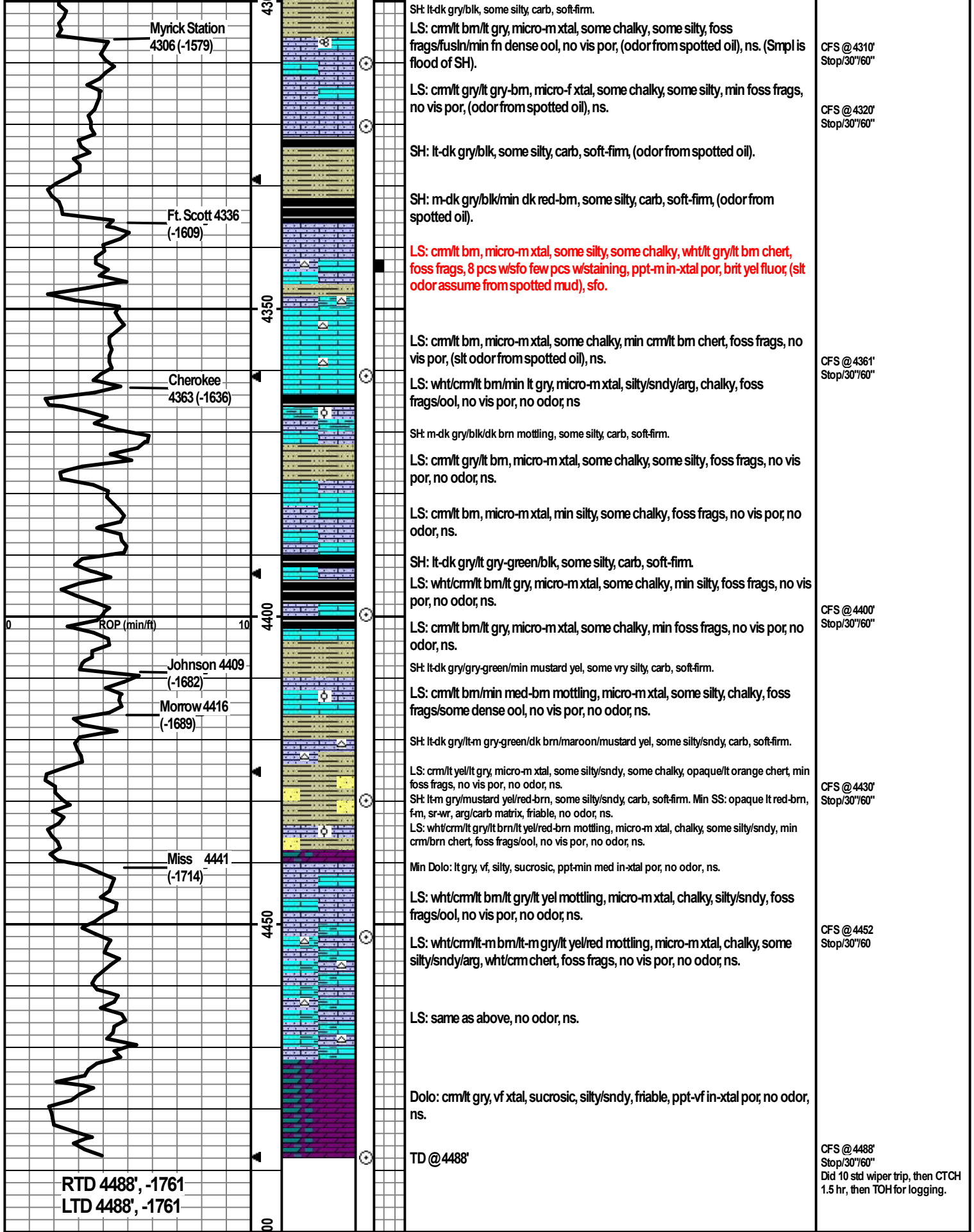
LS: cm/lt bm/min lt gry, vf-f xtal, chalky, silty, min foss frags, no vis por, no odor, ns.

LS: cm/lt gry/lt bm-gry, vf-m xtal, chalky, silty, min foss frags, no vis por, no odor, ns.

SH: m-dk gry/blk, some silty/sndy, carb, soft-firm.

SH: m-dk gry/blk/min dk bm, some silty, carb, soft-firm.

LS: wht/cm/lt-m bm/min lt gry, vf-m xtal, some silty, some chalky, foss frags, no vis por, (odor from spotted oil), ns.



Myrick Station  
4306 (-1579)

Ft. Scott 4336  
(-1609)

Cherokee  
4363 (-1636)

Johnson 4409  
(-1682)

Morrow 4416  
(-1689)

Miss 4441  
(-1714)

RTD 4488', -1761  
LTD 4488', -1761

SH: lt-dk gry/blk, some silty, carb, soft-firm.  
LS: cm/lt bm/lt gry, micro-m xtal, some chalky, some silty, foss frags/fusin/min fn dense ool, no vis por, (odor from spotted oil), ns. (Smpl is flood of SH).

LS: cm/lt gry/lt gry-bm, micro-f xtal, some chalky, some silty, min foss frags, no vis por, (odor from spotted oil), ns.

SH: lt-dk gry/blk, some silty, carb, soft-firm, (odor from spotted oil).

SH: m-dk gry/blk/min dk red-bm, some silty, carb, soft-firm, (odor from spotted oil).

LS: cm/lt bm, micro-m xtal, some silty, some chalky, wht/lt gry/lt bm chert, foss frags, 8 pcs w/sfo few pcs w/staining, ppt-m in-xtal por, brit yel fluor, (silt odor assume from spotted mud), sfo.

LS: cm/lt bm, micro-m xtal, some chalky, min cm/lt bm chert, foss frags, no vis por, (silt odor from spotted oil), ns.

LS: wht/cm/lt bm/min lt gry, micro-m xtal, silty/sndy/arg, chalky, foss frags/ool, no vis por, no odor, ns

SH: m-dk gry/blk/dk brn mottling, some silty, carb, soft-firm.

LS: cm/lt gry/lt bm, micro-m xtal, some chalky, some silty, foss frags, no vis por, no odor, ns.

LS: cm/lt bm, micro-m xtal, min silty, some chalky, foss frags, no vis por, no odor, ns.

SH: lt-dk gry/lt gry-green/blk, some silty, carb, soft-firm.

LS: wht/cm/lt bm/lt gry, micro-m xtal, some chalky, min silty, foss frags, no vis por, no odor, ns.

LS: cm/lt bm/lt gry, micro-m xtal, some chalky, min foss frags, no vis por, no odor, ns.

SH: lt-dk gry/gry-green/min mustard yel, some vry silty, carb, soft-firm.

LS: cm/lt bm/min med-bm mottling, micro-m xtal, some silty, chalky, foss frags/some dense ool, no vis por, no odor, ns.

SH: lt-dk gry/lt-m gry-green/dk brn/maroon/mustard yel, some silty/sndy, carb, soft-firm.

LS: cm/lt yel/lt gry, micro-m xtal, some silty/sndy, some chalky, opaque/lt orange chert, min foss frags, no vis por, no odor, ns.

SH: lt-m gry/mustard yel/red-brn, some silty/sndy, carb, soft-firm. Min SS: opaque lt red-brn, f-m, sr-wr, arg/carb matrix, friable, no odor, ns.

LS: wht/cm/lt gry/lt brn/lt yel/red-brn mottling, micro-m xtal, chalky, some silty/sndy, min cm/brn chert, foss frags/ool, no vis por, no odor, ns.

Min Dolo: lt gry, vf, silty, sucrosic, ppt-min med in-xtal por, no odor, ns.

LS: wht/cm/lt bm/lt gry/lt yel mottling, micro-m xtal, chalky, silty/sndy, foss frags/ool, no vis por, no odor, ns.

LS: wht/cm/lt-m bm/lt-m gry/lt yel/red mottling, micro-m xtal, chalky, some silty/sndy/arg, wht/cm chert, foss frags, no vis por, no odor, ns.

LS: same as above, no odor, ns.

Dolo: cm/lt gry, vf xtal, sucrosic, silty/sndy, friable, ppt-vf in-xtal por, no odor, ns.

TD @ 4488'

CFS @ 4310'  
Stop/30"/60"

CFS @ 4320'  
Stop/30"/60"

CFS @ 4361'  
Stop/30"/60"

CFS @ 4400'  
Stop/30"/60"

CFS @ 4430'  
Stop/30"/60"

CFS @ 4452'  
Stop/30"/60"

CFS @ 4488'  
Stop/30"/60"  
Did 10 std wiper trip, then CTCH 1.5 hr, then TOH for logging.



## DRILL STEM TEST REPORT

Prepared For: **Shakespeare Oil Co**

202 W Main St  
Salem, IL 62881

ATTN: Kent Matson

### **Heier Comm #1-22**

### **22-12S-29W Gove,KS**

Start Date: 2023.09.05 @ 03:06:00

End Date: 2023.09.05 @ 09:49:00

Job Ticket #: 70857                      DST #: 1

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2023.09.14 @ 09:12:14

Shakespeare Oil Co  
22-12S-29W Gove,KS  
Heier Comm #1-22  
DST # 1  
LKC " D - F"  
2023.09.05



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Shakespeare Oil Co

**22-12S-29W Gove,KS**

202 W Main St  
Salem, IL 62881

**Heier Comm #1-22**

ATTN: Kent Matson

Job Ticket: 70857

**DST#: 1**

Test Start: 2023.09.05 @ 03:06:00

## GENERAL INFORMATION:

Formation: **LKC " D - F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:33:10

Time Test Ended: 09:49:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Martine Salinas

Unit No: 82

**Interval: 3914.00 ft (KB) To 3938.00 ft (KB) (TVD)**

Reference Elevations: 2727.00 ft (KB)

Total Depth: 3938.00 ft (KB) (TVD)

2717.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8734 Outside**

Press@RunDepth: 135.12 psig @ 3915.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2023.09.05 End Date: 2023.09.05

Last Calib.: 2023.09.05

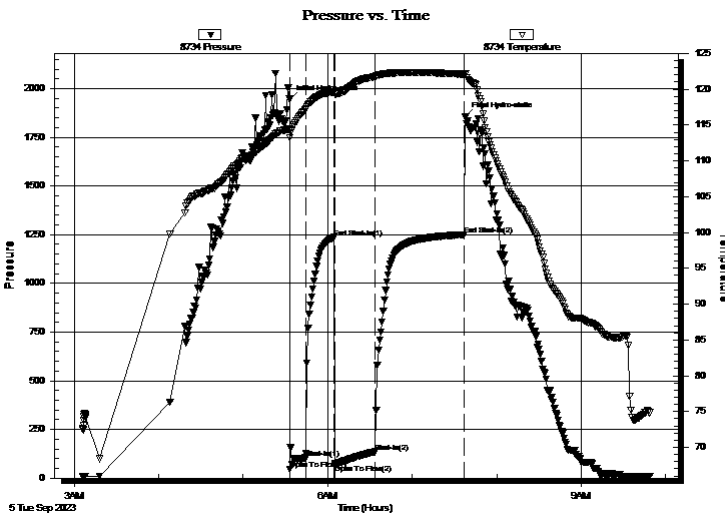
Start Time: 03:06:01 End Time: 09:49:00

Time On Btm: 2023.09.05 @ 05:33:00

Time Off Btm: 2023.09.05 @ 07:37:50

**TEST COMMENT:** 10-IF-B.O.B(11 inches) @ 7 mins (Blow built to 16")  
20-ISI-Return blow ASASI built to 1/2"  
30-FF-B.O.B @ 10 mins (Blow built to 29 3/4")  
60-FSI-Return blow built to 4 1/2" & decreased to 1 1/2"

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1945.04	114.37	Initial Hydro-static
1	44.24	113.27	Open To Flow (1)
12	103.89	117.19	Shut-In(1)
32	1236.00	119.63	End Shut-In(1)
33	72.91	119.30	Open To Flow (2)
61	135.12	121.76	Shut-In(2)
125	1250.19	122.09	End Shut-In(2)
125	1856.72	122.15	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	GOCM 15%G,15%O,70%M	0.21
260.00	CGO 18%G, 82%O	3.65

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Shakespeare Oil Co

**22-12S-29W Gove,KS**

202 W Main St  
Salem, IL 62881

**Heier Comm #1-22**

Job Ticket: 70857

**DST#: 1**

ATTN: Kent Matson

Test Start: 2023.09.05 @ 03:06:00

## Tool Information

Drill Pipe:	Length: 3908.00 ft	Diameter: 3.80 inches	Volume: 54.82 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	55000.00 lb
			<u>Total Volume: 54.82 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial	39000.00 lb
Depth to Top Packer:	3914.00 ft			Final	40000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	24.00 ft				
Tool Length:	57.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3882.00	
Shut In Tool	5.00			3887.00	
Hydraulic tool	5.00	1113		3892.00	
Jars	5.00	01-07		3897.00	
EM Tool	5.00			3902.00	
Safety Joint	3.00	-001		3905.00	
Packer	5.00			3910.00	33.00 Bottom Of Top Packer
Packer	4.00			3914.00	
Stubb	1.00			3915.00	
Recorder	0.00	8959	Inside	3915.00	
Recorder	0.00	8734	Outside	3915.00	
Perforations	18.00			3933.00	
Bullnose	5.00			3938.00	24.00 Bottom Packers & Anchor

**Total Tool Length: 57.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Shakespeare Oil Co

**22-12S-29W Gove,KS**

202 W Main St  
Salem, IL 62881

**Heier Comm #1-22**

Job Ticket: 70857

**DST#: 1**

ATTN: Kent Matson

Test Start: 2023.09.05 @ 03:06:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

33.4 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	GOCM 15%G,15%O,70%M	0.210
260.00	CGO 18%G, 82%O	3.647

Total Length: 275.00 ft      Total Volume: 3.857 bbl

Num Fluid Samples: 0

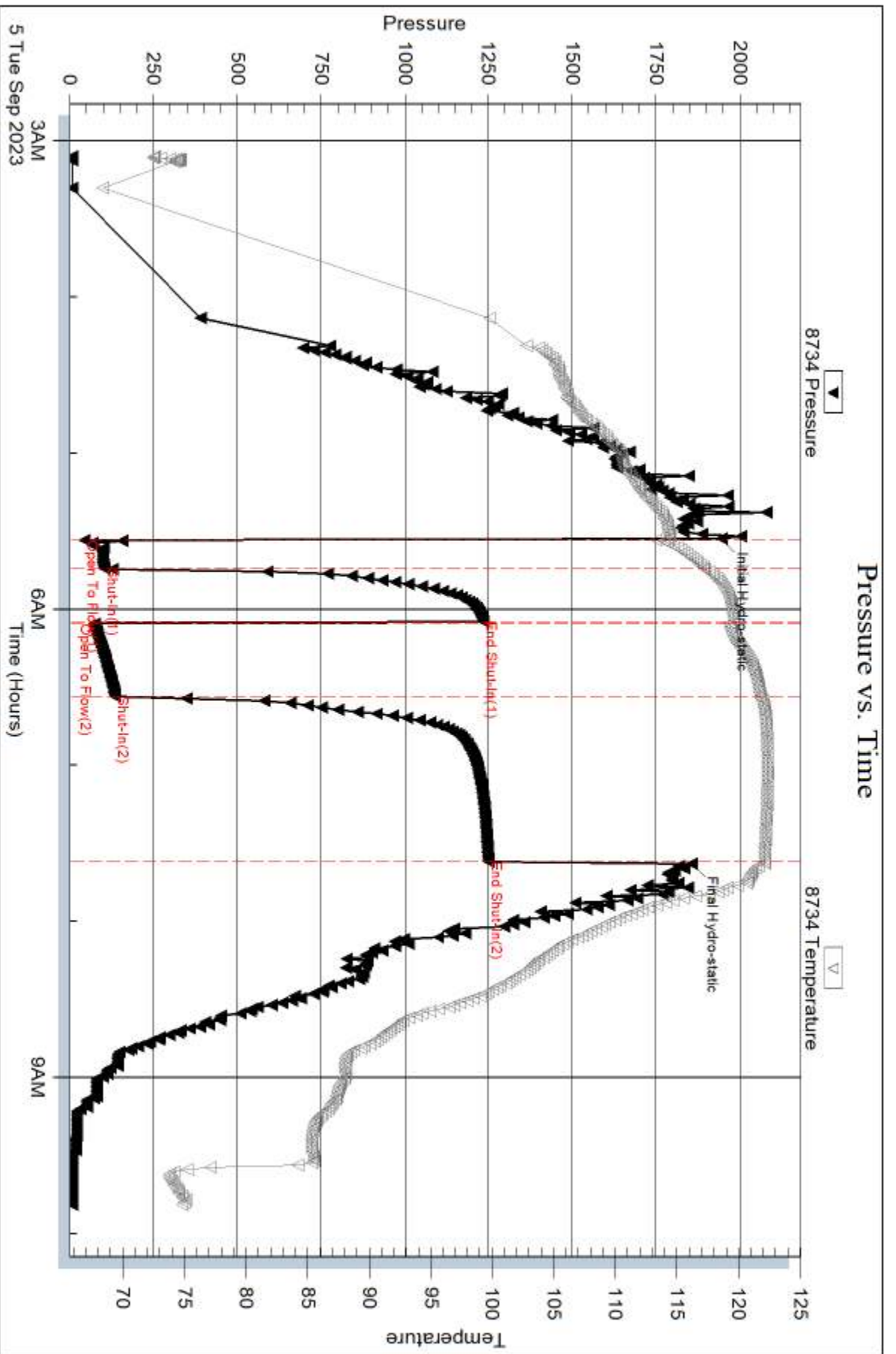
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity of oil = 34.4 @ 70 degs corrected to 33.4 @ 60 degs



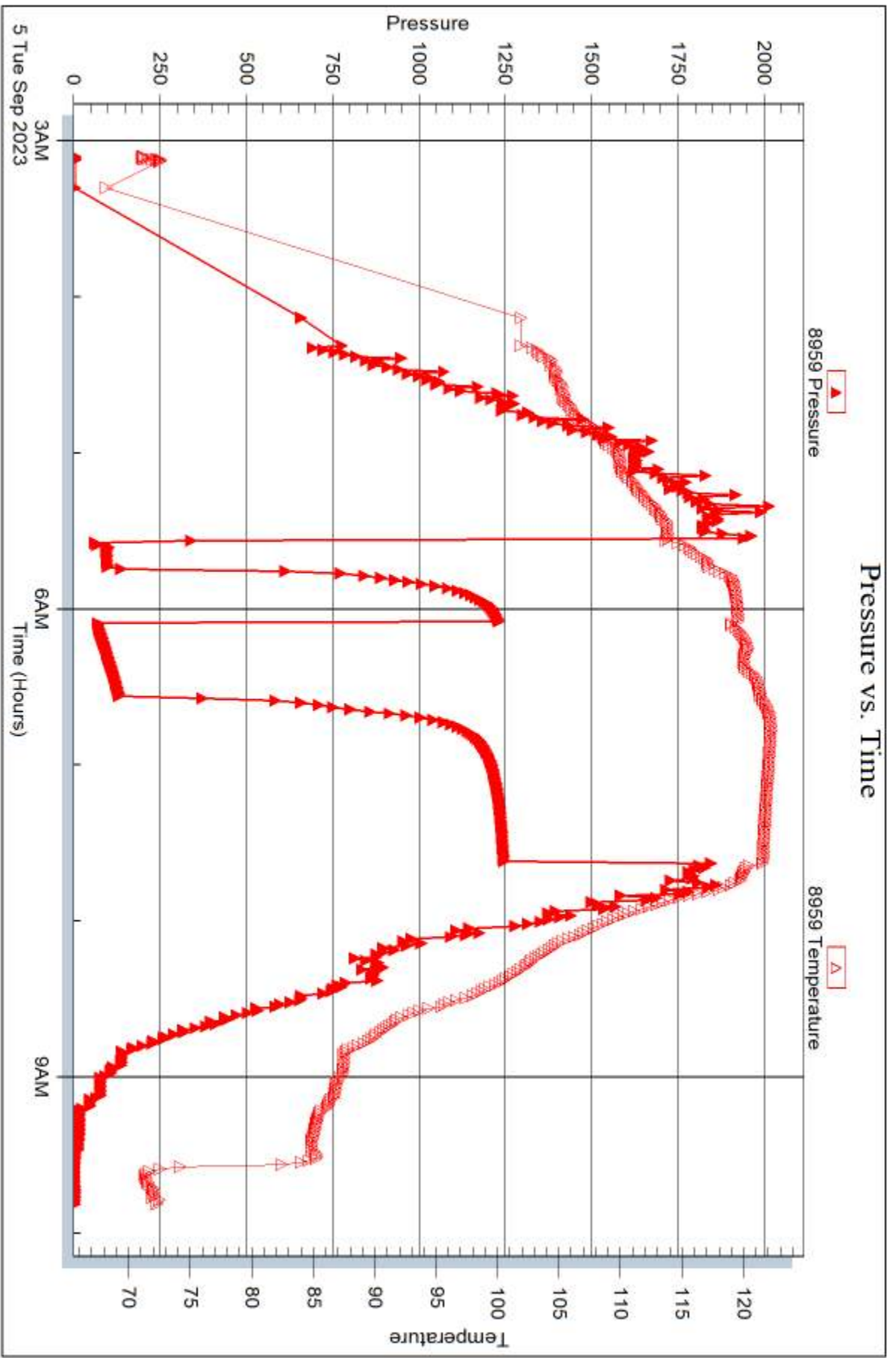
Serial #: 8959

Inside

Shakespeare Oil Co

Heier Comm #1-22

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 70857

Printed: 2023.09.14 @ 09:12:15



## DRILL STEM TEST REPORT

Prepared For: **Shakespeare Oil Co**

202 W Main St  
Salem, IL 62881

ATTN: Kent Matson

### **Heier Comm #1-22**

### **22-12S-29W Gove,KS**

Start Date: 2023.09.06 @ 01:00:00

End Date: 2023.09.06 @ 07:31:20

Job Ticket #: 70858                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2023.09.14 @ 09:07:37

Shakespeare Oil Co

22-12S-29W Gove,KS

Heier Comm #1-22

DST # 2

LKC " H & I "

2023.09.06



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Shakespeare Oil Co

**22-12S-29W Gove,KS**

202 W Main St  
Salem, IL 62881

**Heier Comm #1-22**

ATTN: Kent Matson

Job Ticket: 70858

**DST#: 2**

Test Start: 2023.09.06 @ 01:00:00

## GENERAL INFORMATION:

Formation: **LKC "H & I"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:33:40

Time Test Ended: 07:31:20

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

**Interval: 3986.00 ft (KB) To 4040.00 ft (KB) (TVD)**

Reference Elevations: 2727.00 ft (KB)

Total Depth: 4040.00 ft (KB) (TVD)

2717.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8734 Outside**

Press@RunDepth: 41.72 psig @ 3987.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2023.09.06

End Date:

2023.09.06

Last Calib.:

2023.09.06

Start Time: 01:00:01

End Time:

07:31:20

Time On Btm:

2023.09.06 @ 03:33:30

Time Off Btm:

2023.09.06 @ 05:22:50

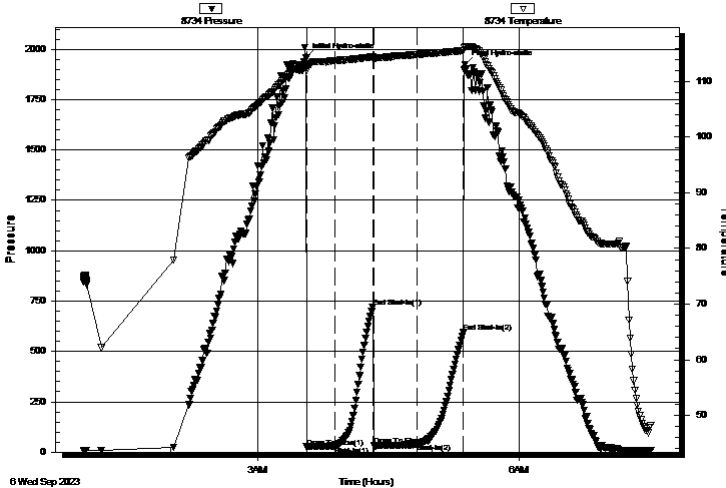
TEST COMMENT: 15-IF-Blow built to 3/4"

30-ISI-No return

30-FF-No blow

30-FSI-No return

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1956.52	113.07	Initial Hydro-static
1	26.24	111.91	Open To Flow (1)
20	30.36	113.80	Shut-In(1)
46	720.50	114.41	End Shut-In(1)
47	31.67	114.22	Open To Flow (2)
77	41.72	114.86	Shut-In(2)
109	596.96	115.56	End Shut-In(2)
110	1922.94	116.16	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	OSM 2%O, 98%M	0.14

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Shakespeare Oil Co

**22-12S-29W Gove,KS**

202 W Main St  
Salem, IL 62881

**Heier Comm #1-22**

Job Ticket: 70858

**DST#: 2**

ATTN: Kent Matson

Test Start: 2023.09.06 @ 01:00:00

## Tool Information

Drill Pipe:	Length: 3972.00 ft	Diameter: 3.80 inches	Volume: 55.72 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 45000.00 lb
			<u>Total Volume: 55.72 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 38000.00 lb
Depth to Top Packer:	3986.00 ft			Final 38000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	54.00 ft			
Tool Length:	87.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3954.00	
Shut In Tool	5.00			3959.00	
Hydraulic tool	5.00	1113		3964.00	
Jars	5.00	01-07		3969.00	
EM Tool	5.00			3974.00	
Safety Joint	3.00	-001		3977.00	
Packer	5.00			3982.00	33.00 Bottom Of Top Packer
Packer	4.00			3986.00	
Stubb	1.00			3987.00	
Recorder	0.00	8959	Inside	3987.00	
Recorder	0.00	8734	Outside	3987.00	
Perforations	15.00			4002.00	
Change Over Sub	1.00			4003.00	
Drill Pipe	31.00			4034.00	
Change Over Sub	1.00			4035.00	
Bullnose	5.00			4040.00	54.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>87.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Shakespeare Oil Co

**22-12S-29W Gove,KS**

202 W Main St  
Salem, IL 62881

**Heier Comm #1-22**

Job Ticket: 70858

**DST#: 2**

ATTN: Kent Matson

Test Start: 2023.09.06 @ 01:00:00

### 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:

ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1400.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	OSM 2%O, 98%M	0.140

Total Length: 10.00 ft      Total Volume: 0.140 bbl

Num Fluid Samples: 0

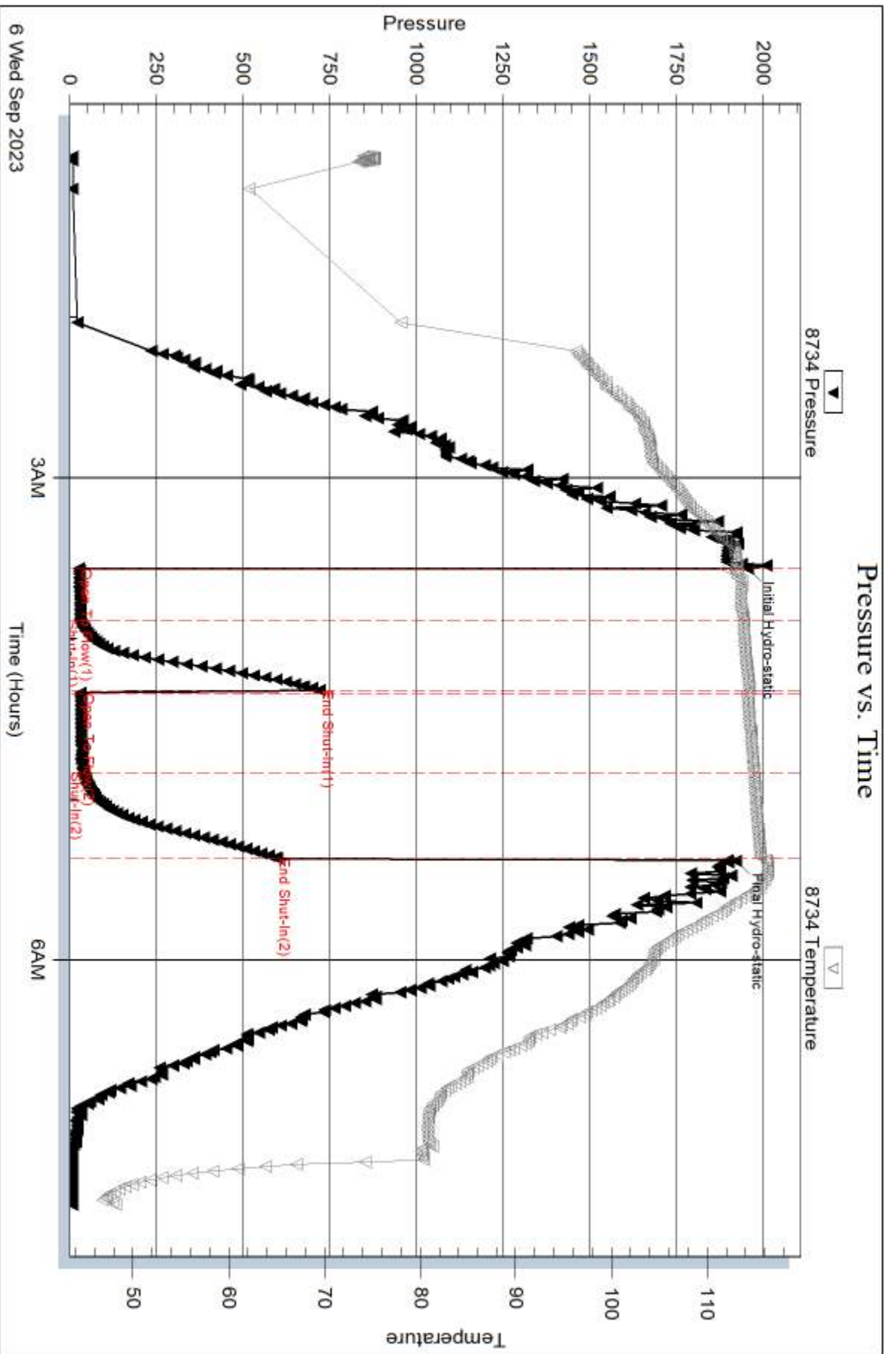
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



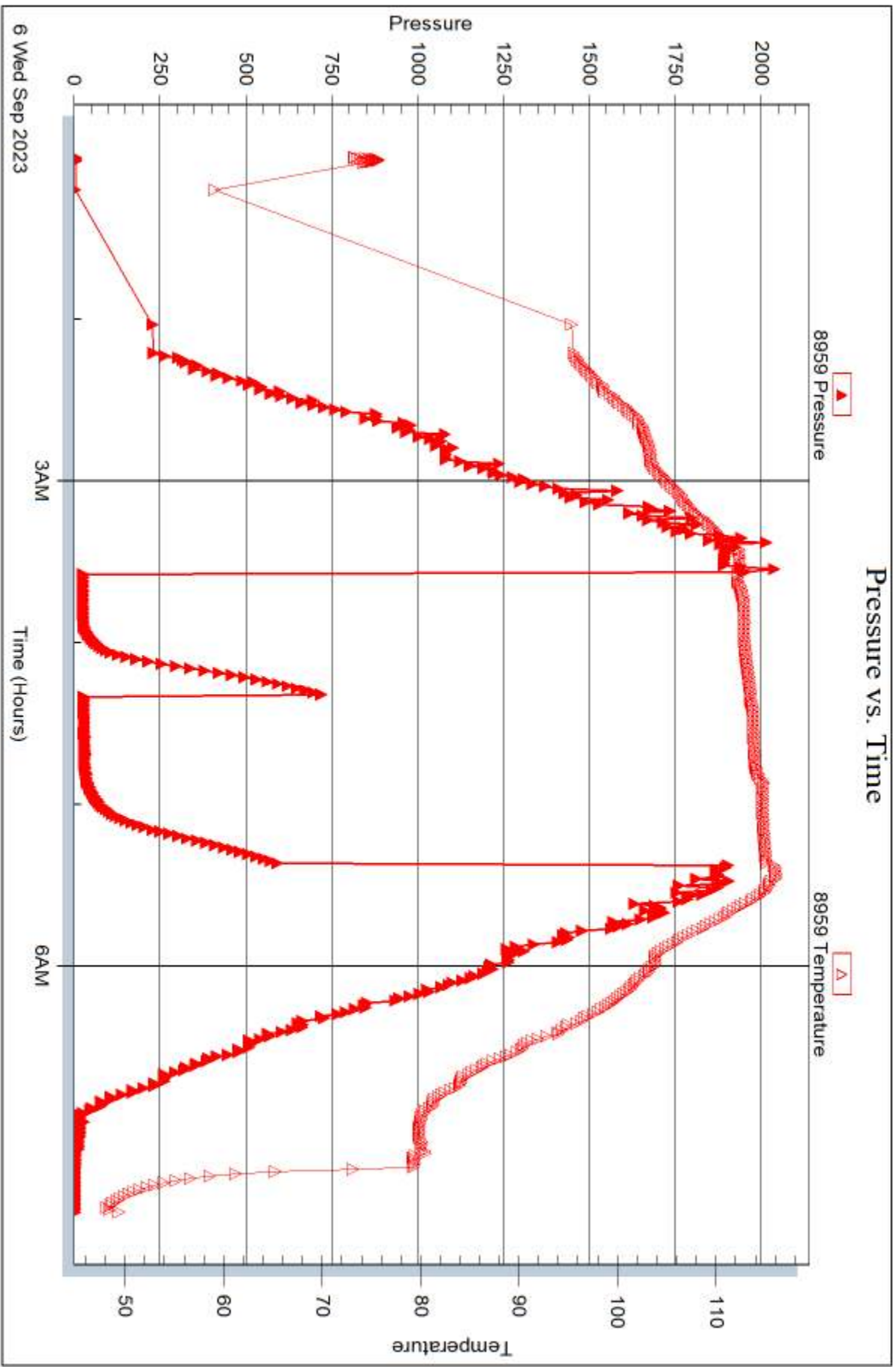
Serial #: 8959

Inside

Shakespeare Oil Co

Heier Comm #1-22

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 70858

Printed: 2023.09.14 @ 09:07:38



## DRILL STEM TEST REPORT

Prepared For: **Shakespeare Oil Co**

202 W Main St  
Salem, IL 62881

ATTN: Kent Matson

### **Heier Comm #1-22**

### **22-12S-29W Gove,KS**

Start Date: 2023.09.06 @ 19:05:00

End Date: 2023.09.07 @ 00:31:39

Job Ticket #: 70859                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2023.09.14 @ 09:05:08



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Shakespeare Oil Co

**22-12S-29W Gove,KS**

202 W Main St  
Salem, IL 62881

**Heier Comm #1-22**

ATTN: Kent Matson

Job Ticket: 70859

**DST#: 3**

Test Start: 2023.09.06 @ 19:05:00

## GENERAL INFORMATION:

Formation: **LKC J - K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:45:40

Time Test Ended: 00:31:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

**Interval: 4068.00 ft (KB) To 4102.00 ft (KB) (TVD)**

Reference Elevations: 2727.00 ft (KB)

Total Depth: 4102.00 ft (KB) (TVD)

2717.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8734 Outside**

Press@RunDepth: 27.56 psig @ 4069.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2023.09.06

End Date:

2023.09.07

Last Calib.:

2023.09.07

Start Time: 19:05:01

End Time:

00:31:40

Time On Btm:

2023.09.06 @ 20:45:30

Time Off Btm:

2023.09.06 @ 22:27:30

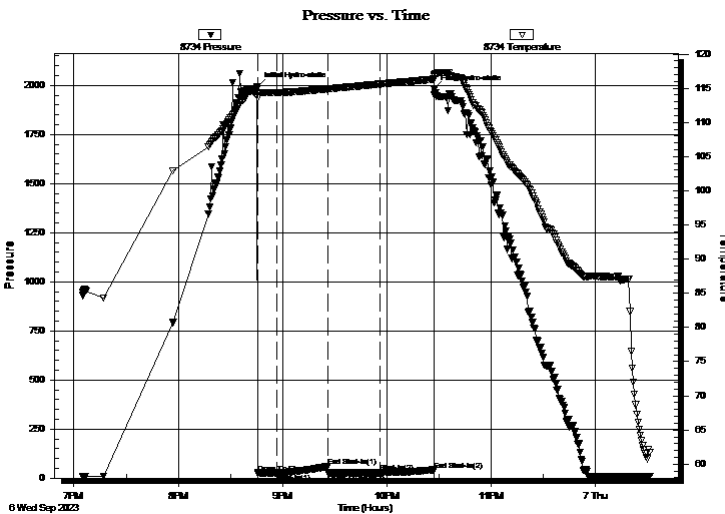
TEST COMMENT: 10-IF-Blow built to 1/4"

30-ISI-No return

30-FF-No blow

30-FSI-No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1992.89	114.79	Initial Hydro-static
1	24.51	113.56	Open To Flow (1)
12	27.04	114.34	Shut-In(1)
41	60.82	114.89	End Shut-In(1)
41	26.98	114.88	Open To Flow (2)
71	27.56	115.60	Shut-In(2)
102	42.48	116.31	End Shut-In(2)
102	1981.18	116.88	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
3.00	100% Mud w/Oils specks	0.04

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Shakespeare Oil Co

**22-12S-29W Gove,KS**

202 W Main St  
Salem, IL 62881

**Heier Comm #1-22**

Job Ticket: 70859

**DST#: 3**

ATTN: Kent Matson

Test Start: 2023.09.06 @ 19:05:00

## Tool Information

Drill Pipe:	Length: 4068.00 ft	Diameter: 3.80 inches	Volume: 57.06 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 45000.00 lb
			<u>Total Volume: 57.06 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial 39000.00 lb
Depth to Top Packer:	4068.00 ft			Final 39000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	34.00 ft			
Tool Length:	67.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4036.00	
Shut In Tool	5.00			4041.00	
Hydraulic tool	5.00	1113		4046.00	
Jars	5.00	01-07		4051.00	
EM Tool	5.00			4056.00	
Safety Joint	3.00	-001		4059.00	
Packer	5.00			4064.00	33.00 Bottom Of Top Packer
Packer	4.00			4068.00	
Stubb	1.00			4069.00	
Recorder	0.00	8959	Inside	4069.00	
Recorder	0.00	8734	Outside	4069.00	
Perforations	28.00			4097.00	
Bullnose	5.00			4102.00	34.00 Bottom Packers & Anchor

**Total Tool Length: 67.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Shakespeare Oil Co

**22-12S-29W Gove,KS**

202 W Main St  
Salem, IL 62881

**Heier Comm #1-22**

Job Ticket: 70859

**DST#: 3**

ATTN: Kent Matson

Test Start: 2023.09.06 @ 19:05:00

## 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:

ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2200.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
3.00	100% Mud w/Oils specks	0.042

Total Length: 3.00 ft      Total Volume: 0.042 bbl

Num Fluid Samples: 0

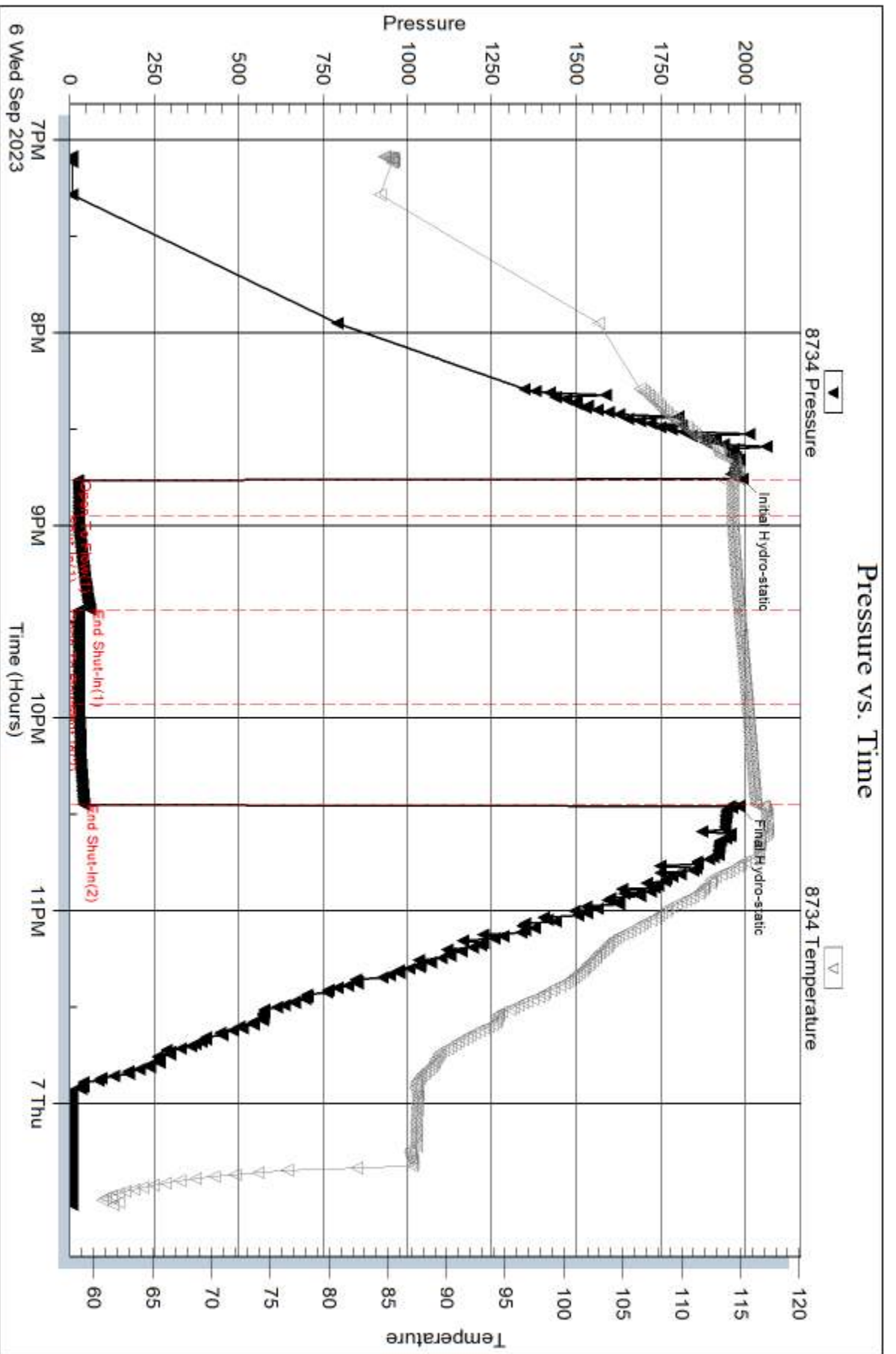
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



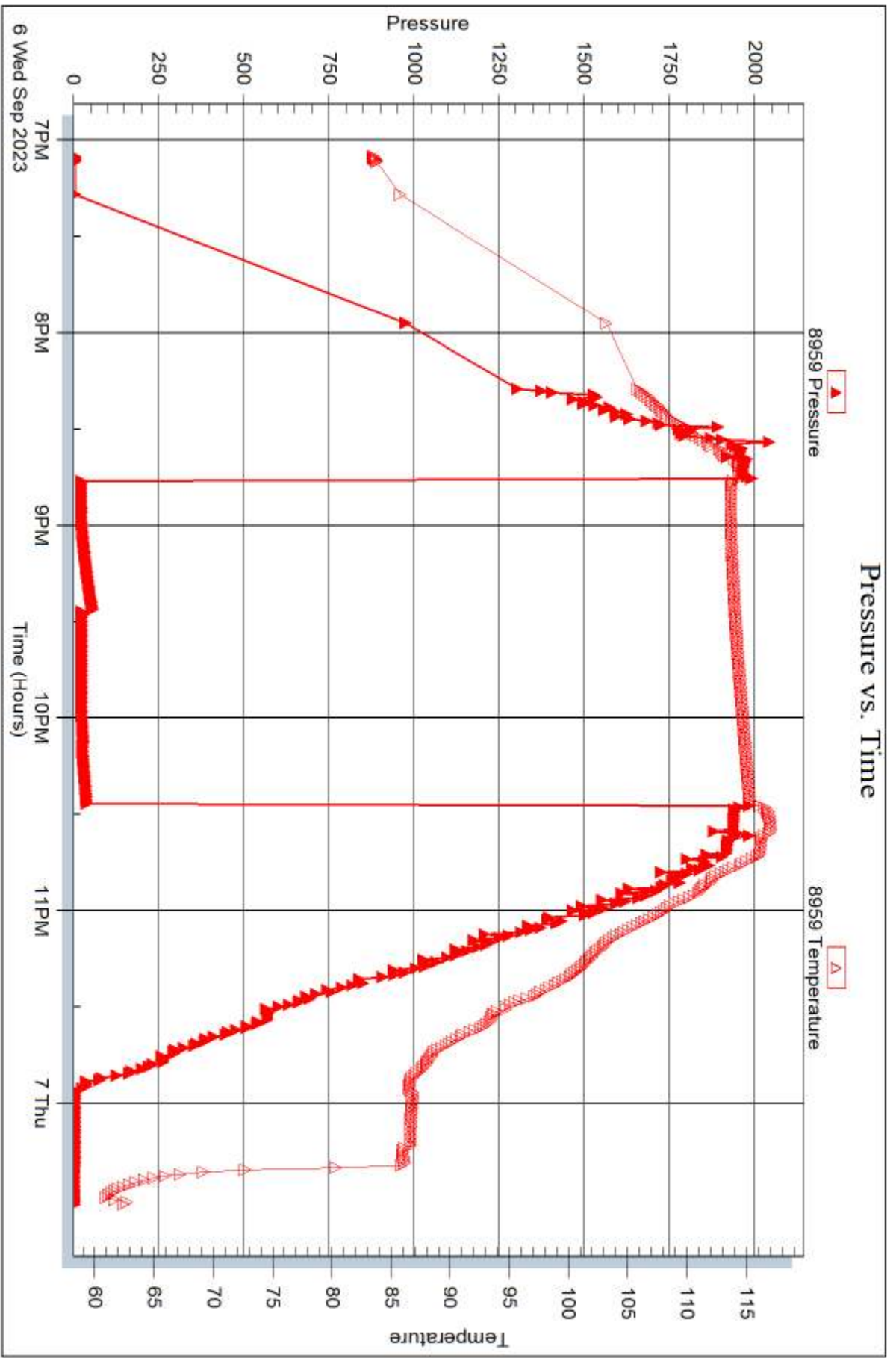
Serial #: 8959

Inside

Shakespeare Oil Co

Heier Comm #1-22

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 70859

Printed: 2023.09.14 @ 09:05:09



## DRILL STEM TEST REPORT

Prepared For: **Shakespeare Oil Co**

202 W Main St  
Salem, IL 62881

ATTN: Kent Matson

### **Heier Comm #1-22**

### **22-12S-29W Gove,KS**

Start Date: 2023.09.07 @ 14:13:00

End Date: 2023.09.07 @ 18:27:50

Job Ticket #: 70860                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2023.09.14 @ 08:55:01

Shakespeare Oil Co

22-12S-29W Gove,KS

Heier Comm #1-22

DST # 4

Lansing " L "

2023.09.07



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Shakespeare Oil Co

**22-12S-29W Gove,KS**

202 W Main St  
Salem, IL 62881

**Heier Comm #1-22**

ATTN: Kent Matson

Job Ticket: 70860

**DST#: 4**

Test Start: 2023.09.07 @ 14:13:00

## GENERAL INFORMATION:

Formation: **Lansing " L "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:47:00

Time Test Ended: 18:27:50

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

**Interval: 4106.00 ft (KB) To 4130.00 ft (KB) (TVD)**

Reference Elevations: 2727.00 ft (KB)

Total Depth: 4130.00 ft (KB) (TVD)

2717.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8734 Outside**

Press@RunDepth: 28.10 psig @ 4107.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2023.09.07 End Date: 2023.09.07

Last Calib.: 2023.09.07

Start Time: 14:13:01 End Time: 18:27:50

Time On Btm: 2023.09.07 @ 15:46:50

Time Off Btm: 2023.09.07 @ 16:44:50

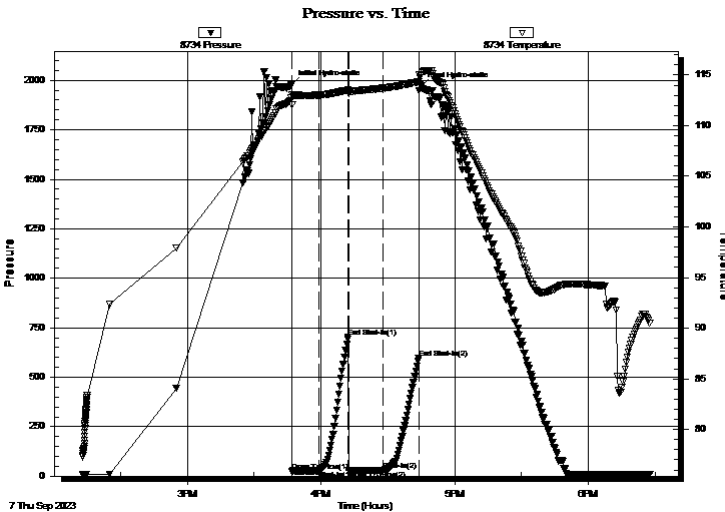
TEST COMMENT: 10-IF-Blow built to 1/4"

15-ISI-No return

15-FF-No blow

15-FSI-No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1977.75	113.05	Initial Hydro-static
1	25.80	112.09	Open To Flow (1)
12	27.02	113.02	Shut-In(1)
26	702.37	113.52	End Shut-In(1)
26	27.43	113.14	Open To Flow (2)
41	28.10	113.70	Shut-In(2)
57	597.43	114.33	End Shut-In(2)
58	1970.29	114.93	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
4.00	100% Mud w /Oil spots	0.06

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Shakespeare Oil Co

**22-12S-29W Gove,KS**

202 W Main St  
Salem, IL 62881

**Heier Comm #1-22**

Job Ticket: 70860

**DST#: 4**

ATTN: Kent Matson

Test Start: 2023.09.07 @ 14:13:00

## Tool Information

Drill Pipe:	Length: 4099.00 ft	Diameter: 3.80 inches	Volume: 57.50 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 57.50 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	4106.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	57.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Change Over Sub	1.00			4074.00	
Shut In Tool	5.00			4079.00	
Hydraulic tool	5.00	1113		4084.00	
Jars	5.00	01-07		4089.00	
EM Tool	5.00			4094.00	
Safety Joint	3.00	-001		4097.00	
Packer	5.00			4102.00	33.00 Bottom Of Top Packer
Packer	4.00			4106.00	
Stubb	1.00			4107.00	
Recorder	0.00	8959	Inside	4107.00	
Recorder	0.00	8734	Outside	4107.00	
Perforations	18.00			4125.00	
Bullnose	5.00			4130.00	24.00 Bottom Packers & Anchor

**Total Tool Length: 57.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Shakespeare Oil Co

**22-12S-29W Gove,KS**

202 W Main St  
Salem, IL 62881

**Heier Comm #1-22**

Job Ticket: 70860

**DST#: 4**

ATTN: Kent Matson

Test Start: 2023.09.07 @ 14:13:00

### 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:

ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbf

Water Loss: 8.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbf
4.00	100% Mud w /Oil spots	0.056

Total Length: 4.00 ft      Total Volume: 0.056 bbf

Num Fluid Samples: 0

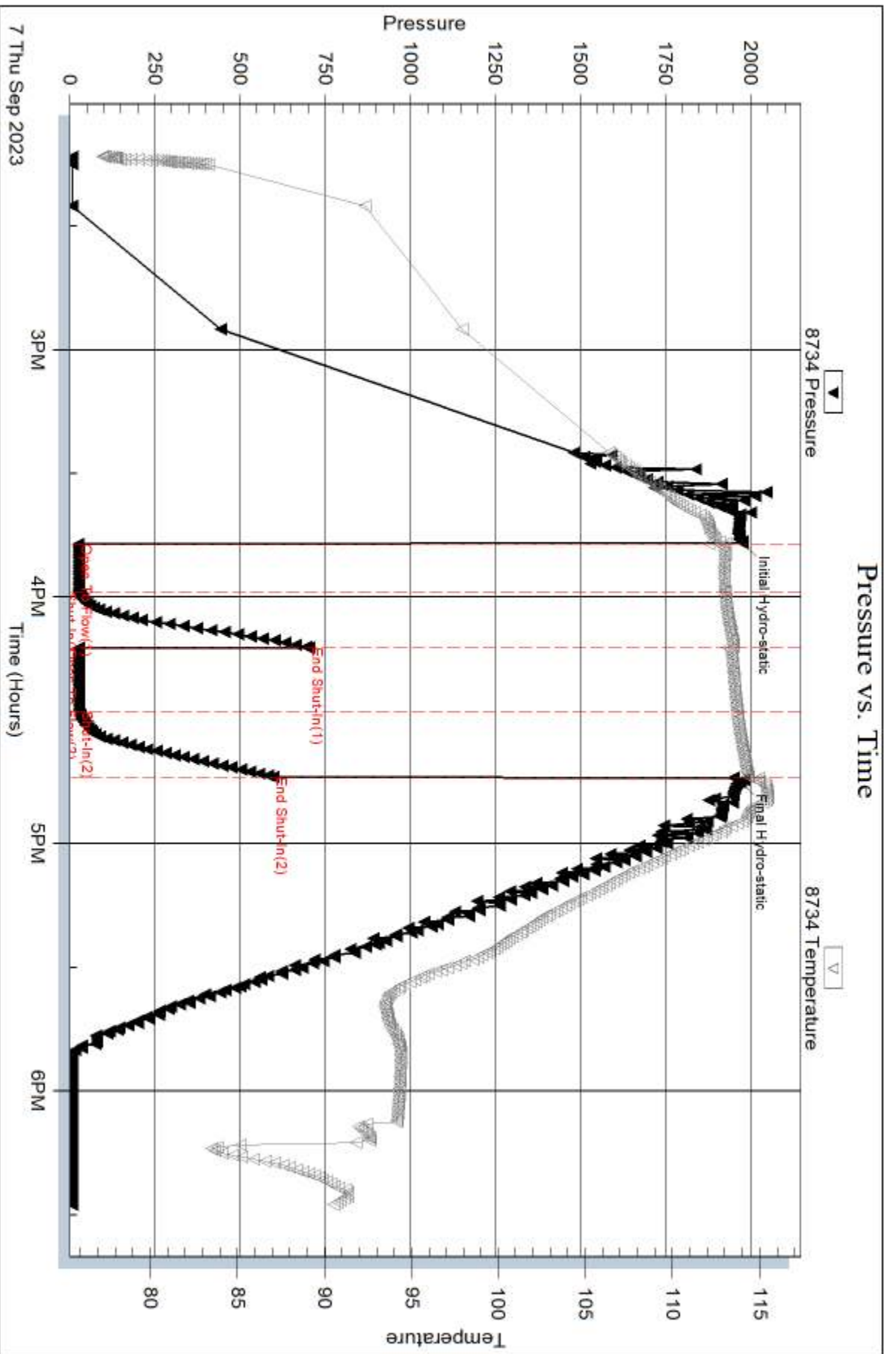
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



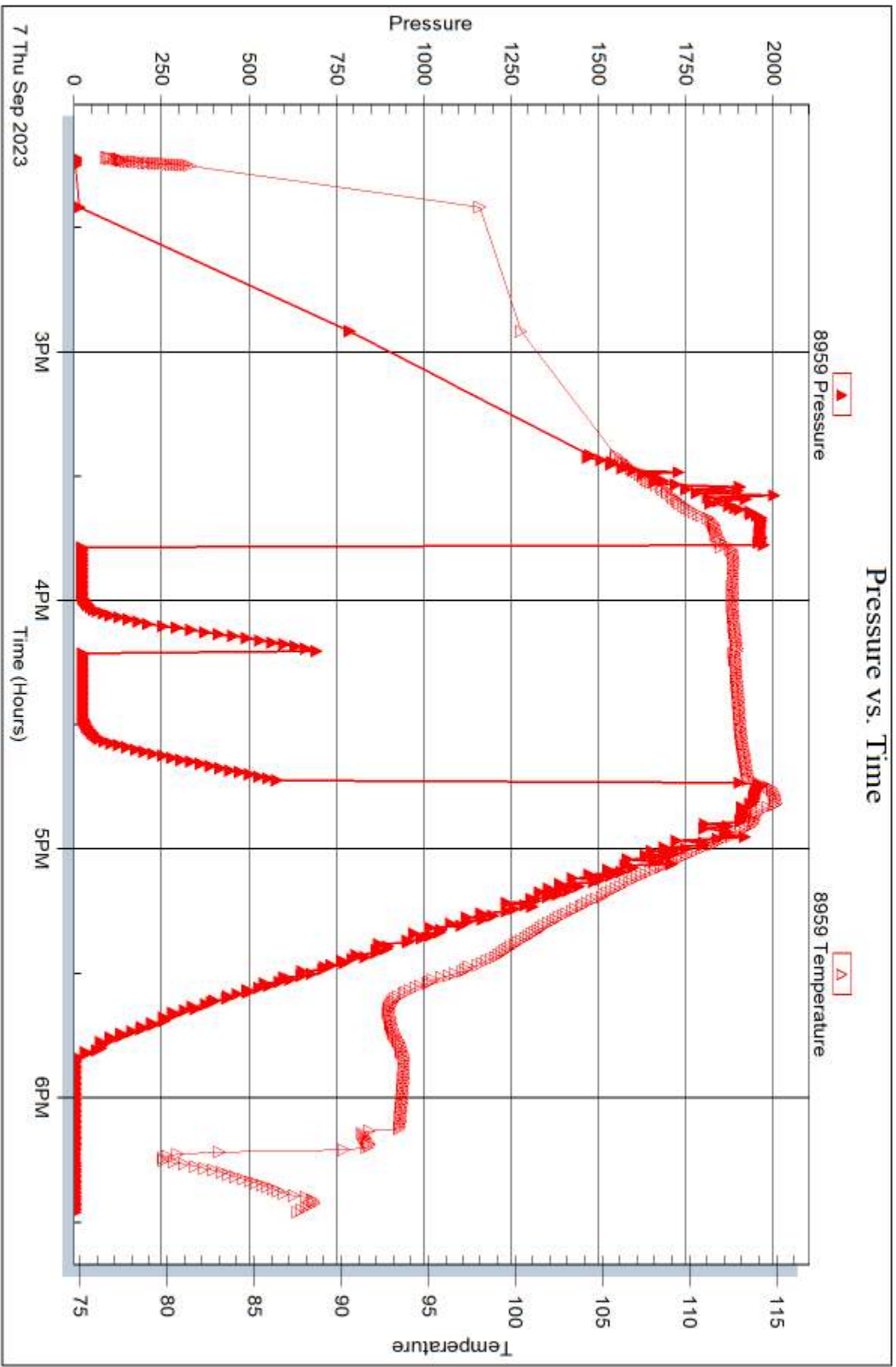
Serial #: 8959

Inside

Shakespeare Oil Co

Heier Comm #1-22

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 70860

Printed: 2023.09.14 @ 08:55:02



## DRILL STEM TEST REPORT

Prepared For: **Shakespeare Oil Co**

202 W Main St  
Salem, IL 62881

ATTN: Kent Matson

### **Heier Comm #1-22**

### **22-12S-29W Gove,KS**

Start Date: 2023.09.08 @ 12:54:00

End Date: 2023.09.08 @ 19:10:20

Job Ticket #: 70861                      DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2023.09.14 @ 08:51:54



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Shakespeare Oil Co

**22-12S-29W Gove,KS**

202 W Main St  
Salem, IL 62881

**Heier Comm #1-22**

ATTN: Kent Matson

Job Ticket: 70861

**DST#: 5**

Test Start: 2023.09.08 @ 12:54:00

## GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:46:30

Time Test Ended: 19:10:20

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 82

**Interval: 4231.00 ft (KB) To 4260.00 ft (KB) (TVD)**

Reference Elevations: 2727.00 ft (KB)

Total Depth: 4260.00 ft (KB) (TVD)

2717.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8959 Inside**

Press@RunDepth: 59.75 psig @ 4232.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2023.09.08

End Date:

2023.09.08

Last Calib.:

2023.09.08

Start Time: 12:54:01

End Time:

19:10:20

Time On Btm:

2023.09.08 @ 14:46:20

Time Off Btm:

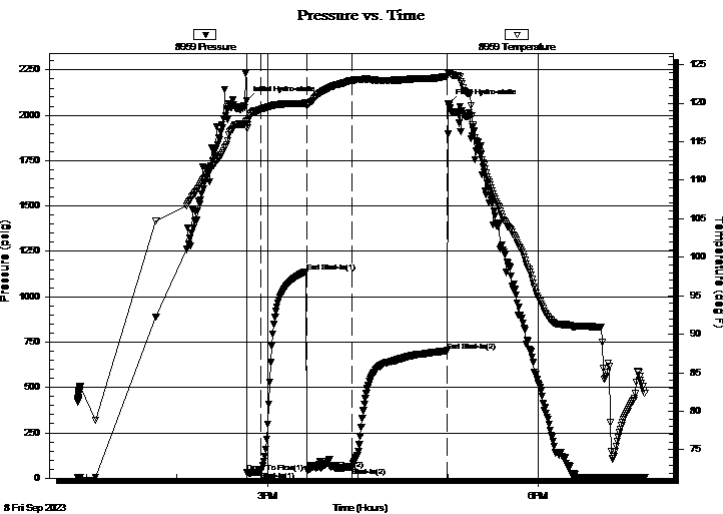
2023.09.08 @ 17:00:10

TEST COMMENT: IF: BOB @ 7 min- 14"

IS: No return.

FF: BOB @ 3 min- 34"

FS: No return. 10-30-30-60



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2079.19	117.65	Initial Hydro-static
1	30.68	116.75	Open To Flow (1)
10	35.73	119.18	Shut-In(1)
40	1138.52	119.98	End Shut-In(1)
40	48.86	119.69	Open To Flow (2)
70	59.75	122.91	Shut-In(2)
133	702.20	123.48	End Shut-In(2)
134	2065.14	123.98	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
85.00	gocm 20g 35o 45m	1.19
15.00	oil 100o	0.21
0.00	975' GIP	0.00

## Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Shakespeare Oil Co

**22-12S-29W Gove,KS**

202 W Main St  
Salem, IL 62881

**Heier Comm #1-22**

Job Ticket: 70861

**DST#: 5**

ATTN: Kent Matson

Test Start: 2023.09.08 @ 12:54:00

## Tool Information

Drill Pipe:	Length: 4225.00 ft	Diameter: 3.80 inches	Volume: 59.27 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 59.27 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	4231.00 ft			Final 45000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	29.00 ft			
Tool Length:	62.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Change Over Sub	1.00			4199.00	
Shut In Tool	5.00			4204.00	
Hydraulic tool	5.00	1113		4209.00	
Jars	5.00	01-07		4214.00	
EM Tool	5.00			4219.00	
Safety Joint	3.00	-001		4222.00	
Packer	5.00			4227.00	33.00 Bottom Of Top Packer
Packer	4.00			4231.00	
Stubb	1.00			4232.00	
Recorder	0.00	8959	Inside	4232.00	
Recorder	0.00	8734	Outside	4232.00	
Perforations	23.00			4255.00	
Bullnose	5.00			4260.00	29.00 Bottom Packers & Anchor

**Total Tool Length: 62.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Shakespeare Oil Co

**22-12S-29W Gove,KS**

202 W Main St  
Salem, IL 62881

**Heier Comm #1-22**

Job Ticket: 70861

**DST#: 5**

ATTN: Kent Matson

Test Start: 2023.09.08 @ 12:54:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

38 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2800.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
85.00	gocm 20g 35o 45m	1.192
15.00	oil 100o	0.210
0.00	975' GIP	0.000

Total Length: 100.00 ft

Total Volume: 1.402 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

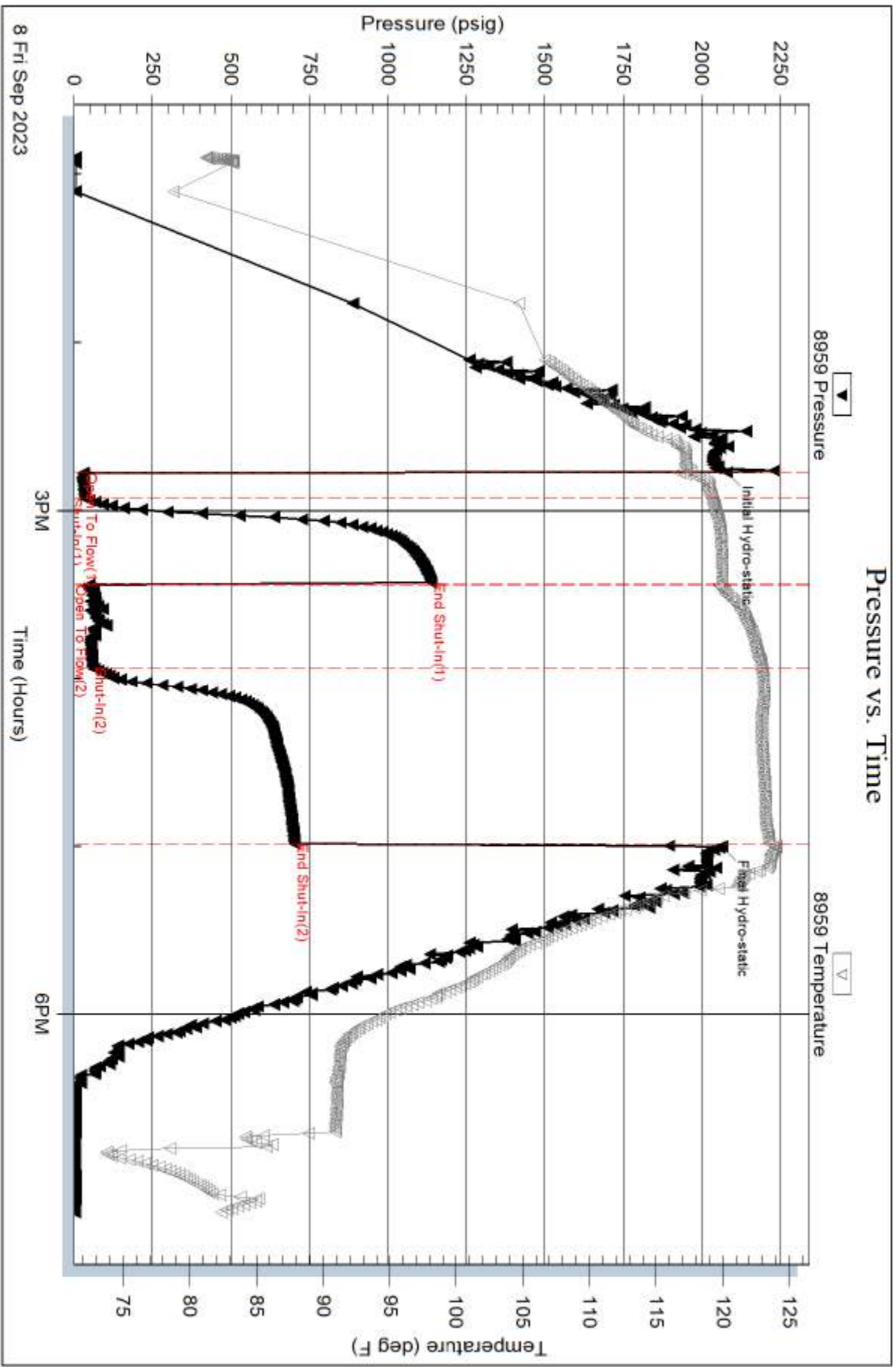
Serial #: 8959

Inside

Shakespeare Oil Co

Heier Comm #1-22

DST Test Number: 5



8 Fri Sep 2023

Time (Hours)

Trilobite Testing, Inc

Ref. No: 70861

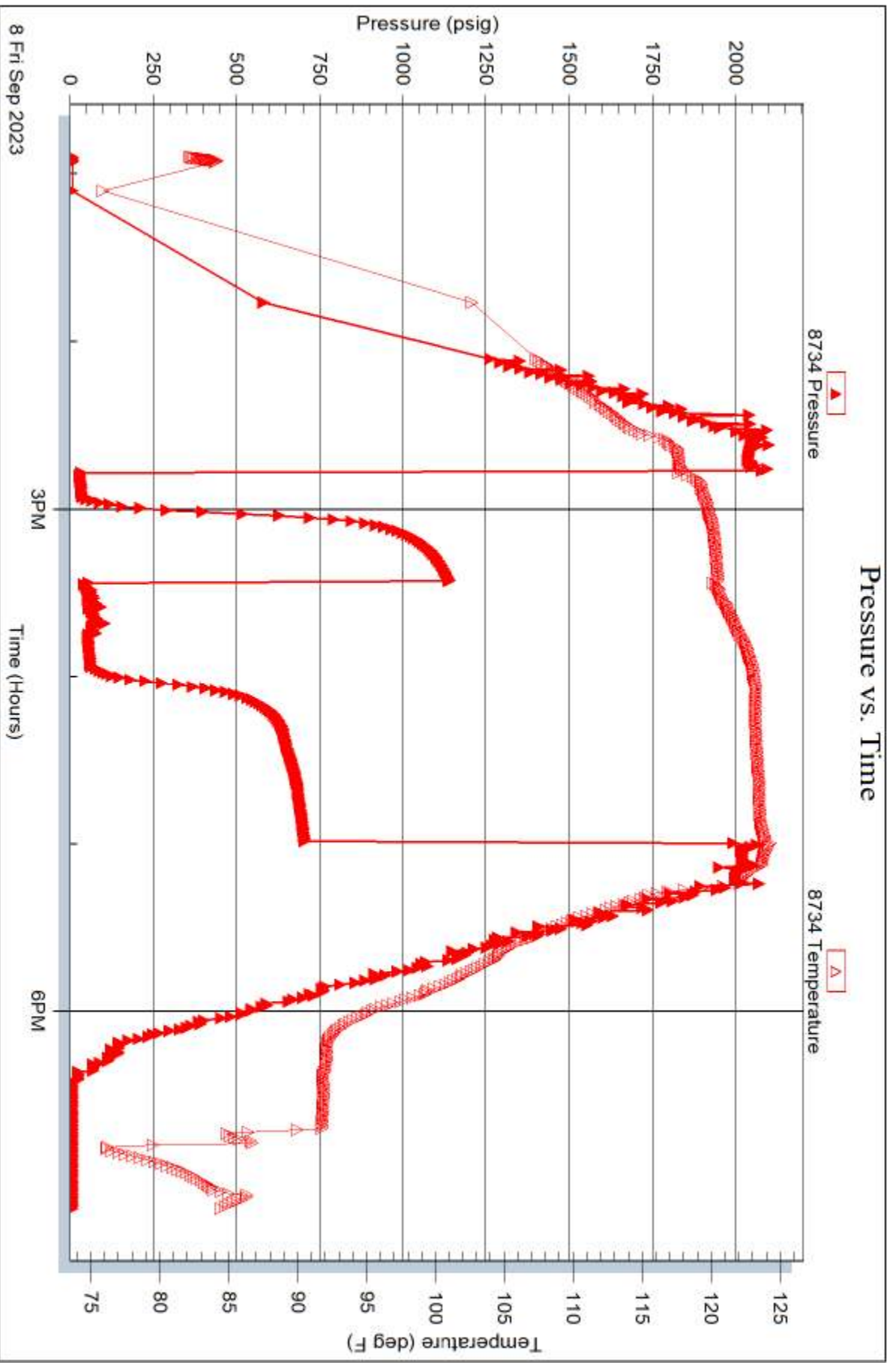
Printed: 2023.09.14 @ 08:51:54

Serial #: 8734

Outside Shakespeare Oil Co

Heier Comm #1-22

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 70861

Printed: 2023.09.14 @ 08:51:55



# TRILOBITE TESTING, INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 70857

Well Name & No. Heice Comm # 1-22. Test No. 1 Date 9-5-23  
 Company Shakespeare Oil Co. Inc. Elevation 2727 KB 2717 GL  
 Address 202 W. Main St. Salem, IL 62881  
 Co. Rep / Geo Kent Matson Rig Southwind #8  
 Location: Sec. 22 Twp 12S. Rge. 29W. Co. Chow State KS.

Interval Tested 3914 - 3938 Zone Tested Leasing "D + E/F"  
 Anchor Length 24' Drill Pipe Run 3908 Mud Wt. 9.2  
 Top Packer Depth 3909 Drill Collars Run — Vis 60  
 Bottom Packer Depth 3914 Wt. Pipe Run — WL 7.2  
 Total Depth 3938 Chlorides 1200 ppm System LCM 2#

Blow Description IF - B.O.B (11 inches) @ 7 mins (blow built to 16")  
ISI - Return ASASI - built to 1/2"  
FF - B.O.B @ 10 min (blow built to 29 3/4")  
FSI - Return blow built to 4 1/2 + decreased to 1 1/2"

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>60cm</u>	<u>15</u>	<u>15</u>	<u>70</u>	
<u>260</u>	<u>CGO</u>	<u>18'</u>	<u>82</u>		
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

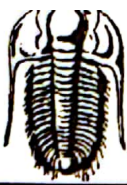
Rec Total 275 BHT 122 Gravity 33.4 API RW — @ — °F Chlorides — ppm

Initial Hydrostatic 1945  Test 1800  Ruined Shale Packer  
 Initial Flow 44 to 104  Jars 300  Ruined Packer  
 Initial Shut-In 1236  Circ Sub  Hotel  
 Final Flow 73 to 135  Hourly Standby  EM Tool Successful -350  
 Final Shut-In 1256  Mileage 122 RT 213.50  Accessibility  
 Final Hydrostatic 1857  Sampler  Gas Sample  
 T- On Location 02:30  Straddle  Oversized Hole  
 Initial Flow 10 T-Started 03:06  Shale Packer  Sub Total -350  
 Initial Shut-In 20 T-Open 05:34  Extra Packer  Total 1963.50  
 Final Flow 30 T-Pulled 07:34  Extra Recorder  Tool Loaded @  
 Final Shut-In 60 T-Out 09:50  Day Standby  MP/DST Disc't

Comments \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative A. J. Solis

Trilobite Testing Inc. shall not be liable for damage of any kind of property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 70858

Well Name & No. Heier Comm #1-22. Test No. 2 Date 9-6-23  
 Company Shakespeare Oil Co INC Elevation 2727 KB 2717 GL  
 Address 202. W. Main St. Salem, IL 62881  
 Co. Rep / Geo Kent Matson Rig Southwind #8  
 Location: Sec. 22 Twp 12S Rge. 29W Co. Crow State KS.

Interval Tested 3986-4040 Zone Tested Lansing "H+I"  
 Anchor Length 54' Drill Pipe Run 3972. Mud Wt. 9.1  
 Top Packer Depth 3981 Drill Collars Run --- Vis 51  
 Bottom Packer Depth 3986 Wt. Pipe Run --- WL 8.0  
 Total Depth 4040 Chlorides 1400 ppm System LCM 2#  
 Blow Description IF - Blow built to 3/4"

TSI - No return  
FF - No blow  
FSI - No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>55M</u>	<u>2</u>		<u>98</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 10 BHT 116 Gravity --- API RW --- @ --- °F Chlorides --- ppm

Initial Hydrostatic 1957  Test 1950  Ruined Shale Packer  
 Initial Flow 26 to 30  Jars 300  Ruined Packer  
 Initial Shut-In 721  Circ Sub  Hotel  
 Final Flow 32 to 42  Hourly Standby  EM Tool Successful  
 Final Shut-In 597  Mileage 122 RT 213.50  Accessibility  
 Final Hydrostatic 1923  Sampler  Gas Sample  
 T-On Location 00:30  Straddle  Oversized Hole  
 Initial Flow 15 T-Started 01:00  Shale Packer  Sub Total 0  
 Initial Shut-In 30 T-Open 03:35  Extra Packer  Total 2463.50  
 Final Flow 30 T-Pulled 05:20  Extra Recorder  Tool Loaded @ ---  
 Final Shut-In 30 T-Out 07:32  Day Standby  MP/DST Disc't

Comments \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Matson Solutions

Trilobite Testing Inc. shall not be liable for damage of any kind of property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 70859

Well Name & No. Heier Comm #1-22 Test No. 3 Date 9-6-23  
 Company Shakespeare Oil Co INC Elevation 2727 KB 2717 GL  
 Address 202 W. Main St. Salem, IL 62881  
 Co. Rep / Geo Kent Matson Rig Southwind #8  
 Location: Sec. 22 Twp 12S. Rge. 21W Co. Grave State KS

Interval Tested 4068 - 4102 Zone Tested Lansing "J-Race + K"  
 Anchor Length 34' Drill Pipe Run 4068 Mud Wt. 9.1  
 Top Packer Depth 4063 Drill Collars Run --- Vis 50  
 Bottom Packer Depth 4068 Wt. Pipe Run --- WL 8.8  
 Total Depth 4102 Chlorides 2200 ppm System LCM 2#

Blow Description IF - Blow built to 1/4"  
ISI - No return  
FF - No blow  
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>3</u>	<u>Mud w/oil specks</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 3 BHT 117 Gravity --- API RW --- @ --- \*F Chlorides --- ppm  
 Initial Hydrostatic 1993  Test 1950  Ruined Shale Packer  
 Initial Flow 25 to 27  Jars 300  Ruined Packer  
 Initial Shut-In 61  Circ Sub  Hotel  
 Final Flow 27 to 28  Hourly Standby  EM Tool Successful  
 Final Shut-In 42  Mileage 122RT 213.50  Accessibility  
 Final Hydrostatic 1981  Sampler  Gas Sample  
 T- On Location 18:50  Straddle  Oversized Hole  
 Initial Flow 10 T-Started 19:05  Shale Packer  Sub Total 0  
 Initial Shut-In 30 T-Open 20:46  Extra Packer  Total 2463.50  
 Final Flow 30 T-Pulled 22:26  Extra Recorder  Tool Loaded @  
 Final Shut-In 30 T-Out 08:32  Day Standby  MP/DST Disc't

Comments \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative [Signature]

Trilobite Testing Inc. shall not be liable for damage of any kind of property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 70860

Well Name & No. Heier Comm H1-22 Test No. 4 Date 9-7-23  
 Company Shakespeare Oil Co INC Elevation 2727 KB 2717 GL  
 Address 202 W. Main St. Salem, IL 62881  
 Co. Rep / Geo Kent Matson Rig Southern #8  
 Location: Sec. 22 Twp 12 S. Rge. 29 W. Co. Grove State KS.

Interval Tested 4106-4130 Zone Tested Lansing "L"  
 Anchor Length 24' Drill Pipe Run 4099 Mud Wt. 9.1  
 Top Packer Depth 4101 Drill Collars Run --- Vis 58  
 Bottom Packer Depth 4116 Wt. Pipe Run --- WL 8.8  
 Total Depth 4130 Chlorides 2500 ppm System LCM 2#

Blow Description IF - Blow built to 1/4"  
TSE - No return  
FF - No blow  
FSS - No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>4</u>	<u>Mud w/oil spots.</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 4 BHT 115 Gravity --- API RW --- @ --- °F Chlorides --- ppm  
 Initial Hydrostatic 1978  Test 1950  Ruined Shale Packer  
 Initial Flow 26 to 27  Jars 300  Ruined Packer  
 Initial Shut-In 702  Circ Sub  Hotel  
 Final Flow 27 to 28  Hourly Standby  EM Tool Successful  
 Final Shut-In 597  Mileage 122 RT 213.50  Accessibility  
 Final Hydrostatic 1970  Sampler  Gas Sample  
 T-On Location 14:05  Straddle  Oversized Hole  
 Initial Flow 10 T-Started 14:13  Shale Packer  Sub Total 0  
 Initial Shut-In 15 T-Open 15:48  Extra Packer  Total 2463.50  
 Final Flow 15 T-Pulled 16:43  Extra Recorder  Tool Loaded @  
 Final Shut-In 15 T-Out 18:28  Day Standby  MP/DST Disc't

Comments \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Mattie Salvia

Trilobite Testing Inc. shall not be liable for damage of any kind of property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 70861

Well Name & No. Heir Comm #1-22 Test No. # 5 Date 9/08/2023  
 Company Shakespeare Oil Co, Inc Elevation 2727 KB 2717 GL  
 Address Salem IL  
 Co. Rep / Geo Kent Matson Rig Southwind 8  
 Location: Sec. 22 Twp 12s Rge. 29w Co. Gove State Ks

Interval Tested 4231 4260 Zone Tested Rawnee  
 Anchor Length 29' Drill Pipe Run 4225 Mud Wt. 9.2  
 Top Packer Depth 4226 Drill Collars Run — Vis 58  
 Bottom Packer Depth 4231 Wt. Pipe Run — WL 8.8  
 Total Depth 4260 Chlorides 2800 ppm System LCM 2 #  
 Blow Description IF BOB @ 7 min - 14"  
ISS No return.  
FF BOB @ 3 min - 34"  
PBJ 14" return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>Oil</u>	<u>100</u>			
<u>85</u>	<u>60cm</u>	<u>20</u>	<u>35</u>		<u>45</u>
	<u>975' GIP</u>				

Rec Total 100 BHT 124 Gravity 38 API RW — @ — \*F Chlorides — ppm  
 Initial Hydrostatic 2079  Test 1950  Ruined Shale Packer  
 Initial Flow 30 to 35  P Jars 300  Ruined Packer  
 Initial Shut-In 1138  Circ Sub  Hotel  
 Final Flow 48 to 59  Hourly Standby  EM Tool Successful yes  
 Final Shut-In 702  Mileage 122.27 213.50+213.50  Accessibility  
 Final Hydrostatic 20 65  Sampler  Gas Sample  
 T- On Location 1245  Straddle  Oversized Hole  
 Initial Flow 10 T-Started 1254  Shale Packer  Sub Total 800  
 Initial Shut-In 30 T-Open 1447  Extra Packer  Total 2677+800  
 Final Flow 30 T-Pulled 1657  Extra Recorder  Tool Loaded 09/10 @ 09:00  
 Final Shut-In 60 T-Out —  Day Standby 1d 16h  MP/DST Disc't

Comments \_\_\_\_\_  
 Approved By \_\_\_\_\_ Our Representative [Signature]

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Walt