

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)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Shakespeare Oil Co., Inc.
Well Name	FRAHM COMM 1-27
Doc ID	1419696

All Electric Logs Run

Array Induction
Photo Density
Comp Neutron
Microlog
Sonic

Form	ACO1 - Well Completion
Operator	Shakespeare Oil Co., Inc.
Well Name	FRAHM COMM 1-27
Doc ID	1419696

Tops

Name	Top	Datum
Base Anhydrite	2836	+559
Heebner	4112	-717
Lansing	4150	-755
Muncie Creek	4288	-893
Stark Shale	4372	-977
Hushpuckney	4408	-1013
Marmaton	4482	-1087
Pawnee	4554	-1159
L. Cherokee Shale	4652	-1257
Johnson	4695	-1300
Mississippian	4812	-1417

SWIFT



Services, Inc.

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



Invoice

DATE	INVOICE #
8/2/2018	31672

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

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1-27	Frahm Comm	Thomas	Duke Drilling Rig ...	Oil	Development	Cement 8 5/8 Sur...	David K

PRICE REF.	DESCRIPTION	QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way	100	Miles	5.00	500.00
576D-S	Pump Charge - Shallow Surface (< 500 Ft.)	1	Job	875.00	875.00
325	Standard Cement	165	Sacks	13.00	2,145.00T
279	Bentonite Gel	3	Sack(s)	30.00	90.00T
278	Calcium Chloride	7	Sack(s)	40.00	280.00T
276	Flocele	50	Lb(s)	2.50	125.00T
290	D-Air	2	Gallon(s)	42.00	84.00T
581D	Service Charge Cement	165	Sacks	1.75	288.75
583D	Drayage	810.5	Ton Miles	0.85	688.93
	Subtotal				5,076.68
	Sales Tax Thomas County			8.00%	217.92

INT

RECEIVED
AUG 07 2018

502-5
AH

We Appreciate Your Business!

Total

\$5,294.60

DW



TICKET 031672

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

PAGE 1 OF 1

SERVICE LOCATIONS
 1. Ness City KS WELL/PROJECT NO. A1-27 LEASE Fisher Comm COUNTY/PARISH Thomas STATE KS CITY Brewster DATE 8-2-18 OWNER Swane
 2. Less City KS CONTRACTOR Duke Drilling Co RIG NAME/NO. #2 SHIPPED VIA CT DELIVERED TO Location ORDER NO.
 3. WELL TYPE Oil WELL CATEGORY Development JOB PURPOSE Concept 8 3/8" Surface Pipe WELL PERMIT NO.
 4. REFERRAL LOCATION INVOICE INSTRUCTIONS

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY. U/M			UNIT PRICE	AMOUNT
		LOC	ACCT	DF		QTY.	U/M	QTY.		
<u>575</u>					MILEAGE					
<u>576.5</u>					<u>Trk # 112</u>					
<u>325</u>					<u>Pump Charge - Shallow Surface</u>					
<u>279</u>					<u>Standard Cement</u>					
<u>278</u>					<u>Brackrite Gel</u>					
<u>276</u>					<u>Calcium Chloride</u>					
<u>290</u>					<u>Flocle</u>					
					<u>D-Air</u>					
<u>581</u>					<u>Service Charge Cement</u>					
<u>583</u>					<u>Draysage</u>					

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side herof 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 8-3-18 TIME SIGNED 01:00 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	
CUSTOMER DID NOT WISH TO RESPOND			

PAGE TOTAL 5076 68
 TOTAL 5994 00

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

SWIFT OPERATOR

David Huhn

APPROVAL

Thank You!

JOB LOG

SWIFT Services, Inc.

DATE 8-2-18 PAGE NO. 1

CUSTOMER Shakespeare Oil WELL NO. #1-27 LEASE Fralin Comm JOB TYPE Surface Pipe TICKET NO. 31672

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	2300							on location 8 3/8 23 1/2
								RTD - 265' TP - 265'
								Rig running pipe
	2345							Break Circulation
83-15	0010	4 1/2	5		✓	100		Pump 5 bbl water Spacer
	0015	4 1/2	40		✓	100		mix 165 sks STD 2% Gel 3% CC 1/4 # Fls
	0025	4 1/2	0		✓	100		Displace Cement
		4 1/2	12.5		✓	150		circulate cement to surface - #15 sks*
	0030	4 1/2	16		✓	200		Kick out Pump Shut in valve Hold
								wash up truck
	0100							Job Complete

Thank You
Dave Preston Gideon



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



Invoice

DATE	INVOICE #
8/14/2018	27362

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

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1-27	Frahm Comm	Thomas	Duke Drilling Rig ...	Oil	Development	PTA	Jonathan
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				100	Miles	5.00	500.00
576D-P	Pump Charge - PTA				1	Job	875.00	875.00
290	D-Air				4	Gallon(s)	42.00	168.00T
410-8	8 5/8" Top Plug				1	Each	130.00	130.00T
328-4	60/40 Pozmix (4% Gel)				255	Sacks	10.60	2,703.00T
276	Flocele				50	Lb(s)	2.50	125.00T
581D	Service Charge Cement				255	Sacks	1.75	446.25
583D	Drayage				1,031.43	Ton Miles	0.85	876.72
	Subtotal							5,823.97
	Sales Tax Thomas County						8.00%	250.08

INT

PTA

502-5
 DH

RECEIVED

AUG 24 2018

We Appreciate Your Business!

Total \$6,074.05

DW



Services, Inc.

CHARGE TO: Shake Spans Oil
 ADDRESS _____
 CITY, STATE, ZIP CODE _____

TICKET 27362

PAGE 1 OF 1

SERVICE LOCATIONS	WELL/PROJECT NO	LEASE	COUNTY/PARISH	STATE	CITY	DATE	OWNER
1. <u>Hays, KS</u>	<u>1-27</u>	<u>Frahm Comm</u>	<u>Thomas</u>	<u>KS</u>		<u>08/14/18</u>	
2. <u>Ness City, KS</u>	TICKET TYPE <input checked="" type="checkbox"/> SERVICE <input type="checkbox"/> SALES	CONTRACTOR <u>Duke Drilling Co</u>	RIG NAME/NO. <u>Rig 2</u>	SHIPPED VIA <u>CT</u>	DELIVERED TO <u>Location</u>	ORDER NO.	
3.	WELL TYPE <u>DJ</u>	WELL CATEGORY <u>Development</u>	JOB PURPOSE <u>Plug to Abandon</u>		WELL 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								
525					MILEAGE #110		100	mi			5.00	500.00
576A					Pump Charge - ATA		1	EA			875.00	875.00
290					D-Air		4	gal			42.00	168.00
410					Top Plug 8 5/8"		1	EA			130.00	130.00
328-4					68/42 Bitumix (49% Gel)		255	SKS			10.00	2703.00
276					Flocele		50	lbs			2.50	125.00
581					Service Charge Cement		255	SKS			1.25	446.25
583					Drayage		100	mi			0.85	87.00
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.						REMIT PAYMENT TO:						

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

DATE SIGNED: 08/14/18 TIME SIGNED: AM A.M. P.M.

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

SURVEY

OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?	AGREE	UN-DECIDED	DIS-AGREE
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 TOTAL: 5823.97

TOTAL: 6014.05

SWIFT OPERATOR: Don Kemp APPROVAL: _____

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

Thank You!

JOB LOG

SWIFT Services, Inc.

DATE 08/14/18	PAGE NO. 1
TICKET NO. 27362	

CUSTOMER Shale Spear Oil	WELL NO. 1-27	LEASE Frahm Comm	JOB TYPE P.T.A.
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CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0430							On location, setup trucks. 1 st Plug @ 2820' - 50 SKS, 2 nd Plug @ 1940' - 100 SKS 3 rd Plug @ 320' - 50 SKS 4 th Plug @ 40' - 10 SKS + wiper Plug Rathole - 30 SKS Mousehole - 15 SKS 255 SKS - 60/40 40% Gel
	0500	4	10				400	Start Water ahead
		4	13				300	Pump Cement
		4	3 1/2				100	Pump Water behind
	0520							Have Rig Pump Mad for 3 1/2 minutes.
	0615	4	10				300	Start Water ahead
		4	20					Pump Cement
	0630	4	5					Pump Water behind
	0730	4	5					Start Water ahead
		4	13					Pump Cement
	0740	4	2					Pump Water behind
	0905	3	3					Drop Plug, Push Down w/ Kelly Pump Cmt
	0910	2	8					Plug Rathole
	0915	2	4					Plug Mousehole
	0925							Washup truck
	0940							Rack up
	1000							Job Complete

Thanks,
Jon, Austin, Isaac



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Company Inc.

27-9s-36w Thomas Co KS

202 WMain St
Salem IL
62881
ATTN: Wes Hansen

Frahm Comm 1 27

Job Ticket: 64338 **DST#: 1**
Test Start: 2018.08.09 @ 03:17:15

GENERAL INFORMATION:

Formation: **H-I**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 05:45:45
 Time Test Ended: 09:42:15
 Interval: **4284.00 ft (KB) To 4350.00 ft (KB) (TVD)**
 Total Depth: 4350.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Mike Roberts
 Unit No: 81
 Reference Elevations: 3399.00 ft (KB)
 3394.00 ft (CF)
 KB to GR/CF: 5.00 ft

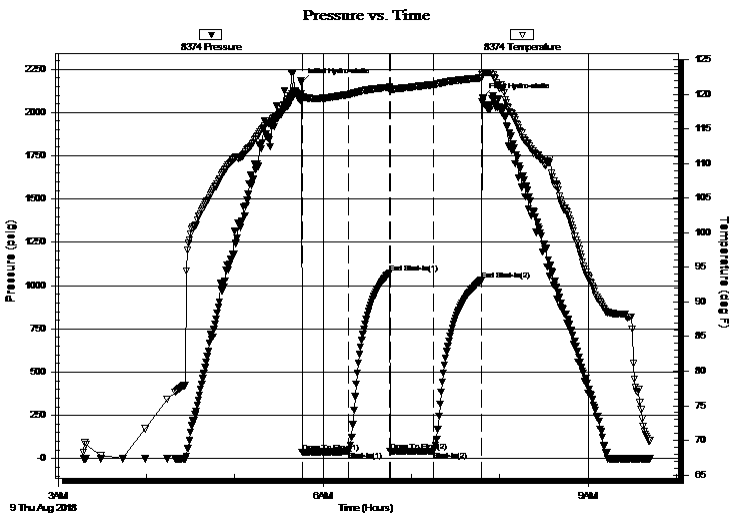
Serial #: 8374

Outside

Press@RunDepth: 44.05 psig @ 4320.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.08.09 End Date: 2018.08.09 Last Calib.: 2018.08.10
 Start Time: 03:17:15 End Time: 09:42:15 Time On Btm: 2018.08.09 @ 05:45:30
 Time Off Btm: 2018.08.09 @ 07:48:30

TEST COMMENT: IF: Built to weak surface blow
 IS: No return blow
 FF: No blow
 FS: No return blow

PRESSURE SUMMARY



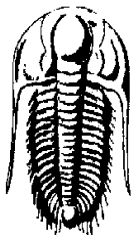
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2173.84	120.07	Initial Hydro-static
1	37.25	119.52	Open To Flow (1)
32	41.14	119.94	Shut-In(1)
60	1076.12	121.02	End Shut-In(1)
60	41.50	120.46	Open To Flow (2)
90	44.05	121.38	Shut-In(2)
122	1030.12	122.34	End Shut-In(2)
123	2085.99	123.07	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud 100% m	0.14

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Company Inc.

27-9s-36w Thomas Co KS

202 WMain St
Salem IL
62881
ATTN: Wes Hansen

Frahm Comm 1 27

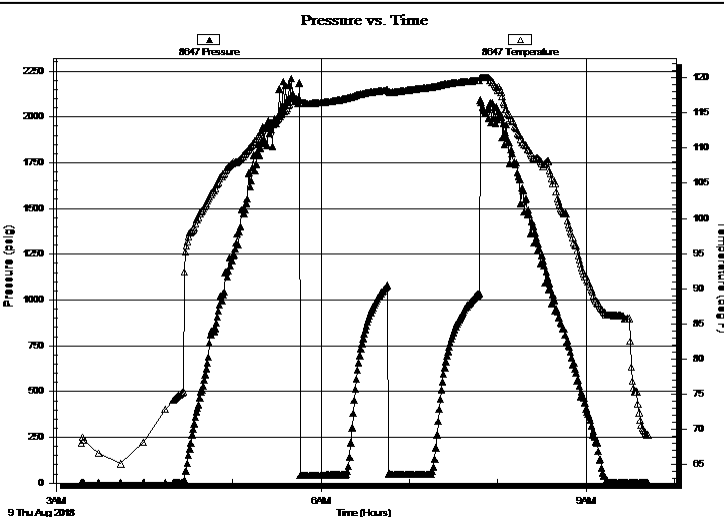
Job Ticket: 64338 DST#: 1
Test Start: 2018.08.09 @ 03:17:15

GENERAL INFORMATION:

Formation: **H-I**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 05:45:45 Tester: Mike Roberts
 Time Test Ended: 09:42:15 Unit No: 81
 Interval: **4284.00 ft (KB) To 4350.00 ft (KB) (TVD)** Reference Elevations: 3399.00 ft (KB)
 Total Depth: 4350.00 ft (KB) (TVD) 3394.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

Serial #: 8647 Inside
 Press@RunDepth: psig @ 4320.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.08.09 End Date: 2018.08.09 Last Calib.: 2018.08.10
 Start Time: 03:17:15 End Time: 09:42:00 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF: Built to weak surface blow
 IS: No return blow
 FF: No blow
 FS: No return blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud 100%m	0.14

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Shakespeare Oil Company Inc.

27-9s-36w Thomas Co KS

202 WMain St
Salem IL
62881

Frahm Comm 1 27

Job Ticket: 64338

DST#: 1

ATTN: Wes Hansen

Test Start: 2018.08.09 @ 03:17:15

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: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.57 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	mud 100%m	0.140

Total Length: 10.00 ft Total Volume: 0.140 bbl

Num Fluid Samples: 0

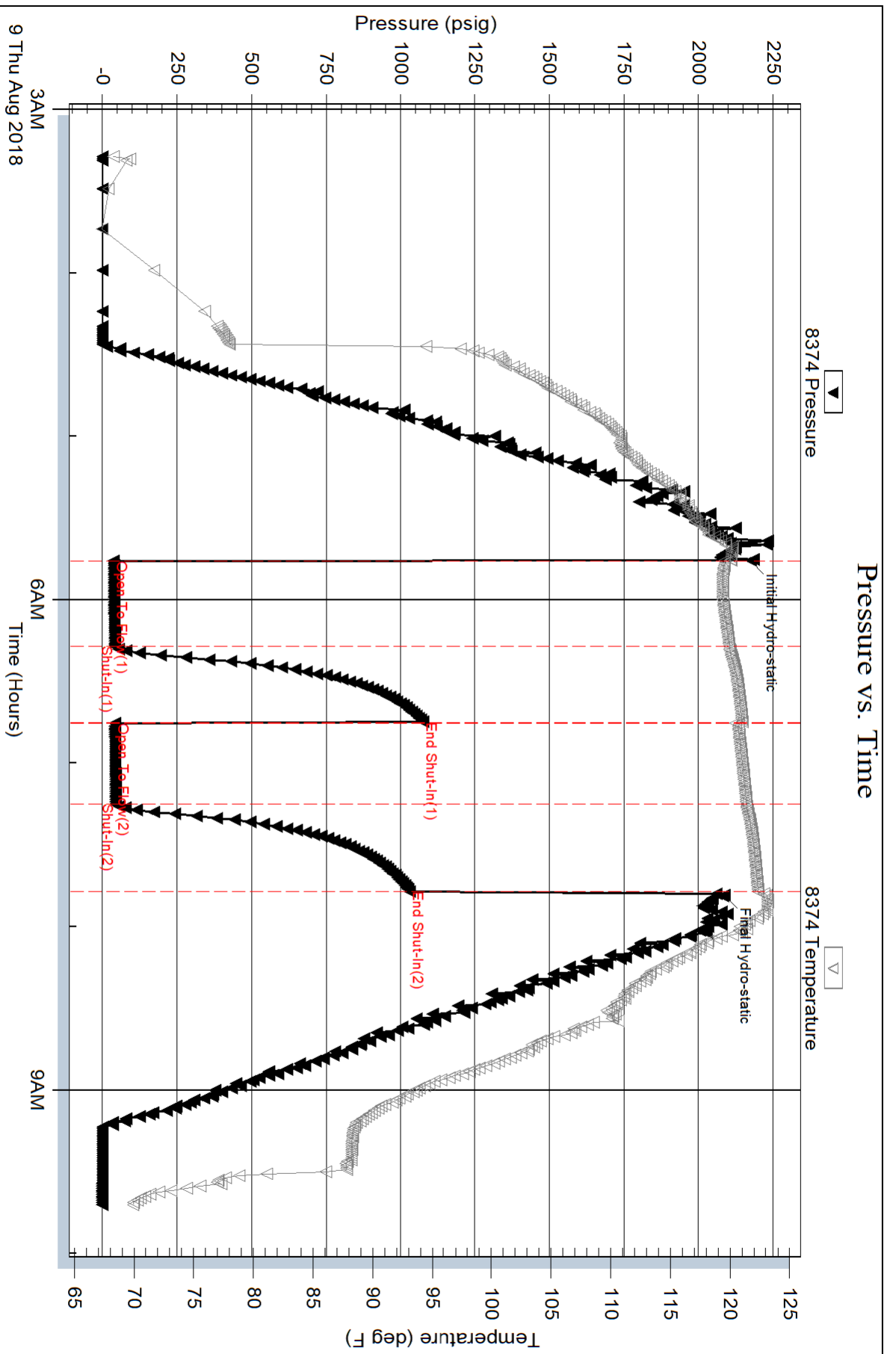
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



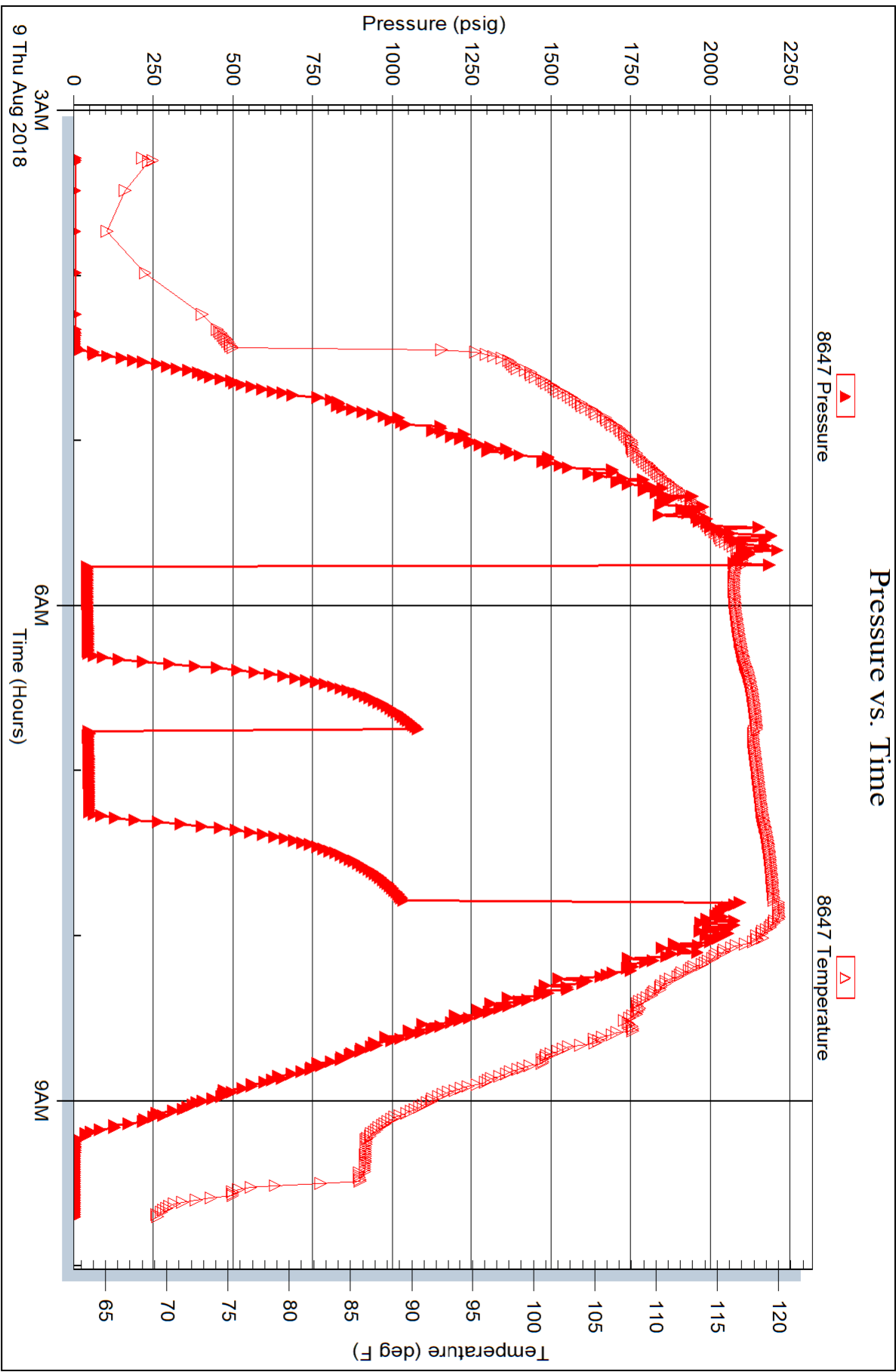
Serial #: 8647

Inside

Shakespeare Oil Company Inc.

Frahm Comm 1 27

DST Test Number: 1





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Company Inc.

27-9s-36w Thomas Co KS

202 WMain St
Salem IL
62881
ATTN: Wes Hansen

Frahm Comm 1 27

Job Ticket: 64339 **DST#: 2**
Test Start: 2018.08.10 @ 21:50:15

GENERAL INFORMATION:

Formation: **JK**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 23:52:30 Tester: Mike Roberts
Time Test Ended: 03:39:45 Unit No: 81

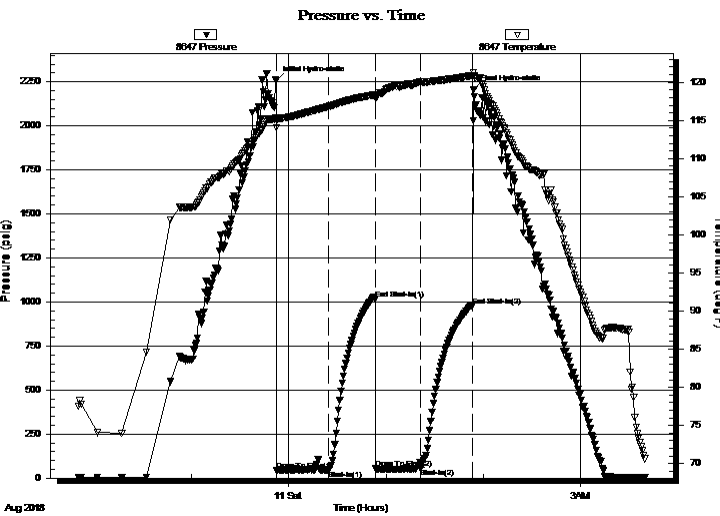
Interval: **4346.00 ft (KB) To 4410.00 ft (KB) (TVD)** Reference Elevations: 3399.00 ft (KB)
Total Depth: 4410.00 ft (KB) (TVD) 3394.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

Serial #: 8647

Inside

Press@RunDepth: 57.10 psig @ 4385.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2018.08.10 End Date: 2018.08.11 Last Calib.: 2018.08.11
Start Time: 21:50:15 End Time: 03:39:45 Time On Btm: 2018.08.10 @ 23:52:15
Time Off Btm: 2018.08.11 @ 01:54:15

TEST COMMENT: IF: Built to 3/4" blow
IS: No return blow
FF: No blow
FS: No return blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2257.65	115.37	Initial Hydro-static
1	43.67	114.05	Open To Flow (1)
32	46.68	116.80	Shut-In(1)
61	1015.78	118.36	End Shut-In(1)
62	55.46	118.01	Open To Flow (2)
90	57.10	120.02	Shut-In(2)
122	977.82	120.87	End Shut-In(2)
122	2203.70	120.92	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	mud 100% m	0.28

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Company Inc.

27-9s-36w Thomas Co KS

202 WMain St
Salem IL
62881
ATTN: Wes Hansen

Frahm Comm 1 27

Job Ticket: 64339 **DST#: 2**

Test Start: 2018.08.10 @ 21:50:15

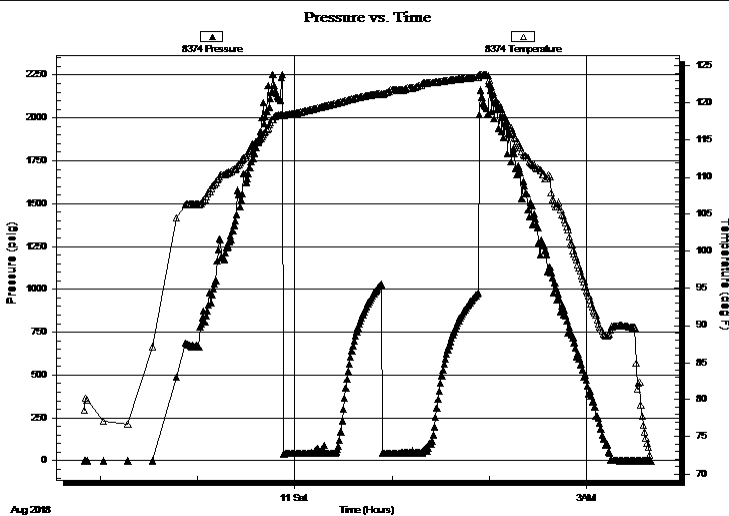
GENERAL INFORMATION:

Formation: **JK**
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 23:52:30 Tester: Mike Roberts
 Time Test Ended: 03:39:45 Unit No: 81
Interval: 4346.00 ft (KB) To 4410.00 ft (KB) (TVD) Reference Elevations: 3399.00 ft (KB)
 Total Depth: 4410.00 ft (KB) (TVD) 3394.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

Serial #: 8374 Outside

Press@RunDepth: psig @ 4385.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.08.10 End Date: 2018.08.11 Last Calib.: 2018.08.11
 Start Time: 21:50:15 End Time: 03:40:00 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF: Built to 3/4" blow
 IS: No return blow
 FF: No blow
 FS: No return blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
20.00	mud 100%m	0.28

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 Company Inc.

27-9s-36w Thomas Co KS

202 WMain St
Salem IL
62881

Frahm Comm 1 27

Job Ticket: 64339

DST#: 2

ATTN: Wes Hansen

Test Start: 2018.08.10 @ 21:50:15

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: 67.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	mud 100%m	0.281

Total Length: 20.00 ft Total Volume: 0.281 bbl

Num Fluid Samples: 0

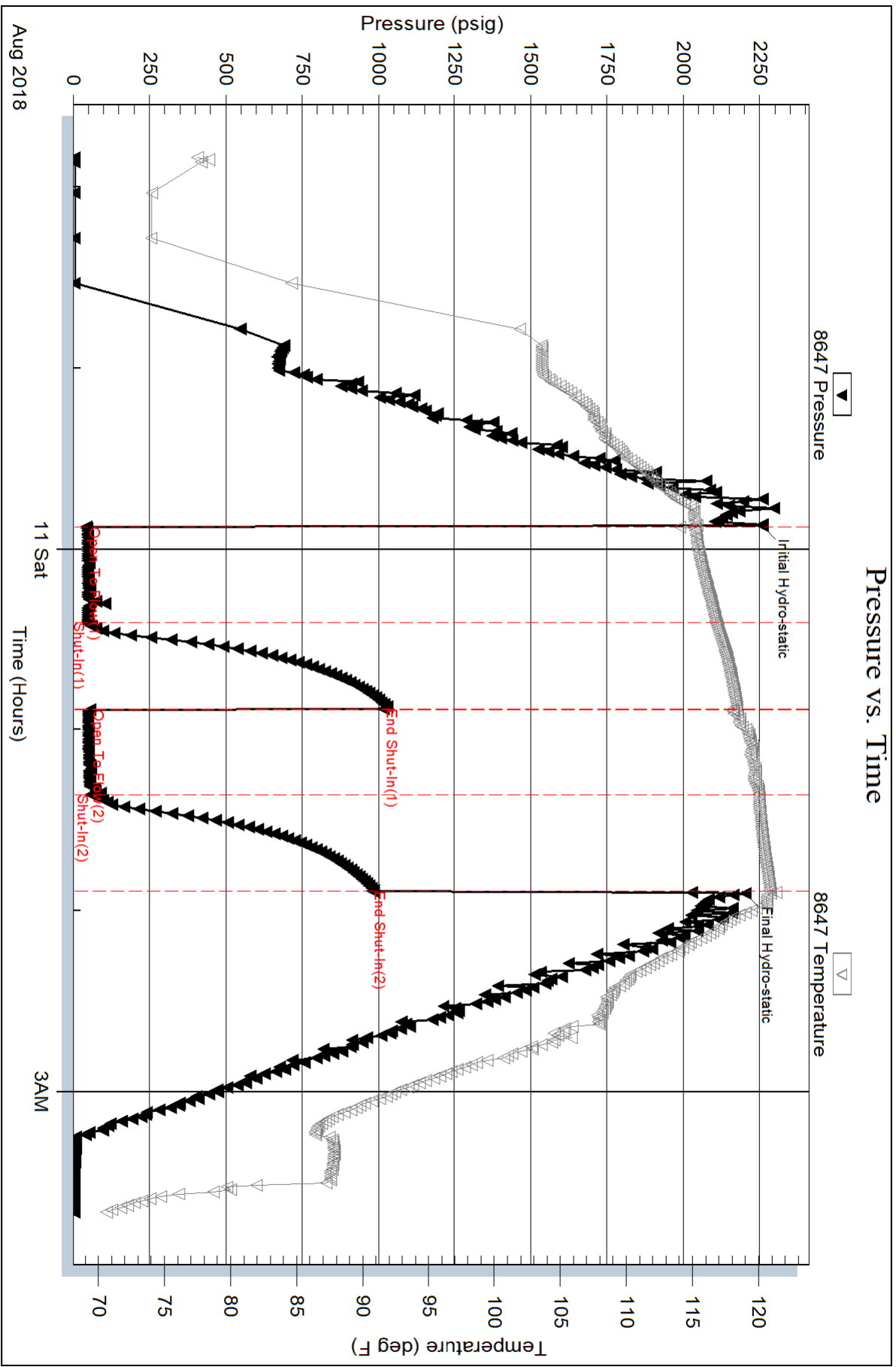
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

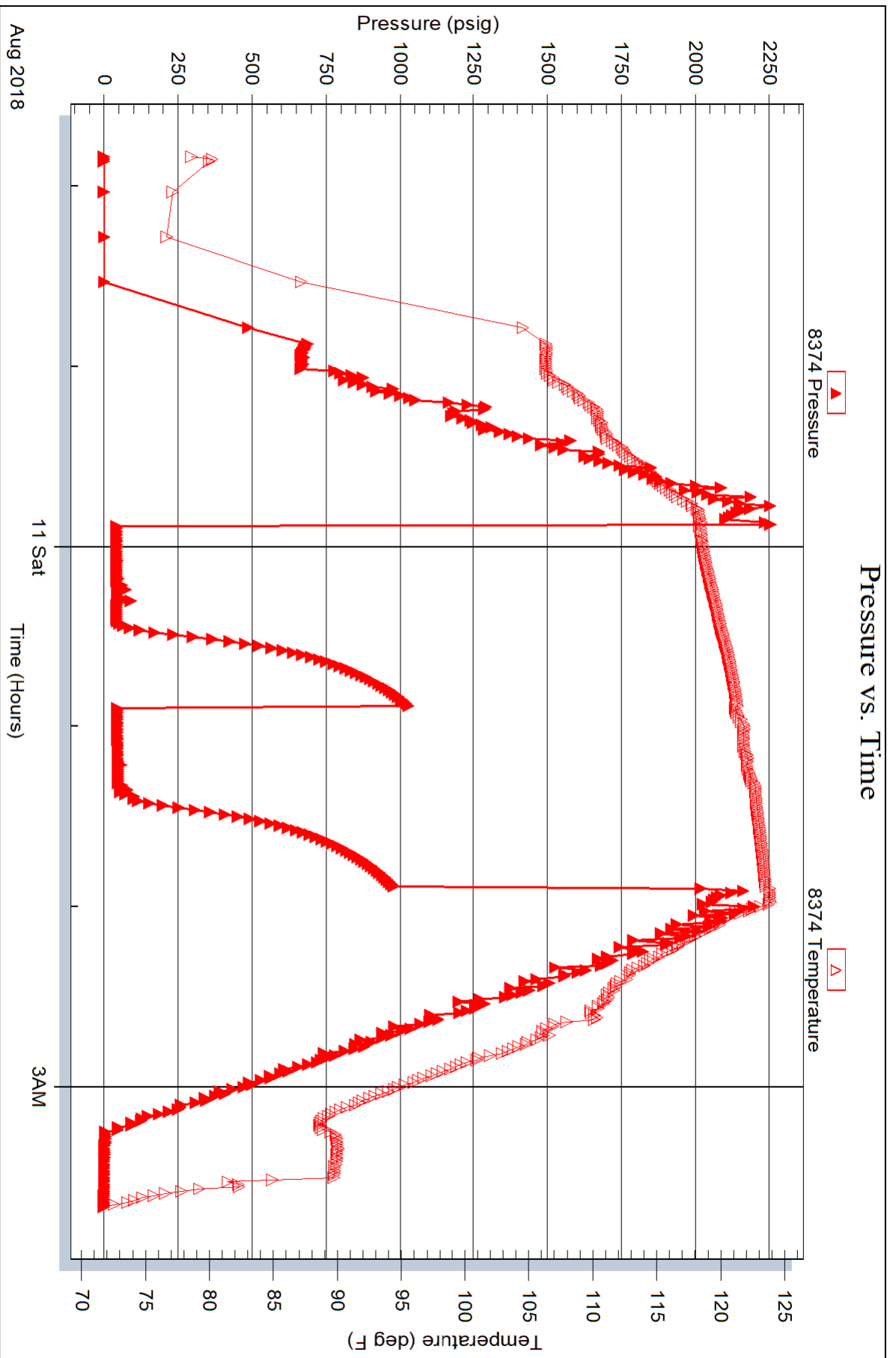


Serial #: 8374

Outside Shakespeare Oil Company Inc.

Frahm Comm 1 27

DST Test Number: 2





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Company Inc.

27-9s-36w Thomas Co KS

202 WMain St
Salem IL
62881
ATTN: Wes Hansen

Frahm Comm 1 27

Job Ticket: 64340 **DST#: 3**
Test Start: 2018.08.12 @ 15:20:15

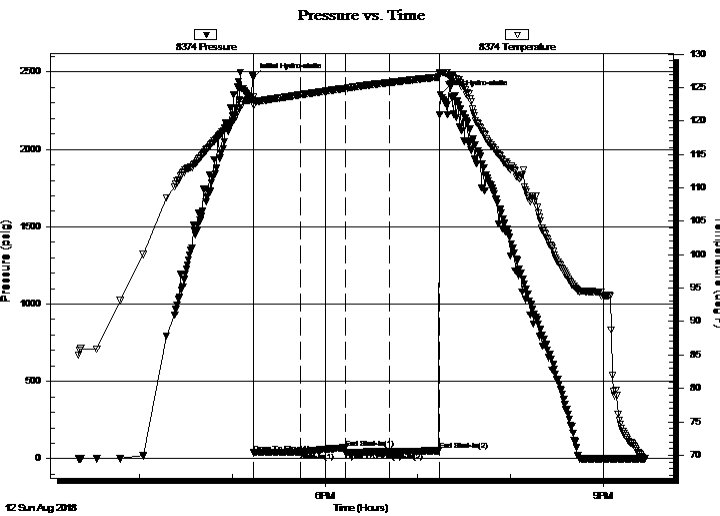
GENERAL INFORMATION:

Formation: **Lower Cherokee**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 17:13:45 Tester: Mike Roberts
 Time Test Ended: 21:27:15 Unit No: 81
 Interval: **4648.00 ft (KB) To 4710.00 ft (KB) (TVD)** Reference Elevations: 3399.00 ft (KB)
 Total Depth: 4710.00 ft (KB) (TVD) 3394.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

Serial #: 8374 Outside

Press@RunDepth: 43.30 psig @ 4685.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.08.12 End Date: 2018.08.12 Last Calib.: 2018.08.12
 Start Time: 15:20:15 End Time: 21:27:15 Time On Btm: 2018.08.12 @ 17:13:30
 Time Off Btm: 2018.08.12 @ 19:14:45

TEST COMMENT: IF: Built to weak surface blow and died in 24 min.
 IS: No return blow
 FF: No blow
 FS: No return blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2463.15	123.57	Initial Hydro-static
1	37.89	122.35	Open To Flow (1)
31	42.38	123.91	Shut-In(1)
60	70.70	124.86	End Shut-In(1)
60	41.71	124.86	Open To Flow (2)
88	43.30	125.74	Shut-In(2)
121	51.92	126.55	End Shut-In(2)
122	2352.52	127.10	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100% m	0.07

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Shakespeare Oil Company Inc.

27-9s-36w Thomas Co KS

202 WMain St
Salem IL
62881
ATTN: Wes Hansen

Frahm Comm 1 27

Job Ticket: 64340 **DST#: 3**
Test Start: 2018.08.12 @ 15:20:15

GENERAL INFORMATION:

Formation: **Lower Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:13:45

Time Test Ended: 21:27:15

Interval: **4648.00 ft (KB) To 4710.00 ft (KB) (TVD)**

Total Depth: 4710.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 81

Reference Elevations: 3399.00 ft (KB)

3394.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8647 Inside

Press@RunDepth: psig @ 4685.00 ft (KB)

Start Date: 2018.08.12 End Date: 2018.08.12

Start Time: 15:20:15 End Time: 21:27:15

Capacity: 8000.00 psig

Last Calib.: 2018.08.12

Time On Btm:

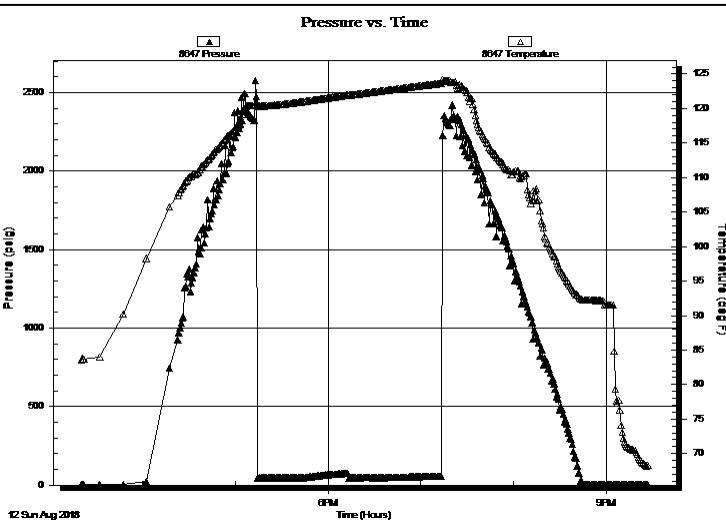
Time Off Btm:

TEST COMMENT: IF: Built to weak surface blow and died in 24 min.

IS: No return blow

FF: No blow

FS: No return blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100% m	0.07

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 Company Inc.

27-9s-36w Thomas Co KS

202 WMain St
Salem IL
62881

Frahm Comm 1 27

Job Ticket: 64340

DST#: 3

ATTN: Wes Hansen

Test Start: 2018.08.12 @ 15:20:15

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: 67.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.77 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud 100%m	0.070

Total Length: 5.00 ft Total Volume: 0.070 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

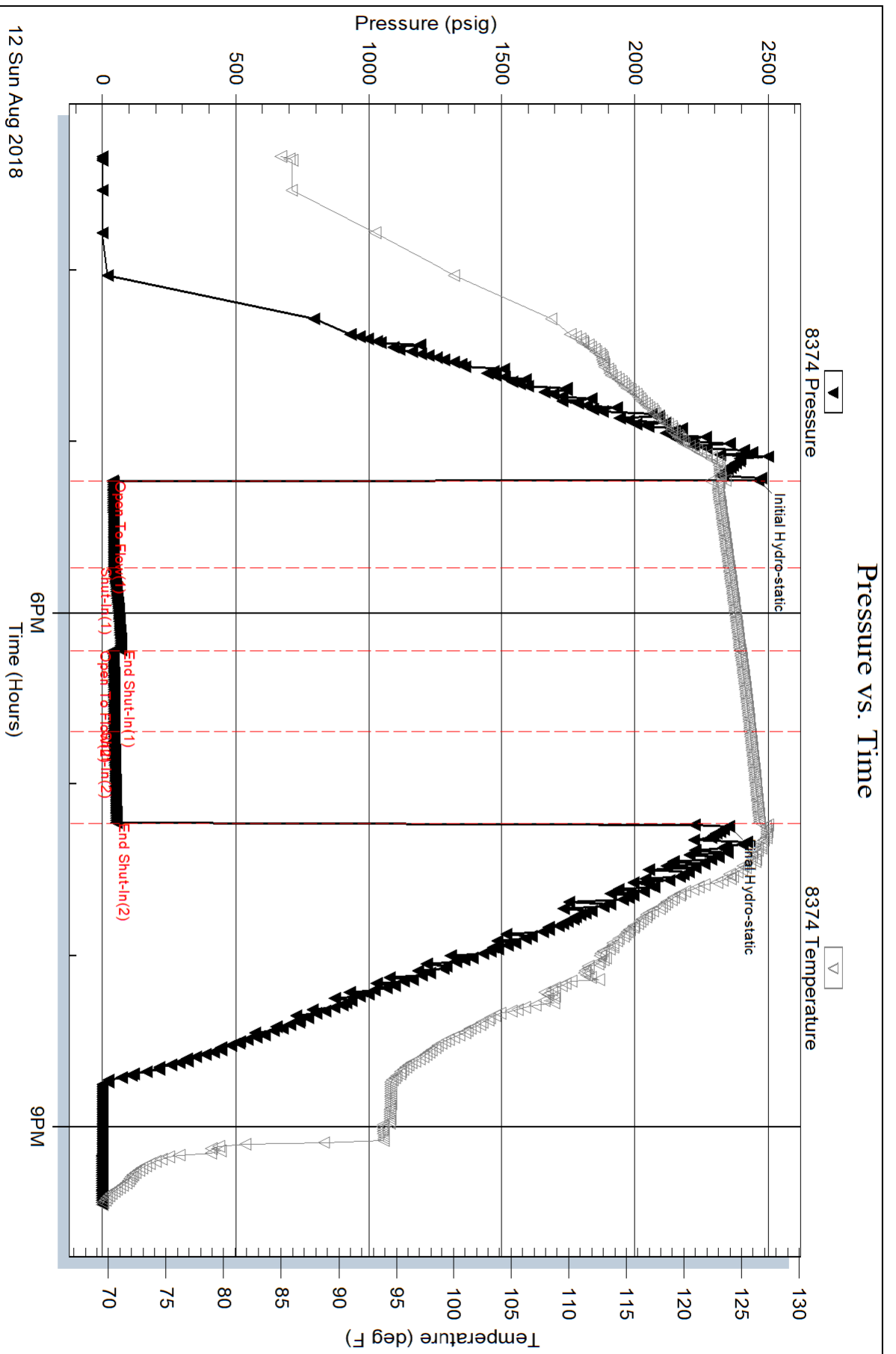
Recovery Comments:

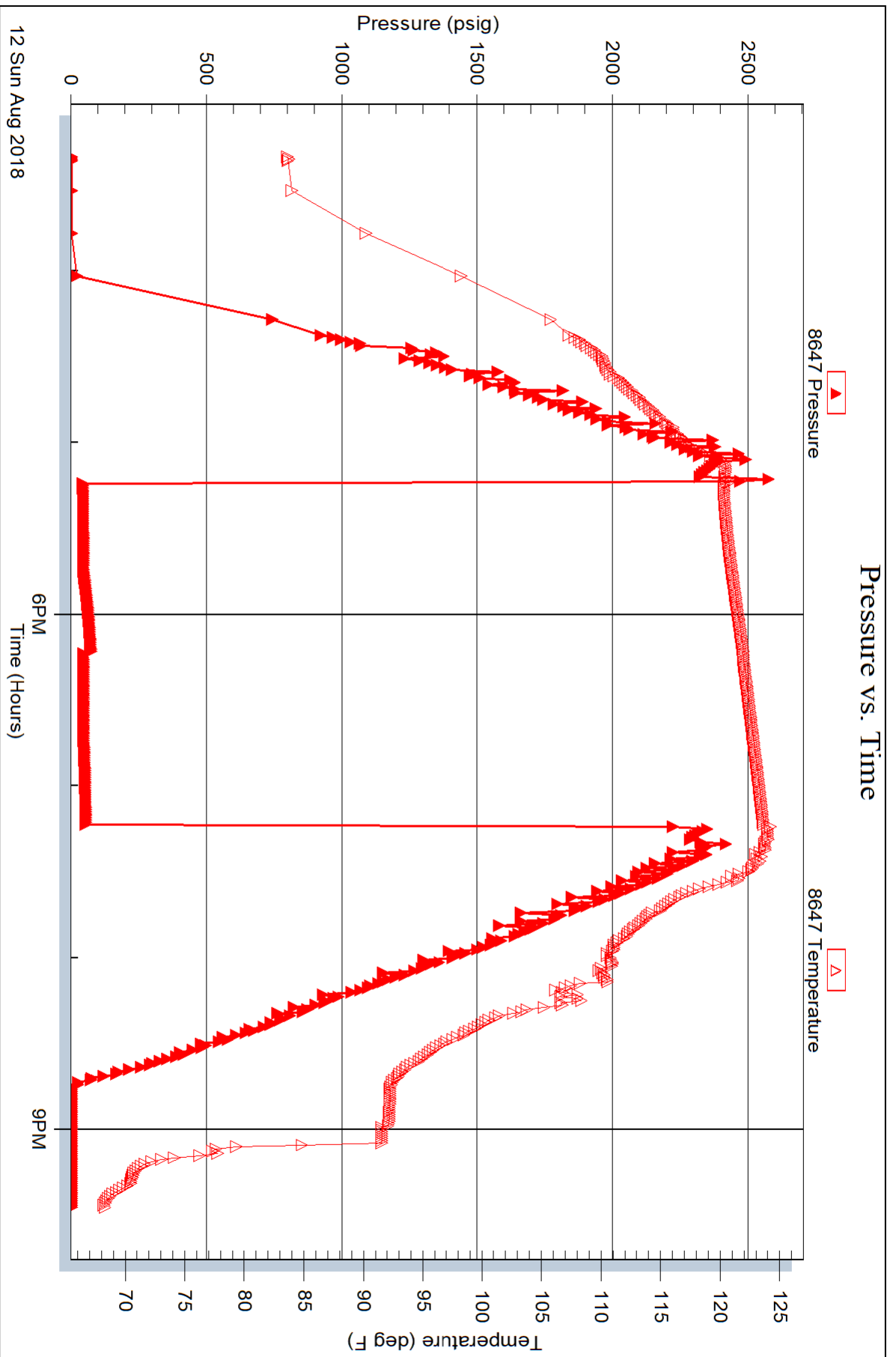
Serial #: 8374

Outside Shakespeare Oil Company Inc.

Frahm Comm 1 27

DST Test Number: 3





LITHOLOGY STRIP LOG

WellSight Systems

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

Well Name: Shakespeare Oil Company, Inc. #1-27 Frahm Comm

API: 15-193-21025

Location: 2593' FNL, 970' FWL of Section 27-9S-36W

License Number: 7311

Region: Thomas County, KS

Spud Date: 8-2-2018

Drilling Completed: 8-14-2018

Surface Coordinates: 2593' FNL, 970' FWL of Section 27-9S-36W

Bottom Hole Vertical hole

Coordinates:

Ground Elevation (ft): 3387'

K.B. Elevation (ft): 3395'

Logged Interval (ft): 3700'

To: RTD

Total Depth (ft): 4910'

Formation: Mississippian at RTD

Type of Drilling Fluid: Chemical - Displaced at approx. 3470'

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Shakespeare Oil Company, Inc.

Address: 202 W. Main Street
Salem, IL 62881

GEOLOGIST

Name: Wesley D. Hansen

Company: Wesley D. Hansen - Consulting Petroleum Geologist

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

COMMENTS

Contractor: Duke Drilling Co., Inc. Rig #2

Pusher: Dion Vasquez

Surface Casing: 8 5/8" set at 265' w/165 sx

Production Casing: P&A

Mud by: Mudco - Reid Atkins was the engineer

DST's by: Trilobite - Mike Roberts was the tester

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

Deviation Surveys: 1/2 deg. @ 265'; 1/2 deg. @ 1492'; 1/2 deg. @ 2524'; 1/2 deg. @ 3557'; 1/2 deg. @ 4350'; 1/2 deg. @ 4710'; 1 1/4 deg. @ 4910'

Bit #	Size	MFG	Type	Depth Out	Footage Cut	Hours on bit
1	12 1/4"		rr	265'	265'	2 1/4
2	7 7/8"	Varel	HA-20	4910'	4645'	134

FORMATION TOPS AND STRUCTURAL COMPARISON

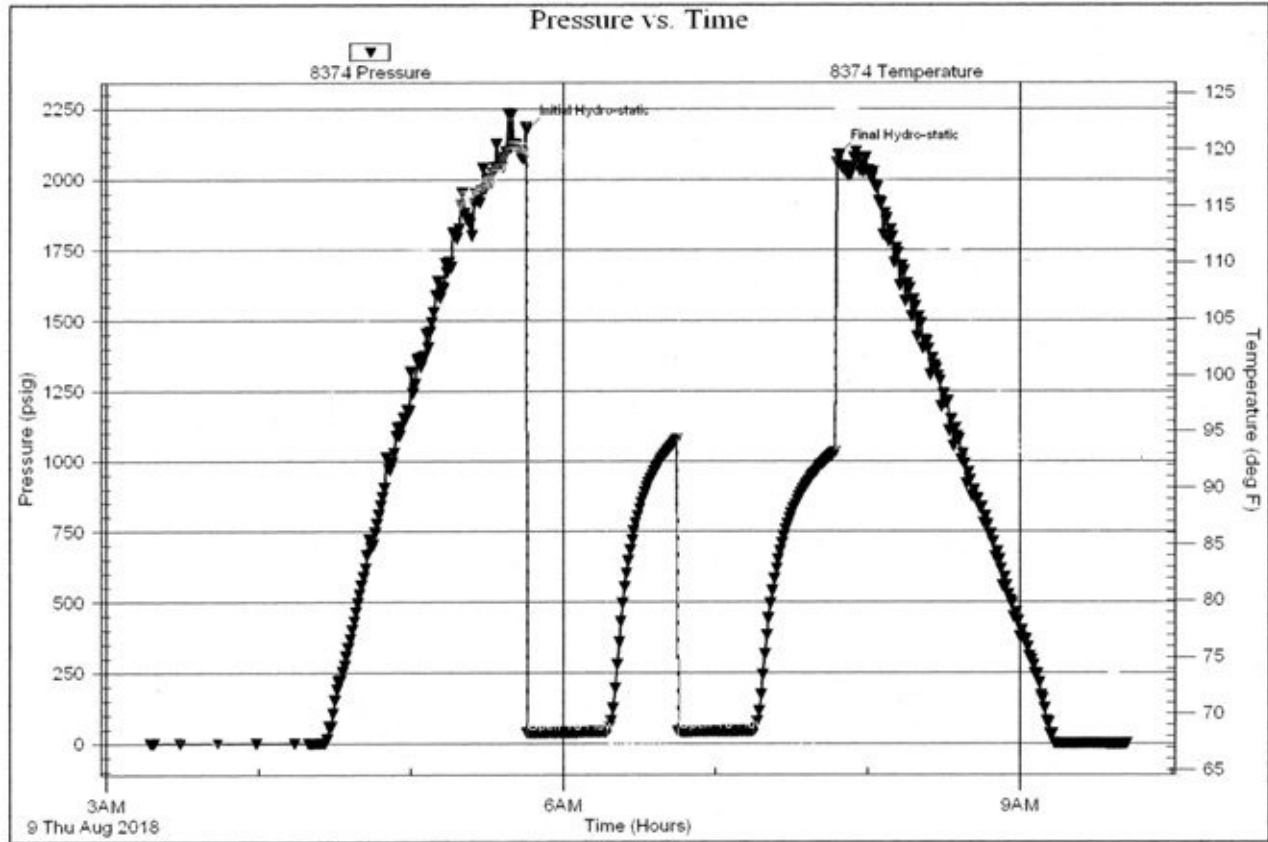
FORMATION	SAMPLE TOPS SOCO Frahm Comm 1-27 27-9S-36W 3395' KB		LOG TOPS SOCO Frahm Comm 1-27 27-9S-36W 3395' KB		COMPARISON WELLS (1) Sunburst Expl. Shalz A#1 35-9S-36W KB 3407'	
	Depth	Datum	Depth	Datum	(2) Ritchie Expl. Kistler #1 35-9S-36W KB 3419'	
					(1)	(2)
Base of Anhydrite	2834'	+561	2834'	++561	+560	+556
Heebner Shale	4114'	-719	4112'	-717	-713	-723
Lansing	4152'	-757	4150'	-755	-754	-762
Muncie Creek Sh.	4288'	-893	4288'	-893	-888	-899
Stark Shale	4372'	-977	4372'	-977	-973	-983
Hushpuckney Sh.	4409'	-1014	4408'	-1013	-1008	-1018
Marmaton	4485'	-1090	4482'	-1087	-1072	-1089
Pawnee	4554'	-1159	4554'	-1159	-1151	-1158
Lwr. Cher. Shale	4652'	-1257	4652'	-1257	-1248	-1267
Johnson	4682'	-1287	4695'	-1300	-1278	-1307
Mississippian	4812'	-1417	4816'	-1421	-1420	-1472
RTD	4910'	-1515				
LTD			4908'	-1513		

DRILL STEM TESTS

DST No. 1 Lansing "H" and "I"
Interval: 4284'-4350'
Times: 30-30-30-30
Recovery: 10' mud
FP: 37-41/42-44 SIP: 1076-1030
HP: 2174-2086 BHT: 123 deg. F

IFP: weak surface blow
ISIP: no return blow
FFP: no blow
FSIP: no return blow

Serial #: 8374 Outside Shakespeare Oil Company Inc. Frahm Comm 1 27 DST Test Number: 1

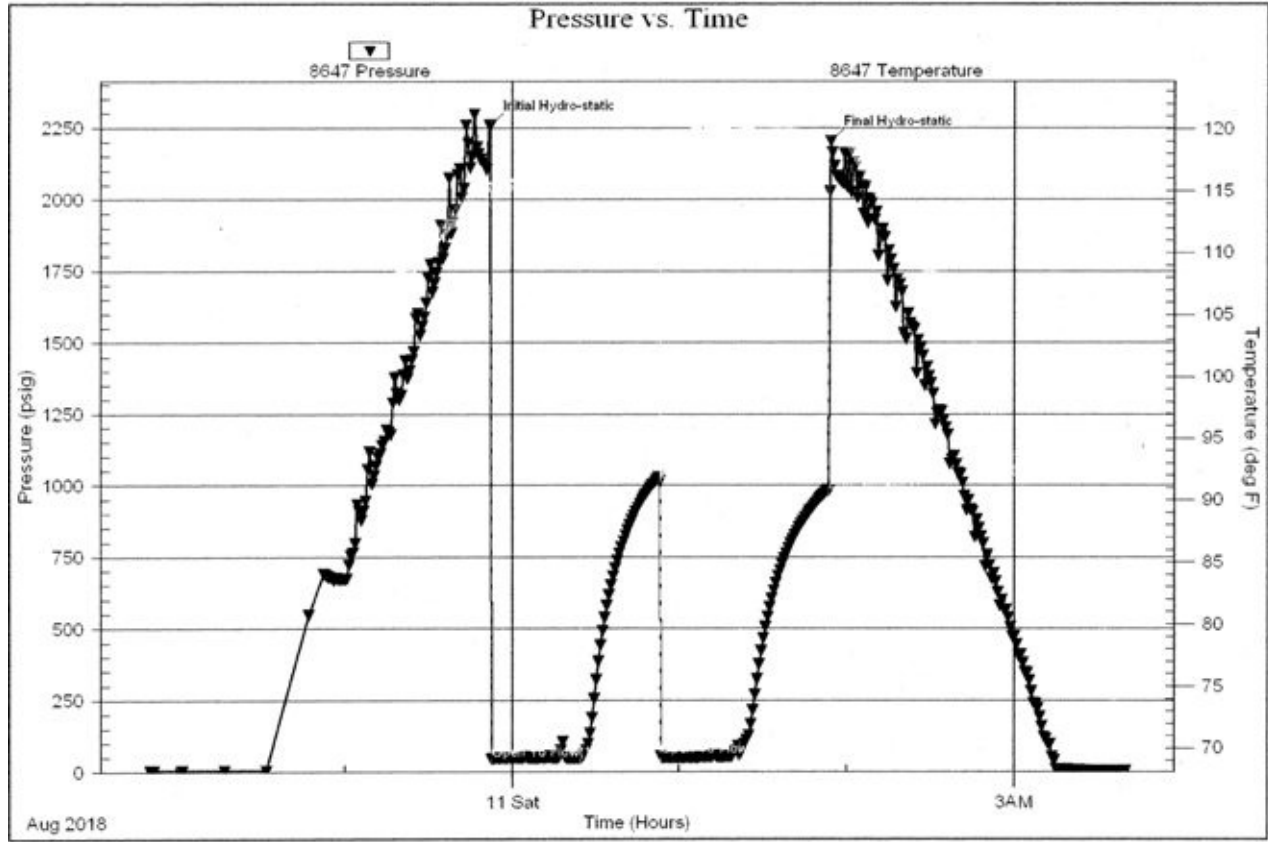


DRILL STEM TESTS

DST No. 2 Lansing "J" and "K"
Interval: 4346'-4410'
Times: 30-30-30-30
Recovery: 20' mud
FP: 43-46/55-57 SIP: 1015-977
HP: 2257-2203 BHT: 121 deg. F

IFP: blow built to 3/4 inch
ISIP: no return blow
FFP: no blow
FSIP: no return blow

Serial #: 8647 Inside Shakespeare Oil Company Inc. Frahm Comm 1 27 DGT Test Number: 2

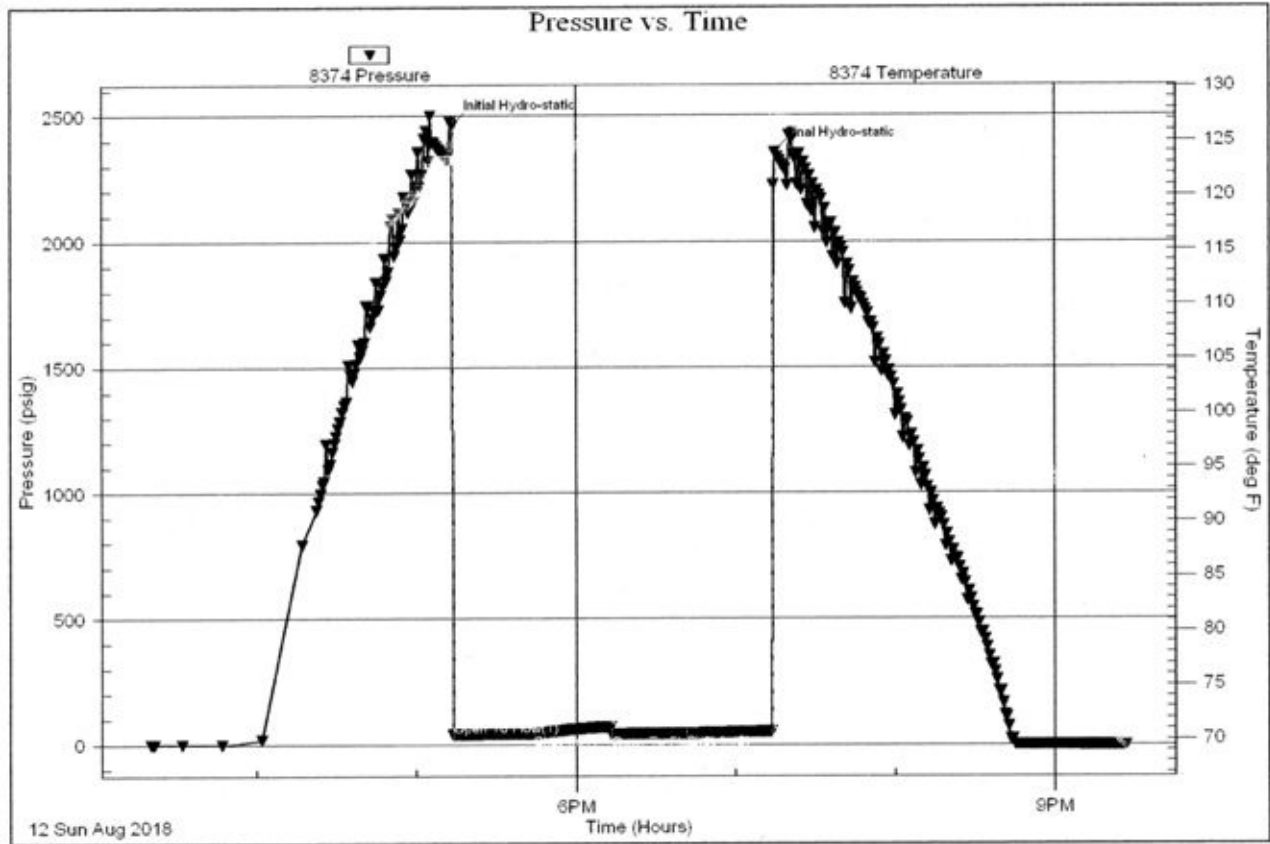


DRILL STEM TESTS

DST No. 3 Cherokee
 Interval: 4648'-4710'
 Times: 30-30-30-30
 Recovery: 5' mud
 FP: 27-42/41-43 SIP: 70-51
 HP: 2463-2352 BHT: 127 deg. F

IFP: weak surface blow, died in 24 minutes
 ISIP: no return blow
 FFP: no blow
 FSIP: no return blow

Serial #: 8374 Outside Shakespeare Oil Company Inc. Frhm Conn 1 27 DST Test Number: 3



Tribbte Testing, Inc

Ref. No: 64340

Printed: 2018.08.12 @ 21:50:29

ROCK TYPES

Anhy
 Cht
 Coal
 Congl
 Dol
 Gyp
 Lmst

Salt
 Shale
 Shcol
 Shgy
 Siltst
 Ss
 Carb sh

Dol
 Dtd
 Gry sh
 Sandylms
 redshale
 Shale
 Siltstn

Shlyslts
 Sltysl
 Sdy dolo
 Silty dolo
 Shy dolo
 Shaly ls

ACCESSORIES

FOSSIL

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

- Plant
- Strom
- Fuss
- Oomold

MINERAL

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

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

STRINGER

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

OTHER SYMBOLS

INTERVALS

- Core
- Dst
- Dst

EVENTS

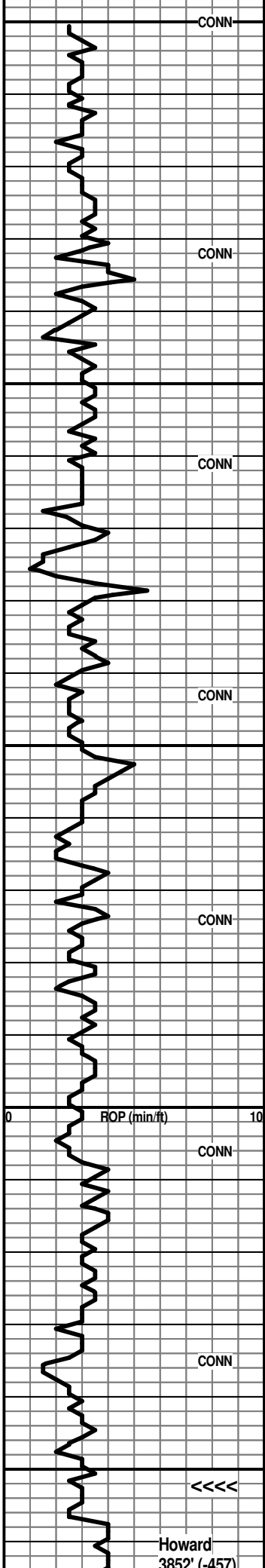
- Rft
- Dst top/base

OIL SHOWS

- Even
- Spotted
- Quest.

- Trace
- Dead
- Gas show

Curve Track 1 ROP (min/ft)	Depth	Lithology	Oil Shows	Geological Descriptions	Remarks
0 ————— 10 ROP (min/ft)					
0 ————— 10 ROP (min/ft)	3600				<p>Geologist on location at 3530' Noon on 8-7-2018</p> <p>Report Depth and Activity</p> <p>7-17-2018 Start location and pits 7-18 Finish location and pits 7-25/7-27 Too wet to move, location under water 7-28/7-31 Still too wet to move 8-2 MIRT, spud at 5:15 PM 8-3 WOC @ 265' 8-4 Drlg. @ 1880', heavy rain, water haulers cannot get to water source, TOH w/bit at 1899' (losing fluid at 1800') 8-5 Wait on water @ 1899', start drilling at 1:00 PM 8-6 Drlg. @ 2705' 8-7 Drlg. @ 3450' 8-8 CFS @ 3872' 8-9 Drlg. @ 4188' 8-10 DST #1 @ 4350' 8-11 CTCH @ 4410' post DST #2 8-12 Drlg. @ 4685', TOH for DST #3 8-13 Drlg. @ 4820'</p>



3650
CONN
CONN
3700
CONN
CONN
3750
CONN
3800
CONN
3850
<<<<



Ls: tan, lt to med brn vfxln dense; Sh: mix orange, red-brn, gray, light green

Ls: lt to med brn dense, AA gran. IP; lt gray mic-vfxln; Sh: mix AA; Sst: occ lt gray vfg

Ls: various lt to med brn dense, gran. IP; lt gray, tan vf-cryptoxln, NVP; interbedded Sh: med to dark gray, green, red-brn

Ls: influx offwhite mic-vfxln dense; other AA; Sh: incr. lt red-brn

Sh: red-brn, gray, green; Ls: offwhite, lt gray mic-vfxln dense

Sh: strong influx brn indurated, calcar.; Ls: tan, lt to med brn dense

Sh: influx lt to med gray, silty IP; Ls: AA; occ white clay

Sh: med gray silty; Ls: gray, gray-brn dense

Sh: abund. gray, silty, finely micac.; lesser red-brn; Ls: mix tan, lt brn, red-brn, lt gray vf-cryptoxln

Ls: influx med to dark gray dense, shaly IP; mottled sl gran. IP, NVP; Sh: various gray, red-brn

Ls: very pred. various gray dense, shaly AA; Sh: mix AA with influx dark gray to black

F

Ls: lt to med gray dense, mottled and shaly IP; influx tan, lt brn dense, foss. IP, NVP, N.S.; Sh: decr. % gray, red-brn, occ black

Sh: lt to med gray, red-brn, brn; Ls: good influx tan, lt gray vf-cryptoxln

pred. Ls: tan, lt to med brn, lt gray vf-cryptoxln, NVP, N.S.; Sh: vc gray, red-brn

very pred. Ls: mix AA, occ white chalky; Sh: sl influx soft, gummy lt gray, lt brn

Ls: various tan, lt to med brn, lt gray dense, occ white chalky; Sh: some soft AA; med to dark gray to black, red-brn

Ls: pred. tan, lt gray vf-cryptoxln, NVP; lesser white chalky; Sh: red-brn, soft IP, lt to med gray

Ls: flood tan cryptoxln and tan mic-vfxln dense; decr. shale %

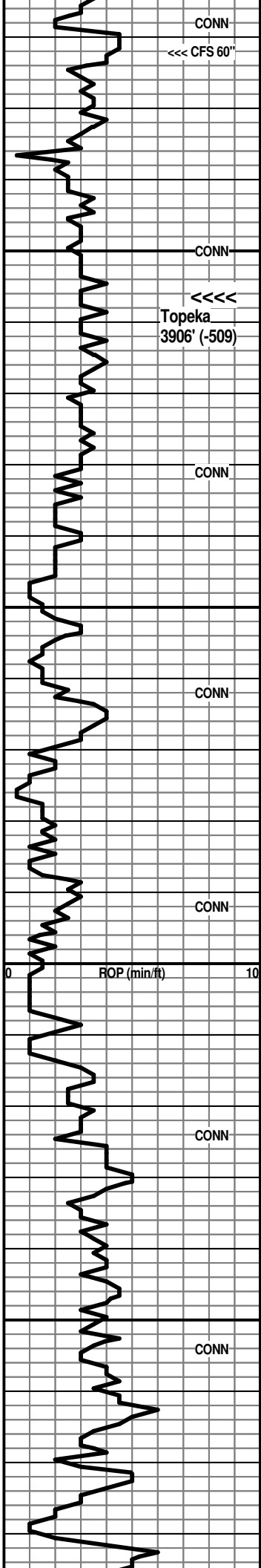
vis 50 wt. 8.8 1.5# lcm

vis 60 wt. 8.8 2# lcm

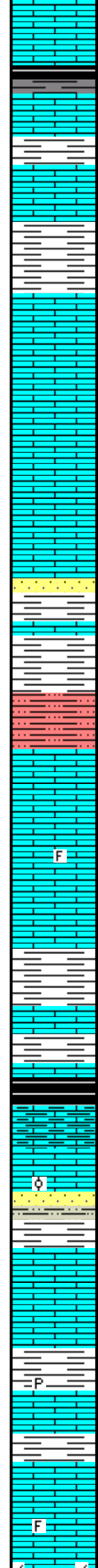
vis 62 wt. 8.8 1# lcm

vis 61 wt. 8.9 1.5# lcm

Howard 3852' (-457)



3900
3950
4000
4050



CFS 3872' 30" spl - Ls: mix AA, some tan fn gran. with inter-particle por., N.S.; 60" spl - Ls: pred. tan cryptoxln, NVP; lesser white chalky

Ls: mix AA with mottled brn and gray dense; Sh: influx vc gray with new dark gray to black

Ls: influx lt gray vf-cryptoxln; Sh: med to dark gray, red-brn, gray-green

Ls and Sh mix AA; new soft gummy lt gray

Ls: mix tan, lt brn, offwhite pred. vf-cryptoxln; some tan sl gran. with poor-NVP; decr. shales AA

Sh: more red-brn; Ls: mix AA with influx lt to med brn, scatt. mottled red-brn dense

Ls: lt to med brn, tan vf-cryptoxln; lt gray mic-vfxln dense; white chalky; minor Sh: lt to med gray, red-brn

Ls: tan, lt brn vf-cryptoxln; some lt gray cryptoxln and sl mottled med brn gran., NVP; scatt. white chalky; Sh: fairly minor % med to dark gray, red-brn, brn

Ls: mix AA with Sst: scatt. lt gray vf-fg, calcar.; Sh: mix AA minor %

mix Ls and Sst AA; Sh: new soft and mushy lt gray with red-brn, brn and gray

Ls: offwhite, lt gray mic-vfxln dense, fn gran. and foss. IP, subchalky IP; offwhite chalky; influx Sh: red-brn silty to finely sandy; dark red-brn, soft lt red; scatt. lt gray Sst AA

Ls: subchalky to chalky AA; Sh: various red-brn AA and finely sandy and silty red-brn

Ls: offwhite, tan mic-vfxln subchalky to fn gran. and foss. IP; common white chalky; minor shale % of med to dark red-brn, gray

Ls: subchalky to chalky mix AA

Ls: subchalky to chalky AA; sl influx lt brn vf-cryptoxln; Sh: sl incr. % med to dark gray, some black

Ls: mix AA with influx med to dark gray, sl gran. NVP and mottled gray shaly Ls; Sh: some black carbon.

Ls: mix various tan, lt to med brn, gray gen. dense; sl influx tan, lt brn gran. to oolitic with por-NVP; some Sst: lt gray vfg with gray micac. Siltst

Ls: offwhite, lt gray, tan mic-vfxln dense; other tan, lt brn fn gran. with ppt and inter-particle por., N.S.; scatt. Sst: lt gray fg micac., calcar.; Sh: dark red-brn, occ dark gray, black

Ls: mix AA with influx lt gray vfxln dense; Sh: good influx dark red-brn, dark brn, some pyritic gray

Ls: good influx lt to med gray vfxln dense; abund. offwhite, tan mic-vfxln dense; Sh: common AA

Ls: lt to med gray, lt brn, sl gran. and offwhite, tan mic-vfxln dense, subchalky to white chalky, some ppt por., N.S.

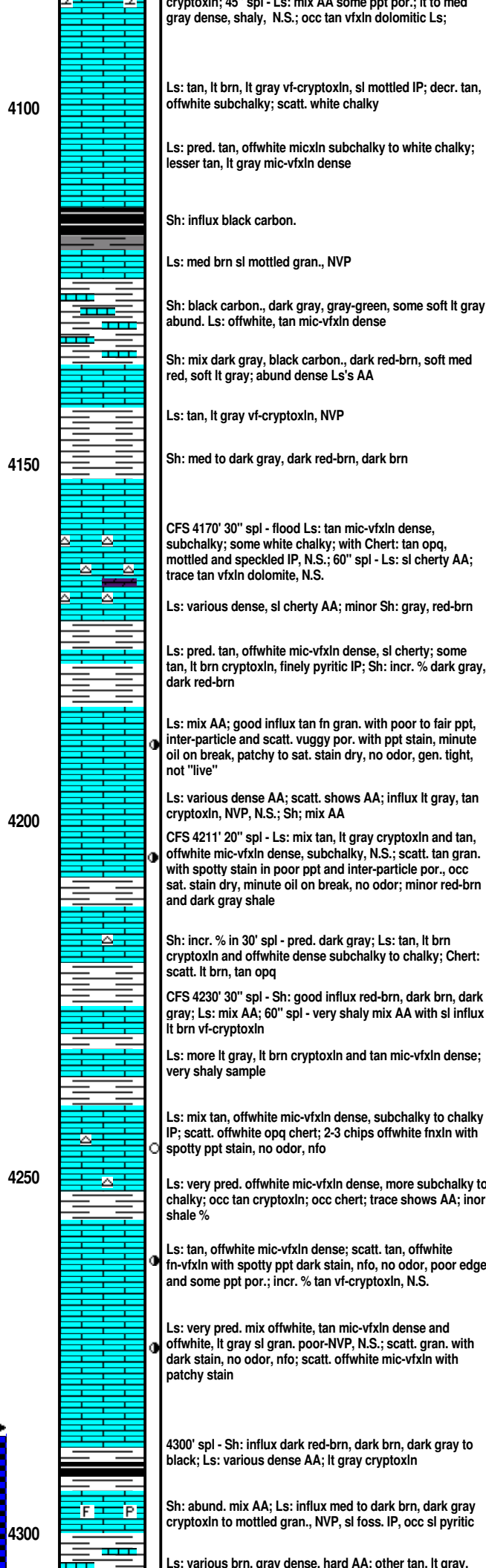
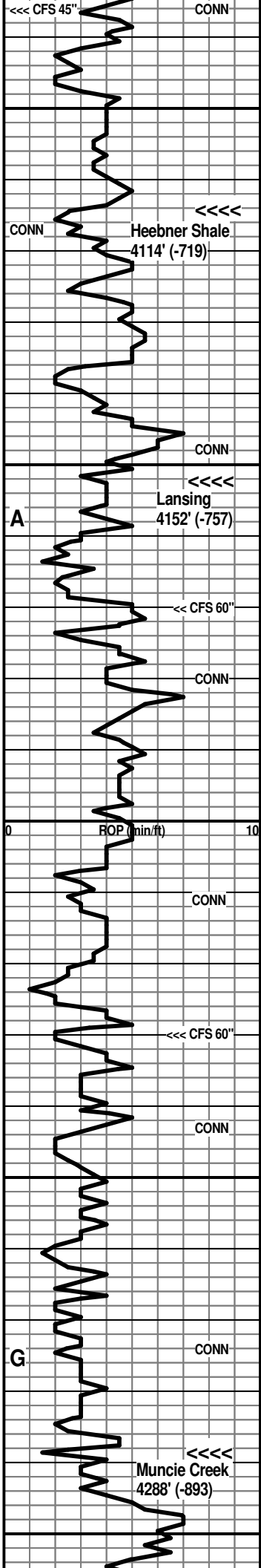
CFS 4086' 20" spl - Ls: various dense, subchalky to chalky, occ foss.; various lt brn, gray sl gran. NVP; occ med brn cryptoxln; 40" spl - Ls: mix AA, some tan fn gran. to med

MudCo Mud Check at 3872'
6:30 AM on 8-8-2018
wt vis wl pH lcm
8.9 67 8.8 9.5 2#
PV YP GeIS chl solids
18 15 11/23 3000 4.4%

Topeka 3906' (-511)

vis 67 wt. 8.9

jet #1 pit



35 stand short trip at 4086'

Heebner Shale 4114' (-719)

Lansing 4152' (-757)

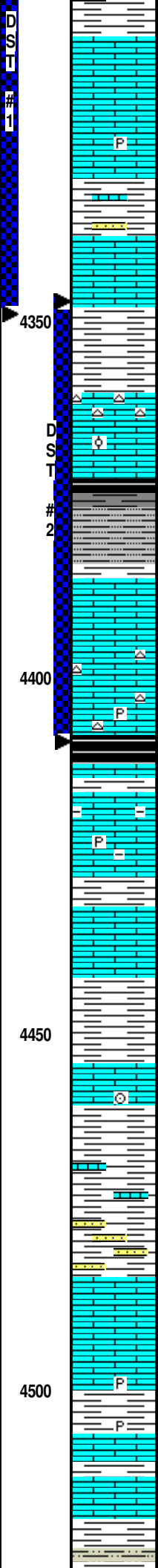
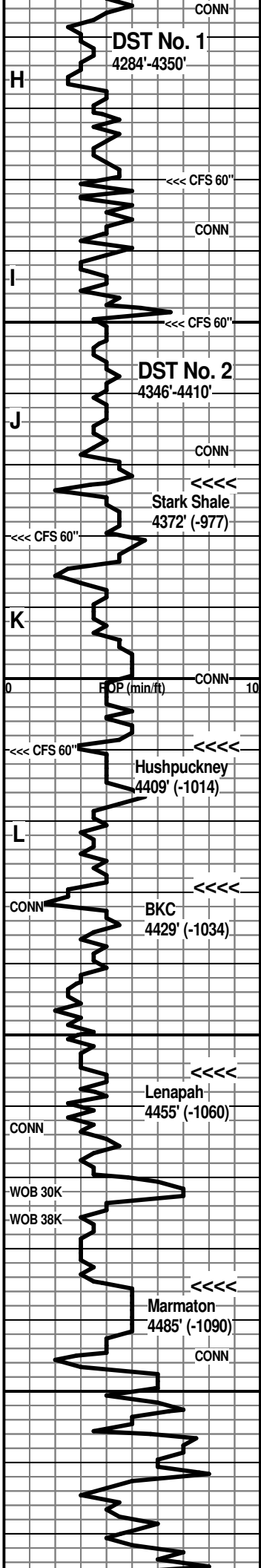
MudCo Mud Check at 4204'
 7:35 AM on 8-9-2018
 wt vis wl pH lcm
 8.9 54 9.6 9.0 2#
 PV YP GelS chl solids
 17 14 8/26 3500 4.3%

CFS 4211' 45" spl - Ls: various lt to med brn, tan, lt gray cryptoxin and offwhite, tan dense subchalky; scatt. chips with shows AA

Muncie Creek 4288' (-893)

MudCo Mud Check at 4350'

DST No. 1 Lansing "H" and "I"
 Interval: 4284'-4350'
 Times: 30-30-30-30
 IFP: weak surface blow
 ISIP: no return blow
 FFP: no blow
 FSIP: no return blow
 Recovery: 10' mud
 FP: 37-41/42-44 SIP: 1076-1030
 HP: 2174-2086 BHT: 123 deg. F



offwhite vfxln dense; Sh: abund. mix AA, gray-green

Ls: 2-3 chips lt brn vfxln with subsat stain, sl sfo on break, vsI odor, dull fluor.; several chips offwhite vfxln with spotty ppt and edge stain, some oily sheen on edge; abund. offwhite, tan mic-vfxln dense, subchaly and lesser tan, lt brn, lt gray vf-cryptoxln, NVP, N.S.

CFS 4330' 30" spl - Ls: more tan, lt to med brn, lt gray vf-cryptoxln; occ mottled tan/gray pyritic, N.S.

40'/50' spls - very shaly mix AA; sl influx lt gray vfg shaly Sst; Ls: scatt. chips tan gran. with patchy lt brn stain

CFS 4350' 30" spl - Ls: sl influx tan, offwhite gran. with poor inter-particle por., with ppt dark brn stain, minute oil droplets on break, vsI odor; common tan, lt to med brn, lt gray cryptoxln to sl gran. and offwhite, tan mic-vfxln dense, N.S.

60' spl - trashy; Sh: pred. vc gray, incr. gray-green; 70' spl - pred. Sh: AA; Ls: tan, some lt brn vf-cryptoxln and offwhite, tan mic-vfxln dense, N.S.

80' spl - Ls: pred. tan, lt gray cryptoxln, NVP, N.S.; fair influx of Chert: blue-gray and lt gray, opq; trace tan/offwhite sl gran. to sl oolitic with some inter-particle por., very light stain, fluor., fair strm cut, no odor, nfo

CFS 4380' 30" spl - Sh: black carbon.; Ls: lt gray, tan, lt brn cryptoxln, NVP; some mottled dark brn cryptoxln to gran., N.S.; 60" spl - Sh: black AA with influx lt to med gray, silty IP, some lt gray Siltst

Ls: good influx tan gran. with some inter-particle por. with good pungent odor, brn stain, good show oil on break, some fo, dull yellow fluor., good milky cut, patchy to sat. stain in dry samples

10' spl - good odor AA but fewer chips with shows; Ls: abund. offwhite, tan mic-vfxln dense and tan, lt gray cryptoxln, NVP, N.S.; scatt. offwhite, lt gray opq chert

CFS 4410' 30" spl - Ls: tan, some lt gray cryptoxln and offwhite mic-vfxln dense, subchaly IP, N.S.; scatt. lt gray, offwhite opq chert; some pyrite

Sh: abund. black carbon., med to dark gray; Ls: influx med to dark gray, mottled gran., shaly IP; mottled med to dark brn gran.; occ chips from above with shows

Ls: very pred. mottled med to dark gray gran., shaly and pyritic IP; occ cryptoxln; Shales AA

Ls: influx tan, lt gray vfxln dense and tan cryptoxln, NVP, N.S.; Sh: decr. % med to dark gray, black

Ls: tan, lt to med brn vf-cryptoxln, sl mottled and gran. IP; lesser offwhite subchaly to chalky, N.S.; Sh: med to dark gray, black

Ls: mix AA with sl influx mottled med to dark gray and brn gran. NVP, N.S.; Sh: AA

Ls: influx tan, offwhite mic-vfxln dense and lt to med brn gran., poor-NVP, N.S.; occ crin. frag.; decr. % shale

Ls: tan, lt brn, lt gray pred. cryptoxln; influx Sh: lt red, red-brn, lt gray soft; scatt. Sst: offwhite, lt gray fg

Ls: various AA, more lt gray, lt brn cryptoxln; with tan, offwhite mic-vfxln dense; Sh: lt red, soft and mushy, med to dark gray

Sh: med to dark gray, calcar., lesser dark red-brn; Ls: lt to med gray, dense, shaly to cryptoxln; occ pyrite

Sh: mix AA, some black, dark gray, occ pyritic gray; incr. % Ls: various lt gray, tan, gray-brn cryptoxln

Ls: mix various tan, gray, brn cryptoxln and offwhite, lt gray vfxln dense; some white chalky; Sh: med to dark gray, black, red-brn, some very soft offwhite, clayey; one chip lt brn gran. Ls with stain (likely cavings)

9:00 AM on 8-10-2018
 wt vis wl pH lcm
 9.3 57 7.2 9.5 2#
 PV YP GeIS chl solids
 18 15 10/28 3500 6.5%

CFS 4330' 60" spl - Ls: various vf-cryptoxln AA; lesser offwhite mic-vfxln dense; abund shales, dark red-brn, dark brn, dark gray, black

CFS 4350' 60" spl - very shaly mix AA; numerous chips with spotty stain AA; various dense Ls's AA, more med brn cryptoxln; Sh: med to dark gray, black, gray-green, dark red-brn, dark brn

Pipe strap at 4350' was 0.15' long to the board

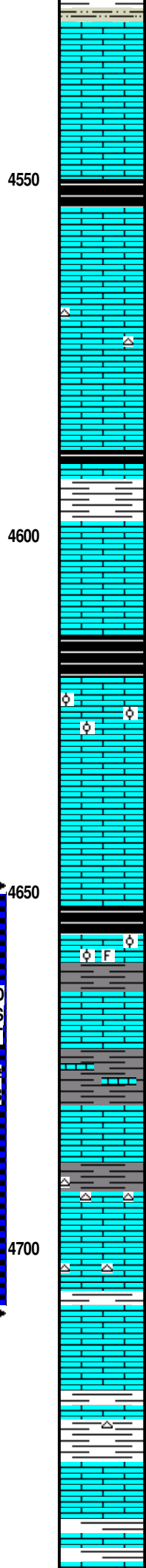
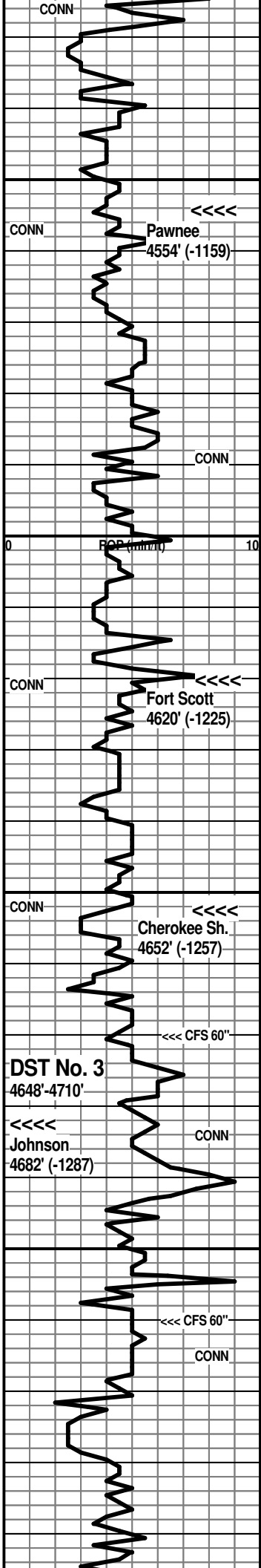
Stark Shale 4372' (-977)
 vis 55 wt. 9.3 2# lcm

CFS 4410' 60" spl - Ls: pred. various cryptoxln AA; cherty AA, scatt. pyrite; Sh: influx black carbon.

Hushpuckney 4409' (-1014)
 DST No. 2 Lansing "J" and "K"
 Interval: 4346'-4410'
 Times: 30-30-30-30
 IFP: blow built to 3/4 inch
 ISIP: no return blow
 FFP: no blow
 FSIP: no return blow
 Recovery: 20' mud
 FP: 43-46/55-57 SIP: 1015-977
 HP: 2257-2203 BHT: 121 deg. F

MudCo Mud Check at 4425'
 8:10 AM on 8-11-2018
 wt vis wl pH lcm
 9.2 60 9.6 10.0 3#
 PV YP GeIS chl solids
 20 15 11/25 4000 5.9%

Marmaton 4485' (-1090)



pred. Sh: med to dark gray, black; with gray, lt brn finely micac. Siltst; Ls: various cryptoxln AA; some new lt brn mottled gran.

Ls: incr. mottled lt brn gran. AA; fair influx white chalky; Sh: some olive green, more dark red-brn

Ls: good influx mottled tan and brn gran. NVP; some tan, med brn, lt to med gray cryptoxln and offwhite dense; Sh: med to dark gray, black

Ls: influx dark gray, dark brn cryptoxln, gran. IP, NVP, N.S.; mottled dark gray shaly; Sh: influx dark gray to black

Ls: lt to med brn, tan, lt gray cryptoxln; lesser tan, offwhite vfxln dense; Chert: sl influx lt brn, lt gray opq, sharp; very shaly spls

very shaly spls AA; Ls: various cryptoxln AA

very shaly samples - Sh: vc gray, black carbon., abund. red-brn, gray-green; Ls: tan, lt gray vf-cryptoxln

very shaly mix AA; Ls: gray cryptoxln

Sh: more dark gray to black carbon.; Ls: influx mottled lt brn gran. to sl oolitic, NVP, N.S.

still very shaly AA; Ls: mottled gran./oolitic AA with tan cryptoxln and tan, offwhite vfxln dense, N.S.

very shaly AA; Ls: more tan cryptoxln and tan mic-vfxln dense

60' spl - improving spls - Ls: tan, offwhite mic-vfxln dense; with med brn sl mottled vf-cryptoxln and some dark brn, sl mottled cryptoxln to gran., NVP

70' spl - Sh: influx black carbon.; Ls: mix med to dark brn cryptoxln and influx mottled brn gran./oolitic/foss. with offwhite micxln matrix, N.S.

CFS 4670' spls - Ls: pred. mottled gran. AA; with brn, gray cryptoxln; Sh: black carbon., dark gray

Ls: mottled tan/lt gray gran. with micxln matrix; tan, lt brn cryptoxln, NVP, N.S.; Sh: abund. dark gray and black, with dark red-brn

Ls: very shaly mix AA with offwhite, lt gray, tan mic-vfxln dense, N.S.

4700' spl - Ls: flood offwhite, tan mic-vfxln dense and other lt to med brn, lt gray cryptoxln, NVP, N.S.; sl influx tan vfxln with patchy dark brn stain, poor por., trace minute oil on break, ft-vsl odor; Chert: sl influx lt brn, tan, lt gray opq

10' spl - Ls: pred. mix AA; incr. tan, lt brn, lt gray cryptoxln, N.S., cherty AA; few chips med brn cryptoxln to sl gran., sl foss. with vuggy por. with dark brn to black stain, vsl sfo, ft-vsl odor

Sh: med to dark gray, black, occ gray-green; Ls: tan, lt to med brn cryptoxln and tan mic-vfxln dense

Ls: mix AA with influx med to dark brn cryptoxln to sl gran., NVP, N.S.; Sh: mix AA

Sh: incr. % vc gray, black, more gray-green; trace tan opq chert; Ls: pred. various brn, gray, gray-brn cryptoxln to sl gran.; 3-4 chips with poor-NVP with patchy stain, no odor, nfo (40' spl)

Ls: various lt to med brn, lt gray cryptoxln to sl gran., poor-NVP, N.S.; offwhite tan, mic-vfxln dense, subchalky to white chalky; decr. shale %

pred. Ls: AA; Sh: sl influx gray-green, some multi-colored (red brn, natural yellow, ochre), mottled IP; Chert: cont.

sample quality poor to fair abund. large shale cuttings

Pawnee 4554' (-1159)

poor samples - large shale cuttings

poor samples - large shale cuttings

Fort Scott 4620' (-1225)

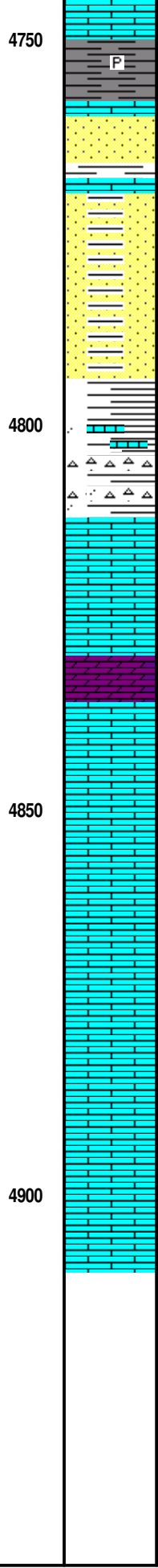
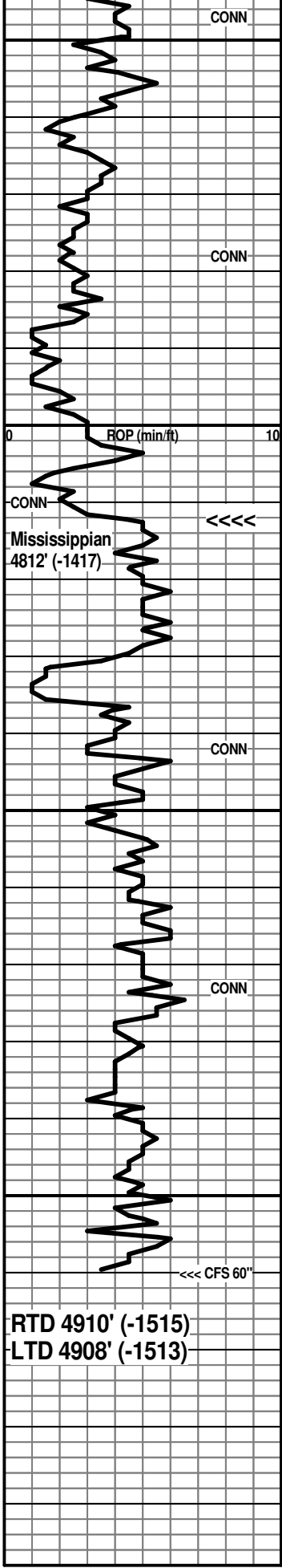
jet #1 add premix

Cherokee Sh. 4652' (-1257)

good samples
vis 65 wt. 9.3 lcm 1.5#
DST No. 3 Cherokee
Interval: 4648'-4710'
Times: 30-30-30-30
IFP: weak surface blow, died in 24 minutes
ISIP: no return blow
FFP: no blow
FSIP: no return blow
Recovery: 5' mud
FP: 27-42/41-43 SIP: 70-51
HP: 2463-2352 BHT: 127 deg. F

Johnson 4682' (-1287)

MudCo Mud Check at 4691'
8:15 AM on 8-12-2018
wt vis wl pH lcm
9.3 67 8.8 10.0 3#
PV YP GeIS chl solids
22 16 10/28 5500 6.4%



(red, brn, mustard yellow, ochre), mottled IP; Sst: scatt. offwhite vfg, tight, N.S.

Ls: lt to med brn, lt gray cryptoxln; tan, offwhite mic-vfxln dense, subchalky, some white chalky; Sh: med to dark gray, pyritic IP, gray-green

80' spl - abund. various dense Ls's AA; Sst: sl influx lt gray, offwhite vf-fig subrnd-rnd, mod well sorted, silica cmt, vs! glauc., shale inclusions, N.S., no cut, no fluor.; Sh: incr. pred. gray-green, other dark yellow, mottled red-green

Sh: vc gray, gray-green, red-brn; dark yellow, green, ochre, mottled brn/yellow, waxy gray-green; common various dense Ls's AA; Sst: good % lt gray, offwhite vf-fig, sl glauc. and shaly IP, N.S.; sl influx coarse to very coarse qtz grains, N.S.

Sst: loose grains AA with influx clusters offwhite, lt gray fg, calcar.; Sh: multi-colored AA

Sh: vc gray, gray-green, some multi-colored AA; scatt. loose qtz grains AA; Chert: sl influx brn, orange, tan, offwhite opq; Ls: tan, brn, gray dense

Ls: offwhite, tan mic-vfxln dense, subchalky to chalky and lt brn very smooth cryptoxln, NVP, N.S.

Ls: flood pred. med brn smooth cryptoxln, some sl gran. NVP, N.S.

Dolo: brn fn-vfxln with good interxln, vuggy and moldic por., N.S., no cut, dull mnrl fluor.

Ls: very pred. lt to med brn cryptoxln to sl gran., NVP; much decr. Dolo AA

Ls: AA; some offwhite dense, subchalky; sl influx tan, lt brn fn gran. with offwhite micxln matrix, N.S.

Ls: pred. sl mottled tan, lt brn fn gran. with micxln to subchalky matrix, N.S.; other offwhite subchalky to chalky

Ls: fn gran. AA, becoming more subchalky to chalky

AA

Ls: pred. tan, lt gray fn gran., poor-NVP, N.S.

AA

Because of the negative DST results and negative Elog evaluation, the decision was made to plug the #1-27 Frahm Comm as a dry hole.

Respectfully submitted,

Wesley D. Hansen
Petroleum Geologist
Kansas License No. 418

Mississippian 4812' (-1417)

MudCo Mud Check at 4839'
8:10 AM on 8-13-2018
wt vis wl pH lcm
9.3 68 10.4 9.5 2#
PV YP GeIS chl solids
19 17 11/30 5000 6.5%

samples carrying much sloughing Morrow shales from here to RTD