

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. 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	OTTLEY 3-21
Doc ID	1575441

All Electric Logs Run

Dual Compensated Porosity
Dual Induction
Microlog
Sonic

Form	ACO1 - Well Completion
Operator	Shakespeare Oil Co., Inc.
Well Name	OTTLEY 3-21
Doc ID	1575441

Tops

Name	Top	Datum
Base Anhydrite	2176	+545
Heebner	3676	-955
Lansing	3715	-994
Muncie Creek	3874	-1153
Stark Shale	3967	-1246
Hushpuckney	4000	-1279
Marmaton	4110	-1389
Pawnee	4175	-1454
L. Cherokee Shale	4258	-1537
Johnson	4303	-1582
Mississippian	4378	1657



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Company

21-14s-32w Logan, Ks

202 W Main St
Salem II 62881

Ottley 3-21

Job Ticket: 66837

DST#: 1

ATTN: Kent Matson

Test Start: 2021.05.04 @ 12:46:29

GENERAL INFORMATION:

Formation: **Lansing D-E/F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:53:29

Time Test Ended: 18:50:59

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 79

Interval: **3784.00 ft (KB) To 3826.00 ft (KB) (TVD)**

Reference Elevations: 2721.00 ft (KB)

Total Depth: 3826.00 ft (KB) (TVD)

2711.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8674 Outside

Press@RunDepth: 62.68 psig @ 3785.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.05.04 End Date: 2021.05.04

Last Calib.: 2021.05.04

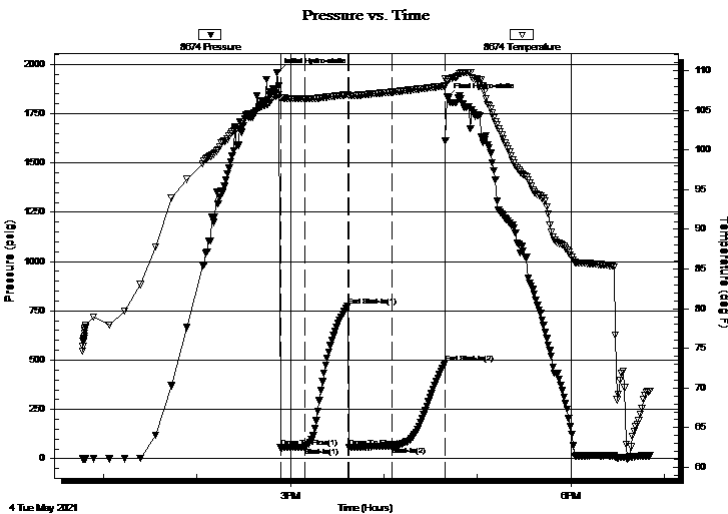
Start Time: 12:46:34 End Time: 18:50:58

Time On Btm: 2021.05.04 @ 14:51:29

Time Off Btm: 2021.05.04 @ 16:40:29

TEST COMMENT: IF: 1/2 blow built to 2.
IS: No return.
FF: 1/4 blow built to 1/2.
FS: No return. 15-30-30-30

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1958.40	106.88	Initial Hydro-static
2	56.30	106.53	Open To Flow (1)
18	59.29	106.46	Shut-In(1)
45	774.70	106.99	End Shut-In(1)
46	58.07	106.85	Open To Flow (2)
74	62.68	107.30	Shut-In(2)
108	483.52	108.08	End Shut-In(2)
109	1832.74	108.63	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	ocm 5%o 95%m	0.30

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Shakespeare Oil Company

21-14s-32w Logan, Ks

202 W Main St
Salem II 62881

Ottley 3-21

Job Ticket: 66837

DST#: 1

ATTN: Kent Matson

Test Start: 2021.05.04 @ 12:46:29

GENERAL INFORMATION:

Formation: **Lansing D-E/F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:53:29

Time Test Ended: 18:50:59

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 79

Interval: 3784.00 ft (KB) To 3826.00 ft (KB) (TVD)

Reference Elevations: 2721.00 ft (KB)

Total Depth: 3826.00 ft (KB) (TVD)

2711.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8790 Inside

Press@RunDepth: psig @ 3785.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.05.04 End Date: 2021.05.04

Last Calib.: 2021.05.04

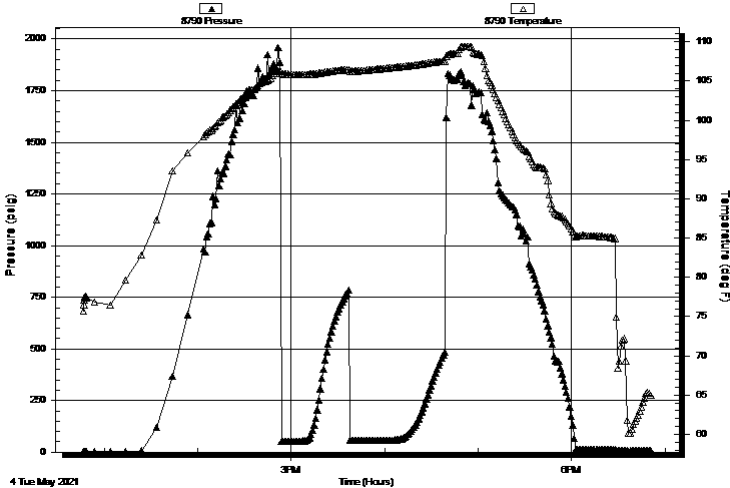
Start Time: 12:46:47 End Time: 18:51:11

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: 1/2 blow built to 2.
IS: No return.
FF: 1/4 blow built to 1/2.
FS: No return. 15-30-30-30

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	ocm 5%o 95%m	0.30

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Shakespeare Oil Company

21-14s-32w Logan, Ks

202 W Main St
Salem II 62881

Ottley 3-21

Job Ticket: 66837

DST#: 1

ATTN: Kent Matson

Test Start: 2021.05.04 @ 12:46:29

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: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.20 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2200.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	ocm 5%o 95%m	0.295

Total Length: 60.00 ft Total Volume: 0.295 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

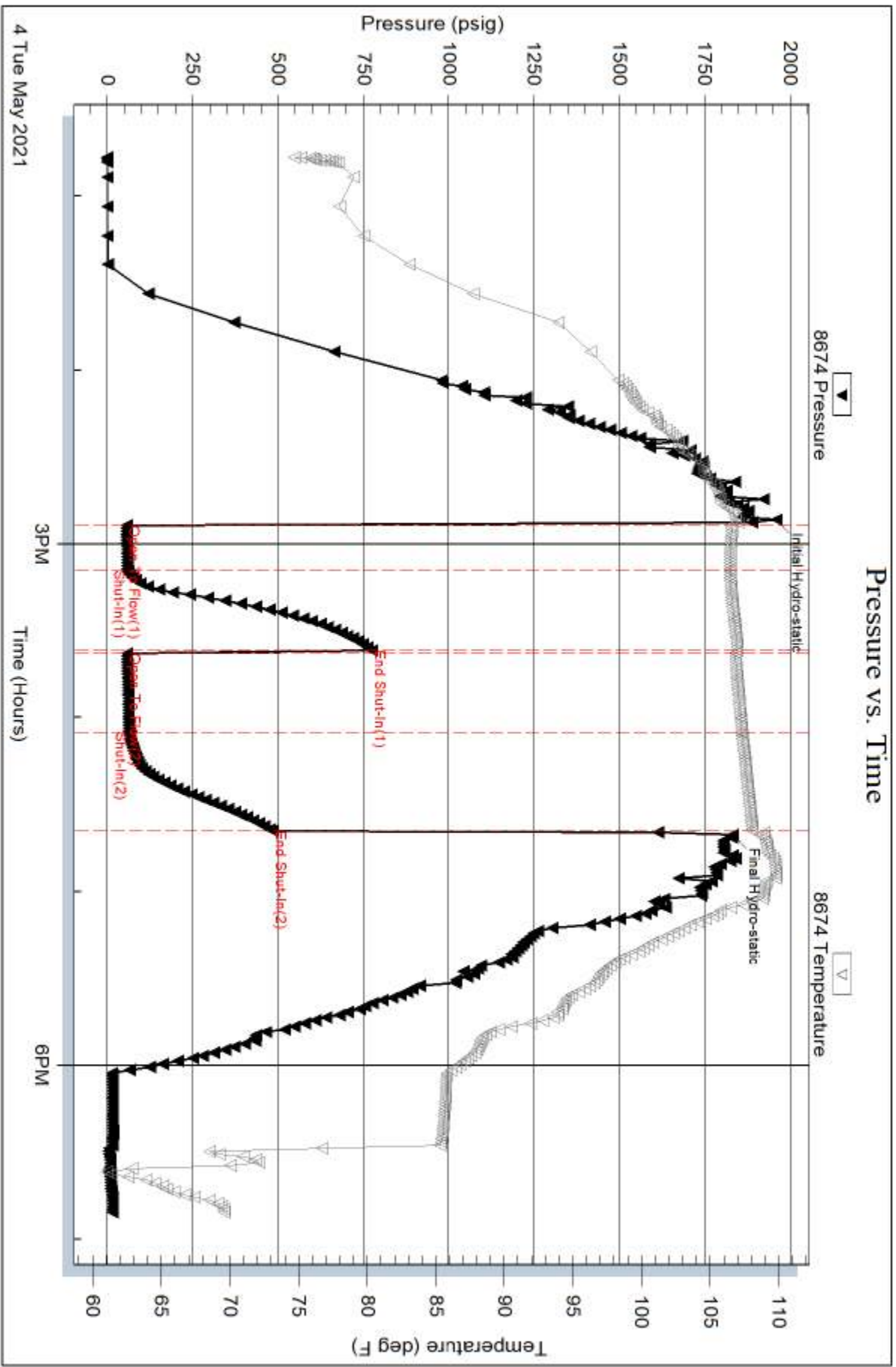
Recovery Comments:

Serial #: 8674

Outside Shakespeare Oil Company

Otley 3-21

DST Test Number: 1



Tribble Testing, Inc

Ref. No: 66837

Printed: 2021.05.04 @ 20:30:37

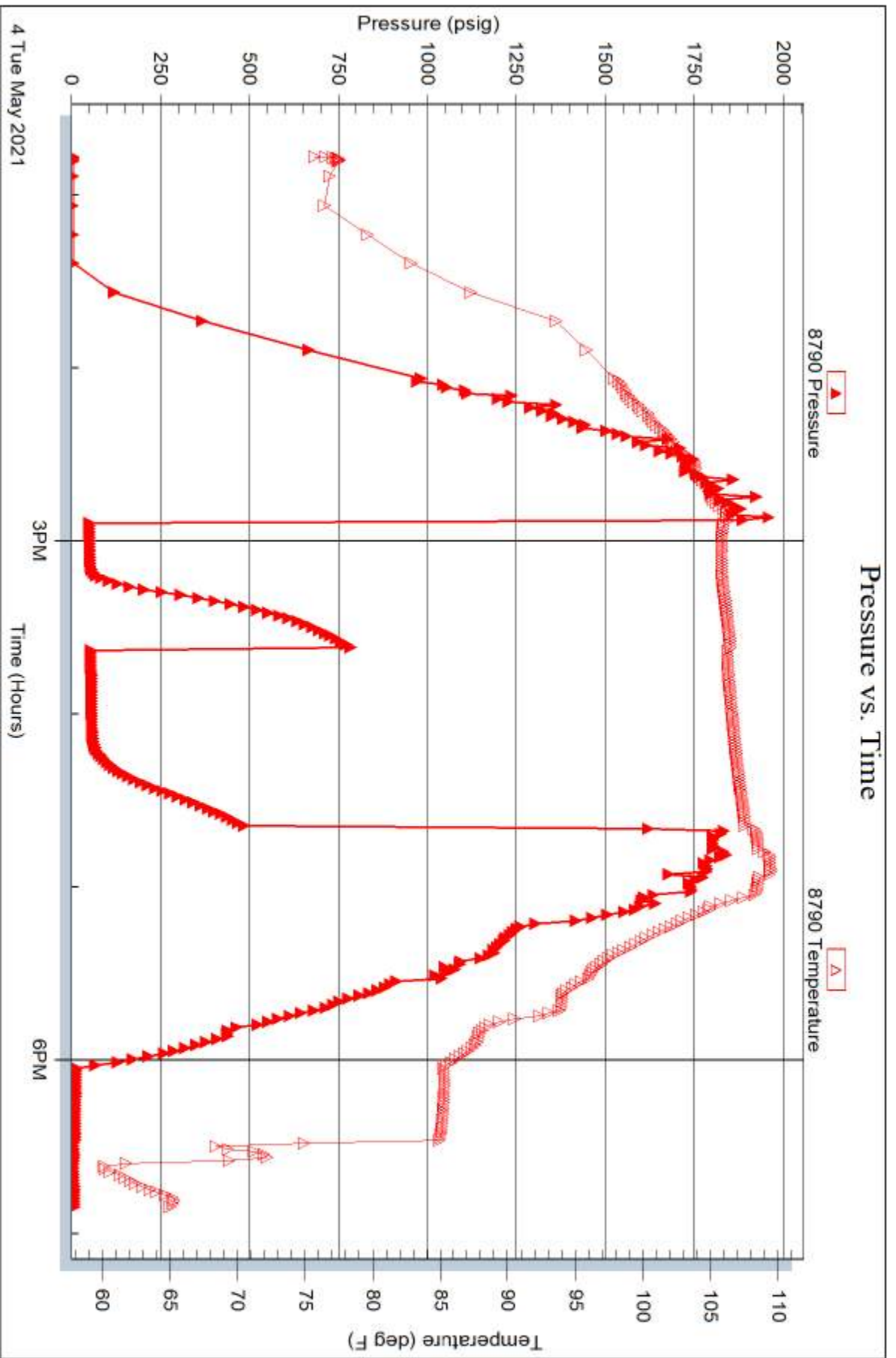
Serial #: 8790

Inside

Shakespeare Oil Company

Otley 3-21

DST Test Number: 1





**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Shakespeare Oil Company

21-14s-32w Logan, Ks

202 W Main St
Salem II 62881

Ottley 3-21

Job Ticket: 66838

DST#: 2

ATTN: Kent Matson

Test Start: 2021.05.05 @ 08:41:20

GENERAL INFORMATION:

Formation: **Lansing H-I**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:02:20

Time Test Ended: 14:50:50

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 3870.00 ft (KB) To 3930.00 ft (KB) (TVD)

Reference Elevations: 2721.00 ft (KB)

Total Depth: 3930.00 ft (KB) (TVD)

2711.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8674 Outside

Press@RunDepth: 38.52 psig @ 3871.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.05.05 End Date: 2021.05.05

Last Calib.: 2021.05.05

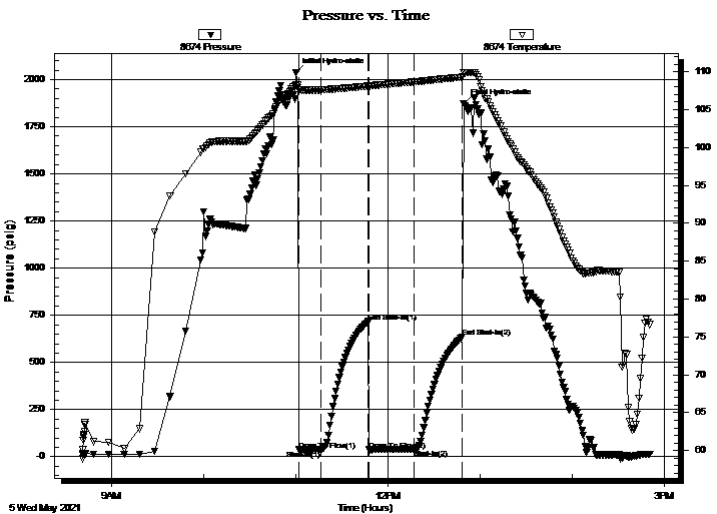
Start Time: 08:41:25 End Time: 14:50:49

Time On Btm: 2021.05.05 @ 11:00:20

Time Off Btm: 2021.05.05 @ 12:49:20

TEST COMMENT: IF: Surface blow built to 1/4.
IS: No return.
FF: Surface blow never built.
FS: No return. 15-30-30-30

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2038.13	108.25	Initial Hydro-static
2	36.71	107.58	Open To Flow (1)
16	36.03	107.59	Shut-In(1)
47	716.34	108.10	End Shut-In(1)
48	36.80	107.96	Open To Flow (2)
77	38.52	108.67	Shut-In(2)
108	633.90	109.29	End Shut-In(2)
109	1874.34	109.81	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud 100% m	0.05

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Shakespeare Oil Company

21-14s-32w Logan, Ks

202 W Main St
Salem II 62881

Ottley 3-21

Job Ticket: 66838

DST#: 2

ATTN: Kent Matson

Test Start: 2021.05.05 @ 08:41:20

GENERAL INFORMATION:

Formation: **Lansing H-I**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:02:20

Time Test Ended: 14:50:50

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 3870.00 ft (KB) To 3930.00 ft (KB) (TVD)

Total Depth: 3930.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2721.00 ft (KB)

2711.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8790 Inside

Press@RunDepth: psig @ 3871.00 ft (KB)

Start Date: 2021.05.05

End Date: 2021.05.05

Start Time: 08:41:51

End Time: 14:51:15

Capacity: 8000.00 psig

Last Calib.: 2021.05.05

Time On Btm:

Time Off Btm:

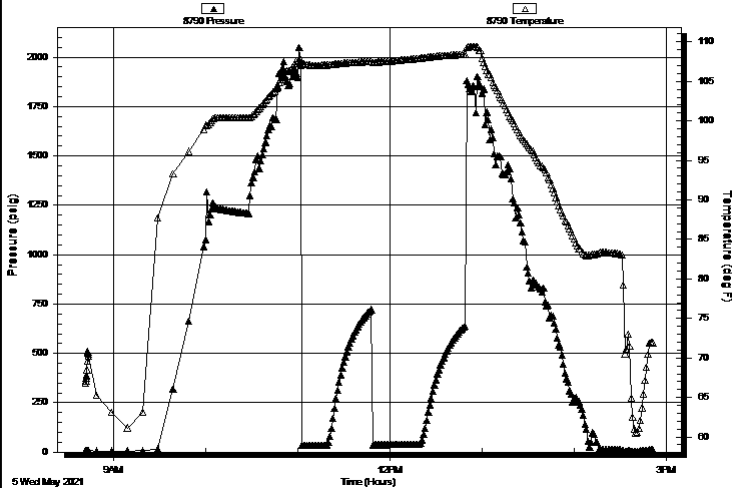
TEST COMMENT: IF: Surface blow built to 1/4.

IS: No return.

FF: Surface blow never built.

FS: No return. 15-30-30-30

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud 100% m	0.05

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

21-14s-32w Logan, Ks

202 W Main St
Salem II 62881

Ottley 3-21

Job Ticket: 66838

DST#: 2

ATTN: Kent Matson

Test Start: 2021.05.05 @ 08:41:20

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	mud 100%m	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

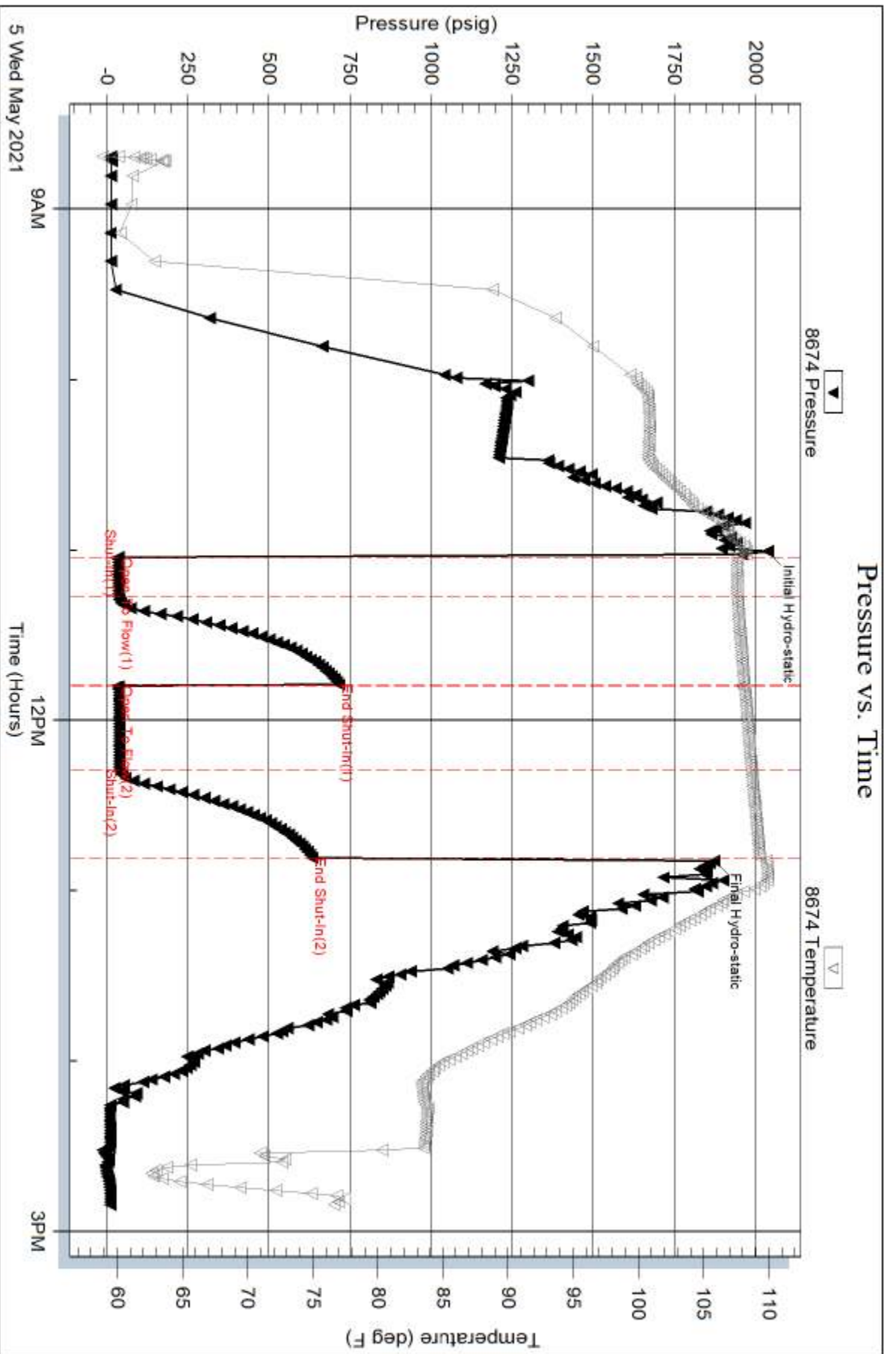
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



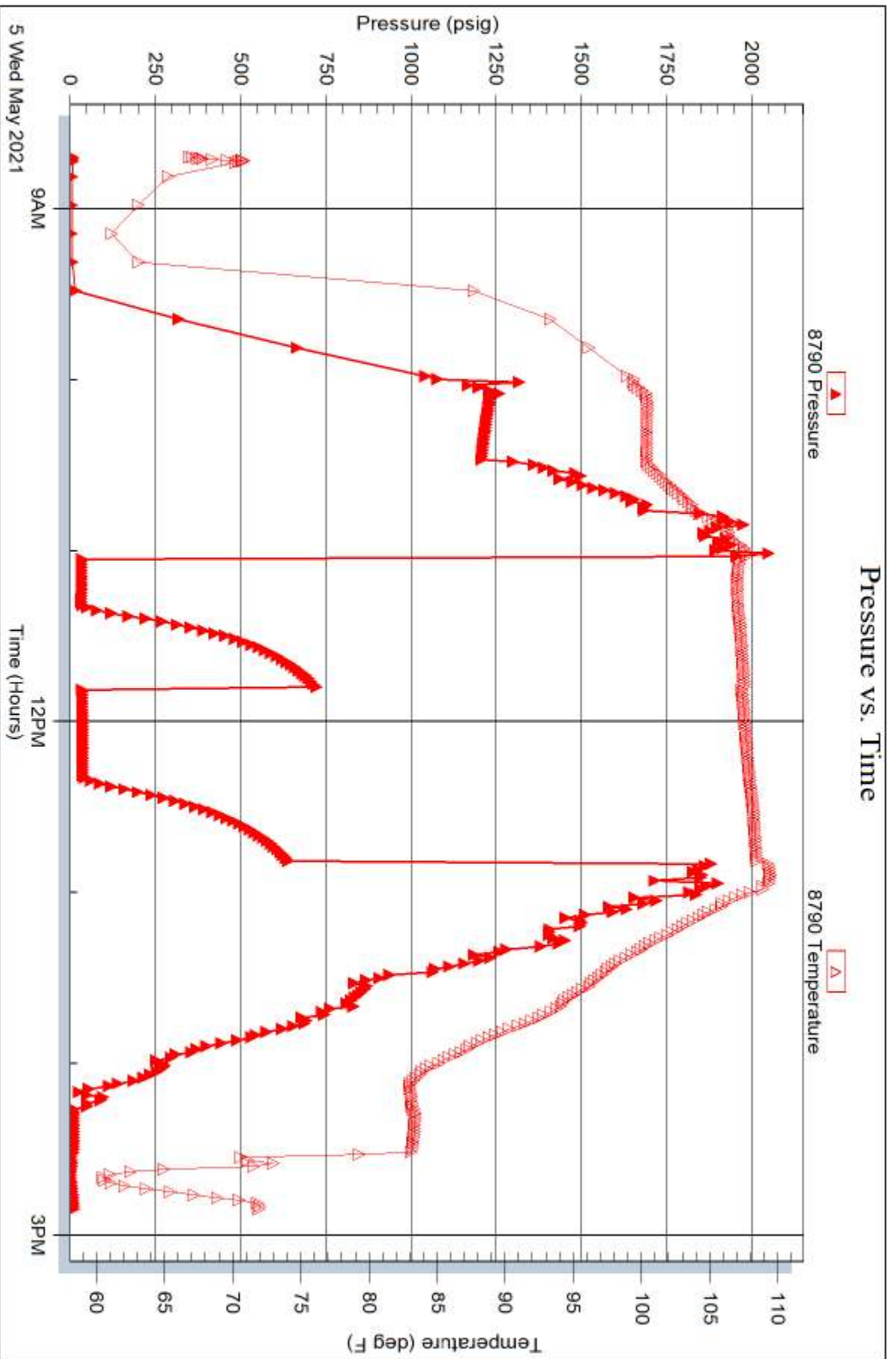
Serial #: 8790

Inside

Shakespeare Oil Company

Otley 3-21

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 66838

Printed: 2021.05.05 @ 16:39:00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Shakespeare Oil Company

21-14s-32w Logan, Ks

202 W Main St
Salem II 62881

Ottley 3-21

Job Ticket: 66840

DST#: 4

ATTN: Kent Matson

Test Start: 2021.05.06 @ 23:44:41

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:47:11

Time Test Ended: 06:15:41

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 4080.00 ft (KB) To 4160.00 ft (KB) (TVD)

Reference Elevations: 2721.00 ft (KB)

Total Depth: 4160.00 ft (KB) (TVD)

2711.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8674 Outside

Press@RunDepth: 37.12 psig @ 4081.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.05.06 End Date: 2021.05.07

Last Calib.: 2021.05.07

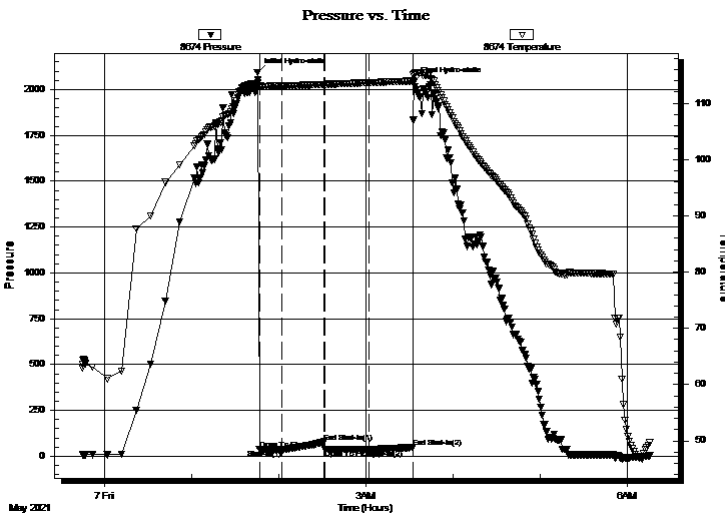
Start Time: 23:44:46 End Time: 06:15:40

Time On Btm: 2021.05.07 @ 01:45:11

Time Off Btm: 2021.05.07 @ 03:33:11

TEST COMMENT: IF: 1/4 blow built to 3/4.
IS: No return.
FF: No blow.
FS: No return. 15-30-30-30

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2093.49	113.54	Initial Hydro-static
2	36.54	113.06	Open To Flow (1)
17	35.89	113.08	Shut-In(1)
46	78.54	113.36	End Shut-In(1)
47	36.79	113.37	Open To Flow (2)
77	37.12	113.67	Shut-In(2)
107	47.71	113.98	End Shut-In(2)
108	2041.45	115.20	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100%m	0.02

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Company

202 W Main St
Salem II 62881

ATTN: Kent Matson

21-14s-32w Logan, Ks

Ottley 3-21

Job Ticket: 66840

DST#: 4

Test Start: 2021.05.06 @ 23:44:41

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:47:11

Time Test Ended: 06:15:41

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 4080.00 ft (KB) To 4160.00 ft (KB) (TVD)

Total Depth: 4160.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2721.00 ft (KB)

2711.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8790 **Inside**

Press@RunDepth: psig @ 4081.00 ft (KB)

Start Date: 2021.05.06

End Date:

2021.05.07

Capacity: 8000.00 psig

Last Calib.:

2021.05.07

Start Time: 23:44:29

End Time:

06:15:23

Time On Btm:

Time Off Btm:

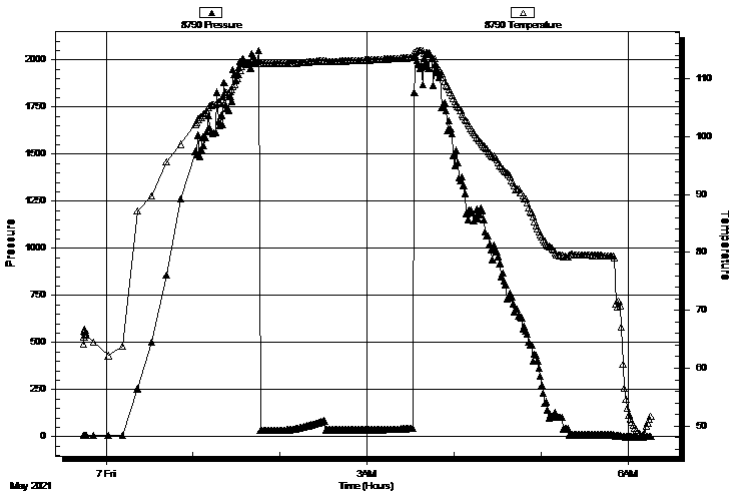
TEST COMMENT: IF: 1/4 blow built to 3/4.

IS: No return.

FF: No blow.

FS: No return. 15-30-30-30

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100%m	0.02

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

21-14s-32w Logan, Ks

202 W Main St
Salem II 62881

Ottley 3-21

Job Ticket: 66840

DST#: 4

ATTN: Kent Matson

Test Start: 2021.05.06 @ 23:44:41

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: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.59 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
5.00	mud 100%m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

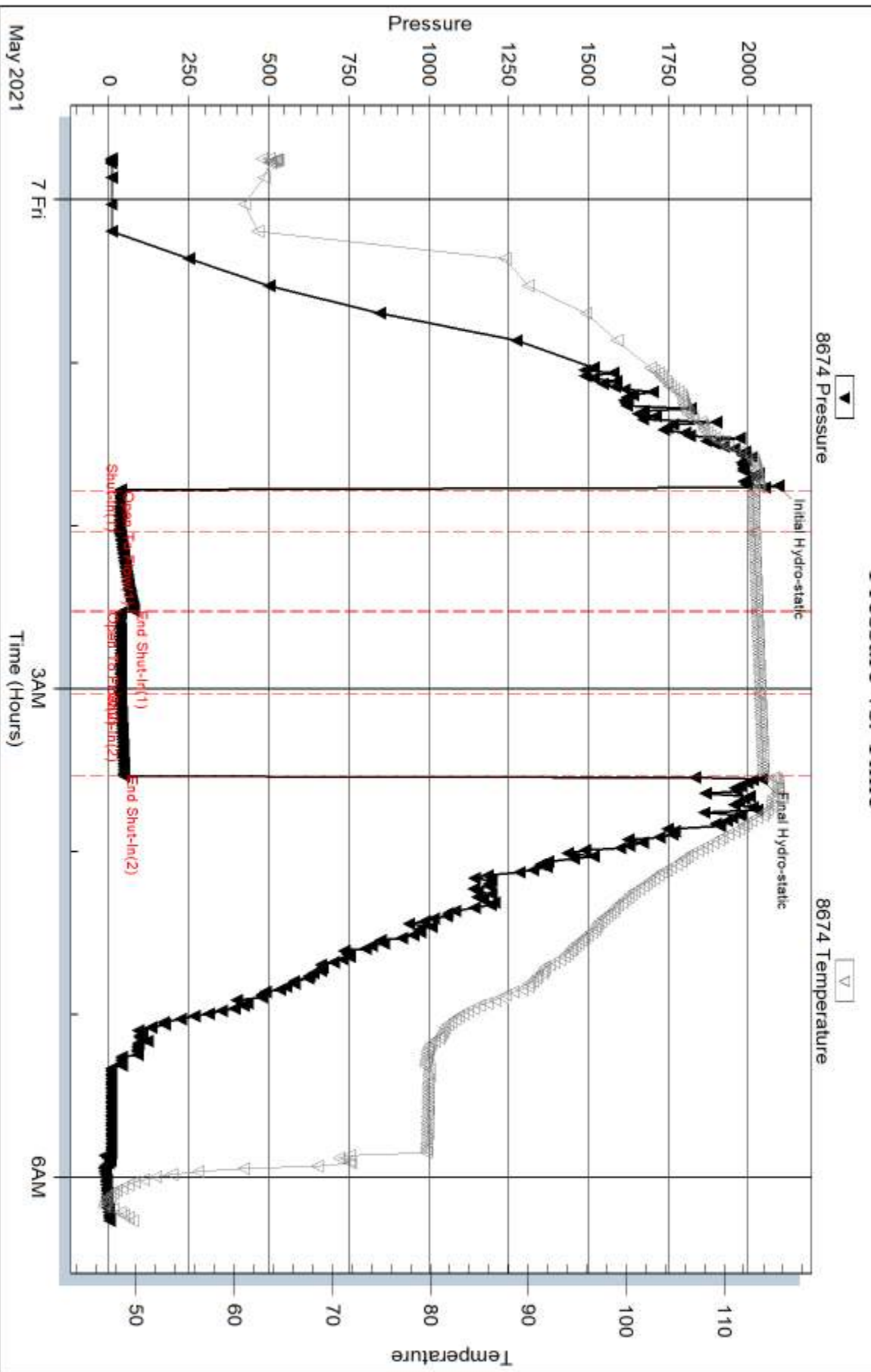
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



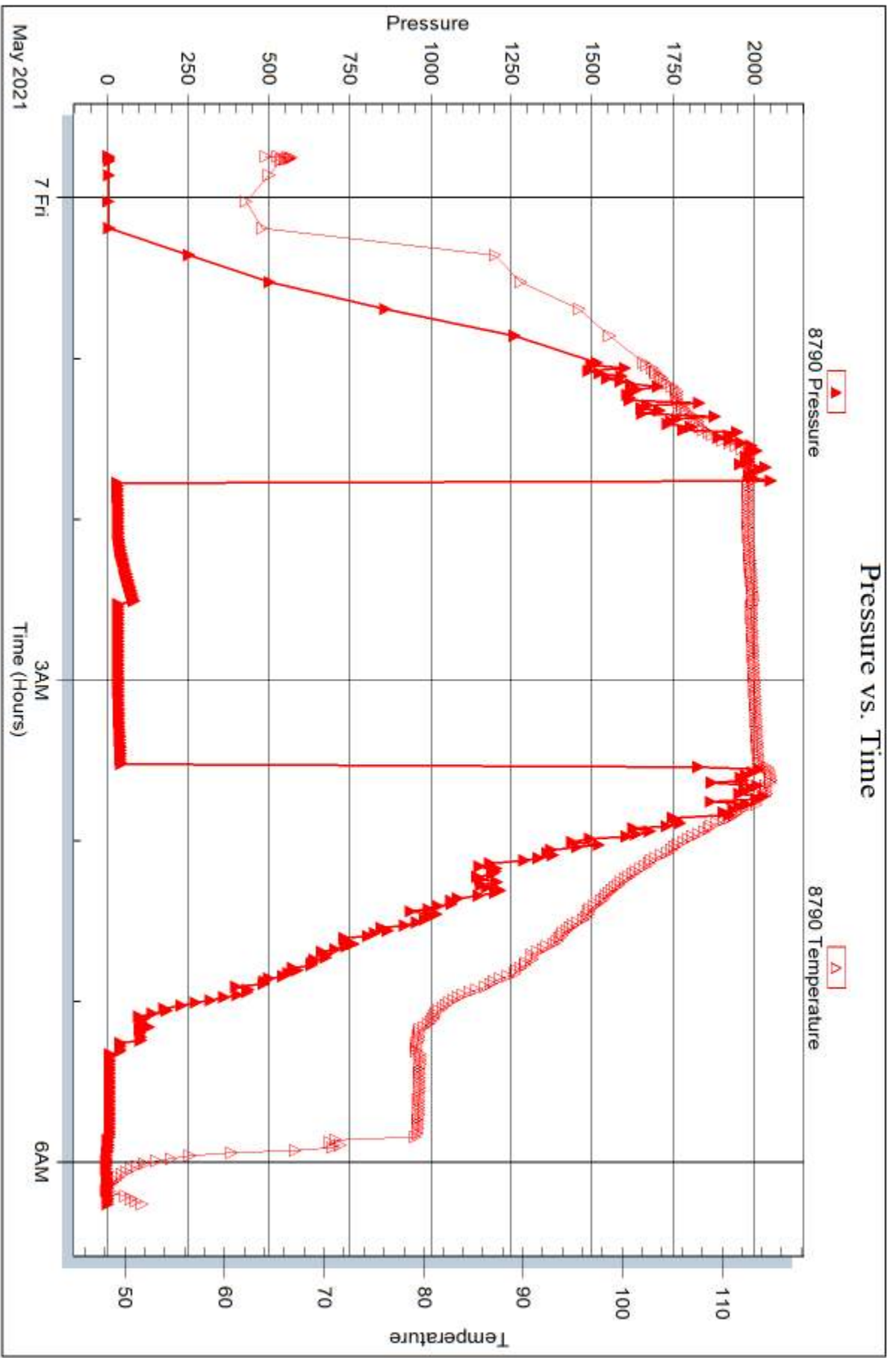
Serial #: 8790

Inside

Shakespeare Oil Company

Otley 3-21

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 66840

Printed: 2021.05.07 @ 06:34:36



RECEIVED
MAY 17 2021

Remit To: Hurricane Services, Inc.
250 N. Water, Suite 200
Wichita, KS 67202
316-303-9515

Customer:
SHAKESPEARE OIL CO INC
202 W MAIN
SALEM, IL 62881

Invoice Date: 5/1/2021
Invoice #: 0352782
Lease Name: Ottley
Well #: 3-21 (New)
County: Logan, Ks
Job Number: WP1351
District: Oakley

INT

Date/Description	HRS/QTY	Rate	Total
Surface	0.000	0.000	0.00
H-325	185.000	17.000	3,145.00
Heavy Eq Mileage	25.000	3.400	85.00
Light Eq Mileage	25.000	1.700	42.50
Ton Mileage	218.000	1.275	277.95
Cement Pump Service	1.000	935.000	935.00
High Overhead Connection Chg	1.000	255.000	255.00

502-5
9m

DW ✓
Total 4,740.45

TERMS: Net 30 days. Interest may be charged on past due invoice at rate of 1 ½% per month or maximum allowed by applicable state or federal laws. HSI has right to revoke any discounts applied in arriving at net invoice price if invoice is past due. If revoked, full invoice price without discount plus additional sales tax, as applicable, is due immediately and subject to interest charges. Customer agrees to pay all collection costs directly or indirectly incurred by HSI in the event HSI engages a third party to pursue collection of past due invoice.
SALES TAX: Services performed on oil, gas and water wells in Kansas are subject to sales tax, with certain exceptions. HSI relies on the well information provided by the customer in identifying whether the services performed on wells qualify for exemption.

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HURRICANE SERVICES INC

Customer	Shakespeare Oil Co	Lease & Well #	Ottley 3-21			Date	5/1/2021	
Service District	Oakley KS	County & State	Logan KS	Legals S/T/R	21-14S-32W	Job #		
Job Type	Surface	<input checked="" type="checkbox"/> PROD	<input type="checkbox"/> INJ	<input type="checkbox"/> SWD	New Well?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> No	
Ticket #							WP 1351	
Equipment #	Driver	Job Safety Analysis - A Discussion of Hazards & Safety Procedures						
914	Jimmie	<input checked="" type="checkbox"/> Hard hat	<input checked="" type="checkbox"/> Gloves	<input checked="" type="checkbox"/> Lockout/Tagout	<input checked="" type="checkbox"/> Warning Signs & Flagging			
208	John	<input checked="" type="checkbox"/> H2S Monitor	<input checked="" type="checkbox"/> Eye Protection	<input checked="" type="checkbox"/> Required Permits	<input checked="" type="checkbox"/> Fall Protection			
242	Spencer	<input checked="" type="checkbox"/> Safety Footwear	<input type="checkbox"/> Respiratory Protection	<input checked="" type="checkbox"/> Slip/Trip/Fall Hazards	<input type="checkbox"/> Specific Job Sequence/Expectations			
		<input checked="" type="checkbox"/> FRC/Protective Clothing	<input type="checkbox"/> Additional Chemical/Acid PPE	<input checked="" type="checkbox"/> Overhead Hazards	<input checked="" type="checkbox"/> Muster Point/Medical Locations			
		<input checked="" type="checkbox"/> Hearing Protection	<input checked="" type="checkbox"/> Fire Extinguisher	<input type="checkbox"/> Additional concerns or issues noted below				
Comments								
Product/Service Code	Description	Unit of Measure	Quantity				Net Amount	
CP015	H-325	sack	185.00				\$3,145.00	
M010	Heavy Equipment Mileage	mi	25.00				\$85.00	
M015	Light Equipment Mileage	mi	25.00				\$42.50	
M020	Ton Mileage	tm	218.00				\$277.95	
C011	Cement Pump Service	ea	1.00				\$935.00	
C075	High Overhead Connection Charge - Over 6 Feet	job	1.00				\$255.00	
Customer Section: On the following scale how would you rate Hurricane Services Inc.?								
						Net:	\$4,740.45	
						Total Taxable	\$ -	
						Tax Rate:		
Based on this job, how likely is it you would recommend HSI to a colleague?						State tax laws deem certain products and services used on new wells to be sales tax exempt. Hurricane Services relies on the customer provided well information above to make a determination if services and/or products are tax exempt.	Sale Tax:	\$ -
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>								
Unlikely 1 2 3 4 5 6 7 8 9 10 Extremely Likely						Total:	\$ 4,740.45	
						HSI Representative:	Jimmie Cottrell	

TERMS: Cash in advance unless Hurricane Services Inc. (HSI) has approved credit prior to sale. Credit terms of sale for approved accounts are total invoice due on or before the 30th day from the date of invoice. Past due accounts shall pay interest on the balance past due at the rate of 1 1/2% per month or the maximum allowable by applicable state or federal laws. In the event it is necessary to employ an agency and/or attorney to affect the collection, Customer hereby agrees to pay all fees directly or indirectly incurred for such collection. In the event that Customer's account with HSI becomes delinquent, HSI has the right to revoke any discounts previously applied in arriving at net invoice price. Upon revocation, the full invoice price without discount is immediately due and subject to collection. Prices quoted are estimates only and are good for 30 days from the date of issue. Pricing does not include federal, state, or local taxes, or royalties and stated price adjustments. Actual charges may vary depending upon time, equipment, and material ultimately required to perform these services. Any discount is based on 30 days net payment terms or cash. **DISCLAIMER NOTICE:** Technical data is presented in good faith, but no warranty is stated or implied. HSI assumes no liability for advice or recommendations made concerning the results from the use of any product or service. The information presented is a best estimate of the actual results that may be achieved and should be used for comparison purposes and HSI makes no guarantee of future production performance. Customer represents and warrants that well and all associated equipment in acceptable condition to receive services by HSI. Likewise, the customer guarantees proper operational care of all customer owned equipment and property while HSI is on location performing services. The authorization below acknowledges the receipt and acceptance of all terms/conditions stated above, and Hurricane has been provided accurate well information in determining taxable services.

X _____ CUSTOMER AUTHORIZATION SIGNATURE



CEMENT TREATMENT REPORT

Customer: Shakespeare Oil Co	Well: Ottley 3-21	Ticket: WP 1351
City, State: Oakley KS	County: Logan KS	Date: 5/1/2021
Field Rep: Jimmie Cottrell	S-T-R: 21-14S-32W	Service: Surface

Downhole Information	
Hole Size:	12 1/4 in
Hole Depth:	255 ft
Casing Size:	8 5/8 in
Casing Depth:	255 ft
Tubing / Liner:	in
Depth:	ft
Tool / Packer:	
Tool Depth:	ft
Displacement:	15.0 bbls

Calculated Slurry - Lead	
Blend:	H-325
Weight:	14.8 ppg
Water / Sx:	6.9 gal / sx
Yield:	1.41 ft ³ / sx
Annular Bbls / Ft.:	0.0735 bbs / ft.
Depth:	ft
Annular Volume:	0.0 bbls
Excess:	125%
Total Slurry:	46.5 bbls
Total Sacks:	185 sx

Calculated Slurry - Tail	
Blend:	
Weight:	ppg
Water / Sx:	gal / sx
Yield:	ft ³ / sx
Annular Bbls / Ft.:	bbs / ft.
Depth:	ft
Annular Volume:	0 bbls
Excess:	
Total Slurry:	0.0 bbls
Total Sacks:	#DIV/0! sx

TIME	RATE	PSI	STAGE BBLs	TOTAL BBLs	REMARKS
1240A			-	-	ON LOCATION 8 5/8 23# CASING VERIFIED ON RACK 13 FT LANDING JOINT
1245A				-	SAFETY MEETING
1255A				-	RIG UP
120A				-	CASING ON BOTTOM
130A				-	CIRCULATE HOLE
140A	3.0	100.0	5.0	5.0	H2O AHEAD
143A	6.2	250.0	46.5	51.5	CEMENT
152A	5.2	250.0	15.0	66.5	DISPLACE H2O
154A				66.5	CEMENT TO SURFACE 5 BBLs TO PIT
158A				66.5	SHUT IN
205A				66.5	WASH UP
215A				66.5	RIG DOWN
230A				66.5	LEFT LOCATION
				-	
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CREW	UNIT	SUMMARY		
		Average Rate	Average Pressure	Total Fluid
Cementer: Jimmie	914	4.8 bpm	200 psi	66 bbls
Pump Operator: John	208			
Bulk #1: Spencer	242			
Bulk #2:				



RECEIVED
MAY 24 2021

Remit To: Hurricane Services, Inc.
250 N. Water, Suite 200
Wichita, KS 67202
316-303-9515

Customer:
SHAKESPEARE OIL CO INC
202 W MAIN
SALEM, IL 62881

Invoice Date: 5/10/2021
Invoice #: 0352940
Lease Name: *INT* Ottley
Well #: 3-21
County: Logan, Ks
Job Number: WP1379
District: Oakley

Date/Description	HRS/QTY	Rate	Total
PTA	0.000	0.000	0.00
H-Plug	240.000	11.050	2,652.00
Wooden plug 8 5/8"	1.000	144.500	144.50
Light Eq Mileage	25.000	1.700	42.50
Heavy Eq Mileage	25.000	3.400	85.00
Ton Mileage	259.000	1.275	330.23
Cement Pump Service	1.000	637.500	637.50

*502-5
Jm*

Net Invoice 3,891.73
Sales Tax: 197.24
Total *DW* 4,088.97 ✓

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WE APPRECIATE YOUR BUSINESS!



Customer	Shakespeare Oil CO inc		Lease & Well #	Ottley #3-21		Date	5/10/2021	
Service District	Oakley KS		County & State	Logan KS		Legals S/T/R	21-14S-32W	
Job Type	PTA	<input checked="" type="checkbox"/> PROD	<input type="checkbox"/> INJ	<input type="checkbox"/> SWD	New Well?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> No	Ticket #
Job Type							WP 1379	
Equipment #	Driver	Job Safety Analysis - A Discussion of Hazards & Safety Procedures						
78	Fennis	<input checked="" type="checkbox"/> Hard hat	<input checked="" type="checkbox"/> Gloves	<input type="checkbox"/> Lockout/Tagout	<input type="checkbox"/> Warning Signs & Flagging			
230	Mike	<input checked="" type="checkbox"/> H2S Monitor	<input checked="" type="checkbox"/> Eye Protection	<input type="checkbox"/> Required Permits	<input type="checkbox"/> Fall Protection			
194/254	Kale	<input checked="" type="checkbox"/> Safety Footwear	<input type="checkbox"/> Respiratory Protection	<input checked="" type="checkbox"/> Slip/Trip/Fall Hazards	<input type="checkbox"/> Specific Job Sequence/Expectations			
		<input checked="" type="checkbox"/> FRC/Protective Clothing	<input type="checkbox"/> Additional Chemical/Acid PPE	<input checked="" type="checkbox"/> Overhead Hazards	<input checked="" type="checkbox"/> Muster Point/Medical Locations			
		<input checked="" type="checkbox"/> Hearing Protection	<input checked="" type="checkbox"/> Fire Extinguisher	<input type="checkbox"/> Additional concerns or issues noted below				
Comments								
Muster point entrance of location. Person in charge of head count Fennis. Nearest hosapital Oakley KS Phone # 911								
Product/Service Code								
		Description	Unit of Measure	Quantity				Net Amount
CP055		H-Plug	sack	240.00				\$2,652.00
FE290		8 5/8" Wooden Plug	ea	1.00				\$144.50
M015		Light Equipment Mileage	mi	25.00				\$42.50
M010		Heavy Equipment Mileage	mi	25.00				\$85.00
M020		Ton Mileage	tm	259.00				\$330.23
C010		Cement Pump Service	ea	1.00				\$637.50
								Net: \$3,891.73
Customer Section: On the following scale how would you rate Hurricane Services Inc.?								
Based on this job, how likely is it you would recommend HSI to a colleague?								
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>								
Unlikely 1 2 3 4 5 6 7 8 9 10 Extremely Likely								
								Total: \$ 3,891.73
								Total Taxable \$ - Tax Rate:
								Sale Tax: \$ -
								Total: \$ 3,891.73
								HSI Representative: Fennis Garduno

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X _____ **CUSTOMER AUTHORIZATION SIGNATURE**



CEMENT TREATMENT REPORT

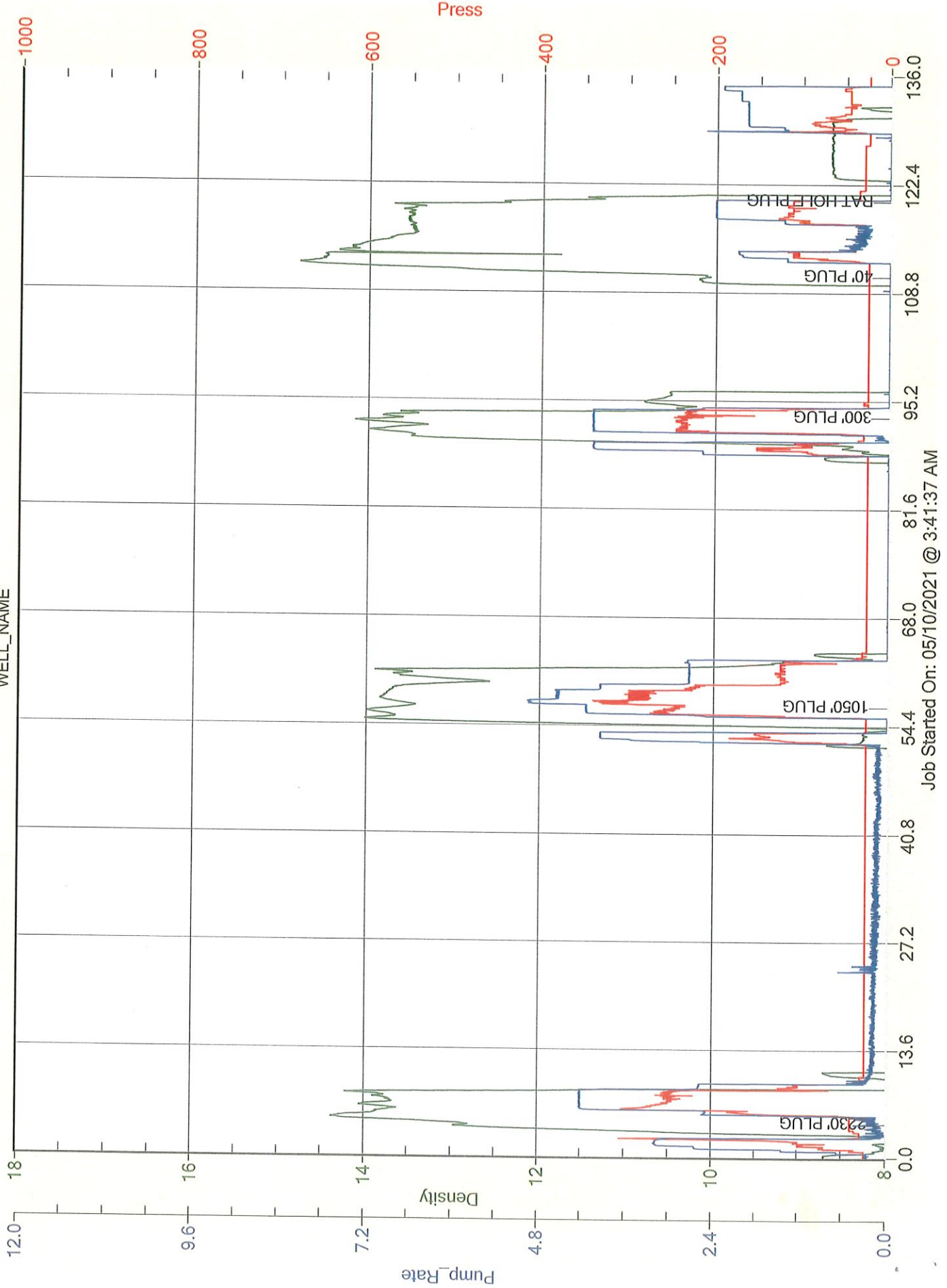
Customer: Shakespeare Oil CO Inc	Well: Ottley #3-21	Ticket: WP 1379
City, State:	County: Logan KS	Date: 5/10/2021
Field Rep: Fennis Garduno	S-T-R: 21-14S-32W	Service: PTA

Downhole Information		Calculated Slurry - Lead		Calculated Slurry - Tail	
Hole Size:	12.25 in	Blend:	240	Blend:	
Hole Depth:	2230 ft	Weight:	13.8 ppg	Weight:	ppg
Casing Size:	8 5/8 in	Water / Sx:	6.9 gal / sx	Water / Sx:	gal / sx
Casing Depth:	255 ft	Yield:	1.41 ft ³ / sx	Yield:	ft ³ / sx
Tubing / Liner:	4 1/2 in	Annular Bbls / Ft.:	bbs / ft.	Annular Bbls / Ft.:	bbs / ft.
Depth:	2230 ft	Depth:	ft	Depth:	ft
Tool / Packer:		Annular Volume:	0.0 bbls	Annular Volume:	0 bbls
Tool Depth:	ft	Excess:		Excess:	
Displacement:	bbls	Total Slurry:	61.0 bbls	Total Slurry:	0.0 bbls
		Total Sacks:	240 sx	Total Sacks:	0 sx

TIME	RATE	PSI	STAGE BBLs	TOTAL BBLs	REMARKS
5:45 AM			-	-	Journey management meeting
6:00 AM				-	Convoy to location
6:30 AM				-	Arrive on location
6:35 AM				-	Safety meeting
6:45 AM				-	Spot in / rig up equipment
				-	1st plug @ 2230'
6:50 AM	3.0	250.0	5.0	5.0	pump fresh water spacer
6:53 AM	4.0	300.0	12.5	17.5	Mix 50 sx H-Plug @ 13.8 ppg
6:59 AM	3.0	200.0	1.8	19.3	Pump fresh water behind
7:04 AM	8.0	150.0	26.0	45.3	Rig balance plug with mud HOC - 208' TOC - 20220
				45.3	TOOH to 1050'
7:45 AM	3.0	200.0	5.0		Pump fresh water spacer
7:48 AM	4.0	270.0	25.0		Mix 100 sx H-Plug @ 13.8 ppg
7:53 AM	3.0	200.0	1.8		Pump fresh water spacer
7:55 AM	8.0	150.0	6.0		Rig balance plug with mud TOOH to 300' HOC - 415' TOC - 635'
8:22 AM	2.5	90.0	5.0		Pump fresh water spacer
8:25 AM	4.0	230.0	12.5		Mix 50 sx H-Plug @ 13.8 ppg
8:30 AM	3.0	180.0	0.5		Balance plug with fresh water HOC - 199' TOC - 101'
					TOOH push wooden plug down to 40' with DP
8:45 AM	2.0	80.0	2.5		Mix 10 sx H-Plug @ 13.8 ppg plug surface HOC-40' TOC surface
9:00 AM	2.0	80.0	7.5		Mix 30 sx H-Plug @ 13.8 ppg plug rat hole
9:15 AM					Rig down
9:30 AM					Leave location
					Total cement mixed 240 sx

CREW		UNIT	SUMMARY		
Cementer:	Fennis	78	Average Rate	Average Pressure	Total Fluid
Pump Operator:	Mike	230	3.8 bpm	183 psi	111 bbls
Bulk #1:	Kale	194/254			
Bulk #2:					

Shakespeare oil co
WELL_NAME





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

Well Name: OTTLEY
Well Id: #3-21
Location: 1150' FSL, 335' FWL, SW/4 Sec 21-T14S-R32W, Logan County, Kansas
License Number: API: 15-109-21618 **Region:** Logan County
Spud Date: 04/30/2021 **Drilling Completed:** 05/09/2021
Surface Coordinates: Lat: 38.8181147
Long: -100.8902686
Bottom Hole Vertical hole
Coordinates:
Ground Elevation (ft): 2712' **K.B. Elevation (ft):** 2721'
Logged Interval (ft): 3550' **To:** RTD **Total Depth (ft):** 4450'
Formation: Mississippian at RTD
Type of Drilling Fluid: Chemical

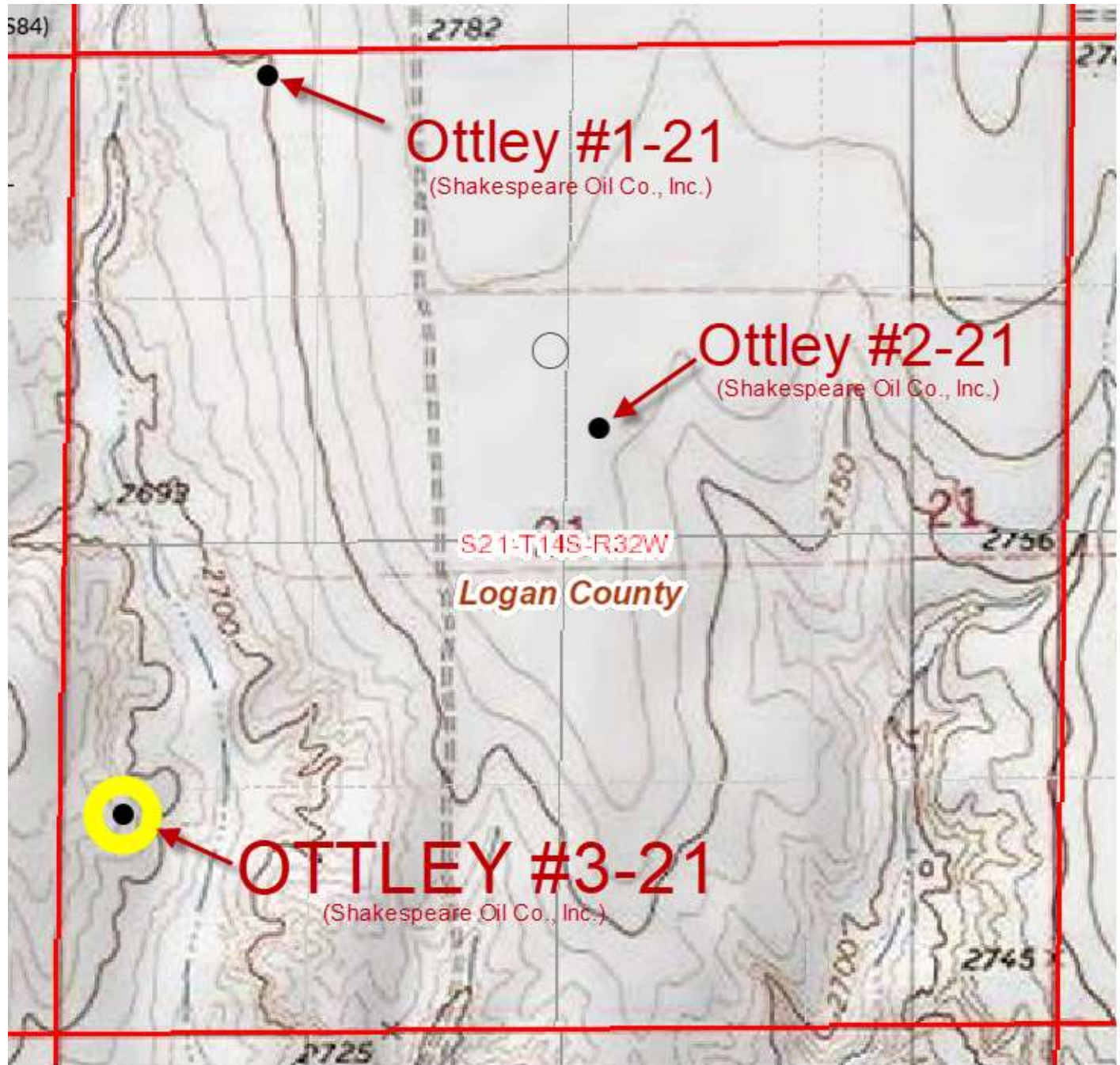
Printed by MudLog from WellSight Systems 1-800-447-1534 www.WellSight.com

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



COMMENTS

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

Contractor: Duke Drilling Company, Inc.: Rig #4.

Tool Pusher: Emigdio Rojas, 620-655-7138 (cell).

Surface Casing: 8 5/8" set at 253' (KB) w/185sx cement.

Production Casing: Based on field observations of drill cuttings, DST results and electric log evaluation, production casing was not installed and the well was plugged.

Mud by: Mud-Co/Service Mud, Inc., Reid Atkins, 785-694-3741 (cell).

DST's by: Trilobite Testing, Brandon Turley, 785-650-8399 (cell).

Logs by: Midwest Wireline (DI w/GR, CND, Micro and Sonic), Dan Schmidt, 785-625-3858 (office).

RTD= 4450'

LTD= 4453'

FORMATION TOPS

FORMATION	SAMPLE TOPS		LOG TOPS	
	Depth	Datum	Depth	Datum
Heebner Shale	3676'	-955	3676'	-955
Lansing	3714'	-993	3714'	-993
Muncie Creek Shale	3872'	-1151	3874'	-1153
Stark Shale	3966'	-1245	3967'	-1246
Hushpuckney Shale	4000'	-1279	4000'	-1279
Base of KC	4036'	-1315	4036'	-1315
Marmaton	4109'	-1388	4110'	-1389
Pawnee	4174'	-1453	4174'	-1453
Myrick Station	4204'	-1483	4205'	-1484
Fort Scott	4228'	-1507	4228'	-1507
Cherokee Shale	4256'	-1535	4258'	-1537
Johnson	4298'	-1577	4303	-1582
Morrow	4336'	-1615	4340'	-1619
Mississippian	4380'	-1659	4380'	-1659
RTD	4450'	-1729		
LTD			4453'	-1732

ROCK TYPES

LITHOLOGY

	Anhy
	Cht
	Coal
	Congl
	Dol
	Gyp
	Lmst
	Salt
	Shale
	Shcol
	Shgy
	Sltst
	Ss
	Carb sh
	Dol
	Dtd
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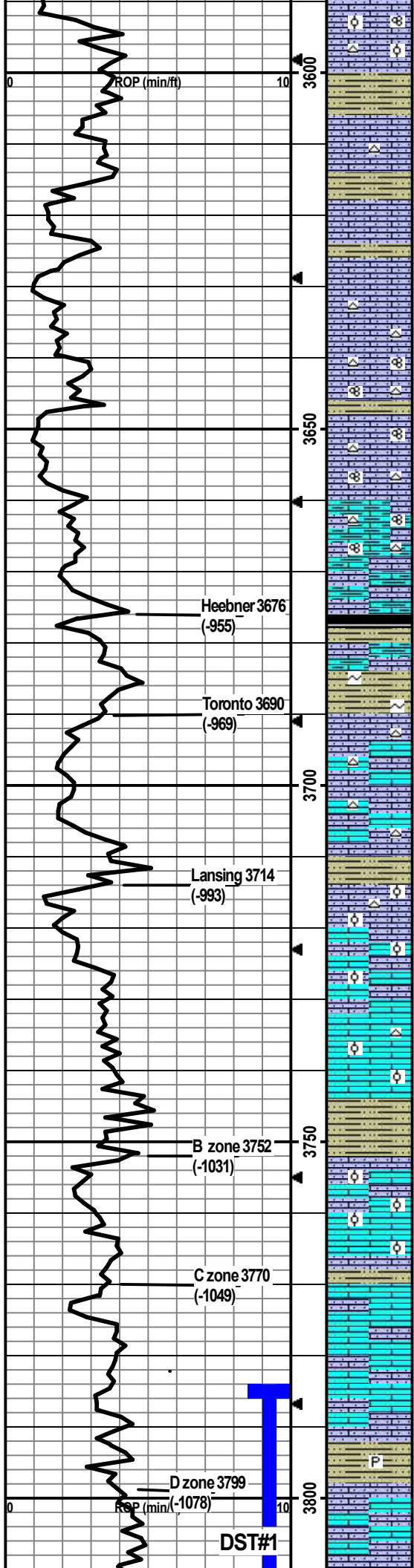
FOSSIL

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

MINERAL

	Ostra
	Pelec
	Pellet
	Pisolite
	Plant
	Strom
	Fuss
	Oomold
	Anhy
	Arggrn
	Arg
	Bent
	Bit
	Brecfrag
	Calc
	Carb
	Chtdk
	Chtlt
	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	34					
ROP (min/ft)	10					
					<p>Morning Report Depth/Activity (7:00 am) 04/30/2021, Finish MIRU, Spud; set surface casing @253'KB. 05/01, WOC @255'. 05/02, drilling @2201'. 05/03, Bit Trip @3445'. 05/04, CFS @3810'. 05/05, CFS @3930'. 05/06, drilling @4060'. 05/07, TIH w/bit after DST#3/DST#4 @4160'. 05/08, TIH w/bit after DST #5 @4250'. 05/09, drilling @4380'. TD @4450'; Electric logged.</p>	<p>Mud-Co/Service Mud Inc. Check #1 @ 0' 04/30/21, predrilling instructions.</p> <p>Mud-Co/Service Mud Inc. Check #2 @ 2388' 05/02/21 08:30am wt vis pH chl 9.7 32 7 130 Filt LCM n/c 4</p> <p>Displaced drilling mud @ 3348'; 600 bbls.</p> <p>Bit Trip @ 3445': Replaced PDC bit w/tricone bit.</p> <p>Pipe strap TOH for bit trip at 3445' was 2.59' long to the board.</p>
	3450				<p>Anhydrite: Top @ 2280' (+539), Base @ 2301' (+518) (based on drill time).</p>	<p>Mud-Co/Service Mud Inc. Check #3 @ 3482' 05/03/21 09:00am wt vis pH chl 8.9 50 11.5 2000 Filt LCM 7.2 2</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>Mud-Co/Service Mud Inc. Check #5 @ 3930' 05/05/21 08:10am wt vis pH chl 9.2 55 11.0 3000 Filt LCM 8.8 2</p>
					<p>Geologist on location @ 3363', 05/02/2021.</p>	<p>Mud-Co/Service Mud Inc. Check #6 @ 4101' 05/06/21 08:05am wt vis pH chl 9.3 60 10.5 3500 Filt LCM 9.6 2</p>
	3500				<p>Formation tops and lithologies have been adjusted to correlate to the electric log.</p>	<p>Mud-Co/Service Mud Inc. Check #7 @ 4160' 05/07/21 07:50am wt vis pH chl 9.5 61 10.0 4000 Filt LCM 10.4 2</p>
					<p>ROP Data begins @ 3520' on 05/03/2021. Recorded from drillers geograph record, and geologist's auto-reader switch on geograph.</p>	<p>Mud-Co/Service Mud Inc. Check #8 @ 4250' 05/08/21 06:45am wt vis pH chl 9.1 52 11.0 4000 Filt LCM 8.8 2</p>
					<p>Drill cutting samples at 10' intervals start at 3550'.</p>	<p>Mud-Co/Service Mud Inc. Check #9 @ 4389' 05/09/21 07:15am wt vis pH chl 9.3 71 10.0 4400 Filt LCM 9.6 2</p>
					<p>LS: cm/lt bm/lt gry, micro-med xtal, silty/sndy, chalky, wht chert, foss frags, no vis por, no odor, ns.</p>	
					<p>LS: cm/lt bm, micro-m xtal, silty/sndy, chalky, wht chert, foss frags/grainy, no vis por, no odor, ns. SH: lt-m gry, silty, silt carb, soft.</p>	
					<p>LS: cm/lt-m bm, micro-m xtal, silty/sndy, chalky, min wht chert, foss frags/min crin, no vis por, no odor, ns. SH: lt-m gry, vry silty/sndy/some poss siltstn, silt carb, soft-firm, no odor, ns.</p>	
					<p>LS: cm/lt bm/min lt gry, micro-m xtal, vry silty/sndy, vry chalky, foss frags, no vis por, no odor, ns.</p>	
					<p>SH: lt-dk gry/bm, vry silty/sndy, silt carb, soft-firm, no odor, ns.</p>	<p>Survey Record Deg @ Ft 0.75 @ 255' 0.75 @ 1242'</p>
					<p>LS: cm/lt bm/lt gry-bm, micro-m xtal, vry silty/sndy, chalky, min wht chert, abund foss frags/grainy, ppt-f in-xtal por, no odor, ns.</p>	



LS: lt bm/lt gry, micro-m xtal, vry silty/sndy, chalky, min wht chert, foss frags/grainy/min fusln/dense ool, no vis por, no odor, ns.

SH: lt-dk gry/bm, vry silty/sndy, carb, soft-firm, no odor, ns.

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

LS: cm/lt bm/lt gry, micro-m xtal, vry silty/sndy, some chalky, min cm chert, abund foss frags, some ppt-f in-xtal por, no odor, ns.

SH: lt gry/bm, vry silty/sndy, slt carb, soft.

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

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

LS: cm/lt bm, micro-m xtal, some vry silty/sndy, min wht chert, foss frags/grainy/fusln, f-m in-xtal por, no odor, ns.

LS: cm/lt gry, micro-m xtal, vry silty/sndy, cm chert, abund foss frags/grainy/fusln, f-m in-xtal por, no odor, ns.

LS: cm/lt-m bm, micro-m xtal, vry silty/sndy, chalky/arg, min wht/cm chert, abund foss frags/grainy/fusln, ppt-f in-xtal por, no odor, ns.

LS: lt gry-bm/lt brn, micro-m xtal, vry silty/sndy, chalky/arg, abund foss frags/some grainy, some ppt-f in-xtal por, no odor, ns

SH: dk gry/blk, slt carb, firm, fissile, no odor, ns.

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

SH: lt-m gry/bm, vry silty/sndy, glauc, slt carb, vry soft, no odor, ns.

LS: wht/cm, micro-m xtal, some vry silty/sndy, some chalky, wht/cm chert, foss frags, some ppt-f in-xtal por, no odor, ns.

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

SH: lt-m gry/bm, vry silty/sndy, carb, soft-firm, no odor, ns.

LS: cm/lt brn, micro-m xtal, silty/sndy, min chalky, min wht chert, foss frags/ool, some fm in-ool por w/m-crs oo-castic por, 1 oo-castic pce w/staining, yel cut, no odor, ssfo.

LS: wht/cm, micro-m xtal, some silty, chalky, foss frags/ool, min f-m in-xtal por, 1 in-ool por pce w/sfo, yel fluor, no odor, ssfo.

LS: wht/cm, micro-f xtal, min silty, chalky, min wht chert, min foss frags/min dense ool, no vis por, no odor, ns.

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

SH: lt-m gry/bm, silty/sndy, carb, soft-firm, no odor, ns.

LS: wht/cm/lt brn, micro-m xtal, some silty/sndy, chalky, foss frags/ool, 4 pcs w/ppt-f in-xtal/in-ool por w/sfo, dul yel fluor, no odor, sfo.

LS: cm/lt brn, micro-f xtal w/some m-crs 2ndary xtal, min silty, some chalky, min foss frags/min dense ool, 2 ool pcs w/sfo w/vf in-ool por, no odor, sfo.

SH: lt-dk gry/lt green-gry/bm, silty/sndy, slt carb, soft-firm, no odor, ns.

LS: wht/cm, micro-f xtal, min silty, some chalky, min foss frags/some fn grainy, min ppt in-xtal por, no odor, ns.

LS: wht/cm, micro-f xtal, some chalky, some silty/sndy, min foss frags, 1 ool pce w/in in-ool por w/sfo (poss from above), no odor, ns.

SH: lt-dk gry/lt green-gry, vry silty, slt pyritic, carb, soft-firm

LS: cm/lt brn, micro-f xtal, chalky, silty, foss frags, 13 pcs w/sfo w/mostly ppt-f in-xtal por w/some m-crs in-xtal por, yel fluor, gd odor, gd sfo.

LS: wht/cm, micro-m xtal, some silty, some chalky, min foss frags, 15 pcs w/sfo w/mostly ppt-f in-xtal por w/some m-crs in-xtal por, yel fluor, gd odor, gd sfo.

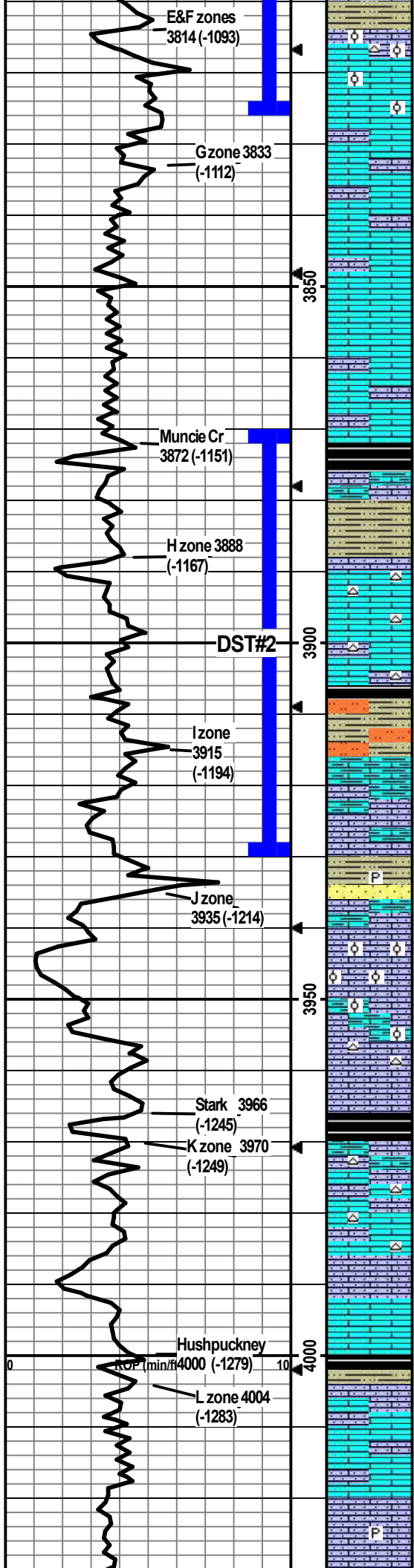
0.75 @ 1242'
1.0 @ 2201'
1.0 @ 3445'
0.75 @ 3826'
0.75 @ 4330'

CFS @ 3740'
Stop/20"/40"

CFS @ 3760'
Stop/20"/40"

CFS @ 3790'
Stop/20"/40"

CFS @ 3810'
Stop/20"/40"



SH: lt-dk gry/green-gry, some silty, slit carb, soft-firm.
 LS: crm/lt-m brn, micro-m xtal, some silty/sndy, chalky, min wht chert, foss frags/dense ool, 4 pcs w/sfo w/f-crs in-xtal/in-ool por, slit odor, yel fluor, sfo.

LS: crm/lt-m brn, micro-m xtal w/some 2ndary xtals, some chalky, foss frags/dense ool, 2 pcs w/sfo w/ppt-vf in-xtal por, dul yel fluor, no odor, ssfo.

LS: wht/crm/lt gry-bm, micro-f xtal, vry chalky, silty, min foss frags, no vis por, no odor, ns.

LS: wht/crm/some lt gry, micro-f xtal, chalky, min silty, min foss frags, min ppt-f in-xtal por, no odor, ns.

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

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

SH: dk gry/blk, silty, slit carb, soft-firm, no odor, ns.
 LS: lt-m brn/gry, micro-f xtal, silty, arg, min foss frags, no vis por, no odor, ns.

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

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

LS: wht/crm/lt brn, micro-f xtal, some silty, chalky, some wht/lt brn chert, min foss frags, no vis por, no odor, 1 pce w/staining/ppt por/yel cut on break, vry ssfo.

SH: lt-dk gry/lt green-gry/bm/maroon, some vry silty/sndy, slit carb, soft-firm.
 SH: lt-dk gry/green-gry/maroon, vry silty/sndy, some slit carb, carb, soft-firm/hard.

LS: crm/lt-m brn/lt gry, micro-m xtal, some silty/sndy, chalky, arg, min foss frags, 3 pcs w/f-m in-xtal por w/sfo, yel fluor, stg odor, sfo.

LS: crm/lt-m brn/green-gry, micro-m xtal, silty/sandy, vry chalky, arg, foss frags, 8 small chalky pcs w/sfo w/f-m in-xtal por, yel fluor, stg odor, ns.

SH: lt-dk gry, vry silty/sndy, slit carb, pyritic, soft-firm, some gry pred qtz SS, no odor, ns.

LS: crm/lt brn/lt gry, micro-m xtal w/some crs, vry silty/sndy, chalky, arg, foss frags, 1 pce w/fo on break, ppt-f in-xtal por, slit odor, ssfo.

LS: crm/lt brn, micro-m xtal, some vry silty/sndy, smpl chalky, foss frags w/abund ool, abund m-crs oo-castic por, ppt-f in-xtal por, 2 pcs w/staining w/yel cut on break, strg odor, ssfo.
 LS: crm/lt brn/lt gry, micro-m xtal, some vry silty/sndy, smpl vry chalky, some arg, foss frags w/abund ool, more dense than above but abund oo-castic por, slit odor, ns. 1 non-ool pce in 60min w/staining and fo on break.

LS: crm/lt brn/lt gry, micro-m xtal, silty, chalky, wht/lt gry chert, foss frags, no vis por, no odor, ns.
 LS: crm/lt brn/lt gry, micro-m xtal, some silty, some chalky, foss frags, no vis por, gd odor, no vis oil show.
 SH: m-dk gry/blk, silty, carb, soft-firm.

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

LS: crm/lt-m brn/min lt gry, micro-m xtal, some vry silty, some chalky, min lt gry/bm chert, min foss frags, no vis por, no odor, ns. Some SH: m-dk gry, silty, carb, firm.

LS: crm/lt brn, micro-m xtal, some vry sndy, some chalky, min foss frags, no vis por, no odor, ns.

SH: m-dk arv/blk/green-arv, vry silty, carb, firm.
 LS: crm/lt-m brn, micro-m w/some crs xtal, some vry silty/sndy, some chalky, foss frags, min ppt-vf in-xtal por, no odor, ns.

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

LS: crm/lt-m brn/lt gry, micro-f xtal, silty, some chalky, min pyritic, min foss frags, no vis por, no odor, ns.

CFS @ 3826'
 Stop/20"/40"

**DST1) 3784-3826
 Lansing D & E/F
 Zones**

15/30/30/30
 1st) 1/2" blow built to 2"; no BB.
 2nd) 1/4" blow built to 1/2"; no BB.
 IFP 56-59#
 ISIP 774#
 FFP 58-62#
 FSIP 483#
 HP 1958-1832#
 Recvd: 60' OCM (5%O, 95%M).

**DST2) 3870-3930
 Lansing H & I
 Zones**

15/30/30/30
 1st) Surface blow built to 1/4"; no BB.
 2nd) surface blow with no build; no BB.
 IFP 36-36#
 ISIP 716#
 FFP 36-38#
 FSIP 633#
 HP 2038-1874#
 Recvd: 10' Mud (100%M).

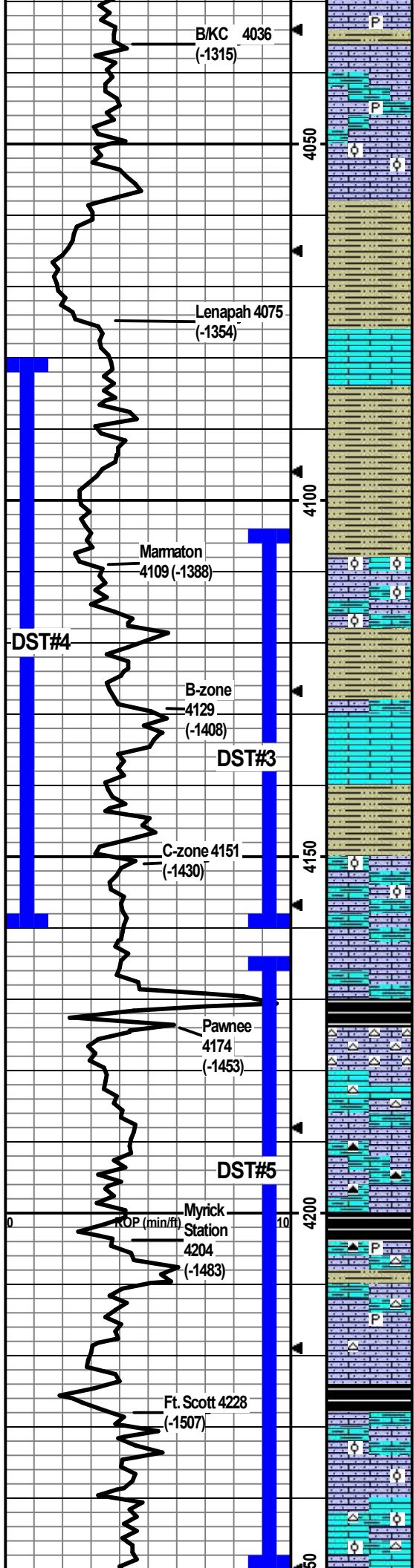
CFS @ 3909'
 Stop/20"/40"

CFS @ 3930'
 Stop/30"/60"

CFS @ 3955'
 Stop/30"/60"

CFS @ 3980'
 Stop/30"/60"

CFS @ 4020'
 Stop/30"/60"



SH: m-dk gry/dk maroon, some silty, silt carb, soft-firm.
 LS: crm/lt gry, micro-f xtal, some silty, some chalky, min foss frags, no vis por, no odor, ns.

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

LS: cm/lt-m bm, micro-m xtal w/2dary xtal, silty/sndy, some chalky, foss frags w/dense ool, mostly dense w/min crs oo-castic por, no odor, ns.

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

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

LS: cm/lt-m bm, micro-m xtal w/min crs 2ndary xtal, some chalky, foss frags, no vis por, no odor, ns.

SH: m-dk gry/lt-m red-bm/green-gry, some silty/sndy, carb, soft-firm, no odor, ns.

SH: lt-dk gry/green-gry/red-bm/maroon/min mustard yel, some vry silty/sndy, some carb, soft-firm, no odor.

LS: wht/crm/lt brn/lt gry/some mustard yel, micro-crs xtal, some silty/sndy, chalky, abund foss frags/abund dense ool, no vis por, no odor, ns.

LS: cm/lt bm/lt gry, f-crs xtal w/some 2ndary xtal, some silty/chalky/arg, foss frags/min dense ool, no vis por, no odor, ns.

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

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

LS: wht/crm, micro-m xtal, min silty, some vry chalky, min foss frags, 37 pcs w/sfo w/f-crs in-xtal por, dul yel fluor, no odor, some oil fluid/some thick, gd sfo.

SH: lt-dk gry/lt green-gry/red-bm/maroon, vry silty/sndy, silt carb, soft-firm, no odor.

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

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

SH: m-dk gry/blk/green-gry, silty, silt carb, firm.

LS: crm/lt brn, micro-f xtal, some chalky, some silty, gd amt wht/lt gry chert, foss frags, no vis por, 1 chert pce w/mmed por/frac w/sfo and 1 LS pce w/f in-xtal por w/sfo, no odor, silt sfo.

LS: cm/lt bm, micro-crs xtal, some chalky, some silty, wht/lt gry chert, crs foss frags, no vis por, no odor, ns. Some vry sandy and arg in 60min smpl.

LS: lt-m gry/bm-gry, micro-m xtal, some silty/sndy, some chalky/arg, lt-m brn chert, foss frags, no odor, 8 pcs w/staining and yel cut w/ppt-f in-xtal por, ssfo.

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

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

LS: cm/lt gry-bm, micro-m xtal, some silty/sndy/arg, some chalky, min pyritic, some wht/lt gry chert, min foss frags/min grainy, 16 pcs w/staining w/yel cut on break, ppt-vf in-xtal por, some show pcs chalky, gd odor, gd sfo.

SH: m-dk gry/blk/gry-green, silty, firm, fissile.

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

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

DST3) 4105-4160
Marmaton A, B and C - zones
 Packer Failed (attempted to set twice, then pulled tool.)

DST4) 4080-4160
Marmaton A, B and C - zones
 15/30/30/30
 1st 1/4" blow built to 3/4"; no BB.
 2nd) No blow; no BB.
 IFP 36-35#
 ISIP 78#
 FFP 36-37#
 FSIP 47#
 HP 2093-2041#
 Recvd: 5' M (100%M).

CFS @4120'
 Stop/30"/60"

CFS @4140'
 Stop/30"/60"

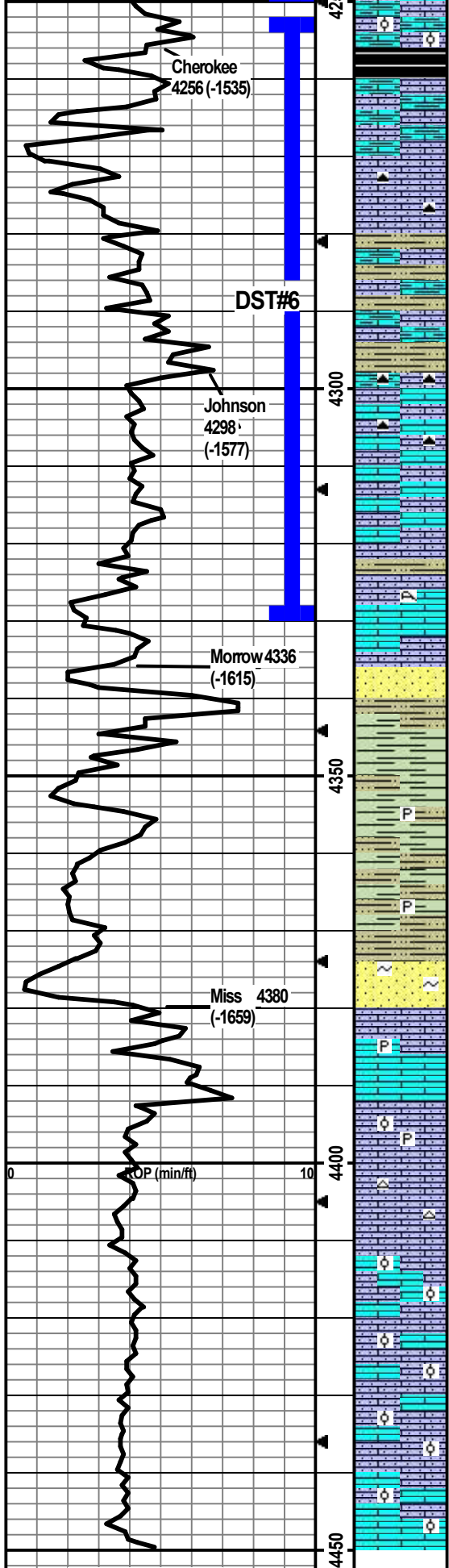
CFS @4160'
 Stop/30"/60"

CFS @4188'
 Stop/30"/60"

CFS @4219'
 Stop/30"/60"

DST5) 4164-4250
Pawnee, Myrick Station & Ft Scott

15/30/30/30
 1st 1/4" blow built to 3/4"; no BB.
 2nd) no blow; no BB.
 IFP 34-36#
 ISIP 549#
 FFP 34-34#
 FSIP 179#
 HP 2065-2018#
 Recvd: 5' Mud (100%M).



RTD 4450', -1729
LTD 4453', -1732

LS: lt-m gry-bm, f-m xtal, vry silty/sndy/gravely, some vry chalky/arg, foss frags/ool, no vis por, no odor, ns.
SH: lt-dk gry/blk, some vry silty/sndy, carb, firm, fissile.

LS: cm/lt-m gry, micro-m xtal, some silty/sndy, some chalky/arg, foss frags, 45 pcs w/sfo w/mostly ppt-f w/min med-crs in-xtal por, dul yel fluor, gd odor, gd sfo.

LS: cm/lt bm/lt gry-bm, micro-m xtal, silty/sndy, some vry chalky, lt-dk bm chert, foss frags, 34 pcs w/sfo w/ppt-f in-xtal por, dul yel fluor, gd odor, gd sfo.

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

LS: gry/lt-m brn, micro-m xtal, silty/sndy/arg/chalky, min foss frags/some grainy, no vis por, no odor, ns.

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

LS: cm/lt bm, micro-f xtal, some silty/chalky, dk bm chert, min foss frags, 28 pcs w/staining and w/sfo w/ppt-f w/min med in-xtal por, dul yel fluor, gd odor, gd sfo.

LS: cm/lt-m bm/lt gry, micro-m xtal, some vry silty/sndy, some chalky, bm chert, min foss frags, 22 pcs w/staining and w/sfo w/mostly ppt-f w/min med in-xtal por, dul fluor, gd odor, gd sfo.

LS: cm/lt-m bm/lt gry, micro-f xtal, some silty/chalky, min foss frags, no vis por, no odor, ns (couple pcs w/sfo from above).

SH: m-dk gry/gry-green/maroon/red-brn, some silty, carb, firm.

LS: cm/lt-m bm, micro-f w/min 2ndary m-crs xtal, some silty, min foss frags/min wht coral, no vis por, no odor, ns.

LS: cm/lt gry-brn, micro-m xtal, some silty/chalky, foss frags, 3 pcs w/sfo w/ppt-f in-xtal por (poss from above), dul yel fluor, no odor, ssfo.

SS: wht/min vry lt gry, vf-f, sr-wr, pred qtz, opaque, hard-friable, no odor, ns.

SH: lt-dk gry/lt gry-green/mustard yel/lt-m maroon, some vry silty/sndy, silt carb, soft-firm, no odor, ns.

SH: m-dk gry/lt green-gry/min mustard yel, some vry silty/sndy, some pyritic, silt carb, soft-firm, no odor, ns.

SH: lt-dk gry/bm/green-gry, some vry silty/sndy, some pyritic, carb, firm, no odor, ns.

SS: wht/vry lt gry, min glauc, f-m, sr-wr, qtz w/carb matrix, friable, no odor, ns.

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

LS: cm/lt gry-bm, micro-m xtal, some vry silty/sndy, min pyritic, foss frags/min dense ool, min frac por, no odor, ns.

LS: wht/cm, micro-m xtal, vry sndy, chalky, wht/cm chert, min foss frags, no vis por, no odor, ns.

LS: cm/lt bm, micro-m xtal, some sndy, chalky, dense ool, no vis por, no odor, ns.

LS: cm/lt bm, micro-m xtal, mostly vry sndy, chalky, min foss frags/dense ool, no vis por, no odor, ns.

LS: as above, no odor, ns.

LS: wht/cm/lt bm, micro-m xtal, less sndy/chalky that above, foss frags/few dense ool pcs, no vis por, no odor, ns.

TD @4450'

CFS @ 4250'
Stop/30"/60"

**DST6) 4252-4330
Cherokee &
Johnson**

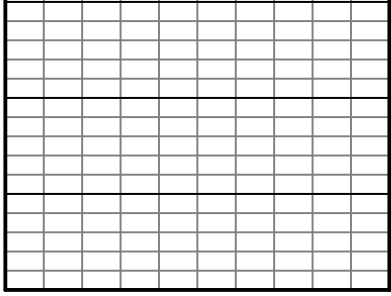
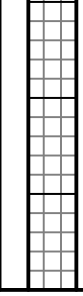
15/30/30/30
1st 1/4" blow built to 1"; no BB.
2nd) No blow; no BB.
IFP 33-38#
ISIP 1039#
FFP 39-46#
FSIP 920#
HP 2126-2091#
Recvd: 10' M (100%M).

CFS @ 4330'
Stop/30"/60"

CFS @ 4360'
Stop/30"/60"

CFS @ 4390'
Stop/30"/60"

CFS @ 4450'
Stop/30"/60"
Cir 1.5 hr total to condition hole,
TOH for logging.

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