

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 2-27
Doc ID	1431283

All Electric Logs Run

Array Induction
Photo Density
Comp Neutron
Microlog
Sonic

Form	ACO1 - Well Completion
Operator	Shakespeare Oil Co., Inc.
Well Name	OTTLEY 2-27
Doc ID	1431283

Tops

Name	Top	Datum
Base Anhydrite	2219	+541
Heebner	3716	-956
Lansing	3752	-992
Muncie Creek	3911	-1151
Stark Shale	4002	-1242
Hushpuckney	4036	-1276
Marmaton	4141	-1381
Pawnee	4212	-1452
L. Cherokee Shale	4293	-1533
Johnson	4336	-1576
Mississippian	4400	-1640

Geologic Report
Aaron L. Young

Drilling Time and Sample Log

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

Well Name: Ottley #2-27
API: 15-109-21575
Location: Section 27 - T14S - R32W
License Number: 7311
Spud Date: 11 / 06 / 2018
Surface Coordinates: 500' FNL and 2288' FWL
Approx. SW - NE - NE - NW
Region: Logan Co., KS
Drilling Completed: 11 / 18 / 2018
Bottom Hole Coordinates:
Ground Elevation (ft): 2751' K.B. Elevation (ft): 2760'
Logged Interval (ft): 3650' To: 4485' Total Depth (ft): 4485'
Formation: Mississippi
Type of Drilling Fluid: Chemical - MudCo

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

OPERATOR

Company: Shakespeare Oil Co., Inc
Address: 202 W Main St
Salem, IL 62881+1519

GEOLOGIST

Name: Aaron L. Young, M. S.
Company: Young Consulting LLC
Address: 100 S Main Ste 505
Wichita, KS 67202

General Info

CONTRACTOR: Duke Drilling, Rig #4

BIT RECORD:

No.	Size	Make	Jets	Out	Feet	Hours
1	12-1/4	Varel RR	15-15-15	263'	254'	1.50
2	7-7/8	Smith FHI24Y	14-14-14	4202'	3939'	84.25
3	7-7/8	Smith HE28	14-14-14	4485'	283'	20.75

SURVEYS: 266'-.25, 923'-.75, 1389'-.75, 1886'-.75, 2380'-.75, 2875'-.75, 3370'-.5, 3800'-.75, 4485'-.75

GENERAL DRILLING AND PUMP INFORMATION:

Drilling with 38,000 lbs. on bit and approx 55-60 RPM.
Pumping approx 850-900 psi at standpipe.
Running 9 stands of collars; 541.29'

Daily Status

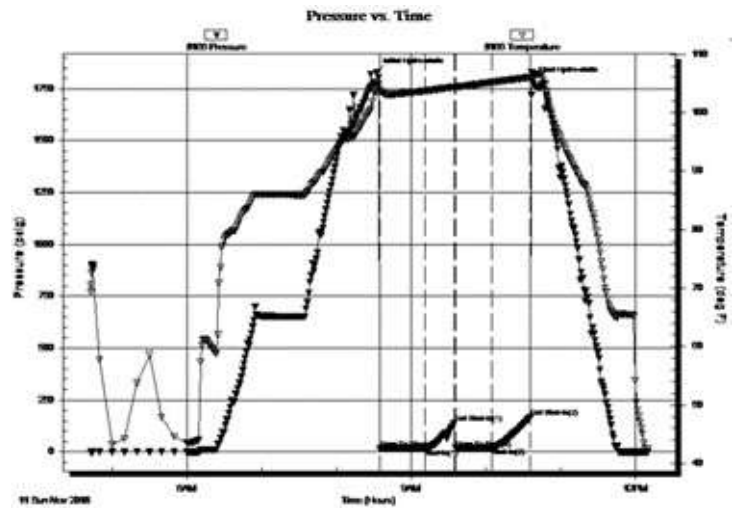
11/06/18 - Spud @ 4:00m, Drilled to 263', ran 6 jts of 8 5/8" 23# surface casing set @ 252', cemented w/ 190 sx. 60/40 poz, w/ 2% gel & 3% CC. Cem did circ. PD @ 9:00pm
 11/07/18 - Drilling, @ 403'
 11/08/18 - Drilling, @ 2070'
 11/09/18 - Drilling, @ 3023'
 11/10/18 - Drilling, @ 3605'
 11/11/18 - DST #1
 11/12/18 - Drilling @ 3935', DST #2
 11/13/18 - Repairing rig, DST #3
 11/14/18 - TOH, DST #4
 11/15/18 - CFS @ 4202, DST #5
 11/16/18 - TOH, DST #6
 11/17/18 - DST #7
 11/18/18 - DST #8, RTD @ 4485
 11/19/18 - LTD 4481', Ran 106 jt of 4 1/2" csg. set @ 4484'. Cement w/ 195 sx EA-2, 30 sx in rat hole. Cement did circulate

DST #1 LKC 'B'
 3772' - 3800' 30"-30"-30"-30"

IF: 1/2" blow built to 1 1/4"
 IS: No return
 FF: No blow
 FS: No return

Rec'd: 5' Mud (100% M)

SIP's: 139-167#
 FP's: 16-17#, 17-18#
 HP's: 1830-1786#

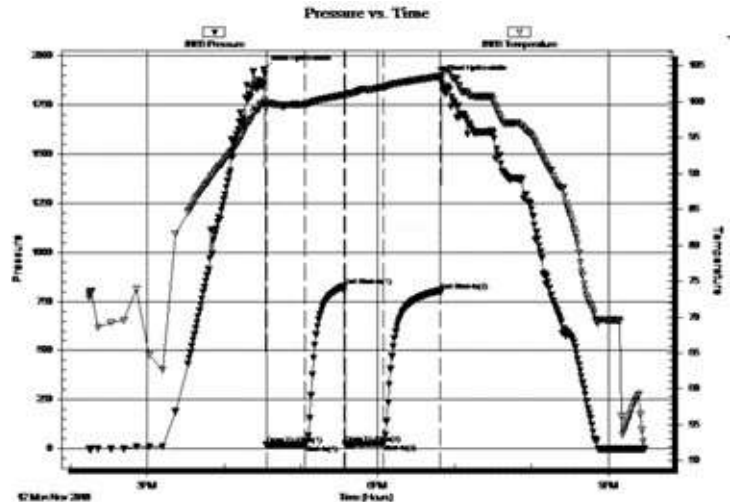


DST #2 LKC 'H' & 'I'
 3910' - 3976' 30"-30"-30"-45"

IF: 1/2" blow built to 2"
 IS: No return
 FF: Surface blow built to 1"
 FS: No return

Rec'd: 30' Mud w/ oil spots (100% M)

SIP's: 826-805#
 FP's: 20-23#, 24-27#
 HP's: 1931-1880#

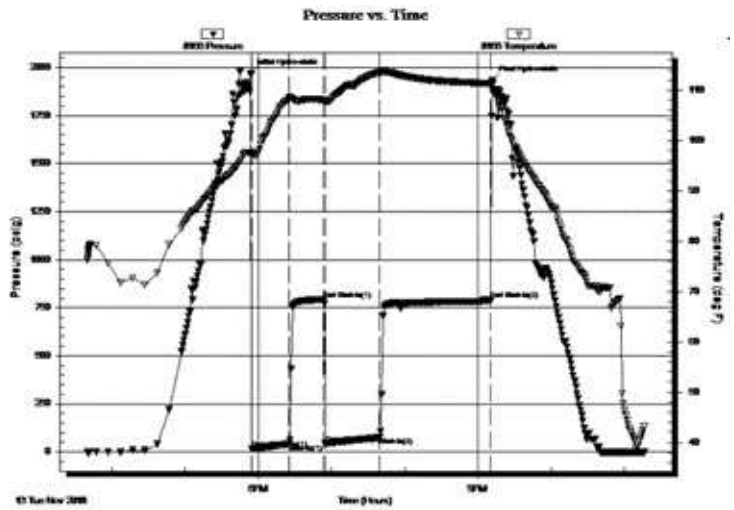


DST #3 LKC 'J'
3972' - 3998' 30"-30"-45"-90"

IF: 1/2" blow built to 6 1/2"
IS: Surface blow built to 1/4"
FF: Surface blow built to 6 1/2"
FS: Surface blow built to 1/4"

Rec'd: 124' MCW (80% W, 20% M), 15' WCM w/ oil spots
on top (40% W, 60% M)

SIP's: 793-791#
FP's: 16-41#, 44-76#
HP's: 1969-1931#

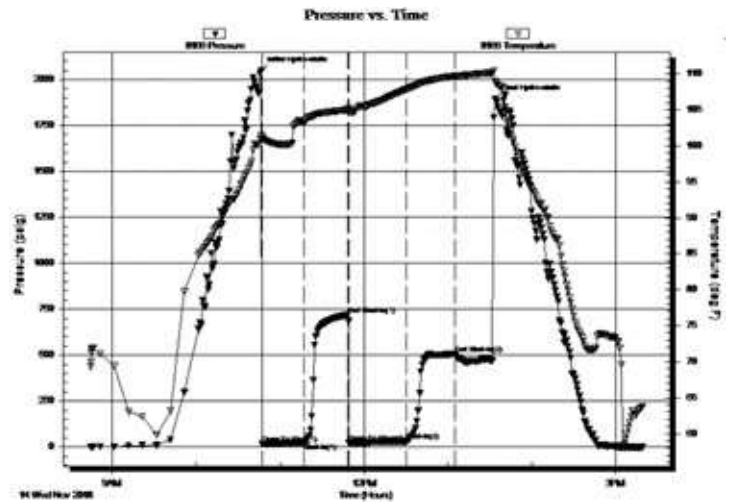


DST #4 LKC 'K'
4004' - 4038' 30"-30"-45"-60"

IF: 1/4" blow built to 3"
IS: No return
FF: Surface blow built to 2"
FS: No return

Rec'd: 30' MCW (80% W, 20% M)
1' Free Oil

SIP's 719-505#
FP's: 16-22#, 24-31#
HP's: 2049-1895#

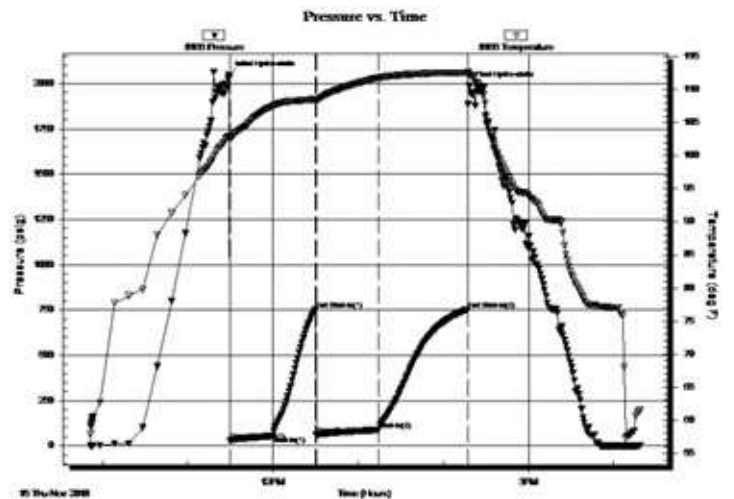


DST #5 MARMATON
4126-4202' 30"-30"-45"-60"

IF: 1" blow built to 7"
IS: No return
FF: 1/4" blow built to 6"
FS: No return

Rec'd: 62' MCW (80% W, 20% M), 93' WCM (30% W,
70% M)

SIP's: 751-751#
FP's: 28-54#, 60-87#
HP's: 2047-1988#

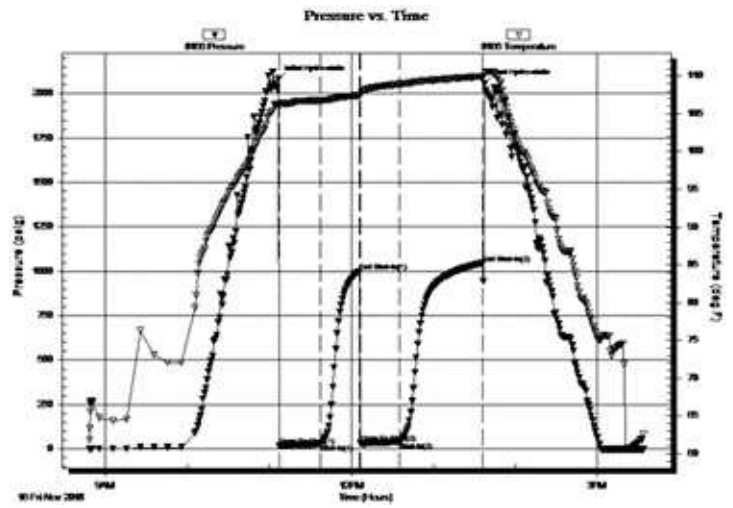


DST #6
PAWNEE / MYRICK STATION / FT. SCOTT
 4210' - 4292' 30"-30"-30"-60"

IF: 1/4" blow built to 3 3/4"
 IS: No return
 FF: 1/4" blow built to 4 1/2"
 FS: No return

Rec'd: 50' OCM (10% O, 90% M)

SIP's: 1001-1046#
 FP's: 17-28#, 33-41#
 HP's: 2081-2055#

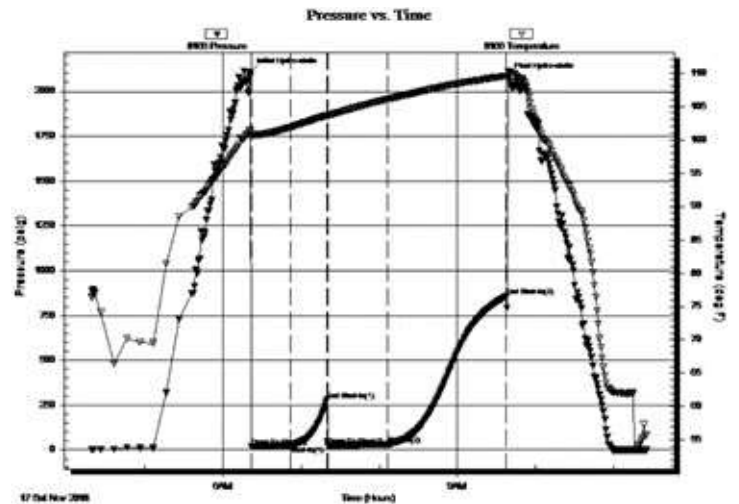


DST #7 CHEROKEE / JOHNSON ZN
 4296' - 4368' 30"-30"-45"-90"

IF: 1/4" blow built to 3"
 IS: No return
 FF: 1/4" blow built to 1 1/2"
 FS: No return

Rec'd: 31' OCM (10% O, 90% M)

SIP's: 279-856#
 FP's: 19-25#, 24-30#
 HP's: 2107-2078#

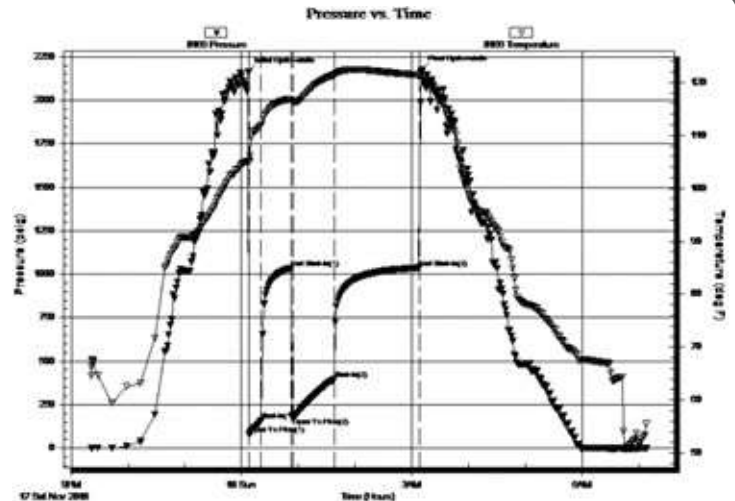


DST #8 MORROW SAND
 4366' - 4405' 15"-30"-45"-90"

IF: BOB in 2 min
 IS: BOB in 9 min
 FF: BOB in 2 min
 FS: BOB in 6 min

Rec'd: 124' GOCM (20% G, 20 O, 60% M), 310' MCGO (10% G, 80% O, 10% M), 248' MCGO (20% G, 40% O, 40% M), 325' GO (30% G, 70% O), 1101 GIP

SIP's: 1035-1037# FP's: 82-158#, 177-396#
 HP's: 2160-1037#



ROCK TYPES

	Anhy		Gyp
	Bent		Igne
	Brec		Lmst
	Cht		Meta
	Clyst		Mrlst
	Coal		Salt
	Congl		Shale
	Dol		Shcol

	Shgy
	Slstt
	Ss
	Till
	Carb sh
	Dol
	Dtd
	Gry sh

	Sandylms
	Shale
	Slststn
	Shlyslts
	Sltysh
	Lms

ACCESSORIES

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

FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram

- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom
- Fuss
- Oomold

STRINGER

- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg
- Carbsh

- Clystn
- Dol
- Grysh
- Gryslt
- Lms
- Sandylms
- Sh
- Sltstn

TEXTURE

- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest

OTHER SYMBOLS

POROSITY TYPE

- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint
- Vuggy

SORTING

- Well
- Moderate
- Poor

ROUNDING

- Rounded
- Subrnd
- Subang
- Angular

OIL SHOWS

- Even
- Spotted
- Ques
- Dead
- Gas show

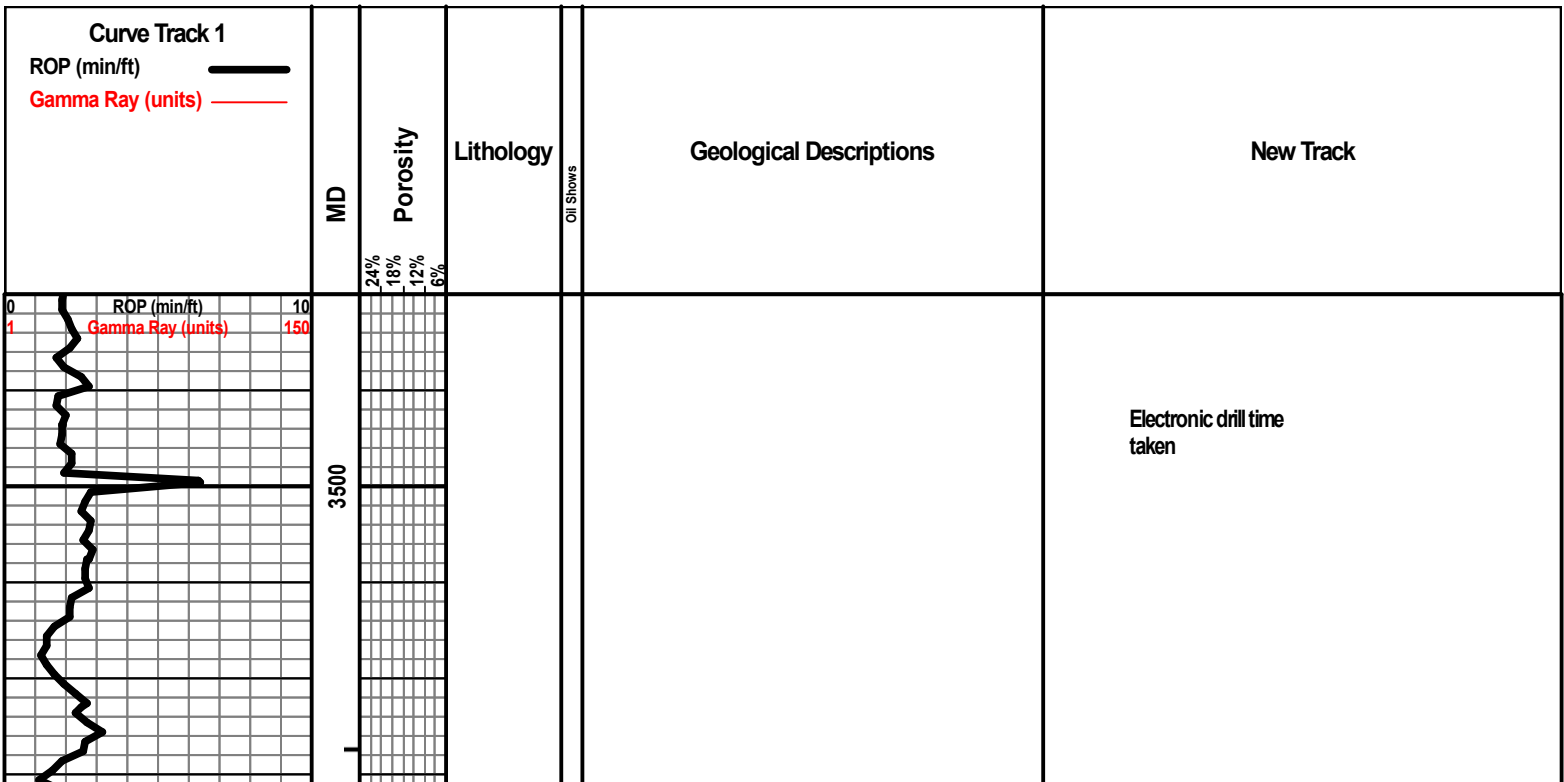
INTERVALS

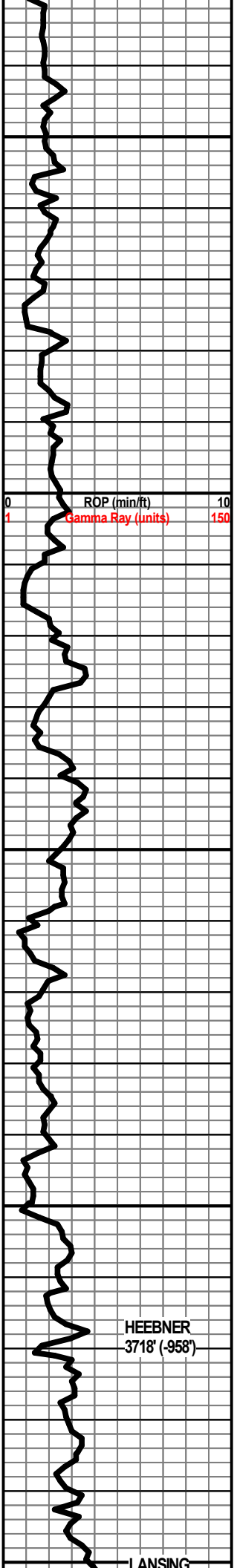
- Core
- Dst

- Dst

EVENTS

- Rft
- Sidewall
- Conn





3650
3600
3650
3700
3750

ROP (min/ft) 10
Gamma Ray (units) 150

HEEBNER
3718' (-958')

ANSING

LS - CRM / WHT, VF / F XLN, MOD DNS / SUBCHKY,
CHKY IN PT, FOSS IN PT

SH - LT GY, LMY

LS - CRM / TAN, VF / F XLN, MOD DNS / SUBCHKY,
ABUND OF FOSS, W/ SH - RD / RD-ORNG

SH - DK GY, W/ LS - GY / GY, F XLN, MOD DNS, P / F
INTXLN POR IN PT, NS

LS - TAN / GY / GRNISH-GY, F XLN, MOD DNS / DNS,
FOSS, W/ FEW PIECES SH - LT GY / GRN

LS - CRM / WHT, VF XLN, SUBCHKY / CHKY

LS - CRM, VF XLN, SUBCHKY / MOD DNS, FOSS, W/
CHT - TAN / GY, FRSH, LMY, FOSS, W/ SH - GRN / GY

LS - CRM, VF / F, P INTXLN POR IN PT, NS, FOSS IN PT,
SUBCHKY / CHKY IN PT

SH - GRN / RD, W/ LS - TAN / GY, VF XLN, SUBCHKY,
ABUND FOSS

LS - WHT / CRM / TAN, VF XLN, SUBCHKY / CHKY,
FEW PIECES MOD DNS W/ ABUND FOSS

SH - BLK, CARB, W/ LS - TAN / GY, VF / F XLN, MOD DNS /
SUBCHKY IN PT, ABUND FOSS, FOSS REPLCED W/ CALCTE CEM
IN PT

SH - LT GRN / GRN / RD / RD-ORNG, W/ LS - CRM, VF
XLN, SUBCKY / CHKY

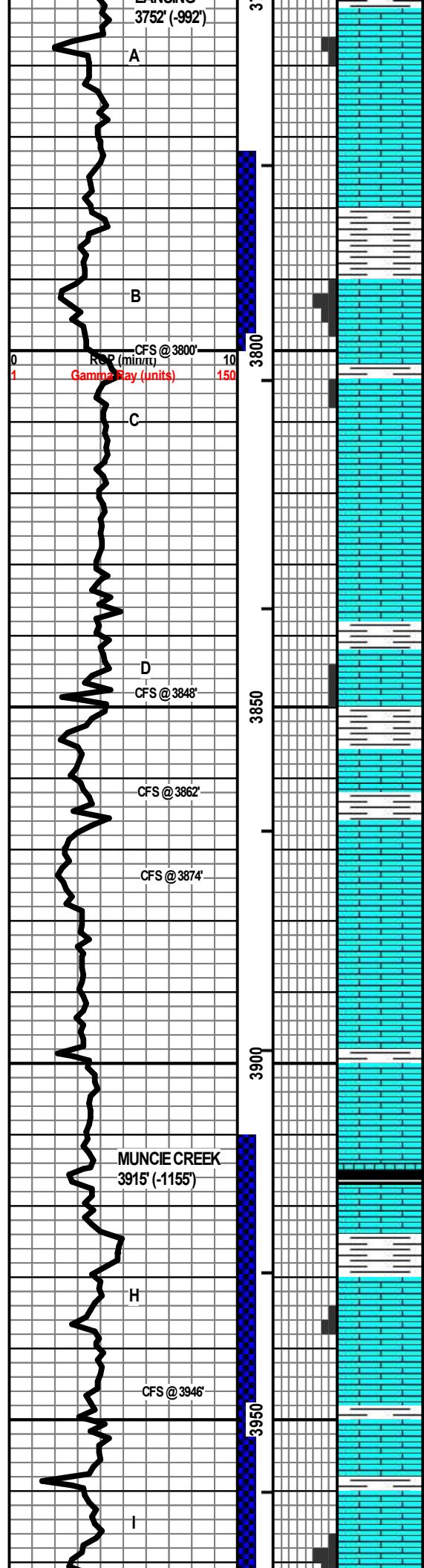
LS - CRM / TAN, VF / F XLN, MOD DNS / SUBCHKY /
CHKY, STYLLOLITIZED IN PT, FOSS IN PT, W/ CHT -
WHT / TAN, OPAQ, FRSH, FOSS

WT 8.5
VIS 72
LCM 2#

WT 8.6
VIS 62
LCM 2#

SHORT TRIP @ 3700'

WT 8.5
VIS 56



3752' (-992')

A

LS - CRM / TAN, F XLN, MOD DNS / DNS, P / F INTXLN POR, NS, ABUND FOSS IN PT, OOLITIC IN PT, W / SH - LT GY / GY, SOFT

LS - CRM / WHT, VF XLN, SUBCHKY / CHKY, FOSS IN PT, W / CHT - CRM / TAN / GY, FRSH, PRED OPAQ, SLI TRANSLUCNT IN PT

LS - CRM / TAN, VF / F XLN, MOD DNS / SUBCHKY, FOSS IN PT, STYLOLITIZED IN PT

SH - GRN / RD

SH - RD

LS - CRM / TAN, F XLN, ABUND OOLITES, P / F INTEROOL & INTXLN POR, VUG POR IN PT, FSFO, SLI ODOR, G YEL-GRN FLUOR, PYRITIC IN PT

CFS @ 3800'

0 10 150

Gamma Ray (units)

C

LS - CRM / TAN, F XLN, MOD DNS SUBCHKY, FEW PIECES OOLITIC, P INTEROOL & INTXLN POR, VSSFO, NO ODOR, MOD YEL-GRN FLUOR, W / SH - RD / GRN

LS - CRM / WHT / TAN, VF / F XLN, MOD DNS / SUBCHKY, CHKY IN PT, FOSS IN PT, PYRITIC IN PT

LS - TAN / LT GY, F XLN, MOD DNS / DNS, FOSS IN PT, FOSS REPLCD W / CALCTE CEM IN PT

SH - RD / GRN / BLK

LS - CRM / TAN, VF / F XLN, MOD DNS / SUBCHKY, VP INTXLN POR IN FEW PIECES, VSSFO WHEN BROKN, RAINBOW OIL SHEEN, NO ODOR, DULL FLUOR

D

CFS @ 3848'

SH - GY / GRN / RD / RDISH-BRN

LS - CRM / TAN / WHT IN PT, VF / F XLN, SUBCHKY / MOD DNS, CHKY IN PT, FOSS IN PT

CFS @ 3862'

SH - GRN, W / LS - WHT / CRM, VF XLN, CHKY / SUBCHKY

LS - CRM / WHT, VF XLN, SUBCHKY / CHKY, FOSS IN PT

CFS @ 3874'

LS - TAN / GY, F XLN, MOD DNS / DNS, FOSS IN PT, FOSS REPLCD BY CALCTE, NO VIS POR

LS - CRM / TAN, VF / F XLN, MOD DNS / SUBCHKY, DNS IN PT, FOSS IN PT

3900

LS - CRM / TAN / GY IN PT, VF / F XLN, MOD DNS / SUBCHKY, DNS IN PT

MUNCIE CREEK 3915' (-1155)

SH - BLK, CARB, W / LS - CRM / TAN / GY, F XLN, MOD DNS / DNS, FOSS, LRG FUSILINIDS

SH - GY / BLK, W / LS - GY, F XLN, MOD DNS / DNS, FOSS

H

LS - CRM / TAN, F XLN, P / F INTXLN POR, FSFO, SLI ODOR WHEN BROKEN, F YEL-GRN FLUOR, SUBCHKY IN PT, W / CHT - TAN / GY, SLI TRANSLUCNT, FRSH, FOSS

CFS @ 3946'

SH - GY / GRN

SH - GRN / LT GY / GY / BLK, W / LS - CRM / TAN, F XLN, MOD DNS / DNS, ABUND FOSS IN PT

I

LS - CRM, F XLN, ABUND FOSS, F INTXLN & FOSS-MOLDIC POR, GSFO, G ODOR WHEN BROKEN, MOD / STYLOLITIZED

WT 8.5
VIS 55

DST #1 LKC 'B'
3772' - 3800' 30"-30"-30"-30"

WT 8.7
VIS 60
LCM 1#

IF: 1/2" blow built to 1 1/4"
IS: No return
FF: No blow
FS: No return

Rec'd: 5' Mud (100% M)

SIP's: 139-167#
FP's: 16-17#, 17-18#
HP's: 1830-1786#

WT 8.8
VIS 66

Strap 0.89' short to board

WT 8.7
VIS 63

DST #2 LKC 'H' & 'I'
3910' - 3976' 30"-30"-30"-45"

IF: 1/2" blow built to 2"
IS: No return
FF: Surface blow built to 1"
FS: No return

Rec'd: 30' Mud w oil spots (100% M)

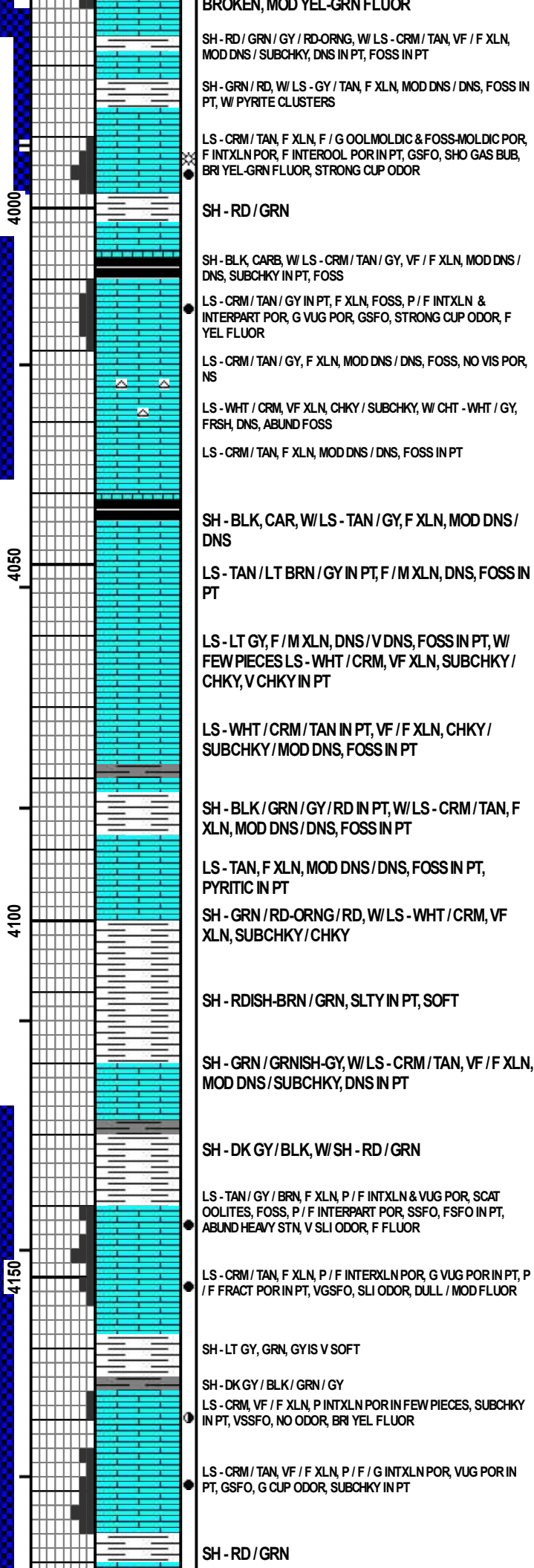
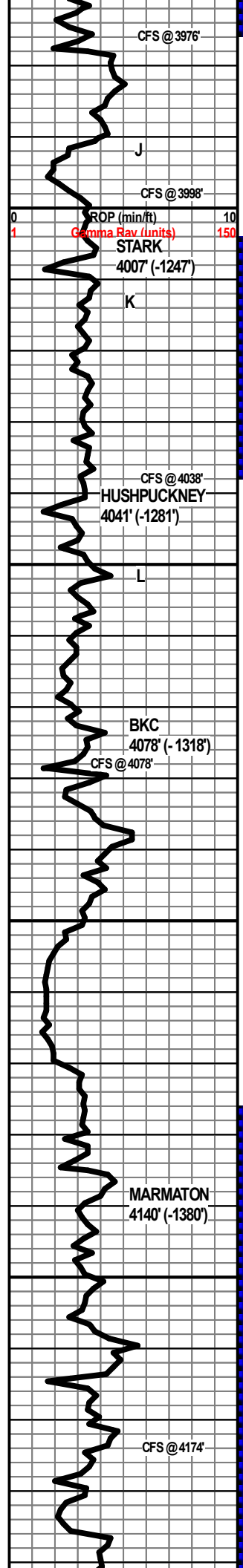
SIP's: 826-805#
FP's: 20-23#, 24-27#
HP's: 1931-1880#

WT 8.9
VIS 65
LCM 2#

DST #3 LKC 'J'
3972' - 3998' 30"-30"-45"-90"

IF: 1/2" blow built to 6 1/2"
IS: Surface blow built to 1/4"
FF: Surface blow built to 6 1/2"

WT 8.8
VIS 65



FS: Surface blow built to 1/4" LCM 2#

Rec'd: 124' MCW (80% W, 20% M), 15' WCM w/ oil spots on top (40% W, 60% M)

SIP's: 793-791# WT 8.9
 FP's: 16-41#, 44-76# VIS 65
 HP's: 1969-1931# LCM 2#

DST #4 LKC 'K'
 4004' - 4038' 30"-30"-45"-60"

IF: 1/4" blow built to 3"
 IS: No return
 FF: Surface blow built to 2"
 FS: No return

Rec'd: 30' MCW (80% W, 20% M)
 1' Free Oil

SIP's 719-505# WT 8.9
 FP's: 16-22#, 24-31# VIS 79
 HP's: 2049-1895#

WT 8.7
 VIS 64

WT 8.8
 VIS 53

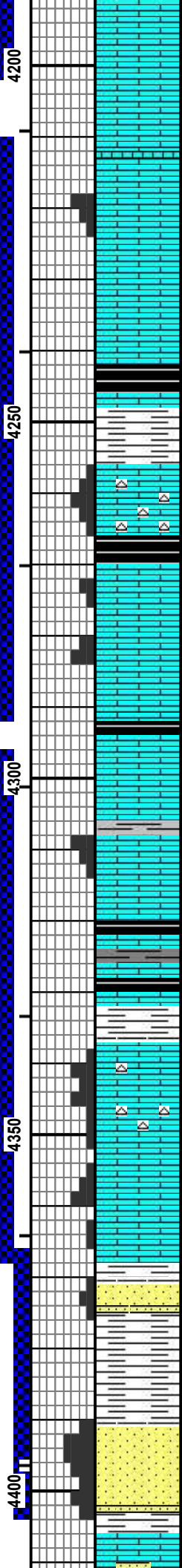
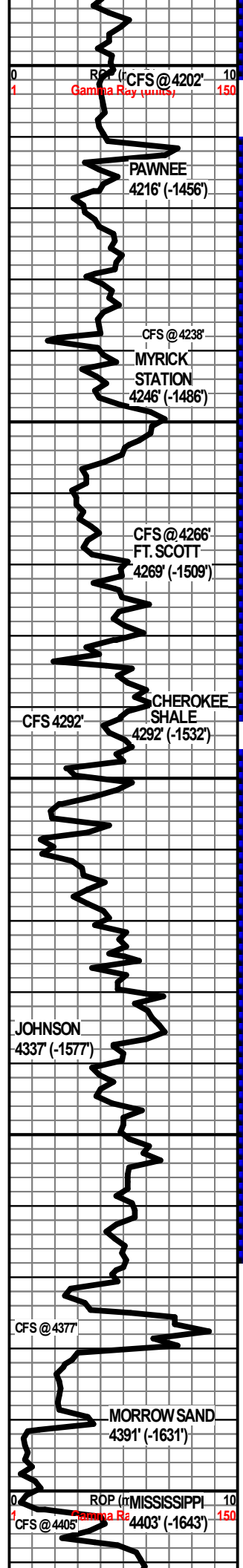
DST #5 MARMATON
 4126' - 4202' 30"-30"-45"-60"

IF: 1" blow built to 7"
 IS: No return
 FF: 1/4" blow built to 6"
 FS: No return

WT 9.0
 VIS 55

Rec'd: 62' MCW (80% W, 20% M), 93' WCM (30% W, 70% M)

SIP's: 751-751#
 FP's: 28-54#, 60-87#
 HP's: 2047-1988#



SH - RD / GRN / GY / PURP, W/LS - CRM / TAN, VF / F XLN, MOD DNS / DNS / SUBCHKY IN PT, FOSS IN PT

LS - CRM / TAN / LT GY, VF / F XLN, MOD DNS / DNS, FOSS IN PT

SH - BLK, CARB

LS - TAN / BRN, VF / F XLN, F / G INTERXLN POR, SSFO, SLI SHO GAS BUB, ABUND OIL SHEEN, SAT STN, G CUP ODOR, BRI YEL-GRN FLUOR

LS - CRM, VF / F XLN, MOD DNS / SUBCHKY / CHKY IN PT, W/ CHT - TAN / GY, SLI TRANSLUCNT, FRSH

SH - BLK, CARB, W/LS - GY, VF / F XLN, MOD DNS / DNS, FOSS IN PT

SH - PRED LT GY / LT GRN IN PT, V SOFT, W/LS - CRM / TAN / WHT, VF XLN, SUBCHKY / CHKY

LS - CRM / TAN, F XLN, P / F / G INTXLN & INTERPART POR, VUG POR IN PT, GSFO, F CUP ODOR, MOD YEL-GRN FLUOR, W/ CHT - TAN / GY, FRSH, OPAQ, SLI TRANSLUCNT, FOSS, PYRITIC IN PT, NO VIS POR

SH - BLK, CARB

LS - TAN / LT BRN, F XLN, P / F INTXLN & INTEROOL POR, SSFO, SLI ODOR WHEN BROKEN, MOD YEL-GRN FLUOR

LS - TAN / LT BRN, F XLN, F INTXLN POR, GSFO ON BREAK, F ODOR ON BREAK, FEW SCAT OOL, FOSS, DULL YEL GRN FLUOR

LS - CRM / TAN / GY, VF / F XLN, MOD DNS / SUBCHKY / CHKY, NO VIS POR, NS

SH - BLK, CARB, W/LS - CRM, F / M XLN, MOD DNS / DNS

LS - CRM / TAN, VF / F XLN, MOD DNS / SUBCHKY / CHKY, V CHKY IN PT, W/ SH - LT GY, V SOFT

LS - CRM / TAN, VF / F XLN, P / F / G INTXLN POR, GSFO WHEN BROKEN, F CUP ODOR, MOD YEL-GRN FLUOR, FOSS, SUBCHKY IN PT

LS - WHT / CRM, VF XLN, CHKY / SUBCHKY

SH - GY / BLK, CARB, W/LS - GY / BR, F XLN, MOD DNS / DNS, FOSS

SH - LT BRN / LT GRN, V SOFT, W/ SH - BLK, CARB

LS - PRED BRN, TAN / CRM IN PT, F / M XLN, FOSS, P / F INTXLN POR, VUG & FOSS-MOLDIC POR IN PT, GSFO WHEN BRKN, F SHO GAS BUB, MOD YEL-GRN FLUOR, W/ CHT IN PT, TAN, FRSH

LS - CRM / TAN, VF / F XLN, PRED SUBCHKY, MOD DNS IN PT, P INTXLN POR IN PT, SSFO, SLI ODOR, MOD YEL-GRN FLUOR

LS - TAN, BRN, F XLN, P / F INTXLN & FOSS-MOLDIC POR, ABUND BRYOZOAN COMP SAT W/ OIL. P PERM, VGSFO WHEN BRKN, DULL YEL-GRN FLUOR

LS - GY / TAN, F XLN, DNS, VP INTXLN POR IN PT, VSSFO, SLI ODOR, BRI YEL-GRN FLUOR

SS - CLR / GY / TAN, VF GR, SUB-RND, W SRD, MOD / W CEM, P / F INTGR POR, NS, NO ODOR, NO FLUOR, PYRITIC IN PT, GSFO IN 1 PIECE WHEN BRKN, PYRITIC, NO FLUOR, SLI ODOR

SH - GY / GRN / RD-ORNG / RD / PURP

SH - YEL / TURQ / DK GY

SH - LT GY, V SOFT

SS - BRN / TAN / CLR, VF GR, SUB-RND, W SRD, P CEM, F / G INTGR POR, FRI, GSFO, F SHO GAS, MOD YEL FLUOR, MOSTLY COMP SAT, V FEW DNS CLUSTERS

SH - GRN / GY, SNDY

WT 9.0
VIS 60

WT 8.9
VIS 55

DST #6
PAWNEE / MYRICK STATION / FT. SCOTT
4210' - 4292' 30"-30"-30"-60"

IF: 1/4" blow built to 3 3/4"
IS: No return
FF: 1/4" blow built to 4 1/2"
FS: No return

Rec'd: 50' OCM (10% O, 90% M)

SIP's: 1001-1046#
FP's: 17-28#, 33-41#
HP's: 2081-2055#

WT 8.9
VIS 59

DST #7 CHEROKEE / JOHNSON ZN
4296' - 4368' 30"-30"-45"-90"

IF: 1/4" blow built to 3"
IS: No return
FF: 1/4" blow built to 1 1/2"
FS: No return

Rec'd: 31' OCM (10% O, 90% M)

SIP's: 279-856#
FP's: 19-25#, 24-30#
HP's: 2107-2078#

BIT BOUNCING @ 4346'

WT 8.9
VIS 63

DST #8 MORROW SAND
4366' - 4405' 15"-30"-45"-90"

WT 8.9
VIS 61

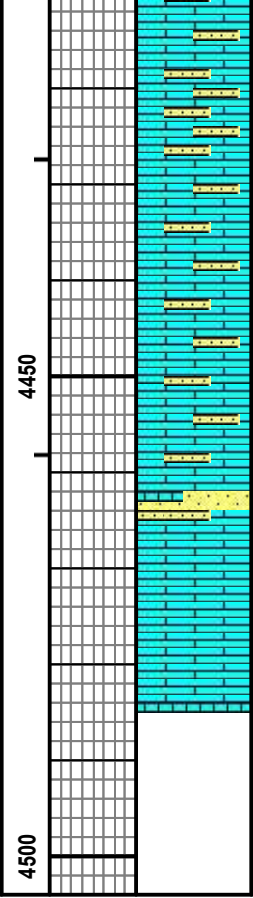
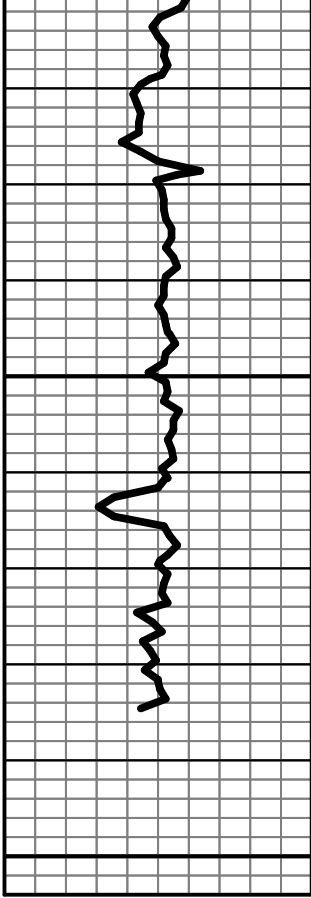
IF: BOB in 2 min
IS: BOB in 9 min
FF: BOB in 2 min
FS: BOB in 6 min

Rec'd: 124' GOCM (20% G, 20 O, 60% M), 310' MCGO (10% G, 80% O, 10% M), 248' MCGO (20% G, 40% O, 40% M), 325' GO (30% G, 70% O), 1101 GIP

SIP's: 1035-1037#
FP's: 82-158#, 177-396#
HP's: 2160-1037#

WT 8.9
VIS 52

WT 9.0
VIS 71
I CM 1#



LS - CRM, VF / F XLN, SUBCHKY, SNDY

LS - CRM / WHT, VF / F XLN, SUBCHKY / CHKY, SNDY

LS - CRM / WHT, VF XLN, SUBCHKY / CHKY, SNDY

LS - CRM / WHT, VF XLN, SUBCHKY / CHKY, SNDY

SS - GY / CLR, VF GR, SUB-RND, W SRTD, P / MOD
CEM, DNS, V LMY

LS - TAN, F XLN, MOD DNS / DNS, FOSS IN PT

LS - TAN, F / M XLN, MOD DNS / DNS, FOSS

RTD 4485'

WT 9.1
VIS 58
LCM 1#

WT 9.0
VIS 58
LCM 3#

WT 9.0
VIS 57
LCM 3#

WT 9.0
VIS 56
LCM 3#



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Shakespeare Oil Company

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64271

DST#: 1

ATTN: Aaron Young

Test Start: 2018.11.11 @ 04:42:40

GENERAL INFORMATION:

Formation: **LKC B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:34:40

Time Test Ended: 12:09:40

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 79

Interval: 3772.00 ft (KB) To 3800.00 ft (KB) (TVD)

Reference Elevations: 2760.00 ft (KB)

Total Depth: 3800.00 ft (KB) (TVD)

2750.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8166 Outside

Press@RunDepth: 17.86 psig @ 3773.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.11.11

End Date:

2018.11.11

Last Calib.: 2018.11.11

Start Time: 04:42:45

End Time:

12:09:39

Time On Btm: 2018.11.11 @ 08:32:40

Time Off Btm: 2018.11.11 @ 10:37:10

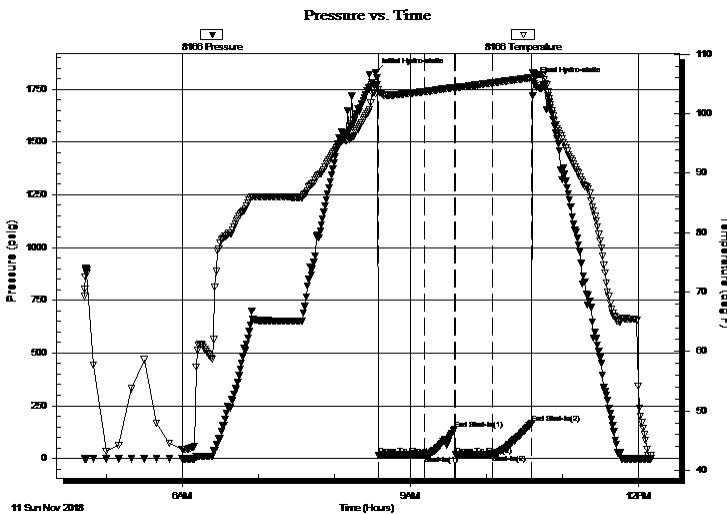
TEST COMMENT: IF: 1/2 blow built to 1 1/4.

IS: No return.

FF: No blow.

FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1829.62	103.41	Initial Hydro-static
2	15.92	104.01	Open To Flow (1)
38	16.89	103.68	Shut-In(1)
62	139.19	104.42	End Shut-In(1)
63	17.07	104.40	Open To Flow (2)
92	17.86	105.16	Shut-In(2)
123	166.60	106.05	End Shut-In(2)
125	1786.11	106.80	Final Hydro-static

Recovery

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

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Company

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64271

DST#: 1

ATTN: Aaron Young

Test Start: 2018.11.11 @ 04:42:40

GENERAL INFORMATION:

Formation: **LKC B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:34:40

Time Test Ended: 12:09:40

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 79

Interval: 3772.00 ft (KB) To 3800.00 ft (KB) (TVD)

Reference Elevations: 2760.00 ft (KB)

Total Depth: 3800.00 ft (KB) (TVD)

2750.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 6651

Inside

Press@RunDepth: psig @ 3773.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.11.11

End Date:

2018.11.11

Last Calib.:

2018.11.11

Start Time: 04:42:41

End Time:

12:09:35

Time On Btm:

Time Off Btm:

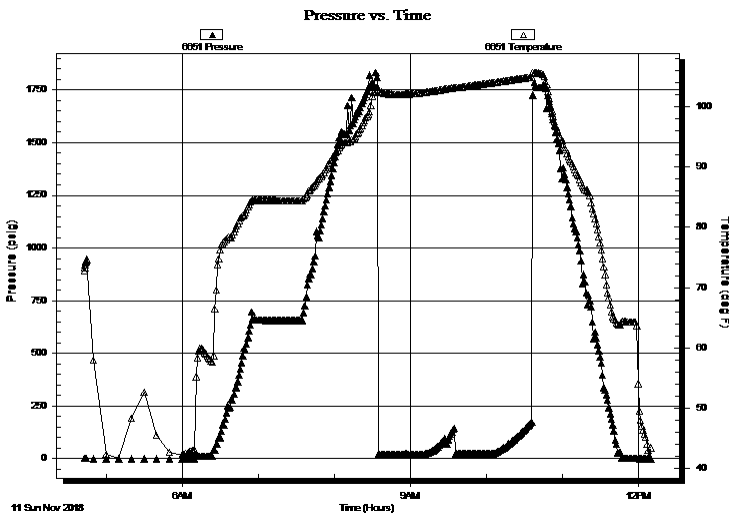
TEST COMMENT: IF: 1/2 blow built to 1 1/4.

IS: No return.

FF: No blow.

FS: No return.

PRESSURE SUMMARY



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

Recovery

Gas Rates

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

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Shakespeare Oil Company

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64271

DST#: 1

ATTN: Aaron Young

Test Start: 2018.11.11 @ 04:42:40

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: 62.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.20 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud oil spots 100%m	0.070

Total Length: 5.00 ft Total Volume: 0.070 bbl

Num Fluid Samples: 0

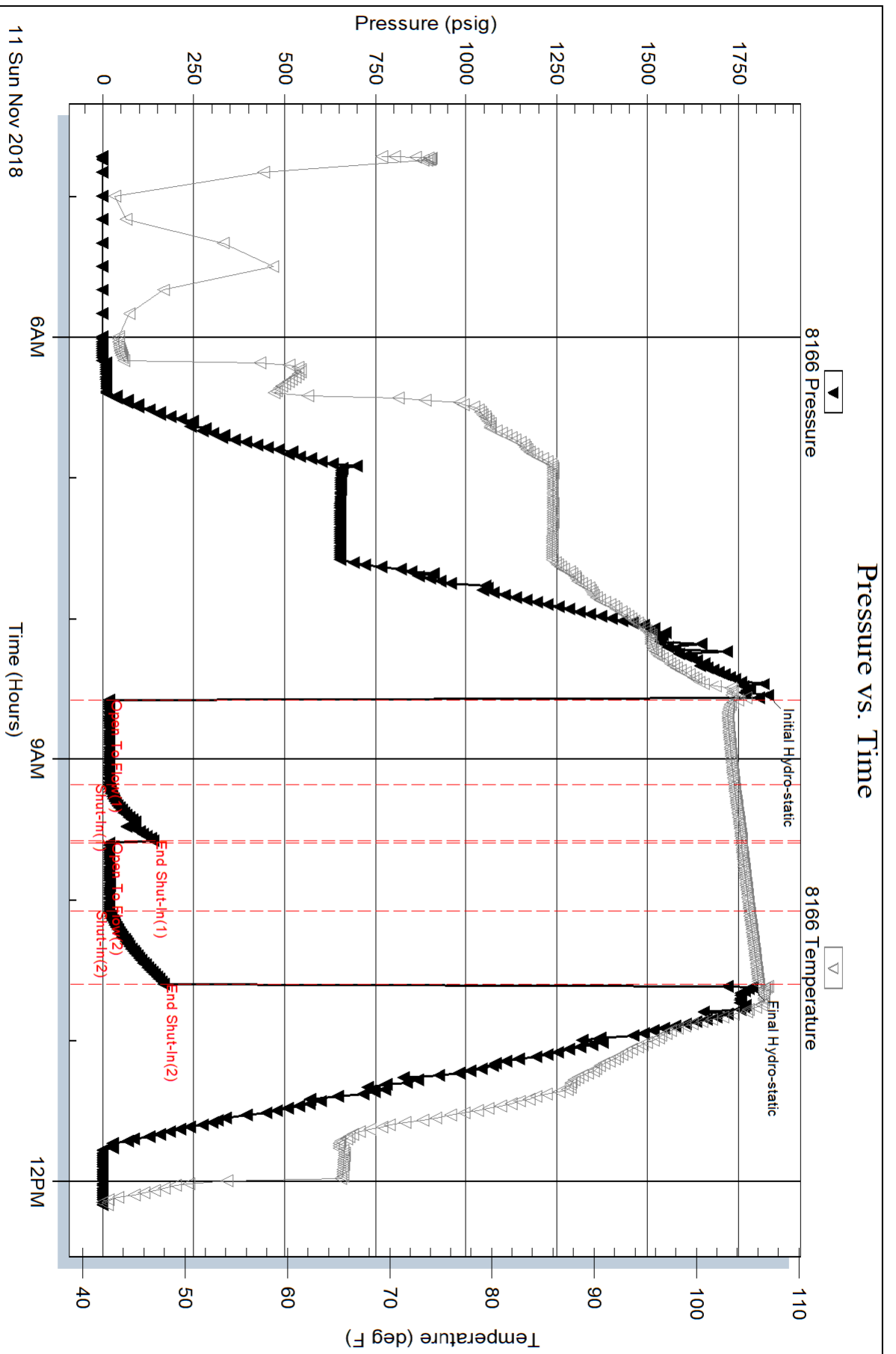
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



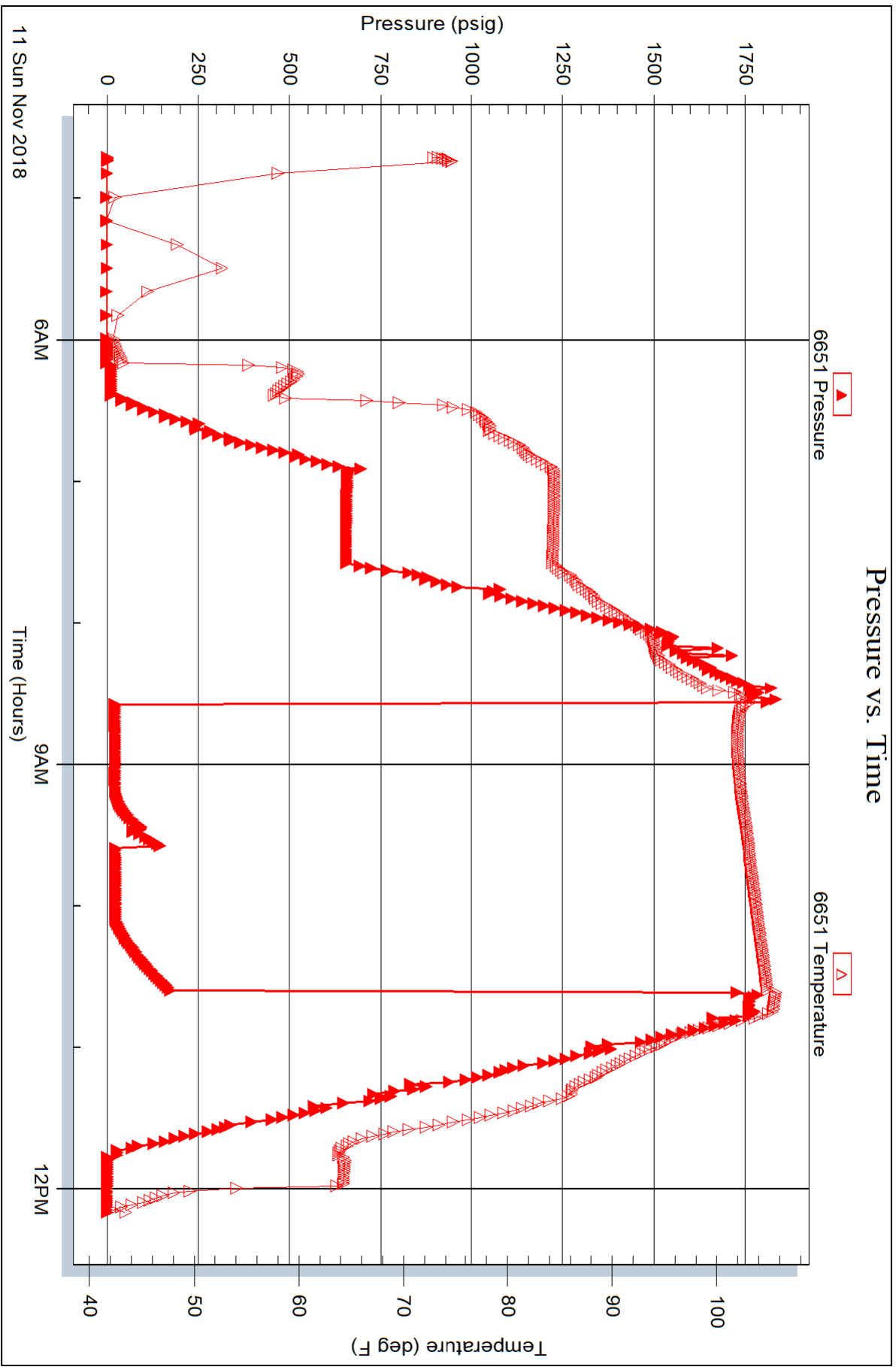
Serial #: 6651

Inside

Shakespeare Oil Company

Ottley 2-27

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 64271

Printed: 2018.11.11 @ 15:42:28



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Company

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64272

DST#: 2

ATTN: Aaron Young

Test Start: 2018.11.12 @ 14:14:53

GENERAL INFORMATION:

Formation: **LKC H-I**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 16:32:53
 Time Test Ended: 21:27:53
 Interval: **3910.00 ft (KB) To 3976.00 ft (KB) (TVD)**
 Total Depth: 3976.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brandon Turley
 Unit No: 79
 Reference Elevations: 2760.00 ft (KB)
 2750.00 ft (CF)
 KB to GR/CF: 10.00 ft

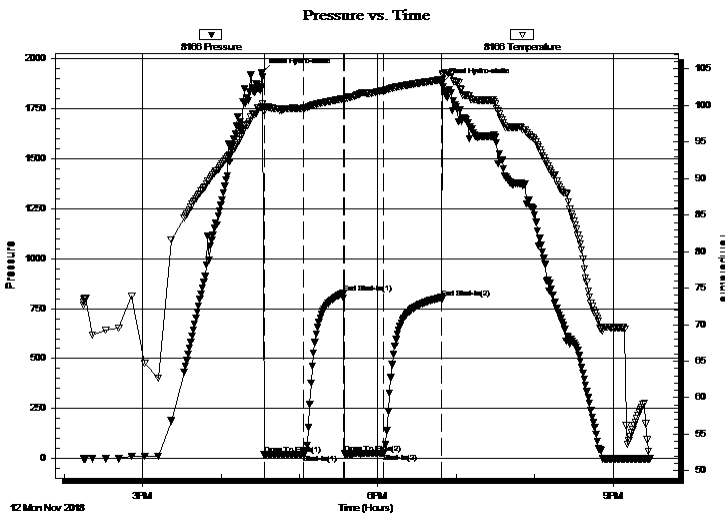
Serial #: 8166

Outside

Press@RunDepth: 26.82 psig @ 3911.00 ft (KB)
 Start Date: 2018.11.12 End Date: 2018.11.12
 Start Time: 14:14:58 End Time: 21:27:52
 Capacity: 8000.00 psig
 Last Calib.: 2018.11.12
 Time On Btm: 2018.11.12 @ 16:31:23
 Time Off Btm: 2018.11.12 @ 18:49:23

TEST COMMENT: IF: 1/2 blow built to 2"
 IS: No return.
 FF: Surface blow built to 1"
 FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1930.96	99.89	Initial Hydro-static
2	19.41	99.15	Open To Flow (1)
32	23.06	99.63	Shut-In(1)
62	825.62	100.93	End Shut-In(1)
63	23.87	100.68	Open To Flow (2)
93	26.82	102.04	Shut-In(2)
137	804.70	103.53	End Shut-In(2)
138	1879.56	104.16	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	mud oil spots 100%m	0.42

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Company

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64272

DST#: 2

ATTN: Aaron Young

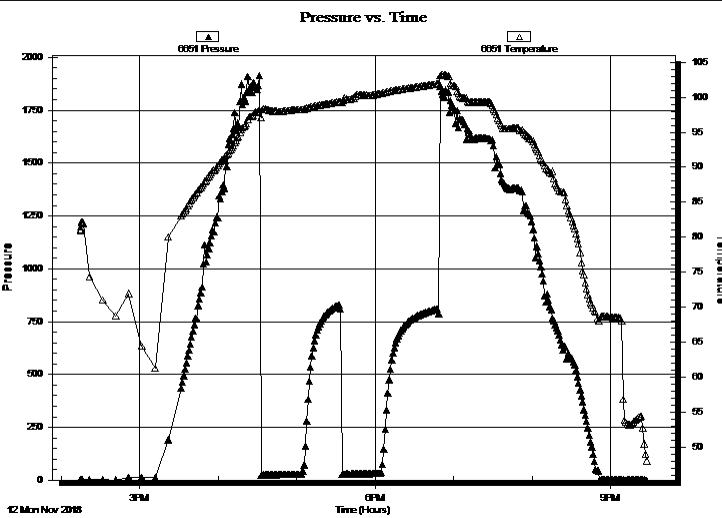
Test Start: 2018.11.12 @ 14:14:53

GENERAL INFORMATION:

Formation:	LKC H-I				
Deviated:	No Whipstock:	ft (KB)	Test Type:	Conventional Bottom Hole (Reset)	
Time Tool Opened:	16:32:53		Tester:	Brandon Turley	
Time Test Ended:	21:27:53		Unit No:	79	
Interval:	3910.00 ft (KB) To 3976.00 ft (KB) (TVD)		Reference Elevations:	2760.00 ft (KB)	
Total Depth:	3976.00 ft (KB) (TVD)			2750.00 ft (CF)	
Hole Diameter:	7.88 inches	Hole Condition: Good	KB to GR/CF:	10.00 ft	

Serial #: 6651	Inside				
Press@RunDepth:	psig @	3911.00 ft (KB)	Capacity:	8000.00 psig	
Start Date:	2018.11.12	End Date:	2018.11.12	Last Calib.:	2018.11.12
Start Time:	14:14:49	End Time:	21:27:43	Time On Btm:	
				Time Off Btm:	

TEST COMMENT: IF: 1/2 blow built to 2"
 IS: No return.
 FF: Surface blow built to 1"
 FS: No return.



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

Recovery		
Length (ft)	Description	Volume (bbl)
30.00	mud oil spots 100%m	0.42

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

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64272

DST#: 2

ATTN: Aaron Young

Test Start: 2018.11.12 @ 14:14:53

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: 73.00 sec/qt

Cushion Volume:

bbl

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
30.00	mud oil spots 100%m	0.421

Total Length: 30.00 ft Total Volume: 0.421 bbl

Num Fluid Samples: 0

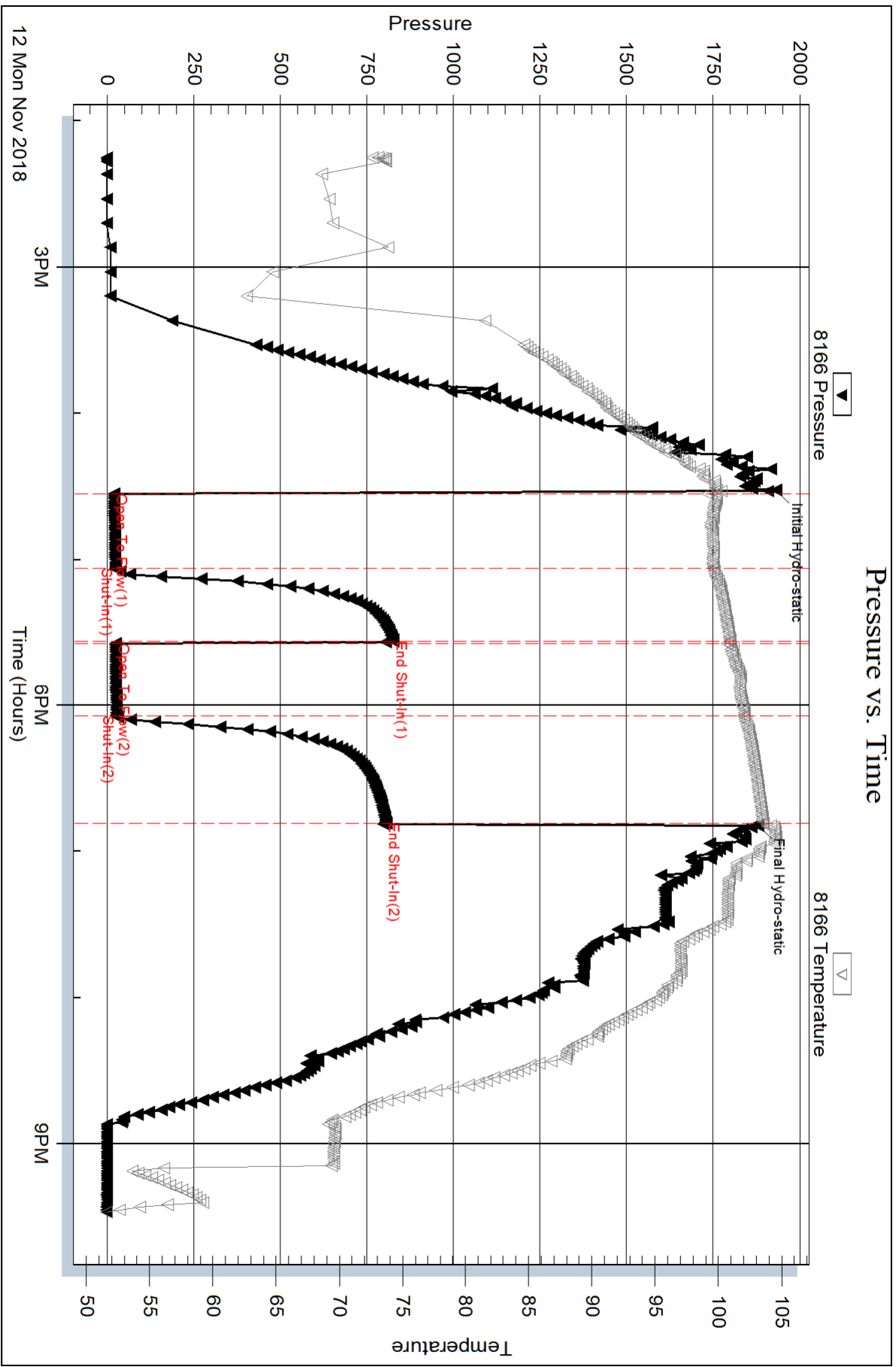
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



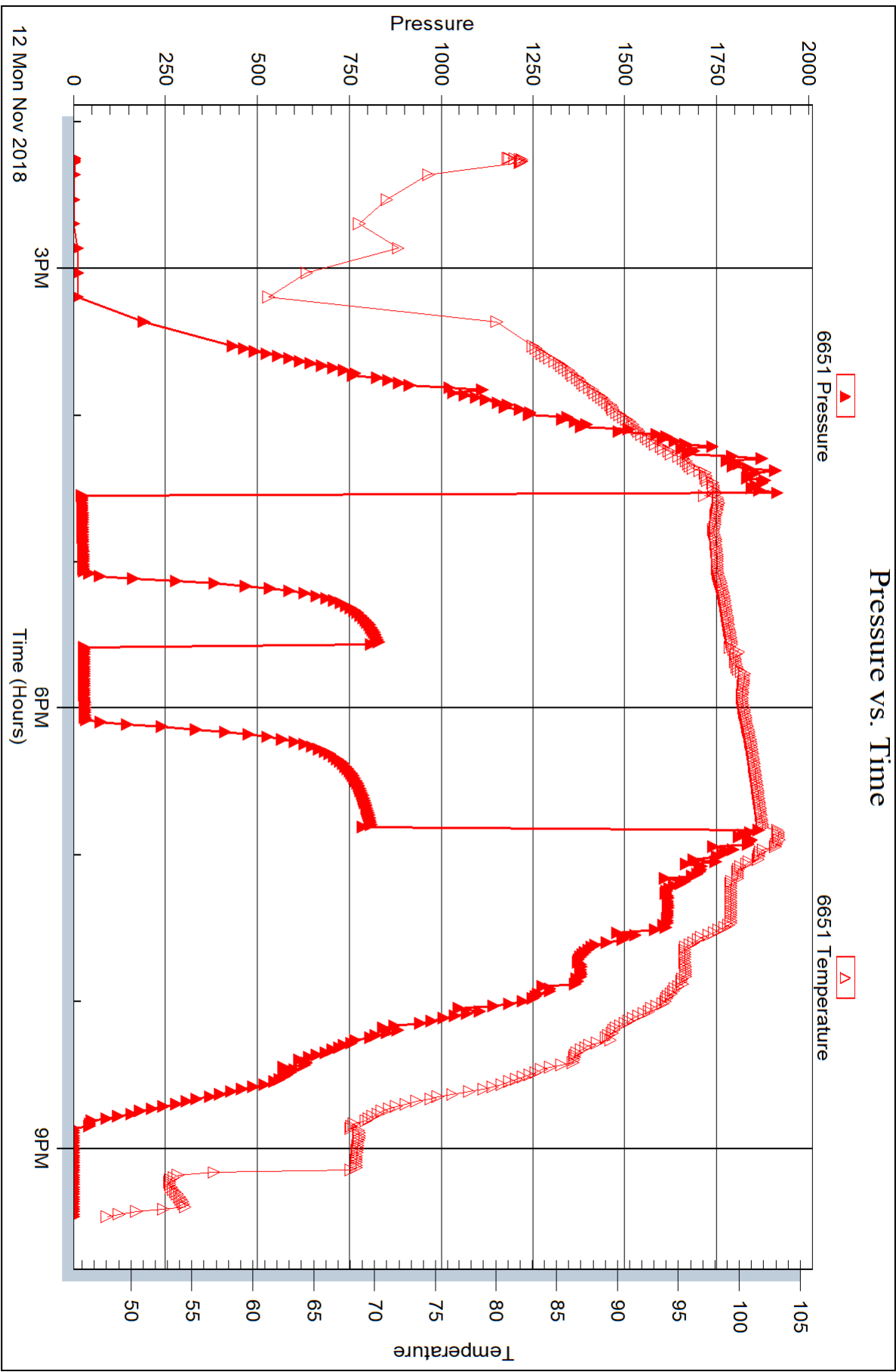
Serial #: 6651

Inside

Shakespeare Oil Company

Ottley 2-27

DST Test Number: 2





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Company

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64273

DST#: 3

ATTN: Aaron Young

Test Start: 2018.11.13 @ 15:39:59

GENERAL INFORMATION:

Formation: **LKC J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:54:29

Time Test Ended: 23:15:59

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: **3972.00 ft (KB) To 3998.00 ft (KB) (TVD)**

Reference Elevations: 2760.00 ft (KB)

Total Depth: 3998.00 ft (KB) (TVD)

2750.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8166 Outside

Press@RunDepth: 75.71 psig @ 3973.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.11.13

End Date:

2018.11.13

Last Calib.:

2018.11.13

Start Time:

15:40:04

End Time:

23:15:58

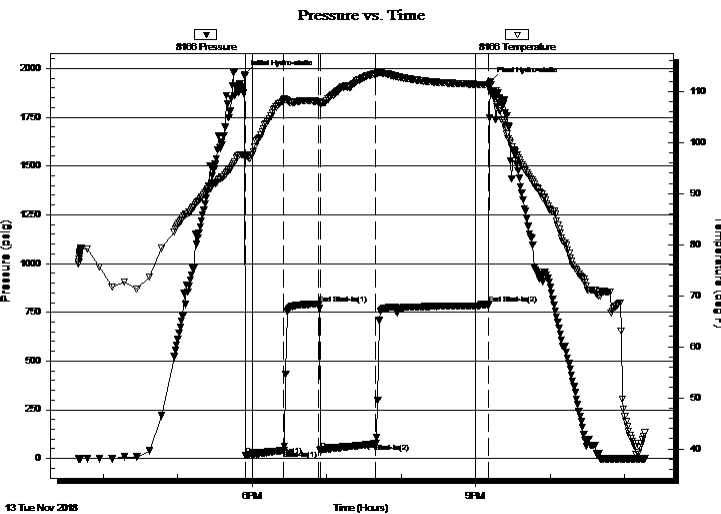
Time On Btm:

2018.11.13 @ 17:53:29

Time Off Btm:

2018.11.13 @ 21:11:29

TEST COMMENT: IF: 1/2 blow built to 6 1/2.
IS: Surface blow built to 1/4.
FF: Surface blow built to 6 1/2.
FS: Surface blow built to 1/4.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1969.33	97.44	Initial Hydro-static
1	16.30	97.16	Open To Flow (1)
32	41.39	108.41	Shut-In(1)
60	792.91	108.07	End Shut-In(1)
61	43.86	107.72	Open To Flow (2)
106	75.71	113.52	Shut-In(2)
197	790.50	111.34	End Shut-In(2)
198	1930.64	110.24	Final Hydro-static

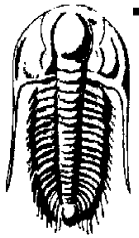
Recovery

Length (ft)	Description	Volume (bbl)
124.00	mcw 80%w 20%m	1.74
15.00	w cm oil spots oil top 40%w 60%m	0.21

Gas Rates

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

* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Company

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64273

DST#: 3

ATTN: Aaron Young

Test Start: 2018.11.13 @ 15:39:59

GENERAL INFORMATION:

Formation: **LKC J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:54:29

Time Test Ended: 23:15:59

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 3972.00 ft (KB) To 3998.00 ft (KB) (TVD)

Total Depth: 3998.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2760.00 ft (KB)

2750.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 6651 Inside

Press@RunDepth: psig @ 3973.00 ft (KB)

Start Date: 2018.11.13

End Date:

2018.11.13

Start Time: 15:39:11

End Time:

23:15:05

Capacity: 8000.00 psig

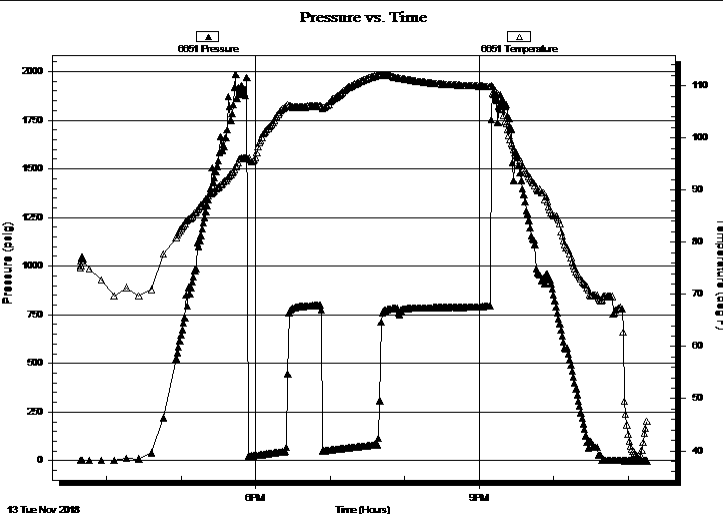
Last Calib.:

2018.11.13

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: 1/2 blow built to 6 1/2.
IS: Surface blow built to 1/4.
FF: Surface blow built to 6 1/2.
FS: Surface blow built to 1/4.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
124.00	mcw 80%w 20%m	1.74
15.00	w cm oil spots oil top 40%w 60%m	0.21

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

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64273

DST#: 3

ATTN: Aaron Young

Test Start: 2018.11.13 @ 15:39:59

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:

40000 ppm

Viscosity: 67.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.59 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
124.00	mcw 80%w 20%m	1.739
15.00	w cm oil spots oil top 40%w 60%m	0.210

Total Length: 139.00 ft Total Volume: 1.949 bbl

Num Fluid Samples: 0

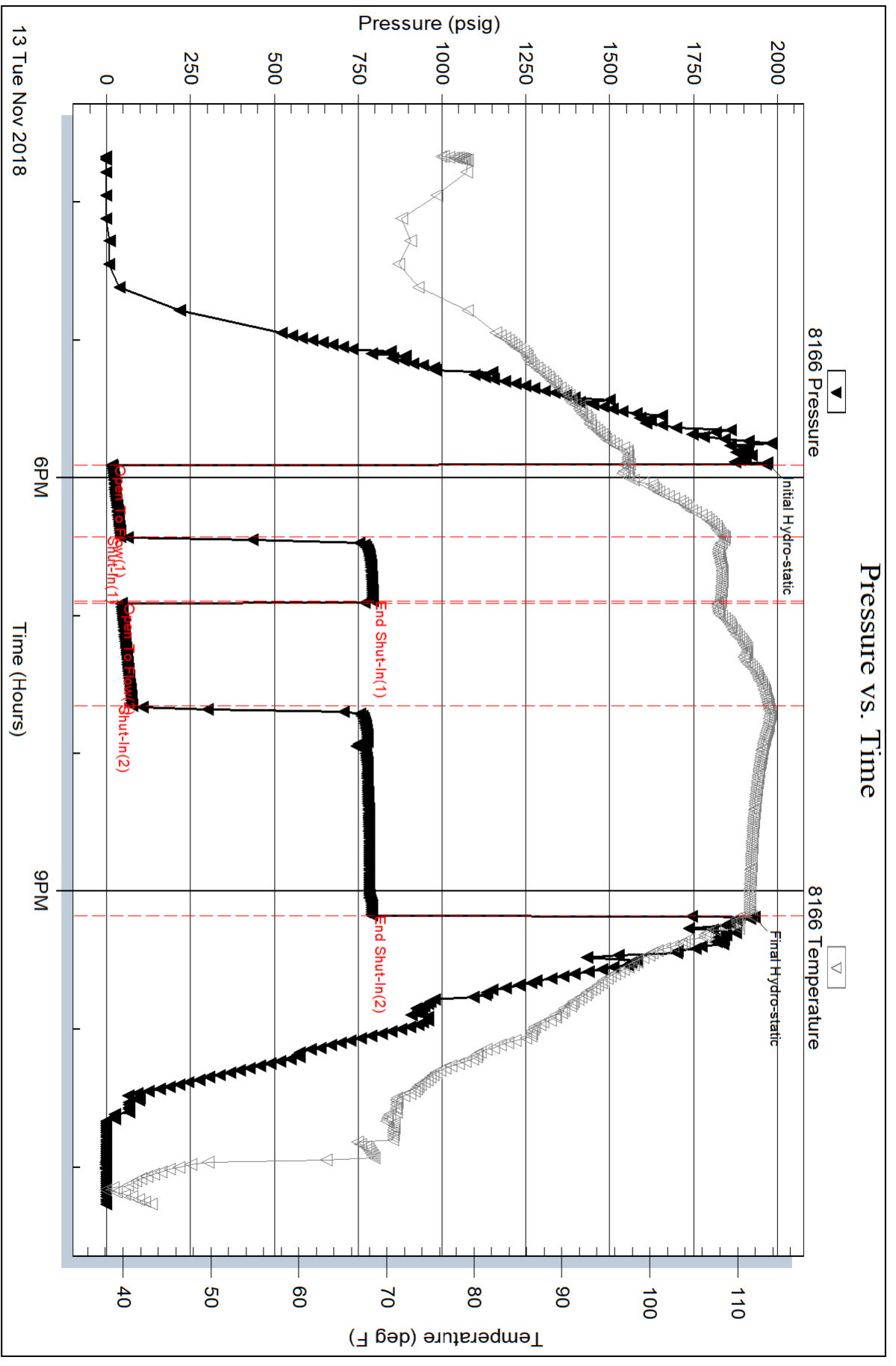
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .38@34=40000



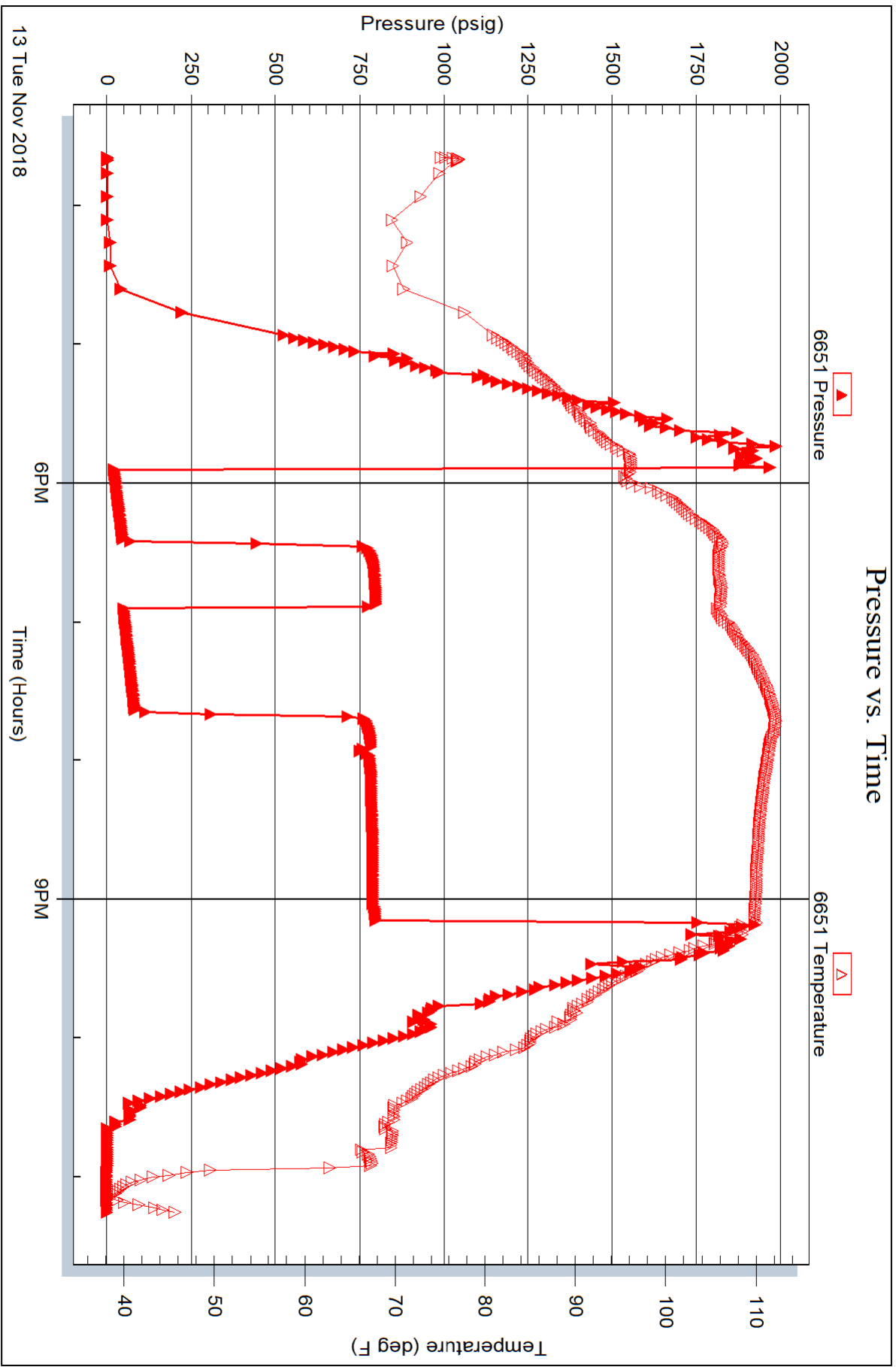
Serial #: 6651

Inside

Shakespeare Oil Company

Ottley 2-27

DST Test Number: 3





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Company

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64274

DST#: 4

ATTN: Aaron Young

Test Start: 2018.11.14 @ 08:44:39

GENERAL INFORMATION:

Formation: **LKC-K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:47:09

Time Test Ended: 15:18:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: **4004.00 ft (KB) To 4038.00 ft (KB) (TVD)**

Reference Elevations: 2760.00 ft (KB)

Total Depth: 4038.00 ft (KB) (TVD)

2750.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8166 Outside

Press@RunDepth: 30.71 psig @ 4005.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.11.14

End Date:

2018.11.14

Last Calib.: 2018.11.14

Start Time: 08:44:44

End Time:

15:18:38

Time On Btm: 2018.11.14 @ 10:46:39

Time Off Btm: 2018.11.14 @ 13:33:39

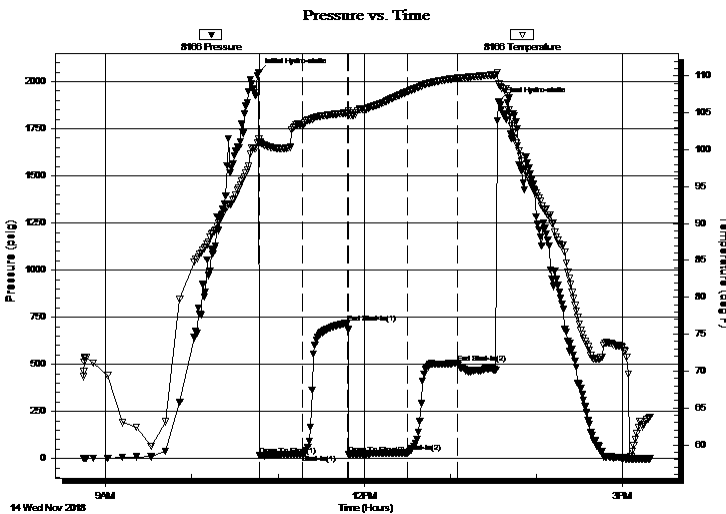
TEST COMMENT: IF: 1/4 blow built to 3"

IS: No return.

FF: Surface blow built to 2"

FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2049.08	101.48	Initial Hydro-static
1	16.31	100.94	Open To Flow (1)
31	21.97	103.40	Shut-In(1)
62	719.10	105.02	End Shut-In(1)
63	23.97	105.29	Open To Flow (2)
104	30.71	107.88	Shut-In(2)
139	505.38	109.70	End Shut-In(2)
167	1895.39	108.90	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	mcw 80%w 20%m	0.42
1.00	free oil	0.01

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Shakespeare Oil Company

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64274

DST#: 4

ATTN: Aaron Young

Test Start: 2018.11.14 @ 08:44:39

GENERAL INFORMATION:

Formation: **LKC-K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:47:09

Time Test Ended: 15:18:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 4004.00 ft (KB) To 4038.00 ft (KB) (TVD)

Reference Elevations: 2760.00 ft (KB)

Total Depth: 4038.00 ft (KB) (TVD)

2750.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 6651

Inside

Press@RunDepth: psig @ 4005.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.11.14

End Date:

2018.11.14

Last Calib.:

2018.11.14

Start Time: 08:44:19

End Time:

15:17:43

Time On Btm:

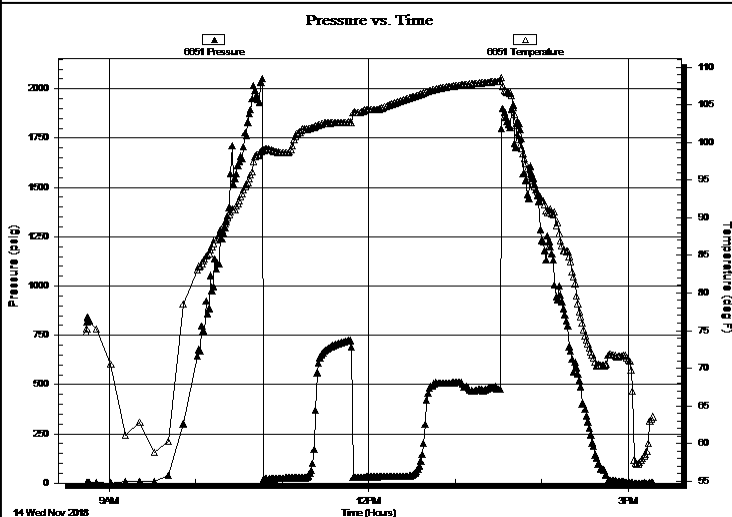
Time Off Btm:

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

IS: No return.

FF: Surface blow built to 2"

FS: No return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
30.00	mcw 80%w 20%m	0.42
1.00	free oil	0.01

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

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64274

DST#: 4

ATTN: Aaron Young

Test Start: 2018.11.14 @ 08:44:39

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:

23000 ppm

Viscosity: 67.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.59 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	mcw 80%w 20%m	0.421
1.00	free oil	0.014

Total Length: 31.00 ft Total Volume: 0.435 bbl

Num Fluid Samples: 0

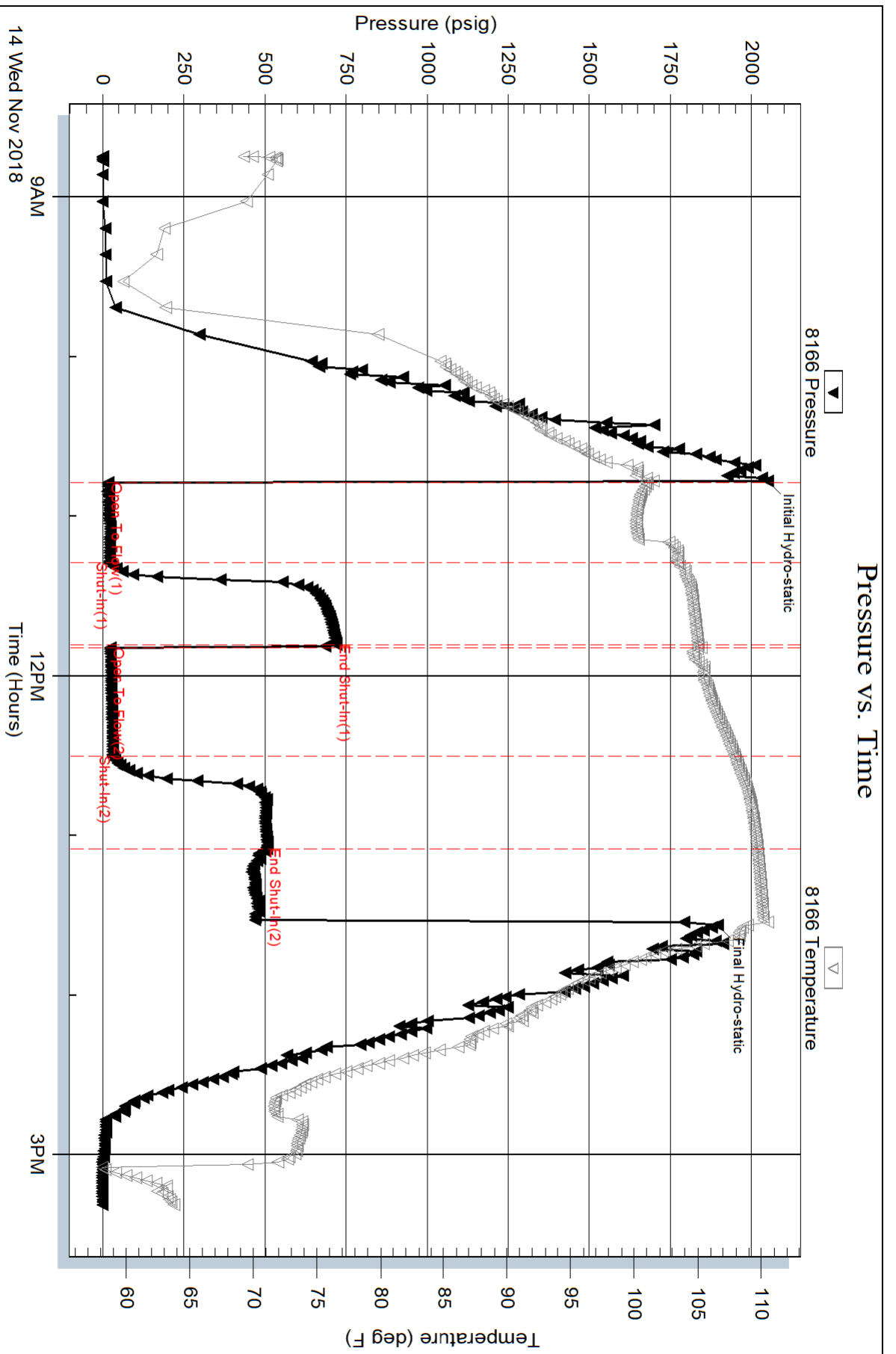
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .31@68=23000



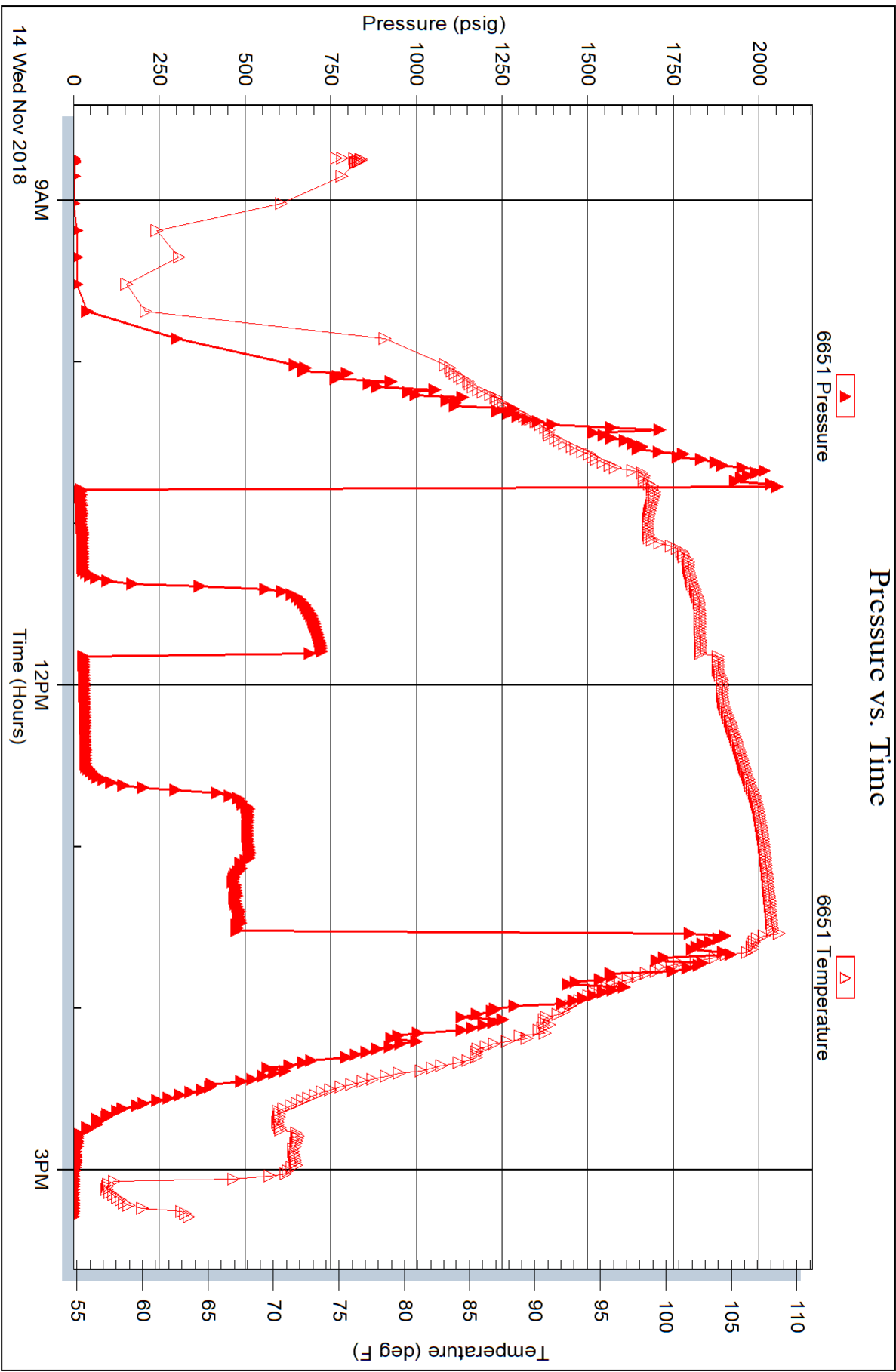
Serial #: 6651

Inside

Shakespeare Oil Company

Otley 2-27

DST Test Number: 4





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Shakespeare Oil Company

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64275

DST#: 5

ATTN: Aaron Young

Test Start: 2018.11.15 @ 09:51:27

GENERAL INFORMATION:

Formation: **Mamaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:29:57

Time Test Ended: 16:18:27

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: **4126.00 ft (KB) To 4202.00 ft (KB) (TVD)**

Reference Elevations: 2760.00 ft (KB)

Total Depth: 4202.00 ft (KB) (TVD)

2750.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: **8166** Outside

Press@RunDepth: 87.24 psig @ 4127.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.11.15 End Date: 2018.11.15

Last Calib.: 2018.11.15

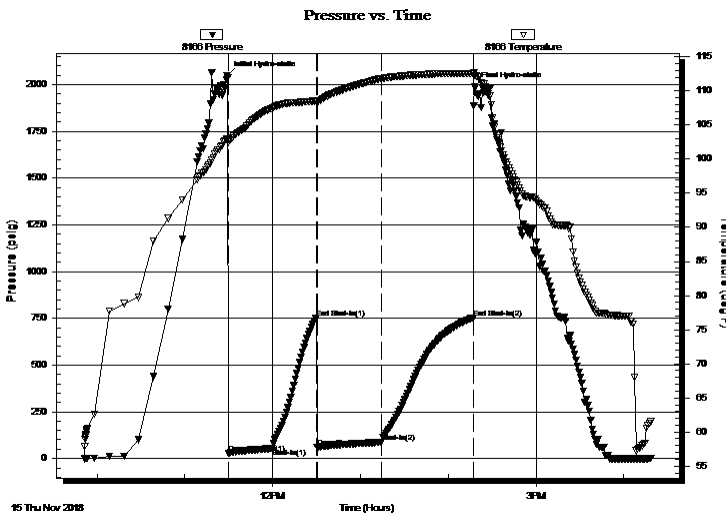
Start Time: 09:51:32 End Time: 16:18:26

Time On Btm: 2018.11.15 @ 11:28:57

Time Off Btm: 2018.11.15 @ 14:17:57

TEST COMMENT: IF: 1" blow built to 7"
IS: No return.
FF: 1/4 blow built to 6 "
FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2046.65	102.98	Initial Hydro-static
1	27.73	102.50	Open To Flow (1)
31	54.40	107.51	Shut-In(1)
61	750.56	108.55	End Shut-In(1)
62	60.47	108.42	Open To Flow (2)
106	87.24	111.81	Shut-In(2)
168	751.13	112.59	End Shut-In(2)
169	1987.84	112.24	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	mcw 80%w 20%m	0.87
93.00	w cm 30%w 70%m	1.30

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Company

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64275

DST#: 5

ATTN: Aaron Young

Test Start: 2018.11.15 @ 09:51:27

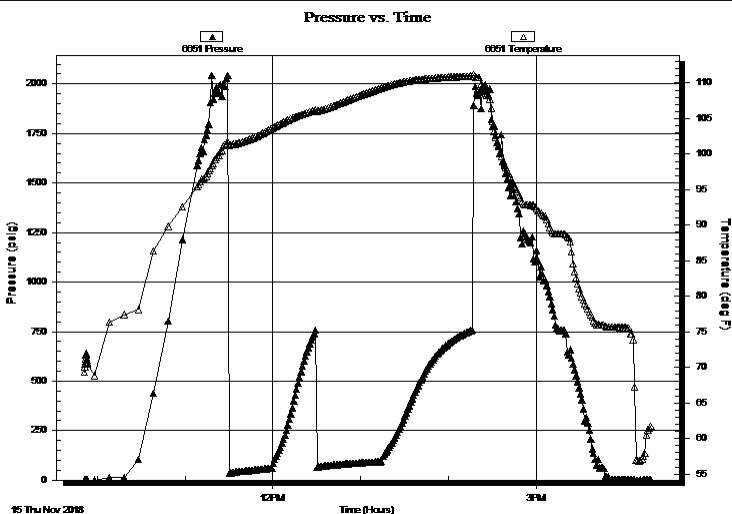
GENERAL INFORMATION:

Formation: **Mamaton**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:29:57
Time Test Ended: 16:18:27
Interval: **4126.00 ft (KB) To 4202.00 ft (KB) (TVD)**
Total Depth: 4202.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches
Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Brandon Turley
Unit No: 79
Reference Elevations: 2760.00 ft (KB)
2750.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: **6651** Inside
Press@RunDepth: psig @ 4127.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2018.11.15 End Date: 2018.11.15 Last Calib.: 2018.11.15
Start Time: 09:51:24 End Time: 16:18:18 Time On Btm:
Time Off Btm:

TEST COMMENT: IF: 1" blow built to 7"
IS: No return.
FF: 1/4 blow built to 6"
FS: No return.

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
62.00	mcw 80%w 20%m	0.87
93.00	w cm 30%w 70%m	1.30

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

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64275

DST#: 5

ATTN: Aaron Young

Test Start: 2018.11.15 @ 09:51:27

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:

26000 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: 3400.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	mcw 80%w 20%m	0.870
93.00	w cm 30%w 70%m	1.305

Total Length: 155.00 ft Total Volume: 2.175 bbl

Num Fluid Samples: 0

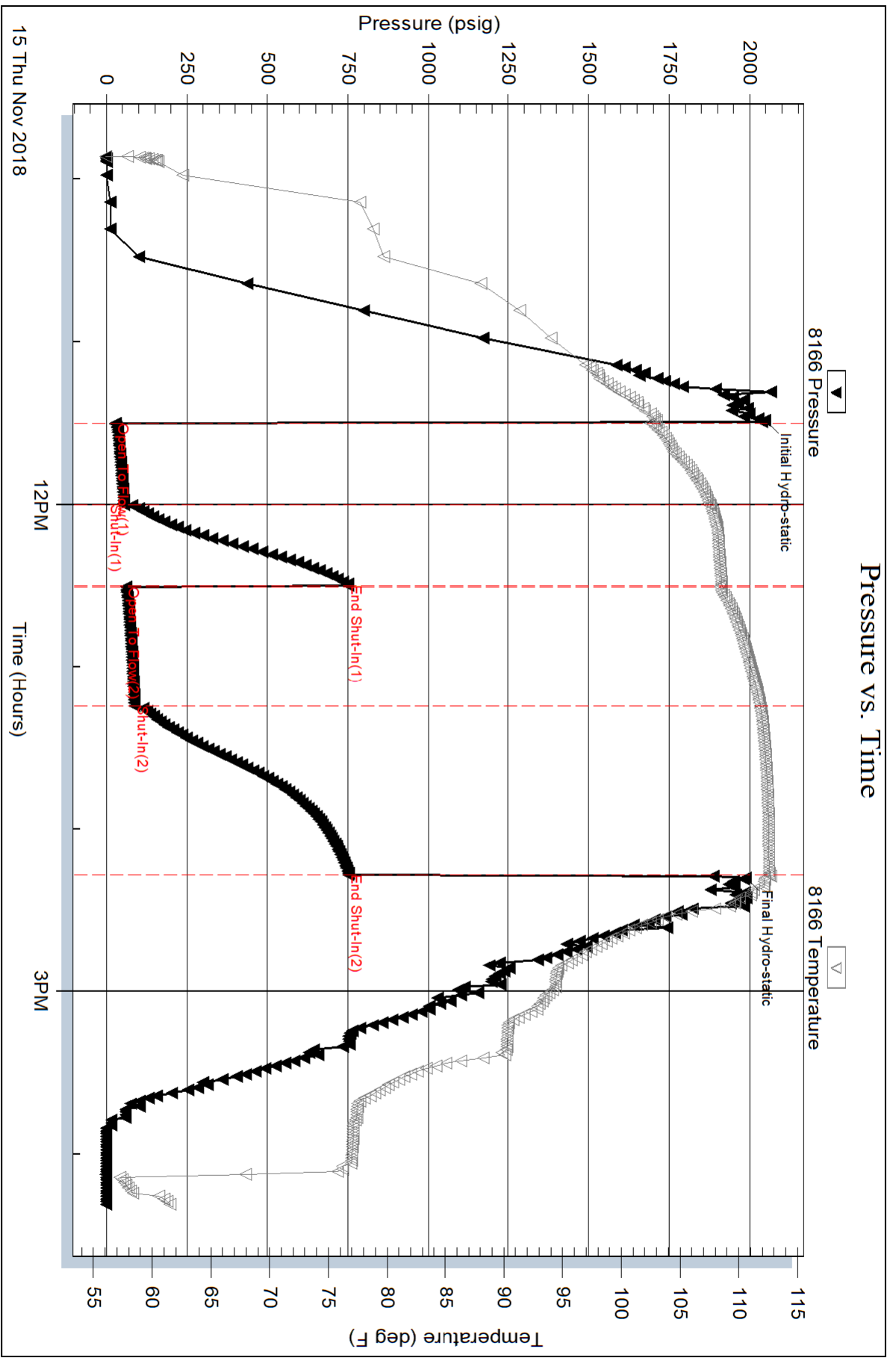
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .26@72=26000



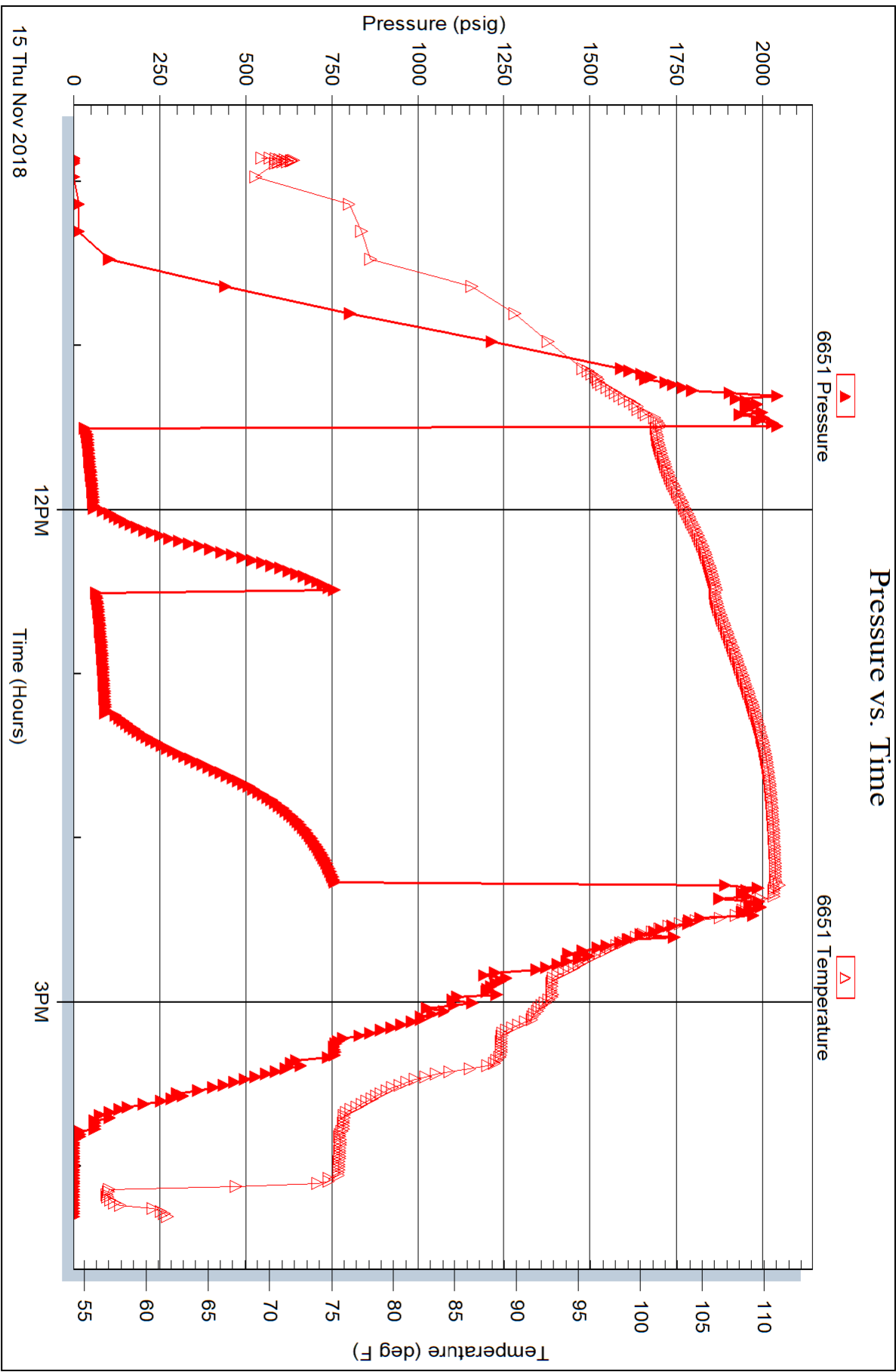
Serial #: 6651

Inside

Shakespeare Oil Company

Ottley 2-27

DST Test Number: 5





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Company

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64301

DST#: 6

ATTN: Aaron Young

Test Start: 2018.11.16 @ 08:48:34

GENERAL INFORMATION:

Formation: **Pawnee Myrick statio**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:07:34

Time Test Ended: 15:33:34

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: **4210.00 ft (KB) To 4292.00 ft (KB) (TVD)**

Reference Elevations: 2760.00 ft (KB)

Total Depth: 4292.00 ft (KB) (TVD)

2750.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8166

Outside

Press@RunDepth: 41.28 psig @ 4211.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.11.16

End Date:

2018.11.16

Last Calib.:

2018.11.16

Start Time: 08:48:39

End Time:

15:33:33

Time On Btm:

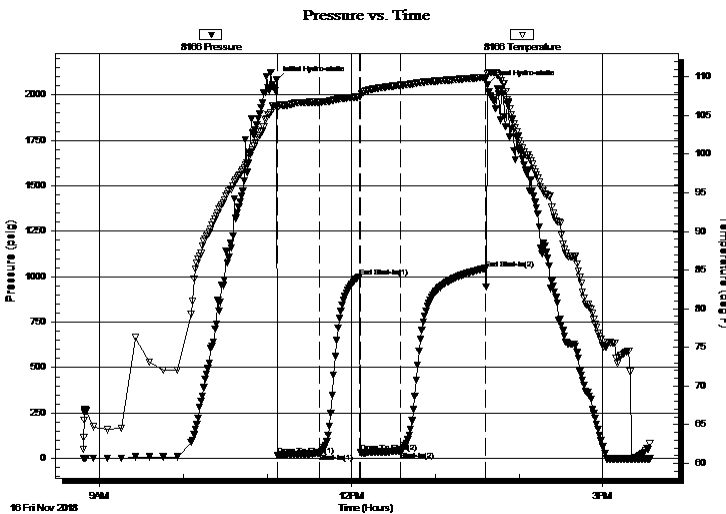
2018.11.16 @ 11:06:34

Time Off Btm:

2018.11.16 @ 13:37:34

TEST COMMENT: IF: 1/4 blow built to 3 3/4
IS: No return.
FF: 1/4 blow built to 4 1/2.
FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2080.91	106.17	Initial Hydro-static
1	17.44	106.03	Open To Flow (1)
31	28.26	106.74	Shut-In(1)
59	1000.59	107.42	End Shut-In(1)
60	33.21	107.41	Open To Flow (2)
89	41.28	108.91	Shut-In(2)
150	1045.76	109.93	End Shut-In(2)
151	2055.11	110.40	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
50.00	ocm 10%o 90%m	0.70

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Company

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64301

DST#: 6

ATTN: Aaron Young

Test Start: 2018.11.16 @ 08:48:34

GENERAL INFORMATION:

Formation: Pawnee Myrick statio
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:07:34
Time Test Ended: 15:33:34
Interval: **4210.00 ft (KB) To 4292.00 ft (KB) (TVD)**
Total Depth: 4292.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches **Hole Condition:** Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Brandon Turley
Unit No: 79
Reference Elevations: 2760.00 ft (KB)
 2750.00 ft (CF)
KB to GR/CF: 10.00 ft

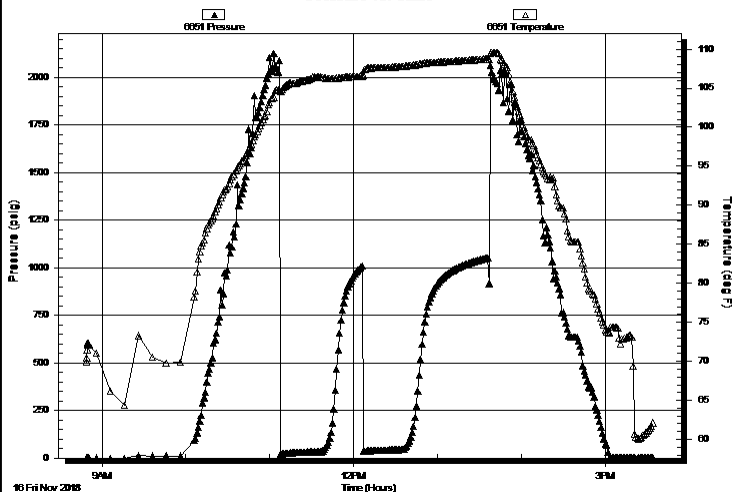
Serial #: 6651

Inside

Press@RunDepth: psig @ 4211.00 ft (KB) **Capacity:** 8000.00 psig
Start Date: 2018.11.16 **End Date:** 2018.11.16 **Last Calib.:** 2018.11.16
Start Time: 08:49:03 **End Time:** 15:33:57 **Time On Btm:**
Time Off Btm:

TEST COMMENT: IF: 1/4 blow built to 3 3/4
 IS: No return.
 FF: 1/4 blow built to 4 1/2.
 FS: No return.

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
50.00	ocm 10%o 90%m	0.70

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

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64301

DST#: 6

ATTN: Aaron Young

Test Start: 2018.11.16 @ 08:48:34

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: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.19 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3600.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
50.00	ocm 10%o 90%m	0.701

Total Length: 50.00 ft Total Volume: 0.701 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

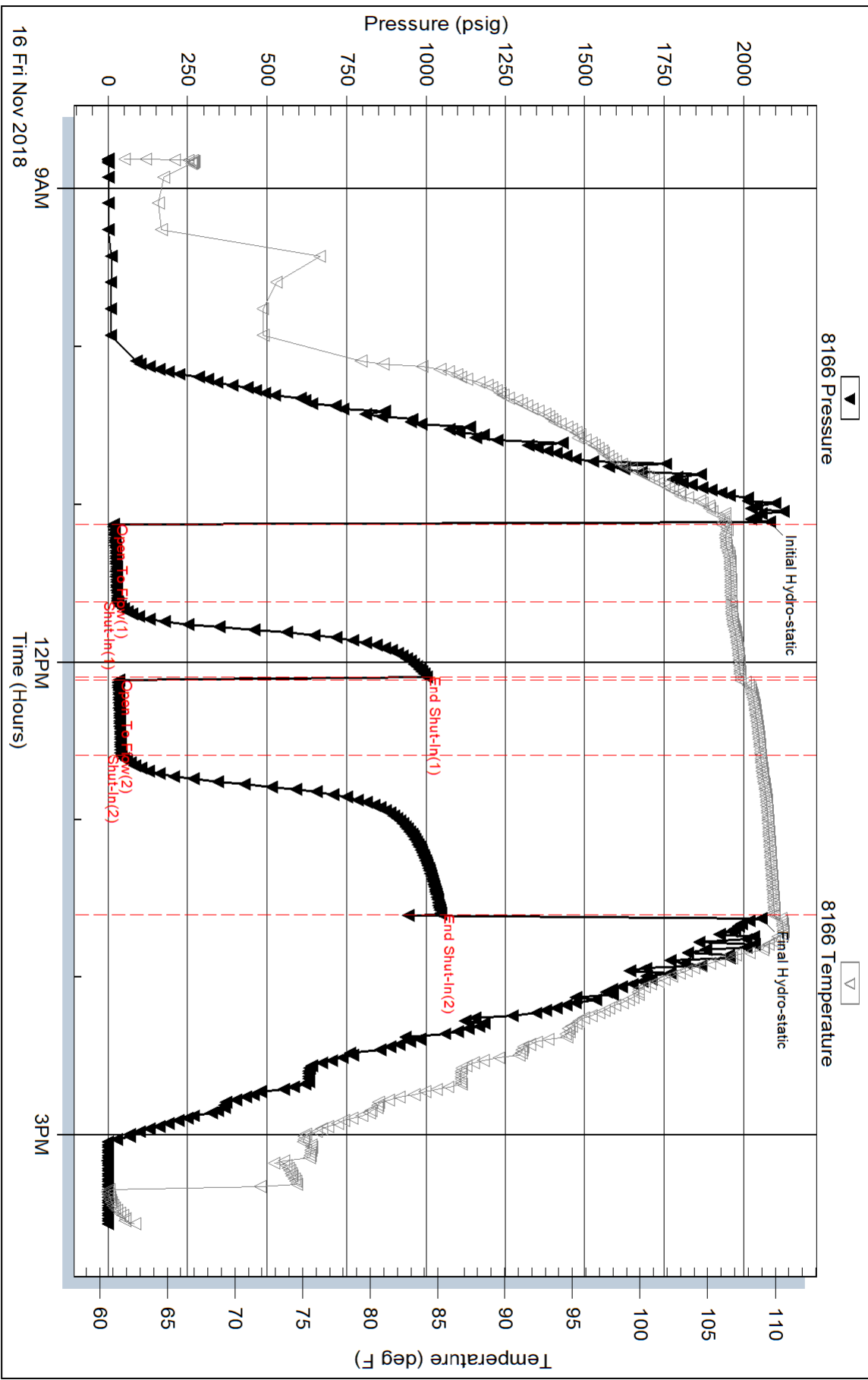
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



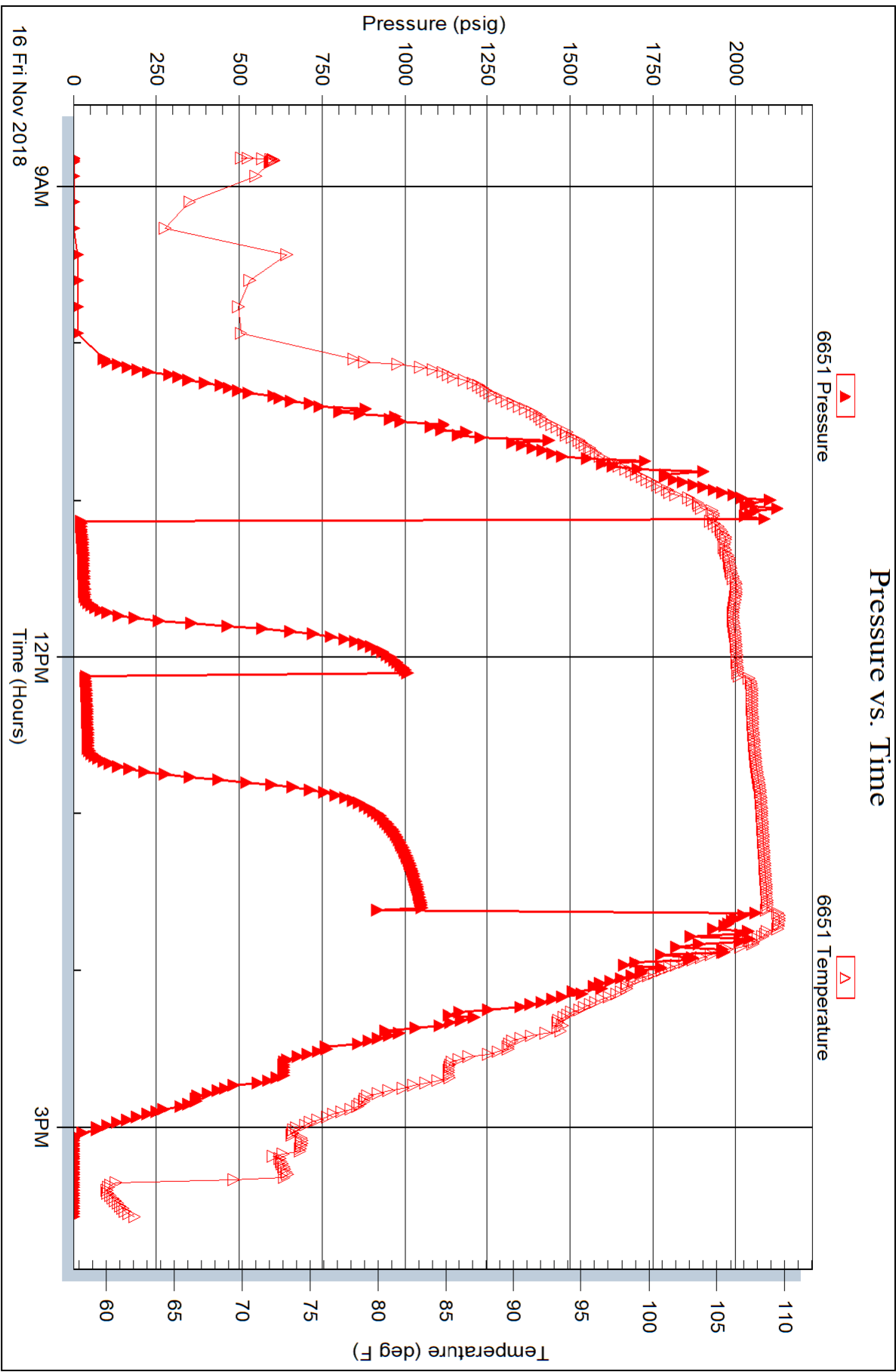
Serial #: 6651

Inside

Shakespeare Oil Company

Otley 2-27

DST Test Number: 6





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Shakespeare Oil Company

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64302

DST#: 7

ATTN: Aaron Young

Test Start: 2018.11.17 @ 04:19:08

GENERAL INFORMATION:

Formation: **Cherokee Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:21:38

Time Test Ended: 11:25:38

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 4296.00 ft (KB) To 4368.00 ft (KB) (TVD)

Reference Elevations: 2760.00 ft (KB)

Total Depth: 4368.00 ft (KB) (TVD)

2750.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8166 Outside

Press@RunDepth: 30.12 psig @ 4297.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.11.17 End Date: 2018.11.17

Last Calib.: 2018.11.17

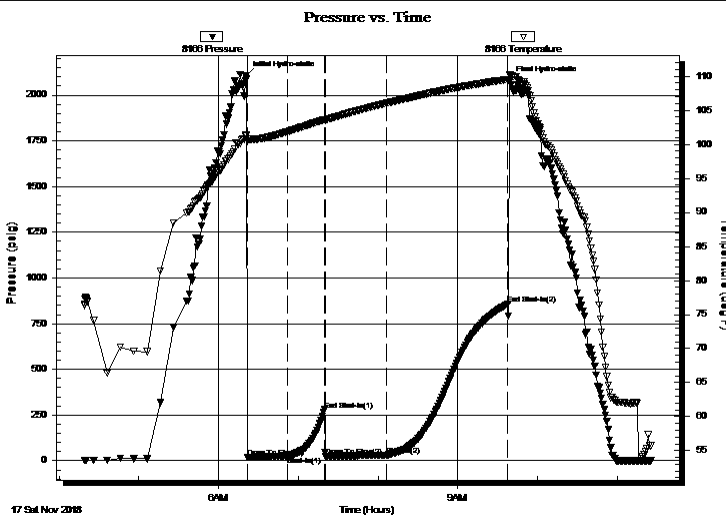
Start Time: 04:19:13 End Time: 11:25:37

Time On Btm: 2018.11.17 @ 06:20:38

Time Off Btm: 2018.11.17 @ 09:39:08

TEST COMMENT: IF: 1/4 blow built to 3.
IS: No return.
FF: 1/4 blow built to 1 1/2.
FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2106.71	101.42	Initial Hydro-static
1	19.29	100.45	Open To Flow (1)
32	25.37	101.88	Shut-In(1)
59	278.86	103.66	End Shut-In(1)
60	23.84	103.63	Open To Flow (2)
106	30.12	106.04	Shut-In(2)
197	855.87	109.54	End Shut-In(2)
199	2078.48	110.27	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
31.00	ocm 10%o 90%m	0.43

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil Company

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64302

DST#: 7

ATTN: Aaron Young

Test Start: 2018.11.17 @ 04:19:08

GENERAL INFORMATION:

Formation: **Cherokee Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:21:38

Time Test Ended: 11:25:38

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: **4296.00 ft (KB) To 4368.00 ft (KB) (TVD)**

Reference Elevations: 2760.00 ft (KB)

Total Depth: 4368.00 ft (KB) (TVD)

2750.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 6651 Inside

Press@RunDepth: psig @ 4297.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.11.17 End Date: 2018.11.17

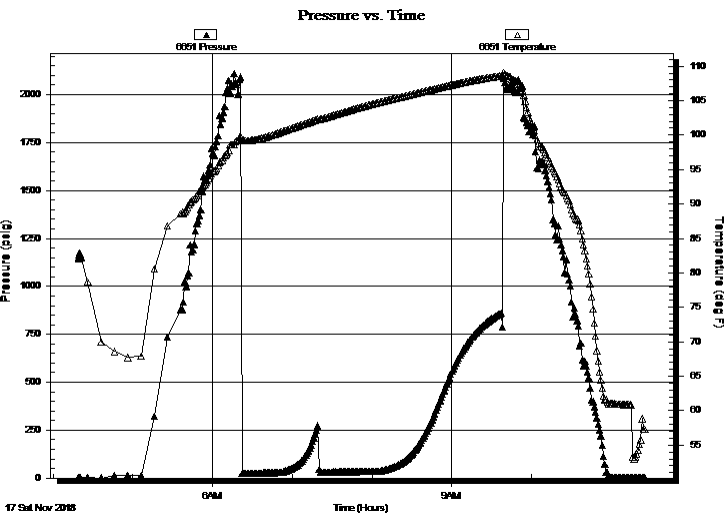
Last Calib.: 2018.11.17

Start Time: 04:19:14 End Time: 11:25:38

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: 1/4 blow built to 3.
IS: No return.
FF: 1/4 blow built to 1 1/2.
FS: No return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
31.00	ocm 10%o 90%m	0.43

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Shakespeare Oil Company

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64302

DST#: 7

ATTN: Aaron Young

Test Start: 2018.11.17 @ 04:19:08

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: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.19 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3600.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
31.00	ocm 10%o 90%m	0.435

Total Length: 31.00 ft Total Volume: 0.435 bbl

Num Fluid Samples: 0

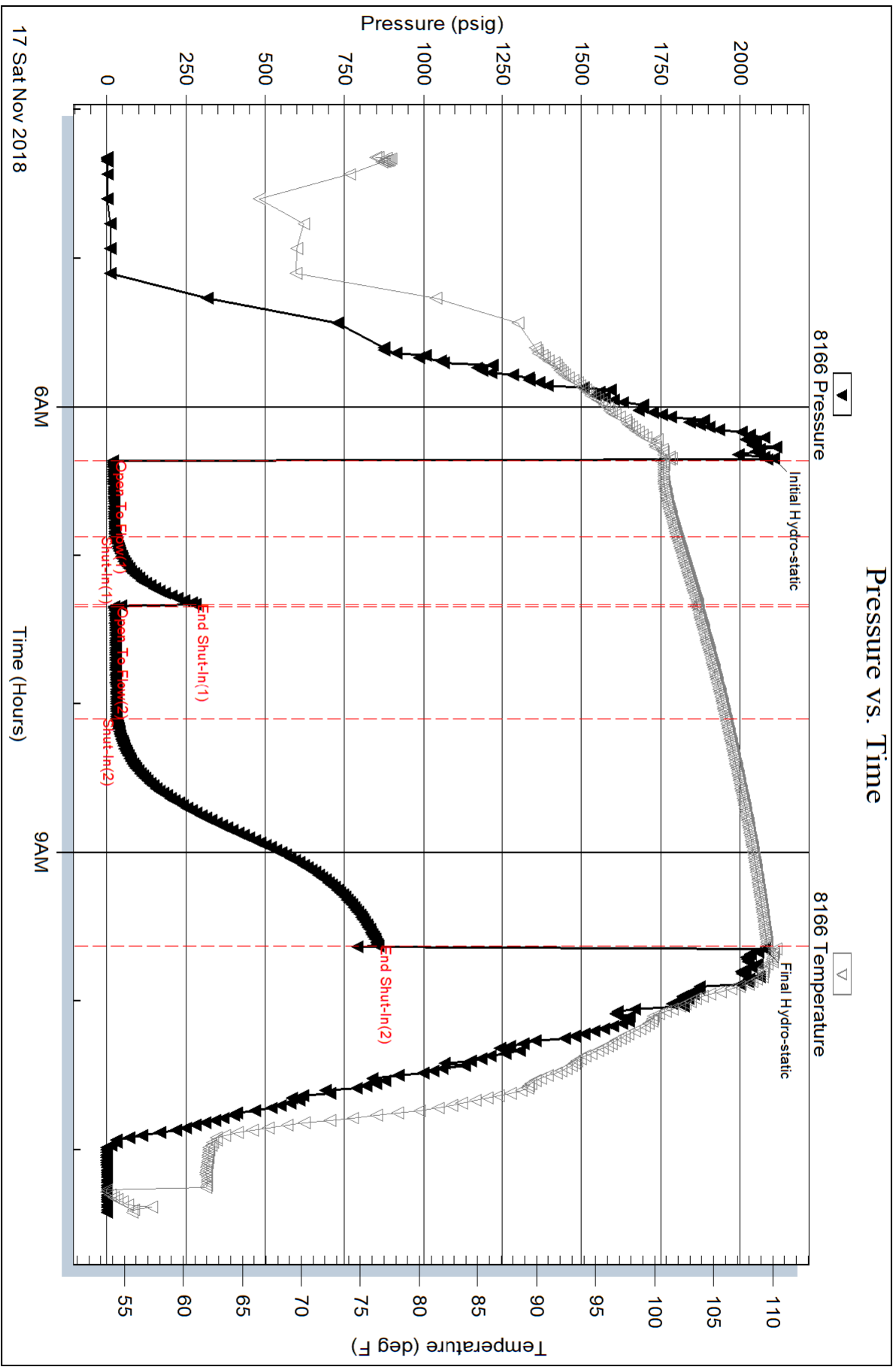
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



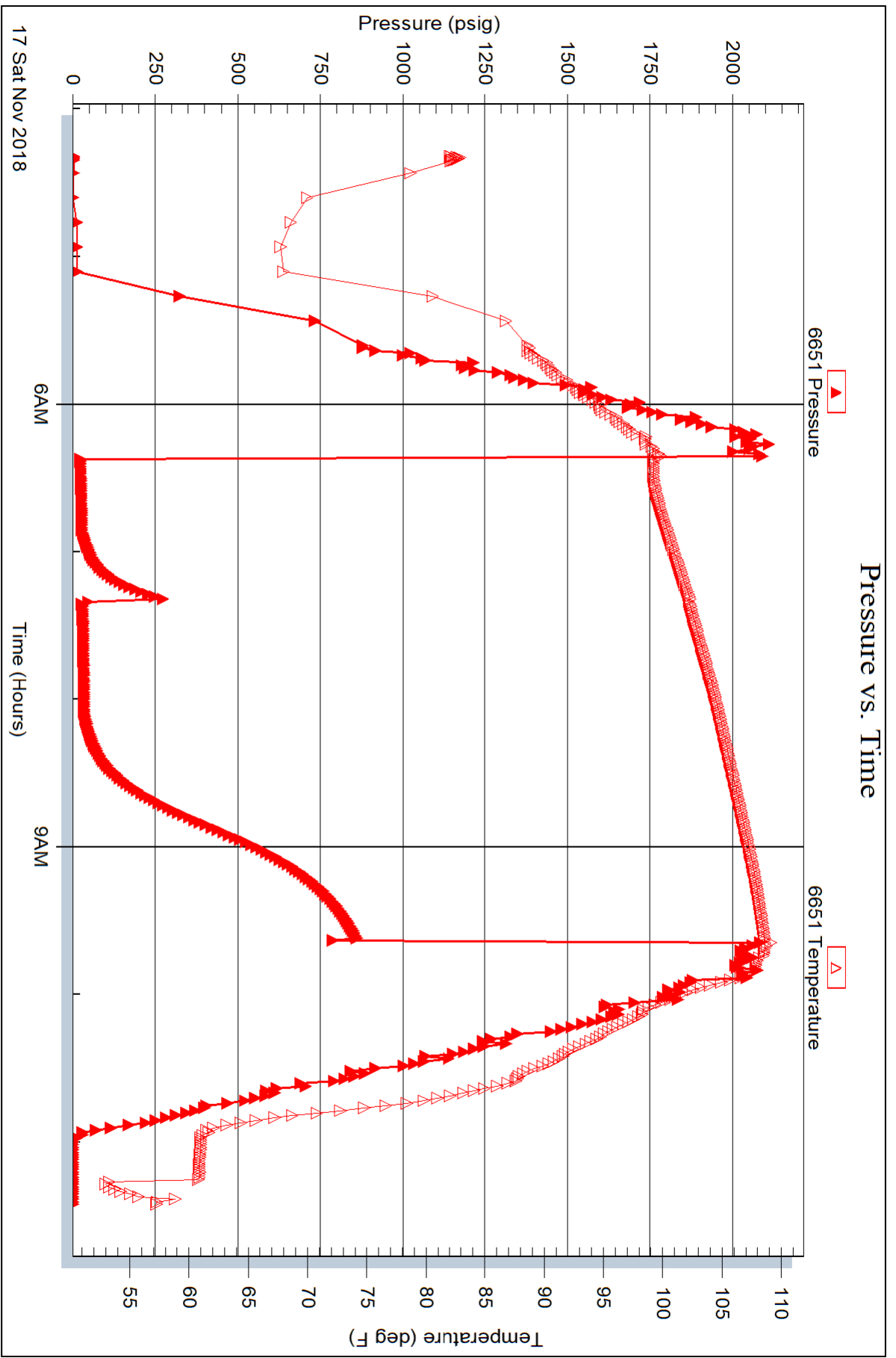
Serial #: 6651

Inside

Shakespeare Oil Company

Ottley 2-27

DST Test Number: 7





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Shakespeare Oil Company

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64303

DST#: 8

ATTN: Aaron Young

Test Start: 2018.11.17 @ 21:21:17

GENERAL INFORMATION:

Formation: **Morrow Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:08:17

Time Test Ended: 07:07:47

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: **4366.00 ft (KB) To 4405.00 ft (KB) (TVD)**

Reference Elevations: 2760.00 ft (KB)

Total Depth: 4405.00 ft (KB) (TVD)

2750.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: **8166** Outside

Press@RunDepth: 396.05 psig @ 4367.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.11.17

End Date:

2018.11.18

Last Calib.:

2018.11.18

Start Time: 21:21:22

End Time:

07:07:47

Time On Btm:

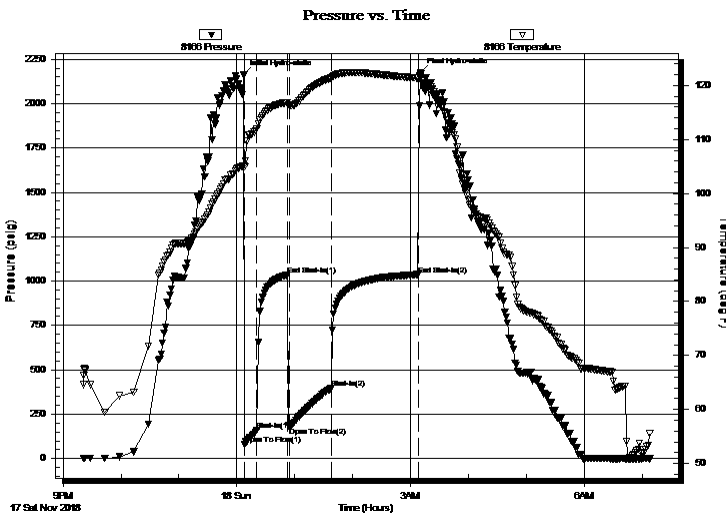
2018.11.18 @ 00:07:17

Time Off Btm:

2018.11.18 @ 03:09:47

TEST COMMENT: IF: BOB in 2 min. 68"
IS: BOB in 9 min. 26"
FF: BOB in 2 min. 161"
FS: BOB in 6 min. 96"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2160.43	105.16	Initial Hydro-static
1	82.48	104.89	Open To Flow (1)
14	157.50	112.02	Shut-In(1)
46	1035.28	116.79	End Shut-In(1)
47	176.56	116.44	Open To Flow (2)
91	396.05	121.41	Shut-In(2)
181	1036.84	121.33	End Shut-In(2)
183	2175.37	121.55	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
124.00	gocm 20%g 20%o 60%m	1.74
310.00	mcgo 10%g 80%o 10%m	4.35
248.00	mcgo 20%g 40%o 40%m	3.48
325.00	go 30%g 70%o	4.56
0.00	1101 GIP	0.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Shakespeare Oil Company

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64303

DST#: 8

ATTN: Aaron Young

Test Start: 2018.11.17 @ 21:21:17

GENERAL INFORMATION:

Formation: **Morrow Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:08:17

Time Test Ended: 07:07:47

Interval: **4366.00 ft (KB) To 4405.00 ft (KB) (TVD)**

Total Depth: 4405.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Reference Elevations: 2760.00 ft (KB)

2750.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 6651 Inside

Press@RunDepth: psig @ 4367.00 ft (KB)

Start Date: 2018.11.17 End Date: 2018.11.18

Start Time: 21:21:28 End Time: 07:07:53

Capacity: 8000.00 psig

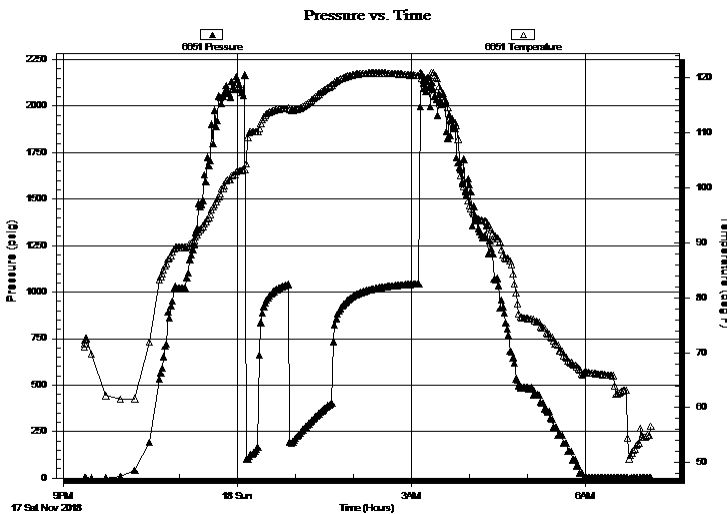
Last Calib.: 2018.11.18

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: BOB in 2 min. 68"
IS: BOB in 9 min. 26"
FF: BOB in 2 min. 161"
FS: BOB in 6 min. 96"

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
124.00	gocm 20%g 20%o 60%m	1.74
310.00	mcgo 10%g 80%o 10%m	4.35
248.00	mcgo 20%g 40%o 40%m	3.48
325.00	go 30%g 70%o	4.56
0.00	1101 GIP	0.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Shakespeare Oil Company

27-14-32 Logan, Ks

202 W Main St.
Salem, IL 62881

Ottley 2-27

Job Ticket: 64303

DST#: 8

ATTN: Aaron Young

Test Start: 2018.11.17 @ 21:21:17

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

33 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: 7.20 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
124.00	gocm 20%g 20%o 60%m	1.739
310.00	mcgo 10%g 80%o 10%m	4.348
248.00	mcgo 20%g 40%o 40%m	3.479
325.00	go 30%g 70%o	4.559
0.00	1101 GIP	0.000

Total Length: 1007.00 ft Total Volume: 14.125 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

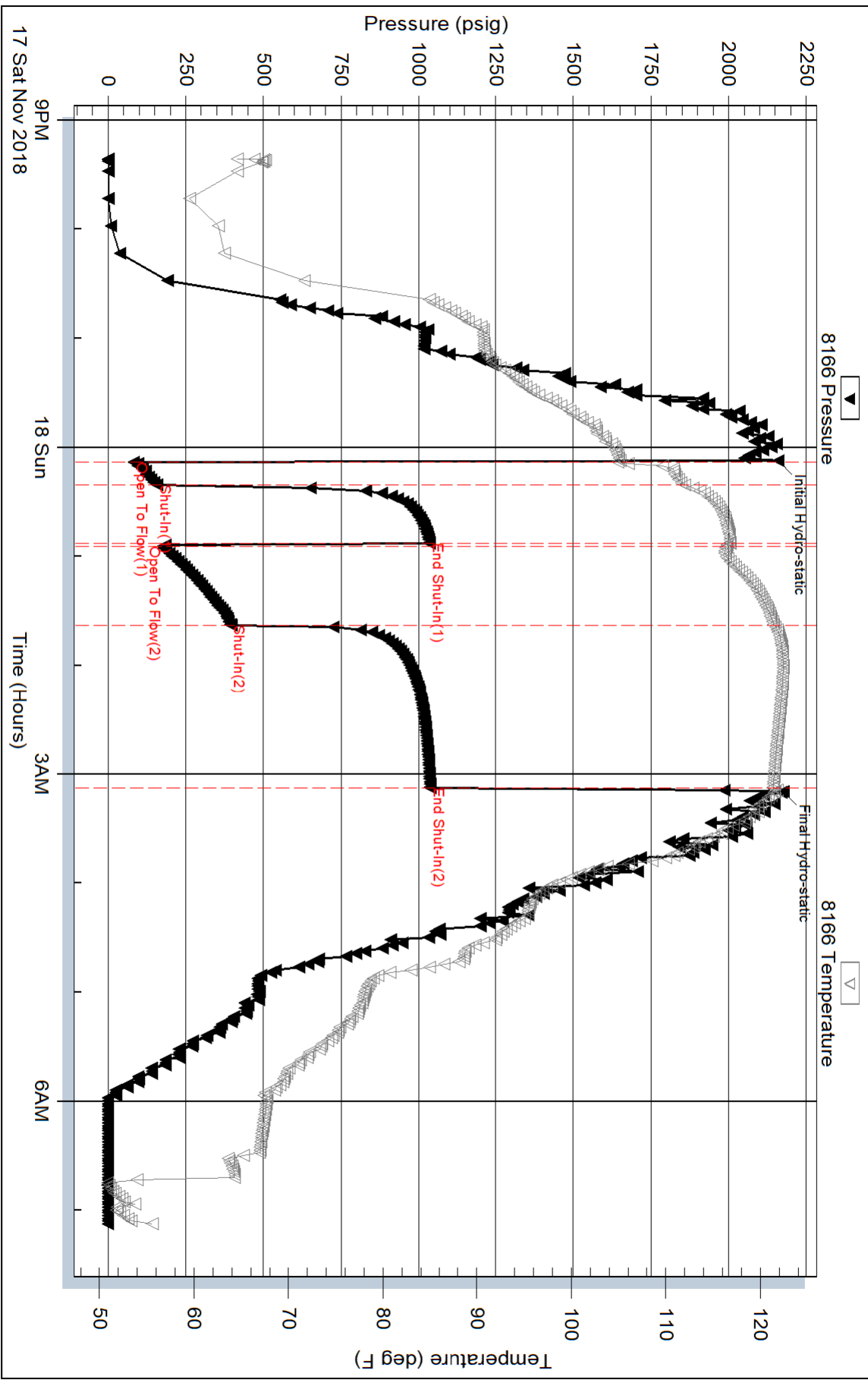
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 30@30=33

Pressure vs. Time



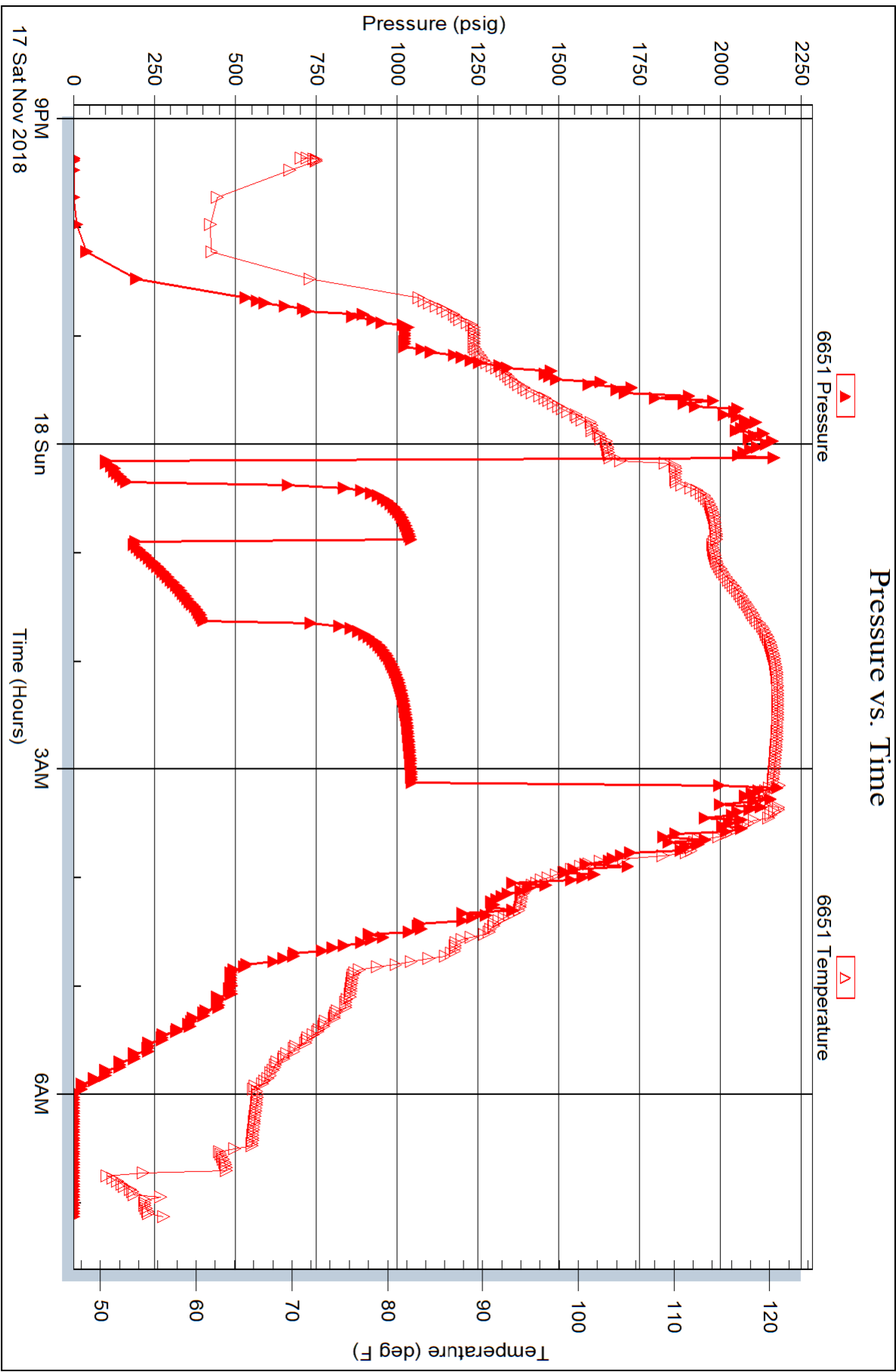
Serial #: 6651

Inside

Shakespeare Oil Company

Ottley 2-27

DST Test Number: 8



GLOBAL OIL FIELD SERVICES, LLC

Invoice

24 S. Lincoln
RUSSELL, KS 67665

Date	Invoice #
11/7/2018	0013188

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

INT

P.O. No.	Terms	Project
OTTLEY#2-27	Due on receipt	Cmt Surface Pipe

Quantity	Description	Rate	Amount
190	60/40 POZMIX CEMENT	14.02	2,663.80
6	CALCIUM-CHLORIDE	80.00	480.00
4	BENTONITE GEL	30.00	120.00
206	HANDLING	1.90	391.40
	BULK MILEAGE	750.00	750.00
1	TRI-PLEX PUMP CHARGE FOR SURFACE	850.00	850.00
25	HEAVY EQUIPMENT. ONE WAY	6.50	162.50
25	LMV- ONE WAY	2.75	68.75
	15% DISCOUNT IF PAID WITHIN 15 DAYS OF INVOICE new sales tax rate as of 7-1-2015	8.50%	0.00

RECEIVED
NOV 13 2018

*502-5
DH*

Thank you for your business.

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

Total \$5,486.45

DW

GLOBAL OIL FIELD SERVICES, LLC 0013188

REMIT TO 24 S. Lincoln
Russell, KS 67665

SERVICE POINT: Russell KS

DATE <u>11-6-18</u>	SEC <u>27</u>	TWP <u>15S</u>	RANGE <u>32W</u>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH <u>9:00PM</u>
LEASE <u>Ottley</u>	WELL # <u>2-27</u>	LOCATION <u>175 of Ottley, KS to Jayhawk RR</u>			COUNTY <u>Logan</u>	STATE <u>KS</u>	
OLD OR NEW (CIRCLE ONE)			<u>1W 1 South East TMC</u>				

CONTRACTOR Duke Drilling Co. Rig #14 OWNER Shakespeare Oil Co. Inc

TYPE OF JOB Surface

HOLE SIZE 12 1/4 T.D. 266

CASING SIZE 8 7/8 DEPTH 263'

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG. 25'

PERFS

DISPLACEMENT

CEMENT AMOUNT ORDERED 190 SX 60 / 90 PER

30LLC 2% GEL

COMMON @ _____

POZMIX @ _____

GEL @ _____

CHLORIDE @ _____

ASC @ _____

HANDLING @ _____

MILEAGE @ _____

TOTAL _____

EQUIPMENT

PUMP TRUCK CEMENTER Cody

49 HELPER Brad

BULK TRUCK DRIVER Kris

411

BULK TRUCK DRIVER

#

REMARKS:

Run bits of 8 7/8 casing + 1 1/2 hooked to

Rig broke circulation hooked to tank

+ pumped 190 SX of cement + displaced

1566 of 1120 and shut TMC

cement DID circulate to surface

SERVICE

DEPTH OF JOB _____

PUMP TRUCK CHARGE _____

EXTRA FOOTAGE @ _____

MILEAGE @ _____

MANIFOLD @ _____

_____ @ _____

_____ @ _____

TOTAL _____

CHARGE TO: Shakespeare Oil Co. Inc

STREET _____

CITY _____ STATE _____ ZIP _____

Global Oil Field Services, LLC

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

PRINTED NAME _____

SIGNATURE Hector Torres

PLUG & FLOAT EQUIPMENT

_____ @ _____

_____ @ _____

_____ @ _____

_____ @ _____

_____ @ _____

TOTAL _____

SALES TAX (If Any) _____

TOTAL CHARGES _____

DISCOUNT _____ IF PAID IN 30 DAYS

SWIFT



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



Invoice

DATE	INVOICE #
11/21/2018	31915

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

- Acidizing
- Cement
- Tool Rental

INT

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#2-27	Ottley	Logan	Wild West	Oil	Development	Squeeze	Gideon
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				80	Miles	5.00	400.00
578D-D	Pump Charge - Deep Squeeze (> 1500 Ft.)				1	Job	1,300.00	1,300.00
330	Swift Multi-Density Standard (MIDCON II)				220	Sacks	16.25	3,575.00T
276	Flocele				75	Lb(s)	2.50	187.50T
325	Standard Cement				50	Sacks	13.00	650.00T
278	Calcium Chloride				2	Sack(s)	40.00	80.00T
290	D-Air				3	Gallon(s)	42.00	126.00T
581D	Service Charge Cement				350	Sacks	1.75	612.50
583D	Drayage				1,382.12	Ton Miles	0.85	1,174.80
	Subtotal							8,105.80
	Sales Tax Logan County						8.00%	369.48

Port Colton
+ Squeeze
@ 2210'

RECEIVED
DEC 03 2018

502-5
DH

We Appreciate Your Business!	Total	\$8,475.28
-------------------------------------	--------------	------------

DW



TICKET 031915

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

PAGE 1 OF 1

SERVICE LOCATIONS 1. <i>Ness City, KS</i>	WELL/PROJECT NO. <i>2-27</i>	LEASE <i>Ottley</i>	COUNTY/PARISH <i>Logan</i>	STATE <i>KS</i>	CITY <i>Scott City</i>	DATE <i>11/21/2018</i>	OWNER
2.	TICKET TYPE <input checked="" type="checkbox"/> SERVICE <input type="checkbox"/> SALES	CONTRACTOR <i>Wild West</i>	RIG NAME/NO.	SHIPPED VIA <i>Tr</i>	DELIVERED TO <i>Location</i>	ORDER NO.	
3.	WELL TYPE <i>Oil</i>	WELL CATEGORY <i>Developments</i>	JOB PURPOSE <i>Squeeze</i>	WELL PERMIT NO.		WELL LOCATION <i>Scott City, 20-N, 1-W</i>	
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.	
<i>575</i>				MILEAGE			<i>5</i>	<i>80.00</i>	<i>400.00</i>
<i>578</i>				<i>TR #112</i>			<i>1</i>	<i>1300.00</i>	<i>1300.00</i>
<i>330</i>				<i>Pump Charge</i>			<i>16</i>	<i>25.00</i>	<i>3575.00</i>
<i>276</i>				<i>SMD</i>			<i>2</i>	<i>187.50</i>	<i>375.00</i>
<i>325</i>				<i>Flocele</i>			<i>80</i>	<i>13.00</i>	<i>1040.00</i>
<i>278</i>				<i>Standard Cement</i>			<i>2</i>	<i>40.00</i>	<i>80.00</i>
<i>290</i>				<i>Calcium Chloride</i>			<i>3</i>	<i>42.00</i>	<i>126.00</i>
				<i>D-Air</i>					
<i>581</i>				<i>Service Charge Cement</i>			<i>1</i>	<i>612.50</i>	<i>612.50</i>
<i>583</i>				<i>Dayage</i>			<i>0</i>	<i>1179.00</i>	<i>0.00</i>
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.					SWIFT SERVICES, INC. P.O. BOX 466 NESS CITY, KS 67560 785-798-2300				
DATE SIGNED <i>11/21/2018</i> TIME SIGNED <i>5:00</i>					SURVEY				
<input checked="" type="checkbox"/> A.M. <input checked="" type="checkbox"/> P.M.					OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?				
					WE UNDERSTOOD AND MET YOUR NEEDS?				
					OUR SERVICE WAS PERFORMED WITHOUT DELAY?				
					WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?				
					ARE YOU SATISFIED WITH OUR SERVICE? <input type="checkbox"/> YES <input type="checkbox"/> NO				
					OUR CUSTOMER DID NOT WISH TO RESPOND				
					TOTAL				

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

SWIFT OPERATOR *Sharon Fuchs* APPROVAL

Thank You!

JOB LOG

SWIFT Services, Inc.

DATE 11/21/2008 PAGE NO. 1

CUSTOMER Shakespeare Oil + Gas WELL NO. 2-27 LEASE Otley JOB TYPE Squeeze TICKET NO. 031915

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1400 1400							On Location 2 3/8" 4 1/2" TP: 1920 Perfs: 2210
	1430				✓		500	Pressure Test BS *Release*
	1435	3 1/4	2	✓		600		Injection Rate
	1445	3 1/2	0	✓		500		Mix SMD Cement 1/4 Flo @ 11.2ppg
		3 1/2	20	✓		500		"
		3 1/2	100	✓		500		Circulate Cement to Surface
		3 1/2	110	✓		0		Finish SMD + Switch to Standard Cement
	1510	3 1/2	10	✓		300		Mix 50 stks of Standard Cement 3 1/2 CC @ 15.5ppg
	1530							Wash Pump + Lines
	1540	3 1/2	9.5	✓		800		Displace Cement
	1545	0		✓		400		KO Pump ISIP: 400
	1550							Wash up Truck
	1605	1/2	1/2	✓		550		Pump 1/2 bbl water in 8 5/8" KO Pump wait 15 min
	1620	1/2	1/2	✓		675		Pump 1/2 bbl water in 8 5/8" [started w/300]
	1630			✓		600		ISIP: 600
	1645							Job Complete 220 stks of SMD used *40 to Pit* 50 stks of Standard 3 1/2 CC used
								Thank You
								Gideon, Wayne, Preston, Russell

SWIFT



Services, Inc.

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



Invoice

DATE	INVOICE #
11/19/2018	31914

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

- Acidizing
- Cement
- Tool Rental

INT

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#2-27	Ottley	Logan	Duke Drlg Rig #4	Oil	Development	Longstring	Gideon
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				80	Miles	5.00	400.00
578D-L	Pump Charge - Long String				1	Job	1,300.00	1,300.00
280	Flocheck 21				500	Gallon(s)	3.50	1,750.00T
221	Liquid KCL (Clayfix)				2	Gallon(s)	25.00	50.00T
325	Standard Cement				225	Sacks	13.00	2,925.00T
284	Calseal				11	Sack(s)	35.00	385.00T
283	Salt				1,200	Lb(s)	0.20	240.00T
292	Halad 322				210	Lb(s)	8.00	1,680.00T
276	Flocele				25	Lb(s)	2.50	62.50T
419-4	4 1/2" Rotating Head Rental				1	Each	200.00	200.00T
277	Gilsonite (Coal Seal)				1,575	Lb(s)	0.85	1,338.75T
581D	Service Charge Cement				225	Sacks	1.75	393.75
583D	Drayage				1,010	Ton Miles	0.85	858.50
	Subtotal							11,583.50
	Sales Tax Logan County						8.00%	690.50

RECEIVED
NOV 26 2018

502-5
DH

We Appreciate Your Business!

Total

\$12,274.00

DW



CHARGE TO: Shakespeare O/I + Gas
 ADDRESS
 CITY, STATE, ZIP CODE

PAGE 1 OF 2

TICKET 031914

1. SERVICE LOCATIONS <u>Ness City, KS</u>	WELL/PROJECT NO. <u>2-27</u>	LEASE <u>Ottley</u>	COUNTY/PARISH <u>Logan</u>	STATE <u>KS</u>	CITY <u>Scott City</u>	DATE <u>11/19/15</u>	OWNER
2. TICKET TYPE <input checked="" type="checkbox"/> SERVICE <input type="checkbox"/> SALES	CONTRACTOR <u>Duke</u>	RIG NAME NO. <u>4</u>	SHIPPED VIA <u>CT</u>	DELIVERED TO <u>Location</u>	WELL PERMIT NO.	ORDER NO.	
3. WELL TYPE <u>Oil</u>	WELL CATEGORY <u>Development</u>	JOB PURPOSE <u>Longstring</u>	WELL LOCATION <u>Soft City, 24 mi - N</u>				
4. REFERRAL LOCATION	INVOICE INSTRUCTIONS						

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING		DESCRIPTION	QTY. U/M		QTY. U/M		UNIT PRICE	AMOUNT
		LOC	ACCT		DF					
576				MILEAGE T/R #112			80	mi	5.00	400.00
578				Pump Charge - Longstring			1	job	1300.00	1300.00
280				Flocherk 24			500	gal	3.50	1750.00
221				Liquid HCL			2	gal	25.00	50.00
326				Standard Cement			205	skt	13.00	2665.00
284				Calsed			11	skt	35.00	385.00
283				Salt			1200	lbs	0.20	240.00
210				Water			800	lbs	0.20	160.00

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS.
 X Hector Jones
 DATE SIGNED 11/19/15 TIME SIGNED 6:45 A.M. P.M.

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

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

PAGE TOTAL 1
 TOTAL 12241.00

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

Thank You!



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

TICKET CONTINUATION

TICKET No. 031914

CUSTOMER Shakespeare Oil & Gas

WELL 2-27

DATE 11/19/2018

PAGE 2 OF 2

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			TIME	DESCRIPTION	WELL				UNIT PRICE	AMOUNT	
		LOC	ACCT	DE			QTY.	UM	QTY.	UM			
292						Hold 322					8	1680	
276						Flange					25	62	50
419						Rotating Head Rental	4 1/2	in	1	ea	200	200	
277						Coal Seal			1575	lbs	0	1338	75
581						SERVICE CHARGE			225		1	393	75
583						MILEAGE CHARGE			80		0	858	52
						TOTAL WEIGHT			1610				
						LOADED MILES			80				
						CUBIC FEET			225				
						TON MILES			1610				

CONTINUATION TOTAL 4,533.52

JOB LOG

SWIFT Services, Inc.

DATE 11/19/2018 PAGE NO. 1

CUSTOMER WELL NO. 2-27 LEASE Otley JOB TYPE Longstring TICKET NO. 031914

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1400							On Location 4 1/2" 11.6 # RTD: 4485 LTD: 4477 TP: 4484 SJ: 42.15 PC: 1585
	1600							Drop Ball + Circulate
	1705	6	15		✓		0	Pump 15bbl KCL Spacer
		6	12		✓		0	Pump 500gal Flocheck 21
		6	5		✓		0	Pump 5bbl KCL Spacer
	1715	4 1/2	7		✓		0	Plug RH - 30 sks [No MH]
	1720	4 1/2	54		✓		200	Mix 225 sks of EA-2 @ 15.5 ppq
	1735							Start Wash out Pump + Lines Release Plug
	1740	6 1/2	0		✓		300	Start Displacement
		6 1/2	46		✓		500	lift Pressure
		5 1/2	67		✓		900	Max lift Pressure
	1755	5	68.8		✓		1600	Land Latch down Plug
								Release Pressure * Hold *
	1810							Wash-up Truck
								Job Complete
								Thank You
								Gideon, Preston Isaac