



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

**Well Name:** WELLS  
**Well Id:** #2-27  
**Location:** 1540' FSL, 1360' FWL, SW/4 Sec 27-T16S-R35W, Wichita County, Kansas  
**License Number:** API: 15-203-20394 **Region:** Wichita County  
**Spud Date:** 11/06/2024 **Drilling Completed:** 11/18/2024  
**Surface Coordinates:** NAD83  
**Lat:** 38.6315408; **Long:** -101.1790208  
**Bottom Hole Coordinates:** Vertical hole  
**Ground Elevation (ft):** 3197' **K.B. Elevation (ft):** 3206'  
**Logged Interval (ft):** 3800' **To:** RTD **Total Depth (ft):** 4897'  
**Formation:** Mississippian at RTD  
**Type of Drilling Fluid:** Chemical

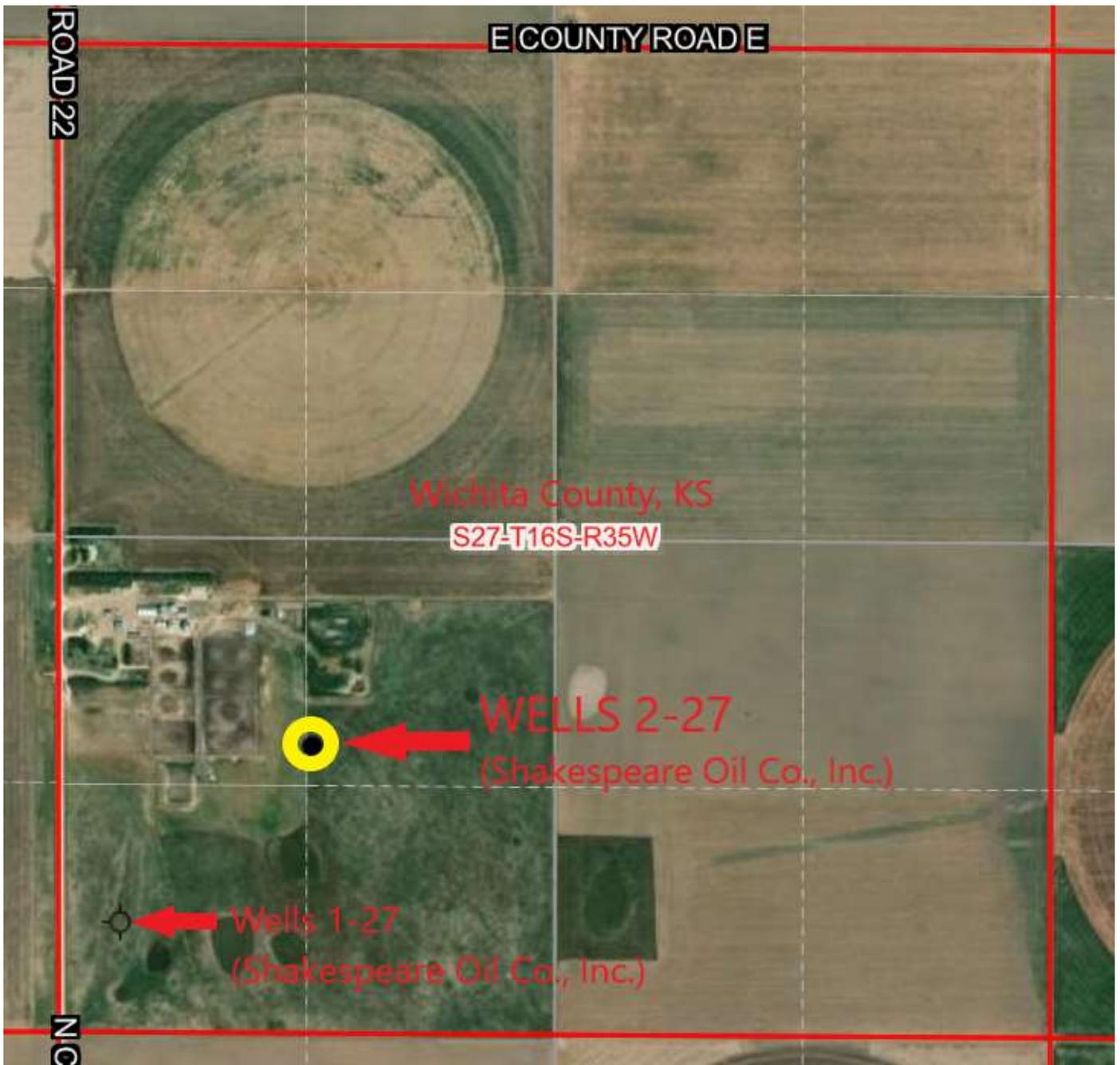
Printed by MudLog from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

**OPERATOR**

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

**WELLSITE GEOLOGIST**

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



#### COMMENTS

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

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

Tool Pusher: Hector Torres, 620-682-3927 (cell).

Surface Casing: 8 5/8" set at 236' (KB) w/175sx cement.

Production Casing: Based on field observations of drill cuttings, DST results and electric log evaluation, the well was converted to a saltwater disposal well and 5.5" production casing was installed.

Mud by: Mud-Co/Service Mud, Inc.; Justin Whiting, 620-214-3630 (cell); Gary Schmidtberger, 785-259-2757 (cell); Reid Atkins 785-694-3741 (cell).

DST's by: Trilobite Testing; Spencer Staab, 785-259-0056 (cell).

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

RTD= 4897'

LTD= 4898'

## FORMATION TOPS

FORMATION	SAMPLE TOPS		LOG TOPS	
	Depth	Datum	Depth	Datum
Stotler	3617'	-411	3620'	-414
Heebner Shale	3988'	-782	3990'	-784
Lansing	4032'	-826	4034'	-828
Muncie Creek Shale	4200'	-994	4204'	-998
Stark Shale	4298'	-1092	4299'	-1093
Hushpuckney Shale	4346'	-1140	4348'	-1142
Base of KC	4390'	-1184	4390'	-1184
Marmaton	4450'	-1244	4452'	-1246
Pawnee	4524'	-1318	4526'	-1320
Myrick Station	4565'	-1359	4566'	-1360
Fort Scott	4578'	-1372	4580'	-1374
Cherokee Shale	4606'	-1400	4608'	-1402
Johnson	4669'	-1463	4673'	-1467
Morrow	4742'	-1536	4743'	-1537
Mississippian	4808'	-1602	4808'	-1602
RTD	4897'	-1691		
LTD			4898'	-1692

## ROCK TYPES

### LITHOLOGY

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

	Sitysh
	Sdy dolo
	Silty dolo
	Shy dolo
	Shaly ls

### FOSSIL

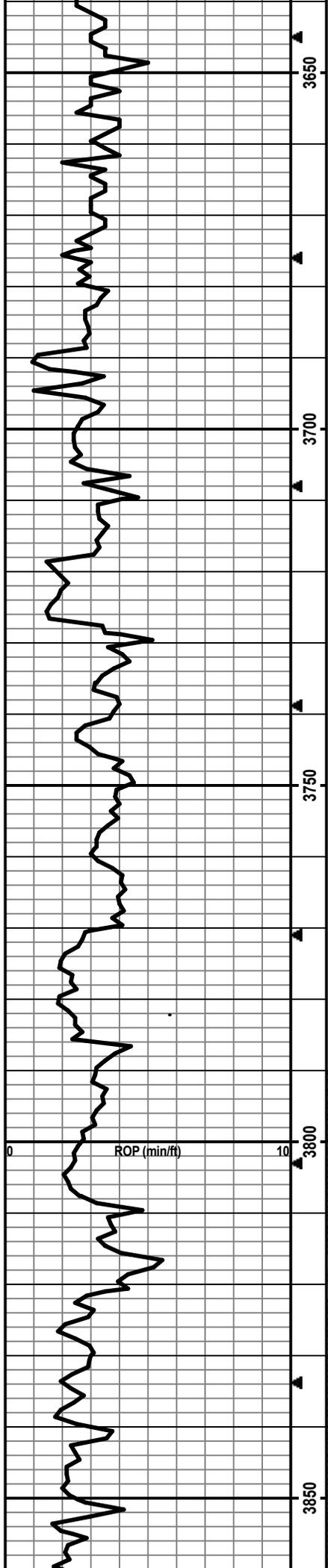
	Algae
	Amph
	Belm
	Bioclst
	Brach
	Bryozoa
	Cephal
	Coral
	Crin
	Echin
	Fish
	Foram
	Fossil
	Gastro
	Oolite

### 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
	<p>34</p> <p>3500</p> <p>3550</p> <p>3600</p>				<p><b>Morning Report Depth/Activity (7:00 am)</b>  11/06/2024: MIRU, spud @ 05:15pm. Set surface casing @ 237'.  11/07: WOC.  11/08: Drilling @ 1220'.  11/09: Drilling @ 2400'.  11/10: Drilling @ 3410'.  11/11: Drilling @ 4230'.  11/12: Drilling @ 3989'.  11/13: CFS @ 4101'.  11/14: CFS @ 4230'.  11/15: TH w/tool for DST #5 @ 4315'.  11/16: CFS and working on mud pump @ 4486'.  11/17: Drilling @ 4555'.  11/18: Drilling @ 4740'. Reached 4897' TD @ 10:13pm.  11/19: Electric logged.</p> <p><b>Anhydrite:</b>  Drill Time (ROP) Top @ 2484' (+722), Base @ 2505' (+701).  E-Log Top @ 2484' (+722), Base @ 2504' (+702).</p> <p>ROP Data begins @ 3500' on 11/10/2024. Recorded from drillers geograph record, and geologist's auto-reader switch on geograph.</p>	<p>Mud-Co/Service Mud Inc. Check #1 @ 0' 11/05/24, predrilling instructions.</p> <p>Mud-Co/Service Mud Inc. Check #2 @ 237' 11/07/24 08:45am  No mud parameters taken. Rig WOC.</p> <p>Mud-Co/Service Mud Inc. Check #3 @ 1329' 11/08/24 08:40am  wt vis pH chl  9.0 28 7.0 890  Filt LCM  n/c 2</p> <p>Mud-Co/Service Mud Inc. Check #4 @ 2597' 11/09/24 12:10pm  wt vis pH chl  9.7 29 7.0 29000  Filt LCM  n/c 2</p> <p>Mud-Co/Service Mud Inc. Check #5 @ 3457' 11/10/24 08:30am  wt vis pH chl  9.7 29 7.0 31000  Filt LCM  n/c 2</p> <p><b>Displaced drilling mud @ 3457-3465'.</b></p> <p><b>Bit Trip @ 3548'</b>  conn; replaced PDC bit with Tricone bit.</p> <p><b>Pipe strap TOH for Bit Trip @ 3548'</b>  was 2.31' long to the board.</p> <p>Mud-Co/Service Mud Inc. Check #6 @ 3805' 11/11/24 06:15am  wt vis pH chl  8.8 56 11 8200  Filt LCM  5.8 2</p> <p>Mud-Co/Service Mud Inc. Check #7 @ 4050' 11/12/24 11:50am  wt vis pH chl  9.0 54 11 9100  Filt LCM  10 2</p> <p>Mud-Co/Service Mud Inc. Check #8 @ 4135' 11/13/24 10:25am  wt vis pH chl  9.0 57 11 10500  Filt LCM  6.8 2</p> <p>Mud-Co/Service Mud Inc. Check #9 @ 4260' 11/14/24 09:45am  wt vis pH chl  9.2 58 11.5 11800  Filt LCM  10 2</p>



Geologist on location @ 3654', 11/10/2024.

Mud-Co/Service Mud Inc. Check #10 @4315' 11/15/24 10:15am  
wt vis pH chl  
9.2 59 11 9000  
Filt LCM  
9.6 2

Mud-Co/Service Mud Inc. Check #11 @4491' 11/16/24 09:10am  
wt vis pH chl  
9.1 63 11.5 10000  
Filt LCM  
8.0 2

Mud-Co/Service Mud Inc. Check #12 @4570' 11/17/24 09:00am  
wt vis pH chl  
9.2 67 10 11000  
Filt LCM  
9.6 2

Mud-Co/Service Mud Inc. Check #13 @4708' 11/18/24 04:10am  
wt vis pH chl  
9.4 67 9 10000  
Filt LCM  
10.4 1

**Survey Record**

Deg @ Ft  
0.00 @ 237'  
0.75 @ 836'  
0.75 @ 1181'  
0.25 @ 1682'  
0.75 @ 2180'  
0.75 @ 2681'  
0.50 @ 3550'  
0.50 @ 4260'  
0.50 @ 4897'

Formation tops and lithologies have been adjusted to correlate to the electric log.

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

NOTE: RED TEXT INDICATES THE PRESENCE OF OIL.

Drill cutting samples at 10' intervals start at 3800'.

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

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

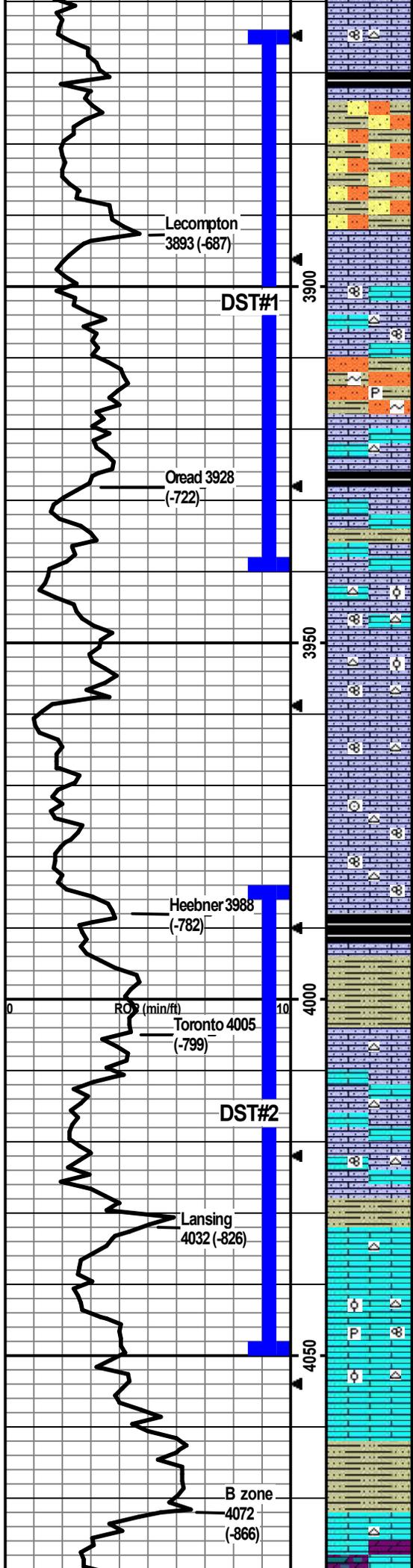
LS: cm/lt bm/lt-m gry, vf-m xtal, vry silty/sndy/arg, chalky, foss frags/crin/fusln/ool, no vis por, no odor, ns.  
SH: lt-dk gry/red-brn, silty/sndy, carb, soft-firm. SS: lt gry/lt red-brn, vf-f, sr-wr, arg, carb matrix, soft, friable, no odor, ns.

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

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

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

LS: cm/min lt bm/min lt gry, vf-f xtal, silty/sndy, chalky, min dolo, min wht tripolitic chert, foss frags, min vf-f dolo in-xtal por, no odor, ns.



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

SH: lt-dk gry/blk, some silty/sndy, carb, soft-firm. Some Sltstn/SS, lt gry, vf-f, sr-wr, arg, carb, friable, no odor, ns.

SH: lt-dk gry/blk/red-bm, vry silty/sndy, carb, soft-firm. SS/Sltstn: lt gry, vf-f, sr-wr, arg, carb, friable, no odor, ns.

LS: cm/lt bm/lt-m gry, vf-m, silty/sndy/arg, chalky, foss frags, 4 pcs w/sfo w/vf-f in-xtal por, slt cup sheen, dul yel fluor, no odor, sfo.

LS: cm/lt bm/min lt gry, micro-m xtal, some silty/sndy, chalky, wht foss chert, foss frags/fusln, 26 pcs w/sfo w/vf-m in-xtal por, slt cup sheen, dul yel fluor, no odor, sfo.

SH: lt-dk gry, vry silty/sndy, glauc, pyrite, carb, soft-firm. Sltstn: lt gry, vf, arg, glauc, carb, friable, no odor, ns. (LS show from above, slt rainbow on cup water.)

LS: cm/lt bm/min lt gry, vf-m xtal, some silty/sndy, chalky, min wht chert, foss frags, 16 pcs w/sfo w/vf-f in-xtal por, slt cup sheen, dul yel fluor, no odor, sfo.

LS: cm/lt bm/min lt gry, micro-m xtal, some silty/sndy, chalky, foss frags, 22 pcs w/sfo w/ppt-f in-xtal por, slt cup sheen, no fluor, no odor, sfo.

LS: cm/lt bm, micro-m xtal, chalky, some silty/sndy, gd amt wht foss chert, foss frags/fusln/dense ool, 4 pcs w/blk tar/min fo, vf-f in-xtal por, no fluor, no odor, sfo.

LS: cm/lt bm/lt gry, vf-m xtal, silty/sndy, some chalky, wht foss chert, foss frags/fusln/dense ool, 4 pcs w/sfo/blk tar, vf-f in-xtal por, no fluor, no odor, sfo.

LS: cm/lt bm/lt gry, micro-m xtal, chalky, silty/sndy, wht chert, foss frags/fusln, 6 pcs w/mostly blk tar/min fo, vf-f in-xtal por, no fluor, no odor, slt sfo.

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

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

SH: blk, slt carb, firm, fissile.

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

LS: wht/cm/lt bm/lt gry, vf-m xtal, silty/sndy, chalky, min wht chert, foss frags, 7 pcs w/sfo w/vf-f in-xtal por, dul yel fluor, no odor, sfo.

LS: wht/cm/lt bm/lt gry, micro-m xtal, some chalky, some silty/sndy, wht chert, foss frags, 45 pcs w/sfo/staining w/vf-crs in-xtal por, dul yel fluor, no odor, gd sfo.

LS: wht/cm/lt bm, micro-m xtal, some chalky, some silty/sndy, wht chert, foss frags/min fusln, 13 pcs w/sfo w/vf-f in-xtal por, dul yel fluor, no odor, sfo.

LS: wht/cm, micro-f xtal, some chalky, wht chert, min foss frags, 24 pcs w/sfo w/vf-m in-xtal por, slt sheen on cup water, no fluor, no odor, sfo.

LS: wht/cm/lt bm/min lt gry, micro-m xtal, some chalky, wht chert, min pyrite, foss frags/fusln/ool, 18 pcs w/sfo, min chalk w/blk tar, vf-m in-xtal/in-ool por, no fluor, no odor, sfo.

LS: cm/min lt gry, micro-m xtal, min chalky, wht chert, min foss frags/ool, 4 pcs w/staining/sfo/blk tar, vf-m in-xtal/in-ool por, no fluor, no odor, sfo.

SH: lt-m gry/blk/red-bm/lt gry-green, some vry silty, carb, soft-firm.

LS: wht/cm, micro-m xtal, min chalky, min wht chert, min foss frags, 41 pcs w/mostly tar/min fo, vf-crs in-xtal por, no fluor, no odor, sfo.

LS: wht/cm/lt bm/lt gry, micro-m xtal, some chalky, lt gry/lt bm sucrosic dolo,

**DST1) 3864-3940  
Lecompton &  
Oread**

15/30/30/30  
1st) Blow built to 4.75"; No BB.  
2nd) Blow built to 6.25"; No BB.  
IFP 17-41#  
ISIP 1074#  
FFP 42-77#  
FSIP 1046#  
HP 1852-1840#  
Recvd: 80' Mud w/oil spots (100%M).

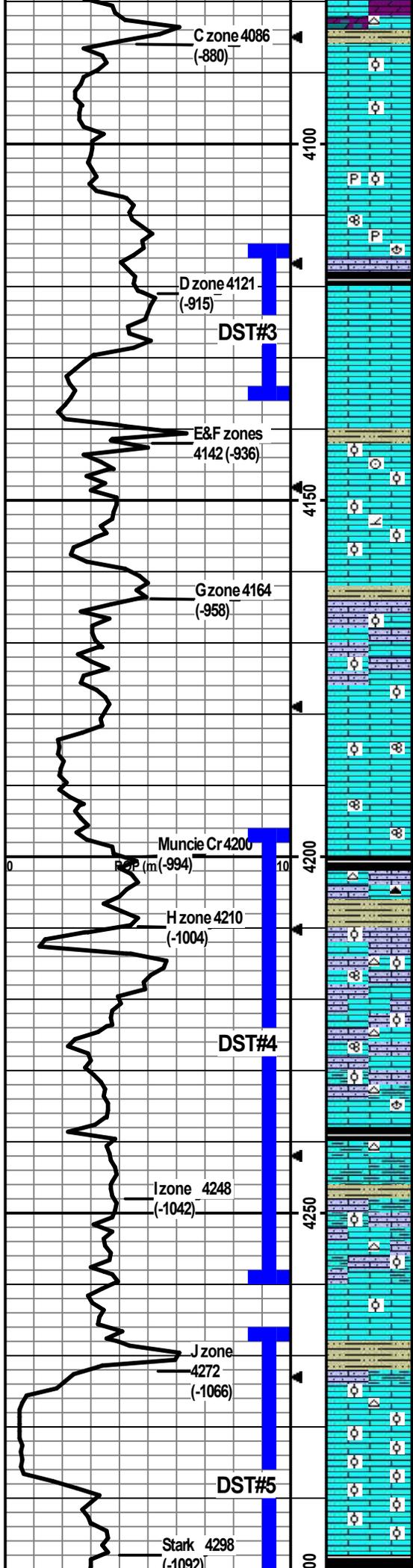
CFS @ 3940'  
Stop/30"/60"

**DST2) 3984-4050  
Toronto & Lansing  
A-zone**

15/30/30/40  
1st) Blow built to 5.75"; No BB.  
2nd) Blow built to 8"; No BB.  
IFP 21-48#  
ISIP 1068#  
FFP 51-95#  
FSIP 1025#  
HP 1927-1926#  
Recvd: 170' Total Fluid; 40' Mud w/oil spots-tarry (100%M), 60' WM (5%W, 95%M), 70' WM (15%W, 85%M).

CFS @ 4020'  
Stop/30"/60"

CFS @ 4050'  
Stop/30"/60"



C zone 4086 (-880)

D zone 4121 (-915)

E&F zones 4142 (-936)

G zone 4164 (-958)

Muncie Cr 4200 BOP (m) (-994)

H zone 4210 (-1004)

I zone 4248 (-1042)

J zone 4272 (-1066)

Stark 4298 (-1092)

DST#3

DST#4

DST#5

min wht chert, min foss frags, 17 pcs w/mostly tar/min fo, vf-m in-xtal por, no fluor, no odor, sfo.

LS: wht/cm/min lt bm, micro-m xtal, some chalky, min foss frags/ool, ~5% of smpl w/mostly tar/some fo, vf-crs in-xtal por, no fluor, no odor, sfo.

LS: same as above w/27 pcs w/tar/sfo.

LS: wht/cm/lt bm, micro-m xtal, some chalky, min pyrite, foss frags/min ool, 15 pcs w/mostly tar/min fo, vf-m in-xtal por, no fluor, no odor, sfo.

LS: wht/cm/lt bm, micro-m xtal w/crs 2dry xtal, chalky, min silty/sndy, min pyrite, min foss frags/fusln/brac, 14 pcs w/mostly tar/min fo, vf-m in-xtal por, no fluor, no odor, sfo.

LS: cm/lt bm/min lt gry, micro-m xtal, some chalky, min foss frags, 36 pcs w/sfo, ppt-crs in-xtal por, no fluor, gd odor, sfo.

LS: cm/lt-m bm/lt gry, vf-m xtal/crs 2ndry xtal, some chalky, min foss frags, 29 pcs w/sfo, ppt-crs in-xtal por, no fluor; sheen on smpl water, gd odor, sfo.

LS: wht/cm/lt bm, micro-m xtal, some chalky, foss frags/crin/ool, 7 pcs w/sfo w/vf-f in-xtal/in-ool por, no fluor, no odor, sfo.

LS: wht/cm, micro-m xtal, some chalky, min dolo, foss frags/ool, 8 pcs w/sfo/some tar, vf-f in-xtal por, no fluor, no odor, sfo.

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

LS: wht/cm/lt gry/min lt bm, micro-m xtal/2ndry crs xtal, min silty/sndy, some chalky, foss frags/ool, min vf-m in-xtal/in-ool por, no odor, ns.

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

LS: wht/cm/lt gry, micro-crs xtal, some chalky, foss frags/fusln, f-crs in-xtal por, no odor, ns.

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

LS: cm/lt gry/lt bm, micro-crs xtal, some chalky, some silty/sndy, min dk bm/gry chert, 4 pcs w/stain/sfo, ppt-f in-xtal por, no fluor, slit odor, slit sfo.

LS: cm/lt bm/lt gry, micro-m xtal, chalky, some silty/sndy, wht/cm chert, foss frags/fusln/ool, 26 pcs w/sfo, vf-m in-xtal/in-ool por, dul yel fluor, slit odor, sfo.

LS: cm/lt bm/lt gry, micro-m xtal, some chalky, some silty/sndy, wht chert, foss frags/fusln/ool, 19 pcs w/sfo, vf-m in-xtal/in-ool por, dul yel fluor, slit odor, sfo.

LS: cm/lt bm/lt gry, micro-m xtal, some chalky, some silty/arg, wht/lt gry chert, foss frags/ool/brac, 6 pcs w/sfo, ppt-m in-xtal por, dul yel fluor, slit odor, sfo.

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

LS: cm/lt-m bm/lt gry, micro-m xtal, some chalky, some arg, min wht chert, foss frags, 4 pcs w/sfo, vf-m in-xtal por, slit odor, sfo.

LS: cm/lt-m bm/lt gry, micro-m xtal, chalky, some silty/arg, min wht/gry chert, foss frags/ool, 14 pcs w/stain/sfo, ppt-f in-xtal/in-ool/frac por, dul yel fluor, slit odor, sfo.

LS: cm/lt-m bm/lt gry, micro-m xtal, chalky, foss frags/min ool, 13 pcs w/sfo, ppt-f in-xtal por, dul yel fluor, slit odor, sfo.

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

LS: wht/cm/lt bm/lt gry, micro-m xtal, min silty/arg, chalky, min wht chert, foss frags/ool, 13 pcs w/sfo, vf-f in-xtal/in-ool por, dul yel fluor, slit odor, sfo.

LS: wht/cm/lt bm, micro-m xtal, min chalky, foss frags/abund ool, 10-15% of smpl w/sfo, f-crs/vug in-xtal/in-ool/oo-castic por, dul yel fluor, fo on cup water, stg odor, sfo.

LS: as above, 5-10% of smpl w/stain/sfo, fo on cup water, stg odor, sfo.

CFS @ 4085 Stop/30"/60"

CFS @ 4101 Stop/30"/60"

**DST3) 4115-4135 Lansing D-zone**

15/30/30/30  
1st) Blow built to 1"; No BB.  
2nd) Blow built to 1"; No BB.  
IFP 13-23#  
ISIP 1073#  
FFP 25-36#  
FSIP 1043#  
HP 2010-1940#  
Recvd: 30' Mud (100%M).

CFS @ 4135 Stop/30"/60"

CFS @ 4155 Stop/30"/60"

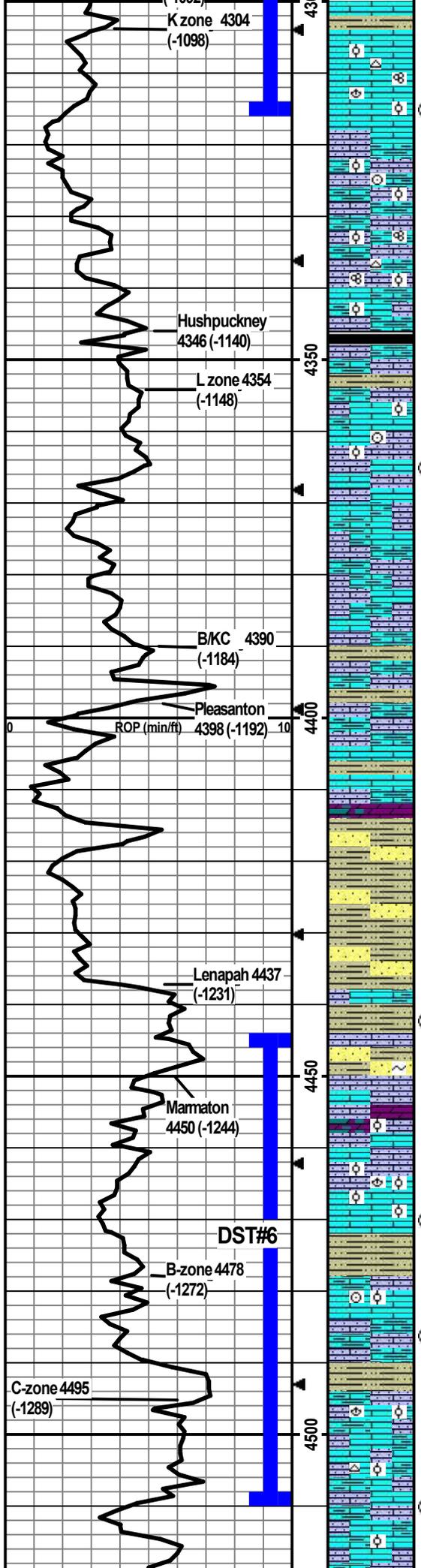
**DST4) 4196-4260 Lansing H & I-zones**

15/30/30/30  
1st) Blow built to 1.5"; No BB.  
2nd) Blow built to 1.5"; No BB.  
IFP 22-25#  
ISIP 1068#  
FFP 27-37#  
FSIP 920#  
HP 2055-1993#  
Recvd: 30' Mud (100%M).

CFS @ 4230 Stop/30"/60"

CFS @ 4260 Stop/30"/60"

CFS @ 4290 Stop/30"/60"



SH: lt-dk gry/blk/red-bm/gry-green, some silty/sndy, slit carb, soft-firm.  
 LS: cm/lt bm/min lt gry, micro-m xtal, min arg/silty, some chalky, wht chert, foss frags/fush/ool/some grainy, vf-m in-xtal/in-ool por, m-crs oo-castic por, 7 pcs w/sfo w/ppt-f in-xtal por, dul yel fluor, no odor, sfo.

LS: wht/cm/lt brn/lt gry, micro-m xtal, chalky, foss frags/brac/ool, min med oo-castic por, 4 pcs w/sfo w/ppt-m in-xtal por, dul yel fluor, no odor, sfo.

LS: cm/lt gry/lt brn, micro-crs xtal, smpl vry chalky, silty/sndy/arg, foss frags/crin/ool, 23 pcs w/stain/sfo, f-crs/vug in-xtal/in-ool/oo-castic por, dul yel fluor, gd odor, sfo.

LS: cm/lt bm/lt gry, micro-crs xtal, silty/sndy/arg, smpl vry chalky, min wht/cm chert, foss frags/fush/ool, 7 pcs w/stain/sfo, vf-crs/vug in-xtal/in-ool por, dul yel fluor, gd odor, sfo.

LS: cm/lt bm/lt gry, micro-m xtal, smpl vry chalky, some silty/sndy/arg, foss frags/ool, no vis por, no odor, ns.  
 SH: blk, slit silty, carb, firm.  
 SH: lt-dk gry/dk brn/blk, some silty, some foss, carb, soft-firm.  
 LS: wht/cm/lt-m brn/lt gry, micro-m xtal, some chalky, some silty/sndy, foss frags/ool, 9 pcs w/stain/sfo w/vf-crs/vug in-xtal/in-ool por, yel fluor, slit odor, sfo.

LS: wht/cm/lt-m brn/lt gry, micro-m xtal, chalky, some silty/sndy/arg, foss frags/crin/ool, 7 pcs w/stain/sfo w/vf-crs/vug in-xtal/in-ool por, dul yel fluor, slit odor, sfo.

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

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

LS: cm/lt-m brn/lt-m gry, micro-m xtal, chalky, silty/sndy/arg, foss frags, no vis por, no odor, ns.  
 SH: lt-dk gry/dk brn/gry-green, some silty, carb, soft.

LS: cm/lt gry/lt-m brn, micro-m xtal, chalky, some silty/sndy/arg, foss frags, no vis por, no odor, ns.  
 LS: cm/lt gry/lt brn/dk gry incls, micro-m xtal, chalky, some silty/sndy/arg, foss frags/fush, no vis por, no odor, ns. Dolo: cm/lt brn/lt gry, vf, sucrosic, vf-f in-xtal por, no odor, ns.

SH: lt-m gry/red-bm/gry-green, some silty, slit carb, soft-firm. SS: lt-m gry/lt green/lt red-bm, vf-f, sr-wr, pred qtz, arg, friable, no odor, ns.

Cont. SH/SS as above, no odor, ns.

LS: cm/lt-m brn, micro-m xtal, chalky, some silty/arg, foss frags, no vis por, no odor, ns.  
 SH: lt-m gry/gry-green, some silty/sndy, carb, soft. SS: lt gry, vf-f, sr-wr, pred qtz, min glauc, arg, friable, no odor, ns.

LS: cm/lt brn, micro-m xtal, some silty/sndy, some chalky, some lt brn/lt gry sucrosic dolo, foss frags/ool, ppt-f in-xtal por, 2 pcs w/dk brn tar/min sfo w/vf-f in-xtal/frac por, no odor, slit sfo.

LS: cm/lt brn/lt gry, micro-m xtal, some silty/sndy, chalky, foss frags/brac/ool, 11 ool pcs w/sfo w/vf-m in-ool por, no odor, sfo.

LS: as above, 15 ool pcs w/sfo, no odor.  
 SH: lt-dk gry/dk red-bm/gry-green, some silty, carb, soft-firm.

LS: cm/lt brn/min lt gry, micro-m xtal, some chalky, some silty/arg, foss frags/crin/in dense ool, no vis por, no odor, ns. (8 ool pcs w/sfo assume from MarmA).

LS: cm/lt brn/lt gry, micro-m xtal, some chalky, some silty/arg, foss frags/brac/ool, 4 pcs w/sfo, ppt-m in-xtal/in-ool por, no odor, sfo.

LS: cm/lt brn/lt brn, some chalky, some silty/arg, wht/lt gry chert, foss frags/min dense ool, no vis por, no odor, ns.

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

CFS @ 4315  
 Stop/30"/60"

**DST5) 4266-4315**  
**Lansing J & K-zones**  
 15/30/30/40  
 1st Blow built to 5.25"; No BB.  
 2nd) Blow built to 7.25"; No BB.  
 IFP 21-43#  
 ISIP 1207#  
 FFP 46-97#  
 FSIP 1201#  
 HP 2050-2045#  
 Recvd: 200' total fluid; 40' OM (1%O, 99%M), 60' WM (5%W, 95%M), 100' MW (15%M, 85%W).

CFS @ 4365  
 Stop/30"/60"

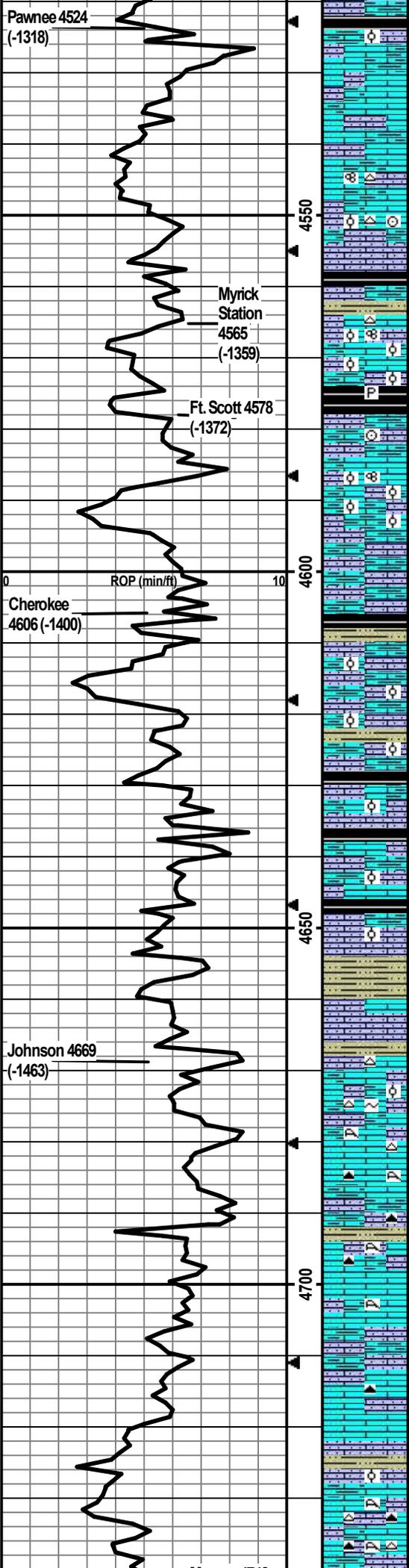
**DST6) 4466-4510**  
**Marmaton A, B and C-zones**  
 15/30/30/30  
 1st Blow built to 1"; No BB.  
 2nd) Blow built to 2.25"; No BB.  
 IFP 23-30#  
 ISIP 1191#  
 FFP 30-30#  
 FSIP 1072#  
 HP 2172-2156#  
 Recvd: 30' GIP, 15' GO (5%G, 90%O), 15' GMO (10%G, 15%M, 75%O).

CFS @ 4442  
 Stop/30"/60"

CFS @ 4470  
 Stop/30"/60"

CFS @ 4486  
 Stop/30"/60"

CFS @ 4510  
 Stop/30"/60"



SH: dk gry/blk, silt carb, firm.

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

LS: wht/cm/lt bm/lt gry, micro-m xtal, min silty/arg, some chalky, foss frags, no vis por, 3 pcs in 60min w/sfo/tar; ppt-m in-xtal por, no odor, silt sfo.

CFS @ 4540'  
Stop/30"/60"

LS: cm/lt-m bm/min lt gry, micro-m xtal, some silty/arg, some chalky, some wht/lt bm foss chert, foss frags/fusln, 2 pcs w/stain/sfo, ppt-m in-xtal por, no odor, silt sfo.

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

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

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

1 ool pce in 60min w/stain/sfo, no fluor, m-crs/vug in-ool/oo-castic por.

CFS @ 4570'  
Stop/30"/60"

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

SH: dk gry/blk/dk brn mottling, min pyrite, some silty, carb, firm.

LS: cm/lt-m bm/lt-m gry, micro-m xtal, some vry silty/sndy/arg, chalky, foss frags/fusln/crin/abund ool, 2 pcs w/sfo w/ppt-f in-xtal por, no odor, silt sfo.

LS: cm/lt-m bm, micro-m xtal, some silty/arg, some chalky, foss frags/abund ool pcs, no vis por, no odor, ns. (Smpl is flood of green/med gry silty SH).

CFS @ 4595'  
Stop/30"/60"

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

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

LS: cm/lt-m bm/lt gry, vf-m xtal, silty/sndy/arg, chalky, foss frags/ool, no vis por, no odor, ns. (Smpl SH flood.)

LS: wht/cm/lt-m gry, vf-m/min crs xtal, silty/sndy/arg, chalky, foss frags/ool, no vis por, no odor, ns. (Smpl cont SH flood.)

CFS @ 4628'  
Stop/30"/60"

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

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

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

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

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

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

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

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

CFS @ 4680'  
Stop/30"/60"

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

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

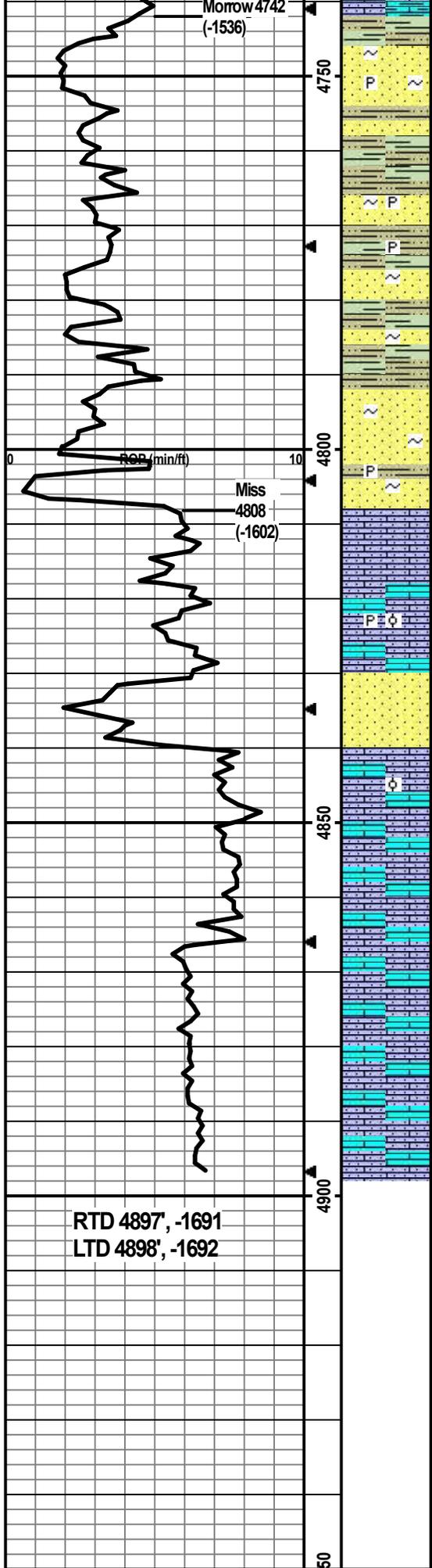
LS: cm/lt-m bm, micro-m xtal, some chalky, min silty/sndy/arg, foss frags/min coral, no vis por, no odor, ns. (Smpl is SH flood.)

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

LS: wht/cm/lt-m bm/min lt-dk gry, micro-m xtal, chalky, some sndy, foss frags/min coral/ool, no vis por, 1 ool pce w/sfo w/ppt-vf in-xtal por, no odor, silt sfo.

LS: wht/cm/lt bm/lt-dk gry, micro-m xtal, some chalky, some silty/arg/sndy, gd amt wht/lt-dk brn/lt-dk gry/orange foss chert, foss frags/coral, min fn coral por, no odor, ns.

CFS @ 4741'



SH: m-dk gry/blk/lt bm/gry-green, some vry silty/sndy, carb, soft-firm. Min SS: wht/lt-dk gry/slt green, qtz, vf-f, sr-wr, arg/carb matrix, min glauc, friable, no odor, ns.

SH: m-dk gry/blk/gry-green/mustard yel, some vry silty/sndy, carb, soft-firm. Min SS: wht/lt-dk gry/lt green, qtz, vf-f, sr-wr, carb matrix, min glauc, min pyrite, friable-hard, no odor, ns.

SH: lt-dk gry/gry-green/mustard yel, some vry silty/sndy, carb, soft-firm. Min SS: wht/lt gry/dk gry, qtz, f-m, sr-wr, slt carb matrix, min pyrite, friable-hard, no odor, ns.

SH: lt-dk gry/gry-green/mustard yel/orange-brn, some silty/sndy, min pyrite, carb, soft-firm; SS: wht/orange stained, f-crs, sr-wr, qtz, min glauc, carb matrix, friable-hard, no odor, ns.

SH: lt-dk gry/gry-green/must yel/orange-brn, some silty/sndy, slt carb, soft-firm. SS: wht/lt gry/dk gry/orange, f-crs, sr-wr, qtz, slt carb matrix, min glauc, friable-hard, no odor, ns.

SH: as above. SS: wht/lt gry, vf-m, sr-wr, qtz, slt carb matrix, glauc, friable-hard, no odor, ns.

SS: wht/cm/lt gry, f-crs, sr-wr, qtz, vry chalky/carb, some glauc, friable, no odor, ns. SH: lt-dk gry/blk/gry-green/must yel, some silty/sndy, min pyrite, slt carb, soft-firm.

LS: wht/cm/min lt bm, vf-m xtal, vry sndy, vry chalky, no vis por, no odor, ns.

LS: wht/cm, micro-m xtal, some vry sndy, some vry chalky, some oolitic, min pyrite, no vis por, no odor, ns.

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

LS: wht/cm, micro-m xtal, vry chalky, vry sndy, some ool, no vis por, no odor, ns.

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

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

LS: wht/cm/lt bm, micro-f xtal, some vry chalky, some vry sndy, no vis por, no odor, ns.

LS: same as above, no odor, ns.

TD @4897' @10:13pm, 11/18/2024.

Stop/30"/60"

CFS @ 4897'  
Stop/30"/60"  
Conducted 7 std short trip,  
CTCH 1.5 hrs, TOH for logging.