

# Timothy G. Pierce

## Petroleum Geologist

### GEOLOGIST'S REPORT DRILLING TIME AND SAMPLE LOG

COMPANY N-10 Exploration, LLC  
 LEASE Medicine River Ranch 'B' #10  
 FIELD Landis  
 LOCATION 760' FNL & 450' FEL  
 SEC 15 TWSP 34S RGE 11W  
 COUNTY Barber STATE Kansas  
 CONTRACTOR Hardt Drilling Rig #1  
 SPUD 4-12-2012 COMP 4-19-2012  
 RTD 5120 LTD 5090\* see remarks  
 MUD UP 2900 TYPE MUD Chemical

SAMPLES SAVED FROM 4000 TO RTD  
 DRILLING TIME KEPT FROM 4000 TO RTD  
 SAMPLES EXAMINED FROM 4000 TO RTD  
 GEOLOGICAL SUPERVISION FROM 4140 to RTD  
 GEOLOGIST ON WELL Tim Pierce

#### ELEVATIONS

KB 1376'  
 DF \_\_\_\_\_  
 GL 1366'  
 Measurements Are All  
 From Kelly Bushing

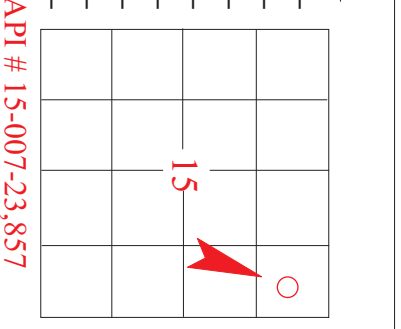
#### CASING

CONDUCTOR \_\_\_\_\_  
 SURFACE 8-5/8" at 251'  
 PRODUCTION 5-1/2" at 5054'

#### ELECTRICAL SURVEYS

DIL / CN-CD  
Log-Tech

FORMATION TOPS	ELECTRIC LOG	SAMPLE
Heebner Sh.	3647 (-2271)	NA
Iatan L.S.	4066 (-2690)	4100 (-2724)
Stark Sh.	4324 (-2948)	4352 (-2976)
Cherokee Sh.	4545 (-3269)	4576 (-3200)
Mississippi	4582 (-3206)	4622 (-3246)
Chattanooga Sh.	4866 (-3490)	4898 (-3522)
Viola	4919 (-3543)	4951 (-3575)
Simpson	5013 (-3637)	5044 (-3668)



REMARKS After trip out of hole for logs, pipe strap indicated approx 30' difference from the tally board. There was an extra joint on the tally board that was not in the hole. All formation tops should be adjusted up approx 30 feet on drill time to match electric logs.

Samples and electric logs indicate a commercial zone in the Mississippi from 4584' - 4685'. (electric log measurements)

A slight show of gas was noted in the Chattanooga Sh. at 4866' (e-log measurements) with an increase on the gas detector.

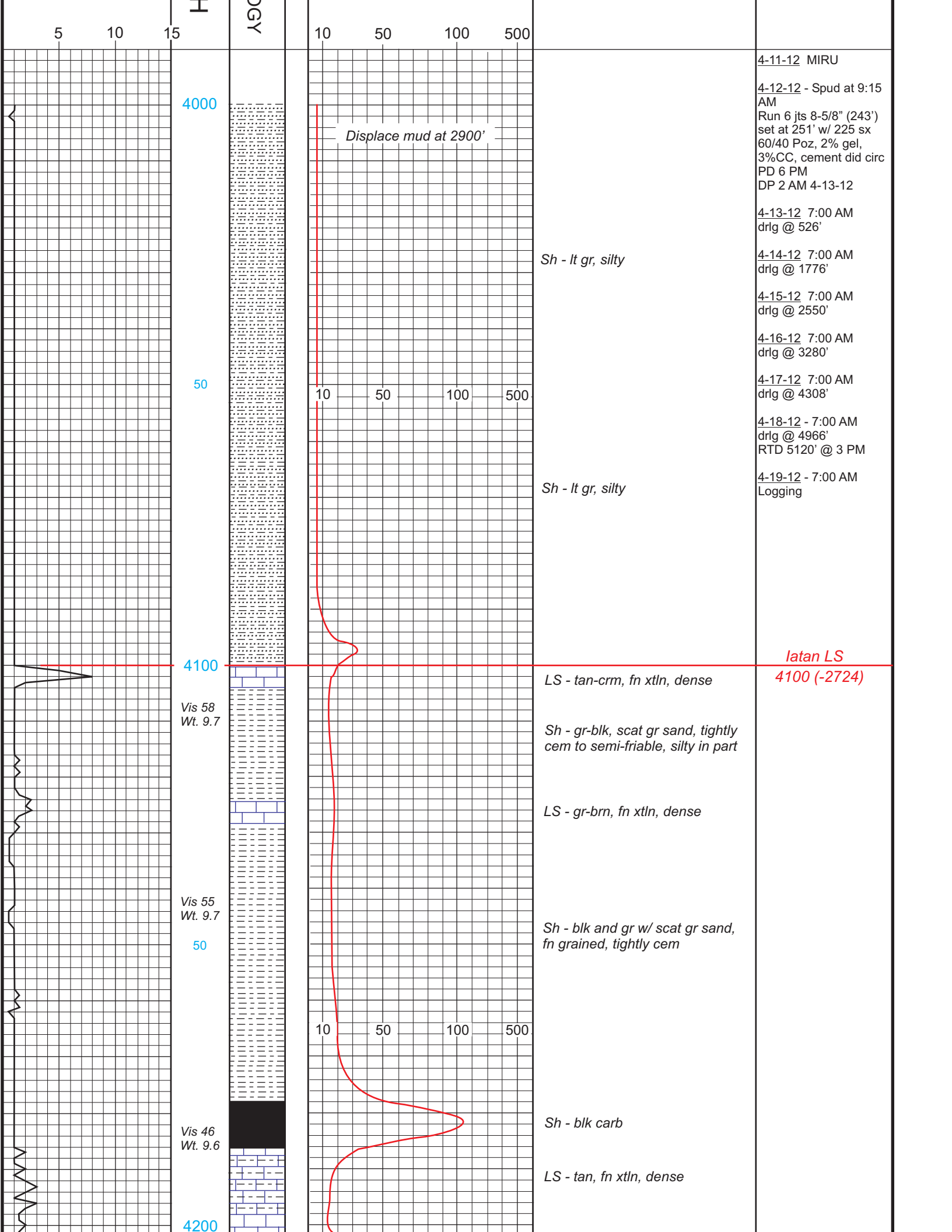
No other samole shows were observed and electric logs indicated no other zones of interest.

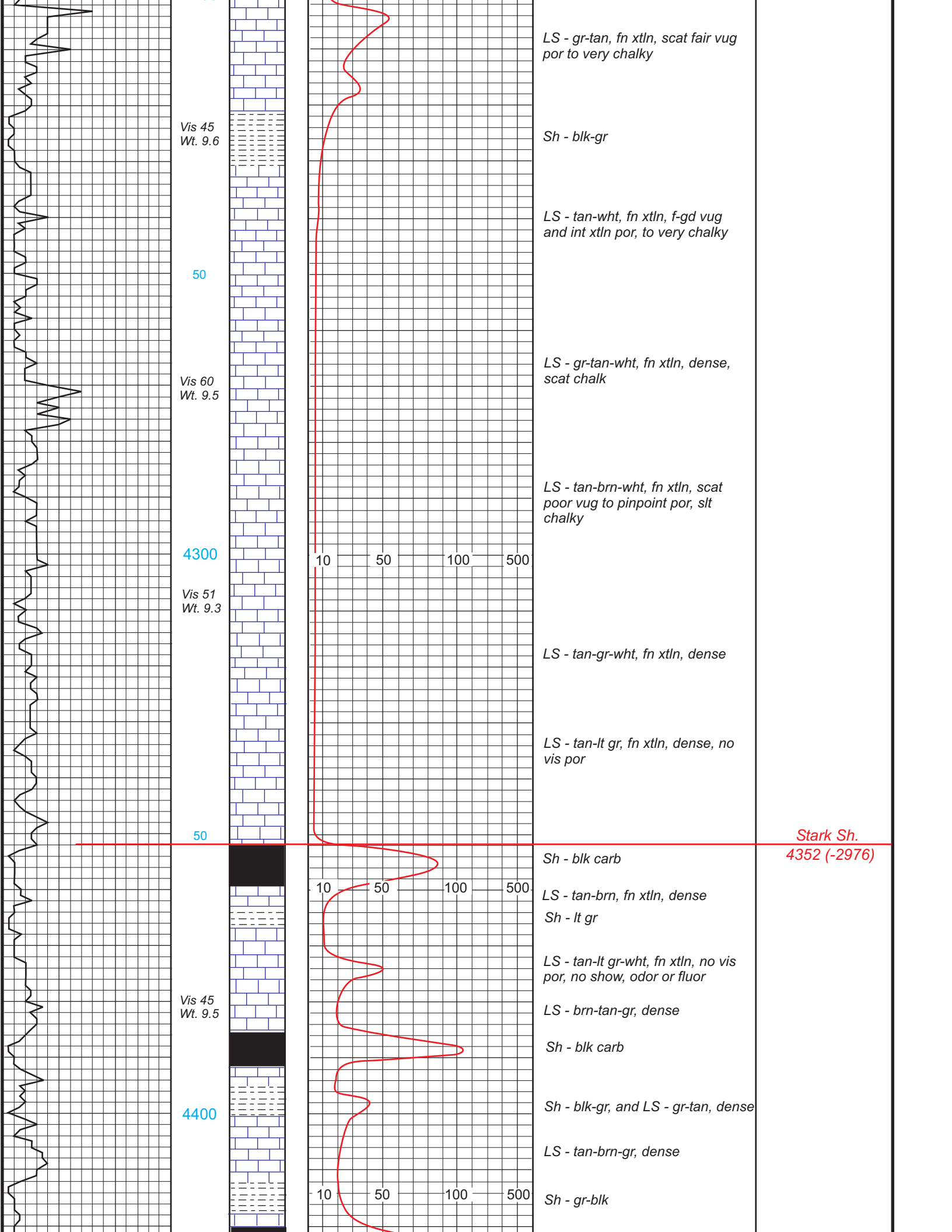
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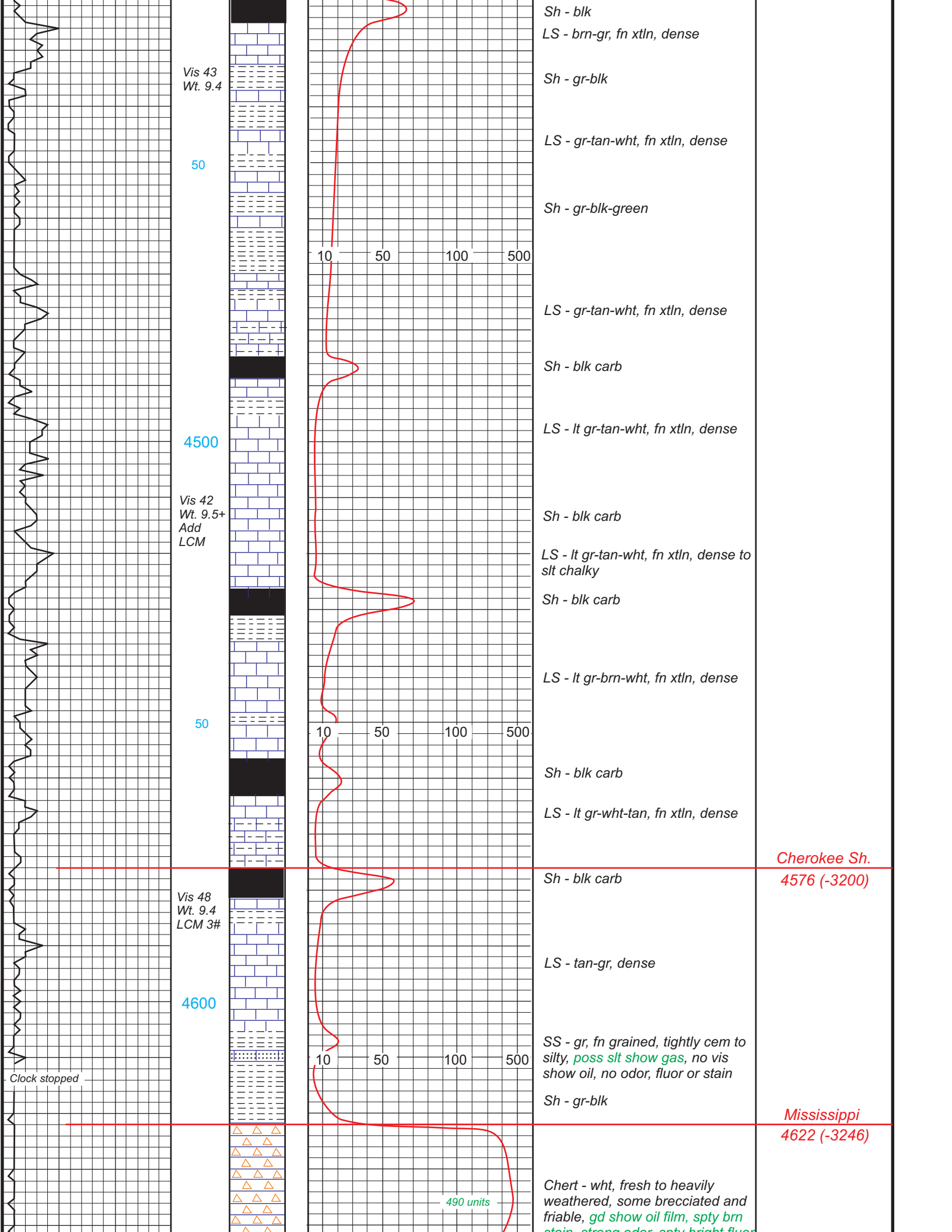
### LEGEND

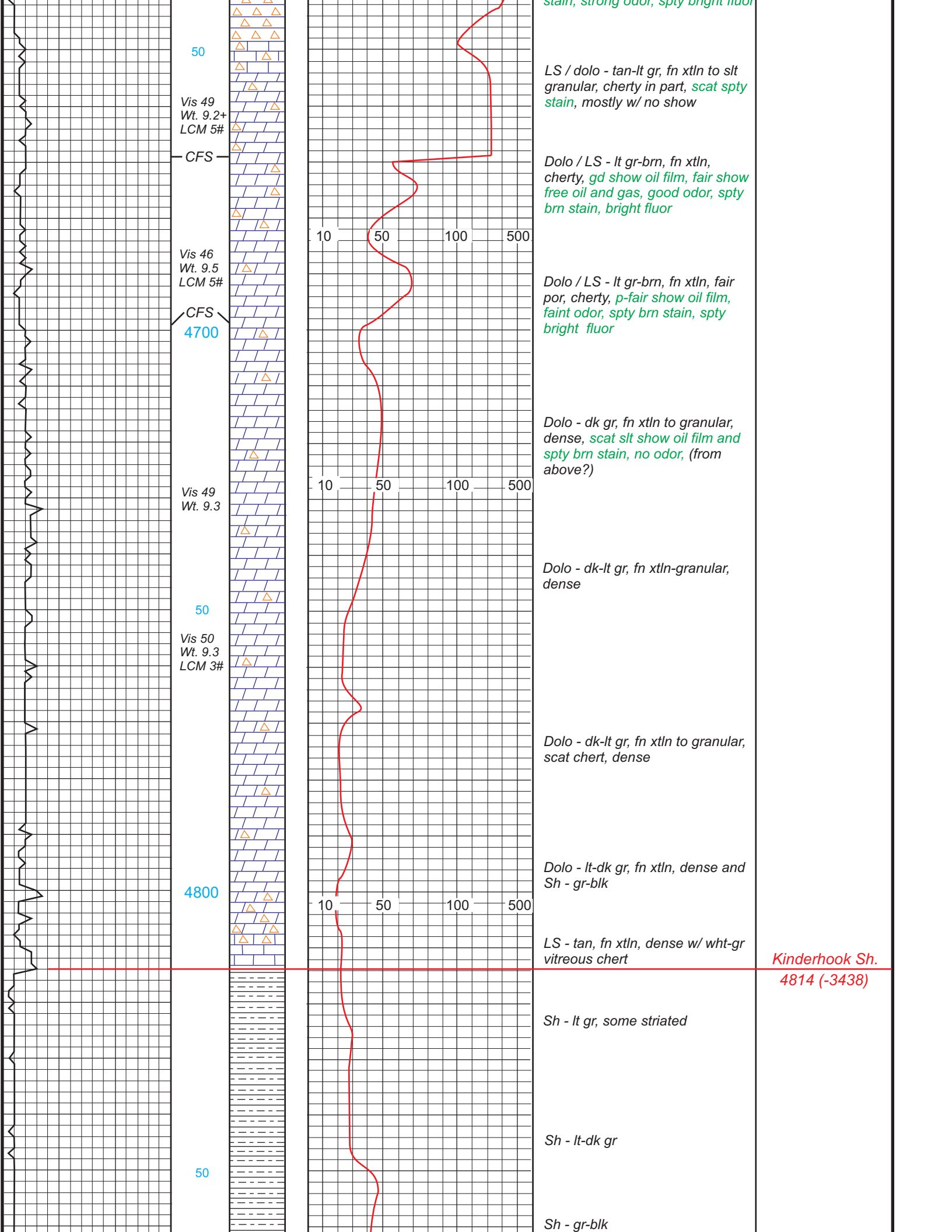
 Anhydrite	 Sandstone	 Limestone	 Shale	 Carb Sh	 Cherty LS	 Chert	 Dolomite
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DRILLING TIME IN MINUTES PER FOOT Rate of Penetration Decreases ↓	DEPTH	LITHOLOG	GAS SCALE	SAMPLE DESCRIPTION	REMARKS









50

Vis 49  
Wt. 9.2+  
LCM 5#

CFS

Vis 46  
Wt. 9.5  
LCM 5#

CFS  
4700

Vis 49  
Wt. 9.3

50

Vis 50  
Wt. 9.3  
LCM 3#

4800

50

LS / dolo - tan-lt gr, fn xtln to slt granular, cherty in part, *scat spty stain*, mostly w/ no show

Dolo / LS - lt gr-brn, fn xtln, cherty, *gd show oil film, fair show free oil and gas, good odor, spty brn stain, bright fluor*

Dolo / LS - lt gr-brn, fn xtln, fair por, cherty, *p-fair show oil film, faint odor, spty brn stain, spty bright fluor*

Dolo - dk gr, fn xtln to granular, dense, *scat slt show oil film and spty brn stain, no odor, (from above?)*

Dolo - dk-lt gr, fn xtln-granular, dense

Dolo - dk-lt gr, fn xtln to granular, scat chert, dense

Dolo - lt-dk gr, fn xtln, dense and Sh - gr-blk

LS - tan, fn xtln, dense w/ wht-gr vitreous chert

*Kinderhook Sh.  
4814 (-3438)*

Sh - lt gr, some striated

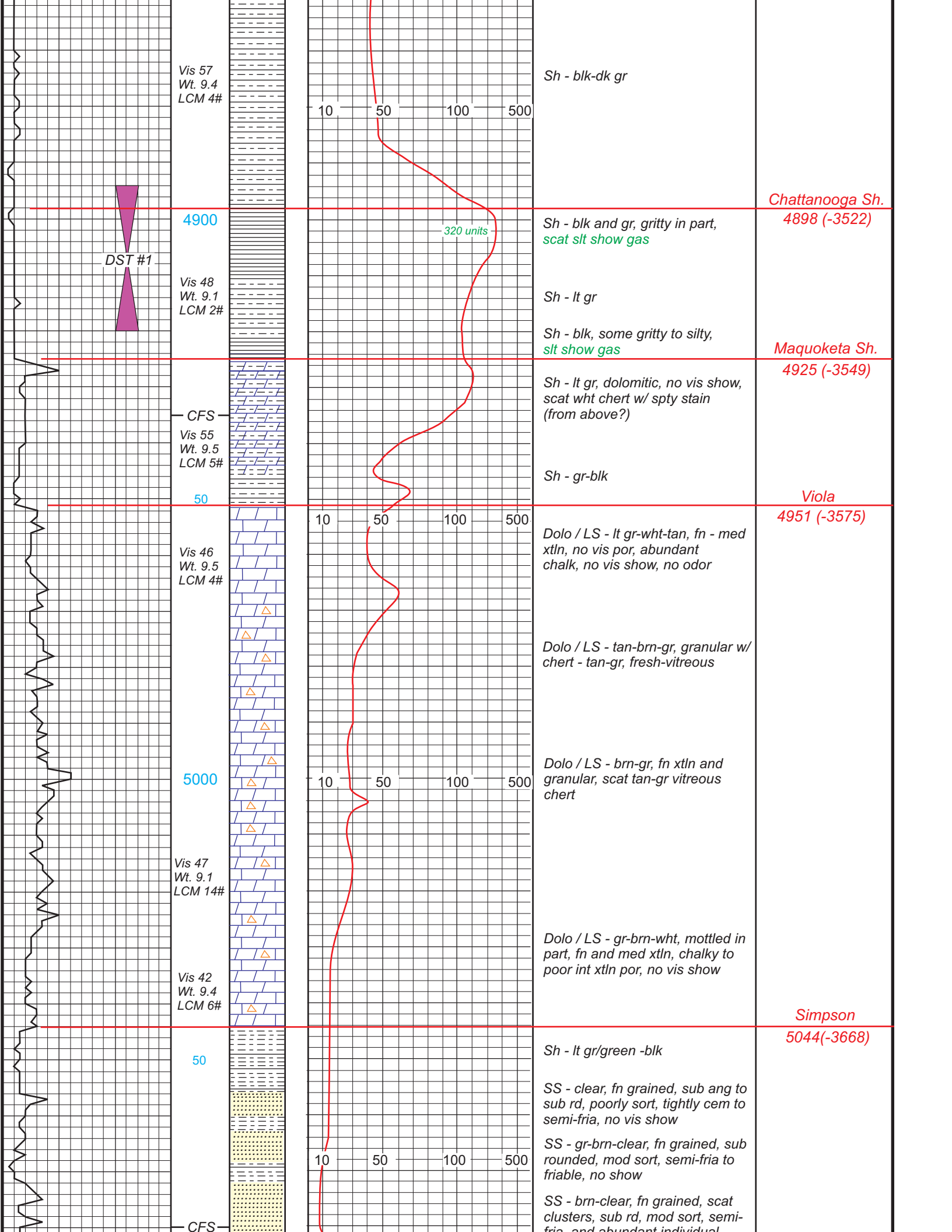
Sh - lt-dk gr

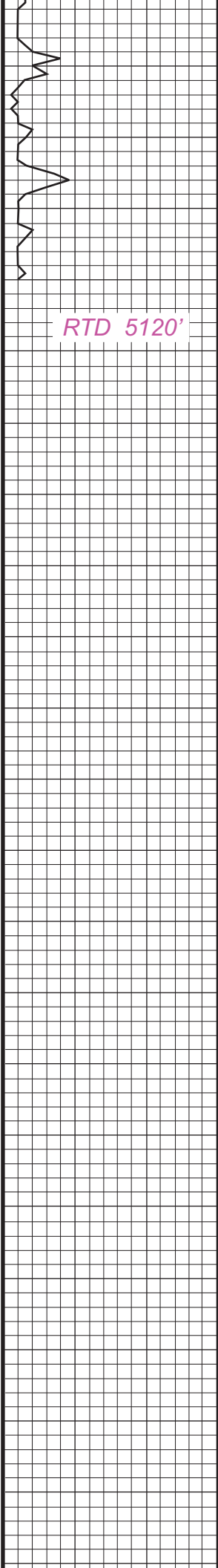
Sh - gr-blk

10 50 100 500

10 50 100 500

10 50 100 500



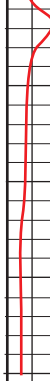
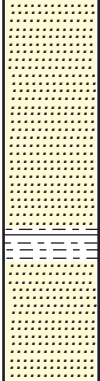


5100

Vis 58  
Wt. 9.5  
LCM 4#

RTD 5120'

50



ina, and abundant individual  
sub ang quartz grains, no vis  
show, no odor, no fluor

SS - brn-wht-clear, fn-vfn grained,  
sub rounded, poorly sort, dk min  
inclusions, semi-fria to friable,  
no show

Sh - gr-blk, slt pyritic, and tightly  
cem sand

SS - wht-lt gr, fn-v fn grained,  
well sort, dk mineral inclusions,  
tightly cem to semi-fria, no show

