

# Timothy G. Pierce

## Petroleum Geologist

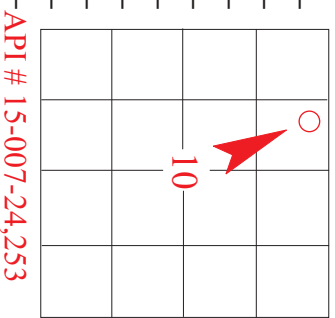
### GEOLOGIST'S REPORT DRILLING TIME AND SAMPLE LOG

COMPANY N-10 Exploration, LLC ELEVATIONS  
 LEASE Medicine River Ranch 'D' #12 KB 1354'  
 FIELD Roundup South DF \_\_\_\_\_  
 LOCATION NW NE NW (330' FNL & 1650' FWL) GL 1344'  
 SEC 10 TWPSP 34S RGE 11W  
 COUNTY Barber STATE Kansas  
 CONTRACTOR Hardt Drilling Rig #1 Measurements Are All  
 From Kelly Bushing  
 SPUD 11-05-2014 COMP 11-12-2014  
 RTD 4845 LTD 4848  
 MUD UP 3028 TYPE MUD Chemical  
 CONDUCTOR \_\_\_\_\_  
 SURFACE 8-5/8" at 251'  
 PRODUCTION 5-1/2" at 4844'

SAMPLES SAVED FROM 4000 TO RTD  
 DRILLING TIME KEPT FROM 3950 TO RTD  
 SAMPLES EXAMINED FROM 4000 TO RTD  
 GEOLOGICAL SUPERVISION FROM 4040' to RTD  
 GEOLOGIST ON WELL Tim Pierce

**ELECTRICAL SURVEYS**  
 DIL / CN-CD  
 Pioneer Energy Svcs.


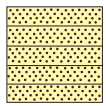
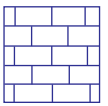
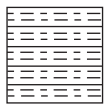

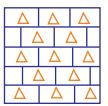

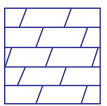
FORMATION TOPS	ELECTRIC LOG	SAMPLE
Heebner Sh.	3586 (-2232)	NA
Stark Sh.	4269 (-2915)	4267 (-2913)
Cherokee Sh.	4485 (-3131)	4484 (-3130)
Mississippi	4521 (-3167)	4519 (-3165)
Kinderhook Sh.	4724 (-3370)	4721 (-3367)
Chattanooga Sh.	4808 (-3454)	4806 (-3452)
Viola	NA	4844 (-3490)




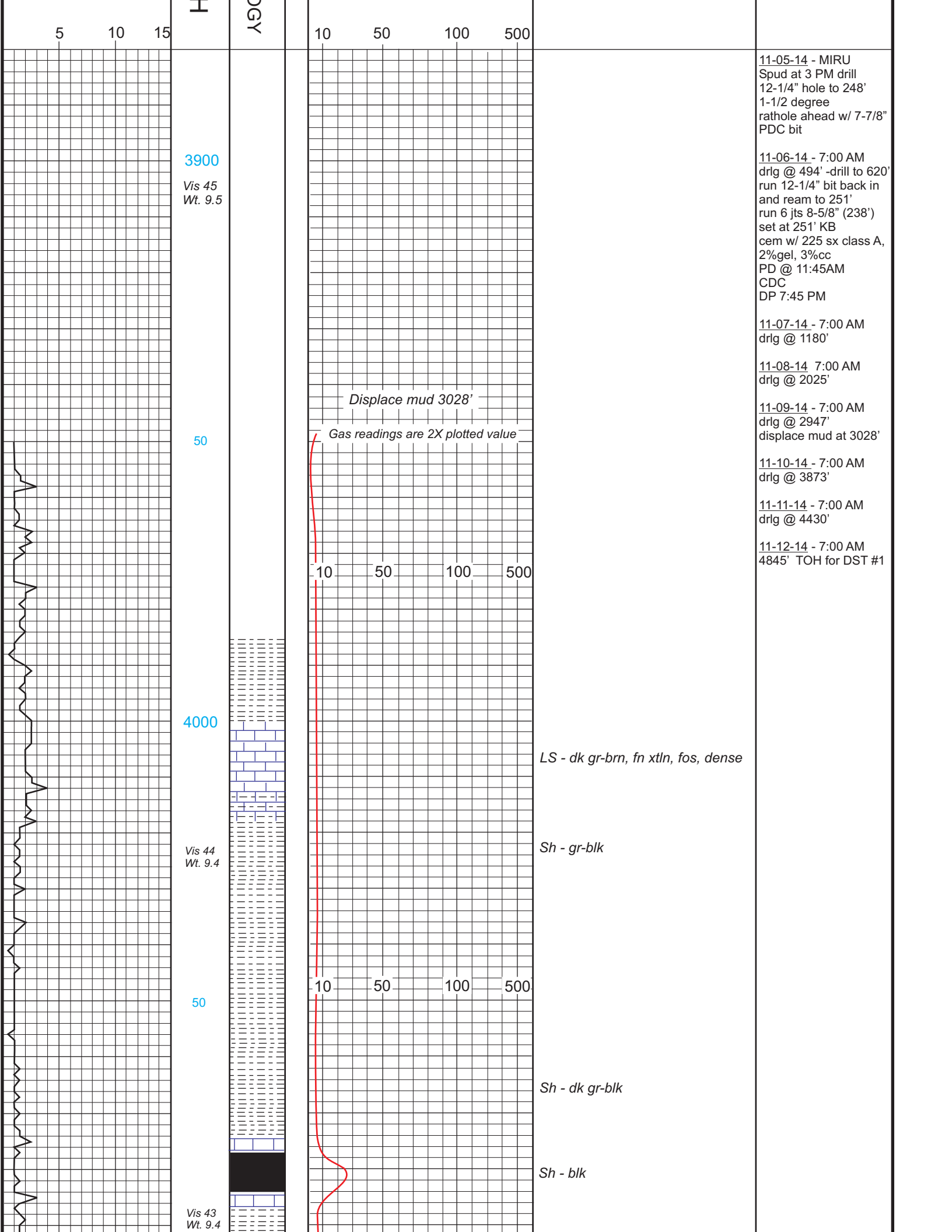
REMARKS Samples and electric logs indicate a probable productive zone in the Mississippi from 4521'- 4545'.  
A slight show in the Meisner sand was tested with negative results, there was a slight show of gas in the Chattanooga Shale, and  
a slight show of oil in the Cherokee sand. Electric logs indicate the Cherokee and Chattanooga are most likely non productive.  
There were no other zones of interest indicated by samples or electric logs

*Timothy G. Pierce*

#### LEGEND

							
Anhydrite	Sandstone	Limestone	Shale	Carb Sh	Cherty LS	Chert	Dolomite

DRILLING TIME IN MINUTES PER FOOT Rate of Penetration Decreases 	DEPT	LITHOLG	GAS SCALE	SAMPLE DESCRIPTION	REMARKS
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5 10 15

3900  
Vis 45  
Wt. 9.5

50

4000

Vis 44  
Wt. 9.4

50

Vis 43  
Wt. 9.4

OGY

10 50 100 500

10 50 100 500

Displace mud 3028'

Gas readings are 2X plotted value

LS - dk gr-brn, fn xtl, fos, dense

Sh - gr-blk

Sh - dk gr-blk

Sh - blk

11-05-14 - MIRU  
Spud at 3 PM drill  
12-1/4" hole to 248'  
1-1/2 degree  
rathole ahead w/ 7-7/8"  
PDC bit

11-06-14 - 7:00 AM  
drlg @ 494' -drill to 620'  
run 12-1/4" bit back in  
and ream to 251'  
run 6 jts 8-5/8" (238')  
set at 251' KB  
cem w/ 225 sx class A,  
2%gel, 3%cc  
PD @ 11:45AM  
CDC  
DP 7:45 PM

11-07-14 - 7:00 AM  
drlg @ 1180'

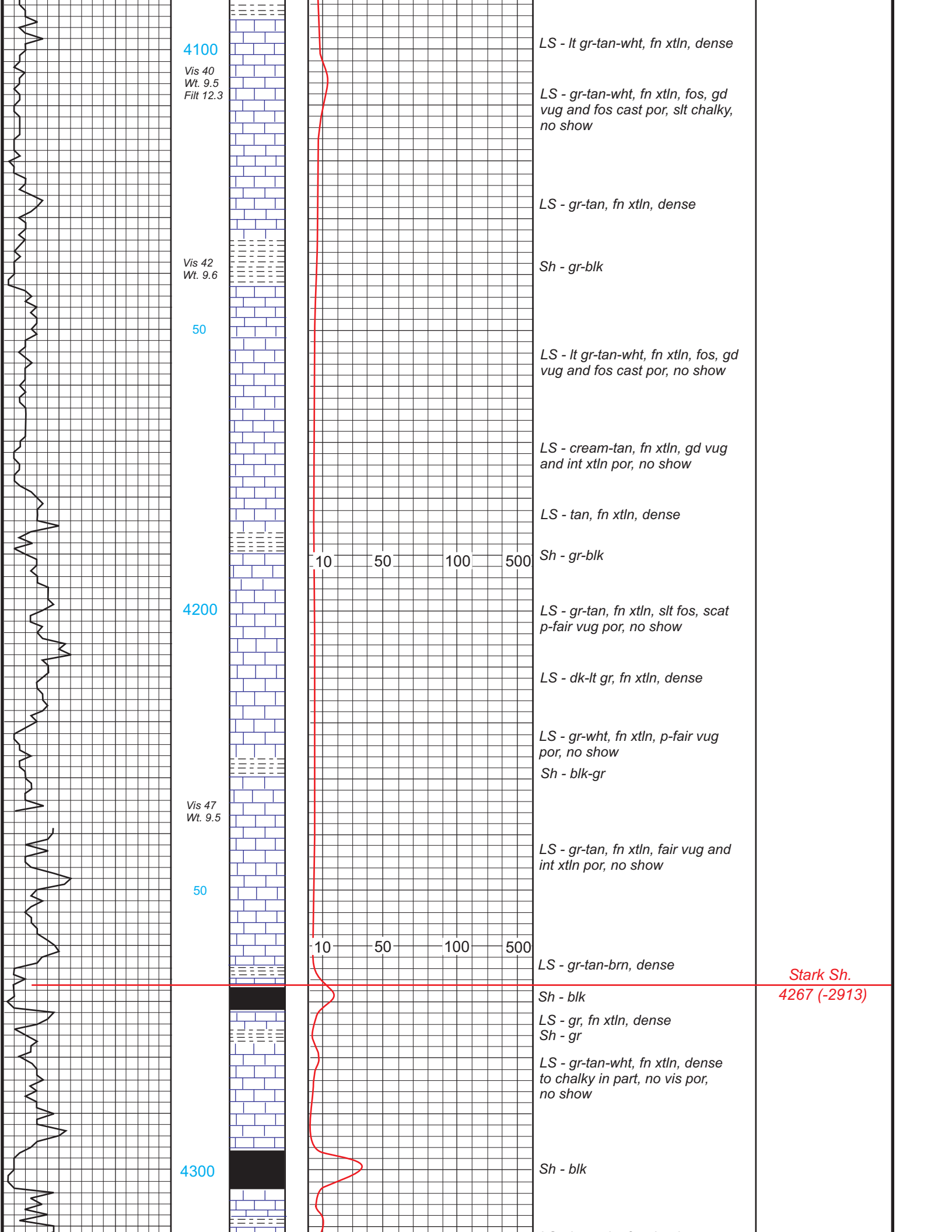
11-08-14 7:00 AM  
drlg @ 2025'

11-09-14 - 7:00 AM  
drlg @ 2947'  
displace mud at 3028'

11-10-14 - 7:00 AM  
drlg @ 3873'

11-11-14 - 7:00 AM  
drlg @ 4430'

11-12-14 - 7:00 AM  
4845' TOH for DST #1



4100

Vis 40  
Wt. 9.5  
Filtr 12.3

LS - lt gr-tan-wht, fn xtln, dense

LS - gr-tan-wht, fn xtln, fos, gd vug and fos cast por, slt chalky, no show

LS - gr-tan, fn xtln, dense

Vis 42  
Wt. 9.6

Sh - gr-blk

50

LS - lt gr-tan-wht, fn xtln, fos, gd vug and fos cast por, no show

LS - cream-tan, fn xtln, gd vug and int xtln por, no show

LS - tan, fn xtln, dense

Sh - gr-blk

4200

LS - gr-tan, fn xtln, slt fos, scat p-fair vug por, no show

LS - dk-lt gr, fn xtln, dense

LS - gr-wht, fn xtln, p-fair vug por, no show

Sh - blk-gr

Vis 47  
Wt. 9.5

LS - gr-tan, fn xtln, fair vug and int xtln por, no show

50

LS - gr-tan-brn, dense

Sh - blk

LS - gr, fn xtln, dense  
Sh - gr

LS - gr-tan-wht, fn xtln, dense to chalky in part, no vis por, no show

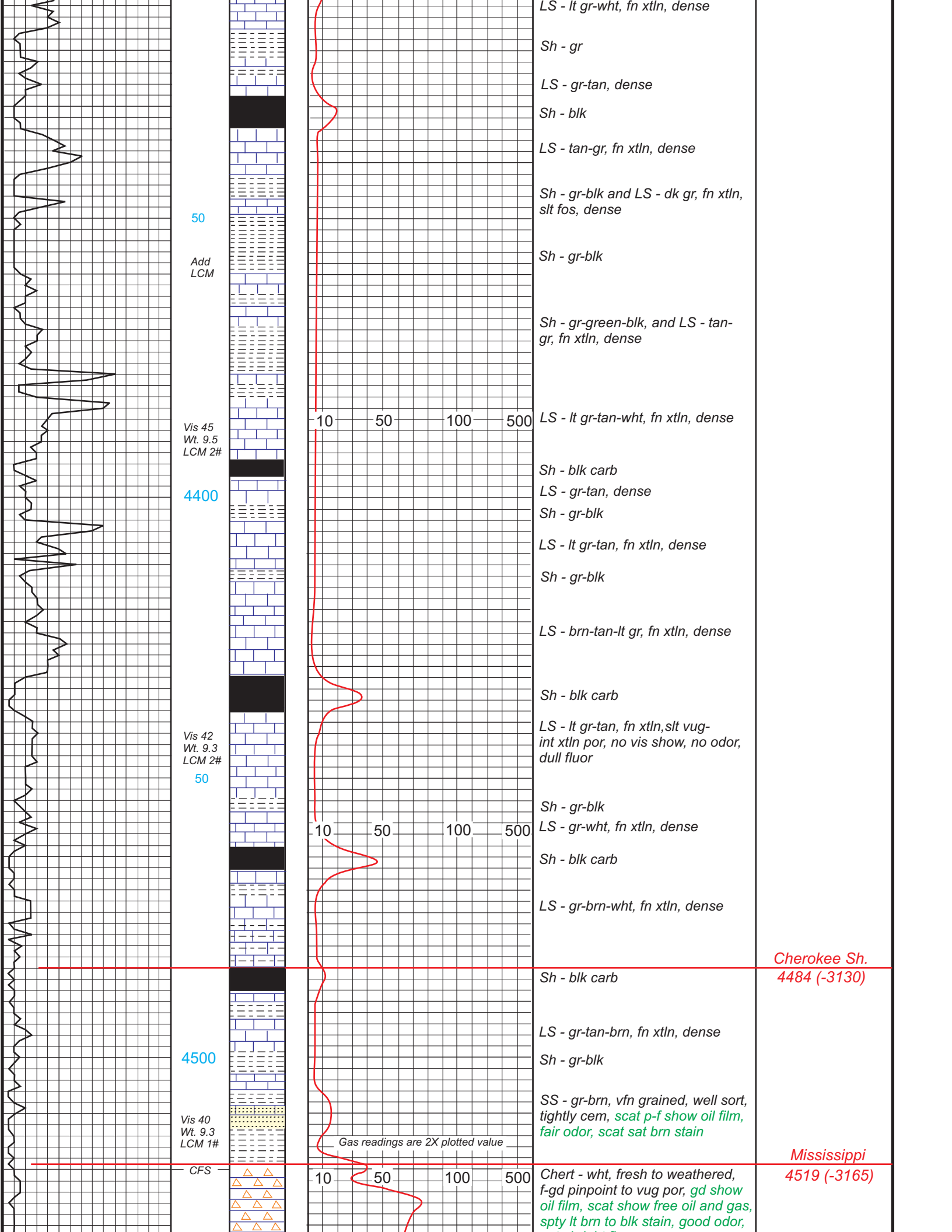
4300

Sh - blk

Stark Sh.  
4267 (-2913)

10 50 100 500

10 50 100 500



50

Add  
LCM

Vis 45  
Wt. 9.5  
LCM 2#

4400

Vis 42  
Wt. 9.3  
LCM 2#

50

4500

Vis 40  
Wt. 9.3  
LCM 1#

CFS

10 50 100 500

10 50 100 500

10 50 100 500

LS - lt gr-wht, fn xtl, dense

Sh - gr

LS - gr-tan, dense

Sh - blk

LS - tan-gr, fn xtl, dense

Sh - gr-blk and LS - dk gr, fn xtl,  
slt fos, dense

Sh - gr-blk

Sh - gr-green-blk, and LS - tan-  
gr, fn xtl, dense

LS - lt gr-tan-wht, fn xtl, dense

Sh - blk carb

LS - gr-tan, dense

Sh - gr-blk

LS - lt gr-tan, fn xtl, dense

Sh - gr-blk

LS - brn-tan-lt gr, fn xtl, dense

Sh - blk carb

LS - lt gr-tan, fn xtl,slt vug-  
int xtl por, no vis show, no odor,  
dull fluor

Sh - gr-blk

LS - gr-wht, fn xtl, dense

Sh - blk carb

LS - gr-brn-wht, fn xtl, dense

Cherokee Sh.  
4484 (-3130)

Sh - blk carb

LS - gr-tan-brn, fn xtl, dense

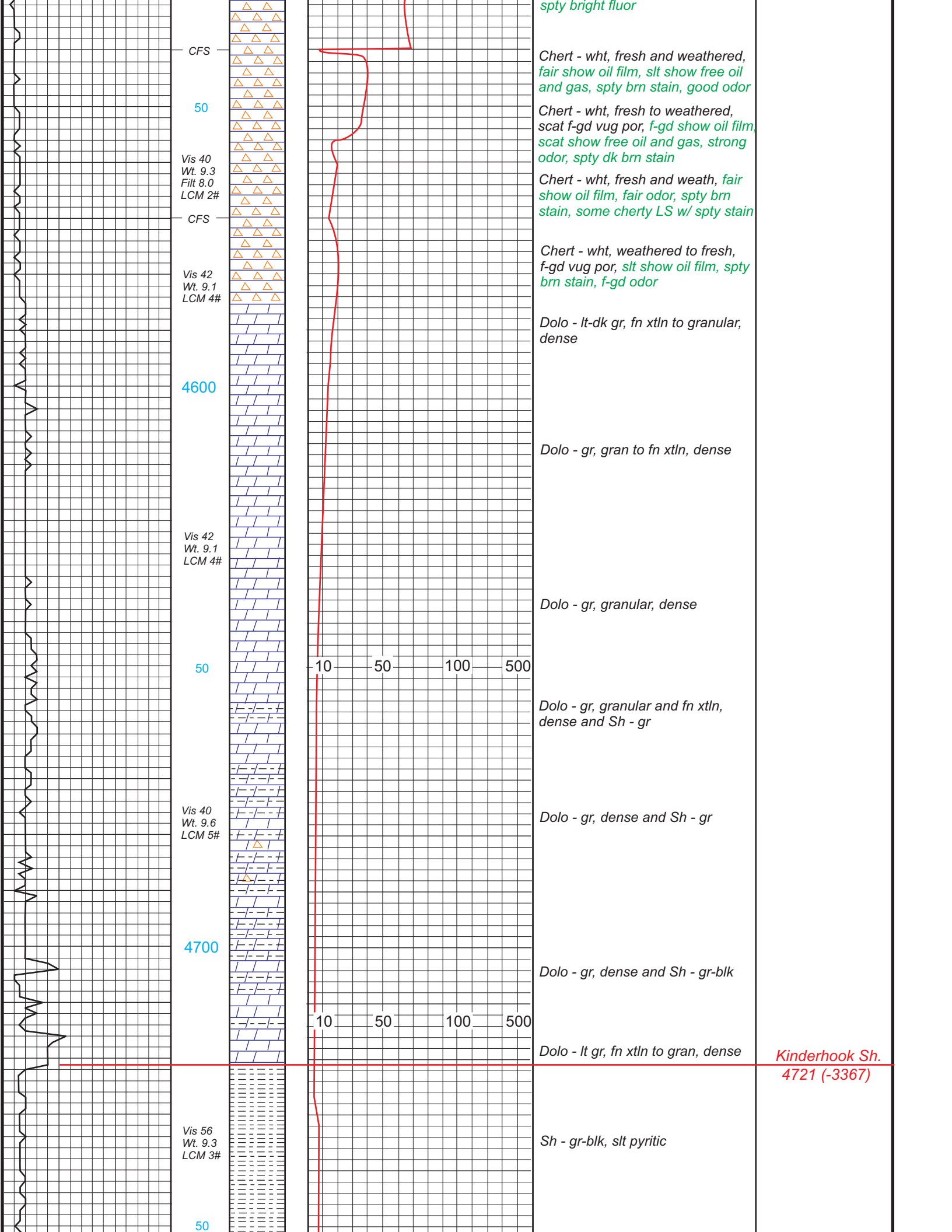
Sh - gr-blk

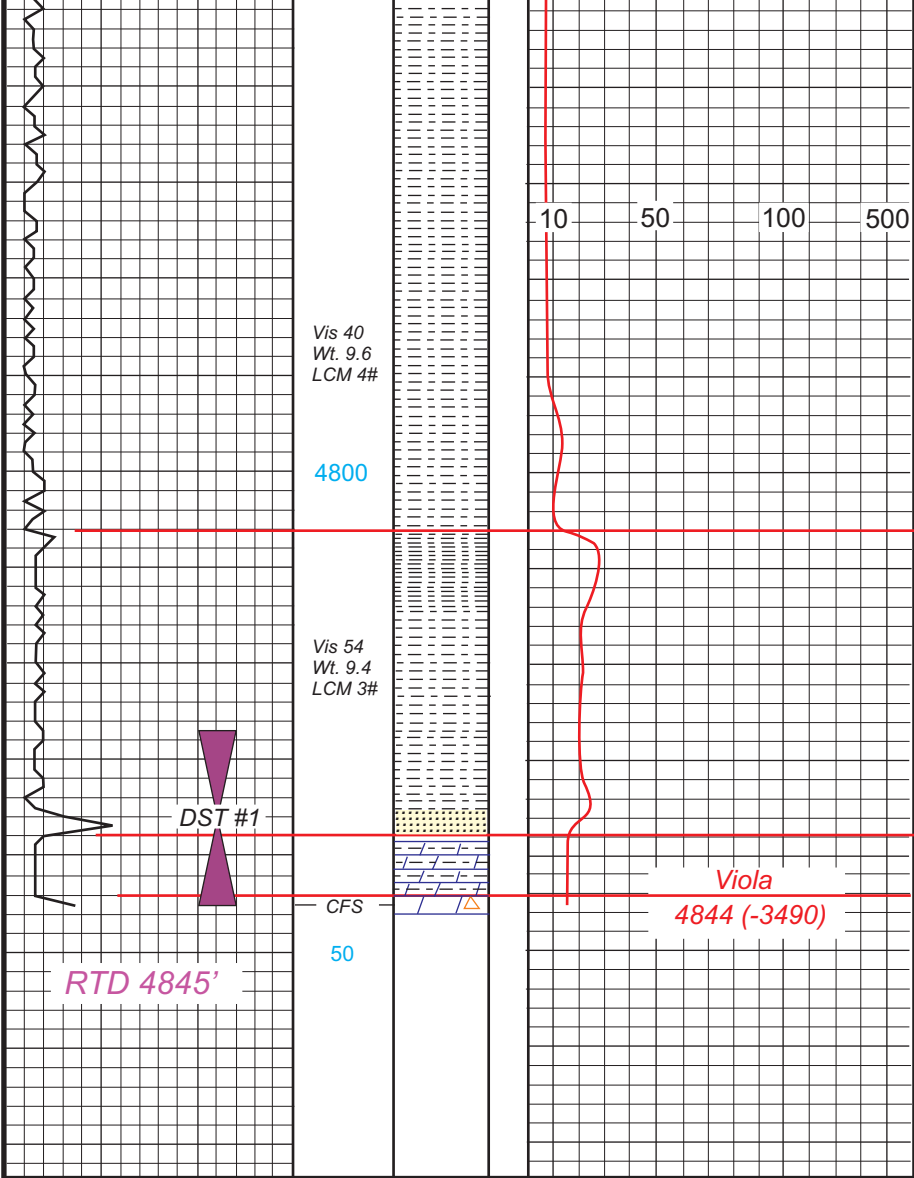
SS - gr-brn, vfn grained, well sort,  
tightly cem, scat p-f show oil film,  
fair odor, scat sat brn stain

Gas readings are 2X plotted value

Mississippi  
4519 (-3165)

Chert - wht, fresh to weathered,  
f-gd pinpoint to vug por, gd show  
oil film, scat show free oil and gas,  
spty lt brn to blk stain, good odor,





Sh - blk-gr

Sh - gr-blk

Chattanooga Sh.  
4806 (-3452)

Sh - blk-gr

Sh - gr-brn, silty and gritty in part,  
slt show gas

SS - gr, fn grained silty to semi-fri,  
small clusters w/ bright fluor,  
no odor, no vis show, no vis stain

Maquoketa  
4836 (-3482)

Sh - brn, dolomitic to silty

Viola  
4844 (-3490)

LS/Dolo - wht-tan, fn xtn, dense,  
scat wht vitreous chert

DST #1  
4827-4845  
30-60-30-60

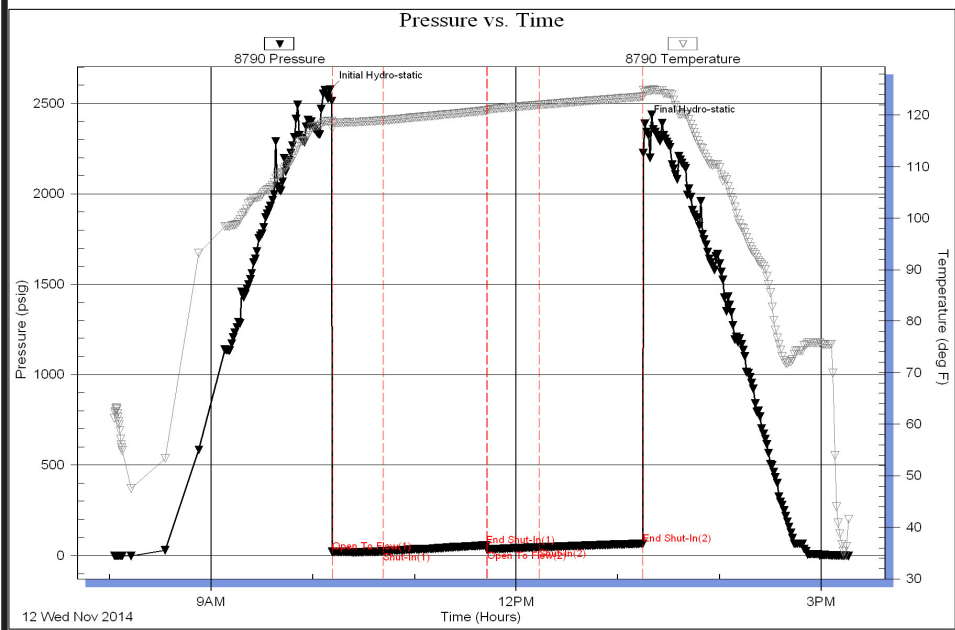
1st Open - Wk blow  
died in 2 min

2nd Open - No blow

Rec - 5' mud

IFP - 21-24#  
FFP - 32-45#  
SIP - 56-65#  
HP - 2575-2388#  
BHT - 124 degrees

Serial # 8790 Inside N-10 Expl. LLC. Med. Rvr. Rnch. D 12 DST Test Number: 1



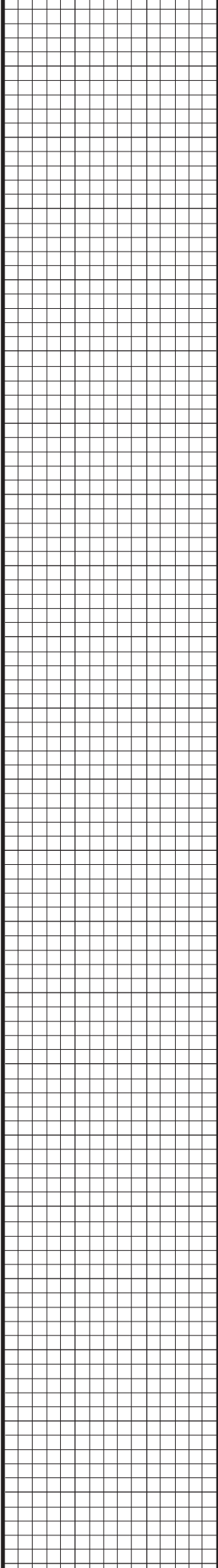
DST #1  
4827-4845  
30-60-30-60

1st Open - Wk blow  
died in 2 min

2nd Open - No blow

Rec - 5' mud

IFP - 21-24#  
FFP - 32-45#  
SIP - 56-65#  
HP - 2575-2388#  
BHT - 124 degrees



50

Vis 56  
Wt. 9.4  
LCM 6#

