

# Timothy G. Pierce

## Petroleum Geologist

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

COMPANY R & B Oil and Gas, Inc.

LEASE Hostetler 'A' #1

FIELD Spivey-Grabs

LOCATION 2235' FSL & 330' FEL

SEC 16 TWP 31S RGE 8W

COUNTY Harper STATE Kansas

CONTRACTOR Hardt Drilling Rig #1

SPUD 12-02-2013 COMP 12-09-2013

RTD 4610 LTD 4614

MUD UP 2845 TYPE MUD Chemical

SAMPLES SAVED FROM 2300 TO RTD

DRILLING TIME KEPT FROM 2300 TO RTD

SAMPLES EXAMINED FROM 2300 TO RTD

GEOLOGICAL SUPERVISION FROM 2300 TO RTD

GEOLOGIST ON WELL Tim Pierce

#### ELEVATIONS

KB 1610'

DF \_\_\_\_\_

GL 1600'

Measurements Are All  
From Kelly Bushing

#### CASING

CONDUCTOR \_\_\_\_\_

SURFACE 8-5/8" at 269'

PRODUCTION 5-1/2" at 4589'

#### ELECTRICAL SURVEYS

DIL / DuCP

Pioneer Energy Svcs.

FORMATION TOPS	ELECTRIC LOG	SAMPLE
<u>Onaga Sh.</u>	<u>2338 (-728)</u>	<u>2338 (-728)</u>
<u>Topeka LS</u>	<u>2962 (-1352)</u>	<u>2961 (-1351)</u>
<u>Heebner Sh.</u>	<u>3372 (-1762)</u>	<u>3367 (-1757)</u>
<u>Lansing</u>	<u>3628 (-2018)</u>	<u>3627 (-2017)</u>
<u>Stark Sh.</u>	<u>4030 (-2420)</u>	<u>4028 (-2418)</u>
<u>Cherokee Sh.</u>	<u>4272 (-2662)</u>	<u>4275 (-2665)</u>
<u>Mississippi</u>	<u>4375 (-2765)</u>	<u>4374 (-2764)</u>

Onaga Sh.

Topeka LS

Heebner Sh.

Lansing

Stark Sh.

Cherokee Sh.

Mississippi

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16



API # 15-077-21,992

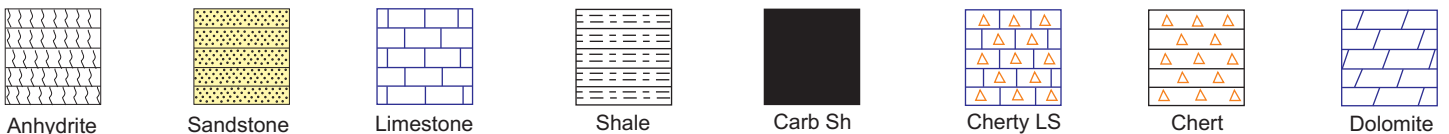
REMARKS Samples and drill time indicate a probable productive zone in the Mississippi from 4375' - 4415'

A slight show was observed in the Kansas City from 3924'-3931', this zone was condemned in DST #1

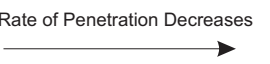
There were no other zones of interest indicated by samples or electric logs.

*Timothy G. Pierce*

### LEGEND



DRILLING TIME IN MINUTES PER FOOT  
Rate of Penetration Decreases



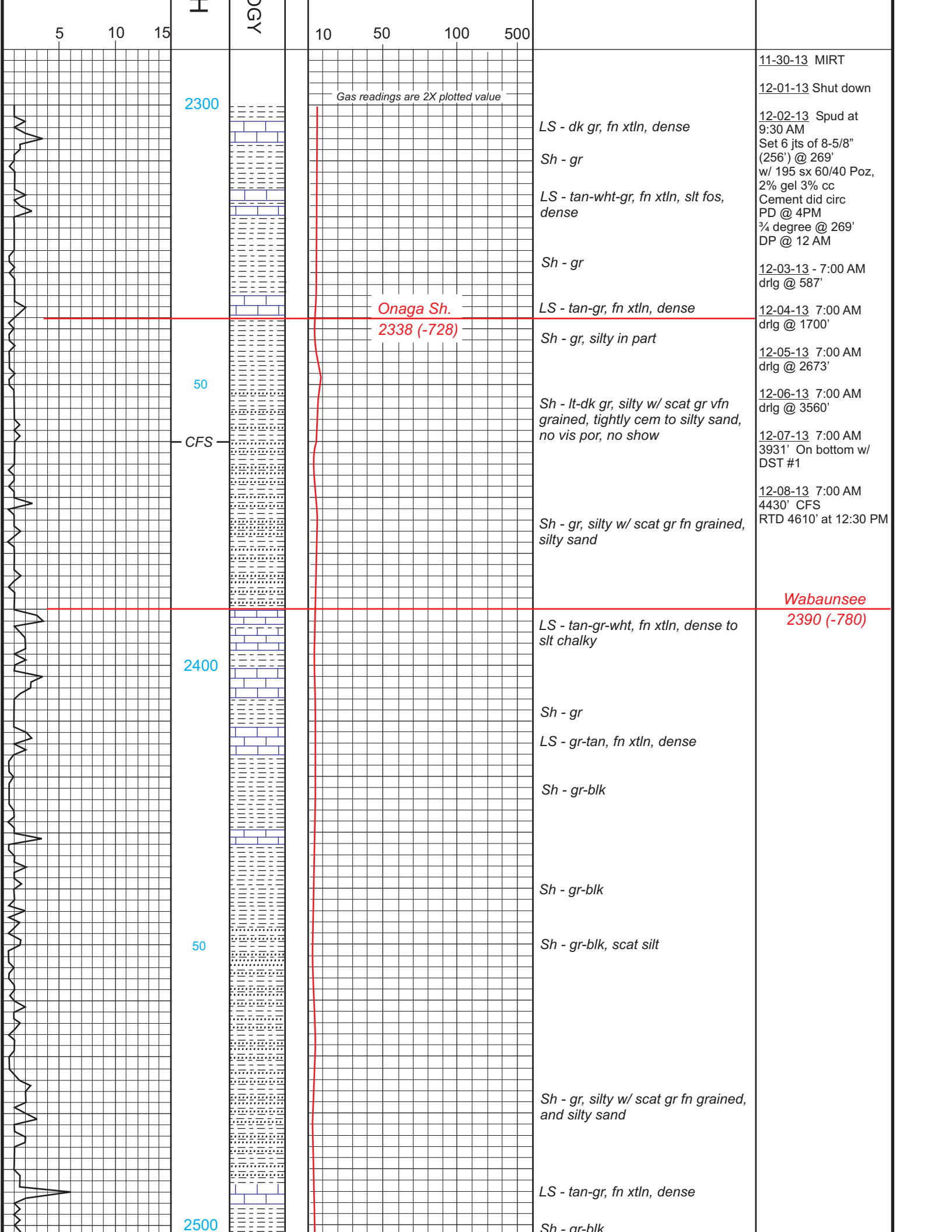
DEPTH

LITHOLOG

GAS SCALE

SAMPLE DESCRIPTION

REMARKS



5 10 15

H

OGY

10 50 100 500

2300

Gas readings are 2X plotted value

LS - dk gr, fn xtl, dense

Sh - gr

LS - tan-wht-gr, fn xtl, slt fos, dense

Sh - gr

Onaga Sh.  
2338 (-728)

LS - tan-gr, fn xtl, dense

Sh - gr, silty in part

50

CFS

Sh - lt-dk gr, silty w/ scat gr vfn grained, tightly cem to silty sand, no vis por, no show

Sh - gr, silty w/ scat gr fn grained, silty sand

2400

LS - tan-gr-wht, fn xtl, dense to slt chalky

Sh - gr

LS - gr-tan, fn xtl, dense

Sh - gr-blk

Sh - gr-blk

50

Sh - gr-blk, scat silt

Sh - gr, silty w/ scat gr fn grained, and silty sand

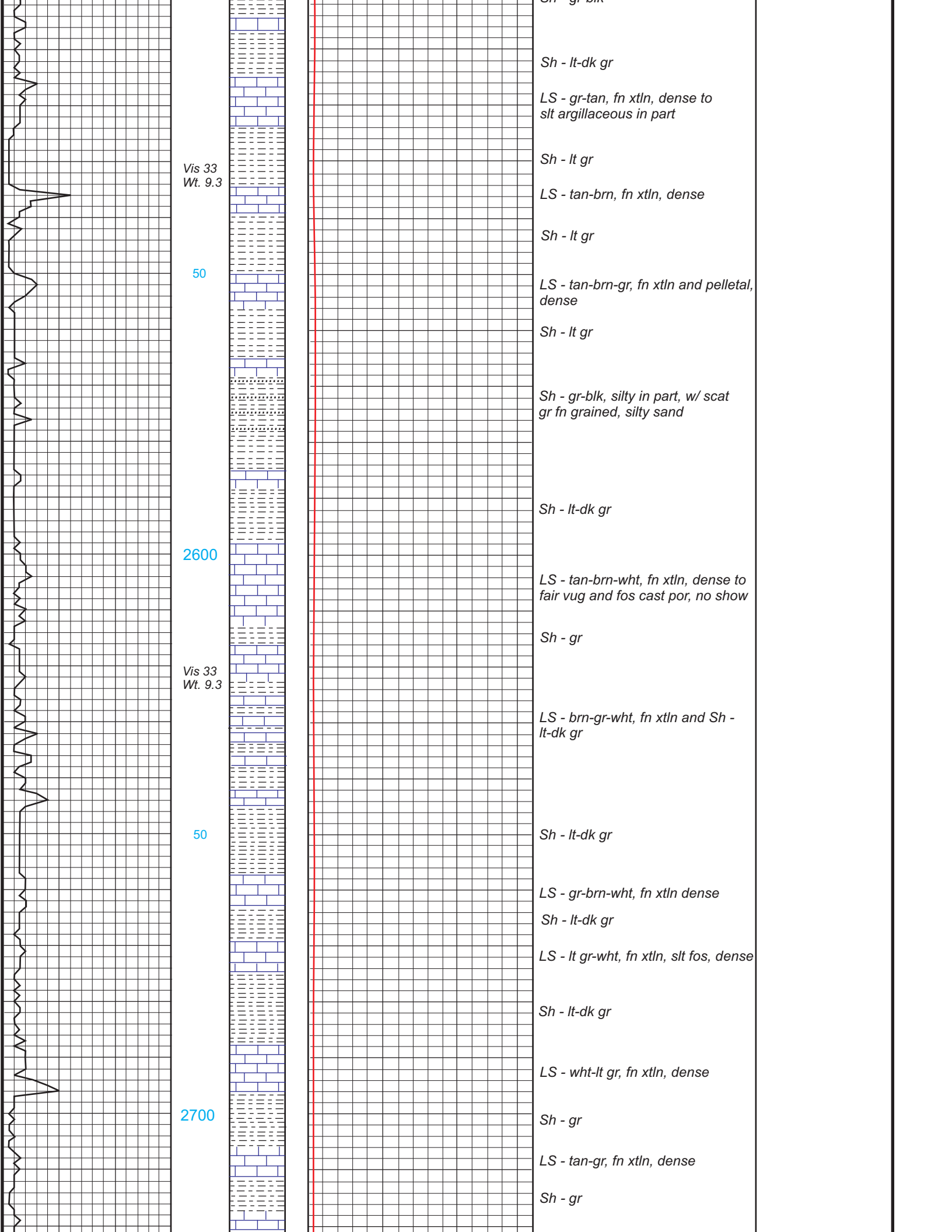
LS - tan-gr, fn xtl, dense

2500

Sh - gr-blk

11-30-13 MIRT  
12-01-13 Shut down  
12-02-13 Spud at 9:30 AM  
Set 6 jts of 8-5/8" (256') @ 269' w/ 195 sx 60/40 Poz, 2% gel 3% cc Cement did circ PD @ 4PM 3/4 degree @ 269' DP @ 12 AM  
12-03-13 - 7:00 AM drlg @ 587'  
12-04-13 7:00 AM drlg @ 1700'  
12-05-13 7:00 AM drlg @ 2673'  
12-06-13 7:00 AM drlg @ 3560'  
12-07-13 7:00 AM 3931' On bottom w/ DST #1  
12-08-13 7:00 AM 4430' CFS RTD 4610' at 12:30 PM

Wabaunsee  
2390 (-780)



Vis 33  
Wt. 9.3

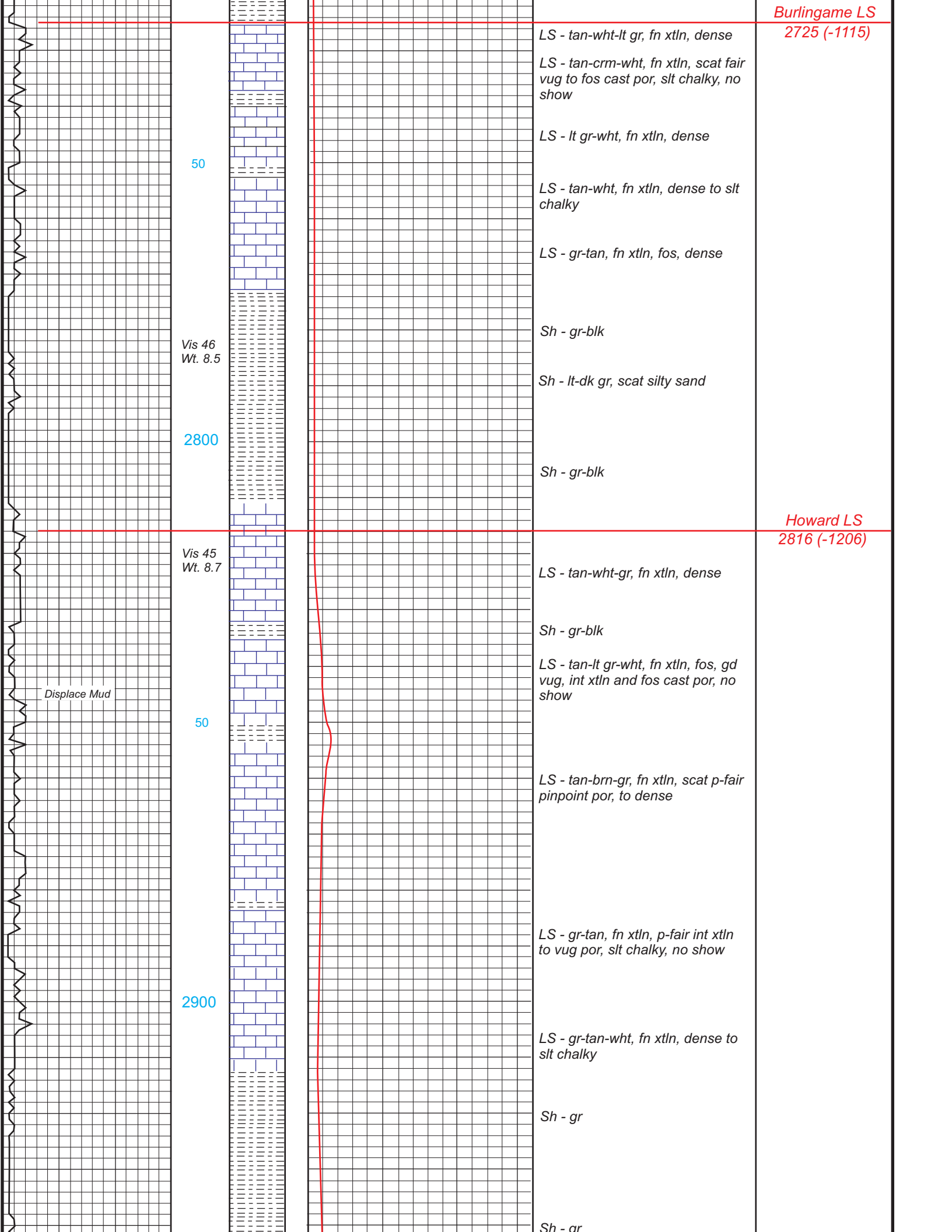
50

2600

Vis 33  
Wt. 9.3

50

2700



*Burlingame LS*  
2725 (-1115)

50

LS - tan-wht-lt gr, fn xtln, dense  
LS - tan-crm-wht, fn xtln, scat fair vug to fos cast por, slt chalky, no show

LS - lt gr-wht, fn xtln, dense

LS - tan-wht, fn xtln, dense to slt chalky

LS - gr-tan, fn xtln, fos, dense

Vis 46  
Wt. 8.5

Sh - gr-blk

Sh - lt-dk gr, scat silty sand

2800

Sh - gr-blk

*Howard LS*  
2816 (-1206)

Vis 45  
Wt. 8.7

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

Sh - gr-blk

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

Displace Mud

50

LS - tan-brn-gr, fn xtln, scat p-fair pinpoint por, to dense

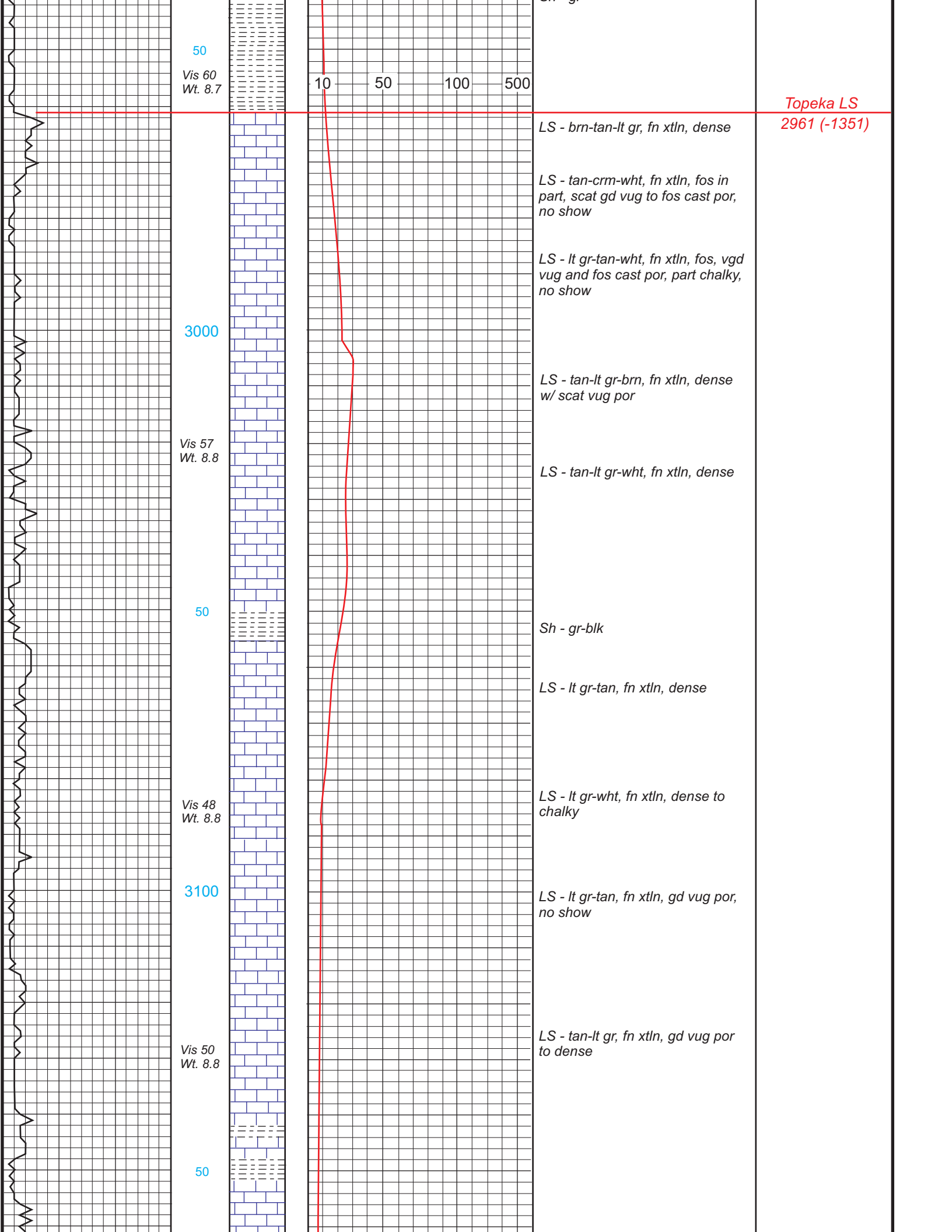
LS - gr-tan, fn xtln, p-fair int xtln to vug por, slt chalky, no show

2900

LS - gr-tan-wht, fn xtln, dense to slt chalky

Sh - gr

Sh - gr



50  
Vis 60  
Wt. 8.7

10 50 100 500

Topeka LS  
2961 (-1351)

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

LS - tan-crm-wht, fn xtln, fos in part, scat gd vug to fos cast por, no show

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

3000

LS - tan-lt gr-brn, fn xtln, dense w/ scat vug por

Vis 57  
Wt. 8.8

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

50

Sh - gr-blk

LS - lt gr-tan, fn xtln, dense

Vis 48  
Wt. 8.8

LS - lt gr-wht, fn xtln, dense to chalky

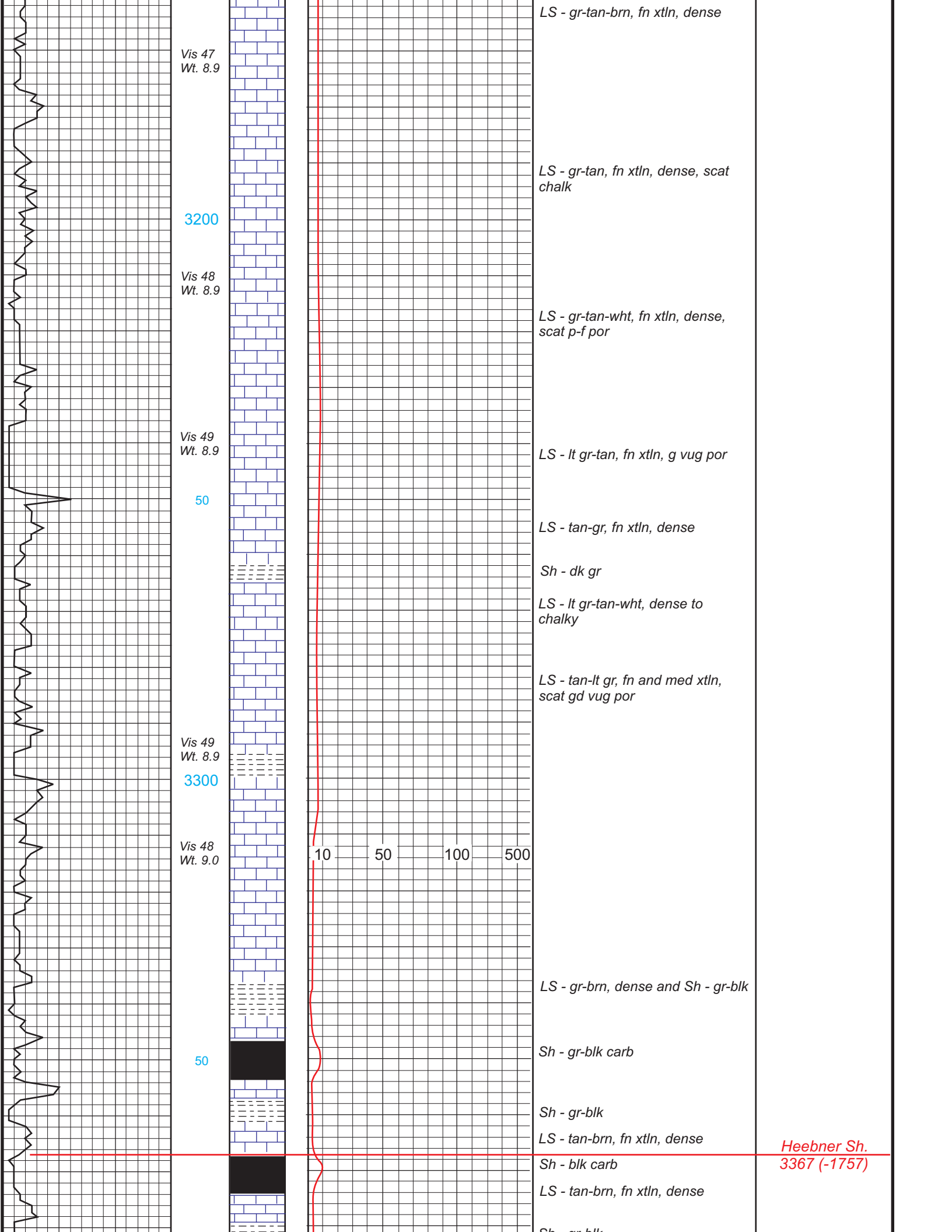
3100

LS - lt gr-tan, fn xtln, gd vug por, no show

Vis 50  
Wt. 8.8

LS - tan-lt gr, fn xtln, gd vug por to dense

50



Vis 47  
Wt. 8.9

3200

Vis 48  
Wt. 8.9

Vis 49  
Wt. 8.9

50

Vis 49  
Wt. 8.9

3300

Vis 48  
Wt. 9.0

50

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

LS - gr-tan, fn xtln, dense, scat  
chalk

LS - gr-tan-wht, fn xtln, dense,  
scat p-f por

LS - lt gr-tan, fn xtln, g vug por

LS - tan-gr, fn xtln, dense

Sh - dk gr

LS - lt gr-tan-wht, dense to  
chalky

LS - tan-lt gr, fn and med xtln,  
scat gd vug por

10 50 100 500

LS - gr-brn, dense and Sh - gr-blk

Sh - gr-blk carb

Sh - gr-blk

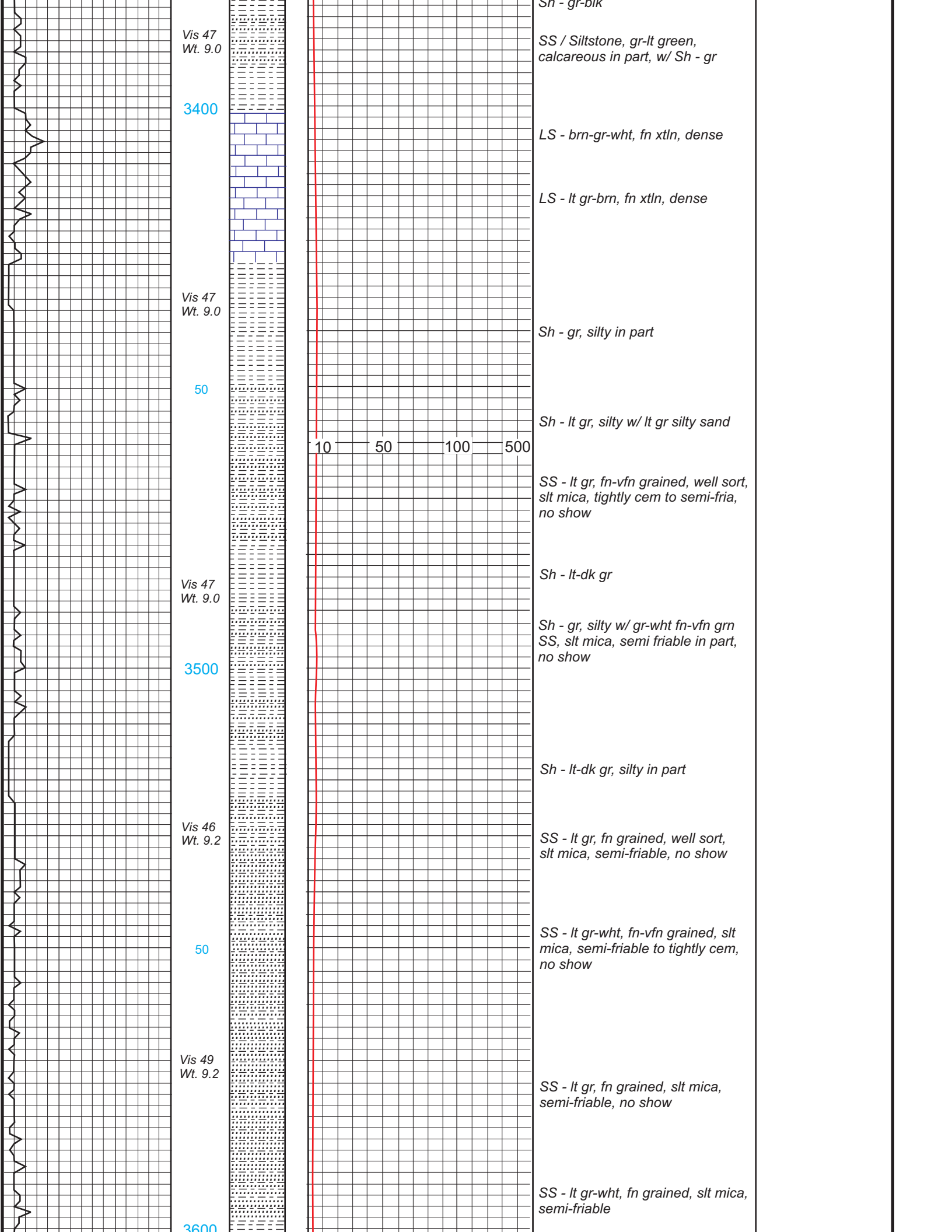
LS - tan-brn, fn xtln, dense

Sh - blk carb

LS - tan-brn, fn xtln, dense

Sh - gr-blk

Heebner Sh.  
3367 (-1757)



Vis 47  
Wt. 9.0

3400

SS / Siltstone, gr-lt green,  
calcareous in part, w/ Sh - gr

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

LS - lt gr-brn, fn xtltn, dense

Vis 47  
Wt. 9.0

50

Sh - gr, silty in part

Sh - lt gr, silty w/ lt gr silty sand

10 50 100 500

SS - lt gr, fn-vfn grained, well sort,  
slt mica, tightly cem to semi-fria,  
no show

Vis 47  
Wt. 9.0

3500

Sh - lt-dk gr

Sh - gr, silty w/ gr-wht fn-vfn gm  
SS, slt mica, semi friable in part,  
no show

Sh - lt-dk gr, silty in part

Vis 46  
Wt. 9.2

50

SS - lt gr, fn grained, well sort,  
slt mica, semi-friable, no show

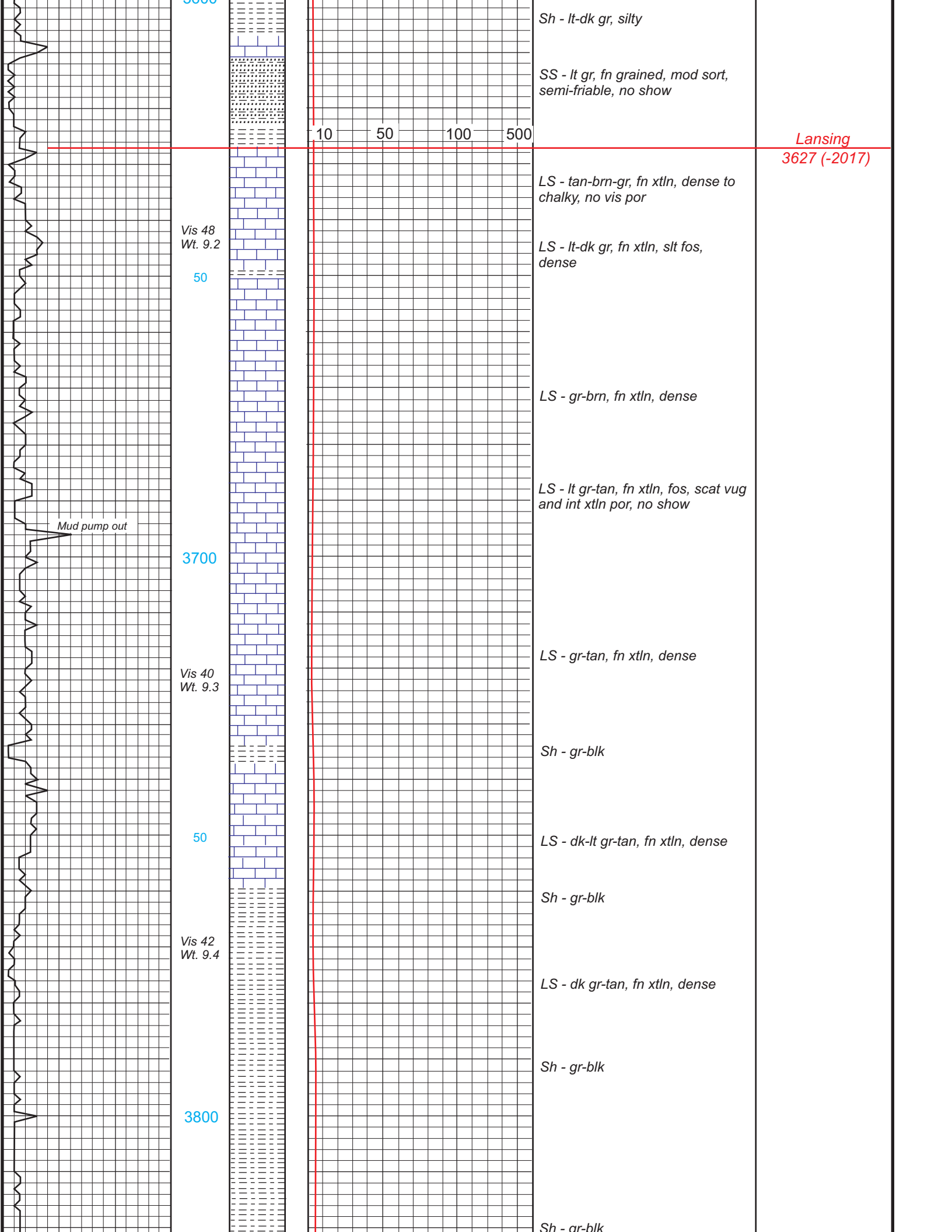
SS - lt gr-wht, fn-vfn grained, slt  
mica, semi-friable to tightly cem,  
no show

Vis 49  
Wt. 9.2

3600

SS - lt gr, fn grained, slt mica,  
semi-friable, no show

SS - lt gr-wht, fn grained, slt mica,  
semi-friable



Sh - lt-dk gr, silty

SS - lt gr, fn grained, mod sort, semi-friable, no show

10 50 100 500

Lansing  
3627 (-2017)

LS - tan-brn-gr, fn xtln, dense to chalky, no vis por

Vis 48  
Wt. 9.2

LS - lt-dk gr, fn xtln, slt fos, dense

50

LS - gr-brn, fn xtln, dense

LS - lt gr-tan, fn xtln, fos, scat vug and int xtln por, no show

Mud pump out

3700

LS - gr-tan, fn xtln, dense

Vis 40  
Wt. 9.3

Sh - gr-blk

50

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

Sh - gr-blk

Vis 42  
Wt. 9.4

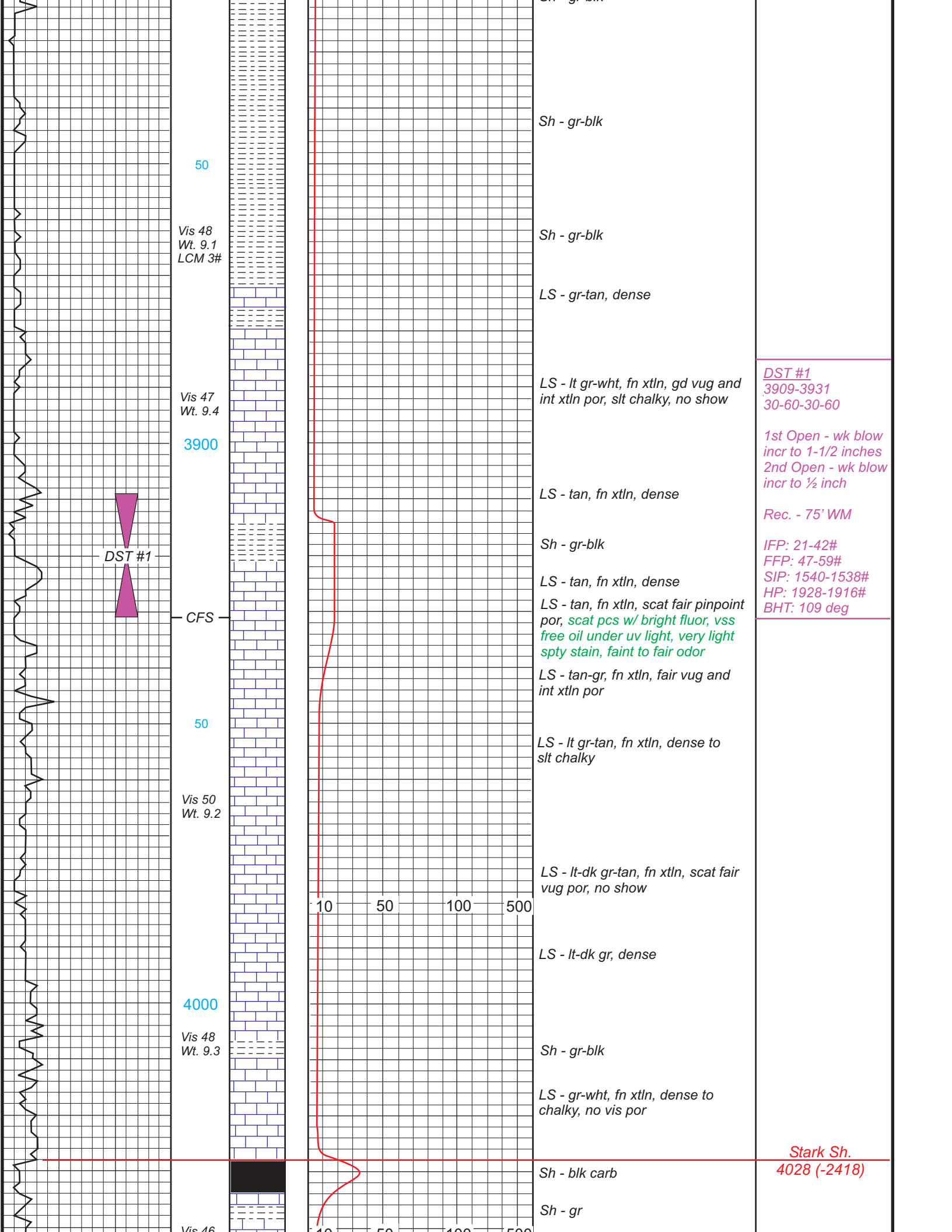
LS - dk gr-tan, fn xtln, dense

Sh - gr-blk

3800

Sh - gr-blk





50  
Vis 48  
Wt. 9.1  
LCM 3#

Vis 47  
Wt. 9.4  
3900



CFS

50  
Vis 50  
Wt. 9.2

4000  
Vis 48  
Wt. 9.3

Vis 46

Sh - gr-blk

Sh - gr-blk

LS - gr-tan, dense

LS - lt gr-wht, fn xtln, gd vug and  
int xtln por, slt chalky, no show

LS - tan, fn xtln, dense

Sh - gr-blk

LS - tan, fn xtln, dense

LS - tan, fn xtln, scat fair pinpoint  
por, scat pcs w/ bright fluor, vss  
free oil under uv light, very light  
spty stain, faint to fair odor

LS - tan-gr, fn xtln, fair vug and  
int xtln por

LS - lt gr-tan, fn xtln, dense to  
slt chalky

LS - lt-dk gr-tan, fn xtln, scat fair  
vug por, no show

LS - lt-dk gr, dense

Sh - gr-blk

LS - gr-wht, fn xtln, dense to  
chalky, no vis por

Sh - blk carb

Sh - gr

DST #1  
3909-3931  
30-60-30-60  
1st Open - wk blow  
incr to 1-1/2 inches  
2nd Open - wk blow  
incr to 1/2 inch  
Rec. - 75' WM  
IFP: 21-42#  
FFP: 47-59#  
SIP: 1540-1538#  
HP: 1928-1916#  
BHT: 109 deg

Stark Sh.  
4028 (-2418)

