

Timothy G. Pierce

Petroleum Geologist

GEOLOGIST'S REPORT DRILLING TIME AND SAMPLE LOG

COMPANY R & B Oil and Gas, Inc.
 LEASE Dana 'A' #1
 FIELD Wildcat
 LOCATION 370' FNL & 1485' FEL
 SEC 6 TWSP 32S RGE 10W
 COUNTY Barber STATE Kansas
 CONTRACTOR Hardt Drilling Rig #1
 SPUD 6-14-2014 COMP 6-26-2014
 RTD 4801 LTD 4803
 MUD UP 2920 TYPE MUD Chemical
 SAMPLES SAVED FROM 2500 TO RTD
 DRILLING TIME KEPT FROM 2500 TO RTD
 SAMPLES EXAMINED FROM 2500 TO RTD
 GEOLOGICAL SUPERVISION FROM 2445 to RTD
 GEOLOGIST ON WELL Tim Pierce

ELEVATIONS

KB 1656'
 DF _____
 GL 1646'

Measurements Are All
 From Kelly Bushing

CASING

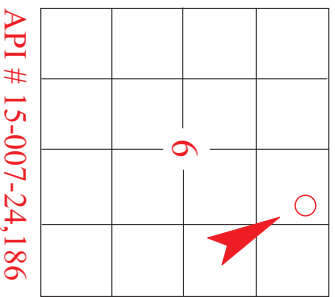
CONDUCTOR _____
 SURFACE 8-5/8" at 250'
 PRODUCTION 5-1/2" at 4774'

ELECTRICAL SURVEYS

Pioneer Energy Svcs.
DIL / DUCP

FORMATION TOPS ELECTRIC LOG SAMPLE

Onaga Sh.	2621 (-965)	2621 (-965)
Heebner Sh.	3639 (-1983)	3639 (-1983)
Lansing	3816 (-2160)	3816 (-2160)
Stark Sh.	4227 (-2571)	4227 (-2571)
Cherokee Sh.	4451 (-2895)	4450 (-2894)
Mississippi	4469 (-2913)	4465 (-2909)
Chatanooga Sh..	4737 (-3081)	4735 (-3079)
Viola	4774 (-3118)	4774 (-3118)



API # 15-007-24,186


REMARKS Samples, electric logs, and DST results indicate possible production from the Mississippi, therefore production casing was run to a depth of 4774'.
A slight sample show was observed in the top of the Topeka which was not tested, this zone appears non commercial.
Samples and DST indicated possible production from the Tarkio 'A' Sand, electric logs indicate possible production from the Tarkio 'B' sand at 2850'-2855', a gas kick was also recorded through this interval.
A port collar was run in the production string in order to cement the two Tarkio sand zones at a later date.
There were no other zones of interest indicated by samples or electric logs.

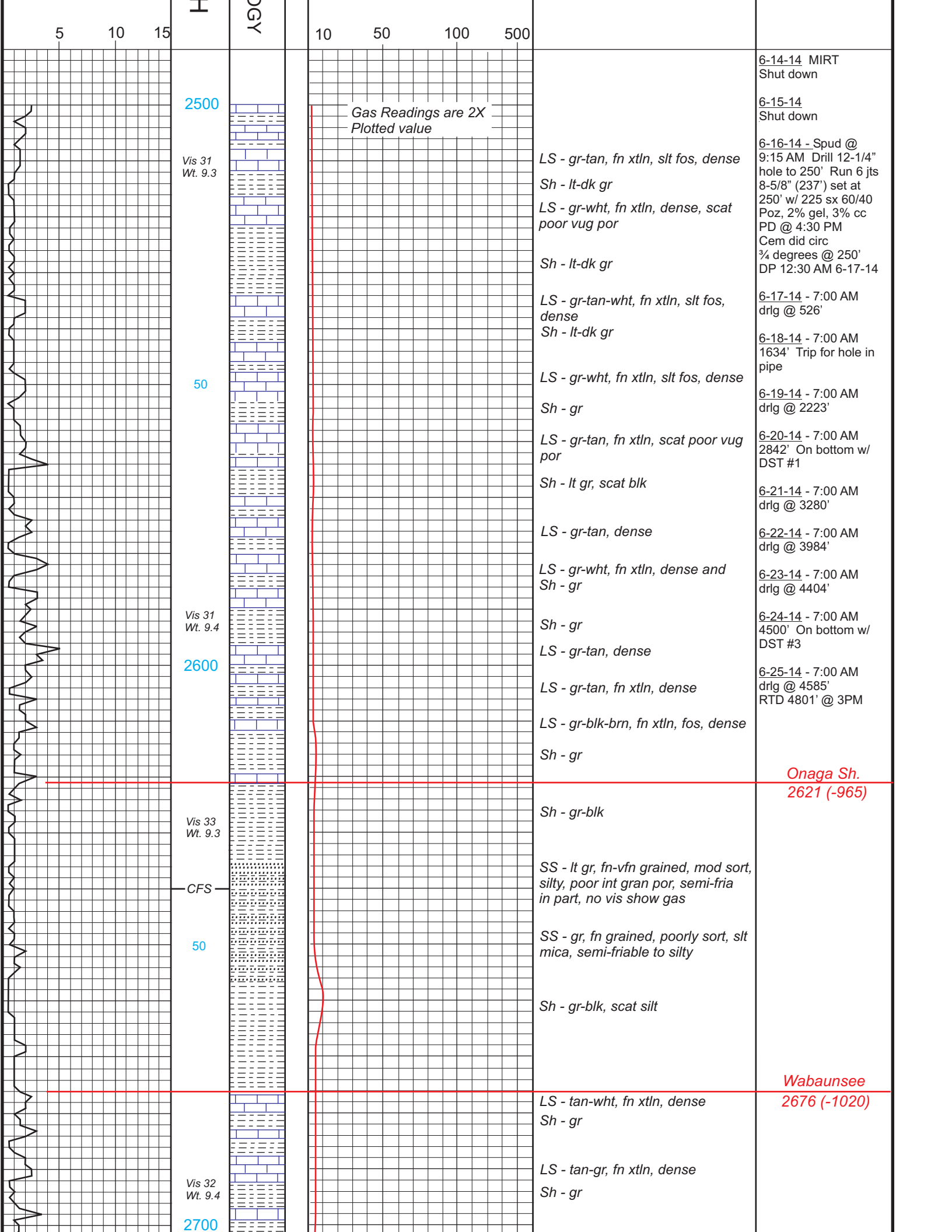
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LEGEND

							
Anhydrite	Sandstone	Limestone	Shale	Carb Sh	Cherty LS	Chert	Dolomite

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

H

GY

10 50 100 500

2500

Vis 31
Wt. 9.3

Gas Readings are 2X
Plotted value

LS - gr-tan, fn xtn, slt fos, dense
Sh - lt-dk gr
LS - gr-wht, fn xtn, dense, scat
poor vug por
Sh - lt-dk gr

6-14-14 MIRT
Shut down
6-15-14
Shut down
6-16-14 - Spud @
9:15 AM Drill 12-1/4"
hole to 250' Run 6 jts
8-5/8" (237') set at
250' w/ 225 sx 60/40
Poz, 2% gel, 3% cc
PD @ 4:30 PM
Cem did circ
3/4 degrees @ 250'
DP 12:30 AM 6-17-14

50

Vis 31
Wt. 9.4

LS - gr-tan-wht, fn xtn, slt fos,
dense
Sh - lt-dk gr

6-17-14 - 7:00 AM
drlg @ 526'

LS - gr-wht, fn xtn, slt fos, dense

6-18-14 - 7:00 AM
1634' Trip for hole in
pipe

Sh - gr

6-19-14 - 7:00 AM
drlg @ 2223'

LS - gr-tan, fn xtn, scat poor vug
por

6-20-14 - 7:00 AM
2842' On bottom w/
DST #1

Sh - lt gr, scat blk

6-21-14 - 7:00 AM
drlg @ 3280'

LS - gr-tan, dense

6-22-14 - 7:00 AM
drlg @ 3984'

LS - gr-wht, fn xtn, dense and
Sh - gr

6-23-14 - 7:00 AM
drlg @ 4404'

Sh - gr

6-24-14 - 7:00 AM
4500' On bottom w/
DST #3

LS - gr-tan, dense

6-25-14 - 7:00 AM
drlg @ 4585'
RTD 4801' @ 3PM

2600

Vis 33
Wt. 9.3

LS - gr-tan, fn xtn, dense

LS - gr-blk-brn, fn xtn, fos, dense
Sh - gr

Onaga Sh.
2621 (-965)

CFS

50

Sh - gr-blk

SS - lt gr, fn-vfn grained, mod sort,
silty, poor int gran por, semi-fria
in part, no vis show gas

SS - gr, fn grained, poorly sort, slt
mica, semi-friable to silty

Sh - gr-blk, scat silt

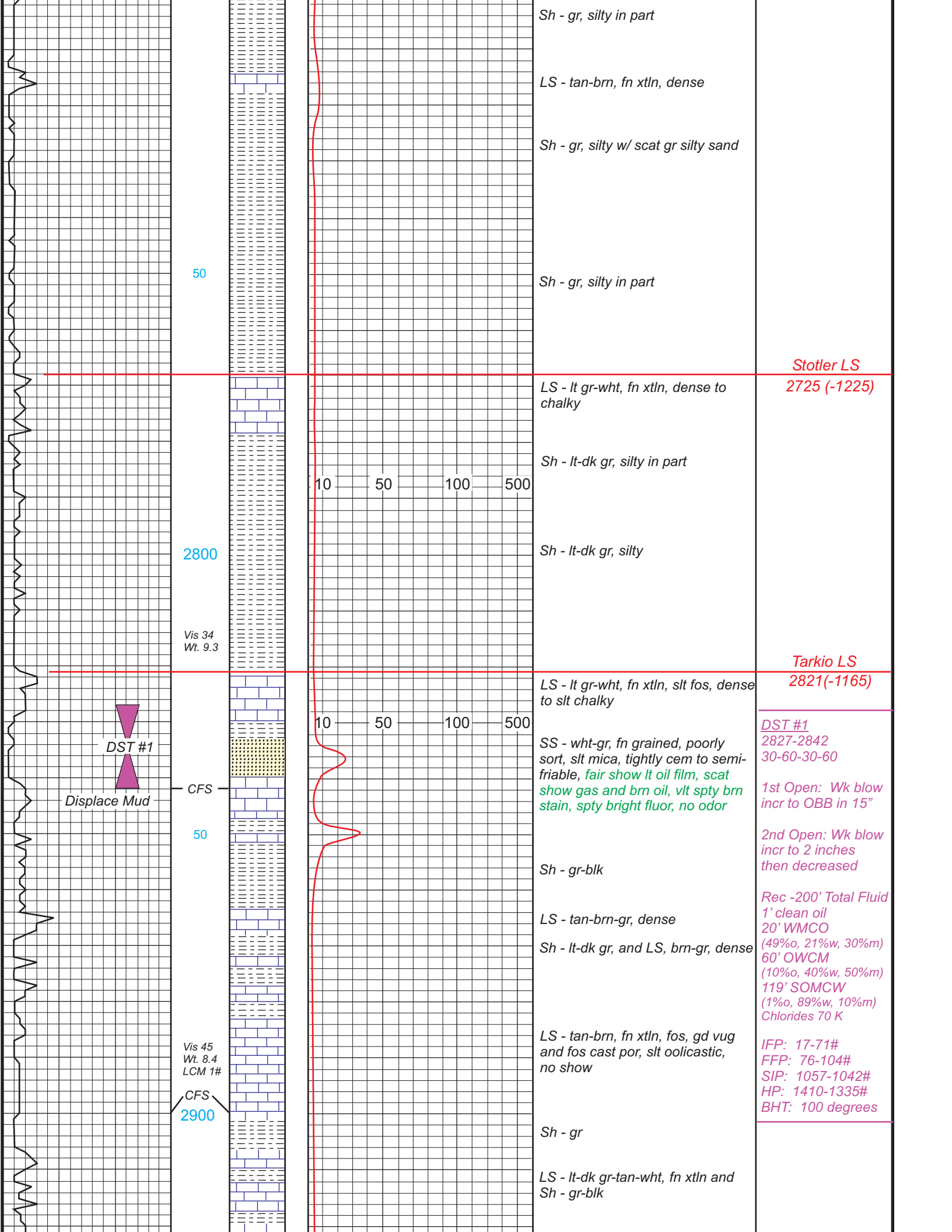
Wabaunsee
2676 (-1020)

Vis 32
Wt. 9.4

LS - tan-wht, fn xtn, dense
Sh - gr

2700

LS - tan-gr, fn xtn, dense
Sh - gr



Sh - gr, silty in part

LS - tan-brn, fn xtl, dense

Sh - gr, silty w/ scat gr silty sand

50

Sh - gr, silty in part

Stotler LS
2725 (-1225)

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

Sh - lt-dk gr, silty in part

10 50 100 500

2800

Sh - lt-dk gr, silty

Vis 34
Wt. 9.3

Tarkio LS
2821 (-1165)

LS - lt gr-wht, fn xtl, slt fos, dense to slt chalky

10 50 100 500

DST #1

SS - wht-gr, fn grained, poorly sort, slt mica, tightly cem to semi-friable, fair show lt oil film, scat show gas and brn oil, vlt spty brn stain, spty bright fluor, no odor

DST #1
2827-2842
30-60-30-60

Displace Mud

CFS

1st Open: Wk blow incr to OBB in 15"

50

Sh - gr-blk

2nd Open: Wk blow incr to 2 inches then decreased

Rec -200' Total Fluid
1' clean oil
20' WMCO (49%o, 21%w, 30%m)
60' OWCM (10%o, 40%w, 50%m)
119' SOMCW (1%o, 89%w, 10%m)
Chlorides 70 K

Vis 45
Wt. 8.4
LCM 1#

LS - tan-brn-gr, dense

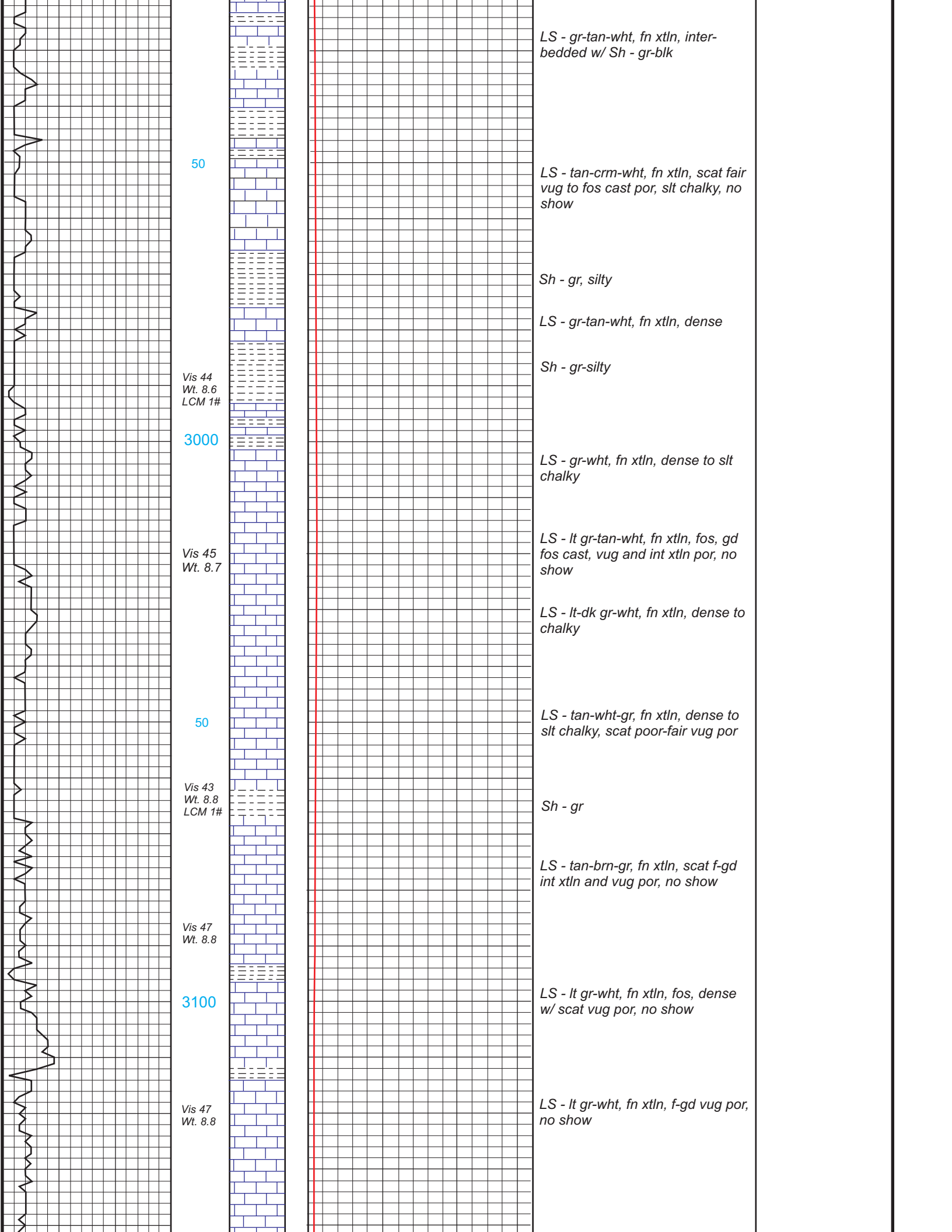
Sh - lt-dk gr, and LS, brn-gr, dense

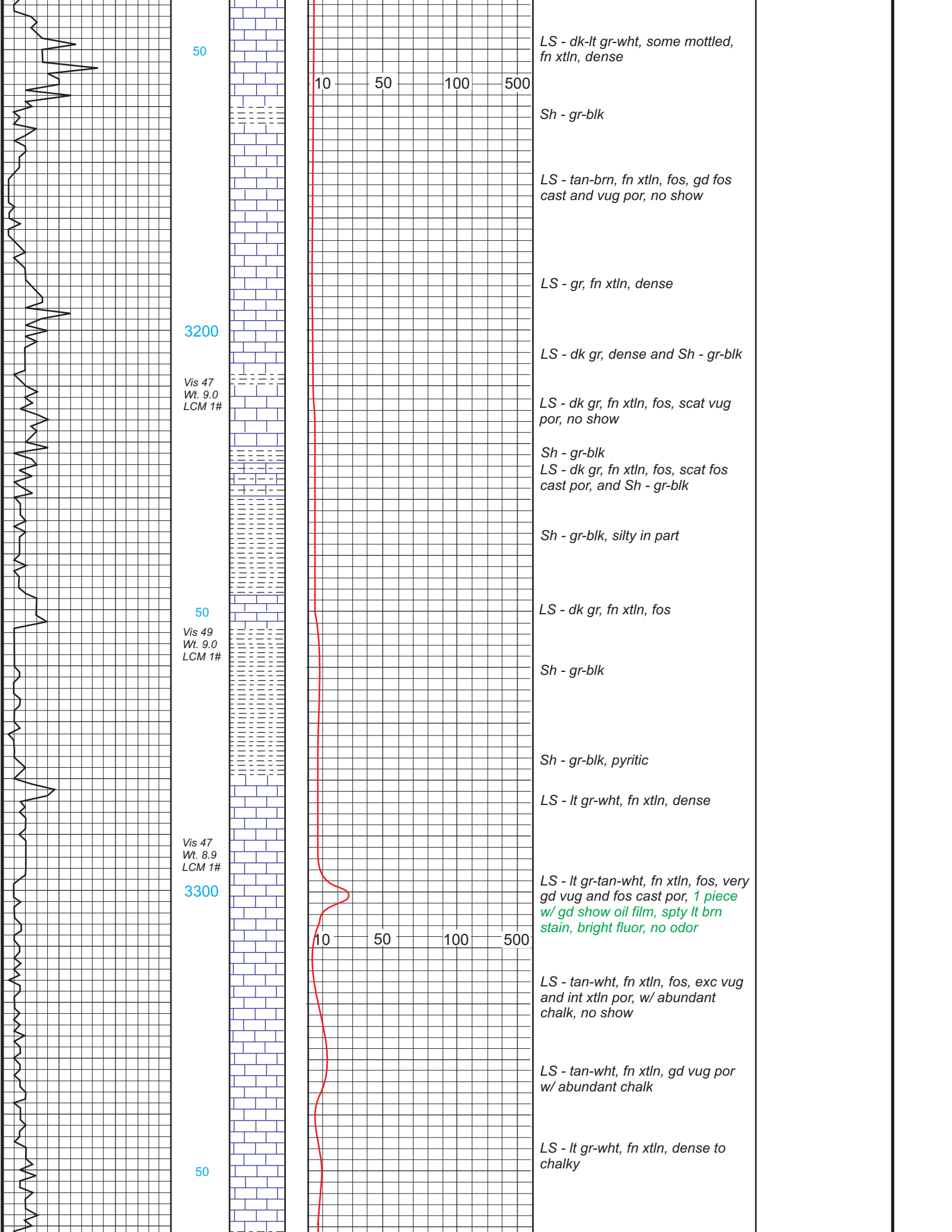
LS - tan-brn, fn xtl, fos, gd vug and fos cast por, slt oolitic, no show

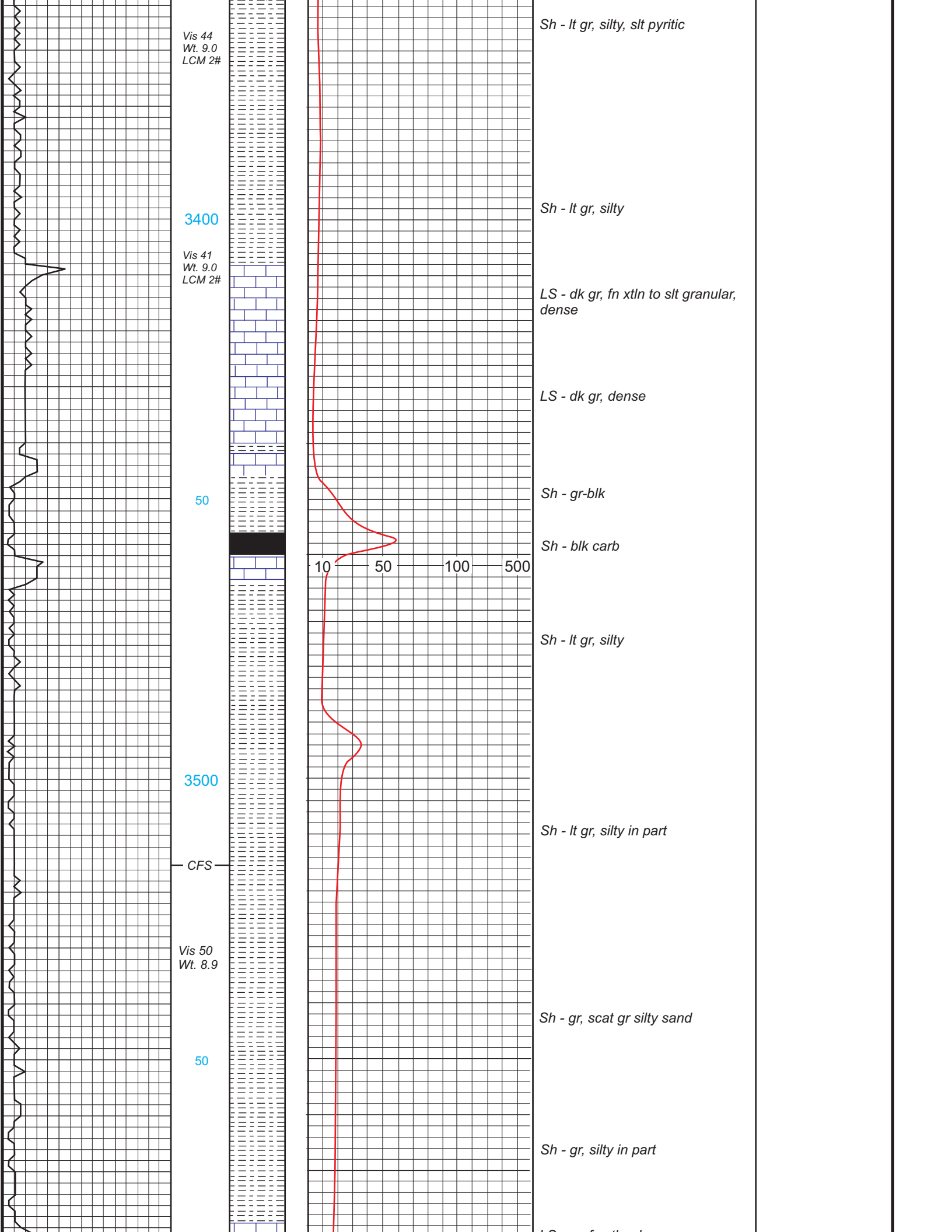
CFS
2900

Sh - gr

LS - lt-dk gr-tan-wht, fn xtl and Sh - gr-blk







Vis 44
Wt. 9.0
LCM 2#

Sh - lt gr, silty, slt pyritic

3400

Sh - lt gr, silty

Vis 41
Wt. 9.0
LCM 2#

LS - dk gr, fn xtlr to slt granular,
dense

LS - dk gr, dense

50

Sh - gr-blk

Sh - blk carb

10 50 100 500

Sh - lt gr, silty

3500

Sh - lt gr, silty in part

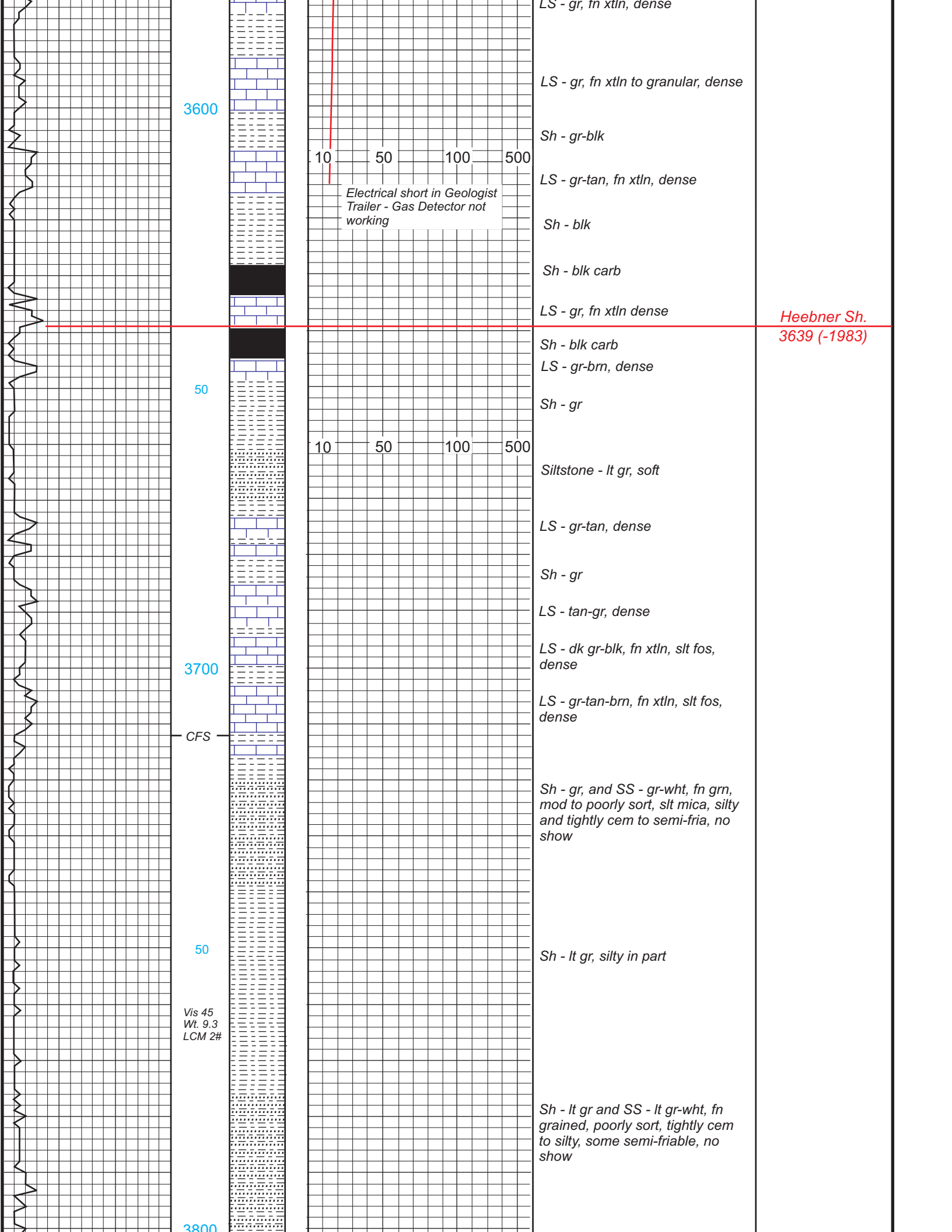
CFS

Vis 50
Wt. 8.9

Sh - gr, scat gr silty sand

50

Sh - gr, silty in part



3600

LS - gr, fn xtl, dense

LS - gr, fn xtl to granular, dense

Sh - gr-blk

10 50 100 500

Electrical short in Geologist Trailer - Gas Detector not working

LS - gr-tan, fn xtl, dense

Sh - blk

Sh - blk carb

LS - gr, fn xtl, dense

Heebner Sh.
3639 (-1983)

Sh - blk carb

LS - gr-brn, dense

50

Sh - gr

10 50 100 500

Siltstone - lt gr, soft

LS - gr-tan, dense

Sh - gr

LS - tan-gr, dense

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

3700

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

CFS

Sh - gr, and SS - gr-wht, fn grn, mod to poorly sort, slt mica, silty and tightly cem to semi-fria, no show

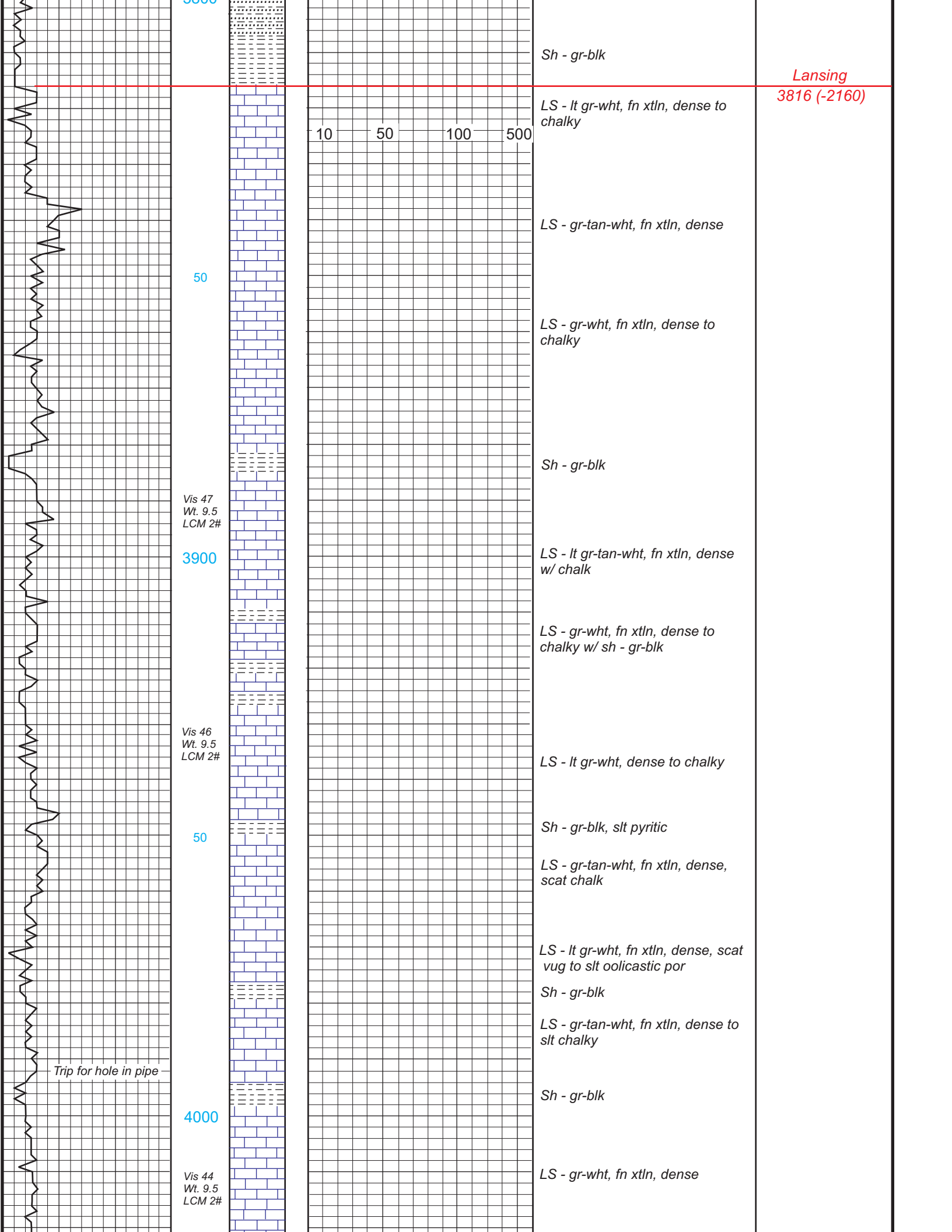
50

Sh - lt gr, silty in part

Vis 45
Wt 9.3
LCM 2#

Sh - lt gr and SS - lt gr-wht, fn grained, poorly sort, tightly cem to silty, some semi-friable, no show

3800



3000

Sh - gr-blk

Lansing
3816 (-2160)

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

10 50 100 500

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

50

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

Vis 47
Wt. 9.5
LCM 2#

Sh - gr-blk

3900

LS - lt gr-tan-wht, fn xtln, dense w/ chalk

LS - gr-wht, fn xtln, dense to chalky w/ sh - gr-blk

Vis 46
Wt. 9.5
LCM 2#

LS - lt gr-wht, dense to chalky

50

Sh - gr-blk, slt pyritic

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

LS - lt gr-wht, fn xtln, dense, scat vug to slt oolitic por

Sh - gr-blk

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

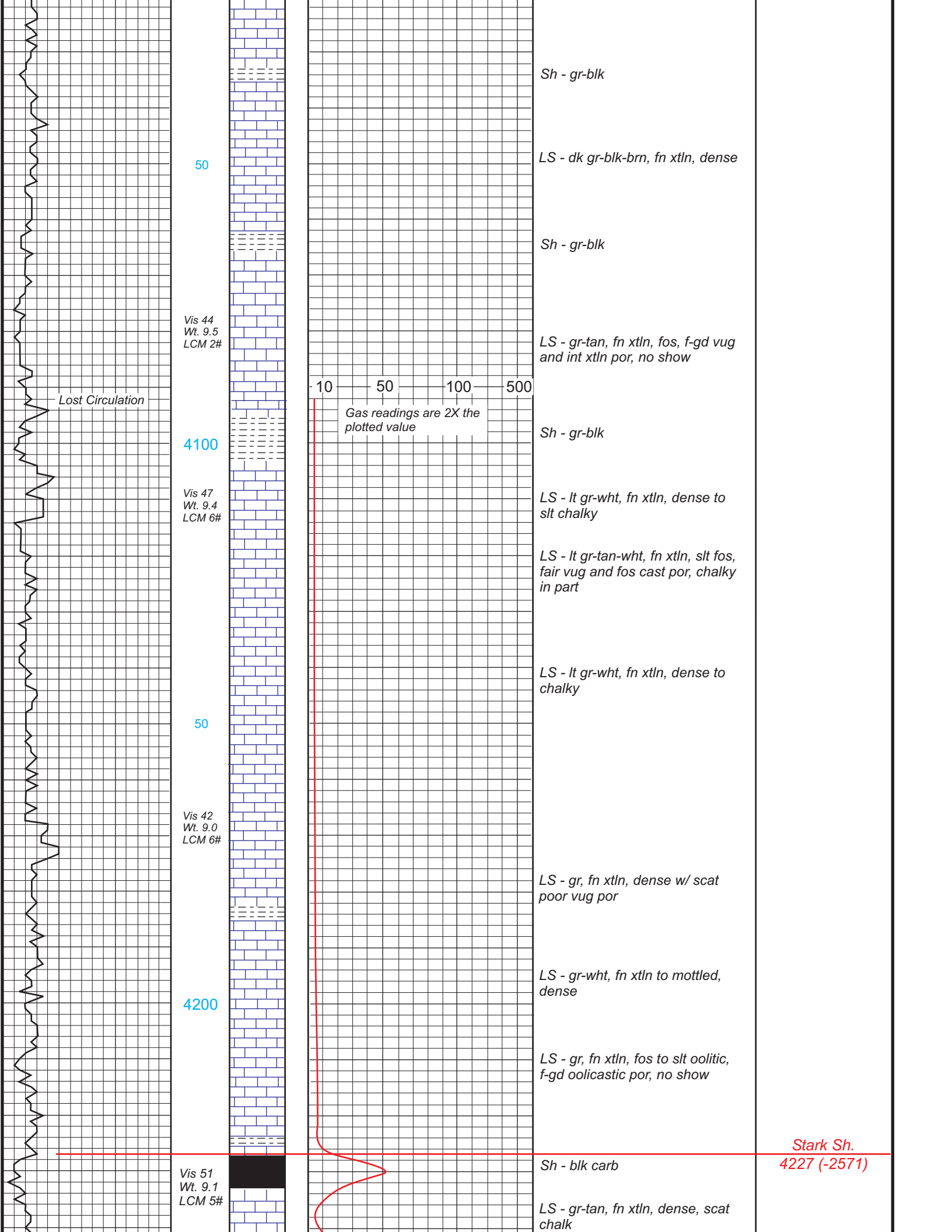
Trip for hole in pipe

4000

Sh - gr-blk

Vis 44
Wt. 9.5
LCM 2#

LS - gr-wht, fn xtln, dense



Sh - gr-blk

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

Sh - gr-blk

LS - gr-tan, fn xtl, fos, f-gd vug and int xtl por, no show

Lost Circulation

10 50 100 500

Gas readings are 2X the plotted value

Sh - gr-blk

4100

Vis 47
Wt. 9.4
LCM 6#

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

LS - lt gr-tan-wht, fn xtl, slt fos, fair vug and fos cast por, chalky in part

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

50

Vis 42
Wt. 9.0
LCM 6#

LS - gr, fn xtl, dense w/ scat poor vug por

LS - gr-wht, fn xtl to mottled, dense

4200

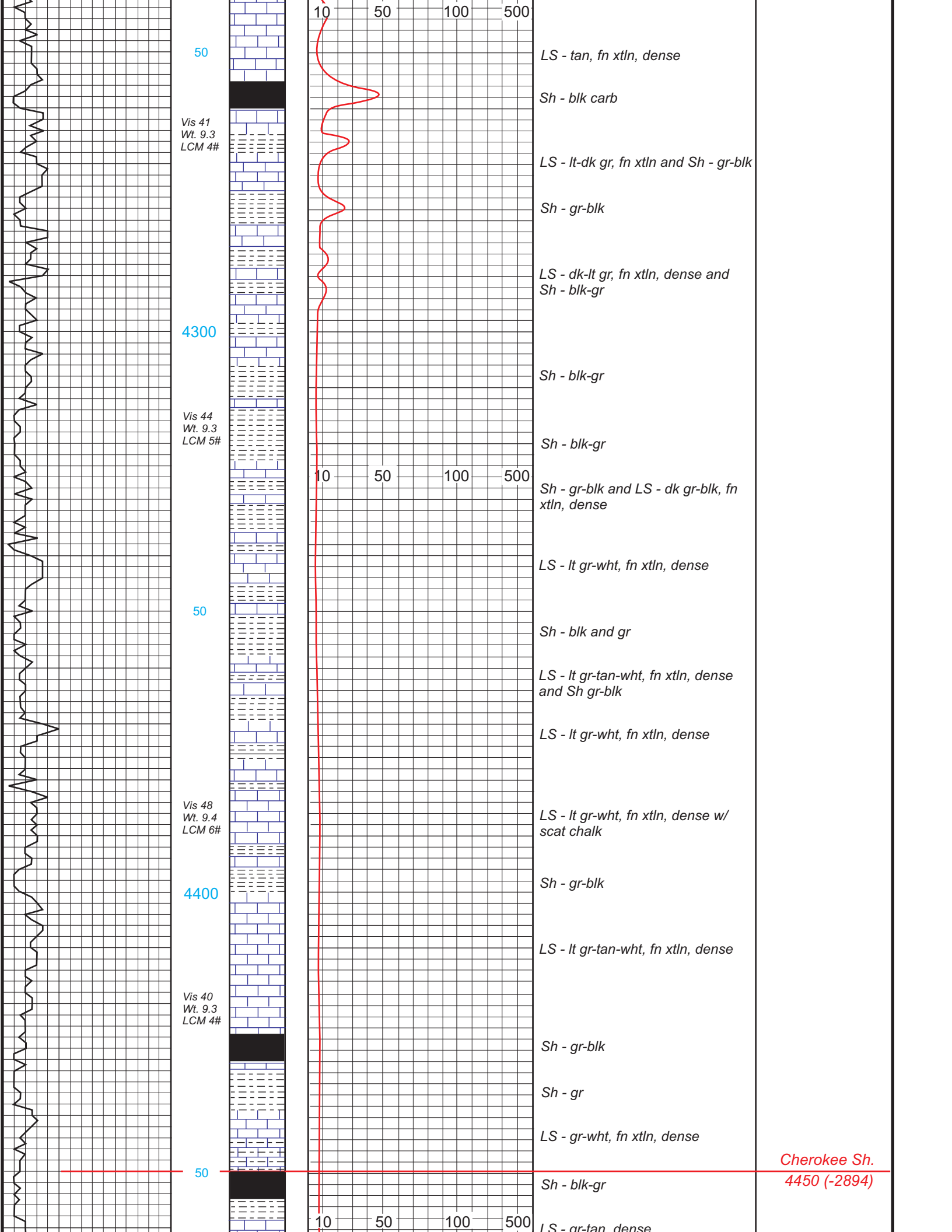
LS - gr, fn xtl, fos to slt oolitic, f-gd oolitic por, no show

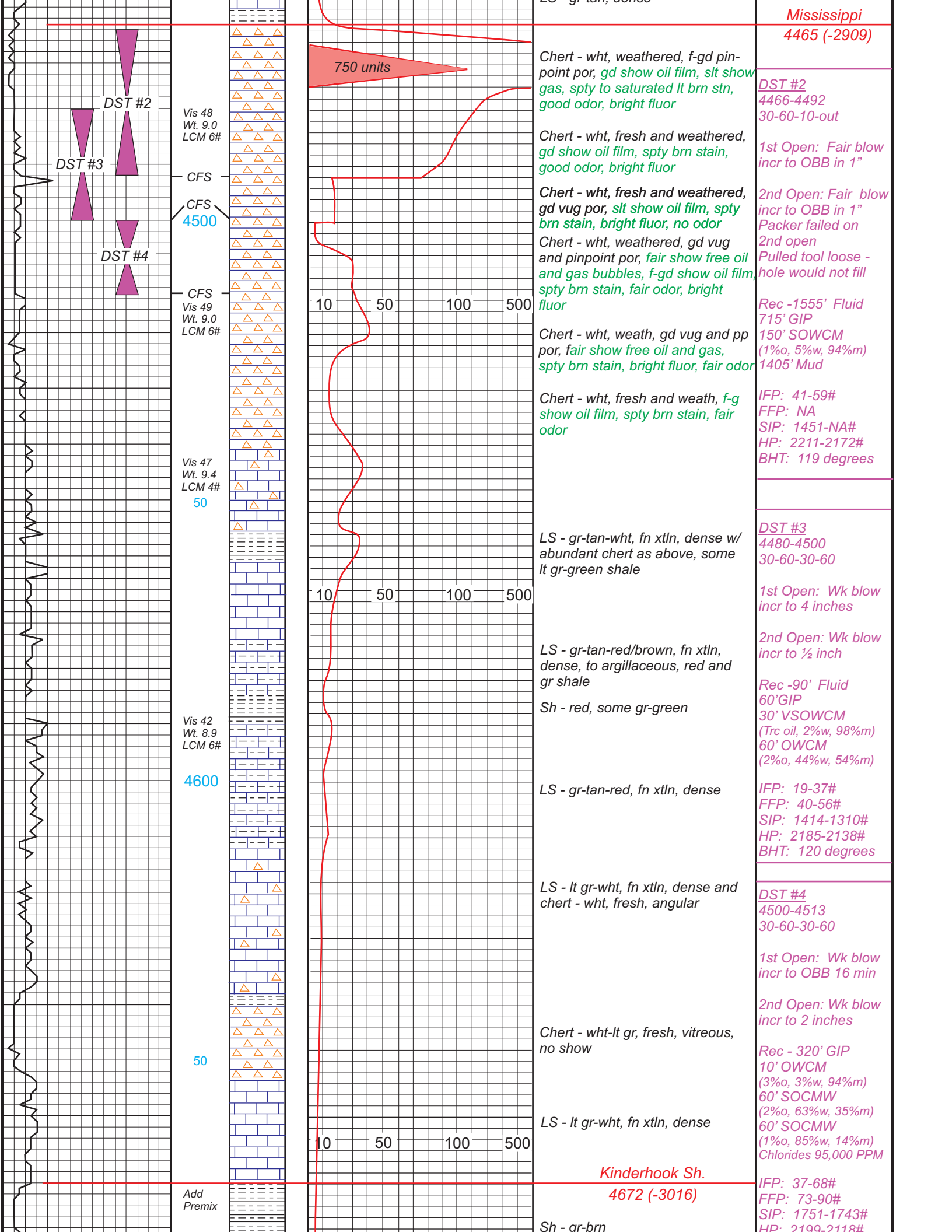
Stark Sh.
4227 (-2571)

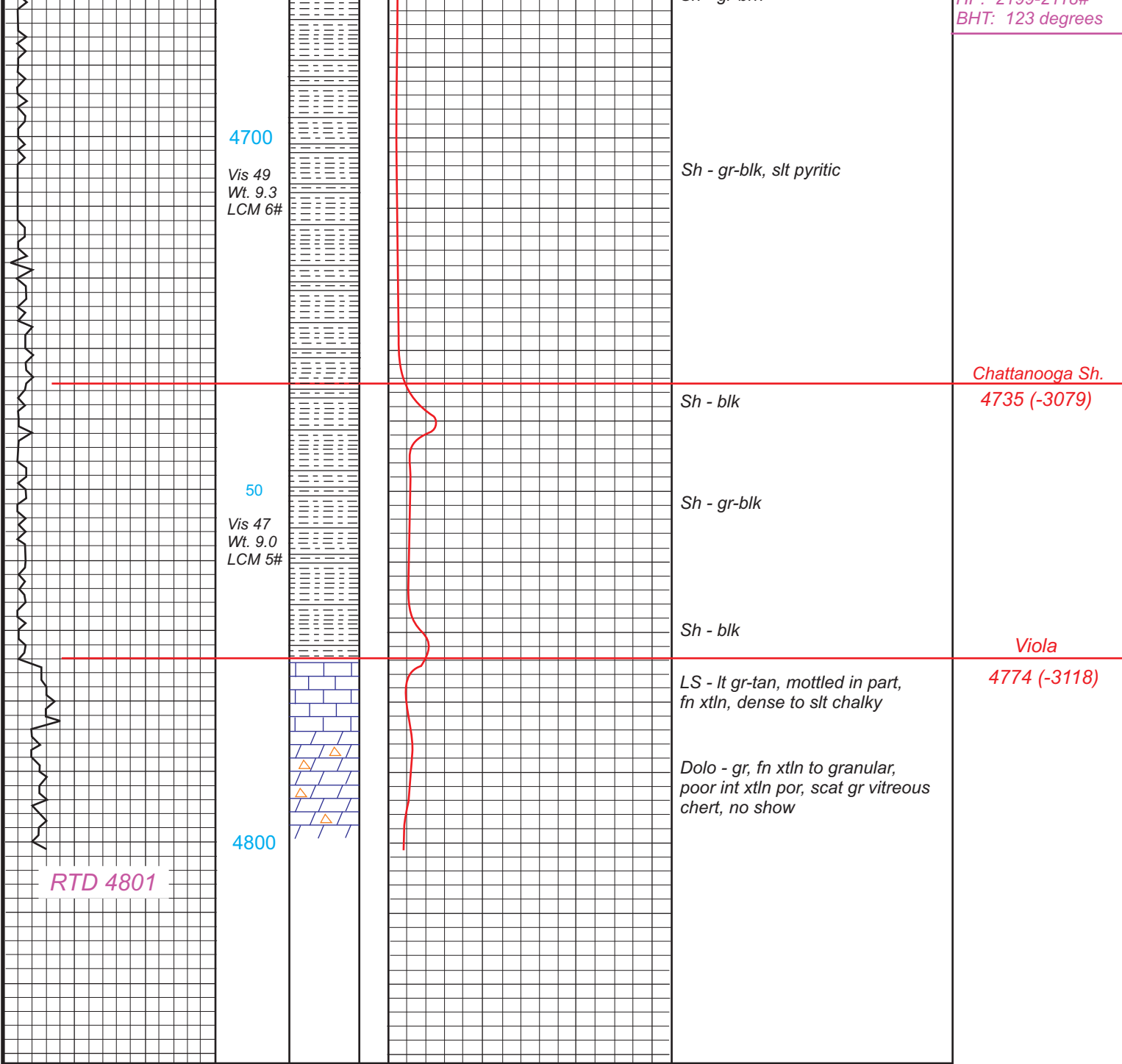
Vis 51
Wt. 9.1
LCM 5#

Sh - blk carb

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

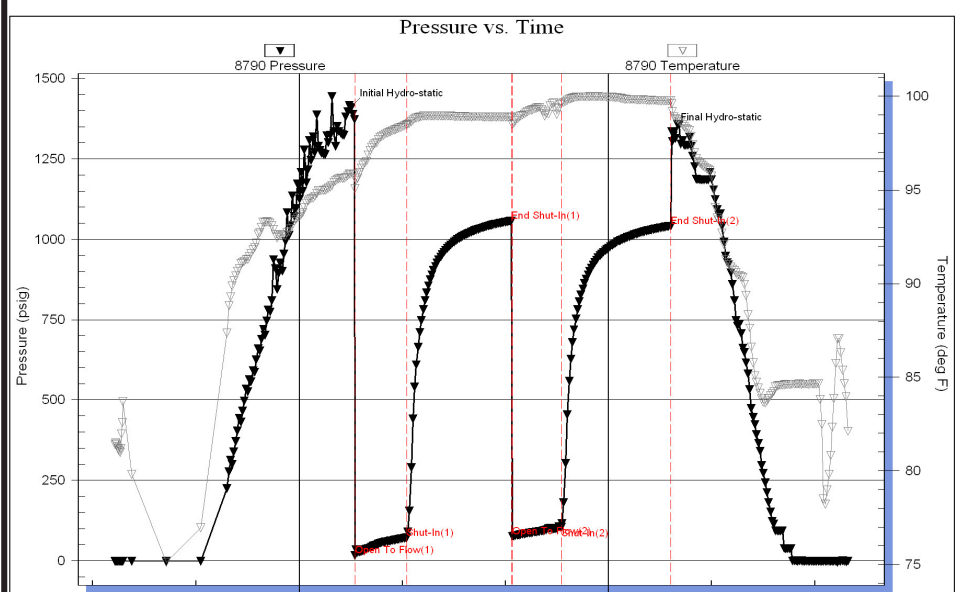






RTD 4801

Serial #: 8790 Outside: R & B Oil & Gas, Inc. Dana A - 1 DST Test Number: 1



DST #1
2827-2842
30-60-30-60

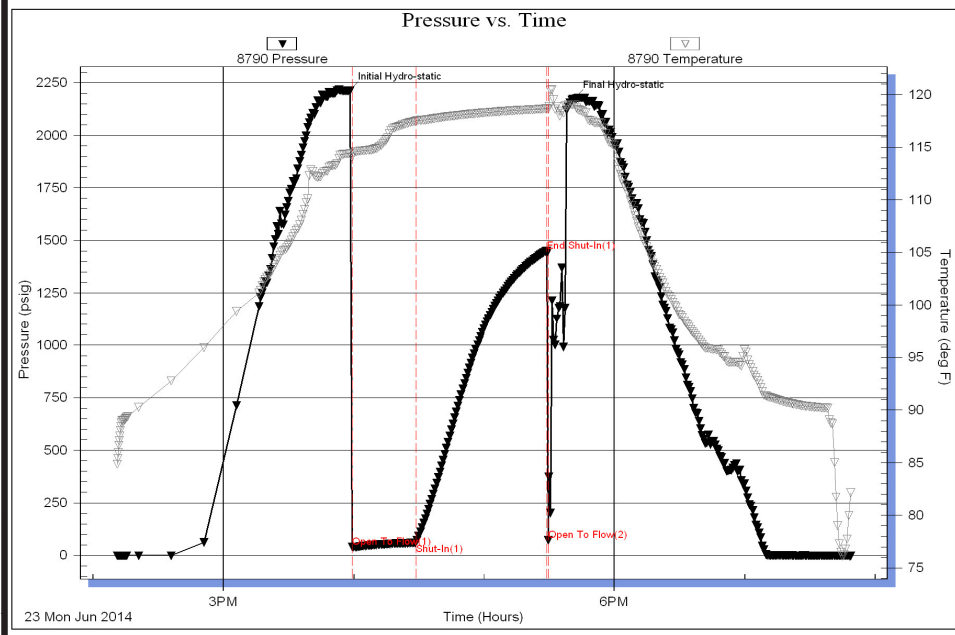
1st Open: Wk blow
incr to OBB in 15"

2nd Open: Wk blow
incr to 2 inches
then decreased

Rec -200' Total Fluid
1' clean oil
20' WMCO
(49%o, 21%w, 30%m)
60' OWCM
(10%o, 40%w, 50%m)
119' SOMCW
(1%o, 89%w, 10%m)
Chlorides 70 K

IFP: 17-71#
FFP: 76-104#

Serial #: 8790 Outside R & B Oil & Gas, Inc. Dana A - 1 DST Test Number: 2



DST #2
4466-4492
30-60-10-out

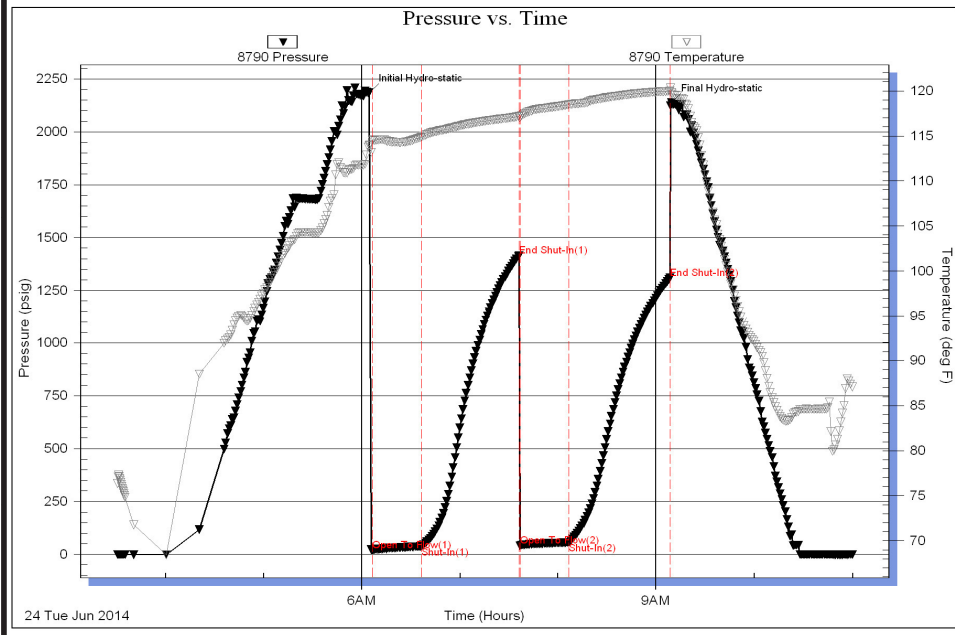
1st Open: Fair blow
incr to OBB in 1"

2nd Open: Fair blow
incr to OBB in 1"
Packer failed on
2nd open
Pulled tool loose -
hole would not fill

Rec -1555' Fluid
715' GIP
150' SOWCM
(1%o, 5%w, 94%m)
1405' Mud

IFP: 41-59#
FFP: NA
SIP: 1451-NA#
HP: 2211-2172#
BHT: 119 degrees

Serial #: 8790 Outside R & B Oil & Gas, Inc. Dana A - 1 DST Test Number: 3



DST #3
4480-4500
30-60-30-60

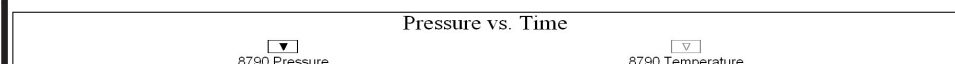
1st Open: Wk blow
incr to 4 inches

2nd Open: Wk blow
incr to 1/2 inch

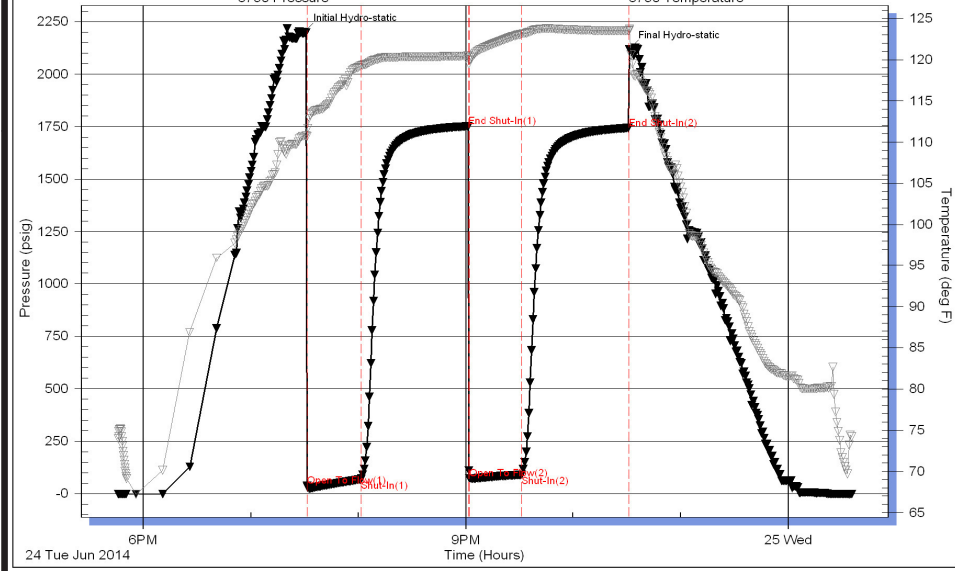
Rec -90' Fluid
60' GIP
30' VSOWCM
(Trc oil, 2%w, 98%m)
60' OWCM
(2%o, 44%w, 54%m)

IFP: 19-37#
FFP: 40-56#
SIP: 1414-1310#
HP: 2185-2138#
BHT: 120 degrees

Serial #: 8790 Outside R & B Oil & Gas, Inc. Dana A - 1 DST Test Number: 4



DST #4
4500-4513



4300-4313
30-60-30-60

1st Open: Wk blow
incr to OBB 16 min

2nd Open: Wk blow
incr to 2 inches

Rec - 320' GIP
10' OWCM
(3%o, 3%w, 94%*m*)
60' SOCMW
(2%o, 63%w, 35%*m*)
60' SOCMW
(1%o, 85%w, 14%*m*)
Chlorides 95,000 PPM

IFP: 37-68#
FFP: 73-90#
SIP: 1751-1743#
HP: 2199-2118#
BHT: 123 degrees

