

Timothy G. Pierce

Petroleum Geologist

GEOLOGIST'S REPORT DRILLING TIME AND SAMPLE LOG

COMPANY N-10 Exploration, LLC

LEASE Medicine River Ranch 'A' #3

FIELD Landis

LOCATION W/2 SE NE (1980' FNL & 990' FEL)

SEC 21 TWSP 34S RGE 11W

COUNTY Barber STATE Kansas

CONTRACTOR Hardt Drilling Rig #1

SPUD 7-23-2014 COMP 8-01-2014

RTD 5062 LTD 5074

MUD UP 2848 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 4000 TO RTD

GEOLOGIST ON WELL Tim Pierce

ELEVATIONS
KB 1338'
DF _____
GL 1328'

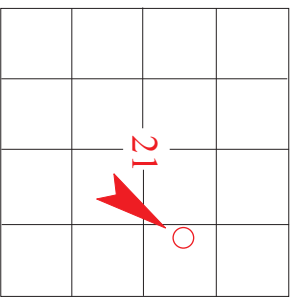
Measurements Are All From Kelly Bushing

CASING
CONDUCTOR _____
SURFACE 8-5/8" at 251'
PRODUCTION 5-1/2" at 5056'

ELECTRICAL SURVEYS
DIL / CN-CD
Pioneer

FORMATION TOPS	ELECTRIC LOG	SAMPLE
Heebner Sh.	3636 (-2298)	NA
Latan LS.	4062 (-2724)	4060 (-2722)
Stark Sh.	4323 (-2985)	4313 (-2975)
Cherokee Sh.	4546 (-3208)	4536 (-3198)
Mississippi	4590 (-3252)	4574 (-3236)
Chattanooga Sh.	4890 (-3552)	4877 (-3539)
Viola	4957 (-3619)	4944 (-3606)
Simpson	5048 (-3710)	5036 (-3698)

* See Remarks



REMARKS Sample tops should be moved down 8 ft due to tally board errors and logs indicate an additional 4-5 ft adjustment.

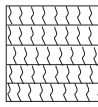
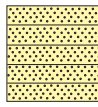
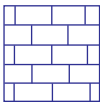
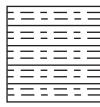

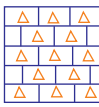

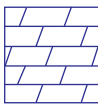
Samples and electric logs indicate probable production from the Mississippi from 4598'- 4664'.

Samples indicated a slight show of gas in the Chattanooga Shale at 4890'-4900'.

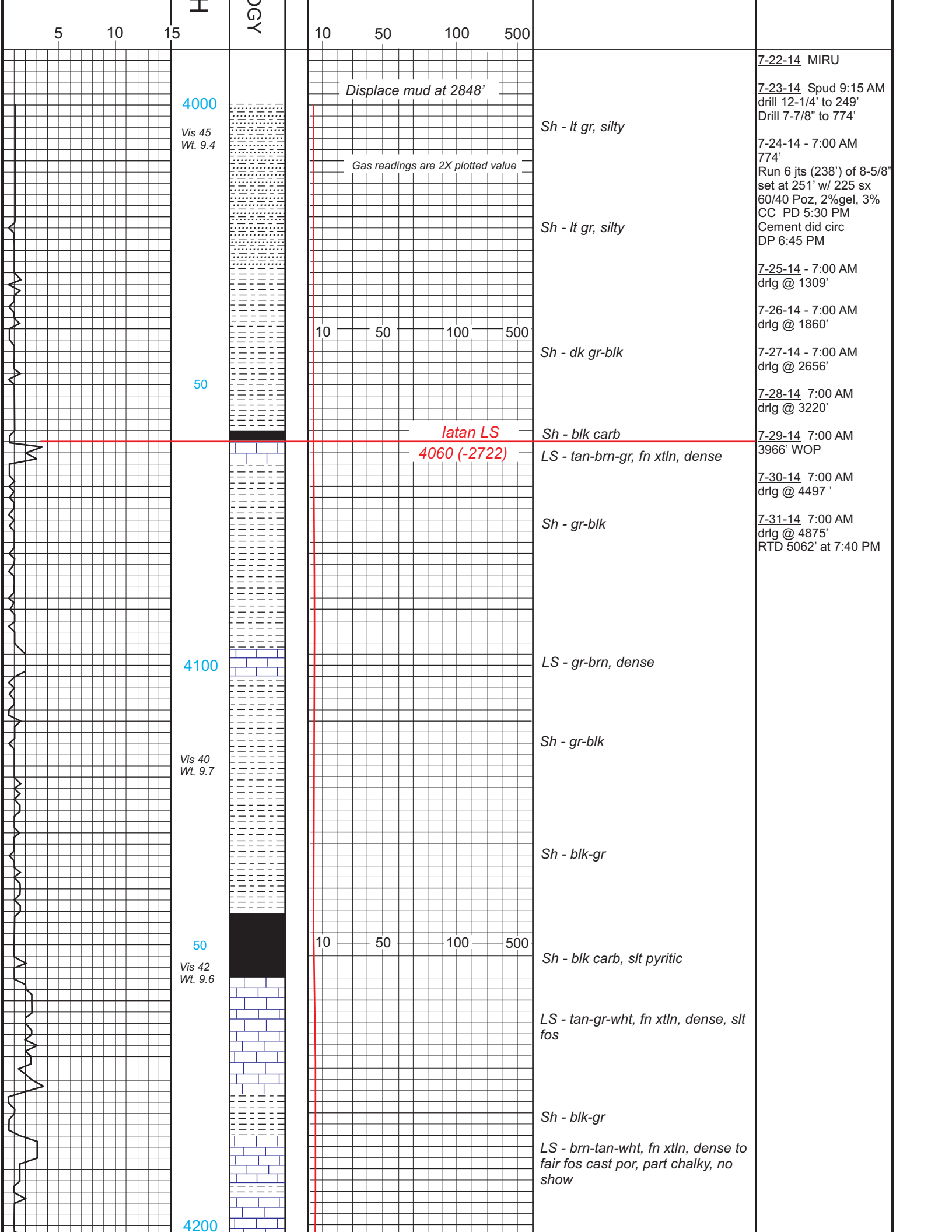
There were no other zones of interest indicated by samples or electric logs.

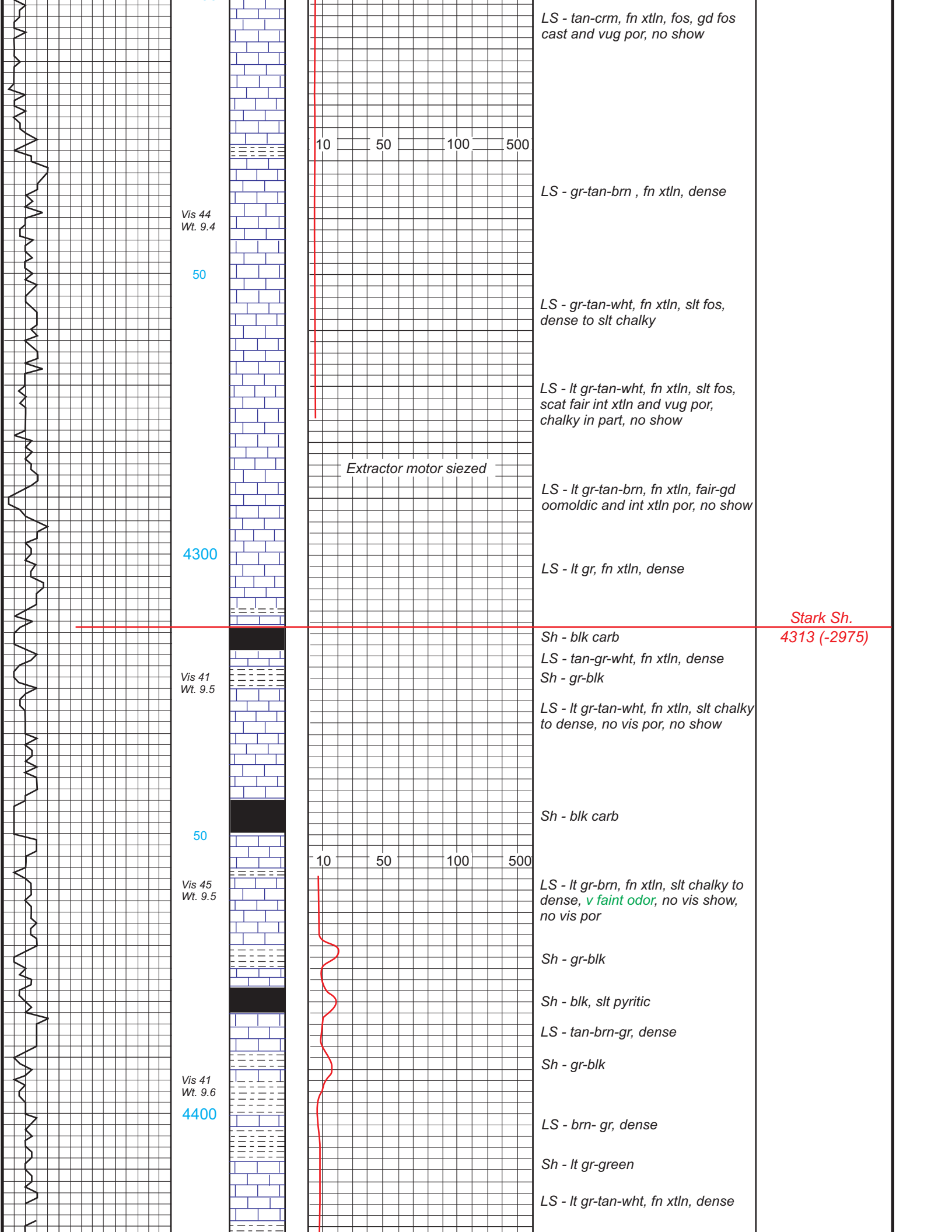
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LEGEND

							
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





LS - tan-crm, fn xtln, fos, gd fos cast and vug por, no show

10 50 100 500

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

Vis 44
Wt. 9.4

50

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

LS - lt gr-tan-wht, fn xtln, slt fos, scat fair int xtln and vug por, chalky in part, no show

Extractor motor siezed

LS - lt gr-tan-brn, fn xtln, fair-gd oomoldic and int xtln por, no show

4300

LS - lt gr, fn xtln, dense

Stark Sh.
4313 (-2975)

Sh - blk carb
LS - tan-gr-wht, fn xtln, dense
Sh - gr-blk
LS - lt gr-tan-wht, fn xtln, slt chalky to dense, no vis por, no show

Vis 41
Wt. 9.5

50

Sh - blk carb

10 50 100 500

LS - lt gr-brn, fn xtln, slt chalky to dense, *v faint odor*, no vis show, no vis por

Vis 45
Wt. 9.5

Sh - gr-blk

Sh - blk, slt pyritic

LS - tan-brn-gr, dense

Sh - gr-blk

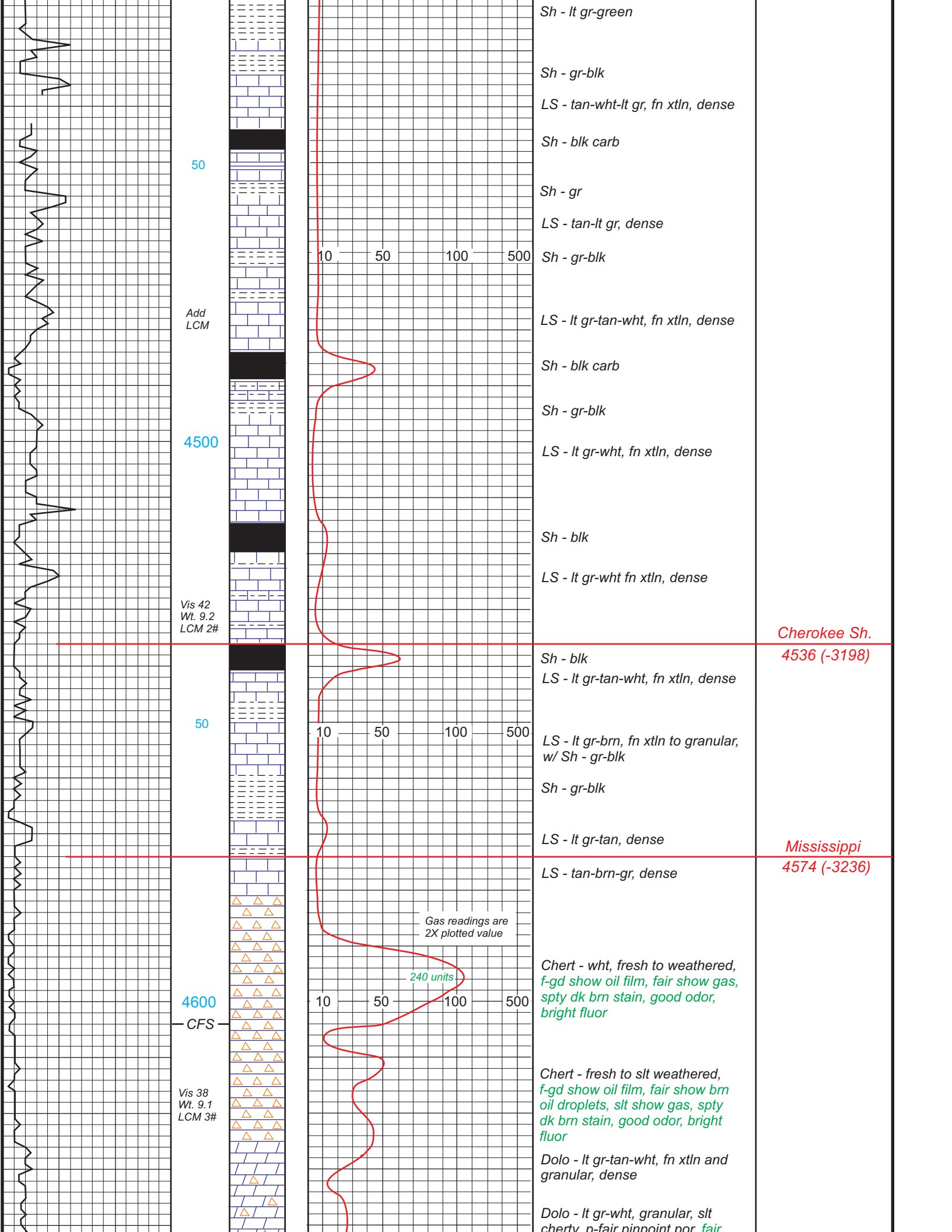
Vis 41
Wt. 9.6

4400

LS - brn- gr, dense

Sh - lt gr-green

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



Sh - lt gr-green

Sh - gr-blk

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

Sh - blk carb

50

Sh - gr

LS - tan-lt gr, dense

Add LCM

Sh - gr-blk

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

Sh - blk carb

4500

Sh - gr-blk

LS - lt gr-wht, fn xtl, dense

Sh - blk

Vis 42
Wt. 9.2
LCM 2#

LS - lt gr-wht fn xtl, dense

Cherokee Sh.
4536 (-3198)

Sh - blk

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

50

LS - lt gr-brn, fn xtl to granular,
w/ Sh - gr-blk

Sh - gr-blk

LS - lt gr-tan, dense

Mississippi
4574 (-3236)

LS - tan-brn-gr, dense

Gas readings are
2X plotted value

4600
CFS

Chert - wht, fresh to weathered,
f-gd show oil film, fair show gas,
spty dk brn stain, good odor,
bright fluor

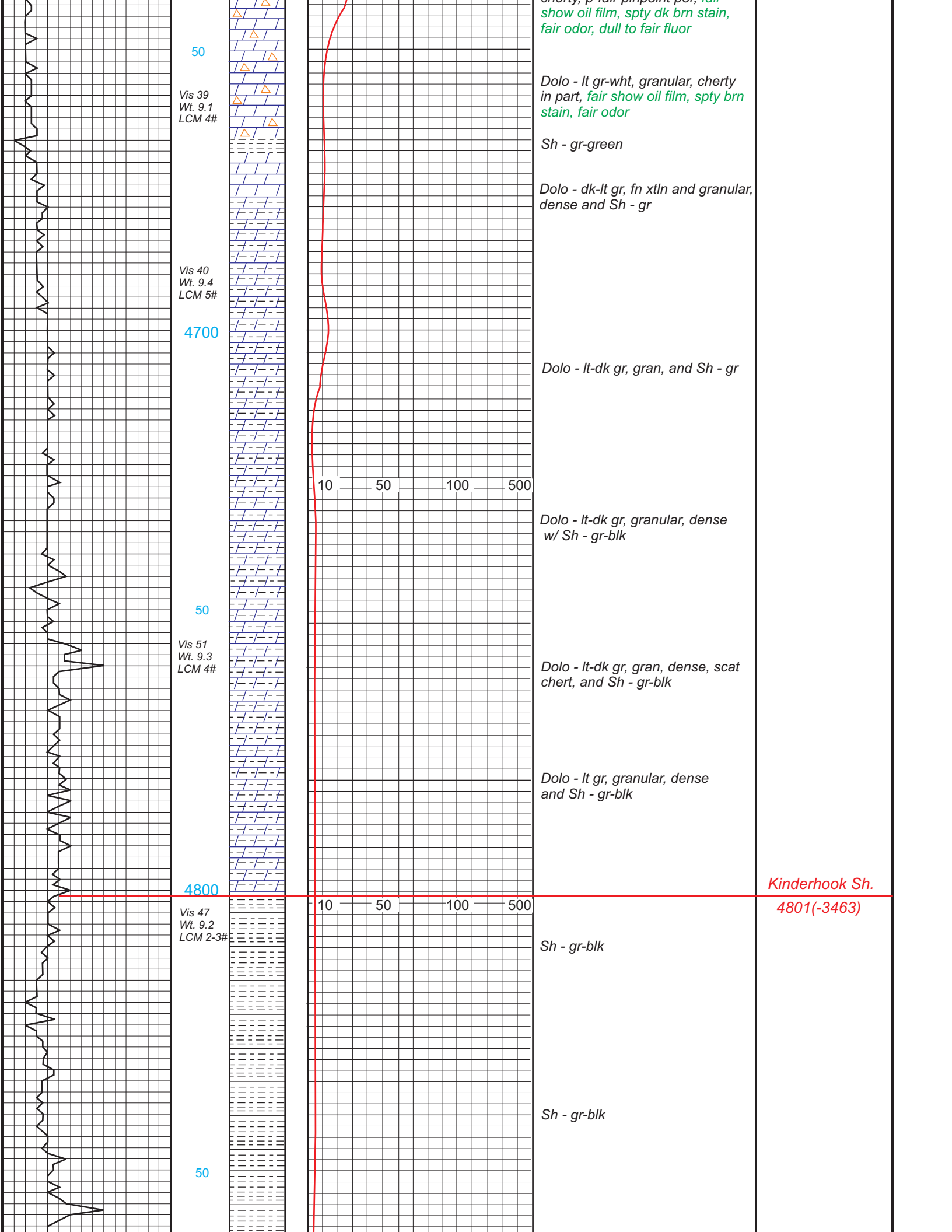
240 units

Vis 38
Wt. 9.1
LCM 3#

Chert - fresh to slt weathered,
f-gd show oil film, fair show brn
oil droplets, slt show gas, spty
dk brn stain, good odor, bright
fluor

Dolo - lt gr-tan-wht, fn xtl and
granular, dense

Dolo - lt gr-wht, granular, slt
cherty, n-fair pinpoint por, fair



50

Vis 39
Wt. 9.1
LCM 4#

Vis 40
Wt. 9.4
LCM 5#

4700

50

Vis 51
Wt. 9.3
LCM 4#

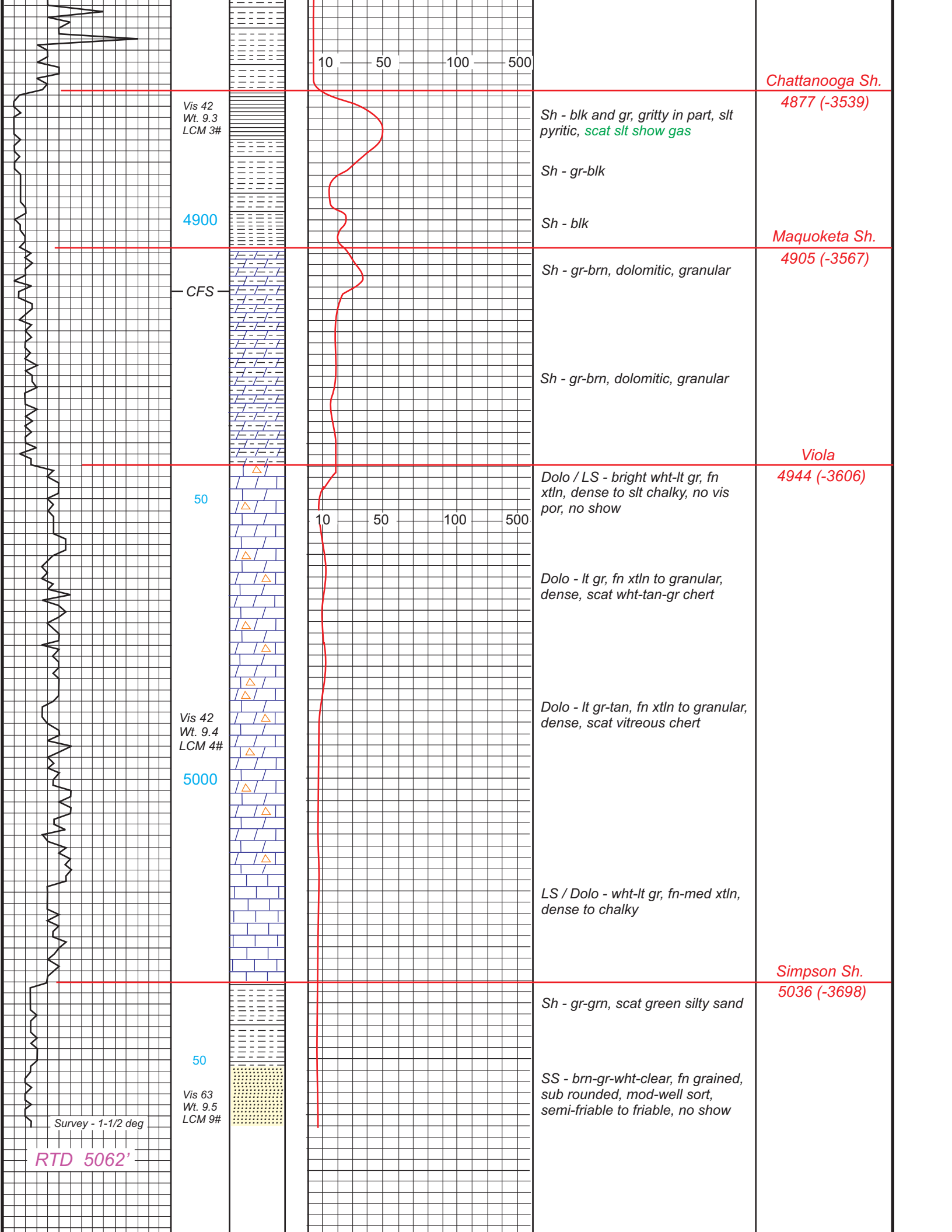
4800

Vis 47
Wt. 9.2
LCM 2-3#

50

10 50 100 500

10 50 100 500



Chattanooga Sh.

4877 (-3539)

Vis 42
Wt. 9.3
LCM 3#

Sh - blk and gr, gritty in part, slt pyritic, *scat slt show gas*

Sh - gr-blk

4900

Sh - blk

Maquoketa Sh.

4905 (-3567)

CFS

Sh - gr-brn, dolomitic, granular

Sh - gr-brn, dolomitic, granular

Viola

4944 (-3606)

50

Dolo / LS - bright wht-lt gr, fn xtl, dense to slt chalky, no vis por, no show

Dolo - lt gr, fn xtl to granular, dense, scat wht-tan-gr chert

Vis 42
Wt. 9.4
LCM 4#

Dolo - lt gr-tan, fn xtl to granular, dense, scat vitreous chert

5000

LS / Dolo - wht-lt gr, fn-med xtl, dense to chalky

Simpson Sh.

5036 (-3698)

50

Sh - gr-grn, scat green silty sand

SS - brn-gr-wht-clear, fn grained, sub rounded, mod-well sort, semi-friable to friable, no show

Vis 63
Wt. 9.5
LCM 9#

Survey - 1-1/2 deg

RTD 5062'

