

[illegible]

GAMMA SCALE: 0 TO 300

WOB 9.1K
PP 2388
RPM 60
SPM 69/69

ROP (Ft/Hr)
Gamma

0 550
0 300

MD 2594 TVD 2589.88
INC 9.35 AZ 213.26
VS 67.8

MD 2689 TVD 2683.47
INC 10.36 AZ 213.79
VS 81.61

2500
2550
2600
2650
2700

SILTSTN; 75%; GRY TO LT GRY,
VFGR, SUB-ANG, OPA, BRITTLE,
P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SILTSTN; 85%; GRY TO LT GRY,
VFGR, SUB-ANG, OPA, BRITTLE,
P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SILTSTN; 80%; GRY TO LT GRY,
VFGR, SUB-ANG, OPA, BRITTLE,
P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

PIERRE
2650' MD 2645' TVD

SS; 55%; OFF WH TO LT GRY, VF
TO FGR, SUB-ANG, FROST, FRIBL,
P/CONSOL, P/SORT, CALC CMNT,
SILTY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

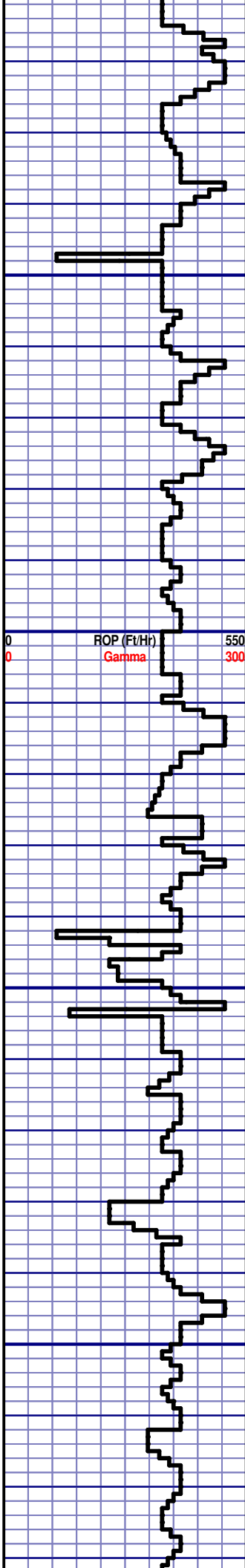
DRILLING ON WBM

MD 2082
WT 8.5
VIS 28.0
PH 10.4
FIL 32.3
CL 2350
CAL 20.0
H2O 99.0
OIL 0.0
SOL 0.7
GELS N/A
PV 1.0
YP 4.0

CG 333u

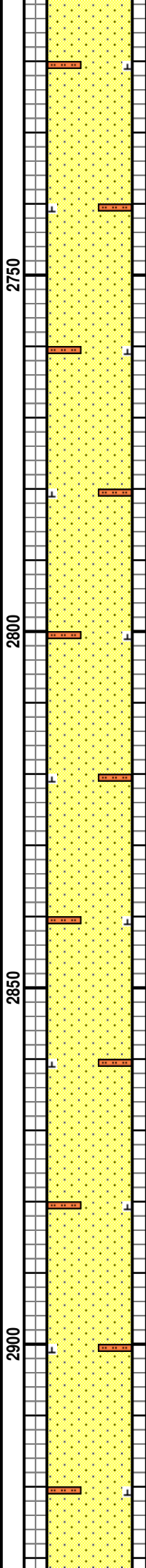
-125 TG, C1-C4 1125

CG 320u



MD 2784 TVD 2776.98
INC 10 AZ 212.11
VS 98.97

MD 2879 TVD 2870.63
INC 9.35 AZ 216.78
VS 109.4

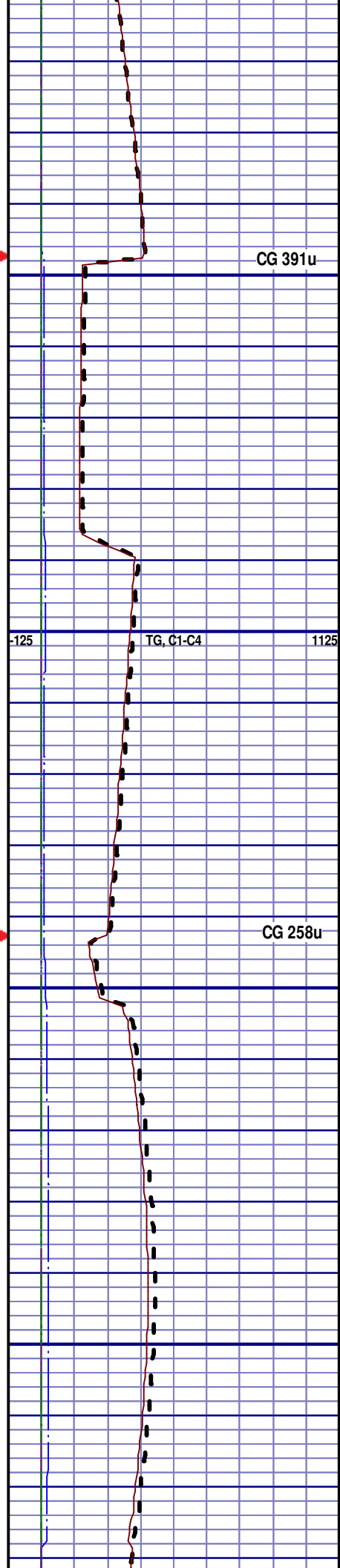


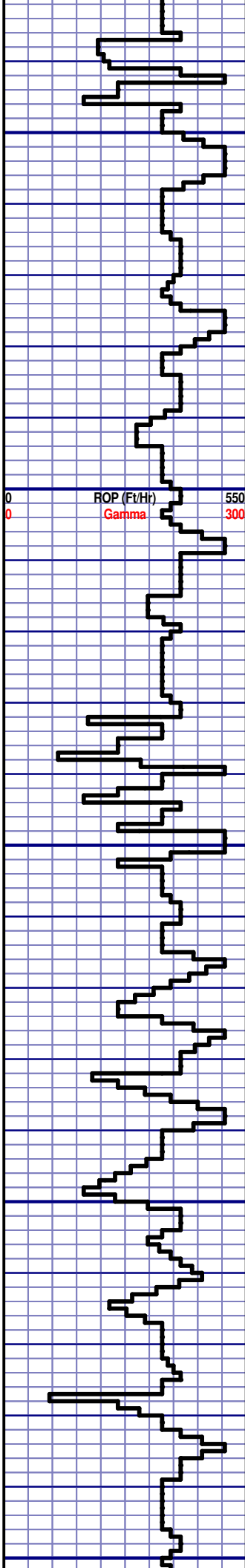
SS; 70%; OFF WH TO LT GRY, VF
TO FGR, SUB-ANG, FROST, FRIBL,
P/CONSOL, P/SORT, CALC CMNT,
SILTY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SS; 55%; OFF WH TO LT GRY, VF
TO FGR, SUB-ANG, FROST, FRIBL,
P/CONSOL, P/SORT, CALC CMNT,
SILTY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SS; 60%; OFF WH TO LT GRY, VF
TO FGR, SUB-ANG, FROST, FRIBL,
P/CONSOL, P/SORT, CALC CMNT,
SILTY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

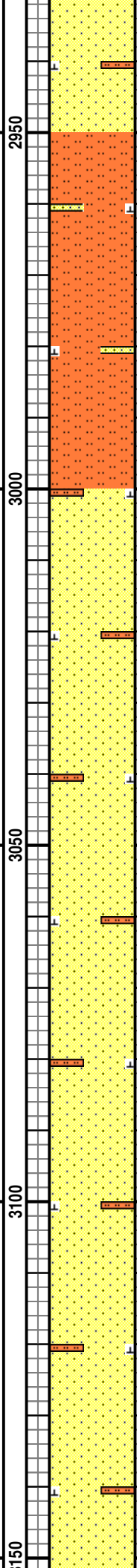
SS; 80%; OFF WH TO LT GRY, VF
TO FGR, SUB-ANG, FROST, FRIBL,
P/CONSOL, P/SORT, CALC CMNT,
SILTY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH





MD 2973 TVD 2963.44
INC 8.84 AZ 215.61
VS 121.65

MD 3068 TVD 3057.44
INC 7.86 AZ 214.57
VS 121.65



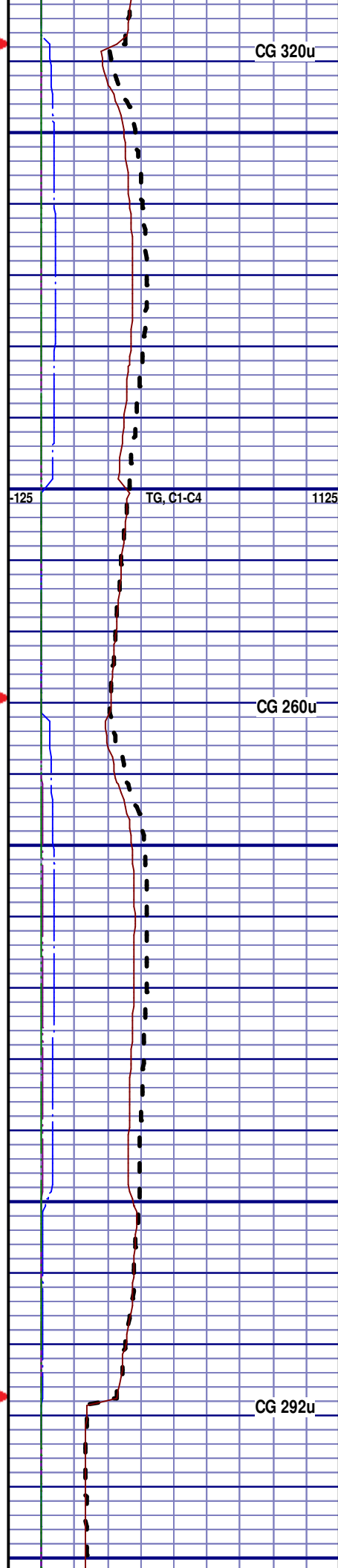
SS; 75%; OFF WH TO LT GRY, VF
TO FGR, SUB-ANG, FROST, FRIBL,
P/CONSOL, P/SORT, CALC CMNT,
SILTY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SILTSTN; 80%; GRY TO LT GRY,
VFGR, SUB-ANG, OPA, BRITTLE,
P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SS; 75%; OFF WH TO LT GRY, VF
TO FGR, SUB-ANG, FROST, FRIBL,
P/CONSOL, P/SORT, CALC CMNT,
SILTY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SS; 75%; OFF WH TO LT GRY, VF
TO FGR, SUB-ANG, FROST, FRIBL,
P/CONSOL, P/SORT, CALC CMNT,
SILTY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SS; 75%; OFF WH TO LT GRY, VF
TO FGR, SUB-ANG, FROST, FRIBL,
P/CONSOL, P/SORT, CALC CMNT,
SILTY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

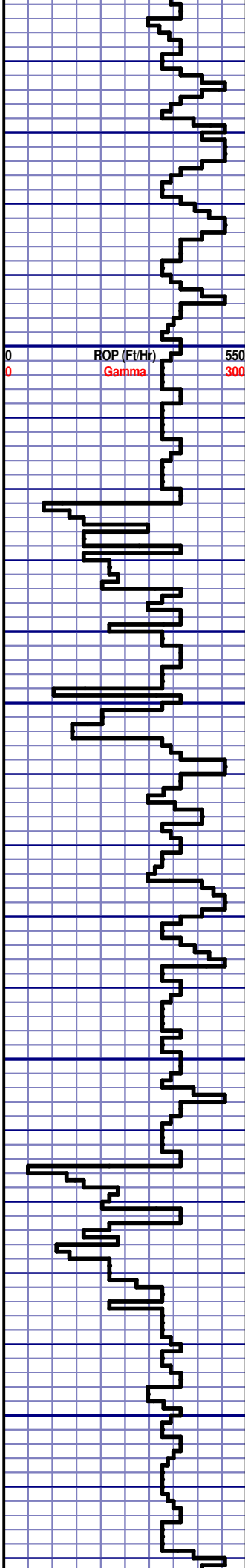


CG 320u

TG, C1-C4

CG 260u

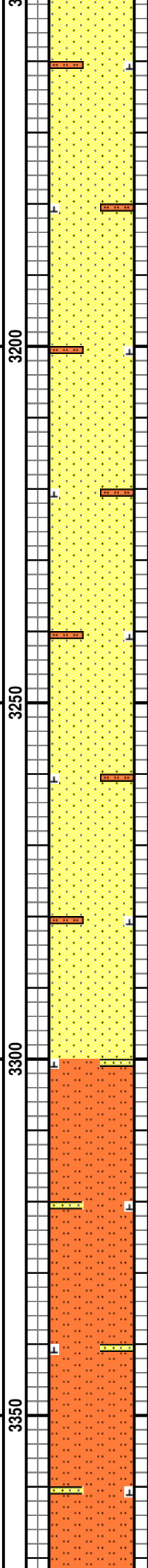
CG 292u



MD 3163 TVD 3151.62
INC 7.12 AZ 213.88
VS 143.61

MD 3258 TVD 3246.2
INC 3.51 AZ 218.86
VS 150.92

MD 3353 TVD 3341.08
INC 2.17 AZ 197.99
VS 154.97

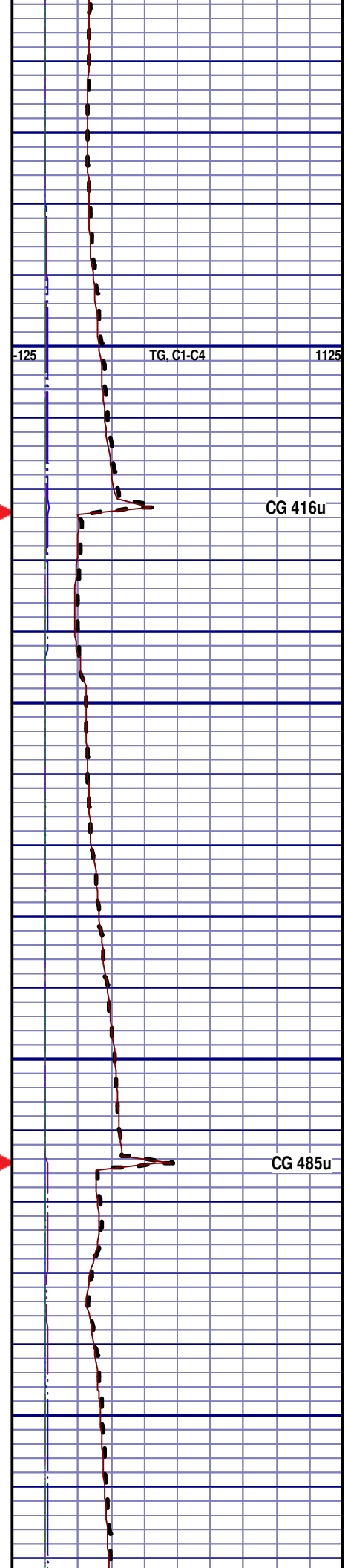


SS; 75%; OFF WH TO LT GRY, VF
TO FGR, SUB-ANG, FROST, FRIBL,
P/CONSOL, P/SORT, CALC CMNT,
SILTY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SS; 70%; OFF WH TO LT GRY, VF
TO FGR, SUB-ANG, FROST, FRIBL,
P/CONSOL, P/SORT, CALC CMNT,
SILTY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SS; 70%; OFF WH TO LT GRY, VF
TO FGR, SUB-ANG, FROST, FRIBL,
P/CONSOL, P/SORT, CALC CMNT,
SILTY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

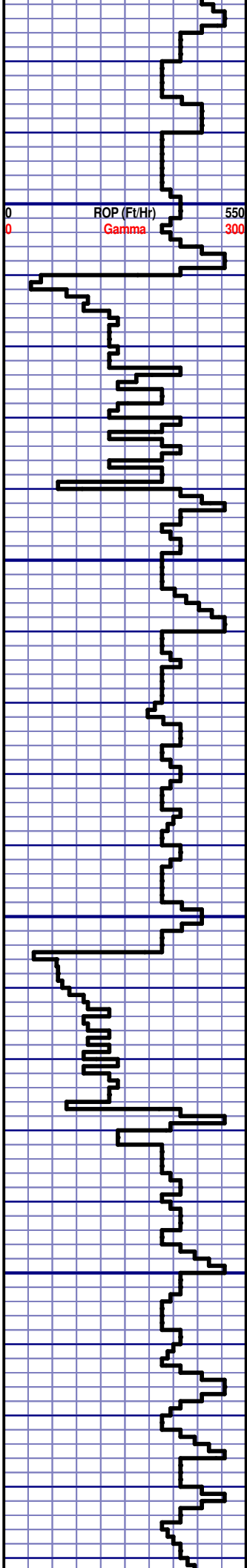
SILTSTN; 60%; GRY TO LT GRY,
VFGR, SUB-ANG, OPA, BRITTLE,
P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH



TG, C1-C4

CG 416u

CG 485u



MD 3448 TVD 3436.05
INC 1.01 AZ 125.53
VS 157.16

MD 3542 TVD 3530.05
INC 0.88 AZ 347.45
VS 156.92

3400

3450

3500

3550

SILTSTN; 60%; GRY TO LT GRY,
VFGR, SUB-ANG, OPA, BRITTLE,
P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SILTSTN; 60%; GRY TO LT GRY,
VFGR, SUB-ANG, OPA, BRITTLE,
P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SILTSTN; 60%; GRY TO LT GRY,
VFGR, SUB-ANG, OPA, BRITTLE,
P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

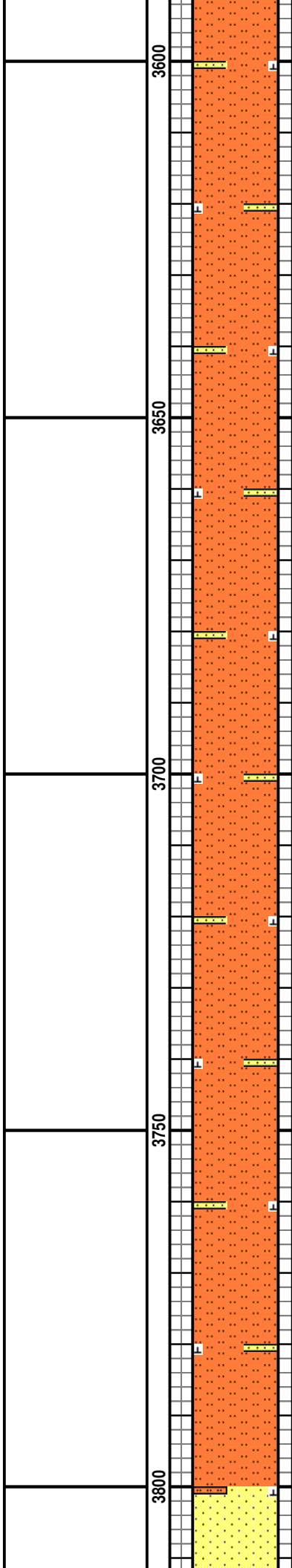
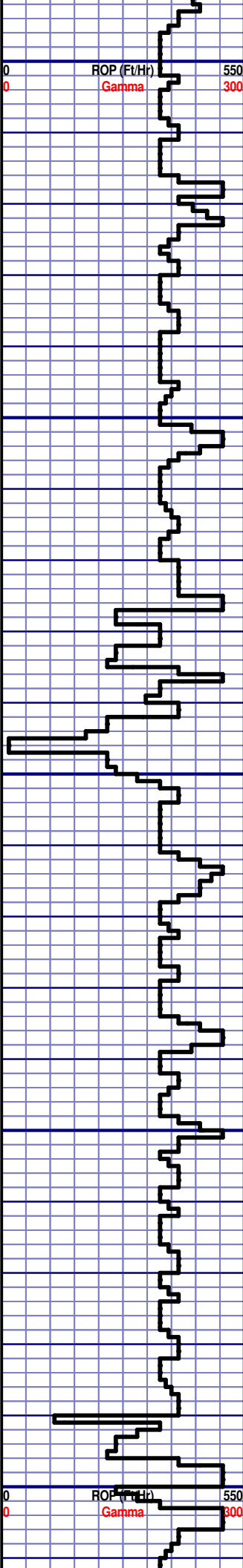
SILTSTN; 60%; GRY TO LT GRY,
VFGR, SUB-ANG, OPA, BRITTLE,
P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SILTSTN; 60%; GRY TO LT GRY,
VFGR, SUB-ANG, OPA, BRITTLE,
P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

-125 TG, C1-C4 1125

CG 517u

CG 114u



P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

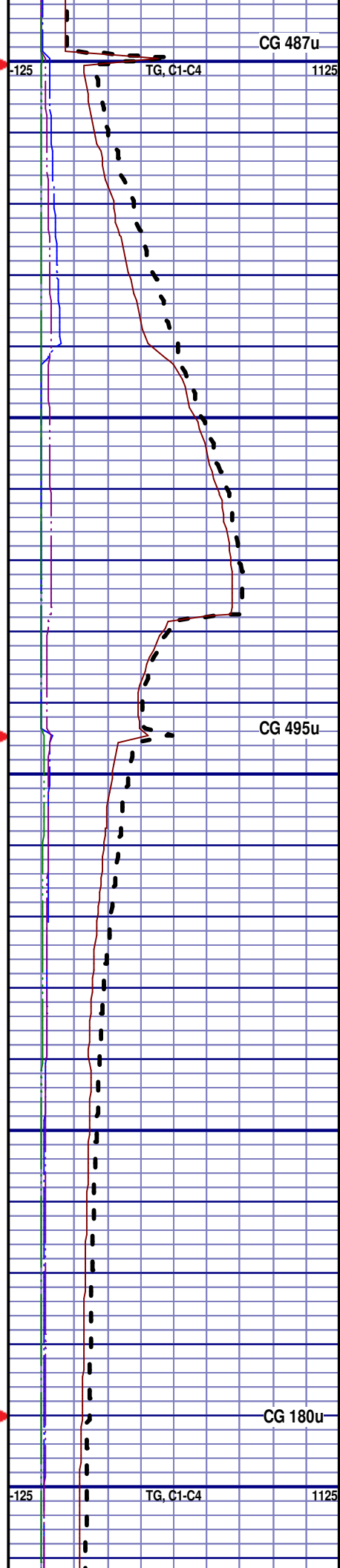
SILTSTN; 60%; GRY TO LT GRY,
VFGR, SUB-ANG, OPA, BRITTLE,
P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SILTSTN; 60%; GRY TO LT GRY,
VFGR, SUB-ANG, OPA, BRITTLE,
P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SILTSTN; 50%; GRY TO LT GRY,
VFGR, SUB-ANG, OPA, BRITTLE,
P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SILTSTN; 50%; GRY TO LT GRY,
VFGR, SUB-ANG, OPA, BRITTLE,
P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

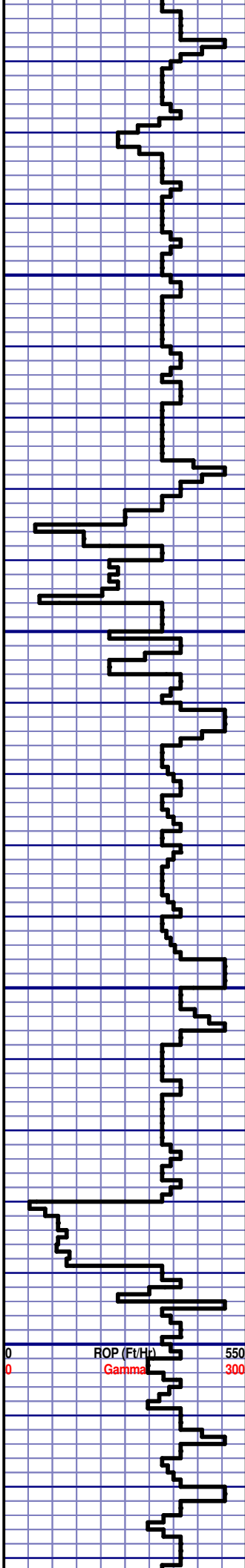
PARKMAN
3800' MD 3787' TVD



CG 487u

CG 495u

CG 180u



ROP (Ft/H) 550
Gamma 300

MD 3827 TVD 3815.02
INC 0.85 AZ 280.69
VS154.48

MD 3922 TVD 3910.01
INC 0.83 AZ 348.56
VS153.69

MD 4017 TVD 4005
INC 1.1 AZ 82.36
VS152.87

3850

3900

3950

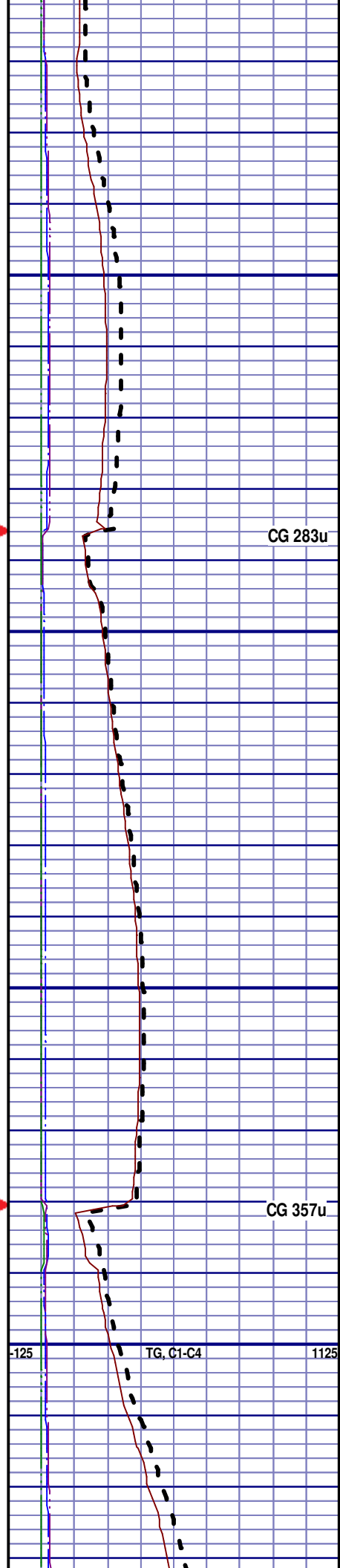
4000

SS; 80%; OFF WH TO LT GRY, VF
TO FGR, SUB-ANG, FROST, FRIBL,
P/CONSOL, P/SORT, CALC CMNT,
SILTY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SS; 80%; OFF WH TO LT GRY, VF
TO FGR, SUB-ANG, FROST, FRIBL,
P/CONSOL, P/SORT, CALC CMNT,
SILTY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SS; 80%; OFF WH TO LT GRY, VF
TO FGR, SUB-ANG, FROST, FRIBL,
P/CONSOL, P/SORT, CALC CMNT,
SILTY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

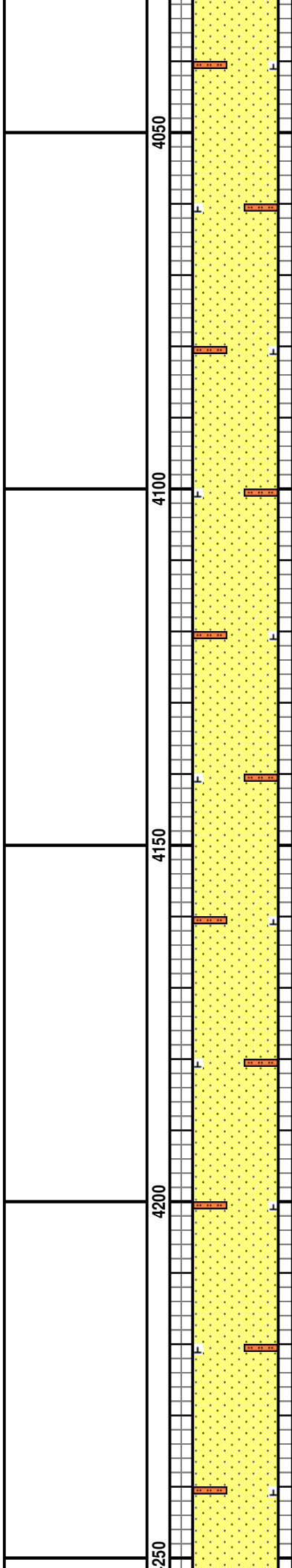
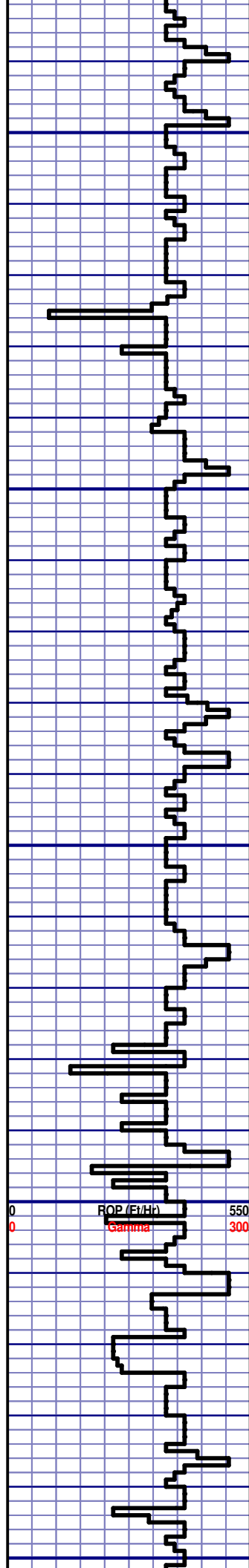
SS; 70%; OFF WH TO LT GRY, VF
TO FGR, SUB-ANG, FROST, FRIBL,
P/CONSOL, P/SORT, CALC CMNT,
SILTY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH



CG 283u

CG 357u

-125 TG, C1-C4 1125



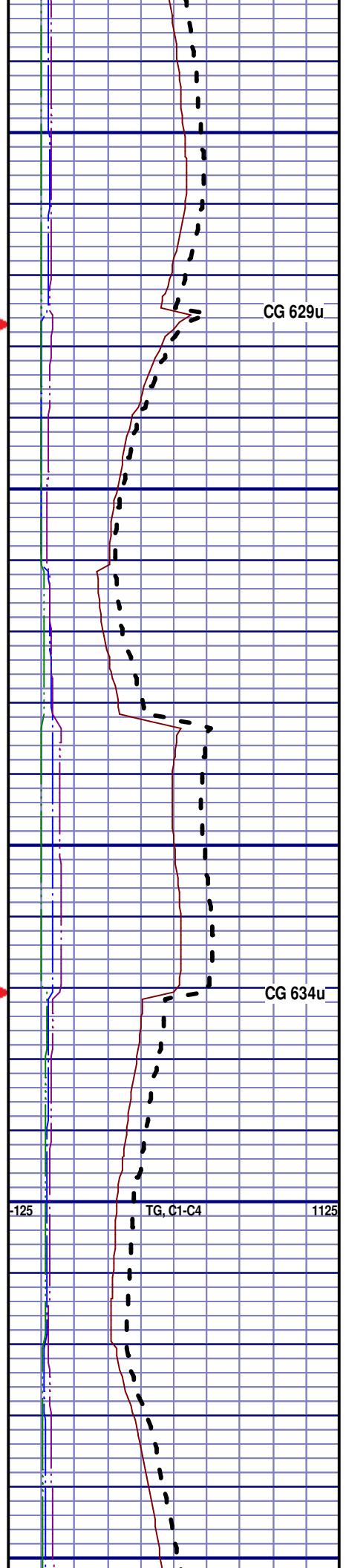
SS; 70%; OFF WH TO LT GRY, VF
TO FGR, SUB-ANG, FROST, FRIBL,
P/CONSOL, P/SORT, CALC CMNT,
SILTY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SS; 70%; OFF WH TO LT GRY, VF
TO FGR, SUB-ANG, FROST, FRIBL,
P/CONSOL, P/SORT, CALC CMNT,
SILTY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SS; 70%; OFF WH TO LT GRY, VF
TO FGR, SUB-ANG, FROST, FRIBL,
P/CONSOL, P/SORT, CALC CMNT,
SILTY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SS; 70%; OFF WH TO LT GRY, VF
TO FGR, SUB-ANG, FROST, FRIBL,
P/CONSOL, P/SORT, CALC CMNT,
SILTY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

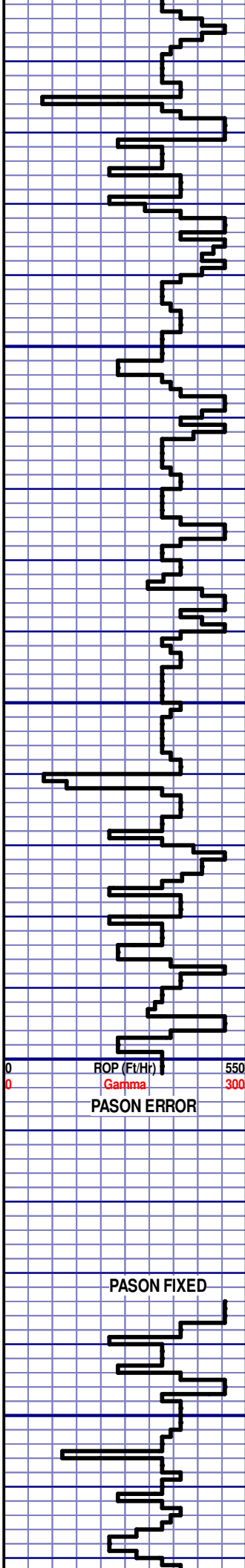
SS; 70%; OFF WH TO LT GRY, VF
TO FGR, SUB-ANG, FROST, FRIBL,
P/CONSOL, P/SORT, CALC CMNT,
SILTY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH



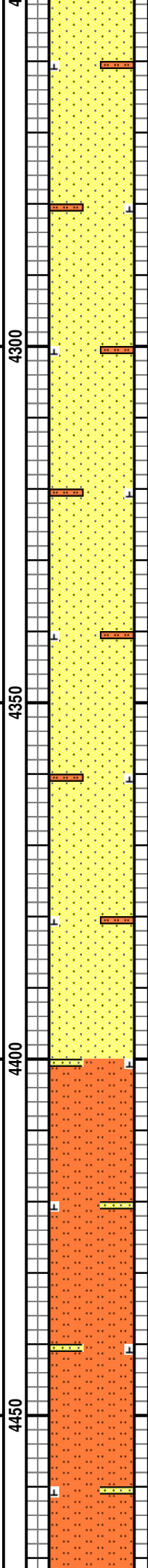
CG 629u

CG 634u

-125 TG, C1-C4 1125



MD 4301 TVD 4288.96
INC 1 AZ 80.7
VS 151.95



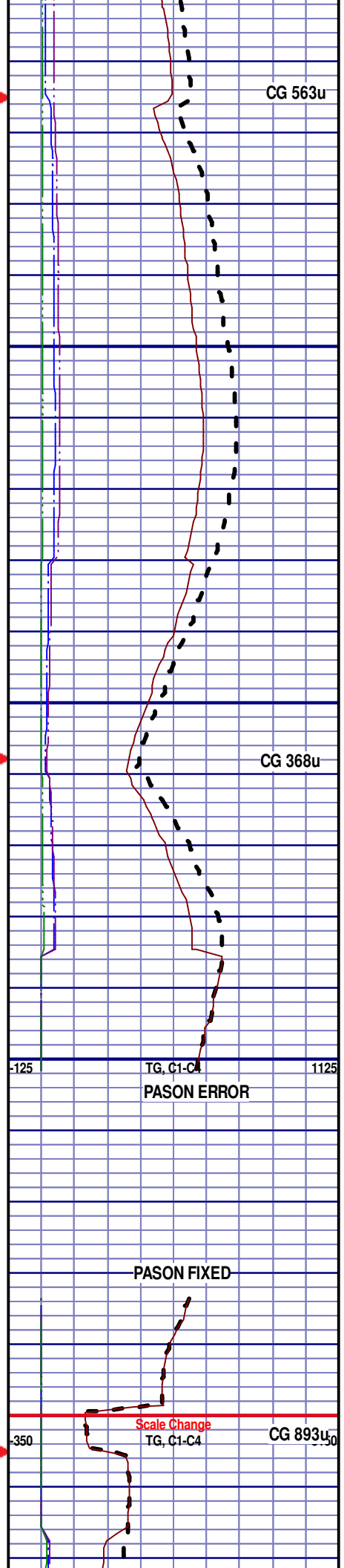
SS; 70%; OFF WH TO LT GRY, VF TO FGR, SUB-ANG, FROST, FRIBL, P/CONSOL, P/SORT, CALC CMNT, SILTY, NO FLUOR, NO STRM CUT, NO CUT AFTER CRUSH

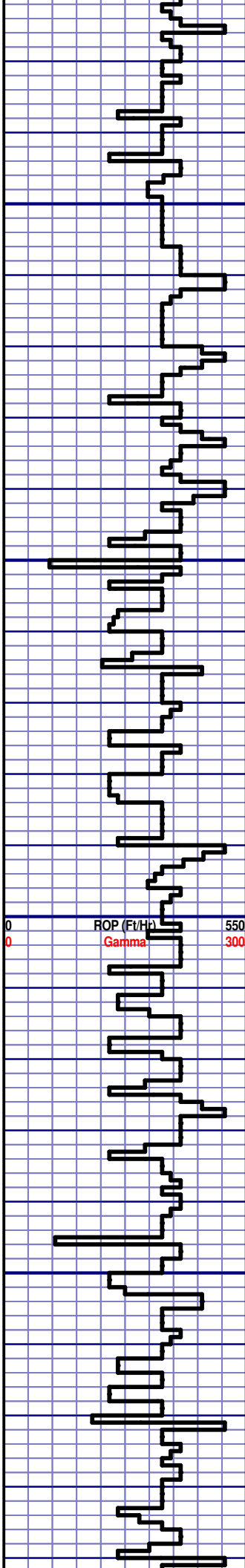
SS; 60%; OFF WH TO LT GRY, VF TO FGR, SUB-ANG, FROST, FRIBL, P/CONSOL, P/SORT, CALC CMNT, SILTY, NO FLUOR, NO STRM CUT, NO CUT AFTER CRUSH

SS; 60%; OFF WH TO LT GRY, VF TO FGR, SUB-ANG, FROST, FRIBL, P/CONSOL, P/SORT, CALC CMNT, SILTY, NO FLUOR, NO STRM CUT, NO CUT AFTER CRUSH

SUSSEX
4400' MD 4387' TVD

SILTSTN; 60%; GRY TO LT GRY, VFGR, SUB-ANG, OPA, BRITTLE, P/CONSOL, P/SORT, CALC CMNT, SANDY, NO FLUOR, NO STRM CUT, NO CUT AFTER CRUSH





MD 4586 TVD 4573.93
INC 0.5 AZ 118
VS 152.02

4500

4550

4600

4650

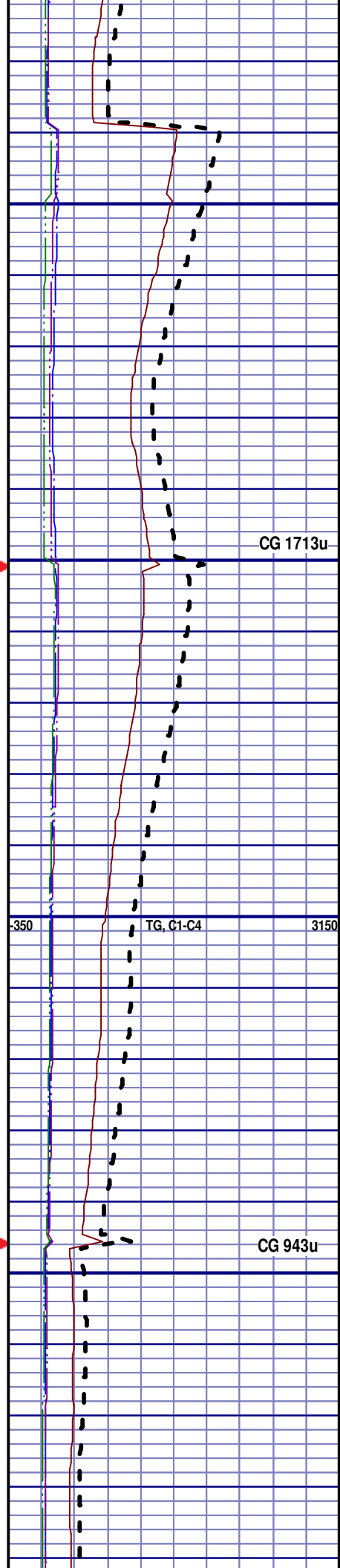
SILTSTN; 60%; GRY TO LT GRY,
VFGR, SUB-ANG, OPA, BRITTLE,
P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

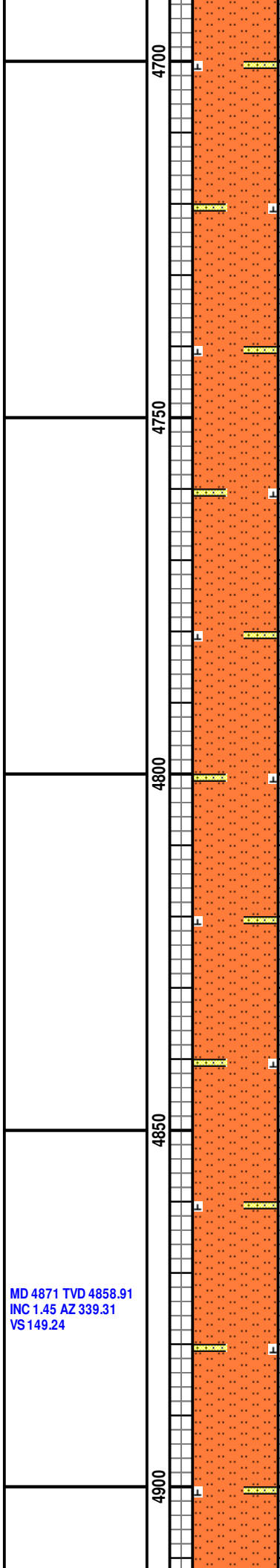
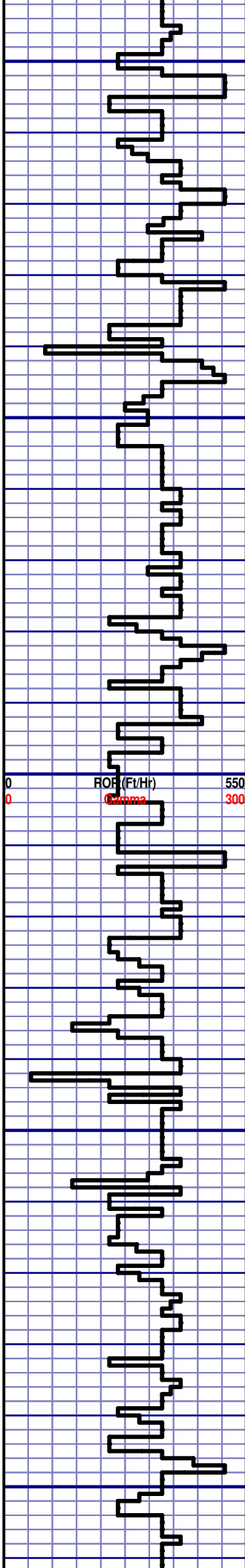
SILTSTN; 60%; GRY TO LT GRY,
VFGR, SUB-ANG, OPA, BRITTLE,
P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SILTSTN; 60%; GRY TO LT GRY,
VFGR, SUB-ANG, OPA, BRITTLE,
P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SILTSTN; 70%; GRY TO LT GRY,
VFGR, SUB-ANG, OPA, BRITTLE,
P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SILTSTN; 70%; GRY TO LT GRY,
VFGR, SUB-ANG, OPA, BRITTLE,
P/CONSOL, P/SORT, CALC CMNT





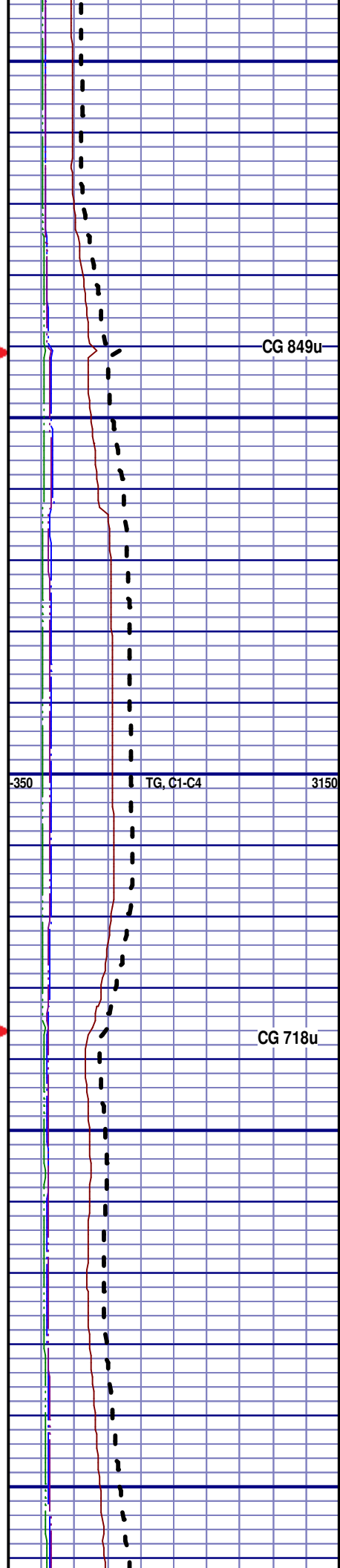
P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

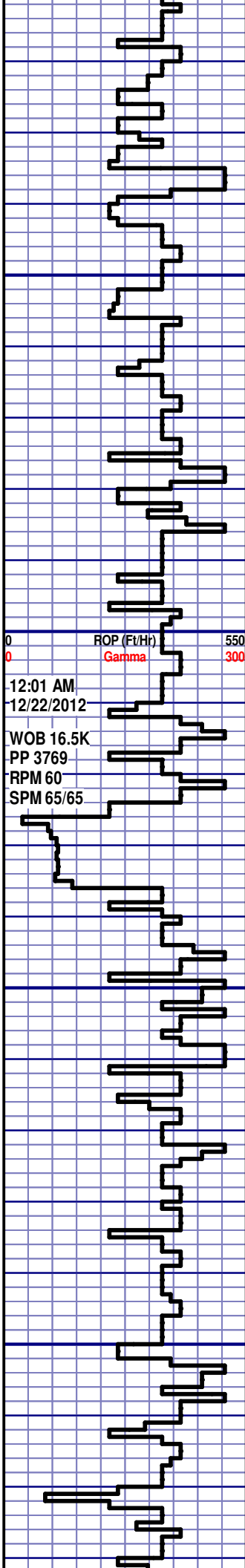
SILTSTN; 60%; GRY TO LT GRY,
VFGR, SUB-ANG, OPA, BRITTLE,
P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SILTSTN; 60%; GRY TO LT GRY,
VFGR, SUB-ANG, OPA, BRITTLE,
P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

SILTSTN; 70%; GRY TO LT GRY,
VFGR, SUB-ANG, OPA, BRITTLE,
P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH

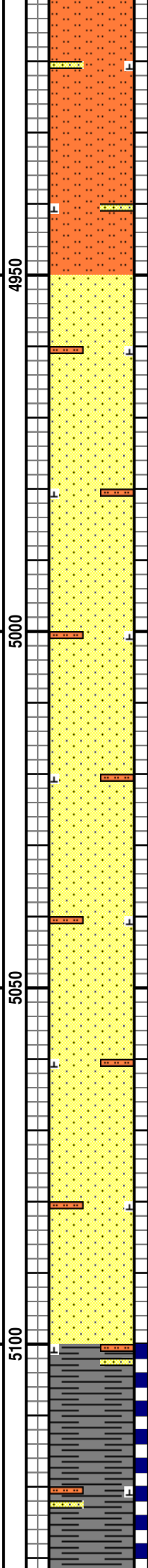
SILTSTN; 70%; GRY TO LT GRY,
VFGR, SUB-ANG, OPA, BRITTLE,
P/CONSOL, P/SORT, CALC CMNT,
SANDY, NO FLUOR, NO STRM CUT,
NO CUT AFTER CRUSH





MD 4966 TVD 4953.88
INC 1.42 AZ 326.95
VS 147.16

MD 5061 TVD 5048.87
INC 0.22 AZ 332.72
VS 146.03



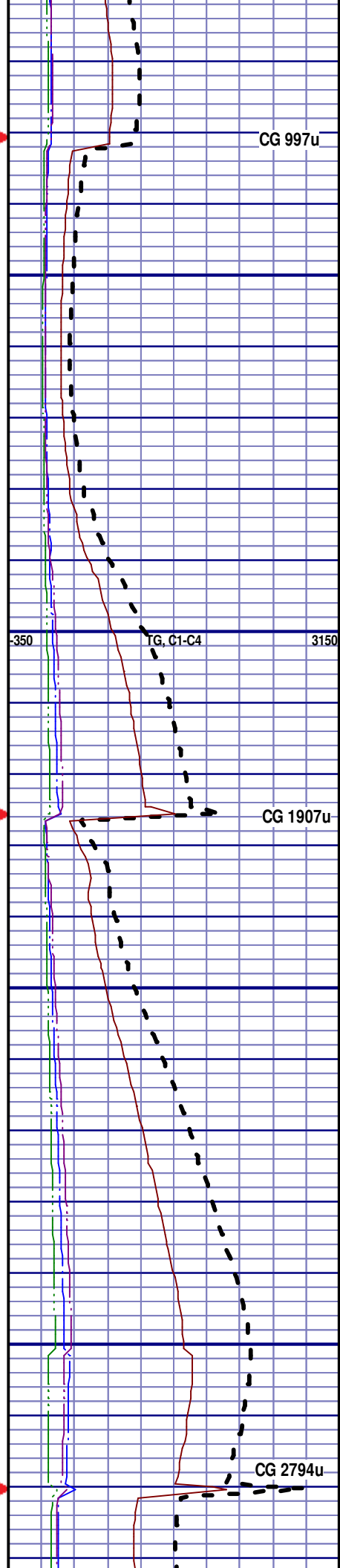
SILTSTN; 60%; GRY TO LT GRY, VFGR, SUB-ANG, OPA, BRITTLE, P/CONSOL, P/SORT, CALC CMNT, SANDY, NO FLUOR, NO STRM CUT, NO CUT AFTER CRUSH

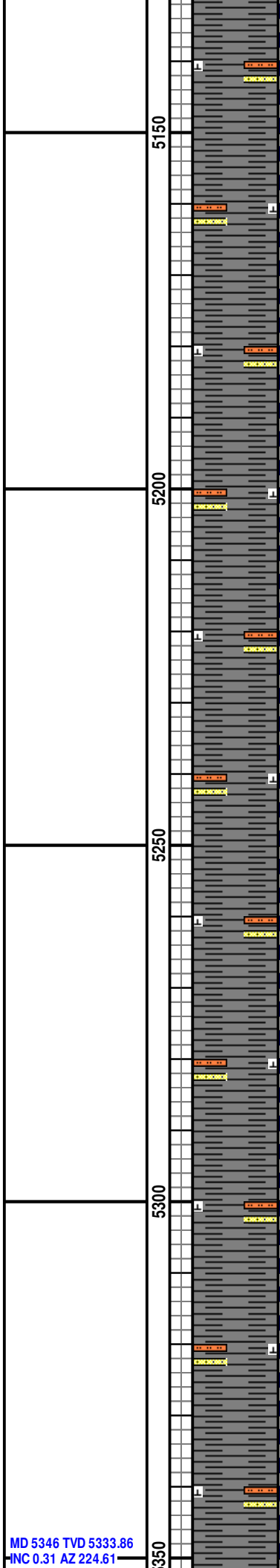
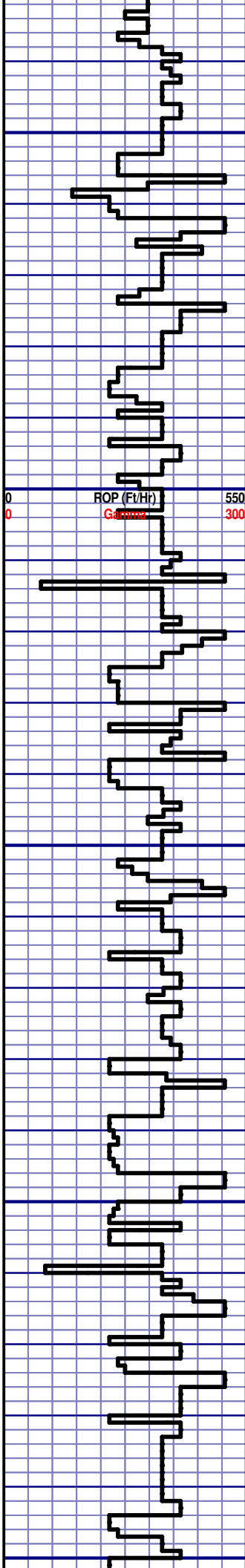
SS; 60%; OFF WH TO LT GRY, VF TO FGR, SUB-ANG, FROST, FRIBL, P/CONSOL, P/SORT, CALC CMNT, SILTY, NO FLUOR, NO STRM CUT, NO CUT AFTER CRUSH

SS; 60%; OFF WH TO LT GRY, VF TO FGR, SUB-ANG, FROST, FRIBL, P/CONSOL, P/SORT, CALC CMNT, SILTY, NO FLUOR, NO STRM CUT, NO CUT AFTER CRUSH

SS; 60%; OFF WH TO LT GRY, VF TO FGR, SUB-ANG, FROST, FRIBL, P/CONSOL, P/SORT, CALC CMNT, SILTY, NO FLUOR, NO STRM CUT, NO CUT AFTER CRUSH

SHANNON
5100' MD 5087' TVD





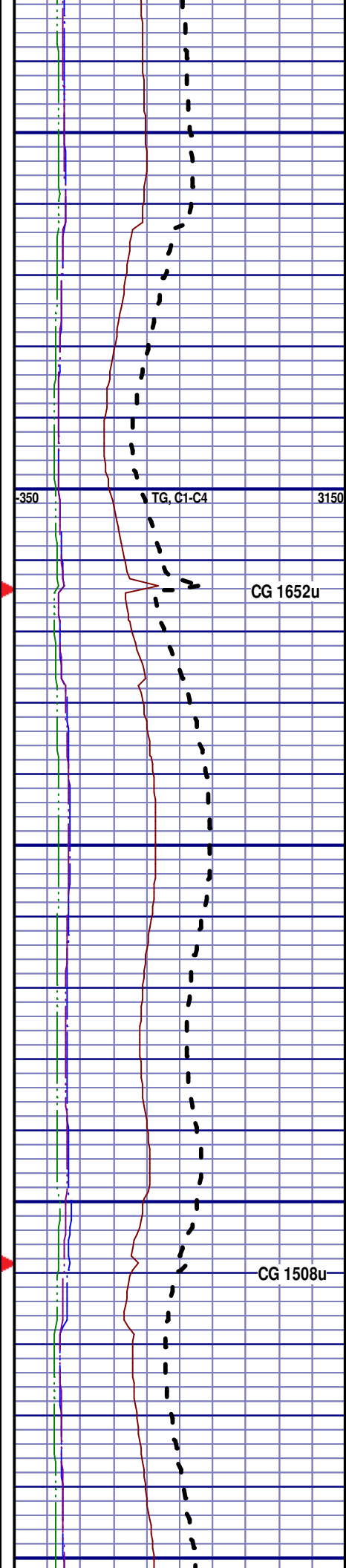
SH; 60%; BLK TO DK GRY, SMOOTH TXT, SOFT TO FIRM, SANDY, SILTY, NO VIS FRACT, 1% YLW FLUOR, SLOW, BLU STRM CUT, YLW RING CUT, MINOR CALC, BLKY TO PLATY

SH; 60%; BLK TO DK GRY, SMOOTH TXT, SOFT TO FIRM, SANDY, SILTY, NO VIS FRACT, 1% YLW FLUOR, SLOW, BLU STRM CUT, YLW RING CUT, MINOR CALC, BLKY TO PLATY

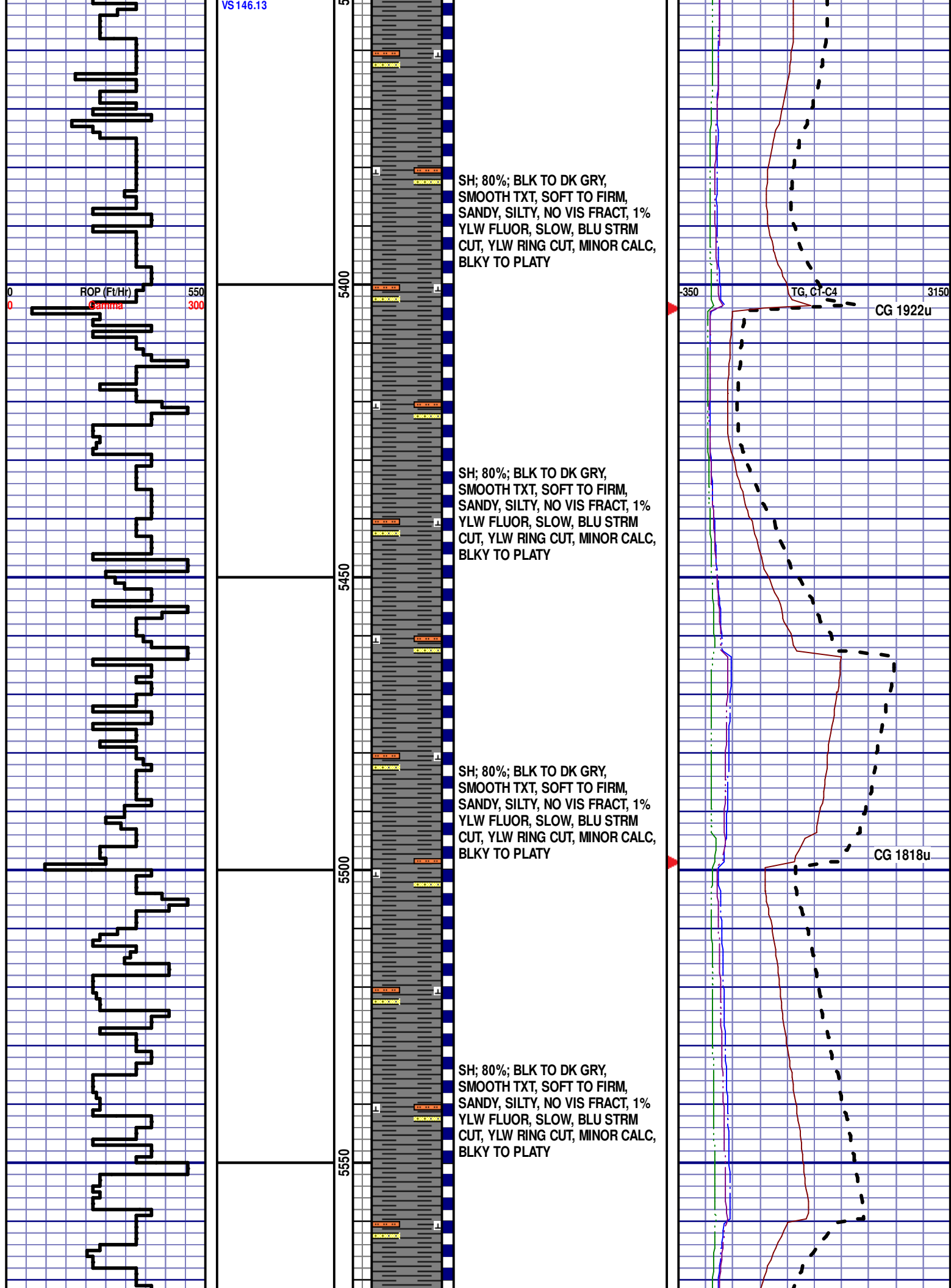
SH; 60%; BLK TO DK GRY, SMOOTH TXT, SOFT TO FIRM, SANDY, SILTY, NO VIS FRACT, 1% YLW FLUOR, SLOW, BLU STRM CUT, YLW RING CUT, MINOR CALC, BLKY TO PLATY

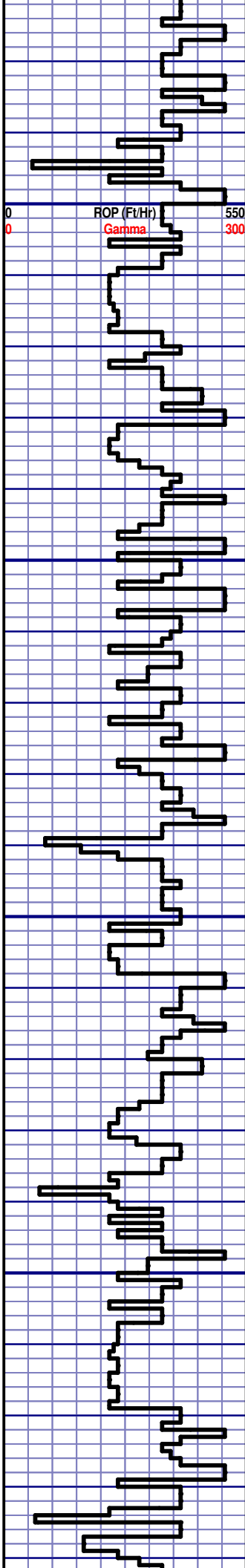
SH; 60%; BLK TO DK GRY, SMOOTH TXT, SOFT TO FIRM, SANDY, SILTY, NO VIS FRACT, 1% YLW FLUOR, SLOW, BLU STRM CUT, YLW RING CUT, MINOR CALC, BLKY TO PLATY

SH; 80%; BLK TO DK GRY, SMOOTH TXT, SOFT TO FIRM, SANDY, SILTY, NO VIS FRACT, 1% YLW FLUOR, SLOW, BLU STRM CUT, YLW RING CUT, MINOR CALC, BLKY TO PLATY



MD 5346 TVD 5333.86
INC 0.31 AZ 224.61





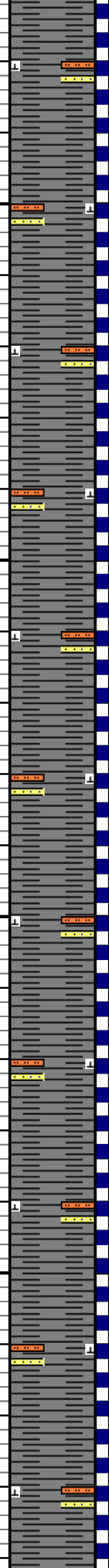
MD 5630 TVD 5617.86
INC 0.28 AZ 337.56
VS 146.06

5600

5650

5700

5750



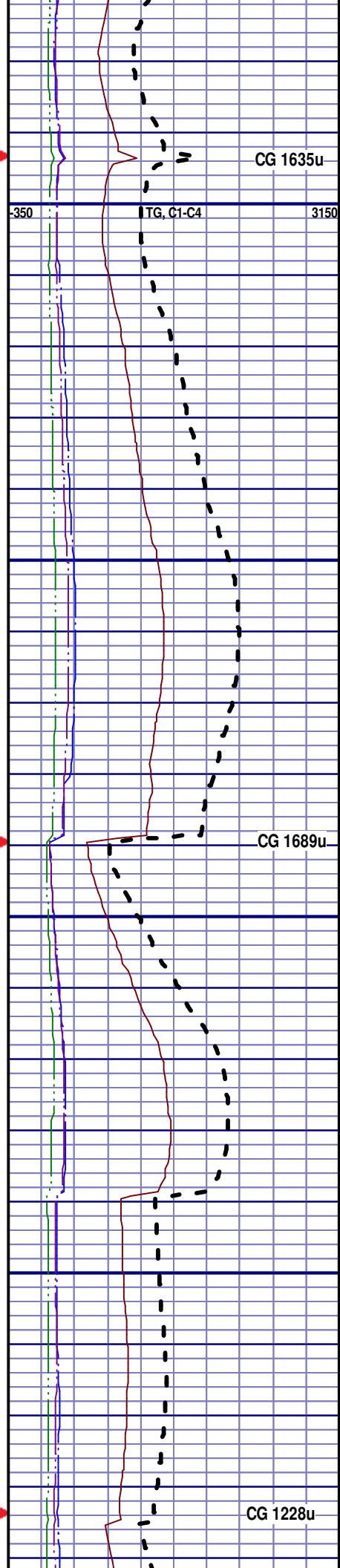
SH; 80%; BLK TO DK GRY,
SMOOTH TXT, SOFT TO FIRM,
SANDY, SILTY, NO VIS FRACT, 1%
YLW FLUOR, SLOW, BLU STRM
CUT, YLW RING CUT, MINOR CALC,
BLKY TO PLATY

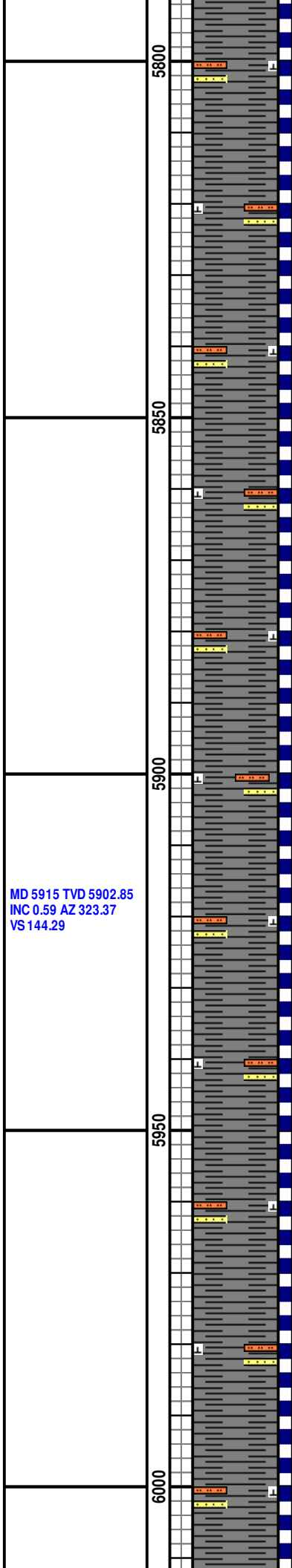
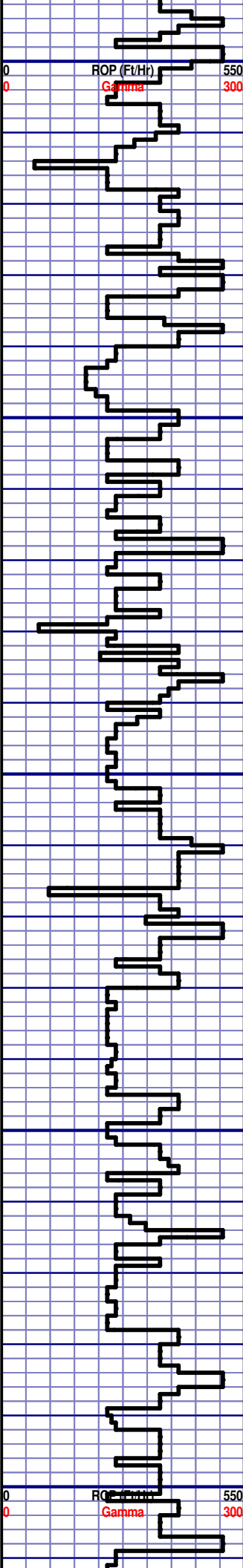
SH; 80%; BLK TO DK GRY,
SMOOTH TXT, SOFT TO FIRM,
SANDY, SILTY, NO VIS FRACT, 1%
YLW FLUOR, SLOW, BLU STRM
CUT, YLW RING CUT, MINOR CALC,
BLKY TO PLATY

SH; 80%; BLK TO DK GRY,
SMOOTH TXT, SOFT TO FIRM,
SANDY, SILTY, NO VIS FRACT, 1%
YLW FLUOR, SLOW, BLU STRM
CUT, YLW RING CUT, MINOR CALC,
BLKY TO PLATY

SH; 80%; BLK TO DK GRY,
SMOOTH TXT, SOFT TO FIRM,
SANDY, SILTY, NO VIS FRACT, 1%
YLW FLUOR, SLOW, BLU STRM
CUT, YLW RING CUT, MINOR CALC,
BLKY TO PLATY

SH; 80%; BLK TO DK GRY,
SMOOTH TXT, SOFT TO FIRM,
SANDY, SILTY, NO VIS FRACT, 1%
YLW FLUOR, SLOW, BLU STRM
CUT, YLW RING CUT, MINOR CALC,
BLKY TO PLATY





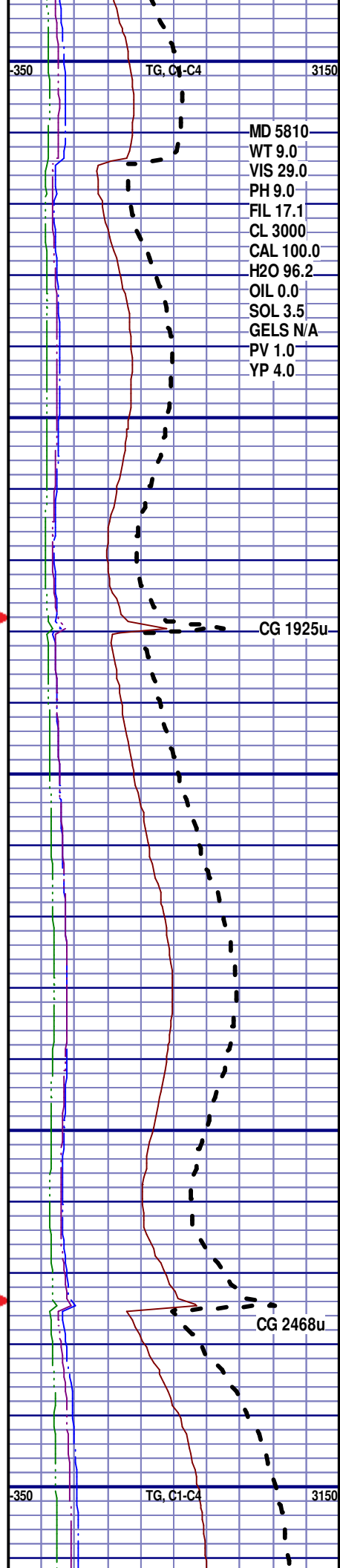
Ylw fluor, slow, blu strm cut, ylw ring cut, minor calc, blkly to platy

SH; 80%; blk to dk gry, smooth txt, soft to firm, sandy, silty, no vis fract, 1% ylw fluor, slow, blu strm cut, ylw ring cut, minor calc, blkly to platy

SH; 80%; blk to dk gry, smooth txt, soft to firm, sandy, silty, no vis fract, 1% ylw fluor, slow, blu strm cut, ylw ring cut, minor calc, blkly to platy

SH; 80%; blk to dk gry, smooth txt, soft to firm, sandy, silty, no vis fract, 1% ylw fluor, slow, blu strm cut, ylw ring cut, minor calc, blkly to platy

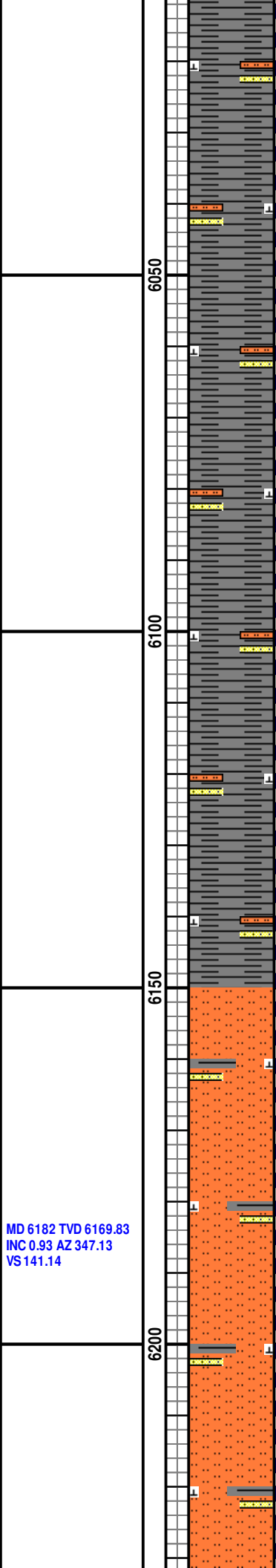
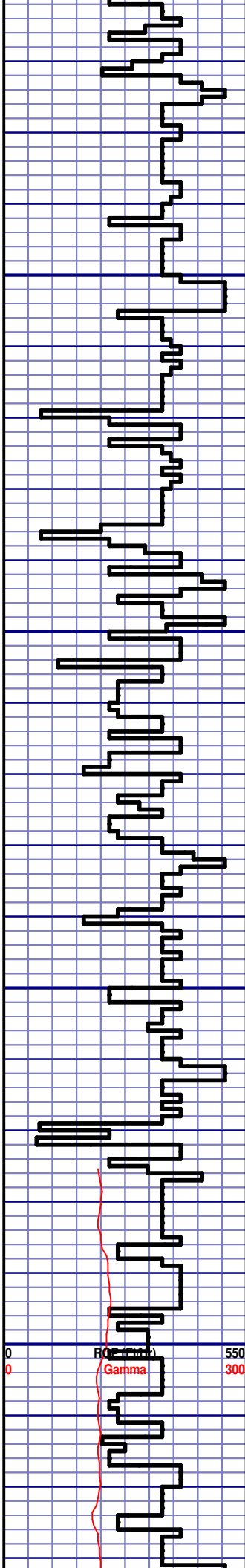
SH; 80%; blk to dk gry, smooth txt, soft to firm, sandy, silty, no vis fract, 1% ylw fluor, slow, blu strm cut, ylw ring cut, minor calc, blkly to platy



MD 5810
WT 9.0
VIS 29.0
PH 9.0
FIL 17.1
CL 3000
CAL 100.0
H2O 96.2
OIL 0.0
SOL 3.5
GELS N/A
PV 1.0
YP 4.0

CG 1925u

CG 2468u



SH; 80%; BLK TO DK GRY,
SMOOTH TXT, SOFT TO FIRM,
SANDY, SILTY, NO VIS FRACT, 1%
YLW FLUOR, SLOW, BLU STRM
CUT, YLW RING CUT, MINOR CALC,
BLKY TO PLATY

SH; 80%; BLK TO DK GRY,
SMOOTH TXT, SOFT TO FIRM,
SANDY, SILTY, NO VIS FRACT, 1%
YLW FLUOR, SLOW, BLU STRM
CUT, YLW RING CUT, MINOR CALC,
BLKY TO PLATY

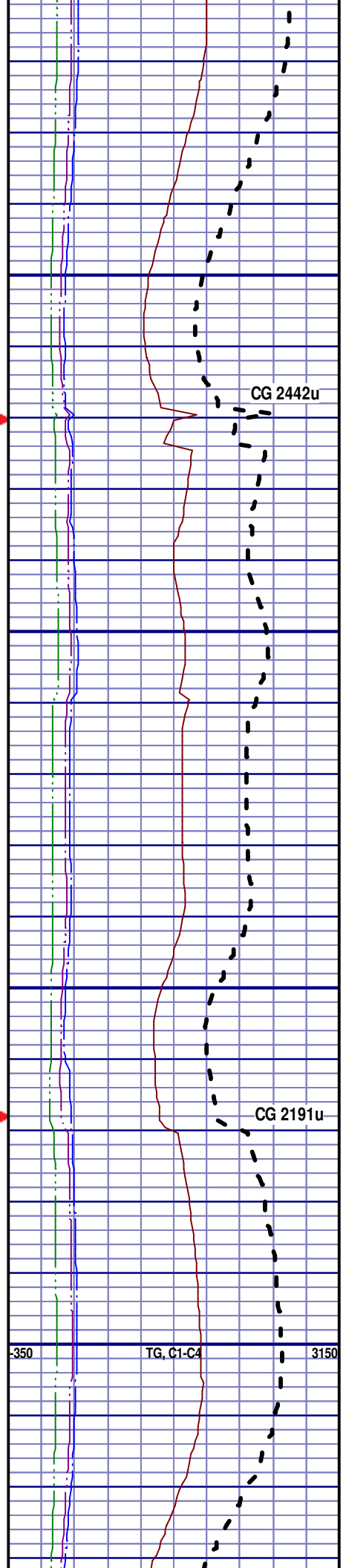
SH; 80%; BLK TO DK GRY,
SMOOTH TXT, SOFT TO FIRM,
SANDY, SILTY, NO VIS FRACT, 1%
YLW FLUOR, SLOW, BLU STRM
CUT, YLW RING CUT, MINOR CALC,
BLKY TO PLATY

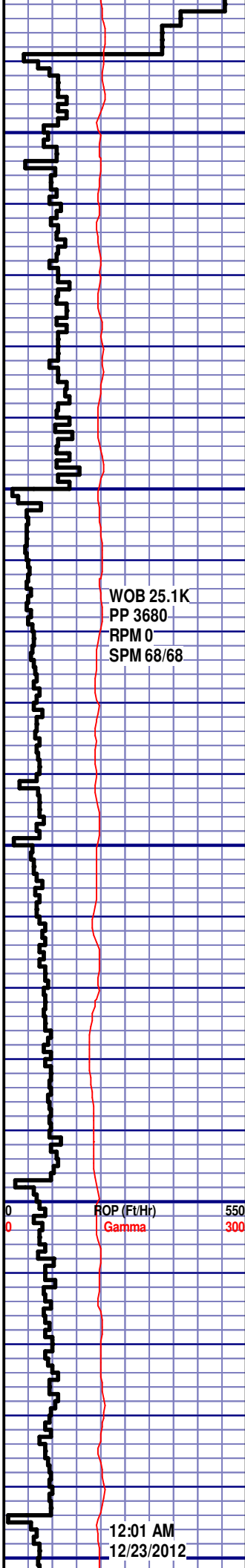
TEEPEE BUTTES

6150' MD 6137' TVD

SILTSTN; 55%; LT GRY TO GRY,
VFGR, SUB-ANG, OPA, FRIBL,
P/CONSOL, P/SORT, CALC MNT,
SANDY, SH INCLUS, NO FLUOR,
SLOW STRM CUT, BLU STRM CUT,
NO CUT AFTER CRUSH, YLW RING
CUT

SILTSTN; 80%; LT GRY TO GRY,





MD 6245 TVD 6232.82
INC 1.14 AZ 335.04
VS 140.09

WOB 25.1K
PP 3680
RPM 0
SPM 68/68

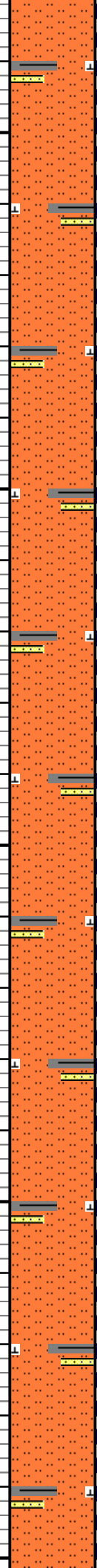
MD 6341 TVD 6328.74
INC 4.97 AZ 256.8
VS 139.5

MD 6388 TVD 6375
INC 9.84 AZ 256.67
VS 141.07

MD 6436 TVD 6422.18
INC 15.14 AZ 259.85
VS 143.42

12:01 AM
12/23/2012

6250
6300
6350
6400
6450



VFGR, SUB-ANG, OPA, FRIBL,
P/CONSOL, P/SORT, CALC MNT,
SANDY, SH INCLUS, NO FLUOR,
SLOW STRM CUT, BLU STRM CUT,
NO CUT AFTER CRUSH, YLW RING
CUT

TOOH @ 5:30 AM ON 12/22/2012 AT
6238' MD FOR CURVE ASSEMBLY
TIH @ 10:15 AM ON 12/22/2012
RESUMED DRILLING AT 1:45 PM
ON 12/22/12 W/ BIT #2 8.750"
MODEL HDBS MMD55M IN @ 6238'
MD

SILTSTN; 80%; LT GRY TO GRY,
VFGR, SUB-ANG, OPA, FRIBL,
P/CONSOL, P/SORT, CALC MNT,
SANDY, SH INCLUS, NO FLUOR,
SLOW STRM CUT, BLU STRM CUT,
NO CUT AFTER CRUSH, YLW RING
CUT

SILTSTN; 80%; LT GRY TO GRY,
VFGR, SUB-ANG, OPA, FRIBL,
P/CONSOL, P/SORT, CALC MNT,
SANDY, SH INCLUS, NO FLUOR,
SLOW STRM CUT, BLU STRM CUT,
NO CUT AFTER CRUSH, YLW RING
CUT

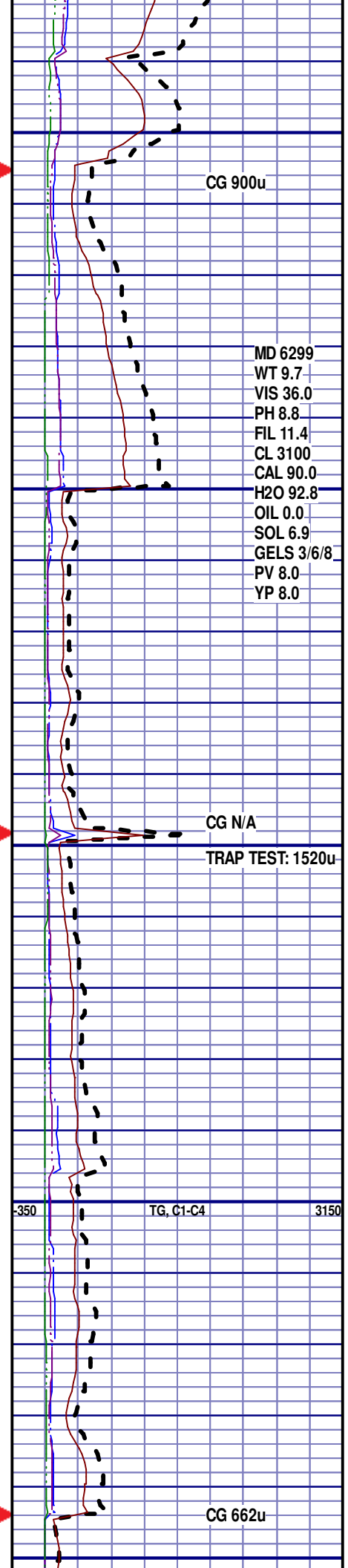
SILTSTN; 80%; LT GRY TO GRY,
VFGR, SUB-ANG, OPA, FRIBL,
P/CONSOL, P/SORT, CALC MNT,
SANDY, SH INCLUS, NO FLUOR,
SLOW STRM CUT, BLU STRM CUT,
NO CUT AFTER CRUSH, YLW RING
CUT

SILTSTN; 80%; LT GRY TO GRY,
VFGR, SUB-ANG, OPA, FRIBL,
P/CONSOL, P/SORT, CALC MNT,
SANDY, SH INCLUS, NO FLUOR,
SLOW STRM CUT, BLU STRM CUT,
NO CUT AFTER CRUSH, YLW RING
CUT

SILTSTN; 80%; LT GRY TO GRY,
VFGR, SUB-ANG, OPA, FRIBL,
P/CONSOL, P/SORT, CALC MNT,
SANDY, SH INCLUS, NO FLUOR,
SLOW STRM CUT, BLU STRM CUT,
NO CUT AFTER CRUSH, YLW RING
CUT

SILTSTN; 80%; LT GRY TO GRY,
VFGR, SUB-ANG, OPA, FRIBL,
P/CONSOL, P/SORT, CALC MNT,
SANDY, SH INCLUS, NO FLUOR,
SLOW STRM CUT, BLU STRM CUT,
NO CUT AFTER CRUSH, YLW RING
CUT

TOOH @ 6:45 PM ON 12/22/2012 AT
6443' MD FOR MWD ISSUES TIH @
10:15 PM ON 12/22/2012 RESUMED



CG 900u

MD 6299
WT 9.7
VIS 36.0
PH 8.8
FIL 11.4
CL 3100
CAL 90.0
H2O 92.8
OIL 0.0
SOL 6.9
GELS 3/6/8
PV 8.0
YP 8.0

CG N/A

TRAP TEST: 1520u

TG, C1-C4

CG 662u

WOB 11.1K
PP 3656
RPM 0
SPM 66/65

MD 6483 TVD 6467.25
INC 17.89 AZ 245.11
VS 147.92

MD 6531 TVD 6512.36
INC 22.21 AZ 232.88
VS 156.92

MD 6578 TVD 6555.35
INC 25.51 AZ 222.49
VS 170.16

MD 6626 TVD 6598.12
INC 28.67 AZ 209.76
VS 188.17

ROP (Ft/Hr)
Gamma
550
300

10:15 PM ON 12/22/2012 RESUMED
DRILLING AT 1:20 AM ON 12/23/12
W/ BIT #2 8.750" MODEL HDBS
MMD55M IN @ 6238' MD

SILTSTN; 80%; LT GRY TO GRY,
VFGR, SUB-ANG, OPA, FRIBL,
P/CONSOL, P/SORT, CALC MNT,
SANDY, SH INCLUS, NO FLUOR,
SLOW STRM CUT, BLU STRM CUT,
NO CUT AFTER CRUSH, YLW RING
CUT

SILTSTN; 80%; LT GRY TO GRY,
VFGR, SUB-ANG, OPA, FRIBL,
P/CONSOL, P/SORT, CALC MNT,
SANDY, SH INCLUS, NO FLUOR,
SLOW STRM CUT, BLU STRM CUT,
NO CUT AFTER CRUSH, YLW RING
CUT

SILTSTN; 80%; LT GRY TO GRY,
VFGR, SUB-ANG, OPA, FRIBL,
P/CONSOL, P/SORT, CALC MNT,
SANDY, SH INCLUS, NO FLUOR,
SLOW STRM CUT, BLU STRM CUT,
NO CUT AFTER CRUSH, YLW RING
CUT

SILTSTN; 80%; LT GRY TO GRY,
VFGR, SUB-ANG, OPA, FRIBL,
P/CONSOL, P/SORT, CALC MNT,
SANDY, SH INCLUS, NO FLUOR,
SLOW STRM CUT, BLU STRM CUT,
NO CUT AFTER CRUSH, YLW RING
CUT

SILTSTN; 80%; LT GRY TO GRY,
VFGR, SUB-ANG, OPA, FRIBL,
P/CONSOL, P/SORT, CALC MNT,
SANDY, SH INCLUS, NO FLUOR,
SLOW STRM CUT, BLU STRM CUT,
NO CUT AFTER CRUSH, YLW RING
CUT

SILTSTN; 80%; LT GRY TO GRY,
VFGR, SUB-ANG, OPA, FRIBL,
P/CONSOL, P/SORT, CALC MNT,
SANDY, SH INCLUS, NO FLUOR,
SLOW STRM CUT, BLU STRM CUT,
NO CUT AFTER CRUSH, YLW RING
CUT

SILTSTN; 80%; LT GRY TO GRY,
VFGR, SUB-ANG, OPA, FRIBL,
P/CONSOL, P/SORT, CALC MNT,
SANDY, SH INCLUS, NO FLUOR,
SLOW STRM CUT, BLU STRM CUT,
NO CUT AFTER CRUSH, YLW RING
CUT

SILTSTN; 80%; LT GRY TO GRY

TRIP GAS 951u

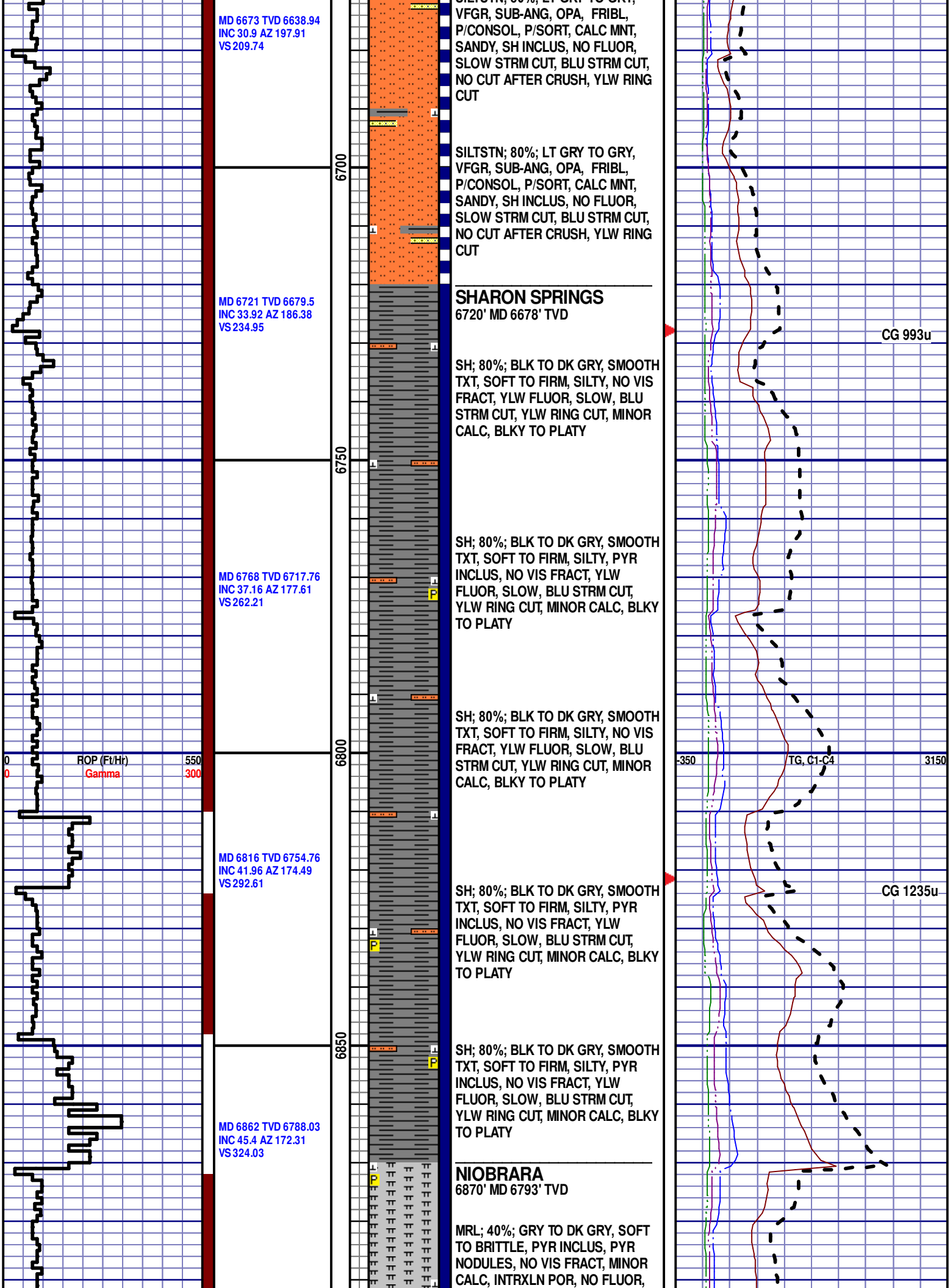
TRAP TEST 1790u

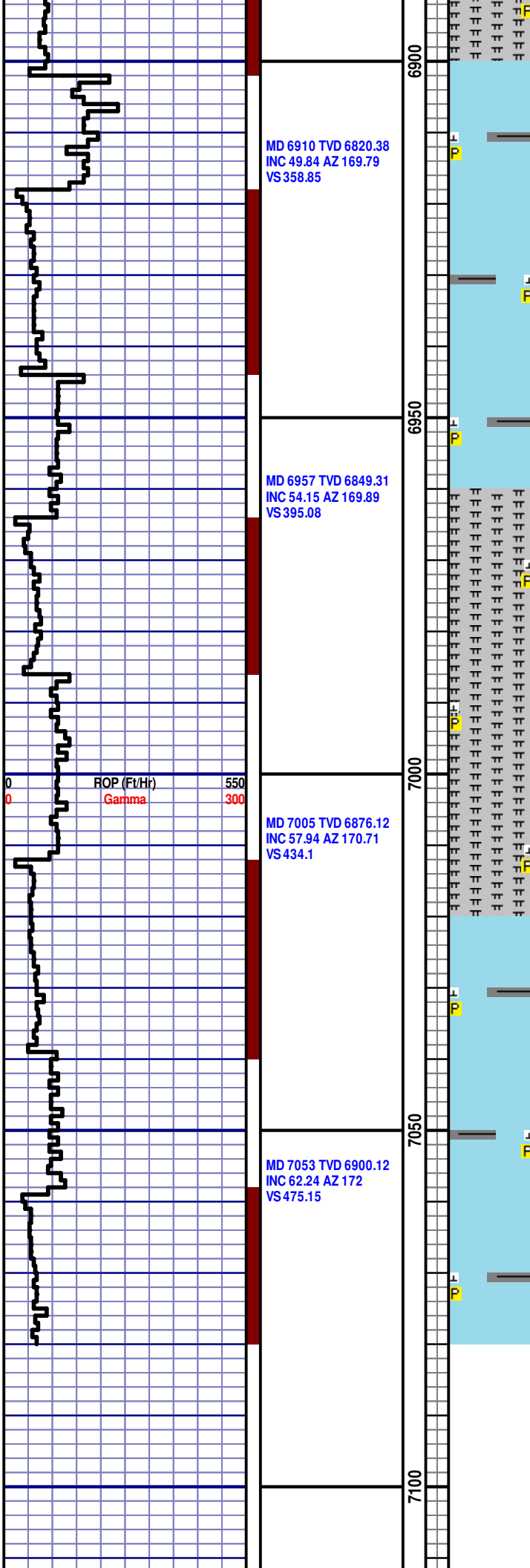
MD 6531
WT 10.4
VIS 42.0
PH 9.5
FIL 8.4
CL 3100
CAL 80.0
H2O 90.4
OIL 0.0
SOL 9.3
GELS 6/10/14
PV 13.0
YP 13.0

CG 268u

-350 TG, C1-C4 3150

CG 334u





IMMED BLU STRM CUT, YLW RING CUT

NIOBRARA A 6900' MD 6814' TVD

CHK; 60%; LT GRY TO GRY, SOFT, SH INCLUS, PYR NODULES, MINOR CALC, NO VIS FRACT, INTRXLN POR, NO FLUOR, IMMED BLU STRM CUT, YLW RING CUT, NO VIS STAIN

CHK; 55%; LT GRY TO GRY, SOFT, SH INCLUS, PYR NODULES, MINOR CALC, NO VIS FRACT, INTRXLN POR, NO FLUOR, IMMED BLU STRM CUT, LT BLU RING CUT, NO VIS STAIN

NIOBRARA A MARL 6960' MD 6850' TVD

MRL; 45%; GRY TO DK GRY, SOFT TO BRITTLE, PYR INCLUS, PYR NODULES, NO VIS FRACT, MINOR CALC, INTRXLN POR, NO FLUOR, IMMED BLU STRM CUT, LT BLU RING CUT

MRL; 50%; GRY TO DK GRY, SOFT TO BRITTLE, PYR INCLUS, PYR NODULES, NO VIS FRACT, MINOR CALC, INTRXLN POR, NO FLUOR, IMMED BLU STRM CUT, YLW RING CUT

NIOBRARA B 7020' MD 6884' TVD

CHK; 50%; LT GRY TO GRY, SOFT, SH INCLUS, PYR NODULES, MINOR CALC, NO VIS FRACT, INTRXLN POR, NO FLUOR, IMMED BLU STRM CUT, YLW RING CUT, NO VIS STAIN

CHK; 65%; LT GRY TO GRY, SOFT, SH INCLUS, PYR NODULES, MINOR CALC, NO VIS FRACT, INTRXLN POR, NO FLUOR, IMMED BLU STRM CUT, YLW RING CUT, NO VIS STAIN

END OF VERTICAL LOG @ 7080'
MD ON 12/23/12, CONTINUED ON HORIZONTAL LOG.

