

6/25/2014
DAY 02
0 FT/24HRS

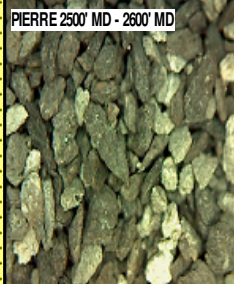
WOB 1.0K
PP 3153
RPM 85
SPM 67/67

RO (Ft/Hr)
Gamma (API)

MD 2581 TVD 2580.69
INC 2.33 AZ 222.82
VS 14.15

MD 2676 TVD 2675.54
INC 3.88 AZ 231.91
VS 18.08

2500
2550
2600
2650
2700



@ 9:45 PM ON 6/25/2014 W/BIT # 2,
8.75", HDBS, SFD55 (S/N) 12444014
IN @ 830' MD

PIERRE

CAME IN BEFORE LOGGING
DEPTH

2500' MD-2600' MD: SLTST: 70% LTGY
- MEDLTGY, FRI, FN TO MED GRN,
W SRTD, CALC CMT, SANDY, IMBD
PYR, FREE SS, INTGR POR, NO
STN, NO FLOR, NO O FLOR, NO
CUT, NO RNG

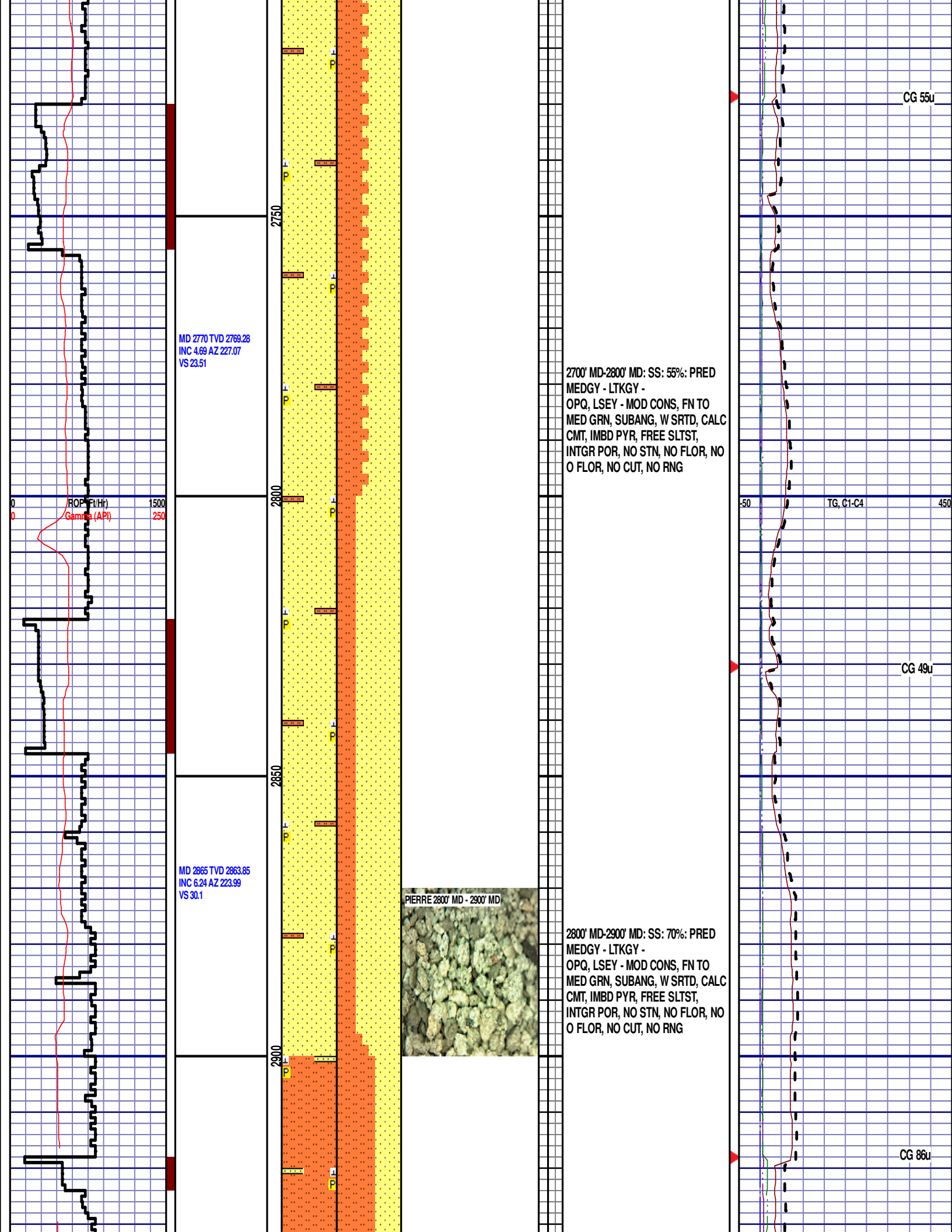
2600' MD-2700' MD: SLTST: 60% LTGY
- MEDLTGY, FRI, FN TO MED GRN,
W SRTD, CALC CMT, SANDY, IMBD
PYR, FREE SS, INTGR POR, NO
STN, NO FLOR, NO O FLOR, NO
CUT, NO RNG

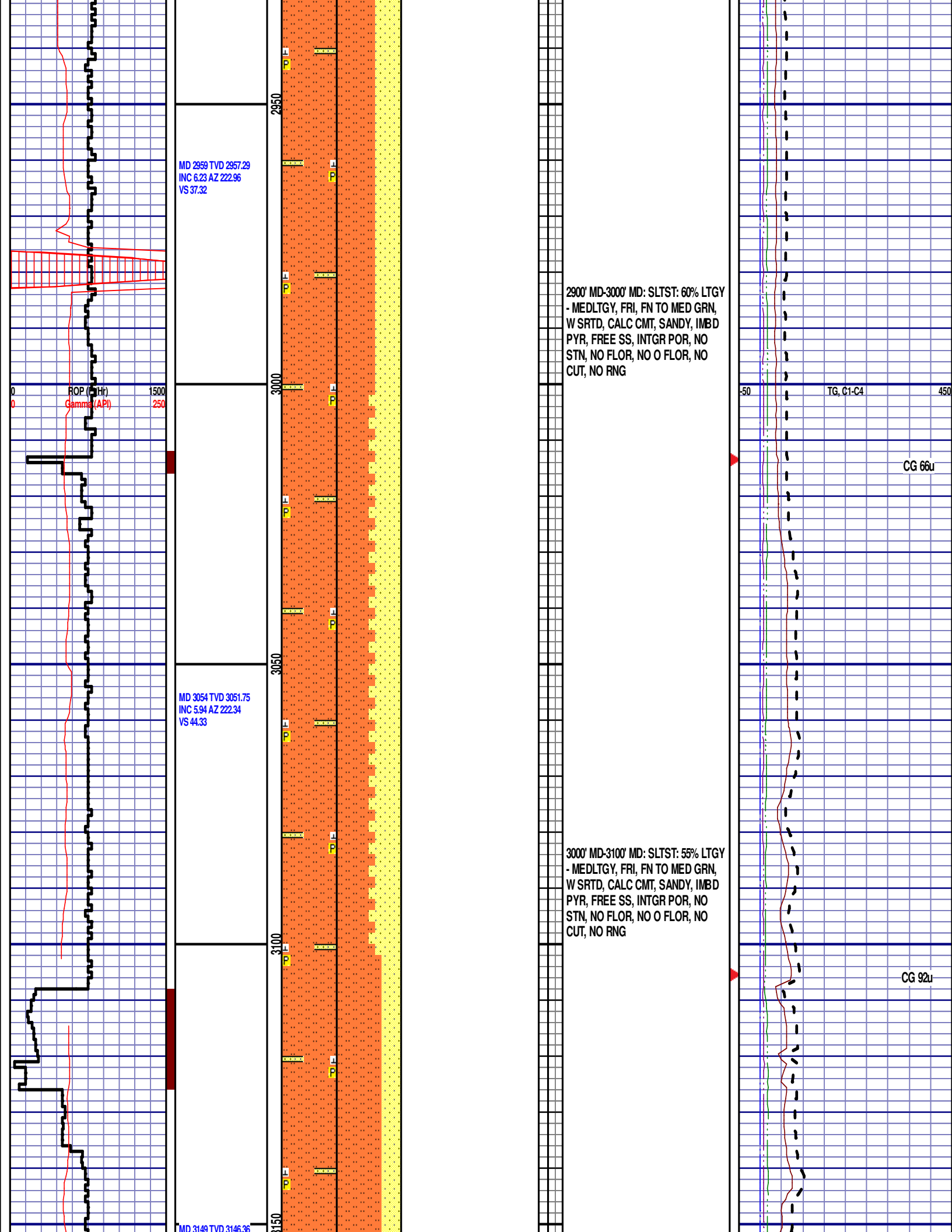
DEPTH 830'
WT 8.55
VIS 28
PH 7.4
FIL 8.4
CL 1800
CAL 140
H2O 98.3
OIL 0.0
LGS 13.0
GEL 1/2/2
PV 2
YP 2
CK 1/0
SOL 1.5

CG 83u

TG, C1-C4

CG 83u





INC 4.55 AZ 229.33
VS 50.65

ROP (ft/hr)
Gamma (API)

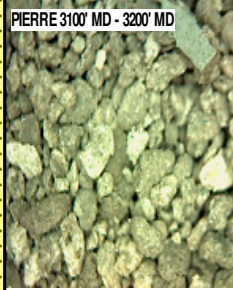
12:01AM
6/26/2014
DAY 03
701 FT/24HRS

WOB 1.0K
PP 2412
RPM 0
SPM 67/67

MD 3244 TVD 3241.19
INC 2.16 AZ 240.59
VS 55.16

MD 3339 TVD 3336.17
INC 0.44 AZ 15.56
VS 56.63

PIERRE 3100' MD - 3200' MD

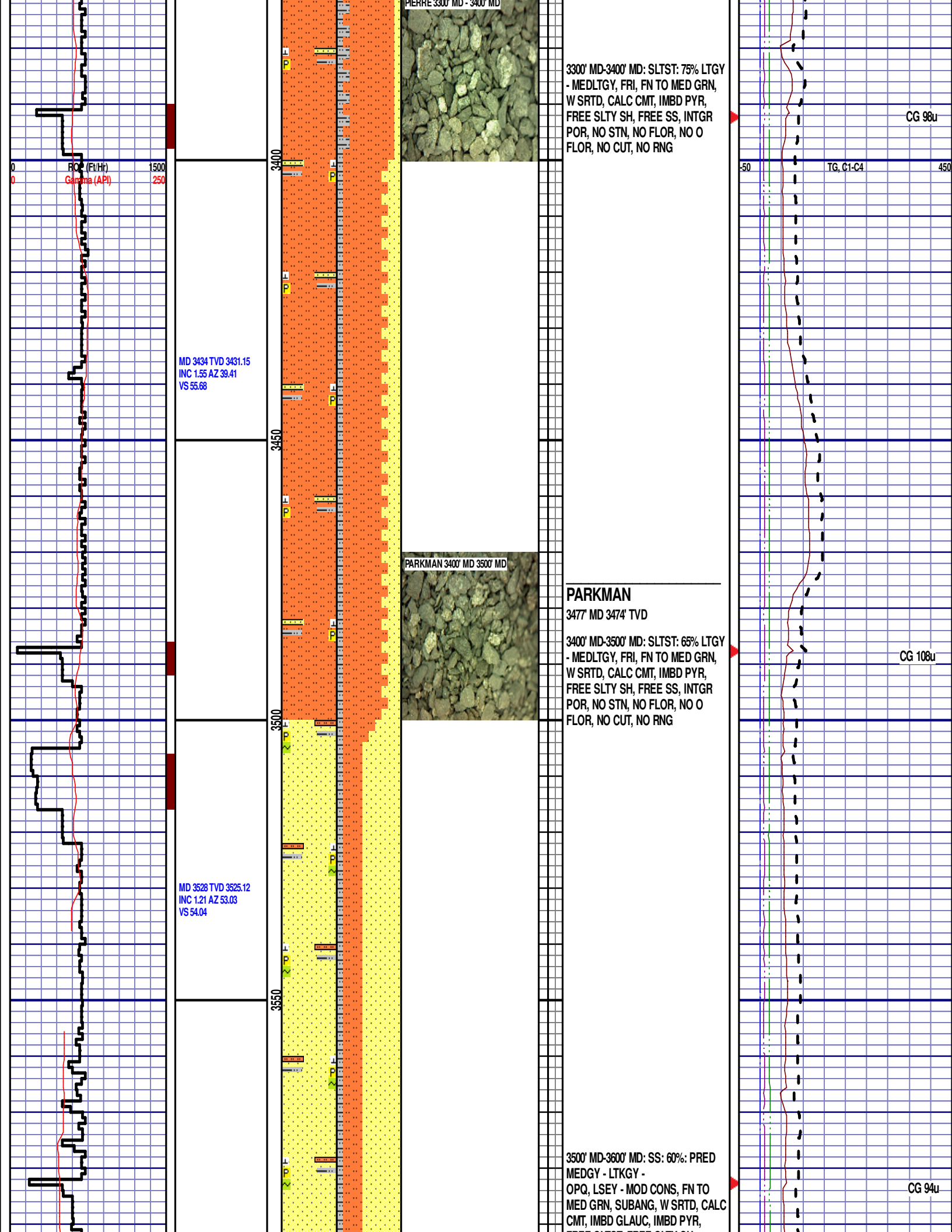


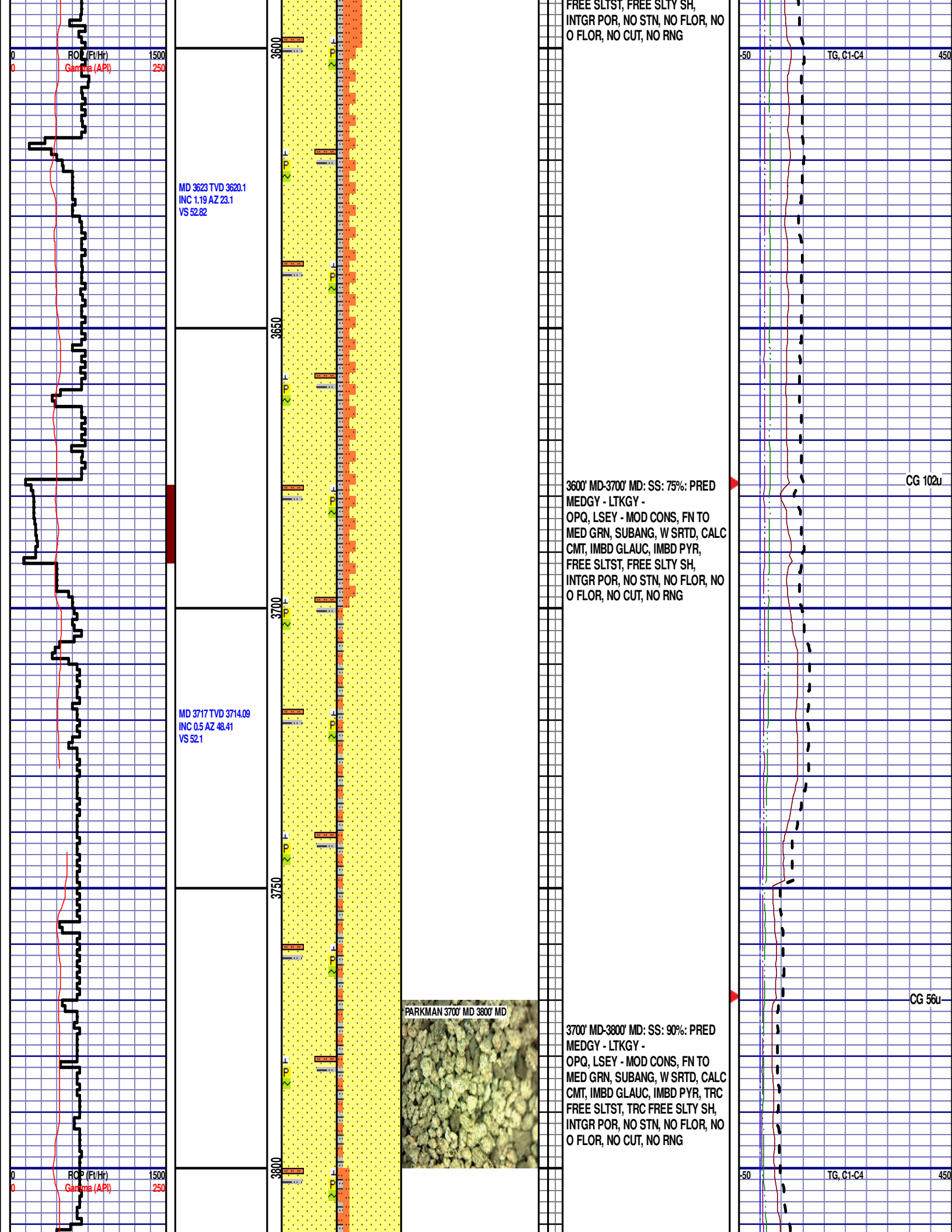
3100' MD-3200' MD: SLTST: 70% LTGY
- MEDLTGY, FRI, FN TO MED GRN,
W SRTD, CALC CMT, SANDY, IMBD
PYR, FREE SS, INTGR POR, NO
STN, NO FLOR, NO O FLOR, NO
CUT, NO RNG

3200' MD-3300' MD: SLTST: 75% LTGY
- MEDLTGY, FRI, FN TO MED GRN,
W SRTD, CALC CMT, IMBD PYR,
TRC FREE SLTY SH, FREE SS,
INTGR POR, NO STN, NO FLOR, NO
O FLOR, NO CUT, NO RNG

50 450
TG, C1-C4
CG 96u

CG 104u





MD 3812 TVD 3809.09
INC 0.8 AZ 48.45
VS 51.27

MD 3907 TVD 3904.08
INC 0.98 AZ 41.76
VS 50.21

MD 4002 TVD 3999.06
INC 0.96 AZ 54.44
VS 48.99

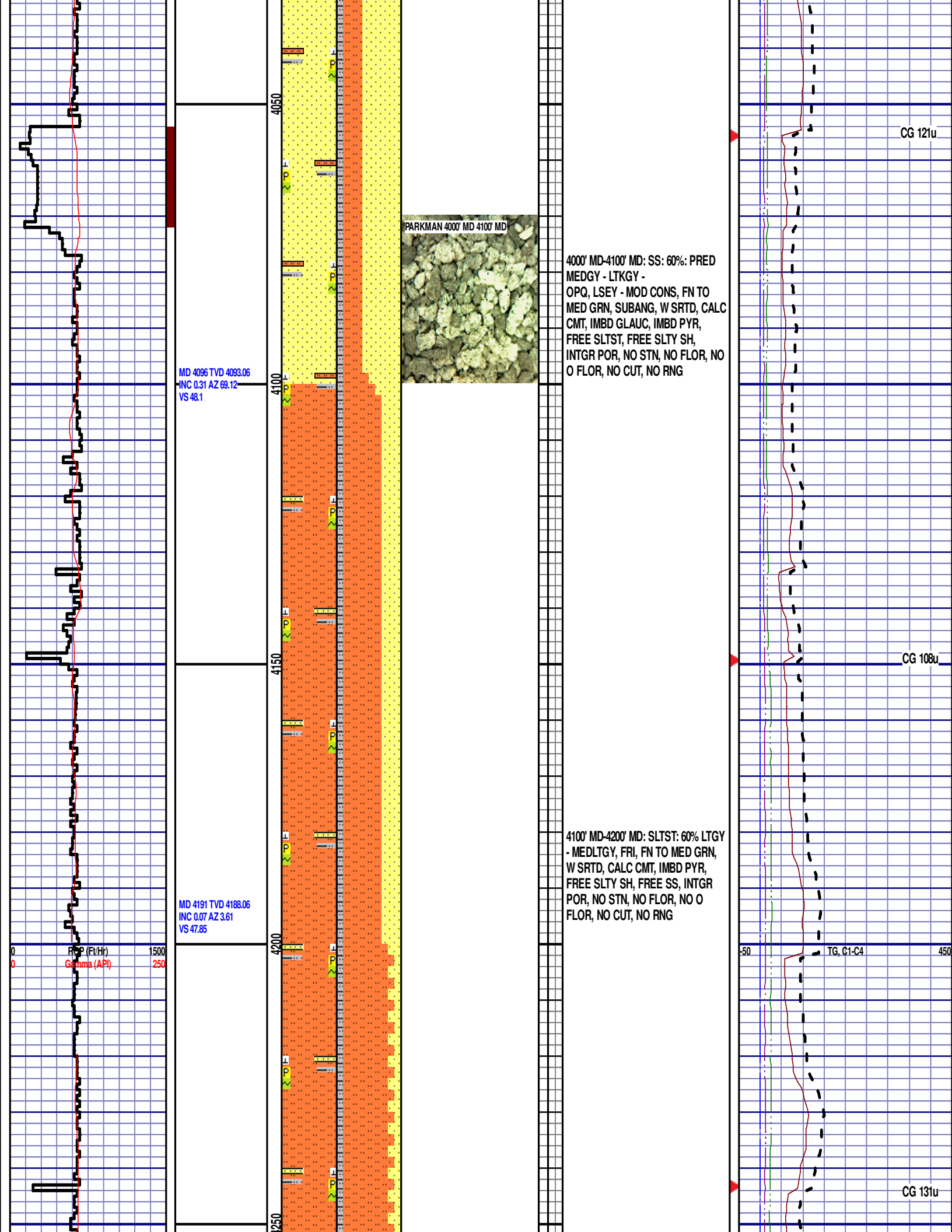
3800' MD-3900' MD: SS: 80%: PRED
MEDGY - LTKGY -
OPQ, LSEY - MOD CONS, FN TO
MED GRN, SUBANG, W SRTD, CALC
CMT, IMBD GLAUC, IMBD PYR,
FREE SLTST, TRC FREE SLTY SH,
INTGR POR, NO STN, NO FLOR, NO
O FLOR, NO CUT, NO RNG

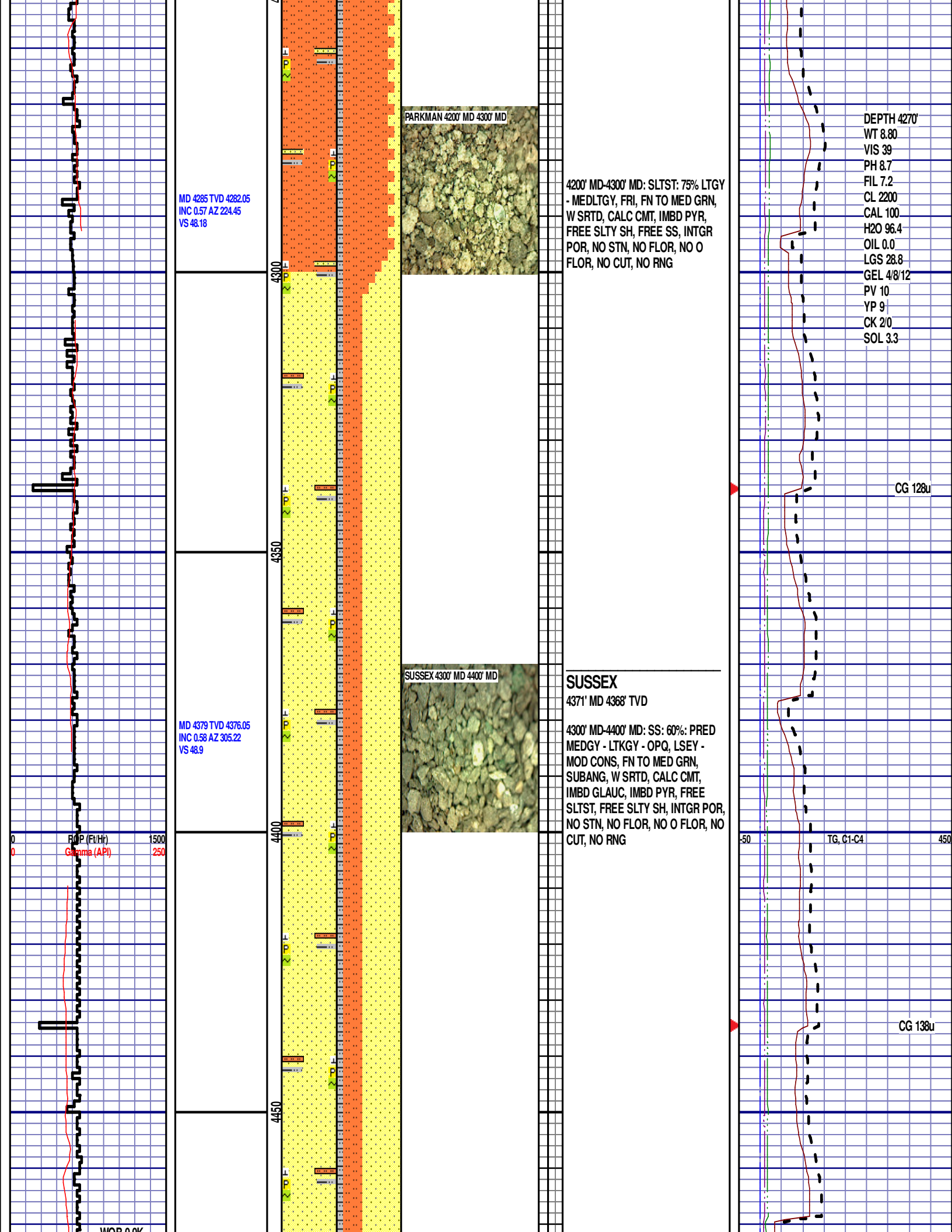
3900' MD-4000' MD: SS: 65%: PRED
MEDGY - LTKGY -
OPQ, LSEY - MOD CONS, FN TO
MED GRN, SUBANG, W SRTD, CALC
CMT, IMBD GLAUC, IMBD PYR,
FREE SLTST, FREE SLTY SH,
INTGR POR, NO STN, NO FLOR, NO
O FLOR, NO CUT, NO RNG

CG 121u

CG 146u

TG, C1-C4





MD 4285 TVD 4282.05
INC 0.57 AZ 224.45
VS 48.18

MD 4379 TVD 4376.05
INC 0.58 AZ 305.22
VS 48.9

PARKMAN 4200' MD 4300' MD

SUSSEX 4300' MD 4400' MD

4200' MD-4300' MD: SLTST: 75% LTGY
- MEDLTGY, FRI, FN TO MED GRN,
W SRTD, CALC CMT, IMBD PYR,
FREE SLTY SH, FREE SS, INTGR
POR, NO STN, NO FLOR, NO O
FLOR, NO CUT, NO RNG

SUSSEX

4371' MD 4368' TVD

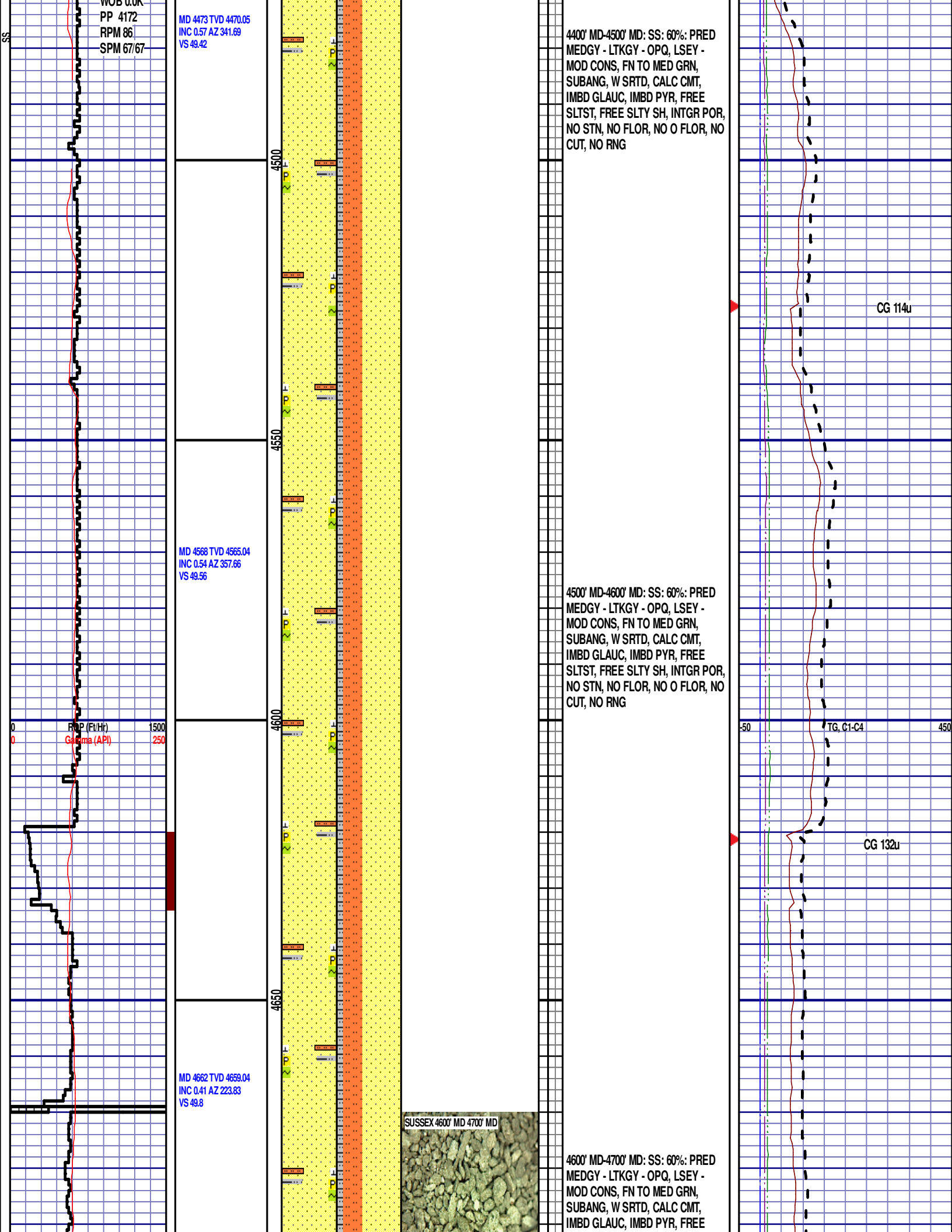
4300' MD-4400' MD: SS: 60%: PRED
MEDGY - LTKGY - OPQ, LSEY -
MOD CONS, FN TO MED GRN,
SUBANG, W SRTD, CALC CMT,
IMBD GLAUC, IMBD PYR, FREE
SLTST, FREE SLTY SH, INTGR POR,
NO STN, NO FLOR, NO O FLOR, NO
CUT, NO RNG

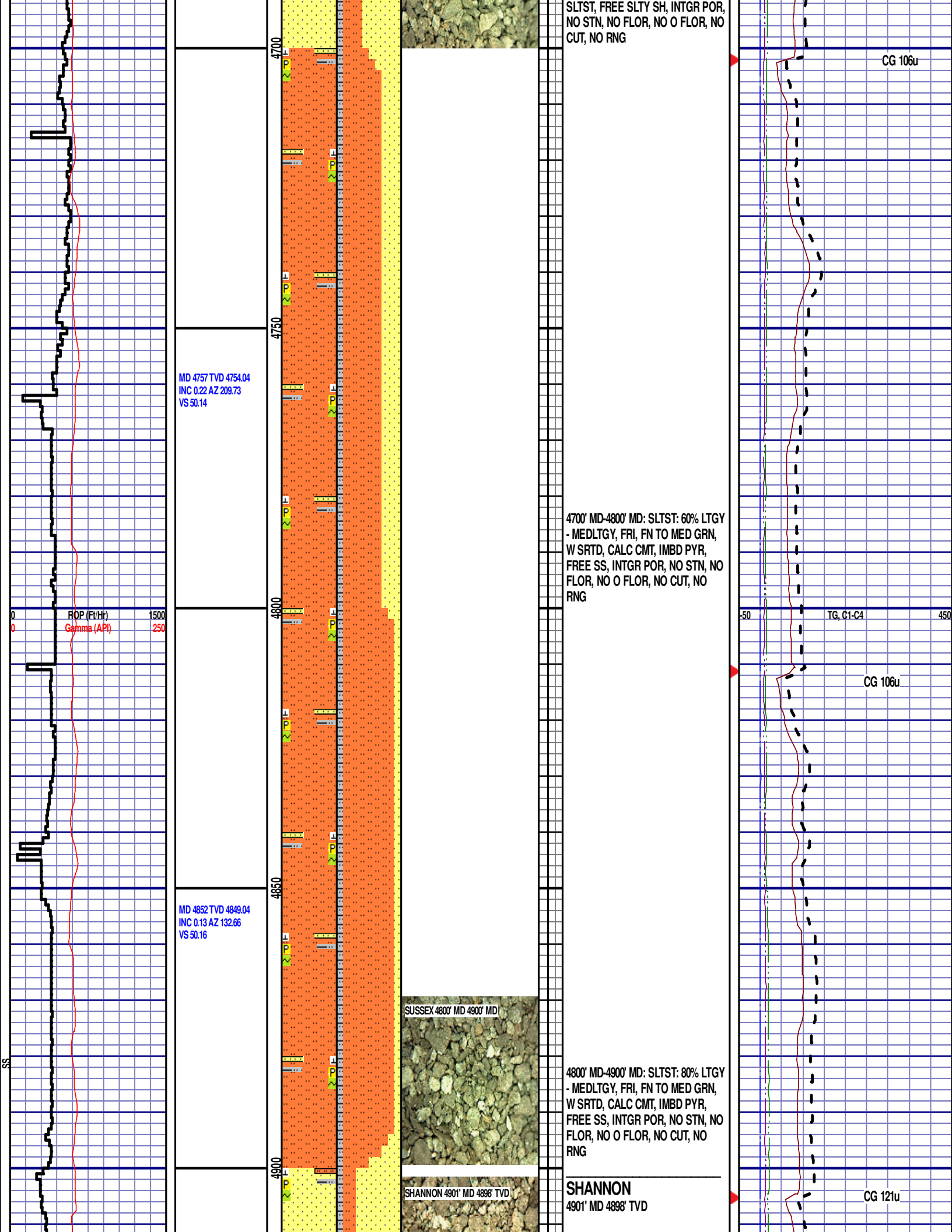
DEPTH 4270'
WT 8.80
VIS 39
PH 8.7
FIL 7.2
CL 2200
CAL 100
H2O 96.4
OIL 0.0
LGS 28.8
GEL 4/8/12
PV 10
YP 9
CK 2/0
SOL 3.3

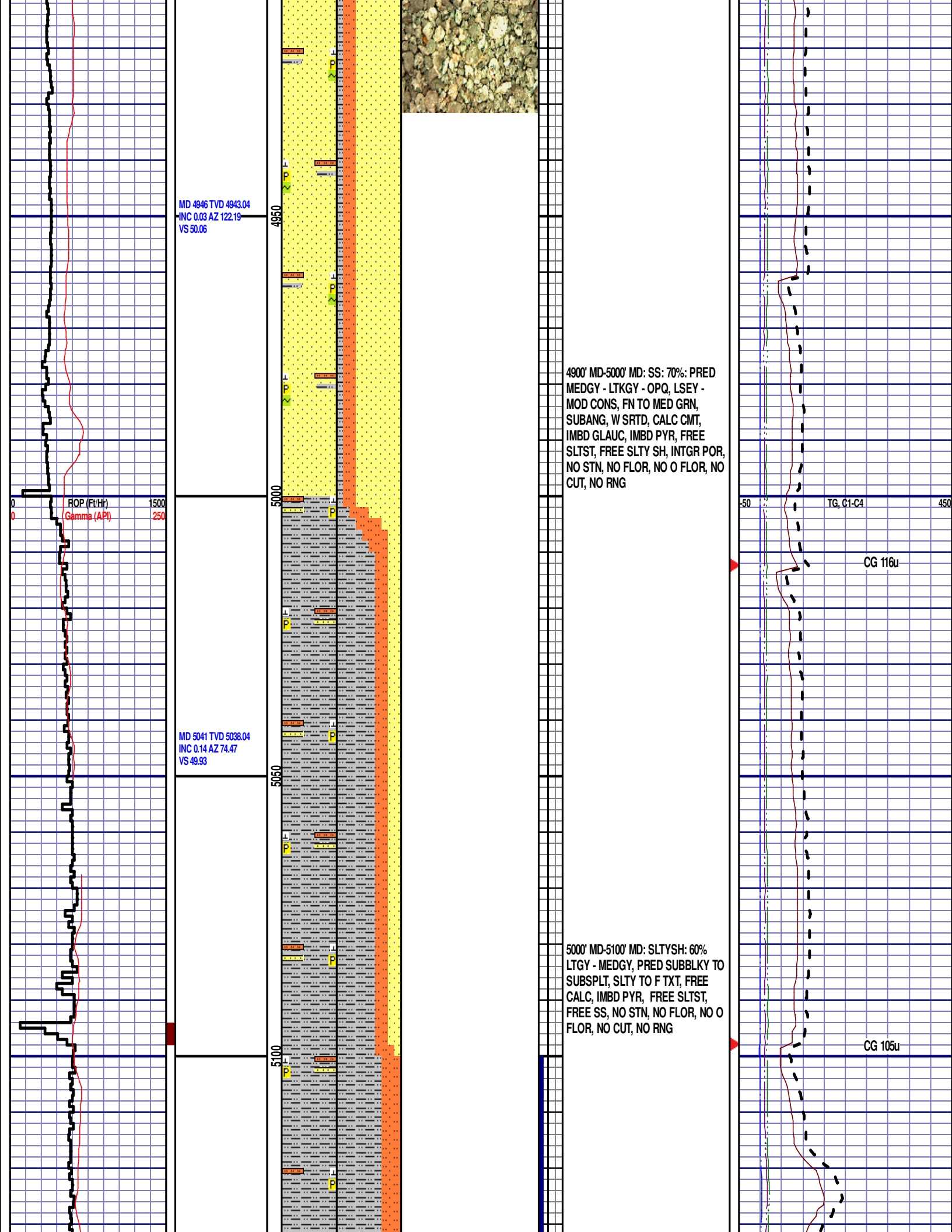
CG 128u

TG, C1-C4

CG 138u







MD 5136 TVD 5133.04
INC 0.47 AZ 307.33
VS 50.12

5150

5200

5250

5300

5350

SHANNON 5100' MD - 5200' MD



5100' MD-5200' MD: SLTYSH: 70%
LTGY - MEDGY, PRED SUBBLKY TO
SUBSPLT, SLTY TO F TXT, FREE
CALC, IMBD PYR, FREE SLTST, NO
STN, NO FLOR, NO O FLOR, WEAK
LZY CUT, LT BLSHWT RNG

CG 116u

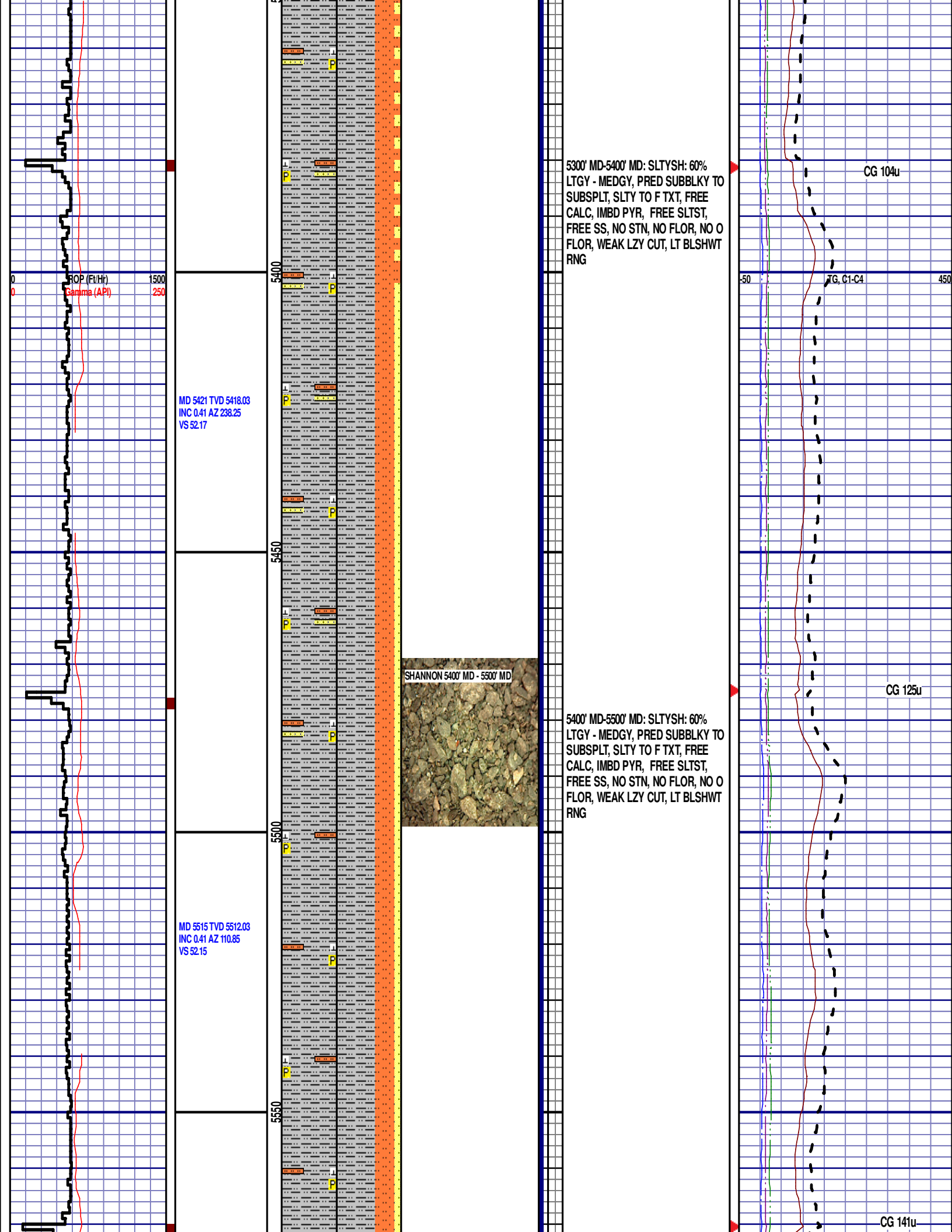
TG, C1-C4

MD 5231 TVD 5228.03
INC 0.57 AZ 273.44
VS 50.89

5200' MD-5300' MD: SLTYSH: 80%
LTGY - MEDGY, PRED SUBBLKY TO
SUBSPLT, SLTY TO F TXT, FREE
CALC, IMBD PYR, FREE SLTST, NO
STN, NO FLOR, NO O FLOR, WEAK
LZY CUT, LT BLSHWT RNG

CG 108u

MD 5326 TVD 5323.03
INC 0.33 AZ 289.3
VS 51.62



ROP (Ft/Hr)
Gamma (API)

1500
250

MD 5421 TVD 5418.03
INC 0.41 AZ 238.25
VS 52.17

5400

5450

5500

5550

SHANNON 5400' MD - 5500' MD



5300' MD-5400' MD: SLTYSH: 60%
LTGY - MEDGY, PRED SUBBLKY TO
SUBSPLT, SLTY TO F TXT, FREE
CALC, IMBD PYR, FREE SLTST,
FREE SS, NO STN, NO FLOR, NO O
FLOR, WEAK LZY CUT, LT BLSHW
RNG

CG 104u

50

TG, C1-C4

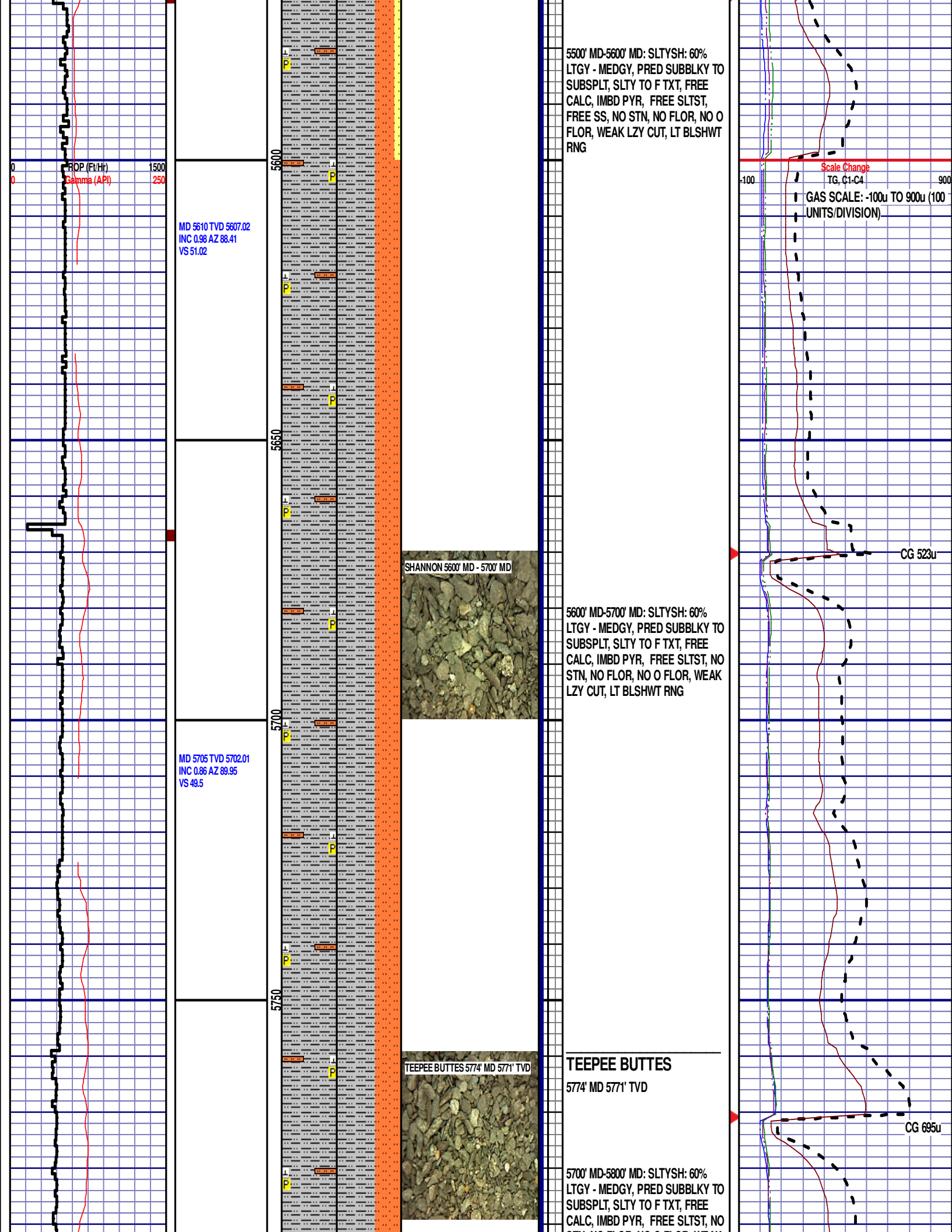
450

CG 125u

5400' MD-5500' MD: SLTYSH: 60%
LTGY - MEDGY, PRED SUBBLKY TO
SUBSPLT, SLTY TO F TXT, FREE
CALC, IMBD PYR, FREE SLTST,
FREE SS, NO STN, NO FLOR, NO O
FLOR, WEAK LZY CUT, LT BLSHW
RNG

MD 5515 TVD 5512.03
INC 0.41 AZ 110.85
VS 52.15

CG 141u



5500' MD-5600' MD: SLTYSH: 60%
LTGY - MEDGY, PRED SUBBLKY TO
SUBSPLT, SLTY TO F TXT, FREE
CALC, IMBD PYR, FREE SLTST,
FREE SS, NO STN, NO FLOR, NO O
FLOR, WEAK LZV CUT, LT BLSHWT
RING

Scale Change
TG, C1-C4

GAS SCALE: -100u to 900u (100
UNITS/DIVISION)

MD 5610 TVD 5607.02
INC 0.98 AZ 88.41
VS 51.02

SHANNON 5600' MD - 5700' MD

5600' MD-5700' MD: SLTYSH: 60%
LTGY - MEDGY, PRED SUBBLKY TO
SUBSPLT, SLTY TO F TXT, FREE
CALC, IMBD PYR, FREE SLTST, NO
STN, NO FLOR, NO O FLOR, WEAK
LZV CUT, LT BLSHWT RING

CG 523u

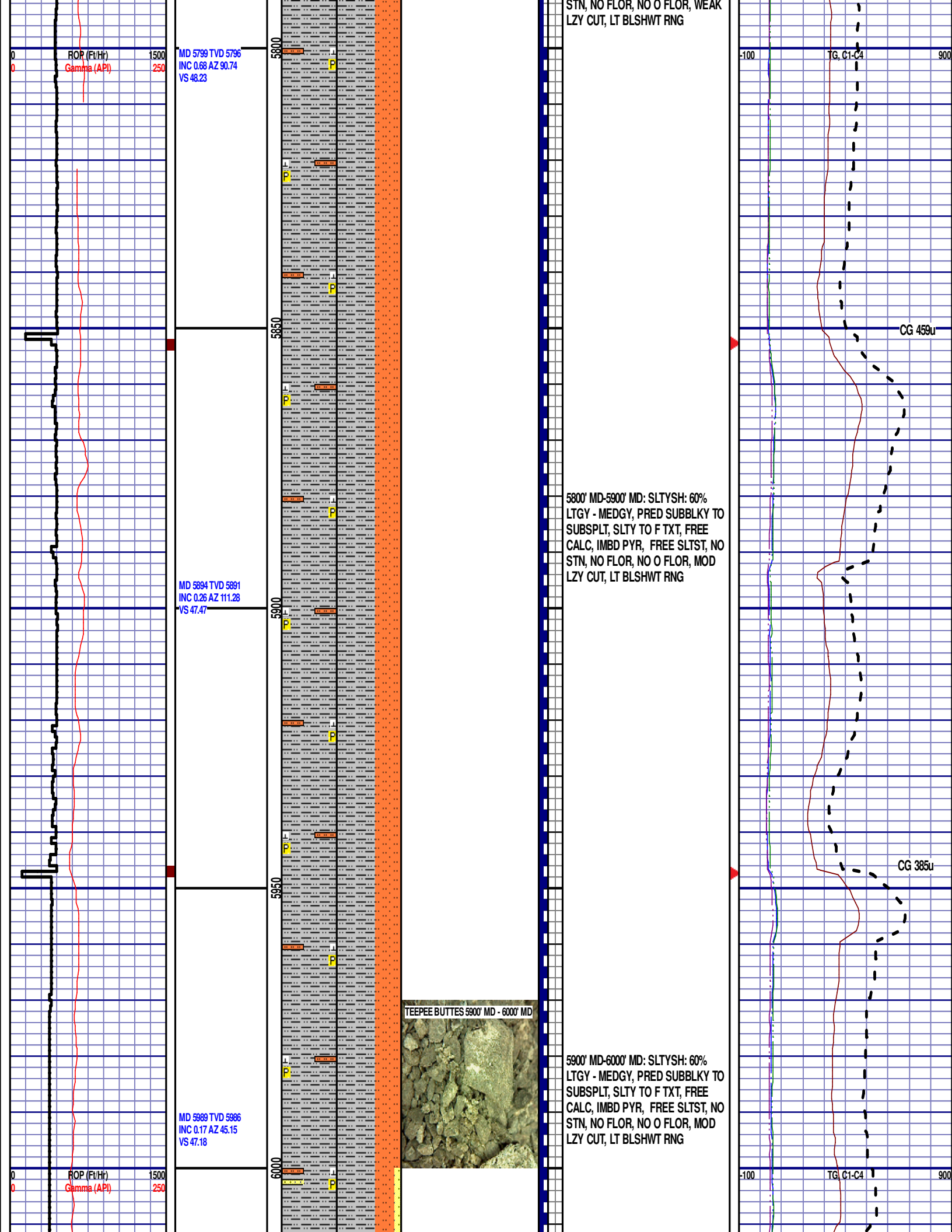
MD 5705 TVD 5702.01
INC 0.86 AZ 89.95
VS 49.5

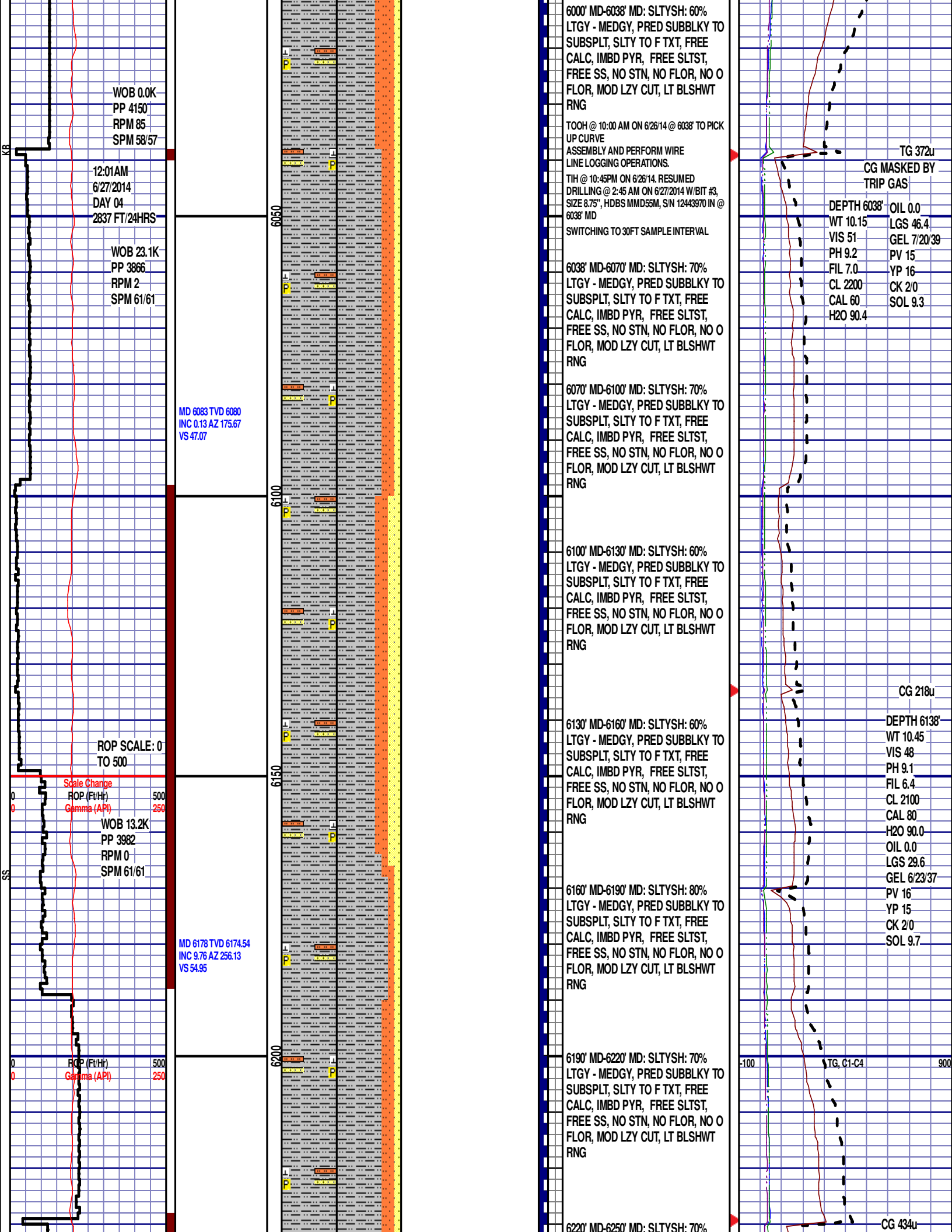
TEEPEE BUTTES 5774' MD 5771' TVD

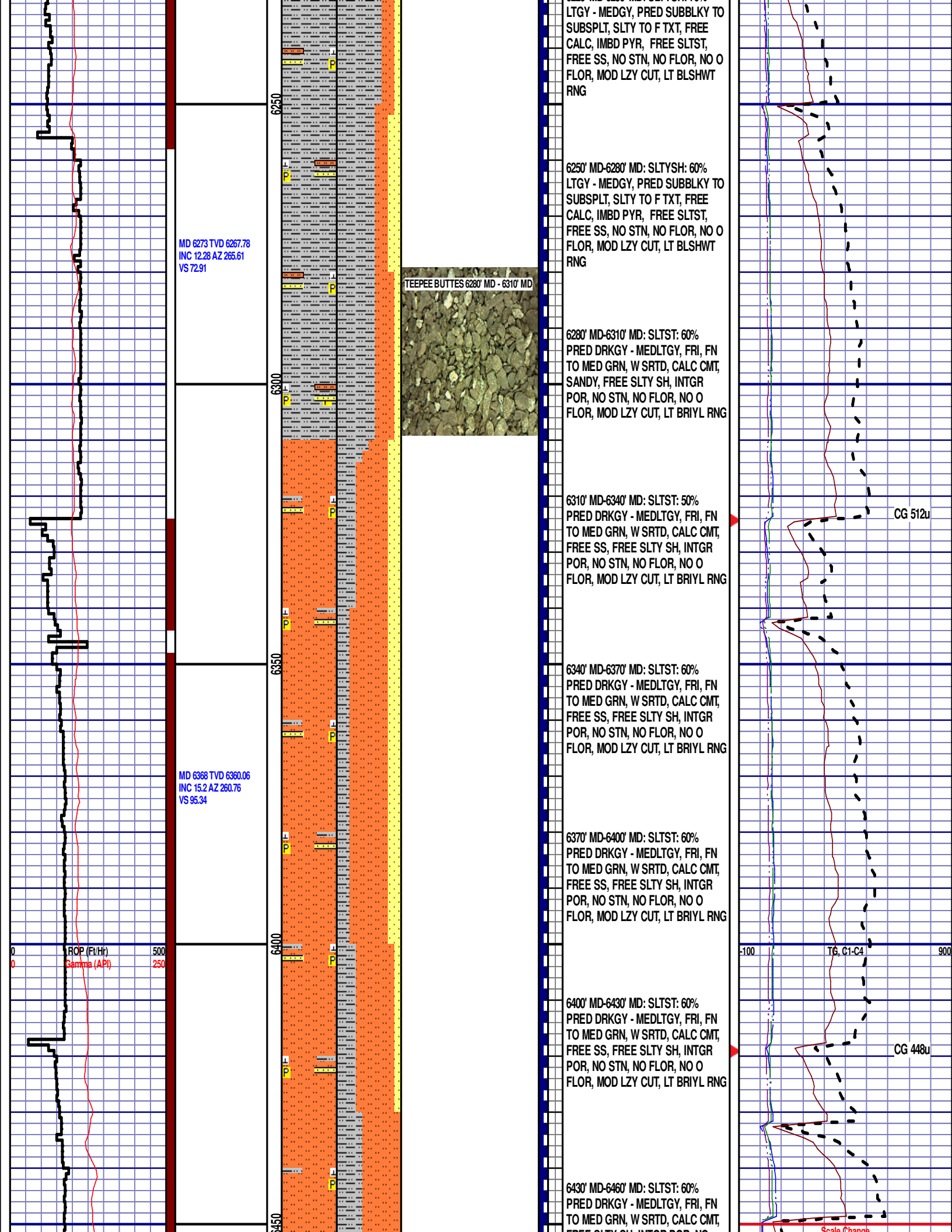
TEEPEE BUTTES
5774' MD 5771' TVD

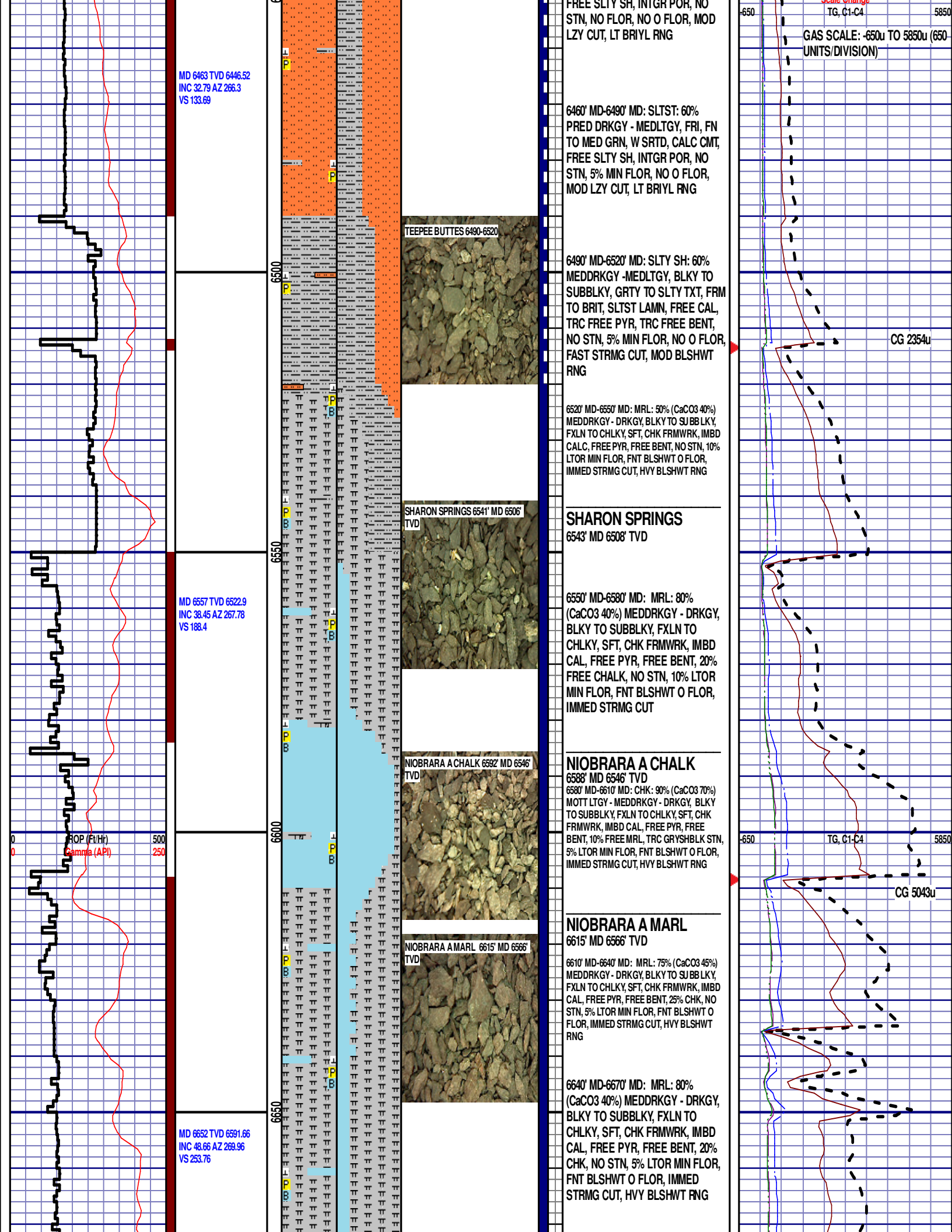
CG 695u

5700' MD-5800' MD: SLTYSH: 60%
LTGY - MEDGY, PRED SUBBLKY TO
SUBSPLT, SLTY TO F TXT, FREE
CALC, IMBD PYR, FREE SLTST, NO









MD 6463 TVD 6446.52
INC 32.79 AZ 266.3
VS 133.69

MD 6557 TVD 6522.9
INC 38.45 AZ 267.78
VS 188.4

MD 6652 TVD 6591.66
INC 48.66 AZ 269.96
VS 253.76

TEEPEE BUTTES 6490-6520

SHARON SPRINGS 6541' MD 6506'
TVD

NIOBRARA A CHALK 6592' MD 6546'
TVD

NIOBRARA A MARL 6615' MD 6566'
TVD

6460' MD-6490' MD: SLTST: 60%
PRED DRKGY - MEDLTGY, FRI, FN
TO MED GRN, W SRTD, CALC CMT,
FREE SLTY SH, INTGR POR, NO
STN, 5% MIN FLOR, NO O FLOR,
MOD LZY CUT, LT BRIYL RNG

6490' MD-6520' MD: SLTY SH: 60%
MEDDRKGY - MEDLTGY, BLKY TO
SUBBLKY, GRTY TO SLTY TXT, FRM
TO BRIT, SLTST LAMN, FREE CAL,
TRC FREE PYR, TRC FREE BENT,
NO STN, 5% MIN FLOR, NO O FLOR,
FAST STRMG CUT, MOD BLSHWT
RNG

6520' MD-6550' MD: MRL: 50% (CaCO3 40%)
MEDDRKGY - DRKGY, BLKY TO SUBBLKY,
FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD
CALC, FREE PYR, FREE BENT, NO STN, 10%
LTOR MIN FLOR, FNT BLSHWT O FLOR,
IMMED STRMG CUT, HVY BLSHWT RNG

SHARON SPRINGS
6543' MD 6508' TVD

6550' MD-6580' MD: MRL: 80%
(CaCO3 40%) MEDDRKGY - DRKGY,
BLKY TO SUBBLKY, FXLN TO
CHLKY, SFT, CHK FRMWRK, IMBD
CAL, FREE PYR, FREE BENT, 20%
FREE CHALK, NO STN, 10% LTOR
MIN FLOR, FNT BLSHWT O FLOR,
IMMED STRMG CUT

NIOBRARA A CHALK
6588' MD 6546' TVD

6580' MD-6610' MD: CHK: 90% (CaCO3 70%)
MOTT LTGY - MEDDRKGY - DRKGY, BLKY
TO SUBBLKY, FXLN TO CHLKY, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, FREE
BENT, 10% FREE MRL, TRC GRYSBLK STN,
5% LTOR MIN FLOR, FNT BLSHWT O FLOR,
IMMED STRMG CUT, HVY BLSHWT RNG

NIOBRARA A MARL
6615' MD 6566' TVD

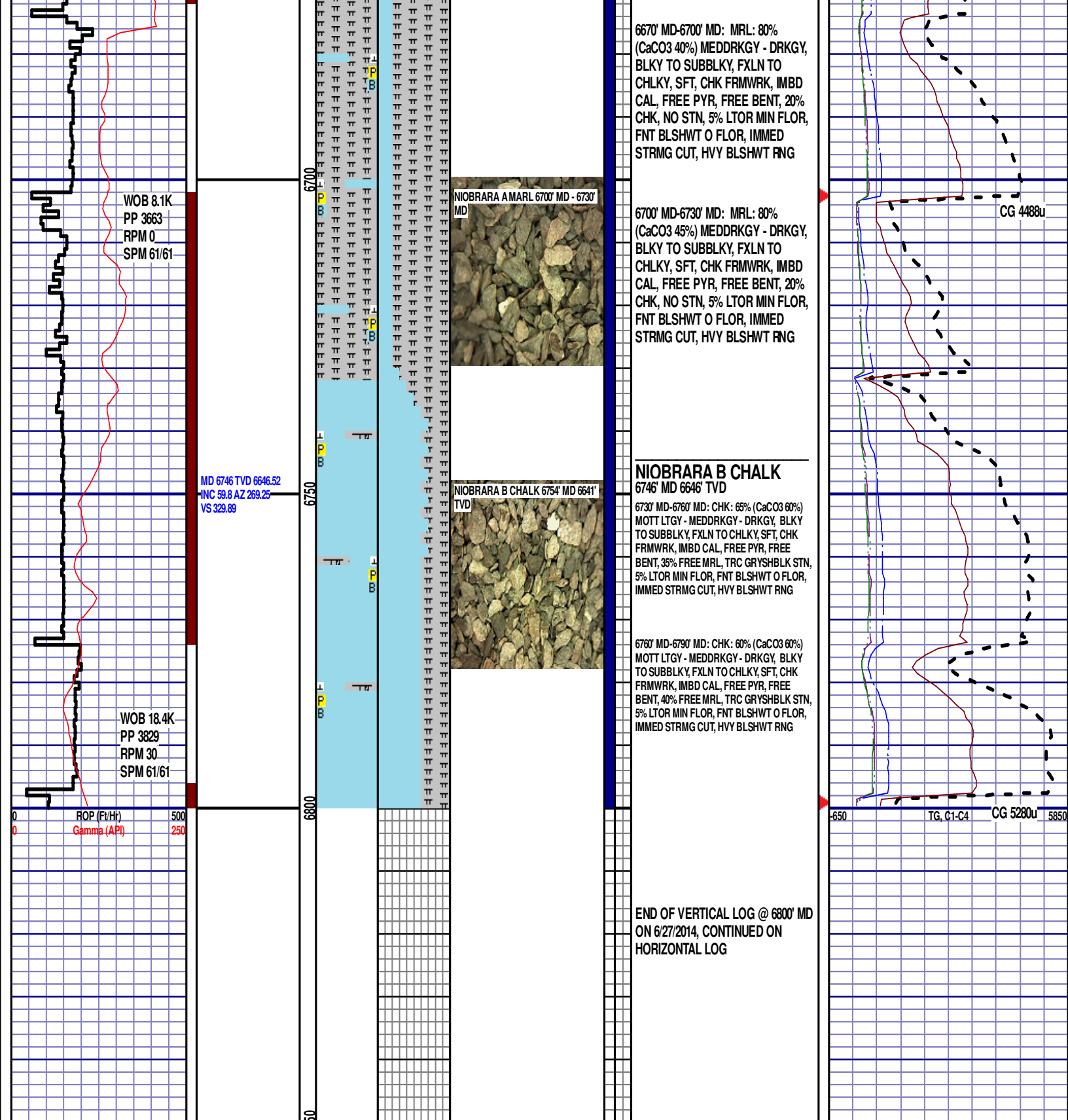
6610' MD-6640' MD: MRL: 75% (CaCO3 45%)
MEDDRKGY - DRKGY, BLKY TO SUBBLKY,
FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD
CAL, FREE PYR, FREE BENT, 25% CHK, NO
STN, 5% LTOR MIN FLOR, FNT BLSHWT O
FLOR, IMMED STRMG CUT, HVY BLSHWT
RNG

6640' MD-6670' MD: MRL: 80%
(CaCO3 40%) MEDDRKGY - DRKGY,
BLKY TO SUBBLKY, FXLN TO
CHLKY, SFT, CHK FRMWRK, IMBD
CAL, FREE PYR, FREE BENT, 20%
CHK, NO STN, 5% LTOR MIN FLOR,
FNT BLSHWT O FLOR, IMMED
STRMG CUT, HVY BLSHWT RNG

GAS SCALE: -650u to 5850u (650
UNITS/DIVISION)

CG 2354u

CG 5043u



WOB 8.1K
PP 3663
RPM 0
SPM 61/61

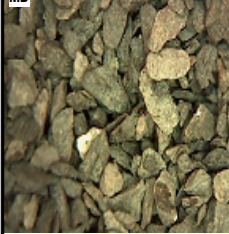
MD 6746 TVD 6646.52
INC 59.8 AZ 269.25
VS 329.89

WOB 18.4K
PP 3829
RPM 30
SPM 61/61

ROP (Fe/Hr)
Gamma (API)

6670' MD-6700' MD: MRL: 80%
(CaCO3 40%) MEDDRKGY - DRKGY,
BLKY TO SUBBLKY, FXLN TO
CHLKY, SFT, CHK FRMWRK, IMBD
CAL, FREE PYR, FREE BENT, 20%
CHK, NO STN, 5% LTOR MIN FLOR,
FNT BLSHWT O FLOR, IMMED
STRMG CUT, HVY BLSHWT RNG

NIORARA A MARL 6700' MD - 6730'
MD



6700' MD-6730' MD: MRL: 80%
(CaCO3 45%) MEDDRKGY - DRKGY,
BLKY TO SUBBLKY, FXLN TO
CHLKY, SFT, CHK FRMWRK, IMBD
CAL, FREE PYR, FREE BENT, 20%
CHK, NO STN, 5% LTOR MIN FLOR,
FNT BLSHWT O FLOR, IMMED
STRMG CUT, HVY BLSHWT RNG

NIORARA B CHALK 6754' MD 6641'
TVD



NIORARA B CHALK

6730' MD-6760' MD: CHK: 65% (CaCO3 60%)
MOTT LTGY - MEDDRKGY - DRKGY, BLKY
TO SUBBLKY, FXLN TO CHLKY, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, FREE
BENT, 35% FREE MRL, TRC GRYSBLK STN,
5% LTOR MIN FLOR, FNT BLSHWT O FLOR,
IMMED STRMG CUT, HVY BLSHWT RNG

6760' MD-6790' MD: CHK: 60% (CaCO3 60%)
MOTT LTGY - MEDDRKGY - DRKGY, BLKY
TO SUBBLKY, FXLN TO CHLKY, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, FREE
BENT, 40% FREE MRL, TRC GRYSBLK STN,
5% LTOR MIN FLOR, FNT BLSHWT O FLOR,
IMMED STRMG CUT, HVY BLSHWT RNG

END OF VERTICAL LOG @ 6800' MD
ON 6/27/2014, CONTINUED ON
HORIZONTAL LOG

CG 4488u

TG, C1-C4 CG 5280u