

[illegible]

AC

WOB 10.9K
SP 2469
RPM 60
SPM 67/67

MD 2504 TVD 2492.96
INC 12.85 AZ 194.56
VS -72.56

Pierre
(BEFORE LOGGING DEPTH - 2500'
MD - 2495' TVD)



@ 2500' MD ON 9/29/13 W/BIT # 1 8.75
SCHLUMBERGER/SMITH MDI516
MPX S/N JH2304 IN @ 982' MD

PIERRE BEFORE LOGGING DEPTH

2500'- 2550': SLTST: 80% LTGY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, SANDY, INTGR
POR, NO STN, NO FLOR, NO O
FLOR, NO CUT, NO RNG

2550'- 2600': SLTST: 90% LTGY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, SANDY, INTGR
POR, NO STN, NO FLOR, NO O
FLOR, NO CUT, NO RNG

2600'- 2650': SLTST: 90% LTGY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, SANDY, INTGR
POR, NO STN, NO FLOR, NO O
FLOR, NO CUT, NO RNG

2650'- 2700': SLTST: 90% LTGY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, SANDY, INTGR
POR, NO STN, NO FLOR, NO O
FLOR, NO CUT, NO RNG

MD 982'
WT 8.8
VIS 30.0
PH 8.8
FIL 20.2
CL 2000
CAL 120.0
H2O 97.0
OIL 0.0
SOL 2.7
CAKE 1/0
GELS 1/34
PV 3.0
YP 2.0

CG 63u

TG, C1-C4

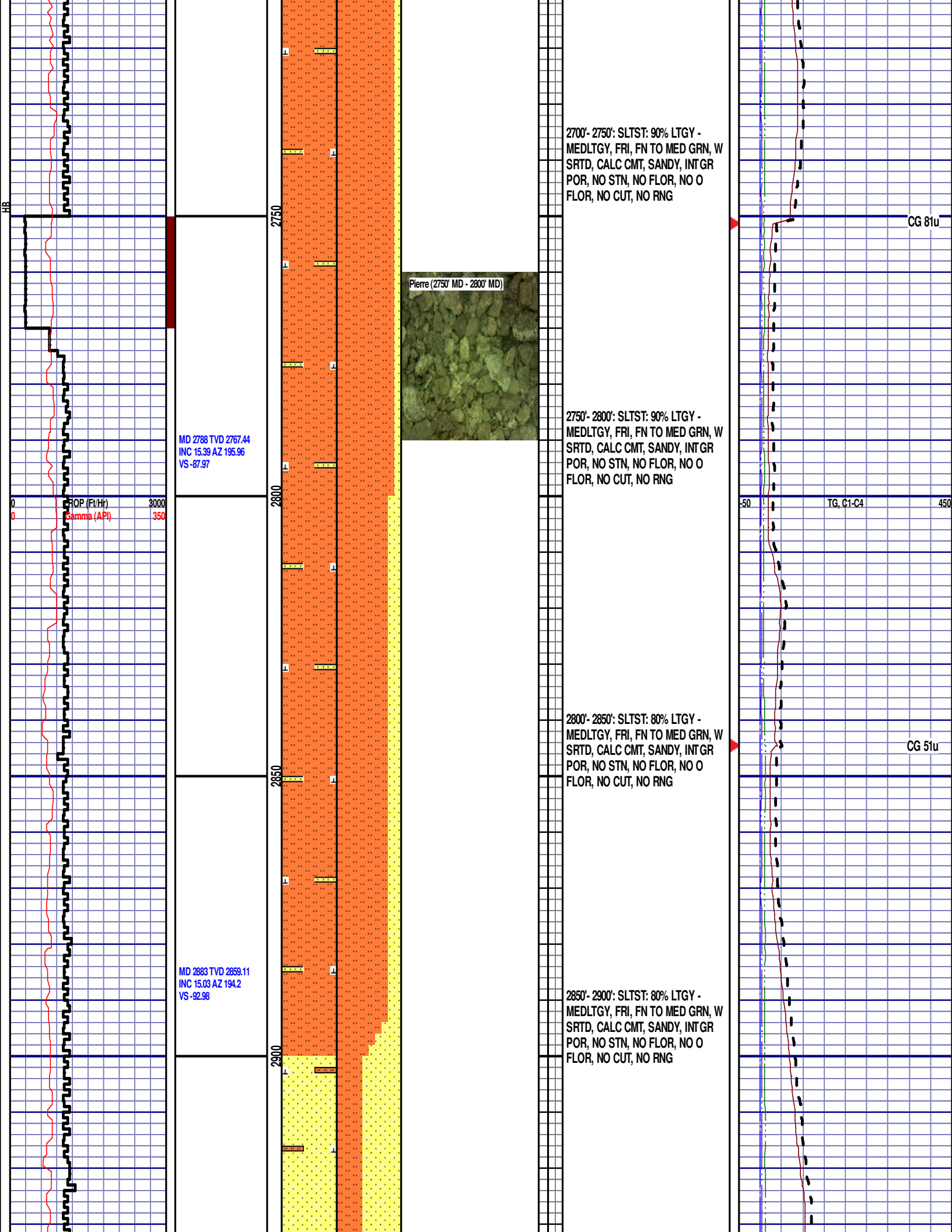
CG 130u

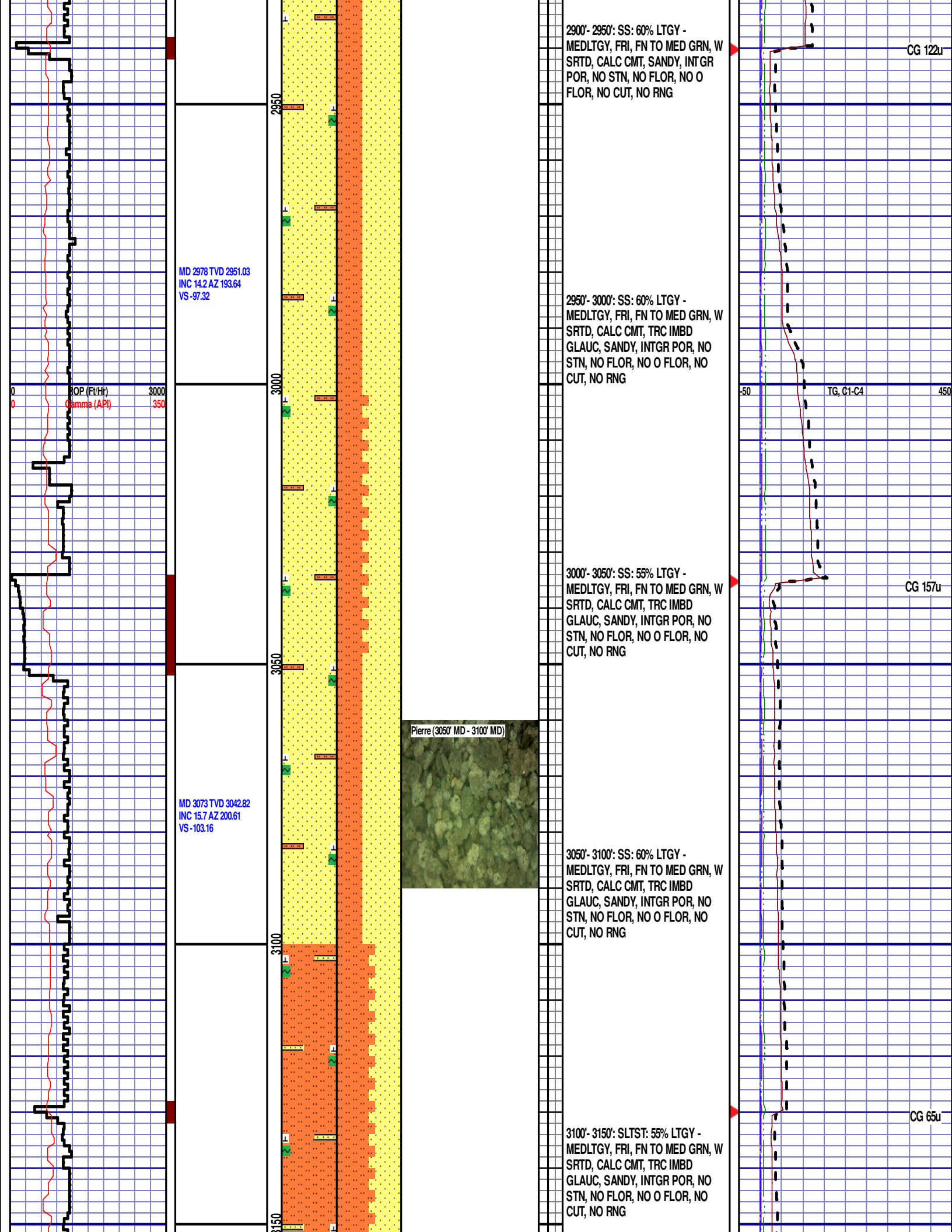
ROP (Ft/Hr)
Gamma (API)

MD 2599 TVD 2584.95
INC 16.01 AZ 195.96
VS -77.42

MD 2693 TVD 2675.64
INC 14.46 AZ 195.78
VS -82.72

2500
2550
2600
2650
2700





MD 3168 TVD 3134.48
INC 14.79 AZ 196.47
VS -109.67

ROP (Ft/Hr)
Gamma (API)

3000
350

3200

3150'- 3200': SLTST: 55% LTGY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, SANDY, INTGR
POR, NO STN, NO FLOR, NO O
FLOR, NO CUT, NO RNG

-50

TG, C1-C4

450

CG 69u

MD 3263 TVD 3226.54
INC 13.79 AZ 196.96
VS -115.03

3250

3200'- 3250': SLTST: 55% LTGY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, SANDY, INTGR
POR, NO STN, NO FLOR, NO O
FLOR, NO CUT, NO RNG

3300

3250'- 3300': SLTST: 55% LTGY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, SANDY, INTGR
POR, NO STN, NO FLOR, NO O
FLOR, NO CUT, NO RNG

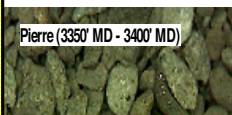
CG 67u

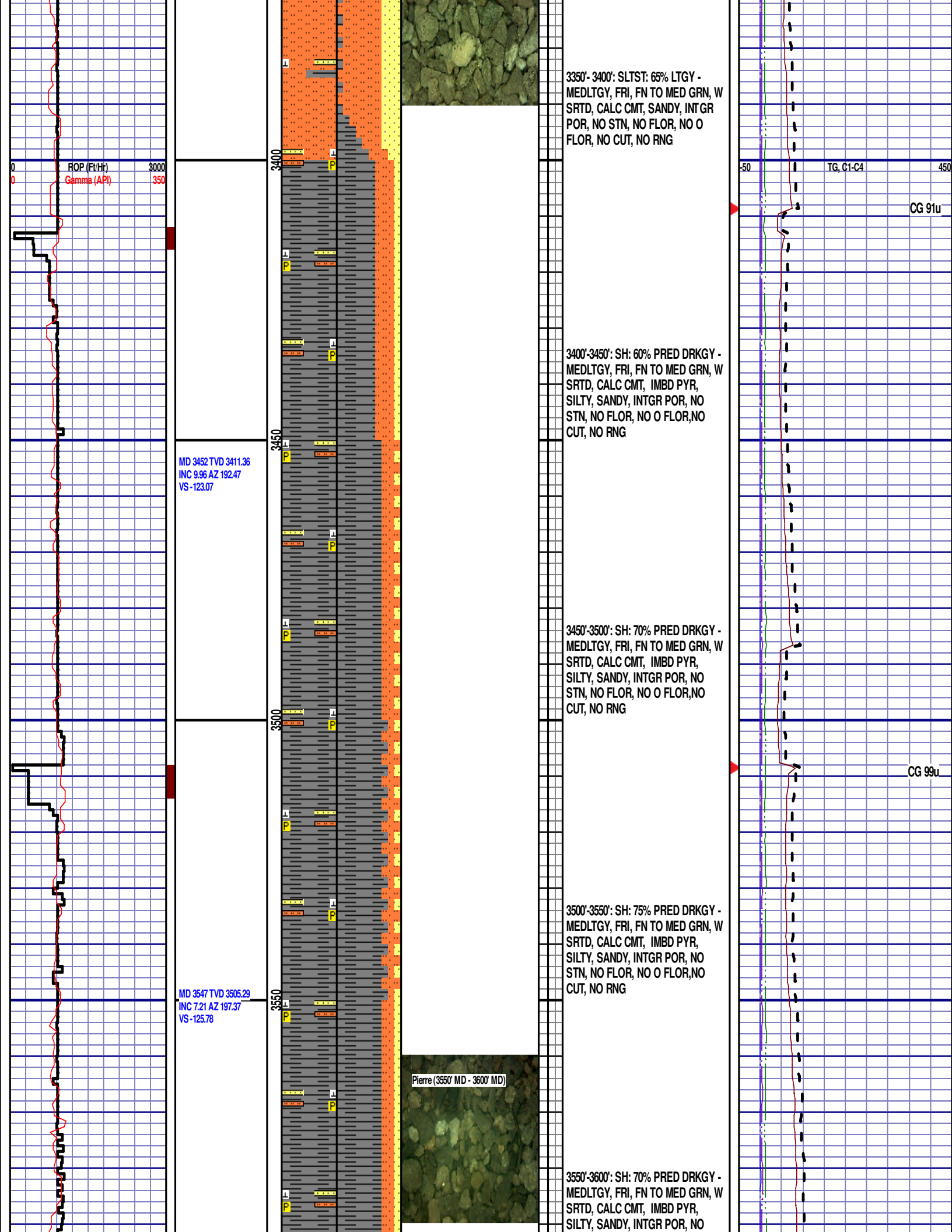
MD 3357 TVD 3318.14
INC 12.17 AZ 195.49
VS -119.7

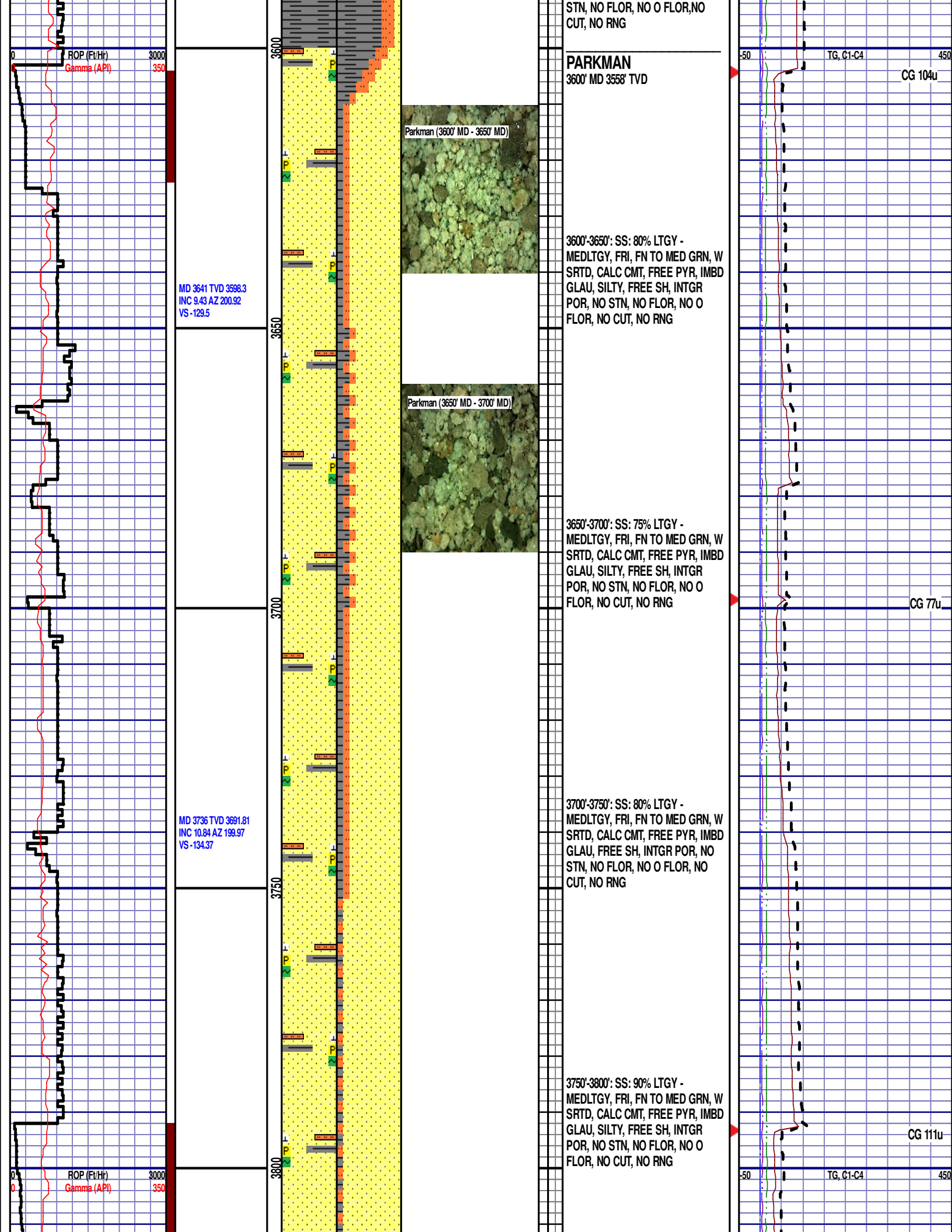
3350

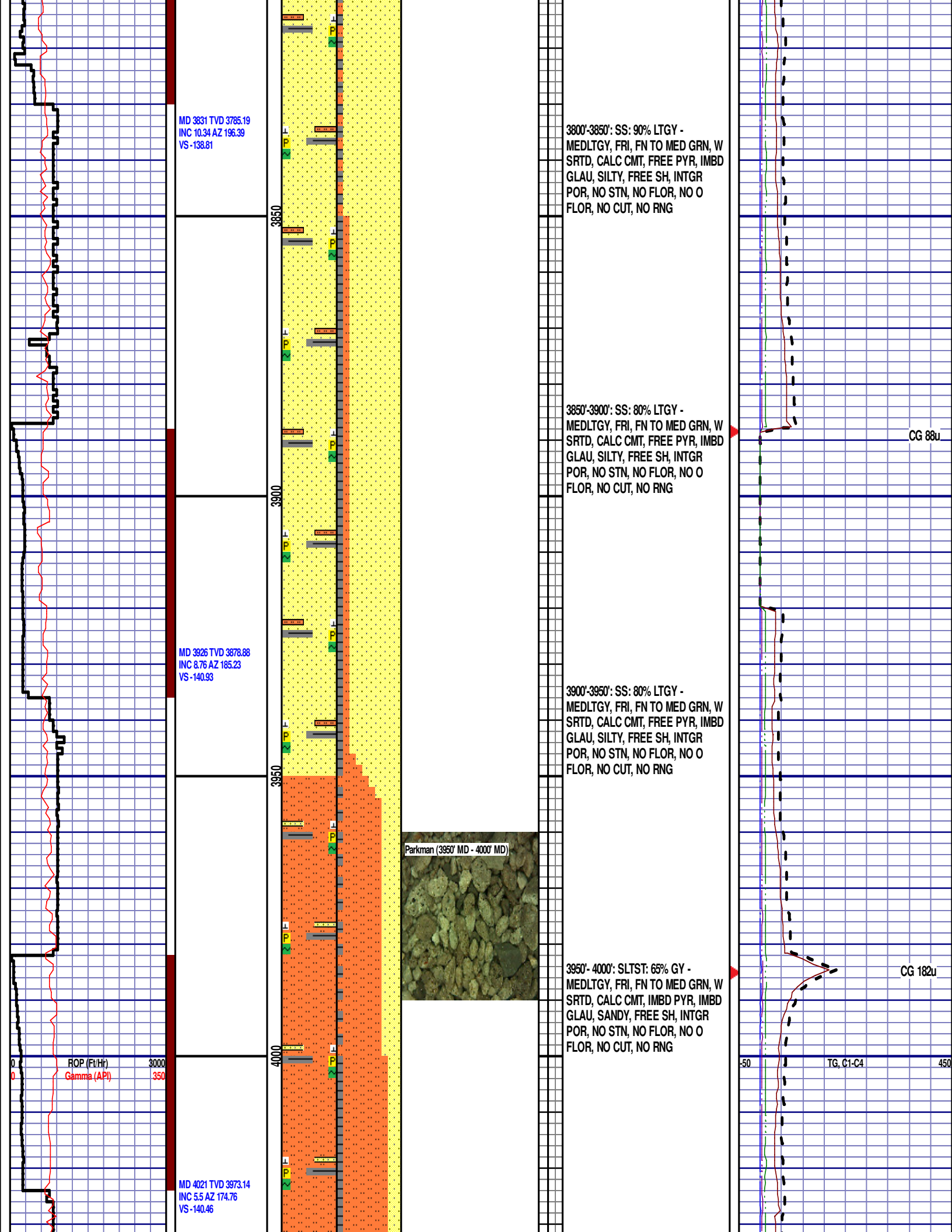
3300'- 3350': SLTST: 60% LTGY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, SANDY, INTGR
POR, NO STN, NO FLOR, NO O
FLOR, NO CUT, NO RNG

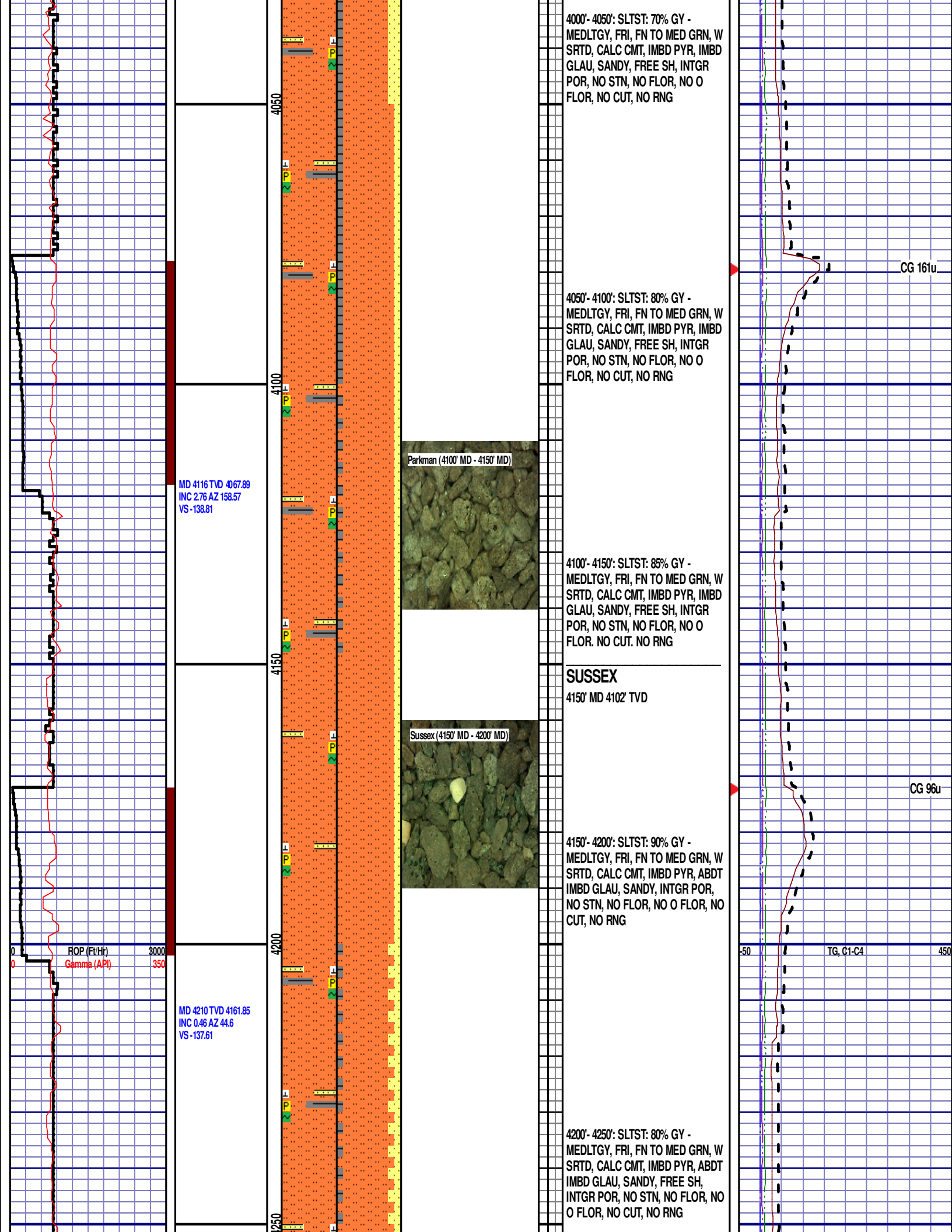
Pierre (3350' MD - 3400' MD)

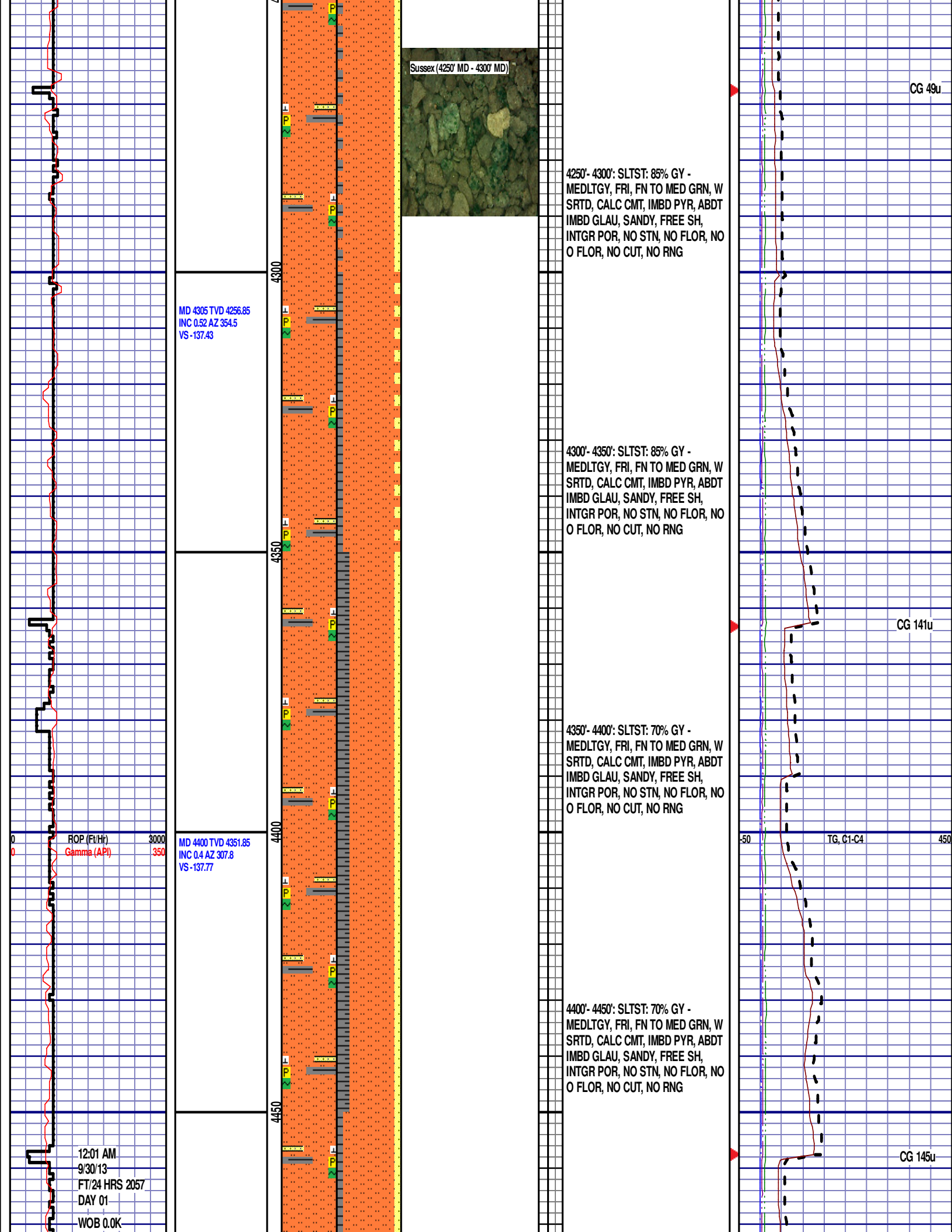












PP 55
RPM 25
SPM 0/0

MD 4495 TVD 4446.84
JNC 0.52 AZ 297.08
VS -138.44

MD 4590 TVD 4541.83
INC 0.99 AZ 329.31
VS -139.3

MD 4685 TVD 4636.83
INC 0.89 AZ 244.97
VS -140.4

ROP (Ft/Hr)
Gamma (API)

3000
350

4500

4550

4600

4650

4450'- 4500': SLTST: 80% GY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, IMBD PYR, ABDT
IMBD GLAU, SANDY, FREE SH,
INTGR POR, NO STN, NO FLOR, NO
O FLOR, NO CUT, NO RNG

4500'- 4550': SLTST: 60% GY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, IMBD PYR, ABDT
IMBD GLAU, SANDY, FREE SH,
INTGR POR, NO STN, NO FLOR, NO
O FLOR, NO CUT, NO RNG

Sussex (4550' MD - 4600' MD)



4550'- 4600': SS: 50% GY - MEDLTGY,
FRI, FN TO MED GRN, W SRTD,
CALC CMT, IMBD PYR, TRC IMBD
GLAU, SANDY, FREE SH, INTGR
POR, NO STN, NO FLOR, NO O
FLOR, NO CUT, NO RNG

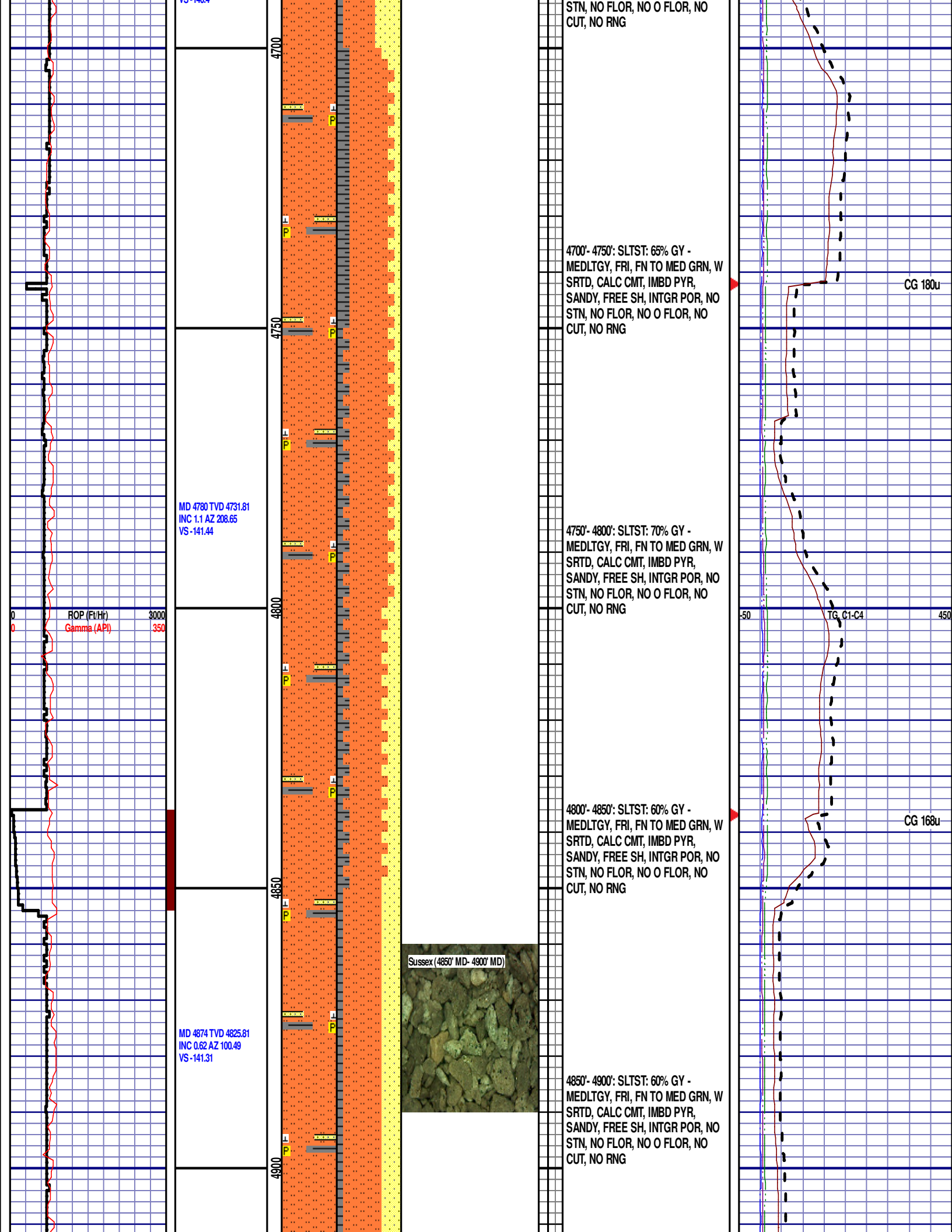
4600'- 4650': SS: 50% GY - MEDLTGY,
FRI, FN TO MED GRN, W SRTD,
CALC CMT, IMBD PYR, TRC IMBD
GLAU, SANDY, FREE SH, INTGR
POR, NO STN, NO FLOR, NO O
FLOR, NO CUT, NO RNG

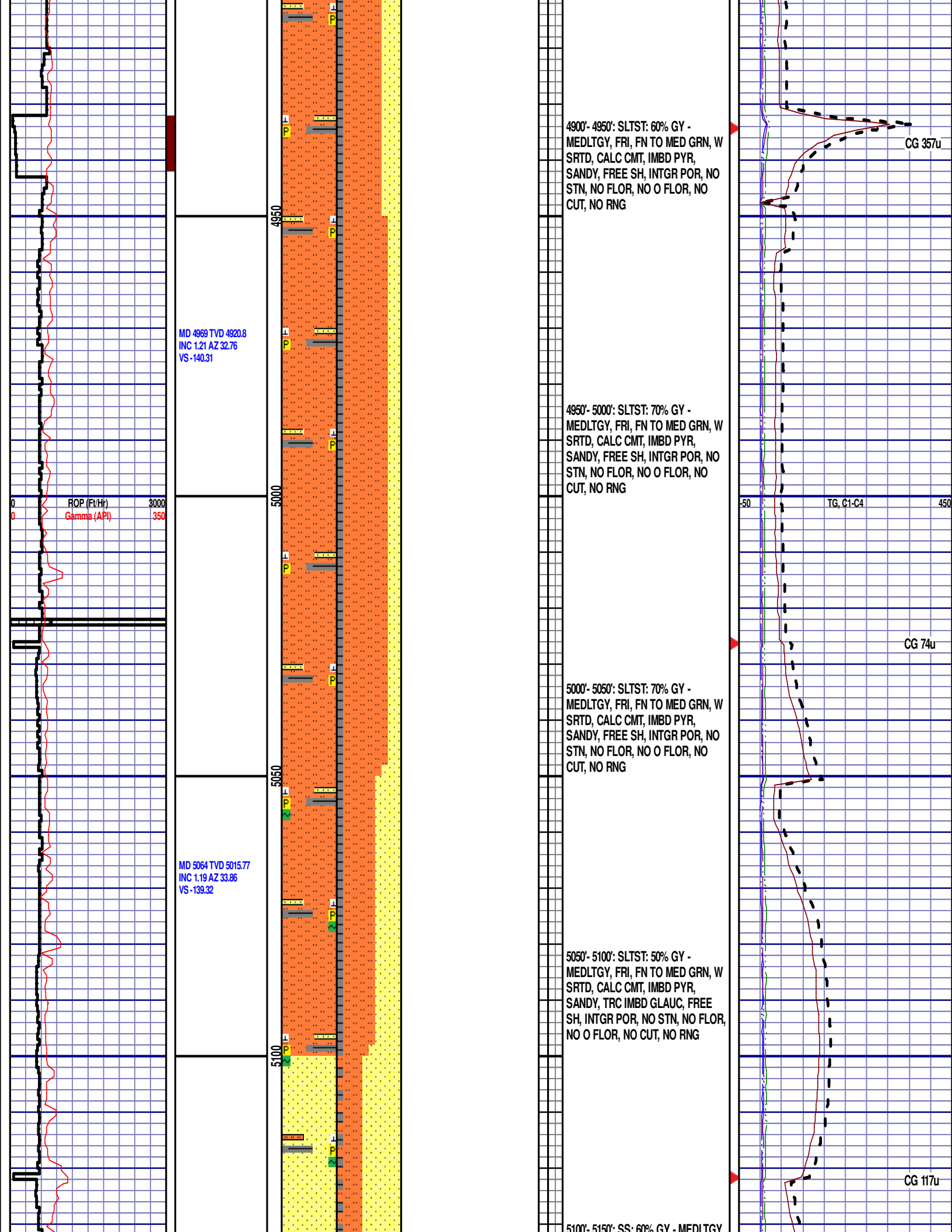
4650'- 4700': SLTST: 50% GY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, IMBD PYR,
SANDY, FREE SH, INTGR POR, NO

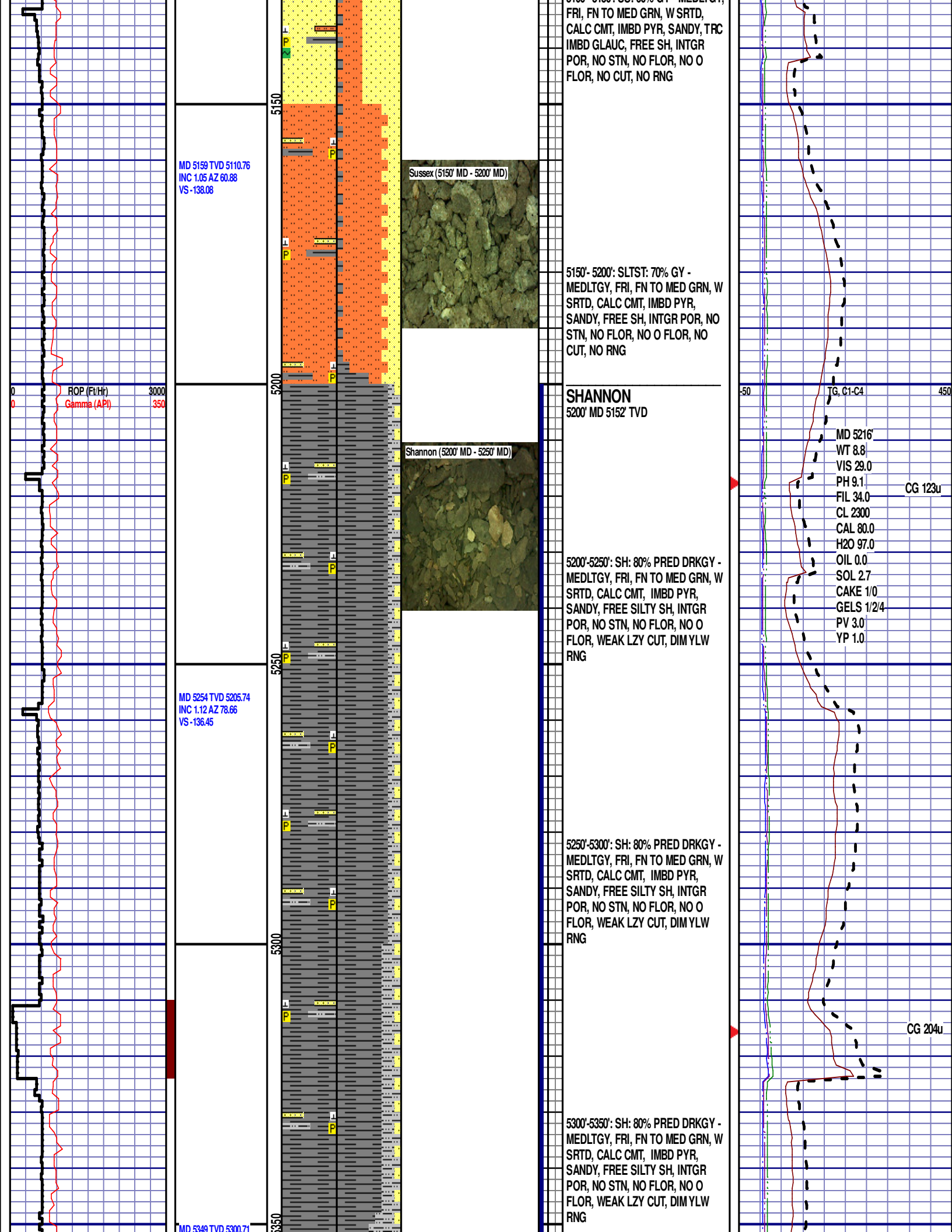
CG 238u

TG, C1-C4

CG 58u







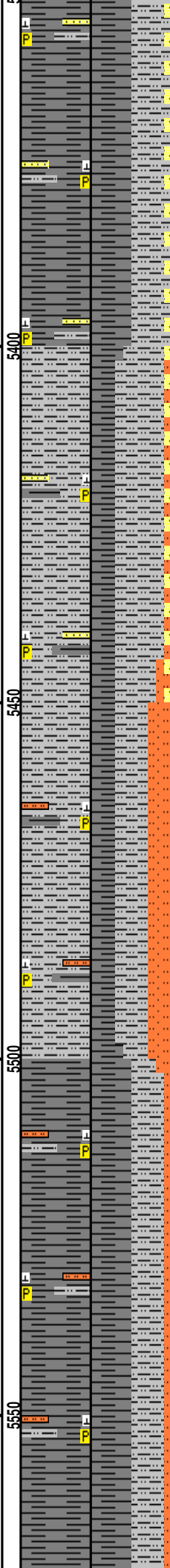
INC 1.66 AZ 43.53
VS -134.66

ROP (Ft/Hr)
Gamma (API)

3000
350

MD 5443 TVD 5394.69
INC 1.21 AZ 67.55
VS -132.89

MD 5538 TVD 5489.66
INC 1.55 AZ 55.68
VS -130.98

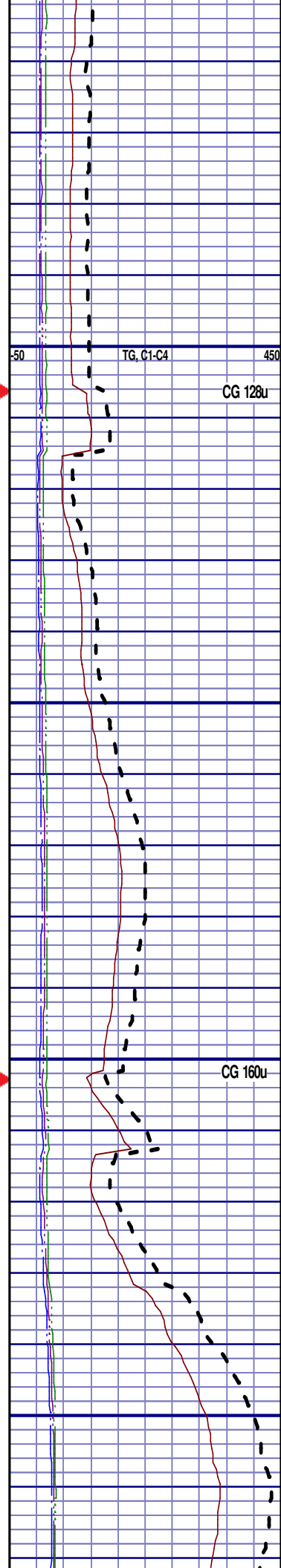


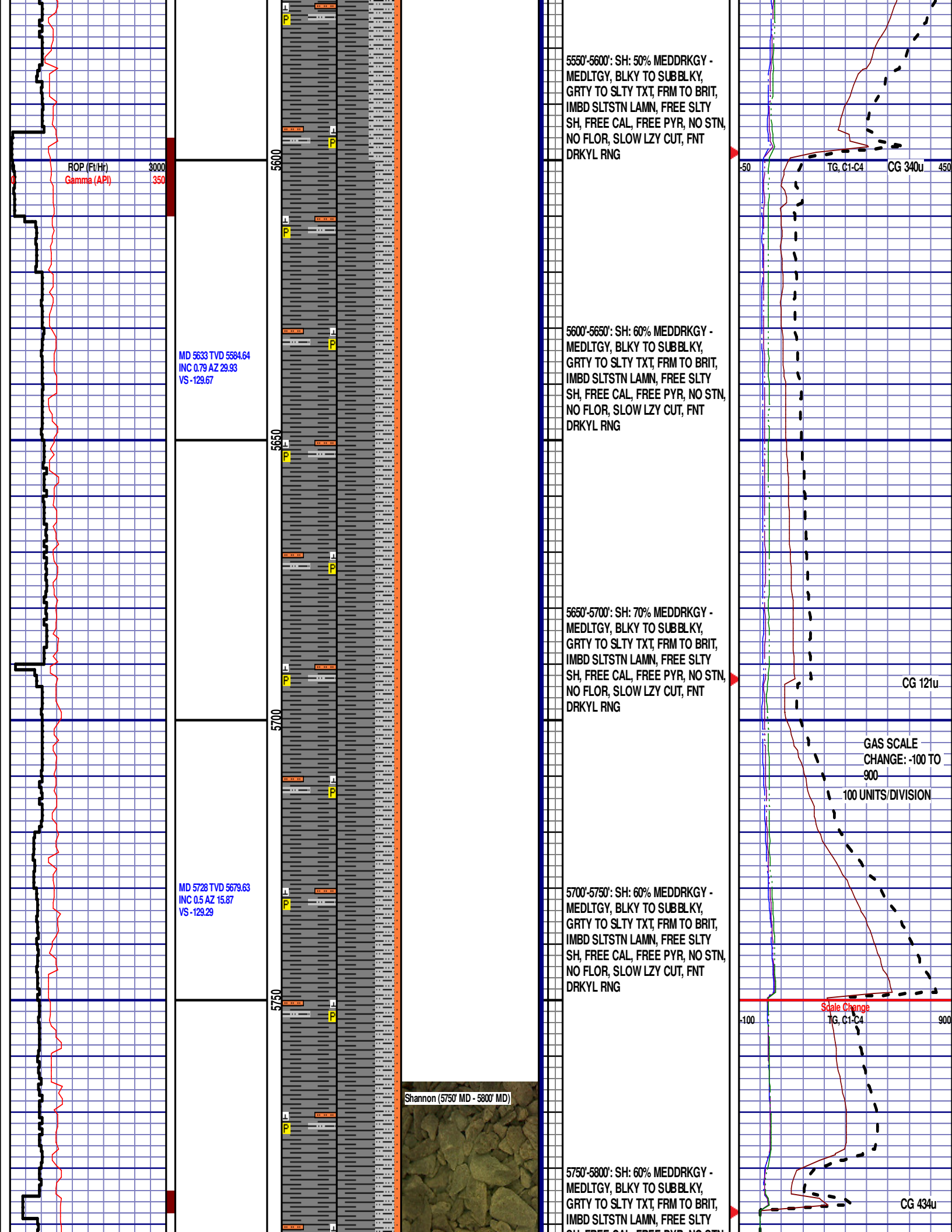
5350'-5400': SH: 50% PRED DRKGY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, IMBD PYR,
SANDY, FREE SILTY SH, INTGR
POR, NO STN, NO FLOR, NO O
FLOR, WEAK LZY CUT, DIM YLW
RNG

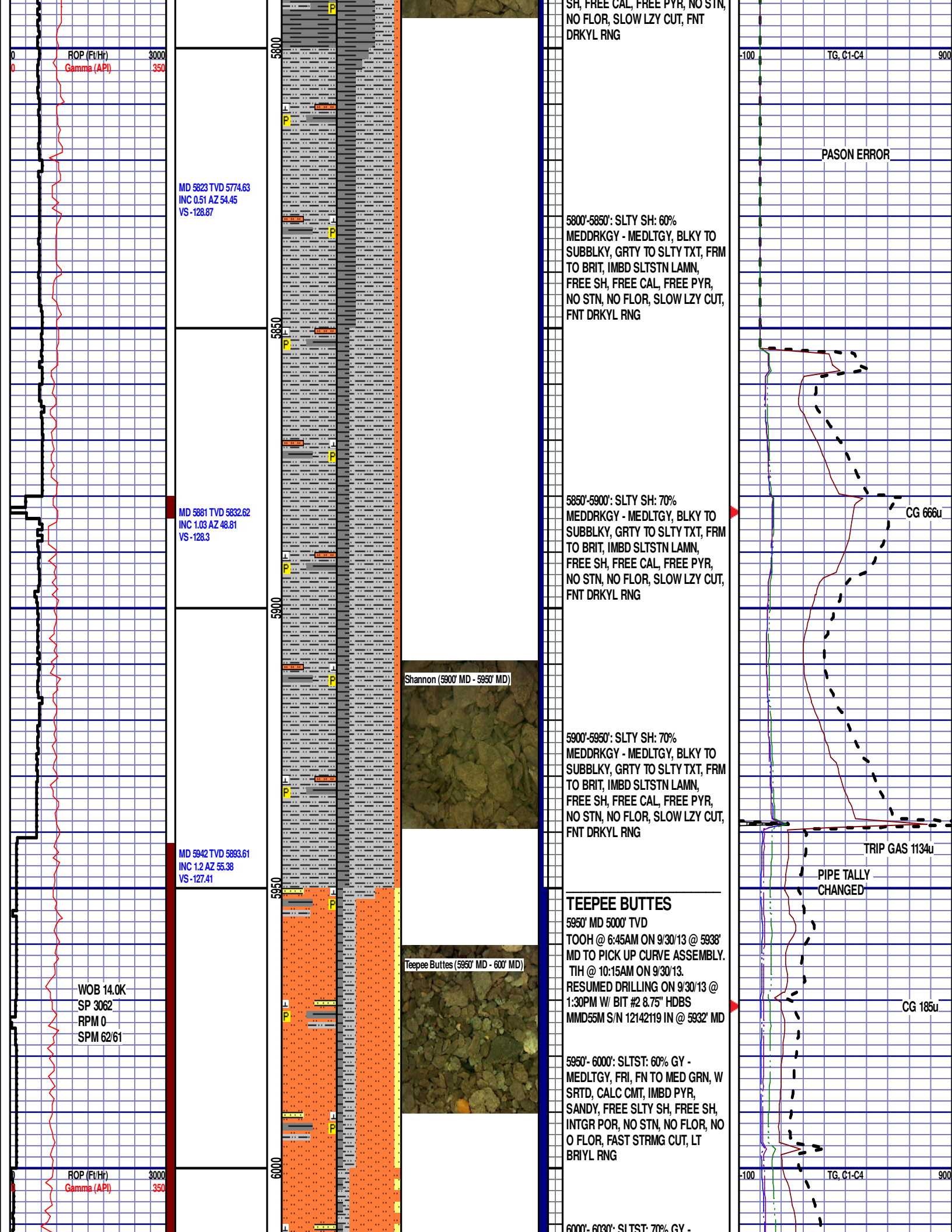
5400'-5450': SLTY SH: 60%
MEDDRKGY - MEDLTGY, BLKY TO
SUBBLKY, GRTY TO SLTY TXT, FRM
TO BRIT, IMBD SS LAMN, FREE SH,
FREE CAL, FREE PYR, NO STN, NO
FLOR, SLOW LZY CUT, FNT DRKYL
RNG

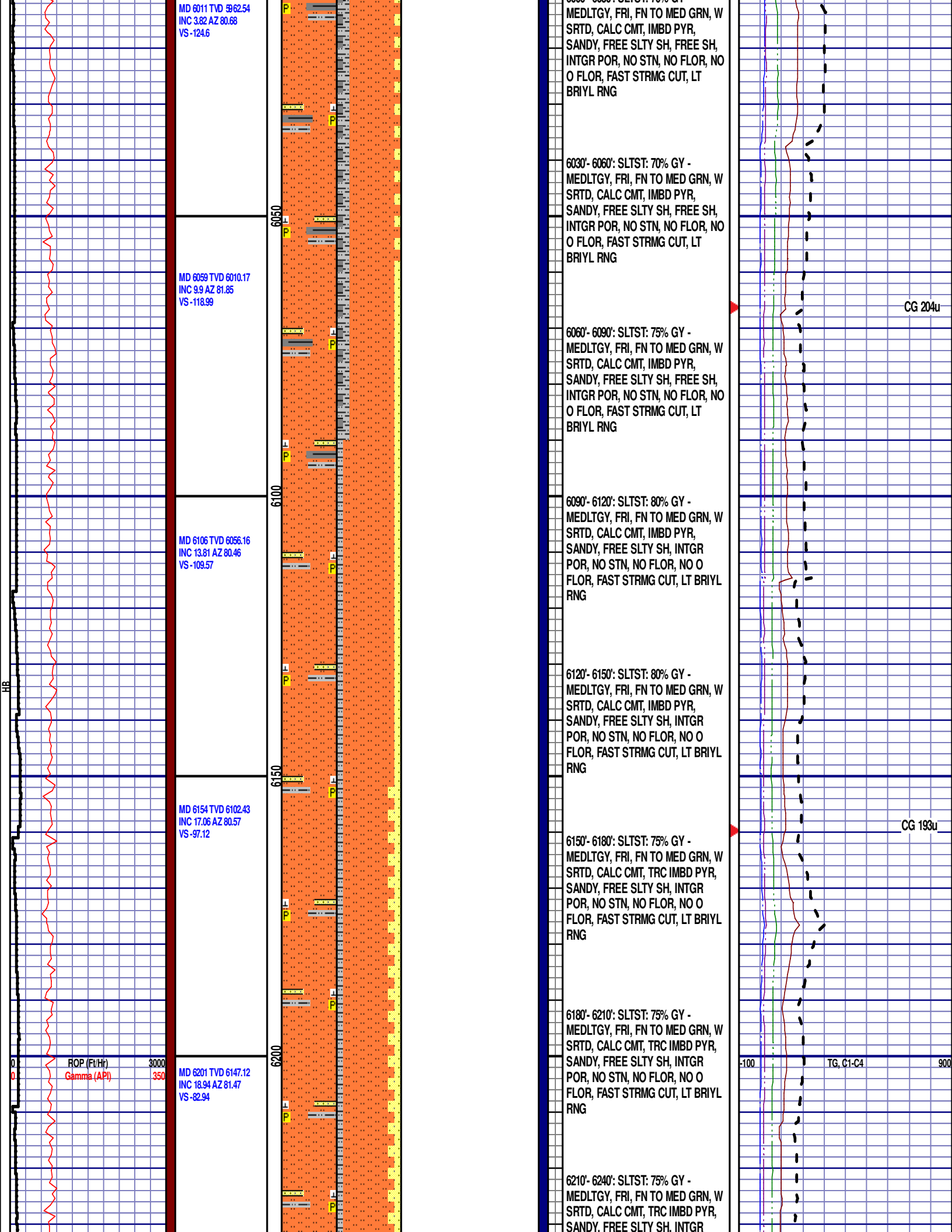
5450'-5500': SLTY SH: 40%
MEDDRKGY - MEDLTGY, BLKY TO
SUBBLKY, GRTY TO SLTY TXT, FRM
TO BRIT, IMBD SLTSTN LAMN,
FREE SH, FREE CAL, FREE PYR,
NO STN, NO FLOR, SLOW LZY CUT,
FNT DRKYL RNG

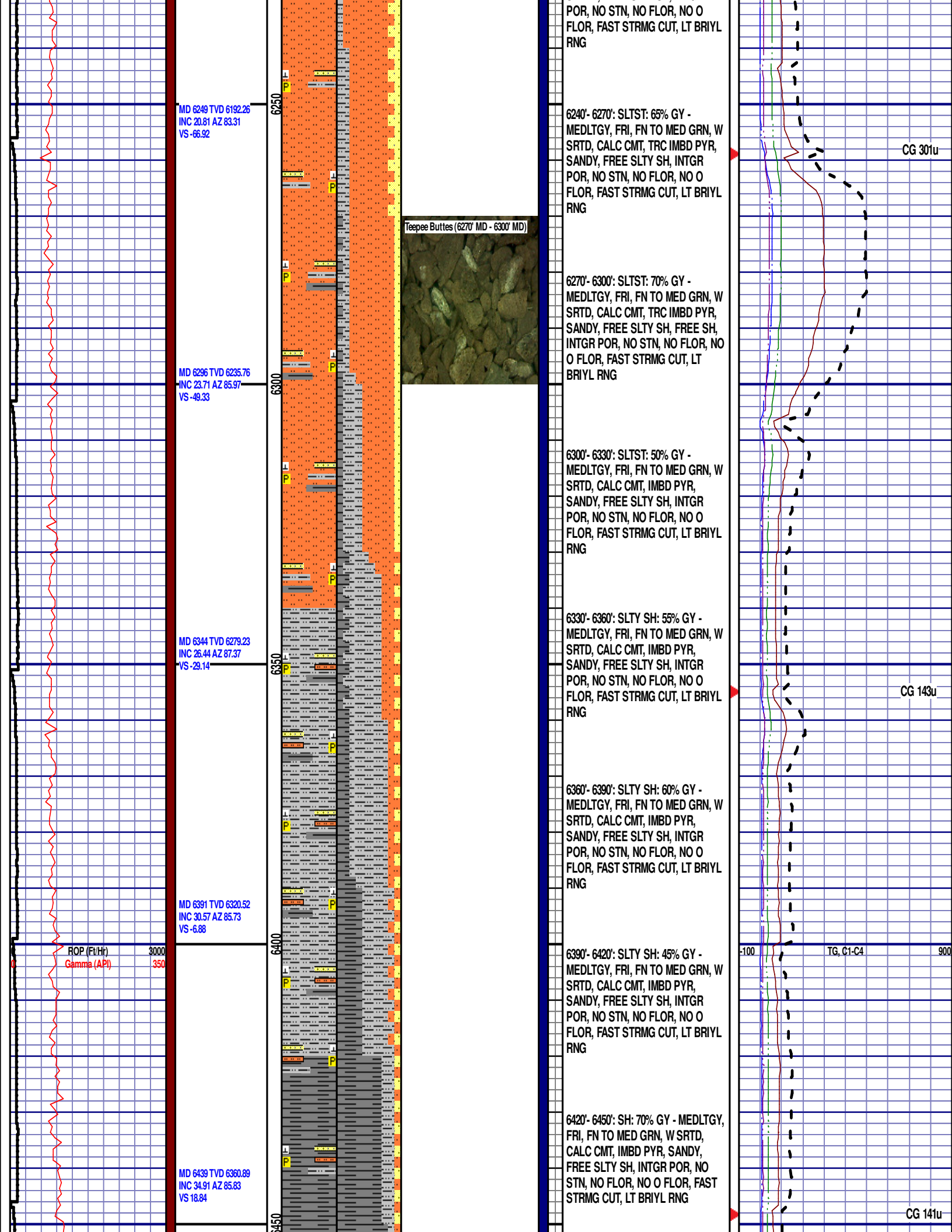
5500'-5550': SH: 50% MEDDRKGY -
MEDLTGY, BLKY TO SUBBLKY,
GRTY TO SLTY TXT, FRM TO BRIT,
IMBD SLTSTN LAMN, FREE SLTY
SH, FREE CAL, FREE PYR, NO STN,
NO FLOR, SLOW LZY CUT, FNT
DRKYL RNG











MD 6485 TVD 6397.64
INC 39.01 AZ 88.15
VS 46.31

MD 6533 TVD 6433.79
INC 43.23 AZ 89.62
VS 77.77

MD 6580 TVD 6466.98
INC 46.9 AZ 88.76
VS 110.94

ROP (Ft/Hr)
Gamma (API)

3000
350

WOB 23.0K
PP 3073
RPM 0
SPM 58/57

12:01 AM
10/01/13
FT/24 HRS 2084
DAY 02

MD 6628 TVD 6499
INC 49.4 AZ 87.29
VS 146.53

6500

6550

6600

6650

Teepee Buttes (6480' MD - 6510' MD)

Sharon Springs (6510' MD - 6540' MD)

Sharon Springs (6570' MD - 6600' MD)

Niobrara A Chalk (6600' MD - 6630' MD)

Niobrara A Marl (6630' MD - 6660' MD)

6450'- 6480': SH: 75% GY - MEDLTGY,
FRI, FN TO MED GRN, W SRTD,
CALC CMT, IMBD PYR, FREE SLTY
SH, INTGR POR, NO STN, NO FLOR,
NO O FLOR, FAST STRMG CUT, LT
BRIYL RNG

6480'- 6510': SH: 80% GY - MEDLTGY,
FRI, FN TO MED GRN, W SRTD,
CALC CMT, IMBD PYR, FREE SLTY
SH, INTGR POR, NO STN, NO FLOR,
NO O FLOR, FAST STRMG CUT, LT
BRIYL RNG

SHARON SPRINGS

6516' MD 6421' TVD
6510'- 6540': SH: 90% GY - MEDLTGY,
FRI, FN TO MED GRN, W SRTD,
CALC CMT, IMBD PYR, FREE SLTY
SH, INTGR POR, NO STN, NO FLOR,
NO O FLOR, FAST STRMG CUT, LT
BRIYL RNG

6540'- 6570': SLTY SH: 60% GY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, IMBD PYR, FREE
SLTY SH, INTGR POR, NO STN, NO
FLOR, NO O FLOR, FAST STRMG
CUT, LT BRIYL RNG

6570'- 6600': SLTY SH: 60% GY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, IMBD PYR, FREE
SLTY SH, INTGR POR, NO STN, NO
FLOR, NO O FLOR, FAST STRMG
CUT, LT BRIYL RNG

NIOBRARA A CHALK

6598' MD 6479' TVD
6600'-6630':CHK: 60% V/LTGY -
MEDGY -DRKGY, BLKY TO
SUBBLKY, FXLN TO CHLKY, SFT,
CHK FRMWRK, IMBD PYRC SPEC,
OCC FREE CAL, FREE SH, MOD
GYSBLK STN, 10% LTOR FLOR,
FNT BLSHWT O FLOR, IMMED
STRMG CUT, BRIYL RNG

NIOBRARA A MARL

6640' MD 6507' TVD
6630'-6660': MRL: 45% MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN
TO CHLKY, FRM TO FRI, CHK
FRMWRK, IMBD CAL, FREE CAL,
FREE PYR, FREE BENT, MOD
GRYSHBLK STN, 10% LTOR FLOR,
FNT BLSHWT O FLOR, IMMED
STRMG CUT, BRIYL RNG

6660'-6690': MRL: 45% MEDDRKGY -

CG 225u

-100 TG, C1-C4 900

CG 668u

MD 6675 TVD 6528.8
INC 51.92 AZ 86.71
VS 182.64

MD 6723 TVD 6556.96
INC 56.2 AZ 85.32
VS 221.16

MD 6770 TVD 6581.51
INC 60.81 AZ 86.16
VS 260.86

ROP (Ft/Hr)
Gamma (API)

3000
350

6700

6750

6800

50

Niobrara A Marl (6720' MD - 6750' MD)

Niobrara B Chalk (6750' MD - 6780' MD)

DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, FRM TO FRI, CHK FRMWRK, IMBD CAL, FREE CAL, FREE PYR, FREE BENT, MOD GRYSHLK STN, 10% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG

6690'-6720': MRL: 45% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, FRM TO FRI, CHK FRMWRK, IMBD CAL, FREE CAL, FREE PYR, FREE BENT, MOD GRYSHLK STN, 10% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG

6720'-6750': MRL: 45% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, FRM TO FRI, CHK FRMWRK, IMBD CAL, FREE CAL, FREE PYR, FREE BENT, MOD GRYSHLK STN, 10% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG

NIOBRARA B CHALK

6750' MD 6571' TVD

6750'-6780': CHK: 60% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD PYRC SPEC, FREE BENT, OCC FREE CAL, FREE SH, MOD GRYSHLK STN, 10% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG

6780'-6800': CHK: 65% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD PYRC SPEC, FREE BENT, OCC FREE CAL, FREE SH, MOD GRYSHLK STN, 10% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG

END OF VERTICAL LOG @ 6800' MD
ON 10/01/13. CONTINUED ON
HORIZONTAL LOG.

CG 398u

-100

TG, C1-C4

900