

MD 3157 TVD 3156.88  
INC 0.34 AZ 102.53  
VS 2.82

ROP (Ft/Hr)  
Gamma (API)

1500  
350

3200

3250

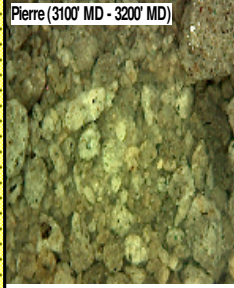
MD 3252 TVD 3251.88  
INC 0.16 AZ 173.34  
VS 2.52

3300

MD 3346 TVD 3345.88  
INC 0.49 AZ 155.84  
VS 2.34

3350

Pierre (3100' MD - 3200' MD)



3100'- 3200': SS: 90%: PRED GY -  
LTKGY - OPQ, MOD CONS, FN TO  
MED GRN, SUBANG, W TO MODY  
SRTD, CALC CMT, SILTY, TRC IMBD  
PYR, INTGR POR, NO STN, NO  
FLOR, NO O FLOR, NO CUT, NO  
RNG

3200'- 3300': SLTST: 55% LTGY -  
MEDLTGY, FRI, FN TO MED GRN, W  
SRTD, CALC CMT, TRC FREE CALC,  
SANDY, TRC IMBD PYR, IMBD SS  
LAMN, INTGR POR, NO STN, NO  
FLOR, NO O FLOR, NO CUT, NO  
RNG

30

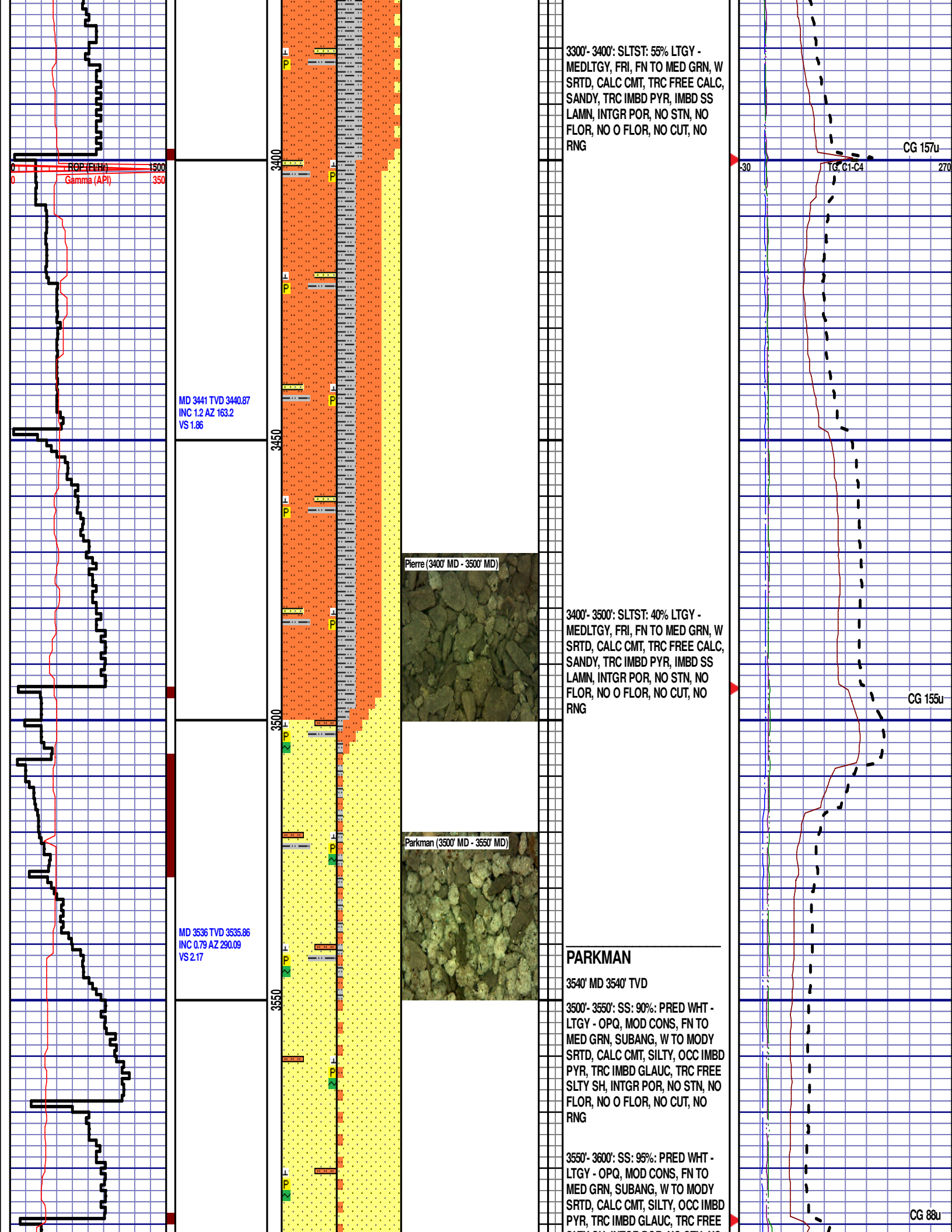
TG, C1-C4

270

CG 99u

CG 158u





3300'- 3400': SLTST: 55% LTGY -  
MEDLTGY, FRI, FN TO MED GRN, W  
SRTD, CALC CMT, TRC FREE CALC,  
SANDY, TRC IMBD PYR, IMBD SS  
LAMN, INTGR POR, NO STN, NO  
FLOR, NO O FLOR, NO CUT, NO  
RNG

CG 157u

MD 3441 TVD 3440.87  
INC 1.2 AZ 163.2  
VS 1.86

Pierre (3400' MD - 3500' MD)

3400'- 3500': SLTST: 40% LTGY -  
MEDLTGY, FRI, FN TO MED GRN, W  
SRTD, CALC CMT, TRC FREE CALC,  
SANDY, TRC IMBD PYR, IMBD SS  
LAMN, INTGR POR, NO STN, NO  
FLOR, NO O FLOR, NO CUT, NO  
RNG

CG 155u

MD 3536 TVD 3535.86  
INC 0.79 AZ 290.09  
VS 2.17

Parkman (3500' MD - 3550' MD)

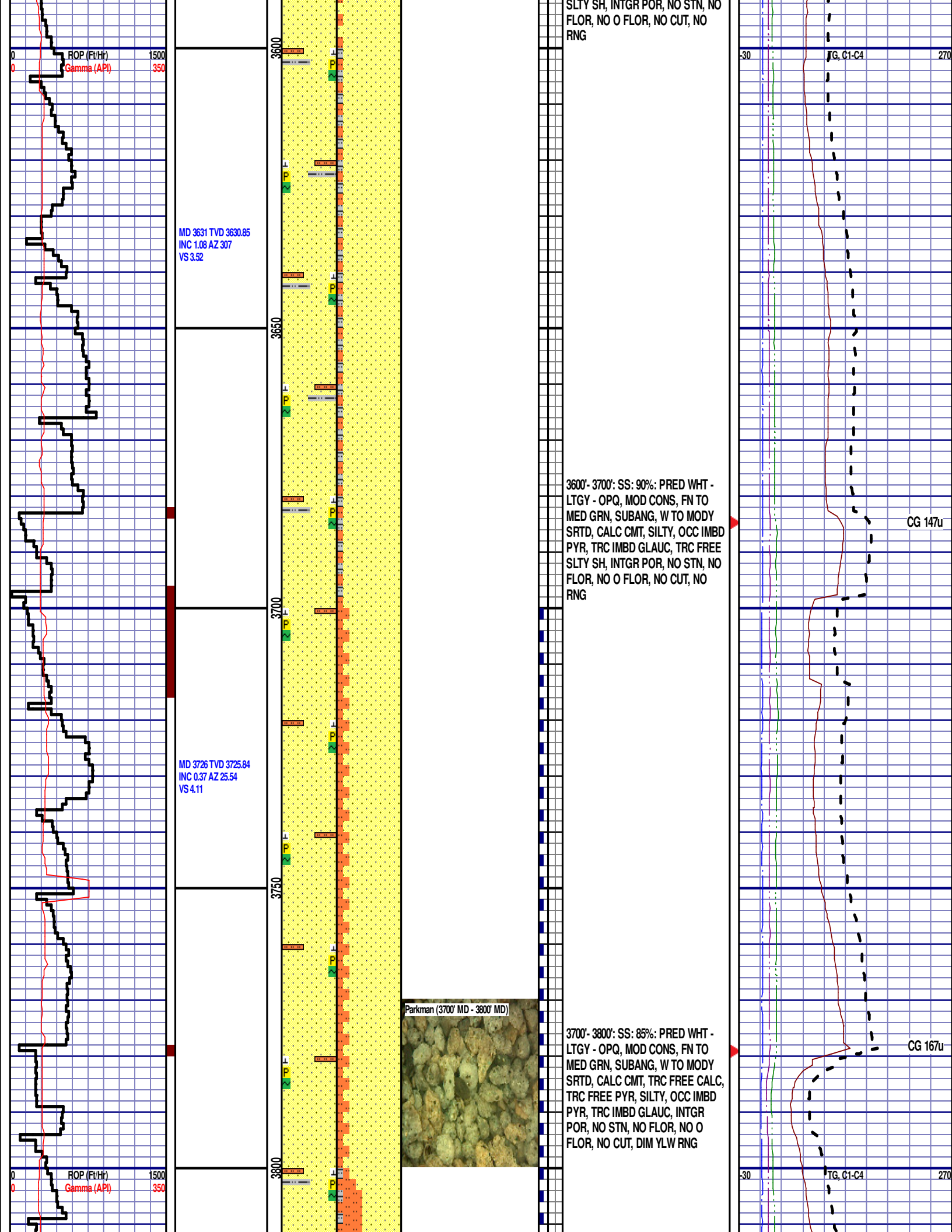
## PARKMAN

3540' MD 3540' TVD

3500'- 3550': SS: 90%: PRED WHT -  
LTGY - OPQ, MOD CONS, FN TO  
MED GRN, SUBANG, W TO MODY  
SRTD, CALC CMT, SILTY, OCC IMBD  
PYR, TRC IMBD GLAUC, TRC FREE  
SLTY SH, INTGR POR, NO STN, NO  
FLOR, NO O FLOR, NO CUT, NO  
RNG

3550'- 3600': SS: 95%: PRED WHT -  
LTGY - OPQ, MOD CONS, FN TO  
MED GRN, SUBANG, W TO MODY  
SRTD, CALC CMT, SILTY, OCC IMBD  
PYR, TRC IMBD GLAUC, TRC FREE

CG 88u



MD 3820 TVD 3819.84  
INC 0.48 AZ 58.17  
VS 3.66

MD 3915 TVD 3914.83  
INC 0.67 AZ 66.47  
VS 2.82

MD 4010 TVD 4009.82  
INC 1.03 AZ 61.19  
VS 1.57

3800'- 3900': SS: 60%: PRED WHT -  
LTGY - OPQ, MOD CONS, FN TO  
MED GRN, SUBANG, W TO MODY  
SRTD, CALC CMT, TRC FREE CALC,  
SILTY, OCC IMBD PYR, TRC IMBD  
GLAUC, TRC FREE SLTY SH, INTGR  
POR, NO STN, NO FLOR, NO O  
FLOR, NO CUT, DIM YLW RNG

3900'- 4000': SLTST: 60% LTGY -  
MEDLTGY, FRI, FN TO MED GRN, W  
SRTD, CALC CMT, TRC FREE CALC,  
SANDY, TRC IMBD PYR, FREE SLTY  
SH, INTGR POR, NO STN, NO FLOR,  
NO O FLOR, NO CUT, DIM YLW RNG

CG 130u

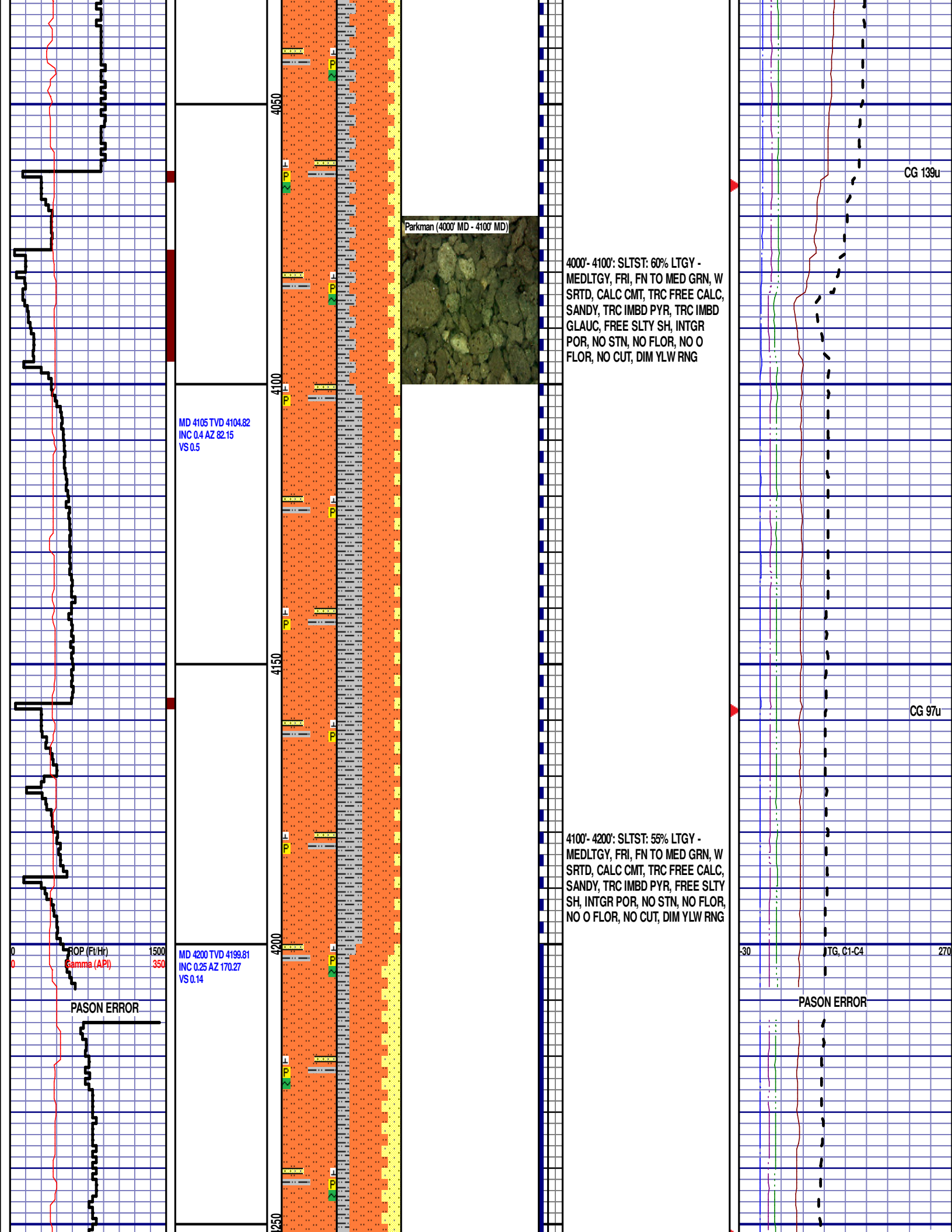
MD 3961'  
WT 8.9  
VIS 31.0  
PH 9.2  
FIL 14.2  
CL 1800  
CAL 100.0  
H2O 96.2  
OIL 0.0  
SOL 3.5  
CAKE 1/0  
GELS 1/2/2  
PV 4.0  
YP 2.0

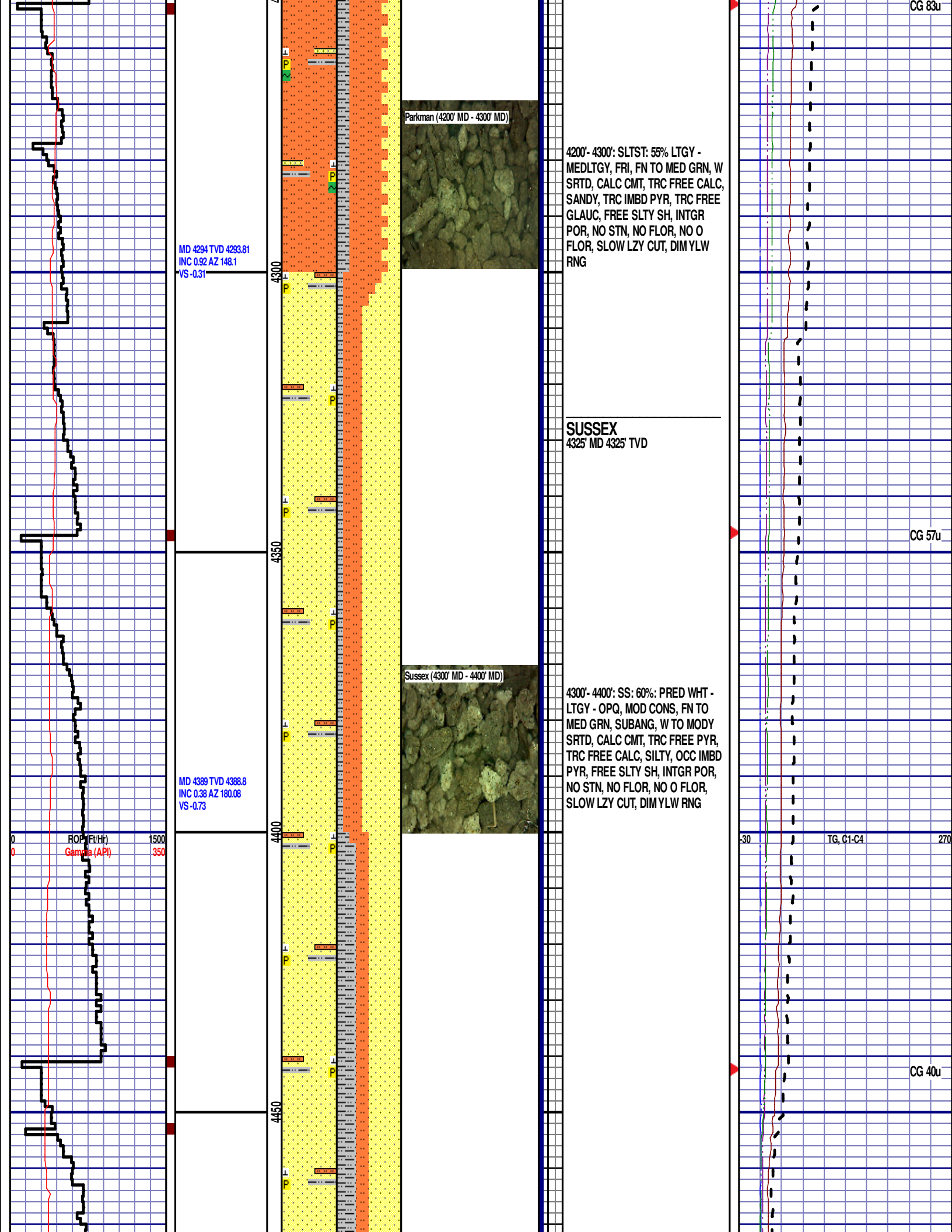
CG 135u

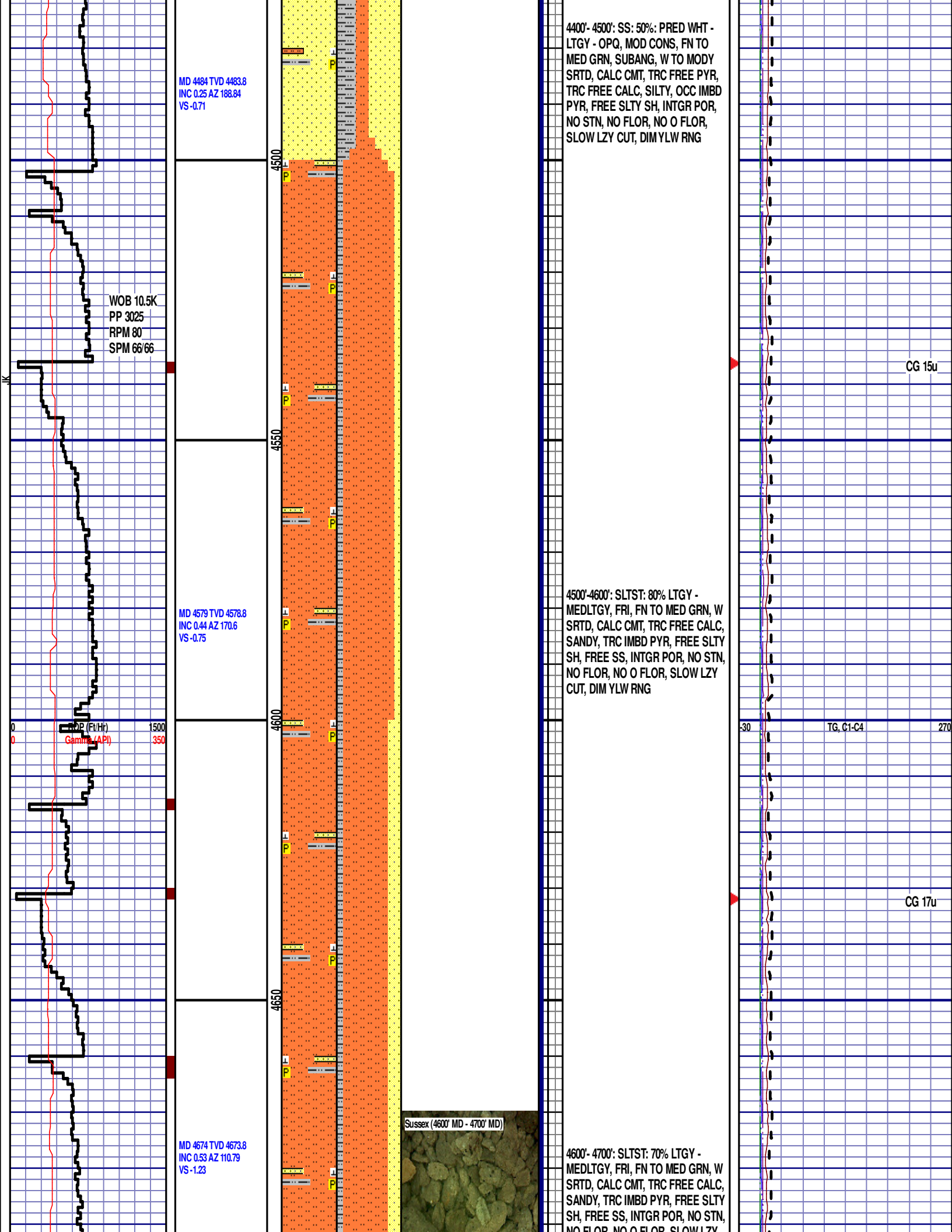
ROP (ft/Hr)  
Gamma (API)

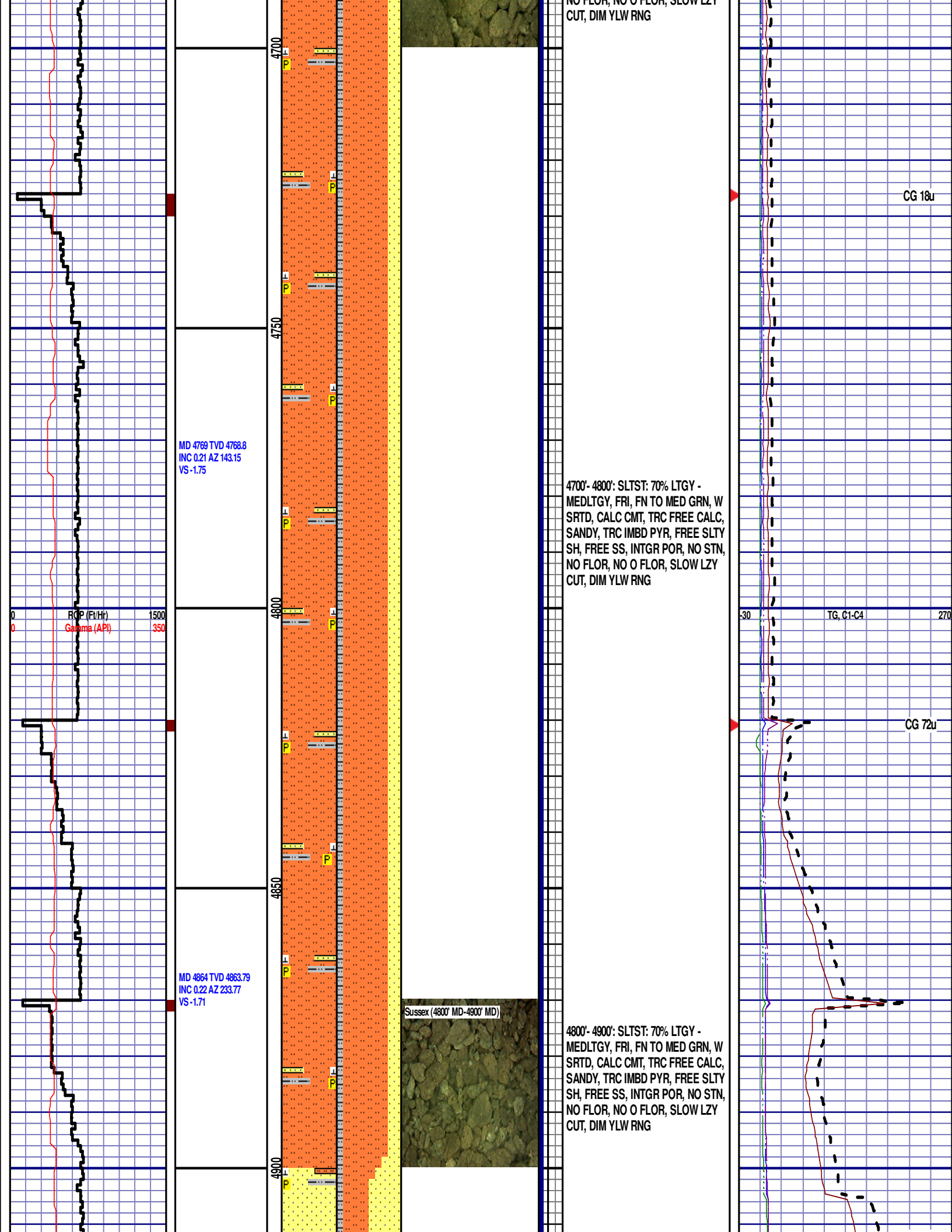
30 TG, C1-C4 270

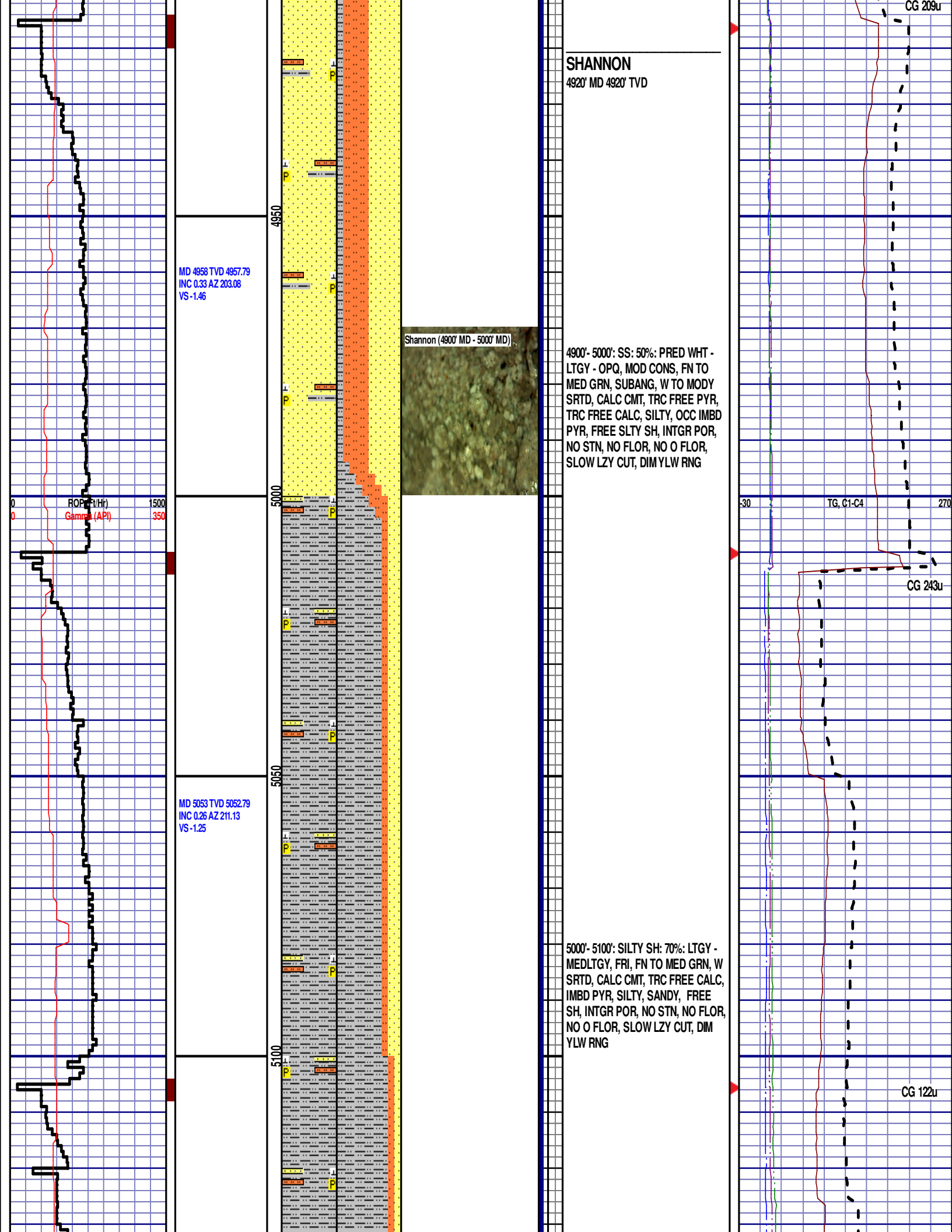




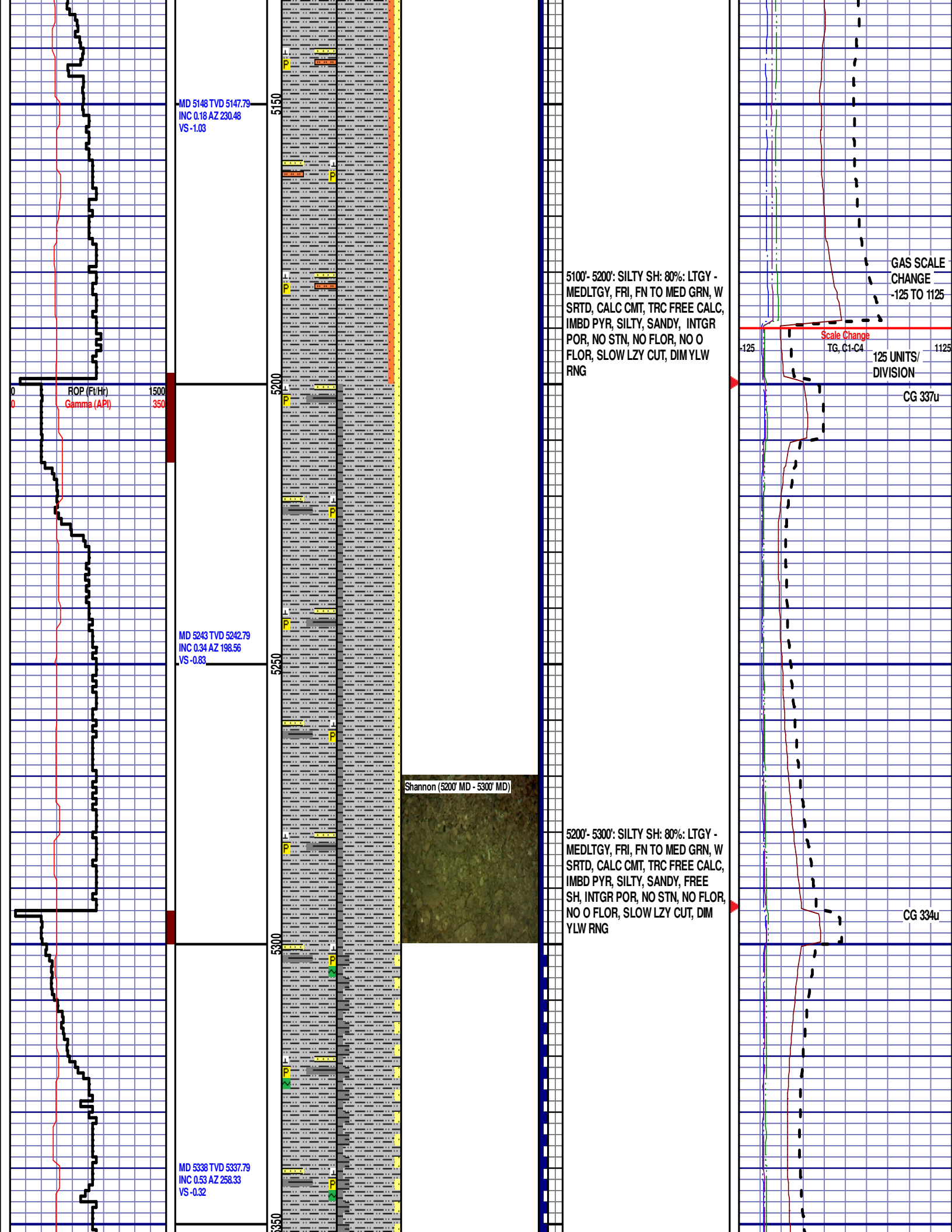


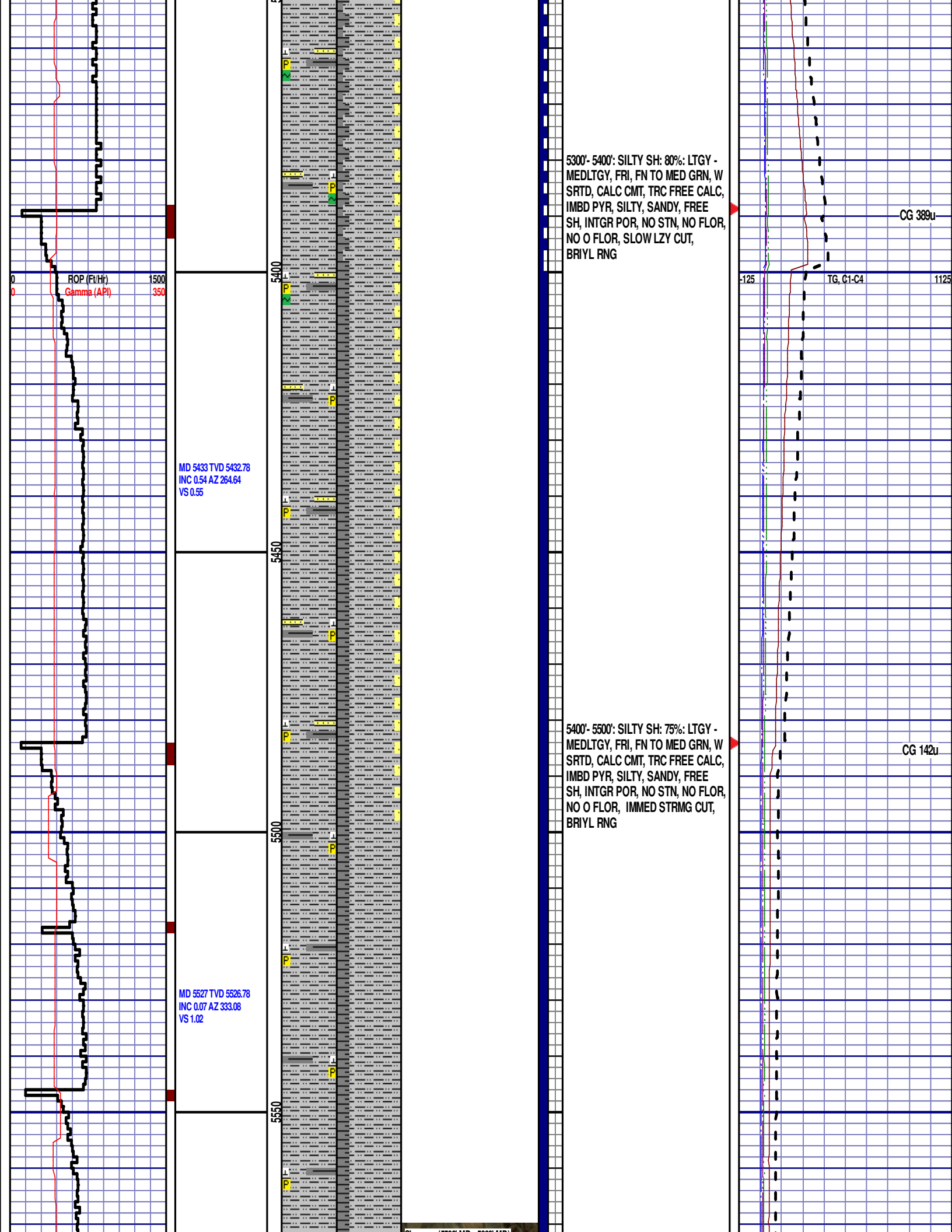












5300'-5400': SILTY SH: 80%: LTGY - MEDLTGY, FRI, FN TO MED GRN, W SRTD, CALC CMT, TRC FREE CALC, IMBD PYR, SILTY, SANDY, FREE SH, INTGR POR, NO STN, NO FLOR, NO O FLOR, SLOW LZY CUT, BRIYL RNG

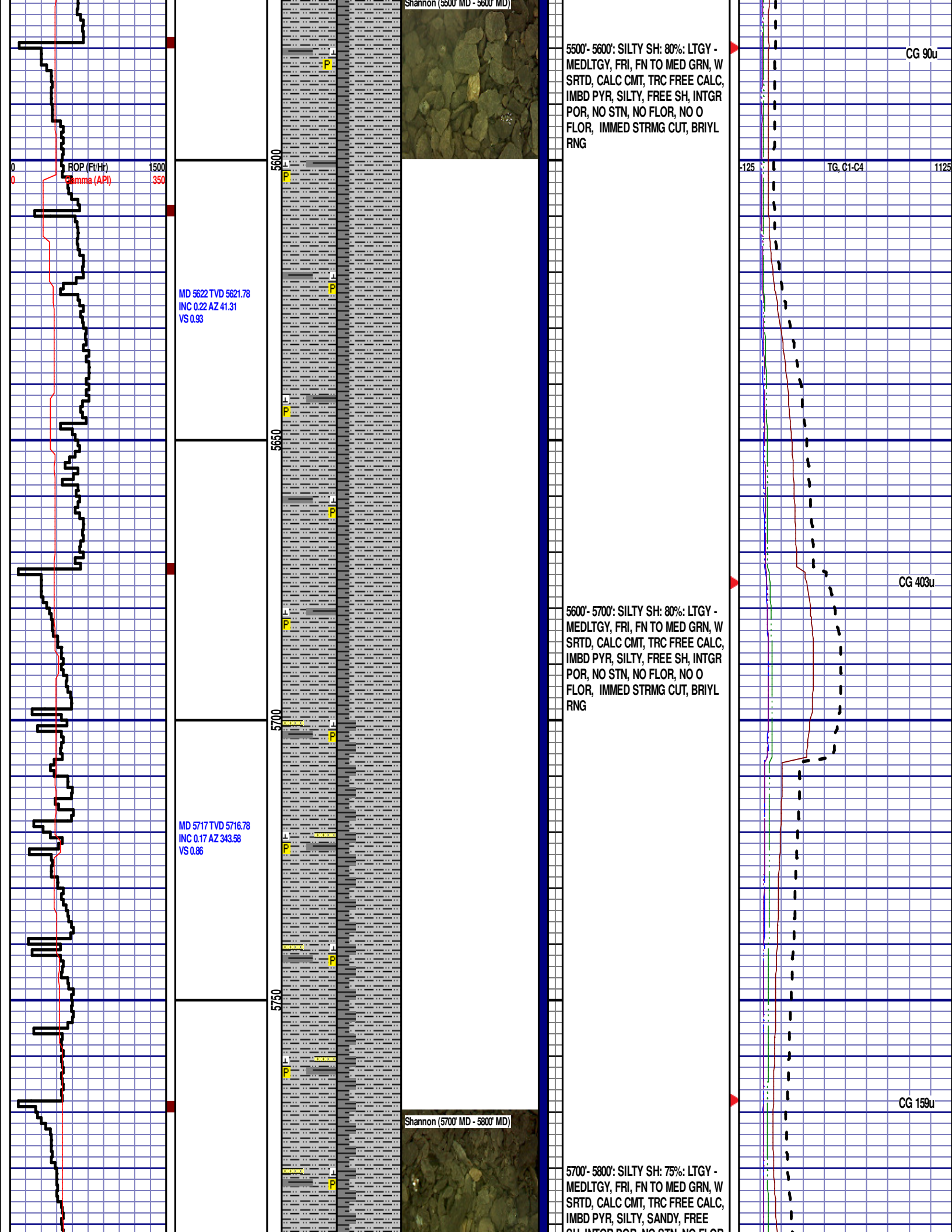
CG 389u

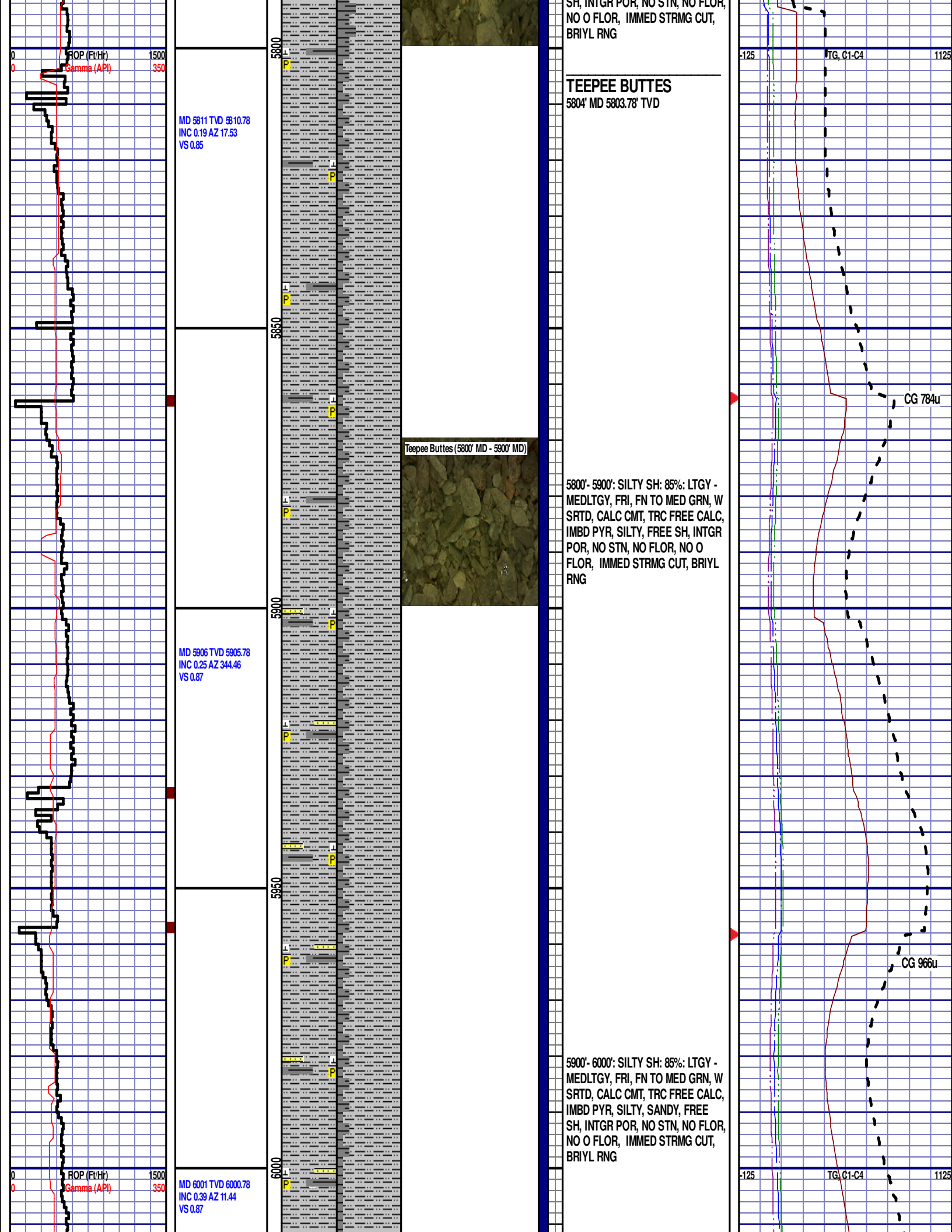
MD 5433 TVD 5432.78  
INC 0.54 AZ 264.64  
VS 0.55

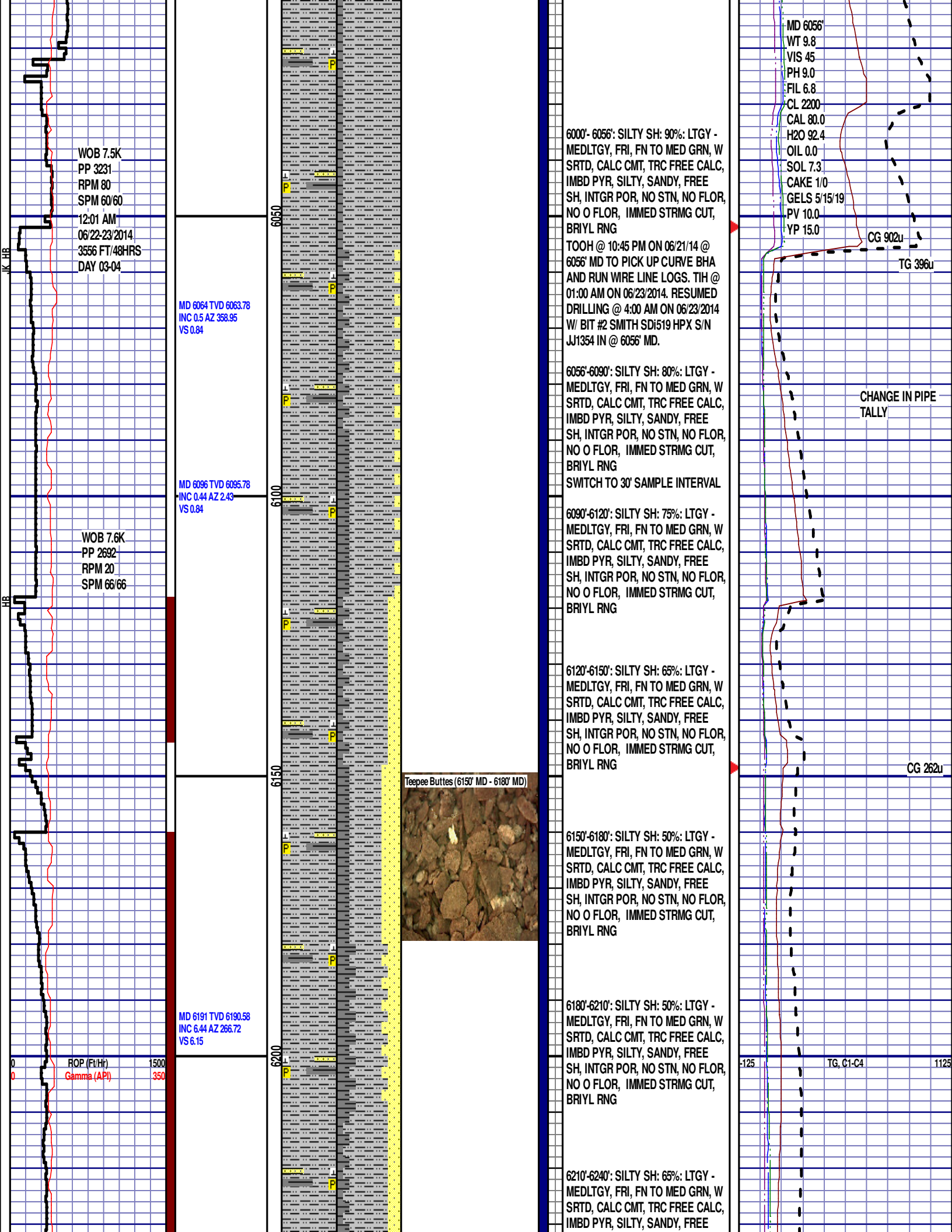
5400'-5500': SILTY SH: 75%: LTGY - MEDLTGY, FRI, FN TO MED GRN, W SRTD, CALC CMT, TRC FREE CALC, IMBD PYR, SILTY, SANDY, FREE SH, INTGR POR, NO STN, NO FLOR, NO O FLOR, IMMED STRMG CUT, BRIYL RNG

CG 142u

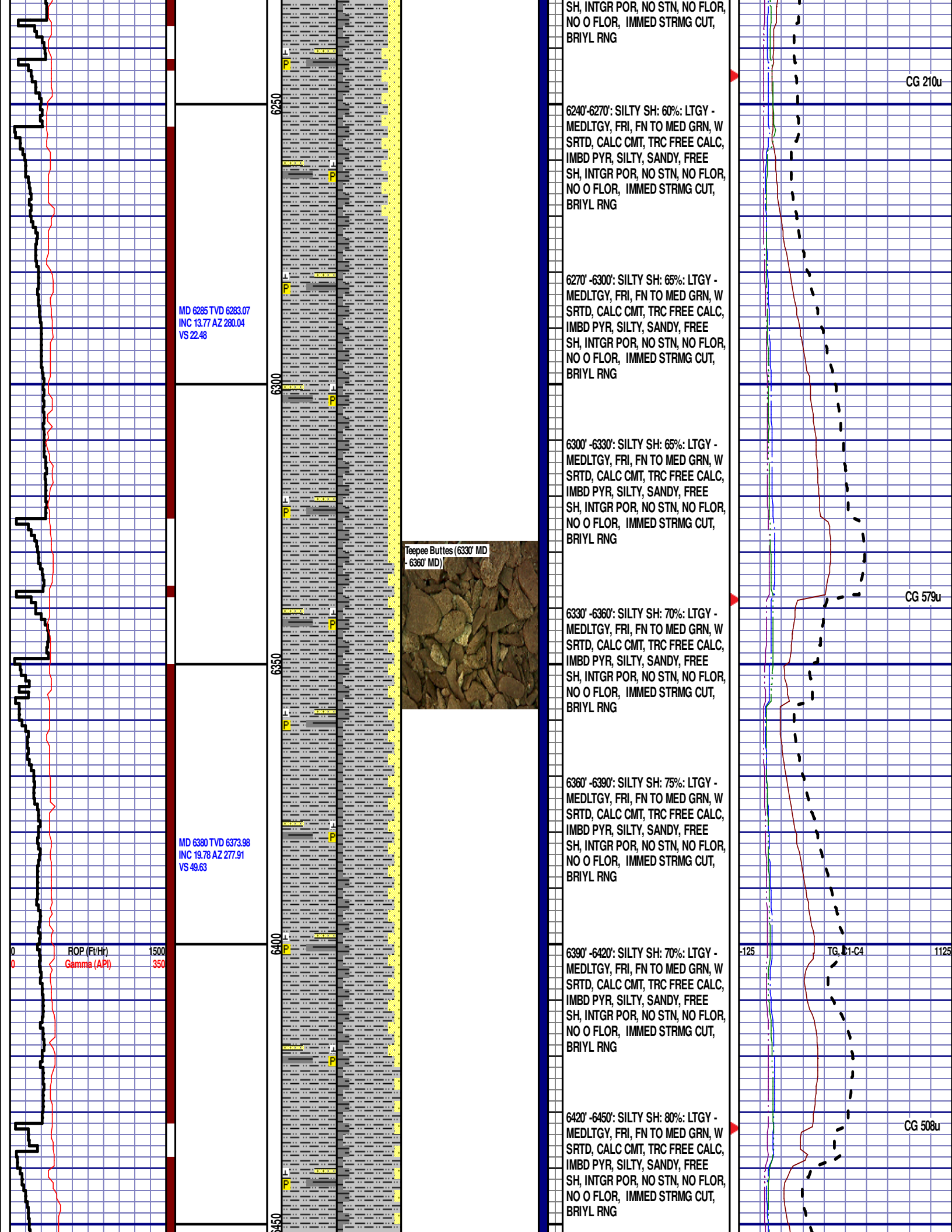
MD 5527 TVD 5526.78  
INC 0.07 AZ 333.08  
VS 1.02











MD 6475 TVD 6459.08  
INC 32.55 AZ 274.04  
VS 91.29

MD 6569 TVD 6531.2  
INC 46.89 AZ 270.43  
VS 151.17

MD 6664 TVD 6592.09  
INC 53.34 AZ 271.01  
VS 224.03

ROP (Ft/Hr)  
Gamma (API)

1500  
350

6500

6550

6600

6650

Teepee Buttes (6540' MD - 6570' MD)



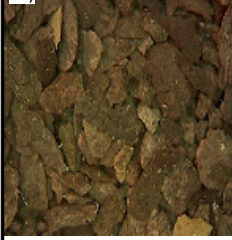
Sharon Springs (6570' MD - 6600' MD)



Sharon Springs (6600' MD - 6630' MD)



Niobrara A Chalk (6630' MD - 6650' MD)



Niobrara A Marl (6650' MD - 6690' MD)



6450' -6480': SILTY SH: 85%: LTGY -  
MEDLTGY, FRI, FN TO MED GRN, W  
SRTD, CALC CMT, TRC FREE CALC,  
IMBD PYR, SILTY, SANDY, FREE  
SH, INTGR POR, NO STN, NO FLOR,  
NO O FLOR, IMMED STRMG CUT,  
BRIYL RN

6480' -6510': SILTY SH: 75%: LTGY -  
MEDLTGY, FRI, FN TO MED GRN, W  
SRTD, CALC CMT, TRC FREE CALC,  
IMBD PYR, SILTY, SANDY, FREE  
SH, TRC FREE BENT, INTGR POR,  
NO STN, TRC FLOR, NO O FLOR,  
IMMED STRMG CUT, BRIYL RN

6510' -6540': SH: 60%: LTGY -  
MEDLTGY, FRI, FN TO MED GRN, W  
SRTD, CALC CMT, IMBD PYR, ,  
SILTY, FREE SLTY SH, INTGR POR,  
NO STN, NO FLOR, NO O FLOR,  
IMMED STRMG CUT, BRIYL RNG

6540' -6570': SH: 75%: LTGY -  
MEDLTGY, FRI, FN TO MED GRN, W  
SRTD, CALC CMT, FREE BENT,  
IMBD PYR, , SILTY, FREE SLTY SH,  
INTGR POR, NO STN, 5% FLOR, NO  
O FLOR, IMMED STRMG CUT, BRIYL  
RNG

### SHARON SPRINGS

6588' MD 6543' TVD  
6570' -6600': SH: 70%: LTGY -  
MEDLTGY, FRI, FN TO MED GRN, W  
SRTD, CALC CMT, IMBD PYR, FREE  
BENT, SILTY, FREE SLTY SH, INTGR  
POR, NO STN, 5% FLOR, NO O  
FLOR, IMMED STRMG CUT, BRIYL  
RNG  
6600'-6630': MRST: 70% MEDDRKGY -  
MEDLTGY, BLKY TO SUBBLKY,  
GRY TO SLTY TXT, FRM TO BRIT,  
TRC FREE BENT, IMBD CALC, IMBD  
PYR, 30% FREE SH, NO STN, 5%  
FLOR, NO O FLOR, IMMED STRMG  
CUT, BRIYL RNG

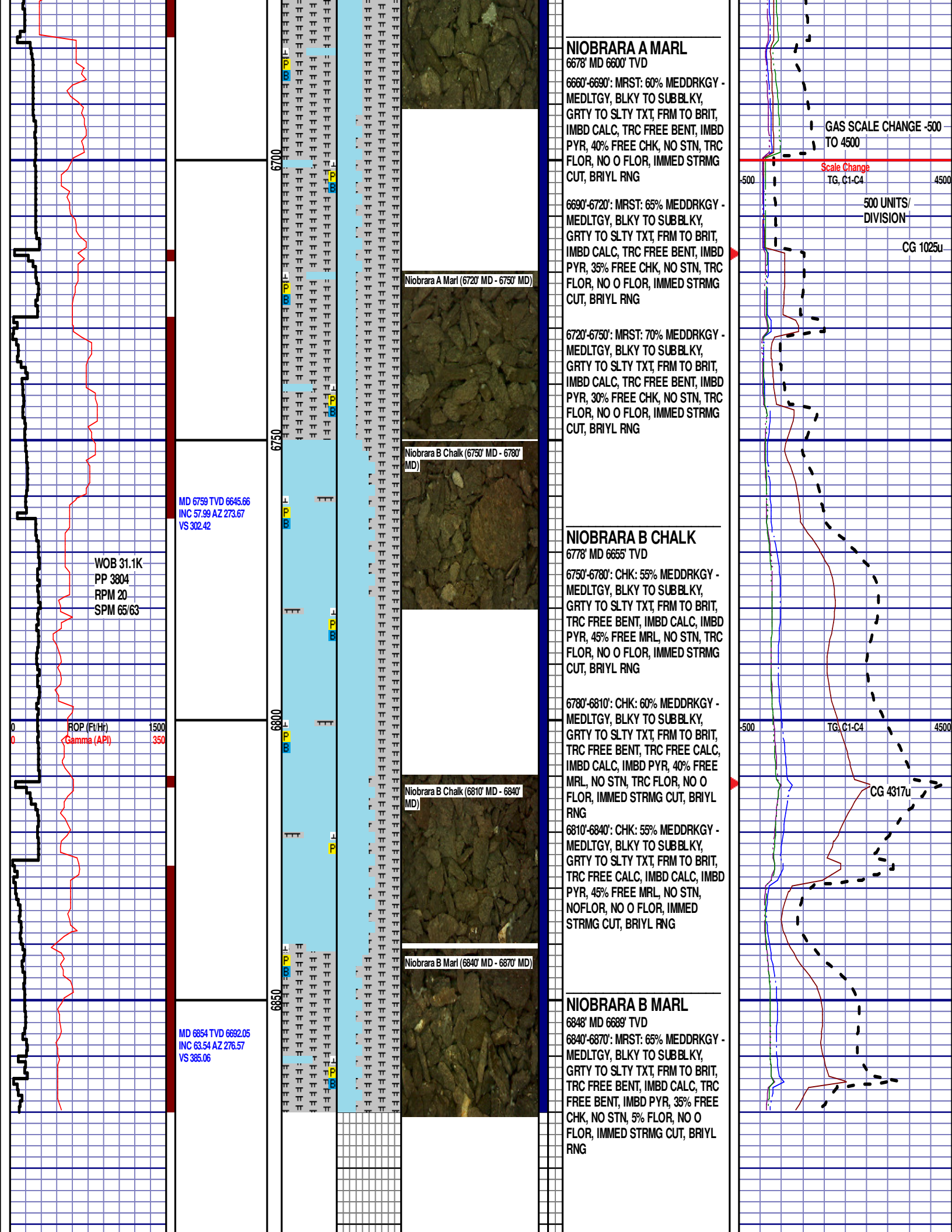
### NIOBRARA A CHALK

6630' MD 6570' TVD  
6630'-6660': CHK: 75% MEDDRKGY -  
MEDLTGY, BLKY TO SUBBLKY,  
GRY TO SLTY TXT, FRM TO BRIT,  
TRC FREE BENT, IMBD CALC, IMBD  
PYR, 25% FREE MRL, NO STN, TRC  
FLOR, NO O FLOR, IMMED STRMG  
CUT, BRIYL RNG

CG 625u

-125 TG, C1-C4 1125

CG 440u



		6900				<p>END OF VERTICAL LOG @ 6870' MD ON 6/23/14. CONTINUED ON HORIZONTAL LOG.</p>	
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