

[illegible]

1/2-3/15  
0 FT/48 HRS  
DAY 02-03

WOB 13.9K  
PP 3156  
RPM 60  
SPM 78/78

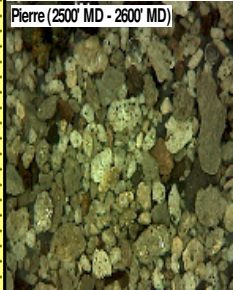
MD 2585 TVD 2580.48  
INC 6.18 AZ 60.46  
VS 28.2

ROP (Ft/Hr)  
Gamma (API)

1500  
250

2500  
2550  
2600  
2650  
2700

Pierre (2500' MD - 2600' MD)



1/3/15 W/BIT #2 8.75" SMITH  
SDi519HPX S/N JK0393 IN @ 1249'  
MD

### PIERRE BEFORE LOGGING DEPTH

2500' MD- 2600' MD: SS: 60%: PRED  
GY - LTKGY - OPQ, MOD CONS, FN  
TO MED GRN, SUBANG, W TO  
MODY SRTD, CALC CMT, SILTY,  
FREE SLTY SH, TRC IMBD PYR,  
TRC FREE CALC, TRC IMBD  
GLAUC, INTGR POR, NO STN, NO  
FLOR, NO O FLOR, NO CUT, NO  
RNG

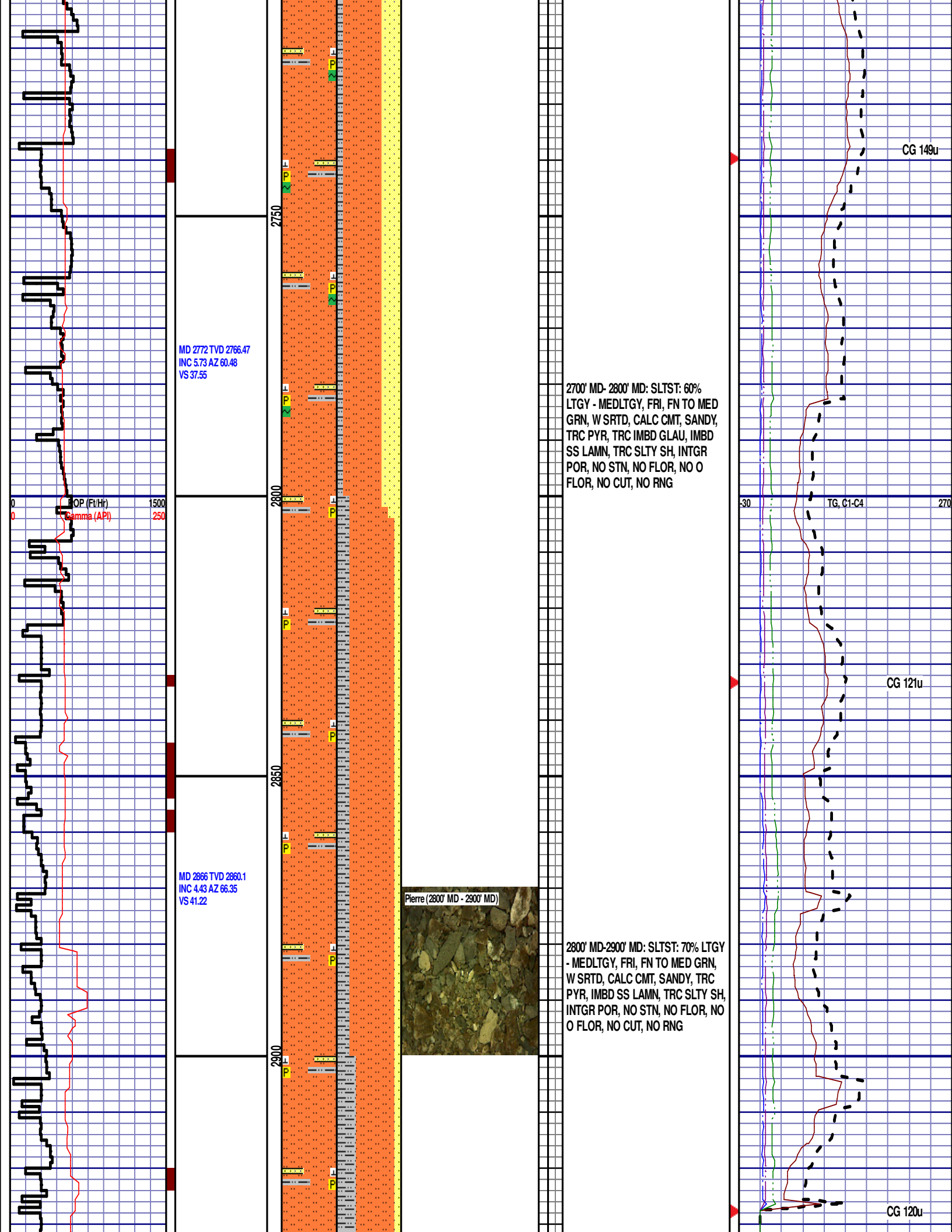
2600' MD- 2700' MD: SLTST: 60%  
LTGY - MEDLTGY, FRI, FN TO MED  
GRN, W SRTD, CALC CMT, SANDY,  
TRC PYR, TRC IMBD GLAU, IMBD  
SS LAMN, TRC SLTY SH, INTGR  
POR, NO STN, NO FLOR, NO O  
FLOR, NO CUT, NO RNG

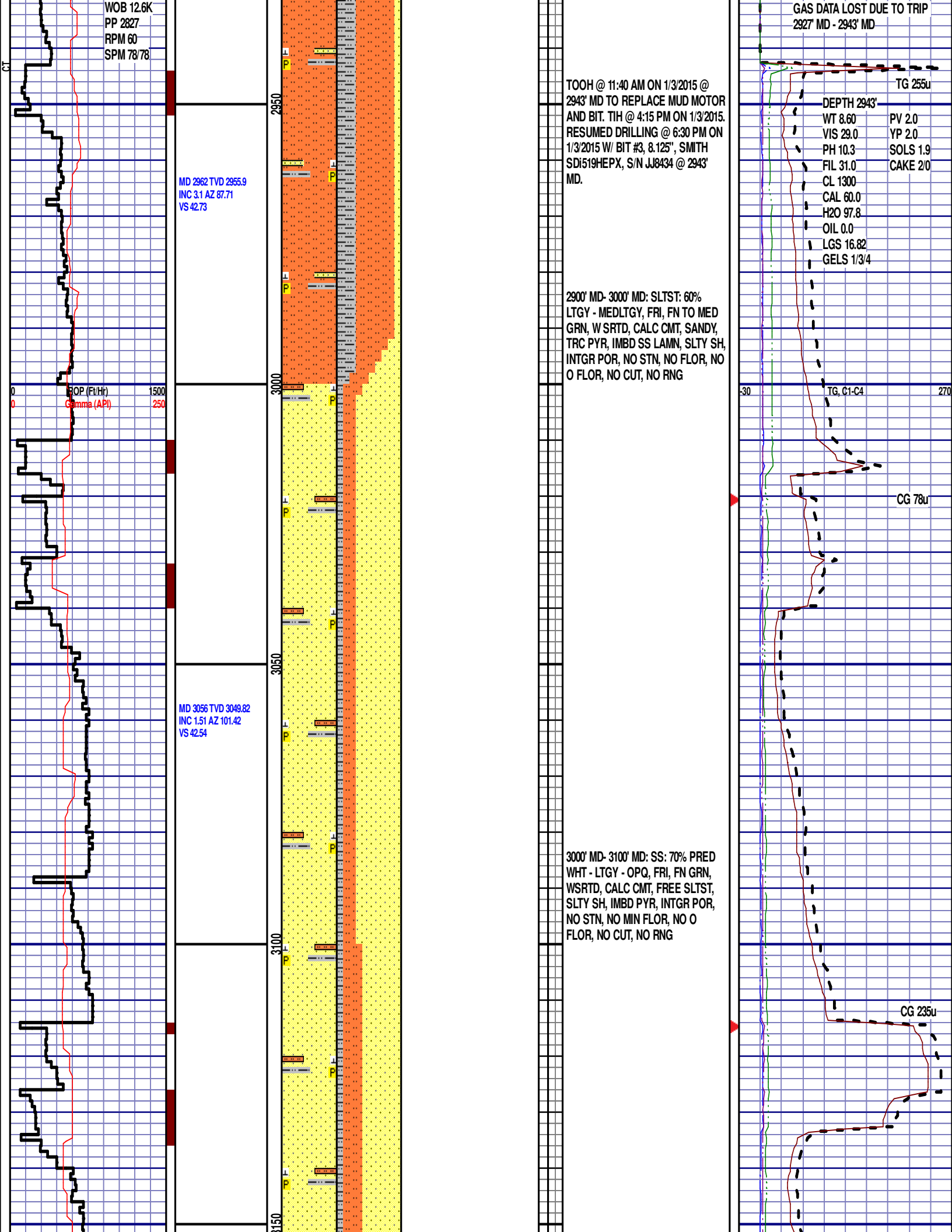
MD 1249'  
WT 8.75  
VIS 29.0  
PH 10.1  
FIL 29.0  
CL 1000  
CAL 60.0  
H2O 96.8  
OIL 0.0  
SOL 2.9  
LGS 24.76  
GELS 2/4/5  
PV 4.0  
YP 3.0  
SOLS 2.9  
CAKE 2/0

CG 162u

-30 TG, C1-C4 270

CG 150u





MD 3151 TVD 3144.81  
INC 0.3 AZ 6.62  
VS 42.52

BoP (t/Hr)  
Gamma (API)

1500  
250

3200

3250

3300

3350

Pierre (3100' MD - 3200' MD)

Parkman (3200' MD - 3300' MD)

3100' MD- 3200' MD: SS: 60% PRED  
WHT - LTGY - OPQ, FRI, FN GRN,  
WSRTD, CALC CMT, FREE SLTST,  
SLTY SH, IMBD PYR, INTGR POR,  
NO STN, NO MIN FLOR, NO O  
FLOR, NO CUT, NO RNG

**PARKMAN**  
3229' MD 3223' TVD

3200' MD- 3300' MD: SS: 80% PRED  
WHT - LTGY - OPQ, FRI, FN GRN,  
WSRTD, CALC CMT, FREE SLTST,  
SLTY SH, IMBD PYR, IMBD GLAUC,  
INTGR POR, NO STN, NO MIN  
FLOR, NO O FLOR, NO CUT, NO  
RNG

Scale Change  
TG, C1-C4

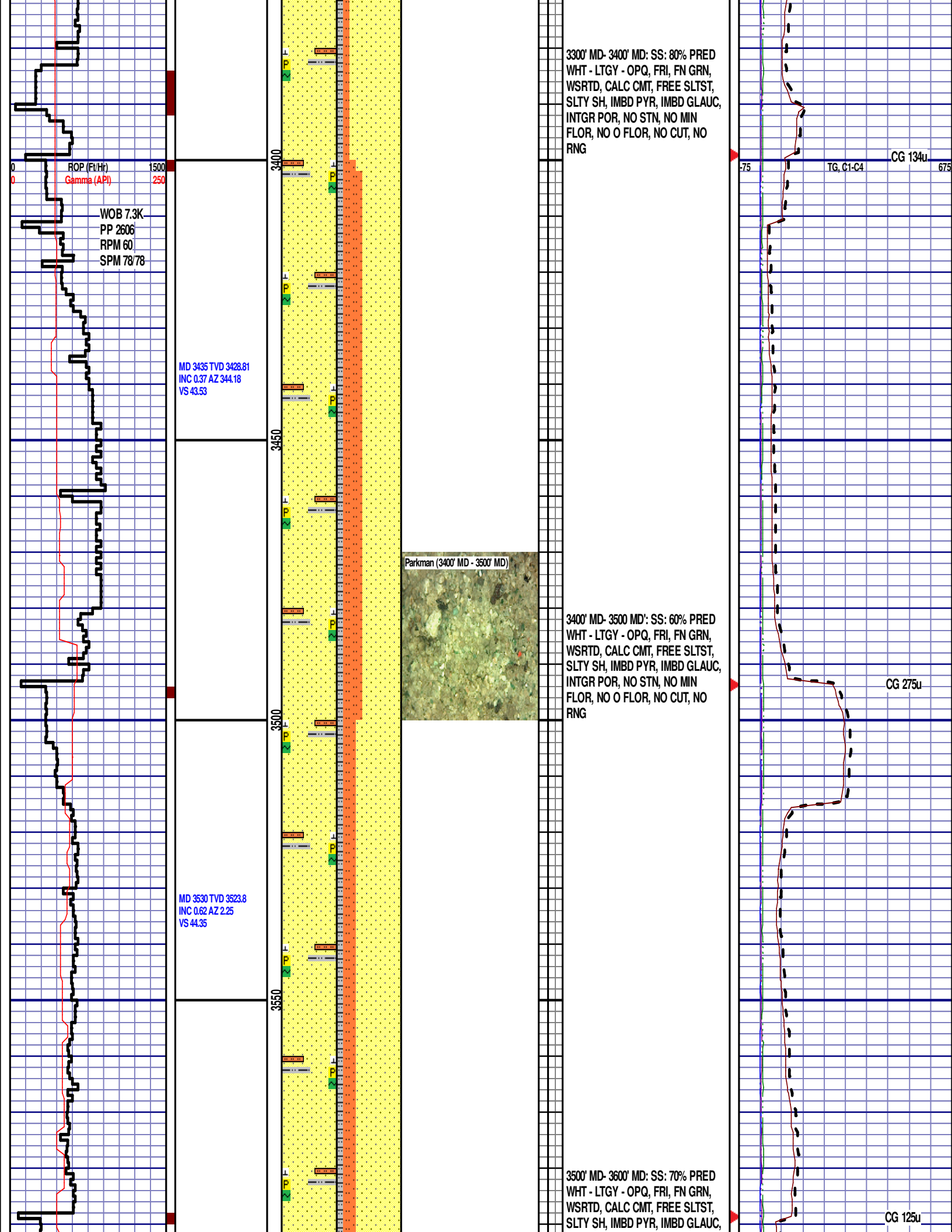
GAS SCALE:  
-75u TO 675u  
(75 UNITS/DIVISION)

CG 272u

CG 412u

MD 3340 TVD 3333.81  
INC 0.15 AZ 303.16  
VS 43.16



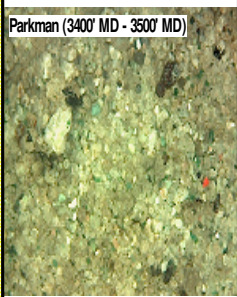


ROP (ft/hr)  
Gamma (API)

WOB 7.3K  
PP 2606  
RPM 60  
SPM 78/78

MD 3435 TVD 3428.81  
INC 0.37 AZ 344.18  
VS 43.53

MD 3530 TVD 3523.8  
INC 0.62 AZ 2.25  
VS 44.35



3300' MD- 3400' MD: SS: 80% PRED  
WHT - LTGY - OPQ, FRI, FN GRN,  
WSRTD, CALC CMT, FREE SLTST,  
SLTY SH, IMBD PYR, IMBD GLAUC,  
INTGR POR, NO STN, NO MIN  
FLOR, NO O FLOR, NO CUT, NO  
RNG

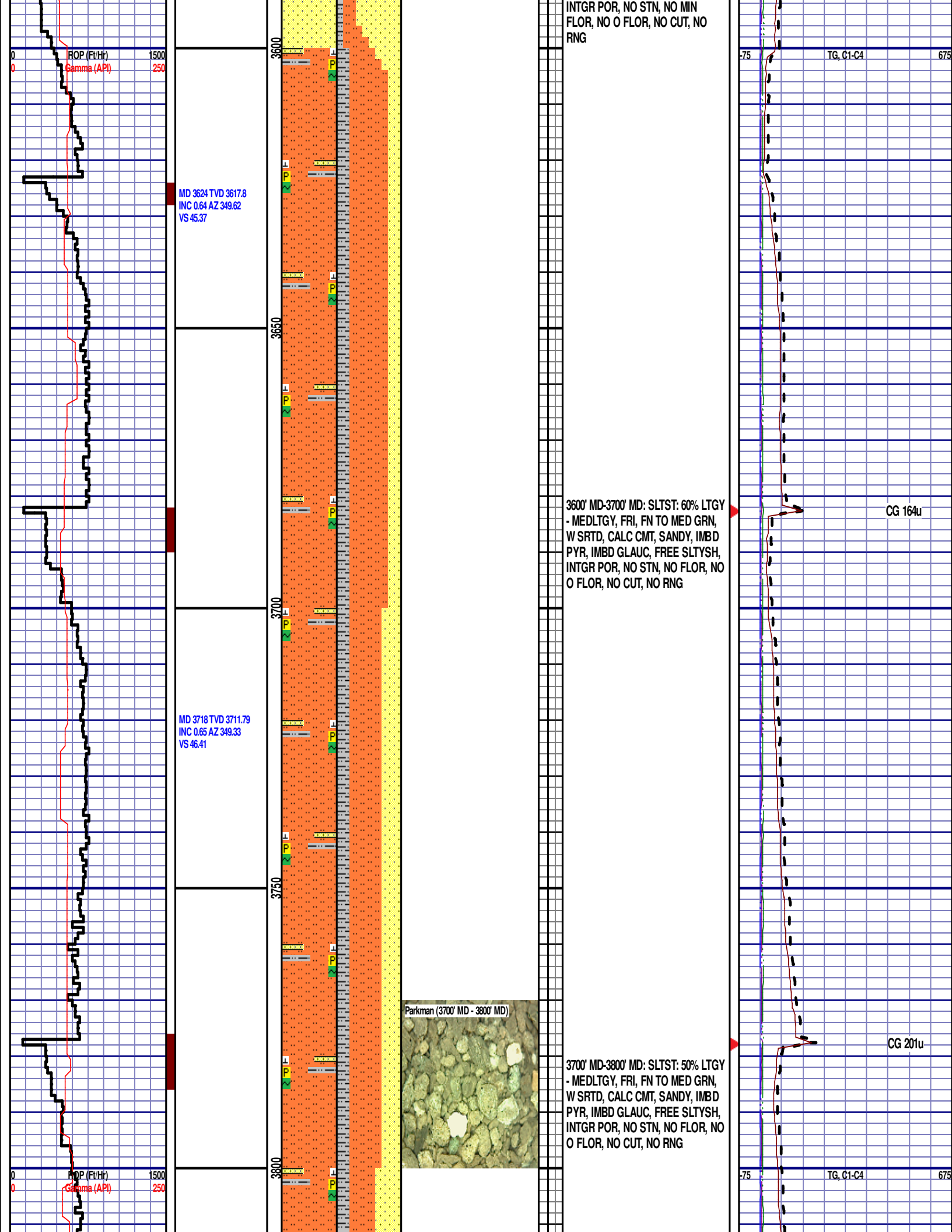
3400' MD- 3500' MD: SS: 60% PRED  
WHT - LTGY - OPQ, FRI, FN GRN,  
WSRTD, CALC CMT, FREE SLTST,  
SLTY SH, IMBD PYR, IMBD GLAUC,  
INTGR POR, NO STN, NO MIN  
FLOR, NO O FLOR, NO CUT, NO  
RNG

3500' MD- 3600' MD: SS: 70% PRED  
WHT - LTGY - OPQ, FRI, FN GRN,  
WSRTD, CALC CMT, FREE SLTST,  
SLTY SH, IMBD PYR, IMBD GLAUC,  
INTGR POR, NO STN, NO MIN  
FLOR, NO O FLOR, NO CUT, NO  
RNG

75 TG, C1-C4 CG 134u 675

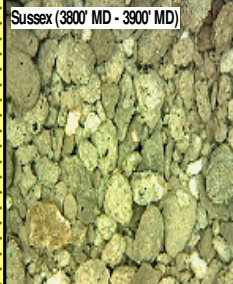
CG 275u

CG 125u



MD 3813 TVD 3806.78  
INC 0.99 AZ 346.31  
VS 47.75

SUSSEX  
3817' MD 3811' TVD



Sussex (3800' MD - 3900' MD)

3800' MD-3900' MD: SLTST: 40% LTGY  
- MEDLTGY, FRI, FN TO MED GRN,  
W SRTD, CALC CMT, SANDY, IMBD  
PYR, IMBD GLAUC, FREE SLTYSH,  
INTGR POR, NO STN, NO FLOR, NO  
O FLOR, NO CUT, NO RNG

MD 3907 TVD 3900.78  
INC 1.15 AZ 134.79  
VS 47.87

3900'- 4000': SS: 60% PRED WHT -  
LTGY - OPQ, FRI, FN GRN, WSRTD,  
CALC CMT, FREE SLTST, SLTY SH,  
IMBD PYR, IMBD GLAUC, INTGR  
POR, NO STN, NO MIN FLOR, NO O  
FLOR, NO CUT, NO RNG

MD 4002 TVD 3995.76  
INC 1.09 AZ 103.71  
VS 46.96

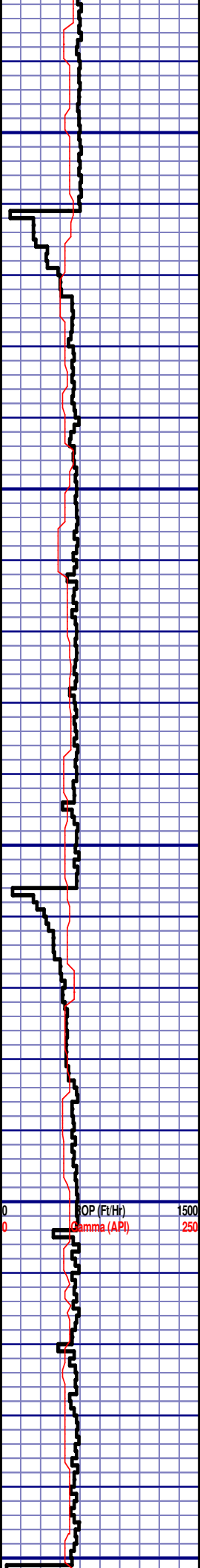
CG 178u

CG 176u

OP (Ft/Hr) 1500  
Gamma (API) 250

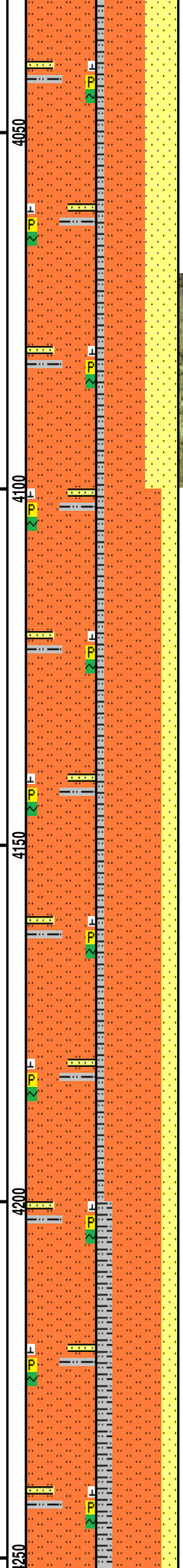
75 TG, C1-C4 675





MD 4096 TVD 4089.74  
INC 1.24 AZ 77.13  
VS 46.95

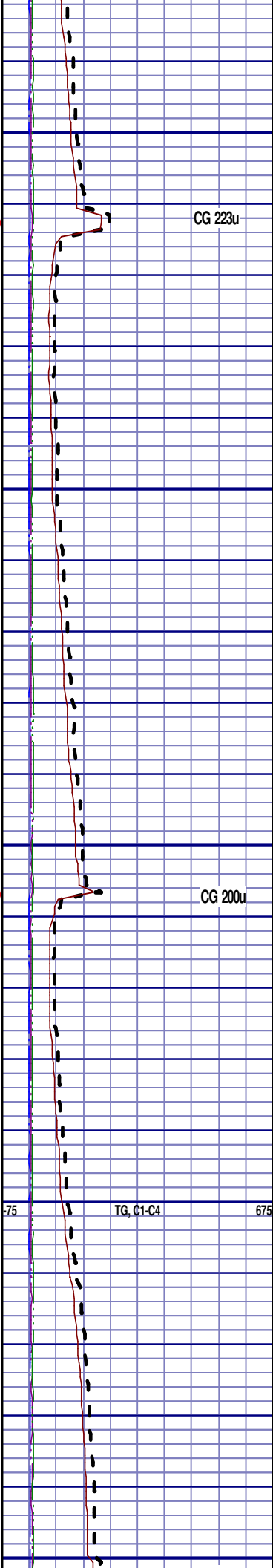
MD 4191 TVD 4184.72  
INC 1.26 AZ 75.01  
VS 47.42



4000' MD-4100' MD: SLTST: 50% LTGY  
- MEDLTGY, FRI, FN TO MED GRN,  
W SRTD, CALC CMT, SANDY, IMBD  
PYR, IMBD GLAUC, FREE SLTYSH,  
INTGR POR, NO STN, NO FLOR, NO  
O FLOR, SLOW LZY CUT, DIM YLW  
RNG

4100' MD-4200' MD: SLTST: 70% LTGY  
- MEDLTGY, FRI, FN TO MED GRN,  
W SRTD, CALC CMT, SANDY, IMBD  
PYR, IMBD GLAUC, FREE SLTYSH,  
INTGR POR, NO STN, NO FLOR, NO  
O FLOR, SLOW LZY CUT, DIM YLW  
RNG

SHANNON



CG 223u

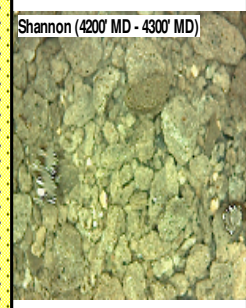
CG 200u

TG, C1-C4

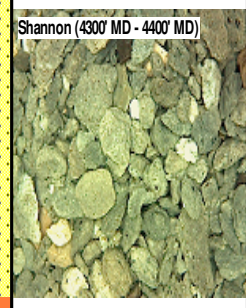
12:01 AM  
1/4/15  
1766 FT/24 HRS  
DAY 4

WOB 22.3K  
PP 3062  
RPM 60  
SPM 78/78

MD 4285 TVD 4278.71  
INC 0.39 AZ 308.19  
VS 47.88



4200' MD-4300' MD: SLTST: 60% LTGY  
- MEDLTGY, FRI, FN TO MED GRN,  
W SRTD, CALC CMT, SANDY, IMBD  
PYR, IMBD GLAUC, FREE SLTYSH,  
INTGR POR, NO STN, NO FLOR, NO  
O FLOR, SLOW LZY CUT, DIM YLW  
RNG



4300' MD-4400' MD: SLTST: 60% LTGY  
- MEDLTGY, FRI, FN TO MED GRN,  
W SRTD, CALC CMT, SANDY, IMBD  
PYR, FREE SLTYSH, INTGR POR,  
NO STN, NO FLOR, NO O FLOR,  
SLOW LZY CUT, DIM YLW RNG

ROP (Ft/Hr) 1500  
Gamma (API) 250

TG, C1-C4

MD 4475 TVD 4468.7  
INC 0.52 AZ 299.88  
VS 48.73

MD 4569 TVD 4562.69  
INC 1.29 AZ 216.79  
VS 48.11

MD 4664 TVD 4657.67  
INC 1.33 AZ 234.28  
VS 46.63

4400' MD-4500' MD: SLTST: 70% LTGY  
- MEDLTGY, FRI, FN TO MED GRN,  
W SRTD, CALC CMT, IMBD PYR,  
FREE SLTYSH, INTGR POR, NO  
STN, NO FLOR, NO O FLOR, SLOW  
LZY CUT, DIM YLW RNG

### TEEPEE BUTTES

4559' MD 4553' TVD

4500' MD-4600' MD: SLTST: 60% LTGY  
- MEDLTGY, FRI, FN TO MED GRN,  
W SRTD, CALC CMT, IMBD PYR,  
FREE SLTYSH, INTGR POR, NO  
STN, NO FLOR, NO O FLOR, SLOW  
LZY CUT, DIM YLW RNG

Teepee Buttes (4500' MD - 4600' MD)



Teepee Buttes (4600' MD - 4700' MD)

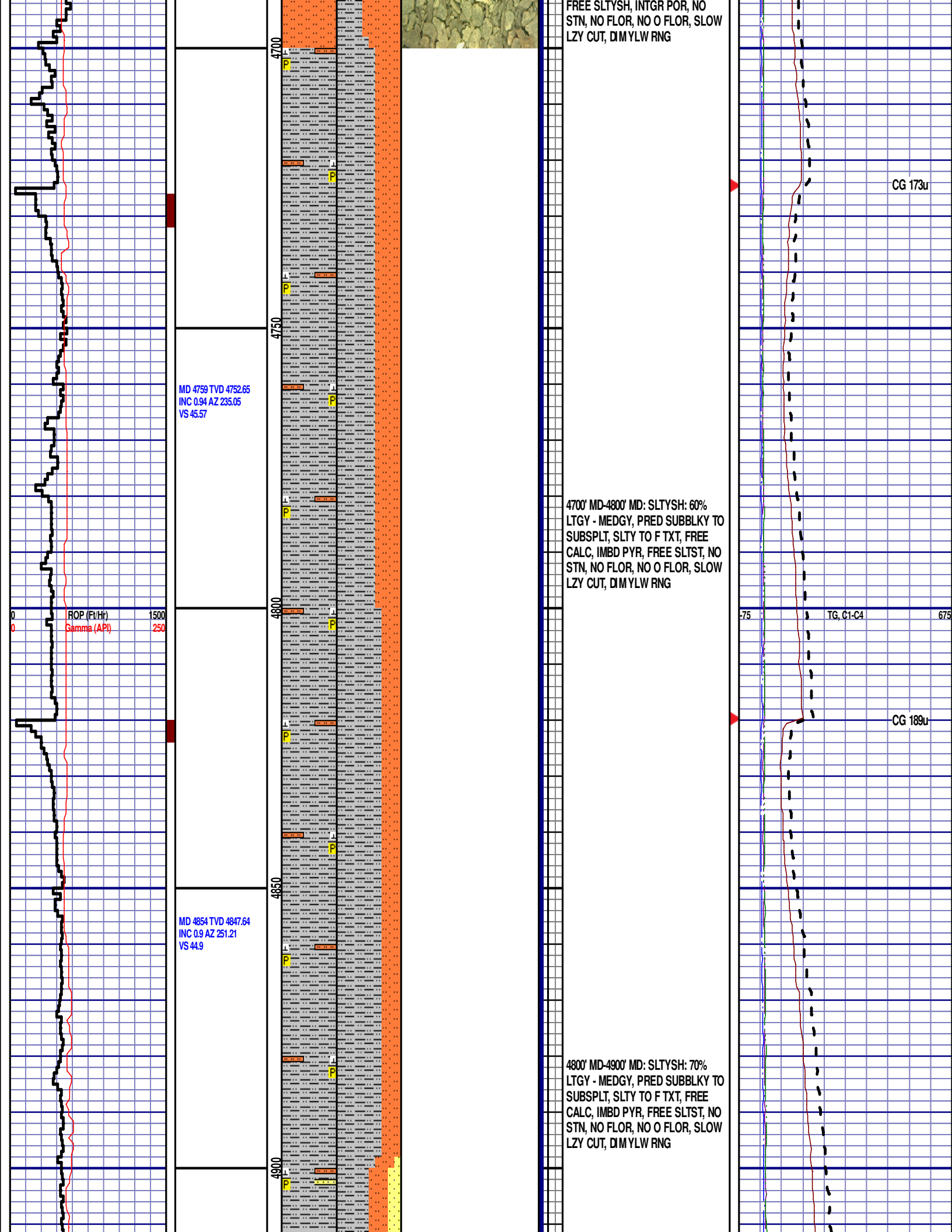


4600' MD-4700' MD: SLTST: 60% LTGY  
- MEDLTGY, FRI, FN TO MED GRN,  
W SRTD, CALC CMT, IMBD PYR,

CG 88u

TG, C1-C4

CG 151u



FREE SLTYSH, INTGR POR, NO  
STN, NO FLOR, NO O FLOR, SLOW  
LZY CUT, DIMYLW RNG

CG 173u

MD 4759 TVD 4752.65  
INC 0.94 AZ 235.05  
VS 45.57

4700' MD-4800' 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, SLOW  
LZY CUT, DIMYLW RNG

75' TG, C1-C4 675'

CG 189u

MD 4854 TVD 4847.64  
INC 0.9 AZ 251.21  
VS 44.9

4800' MD-4900' 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, SLOW  
LZY CUT, DIMYLW RNG

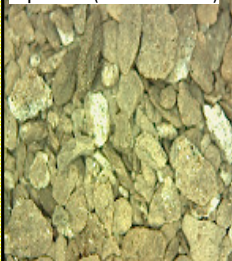
MD 4948 TVD 4941.56  
INC 4.12 AZ 349.3  
VS 48

ROP SCALE  
CHANGE: 0 TO 600

Scale Change  
ROP (FTH)  
Change (100)

MD 5043 TVD 5034.8  
INC 16.72 AZ 349.33  
VS 64.89

Teepee Buttes (4900' MD - 5000' MD)



4900' MD-5000' MD: SLTYSH: 50%  
LTGY - MEDGY, PRED SUBBLKY TO  
SUBSPLT, SLTY TO F TXT, FREE  
CALC, IMBD PYR, FREE SLTST,  
IMBD SS, NO STN, NO FLOR, NO O  
FLOR, SLOW LZY CUT, DIM YLW  
RNG

SWITCHING TO 30' SAMPLES

5000' MD-5030' MD: SLTYSH: 60%  
LTGY - MEDGY, PRED SUBBLKY TO  
SUBSPLT, SLTY TO F TXT, FREE  
CALC, IMBD PYR, FREE SLTST,  
IMBD SS, NO STN, NO FLOR, NO O  
FLOR, SLOW LZY CUT, DIM YLW  
RNG

5030' MD-5060' MD: SLTYSH: 50%  
LTGY - MEDGY, PRED SUBBLKY TO  
SUBSPLT, SLTY TO F TXT, FREE  
CALC, IMBD PYR, FREE SLTST,  
IMBD SS, NO STN, NO FLOR, NO O  
FLOR, SLOW LZY CUT, DIM YLW  
RNG

5060' MD-5090' MD: SLTYSH: 60%  
LTGY - MEDGY, PRED SUBBLKY TO  
SUBSPLT, SLTY TO F TXT, FREE  
CALC, IMBD PYR, FREE SLTST,  
IMBD SS, NO STN, NO FLOR, NO O  
FLOR, SLOW LZY CUT, DIM YLW  
RNG

5090' MD-5120' MD: SLTYSH: 60%  
LTGY - MEDGY, PRED SUBBLKY TO  
SUBSPLT, SLTY TO F TXT, FREE  
CALC, IMBD PYR, FREE SLTST,  
IMBD SS, NO STN, NO FLOR, NO O  
FLOR, SLOW LZY CUT, DIM YLW  
RNG

5120' MD-5150' MD: SLTYSH: 50%

JG, C1-C4

CG 264u

DEPTH 5001'

WT 10.00

VIS 44.0

PH 8.9

FIL 8.7

CL 1600

CAL 40.0

H2O 91.8

OIL 0.0

LGS 28.30

GELS 6/23/41

PV 12.0

YP 15.0

SOLS 7.9

CAKE 2/0

CG 228u



