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WWW.HZMUD.COM/25

Customer Information	Well Information
<p>Operator: Noble Energy 1625 Broadway Suite 2200 Denver, Colorado 80202</p> <p>Geologist: Holly Duncan Noble Energy Inc.</p>	<p>Well Name: NCLP AA06-67-1AHNA</p> <p>Location: 4-T6N-R63W 847' FNL, 100' FWL</p> <p>County: Weld State: Colorado</p>
Mud Logging Details	
<p>Logger: Hannah Blatchford & Rob Gulliksen</p> <p>Log Interval: 2500' MD to 6760' MD</p> <p>Start Date: May 15, 2014</p> <p>Release Date: May 23, 2014</p>	<p>Drilling Rig: H&P 321</p> <p>Total Depth: 16390' MD</p> <p>TD Date: May 23, 2014</p> <p>Formation: Niobrara A Marl</p> <p>KB Elevation: 4745'</p> <p>GR Elevation: 4715'</p> <p>API Number: 05-123-39035-0000</p>

ROCK TYPES

	Siltysh		Congl		Mrlst		Till		sdygw
	Anhy		Dol		Salt		gw		hvycrbsh
	Bent		Gyp		Shale		lmywash		nosmpl
	Brec		Igne		Shcol		ogw		Lsdetrst
	Cht		Lmst		Shgy		olmywash		sltst
	Clyst		Meta		Sltst		oshly gw		sdy sh
	Coal		Chk		Ss		shly gw		

ROP (Ft/Hr) Gamma (API)	Drill Depth v. Time	Survey Data	Depth	Lithology	Lithology Percentages	Sample Photographs	Porosity	Geological Description	TG (1-8) C1 (units) C2 (units) C3 (units) C4 (units)	Total Gas, C1-C4
ROP (Ft/Hr) Gamma (API)	1500 350		24					NOBLE ENERGY NCLP AA06-67-1AHNA 4-T6N-R63W 847' FNL, 100' FWL WELD COUNTY, CO H&P 321 LOGGERS: HANNAH BLATCHFORD ROB GULLIKSEN CALLED OUT BY COMPANY MAN 05/15/14. COMMENCED LOGGING @ 10:00 PM @ 2500' MD ON 05/16/14	30 TG, C1-C4 270	
SLIDE=RED ROTATE=WHITE									CONNECTIONS ARE MARKED WITH RED TRIANGLES	
ROP SCALE: 0 TO 1500 (FT/HR)									GAS SCALE: 30 TO 270 30 UNITS/DIVISION	
GAMMA SCALE: 0 TO 350 (GAMMA DATA AS RECEIVED)									DRILLING ON WATER-BASED MUD	

10:00 PM @ 2500' MD ON 05/16/14
W/BIT # 1 8.75 ULTRERA U516S S/N
19679 IN @ 891' MD

PIERRE
BEFORE LOGGING DEPTH

MD 891'
WT 8.85
VIS 35.0
PH 8.5
FIL 12.6
CL 1300
CAL 80.0
H2O 96.6
OIL 0.0
SOL 3.1
CAKE 1/0
GELS 1/3/5
PV 5.0
YP 2.0

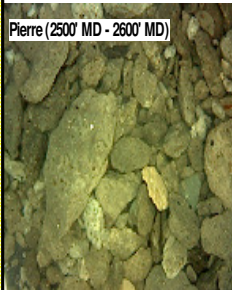
CG 103u

TG, C1-C4

CG 123u

2500'- 2600': SLTST: 80% LTGY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, TRC FREE CALC,
SANDY, OCC IMBD PYR, IMBD SS
LAMN, INTGR POR, NO STN, NO
FLOR, NO O FLOR, NO CUT, NO
RNG

2600'- 2700': SLTST: 70% LTGY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, TRC FREE CALC,
TRC FREE PYR, SANDY, OCC IMBD
PYR, IMBD SS LAMN, INTGR POR,
NO STN, NO FLOR, NO O FLOR, NO
CUT, NO RNG



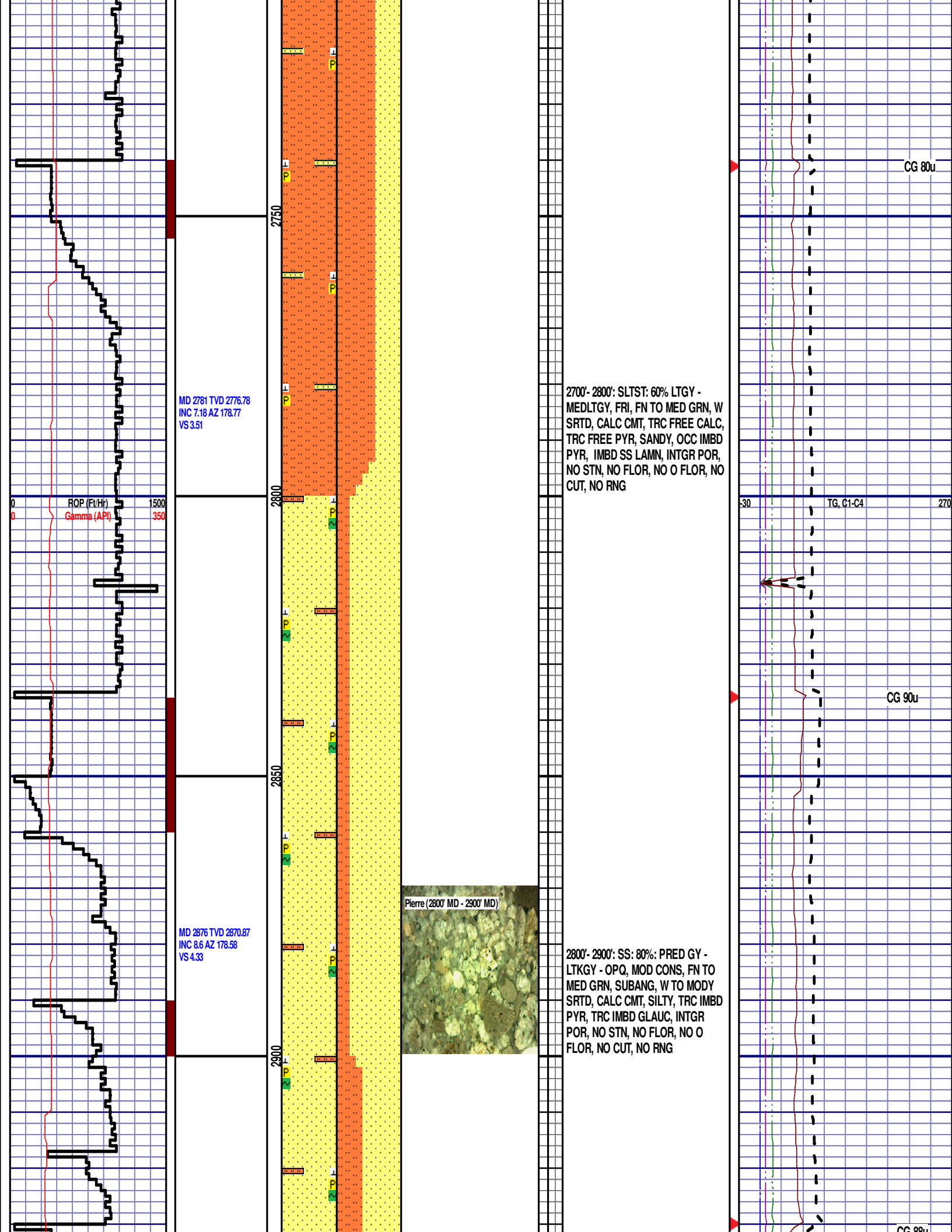
MD 2591 TVD 2588.48
INC 8.08 AZ 180.9
VS 1.66

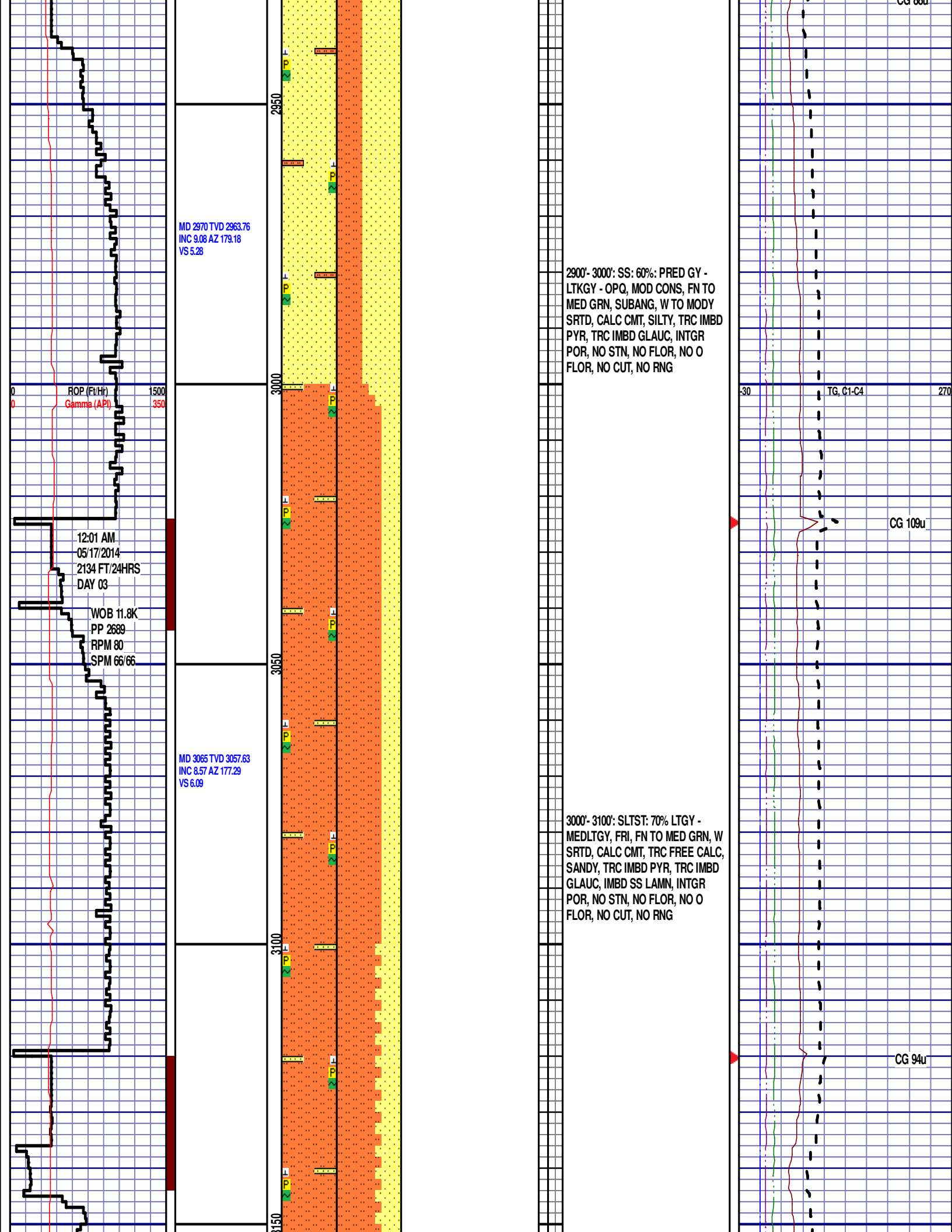
MD 2686 TVD 2682.58
INC 7.73 AZ 178.64
VS 2.73

12:01 AM
05/16/2014
0 FT/24HRS
DAY 02

WOB 26.6K
PP 2955
RPM 81
SPM 66/66

ROP (Ft/Hr)
Gamma (API)





MD 3160 TVD 3151.52
INC 9.03 AZ 183.7
VS 7.46

ROP (Ft/Hr)
Gamma (API)

1500
350

3200

3250

MD 3254 TVD 3244.46
INC 8.22 AZ 185.49
VS 9.79

3300

3350

MD 3349 TVD 3338.64
INC 6.82 AZ 190.12
VS 12.48

Pierre (3100' MD - 3200' MD)



3100'- 3200': SLTST: 65% LTGY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, TRC FREE CALC,
SANDY, TRC IMBD PYR, TRC IMBD
GLAUC, IMBD SS LAMN, INTGR
POR, NO STN, NO FLOR, NO O
FLOR, NO CUT, NO RNG

3200'- 3300': SLTST: 80% LTGY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, TRC FREE CALC,
SANDY, TRC IMBD PYR, OCC IMBD
GLAUC, IMBD SS LAMN, INTGR
POR, NO STN, NO FLOR, NO O
FLOR, NO CUT, NO RNG

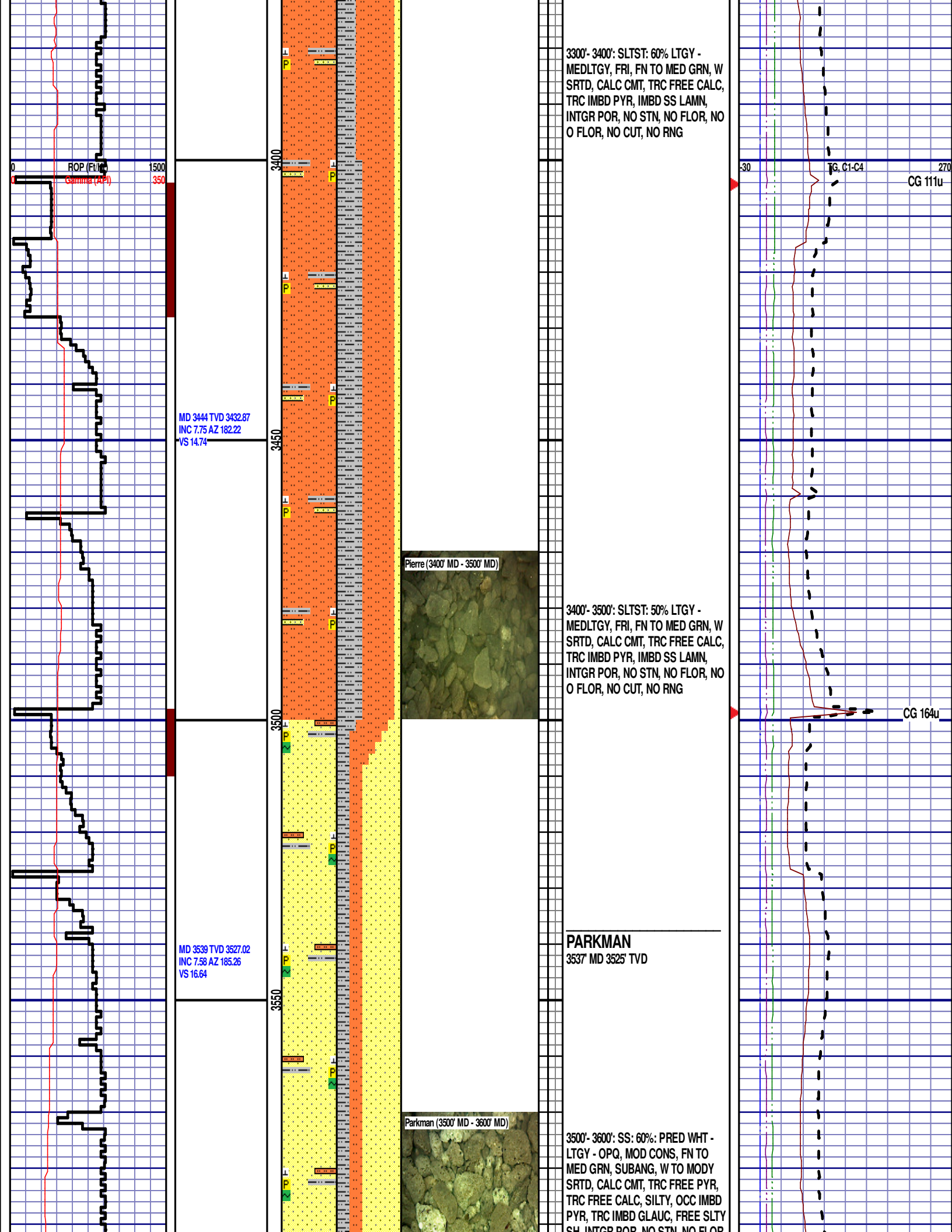
30

TG, C1-C4

270

CG 114u

CG 125u

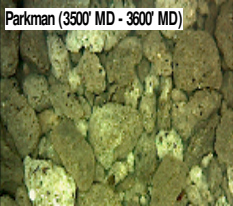


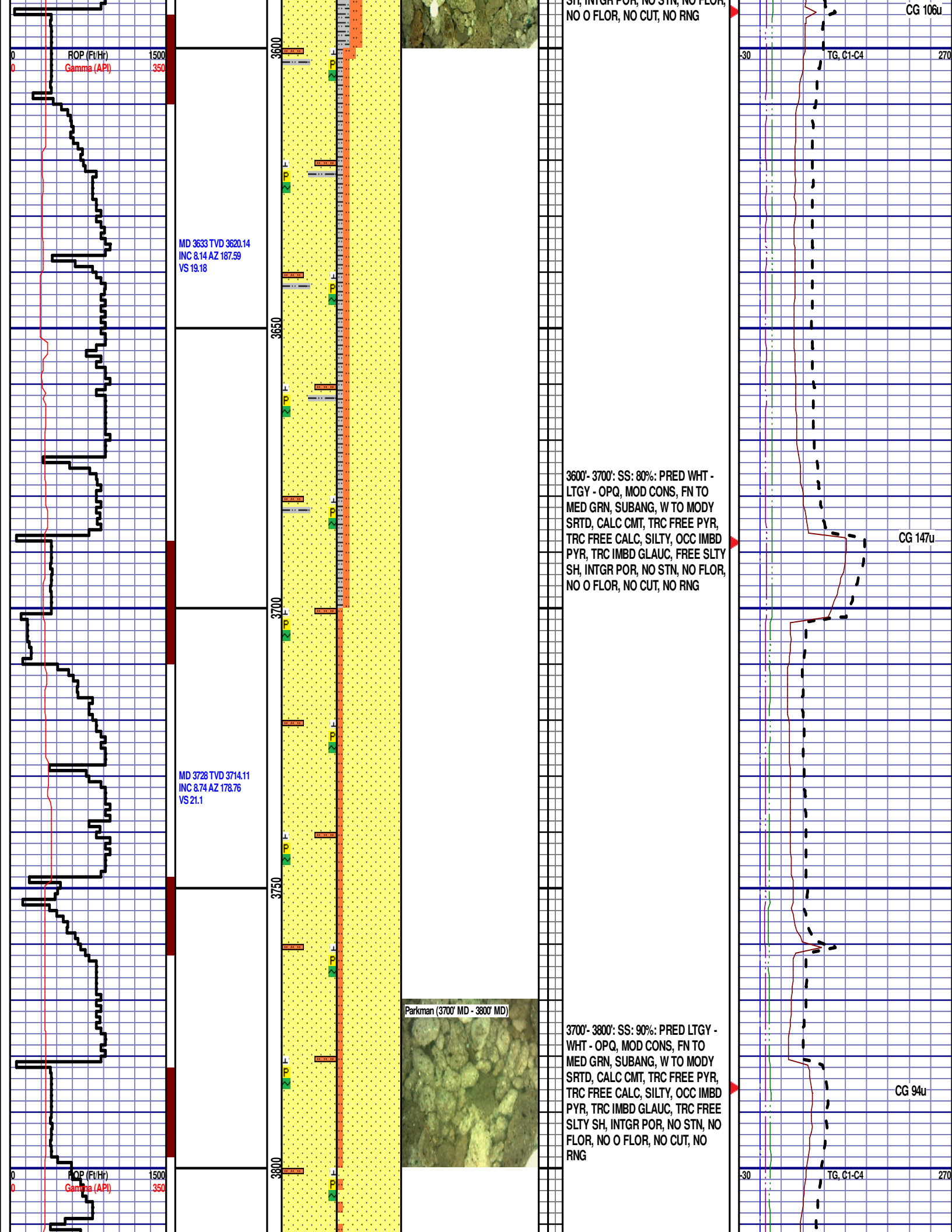
3300'- 3400': SLTST: 60% LTGY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, TRC FREE CALC,
TRC IMBD PYR, IMBD SS LAMN,
INTGR POR, NO STN, NO FLOR, NO
O FLOR, NO CUT, NO RNG

3400'- 3500': SLTST: 50% LTGY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, TRC FREE CALC,
TRC IMBD PYR, IMBD SS LAMN,
INTGR POR, NO STN, NO FLOR, NO
O FLOR, NO CUT, NO RNG

PARKMAN
3537' MD 3525' TVD

3500'- 3600': SS: 60%: PRED WHT -
LTGY - OPQ, MOD CONS, FN TO
MED GRN, SUBANG, W TO MODY
SRTD, CALC CMT, TRC FREE PYR,
TRC FREE CALC, SILTY, OCC IMBD
PYR, TRC IMBD GLAUC, FREE SLTY
SH, INTGR POR, NO STN, NO FLOR





3600'- 3700': SS: 80%: PRED WHT - LTGY - OPQ, MOD CONS, FN TO MED GRN, SUBANG, W TO MODY SRTD, CALC CMT, TRC FREE PYR, TRC FREE CALC, SILTY, OCC IMBD PYR, TRC IMBD GLAUC, FREE SLTY SH, INTGR POR, NO STN, NO FLOR, NO O FLOR, NO CUT, NO RNG

3700'- 3800': SS: 90%: PRED LTGY - WHT - OPQ, MOD CONS, FN TO MED GRN, SUBANG, W TO MODY SRTD, CALC CMT, TRC FREE PYR, 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, NO RNG

Parkman (3700' MD - 3800' MD)

MD 3823 TVD 3807.92
INC 9.44 AZ 176.8
VS 21.79

MD 3918 TVD 3901.58
INC 9.82 AZ 177.36
VS 22.34

MD 4013 TVD 3995.38
INC 8.43 AZ 184.78
VS 23.84

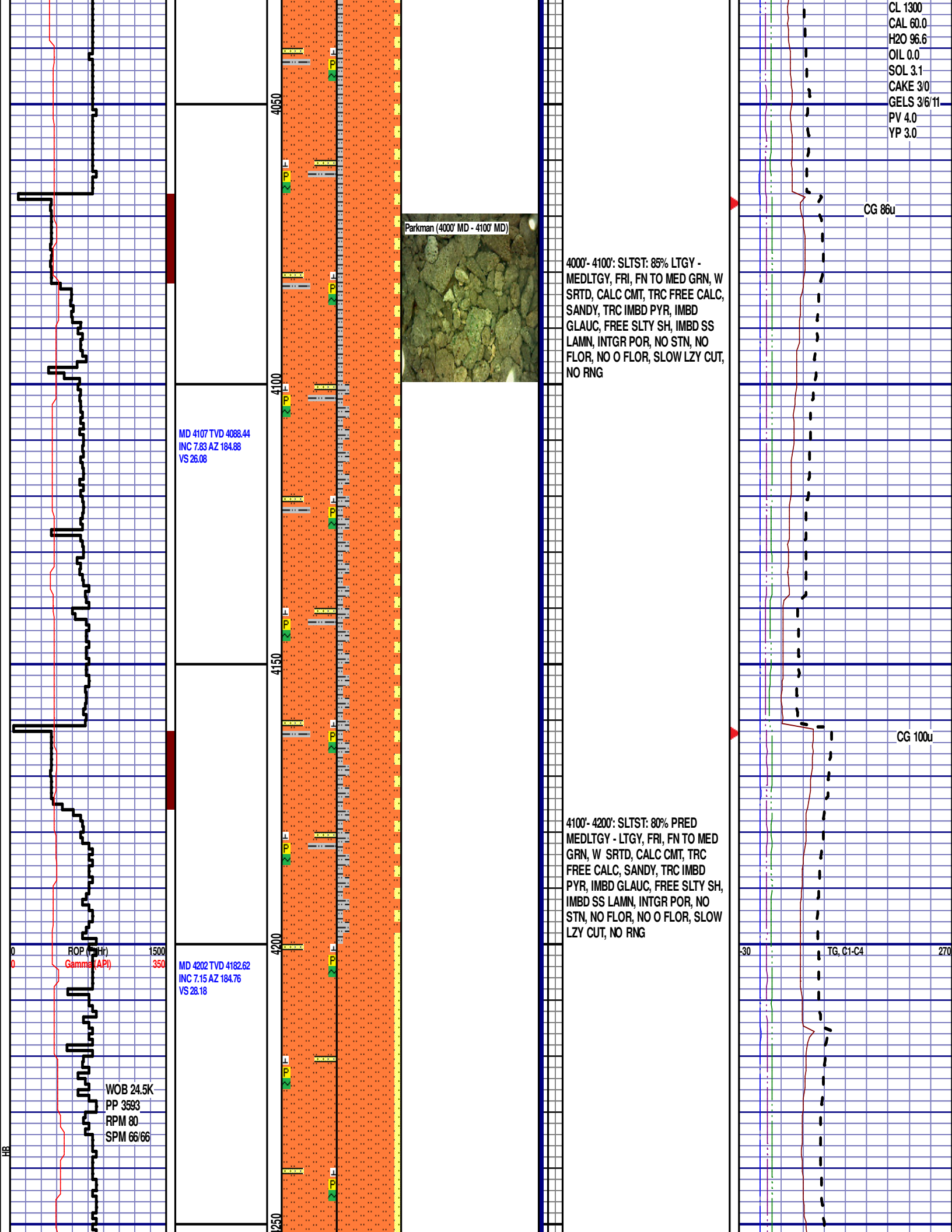
3800'- 3900': SS: 95%: PRED LTGY -
WHT - OPQ, MOD CONS, FN TO
MED GRN, SUBANG, W TO MODY
SRTD, CALC CMT, TRC FREE PYR,
TRC FREE CALC, SILTY, OCC IMBD
PYR, TRC IMBD GLAUC, TRC FREE
SLTY SH, INTGR POR, NO STN, NO
FLOR, NO O FLOR, NO CUT, NO
RNG

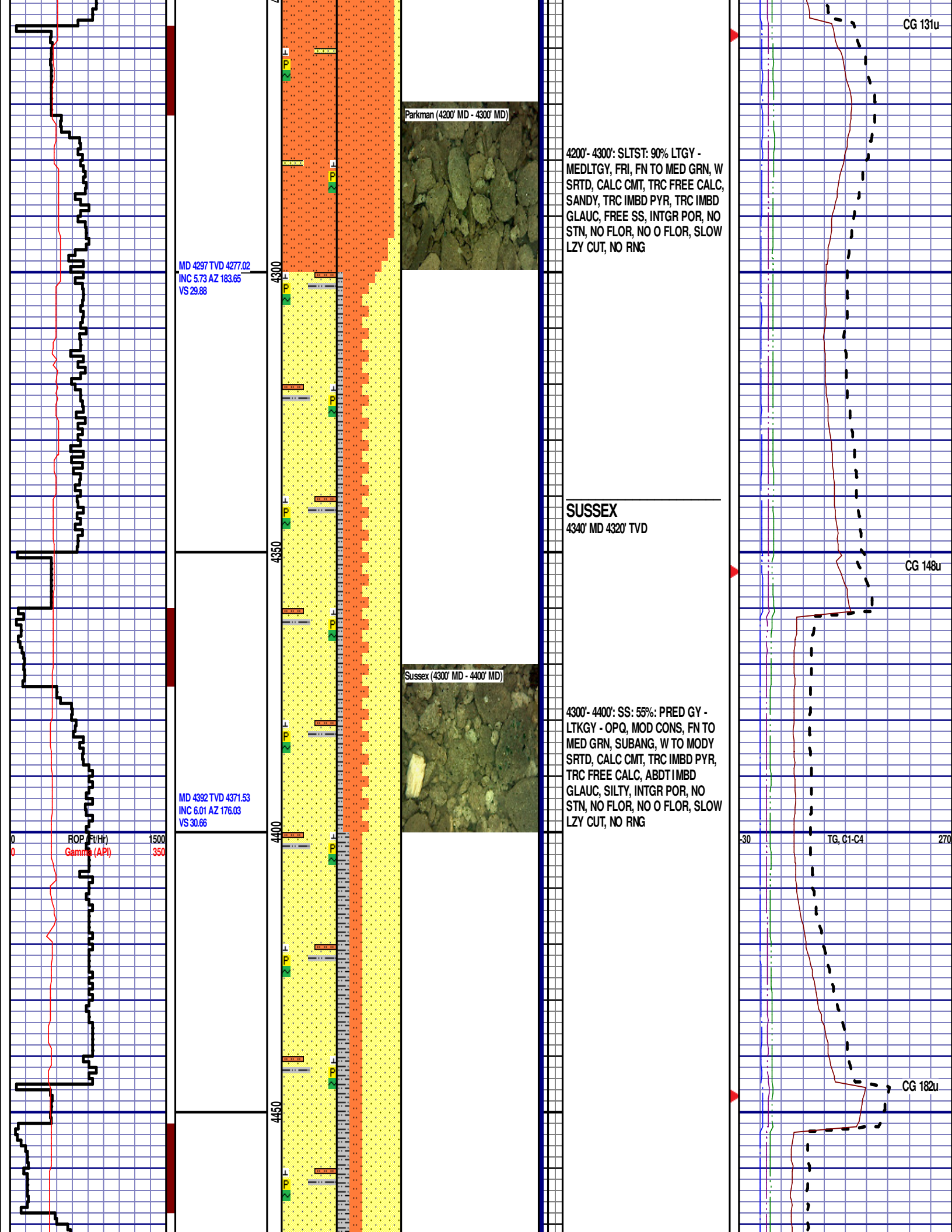
3900'- 4000': SLTST: 75% LTGY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, TRC FREE CALC,
SANDY, TRC IMBD PYR, IMBD
GLAUC, FREE SLTY SH, IMBD SS
LAMN, INTGR POR, NO STN, NO
FLOR, NO O FLOR, SLOW LZ CUT,
NO RNG

CG 105u

CG 76u

MD 4017
WT 8.8
VIS 35.0
PH 10.6
FIL 30.4





MD 4297 TVD 4277.02
INC 5.73 AZ 183.65
VS 29.88

MD 4392 TVD 4371.53
INC 6.01 AZ 176.03
VS 30.66

Parkman (4200' MD - 4300' MD)

Sussex (4300' MD - 4400' MD)

4200'- 4300': SLTST: 90% LTGY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, TRC FREE CALC,
SANDY, TRC IMBD PYR, TRC IMBD
GLAUC, FREE SS, INTGR POR, NO
STN, NO FLOR, NO O FLOR, SLOW
LZY CUT, NO RNG

SUSSEX
4340' MD 4320' TVD

4300'- 4400': SS: 55%: PRED GY -
LTKGY - OPQ, MOD CONS, FN TO
MED GRN, SUBANG, W TO MODY
SRTD, CALC CMT, TRC IMBD PYR,
TRC FREE CALC, ABDT IMBD
GLAUC, SILTY, INTGR POR, NO
STN, NO FLOR, NO O FLOR, SLOW
LZY CUT, NO RNG

CG 131u

CG 148u

CG 182u

30 TG, C1-C4 270

MD 4487 TVD 4465.86
INC 7.61 AZ 169.8
VS 30.16

MD 4582 TVD 4559.96
INC 8.14 AZ 177.07
VS 29.82

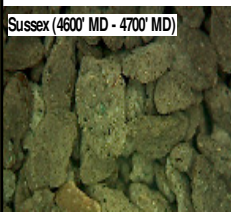
MD 4677 TVD 4654.11
INC 7.17 AZ 176.79
VS 30.23

4400'- 4500': SS: 60%: PRED GY -
LTKGY - OPQ, MOD CONS, FN TO
MED GRN, SUBANG, W TO MODY
SRTD, CALC CMT, TRC IMBD PYR,
TRC FREE CALC, TRC IMBD
GLAUC, SILTY, INTGR POR, NO
STN, NO FLOR, NO O FLOR, SLOW
LZY CUT, NO RNG

4500'- 4600': SILTY SH: 60%: LTGY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, TRC FREE CALC,
IMBD PYR, TRC IMBD GLAUC,
SILTY, TRC FREE SS, INTGR POR,
NO STN, NO FLOR, NO O FLOR,
SLOW LZY CUT, NO RNG

4600'- 4700': SLTST: 75% LTGY -
MEDLTGY, FRI, FN TO MED GRN, W
SRTD, CALC CMT, TRC FREE CALC,
SANDY, TRC IMBD PYR, FREE SLTY
CH, FREE SS, INTGR POR, NO STN

Sussex (4600' MD - 4700' MD)



CG 107u

TG, C1-C4

CG 152u

