7136 South Yale Avenue, Suite 414
Tulsa, Oklahoma 74136-6378
phone 918.925.9739
fax 866.534.4559
WWW.HZMUD.COM/25

Customer Information

Operator: Noble Energy Inc
1625 Broadway
Suite 2200
Denver, Colorado 80202

Geologist: Renee Clackler
Noble Energy Inc.

Mud Logging Details

Logger: Daniel King &
Kaitlyn Bertram

Log Interval: 6800' MD to 14398' MD
Start Date: November 1, 2014
Release Date: November 6, 2014

Well Information

Well Name: Oscar Y10-73-1HN HZ

Location: 10,3-2N-64W
2380' FSL, 860' FEL

County: Weld
State: Colorado

Drilling Rig: H&P 277
Total Depth: 14398' MD
TD Date: November 5, 2014
Formation: Niobrara C Chalk
KB Elevation: 4952'
GR Elevation: 4928'
API Number: 05-123-37945-0000

Logger On Shift

DK

Total Gas, C1-C4

TG (Units)

C1 (units)

C2 (units)

C3 (units)

C4

8100

GAS SCALE: -900u TO 8100u
(900 UNITS/DIVISION)

DRILLING ON OIL BASED MUD

TG, C1-C4

CONNECTIONS MARKED WITH RED TRIANGLES

-900

8100

CG 1082u

TG, C1-C4

-900

Connections

Cut

Weak
Strong

Slide/Rotate

ROP and Gamma

ROP (Ft/Hr)

Gamma (API)

900
350

SLIDE=RED
ROTATE=WHITE

ROP SCALE: 0 TO 900

GAMMA SCALE: 0 TO 350

ROP (Ft/Hr)
Gamma (API)

(GAMMA DATA AS RECEIVED)

0
0

900
350

WOB 0.8K
PP 3541
RPM 0
SPM 64/63

ROP (Ft/Hr)
Gamma (API)

0
0

Depth

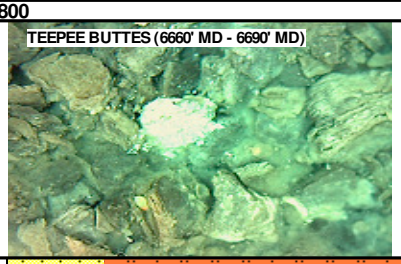
50

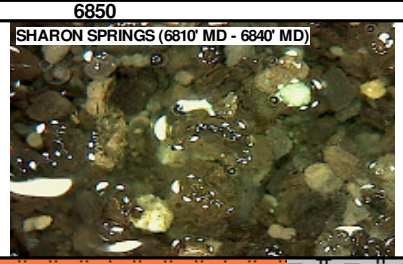
6800

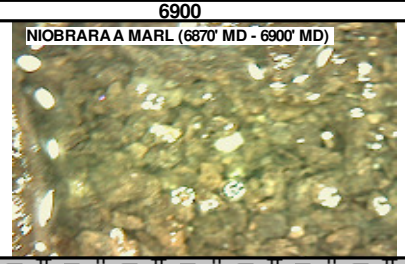
6850

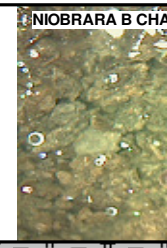
6900

Photographs









Lithology %

Well Bore Cross Section

6650 TVD

NOBLE ENERGY INC
OSCAR Y10-73-1HN HZ
10,3-2N-64W
2380' FSL, 860' FEL
WELD CO., CO

H&P 277

6850

LOGGERS:
DANIEL KING
KAITLYN BERTRAM

COMMENCED LOGGING @ 6800' MD ON 11/1/2014 @ 10:15 AM W/BIT #2, 8.75'', SMITH SDi519, (S/N) JJ7380 IN @ 1348' MD

7050

6650 TVD

TEEPEE BUTTES
6088' MD 6058' TVD

SHARON SPRINGS
6823' MD 6729' TVD

NIOBRARA A MARL
6884' MD 6769' TVD

P B

6850

6810'-6840': SLTST: 90% MEDLTGY - DRKGY, FRI, FN TO MED GRN, W SRTD, CALC CMT, FREE CALC, IMBD PYR, FREE SH, FREE BENT, INTGR POR, NO STN, NO MIN FLOR, NO O FLOR, SLOW LZY CUT, NO RNG

6840'-6870': SLTST: 90% MEDLTGY - DRKGY, FRI, FN TO MED GRN, W SRTD, CALC CMT, FREE CALC, IMBD PYR, FREE SH, FREE BENT, INTGR POR, NO STN, NO MIN FLOR, NO O FLOR, SLOW LZY CUT, NO RNG

6870'-6900': MRL: 70% (CaCO3 45%) MEDDRKGY - GYSHBLK, SOFT TO BRITTLE, FREE CALC, SCAT PYRC LAMN, IMBD CALC, FREE BENT, 30% FREE CHK, PRED LTGY- SCAT MEDGY, 15% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

6900'-6930': MRL: 70% (CaCO3 45%) MEDDRKGY - GYSHBLK, SOFT TO BRITTLE, FREE CALC, SCAT PYRC LAMN, IMBD CALC, FREE BENT, 30% FREE CHK, PRED LTGY- SCAT MEDGY, 15% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

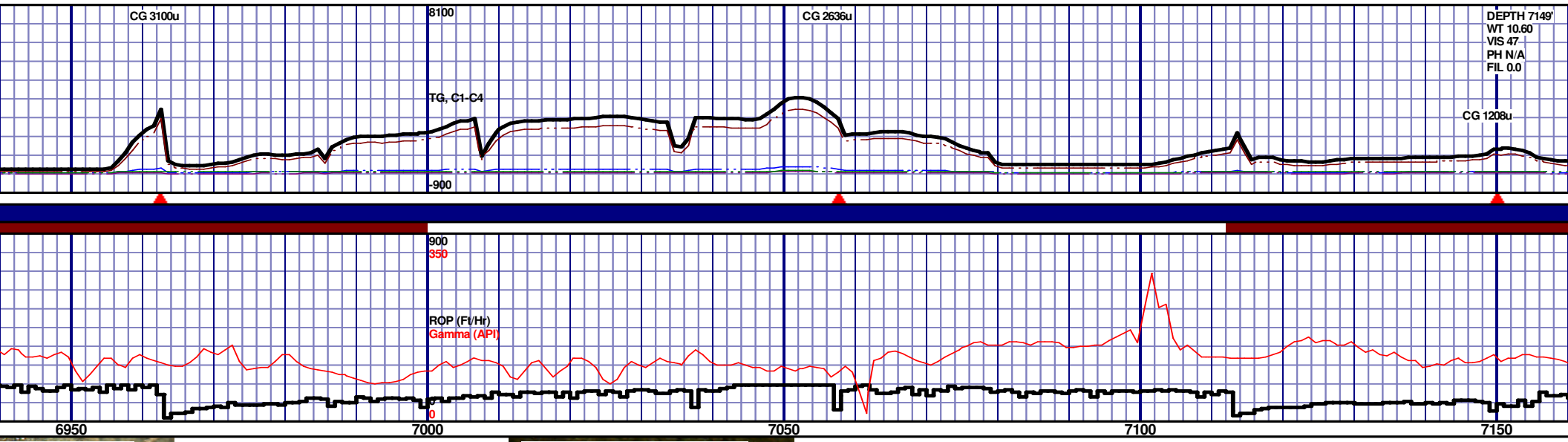
6930'-6960': LTGY- MED FXLN TO CH CALC, SCAT 40% FREE M STN, 5% MIN STRM CUT,

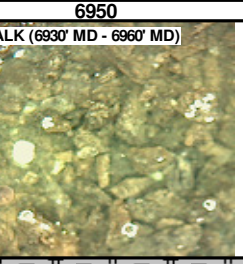
7050

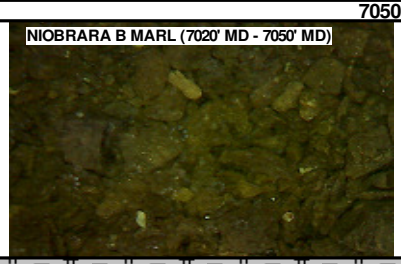
Survey Data

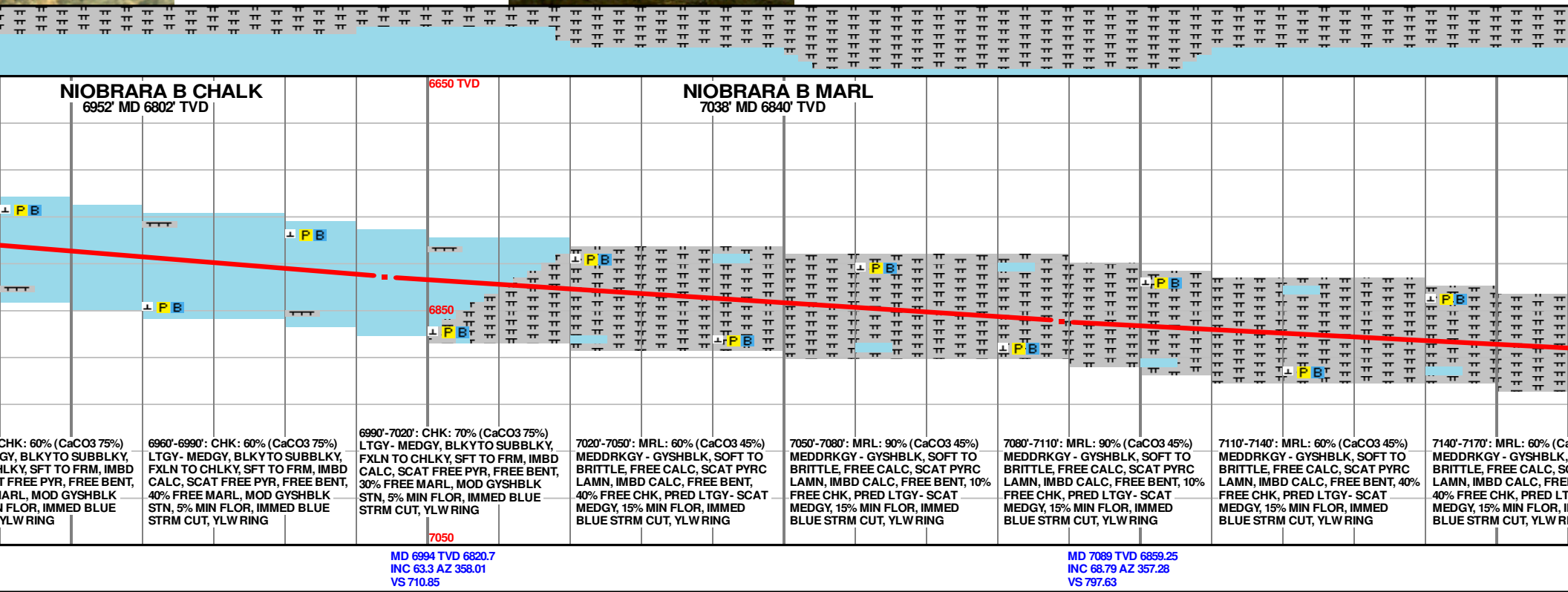
MD 6805 TVD 6717.72
INC 49.43 AZ 356.14
VS 552.94

MD 6899 TVD 6773.71
INC 57.39 AZ 358.86
VS 628.33


CG 3100u
8100
CG 2636u
DEPTH 7149'
WT 10.60
VIS 47
PH N/A
FIL 0.0
TG, C1-C4
CG 1208u
-900
900
350
ROP (Ft/Hr)
Gamma (API)
0
6950
7000
7050
7100
7150


ALK (6930' MD - 6960' MD)


NIOBRARA B MARL (7020' MD - 7050' MD)


NIOBRARA B CHALK
6952' MD 6802' TVD
6650 TVD
NIOBRARA B MARL
7038' MD 6840' TVD
6850
7050
CHK: 60% (CaCO3 75%)
GY, BLKYTO SUBBLKY,
HLKY, SFT TO FRM, IMBD
T FREE PYR, FREE BENT,
IARL, MOD GYSHBLK
N FLOR, IMMED BLUE
YLW RING
6960'-6990': CHK: 60% (CaCO3 75%)
LTGY- MEDGY, BLKYTO SUBBLKY,
FXLN TO CHLKY, SFT TO FRM, IMBD
CALC, SCAT FREE PYR, FREE BENT,
40% FREE MARL, MOD GYSHBLK
STN, 5% MIN FLOR, IMMED BLUE
STRM CUT, YLW RING
6990'-7020': CHK: 70% (CaCO3 75%)
LTGY- MEDGY, BLKYTO SUBBLKY,
FXLN TO CHLKY, SFT TO FRM, IMBD
CALC, SCAT FREE PYR, FREE BENT,
30% FREE MARL, MOD GYSHBLK
STN, 5% MIN FLOR, IMMED BLUE
STRM CUT, YLW RING
7020'-7050': MRL: 60% (CaCO3 45%)
MEDDRKGY - GYSHBLK, SOFT TO
BRITTLE, FREE CALC, SCAT PYRC
LAMN, IMBD CALC, FREE BENT,
40% FREE CHK, PRED LTGY- SCAT
MEDGY, 15% MIN FLOR, IMMED
BLUE STRM CUT, YLW RING
7050'-7080': MRL: 90% (CaCO3 45%)
MEDDRKGY - GYSHBLK, SOFT TO
BRITTLE, FREE CALC, SCAT PYRC
LAMN, IMBD CALC, FREE BENT, 10%
FREE CHK, PRED LTGY- SCAT
MEDGY, 15% MIN FLOR, IMMED
BLUE STRM CUT, YLW RING
7080'-7110': MRL: 90% (CaCO3 45%)
MEDDRKGY - GYSHBLK, SOFT TO
BRITTLE, FREE CALC, SCAT PYRC
LAMN, IMBD CALC, FREE BENT, 10%
FREE CHK, PRED LTGY- SCAT
MEDGY, 15% MIN FLOR, IMMED
BLUE STRM CUT, YLW RING
7110'-7140': MRL: 60% (CaCO3 45%)
MEDDRKGY - GYSHBLK, SOFT TO
BRITTLE, FREE CALC, SCAT PYRC
LAMN, IMBD CALC, FREE BENT, 40%
FREE CHK, PRED LTGY- SCAT
MEDGY, 15% MIN FLOR, IMMED
BLUE STRM CUT, YLW RING
7140'-7170': MRL: 60% (Ca
MEDDRKGY - GYSHBLK,
BRITTLE, FREE CALC, SC
LAMN, IMBD CALC, FRE
40% FREE CHK, PRED LT
MEDGY, 15% MIN FLOR, I
BLUE STRM CUT, YLW R
MD 6994 TVD 6820.7
INC 63.3 AZ 358.01
VS 710.85
MD 7089 TVD 6859.25
INC 68.79 AZ 357.28
VS 797.63

DK

CL 52000
CAL 18400
H2O 34.1
OIL 65.9
LGS 111.89

GELS 3/5/6
PV 16
YP 8
CK 0
SOL 15.5

8100

CG 2035u

DEPTH 7305'
WT 9.05
VIS 55
PH N/A
FIL 0.0

CL 40000
CAL 13000
H2O 31.8
OIL 58.4
LGS 67.17

GELS 2/3/4
PV 11
YP 4
CK 0
SOL 7.9

TG, C1-C4

(NEW PIPE TALLY)

TG 321u

-900

900
350

WOB 2.2K
PP 3485
RPM 0
SPM 59/59

12:01 AM
11/2-3/2014
1290 FT/48HRS
DAY 05-06

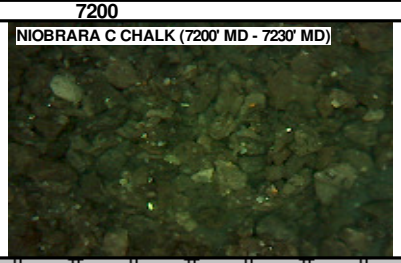
WOB 12.3K
PP 3011
RPM 77
SPM 70/0

ROP (Ft/Hr)
Gamma (API)

0
0

7200 7250 7300 7350

NIOBRARA C CHALK (7200' MD - 7230' MD)



6650 TVD

NIOBRARA C CHALK
7212' MD 6897' TVD

TOOH @ 4:00 PM ON 11/1/14 @ 7305' MD FOR INTERMEDIATE CASING. TIH @ 2:30 AM ON 11/3/2014. RESUMED DRILLING @ 8:45 AM ON 11/3/2014 W/ BIT #3, 6.125", SMITH MDi513, (S/N) JJ7549 , IN @ 7305' MD.

(SWITCHING TO 50' SAMPLE INTERVAL)

6850

7050

aCO3 45%) SOFT TO CAT PYRC E BENT, GY- SCAT MMED NG

7170'-7200': MRL: 80% (CaCO3 45%) MEDDRKGY - GYSHBLK, SOFT TO BRITTLE, FREE CALC, SCAT PYRC LAMN, IMBD CALC, FREE BENT, 20% FREE CHK, PRED LTGY- SCAT MEDGY, 15% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

7200'-7230': CHK: 60% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 40% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

7230'-7260': CHK: 60% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 40% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

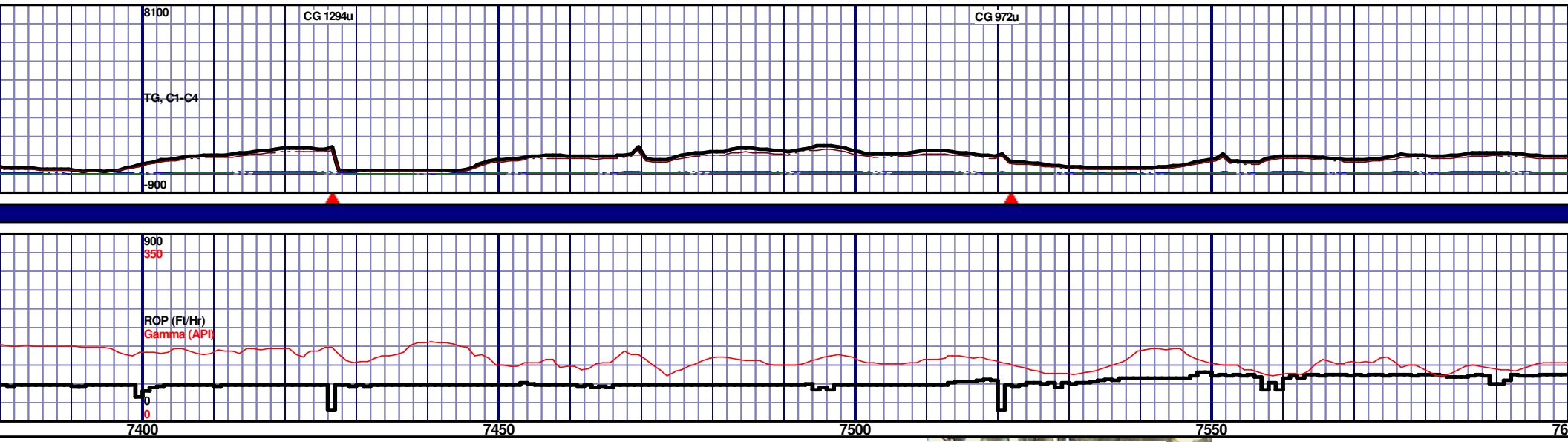
7260'-7305': CHK: 60% (CaCO3 75%) LTGY- MEDGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 40% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

7305'-7350': CHK: 60% (CaCO3 75%) LTGY- MEDGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

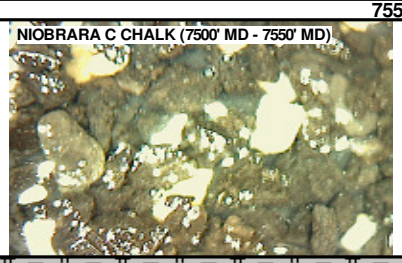
7350'-7400': CHK: 60% (CaCO3 75%) LTG SUBBLKY, FXLN TO CHLKY, SFT TO FR FREE PYR, 40% FREE MARL, MOD GYS FLOR, IMMED BLUE STRM CUT, YLW R

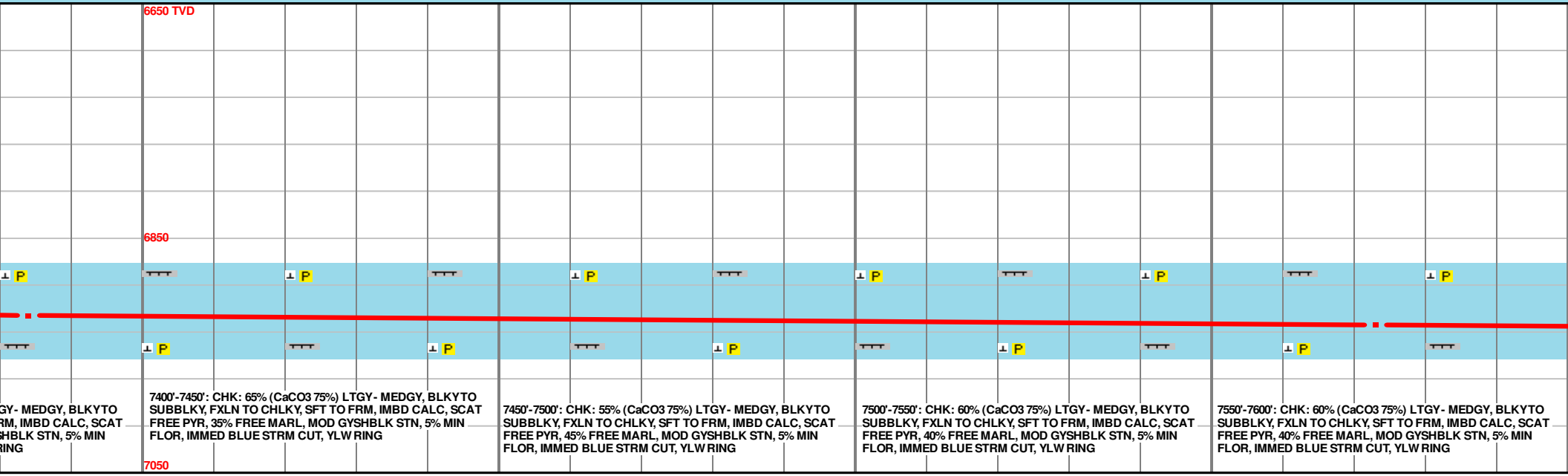
MD 7184 TVD 6889.72
INC 73.79 AZ 358.09
VS 887.57

MD 7243 TVD 6902.34
INC 81.48 AZ 1.11
VS 945.14



7400 7450 7500 7550 76





GY- MEDGY, BLKYTO RM, IMBD CALC, SCAT SHBLK STN, 5% MIN RING

7400'-7450': CHK: 65% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 35% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

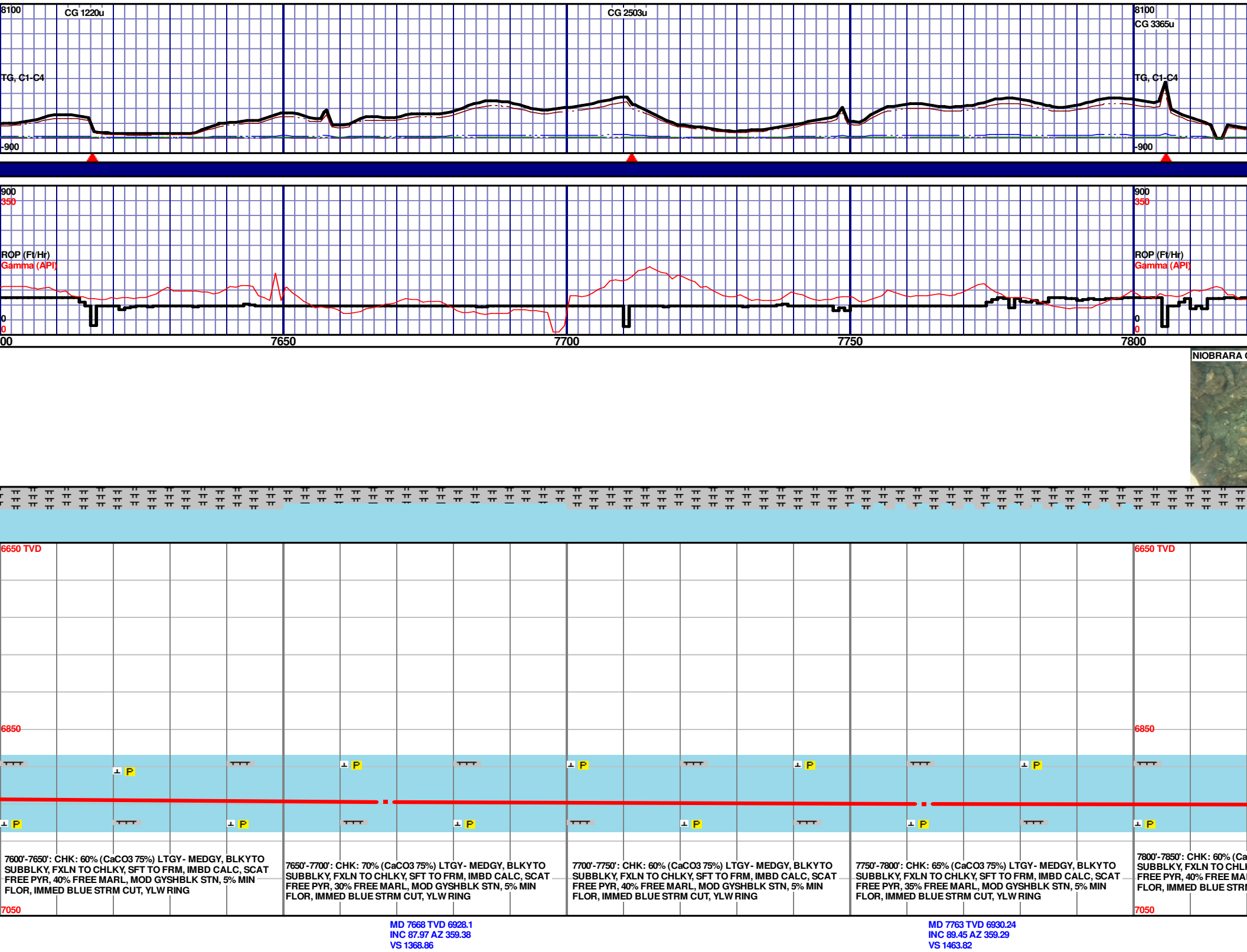
7450'-7500': CHK: 55% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 45% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

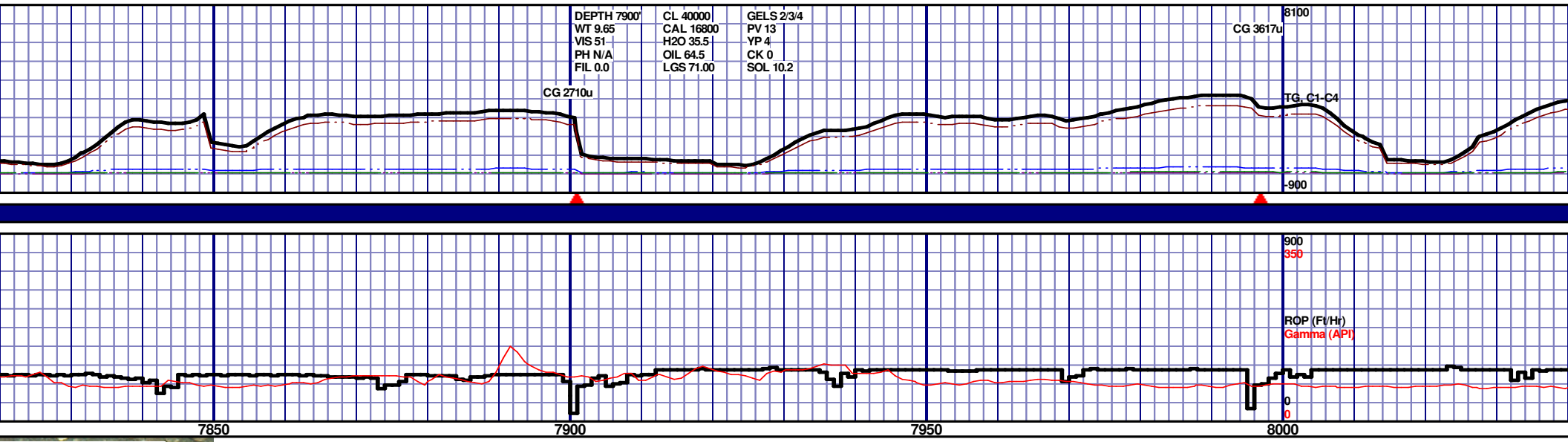
7500'-7550': CHK: 60% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

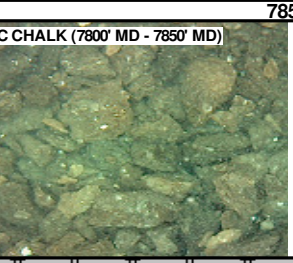
7550'-7600': CHK: 60% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

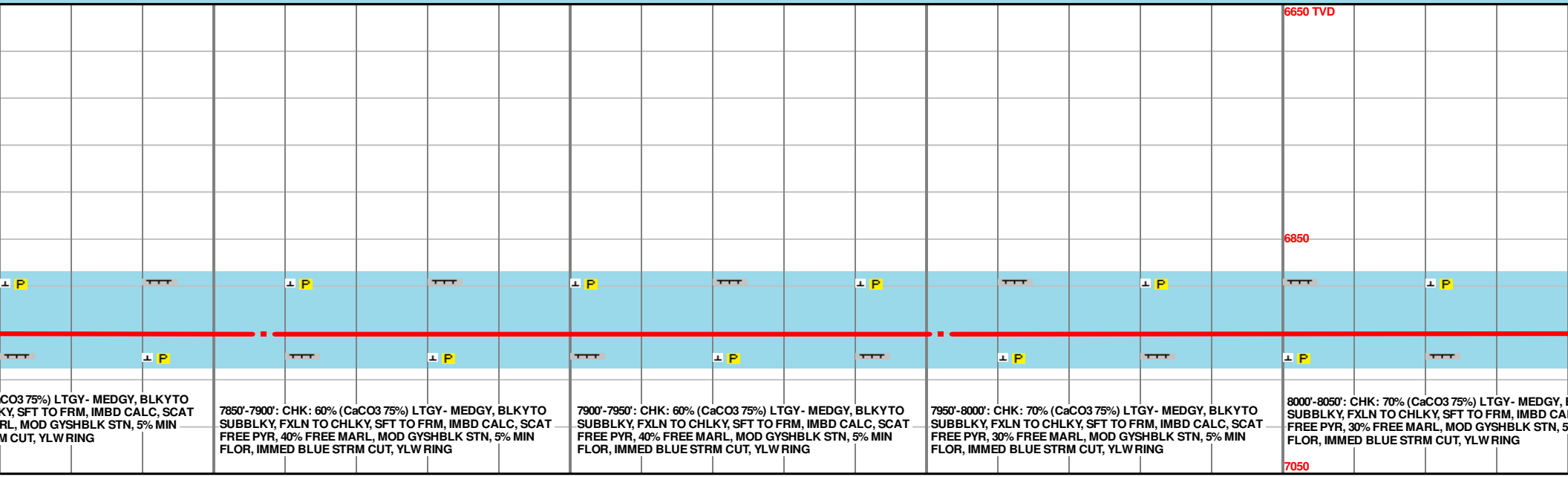
MD 7384 TVD 6915.89
INC 87.49 AZ 0.53
VS 1085.28

MD 7573 TVD 6924.28
INC 87.42 AZ 0.21
VS 1273.97


8100
CG 1220u
TG, C1-C4
-900
CG 2503u
8100
CG 3365u
TG, C1-C4
-900
900
350
ROP (Ft/Hr)
Gamma (API)
0
0
00
7650
7700
7750
7800
NIOBRARA
6650 TVD
6850
7050
7600'-7650': CHK: 60% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
7650'-7700': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
7700'-7750': CHK: 60% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
7750'-7800': CHK: 65% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 35% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
7800'-7850': CHK: 60% (Ca
SUBBLKY, FXLN TO CHLI
FREE PYR, 40% FREE MA
FLOR, IMMED BLUE STRI
MD 7668 TVD 6928.1
INC 87.97 AZ 359.38
VS 1368.86
MD 7763 TVD 6930.24
INC 89.45 AZ 359.29
VS 1463.82







CO3 75%) LTGY- MEDGY, BLKYTO
KY, SFT TO FRM, IMBD CALC, SCAT
RL, MOD GYSHBLK STN, 5% MIN
M CUT, YLW RING

7850'-7900': CHK: 60% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

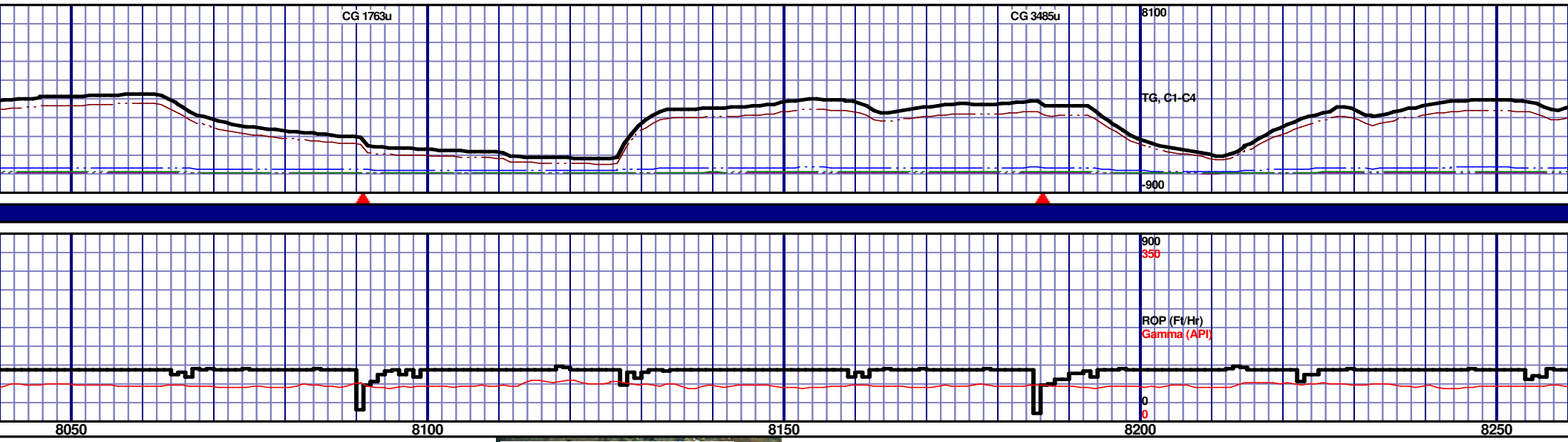
7900'-7950': CHK: 60% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

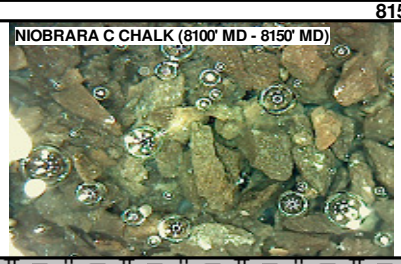
7950'-8000': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

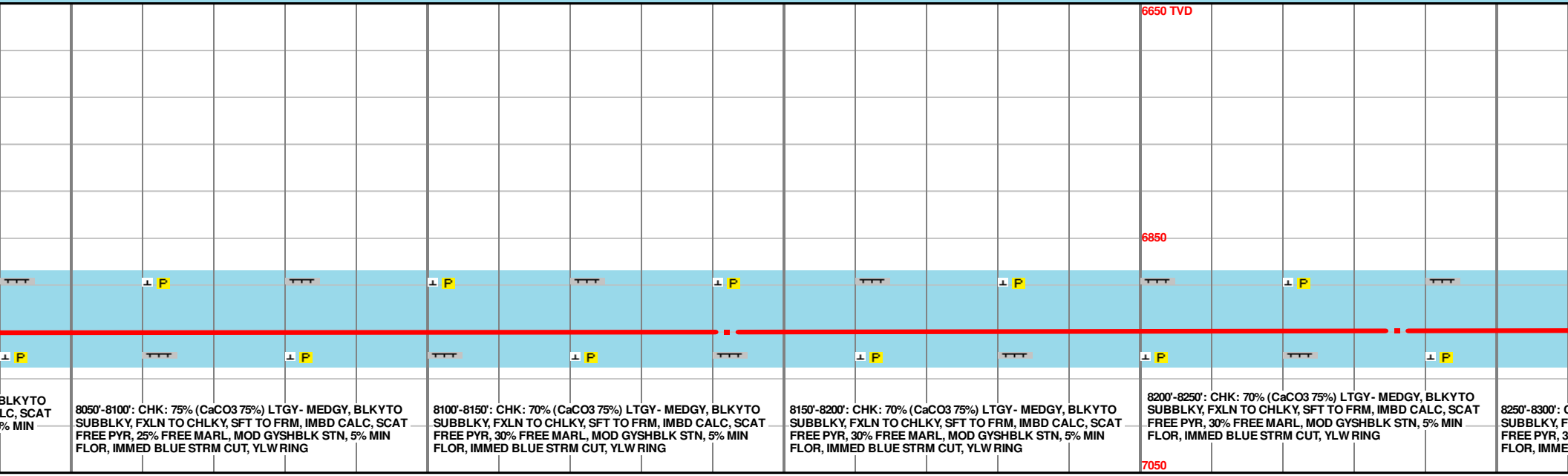
8000'-8050': CHK: 70% (CaCO3 75%) LTGY- MEDGY, B
SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CA
FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5
FLOR, IMMED BLUE STRM CUT, YLW RING

MD 7857 TVD 6930.81
INC 89.86 AZ 358.64
VS 1557.81

MD 7952 TVD 6930.9
INC 90.03 AZ 358.89
VS 1652.8







BLKYTO
LC, SCAT
% MIN

8050'-8100': CHK: 75% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 25% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

8100'-8150': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

8150'-8200': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

8200'-8250': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

8250'-8300': C
SUBBLKY, F
FREE PYR, 3
FLOR, IMME

MD 8142 TVD 6929.7
INC 90.69 AZ 0.41
VS 1842.74

MD 8236 TVD 6928.66
INC 90.58 AZ 359.49
VS 1936.69

KB

CG 3407u

CG 3647u

CG 3635u

8100

TG, C1-C4

-900

WOB 23.7K
PP 3327
RPM 87
SPM 0/70

900
350

ROP (Ft/Hr)
Gamma (API)

0
0

8300

8350

8400

8450

NIOBRARA C CHALK (8400' MD - 8450' MD)

6650 TVD

6850

7050

CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO
XLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT
0% FREE MARL, MOD GYSHBLK STN, 5% MIN
D BLUE STRM CUT, YLW RING

8300'-8350': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

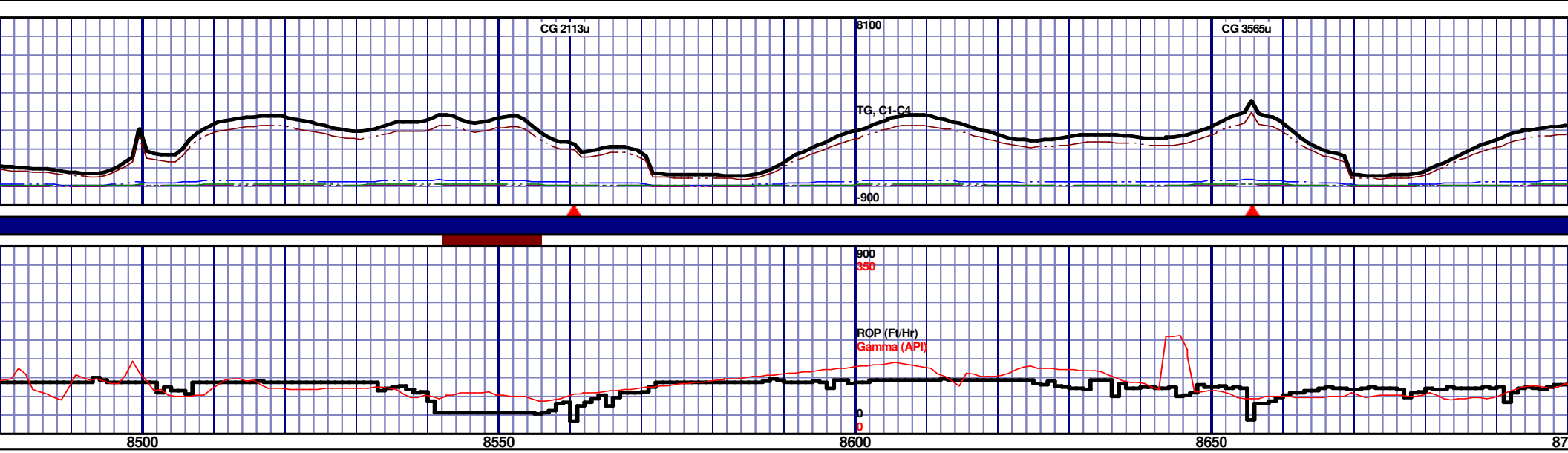
8350'-8400': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

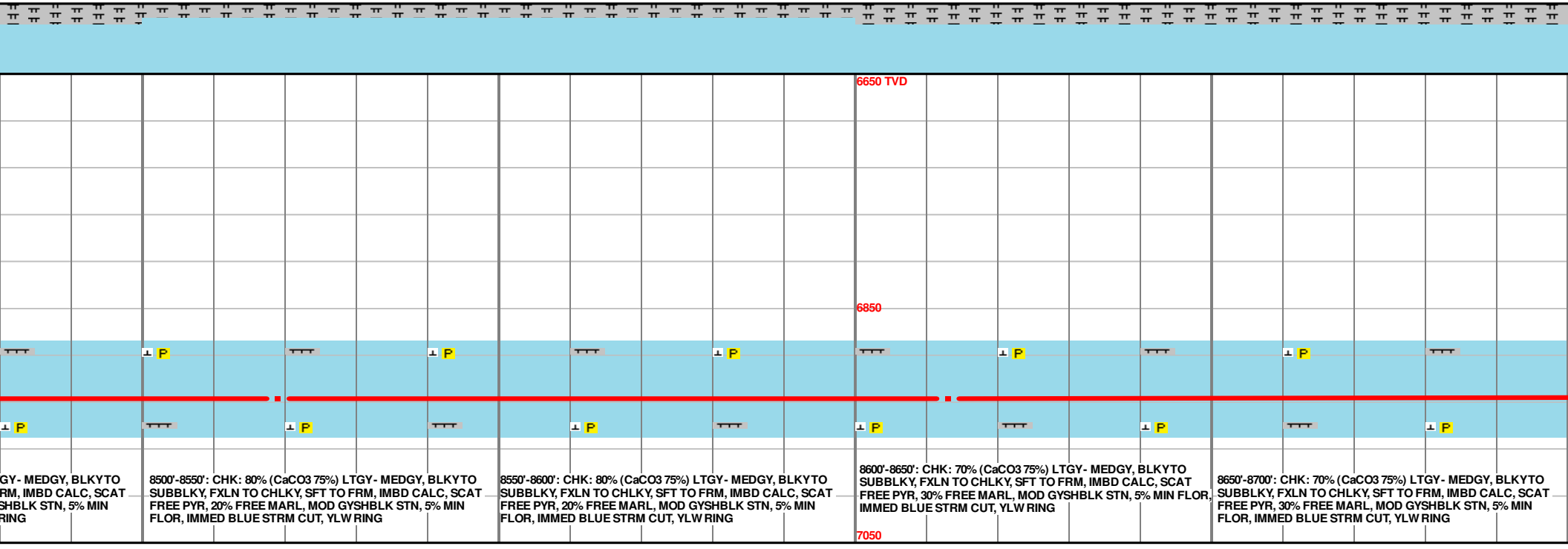
8400'-8450': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

8450'-8500': CHK: 70% (CaCO3 75%) LT
SUBBLKY, FXLN TO CHLKY, SFT TO F
FREE PYR, 30% FREE MARL, MOD GY
FLOR, IMMED BLUE STRM CUT, YLW

MD 8330 TVD 6927.51
INC 90.82 AZ 1.16
VS 2030.62

MD 8425 TVD 6926.95
INC 89.86 AZ 1.75
VS 2125.47





GY- MEDGY, BLKYTO RM, IMBD CALC, SCAT SHBLK STN, 5% MIN RING

8500'-8550': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

8550'-8600': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

8600'-8650': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

8650'-8700': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

MD 8519 TVD 6927.4
INC 89.59 AZ 359.19
VS 2219.39

MD 8613 TVD 6927.11
INC 90.76 AZ 359.24
VS 2313.38

CG 3147u

8100

CG 3536u

TG, C1-C4

900

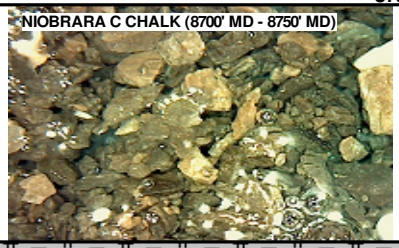
WOB 12.8K
PP 3306
RPM 87
SPM 0/70

900
350

ROP (Ft/Hr)
Gamma (API)

0
0

00 8750 8800 8850 8900



6650 TVD

6850

7050

8700'-8750': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

8750'-8800': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

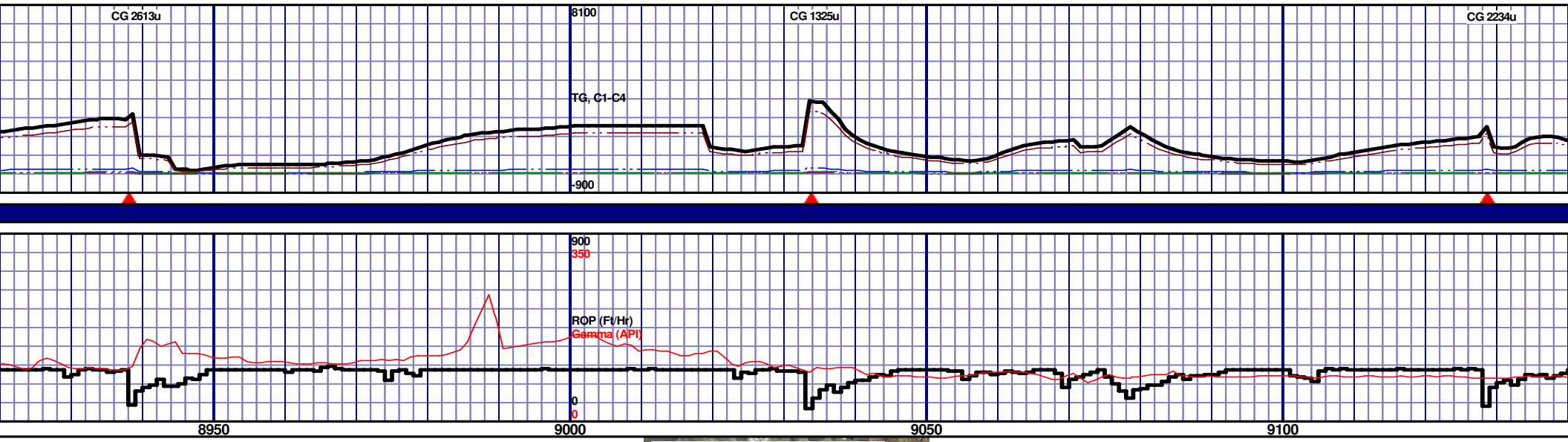
8800'-8850': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

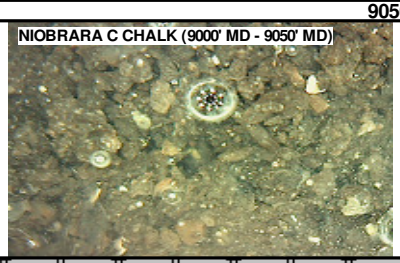
8850'-8900': CHK: 75% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 25% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

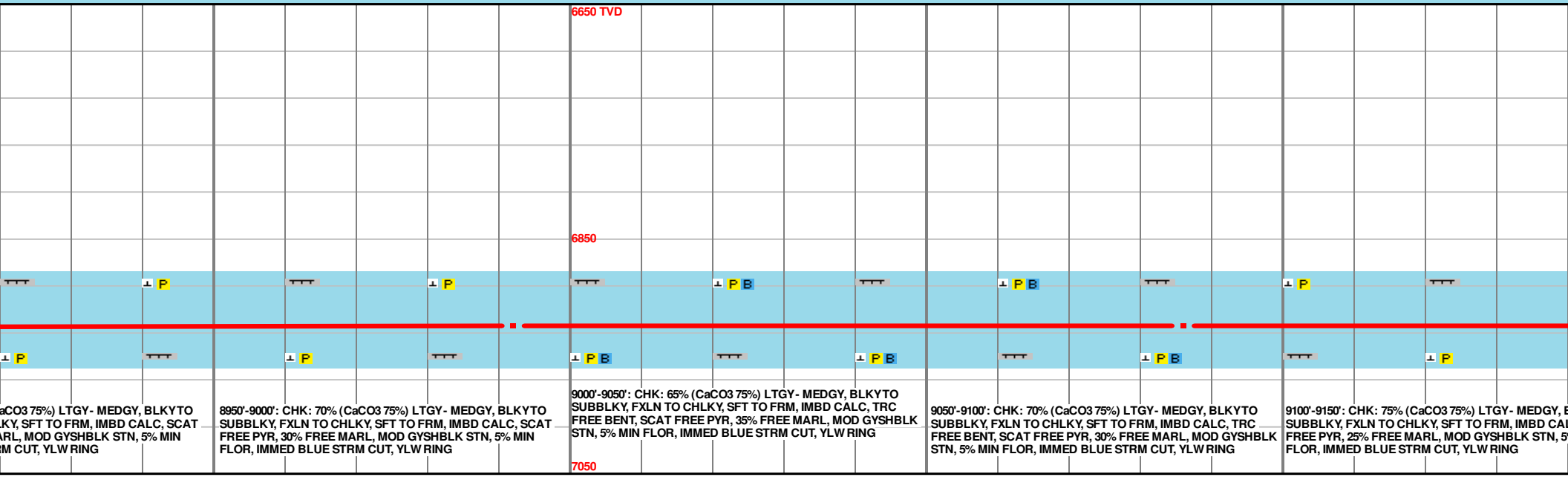
8900'-8950': CHK: 70% (CA SUBBLKY, FXLN TO CHL FREE PYR, 30% FREE MA FLOR, IMMED BLUE STR

MD 8707 TVD 6926.29
INC 90.24 AZ 357.45
VS 2407.37

MD 8802 TVD 6925.52
INC 90.69 AZ 0.81
VS 2502.34







aCO3 75%) LTGY- MEDGY, BLKYTO
KY, SFT TO FRM, IMBD CALC, SCAT
RL, MOD GYSHBLK STN, 5% MIN
M CUT, YLW RING

8950'-9000': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

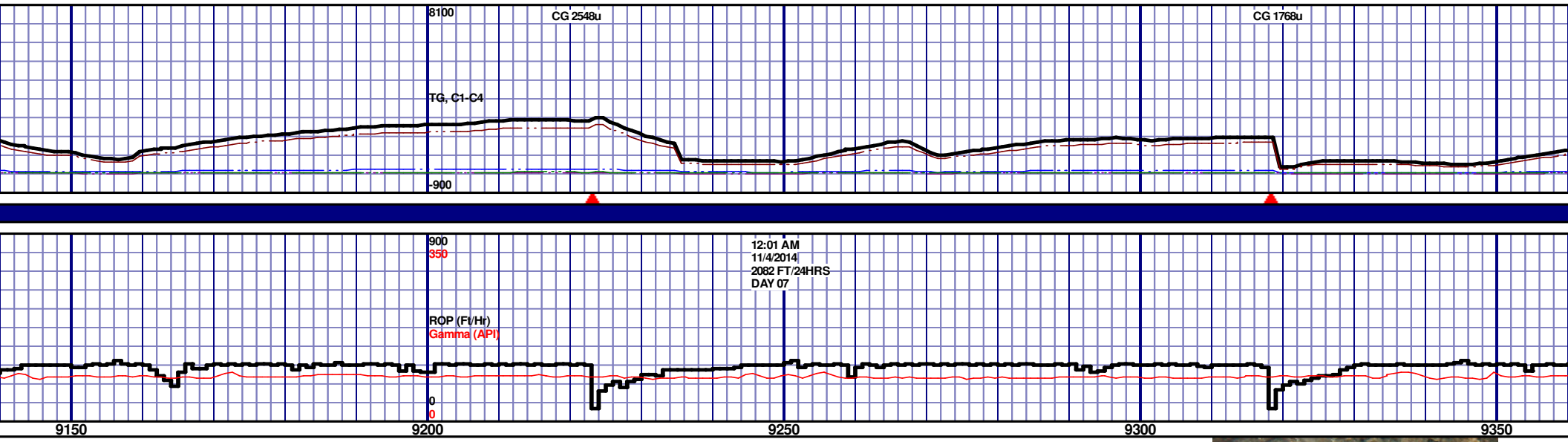
9000'-9050': CHK: 65% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 35% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

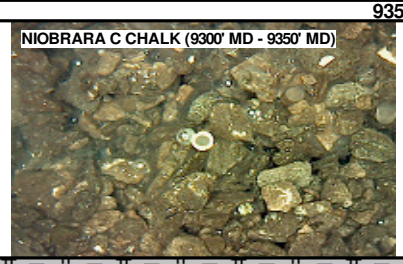
9050'-9100': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

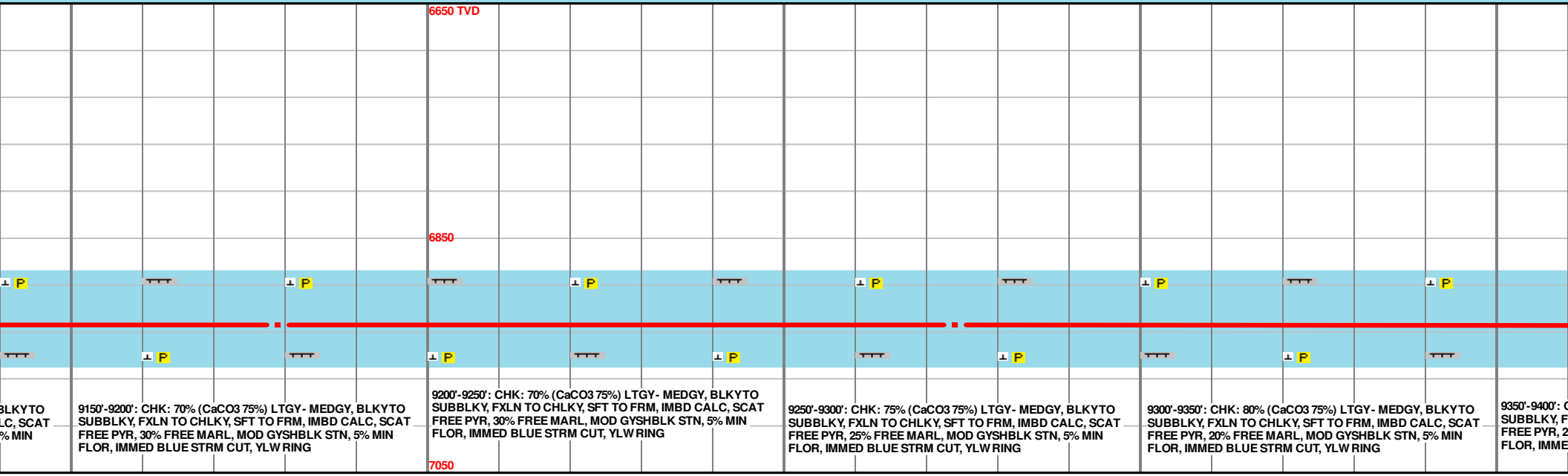
9100'-9150': CHK: 75% (CaCO3 75%) LTGY- MEDGY, B
SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CAL
FREE PYR, 25% FREE MARL, MOD GYSHBLK STN, 5
FLOR, IMMED BLUE STRM CUT, YLW RING

MD 8992 TVD 6924.03
INC 90.21 AZ 358
VS 2692.28

MD 9086 TVD 6924.11
INC 89.69 AZ 356.54
VS 2786.26







BLKYTO
LC, SCAT
% MIN

9150'-9200': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

9200'-9250': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

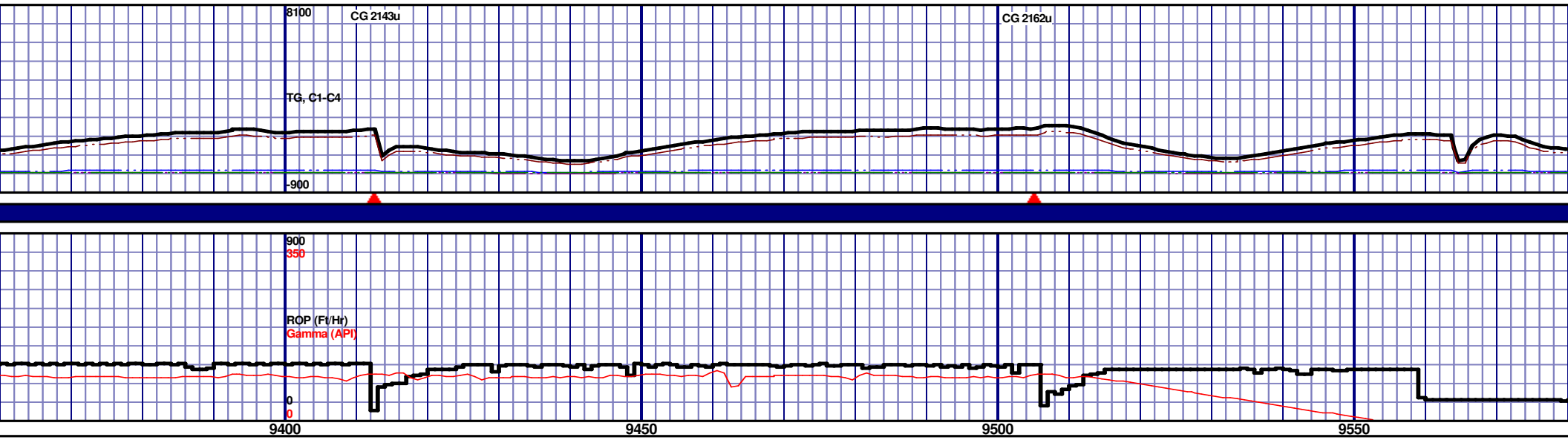
9250'-9300': CHK: 75% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 25% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

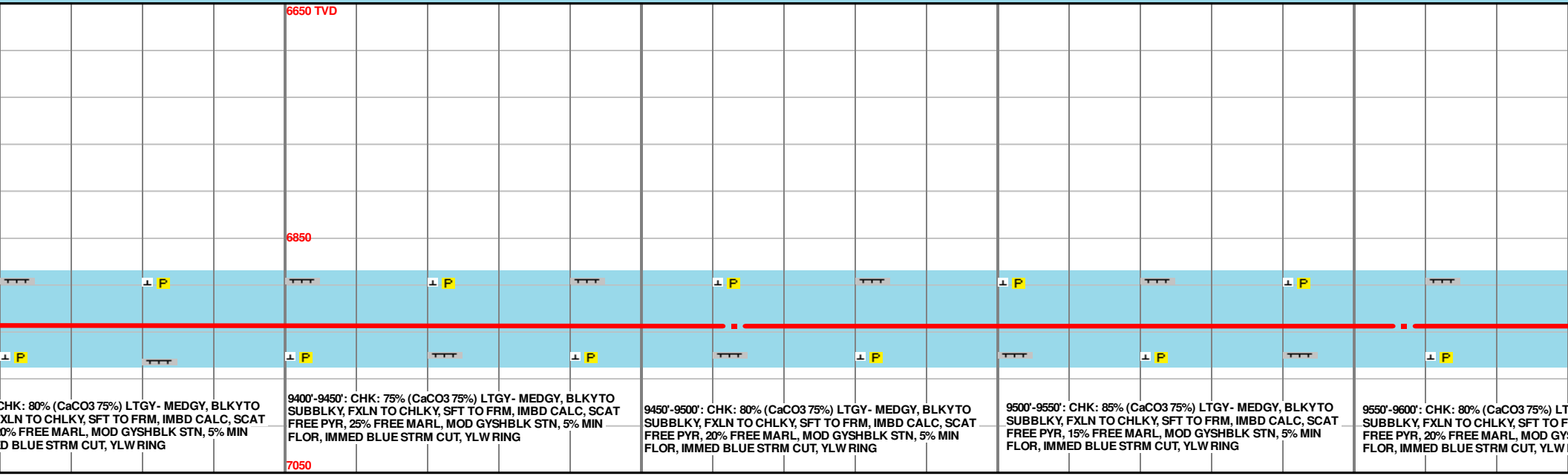
9300'-9350': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

9350'-9400': C
SUBBLKY, F
FREE PYR, 2
FLOR, IMME

MD 9179 TVD 6924
INC 90.45 AZ 359.24
VS 2879.25

MD 9274 TVD 6923.77
INC 89.83 AZ 358.65
VS 2974.24





CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO
XLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT
0% FREE MARL, MOD GYSHBLK STN, 5% MIN
D BLUE STRM CUT, YLW RING

9400'-9450': CHK: 75% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 25% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

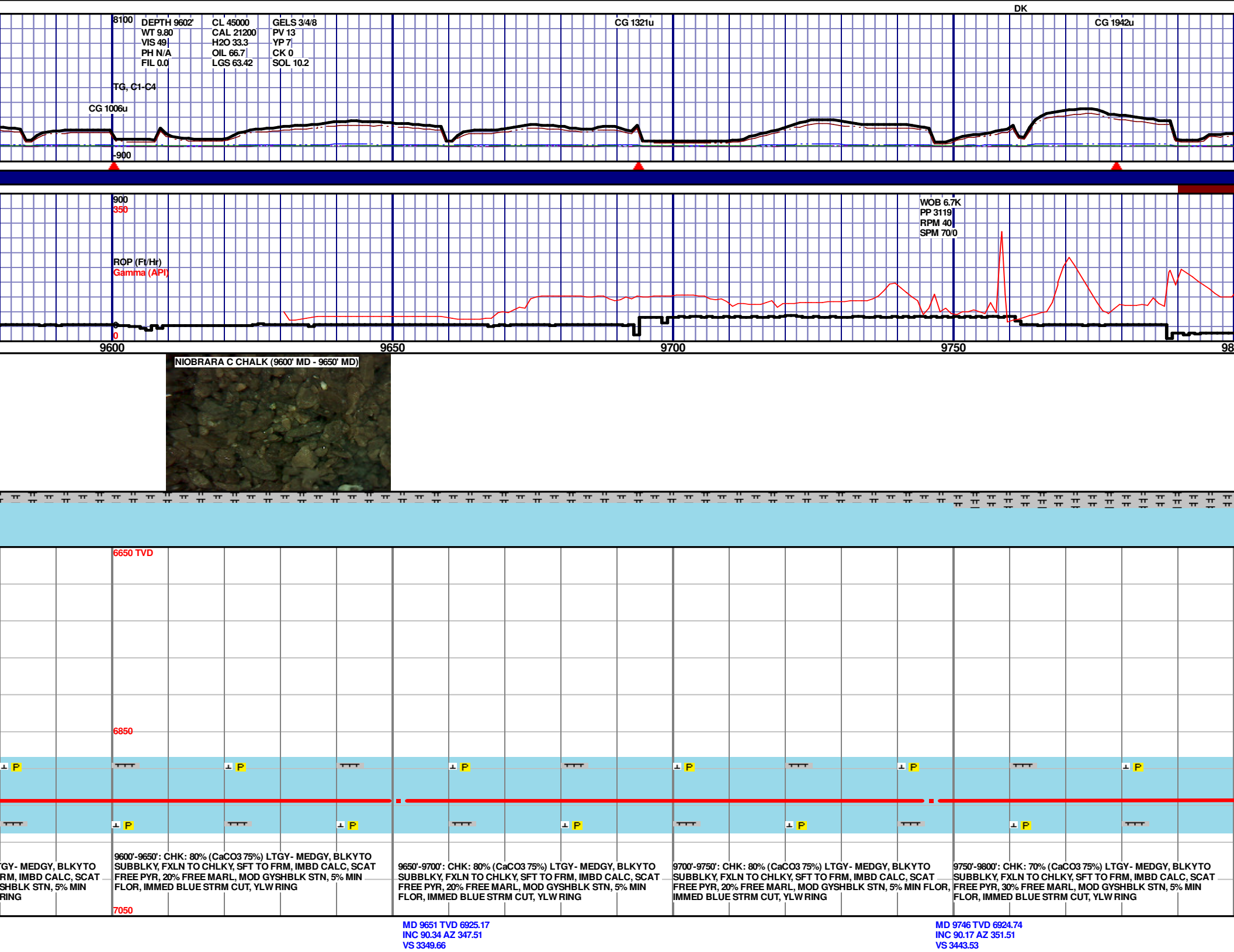
9450'-9500': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

9500'-9550': CHK: 85% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 15% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

9550'-9600': CHK: 80% (CaCO3 75%) LT
SUBBLKY, FXLN TO CHLKY, SFT TO F
FREE PYR, 20% FREE MARL, MOD GY
FLOR, IMMED BLUE STRM CUT, YLW

MD 9463 TVD 6924.61
INC 89.66 AZ 350.99
VS 3162.76

MD 9557 TVD 6925.17
INC 89.66 AZ 355.68
VS 3256.38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VIS 49
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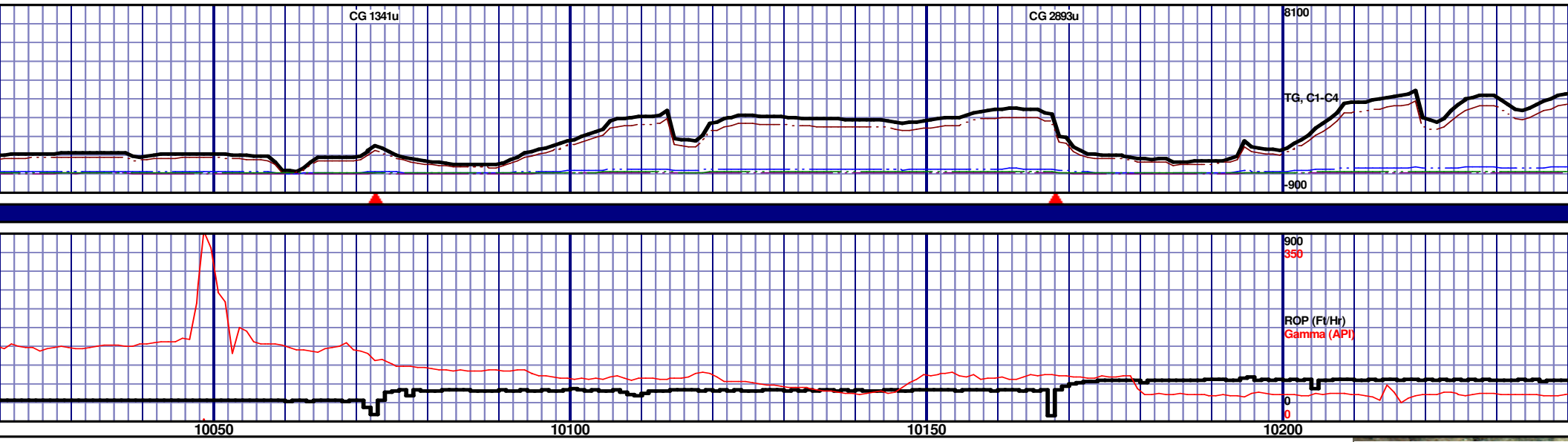
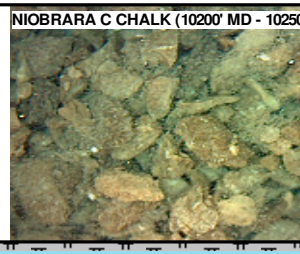
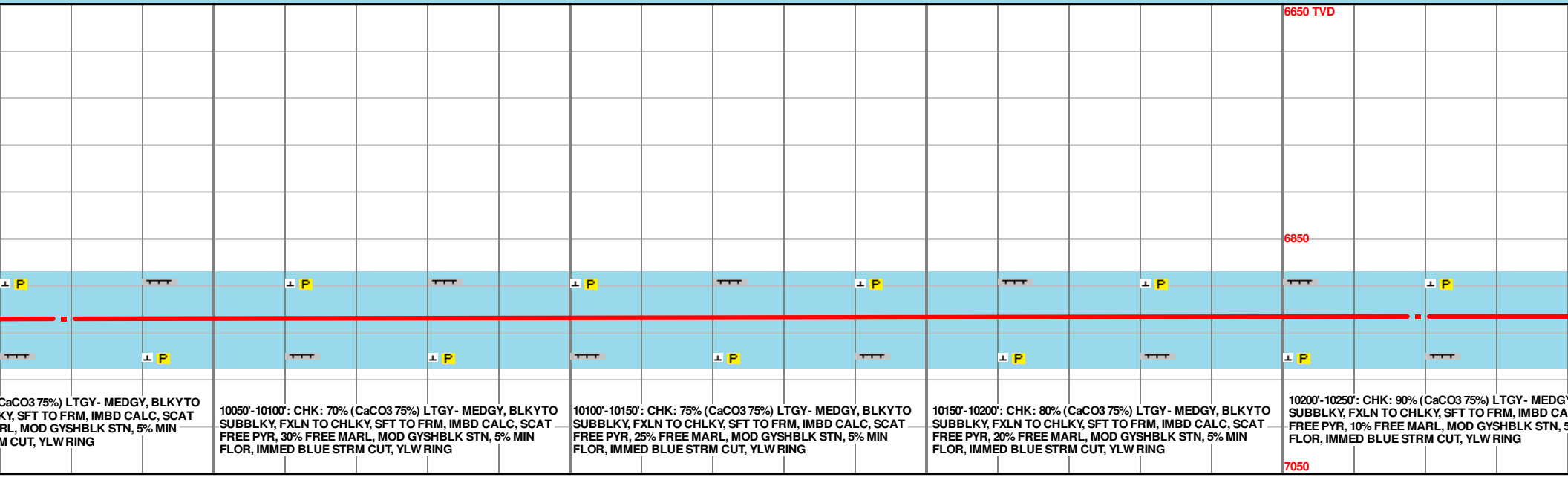
FIL 0.0
CL 45000
CAL 21200
H2O 33.3
OIL 66.7
LGS 63.42
GELS 3/4/8
PV 13
YP 7
CK 0
SOL 10.2
TG, C1-C4
CG 1006u
CG 1321u
DK
CG 1942u
-900
900
350
ROP (Ft/Hr)
Gamma (API)
0
0
WOB 6.7K
PP 3119
RPM 40
SPM 70/0
9600
9650
9700
9750
98
NIOBRARA C CHALK (9600' MD - 9650' MD)
6650 TVD
6850
7050
9600'-9650': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
9650'-9700': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
9700'-9750': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
9750'-9800': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
MD 9651 TVD 6925.17
INC 90.34 AZ 347.51
VS 3349.66
MD 9746 TVD 6924.74
INC 90.17 AZ 351.51
VS 3443.53

8100
CG 1509u
CG 1255u
8100
TG, C1-C4
TG, C1-C4
-900
-900
900
350
900
350
WOB 8.6K
PP 3620
RPM 87
SPM 0/74
ROP (Ft/Hr)
Gamma (API)
ROP (Ft/Hr)
Gamma (API)
0
0
0
0
00
9850
9900
9950
10000
NIOBRARA C CHALK (9900' MD - 9950' MD)
6650 TVD
6650 TVD
6850
6850
7050
7050
9800'-9850': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
9850'-9900': CHK: 60% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
9900'-9950': CHK: 60% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
9950'-10000': CHK: 60% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
10000'-10050': CHK: 60% (
SUBBLKY, FXLN TO CHLI
FREE PYR, 40% FREE MA
FLOR, IMMED BLUE STR
MD 9840 TVD 6923.53
INC 91.31 AZ 356.03
VS 3537.21
MD 9935 TVD 6920.32
INC 91.89 AZ 358.27
VS 3630.89







CaCO3 75%) LTGY- MEDGY, BLKYTO KY, SFT TO FRM, IMBD CALC, SCAT RL, MOD GYSHBLK STN, 5% MIN M CUT, YLW RING

10050'-10100': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

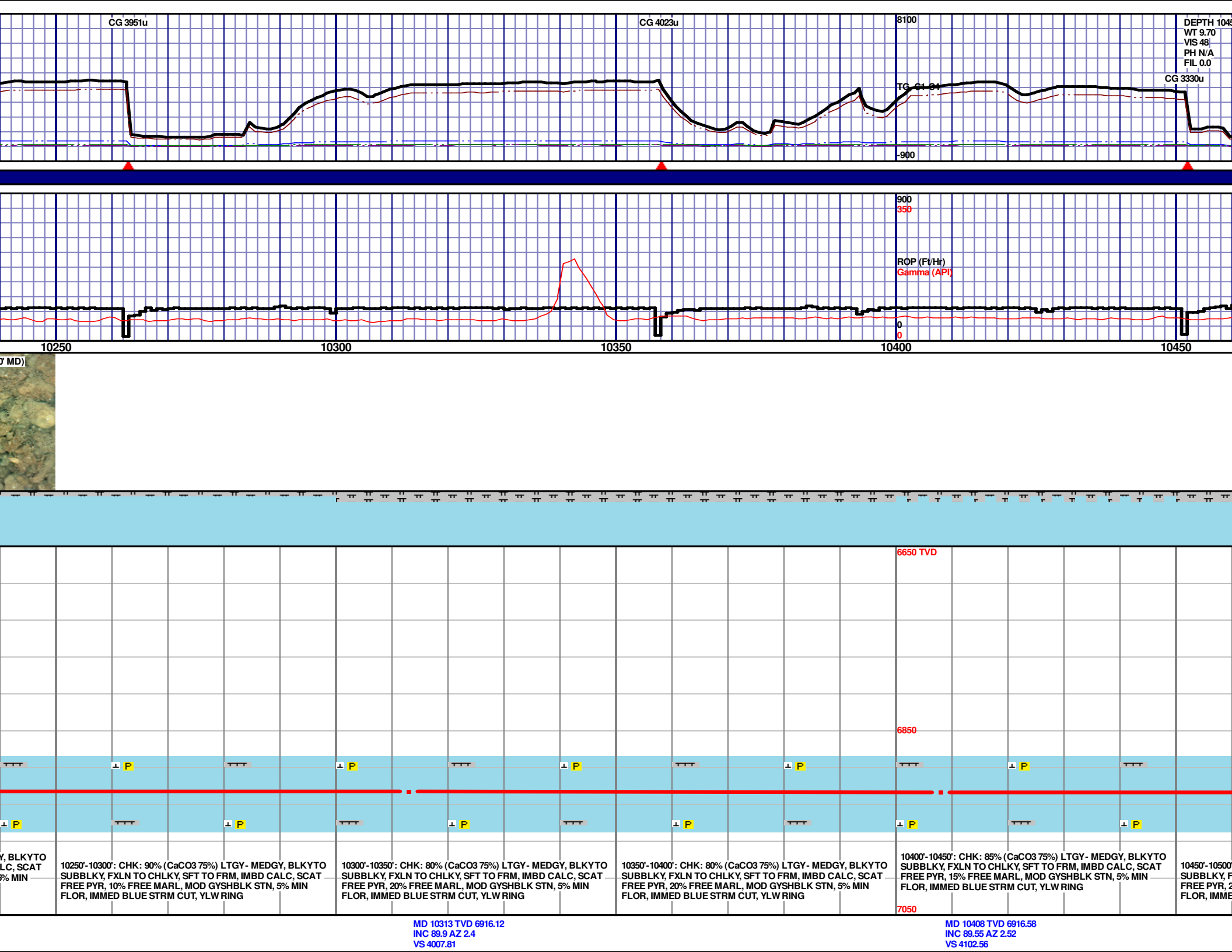
10100'-10150': CHK: 75% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 25% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

10150'-10200': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

10200'-10250': CHK: 90% (CaCO3 75%) LTGY- MEDGY SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CA FREE PYR, 10% FREE MARL, MOD GYSHBLK STN, 5 FLOR, IMMED BLUE STRM CUT, YLW RING

MD 10029 TVD 6918
INC 90.93 AZ 2.05
VS 3724.79

MD 10219 TVD 6916.18
INC 90.17 AZ 3.8
VS 3914.15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CG 4023u
CG 3330u
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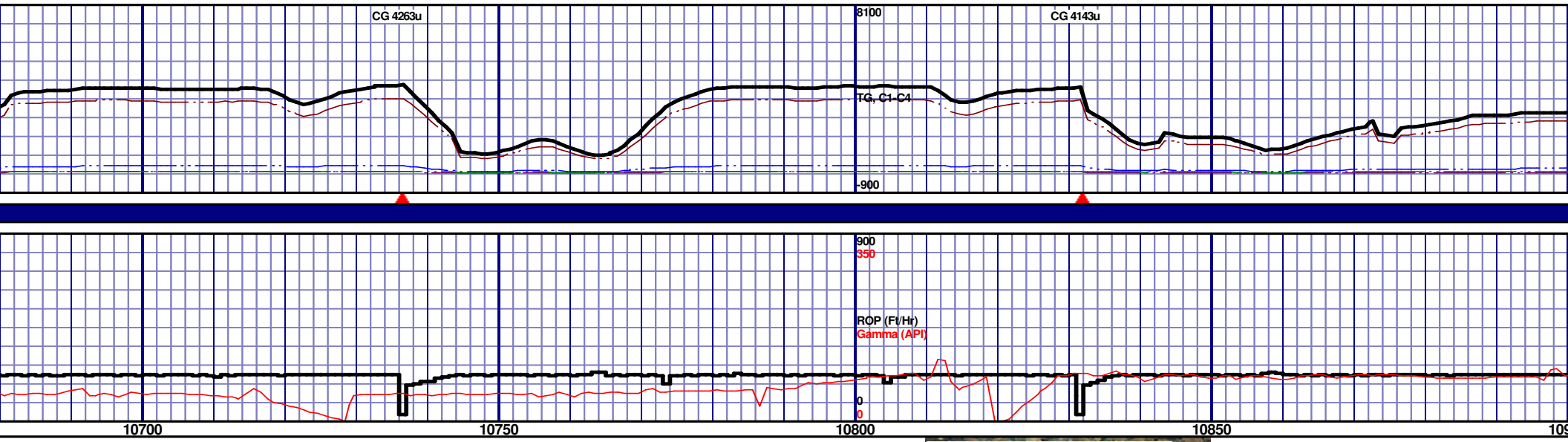
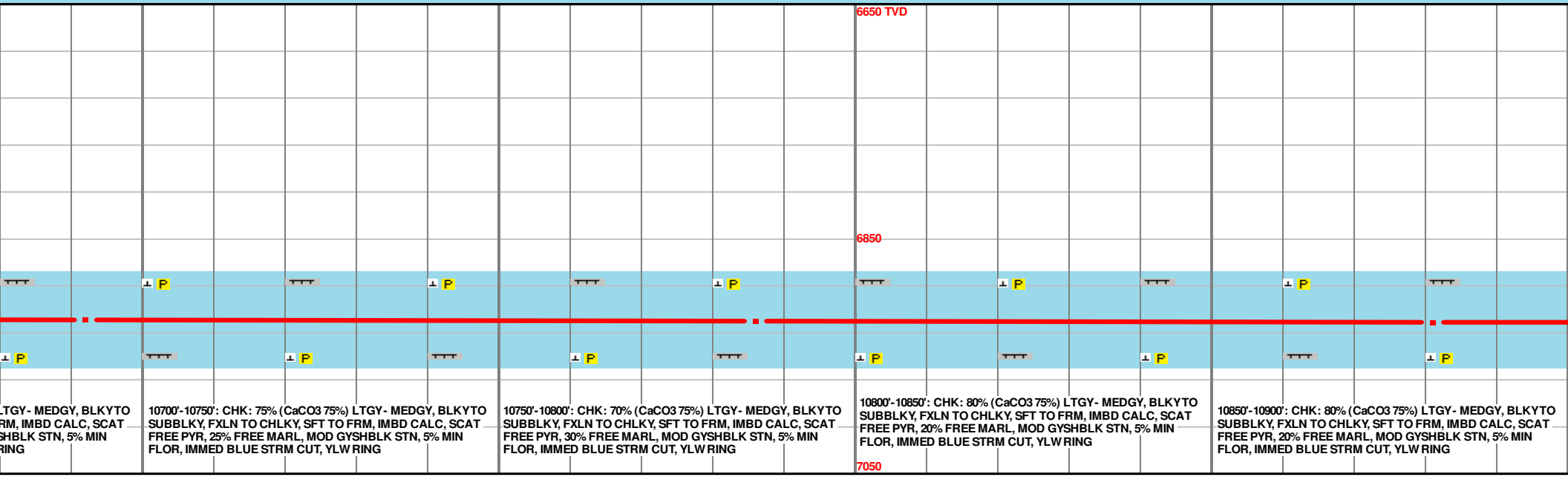
WT 9.70
VIS 48
PH N/A
FIL 0.0
TG C1 C2
900
350
ROP (Ft/Hr)
Gamma (API)
0
0
10250
10300
10350
10400
10450
6650 TVD
6850
7050
10250'-10300': CHK: 90% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 10% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
10300'-10350': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
10350'-10400': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
10400'-10450': CHK: 85% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 15% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
MD 10313 TVD 6916.12
INC 89.9 AZ 2.4
VS 4007.81
MD 10408 TVD 6916.58
INC 89.55 AZ 2.52
VS 4102.56

51'
CL 50000
CAL 18000
H2O 32.0
OIL 68.0
LGS 65.25
GELS 4/7/9
PV 14
YP 8
CK 0
SOL 9.9
CG 4154u
8100
TG, C1-C4
-900
CG 4185u
900
350
ROP (Ft/Hr)
Gamma (API)
0
0
10500
10550
10600
10650
NIOBRARA C CHALK (10500' MD - 10550' MD)
6650 TVD
6850
7050
: CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT 20% FREE MARL, MOD GYSHBLK STN, 5% MIN ED BLUE STRM CUT, YLW RING
10500'-10550': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
10550'-10600': CHK: 90% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 10% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
10600'-10650': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
10650'-10700': CHK: 80% (CaCO3 75%) L SUBBLKY, FXLN TO CHLKY, SFT TO FI FREE PYR, 20% FREE MARL, MOD GYS FLOR, IMMED BLUE STRM CUT, YLW R
MD 10502 TVD 6917.28
INC 89.59 AZ 3.43
VS 4196.24
MD 10597 TVD 6917.96
INC 89.59 AZ 4.11
VS 4290.8





LTGY- MEDGY, BLKYTO RM, IMBD CALC, SCAT SHBLK STN, 5% MIN RING

10700'-10750': CHK: 75% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 25% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

10750'-10800': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

10800'-10850': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

10850'-10900': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

MD 10692 TVD 6918.7
INC 89.52 AZ 3.19
VS 4385.37

MD 10786 TVD 6919.77
INC 89.18 AZ 3.7
VS 4478.98

MD 10881 TVD 6920.76
INC 89.62 AZ 3.74
VS 4573.55

KB

CG 3742u

8100

CG 4213u

CG 4264u

TG-CT-C4

-900

WOB 19.9K
PP 3864
RPM 87
SPM 0/72

900
350

ROP (Ft/Hr)
Gamma (API)

0
0

900

10950

11000

11050

11100

NIOBRARA C

6650 TVD

6850

7050

10900'-10950': CHK: 80% (CaCO3 75%) LTGY - MEDGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

10950'-11000': CHK: 80% (CaCO3 75%) LTGY - MEDGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

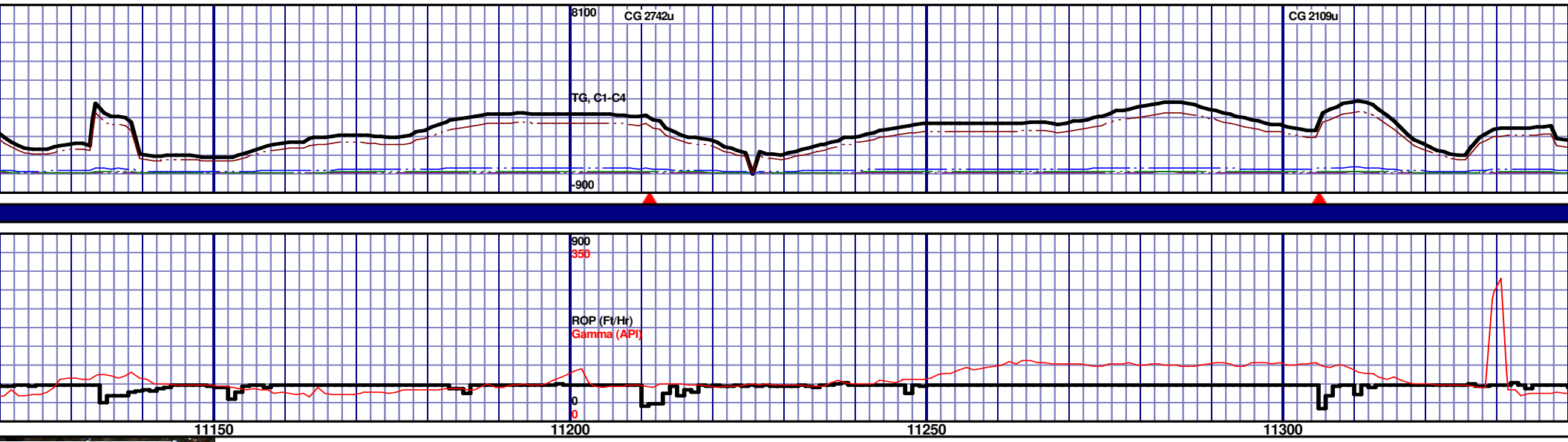
11000'-11050': CHK: 80% (CaCO3 75%) LTGY - MEDGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

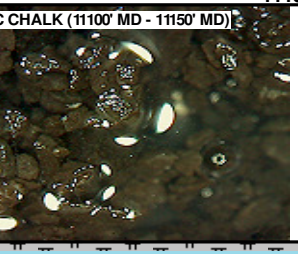
11050'-11100': CHK: 80% (CaCO3 75%) LTGY - MEDGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

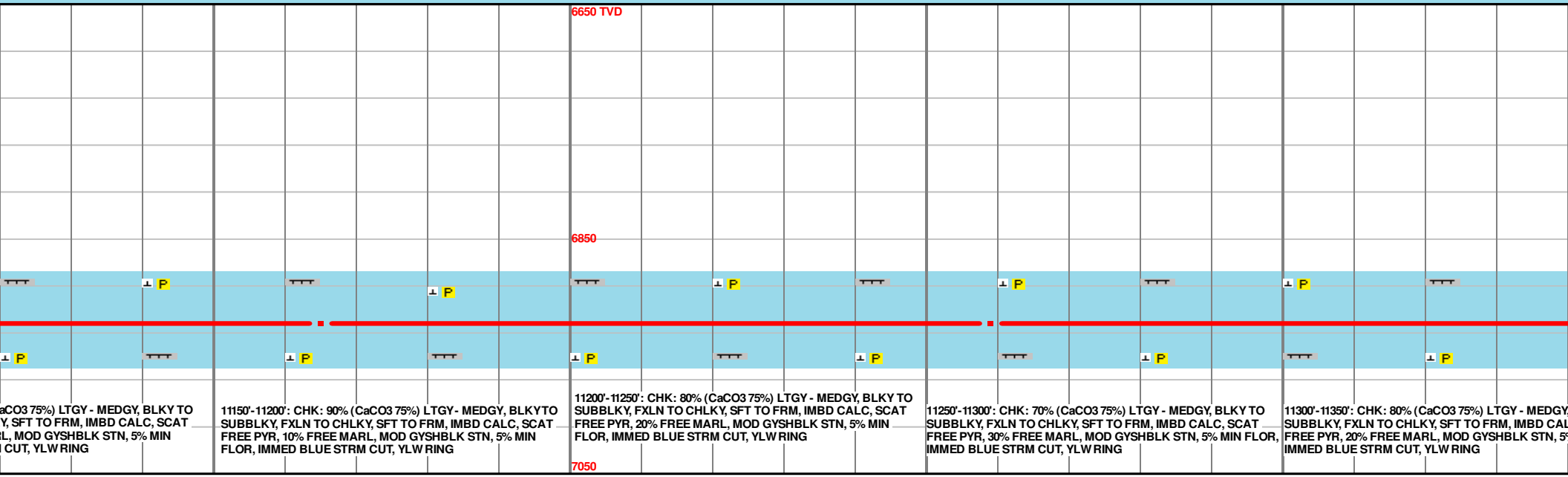
11100'-11150': CHK: 90% (C
SUBBLKY, FXLN TO CHLK
FREE PYR, 10% FREE MAR
FLOR, IMMED BLUE STRM

MD 10975 TVD 6921.47
INC 89.52 AZ 359.43
VS 4667.37

MD 11070 TVD 6921.84
INC 90.03 AZ 356.58
VS 4762.35







aCO3 75%) LTGY - MEDGY, BLKY TO
Y, SFT TO FRM, IMBD CALC, SCAT
L, MOD GYSHBLK STN, 5% MIN
CUT, YLW RING

11150'-11200': CHK: 90% (CaCO3 75%) LTGY - MEDGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 10% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

11200'-11250': CHK: 80% (CaCO3 75%) LTGY - MEDGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

11250'-11300': CHK: 70% (CaCO3 75%) LTGY - MEDGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

11300'-11350': CHK: 80% (CaCO3 75%) LTGY - MEDGY, SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CAL FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5 IMMED BLUE STRM CUT, YLW RING

MD 11165 TVD 6921.64
INC 90.21 AZ 358.78
VS 4857.34

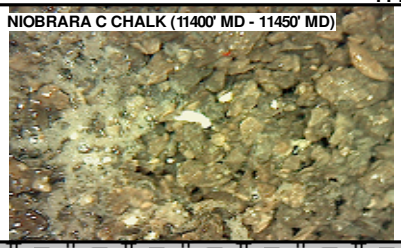
MD 11259 TVD 6921.53
INC 89.93 AZ 0.67
VS 4951.31

8100
CG 3326u
CG 3630u
TG, C1-C4
-900

WOB 20.5K
PP 3520
RPM 84
SPM 0/74
900
350
ROP (Ft/Hr)
Gamma (API)
0

11350 11400 11450 11500 11550

NIOBRARA C CHALK (11400' MD - 11450' MD)



6650 TVD
6850
7050

, BLKY TO
LC, SCAT
% MIN FLOR,

11350'-11400': CHK: 70% (CaCO3 75%) LTGY - MEDGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

11400'-11450': CHK: 80% (CaCO3 75%) LTGY - MEDGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

11450'-11500': CHK: 80% (CaCO3 75%) LTGY - MEDGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

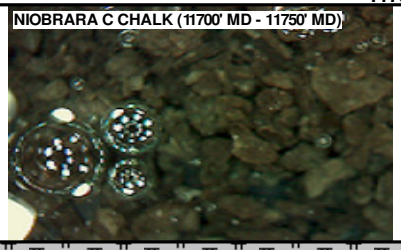
11500'-11550': CHK: 70% (CaCO3 75%) LTGY - MEDGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

11550'-11600'
SUBBLKY, F
FREE PYR, 2
FLOR, IMME

MD 11354 TVD 6921.7
INC 89.86 AZ 1.24
VS 5046.2

MD 11543 TVD 6923.35
INC 89.14 AZ 359.66
VS 5235.05

11600 11650 11700 11750



6650 TVD

6850

7050

: CHK: 80% (CaCO3 75%) LTGY - MEDGY, BLKY TO FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT 20% FREE MARL, MOD GYSHBLK STN, 5% MIN ED BLUE STRM CUT, YLW RING

11600'-11650': CHK: 80% (CaCO3 75%) LTGY - MEDGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

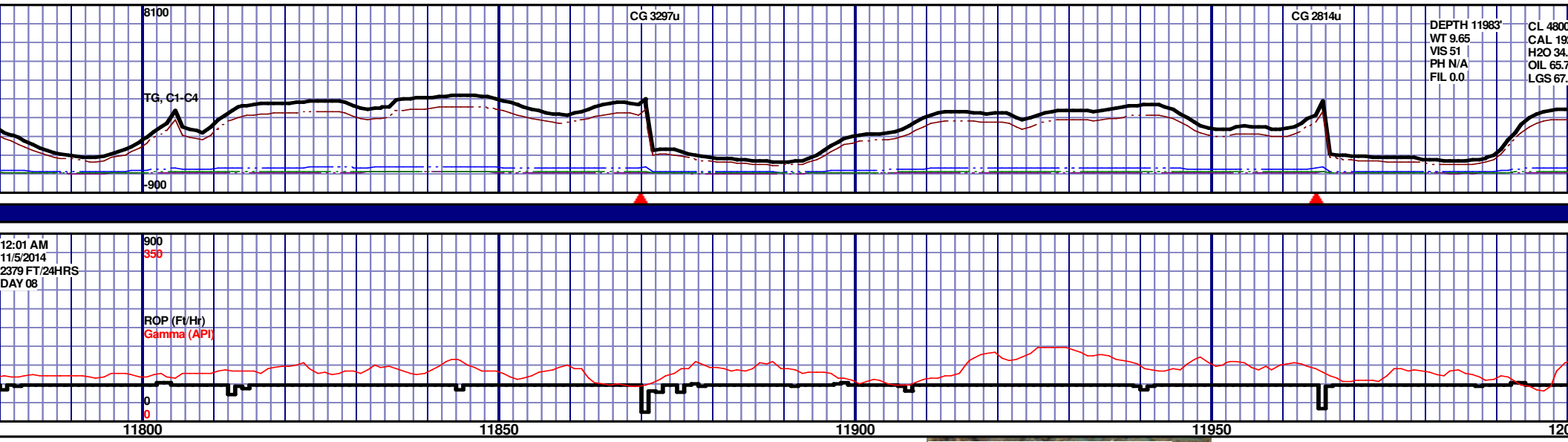
11650'-11700': CHK: 70% (CaCO3 75%) LTGY - MEDGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

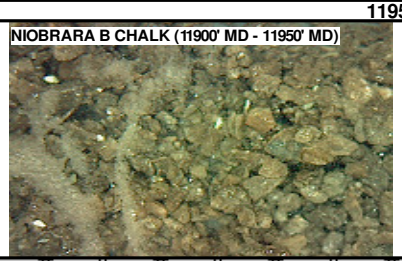
11700'-11750': CHK: 70% (CaCO3 75%) LTGY - MEDGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

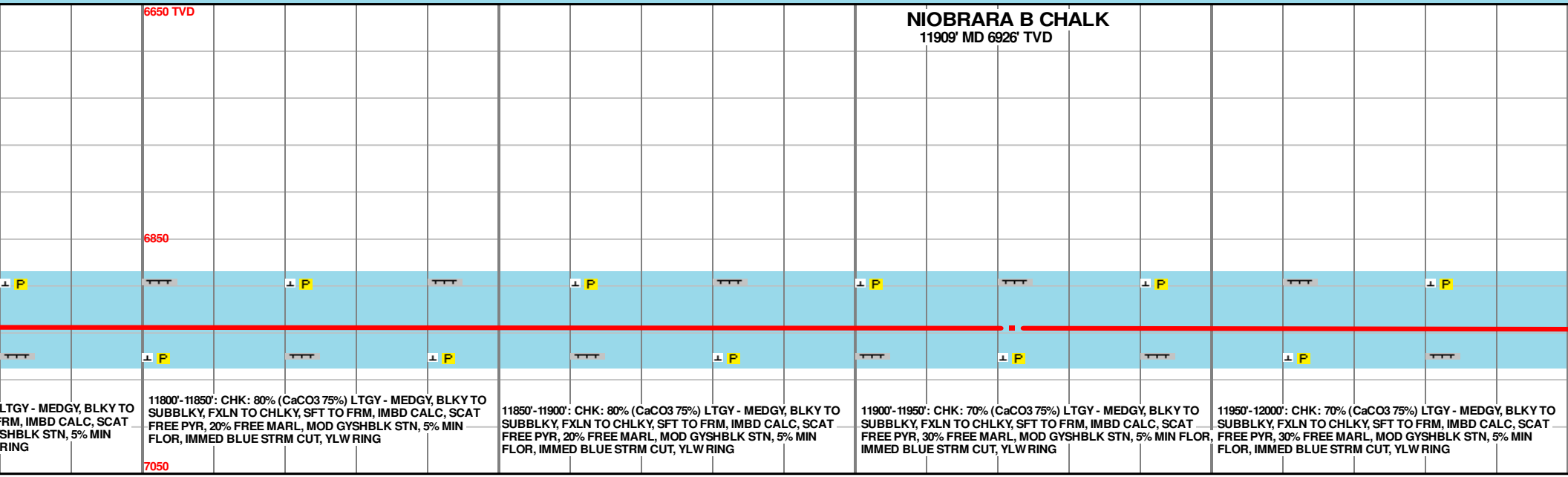
11750'-11800': CHK: 80% (CaCO3 75%) SUBBLKY, FXLN TO CHLKY, SFT TO F FREE PYR, 20% FREE MARL, MOD GY FLOR, IMMED BLUE STRM CUT, YLW

MD 11638 TVD 6924.29
INC 89.73 AZ 359.12
VS 5330.03

MD 11733 TVD 6924.71
INC 89.76 AZ 359.96
VS 5425







LTGY - MEDGY, BLKY TO FRM, IMBD CALC, SCAT SHBLK STN, 5% MIN RING

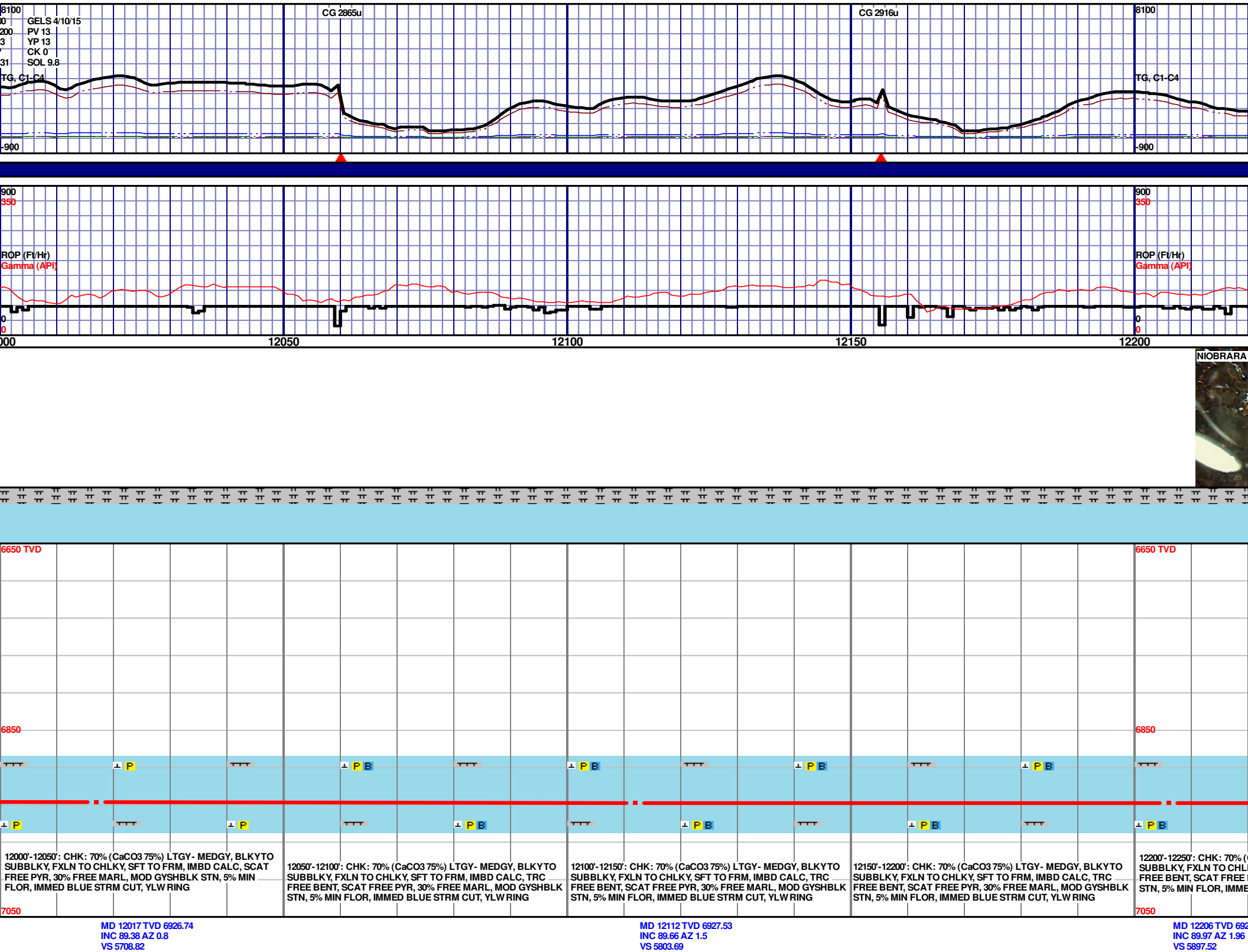
11800'-11850': CHK: 80% (CaCO3 75%) LTGY - MEDGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

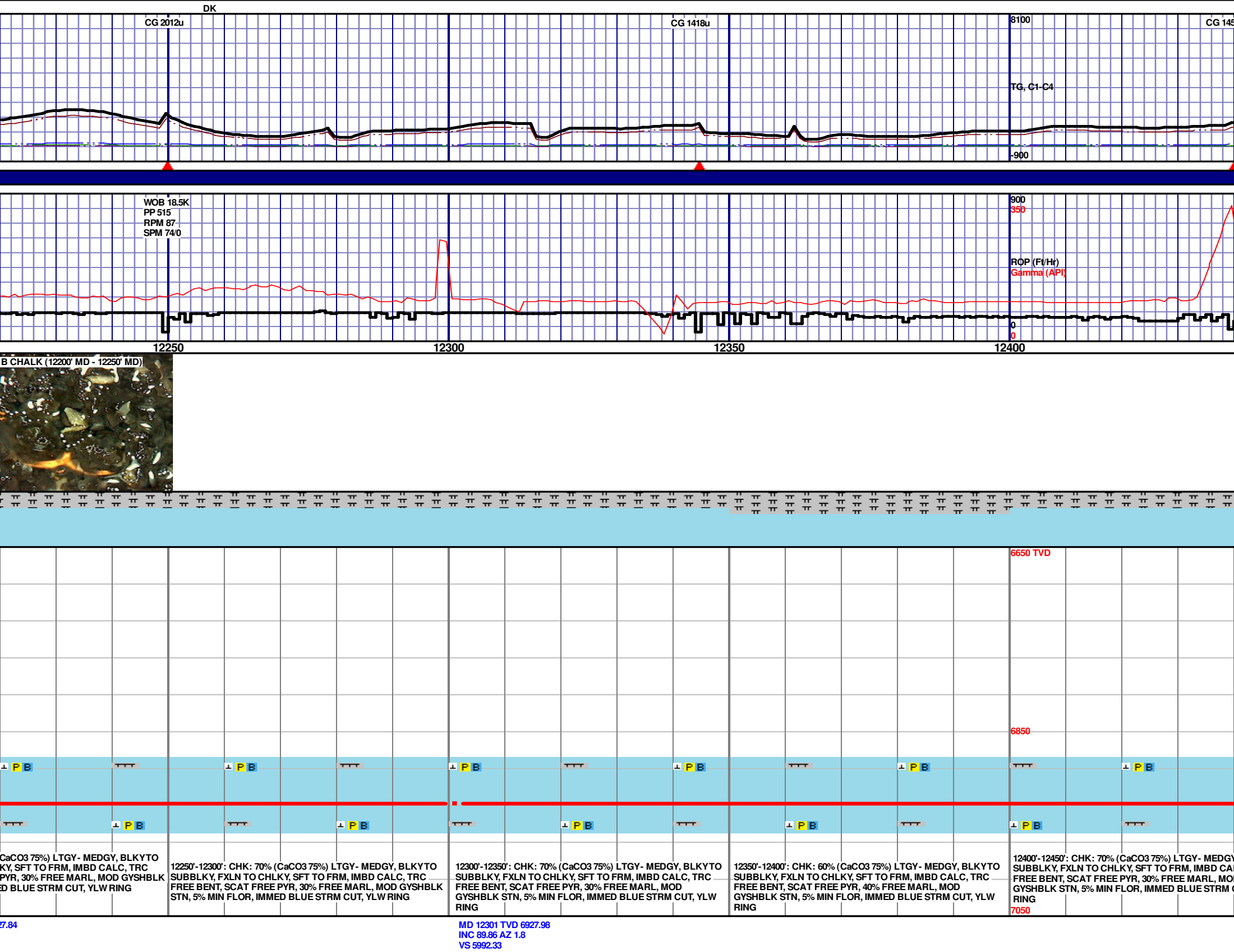
11850'-11900': CHK: 80% (CaCO3 75%) LTGY - MEDGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

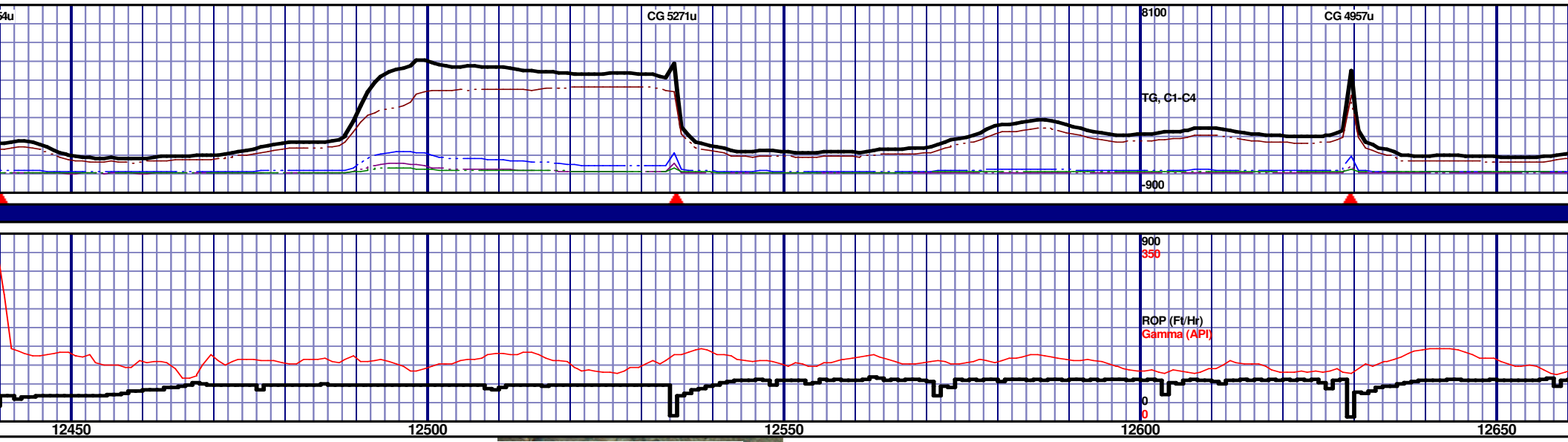
11900'-11950': CHK: 70% (CaCO3 75%) LTGY - MEDGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

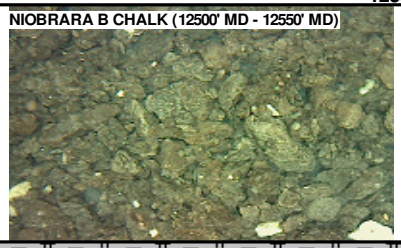
11950'-12000': CHK: 70% (CaCO3 75%) LTGY - MEDGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

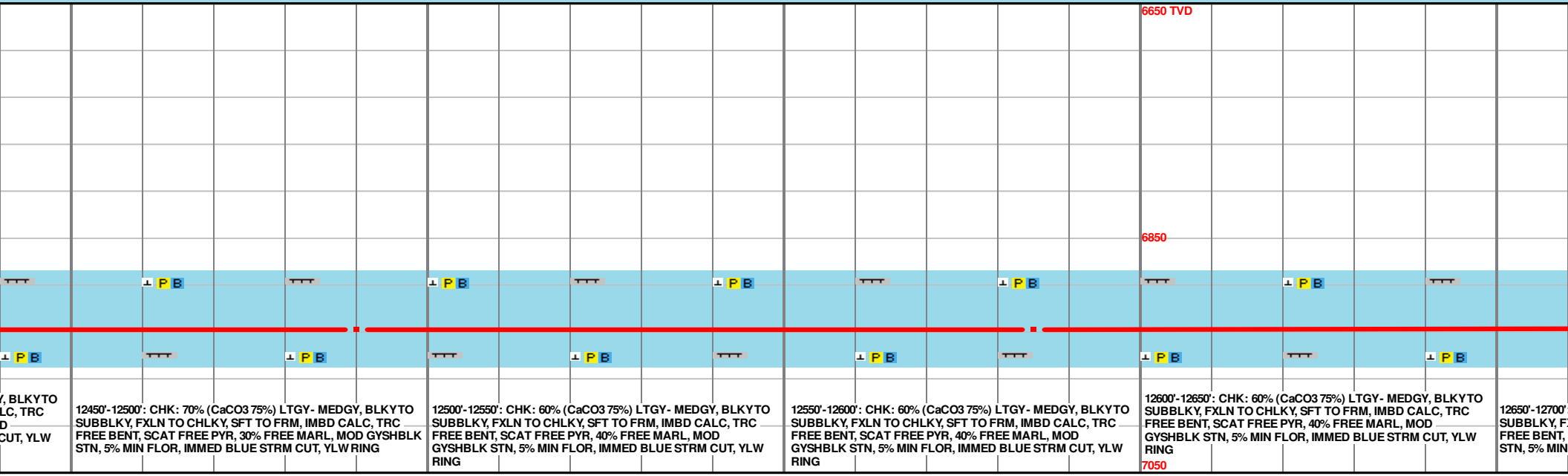
MD 11922 TVD 6925.85
INC 89.55 AZ 0.36
VS 5613.9


8100
GELS 4/10/15
PV 13
YP 13
CK 0
SOL 9.8
TG, C1-C4
-900
CG 2865u
CG 2916u
8100
TG, C1-C4
-900
900
350
ROP (Ft/Hr)
Gamma (API)
0
0
900
350
ROP (Ft/Hr)
Gamma (API)
0
0
000
12050
12100
12150
12200
NIOBRARA
6650 TVD
6850
7050
6650 TVD
6850
7050
12000'-12050': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
12050'-12100': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
12100'-12150': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
12150'-12200': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
12200'-12250': CHK: 70% (
SUBBLKY, FXLN TO CHL
FREE BENT, SCAT FREE
STN, 5% MIN FLOR, IMME
MD 12017 TVD 6926.74
INC 89.38 AZ 0.8
VS 5708.82
MD 12112 TVD 6927.53
INC 89.66 AZ 1.5
VS 5803.69
MD 12206 TVD 692
INC 89.97 AZ 1.96
VS 5897.52


DK
CG 2012u
CG 1418u
8100
CG 145
TG, C1-C4
-900
WOB 18.5K
PP 515
RPM 87
SPM 74/0
900
350
ROP (Ft/Hr)
Gamma (API)
0
0
12250
12300
12350
12400
B CHALK (12200' MD - 12250' MD)
6650 TVD
6850
7050
CaCO3 75%) LTGY- MEDGY, BLKYTO KY, SFT TO FRM, IMBD CALC, TRC PYR, 30% FREE MARL, MOD GYSHBLK D BLUE STRM CUT, YLW RING
12250'-12300': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
12300'-12350': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
12350'-12400': CHK: 60% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
12400'-12450': CHK: 70% (CaCO3 75%) LTGY- MEDGY SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CA FREE BENT, SCAT FREE PYR, 30% FREE MARL, MO GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM RING
27.84
MD 12301 TVD 6927.98
INC 89.86 AZ 1.8
VS 5992.33







, BLKYTO
LC, TRC
D
CUT, YLW

12450'-12500': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

12500'-12550': CHK: 60% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

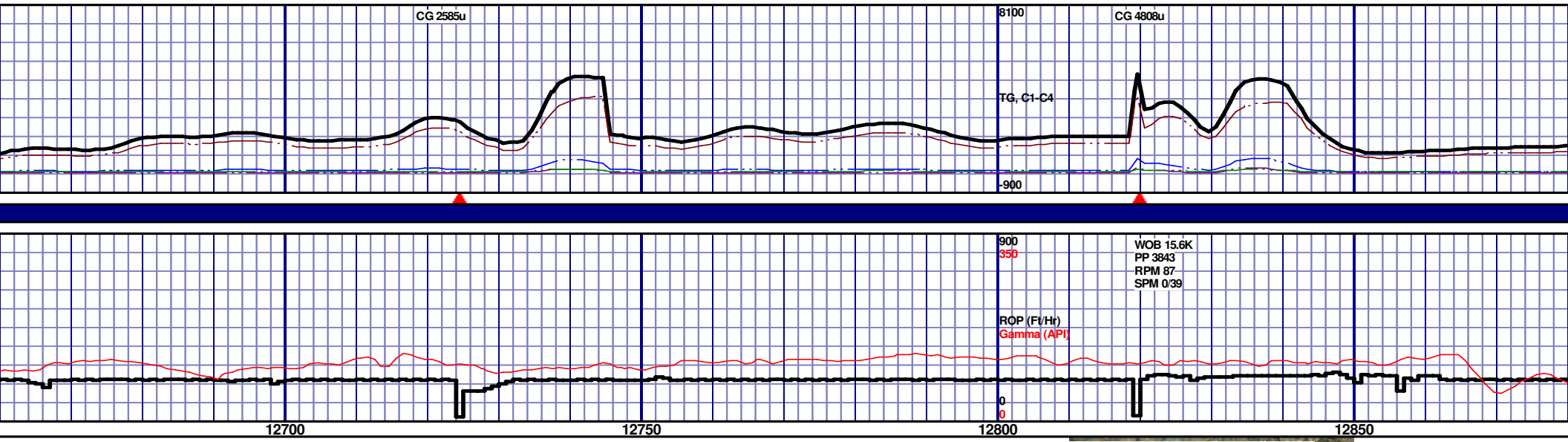
12550'-12600': CHK: 60% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

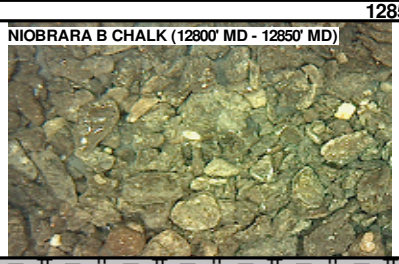
12600'-12650': CHK: 60% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

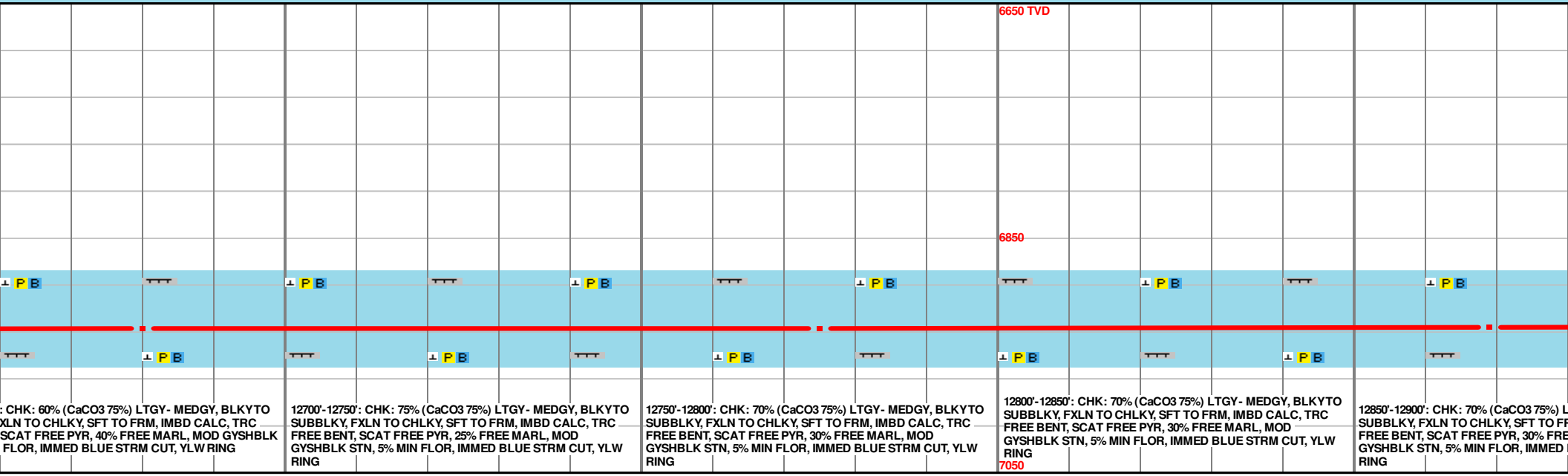
12650'-12700'
SUBBLKY, F
FREE BENT,
STN, 5% MIN

MD 12490 TVD 6928.37
INC 89.9 AZ 359.8
VS 6181.14

MD 12585 TVD 6928.11
INC 90.41 AZ 359.15
VS 6276.11







: CHK: 60% (CaCO3 75%) LTGY- MEDGY, BLKYTO XLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK FLOR, IMMED BLUE STRM CUT, YLW RING

12700'-12750': CHK: 75% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 25% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

12750'-12800': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

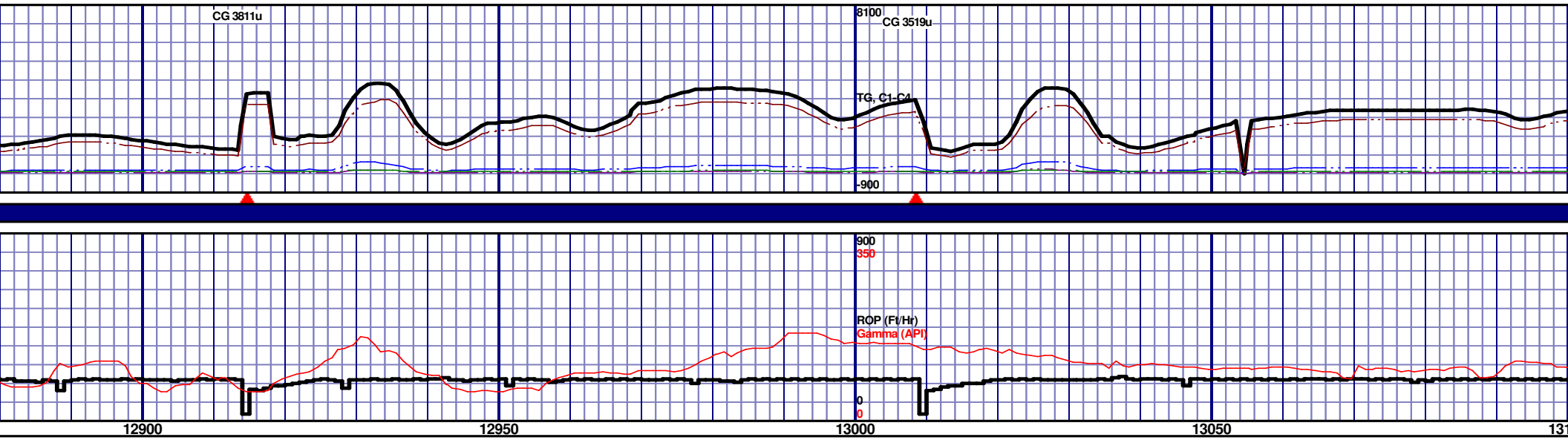
12800'-12850': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

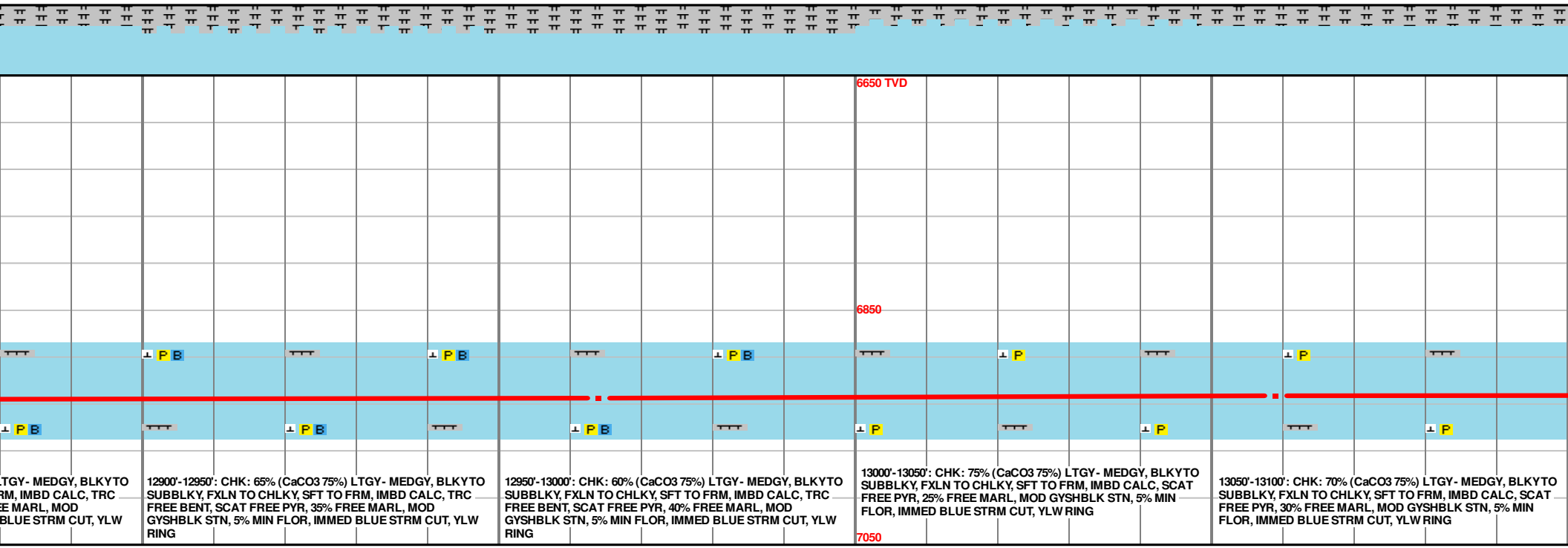
12850'-12900': CHK: 70% (CaCO3 75%) L SUBBLKY, FXLN TO CHLKY, SFT TO FR FREE BENT, SCAT FREE PYR, 30% FRE GYSHBLK STN, 5% MIN FLOR, IMMED RING

MD 12680 TVD 6927.4
INC 90.45 AZ 359.48
VS 6371.1

MD 12775 TVD 6926.55
INC 90.58 AZ 359.77
VS 6466.07

MD 12869 TVD
INC 90.55 AZ
VS 6560.02





LTGY- MEDGY, BLKYTO RM, IMBD CALC, TRC EE MARL, MOD BLUE STRM CUT, YLW

12900'-12950': CHK: 65% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 35% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

12950'-13000': CHK: 60% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

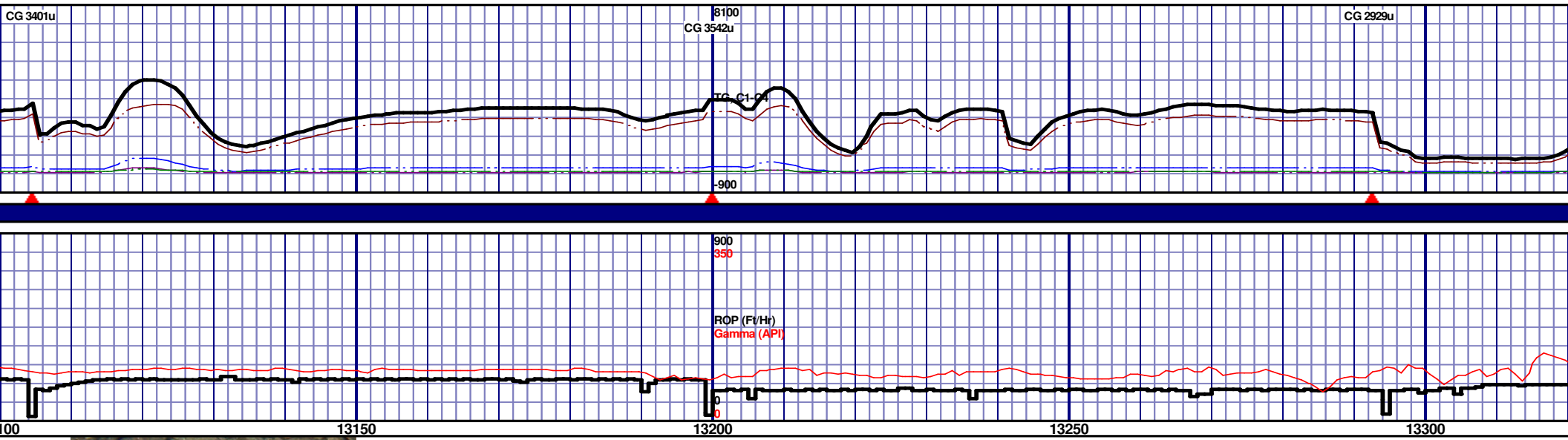
13000'-13050': CHK: 75% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 25% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

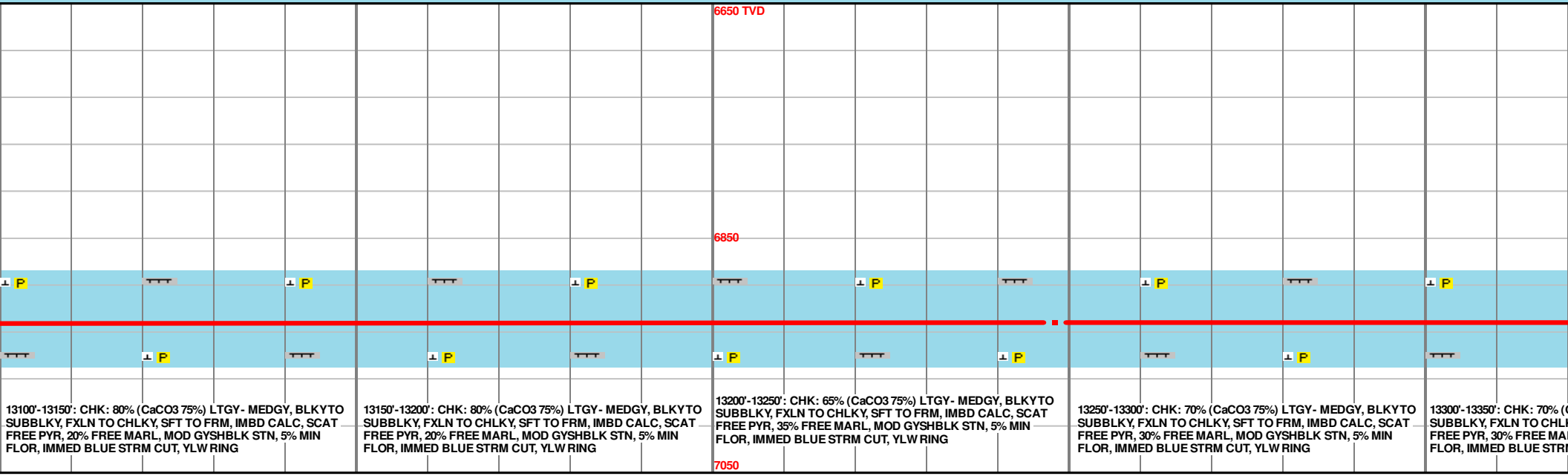
13050'-13100': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

D 6925.62
359.97

MD 12964 TVD 6924.73
INC 90.52 AZ 359.56
VS 6654.99

MD 13059 TVD 6923.39
INC 91.1 AZ 0.97
VS 6749.92





13100'-13150': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

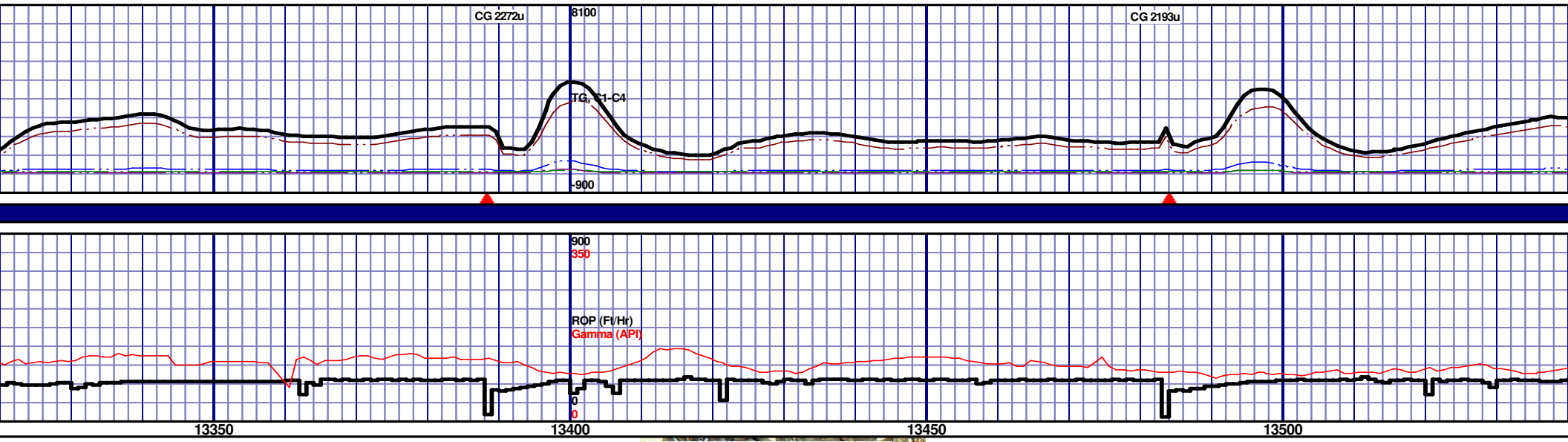
13150'-13200': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

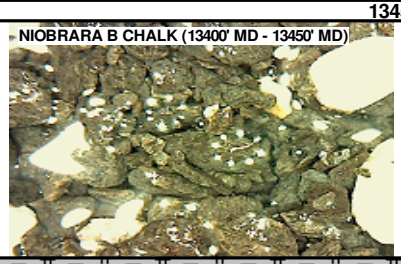
13200'-13250': CHK: 65% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 35% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

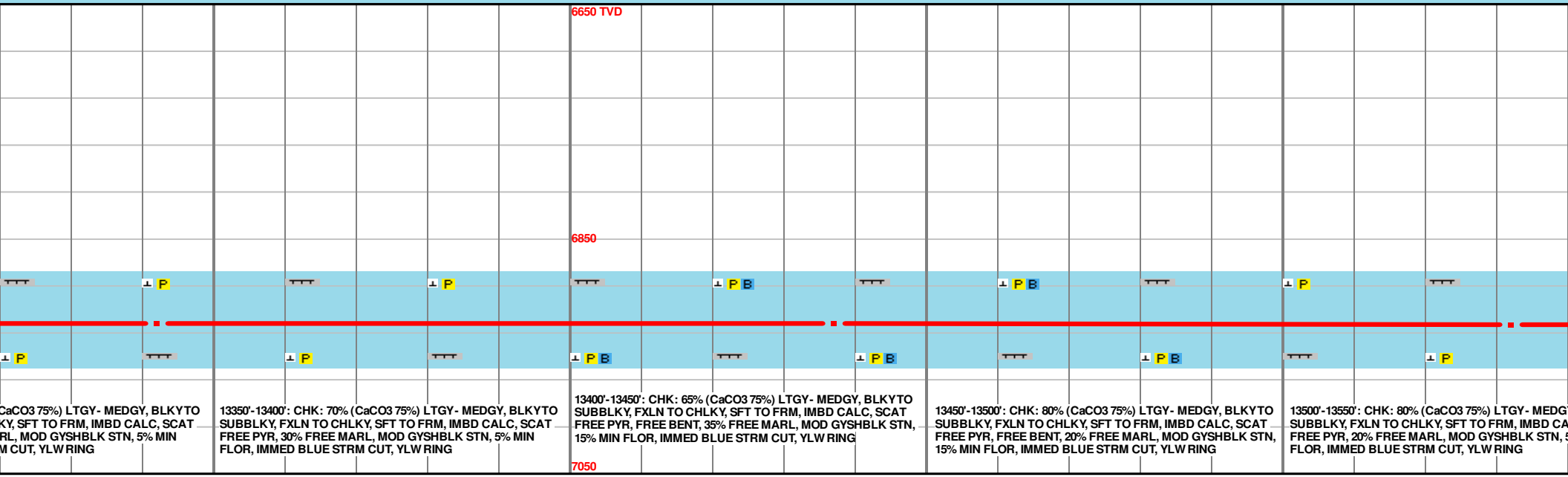
13250'-13300': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

13300'-13350': CHK: 70% (C
SUBBLKY, FXLN TO CHLI
FREE PYR, 30% FREE MA
FLOR, IMMED BLUE STRI

MD 13248 TVD 6921.69
INC 89.93 AZ 359.29
VS 6938.8







CaCO3 75%) LTGY- MEDGY, BLKYTO KY, SFT TO FRM, IMBD CALC, SCAT RL, MOD GYSHBLK STN, 5% MIN M CUT, YLW RING

13350'-13400': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

13400'-13450': CHK: 65% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 35% FREE MARL, MOD GYSHBLK STN, 15% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

13450'-13500': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 20% FREE MARL, MOD GYSHBLK STN, 15% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

13500'-13550': CHK: 80% (CaCO3 75%) LTGY- MEDG SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CA FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5 FLOR, IMMED BLUE STRM CUT, YLW RING

MD 13342 TVD 6921.81
INC 89.93 AZ 0.37
VS 7032.76

MD 13437 TVD 6922.01
INC 89.83 AZ 358.59
VS 7127.74

MD 13532
INC 89.38
VS 7222.7

KB

CG 2531u

CG 4504u

8100

TG, C1-C4

-900

900

350

WOB 18.1K
PP 4246
RPM 87
SPM 0/73

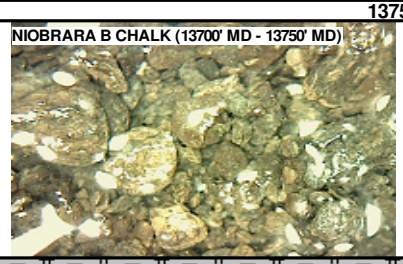
ROP (Ft/Hr)
Gamma (API)

0

0

13550 13600 13650 13700 13750

NIOBRARA B CHALK (13700' MD - 13750' MD)



6650 TVD

6850

7050

Y, BLKYTO
LC, SCAT
5% MIN

13550'-13600': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

13600'-13650': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

13650'-13700': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

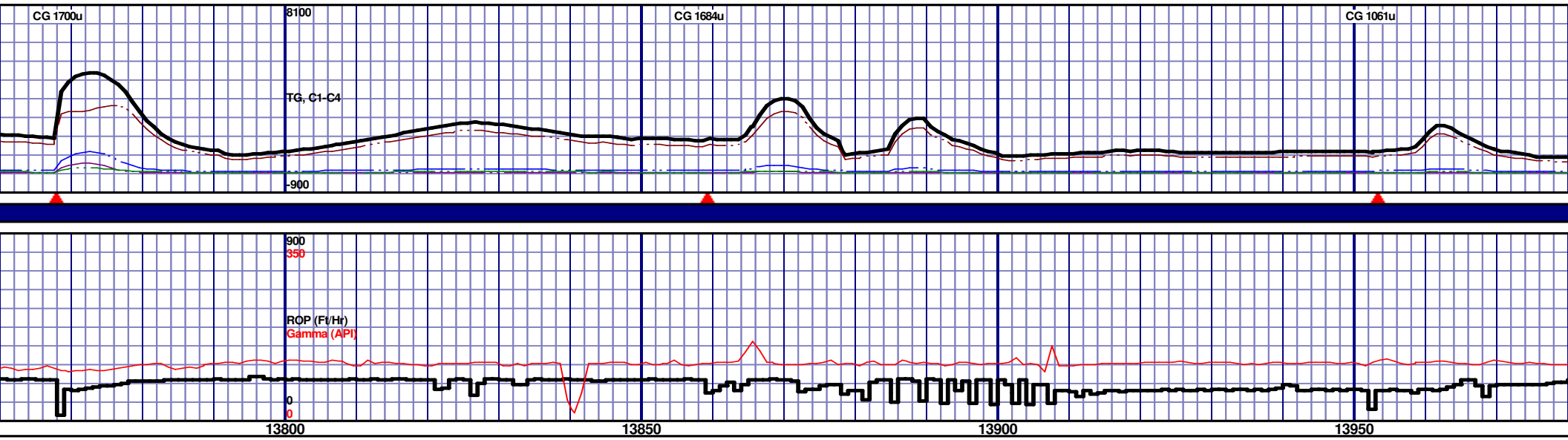
13700'-13750': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

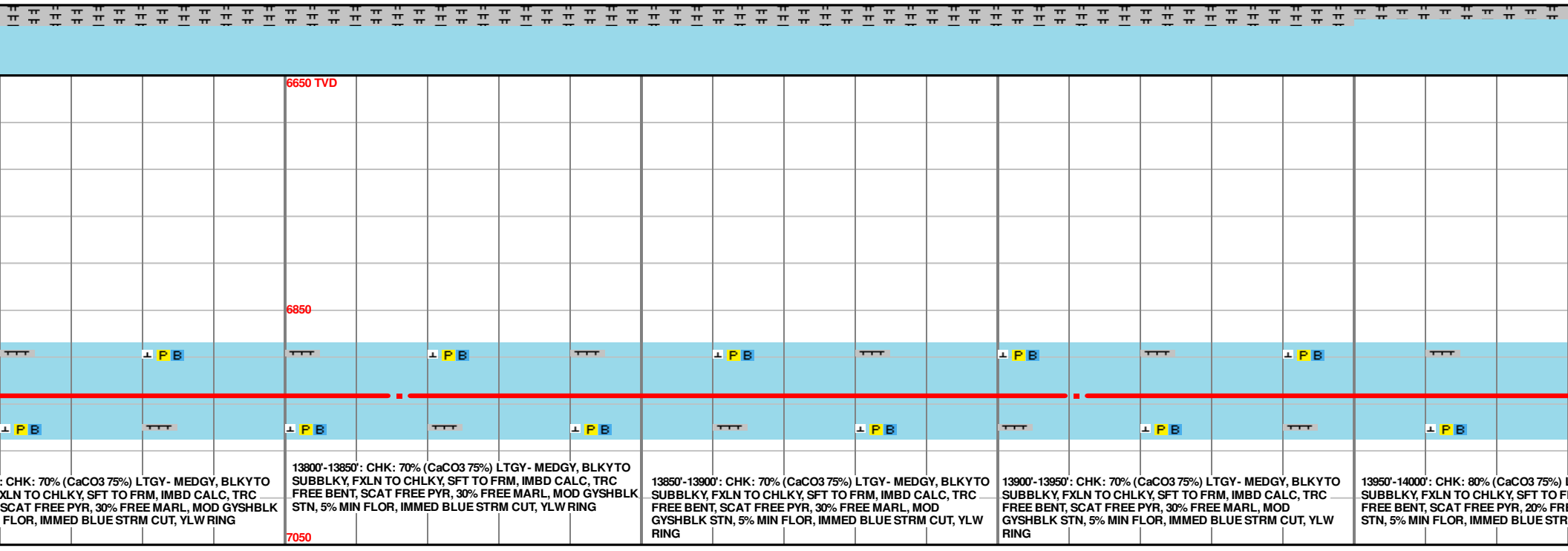
13750'-13800'
SUBBLKY, F
FREE BENT,
STN, 5% MIN

TVD 6922.66
AZ 357.43
3

MD 13626 TVD 6923.17
INC 90 AZ 358.55
VS 7316.73

MD 13721 TVD 6923.03
INC 90.17 AZ 358.95
VS 7411.72





: CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO XLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK FLOR, IMMED BLUE STRM CUT, YLW RING

13800'-13850': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

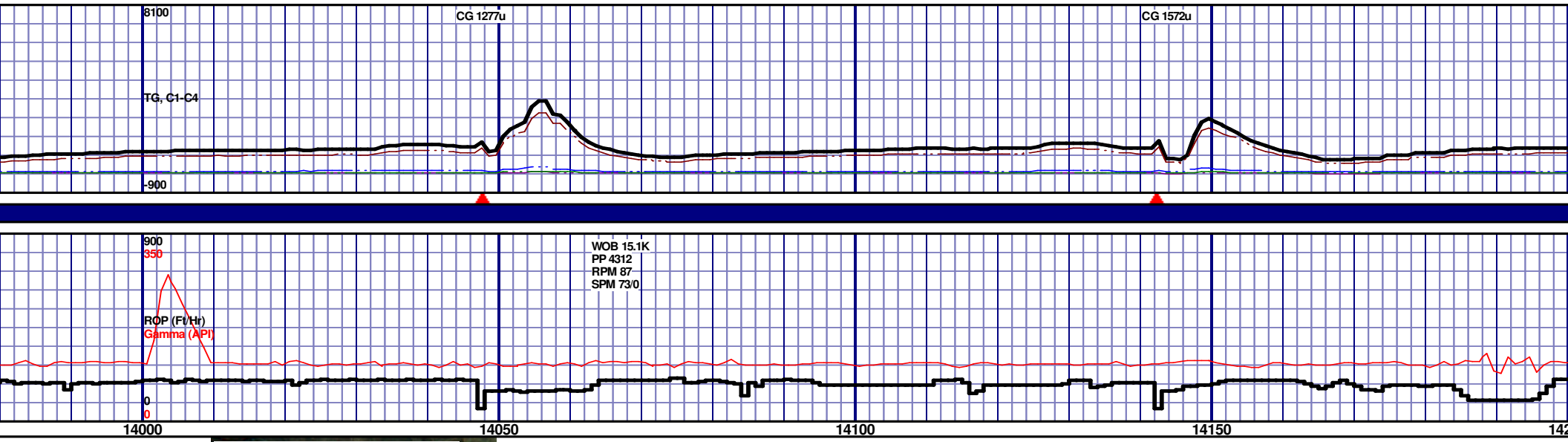
13850'-13900': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

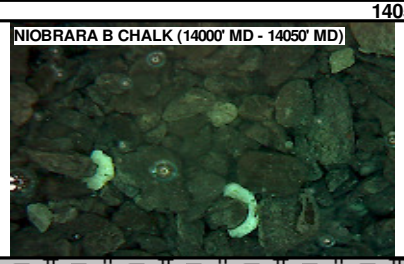
13900'-13950': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

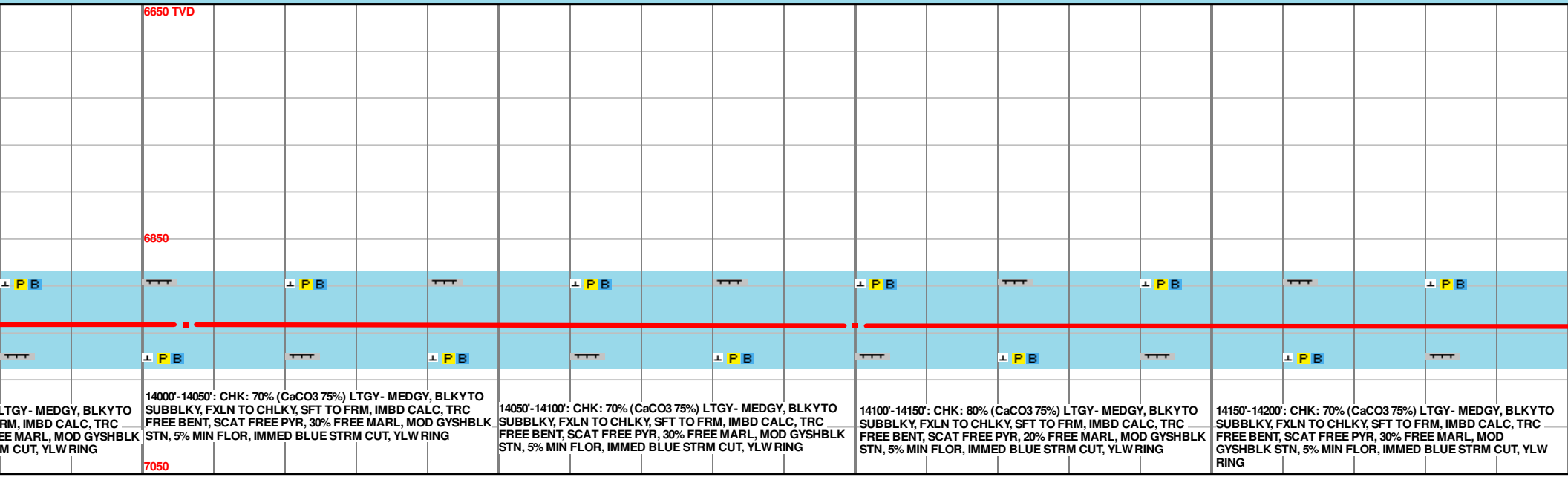
13950'-14000': CHK: 80% (CaCO3 75%) L SUBBLKY, FXLN TO CHLKY, SFT TO F FREE BENT, SCAT FREE PYR, 20% FR STN, 5% MIN FLOR, IMMED BLUE STR

MD 13816 TVD 6923.09
INC 89.76 AZ 357.04
VS 7506.72

MD 13911 TVD 6923.29
INC 90 AZ 358.16
VS 7601.71







LTGY- MEDGY, BLKYTO RM, IMBD CALC, TRC EE MARL, MOD GYSHBLK M CUT, YLW RING

14000'-14050': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

14050'-14100': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

14100'-14150': CHK: 80% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

14150'-14200': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

MD 14006 TVD 6923.4
INC 89.86 AZ 357
VS 7696.7

MD 14100 TVD 6923.74
INC 89.73 AZ 357.01
VS 7790.68

8100
CG 3253u
CG 2426u
BOTTOMS UP GAS 1269u
8100
TG, C1-C4
TG, C1-C4
-900
-900

900
350
12:01 AM
11/6/2014
2632 FT/24HRS
DAY 09
DRILLERS TD @ 14398' MD @ 10:45 PM ON 11/5/2014
ROP (Ft/Hr)
Gamma (API)
WOB 16.1K
PP 4246
RPM 84
SPM 0/74
ROP (Ft/Hr)
Gamma (API)
0
0
0
0
200
14250
14300
14350
14400

NIOBRARA B CHALK (14300' MD - 14350' MD)

6650 TVD
6650 TVD
TD @ 14398' M
RELEASED 11/
6850
6850
THANK YOU F
DANIEL KING,
BERTRAM ANI
HORIZON WEL
LLC
7050
7050

14200'-14250': CHK: 60% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

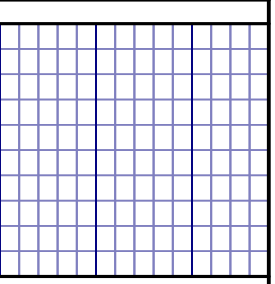
14250'-14300': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

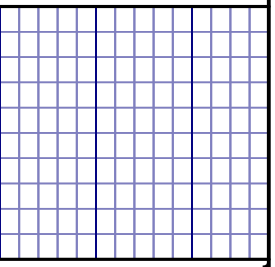
14300'-14350': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

14350'-14398': CHK: 70% (CaCO3 75%) LTGY- MEDGY, BLKYTO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, TRC FREE BENT, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

MD 14290 TVD 6924.82
INC 89.62 AZ 356.49
VS 7980.61

PTB: MD 14355 TVD 6925.26
INC 89.59 AZ 356.82
VS 8045.58





ID

6/2014

ROM
KAITLYN
D
LL LOGGING,