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### Customer Information

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

**Geologist:** Holly Duncan  
Noble Energy Inc.

### Mud Logging Details

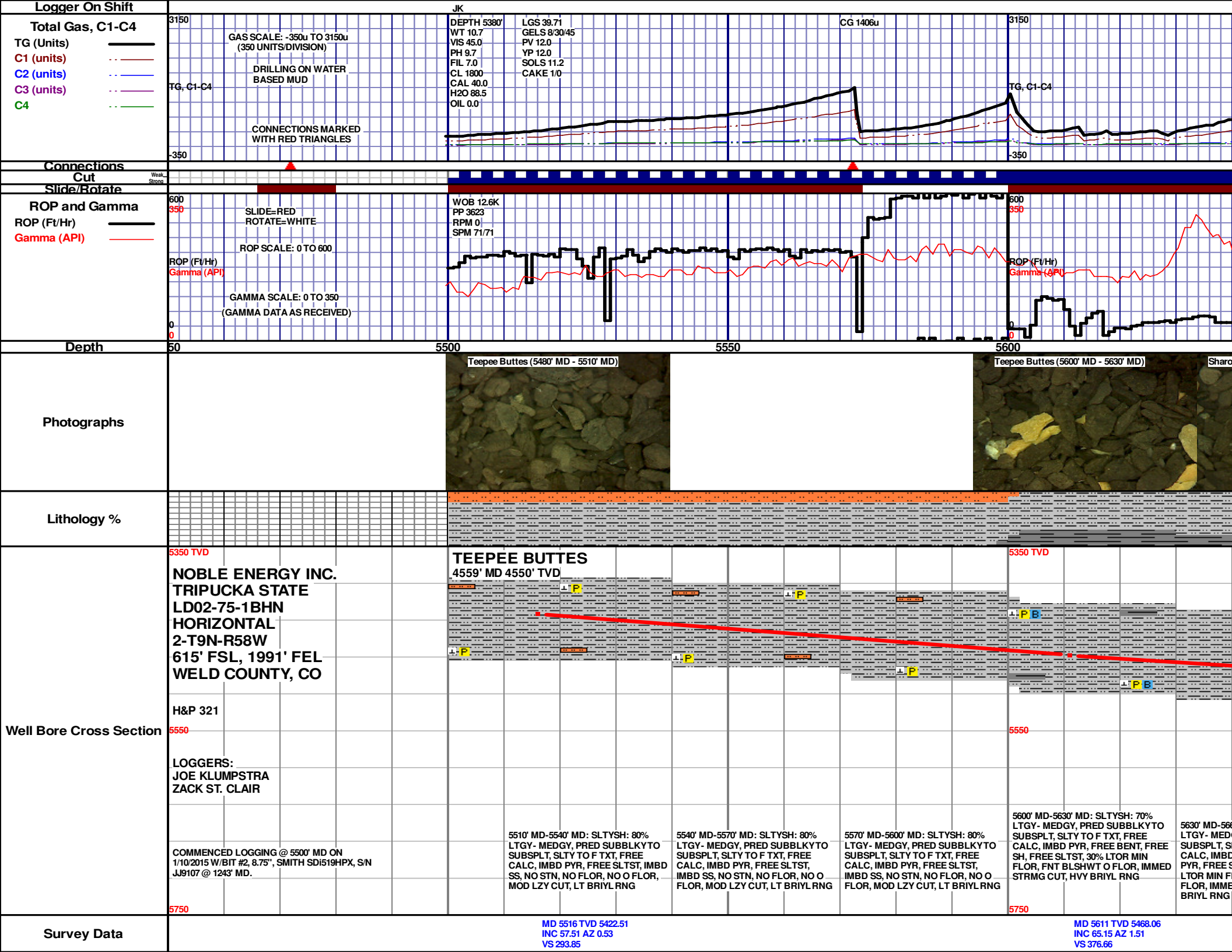
**Logger:** Joe Klumpstra &  
Zack St.Clair  
**Log Interval:** 5500' MD to 9577' MD  
**Start Date:** January 10, 2015  
**Release Date:** January 12, 2015

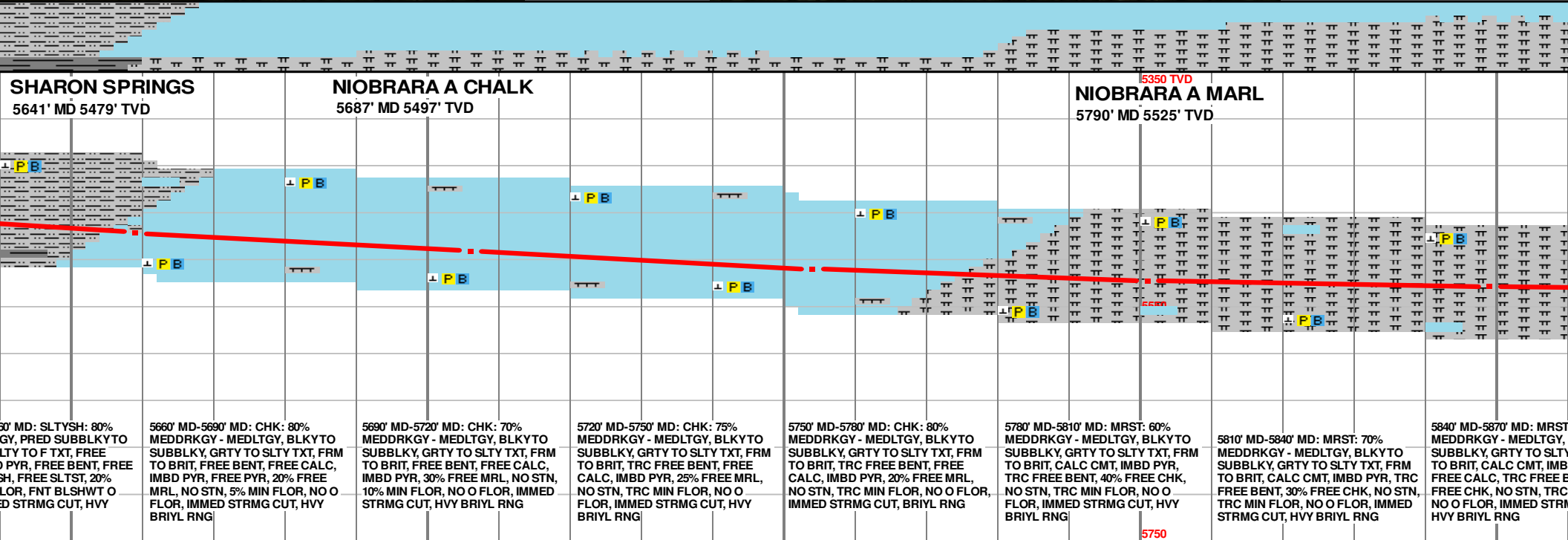
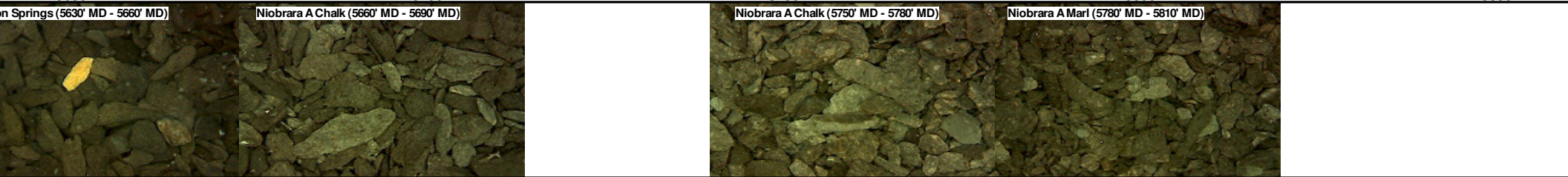
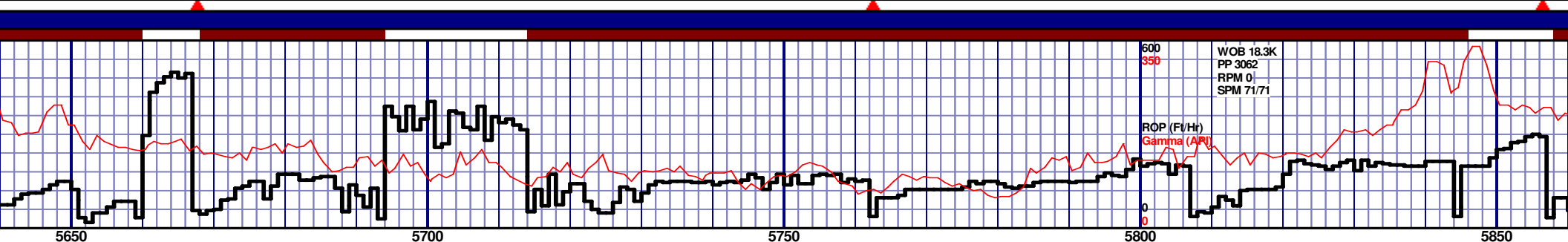
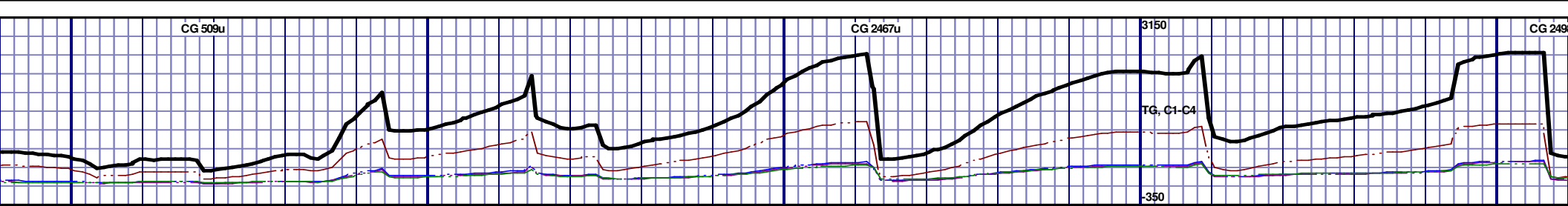
### Well Information

**Well Name:** Tripucka State  
LD02-75-1BHN Horizontal  
**Location:** 2-T9N-R58W  
615' FSL, 1991' FEL

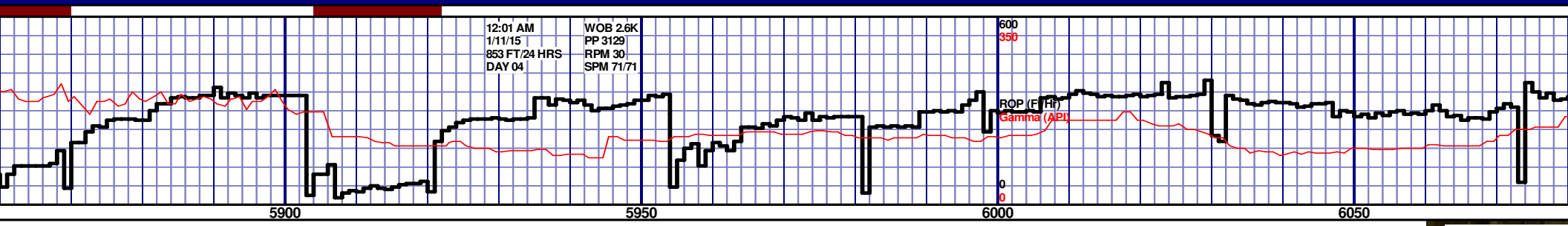
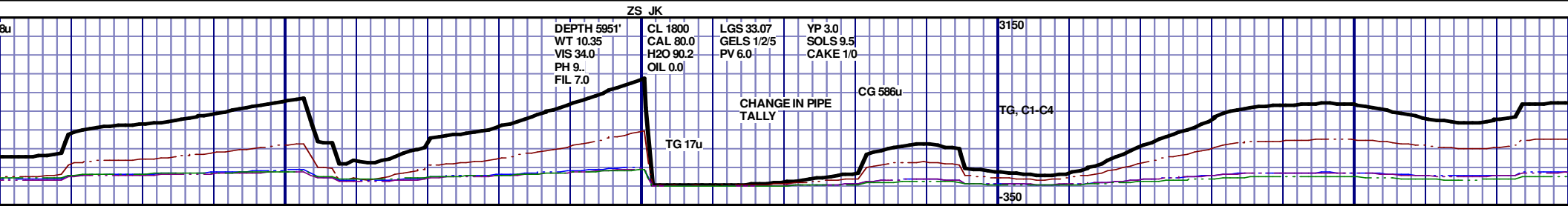
**County:** Weld  
**State:** Colorado

**Drilling Rig:** H&P 321  
**Total Depth:** 9577' MD  
**TD Date:** January 12, 2015  
**Formation:** Niobrara A Chalk  
**KB Elevation:** 4707'  
**GR Elevation:** 4677'  
**API Number:** 05-123-39875-0000

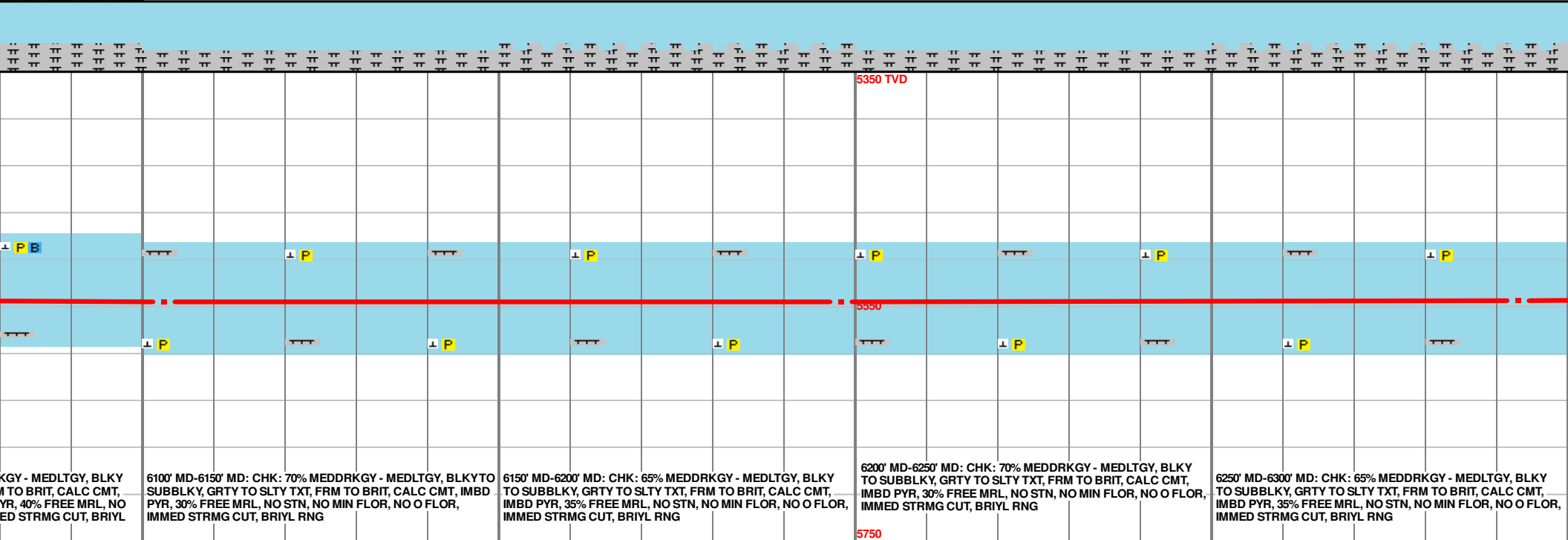
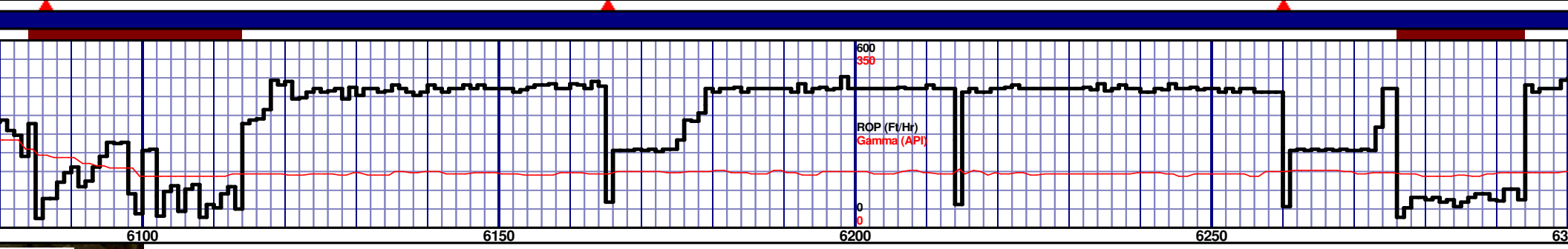
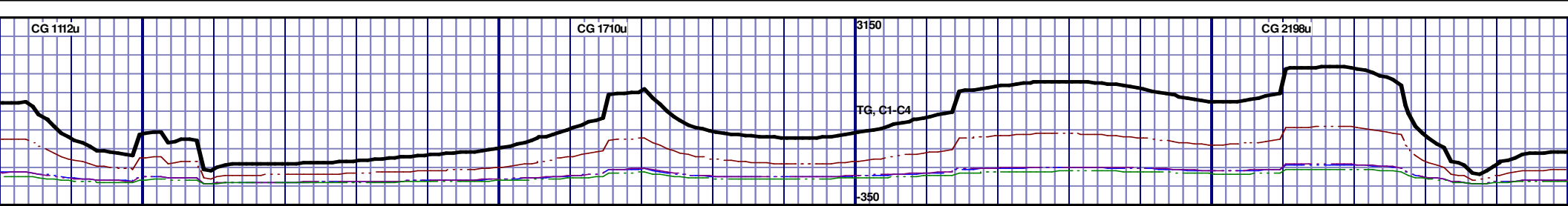


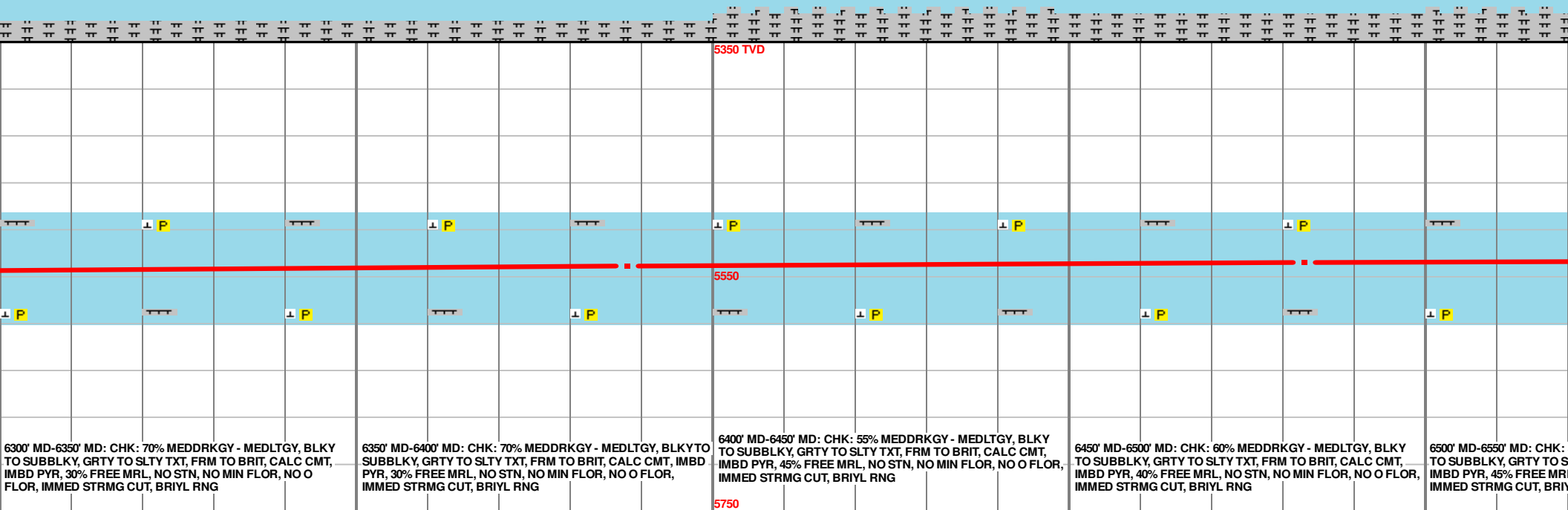
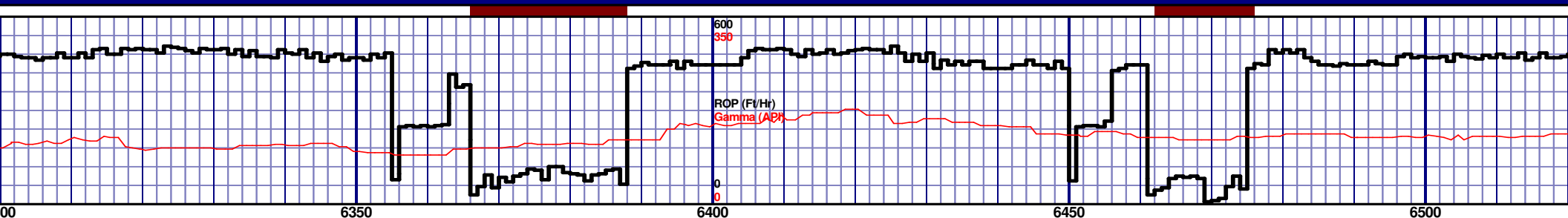
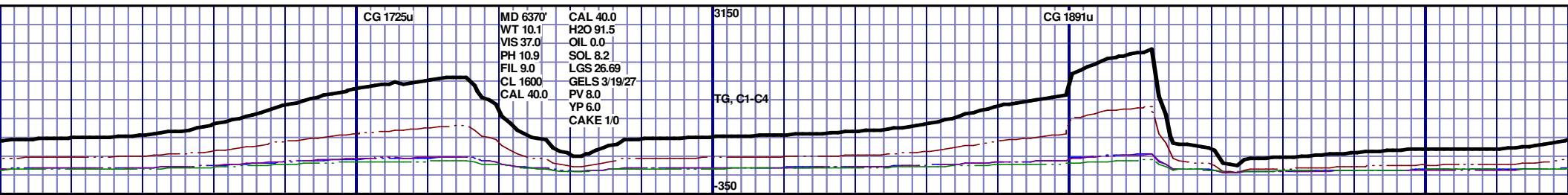


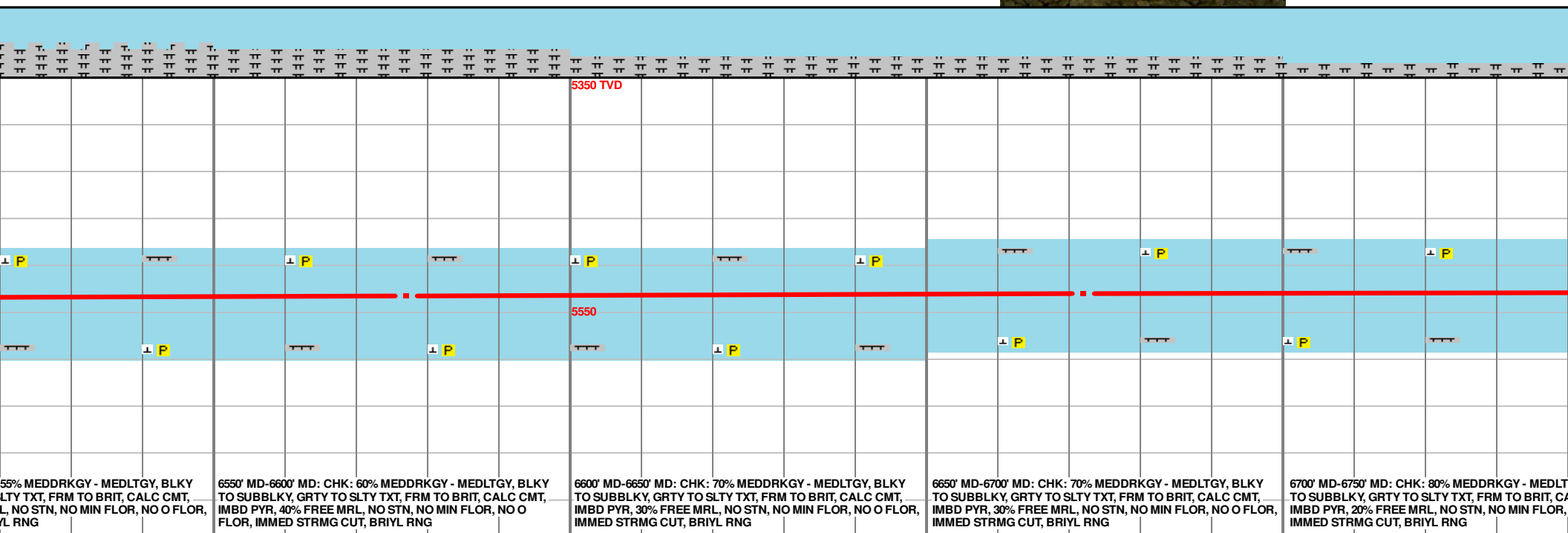
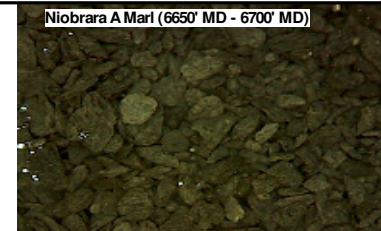
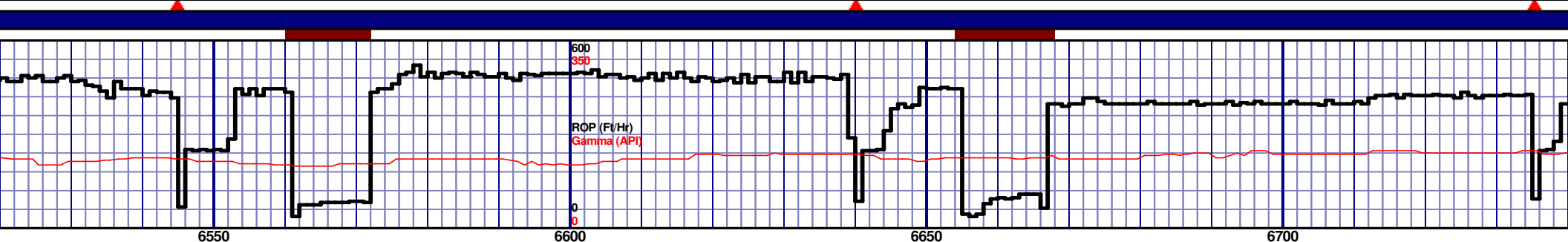
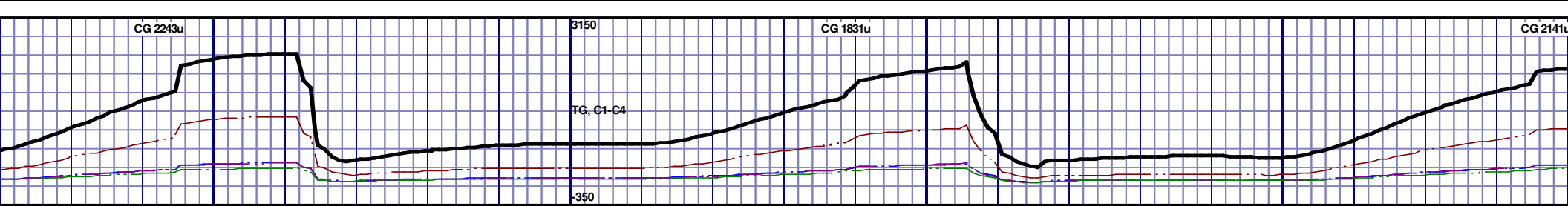
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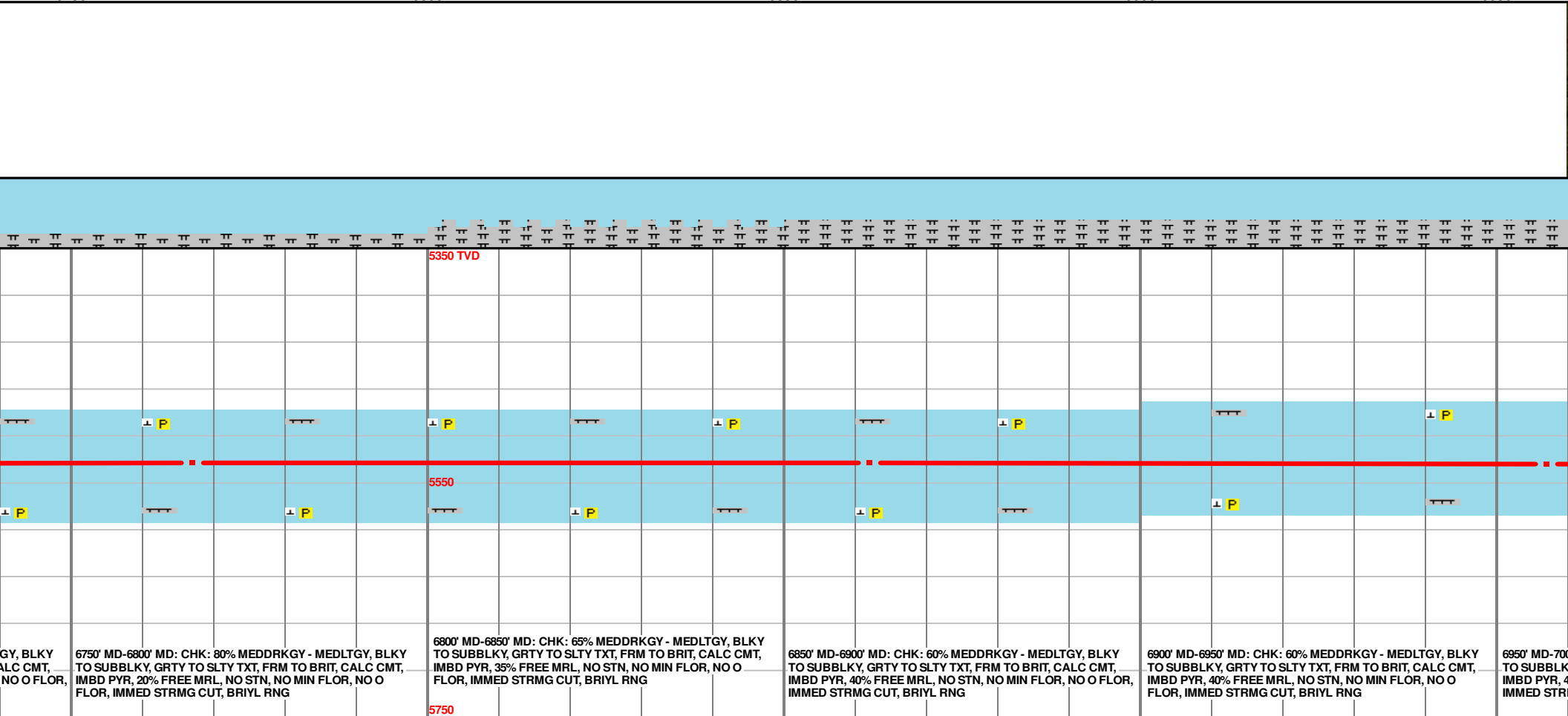
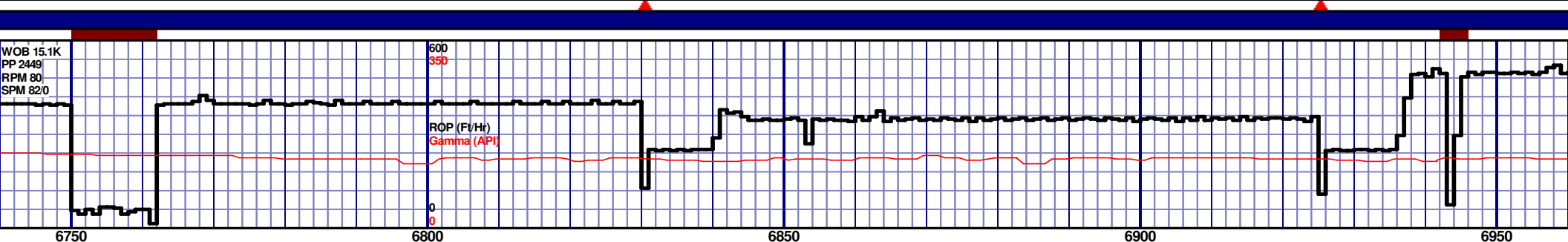
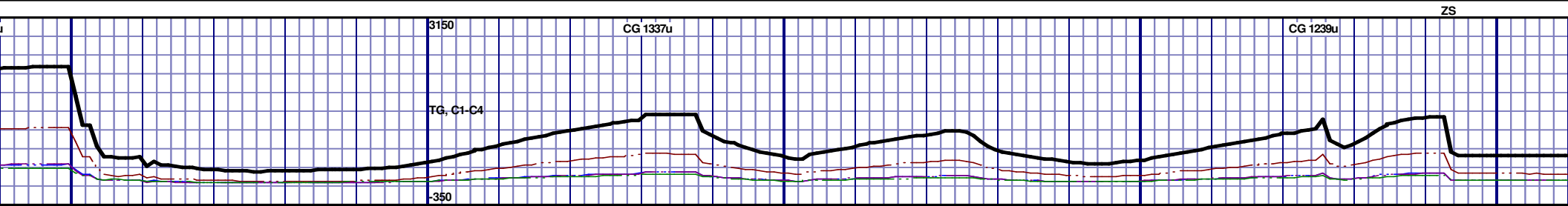
TOOH @ 10:30 AM ON 1/10/15 @ 5951' MD FOR INTERMEDIATE CASING OPERATIONS. TIH @ 8:45 AM ON 1/11/2015. RESUMED DRILLING @ 11:30 AM ON 1/11/2015 W/ BIT #3, 6.125", SMITH SDI513UBPX, SN JJ4897 @ 5951' MD.									
SWITCHING TO 50FT SAMPLE INTERVAL									
5300' MD-5951' MD: MRST: 70% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT, IMBD PYR, FREE CALC, TRC FREE BENT, 30% FREE CHK, NO STN, TRC MIN FLOR, IMMED STRMG CUT, HVY BRIYL RNG									
5951' MD-6000' MD: MRST: 60% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT, IMBD PYR, FREE CALC, TRC FREE BENT, 40% FREE CHK, NO STN, TRC MIN FLOR, NO O FLOR, IMMED STRMG CUT, HVY BRIYL RNG									
6000' MD-6050' MD: MRST: 55% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT, IMBD PYR, FREE CALC, TRC FREE BENT, 45% FREE CHK, NO STN, TRC MIN FLOR, NO O FLOR, IMMED STRMG CUT, HVY BRIYL RNG									
6050' MD-6100' MD: CHK: 60% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT, IMBD PYR, FREE CALC, TRC FREE BENT, 45% FREE CHK, NO STN, TRC MIN FLOR, NO O FLOR, IMMED STRMG CUT, HVY BRIYL RNG									









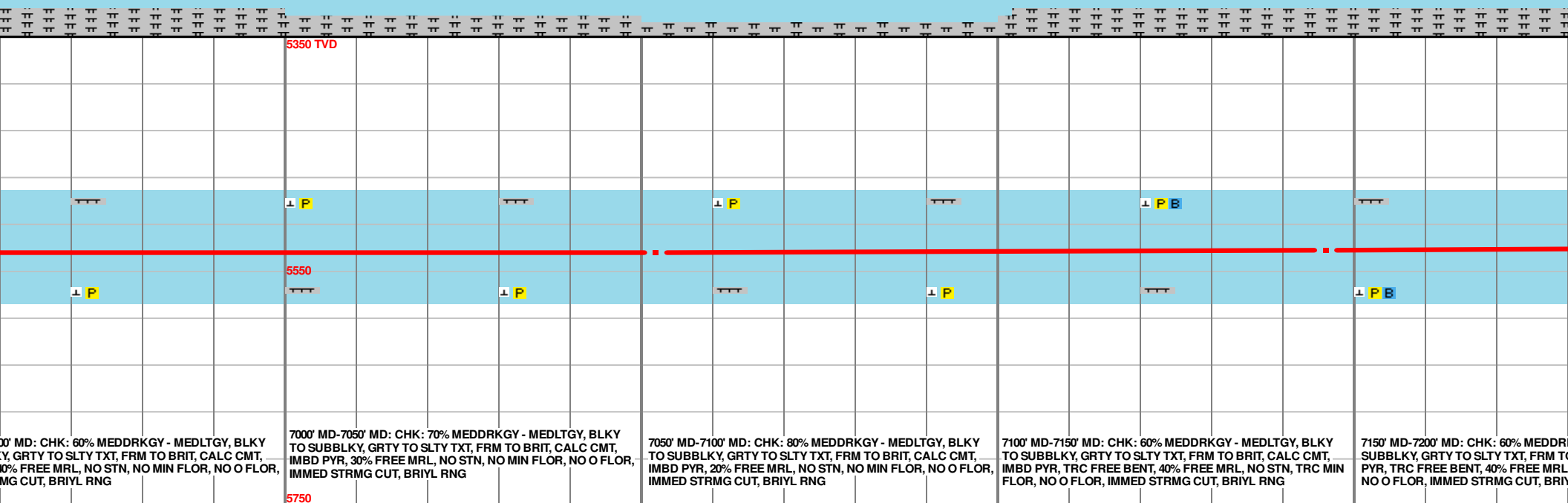
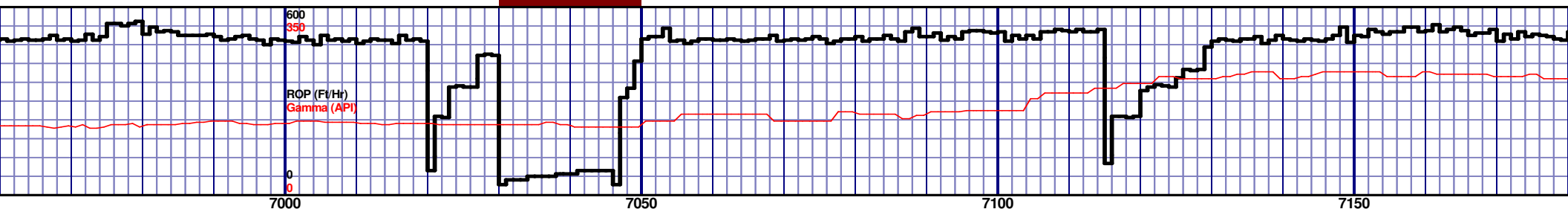


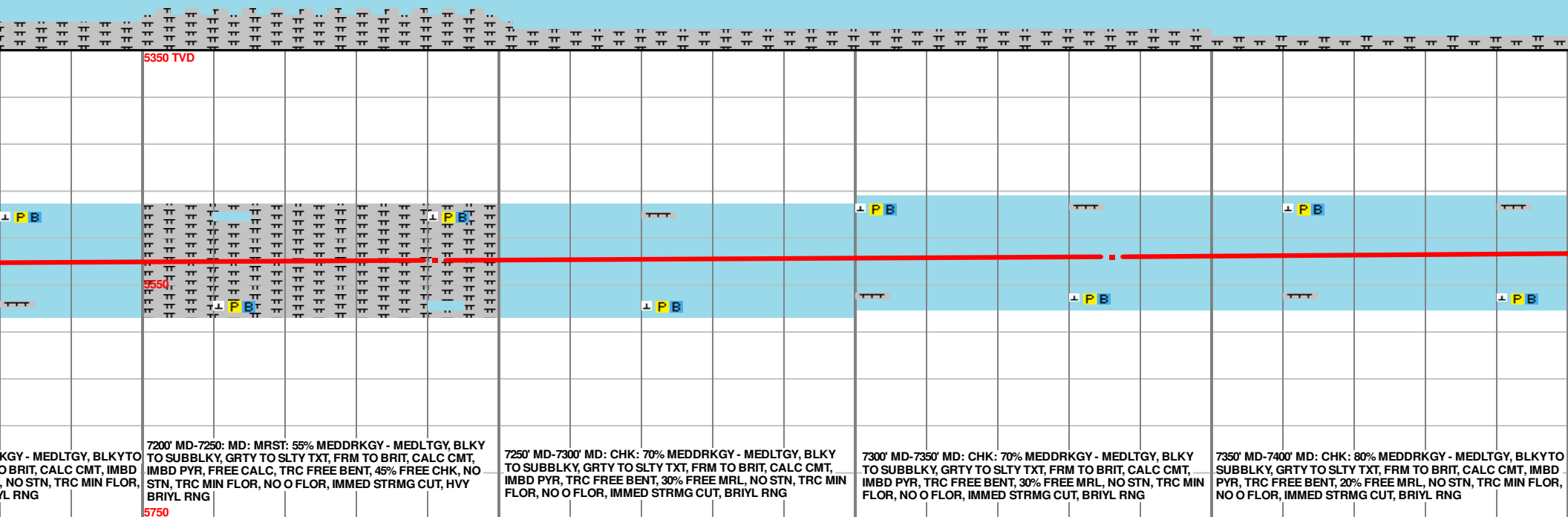
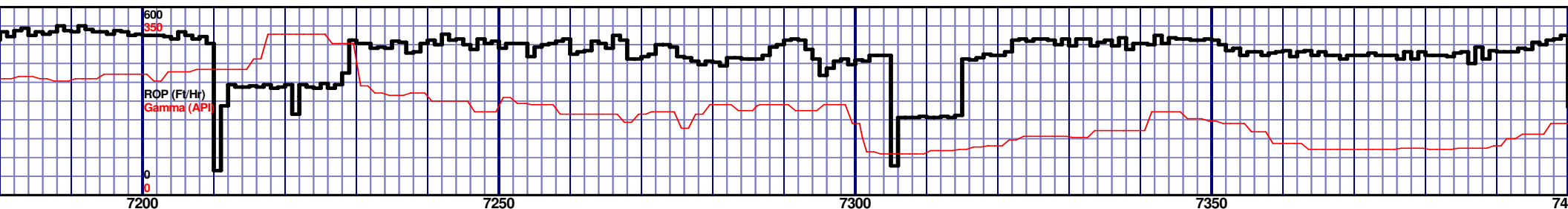
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INC 90.8 AZ 359.27  
VS 1520.73

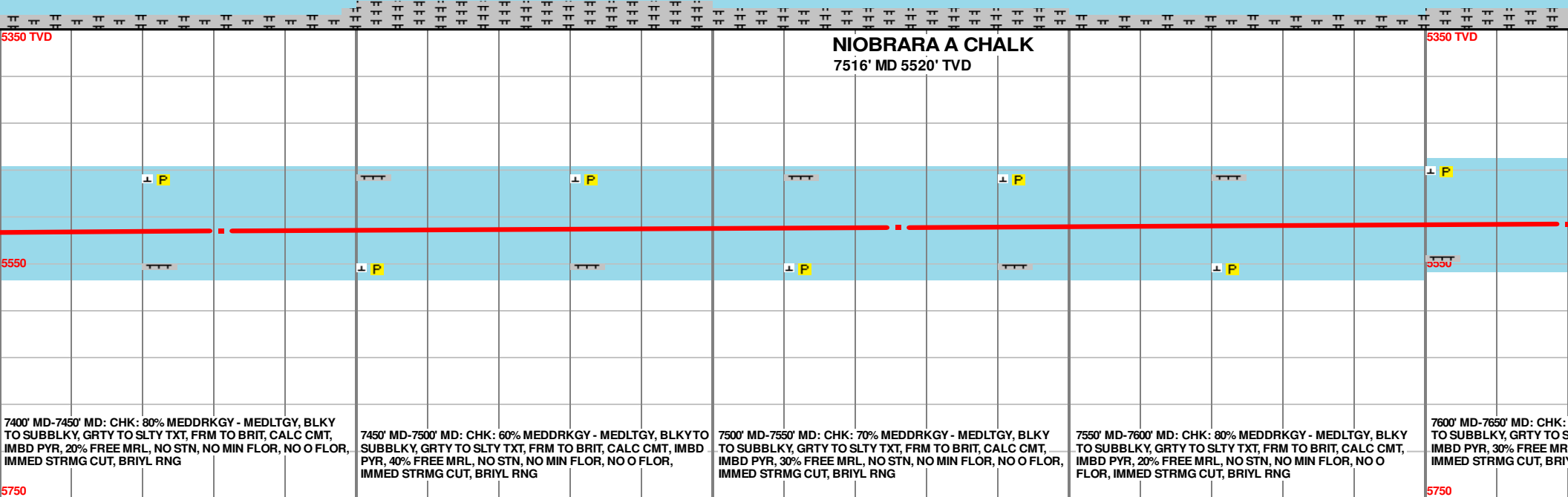
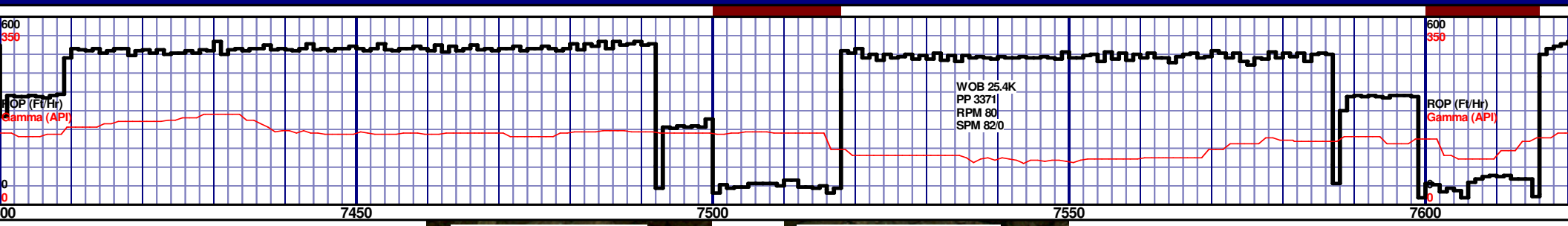
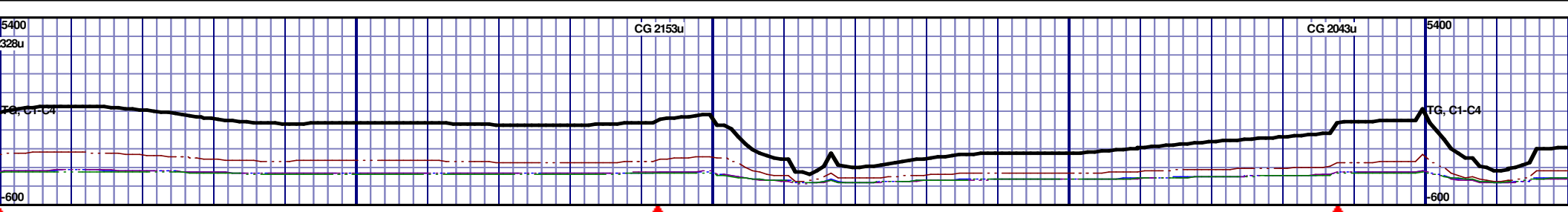
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INC 89.66 AZ 356.96  
VS 1615.58

MD  
INC  
VS



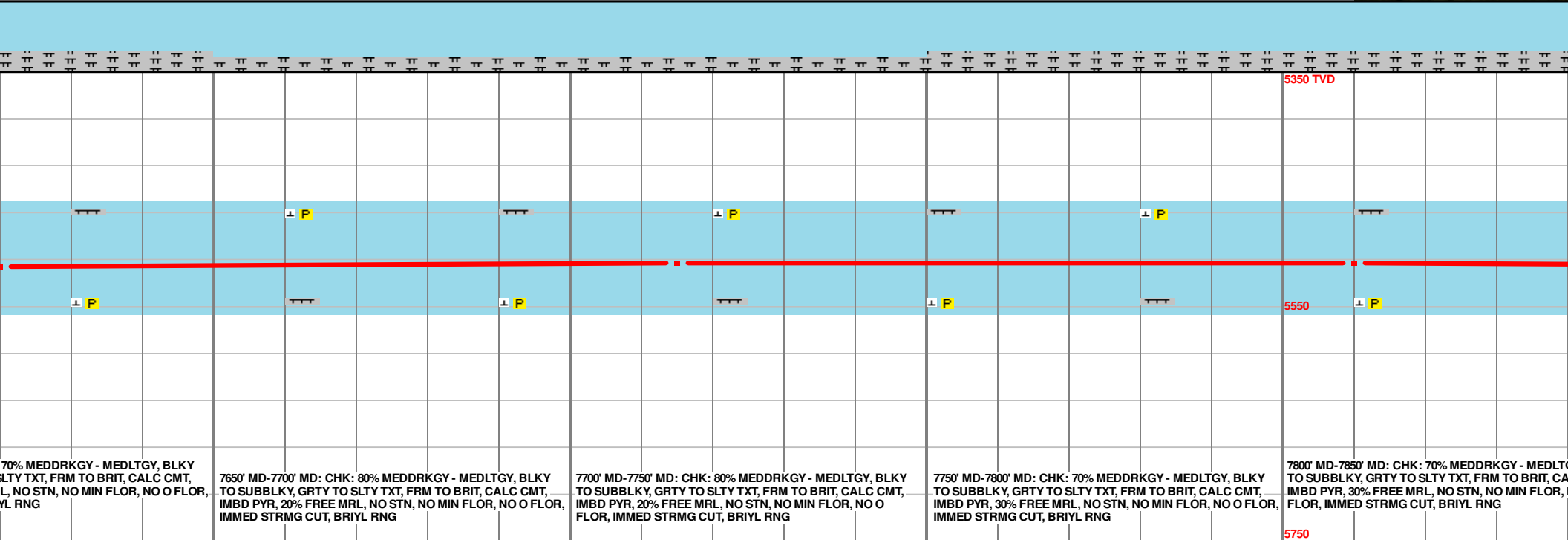
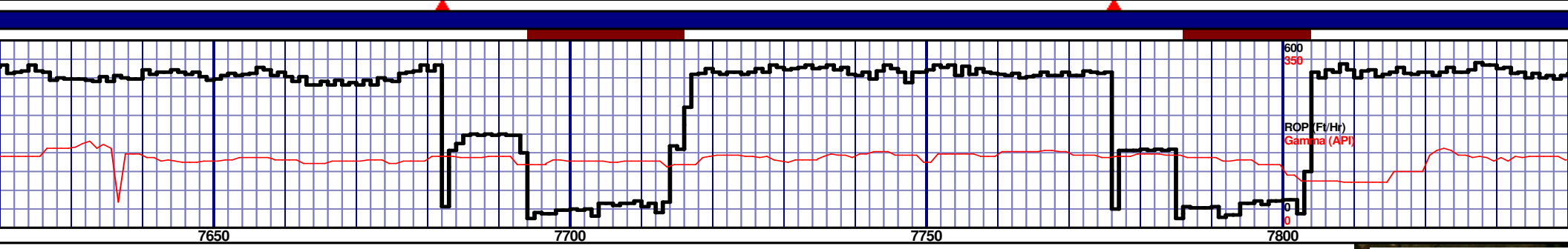
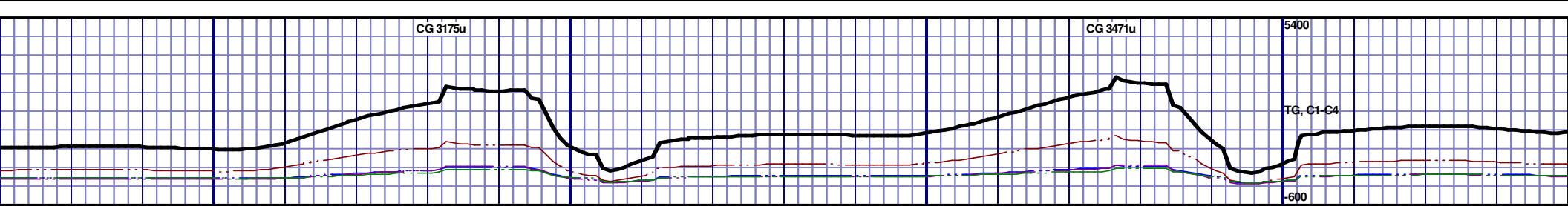






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INC 91.51 AZ 353.5  
VS 2183.8

MD 7526 TVD 5519.44  
INC 92 AZ 356.62  
VS 2278.74



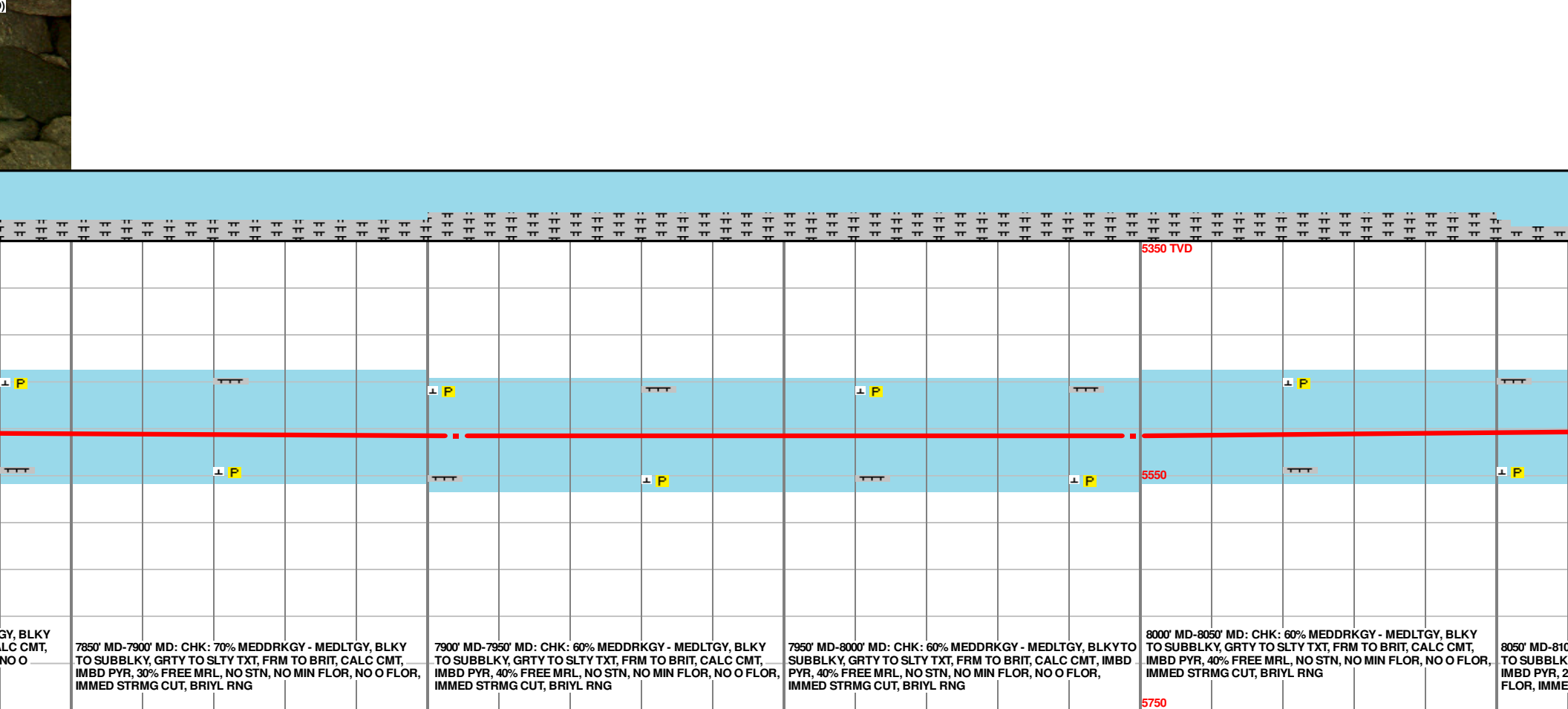
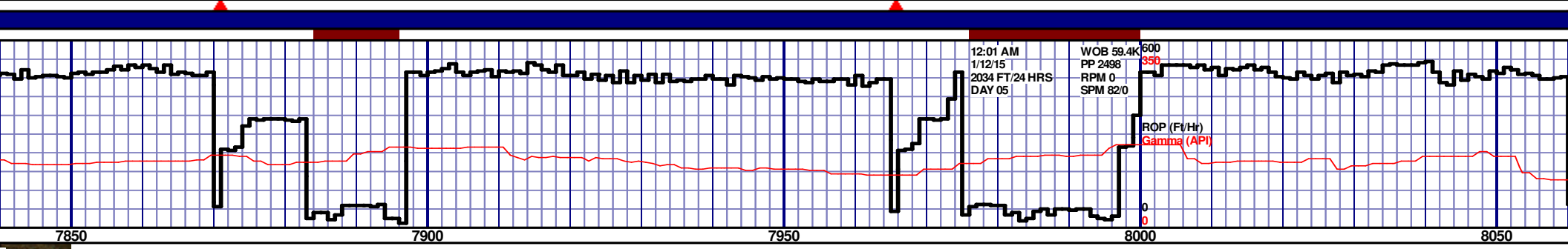
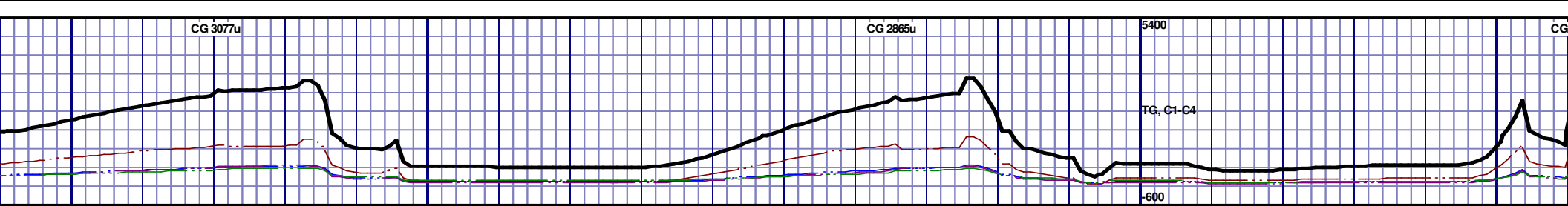
70% MEDDRKGY - MEDLTGY, BLKY  
SLTY TXT, FRM TO BRIT, CALC CMT,  
L, NO STN, NO MIN FLOR, NO O FLOR,  
YL RNG

7650' MD-7700' MD: CHK: 80% MEDDRKGY - MEDLTGY, BLKY  
TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT,  
IMBD PYR, 20% FREE MRL, NO STN, NO MIN FLOR, NO O FLOR,  
IMMED STRMG CUT, BRIYL RNG

7700' MD-7750' MD: CHK: 80% MEDDRKGY - MEDLTGY, BLKY  
TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT,  
IMBD PYR, 20% FREE MRL, NO STN, NO MIN FLOR, NO O  
FLOR, IMMED STRMG CUT, BRIYL RNG

7750' MD-7800' MD: CHK: 70% MEDDRKGY - MEDLTGY, BLKY  
TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT,  
IMBD PYR, 30% FREE MRL, NO STN, NO MIN FLOR, NO O FLOR,  
IMMED STRMG CUT, BRIYL RNG

7800' MD-7850' MD: CHK: 70% MEDDRKGY - MEDLTGY, BLKY  
TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT,  
IMBD PYR, 30% FREE MRL, NO STN, NO MIN FLOR, NO O FLOR,  
IMMED STRMG CUT, BRIYL RNG



GY, BLKY  
LC CMT,  
NO O

7850' MD-7900' MD: CHK: 70% MEDDRKGY - MEDLTGY, BLKY  
TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT,  
IMBD PYR, 30% FREE MRL, NO STN, NO MIN FLOR, NO O FLOR,  
IMMED STRMG CUT, BRIYL RNG

7900' MD-7950' MD: CHK: 60% MEDDRKGY - MEDLTGY, BLKY  
TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT,  
IMBD PYR, 40% FREE MRL, NO STN, NO MIN FLOR, NO O FLOR,  
IMMED STRMG CUT, BRIYL RNG

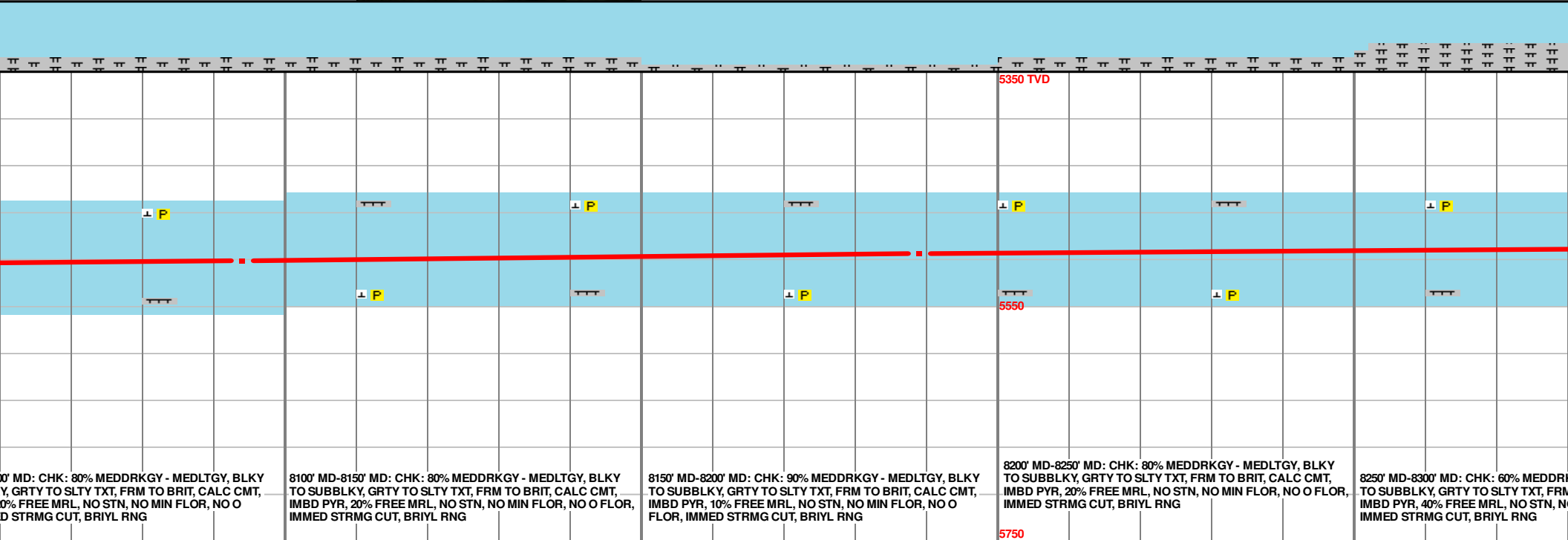
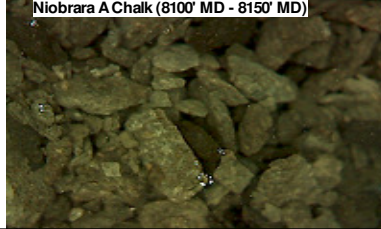
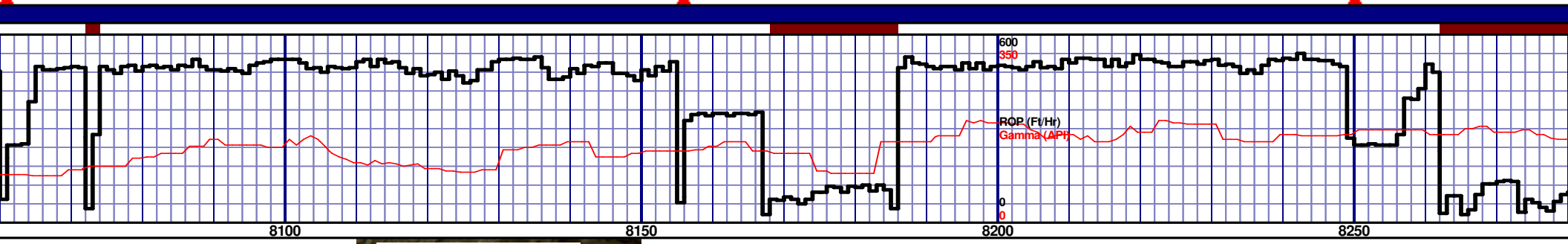
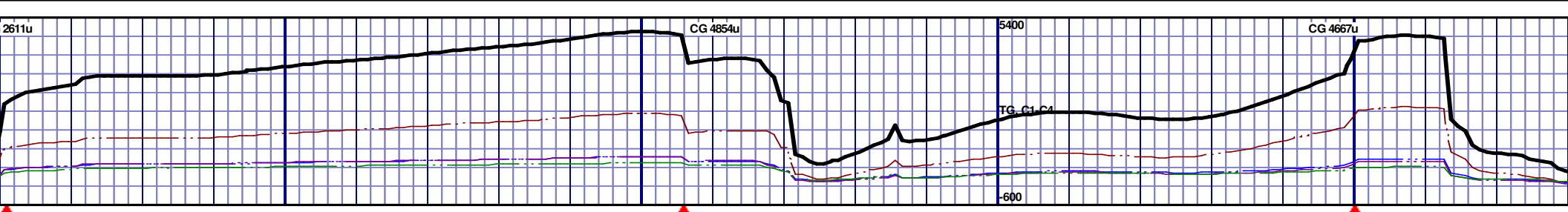
7950' MD-8000' MD: CHK: 60% MEDDRKGY - MEDLTGY, BLKY  
TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT, IMBD  
PYR, 40% FREE MRL, NO STN, NO MIN FLOR, NO O FLOR,  
IMMED STRMG CUT, BRIYL RNG

8000' MD-8050' MD: CHK: 60% MEDDRKGY - MEDLTGY, BLKY  
TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT,  
IMBD PYR, 40% FREE MRL, NO STN, NO MIN FLOR, NO O FLOR,  
IMMED STRMG CUT, BRIYL RNG

8050' MD-8100' MD: CHK: 60% MEDDRKGY - MEDLTGY, BLKY  
TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT,  
IMBD PYR, 40% FREE MRL, NO STN, NO MIN FLOR, NO O FLOR,  
IMMED STRMG CUT, BRIYL RNG

MD 7904 TVD 5516.03  
INC 88.3 AZ 357.27  
VS 2656.04

MD 7999 TVD 5515.9  
INC 91.85 AZ 1.38  
VS 2750.73



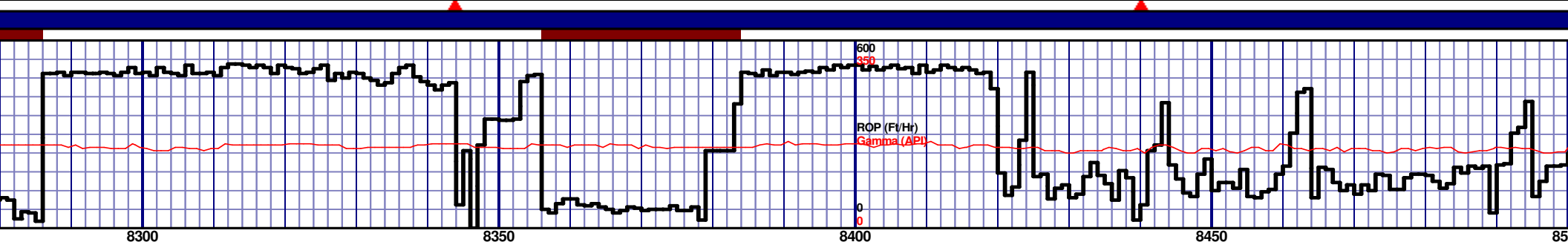
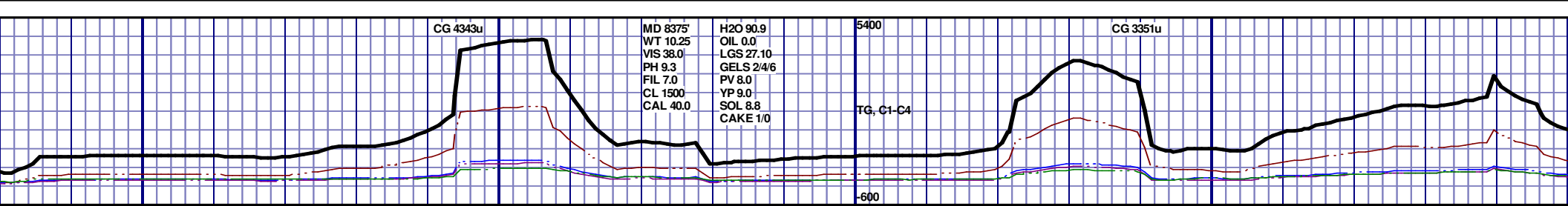
0' MD: CHK: 80% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT, IMBD PYR, 20% FREE MRL, NO STN, NO MIN FLOR, NO O D STRMG CUT, BRIYL RNG

8100' MD-8150' MD: CHK: 80% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT, IMBD PYR, 20% FREE MRL, NO STN, NO MIN FLOR, NO O FLOR, IMMED STRMG CUT, BRIYL RNG

8150' MD-8200' MD: CHK: 90% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT, IMBD PYR, 10% FREE MRL, NO STN, NO MIN FLOR, NO O FLOR, IMMED STRMG CUT, BRIYL RNG

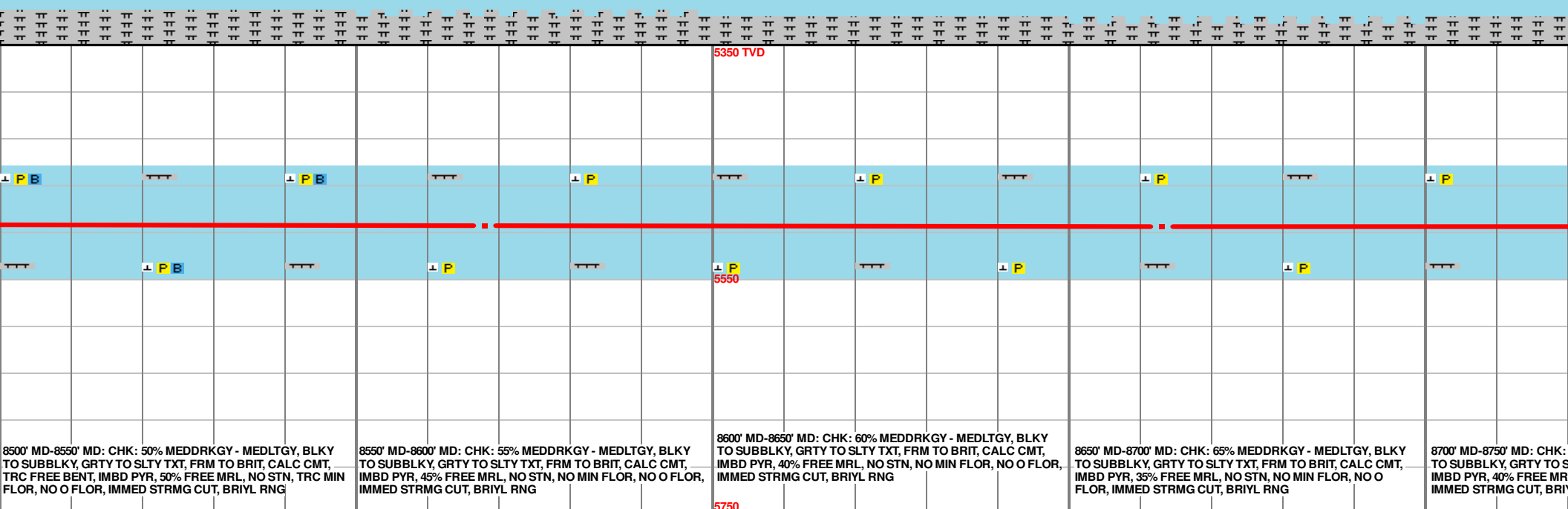
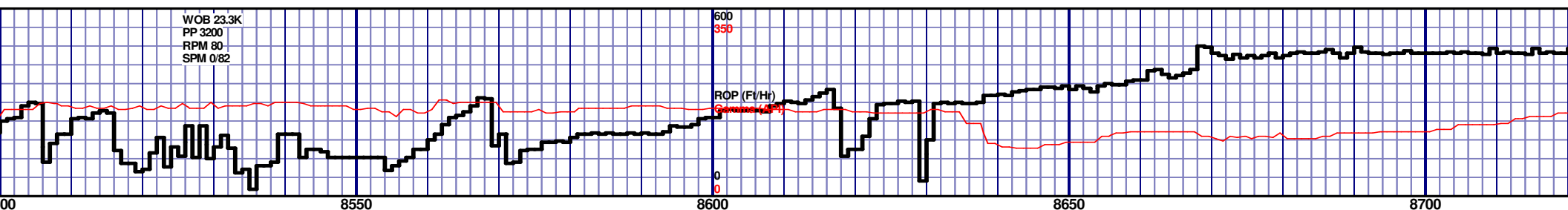
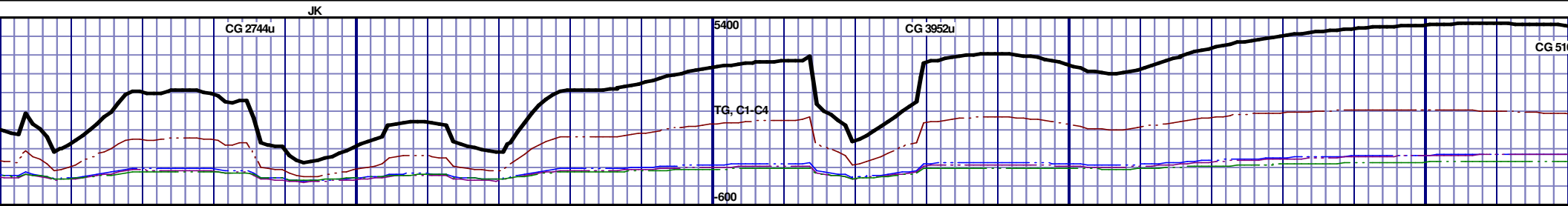
8200' MD-8250' MD: CHK: 80% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT, IMBD PYR, 20% FREE MRL, NO STN, NO MIN FLOR, NO O FLOR, IMMED STRMG CUT, BRIYL RNG

8250' MD-8300' MD: CHK: 60% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT, IMBD PYR, 40% FREE MRL, NO STN, NO MIN FLOR, NO O FLOR, IMMED STRMG CUT, BRIYL RNG



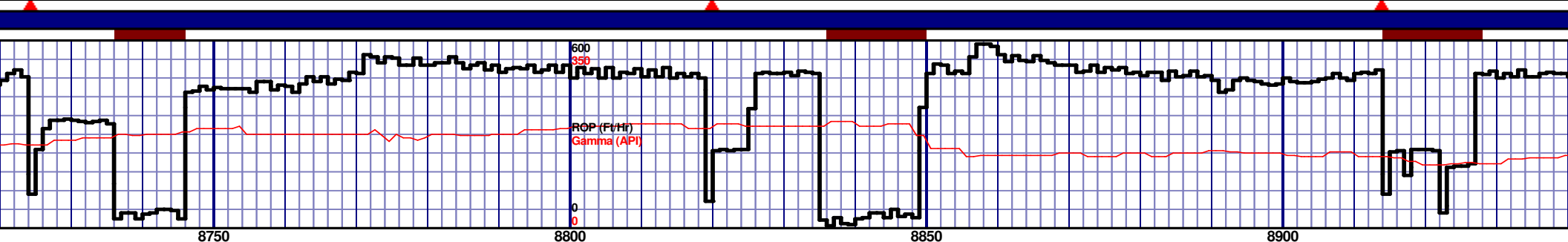
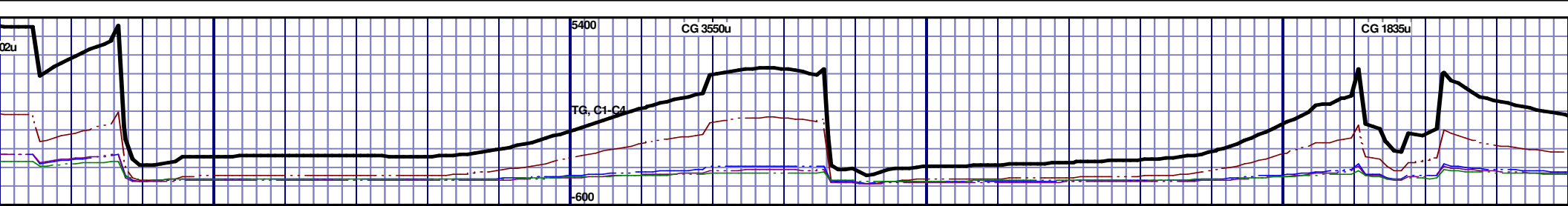
8300' MD-8350' MD: CHK: 60% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT, IMBD PYR, 40% FREE MRL, NO STN, NO MIN FLOR, NO O FLOR, IMMED STRMG CUT, BRIYL RNG									
8350' MD-8400: MD: MRST: 60% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT, IMBD PYR, FREE CALC, 40% FREE CHK, NO STN, NO MIN FLOR, NO O FLOR, IMMED STRMG CUT, HVY BRIYL									
8400' MD-8450: MD: MRST: 70% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT, IMBD PYR, FREE CALC, 30% FREE CHK, NO STN, NO MIN FLOR, NO O FLOR, IMMED STRMG CUT, HVY BRIYL									
8450' MD-8500: MD: MRST: 60% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT, TRC FREE BENT, IMBD PYR, FREE CALC, 40% FREE CHK, NO STN, TRC MIN FLOR, NO O FLOR, IMMED STRMG CUT, HVY BRIYL									





MD 8568 TVD 5503.84  
INC 89.38 AZ 0.19  
VS 3316.23

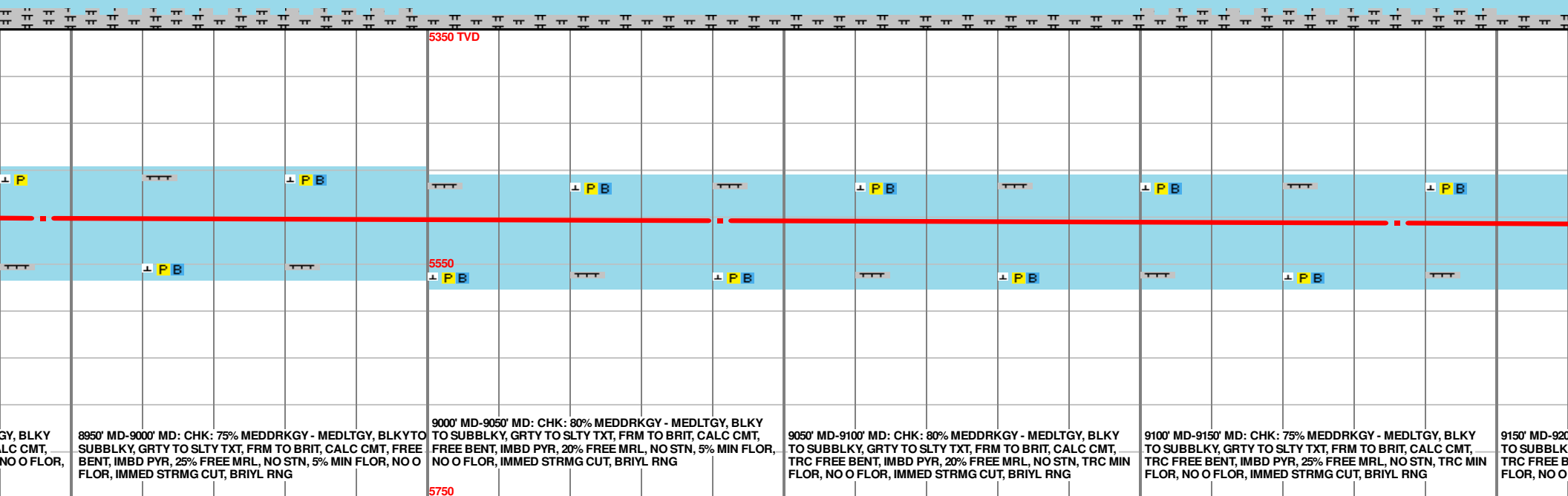
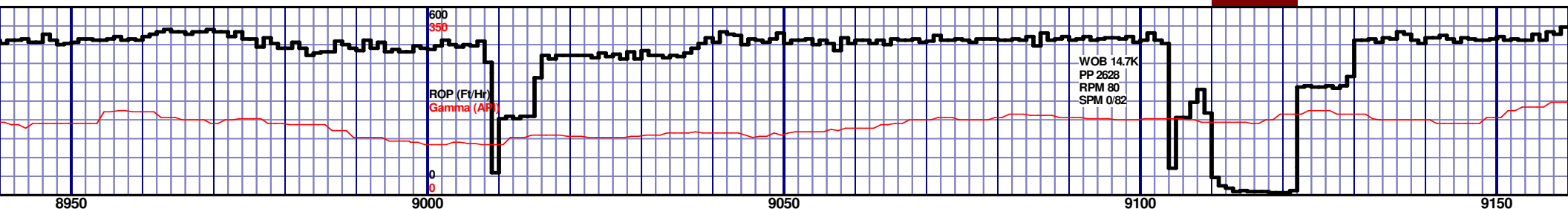
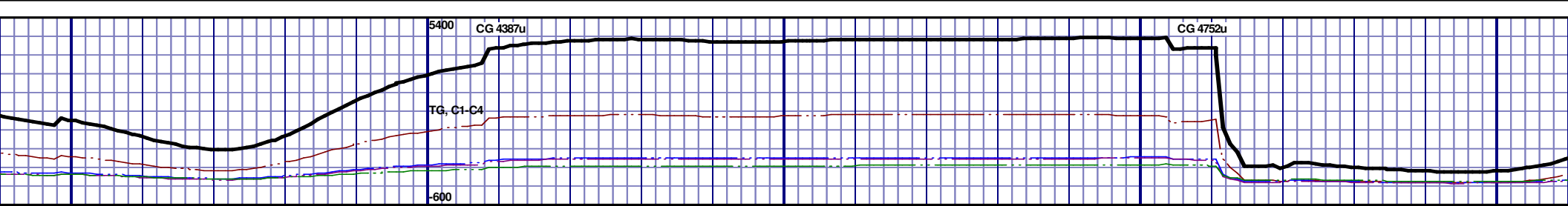
MD 8663 TVD 5504.66  
INC 89.63 AZ 0.3  
VS 3410.82



<p>60% MEDDRKGY - MEDLTGY, BLKY SLTY TXT, FRM TO BRIT, CALC CMT, L, NO STN, NO MIN FLOR, NO O FLOR, VL RNG</p>	<p>8750' MD-8800' MD: CHK: 55% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT, IMBD PYR, 45% FREE MRL, NO STN, NO MIN FLOR, NO O FLOR, IMMED STRMG CUT, BRIYL RNG</p>	<p>8800' MD-8850' MD: MRST: 60% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT, IMBD PYR, FREE CALC, 40% FREE CHK, NO STN, NO MIN FLOR, NO O FLOR, IMMED STRMG CUT, HVY BRIYL</p>	<p>8850' MD-8900' MD: CHK: 60% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT, TRC FREE BENT, IMBD PYR, 40% FREE MRL, NO STN, TRC MIN FLOR, NO O FLOR, IMMED STRMG CUT, BRIYL RNG</p>	<p>8900' MD-8950' MD: CHK: 70% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT, IMBD PYR, 30% FREE MRL, NO STN, NO MIN FLOR, NO O FLOR, IMMED STRMG CUT, BRIYL RNG</p>
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MD 8757 TVD 5505.09  
INC 89.85 AZ 2.2  
VS 3504.24

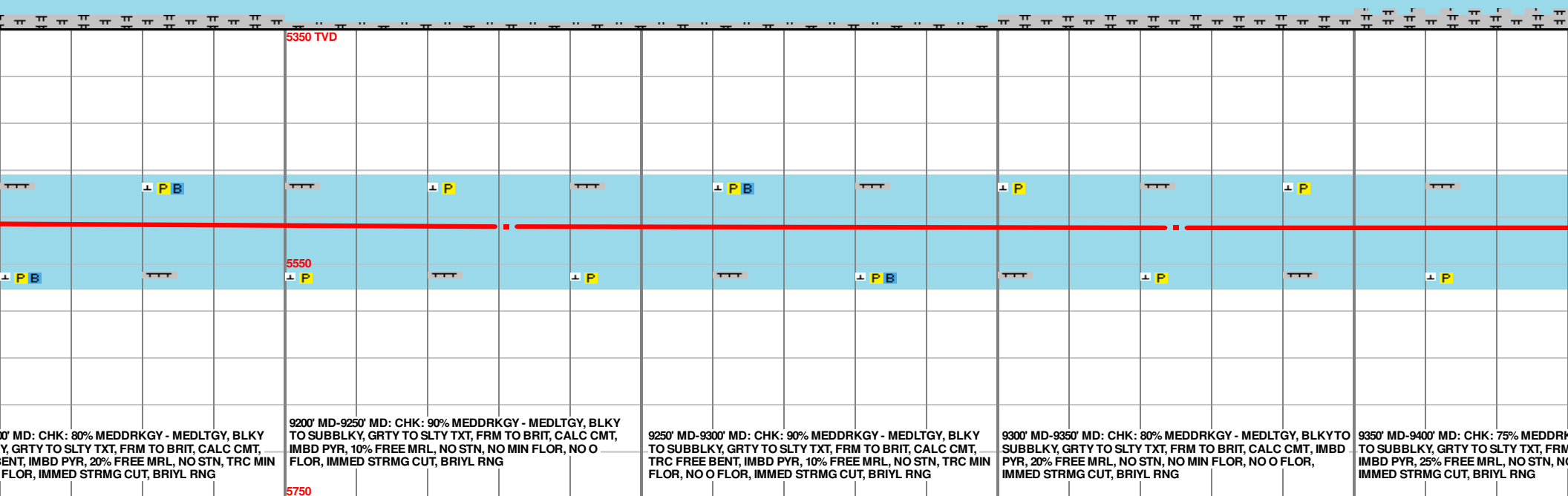
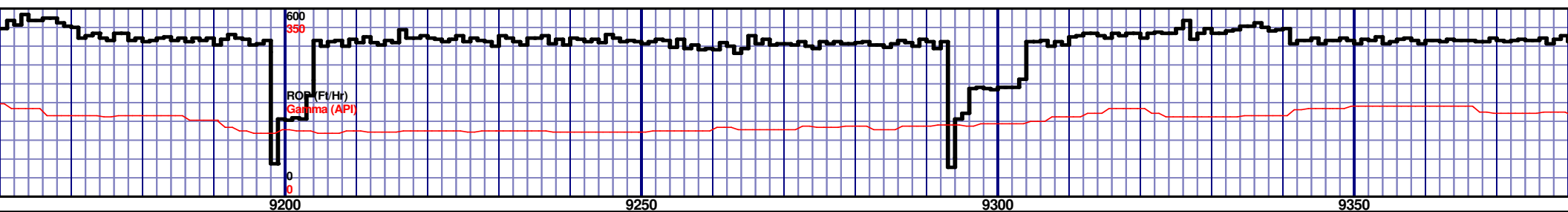
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INC 87.35 AZ 358.22  
VS 3598.78



MD 8946 TVD 5510.88  
INC 88.43 AZ 0.34  
VS 3692.44

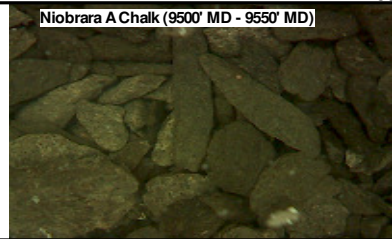
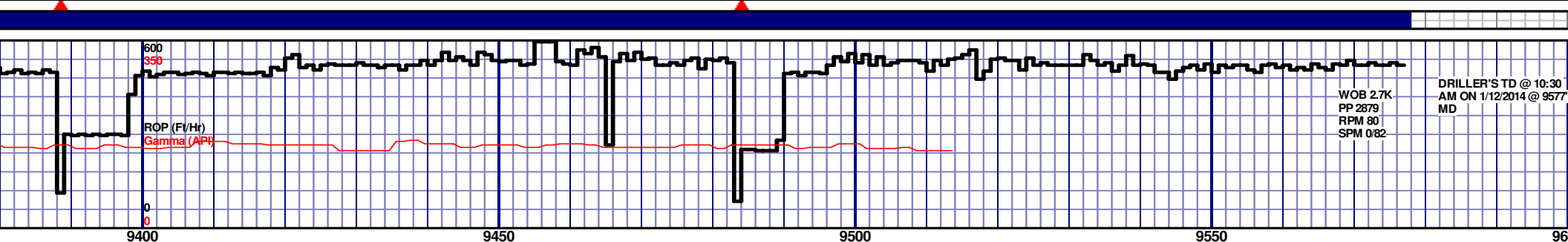
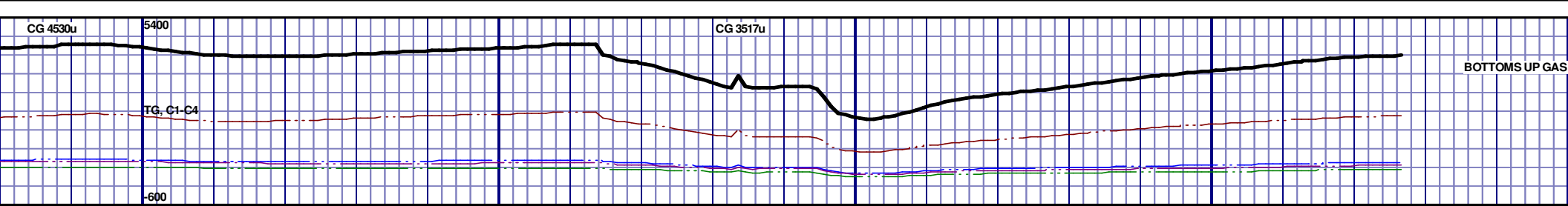
MD 9041 TVD 5513.1  
INC 88.89 AZ 1.27  
VS 3786.91

MD 9136 TVD 5515.22  
INC 88.55 AZ 359.58  
VS 3881.44



MD 9231 TVD 5517.59  
INC 88.58 AZ 358.99  
VS 3976.14

MD 9325 TVD 5518.91  
INC 89.82 AZ 359.59  
VS 4069.85



5350 TVD									
TD @ 9577 MD									
9400' MD-9450' MD: CHK: 70% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT, IMBD PYR, 30% FREE MRL, NO STN, NO MIN FLOR, NO O FLOR, IMMED STRMG CUT, BRIYL RNG									
9450' MD-9500' MD: CHK: 65% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT, IMBD PYR, 35% FREE MRL, NO STN, NO MIN FLOR, NO O FLOR, IMMED STRMG CUT, BRIYL RNG									
9500' MD-9550' MD: CHK: 60% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, CALC CMT, IMBD PYR, 40% FREE MRL, NO STN, NO MIN FLOR, NO O FLOR, IMMED STRMG CUT, BRIYL RNG									
9550' MD-9577 MD: CHK: 60% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, TRC FREE BENT, CALC CMT, IMBD PYR, 40% FREE MRL, NO STN, TRC MIN FLOR, NO O FLOR, IMMED STRMG CUT, BRIYL RNG									
5750									

MD 9420 TVD 5519.44  
INC 89.54 AZ 359.47  
VS 4164.54

MD 9514 TVD 5520.71  
INC 88.92 AZ 358.26  
VS 4258.31

MD 9577 TVD 5521.89  
PTB INC 88.92 AZ 358.26  
VS 4321.19

THANK YOU  
JOE KLU  
ST. CLAI  
AND HO  
LOGGIN

4183u

TG, C1-C4

-600

TG, C1-C4

-600

[illegible]

ROP (Ft/Hr)  
Gamma (API)

0  
0

Gamma (API)

[illegible]

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5350 TVD		
577' MD		

577' MD		

ED ON 1/12/2015

5550

YOU FROM  
JUMPSTRA, ZACK  
IR,  
RIZON WELL  
G, LLC

**YOU FROM  
JUMPSTRA, ZACK  
JR,  
RIZON WELL  
G, LLC**

5750		
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