



7136 South Yale Avenue, Suite 414

Tulsa, Oklahoma 74136-6378

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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: Ross Apodaca &
Scott Haney
Log Interval: 5840' MD to 10270' MD
Start Date: August 27, 2014
Release Date: August 31, 2014

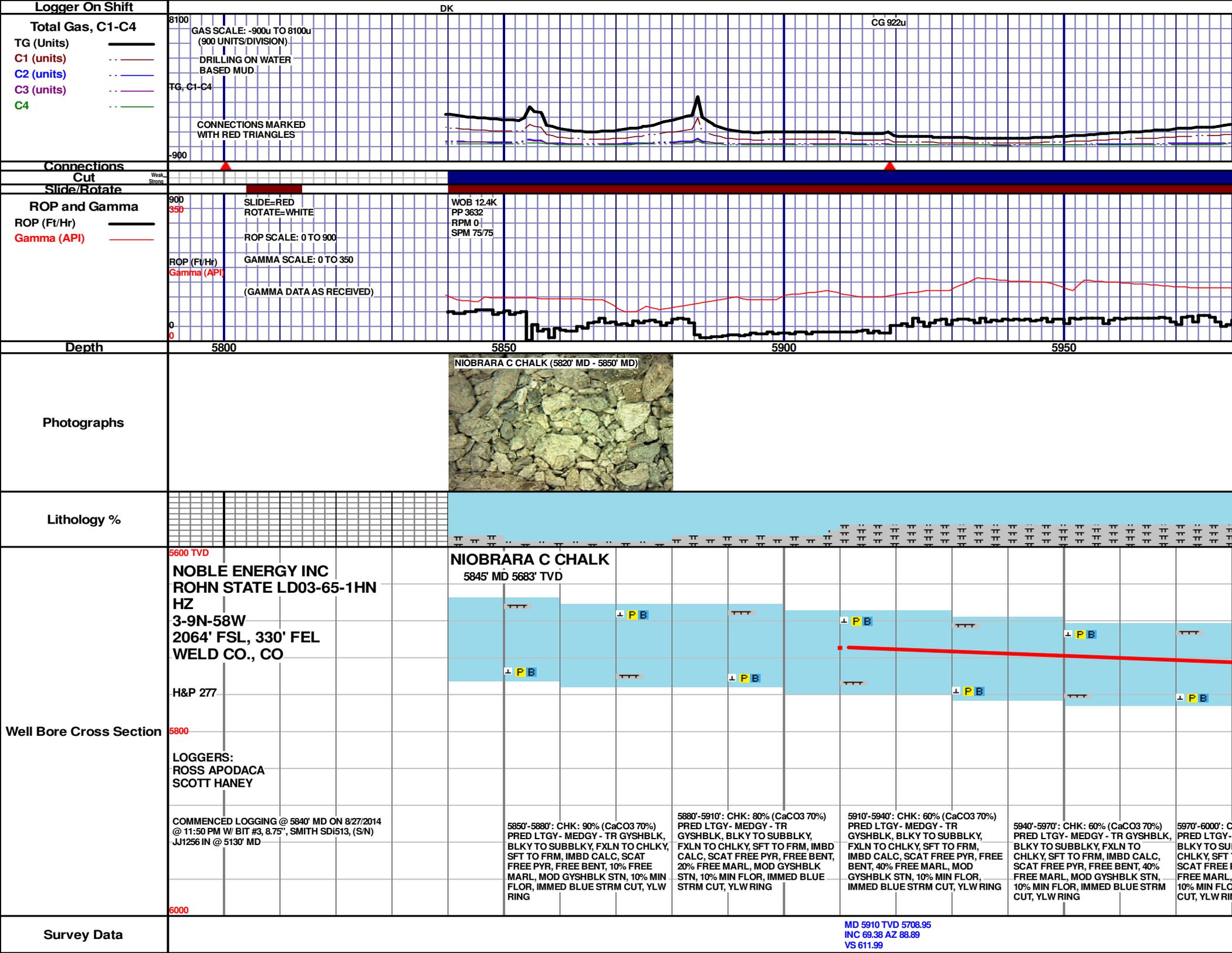
Well Information

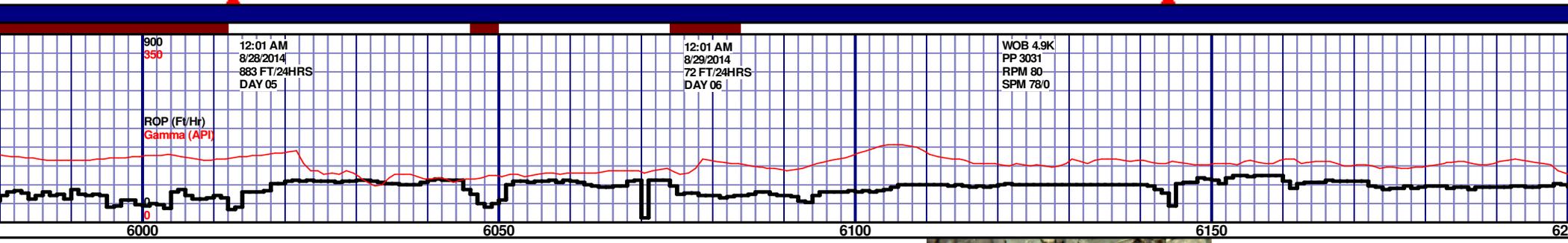
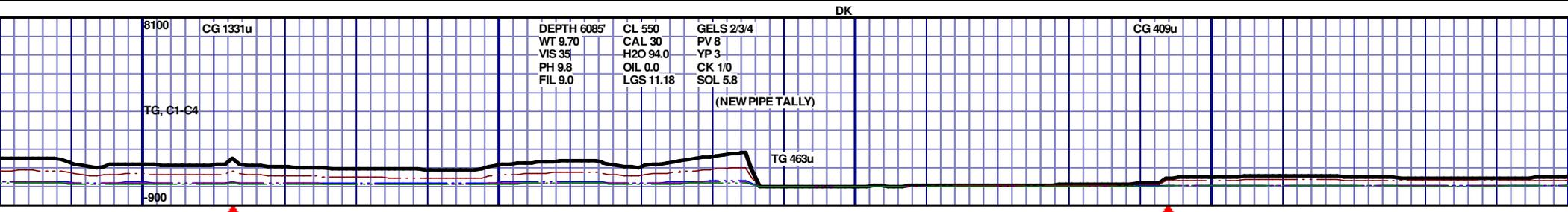
Well Name: Rohn State LD03-65-1HN HZ

Location: 3-9N-58W
2064' FSL, 330' FEL

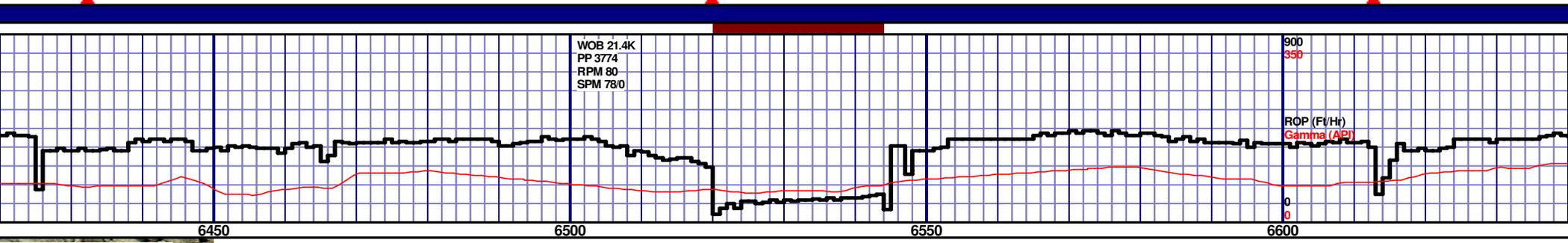
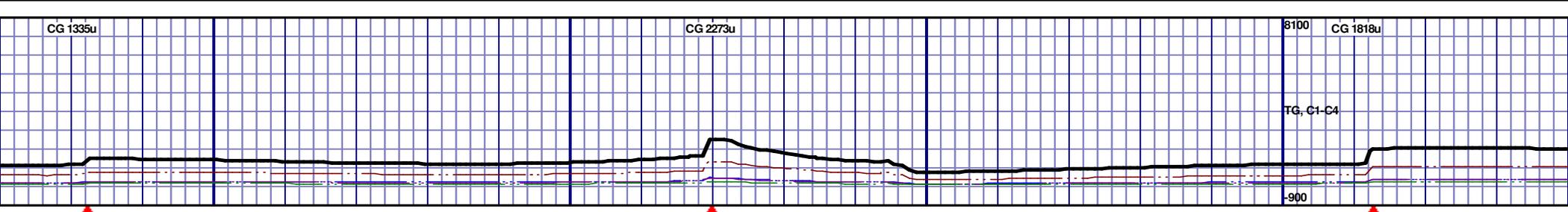
County: Weld
State: Colorado

Drilling Rig: H&P 277
Total Depth: 10270' MD
TD Date: August 31, 2014
Formation: Niobrara C Chalk
KB Elevation: 4723'
GR Elevation: 4699'
API Number: 05-123-37467-0000





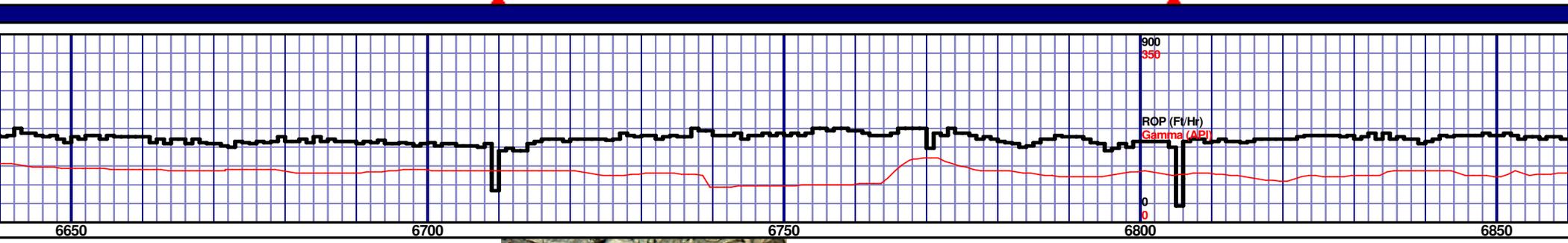
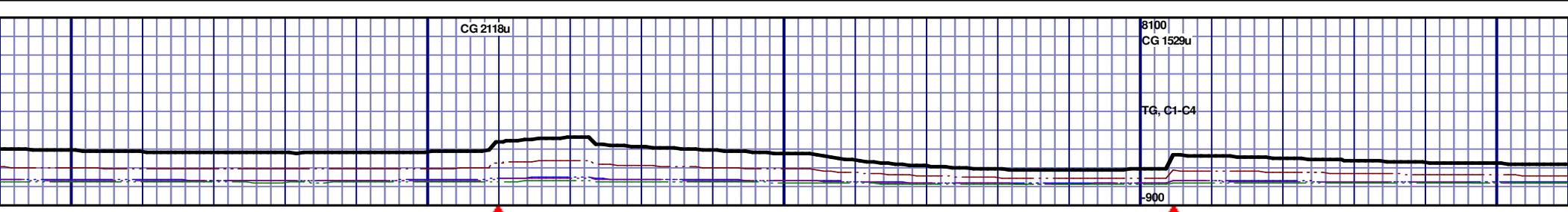
<p>TOOH @ 1:00 AM ON 8/28/14 @ 6085' MD FOR INTERMEDIATE CASING. TIH @ 10:30 AM ON 8/29/2014. RESUMED DRILLING @ 5:45 PM ON 8/29/2014 W/ BIT #4, 6.125", SECURITY FXD54, (S/N) 12042650, IN @ 6085' MD.</p>							
<p>5600 TVD</p>	<p>6000'-6030': CHK: 75% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 25% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWR RING</p>	<p>6030'-6060': CHK: 70% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 30% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWR RING</p>	<p>6060'-6085': CHK: 60% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWR RING</p>	<p>6085'-6120': CHK: 60% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWR RING</p>	<p>6120'-6150': CHK: 60% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWR RING</p>	<p>6150'-6180': CHK: 70% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 30% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWR RING</p>	<p>6180'-6210': CHK: 70% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 30% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWR RING</p>
<p>5800</p>							
<p>6000</p>							



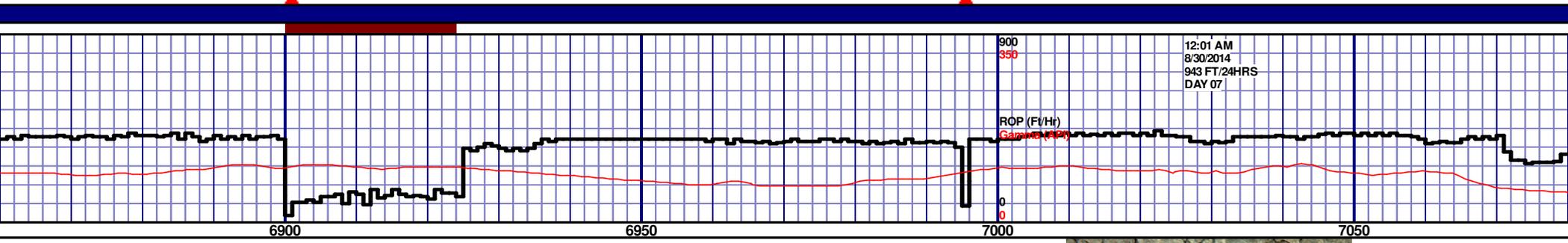
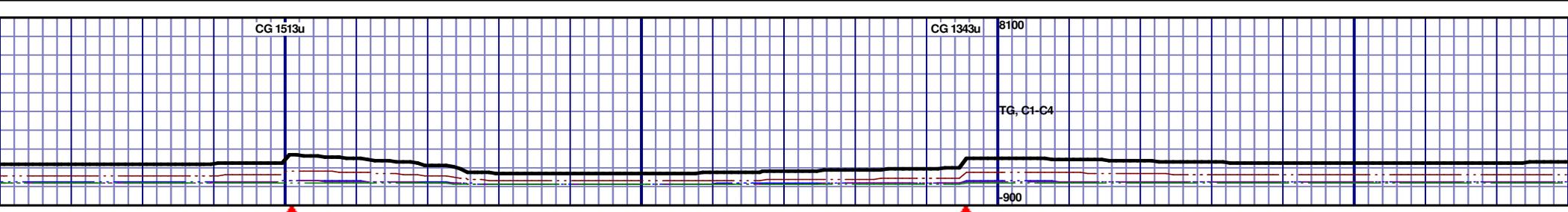
							5600 TVD	
6420'-6450': CHK: 90% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 10% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	6450'-6480': CHK: 80% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 20% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	6480'-6510': CHK: 90% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 10% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	6510'-6540': CHK: 90% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 10% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	6540'-6570': CHK: 90% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 10% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	6570'-6600': CHK: 80% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 20% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	6600'-6630': CHK: 80% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 20% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	6630'-6660': PRED LTGY - BLKY TO SU CHLKY, SFT SCAT FREE FREE MARL 10% MIN FL CUT, YLWR	
							5800	
							6000	

MD 6456 TVD 5763.17
INC 89.62 AZ 91.9
VS 1151.25

MD 6551 TVD 5760.95
INC 93.06 AZ 92.29
VS 1245.62



5600 TVD							
5800							
6000							
CHK: 80% (CaCO3 70%) - MEDGY - TR GYSHBLK, UBBLKY, FXLN TO TO FRM, IMBD CALC, PYR, FREE BENT, 20% MOD GYSHBLK STN, OR, IMMED BLUE STRM RING	6660'-6690': CHK: 70% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 30% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	6690'-6720': CHK: 70% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 30% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	6720'-6750': CHK: 70% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 30% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	6750'-6780': CHK: 90% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 10% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	6780'-6810': CHK: 90% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 10% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	6810'-6840': CHK: 90% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 10% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	6840'-6870': CHK: 90% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 10% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING



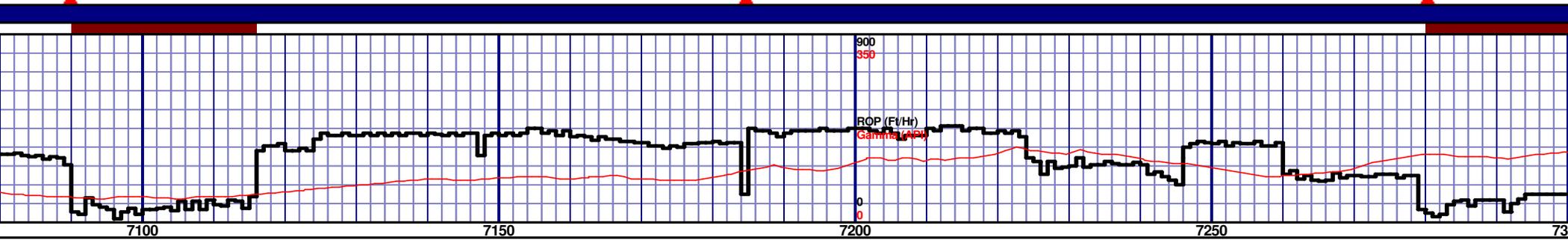
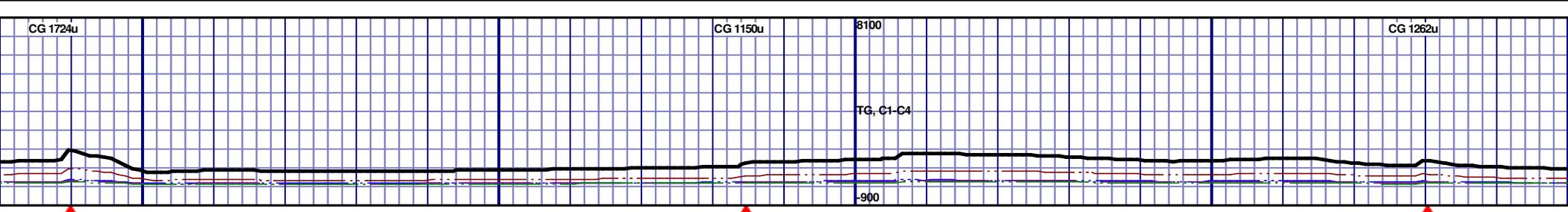
12:01 AM
8/30/2014
943 FT/24HRS
DAY 07



5600 TVD							
	P B	P B	P B	P B	P B	P	P
5800							
	P B	P B	P B	P B	P B	P B	P
6000							
CO3 70%) GYSHBLK, N TO CHLKY, , SCAT % FREE TN, 10% MIN M CUT, YLW RING	6870'-6900': CHK: 80% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 20% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	6900'-6930': CHK: 80% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 20% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	6930'-6960': CHK: 90% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 10% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	6960'-6990': CHK: 90% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 10% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	6990'-7020': CHK: 95% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 5% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	7020'-7050': CHK: 90% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 10% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	7050'-7080': CHK: 80% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

MD 6928 TVD 5755.43
INC 89.24 AZ 89.05
VS 1620.81

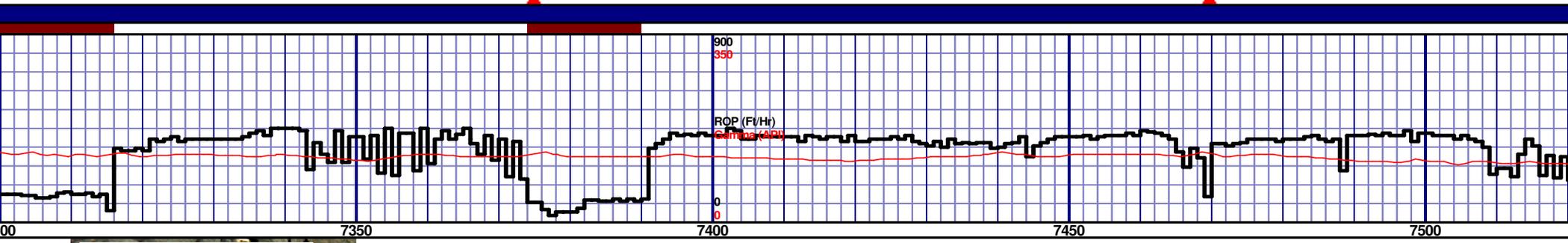
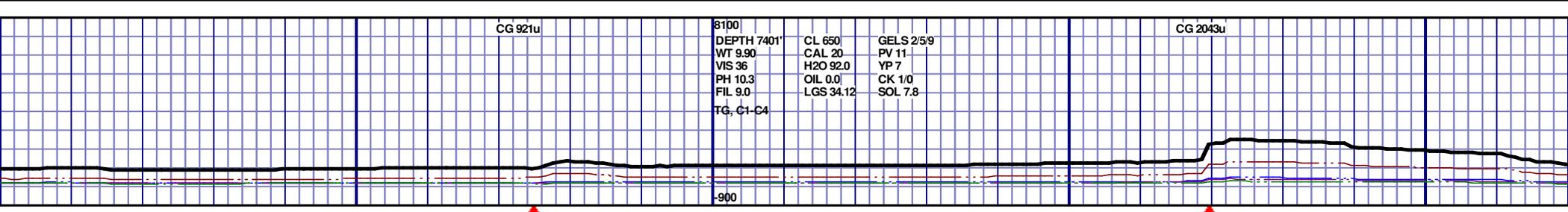
MD 7022 TVD 5757.23
INC 88.56 AZ 90.03
VS 1714.59



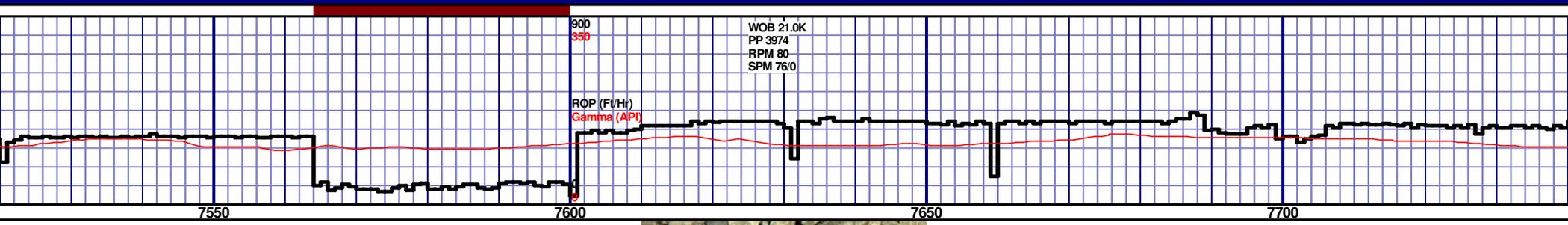
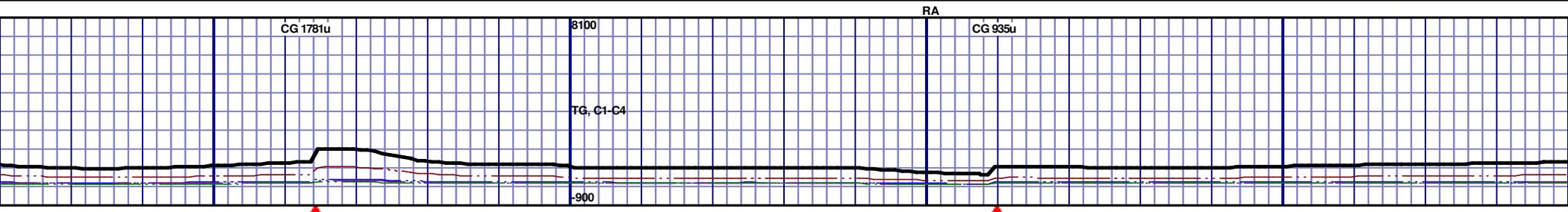
5600 TVD							
5800							
6000							
7080'-7110': CHK: 90% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 10% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	7110'-7140': CHK: 90% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 10% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	7140'-7170': CHK: 90% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 10% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	7170'-7200': CHK: 70% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	7200'-7230': CHK: 80% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	7230'-7260': CHK: 60% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	7260'-7290': CHK: 70% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	7290'-7320': PRED LTGY - BLKY TO SU CHLKY, SFT SCAT FREE MOD GYSH

MD 7117 TVD 5758.34
INC 90.1 AZ 89.26
VS 1809.36

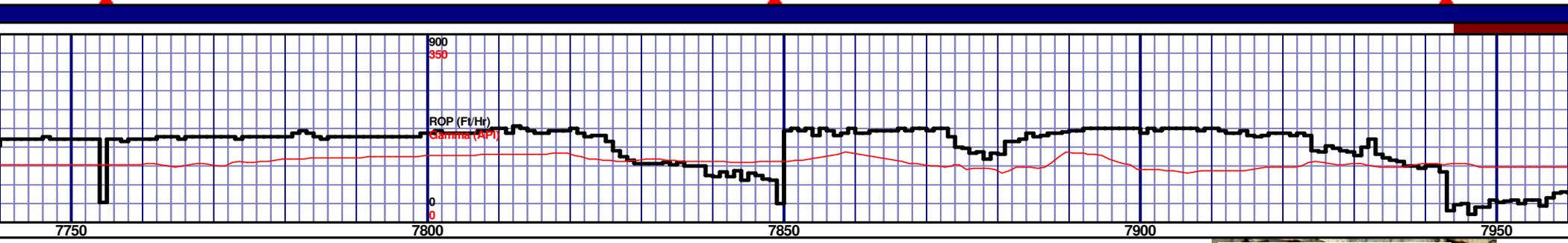
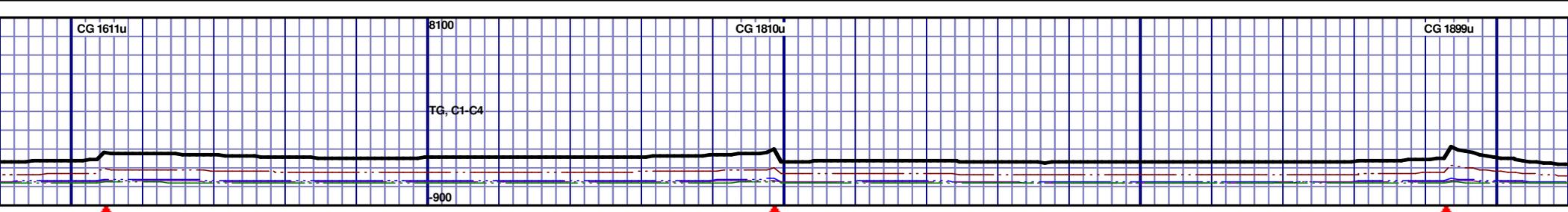
MD 7211 TVD 5759.64
INC 88.32 AZ 88.05
VS 1903.22



5600 TVD							
CHK: 70% (CaCO3 70%) - MEDGY - TR GYSHBLK, SUBBLKY, FXLN TO TO FRM, IMBD CALC, PYR, 30% FREE MARL, BLK STN, 10% MIN FLOR, E STRM CUT, YLW RING	7320'-7350': CHK: 60% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	7350'-7380': CHK: 60% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	7380'-7410': CHK: 60% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	7410'-7440': CHK: 70% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	7440'-7470': CHK: 70% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	7470'-7500': CHK: 70% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	7500'-7530': CHK: 60% (CaCO3 70%) PRED LTGY - MEDGY - TR BLKY TO SUBBLKY, FXLN TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING
5800							
6000							



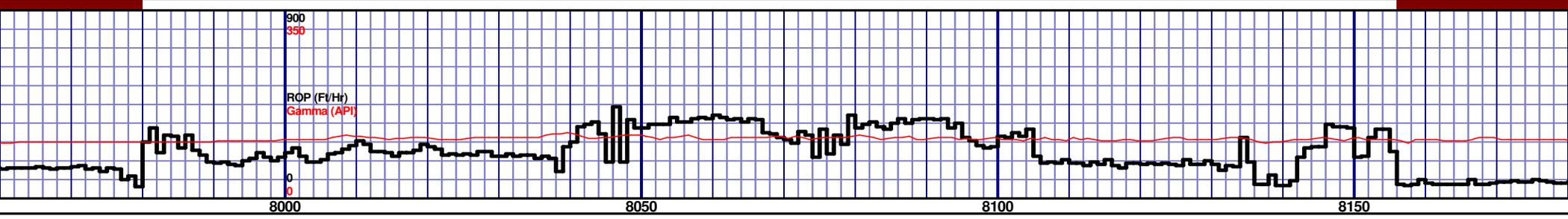
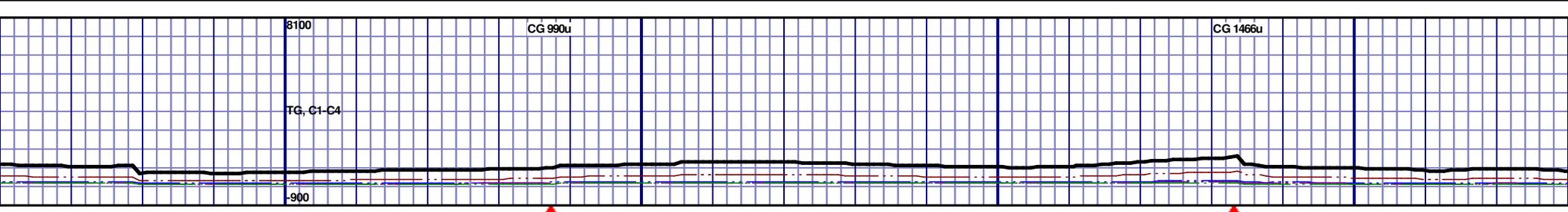
5600 TVD							
7530'-7560': CHK: 60% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	7560'-7590': CHK: 60% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	7590'-7620': CHK: 60% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	7620'-7650': CHK: 60% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	7650'-7680': CHK: 60% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	7680'-7710': CHK: 60% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	7710'-7740': CHK: 60% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	
5800							
6000							



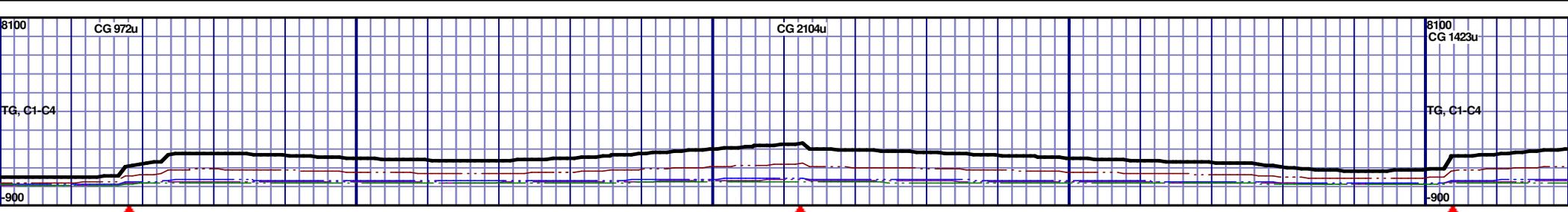
5600 TVD									
L P	L P	L P	L P	L P	L P	L P	L P	L P	L P
5800									
7740'-7770': CHK: 60% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	7770'-7800': CHK: 60% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	7800'-7830': CHK: 60% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	7830'-7860': CHK: 60% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	7860'-7890': CHK: 55% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 45% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	7890'-7920': CHK: 55% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 45% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	7920'-7950': CHK: 60% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	7950'-7980': CHK: 60% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	7980'-7990': CHK: 60% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	7990'-7990': CHK: 60% (CaCO3 70%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
6000									

MD 7781 TVD 5754.4
INC 89.52 AZ 86.65
VS 2472.92

MD 7876 TVD 5755.99
INC 88.56 AZ 87.18
VS 2567.89



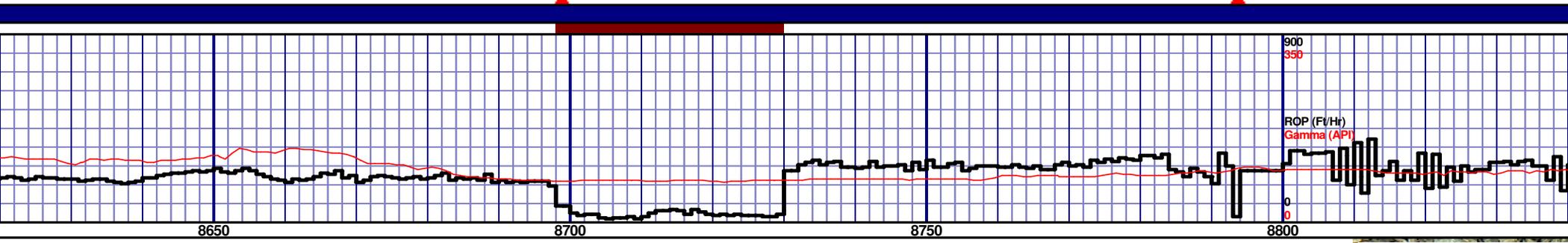
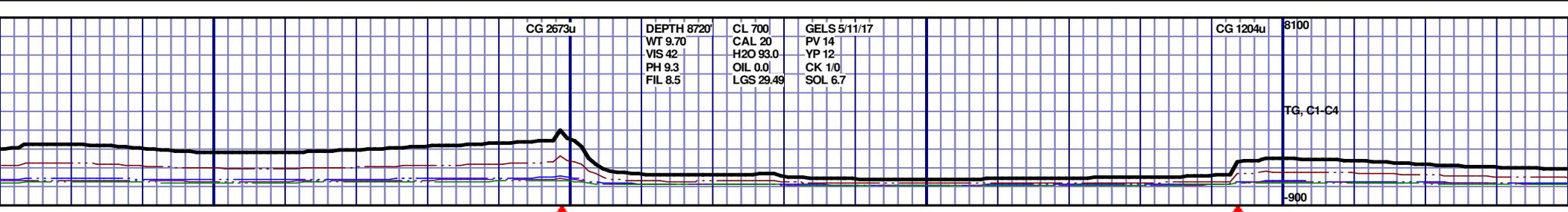
5600 TVD							
CHK: 70% (CaCO3 75%) - MEDGY - TR GYSHBLK, IBBLKY, FXLN TO CHLKY, IMBD CALC, SCAT 0% FREE MARL, MOD TN, 10% MIN FLOR, E STRM CUT, YLW RING	7980'-8010': CHK: 75% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 25% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	8010'-8040': CHK: 75% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 25% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	8040'-8070': CHK: 70% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, 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	8070'-8100': CHK: 80% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, 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	8100'-8130': CHK: 80% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, 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	8130'-8160': CHK: 75% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 25% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	8160'-8190': CHK: 65% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, PYR, FREE BENT, 35% FR MOD GYSHBLK STN, 15% IMMED BLUE STRM CUT,
5800							
6000							



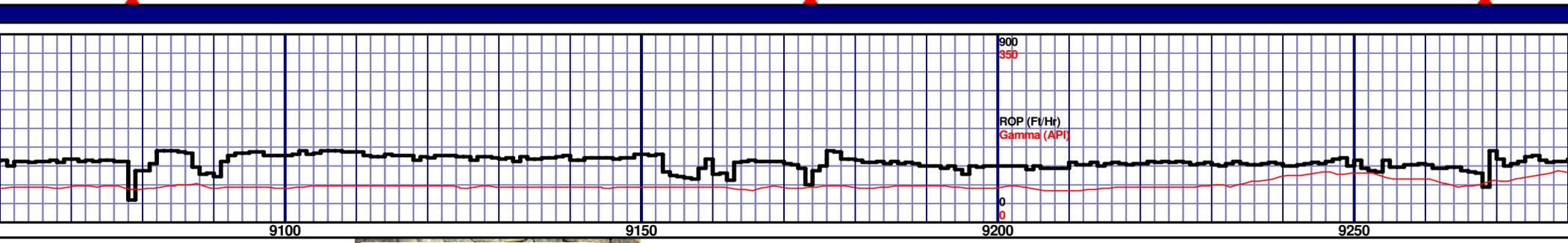
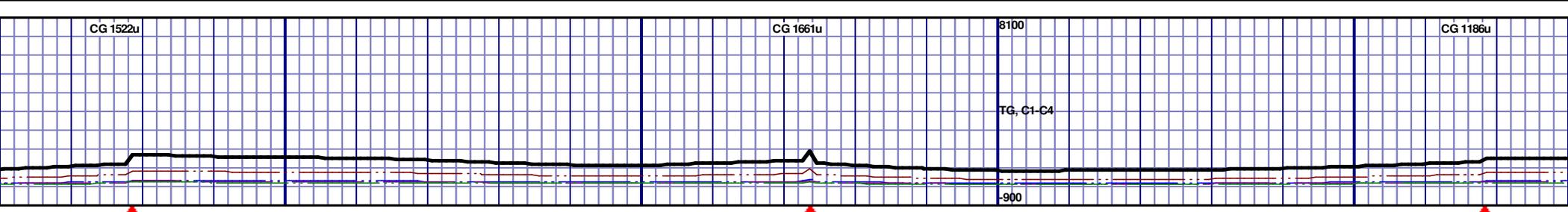
5600 TVD								5600 TVD																																																							
<p>8400'-8430': CHK: 70% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 30% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING</p>								<p>8430'-8460': CHK: 75% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO 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</p>								<p>8460'-8490': CHK: 80% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, 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</p>								<p>8490'-8520': CHK: 85% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO 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</p>								<p>8520'-8550': CHK: 70% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, 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</p>								<p>8550'-8580': CHK: 65% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO 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</p>								<p>8580'-8610': CHK: 70% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, 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</p>								<p>8610'-8640': PRED LTGY - BLKY TO SU FREE PYR, 2 GYSHBLK S BLUE STRM</p>							
5800								5800																																																							
6000								6000																																																							

MD 8444 TVD 5754.33
 INC 90.69 AZ 88.93
 VS 3134.75

MD 8538 TVD 5753.48
 INC 90.34 AZ 88.39
 VS 3228.62



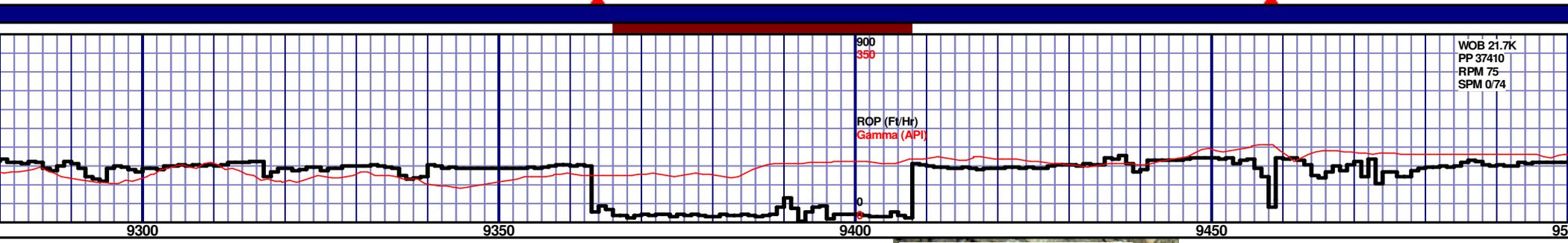
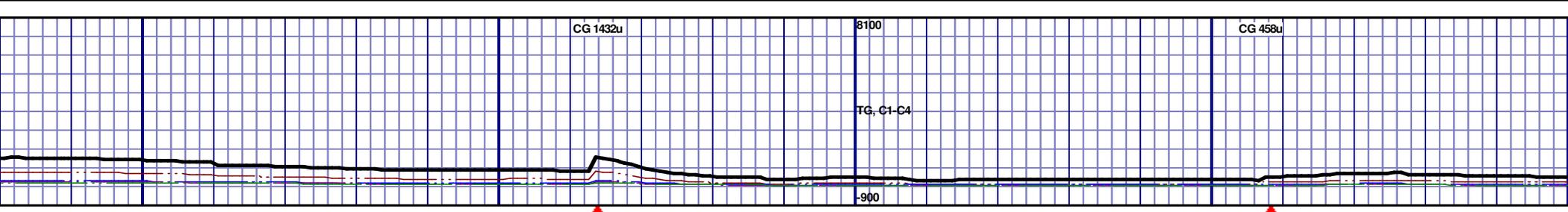
CHK: 75% (CaCO3 75%) - MEDGY - TR GYSHBLK, UBBLKY, FXLN TO CHLKY, I, IMBD CALC, SCAT 25% FREE MARL, MOD STN, 5% MIN FLOR, IMMED CUT, YLWRING	8640'-8670': CHK: 75% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 25% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	8670'-8700': CHK: 70% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, 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, YLWRING	8700'-8730': CHK: 65% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 35% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	8730'-8760': CHK: 60% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 40% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	8760'-8790': CHK: 85% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 15% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	8790'-8820': CHK: 90% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 10% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	8820'-8850': CHK: 90% (CaCO3 75%) PRED LTGY - MEDGY - TR BLKY TO SUBBLKY, FXLN CHLKY, SFT TO FRM, IM SCAT FREE PYR, 10% FR MOD GYSHBLK STN, 10% IMMED BLUE STRM CUT,
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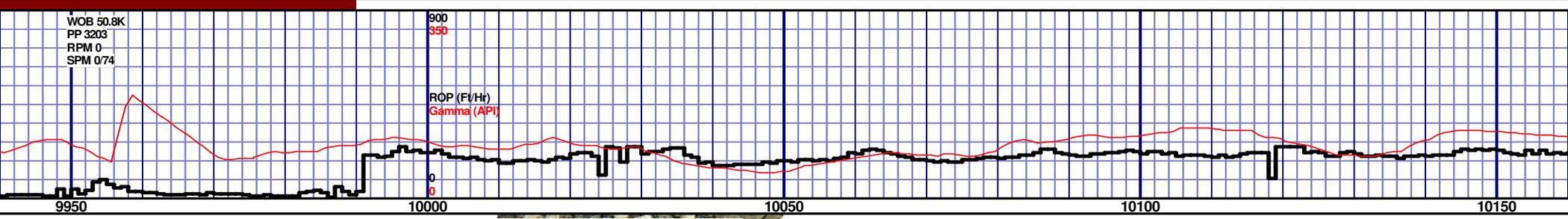
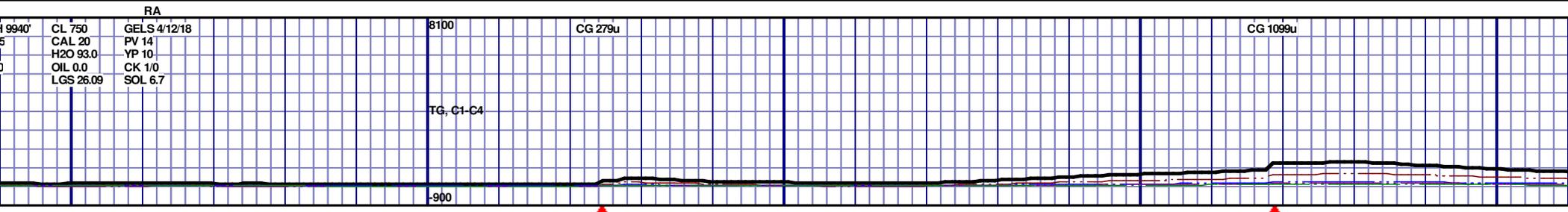
5600 TVD							
P	P	P	P	P	P	P	P
5800							
6000							
<p>9060'-9090': CHK: 80% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 20% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING</p>	<p>9090'-9120': CHK: 85% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO 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</p>	<p>9120'-9150': CHK: 90% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, 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</p>	<p>9150'-9180': CHK: 85% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO 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</p>	<p>9180'-9210': CHK: 90% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, 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</p>	<p>9210'-9240': CHK: 85% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO 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, YLWRING</p>	<p>9240'-9270': CHK: 80% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, 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</p>	<p>9270'-9300': PRED LTGY BLKY TO SU CHLKY, SFT SCAT FREE MOD GYSH IMMED BLU</p>

MD 9106 TVD 5750.82
 INC 91.37 AZ 91.06
 VS 3795.93

MD 9201 TVD 5749.37
 INC 90.38 AZ 90.52
 VS 3890.54



5600 TVD							
5800							
6000							
CHK: 80% (CaCO3 75%) - MEDGY - TR GYSHBLK, UBBLKY, FXLN TO TO FRM, IMBD CALC, PYR, 20% FREE MARL, BLK STN, 5% MIN FLOR, E STRM CUT, YLW RING	9300'-9330': CHK: 85% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO 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	9330'-9360': CHK: 90% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, 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	9360'-9390': CHK: 95% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, 5% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	9390'-9420': CHK: 90% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, 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	9420'-9450': CHK: 90% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, 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	9450'-9480': CHK: 80% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, 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	9480'-9510': CHK: 75% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, 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



NIORRARA C CHALK (10020' MD - 10050' MD)

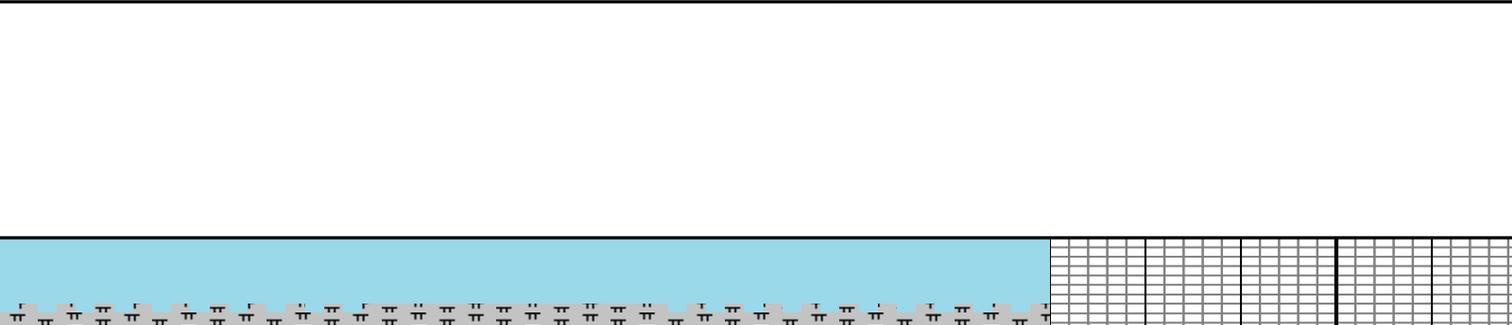
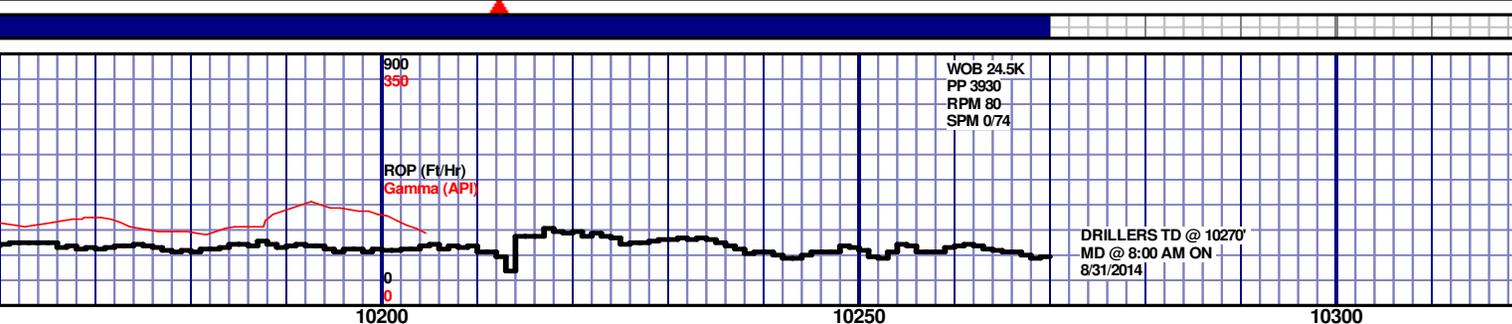
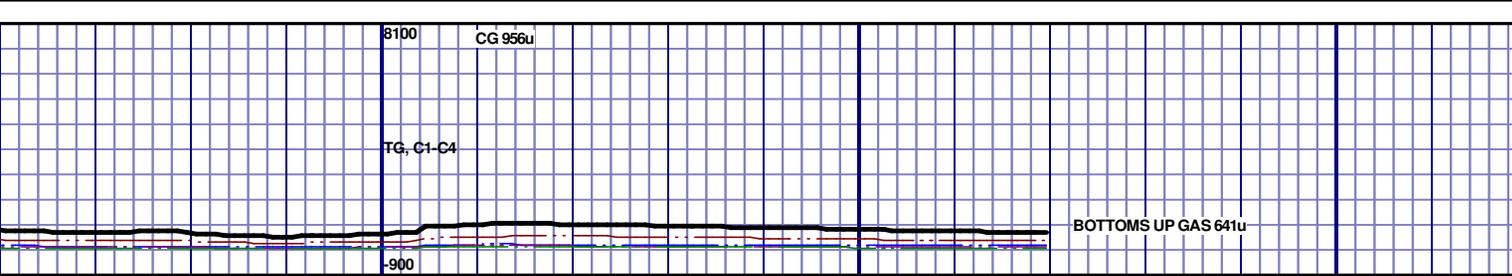


5600 TVD							
CHK: 75% (CaCO3 75%) MEDGY - TR GYSHBLK, BBLKY, FXLN TO CHLKY, IMBD CALC, SCAT FREE PYR, FREE BENT, 25% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	9960'-9990': CHK: 80% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 20% FREE MARL, MOD GYSHBLK STN, 15% MIN FLOR, IMMED BLUE STRM CUT, YLWRING	9990'-10020': CHK: 70% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 30% FREE MARL, MOD GYSHBLK STN, 15% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	10020'-10050': CHK: 75% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 25% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	10050'-10080': CHK: 95% (CaCO3 75%) PRED WHT - LTGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 5% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	10080'-10110': CHK: 75% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 25% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	10110'-10140': CHK: 70% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 30% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING	10140'-10170': CHK: 75% (CaCO3 75%) PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 25% FREE MARL, MOD GYSHBLK STN, 10% MIN FLOR, IMMED BLUE STRM CUT, YLW RING
5800							
6000							

MD 9959 TVD 5750.37
INC 89.86 AZ 88.89
VS 4646.17

MD 10054 TVD 5750.6
INC 89.86 AZ 86.97
VS 4741.1

MD 10149 TVD
INC 88.69 AZ 86.97
VS 4836.07



RELEASED 8/31/2014

TD @ 10270' MD

CaCO3 75%)
GYSHBLK, PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 25% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

10170'-10200': CHK: 75% (CaCO3 75%)
PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 25% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

10200'-10230': CHK: 70% (CaCO3 75%)
PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO 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

10230'-10270': CHK: 75% (CaCO3 75%)
PRED LTGY - MEDGY - TR GYSHBLK, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT TO FRM, IMBD CALC, SCAT FREE PYR, FREE BENT, 25% FREE MARL, MOD GYSHBLK STN, 5% MIN FLOR, IMMED BLUE STRM CUT, YLW RING

THANK YOU FROM
ROSS APODACA,
SCOTT HANEY, AND
HORIZON WELL
LOGGING, LLC