

Logs

PULSE MWD GR from 1,823' - 17620' MD

Casing

9 5/8" Surface Casing set @ 1,811' MD
5 1/2" Production Casing set @ xxxxx' MD

Comments

- 1) Drilling Contractor: Precision Drilling, Rig #462
Toolpusher: Cody Teeter, Joseph Credeur
- 2) Company Man: Steve Wilson, Buddy Davis
Lovell Young, Tony Pershall
- 3) Mud Company : Anchor USA
Engineer: Tim Pattison, James Eckhardt
- 4) Directional Drilling: Baker Hughes Directional
Rotary Steerable BHA
Drillers: Dustin Tissaw, Gordon Suting
- 5) Gas Equipment: Pason Gas Analyzer (Spectrometer)
- 6) SRC Geologist: Tony Williams & Tom Jacaruso

ROCK TYPES

	Bent		Sltst		Slty sh		Arg_ss		Ls
	Mrlst		Carb chalk		Coal		Ss		Slty sh
	Shale		Chalk		Sltst		Carb sh		

ACCESSORIES

MINERAL

Anhy
 Arggrn
 Arg
 Bent
 Bit
 Brecfrag
 Calc
 Carb
 Chtdk
 Chtlt
 Dol
 Feldspar
 Ferrpel
 Ferr
 Glau

Gyp
 Hvymin
 Kaol
 Marl
 Minxl
 Nodule
 Phos
 Pyr
 Salt
 Sandy
 Silt
 Sil
 Sulphur
 Tuff

FOSSIL

Algae
 Amph
 Belm
 Bioclst
 Brach
 Bryozoa
 Cephal
 Coral
 Crin
 Echin
 Fish
 Foram
 Fossil
 Gastro
 Oolite

Ostra
 Pelec
 Pellet
 Pisolite
 Plant
 Strom

STRINGER
 Chlkstg
 Anhy
 Arg
 Bent
 Coal
 Dol
 Gyp
 Ls

Mrst
 Sltstrg
 Ssstrg

TEXTURE

Boundst
 Chalky
 Cryxln
 Earthy
 Finexln
 Grainst
 Lithogr
 Microxln
 Mudst
 Packst
 Wackst

OTHER SYMBOLS

POROSITY TYPE

Earthy
 Fenest
 Fracture
 Inter
 Moldic
 Organic
 Pinpoint
 Vuggy

SORTING

Well
 Moderate
 Poor

ROUNDING

Rounded
 Subrnd
 Subang

Angular

OIL SHOWS

Even
 Spotted
 Ques
 Dead
 Vspotty
 near even

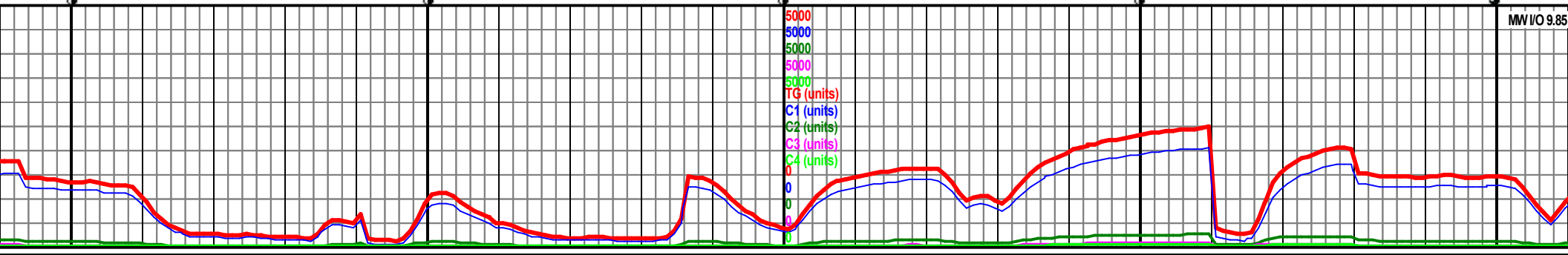
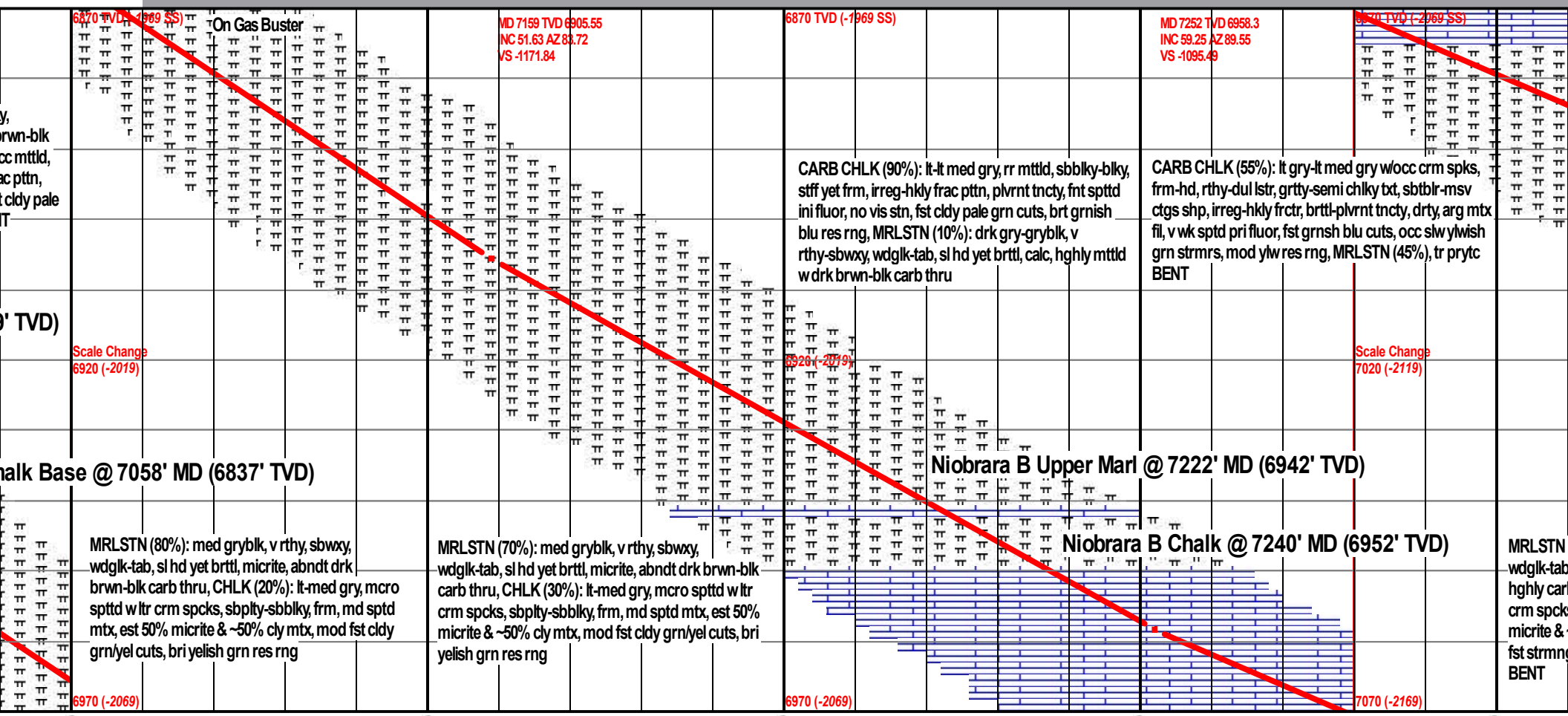
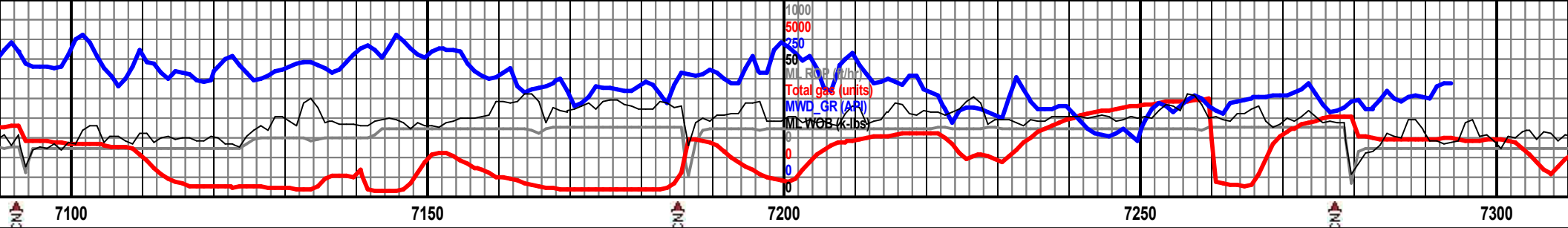
INTERVALS

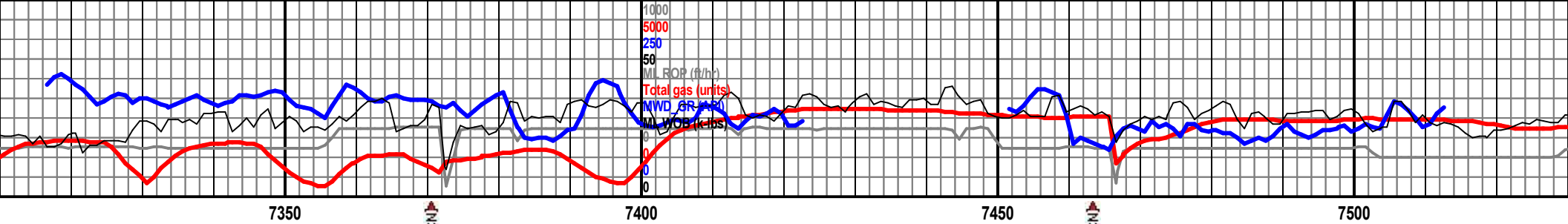
Core
 Dst

EVENTS

Casing shoe_hzl
 Trip_point_1
 Off bottom
 conn

Survey(mwd)
 Survey(red)
 bit





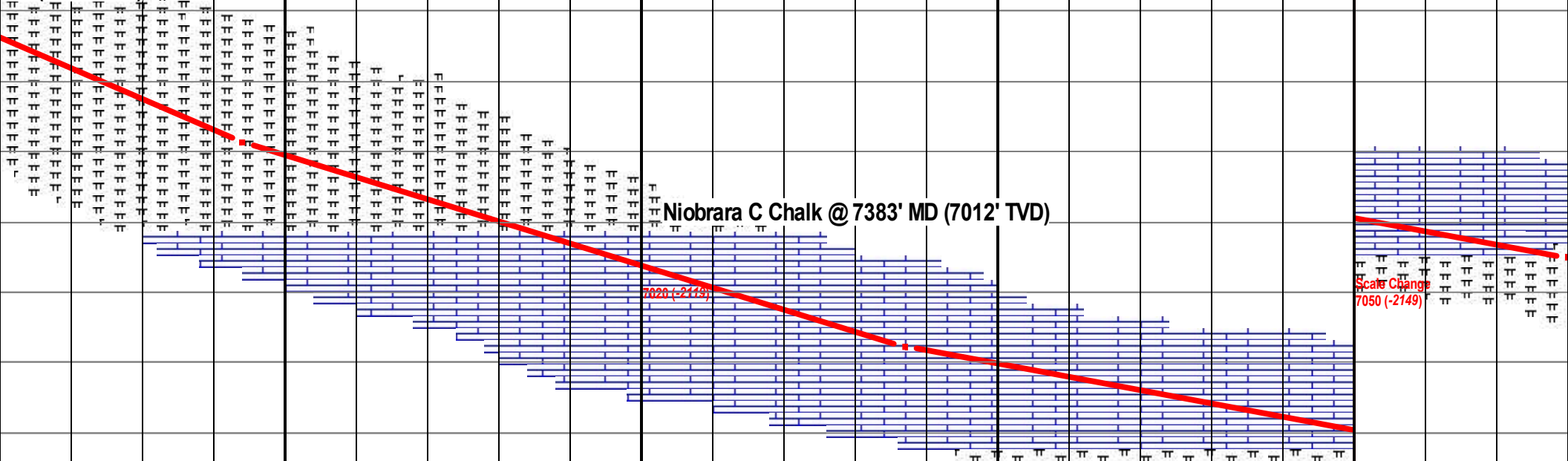
Niobrara B Marl @ 7291'
MD (6977' TVD)

MD 7344 TVD 6998.74
 INC 68.45 AZ 93.8
 VS -103.02

6970 TVD (-2069 SS)

MD 7437 TVD 7021.67
 INC 75.19 AZ 95.23
 VS -924.95

7000 TVD (-2099 SS)



Niobrara C Chalk @ 7383' MD (7012' TVD)

7020 (-2113)

Scale Change
 7050 (-2149)

(65%): pred gryblk, med gry thru, rthy-sbwxy,
 sl hd yet crmbly, calc w/ est 45+% micrite,
 b ip, CHLK (35%): lt-med gry, mcro spttd w ltr
 s, sbply-sbbly, frm, md sptd mtx, est 60%
 -40% cly mtx, no vis por, sppty pri fluor, mod
 g pale grn cuts, bri yelish grn res rng, tr pyrtc

MRLSTN (50%): gry-gryish blk, sl brnsh ip, wxy
 lstr, smth btr, ang-sbbly cttgs, hcky-irreg frac
 ptnn, mod frm-hd, no vis por, CHLK (50%) med
 gry, ltr tanish gry thru, sbbly-mssv, mod frm, arg
 ip, mod fst mlky grnish yel cuts, pale yelish grn res
 cld, tr pyrtc BENT

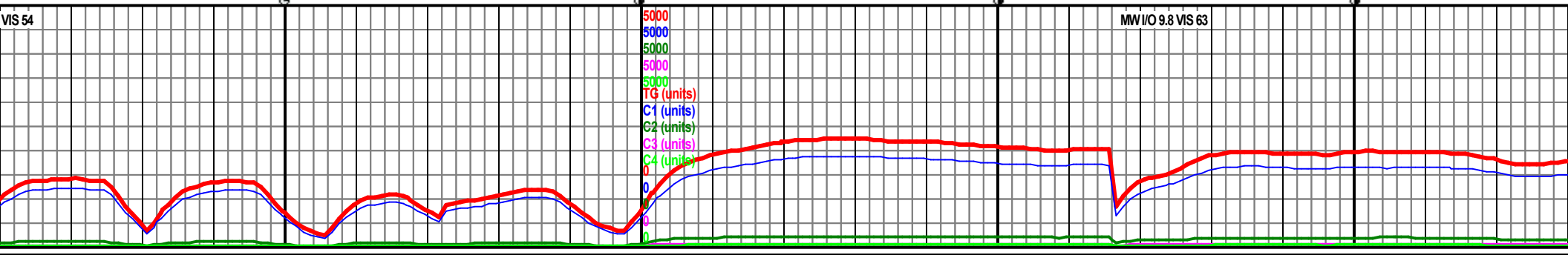
CARB CHLK (80%): lt-med gry, occ mttld,
 sbbly-blky, micrtc, sl frm, irreg-hkly frac ptnn, fst
 cldy pale grn cuts, brt grnish yel res rng, MRLSTN
 (20%): drk gry-gryblk, v rthy-sbwxy, wdglk-tab, sl
 hd yet brttl, mud sptd mtx, hghly mttld w drk
 brwn-blk carb thru

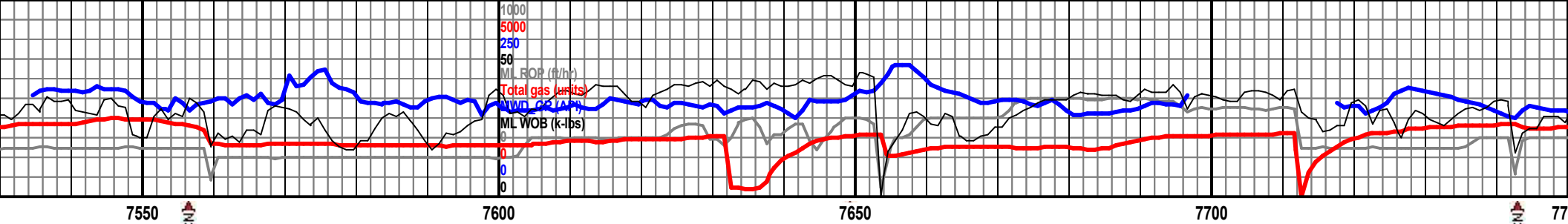
CARB CHLK (75%): lt-med gry, occ mttld, sbbly-blky,
 micrtc, sl frm, irreg-hkly frac ptnn, fst cldy pale grn cuts, brt
 grnish yel res rng, MRLSTN (25%): drk gry-gryblk, v
 rthy-sbwxy, wdglk-tab, sl hd yet brttl, mud sptd mtx, hghly
 mttld w drk brwn-blk carb thru

CARB CHLK (55%): lt-med
 frm, irreg-hkly frac ptnn,
 fst cldy pale grn cuts, brt
 gry-gryblk, v rthy-sbwxy
 mttld w drk brwn-blk carb

7070 (-2169)

7100 (-2199)





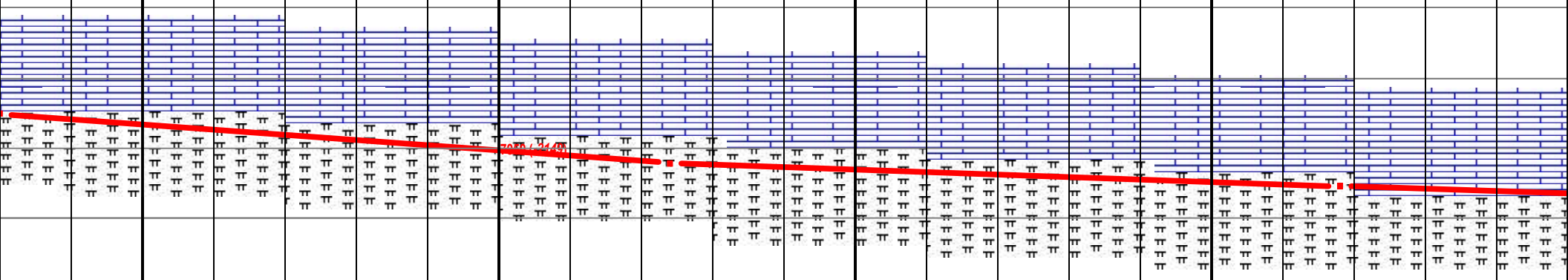
MD 7530 TVD 7045.13
 INC 83.15 AZ 95.53
 VS -834.07

7000 TVD (-2099 SS)

MD 7624 TVD 7052.23
 INC 88.18 AZ 94.62
 VS -740.72

MD 7718 TVD 7055.39
 INC 87.97 AZ 94.17
 VS -647.04

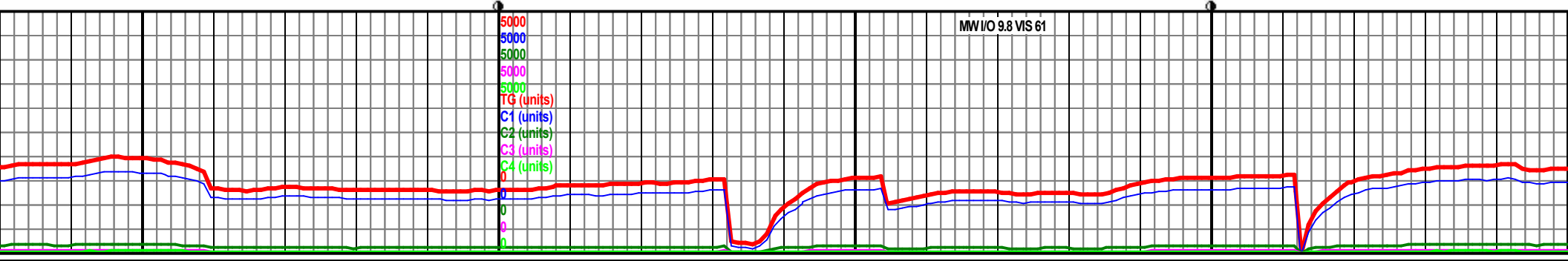
Landed Curve Section @ 7600' MD (7051' TVD) on 11/23/18 @ 21:24 hrs

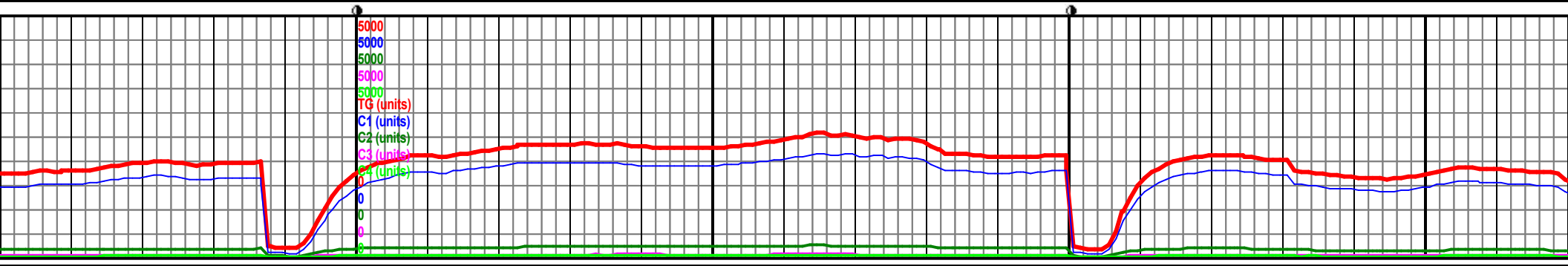
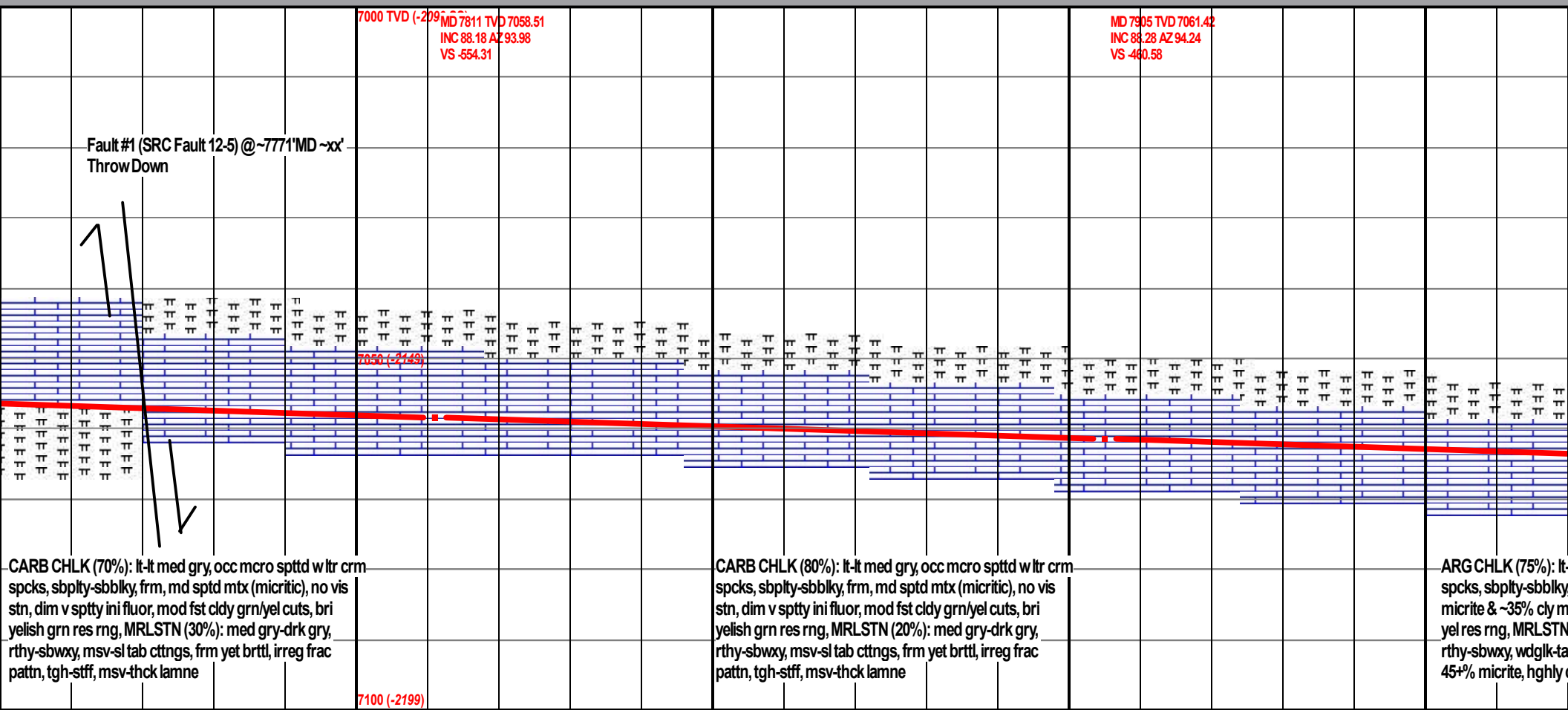
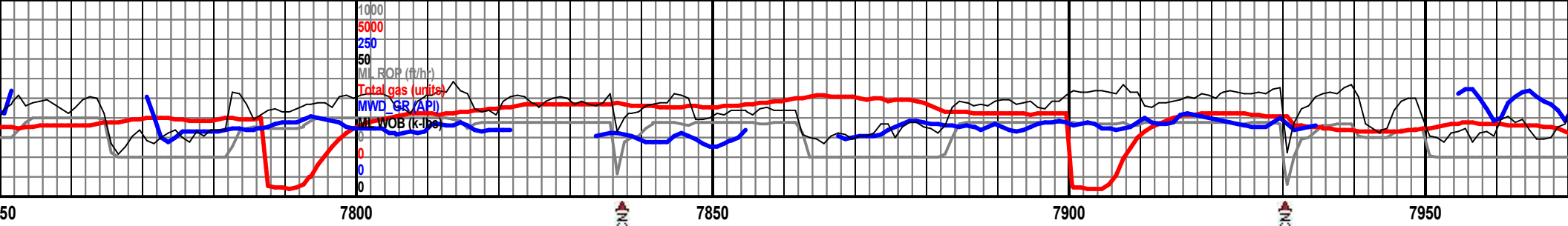


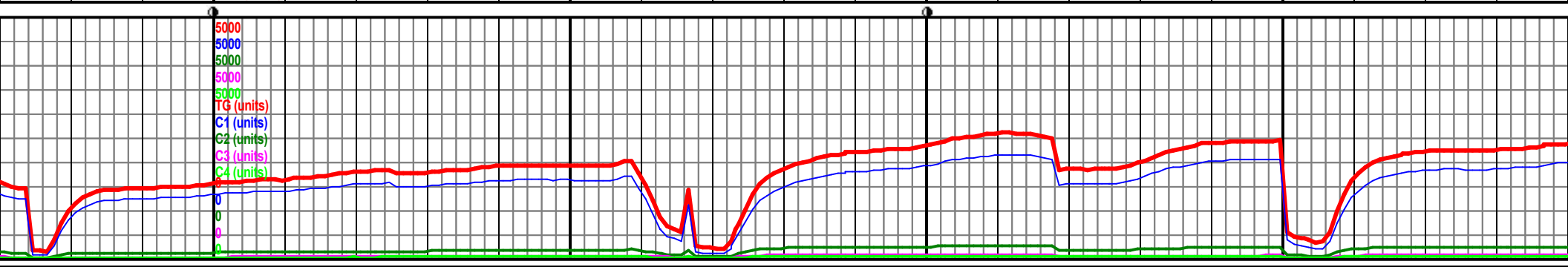
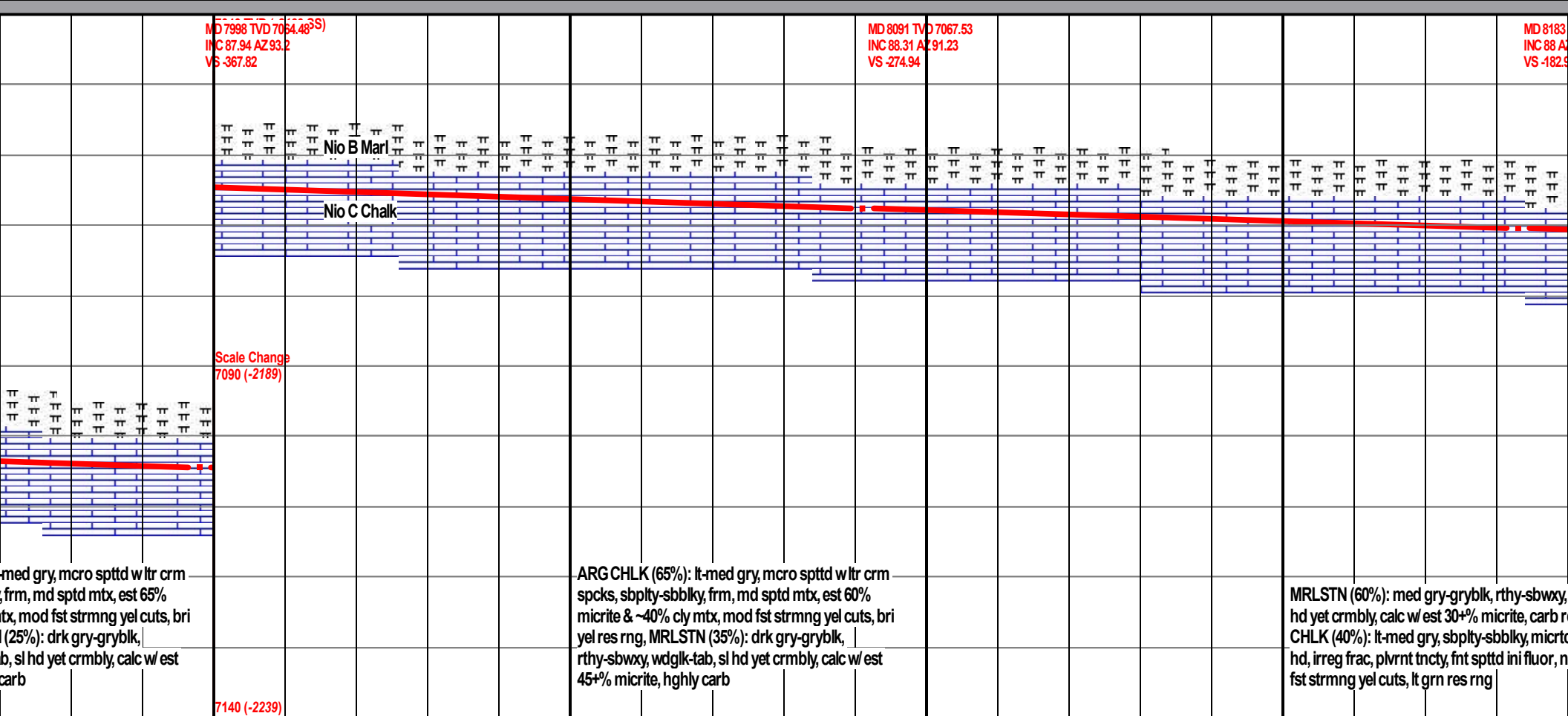
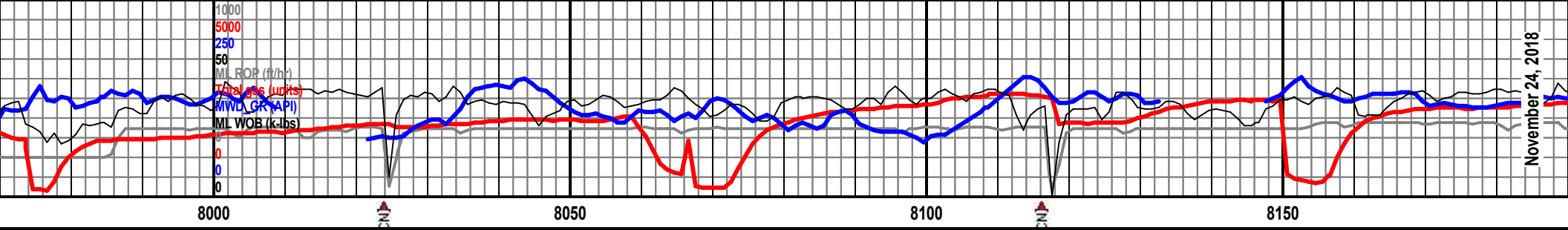
med gry, rr mttld, sbbiky-blky, stff yet
 plvrnt tncty, fnt spttd ini fluor, no vis stn,
 t grnish yel res rng, MRLSTN (45%): drk
 wdgk-tab, sl hd yet brttl, calc, hghly
 b thru

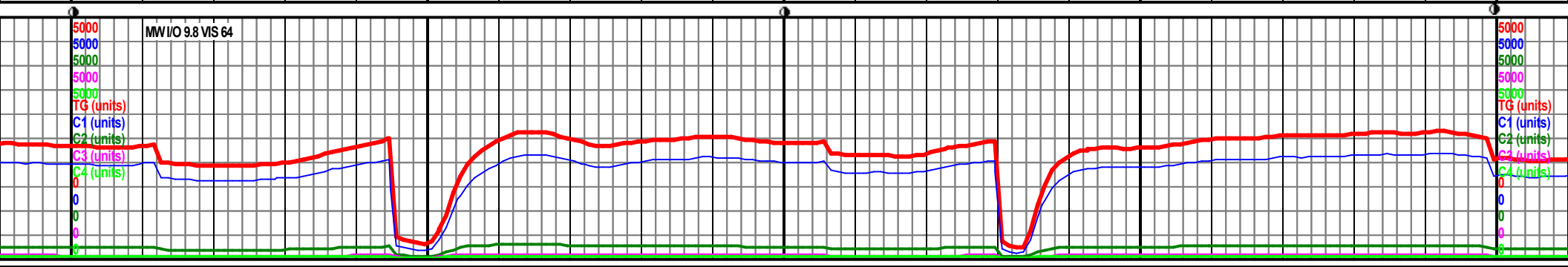
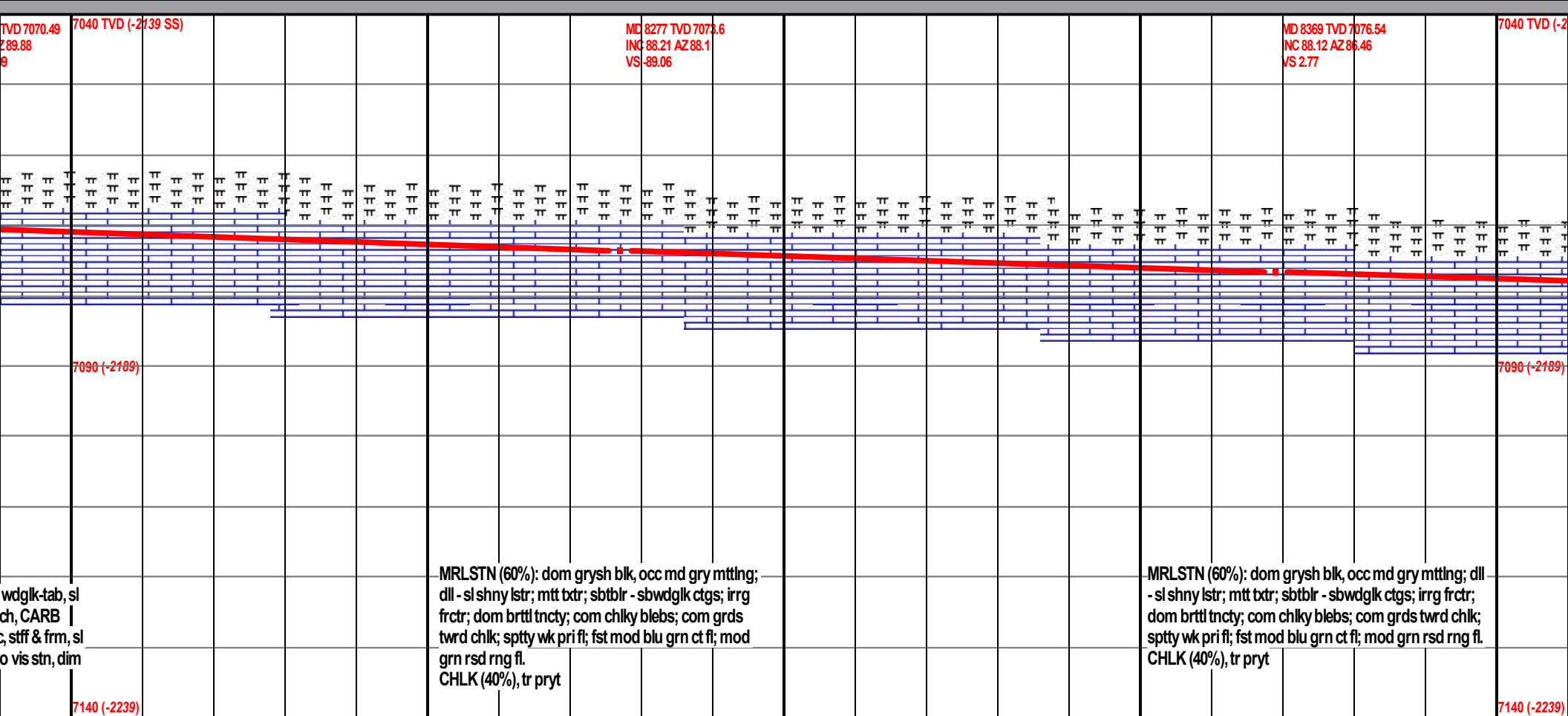
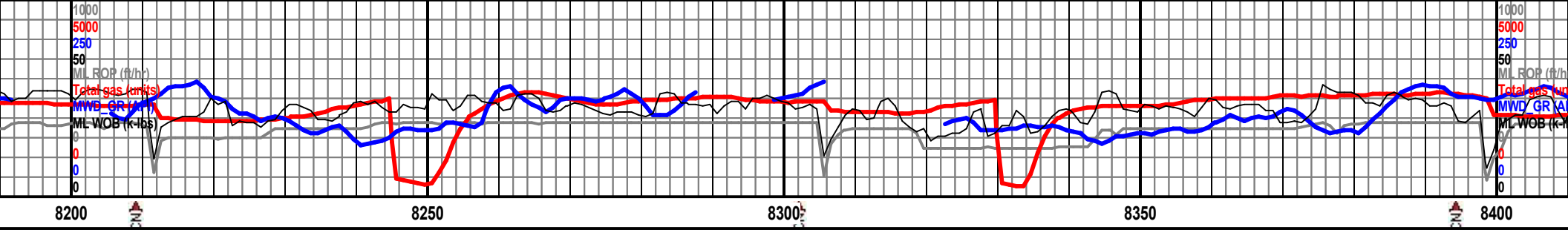
CARB CHLK (65%): lt-lt med gry, occ micro spttd w ltr crm
 spcks, sbpty-sbbiky, frm, md sptd mtX (micritic), no vis
 stn, dim v spty ini fluor, mod fst cldy grn/yel cuts, bri yelish
 grn res rng, MRLSTN (35%): med gry-drk gry, rthy-sbwxy,
 msv-sl tab ctngs, frm yet brttl, irreg frac pattn, tgh-stff,
 msv-thck lamne

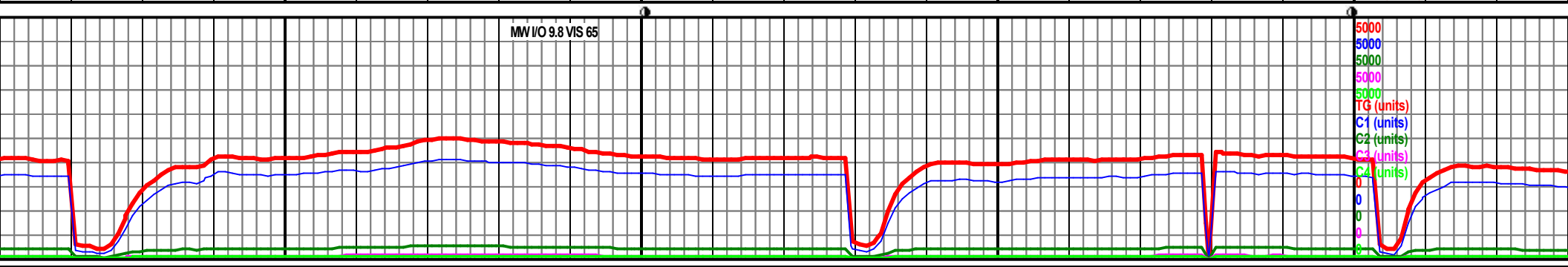
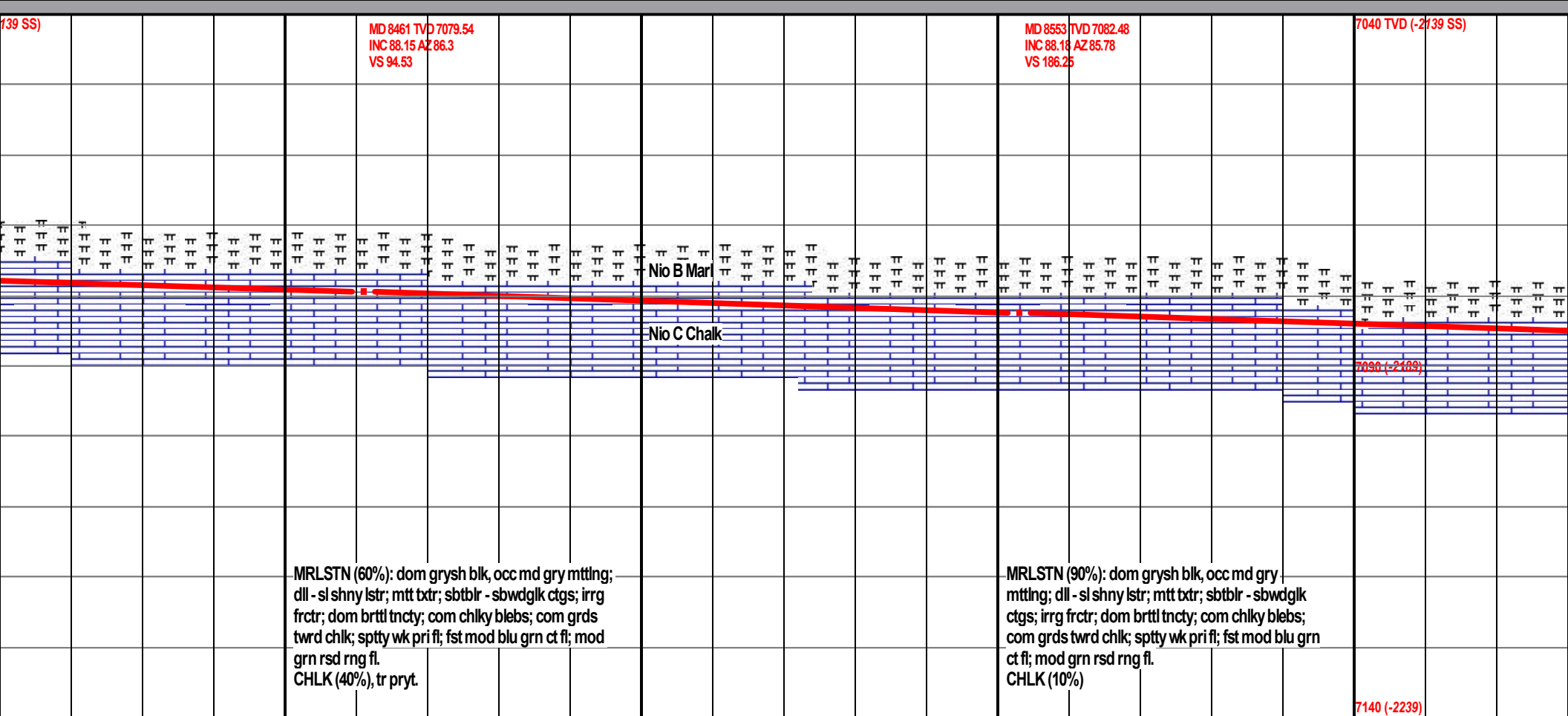
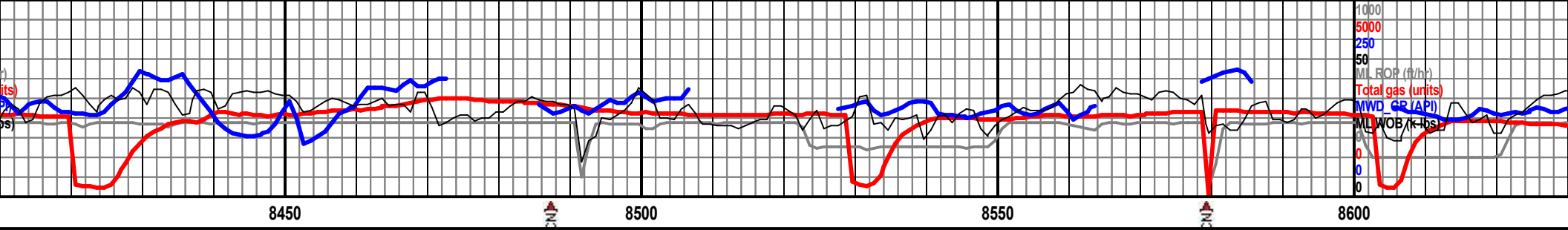
7100 (-2199)



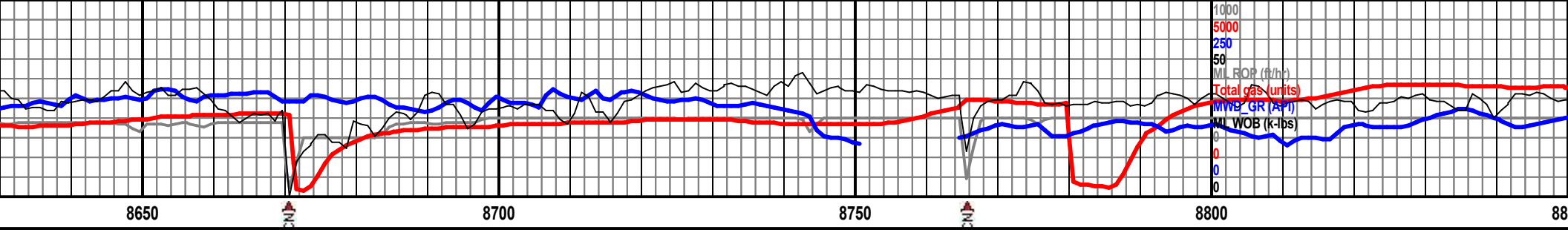








MW I/O 9.8 VIS 65

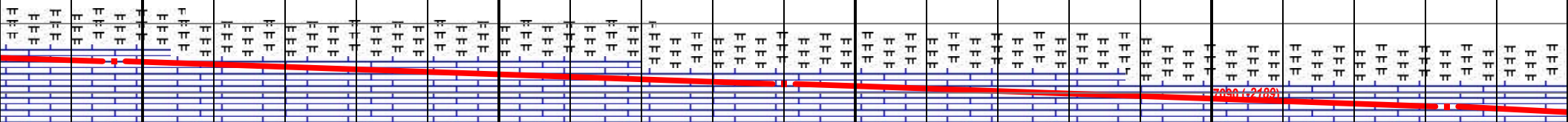


MD 8646 TVD 7085.51
 INC 88.09 AZ 86.54
 VS 278.98

MD 8740 TVD 7088.67
 INC 88.06 AZ 87.74
 VS 372.8

7040 TVD (-2139 SS)

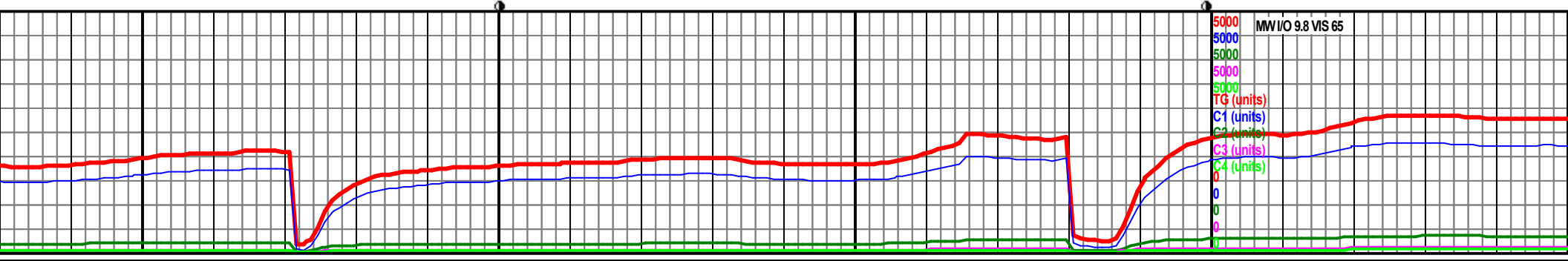
MD 8833 TVD 7091.89
 INC 87.97 AZ 89.31
 VS 465.7

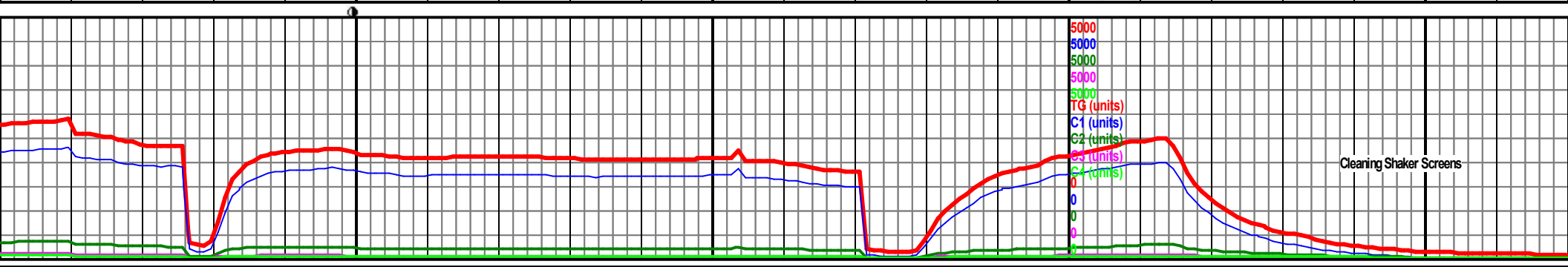
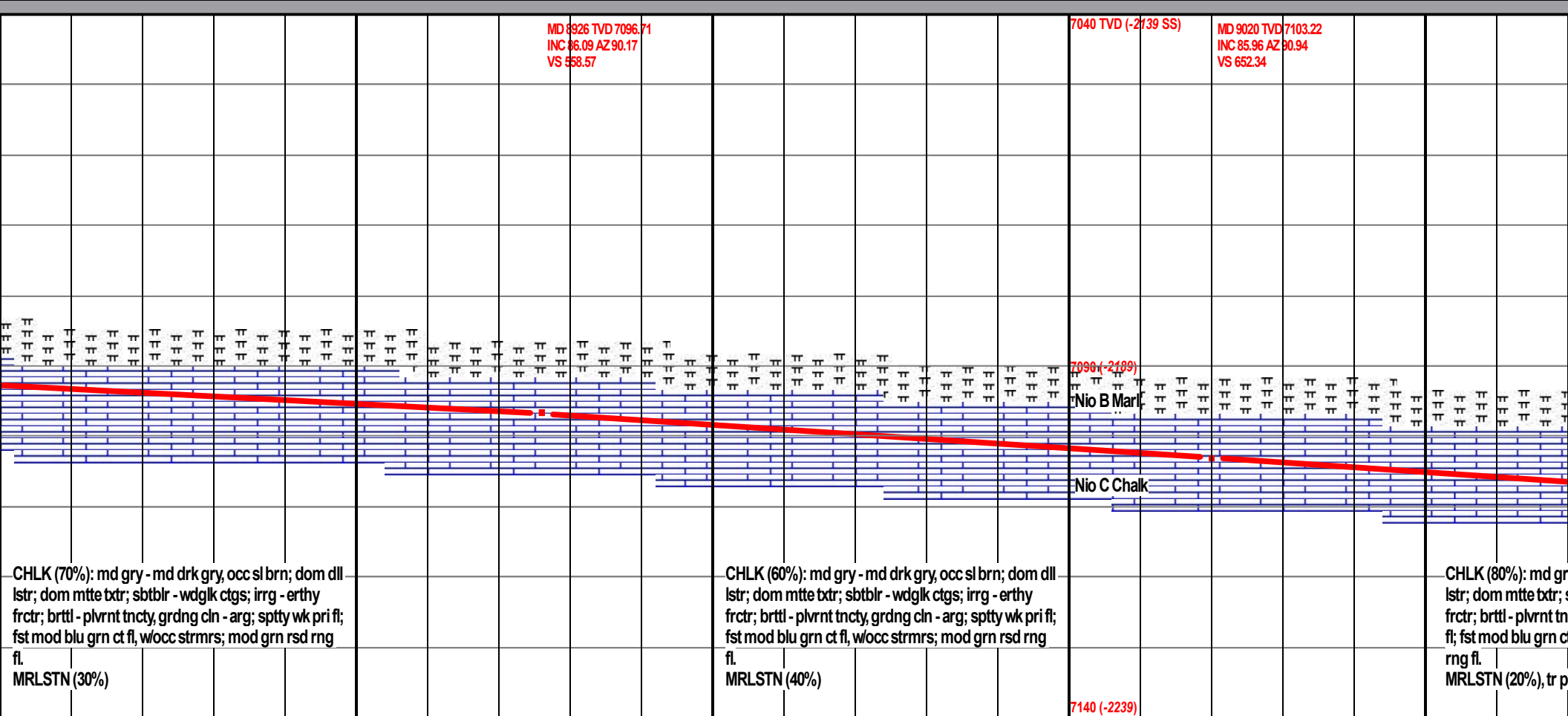
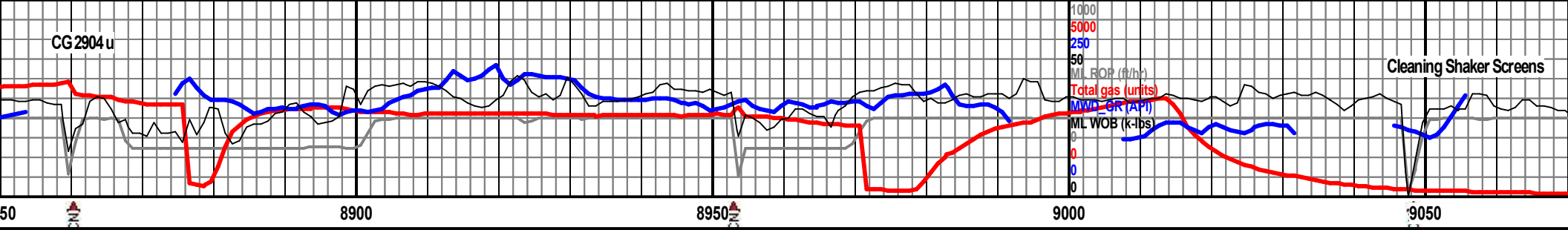


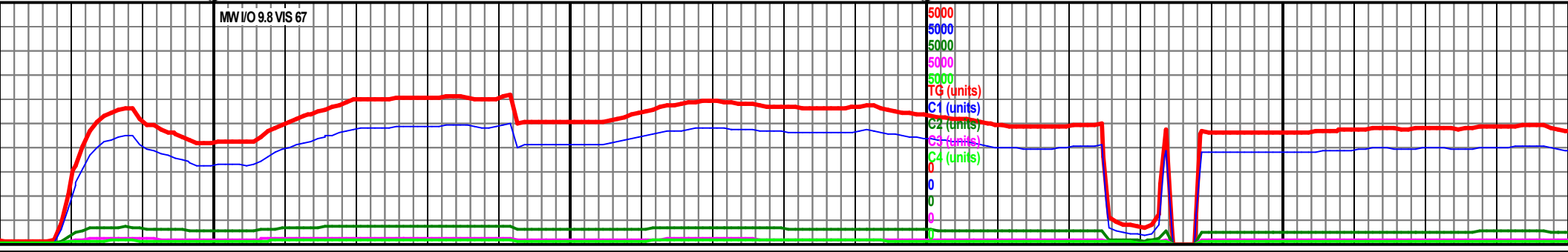
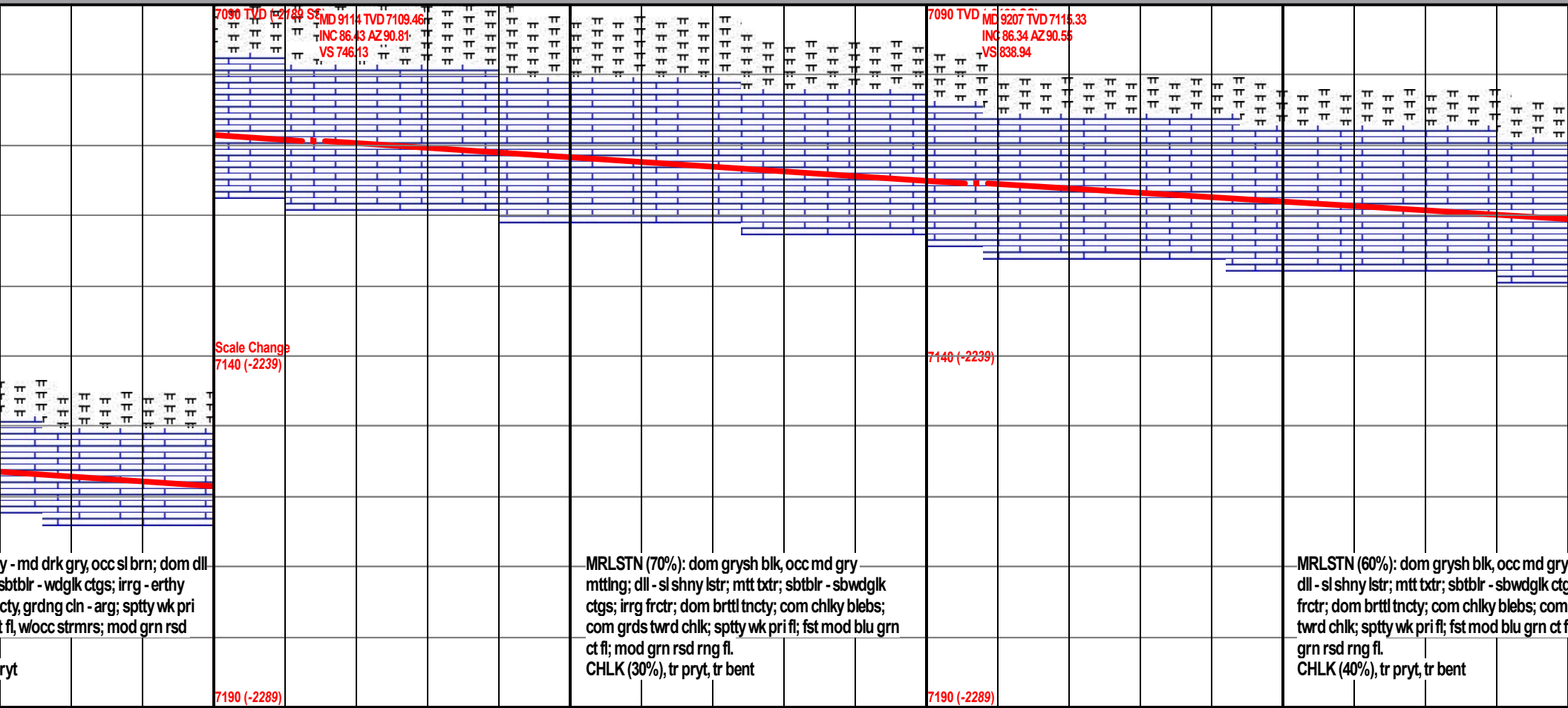
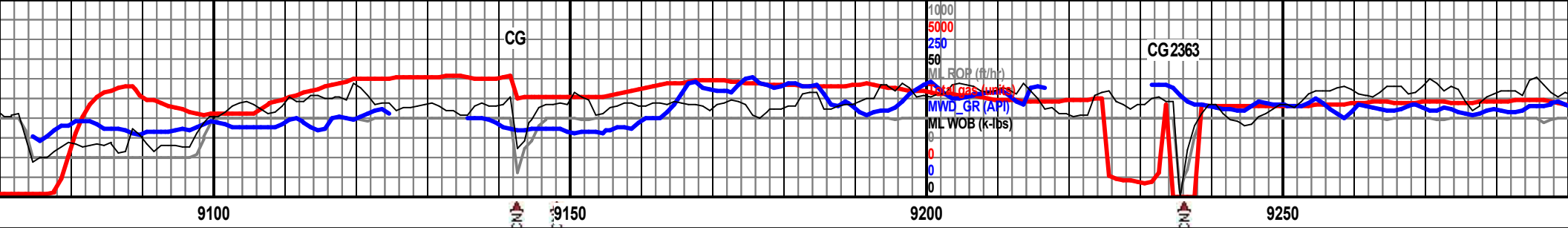
MRLSTN (90%): dom grysh blk, occ md gry mtting; dll
 sl shny lstr; mitt tctr; sbtblr - sbwdgk ctgs; irrg frctr;
 dom brttl tncy; com chiky blebs; com grds twrd chlk;
 sppty wk pri fi; fst mod blu grn ct fi; mod grn rsd rng fl.
 CHLK (10%)

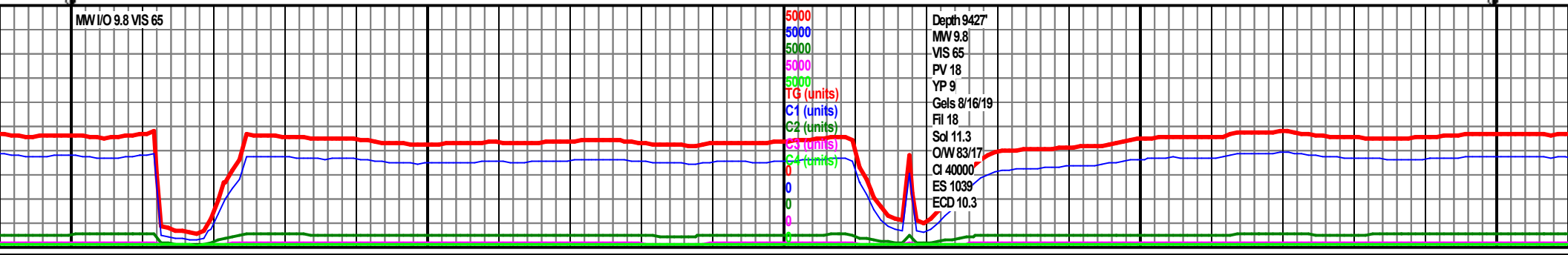
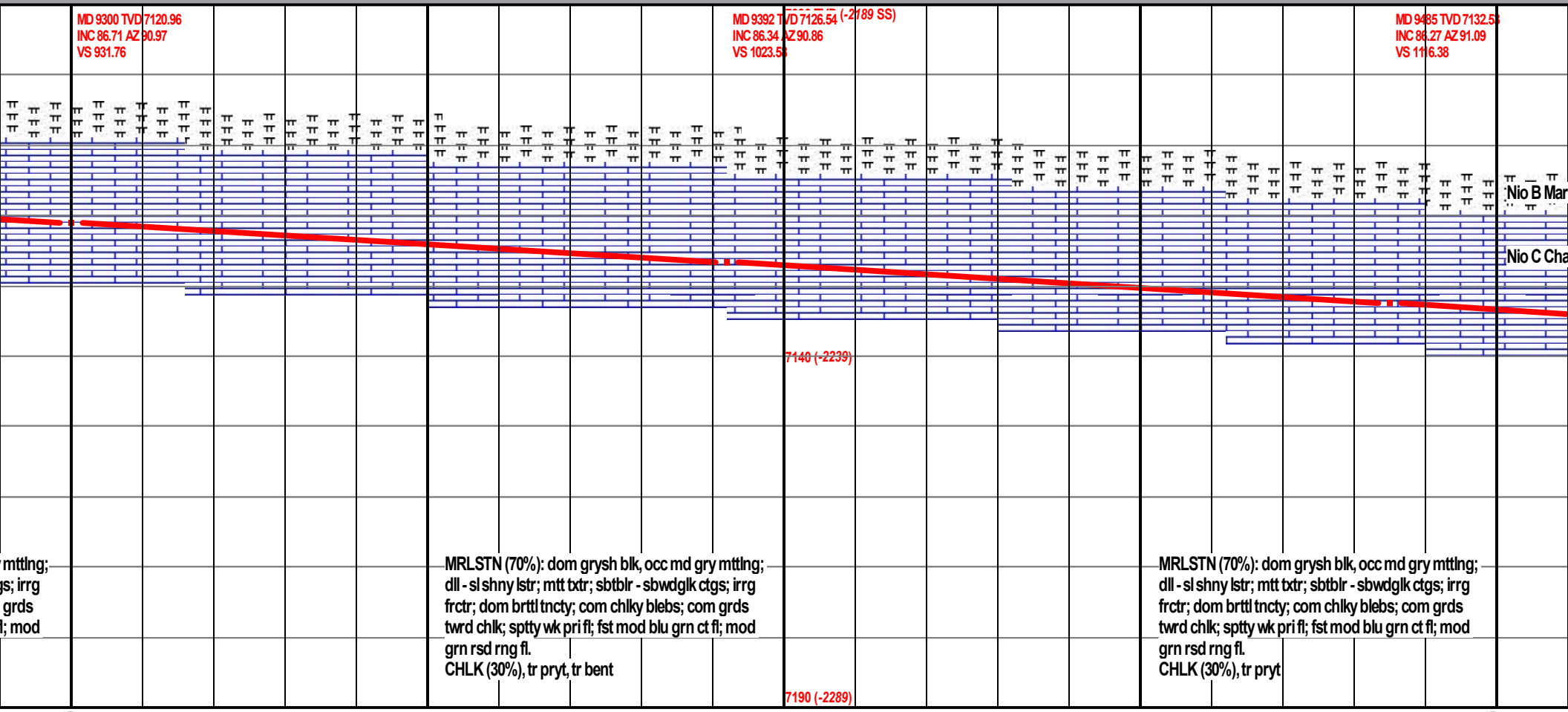
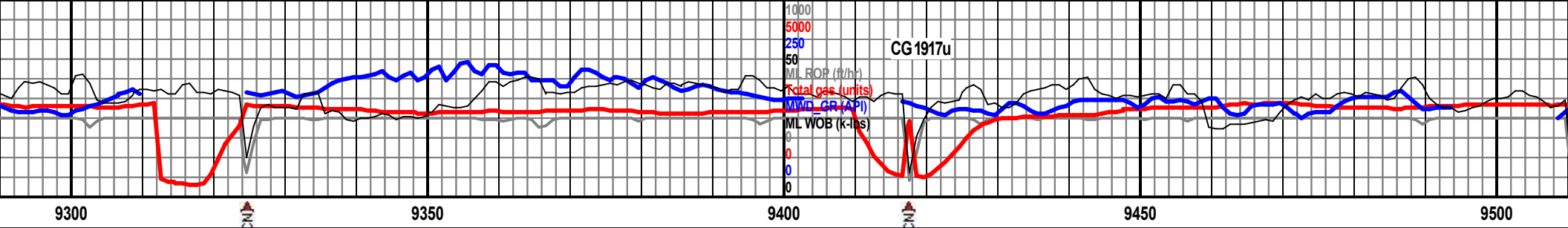
CHLK (80%): md gry - md drk gry, occ sl brn; dom dll
 lstr; dom mitte tctr; sbtblr - wdgk ctgs; irrg - erthy
 frctr; brttl - plvrnt tncy, grdng ch - arg; sppty wk pri fi;
 fst mod blu grn ct fi, w/occ strmr; mod grn rsd rng fl.
 MRLSTN (20%)

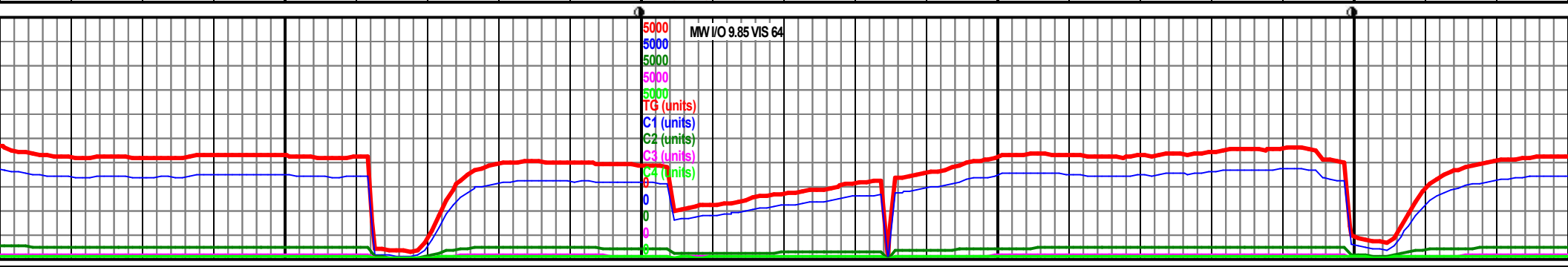
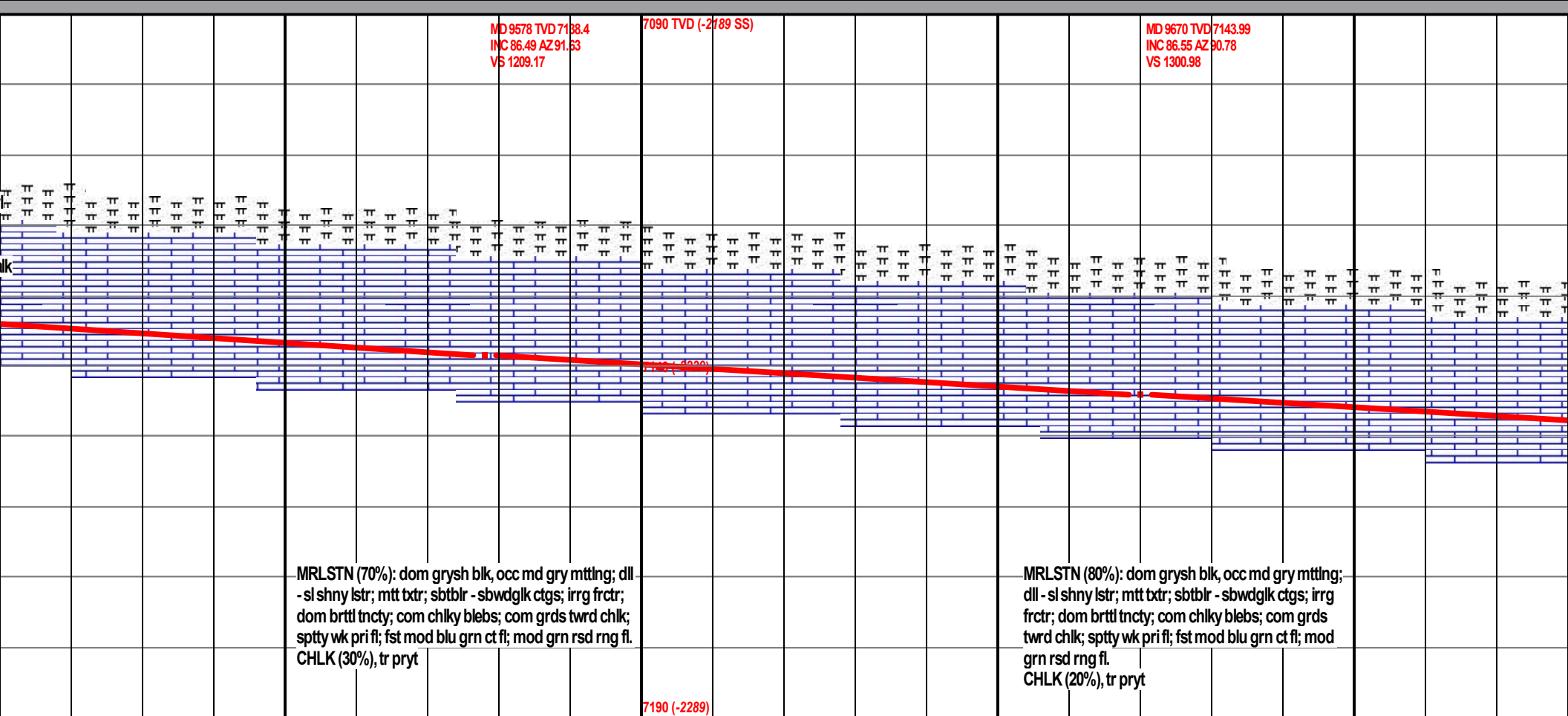
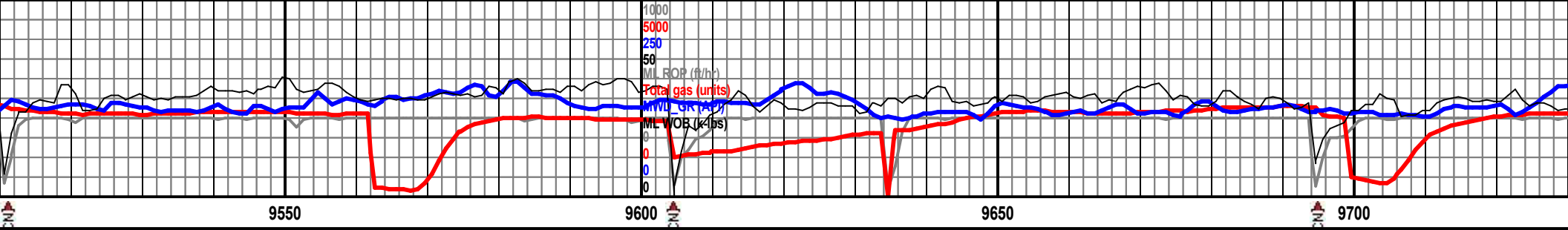
7140 (-2239)

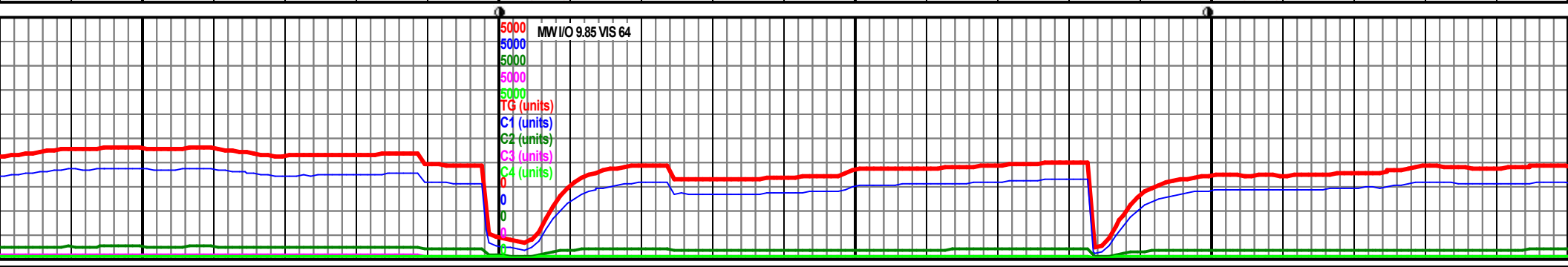
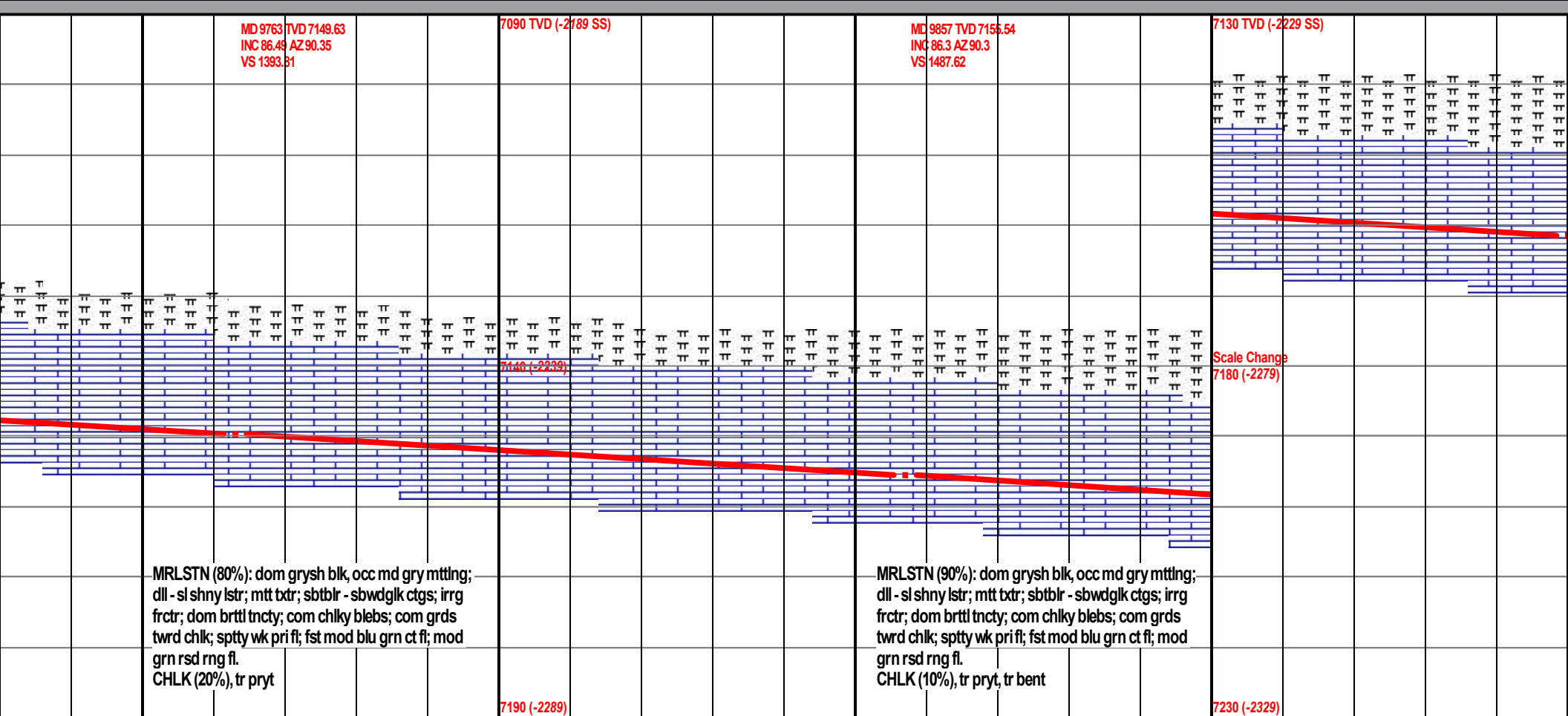
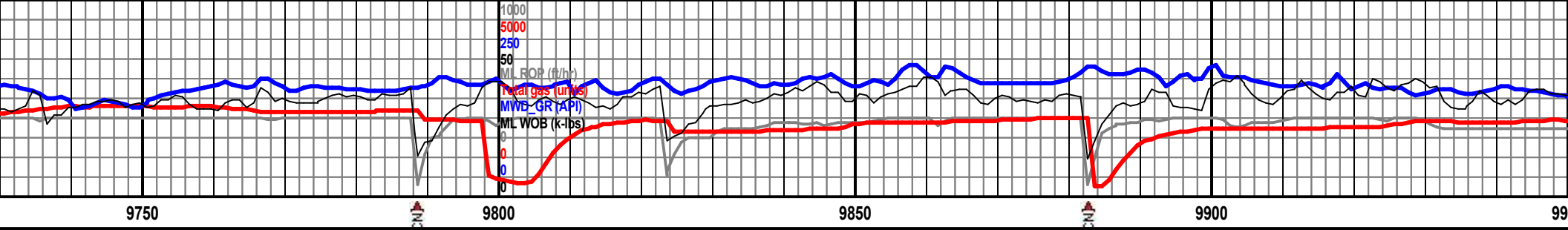


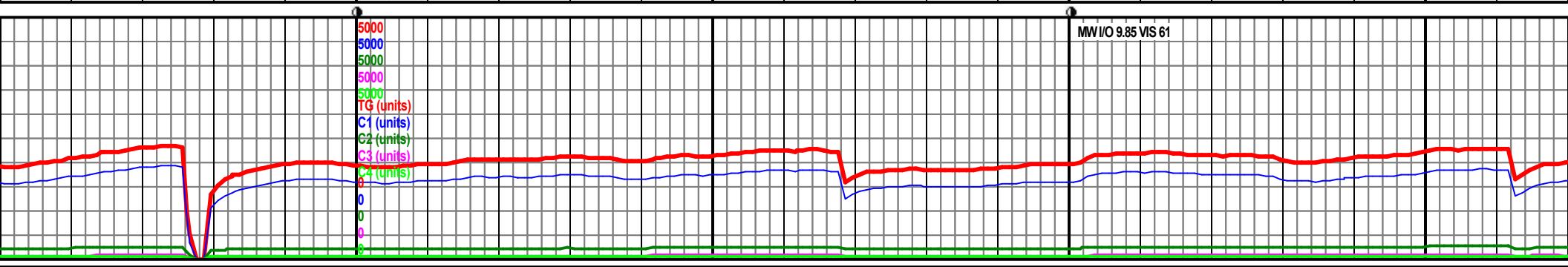
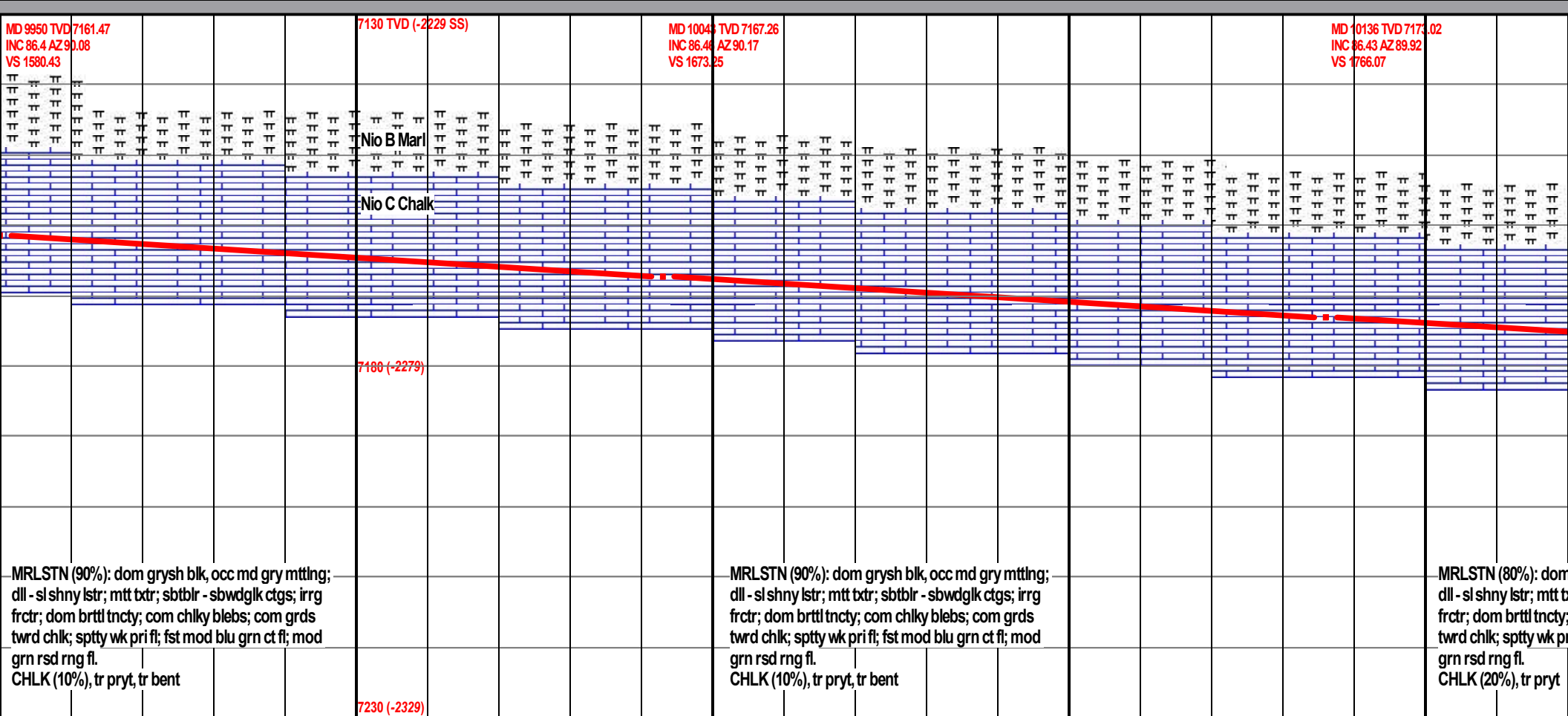
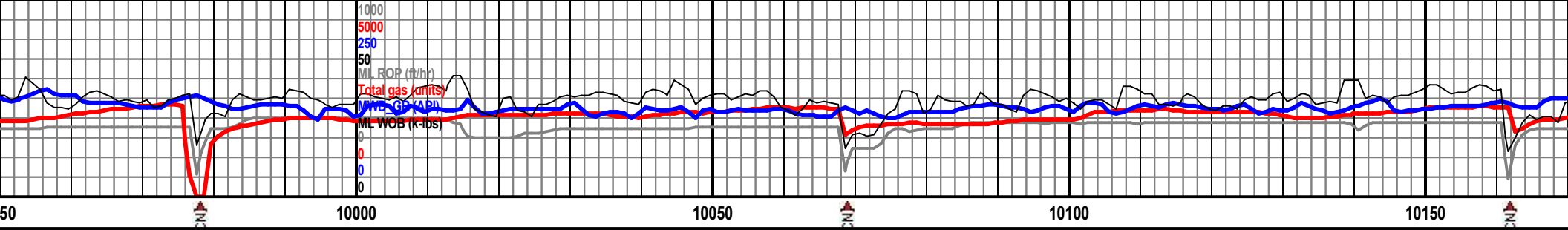


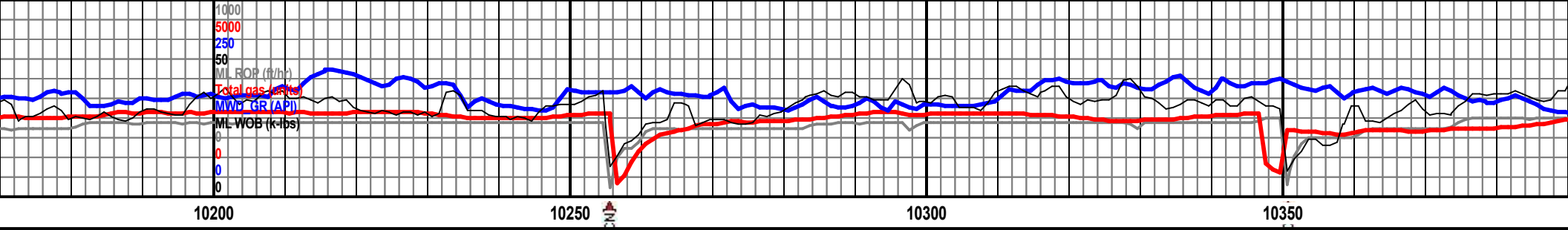












10200

10250

10300

10350

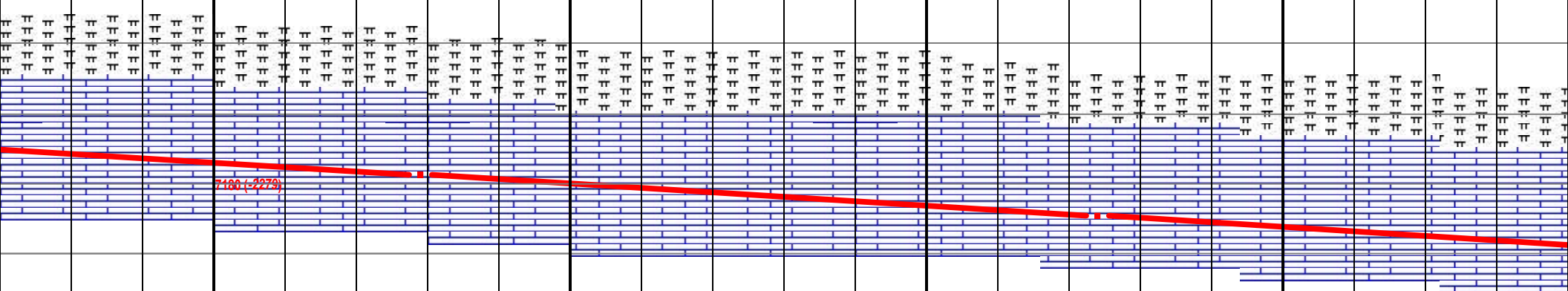
7130 TVD (-2229 SS)

MD 10229 TVD 7178.74
 NC 86.52 AZ 90.1
 VS 1858.9

MD 10324 TVD 7184.53
 INC 86.49 AZ 89.13
 VS 1953.71

7180 (-2279)

7230 (-2329)

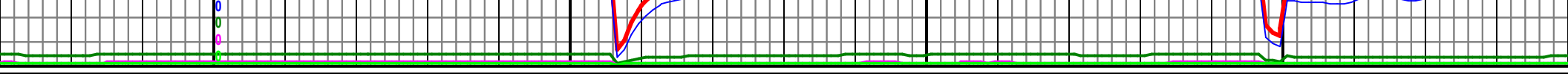


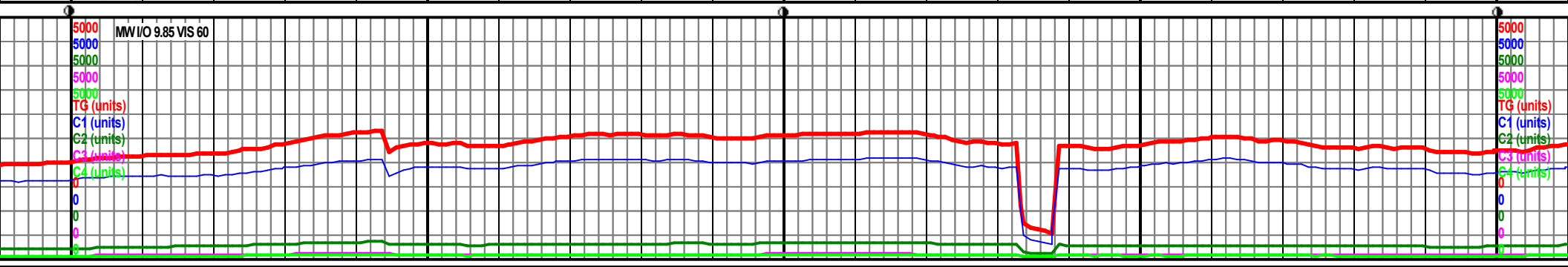
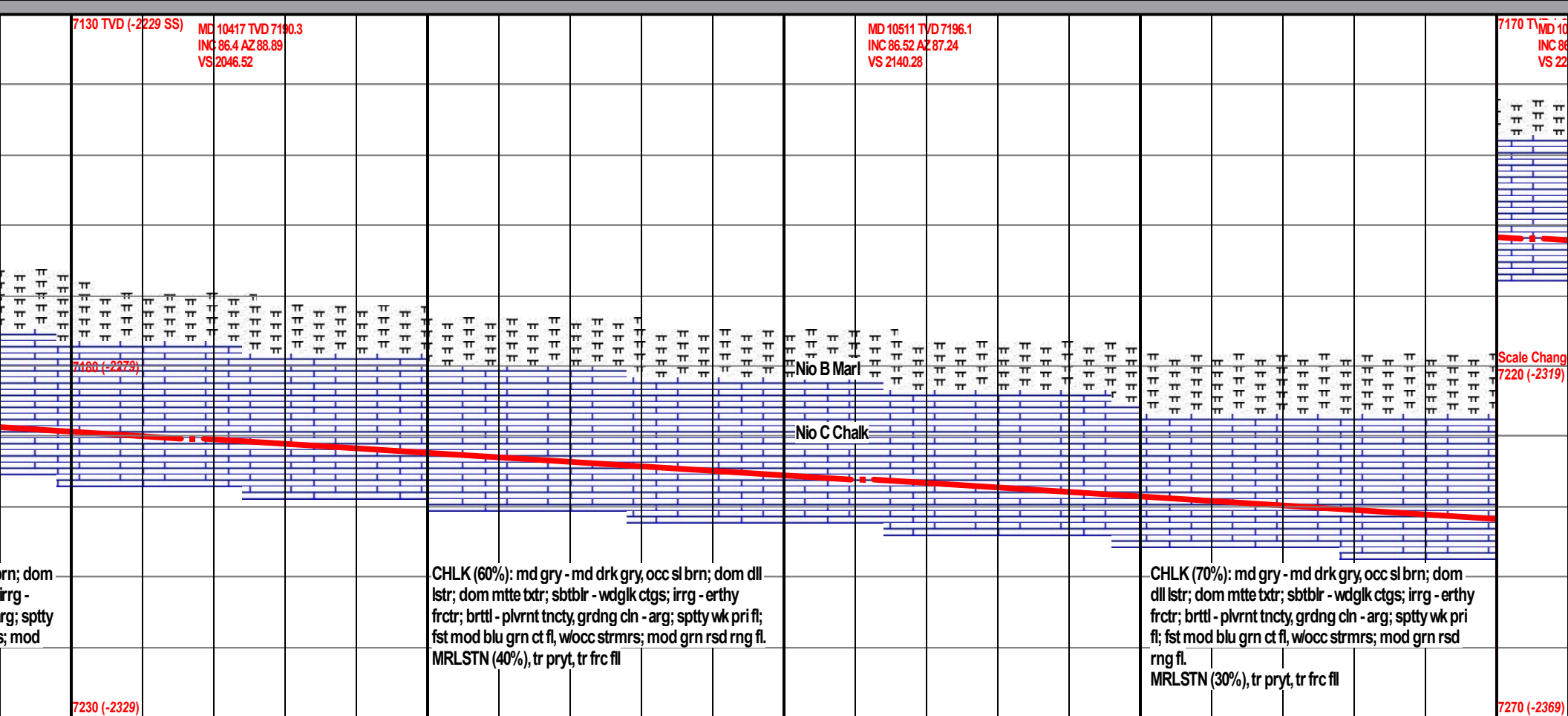
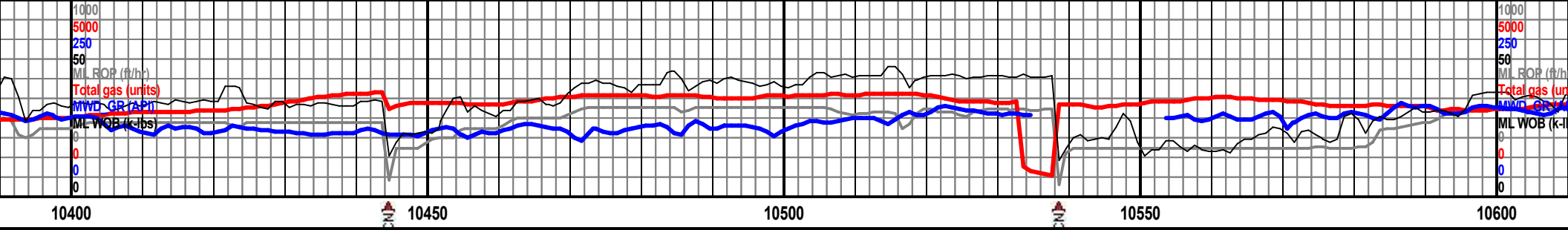
grysh blk, occ md gry mtting;
 btr; sbtblr - sbwdgk ctgs; irrg
 com chiky blebs; com grds
 ri fi; fst mod blu grn ct fi; mod

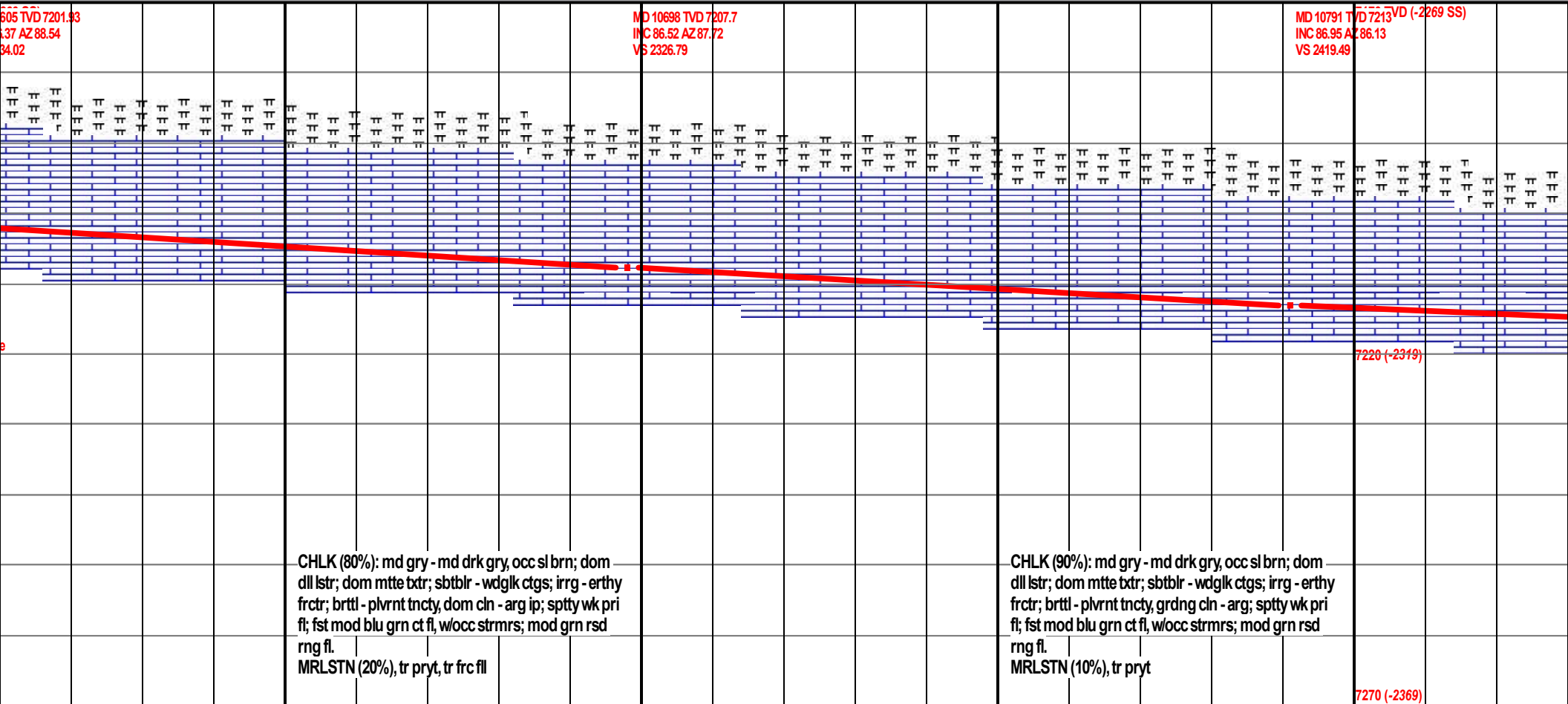
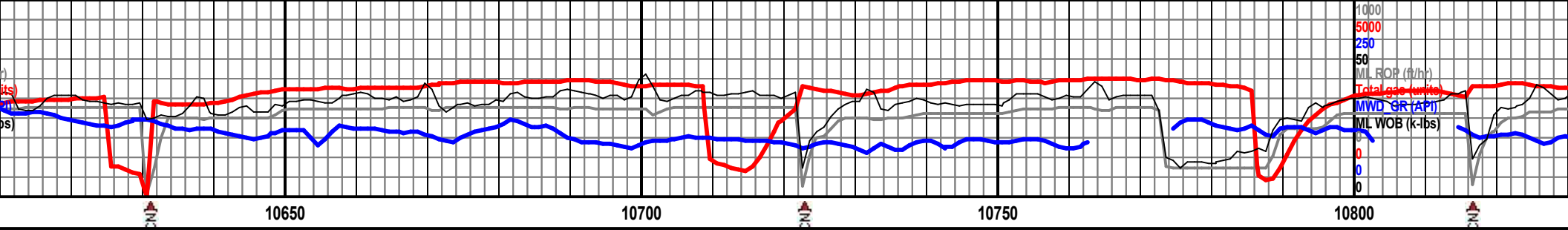
MRLSTN (80%); dom grysh blk, occ md gry mtting;
 dll - sl shny lstr; mtt btr; sbtblr - sbwdgk ctgs; irrg
 frctr; dom brttl tncy; com chiky blebs; com grds
 twrd chlk; sppty wk pri fi; fst mod blu grn ct fi; mod
 grn rsd rng fl.
 CHLK (20%), tr pryt

CHLK (60%); md gry - md drk gry, occ sl b
 dll lstr; dom mte btr; sbtblr - wdglk ctgs;
 erthy frctr; brttl - plvrnt tncy, grngd cln - a
 wk pri fi; fst mod blu grn ct fi, w/occ strms
 grn rsd rng fl.
 MRLSTN (40%), tr pryt, tr frc fl

5000
 5000
 5000
 5000
 5000
 5000
 TG (units)
 C1 (units)
 C2 (units)
 C3 (units)
 C4 (units)

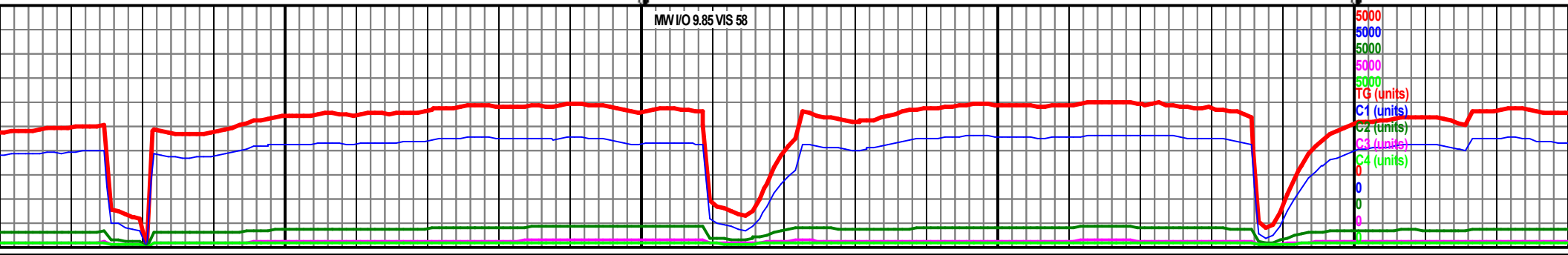




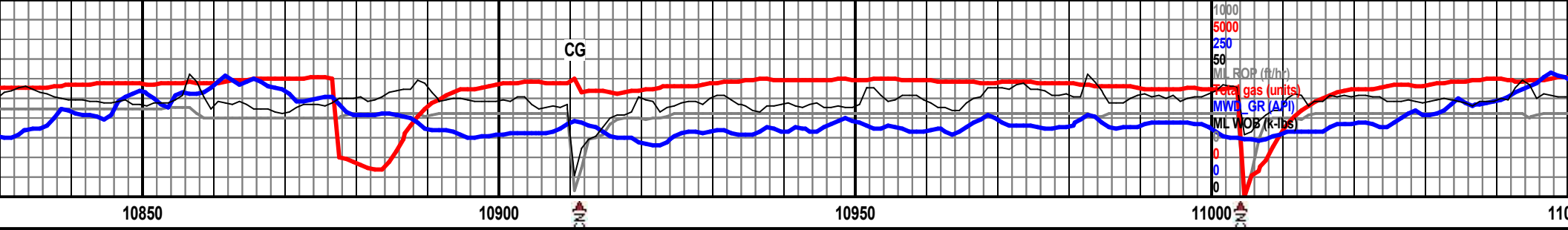


CHLK (80%): md gry - md drk gry, occ sl brn; dom dll lstr; dom mtte btxr; sbtblr - wdglk ctgs; irrg - erthy frctr; brttl - plvrnt tncty, dom cln - arg ip; sppty wk pri fi; fst mod blu grn ct fl, wocc strmr; mod grn rsd rng fl.
MRLSTN (20%), tr pry, tr frc fl

CHLK (90%): md gry - md drk gry, occ sl brn; dom dll lstr; dom mtte btxr; sbtblr - wdglk ctgs; irrg - erthy frctr; brttl - plvrnt tncty, grndg cln - arg; sppty wk pri fi; fst mod blu grn ct fl, wocc strmr; mod grn rsd rng fl.
MRLSTN (10%), tr pry



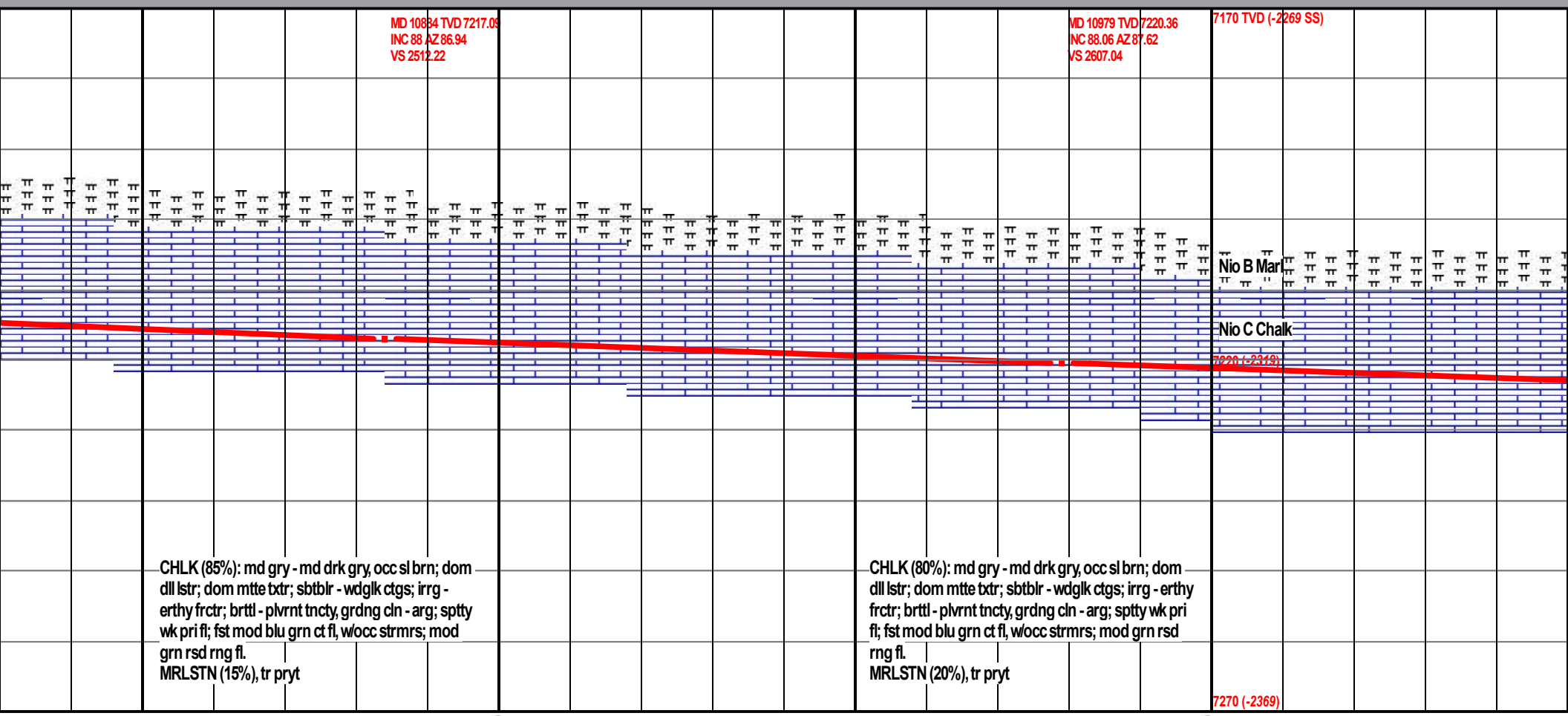
5000
5000
5000
5000
5000
TG (units)
C1 (units)
C2 (units)
C3 (units)
C4 (units)



MD 10884 TVD 7217.03
INC 88 AZ 86.94
VS 2512.22

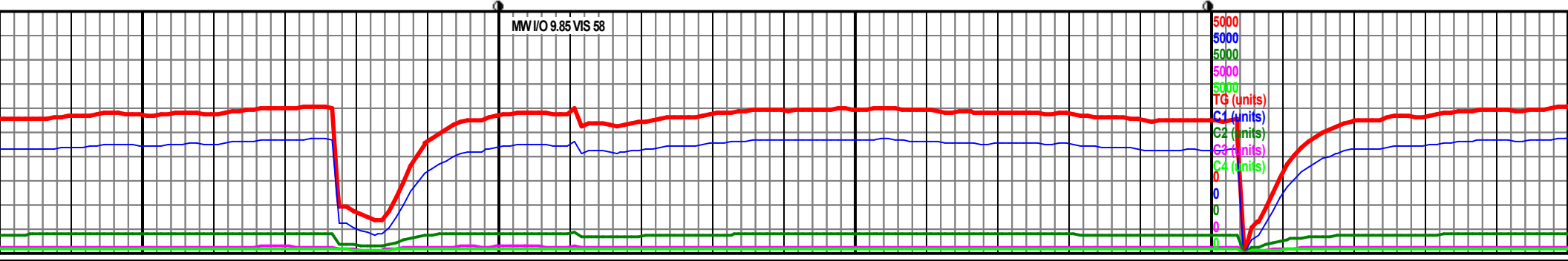
MD 10979 TVD 7220.36
INC 88.06 AZ 87.62
VS 2607.04

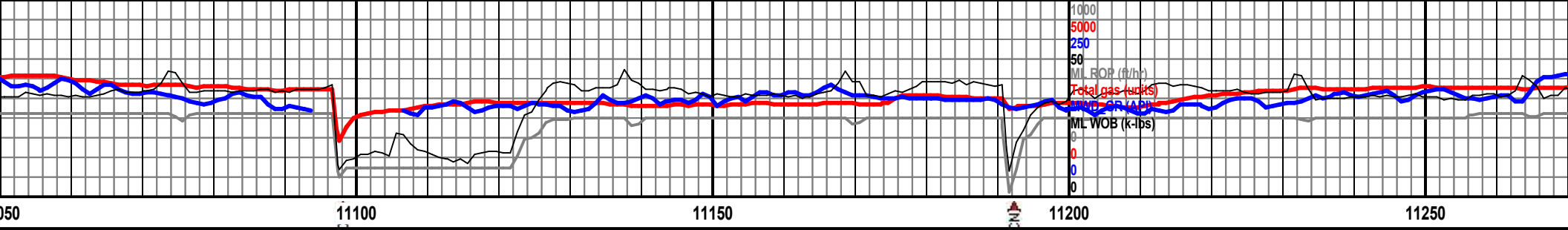
7170 TVD (-2269 SS)



CHLK (85%): md gry - md drk gry, occ sl brn; dom dll lstr; dom mtte txtr; sbtblr - wdglk ctgs; irrg - erthy frctr; brttl - plvrnt tncy, grdng cln - arg; sppty wk pri fl; fst mod blu grn ct fl, wocc strms; mod grn rsd rng fl.
MRLSTN (15%), tr pryt

CHLK (80%): md gry - md drk gry, occ sl brn; dom dll lstr; dom mtte txtr; sbtblr - wdglk ctgs; irrg - erthy frctr; brttl - plvrnt tncy, grdng cln - arg; sppty wk pri fl; fst mod blu grn ct fl, wocc strms; mod grn rsd rng fl.
MRLSTN (20%), tr pryt



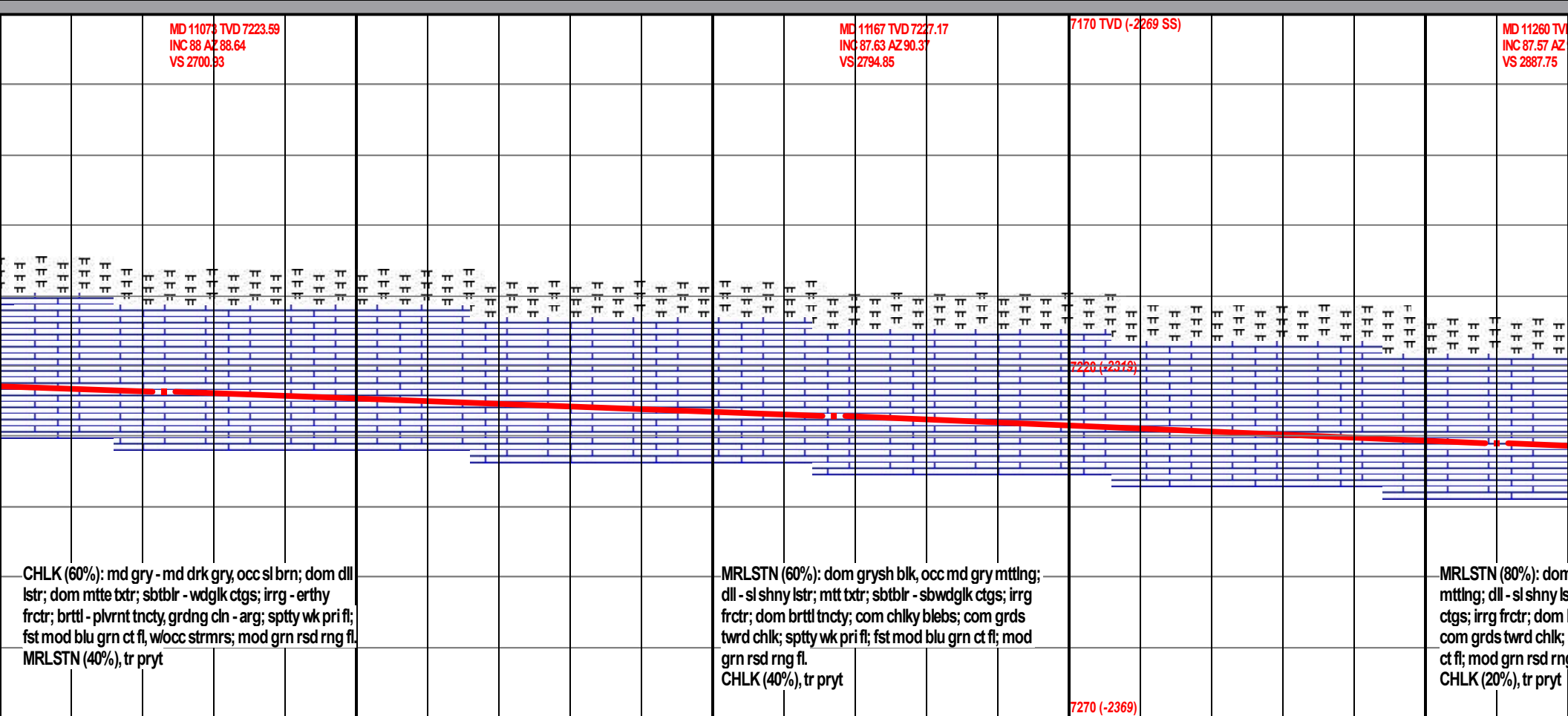


MD 11073 TVD 7223.59
INC 88 AZ 88.64
VS 2700.83

MD 11167 TVD 7227.17
INC 87.63 AZ 90.37
VS 2794.85

7170 TVD (-2269 SS)

MD 11260 TVD
INC 87.57 AZ
VS 2887.75



CHLK (60%): md gry - md drk gry, occ sl brn; dom dll lstr; dom mtte btr; sbtblr - wdgk ctgs; irrg - erthy frctr; brttl - plvrnt tncy, grdng ch - arg; sppty wk pri fi; fst mod blu grn ct fi, wocc strms; mod grn rsd rng fl.
MRLSTN (40%), tr pryt

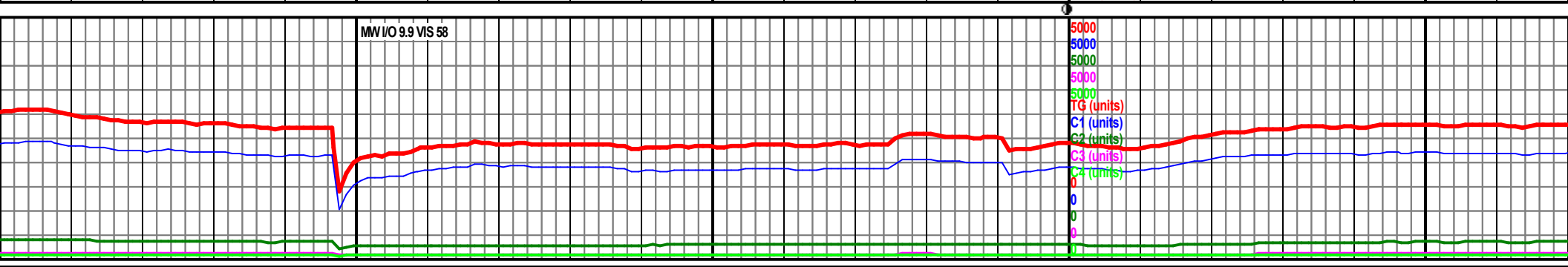
MRLSTN (60%): dom grysh blk, occ md gry mtting; dll - sl shny lstr; mtt btr; sbtblr - sbwdgk ctgs; irrg frctr; dom brttl tncy; com chky blebs; com grds twrd chlk; sppty wk pri fi; fst mod blu grn ct fi; mod grn rsd rng fl.
CHLK (40%), tr pryt

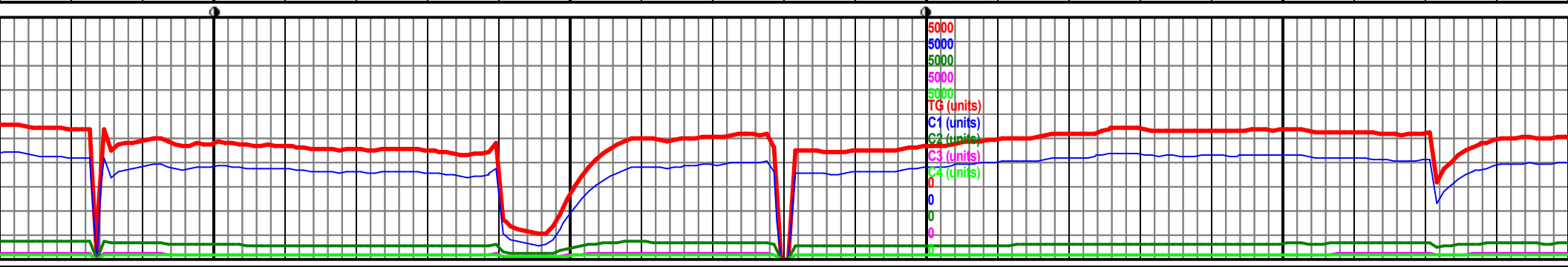
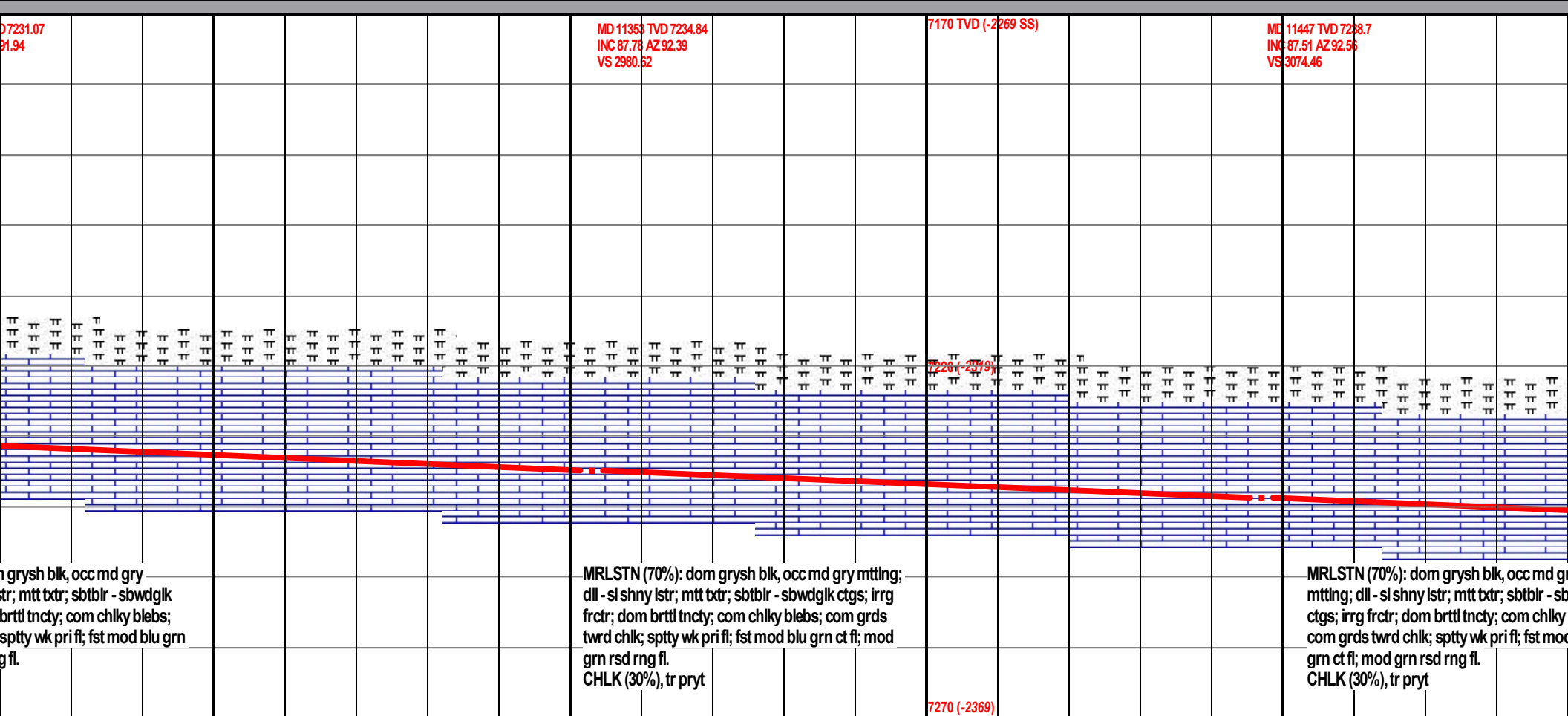
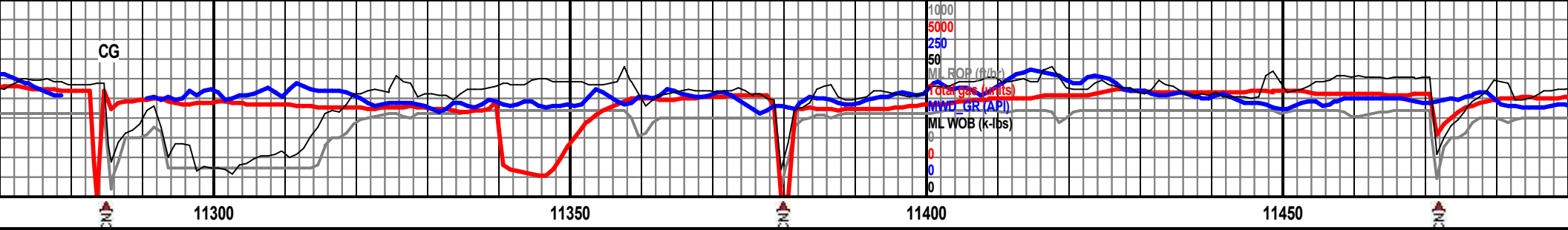
MRLSTN (80%): dom mtting; dll - sl shny lstr; sbtblr - wdgk ctgs; irrg frctr; dom brttl tncy; com chky blebs; com grds twrd chlk; sppty wk pri fi; fst mod blu grn ct fi; mod grn rsd rng fl.
CHLK (20%), tr pryt

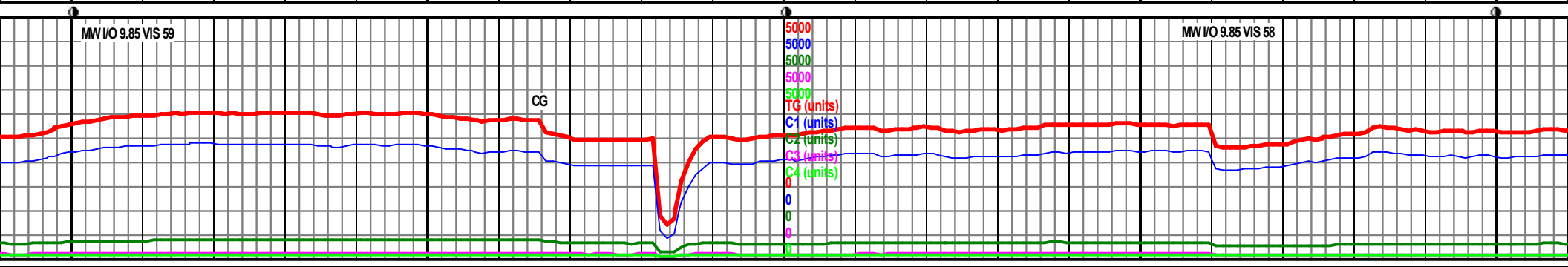
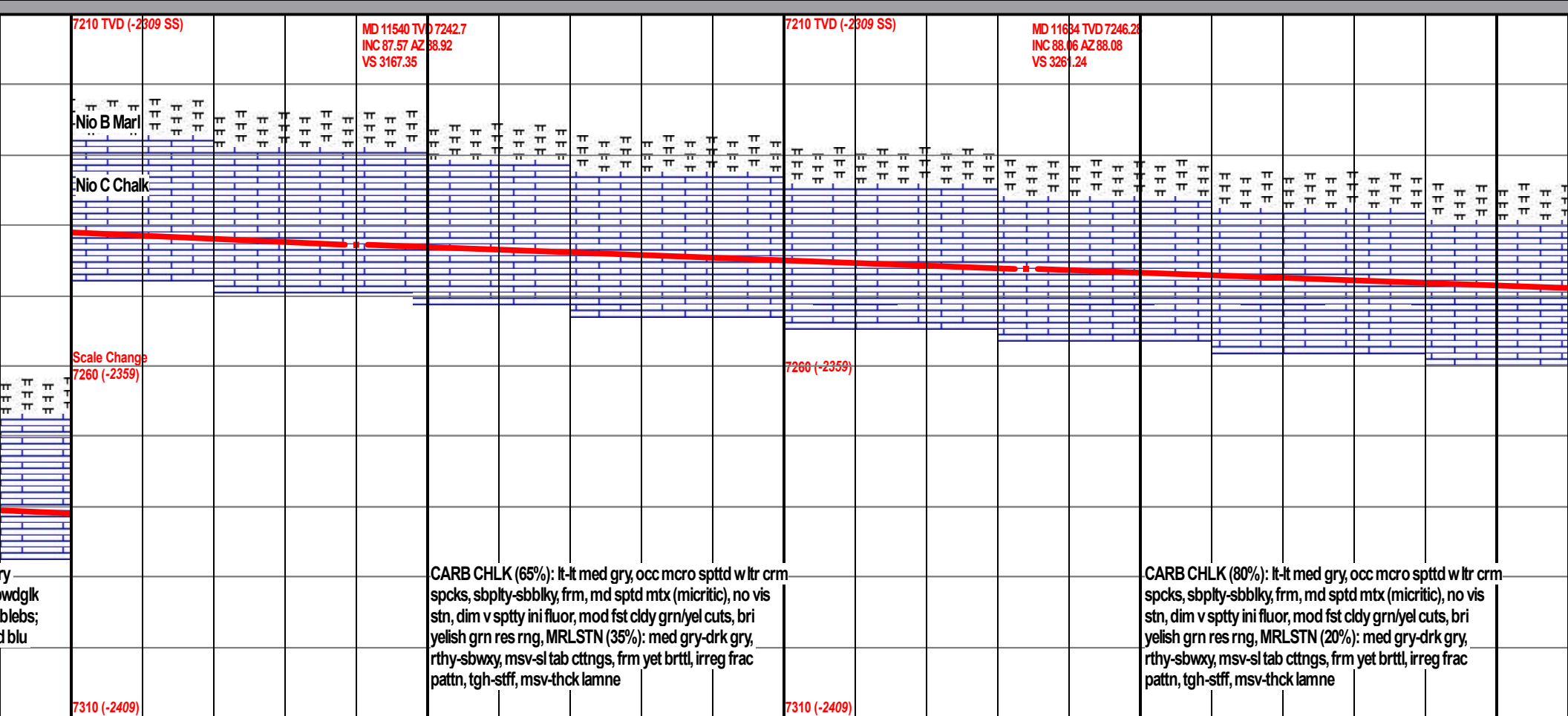
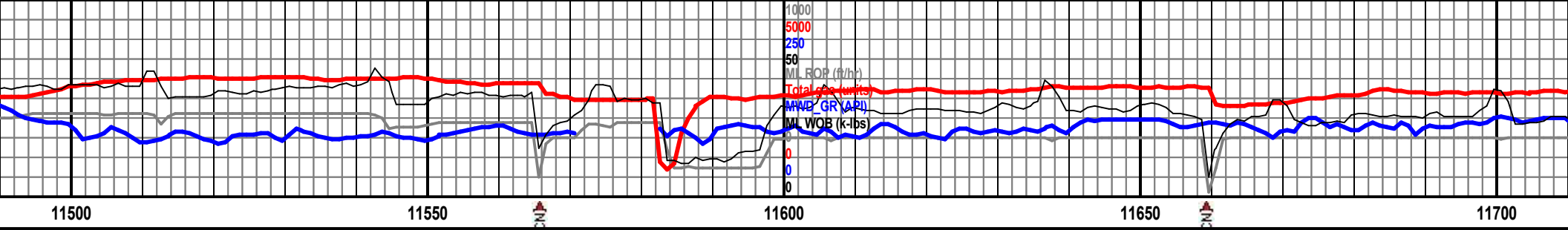
7220 (-2319)

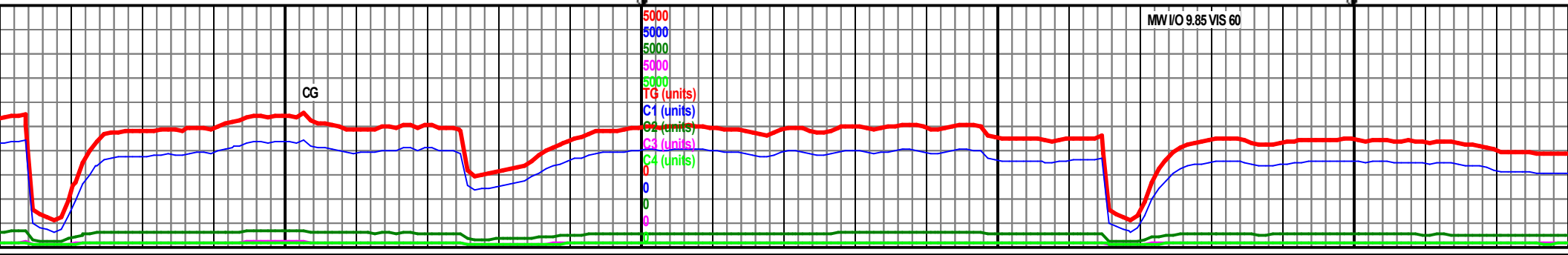
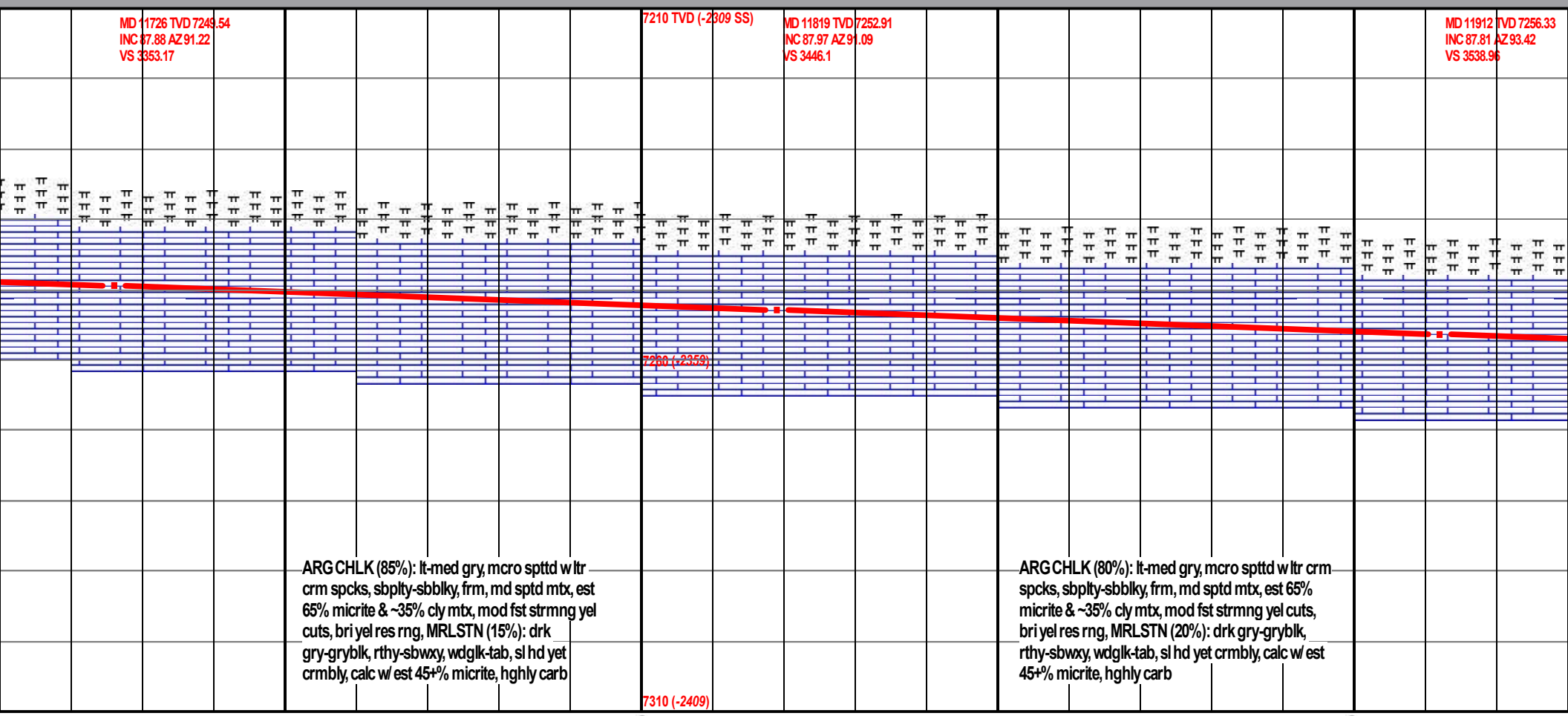
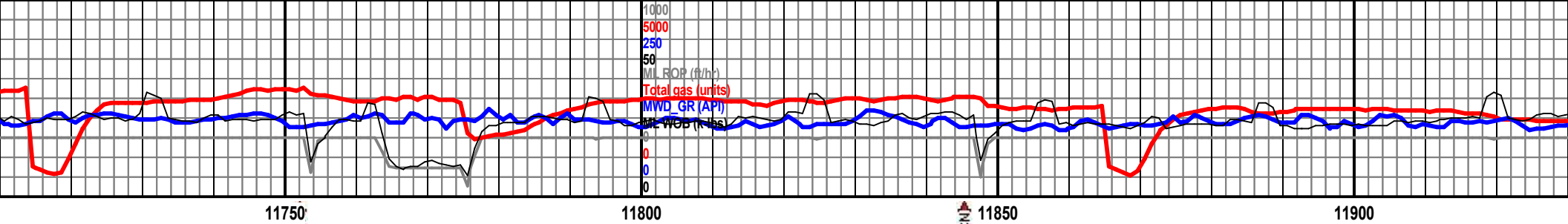
7270 (-2369)

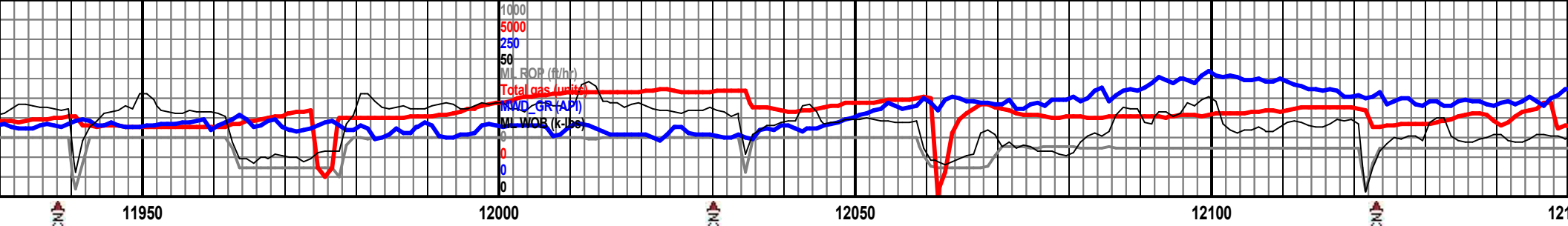
MW I/O 9.9 VIS 58





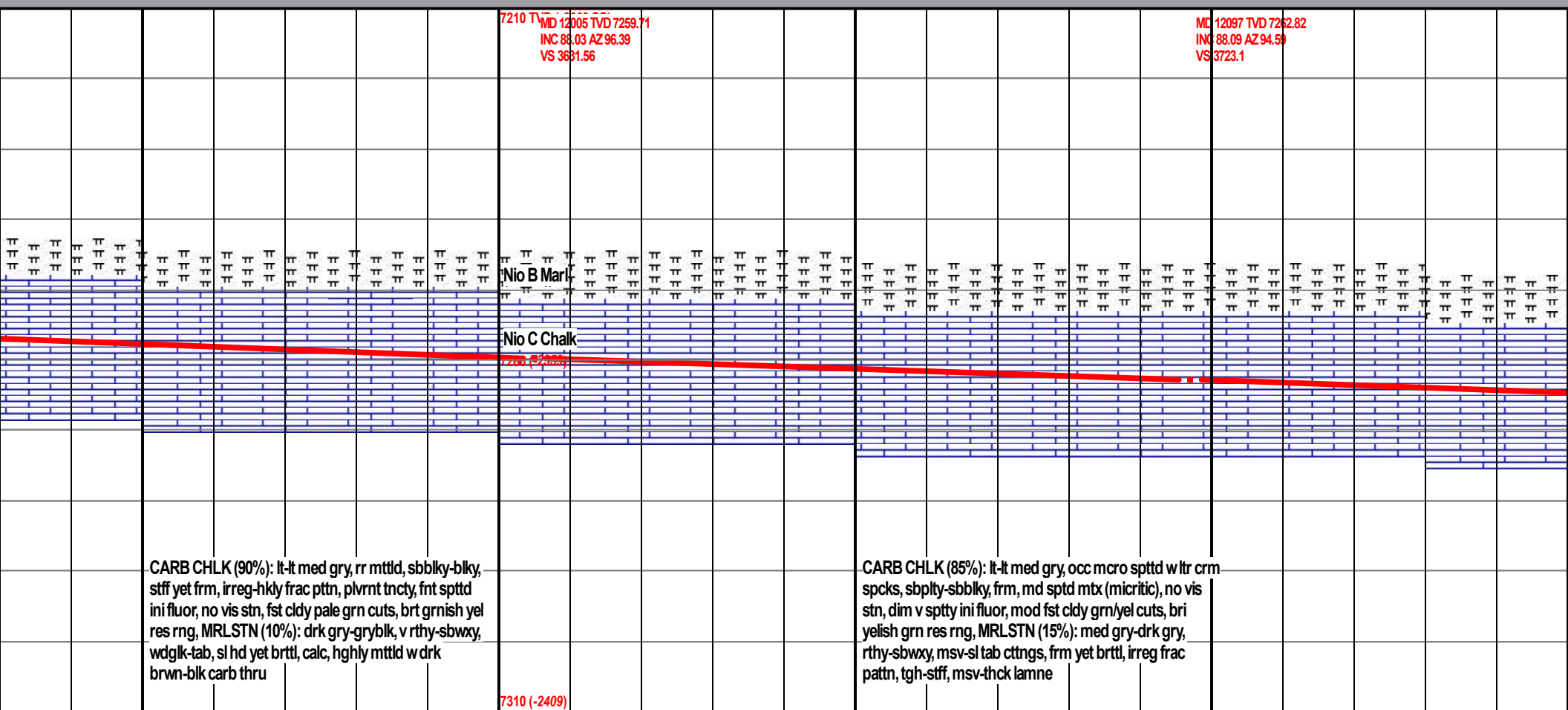






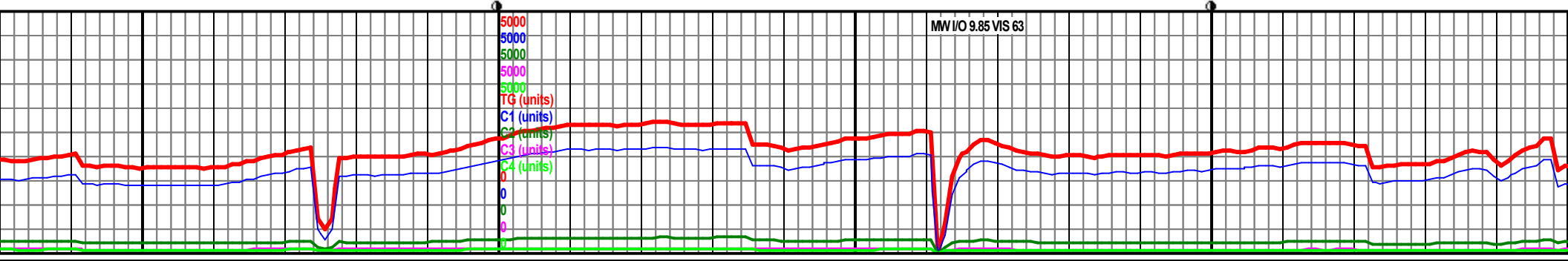
7210 TVD (-2409)
MD 12005 TVD 7259.71
INC 88.03 AZ 96.39
VS 3681.56

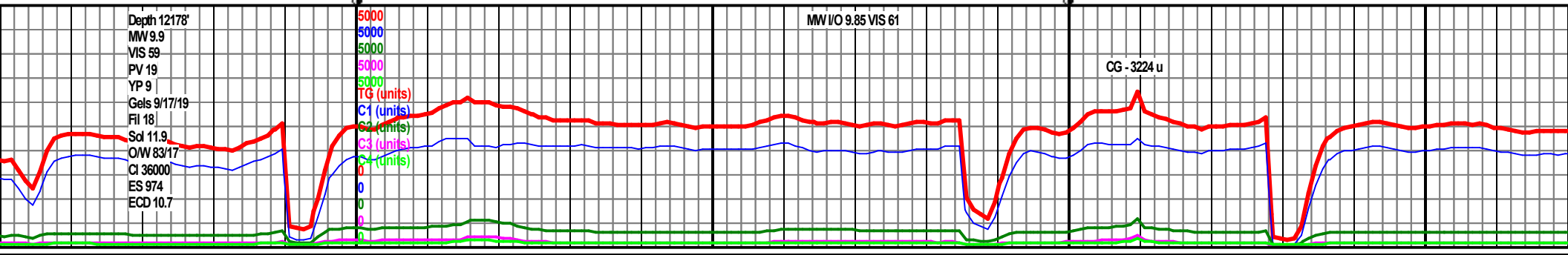
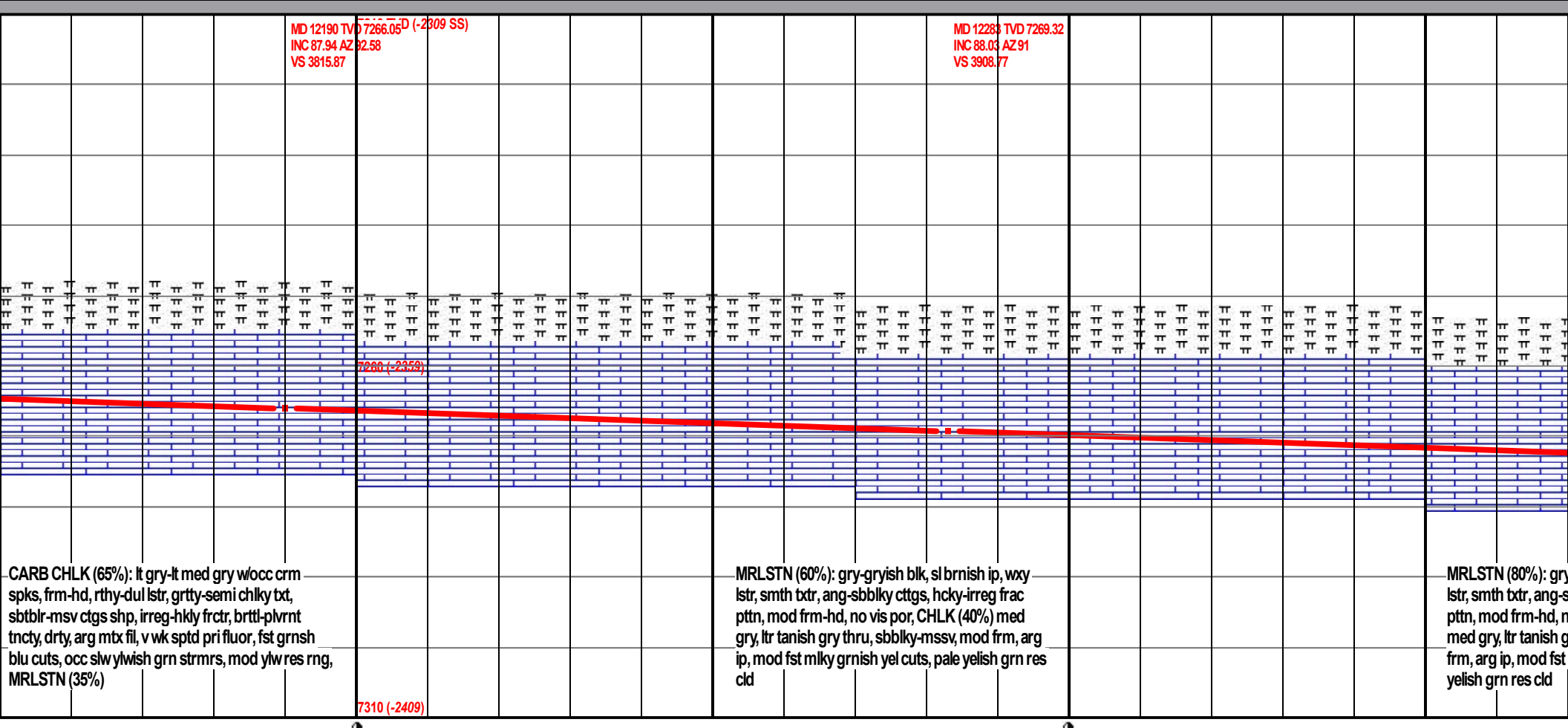
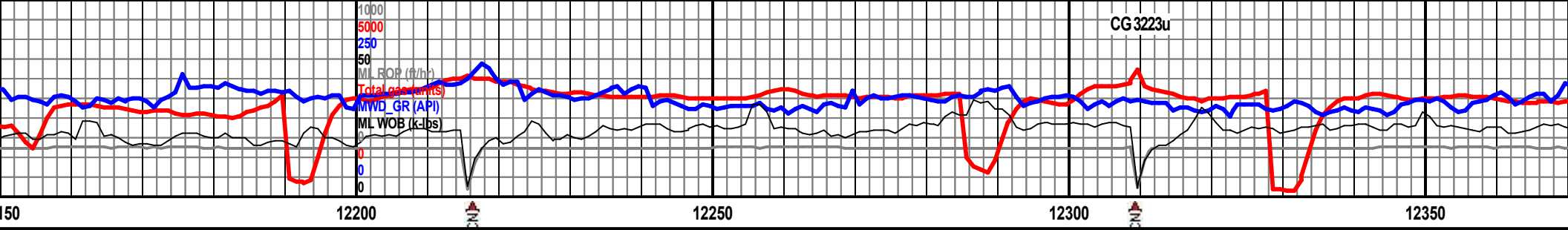
MD 12097 TVD 7262.82
INC 88.09 AZ 94.59
VS 3723.1

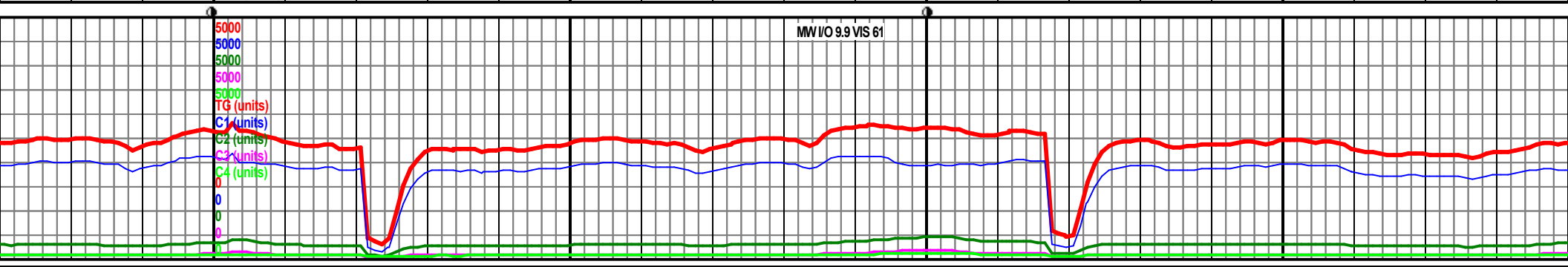
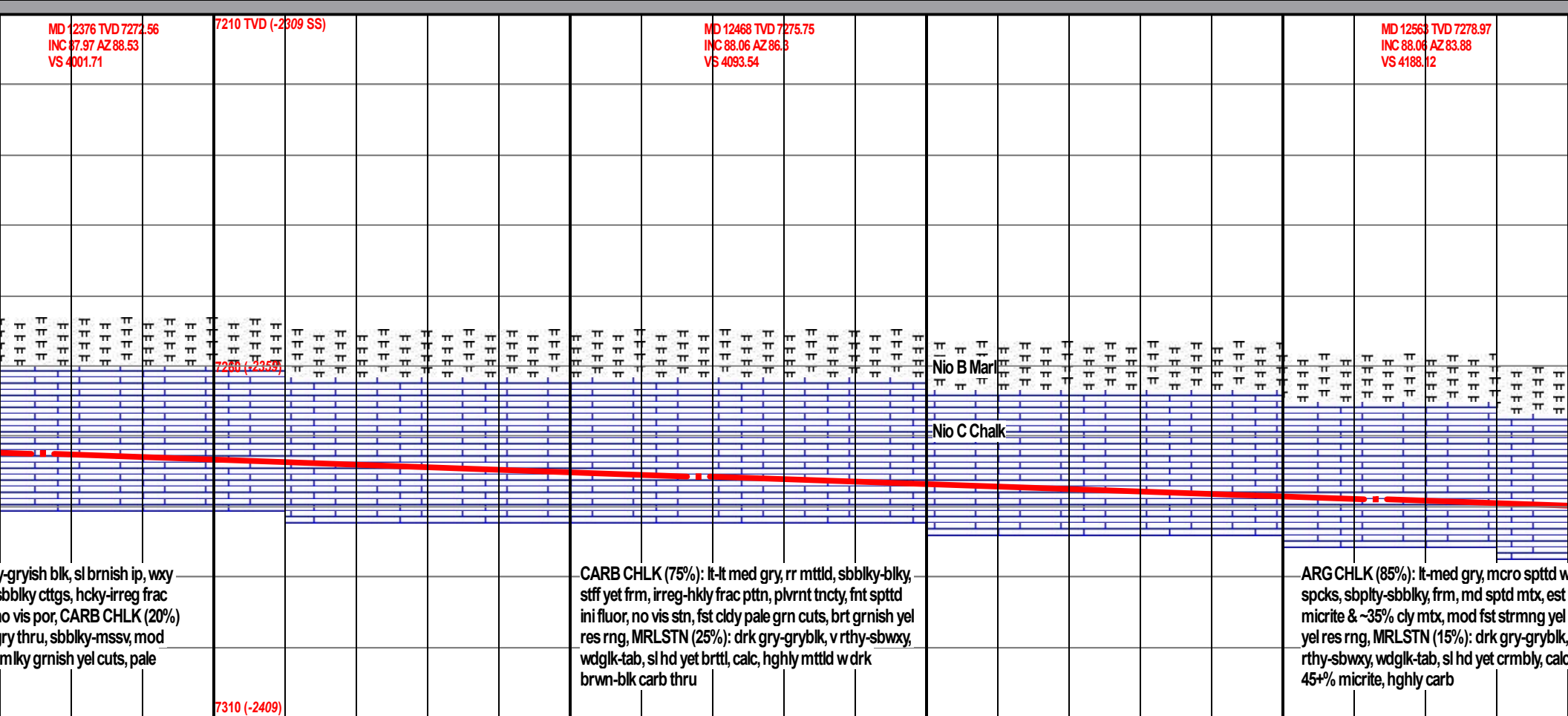
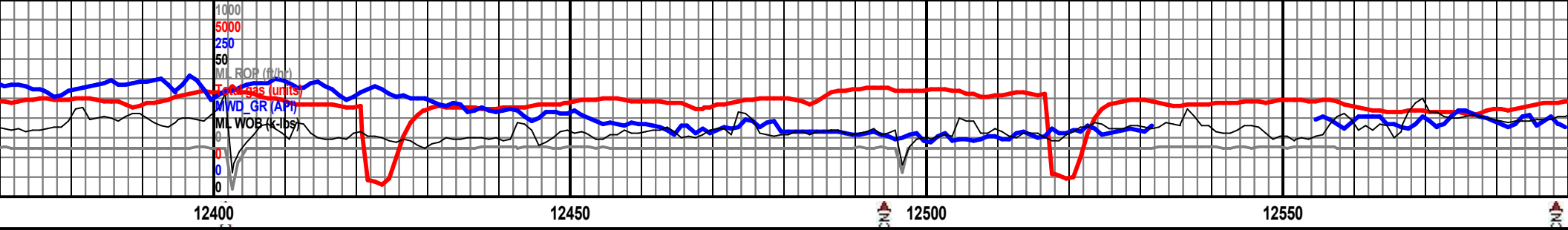


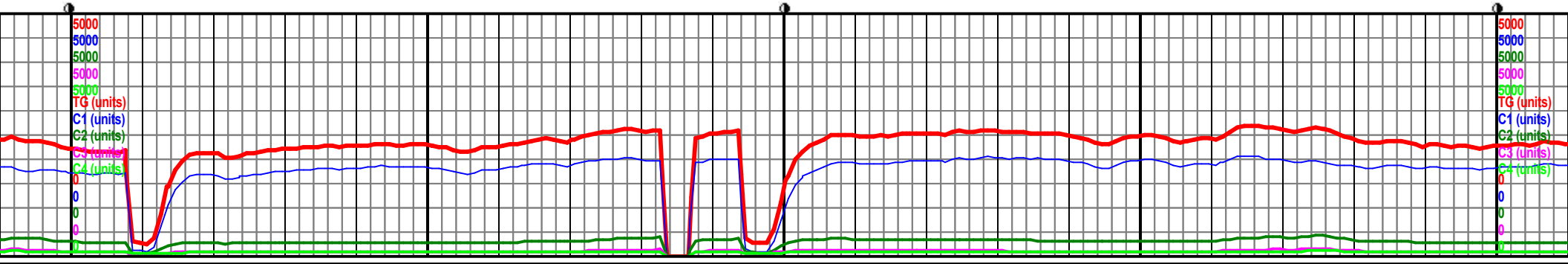
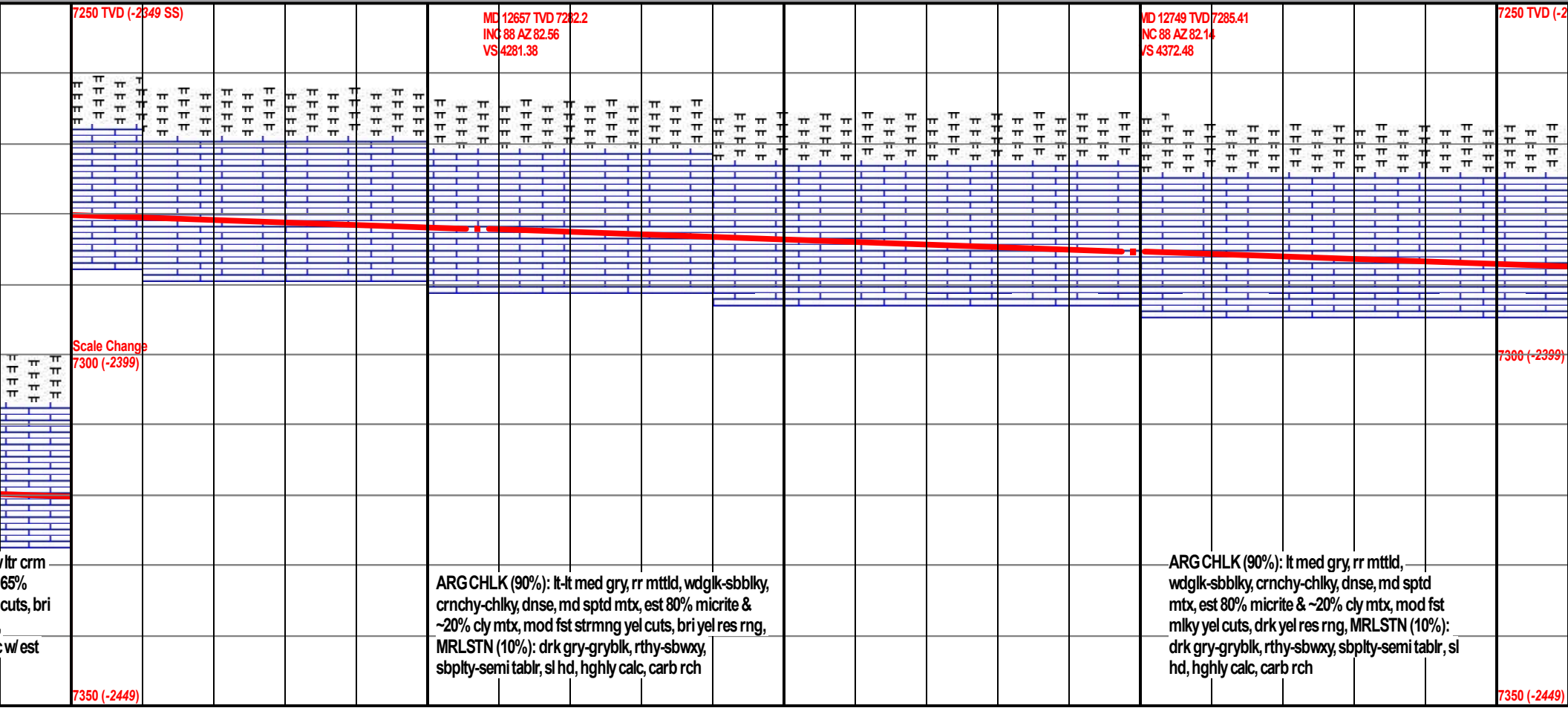
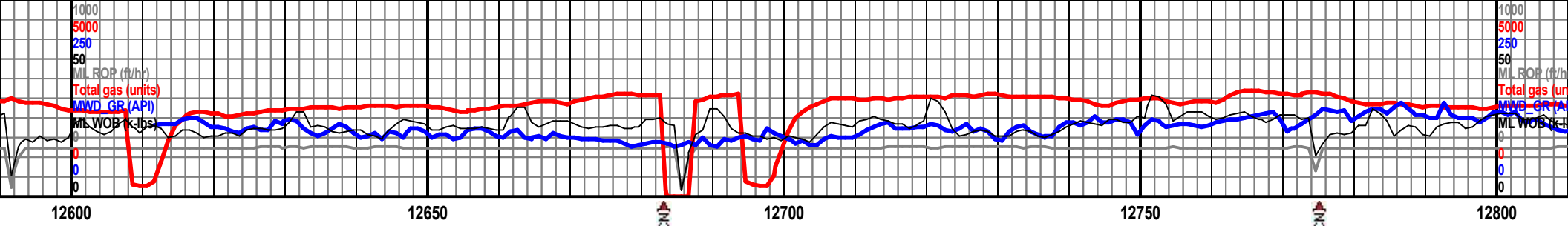
CARB CHLK (90%): lt-lt med gry, rr mtld, sbbky-blky, stff yet frm, irreg-hkly frac ptn, plvrnt tncty, fnt spttd ini fluor, no vis stn, fst cldy pale grn cuts, brt grnish yel res rng, MRLSTN (10%): drk gry-gryblk, v rthy-sbwxy, wdgk-tab, sl hd yet brttl, calc, hghly mtld w drk brwn-blk carb thru

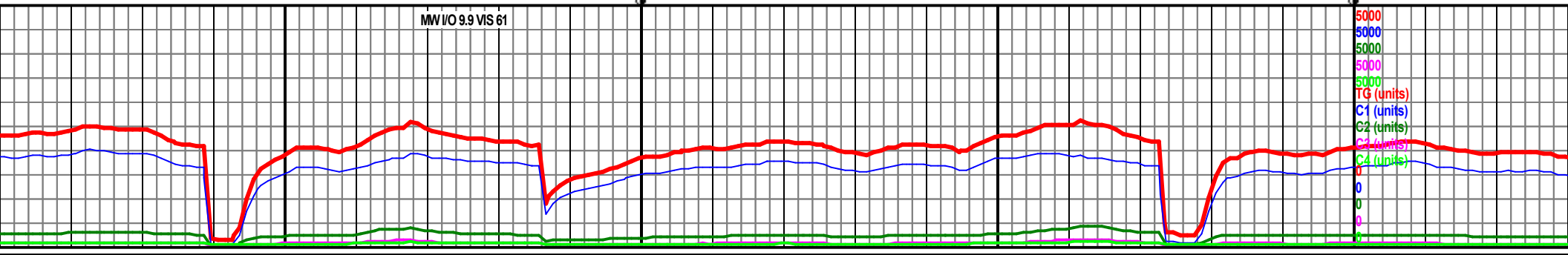
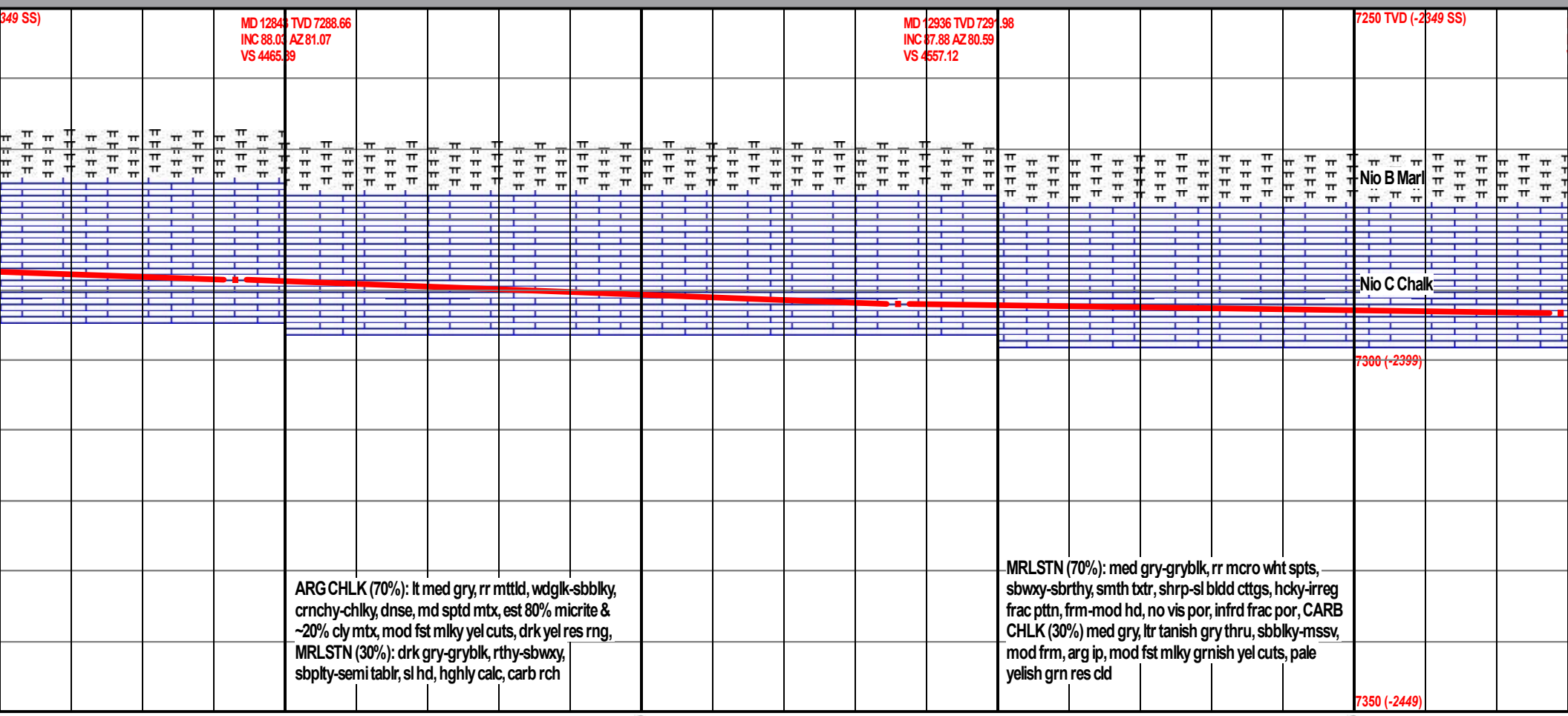
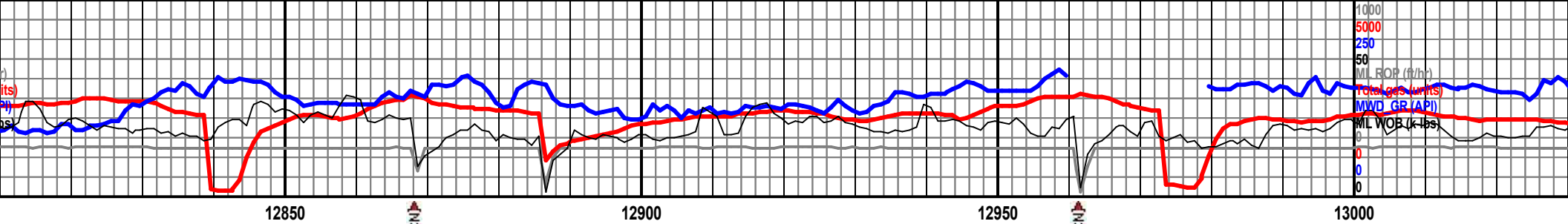
CARB CHLK (85%): lt-lt med gry, occ mcro spttd w ltr crm spcks, sbply-sbbky, frm, md sptd mtx (micritic), no vis stn, dim v spty ini fluor, mod fst cldy grn/yel cuts, bri yelish grn res rng, MRLSTN (15%): med gry-drk gry, rthy-sbwxy, msv-sl tab ctngs, frm yet brttl, irreg frac ptn, tgh-stff, msv-thck lamne

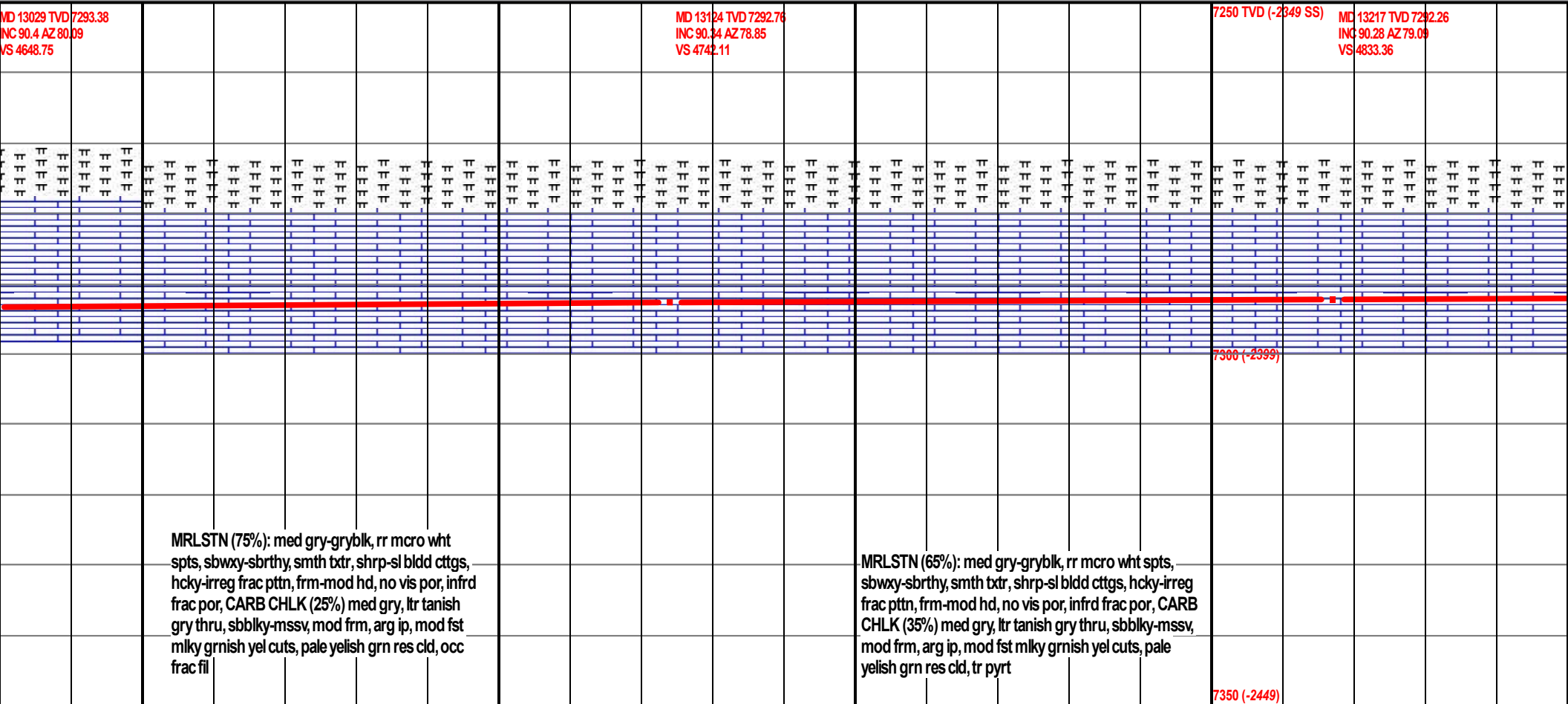
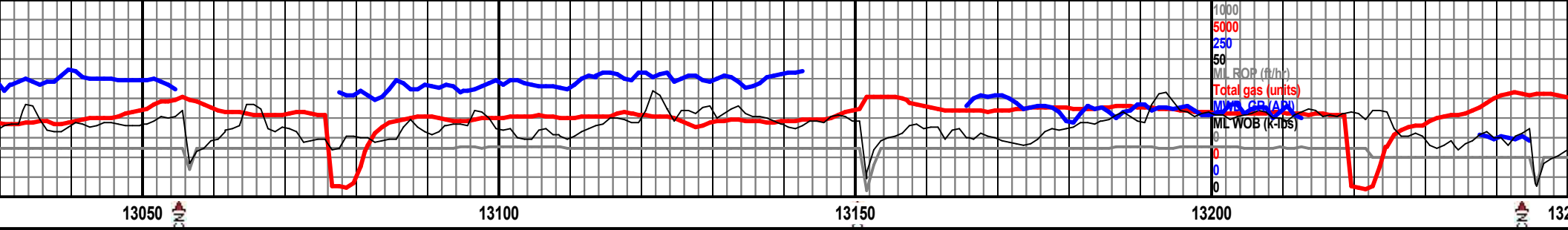








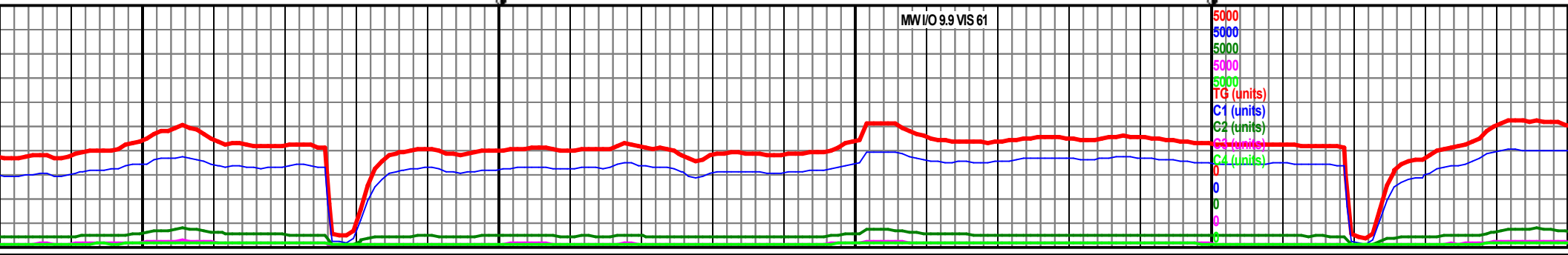


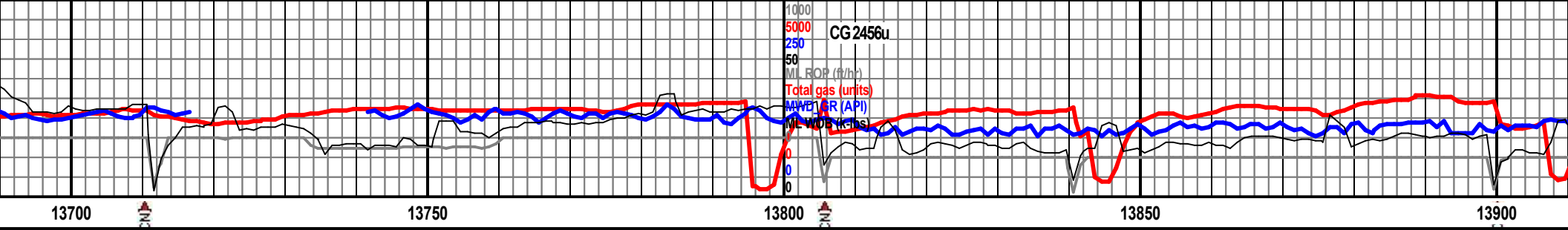


MRLSTN (75%): med gry-gryblk, rr mcro wht spts, sbwxy-sbrthy, smth btr, shrp-sl bldd cttgs, hcky-irreg frac pttm, frm-mod hd, no vis por, infrd frac por, CARB CHLK (25%) med gry, ltr tanish gry thru, sbbkly-mssv, mod frm, arg ip, mod fst mlky grnish yel cuts, pale yelish grn res cld, occ frac fil

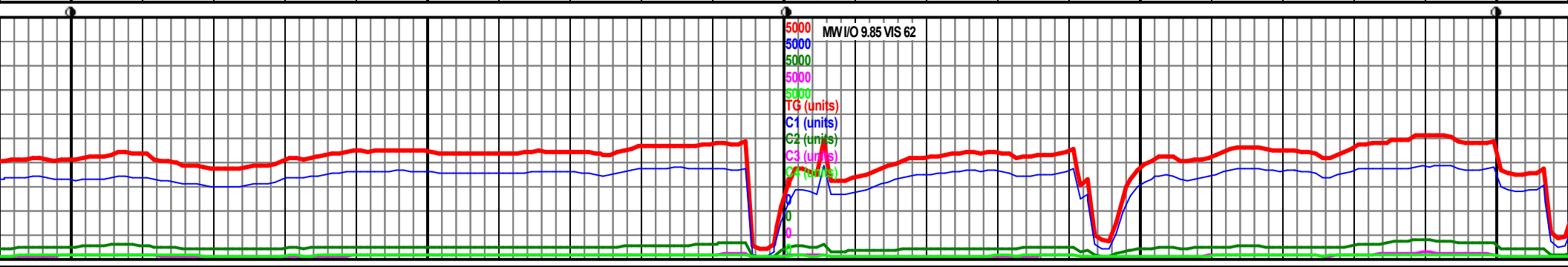
MRLSTN (65%): med gry-gryblk, rr mcro wht spts, sbwxy-sbrthy, smth btr, shrp-sl bldd cttgs, hcky-irreg frac pttm, frm-mod hd, no vis por, infrd frac por, CARB CHLK (35%) med gry, ltr tanish gry thru, sbbkly-mssv, mod frm, arg ip, mod fst mlky grnish yel cuts, pale yelish grn res cld, tr pyrt

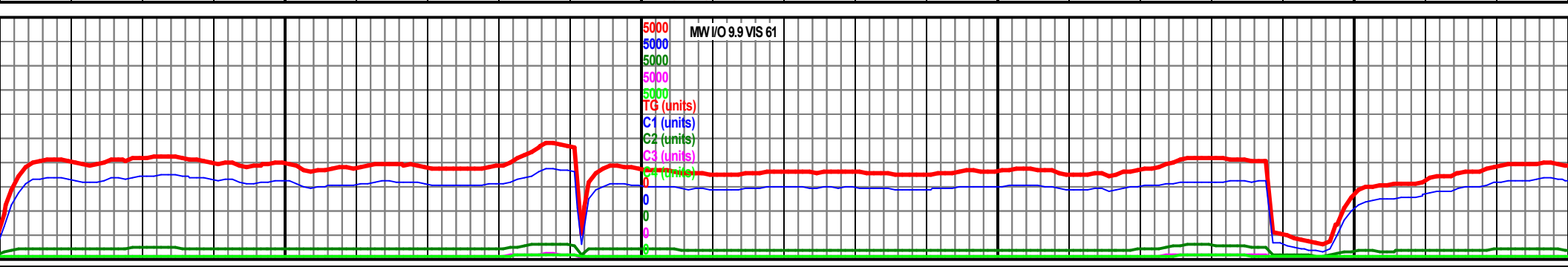
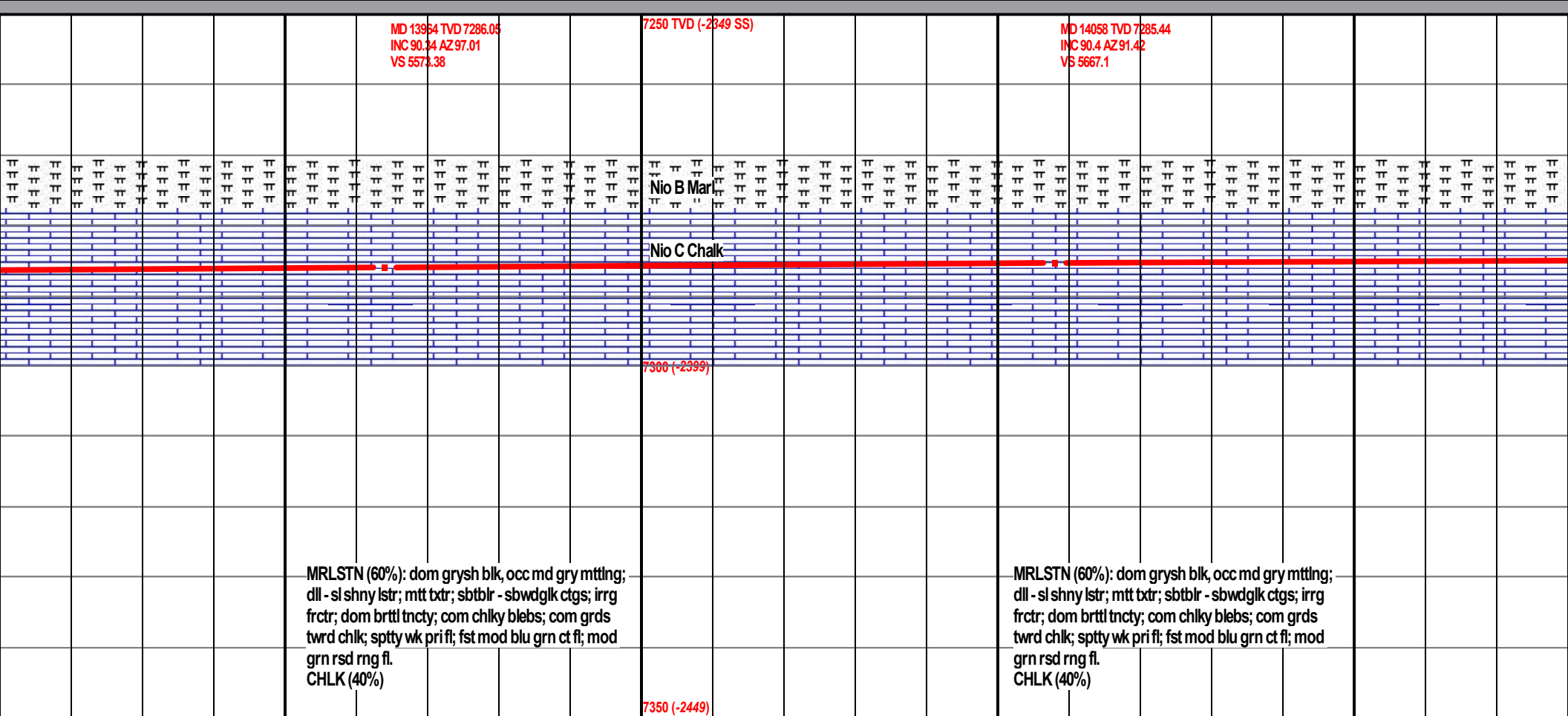
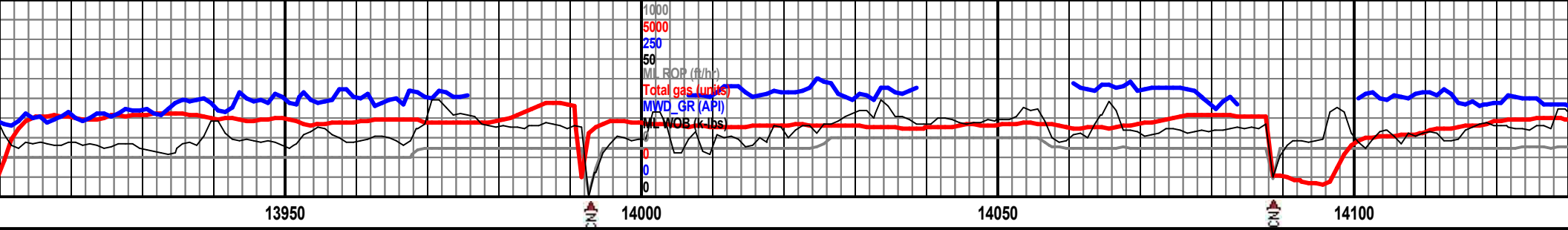
MW/O 9.9 VIS 61

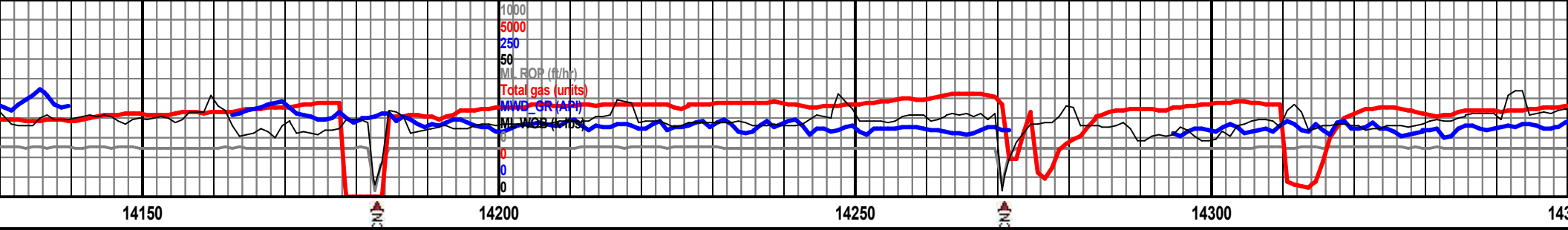




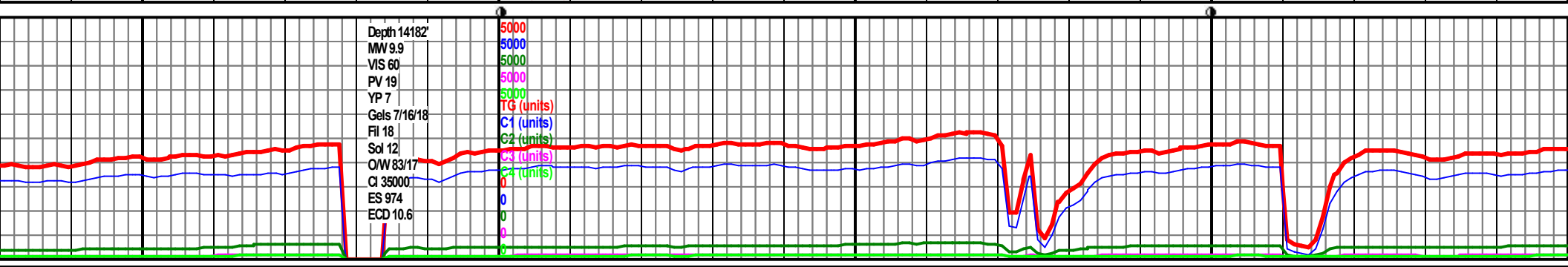
<p>685 TVD 7288.22 INC 90.4 AZ 96.33 VS 5388.79</p>	<p>MD 13777 TVD 7287.3 INC 90.4 AZ 102.7 VS 5389.51</p>	<p>7250 TVD (-2349 SS)</p>	<p>MD 13871 TVD 7286.65 INC 90.4 AZ 101.04 VS 5481.53</p>
<p>7300 (-2399)</p>			
<p>mtting; gs; irrg grds fl; mod</p>	<p>CHLK (60%): md gry - md drk gry, occ sl brn; dom dll lstr; dom mtte txtr; sbtblr - wdgk ctgs; irrg - erthy frctr; brttl - plvrnt tncy, dom arg, cln ip; sppty wk pri fl; fst mod blu grn ct fl, w/occ strmr; mod grn rsd rng fl. MRLSTN (40%), tr pryt, tr frc fll</p>		<p>CHLK (60%): md gry - md drk gry, occ sl brn; dom dll lstr; dom mtte txtr; sbtblr - wdgk ctgs; irrg - erthy frctr; brttl - plvrnt tncy, dom arg, cln ip; sppty wk pri fl; fst mod blu grn ct fl, w/occ strmr; mod grn rsd rng fl. MRLSTN (40%)</p>
<p>7350 (-2449)</p>			

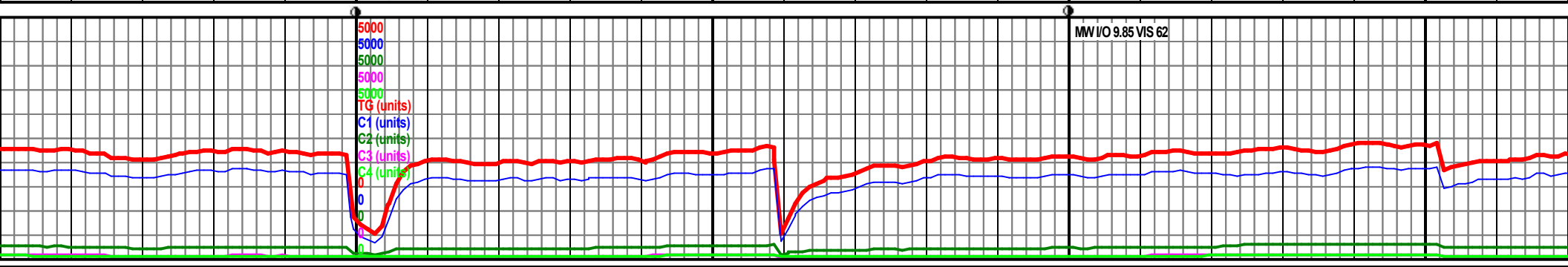
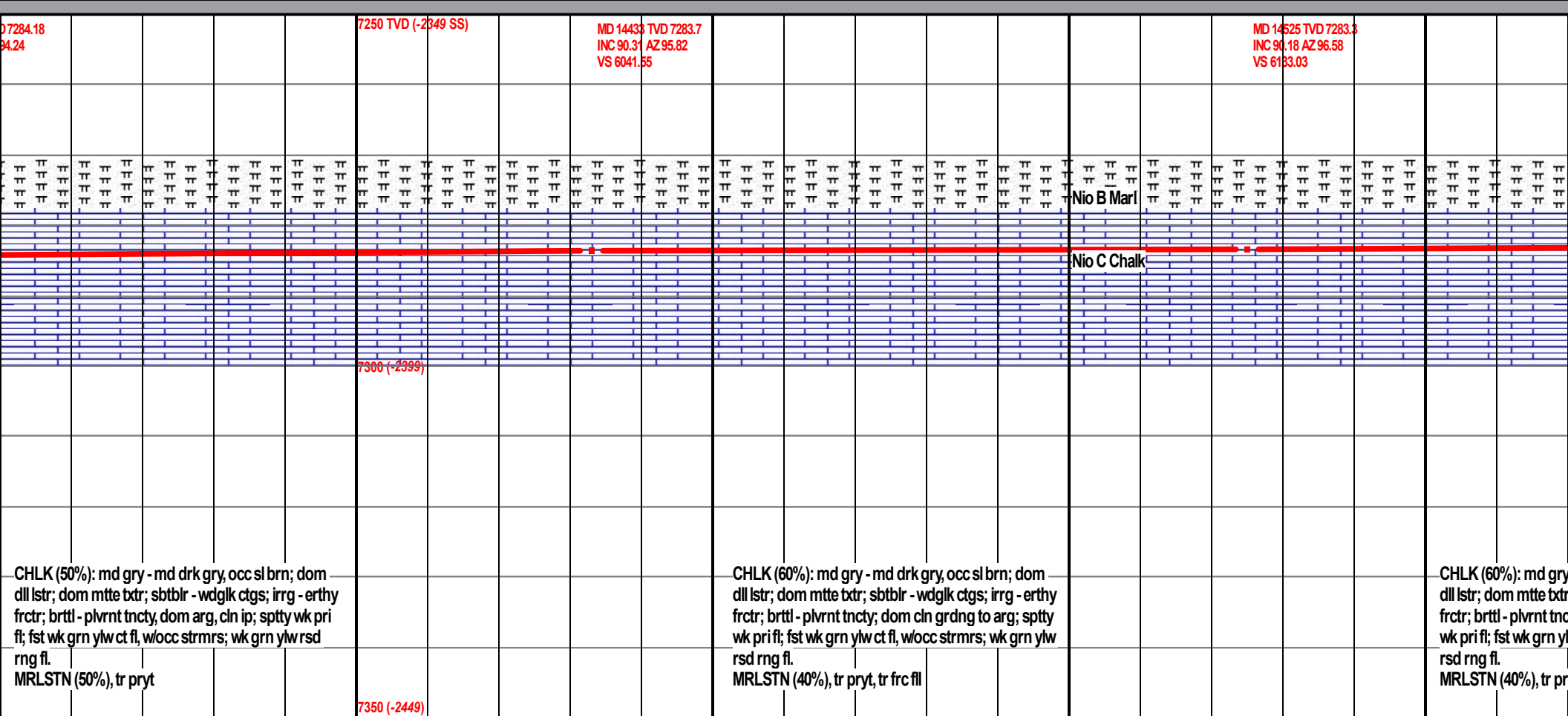
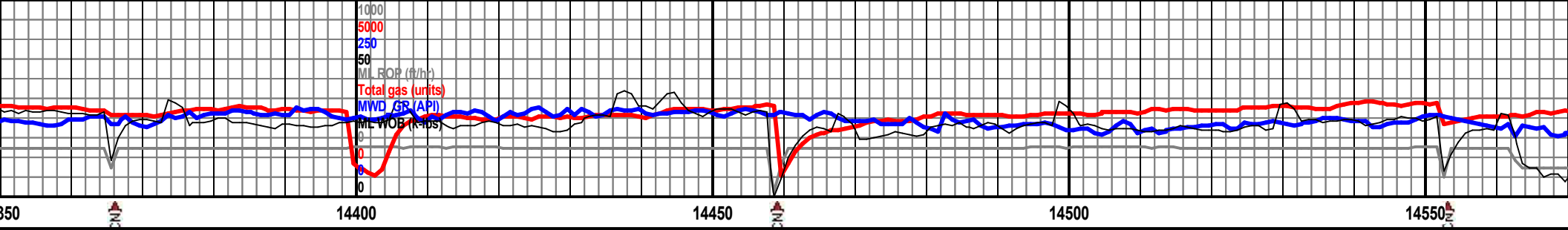


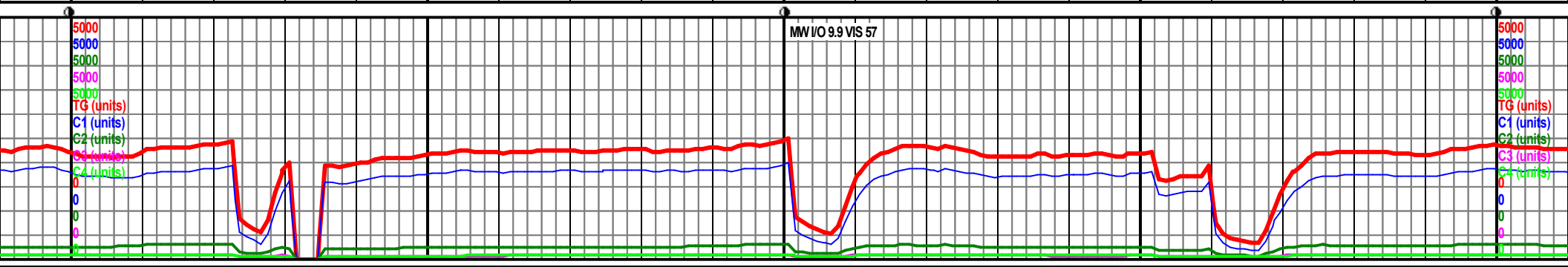
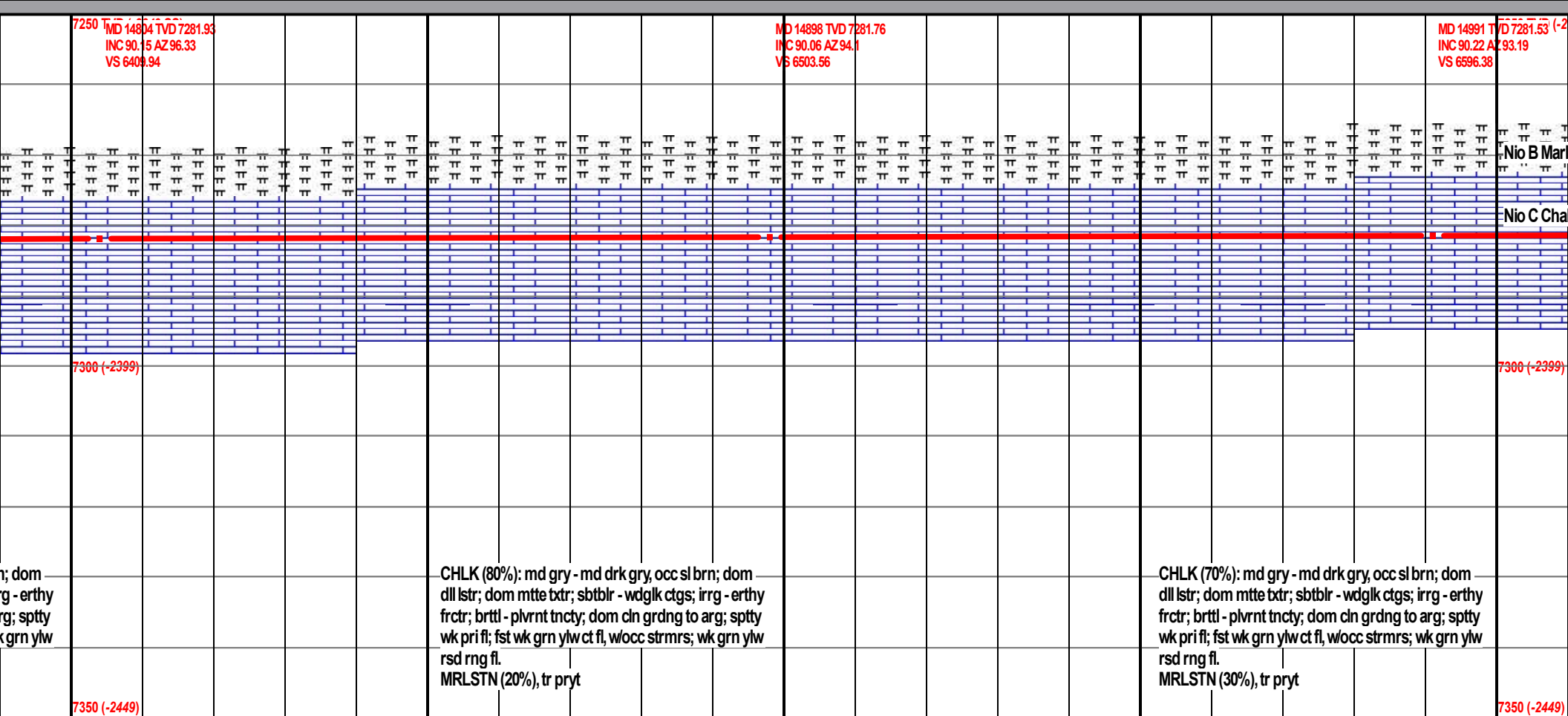
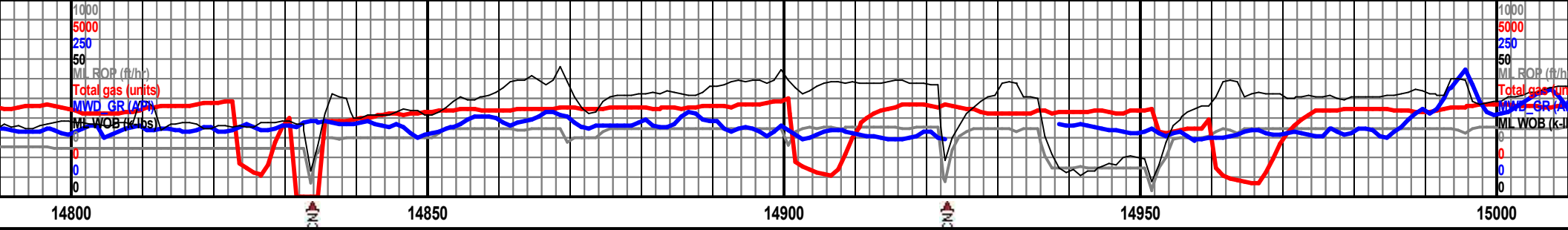


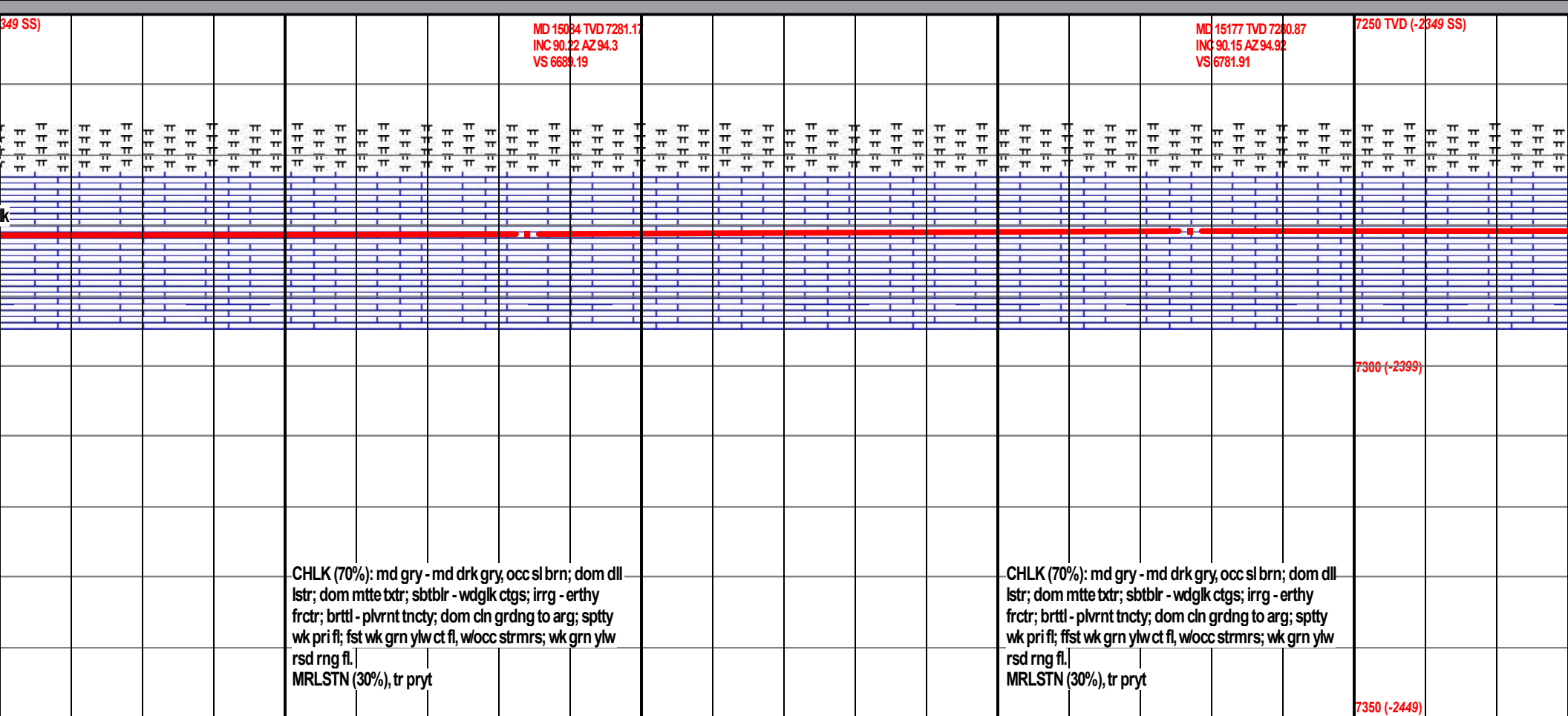
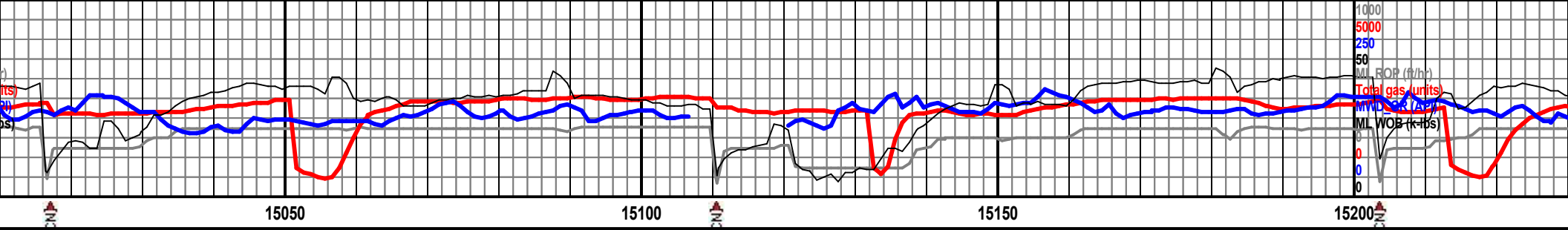


	<p>MD 14152 TVD 7284.91 INC 90.25 AZ 89.96 VS 5761.09</p>	<p>7250 TVD (-2349 SS)</p>	<p>MD 14246 TVD 7284.55 INC 90.18 AZ 92.71 VS 5355.06</p>	<p>MD 14340 TVD 7284.55 INC 90.28 AZ 92.71 VS 5948.9</p>
<p>7300 (-2399)</p>				
<p>MRLSTN (70%): dom grysh blk, occ md gry mttng; dll - sl shny lstr; mtt btxr; sbtblr - sbwdgjk ctgs; irrg frctr; dom brttl tncy; com chiky blebs; com grds twrd chlk; sppty wk pri fl; fst mod blu grn ct fl; mod grn rsd rng fl. CHLK (30%)</p>		<p>CHLK (60%): md gry - md drk gry, occ sl brn; dom dll lstr; dom mte btxr; sbtblr - wdglk ctgs; irrg - erthy frctr; brttl - plvrnt tncy, dom arg, cln ip; sppty wk pri fl; fst wk grn ylw ct fl, wocc strrms; wk grn ylw rsd rng fl. MRLSTN (40%)</p>		
<p>7350 (-2449)</p>				



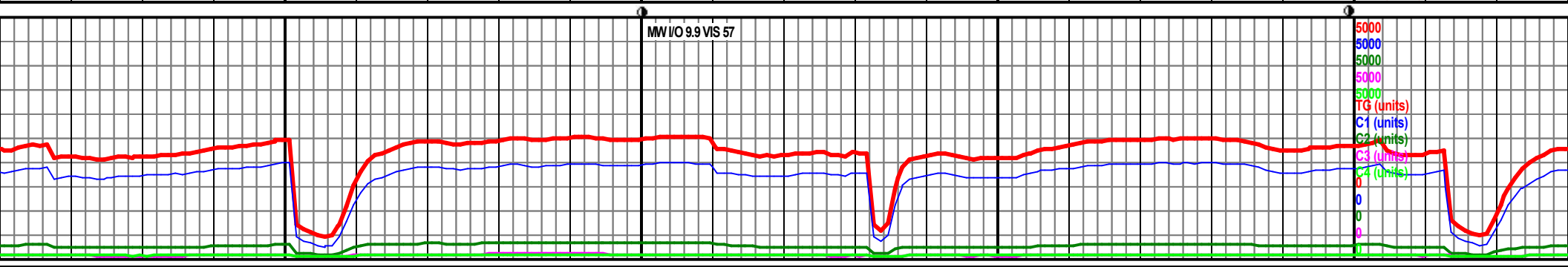


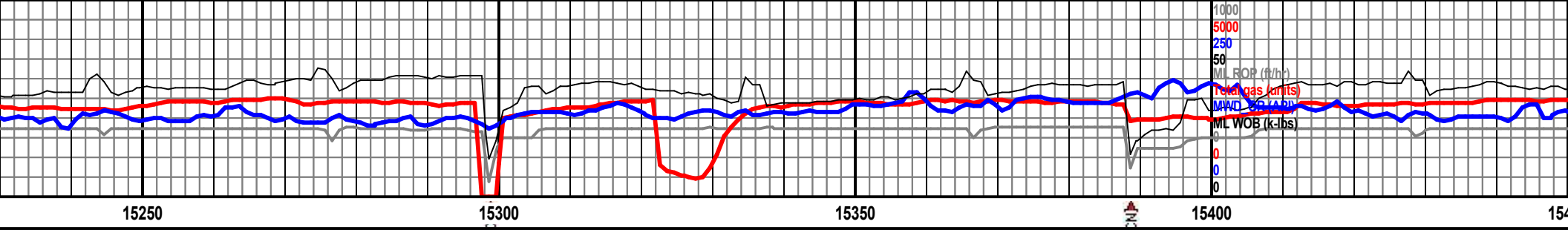




CHLK (70%): md gry - md drk gry, occ sl brn; dom dll lstr; dom mte tstr; sbtblr - wdgk ctgs; irrg - erthy frctr; brttl - plvrnt tncy; dom cin grdng to arg; sppty wk pri fl; fst wk grn ylw ct fl, wocc strms; wk grn ylw rsd rng fl.
MRLSTN (30%), tr pry

CHLK (70%): md gry - md drk gry, occ sl brn; dom dll lstr; dom mte tstr; sbtblr - wdgk ctgs; irrg - erthy frctr; brttl - plvrnt tncy; dom cin grdng to arg; sppty wk pri fl; fst wk grn ylw ct fl, wocc strms; wk grn ylw rsd rng fl.
MRLSTN (30%), tr pry





15250

15300

15350

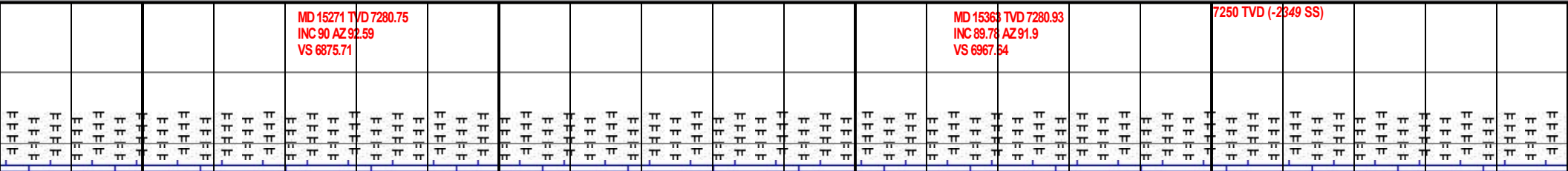
15400

15450

MD 15271 TVD 7280.75
INC 90 AZ 92.59
VS 6875.71

MD 15363 TVD 7280.93
INC 89.76 AZ 91.9
VS 6967.64

7250 TVD (-2349 SS)



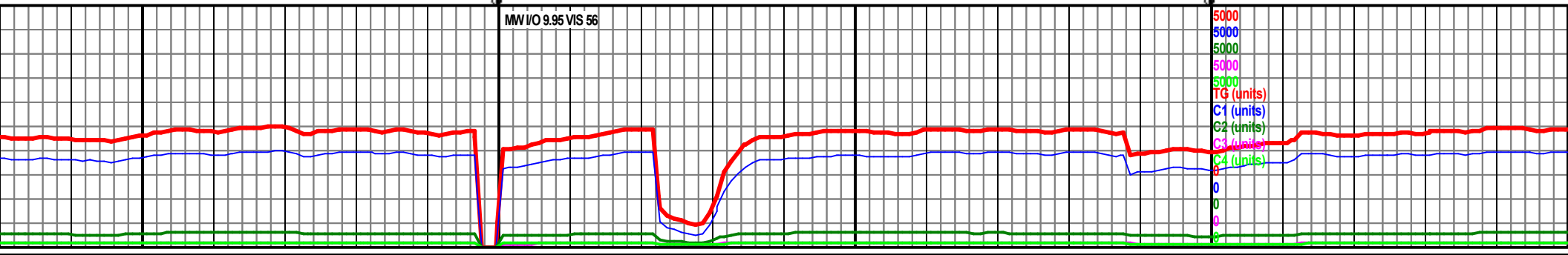
MRLSTN (60%): dom grysh blk, occ md gry mtting; dll - sl shny lstr; mtt txtr; sbtblr - sbwdgk ctgs; irrg frctr; dom brttl tncty; com chiky blebs; com grds twrd chlk; sptty wk pri ft; slw wk grn ylw ct fl, wocc strrms; wk grn ylw rsd rng fl.
CHLK (40%),

MRLSTN (60%): dom grysh blk, occ md gry mtting; dll - sl shny lstr; mtt txtr; sbtblr - sbwdgk ctgs; irrg frctr; dom brttl tncty; com chiky blebs; com grds twrd chlk; sptty wk pri ft; slw wk grn ylw ct fl, wocc strrms; wk grn ylw rsd rng fl.
CHLK (40%),

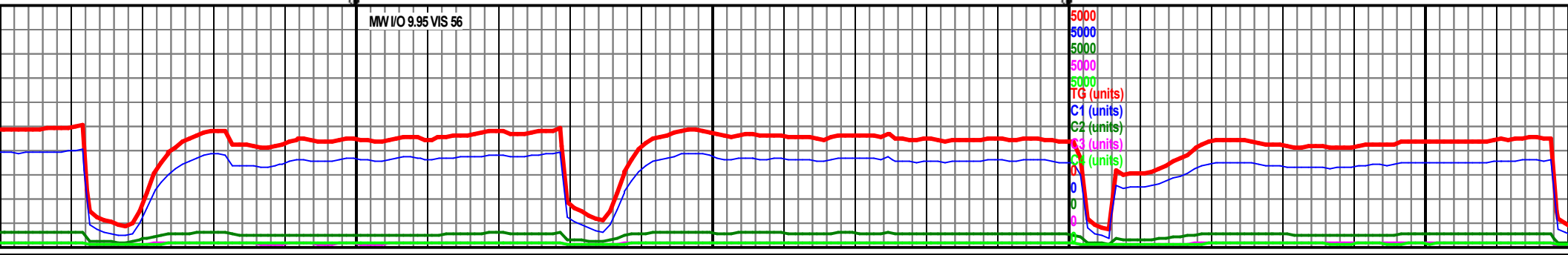
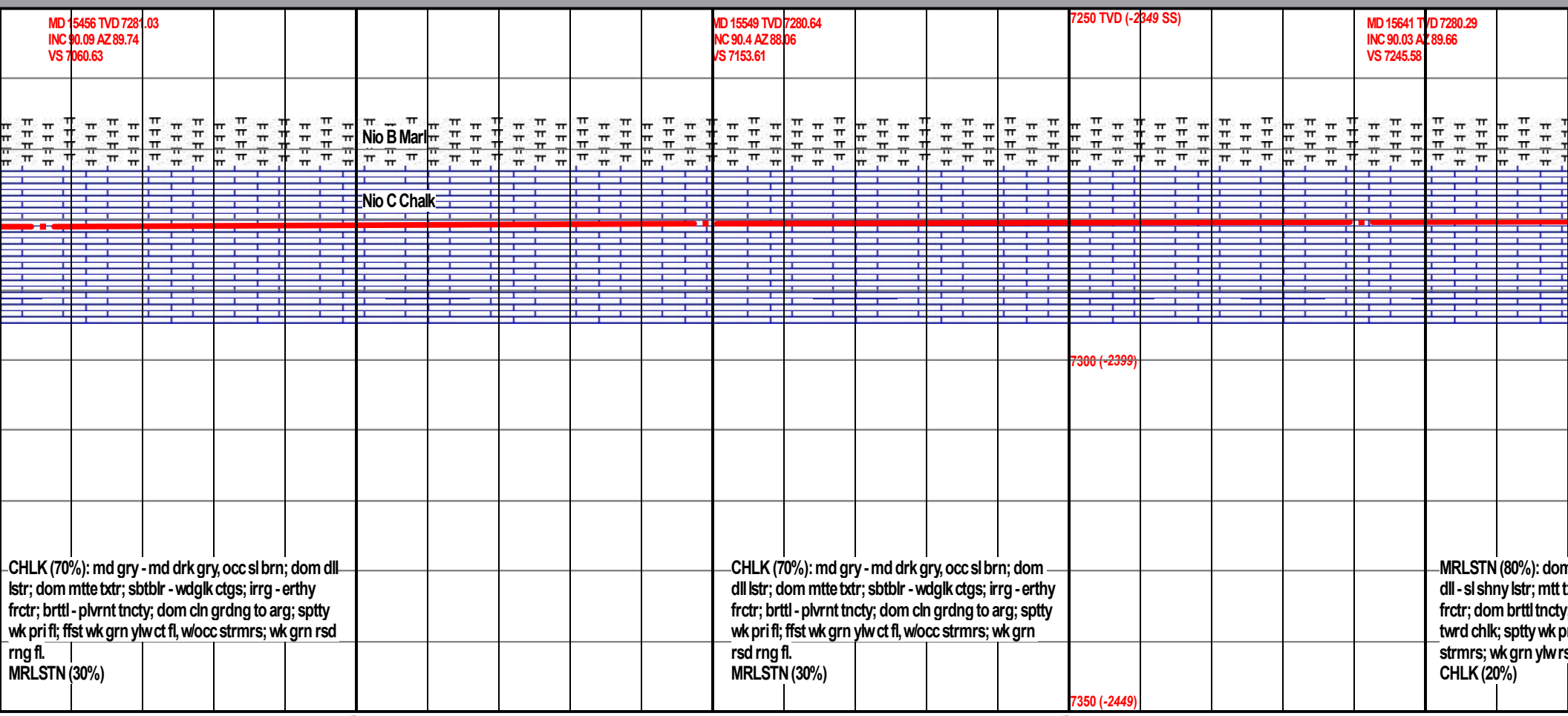
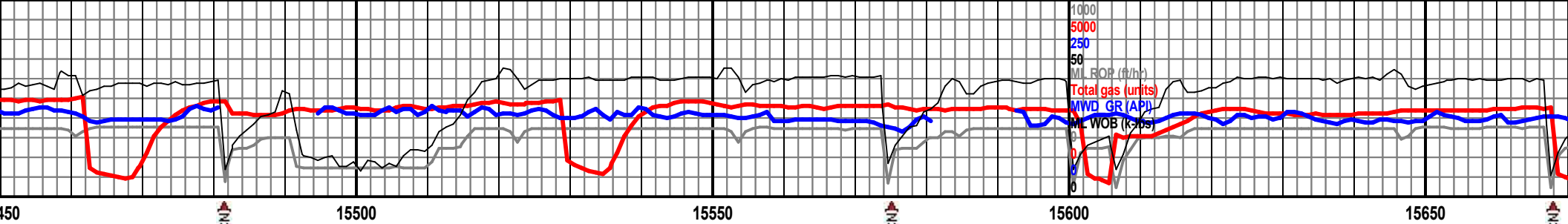
7300 (-2399)

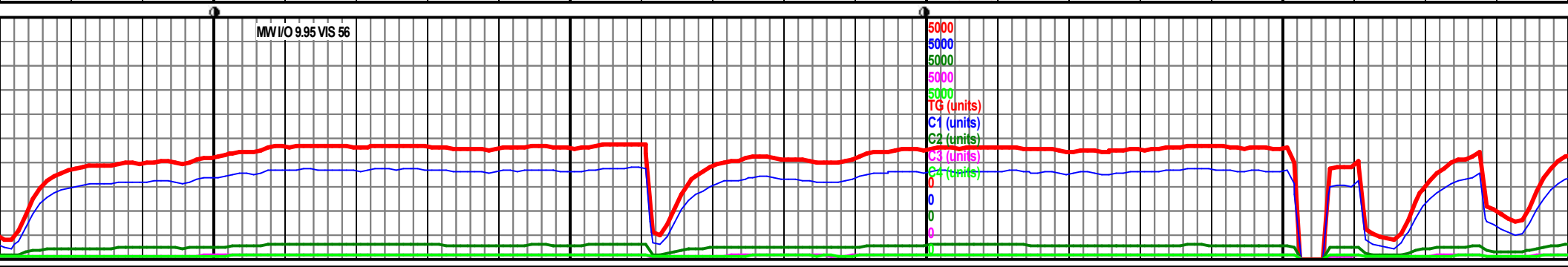
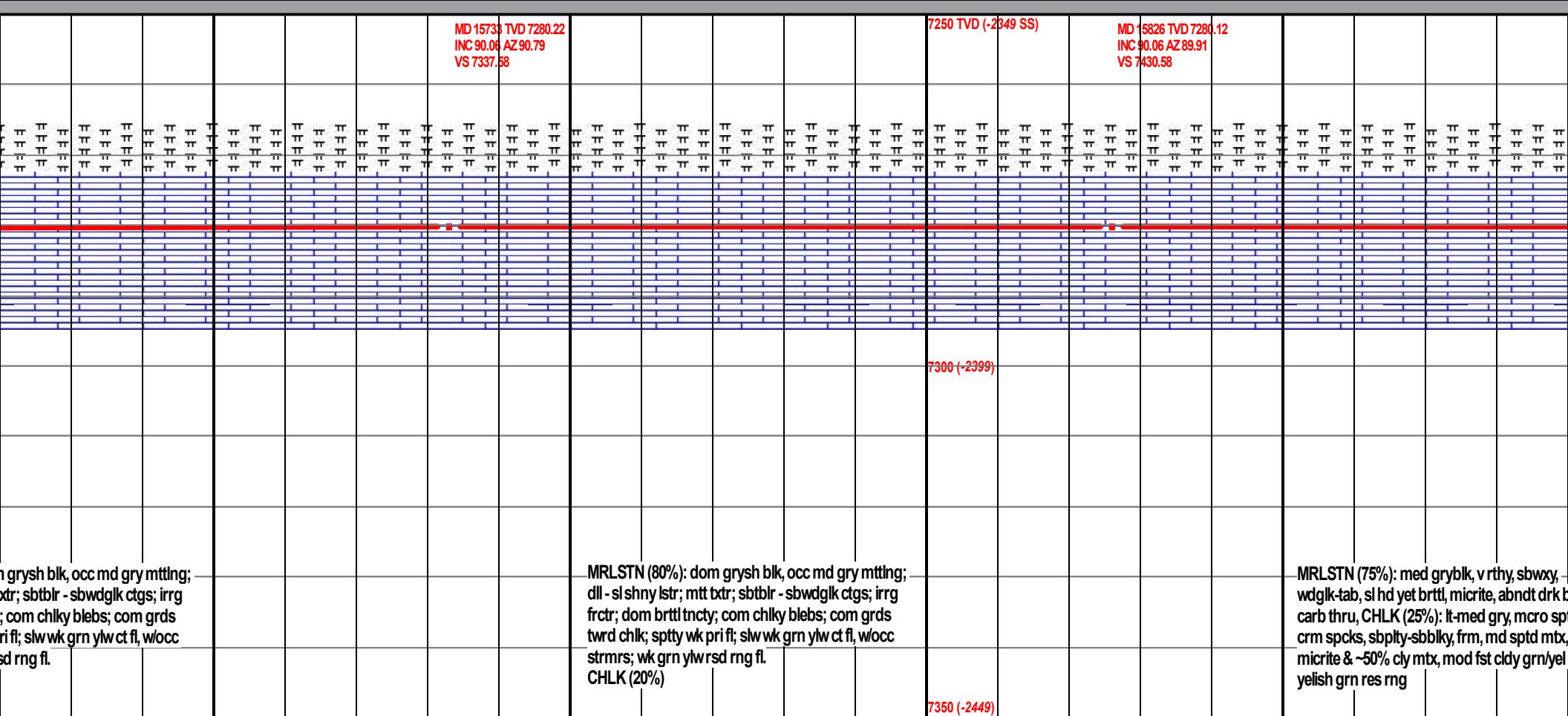
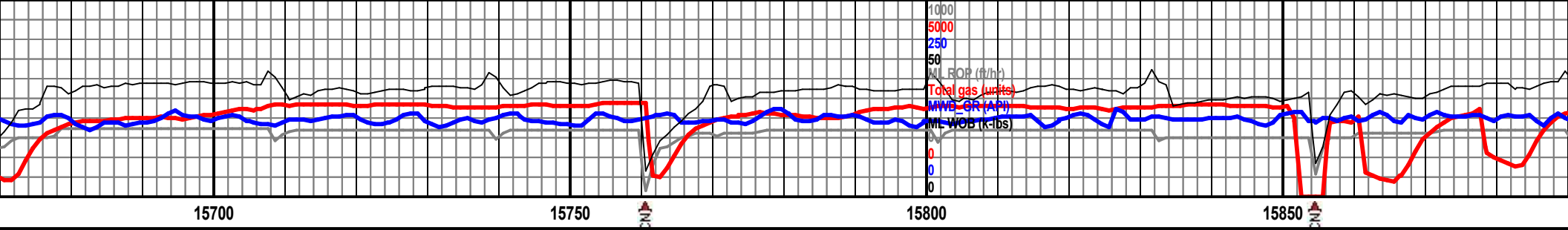
7350 (-2449)

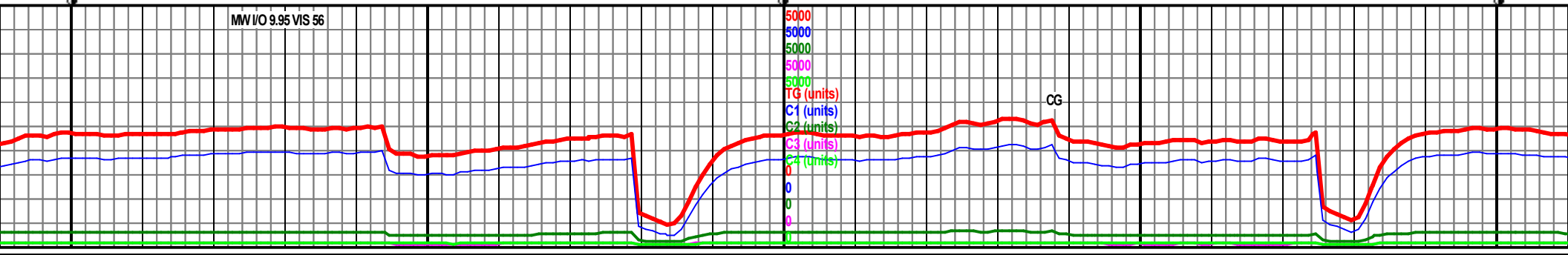
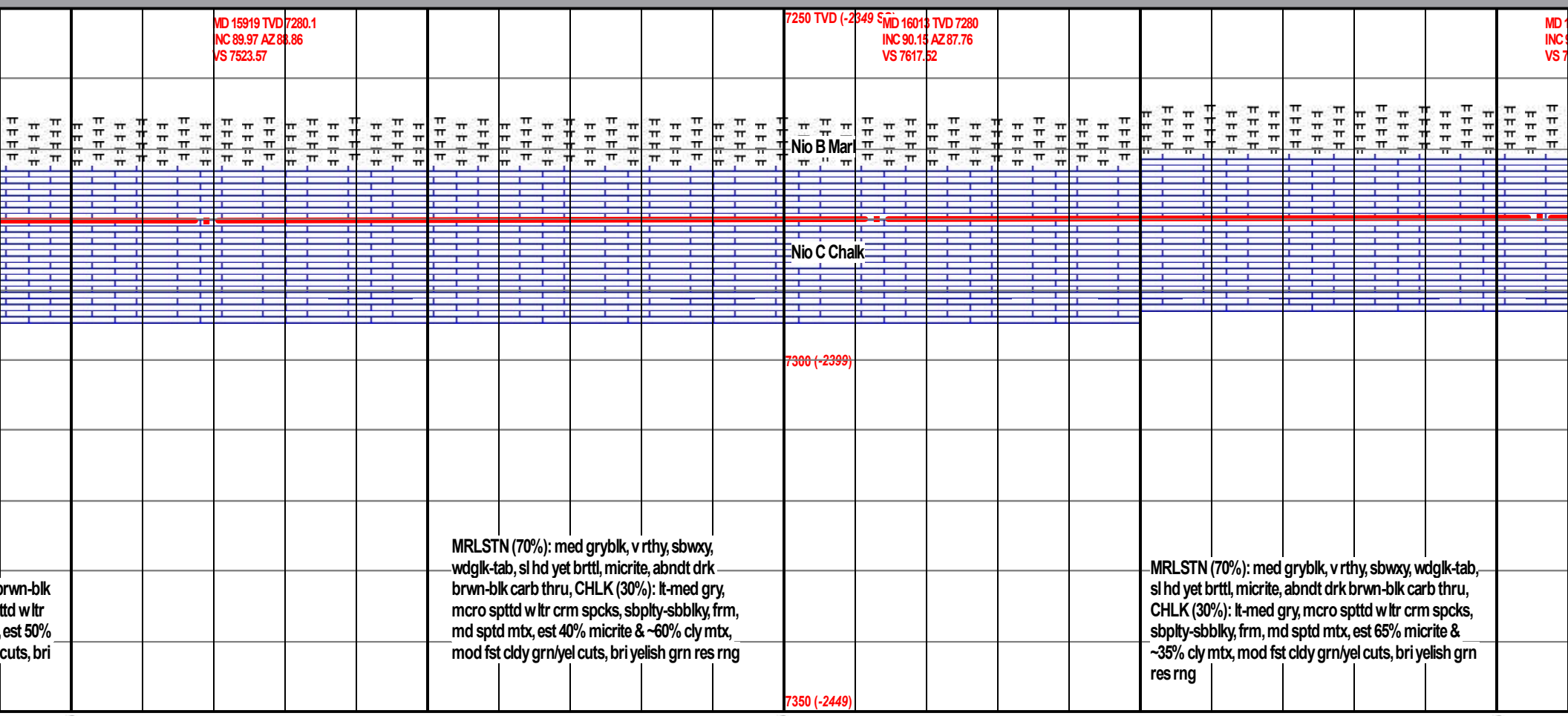
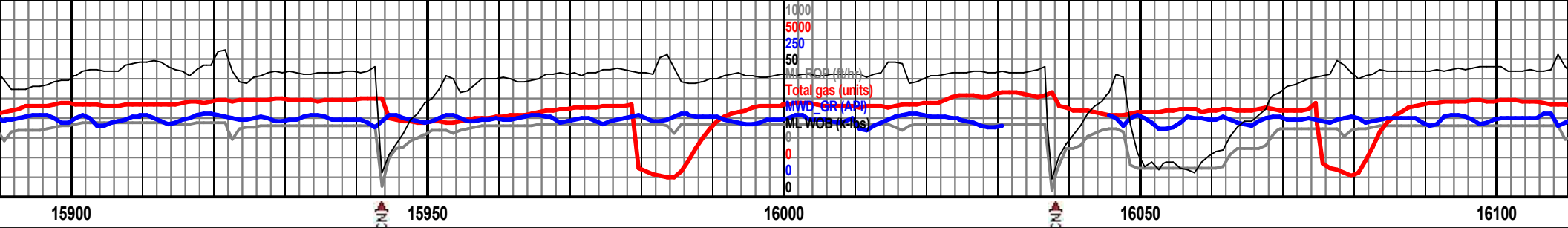
MW I/O 9.95 VIS 56

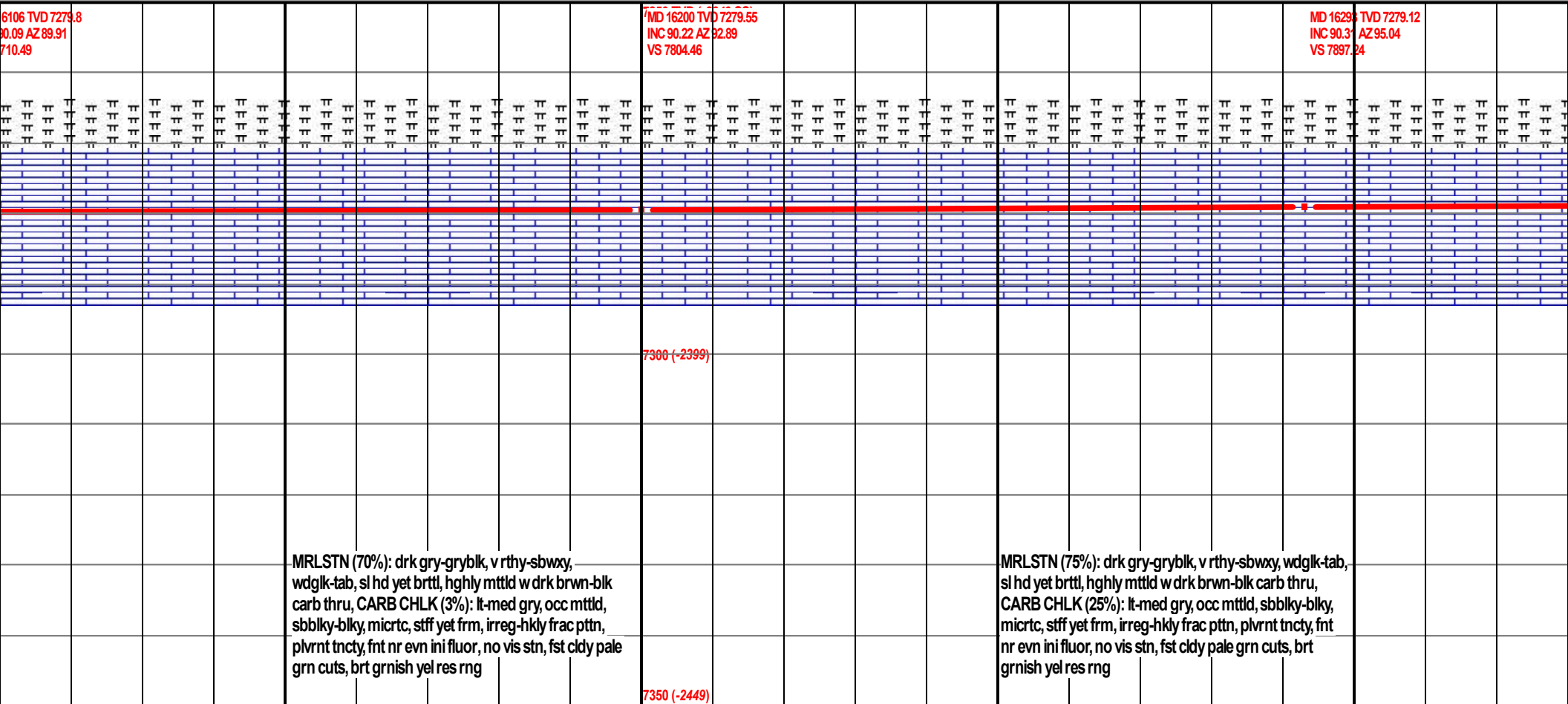
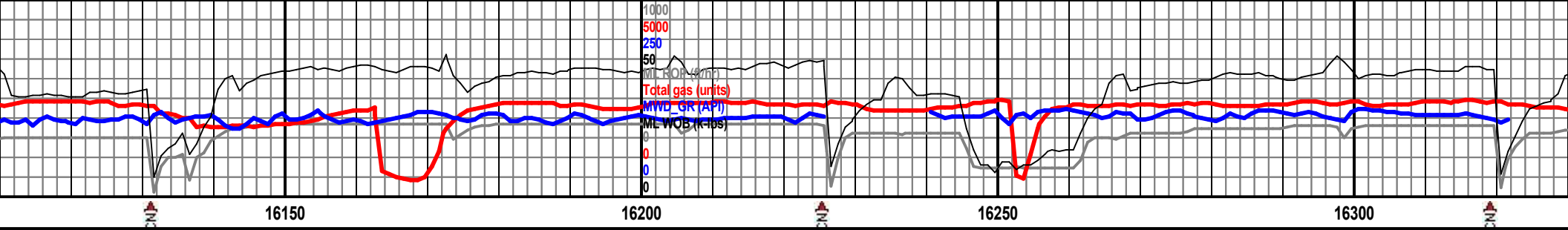


5000
5000
5000
5000
5000
TG (units)
C1 (units)
C2 (units)
C3 (units)
C4 (units)



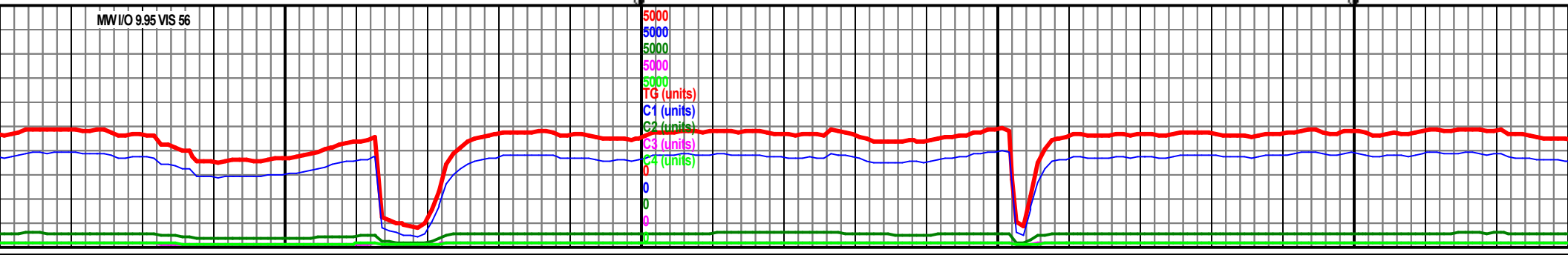




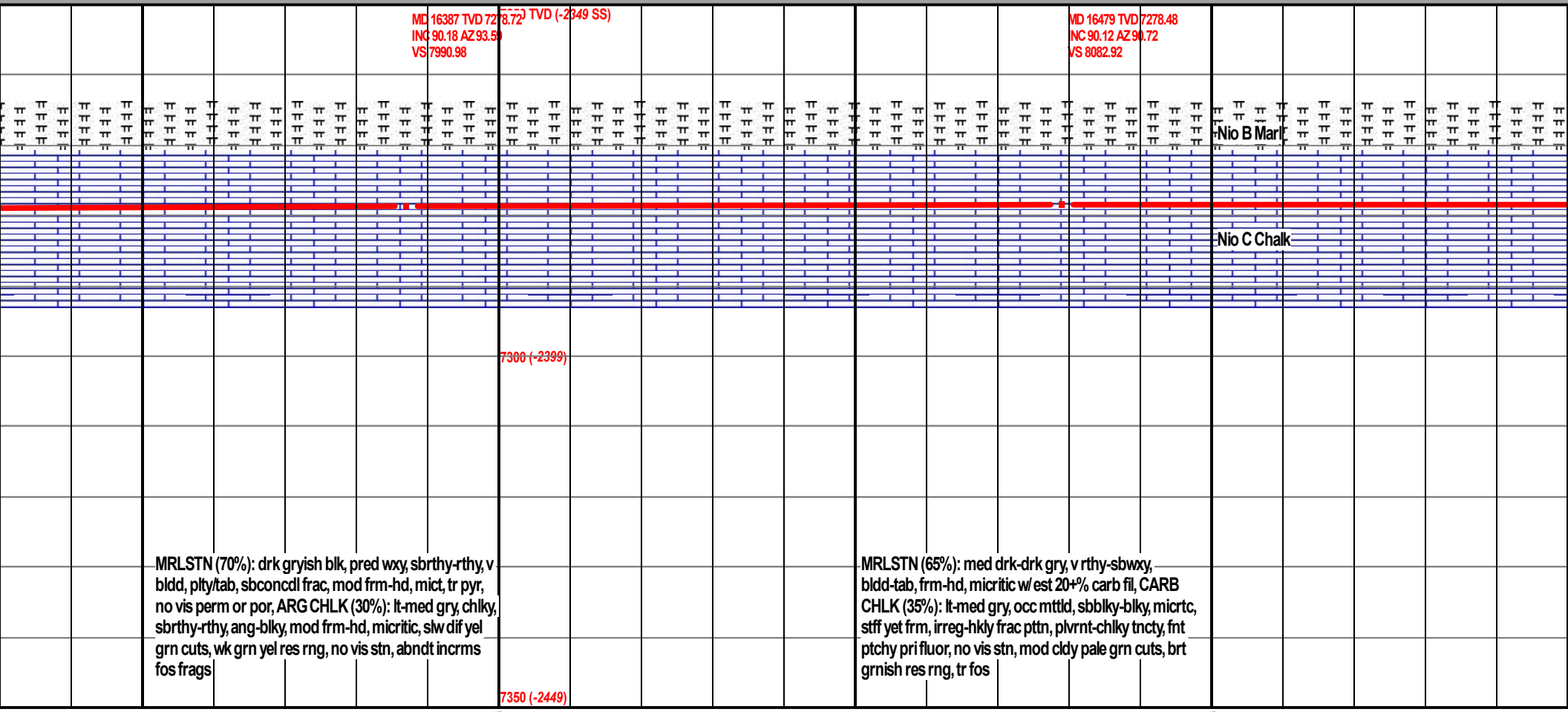
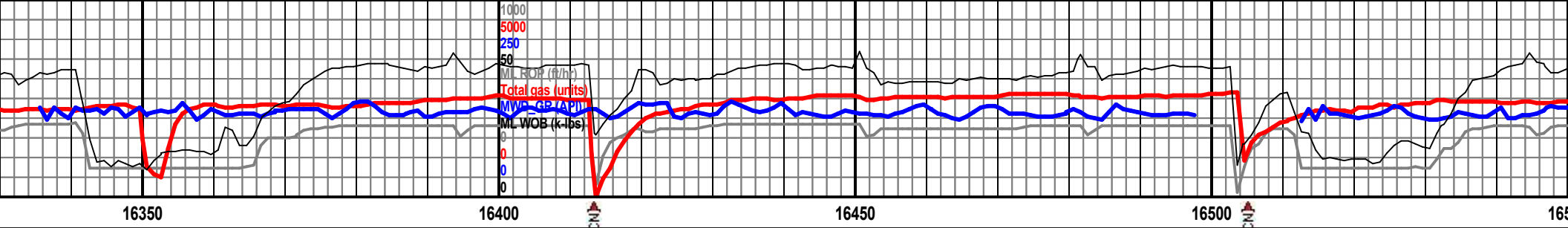


MRLSTN (70%): drk gry-gryblk, v rthy-sbwxy, wdgk-tab, sl hd yet brttl, hghly mttld w drk brwn-blk carb thru, CARB CHLK (3%): lt-med gry, occ mttld, sbbkly-blky, micrtc, stff yet frm, irreg-hkly frac ptn, plvrnt tncy, fnt nr evn ini fluor, no vis stn, fst cldy pale grn cuts, brt grnish yel res rng

MRLSTN (75%): drk gry-gryblk, v rthy-sbwxy, wdgk-tab, sl hd yet brttl, hghly mttld w drk brwn-blk carb thru, CARB CHLK (25%): lt-med gry, occ mttld, sbbkly-blky, micrtc, stff yet frm, irreg-hkly frac ptn, plvrnt tncy, fnt nr evn ini fluor, no vis stn, fst cldy pale grn cuts, brt grnish yel res rng

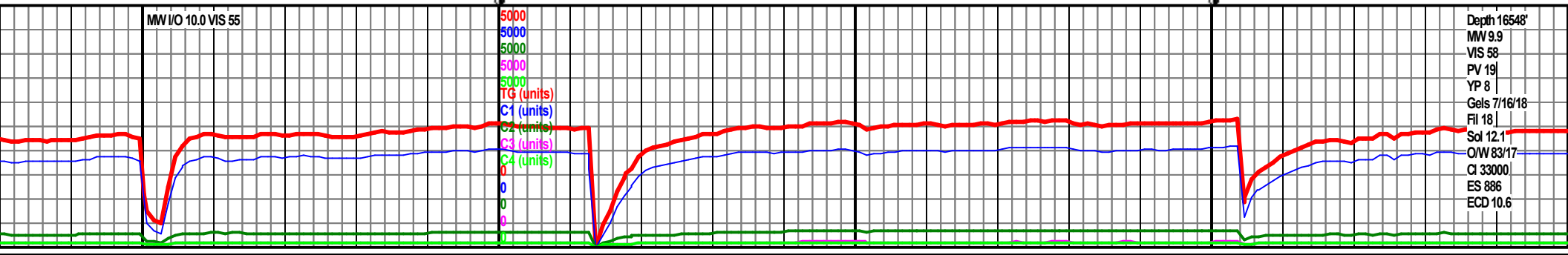


MW I/O 9.95 VIS 56

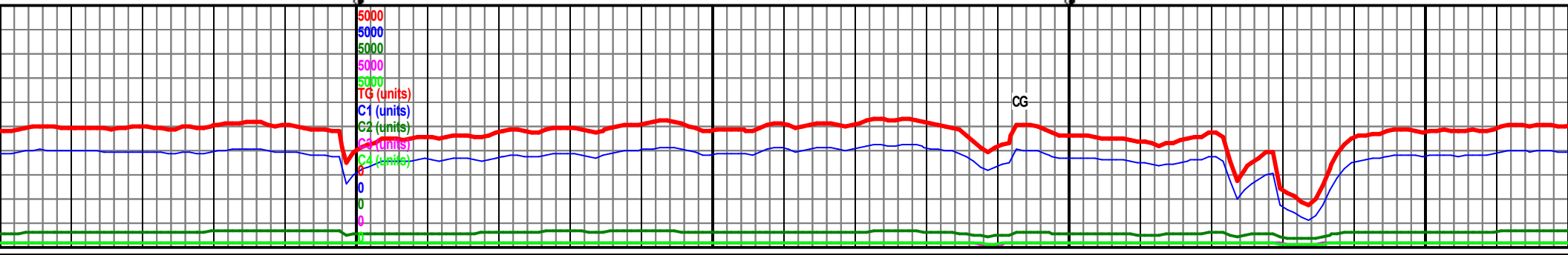
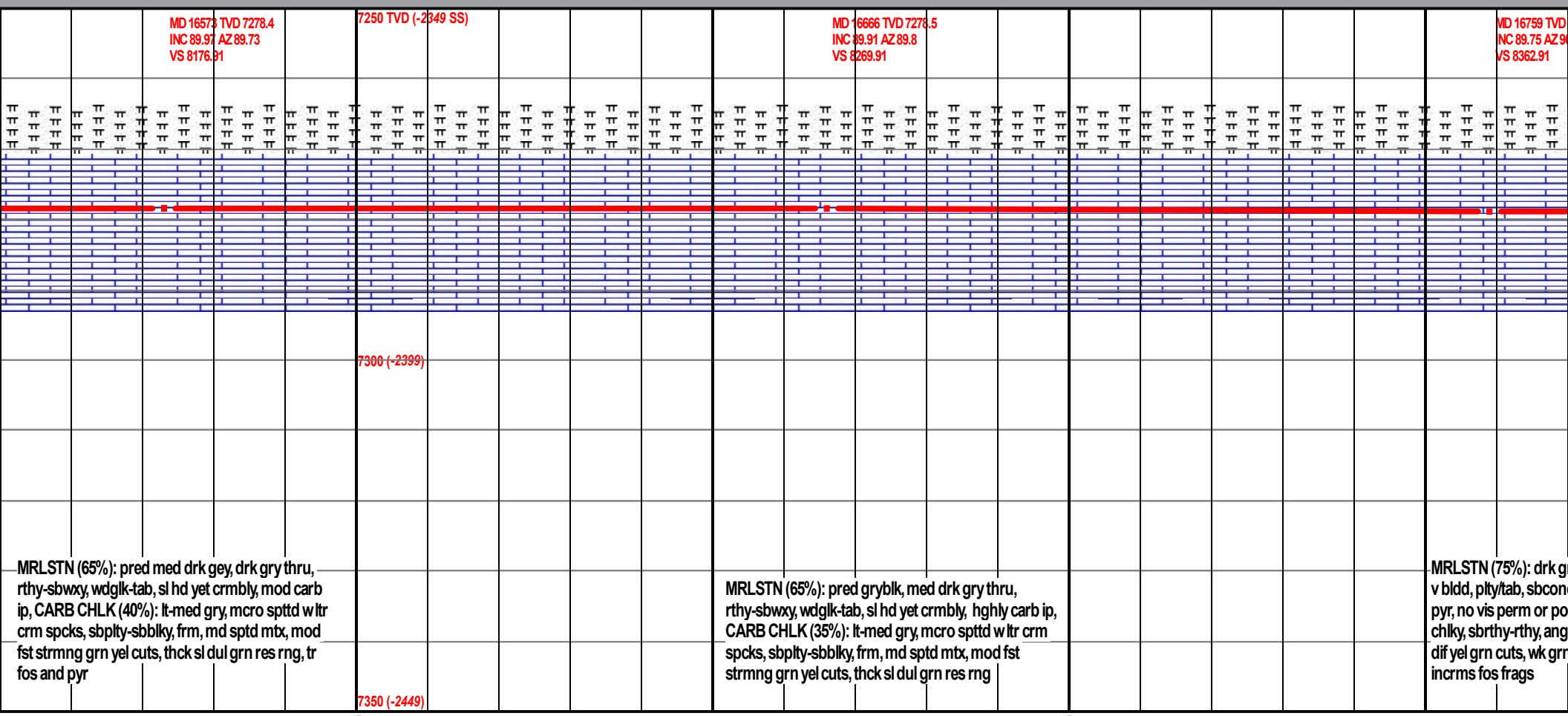
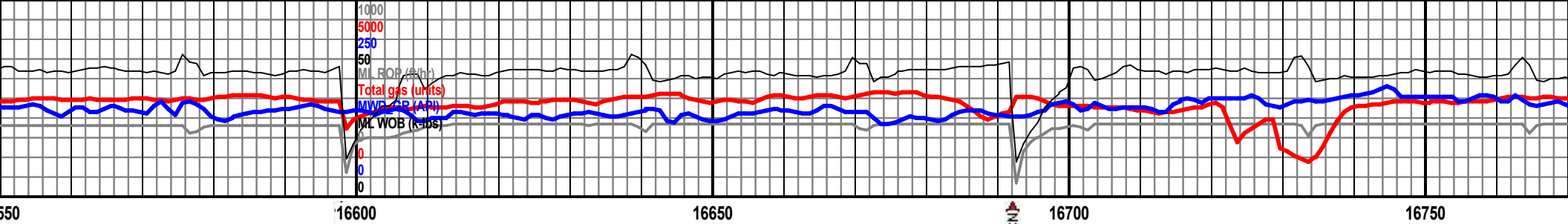


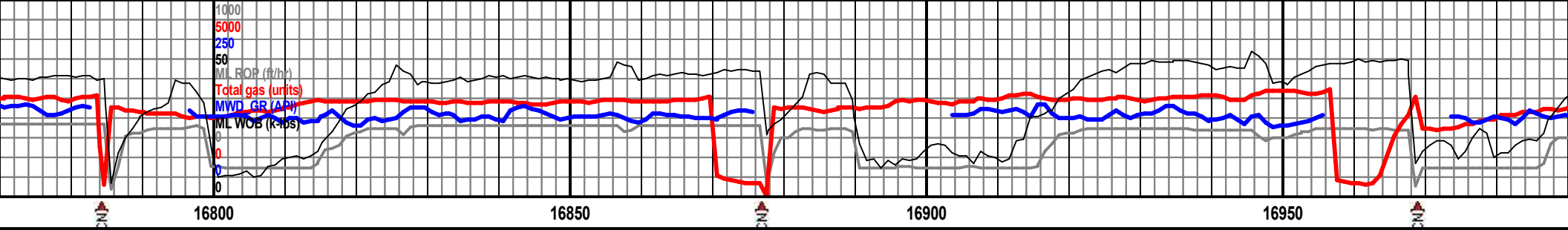
MRLSTN (70%): drk gryish blk, pred wxy, sbrthy-rthy, v bldd, pty/tab, sbconcdl frac, mod frm-hd, mict, tr pyr, no vis perm or por, ARG CHLK (30%): lt-med gry, chlky, sbrthy-rthy, ang-blky, mod frm-hd, micritic, slw dif yel grn cuts, wk grn yel res rng, no vis stn, abndt incrms fos frags

MRLSTN (65%): med drk-drk gry, v rthy-sbwxy, bldd-tab, frm-hd, micritic w/ est 20+% carb fil, CARB CHLK (35%): lt-med gry, occ mttld, sbbkly-blky, micrtc, stff yet frm, irreg-hkly frac pttm, plvrnt-chlky tncty, fnt ptchy pri fluor, no vis stn, mod cldy pale grn cuts, brt grnish res rng, tr fos

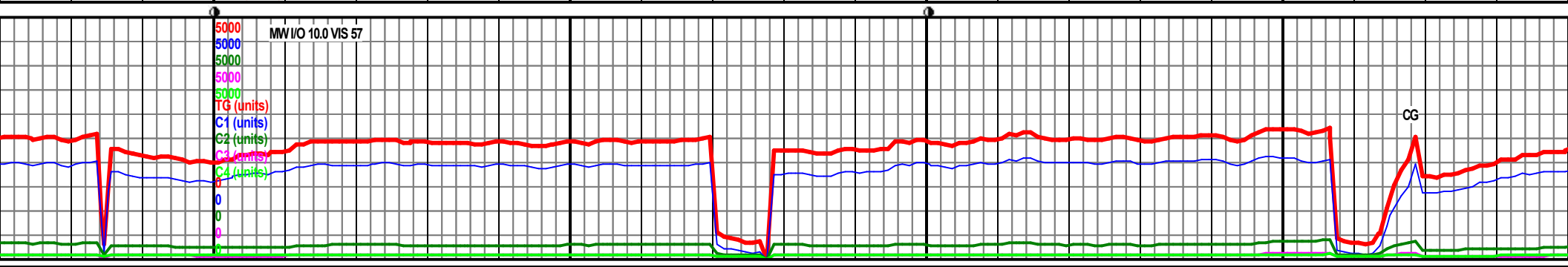


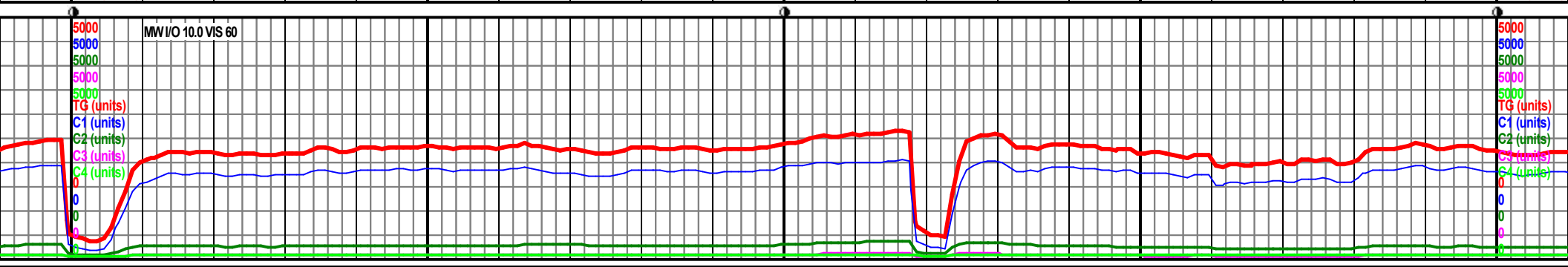
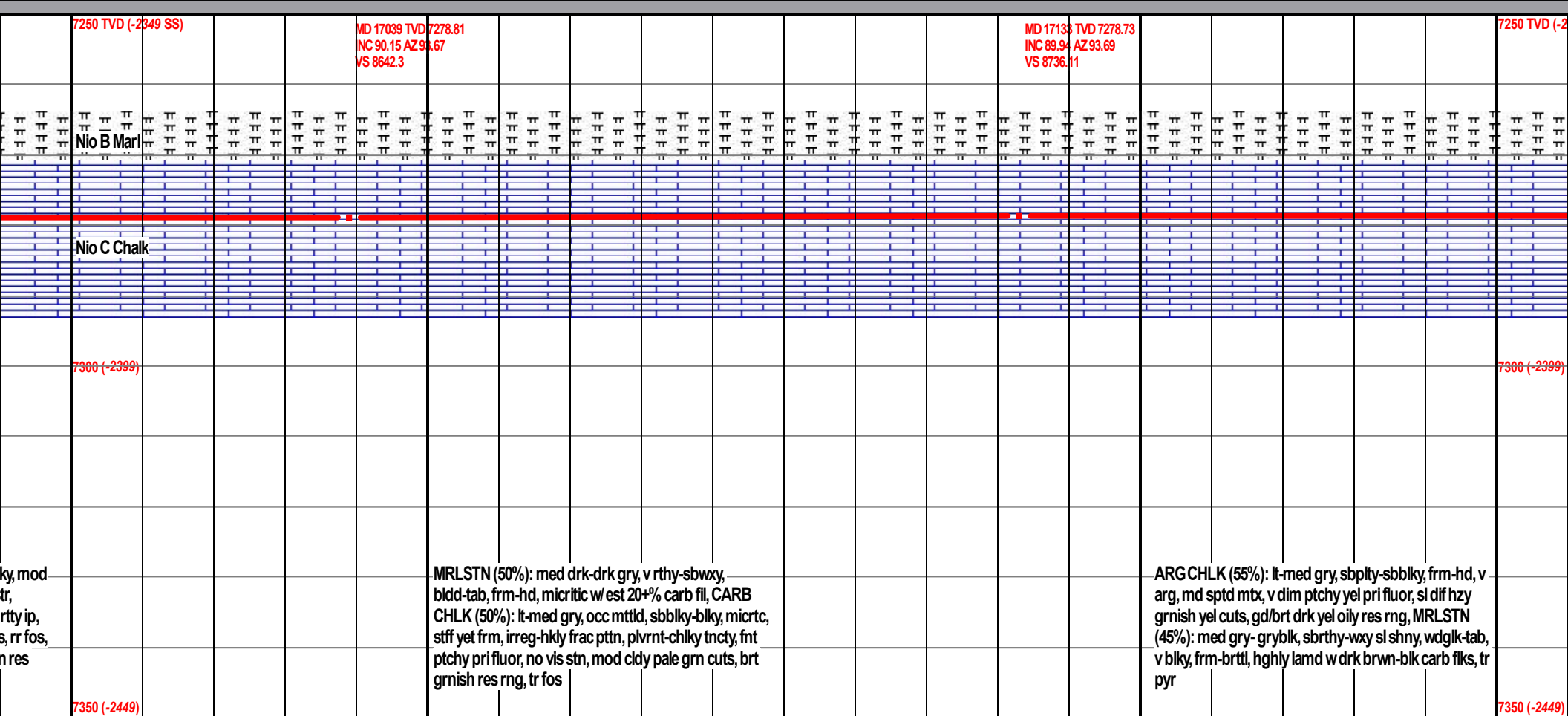
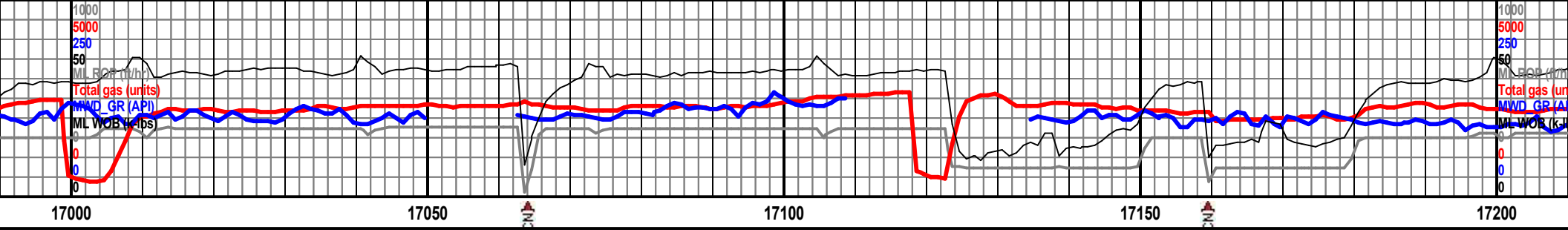
Depth 16548'
MW 9.9
VIS 58
PV 19
YP 8
Gels 7/16/18
Fil 18
Sol 12.1
OW 83/17
Cl 33000
ES 886
ECD 10.6

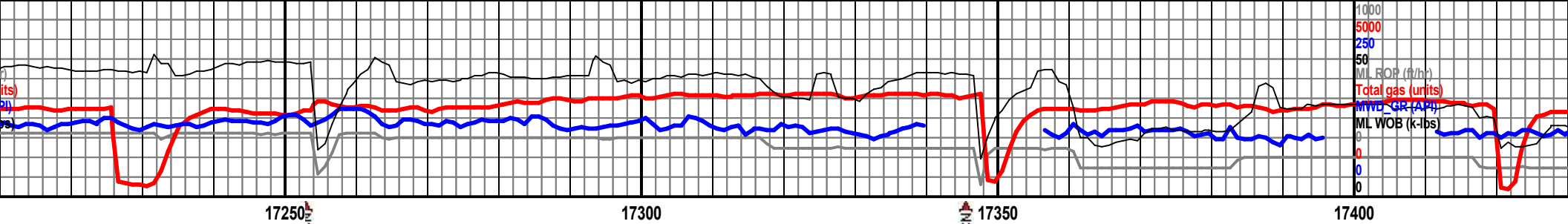




7278.78 0.72	7250 TVD (-2349 SS)	MD 16851 TVD 7278.86 INC 90.15 AZ 92.16 VS 8454.88	MD 16904 TVD 7278.83 INC 89.98 AZ 96.12 VS 8547.63
7300 (-2399)			
<p>ryish blk, pred wxy, sbrthy-rthy, cdl frac, mod frm-hd, mict, tr r, ARG CHLK (25%): lt-med gry, -blkly, mod frm-hd, micritic, slw yel res rng, no vis stn, abndt</p>		<p>MRLSTN (55%): med gry-blk, sbrthy-wxy, grtty ip, wdgk-tab, blkly-sl tblr, mod frm; CARB CHLK (45%): lt-med gry, occ dk gry, sbply-sbbkly, mod frm-sl hd, arg/mud sptd mtx, sl wxy-grsy lstr, mod fst rad strng grn sl yel cuts, dim - mod sppty grn res rng, rr cal frags, tr pyr</p>	<p>CARB CHLK (60%): lt-med gry, sbply-sbbkly frm-sl hd, arg/mud sptd mtx, v chiky-rthy ls MRLSTN (40%): med gry-blk, sbrthy-wxy, g wdgk-tab, blkly-sl tblr, mod frm, inc cal frags mod slw hzy grnish yel cuts, v dim sppty grn rng, tr pyr</p>
7350 (-2449)			



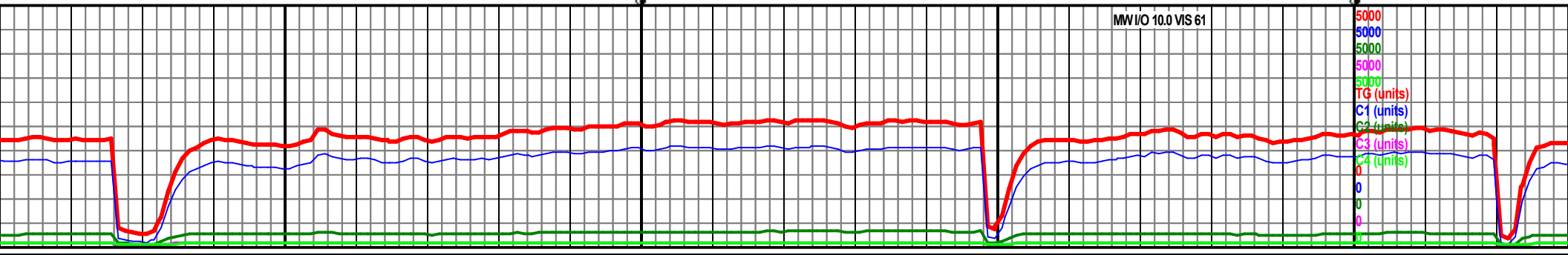
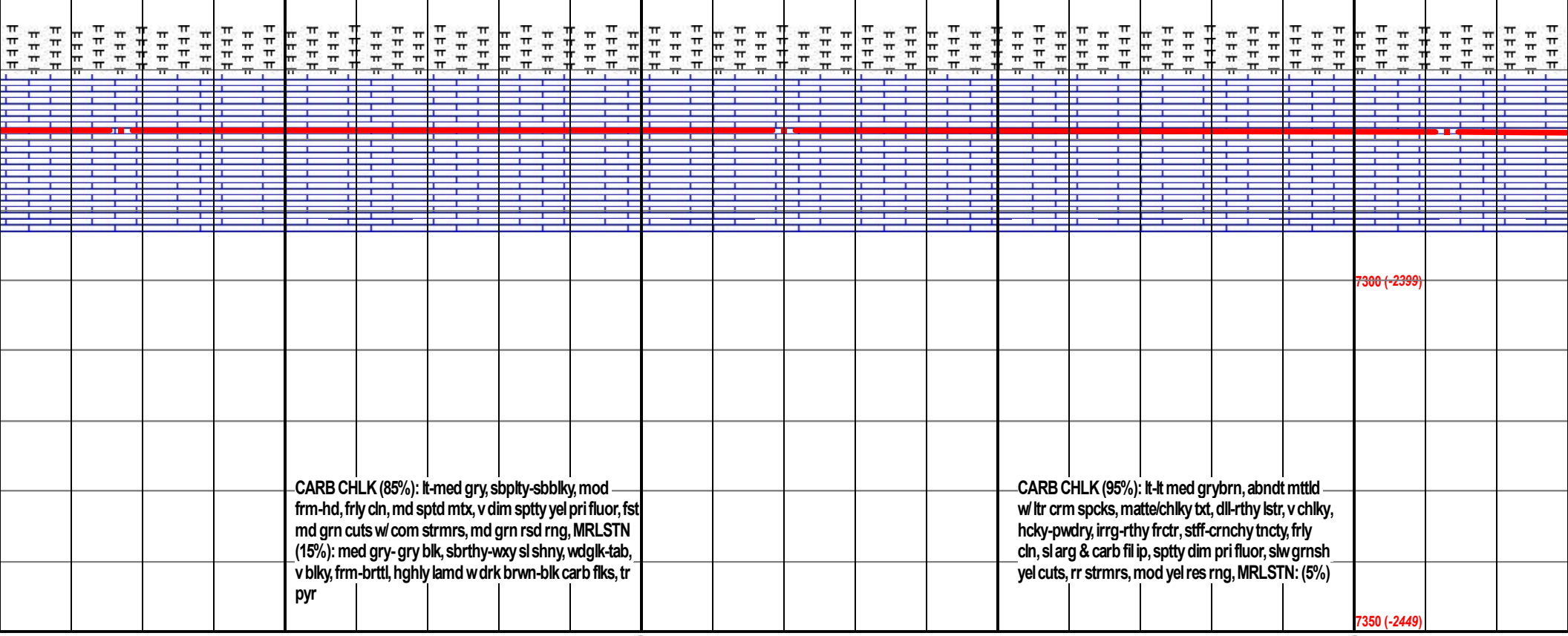


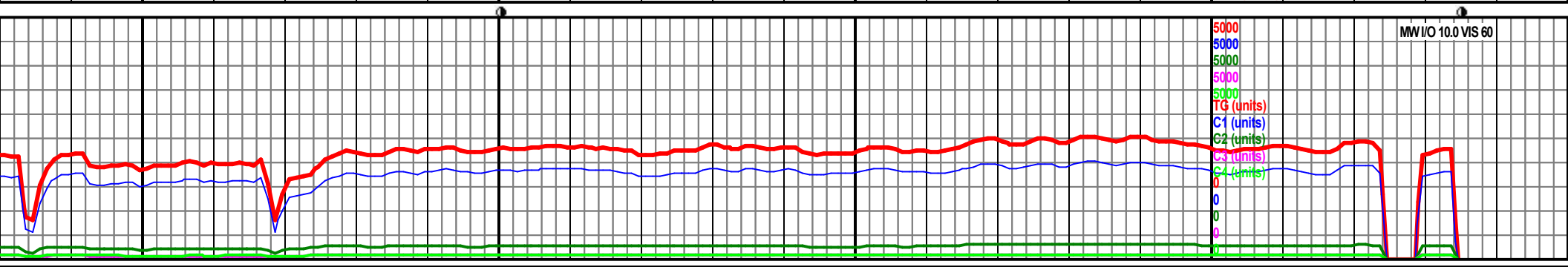
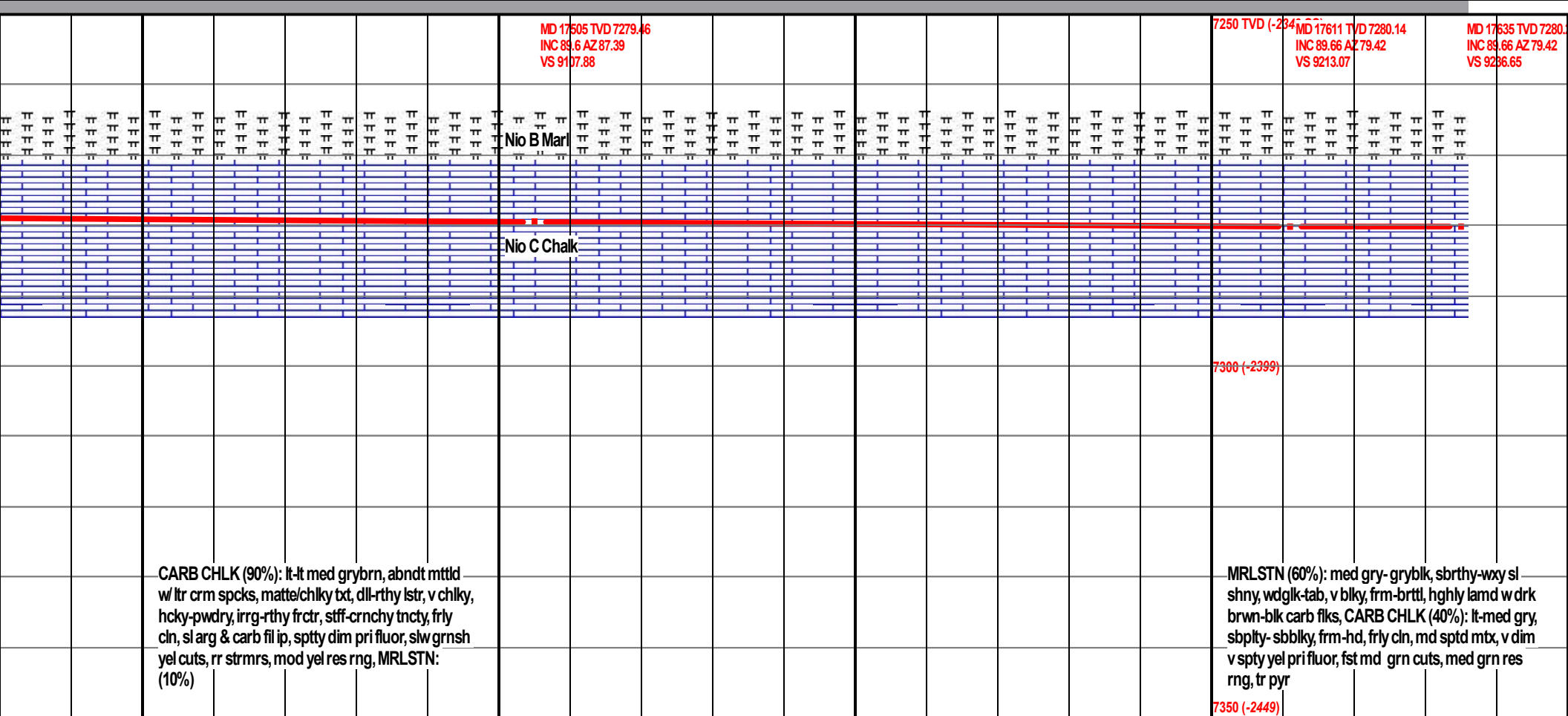
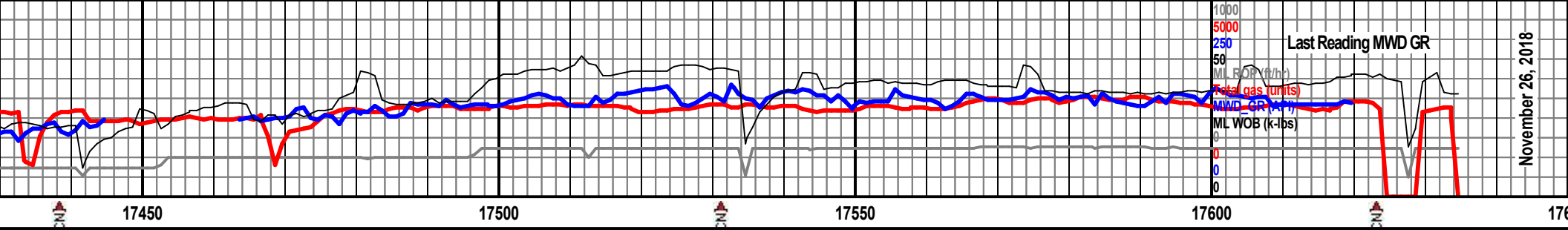


349 SS) MD 17227 TVD 7278.73
 INC 90.06 AZ 91.52
 VS 8830.02

MD 17320 TVD 7278.66
 INC 90.03 AZ 91.66
 VS 8922.99

7250 TVD (-2349) MD 17413 TVD 7278.89
 INC 89.69 AZ 87.83
 VS 9015.97





Reached DMTD of 17,635' on November 25, 2018 @ 21:42 hrs.

Circ & Condition Hole, Pump high vis sweeps, TOOH, run casing, cement casing.

BHA #2, 8 1/2", HCC, ATD505T, #5284856, 5x15, In @ 1823', out @ 17635', drilled 15812' in 49 hrs., Rotary Steerable, AutoTrak, MWD, MM, XL45/RS; .27 rpg

5 1/2" Production Casing Set @ 17,664' MD

Thank you From Goolsby Brothers And Associates, Inc.

Formation tops picked by Andrew Krueger & Brian Spitzmiller (GBA).

	MD	TVD	SSD
Sharon Springs	6983'	6779'	-1878'
"A" Chalk	7034'	6819'	-1918'
"A" Chalk Base	7058'	6837'	-1936'
"B" Upper Marl	7222'	6942'	-2041'
"B" Chalk	7240'	6952'	-2051'
"B" Marl	7291'	6977'	-2076'
"C" Chalk	7283'	7012'	-2111'
Target Heel	7600'	7051'	-2150'
TOTAL DEPTH	17635	7280	-2379'