

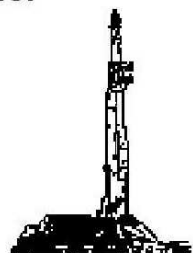
GOOLSBY BROTHERS
and associates, inc.

575 Union Blvd, Suite 208
Lakewood, CO 80228
303-945-2860 Office



Geological Wellsite
Supervision

www.goolsbybrothers.com



Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name: Aggregate State 36N-16HZ (Horizontal Hole Section)

Location: Section 9, T2N, R66W, Weld County, CO..

License Number: API: 05-123-38678

Spud Date: February 12, 2014

Surface Coordinates: NESW Sec 9 T2N R66W; 2389' FSL 2140' FWL

Lat N 40.151923 Long W -104.784144

Bottom Hole Coordinates: SWSE Sec 16 T2N R66W; 30' FSL; 2459' FEL

Ground Elevation (ft): 4911'

Logged Interval (ft): 6708'

Formation: Pierre Shales/Sands, Niobrara, Niobrara Target

Type of Drilling Fluid: Water & Poly to 5900', LSND 5900'-14683'

K.B. Elevation (ft): 4927'

Total Depth (ft): 14683' DMTD

Region: Wattenberg, DJ Basin

Drilling Completed: February 21, 2014

Printed by HORIZONTAL.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Kerr-McGee Oil & Gas Onshore LP

Address: Granite Tower - 1099 18th St, Ste 1800

Denver, CO 80202

CO Geologist, Tom Birmingham

GEOLOGIST

Name: Ian Harris, Andrew Krueger, & Shelton Davis

Company: Goolsby Brothers & Assoc. (GBA), Inc. (www.goolsbybrothers.com)

Address: 575 Union Blvd.

Suite 208,

Lakewood CO. 80228

E-logs

MWD GR 1045' - 14631'

Casing

9 5/8" Surface Casing set @ 1035' MD

7" Intermediate Casing set @ 7619' MD

4 1/2" Production Liner hung 02/23/2014, landed @ 14668'

Comments

1) Drilling Contractor: Xtreme Drilling, Rig #20

Toolpusher: Sijifredo Chaparro

2) Company Man: Charlie Daigle & Marvin Hackworth

3) Mud Company : AES Drilling Fluids

Engineer: Justin Auttonberry

4) Directional Drilling: Baker Hughes

Pulse Tool

Drillers: Barry Combs & Mark Snyder

MWD: Adam Schlenz & Greg Dore

5) Gas Equipment: Mudlogging Systems Inc.


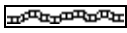
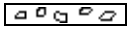
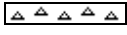

by Terra Services


Redbox # ML-334 & Ratcliff Agitator


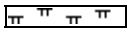
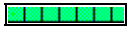
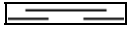
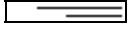
6) Wellsite Geology: Goolsby Brothers & Associates

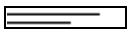

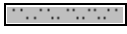


Geologists: Ian Harris, Andrew Krueger, & Shelton Davis

ROCK TYPES

 Anhy
 Bent
 Brec
 Cht
 Clyst

 Coal
 Oil sat.
 Congl
 Dol
 Gyp

 Lmst
 Mrlst
 Salt
 Shale
 Shcol

 Shgy
 Ss
 Sltst
 Ss
 Chalk

 Carb sh
 Sltty 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
 Sltstgr
 Ssstgr

TEXTURE

Boundst
 Chalky
 Cryxln
 Earthy
 Finexln
 Grainst
 Lithogr
 Microxln
 Mudst
 Packst
 Wackest

OTHER SYMBOLS

OIL SHOWS

Even
 Spotted
 Ques
 Dead
 Vspotty

near even

POROSITY TYPE

Earthy
 Fenest
 Fracture

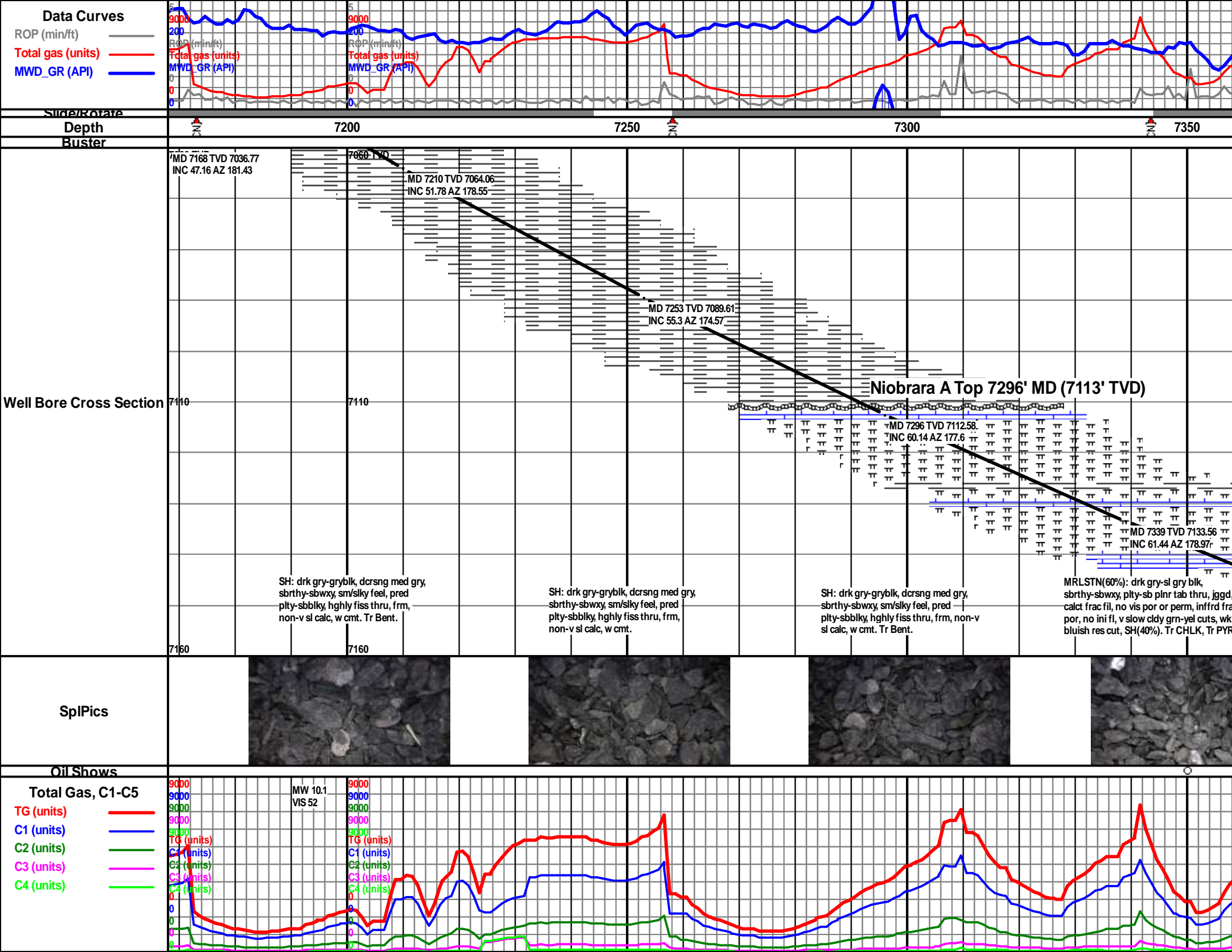
Inter
 Moldic
 Organic
 Pinpoint
 Vuggy

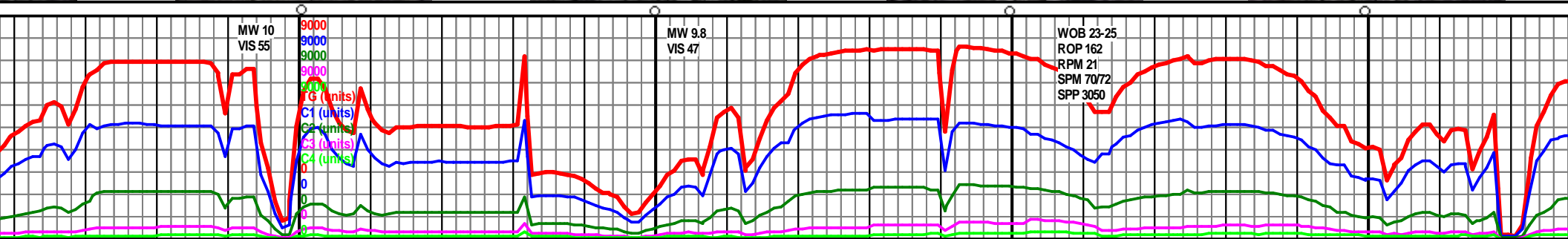
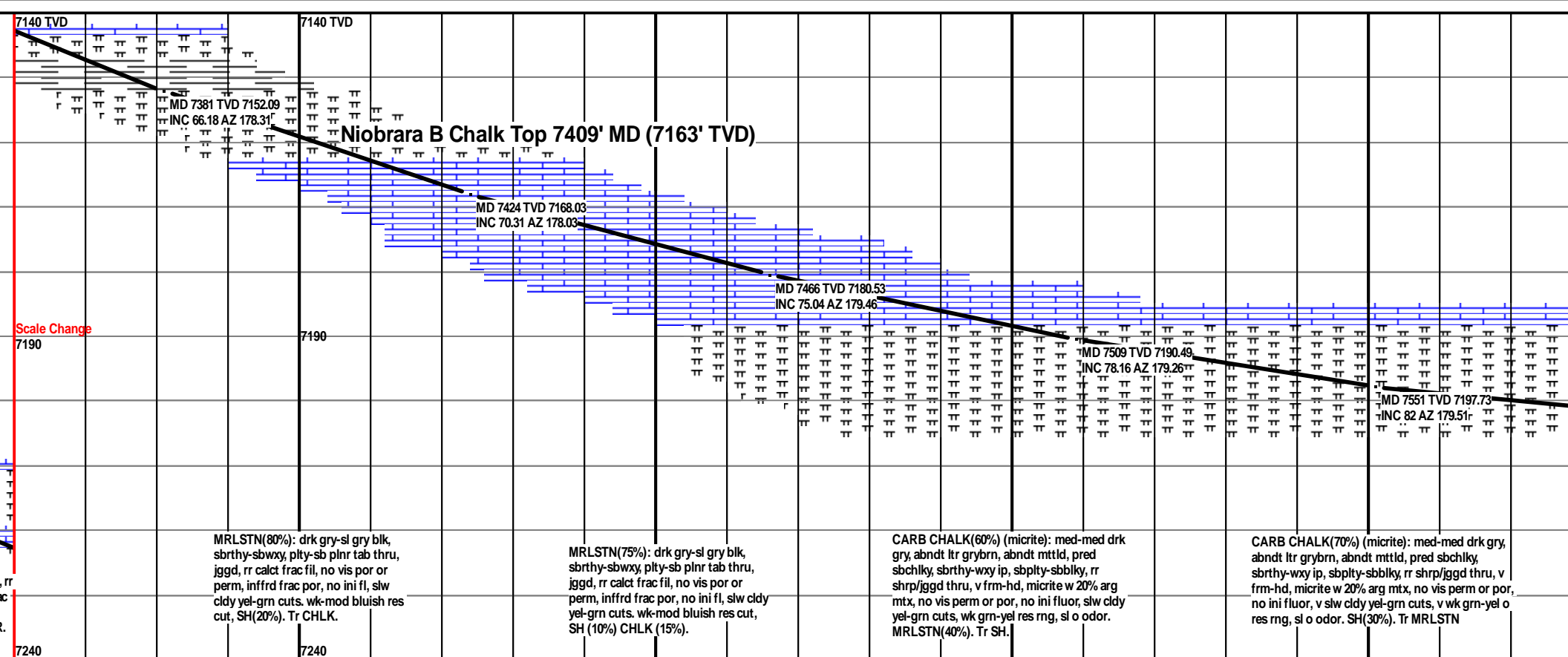
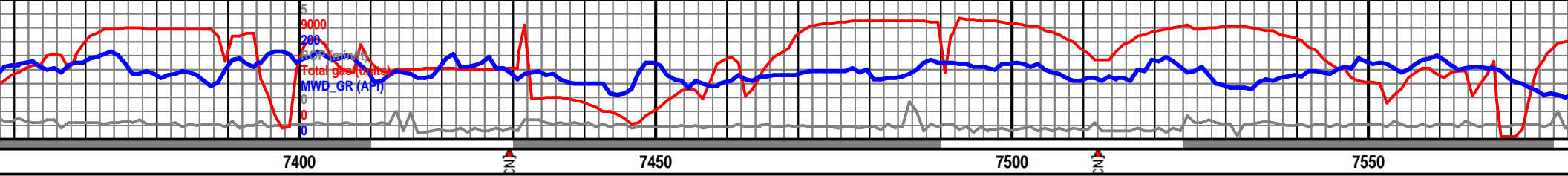
ROUNDING

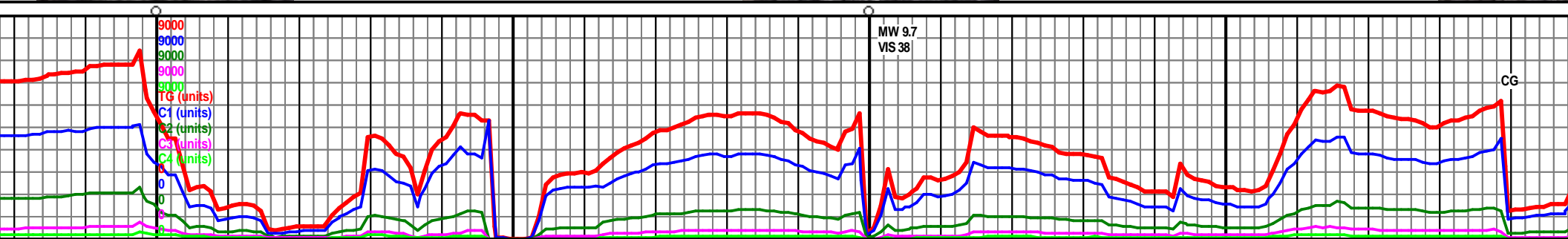
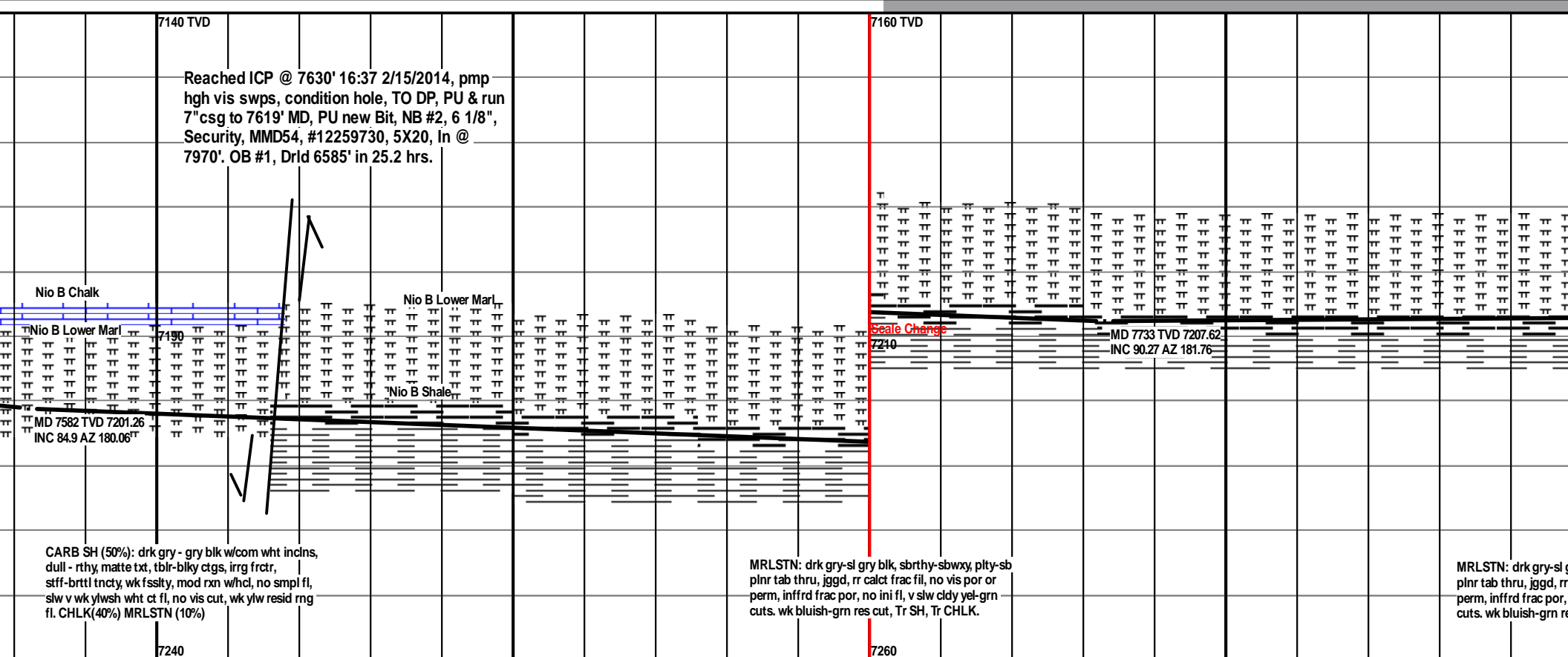
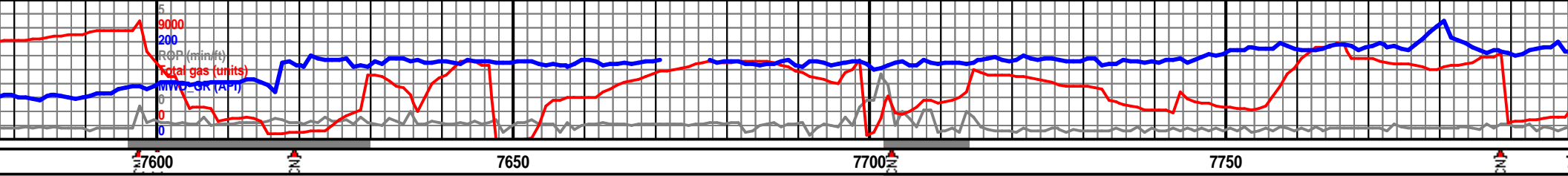
Rounded
 Subrnd
 Subang
 Angular

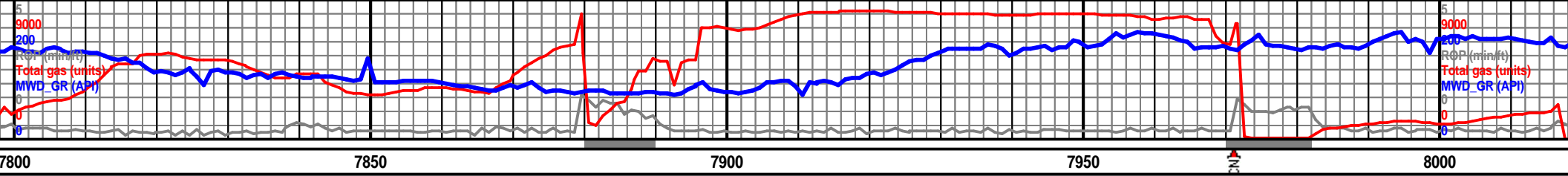
SORTING

Well
 Moderate
 Poor

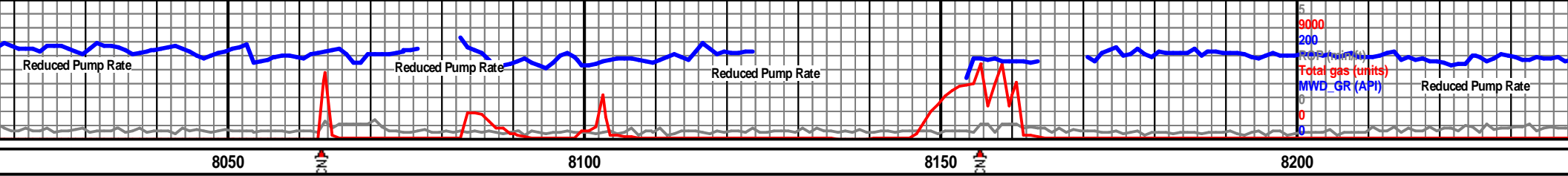




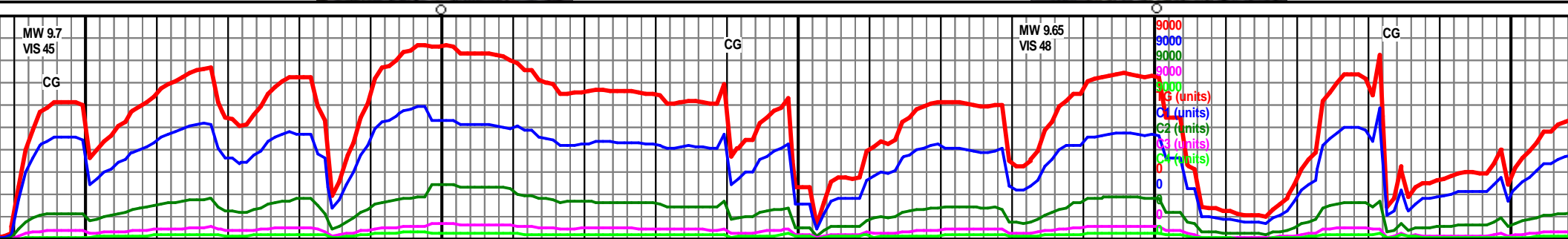
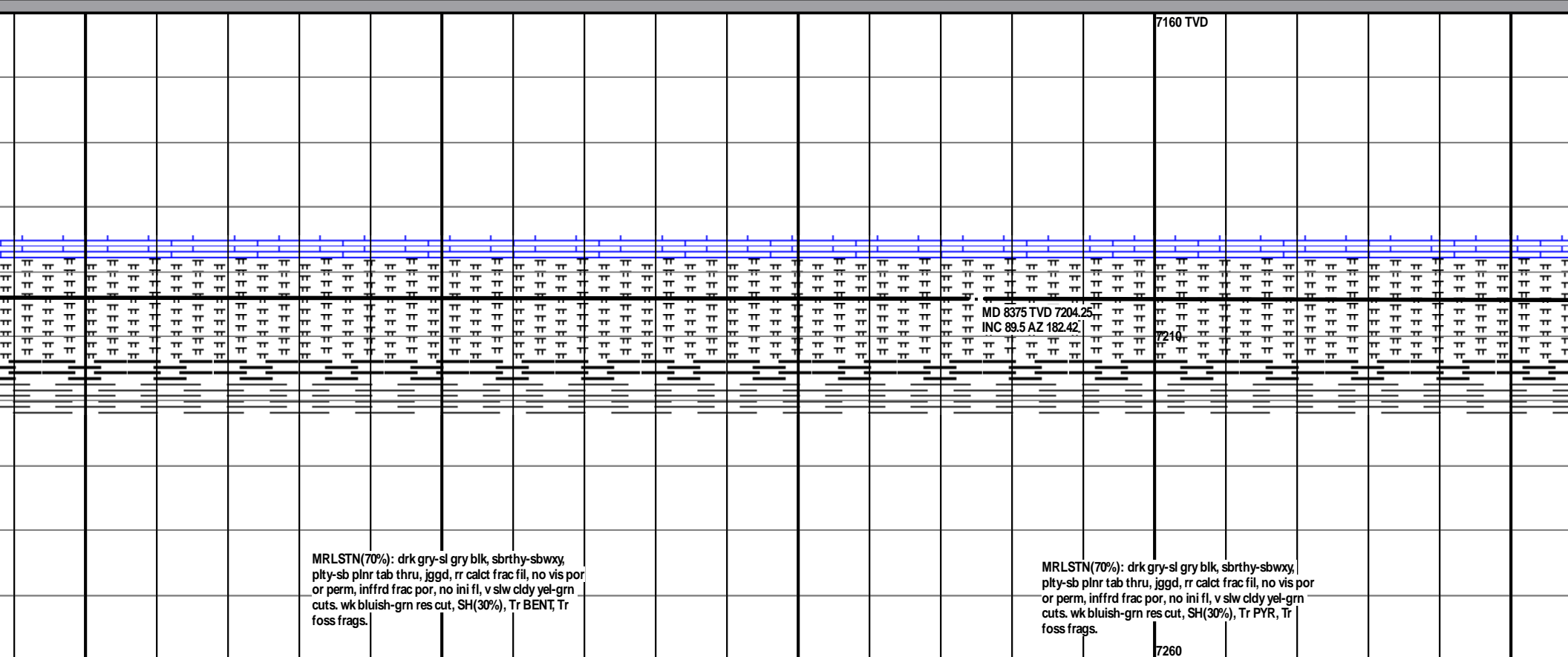
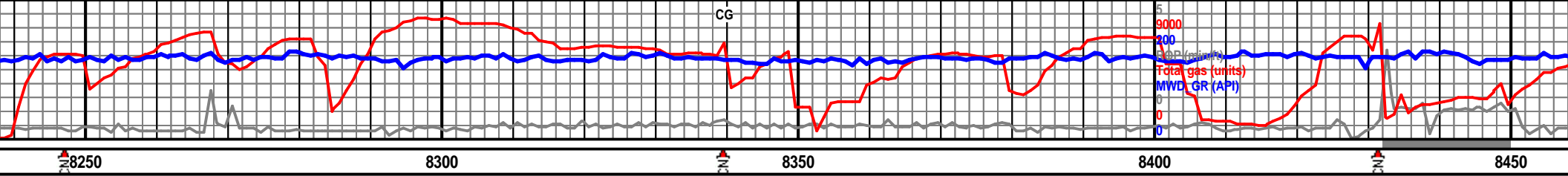


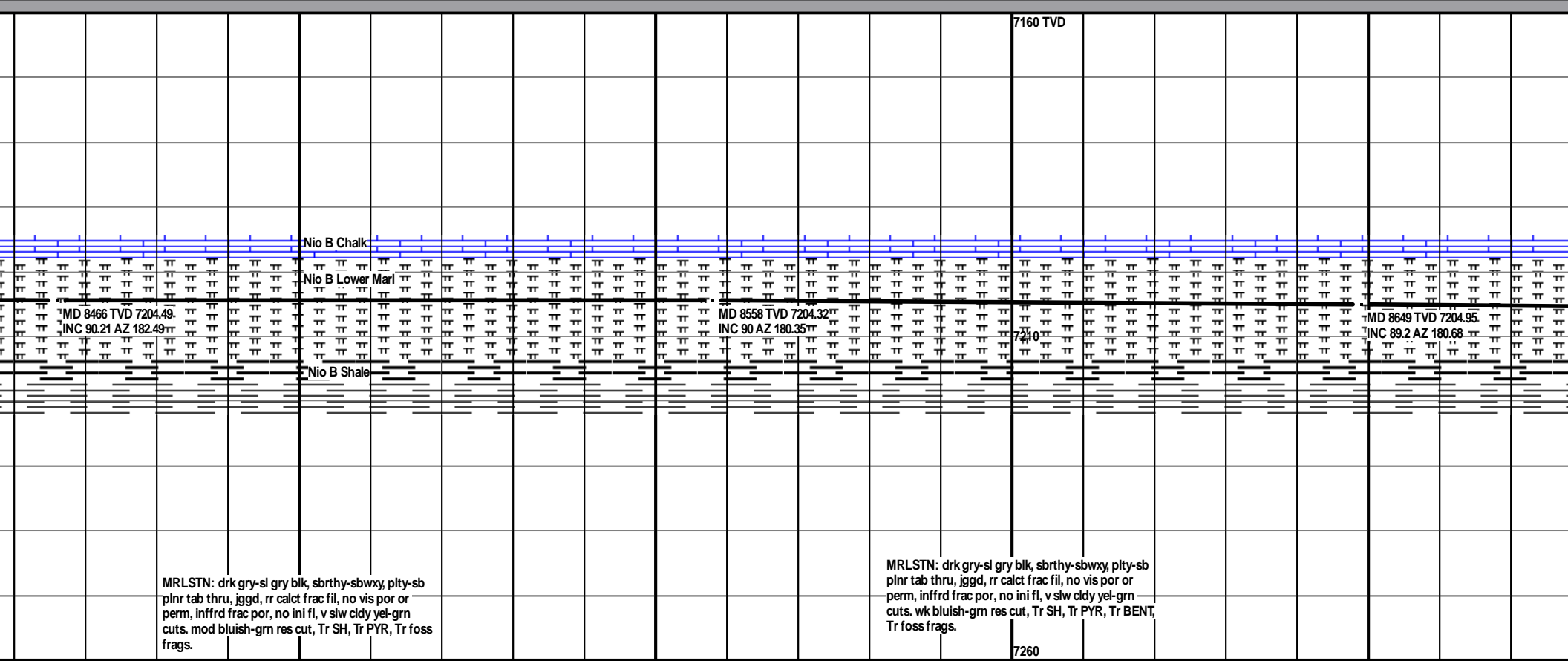
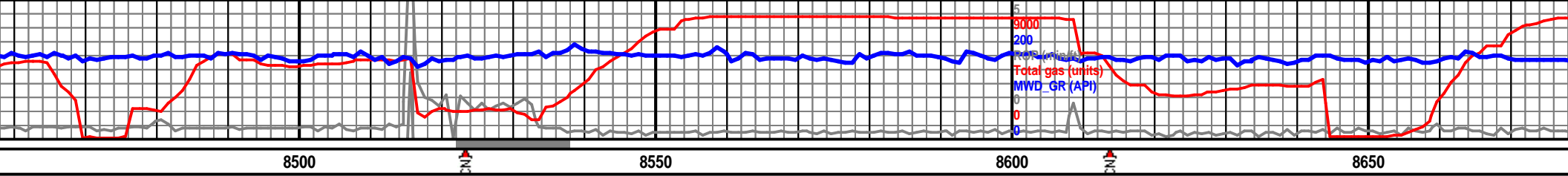


7160 TVD																				7160 TVD									



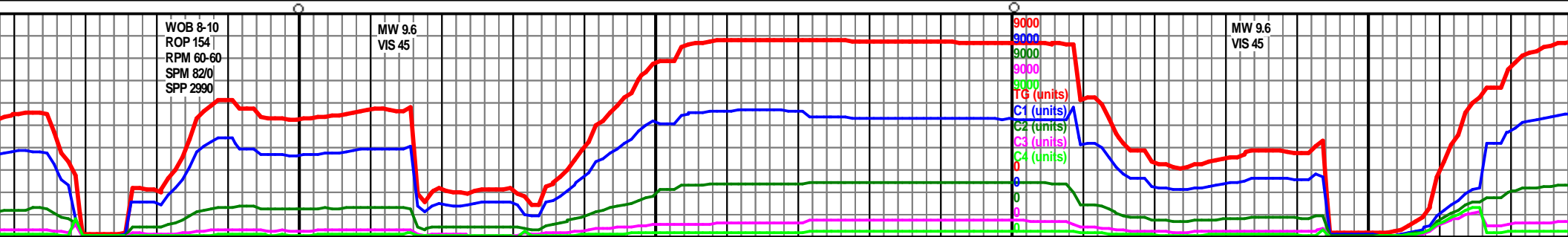
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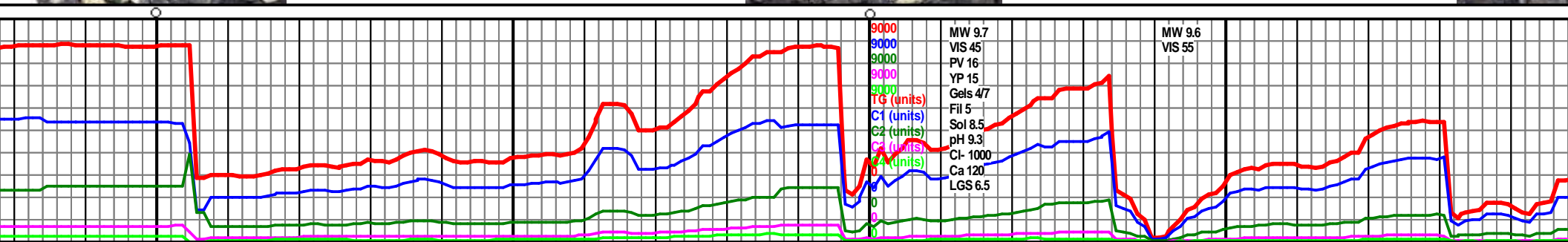
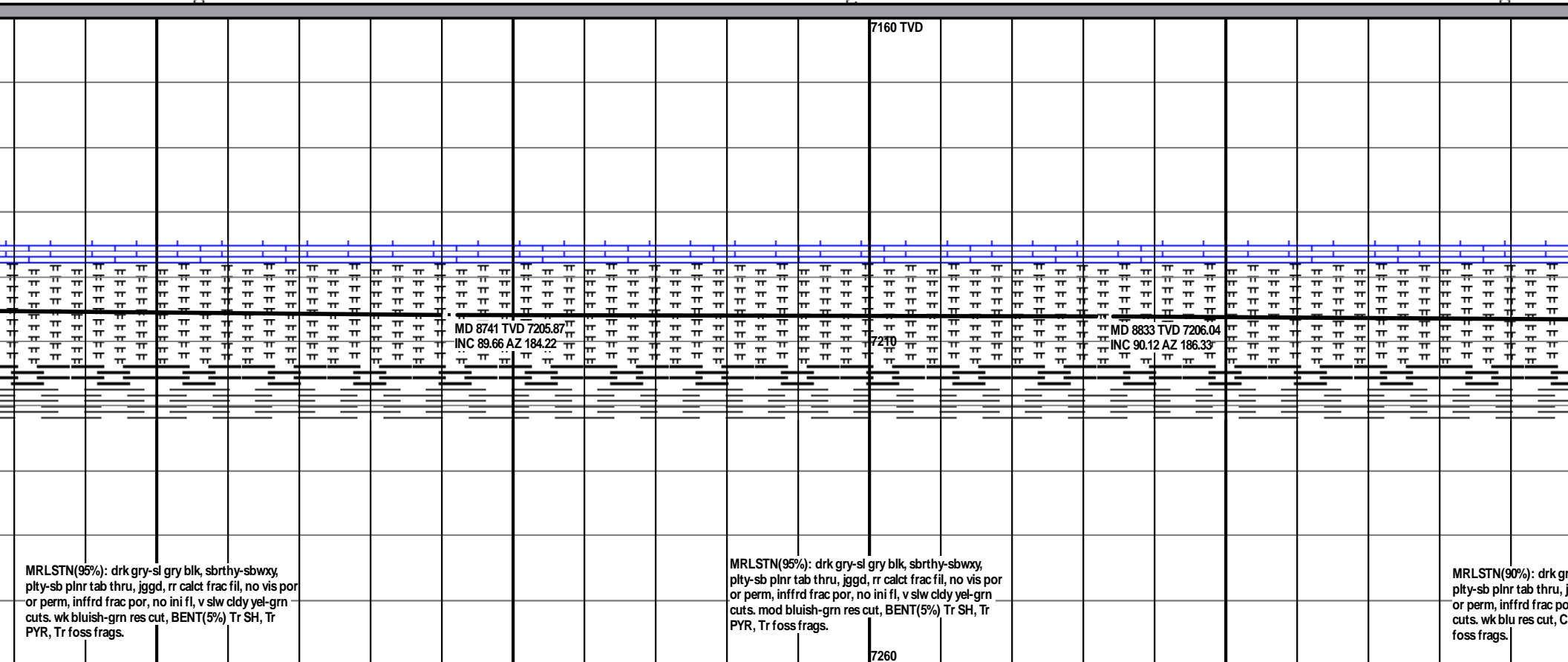


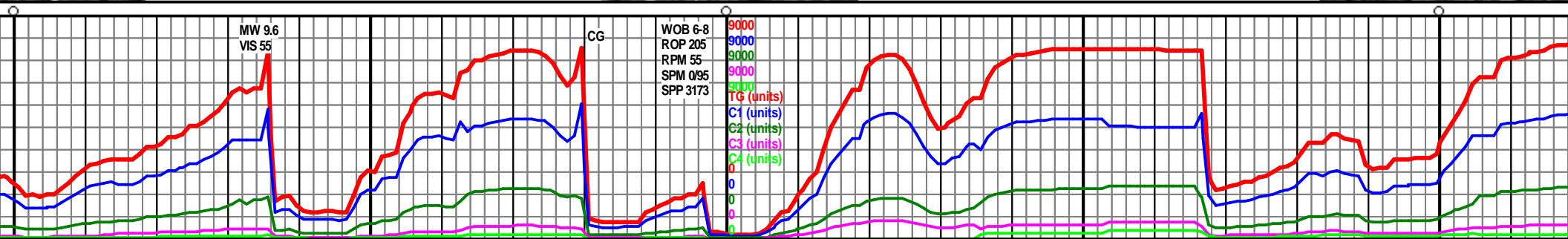
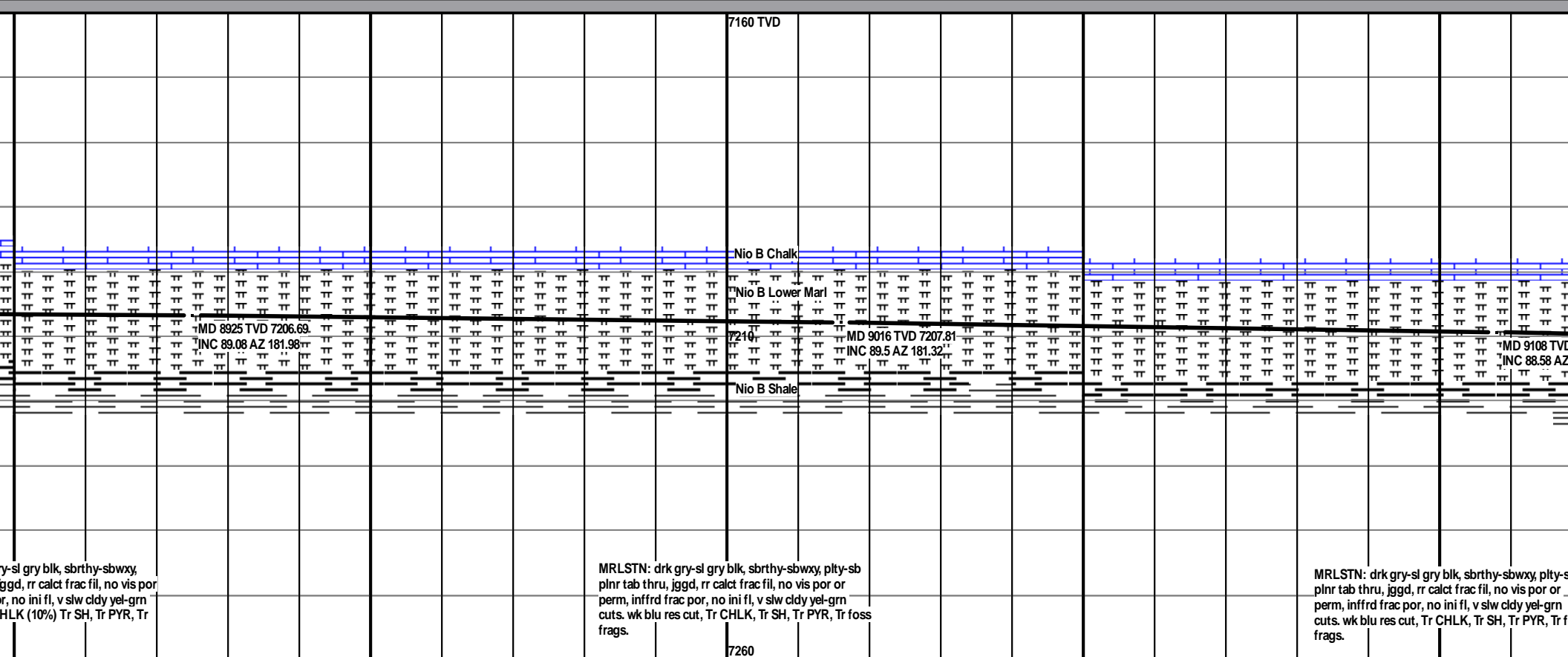
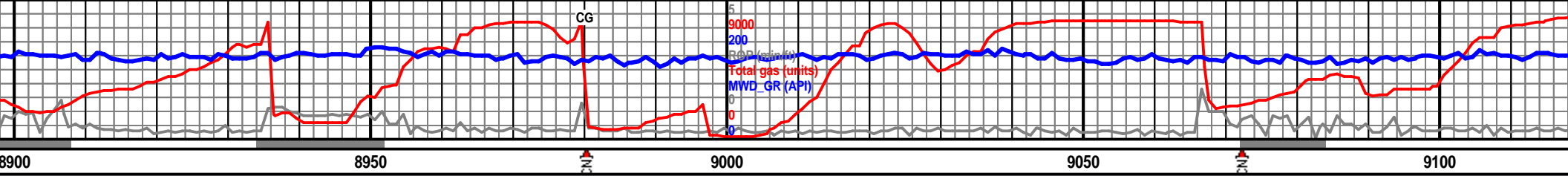


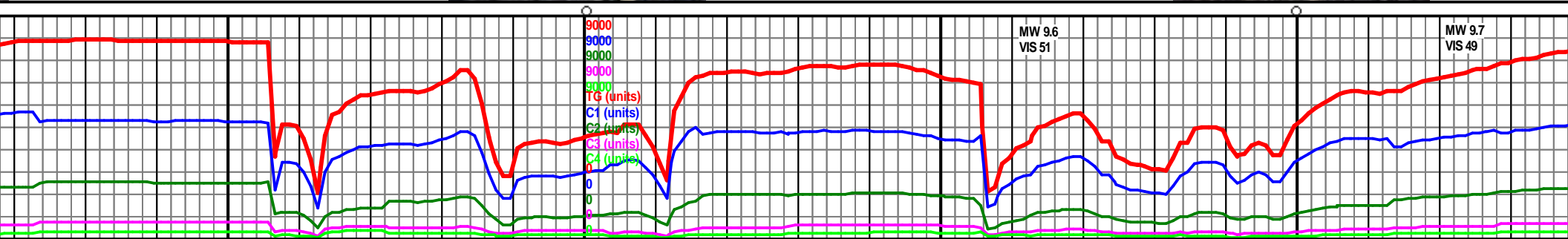
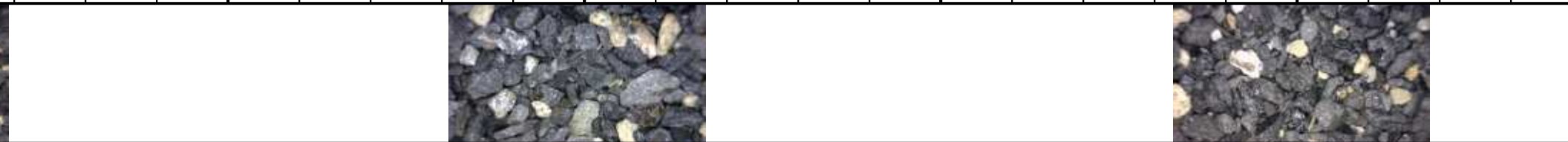
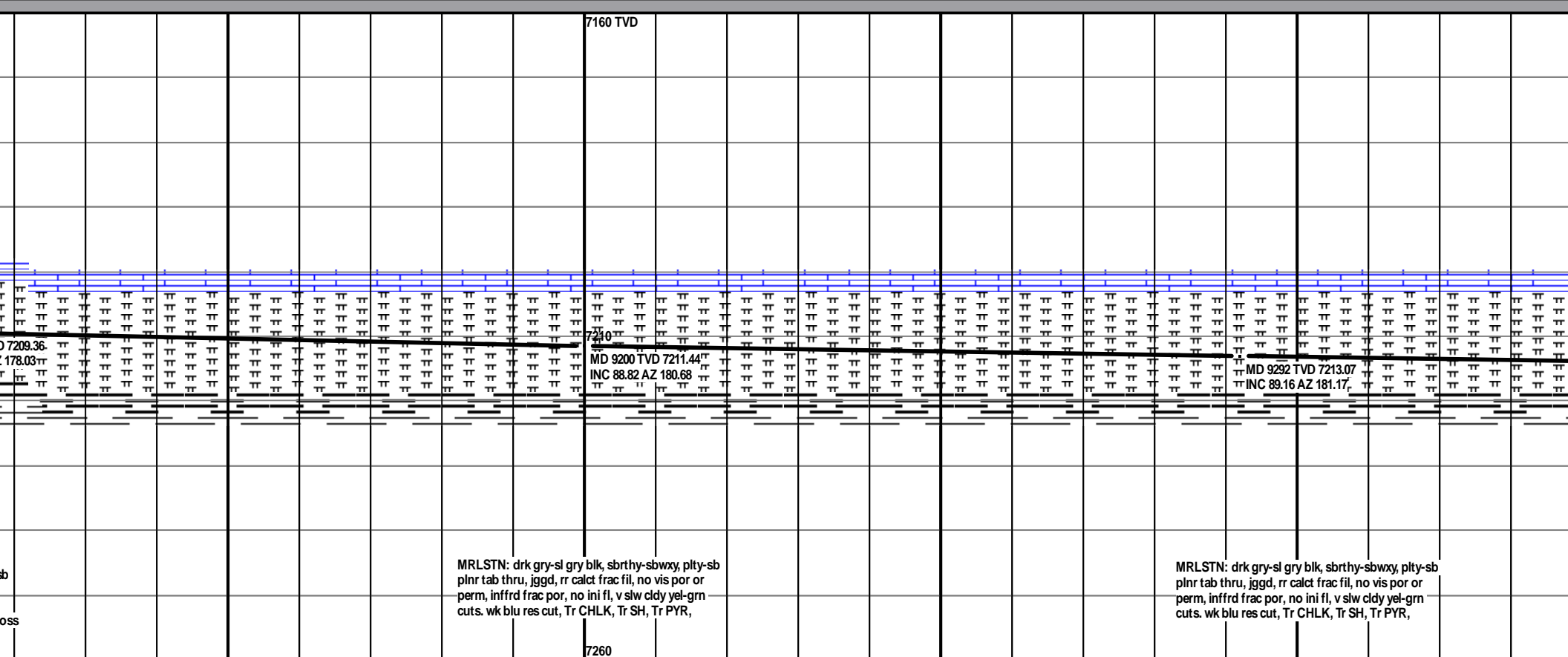
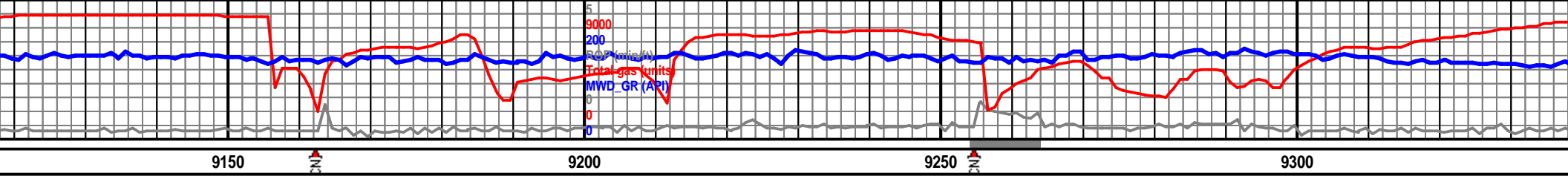
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plnr tab thru, jggd, rr calct frac fil, no vis por or
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cuts. mod bluish-grn res cut, Tr SH, Tr PYR, Tr foss
frags.

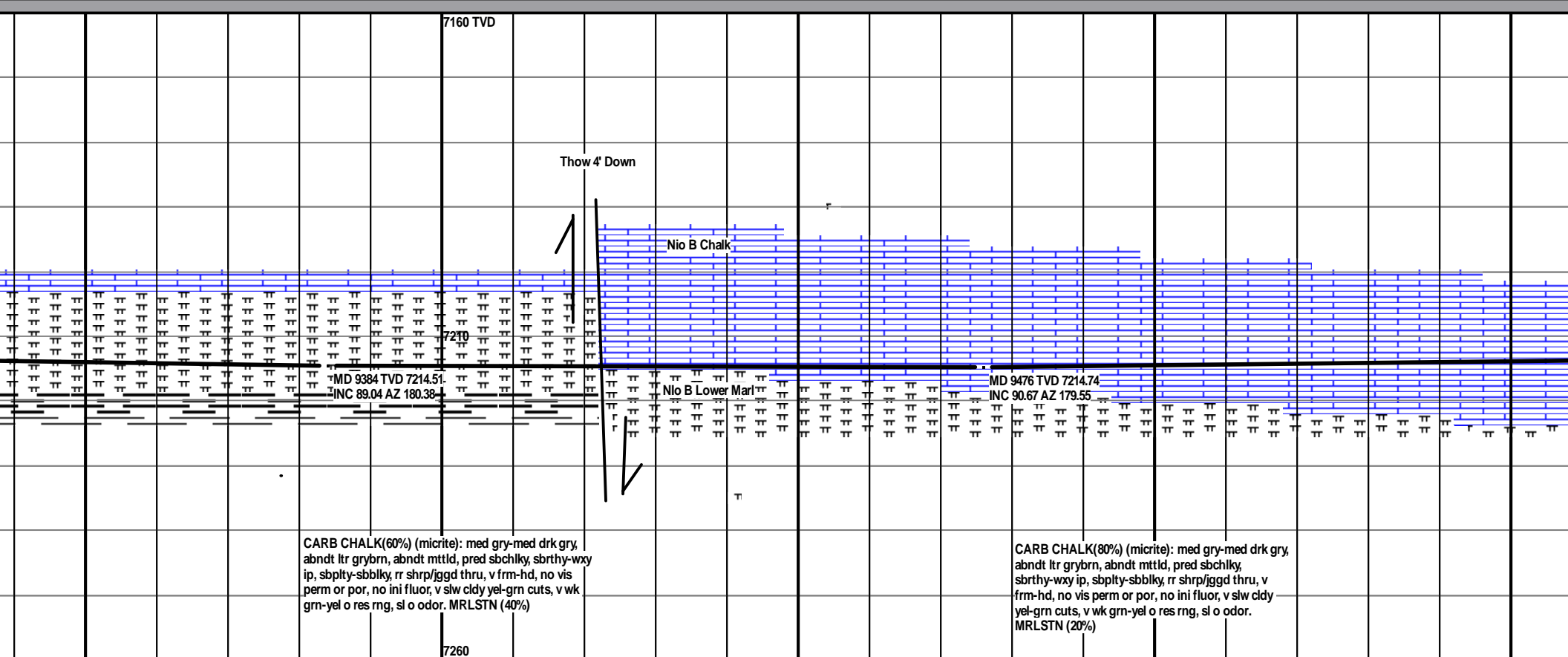
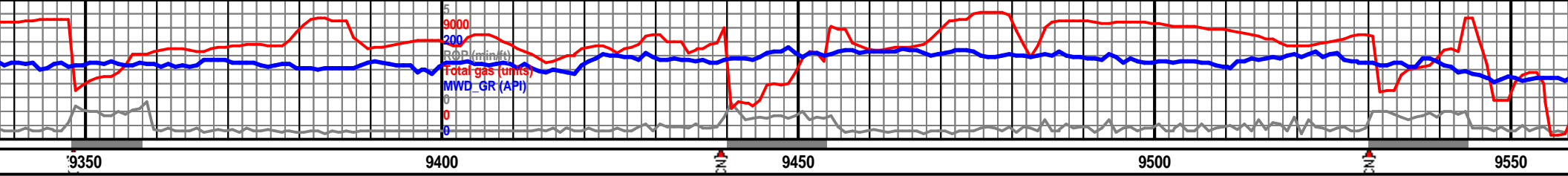
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cuts. wk bluish-grn res cut, Tr SH, Tr PYR, Tr BENT,
Tr foss frags.





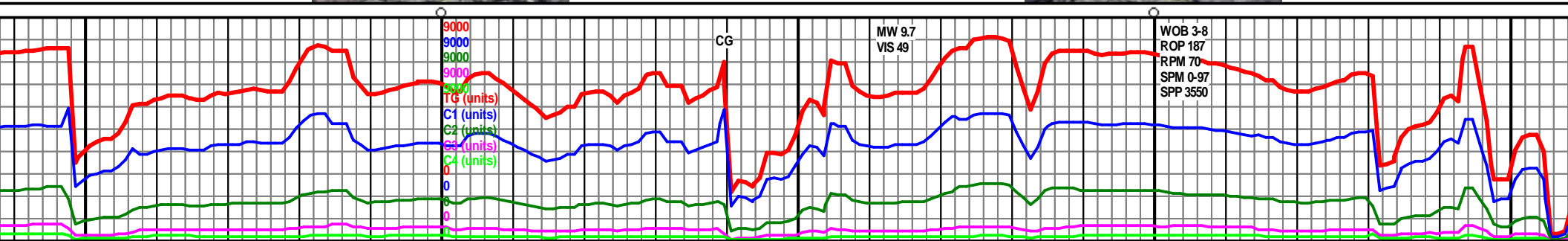


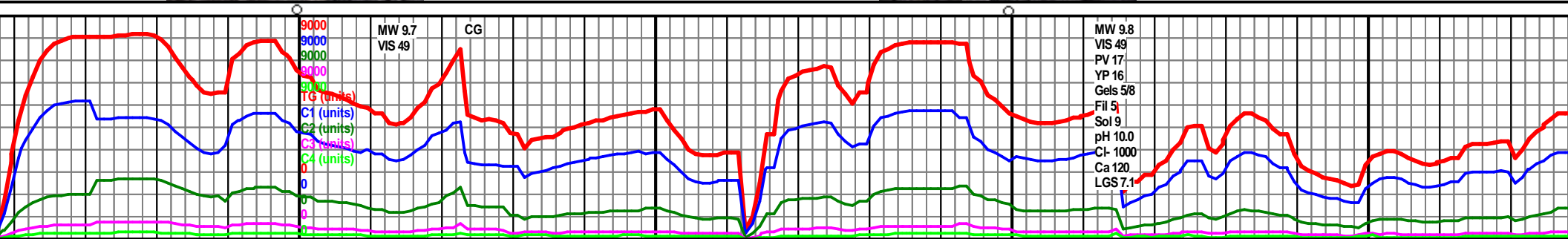
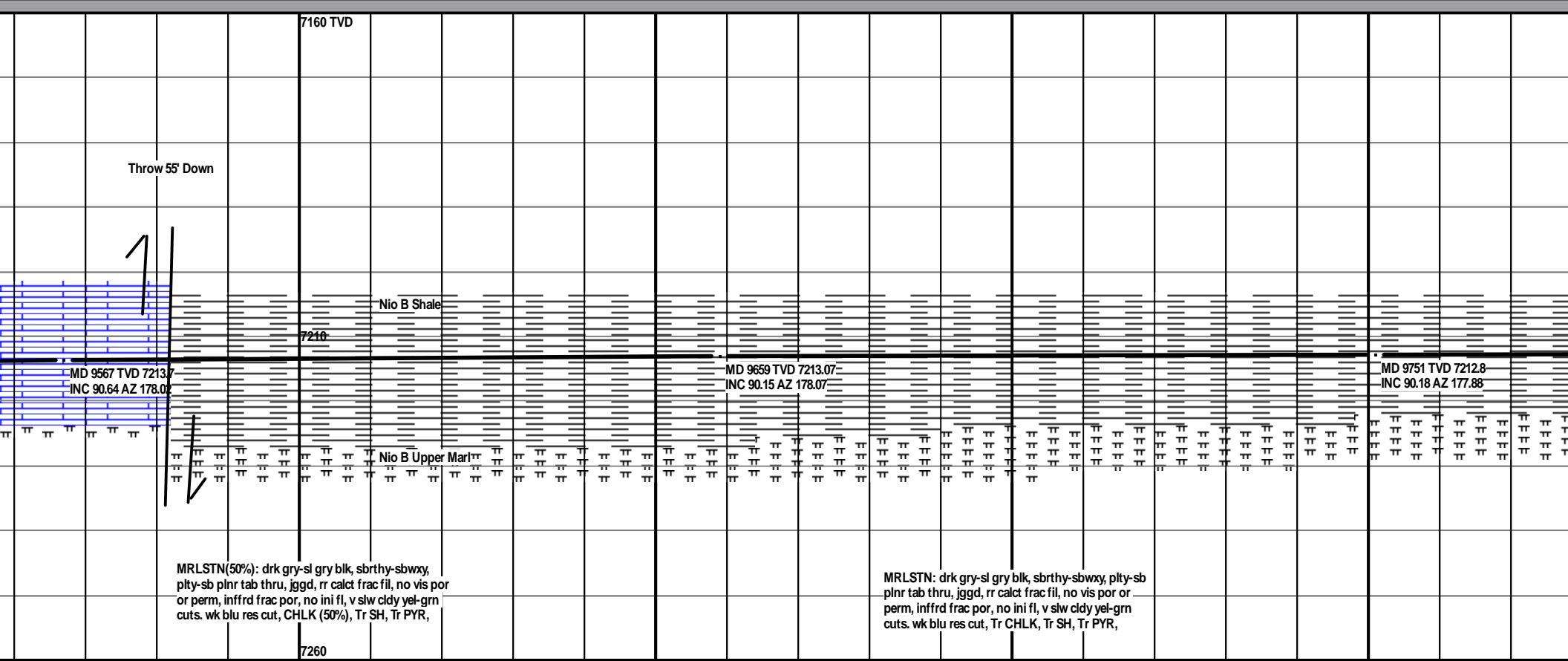
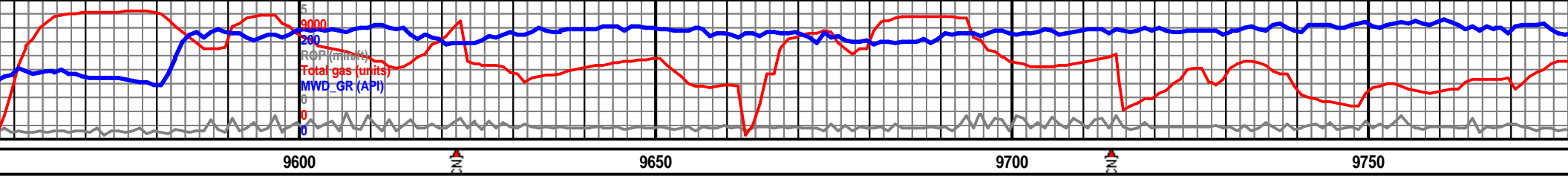


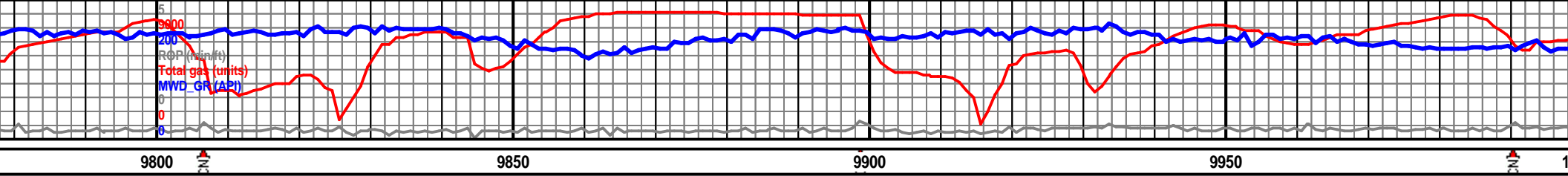


CARB CHALK(60%) (micrite): med gry-med drk gry, abndt ltr grybrn, abndt mttld, pred sbchlky, sbtrhy-wxy ip, sbplty-sbblky, rr shrp/jggd thru, v frm-hd, no vis perm or por, no ini fluor, v slw cldy yel-grn cuts, v wk grn-yel o res rng, sl o odor. MRLSTN (40%)

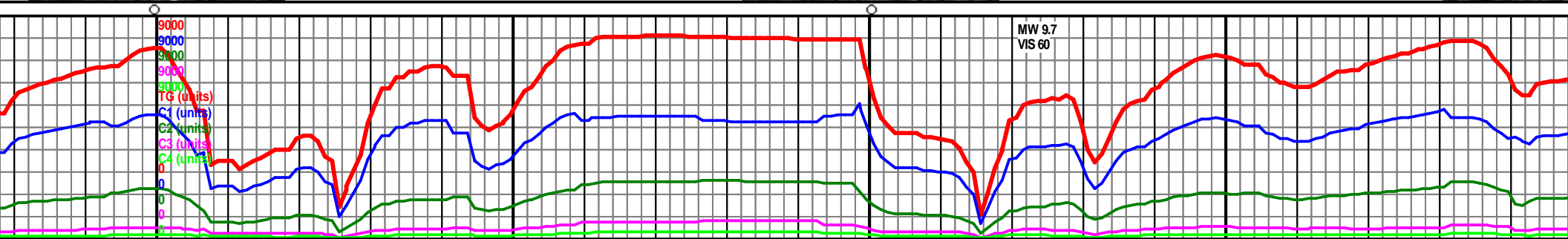
CARB CHALK(80%) (micrite): med gry-med drk gry, abndt ltr grybrn, abndt mttld, pred sbchlky, sbtrhy-wxy ip, sbplty-sbblky, rr shrp/jggd thru, v frm-hd, no vis perm or por, no ini fluor, v slw cldy yel-grn cuts, v wk grn-yel o res rng, sl o odor. MRLSTN (20%)

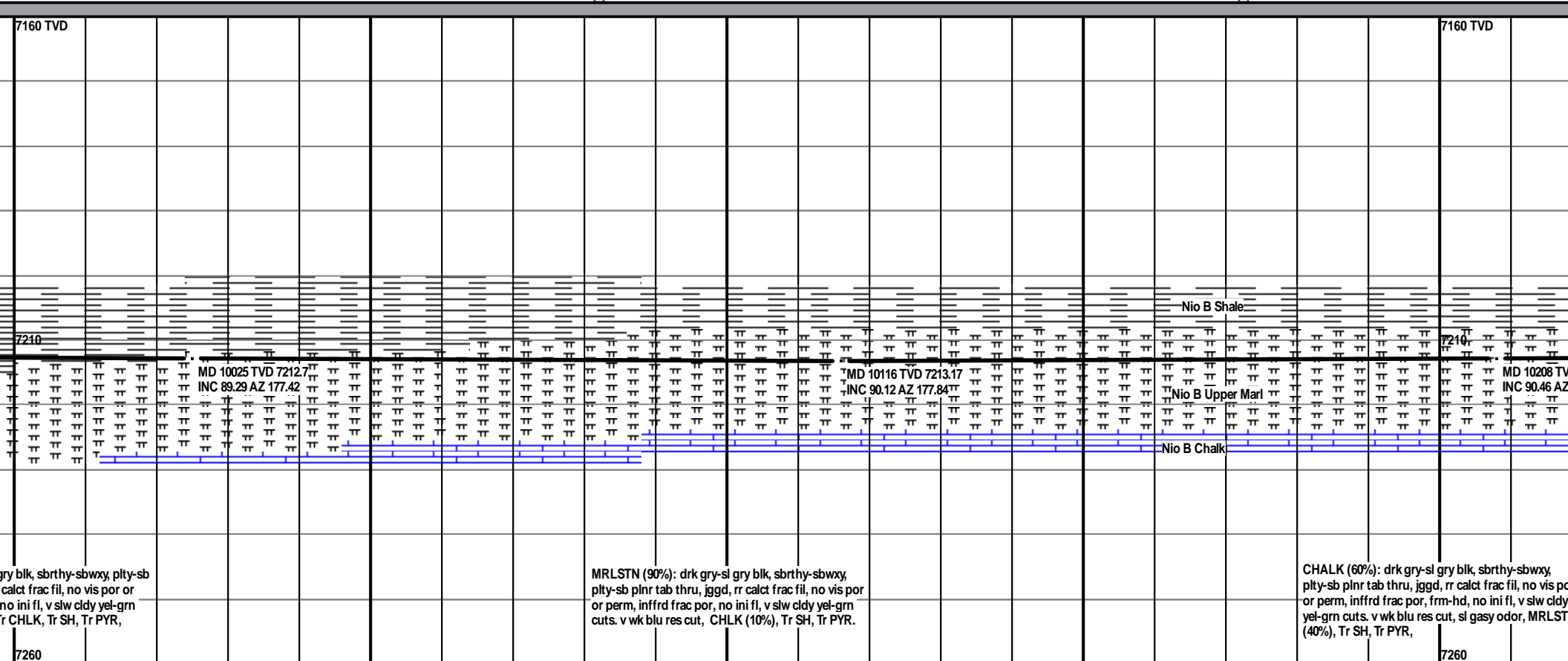


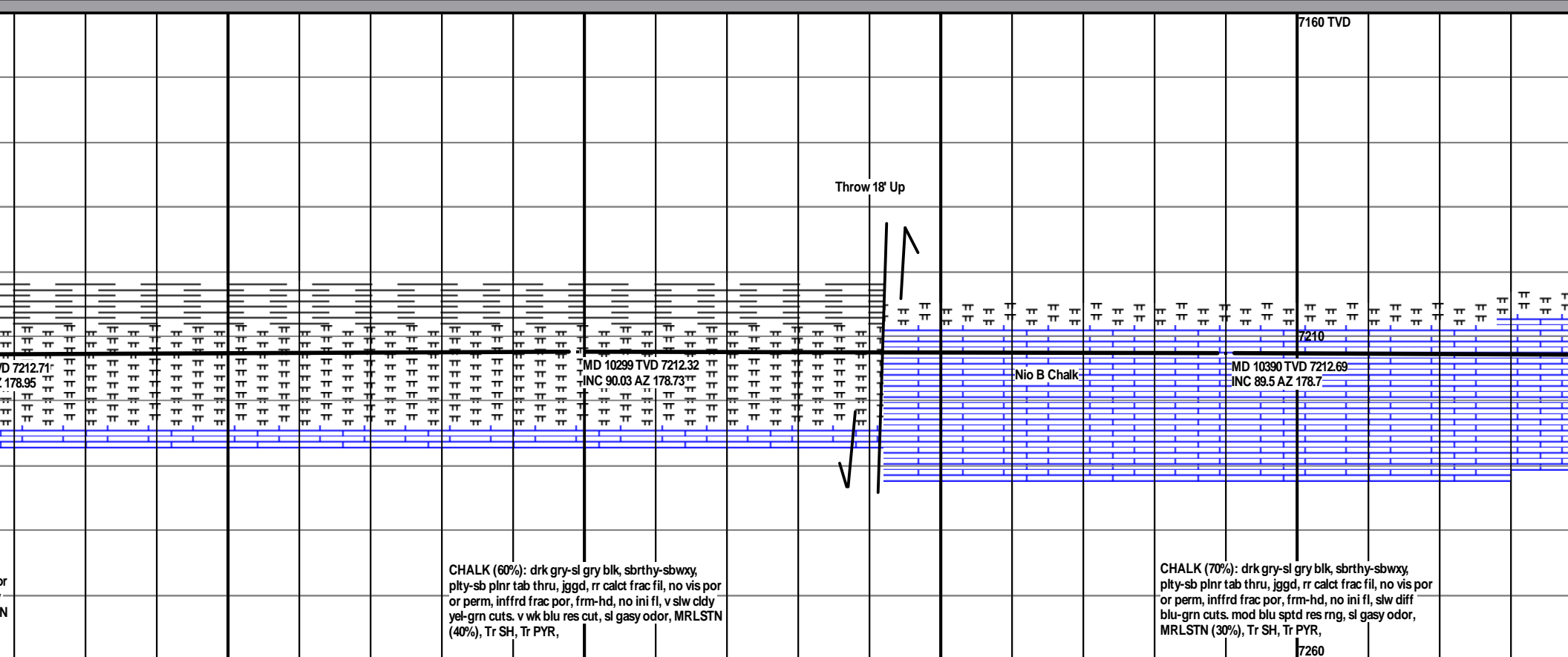
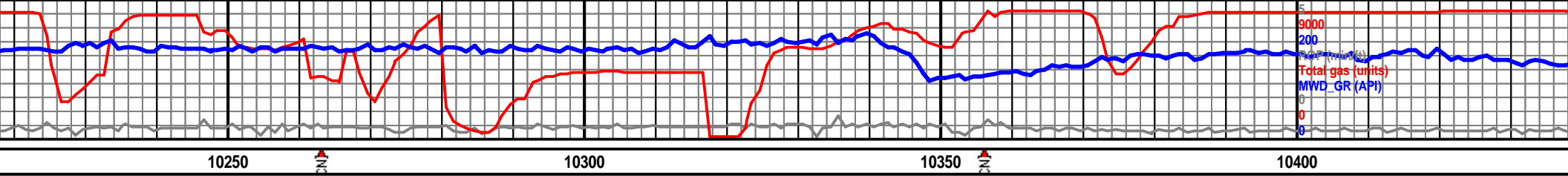




7160 TVD 2/19/2014									
7210									
MD 9842 TVD 7212.59 INC 90.09 AZ 178.32									
MD 9933 TVD 7212.33 INC 90.24 AZ 177.87									
MRLSTN: drk gry-sl gry blk, sbtrhy-sbwxy, plty-sb plnr tab thru, jggd, rr calct frac fil, no vis por or perm, inffrd frac por, no ini fl, v slw cldy yel-grn cuts. wk blu res cut, Tr CHLK, Tr SH, Tr PYR,									
7260									
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MRLSTN: drk gry-sl gry blk, sbtrhy-sbwxy, plty-sb plnr tab thru, jggd, rr calct frac fil, no vis por or perm, inffrd frac por, no ini fl, v slw cldy yel-grn cuts. wk blu res cut, Tr CHLK, Tr SH, Tr PYR,									

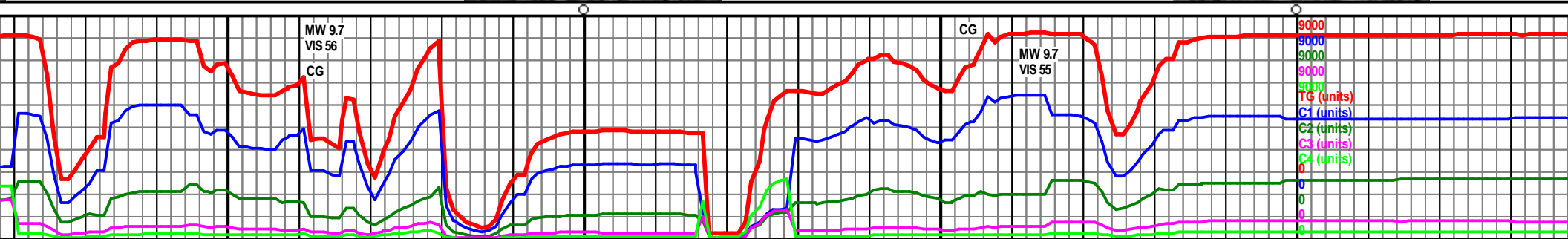


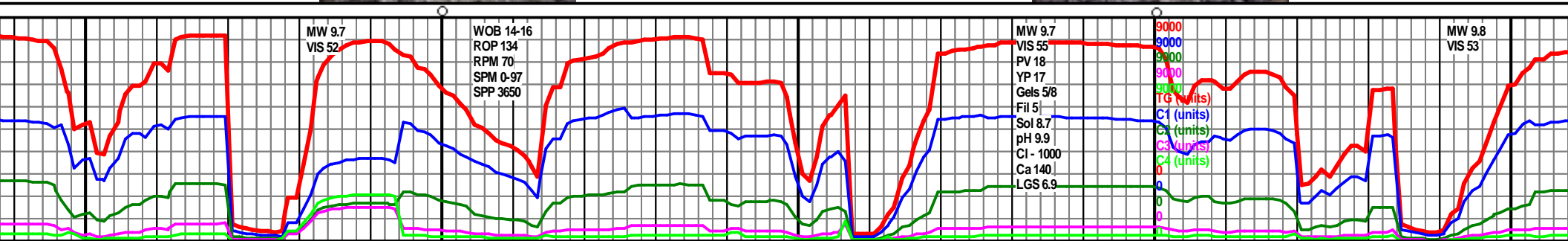
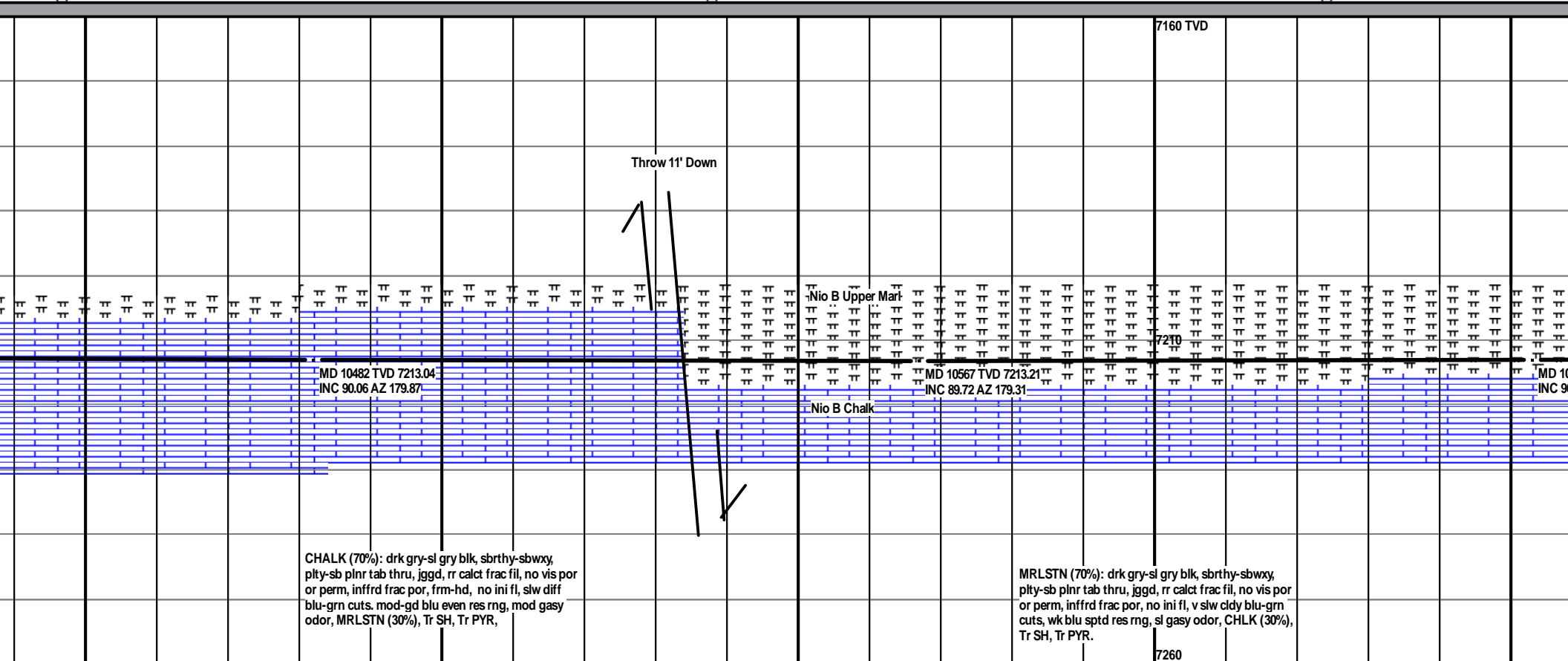


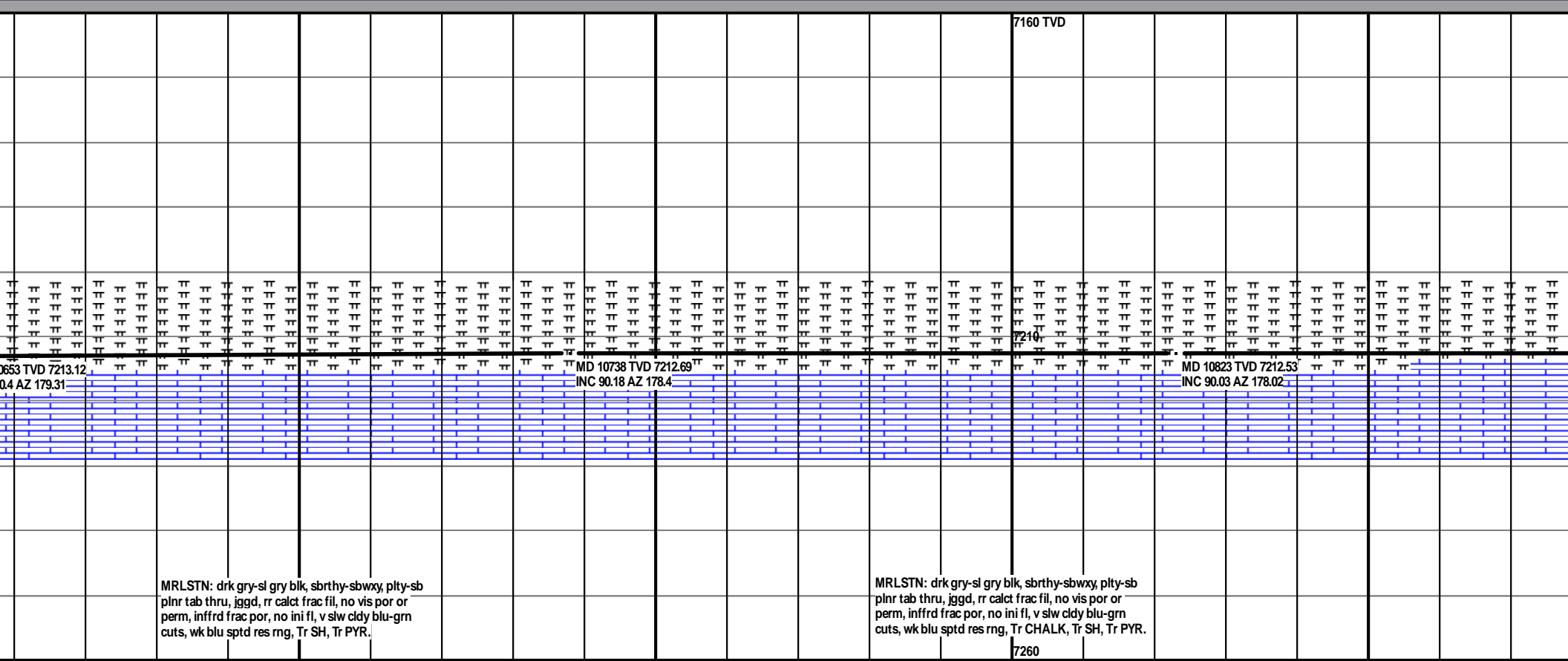
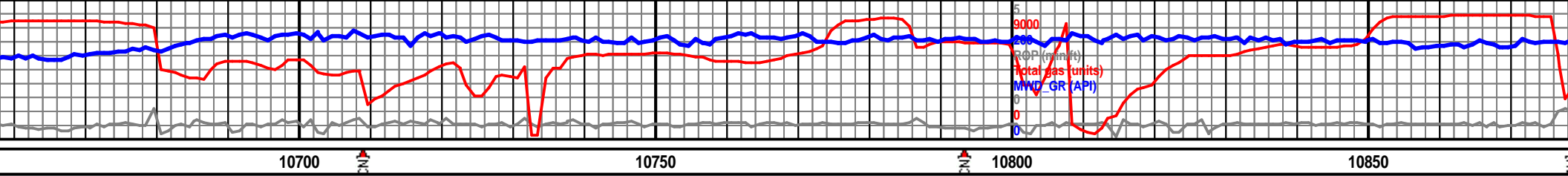


CHALK (60%): drk gry-sl gry blk, sbrthy-sbwxy, plty-sb plnr tab thru, jggd, rr calct frac fil, no vis por or perm, inffrd frac por, frm-hd, no ini fl, v slw cldy yel-grn cuts. v wk blu res cut, sl gasy odor, MRLSTN (40%), Tr SH, Tr PYR,

CHALK (70%): drk gry-sl gry blk, sbrthy-sbwxy, plty-sb plnr tab thru, jggd, rr calct frac fil, no vis por or perm, inffrd frac por, frm-hd, no ini fl, slw diff blu-grn cuts. mod blu spdt res rng, sl gasy odor, MRLSTN (30%), Tr SH, Tr PYR,

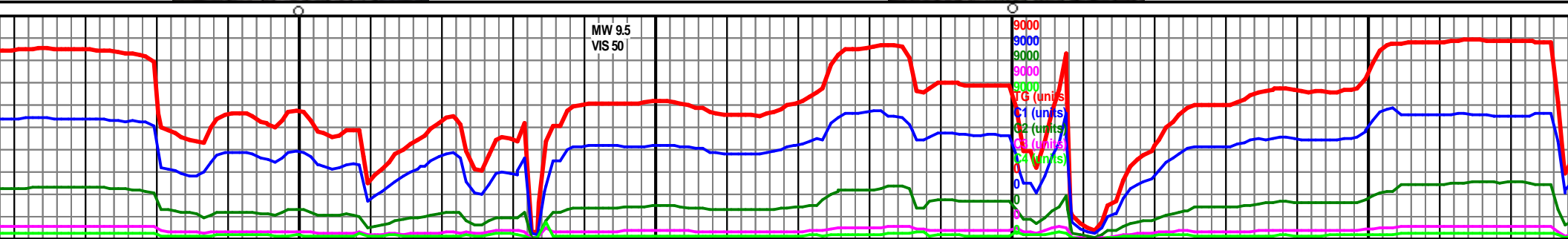




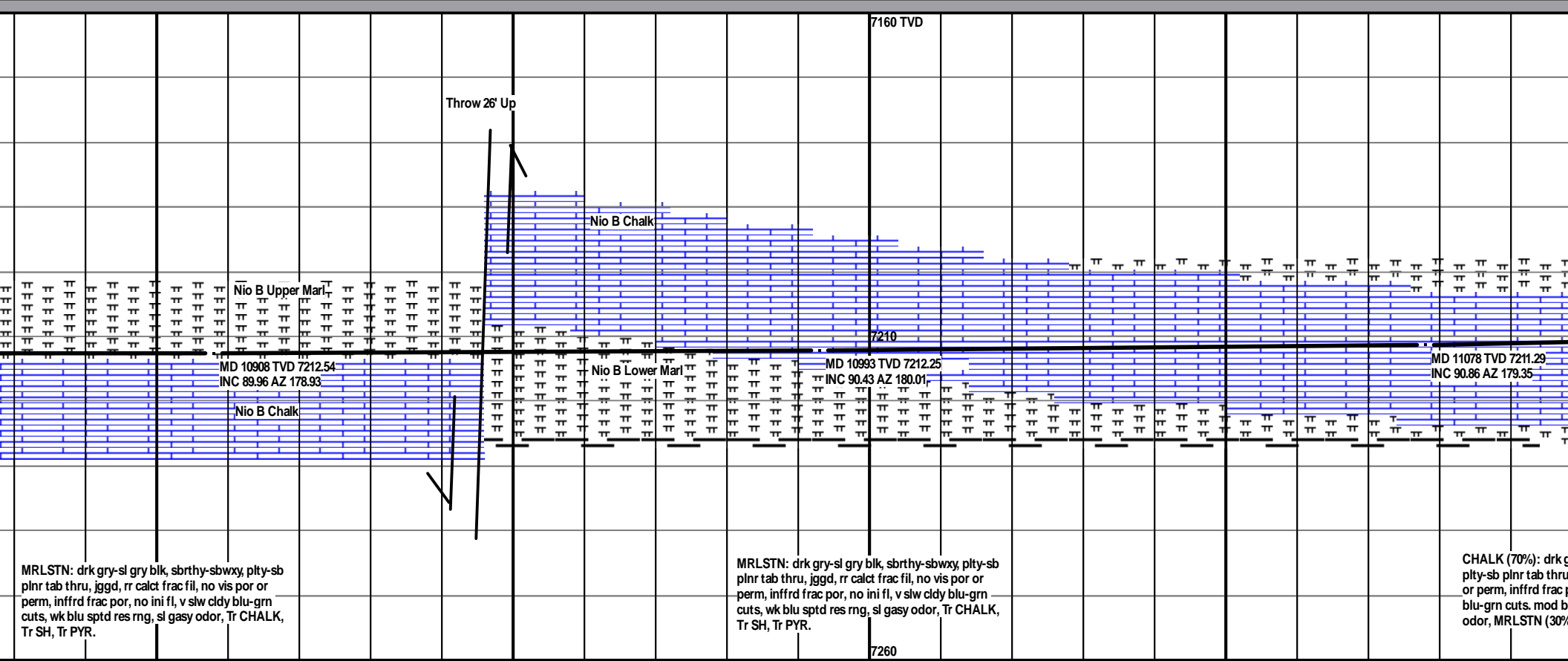
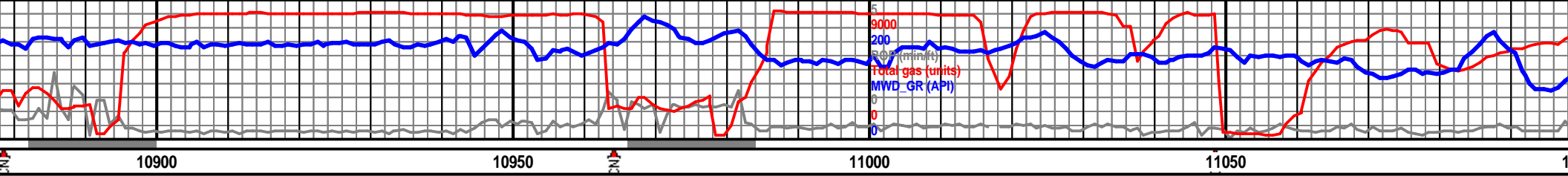


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cuts, wk blu sptd res rng, Tr SH, Tr PYR.

MRLSTN: drk gry-sl gry blk, sbtrhy-sbwxy, plty-sb
plnr tab thru, jggd, rr calct frac fil, no vis por or
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cuts, wk blu sptd res rng, Tr CHALK, Tr SH, Tr PYR.



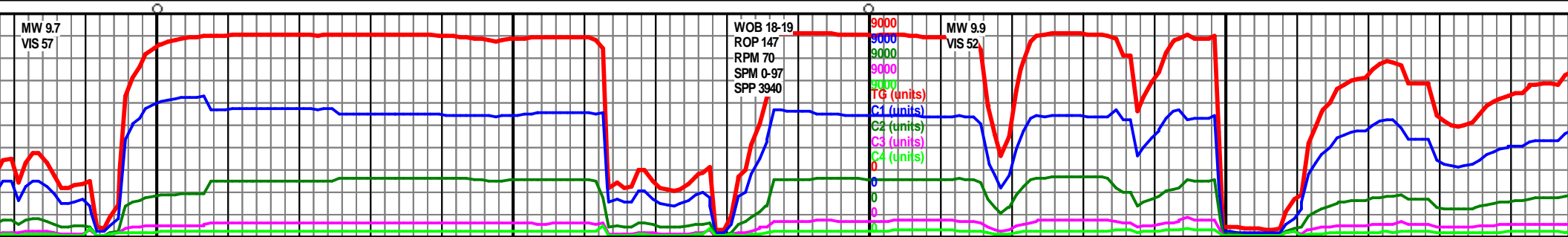
MW 9.5
VIS 50



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MRLSTN: drk gry-sl gry blk, sbrthy-sbwxy, plty-sb plnr tab thru, jggd, rr calct frac fil, no vis por or perm, inffrd frac por, no ini fl, v slw cldy blu-grn cuts, wk blu sptd res rng, sl gasy odor, Tr CHALK, Tr SH, Tr PYR.

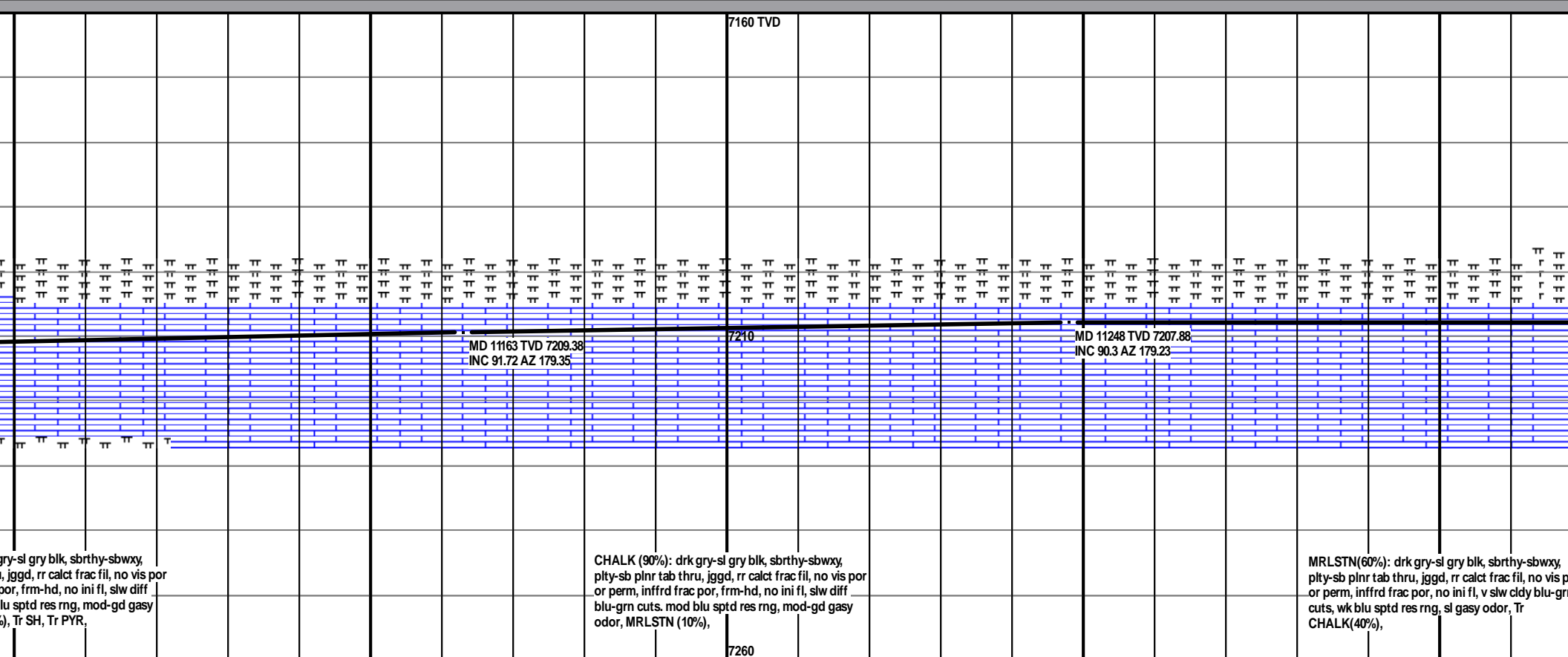
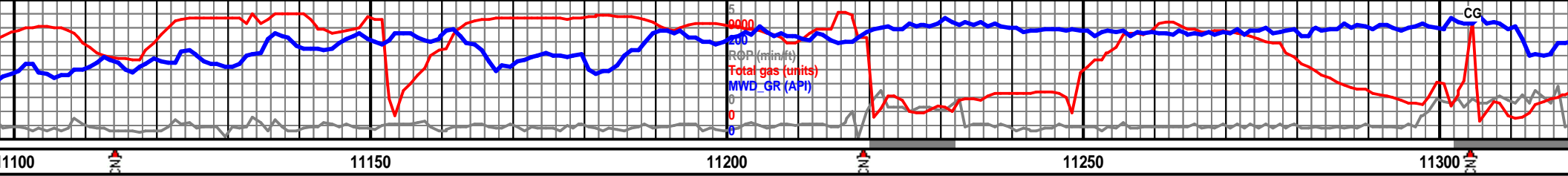
CHALK (70%): drk g plty-sb plnr tab thru or perm, inffrd frac blu-grn cuts. mod b odor, MRLSTN (30%)



MW 9.7
VIS 57

WOB 18-19
ROP 147
RPM 70
SPM 0-97
SPP 3940

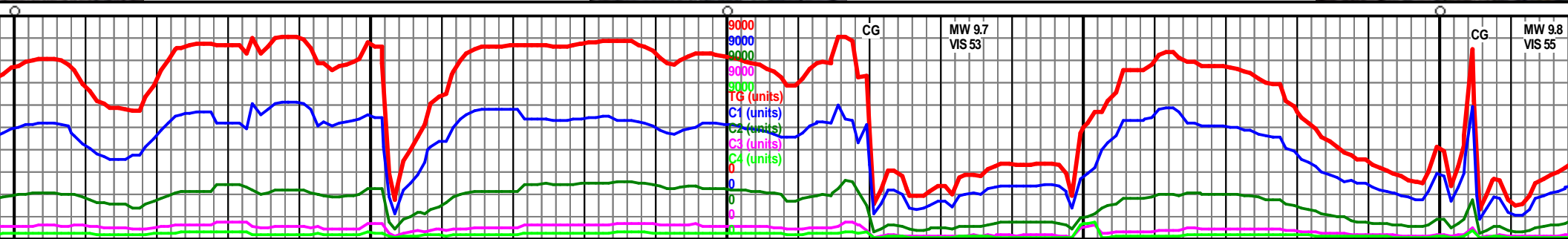
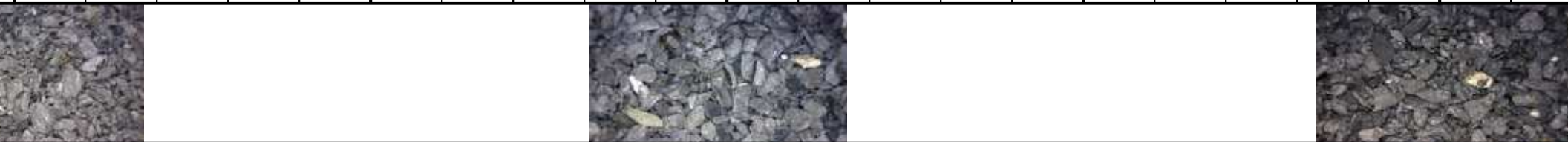
MW 9.9
VIS 52

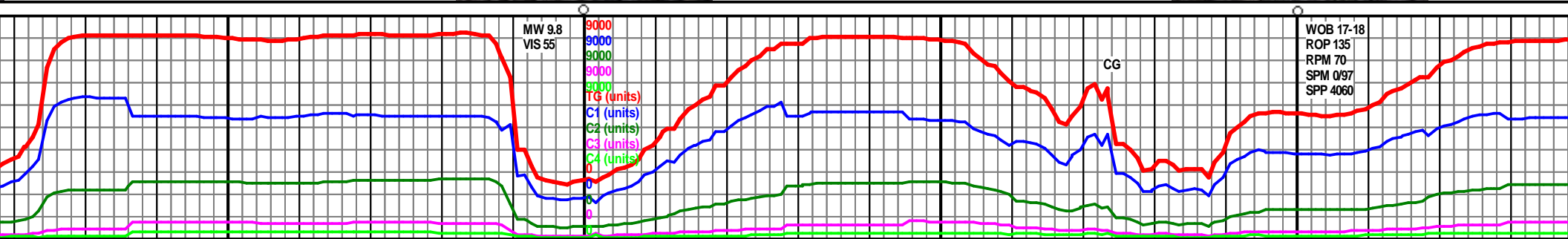
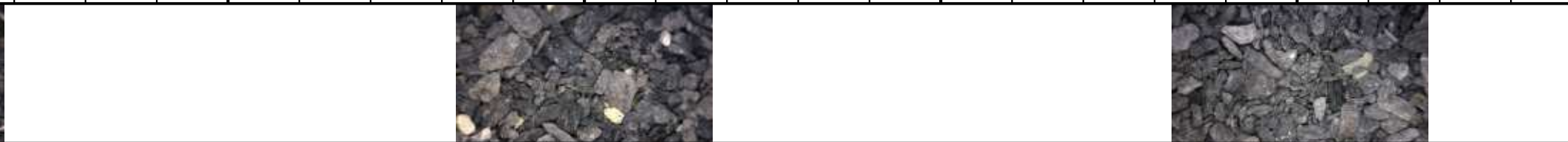
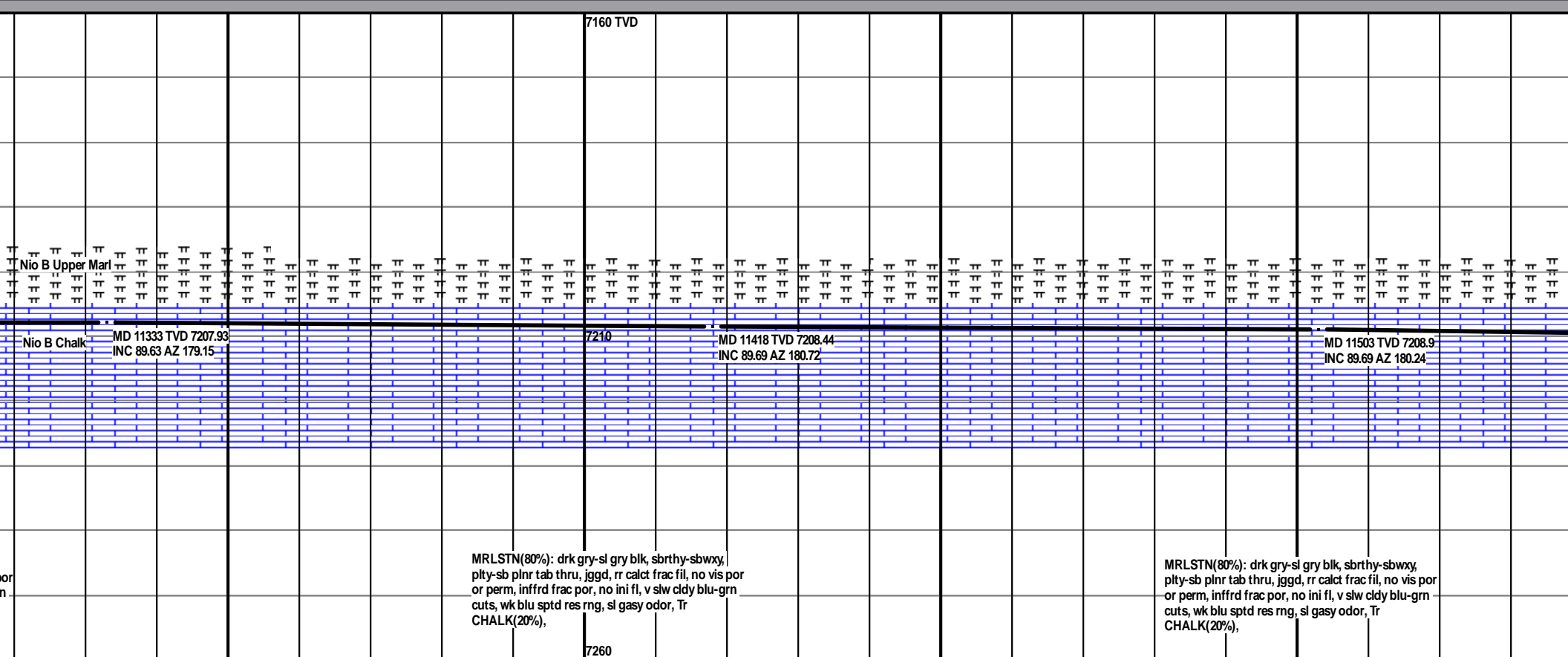
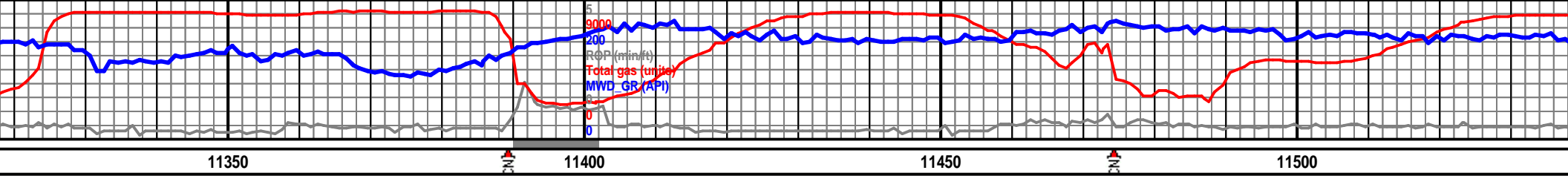


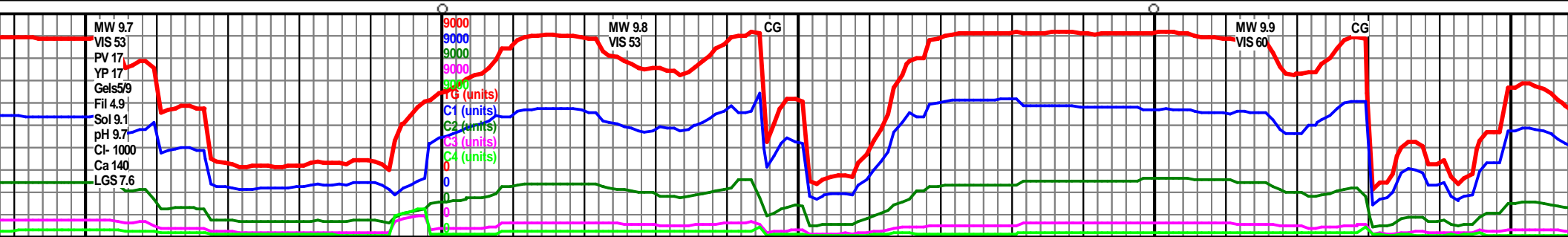
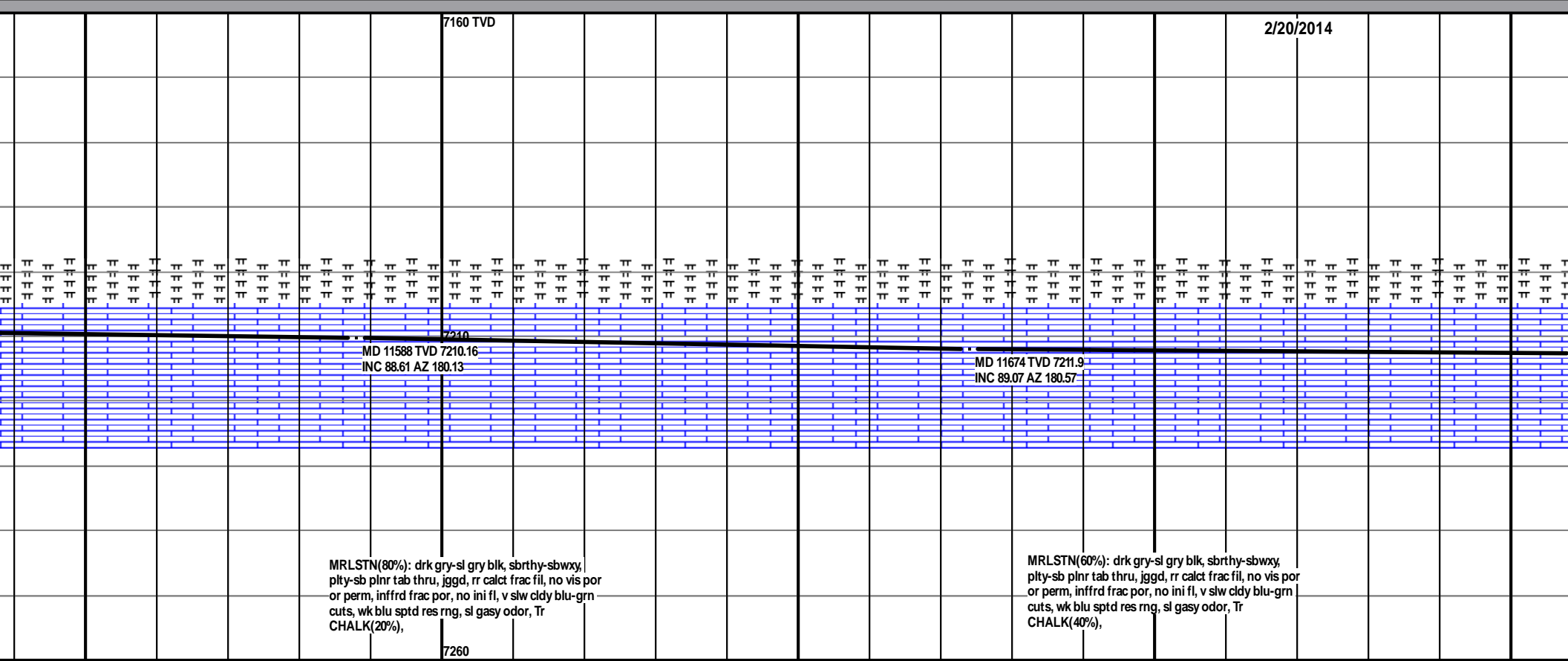
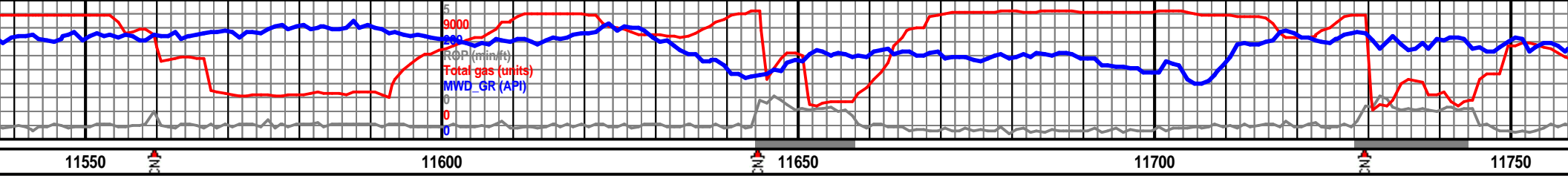
gry-si gry blk, sbthy-sbwxy,
t, jggd, rr calct frac fil, no vis por
poor, frm-hd, no ini fl, slw diff
blu sptd res rng, mod-gd gasy
(%), Tr SH, Tr PYR,

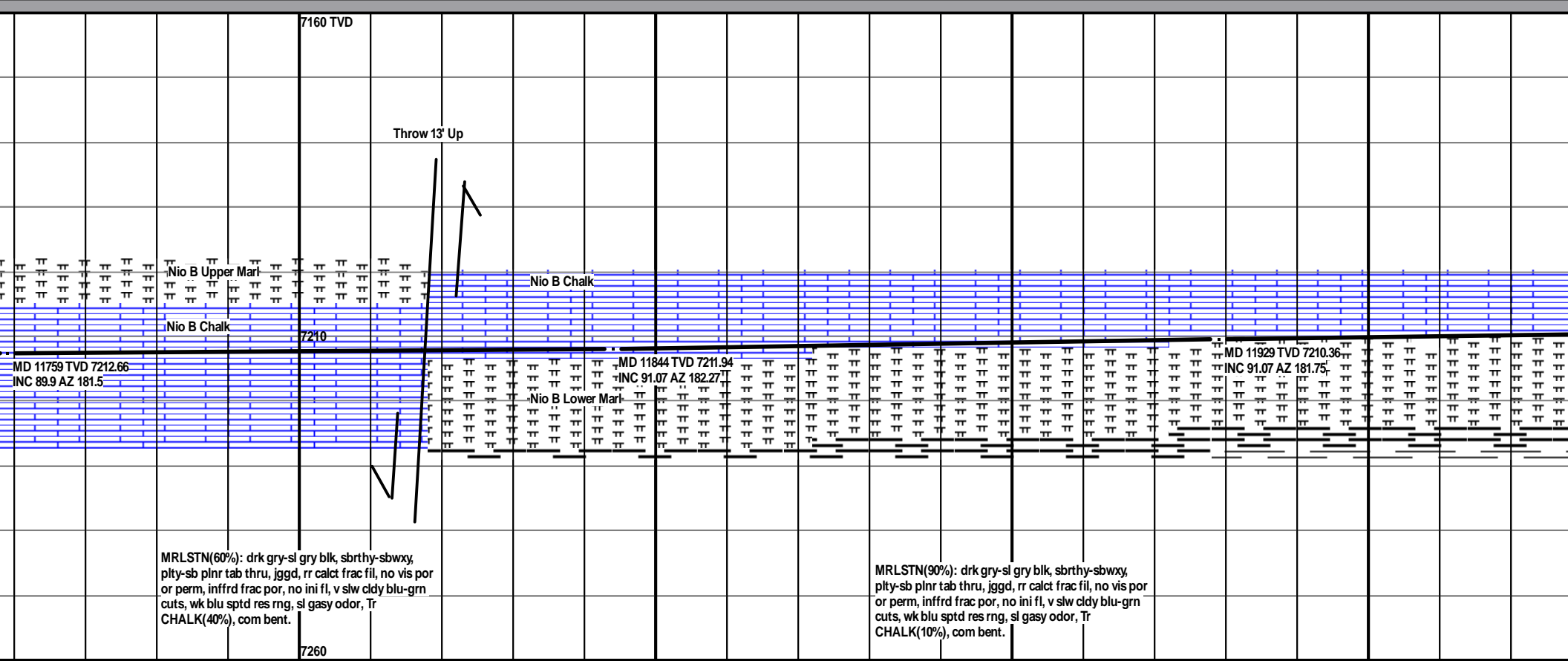
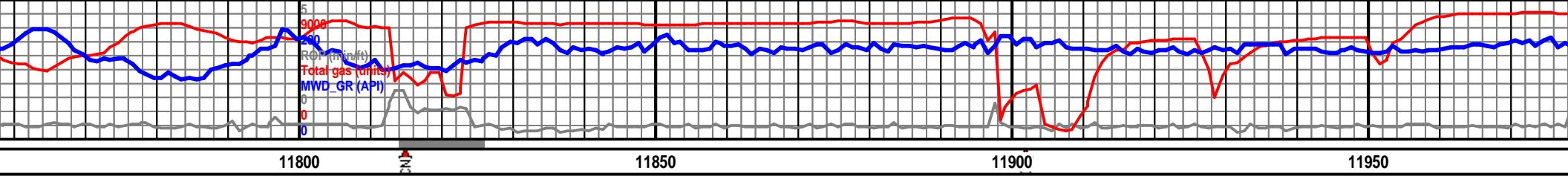
CHALK (90%): drk gry-si gry blk, sbthy-sbwxy,
pty-sb plnr tab thru, jggd, rr calct frac fil, no vis por
or perm, infrrd frac por, frm-hd, no ini fl, slw diff
blu-grn cuts, mod blu sptd res rng, mod-gd gasy
odor, MRLSTN (10%),

MRLSTN(60%): drk gry-si gry blk, sbthy-sbwxy,
pty-sb plnr tab thru, jggd, rr calct frac fil, no vis p
or perm, infrrd frac por, no ini fl, v slw cldy blu-gr
cuts, wk blu sptd res rng, sl gasy odor, Tr
CHALK(40%),



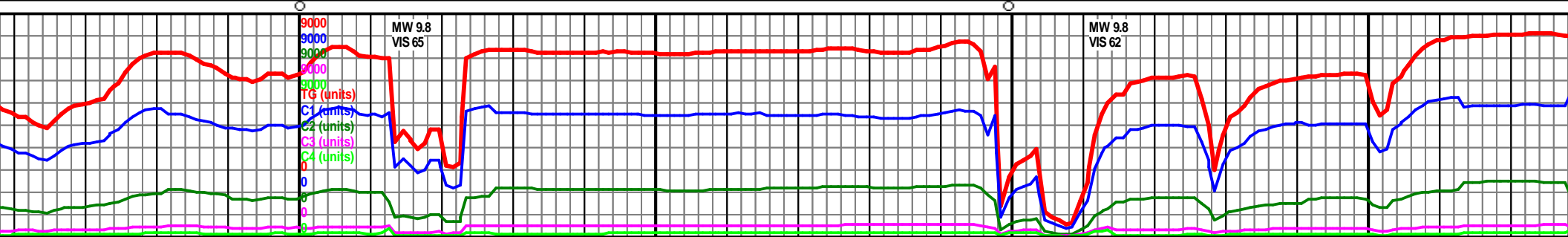


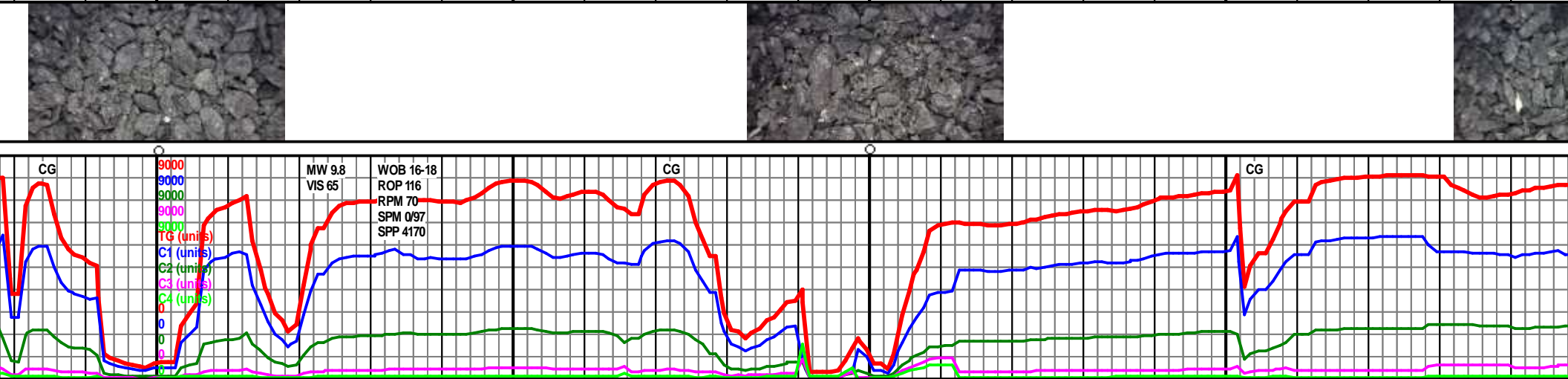
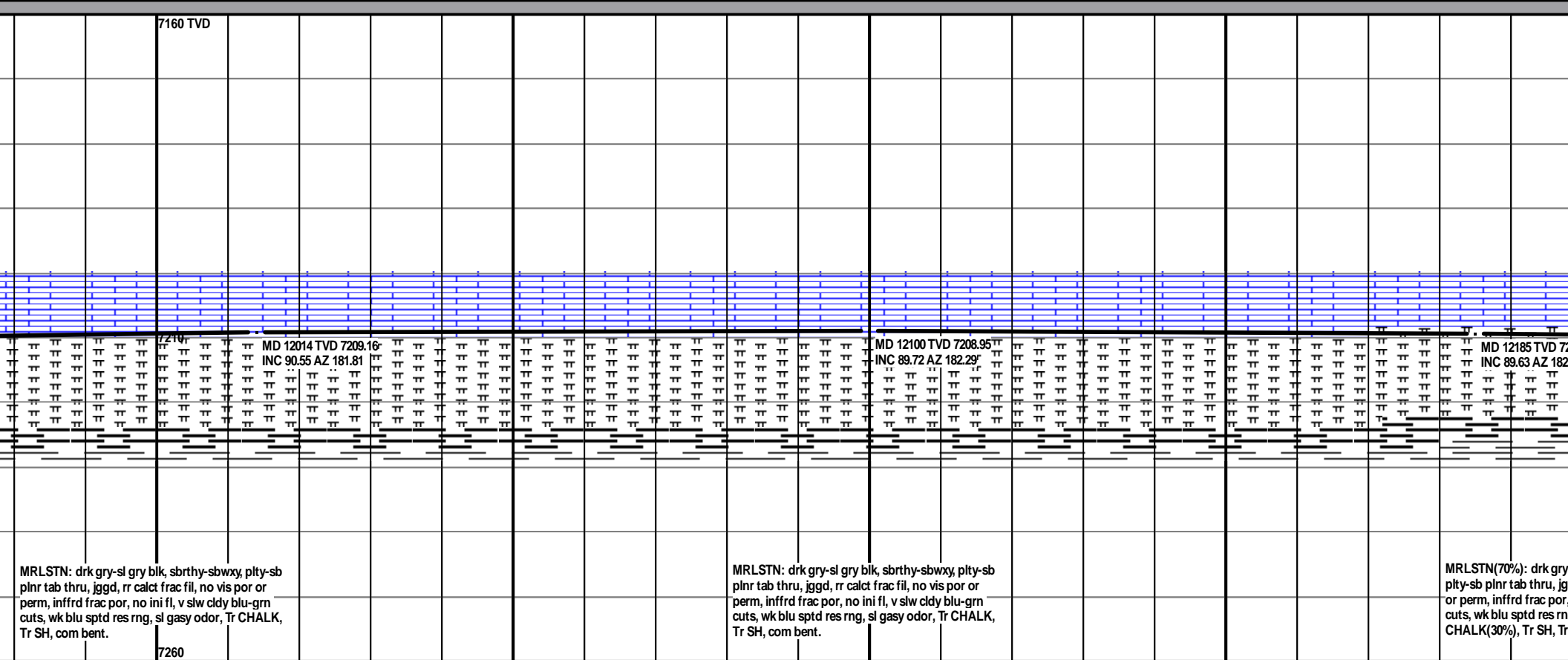


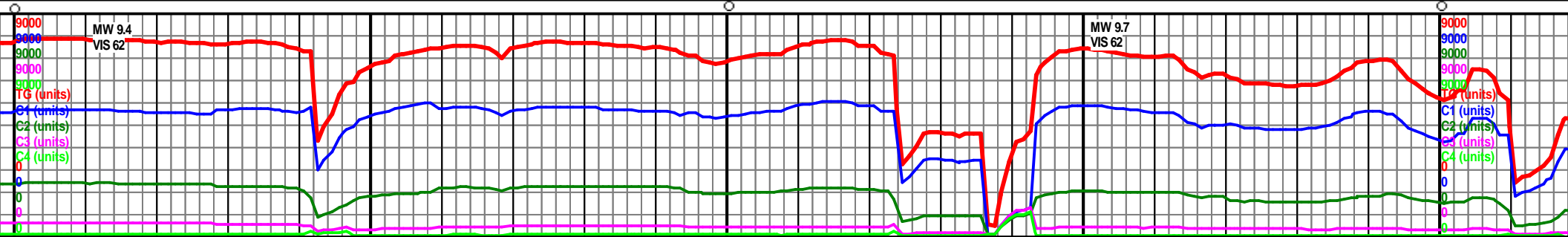
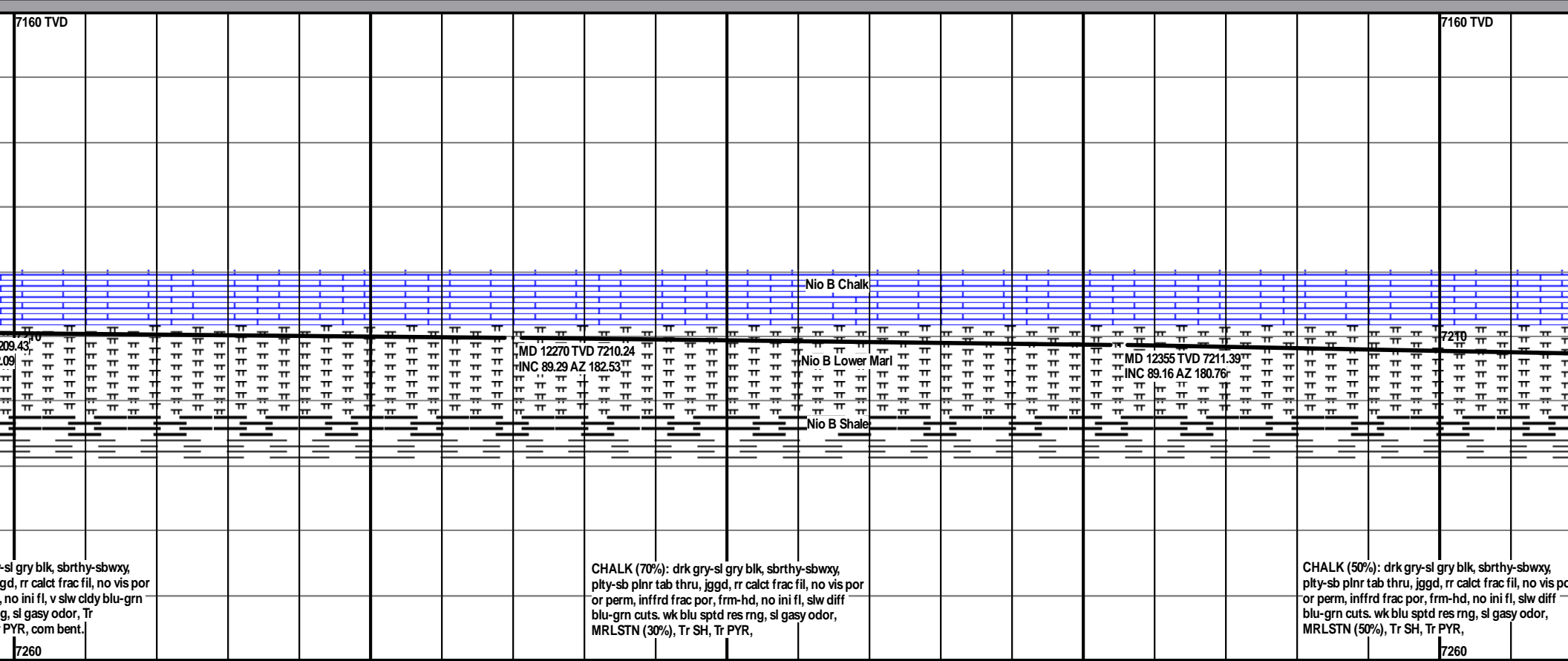
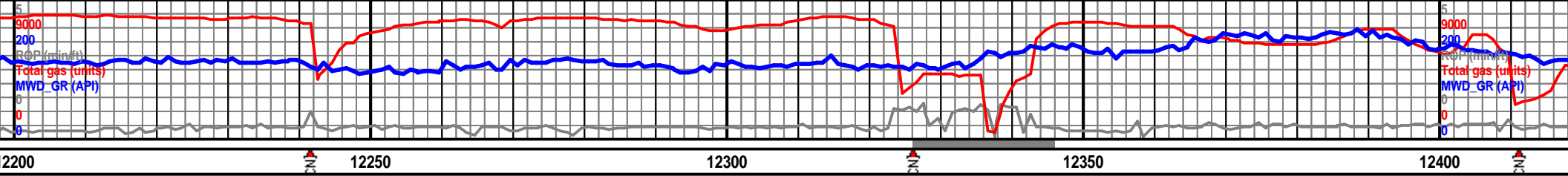


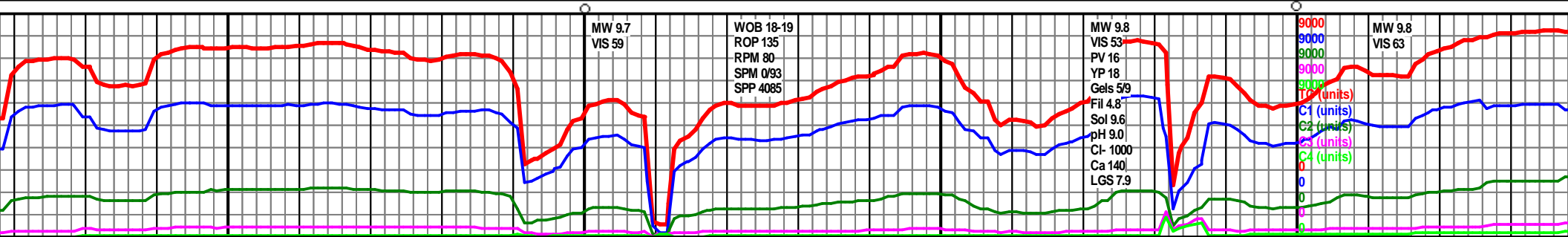
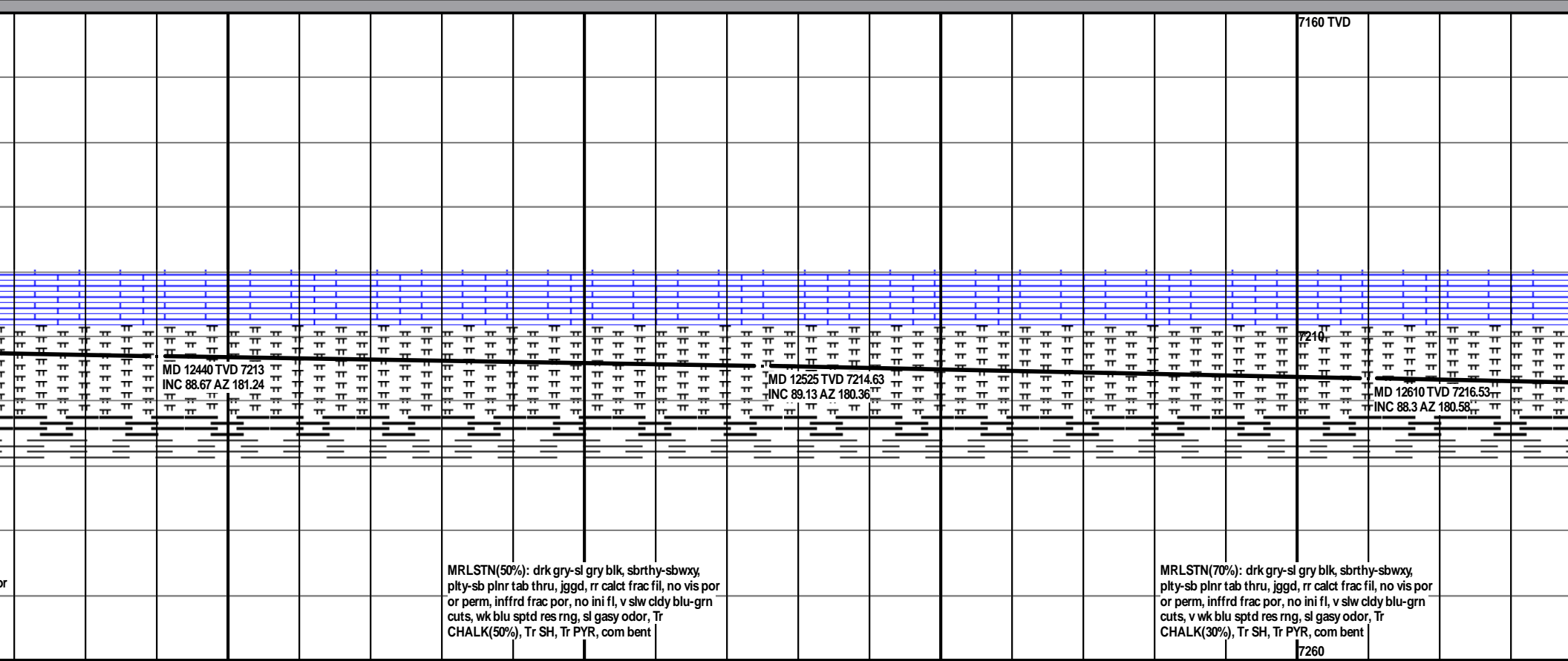
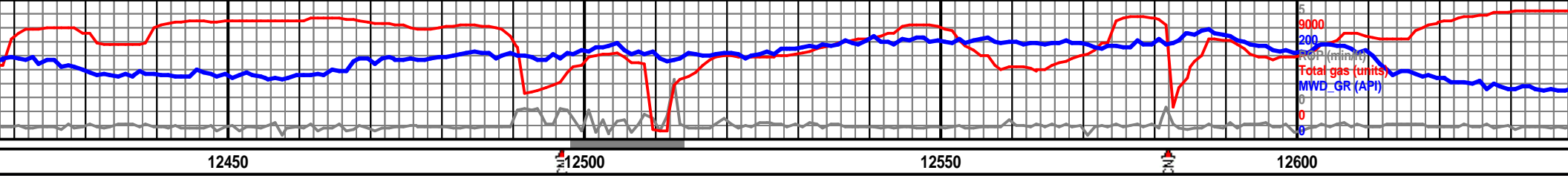
MRLSTN(60%): drk gry-sl gry blk, sbrthy-sbwxy, plty-sb plnr tab thru, jggd, rr calct frac fil, no vis por or perm, inffrd frac por, no ini fl, v slw cldy blu-grn cuts, wk blu sptd res rng, sl gasy odor, Tr CHALK(40%), com bent.

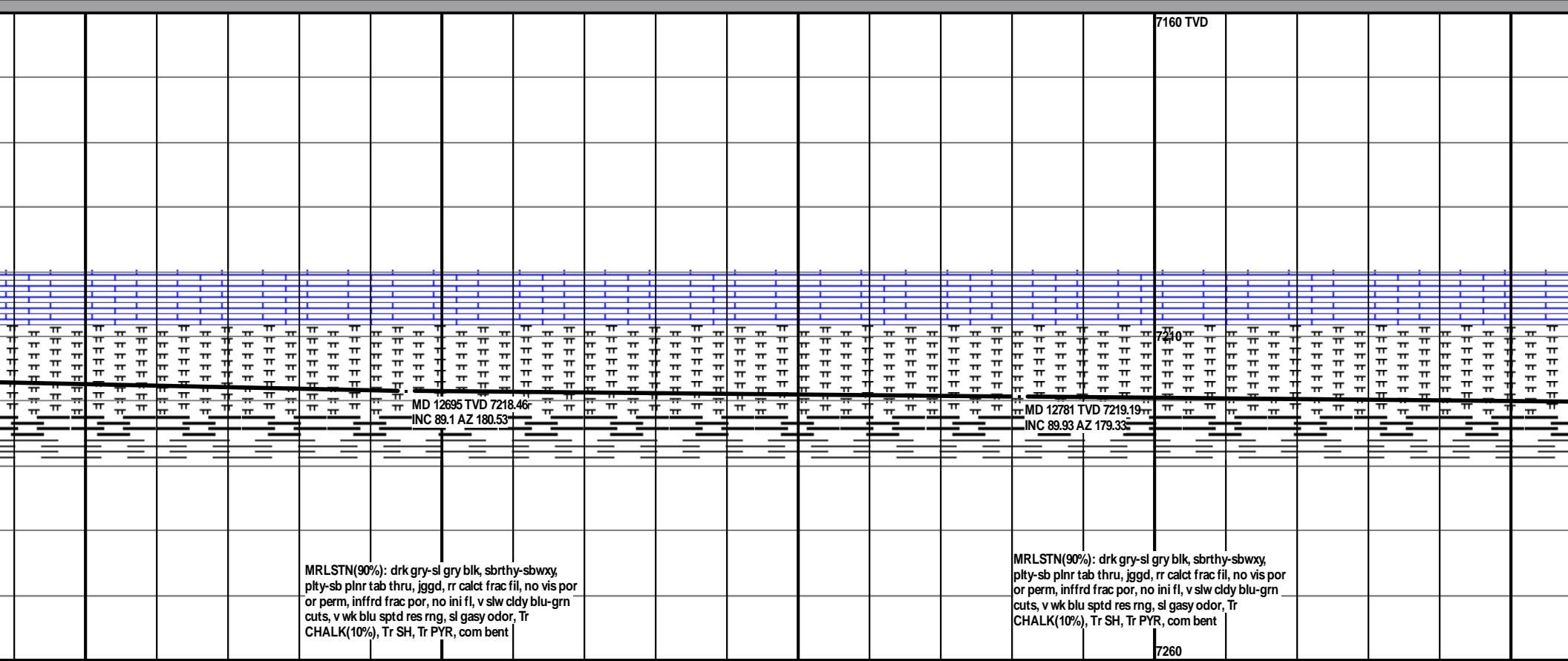
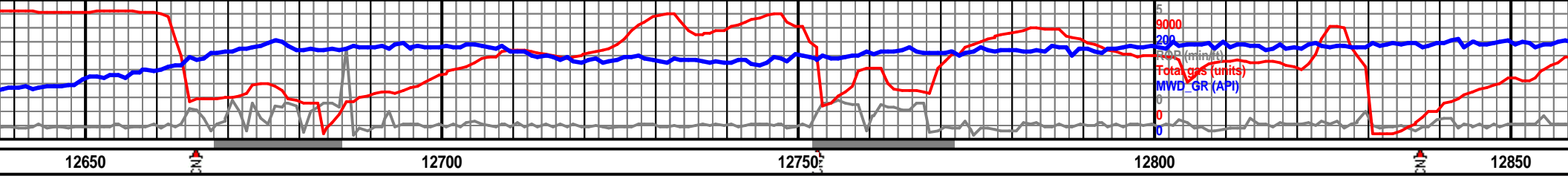
MRLSTN(90%): drk gry-sl gry blk, sbrthy-sbwxy, plty-sb plnr tab thru, jggd, rr calct frac fil, no vis por or perm, inffrd frac por, no ini fl, v slw cldy blu-grn cuts, wk blu sptd res rng, sl gasy odor, Tr CHALK(10%), com bent.





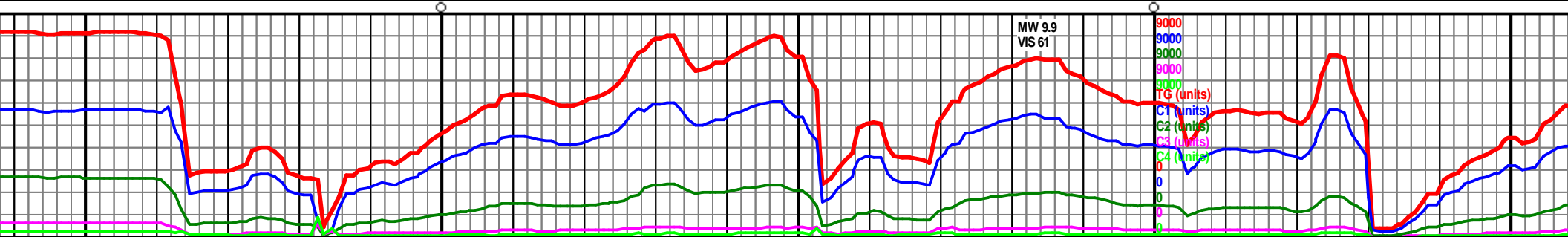


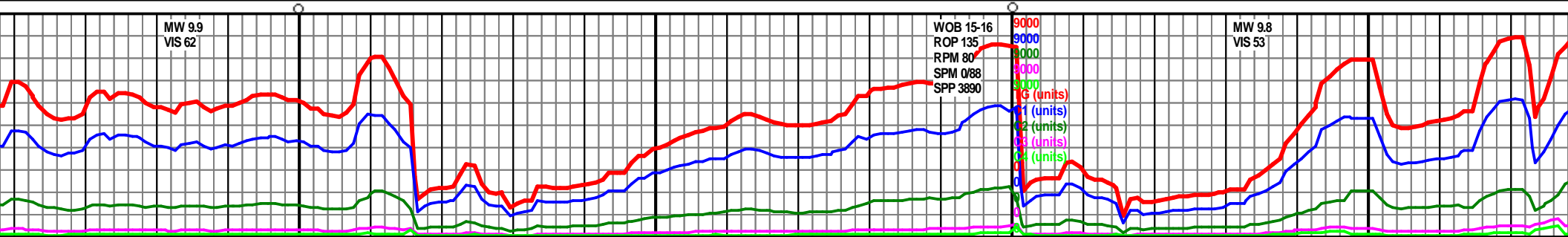
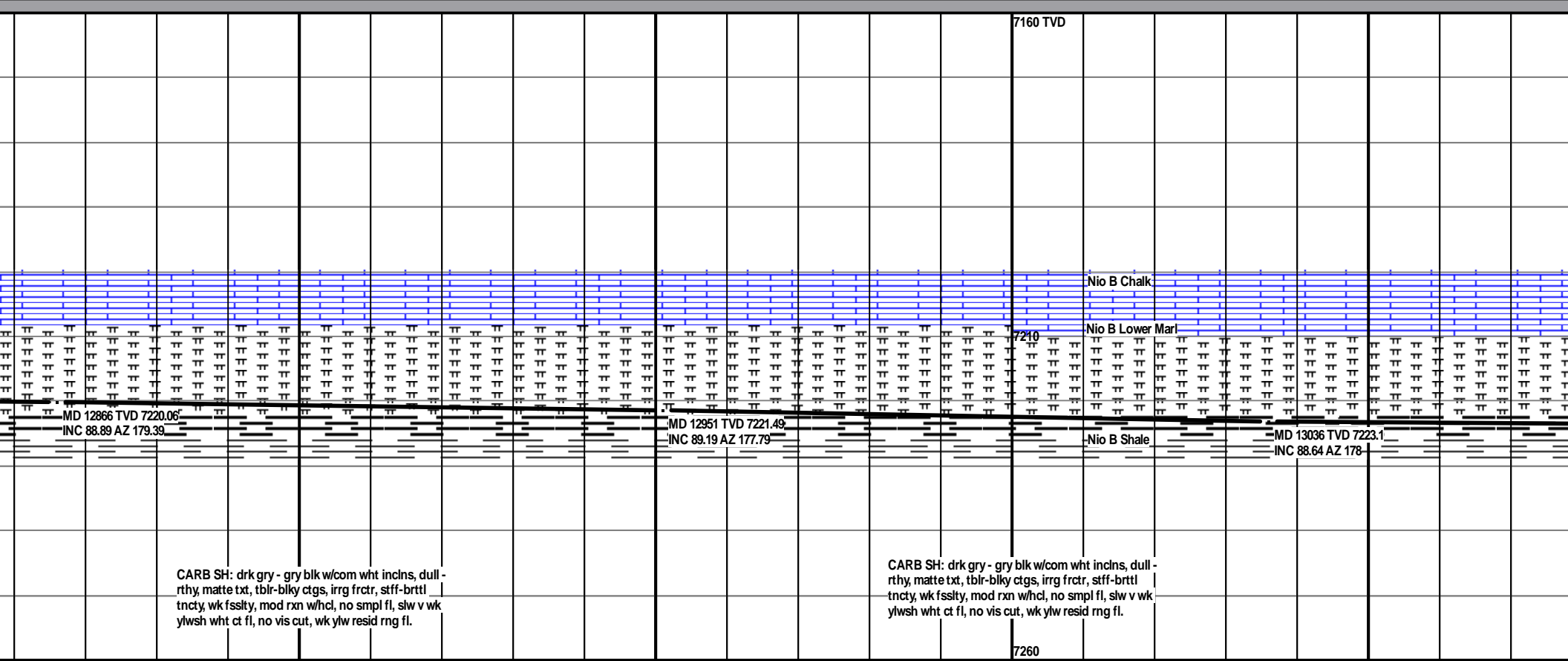
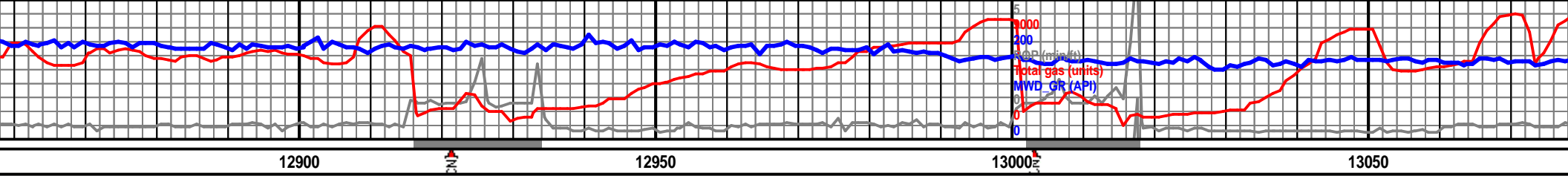


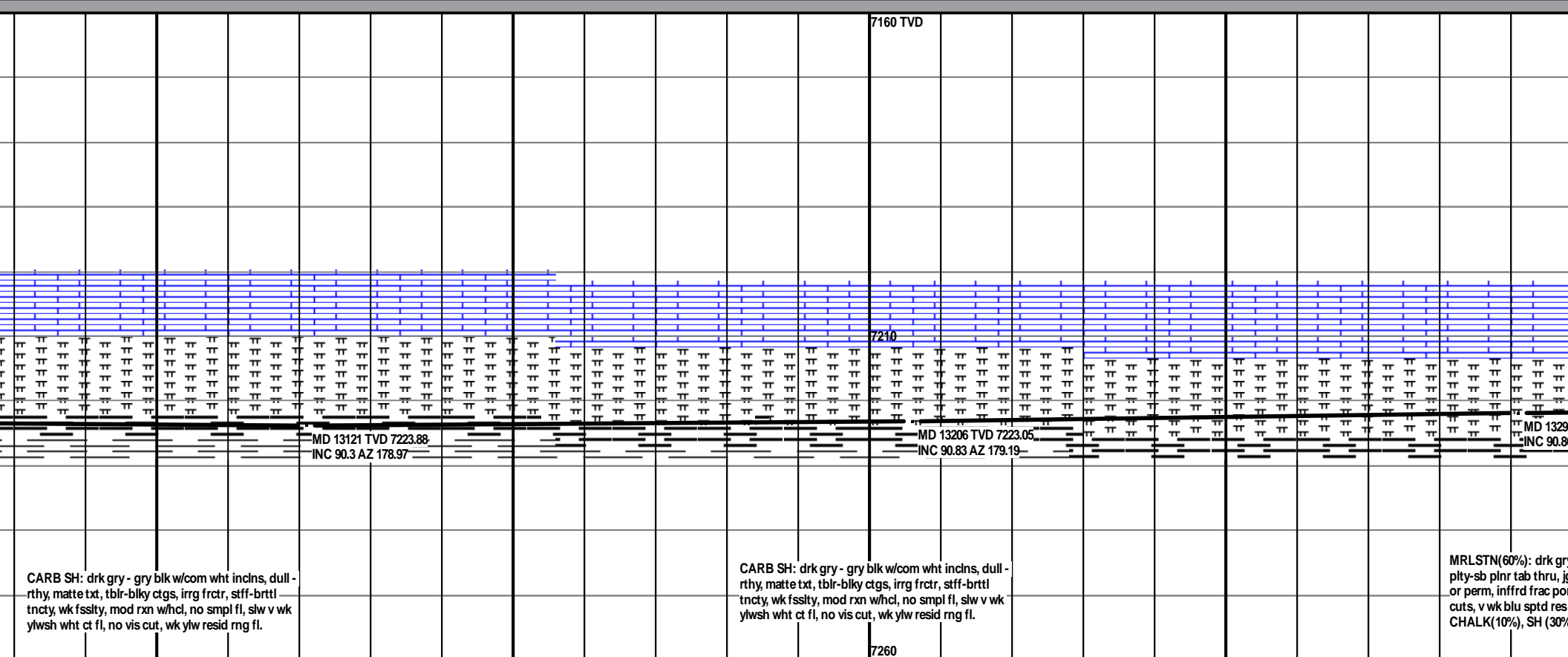
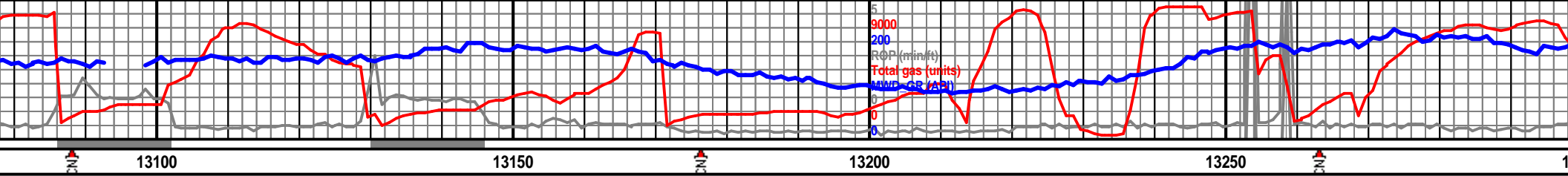


MRLSTN(90%): drk gry-sl gry blk, sbtrhy-sbwxy, pty-sb plnr tab thru, jggd, rr calct frac fil, no vis por or perm, inffrd frac por, no ini fl, v slw cldy blu-grn cuts, v wk blu sptd res rng, sl gasy odor, Tr CHALK(10%), Tr SH, Tr PYR, com bent

MRLSTN(90%): drk gry-sl gry blk, sbtrhy-sbwxy, pty-sb plnr tab thru, jggd, rr calct frac fil, no vis por or perm, inffrd frac por, no ini fl, v slw cldy blu-grn cuts, v wk blu sptd res rng, sl gasy odor, Tr CHALK(10%), Tr SH, Tr PYR, com bent



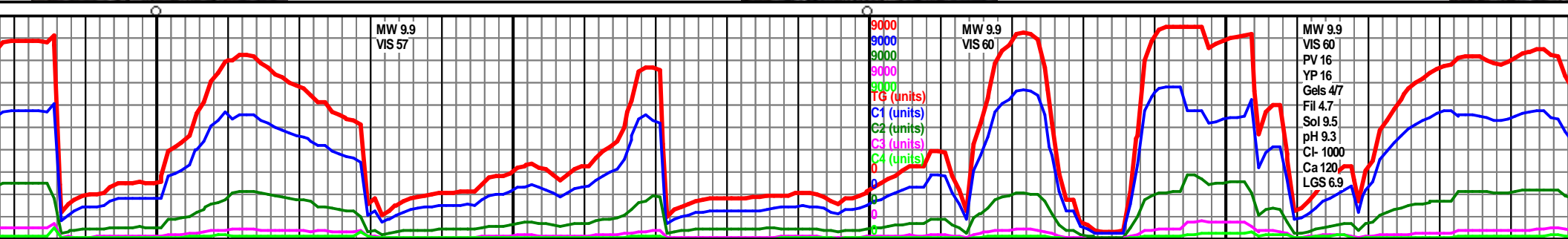


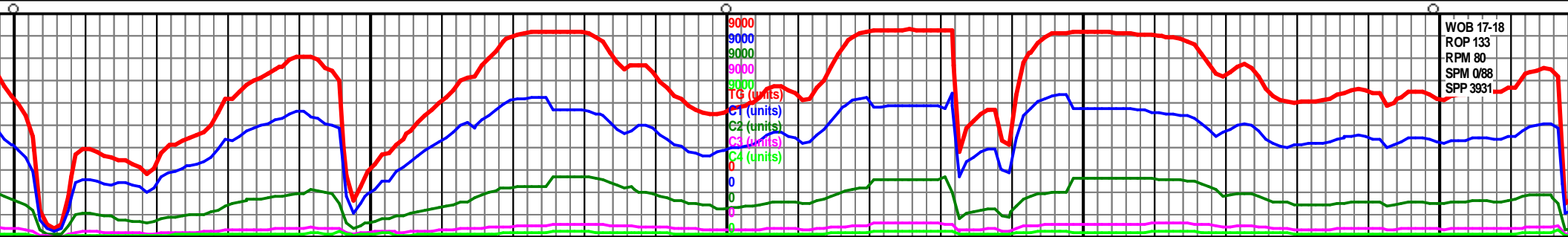
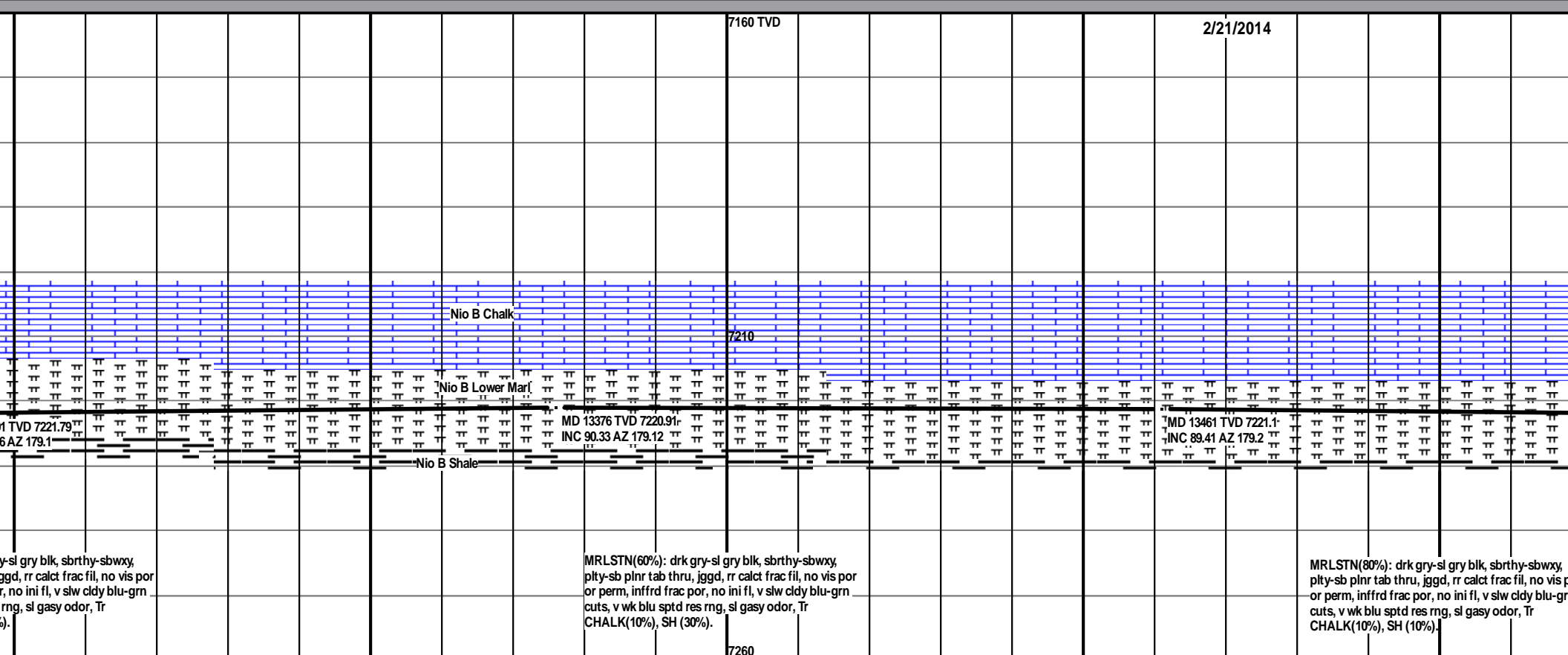
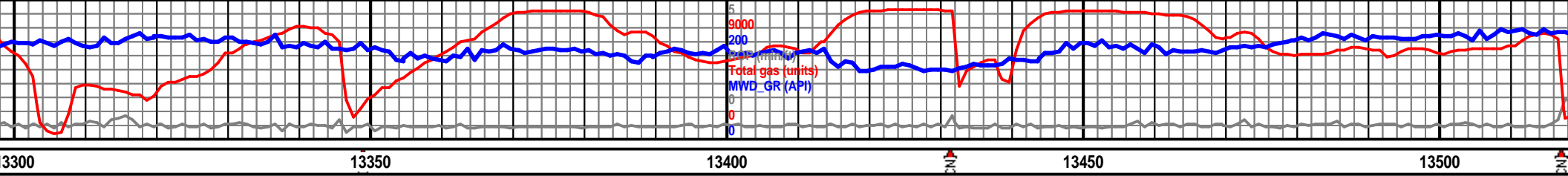


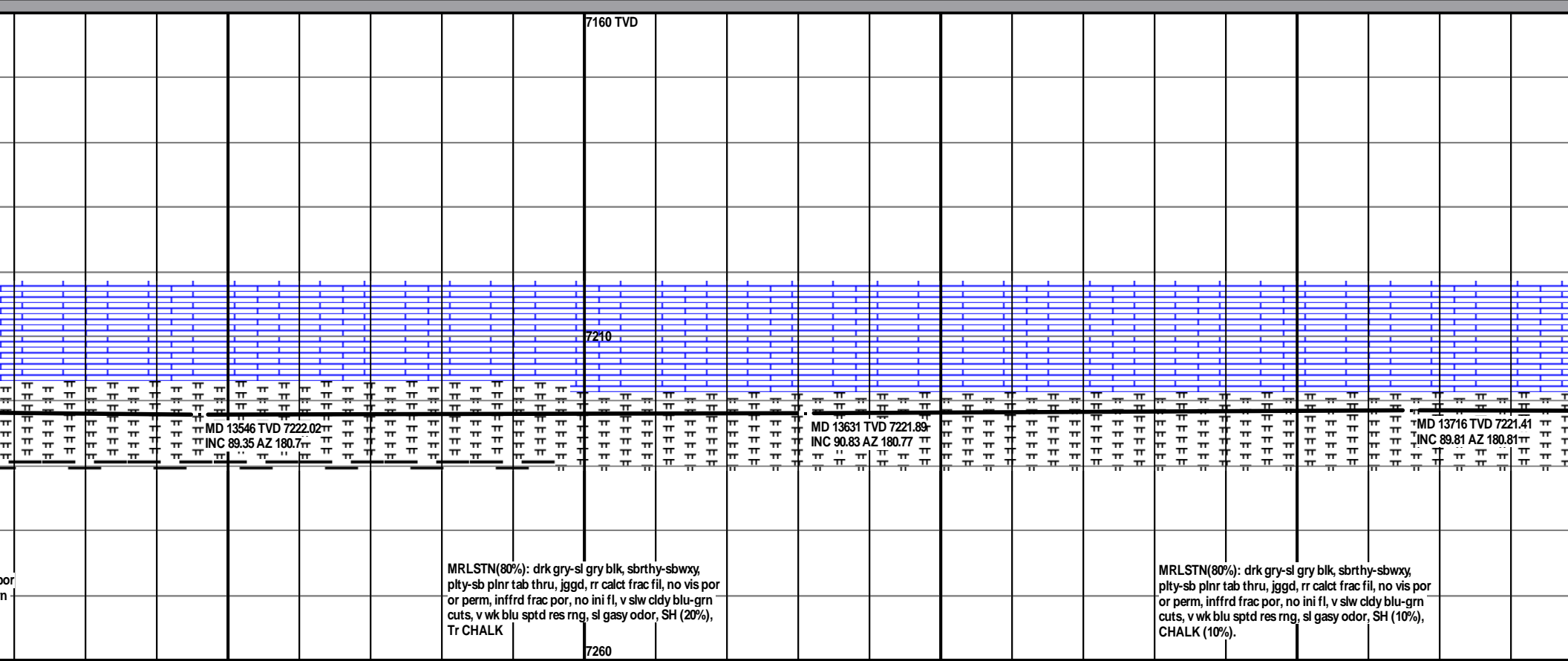
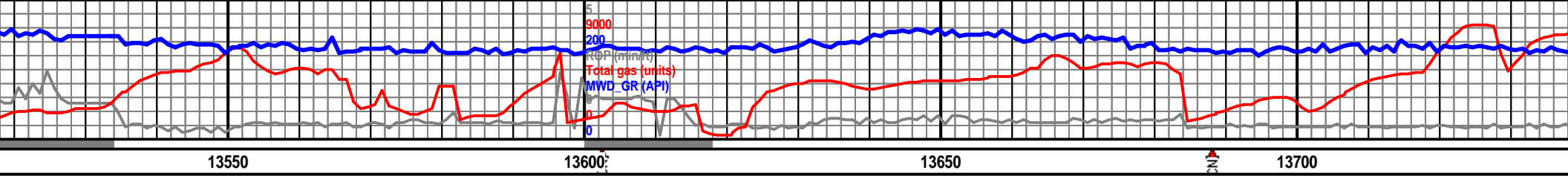
CARB SH: drk gry - gry blk w/com wht incns, dull - rthy, matte txt, tblr-blky ctgs, irrg frctr, stff-brttl tncy, wk fsslty, mod rxn w/hcl, no smpl fl, slw v wk ylwsh wht ct fl, no vis cut, wk ylw resid rng fl.

CARB SH: drk gry - gry blk w/com wht incns, dull - rthy, matte txt, tblr-blky ctgs, irrg frctr, stff-brttl tncy, wk fsslty, mod rxn w/hcl, no smpl fl, slw v wk ylwsh wht ct fl, no vis cut, wk ylw resid rng fl.

MRLSTN(60%): drk gr pty-sb plnr tab thru, j or perm, infrrd frac po cuts, v wk blu sptd res CHALK(10%), SH (30%)

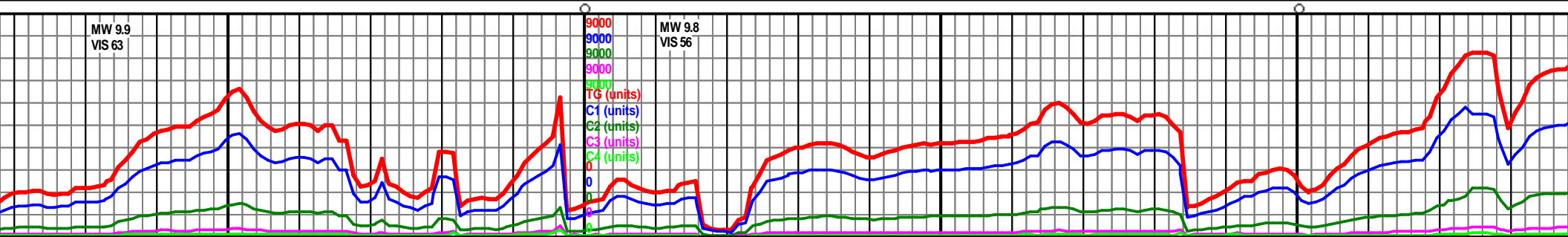






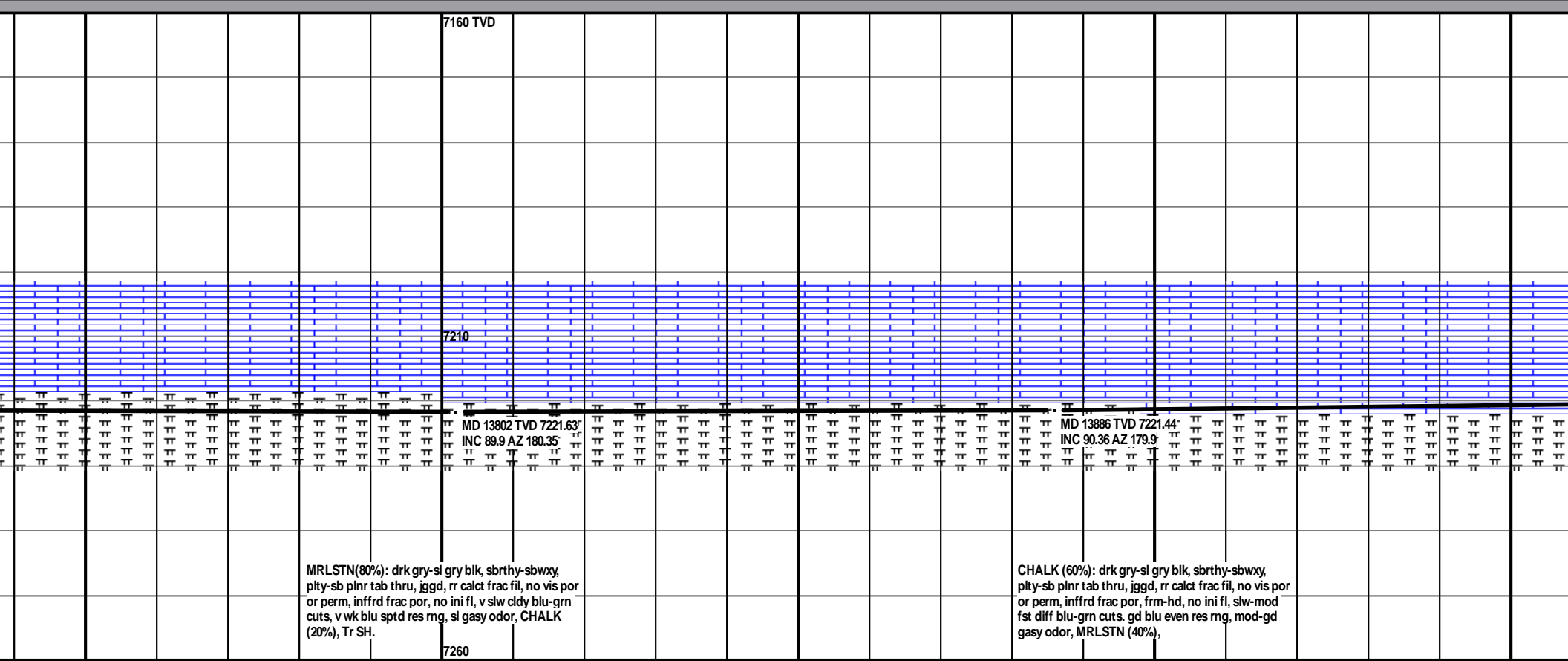
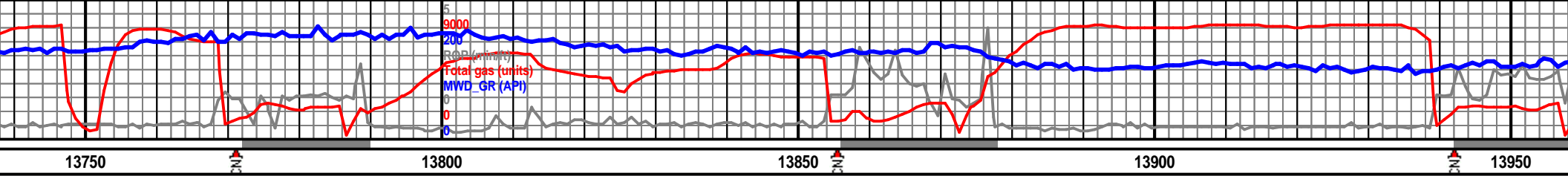
MRLSTN(80%): drk gry-sl gry blk, sbrthy-sbwxy, plty-sb plnr tab thru, jggd, rr calct frac fil, no vis por or perm, inffrd frac por, no ini fl, v slw cldy blu-grn cuts, v wk blu sptd res rng, sl gasy odor, SH (20%), Tr CHALK

MRLSTN(80%): drk gry-sl gry blk, sbrthy-sbwxy, plty-sb plnr tab thru, jggd, rr calct frac fil, no vis por or perm, inffrd frac por, no ini fl, v slw cldy blu-grn cuts, v wk blu sptd res rng, sl gasy odor, SH (10%), CHALK (10%).



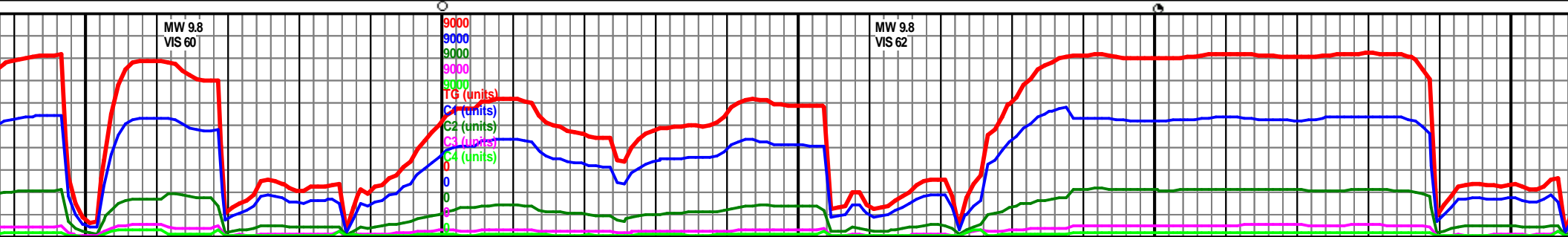
MW 9.9
VIS 63

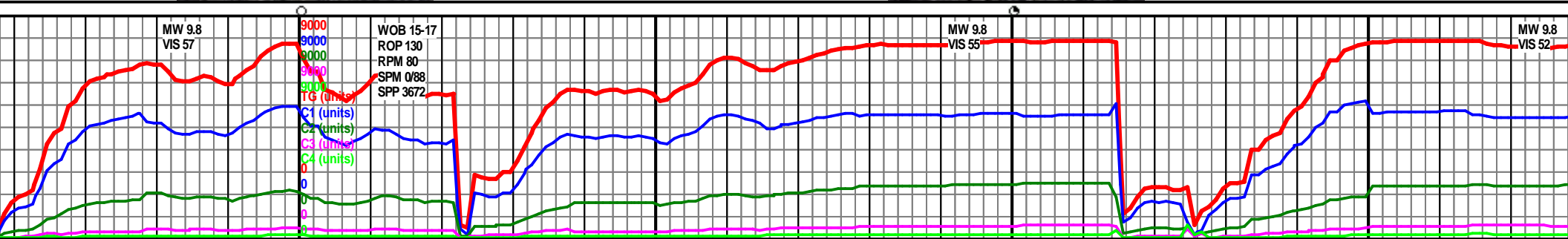
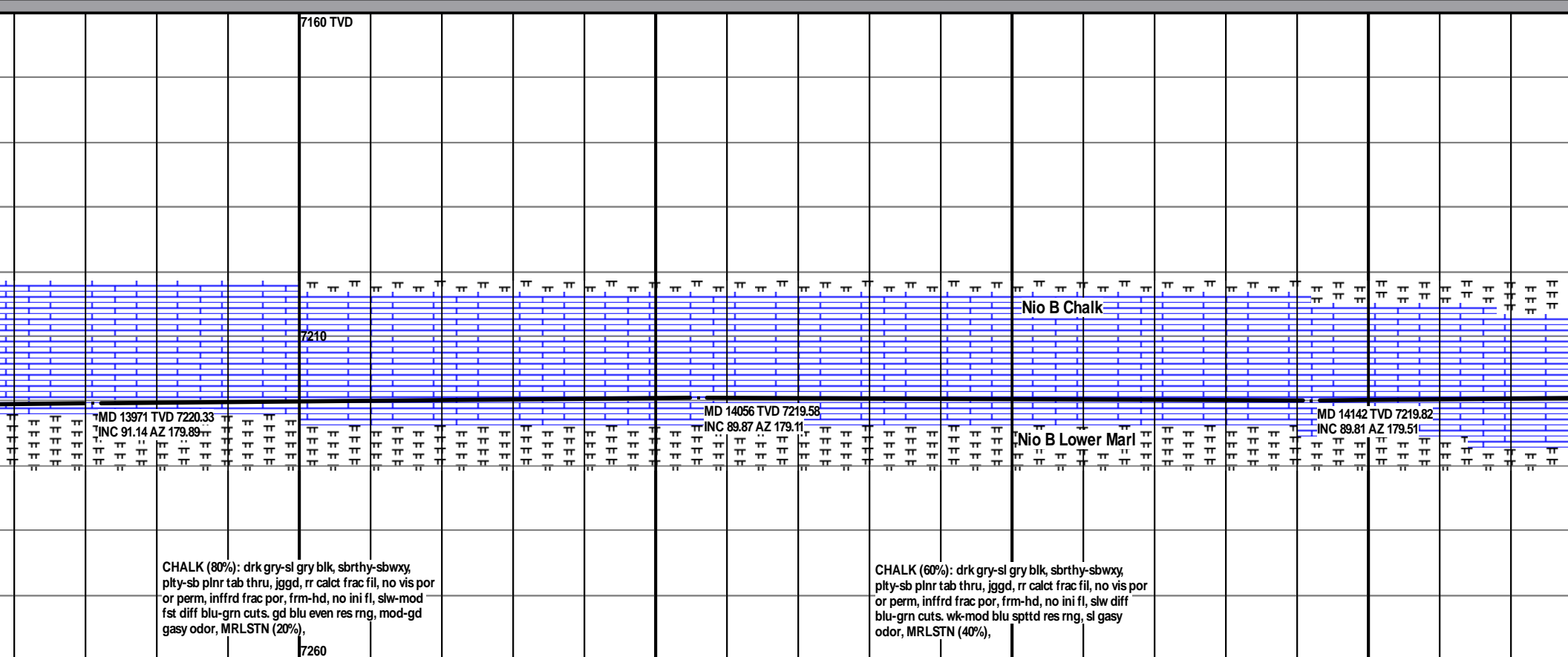
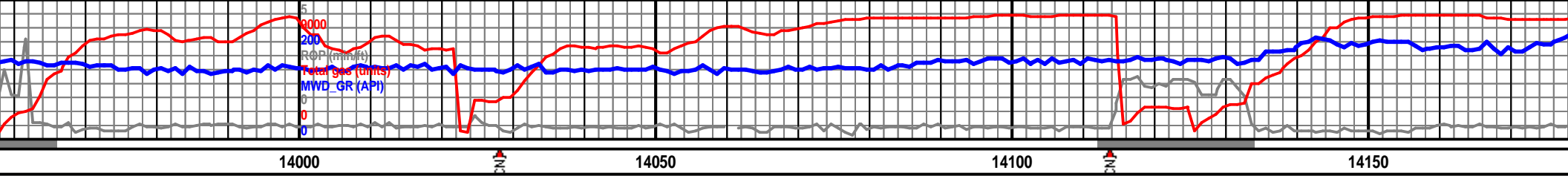
MW 9.8
VIS 56

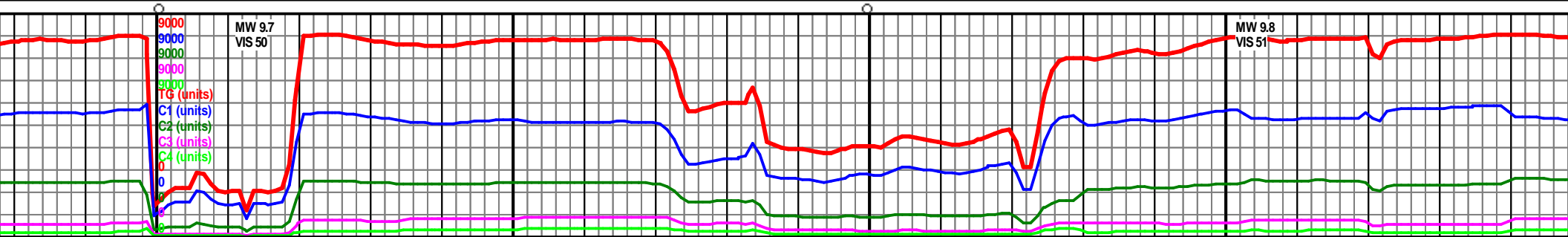
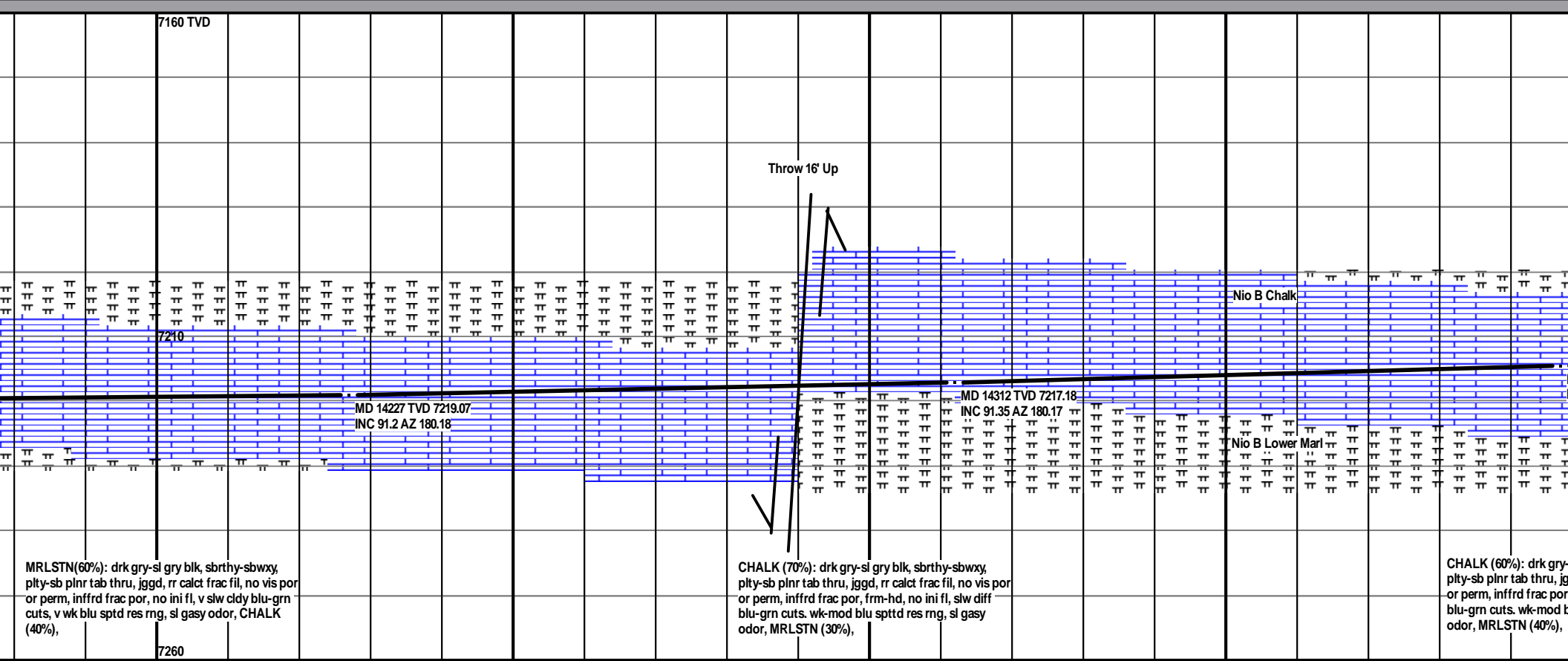
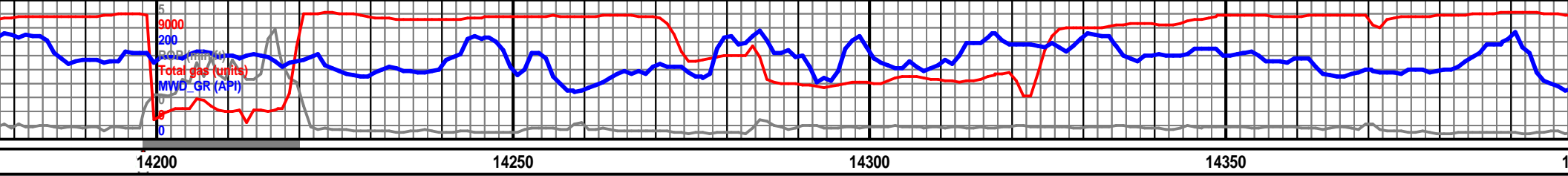


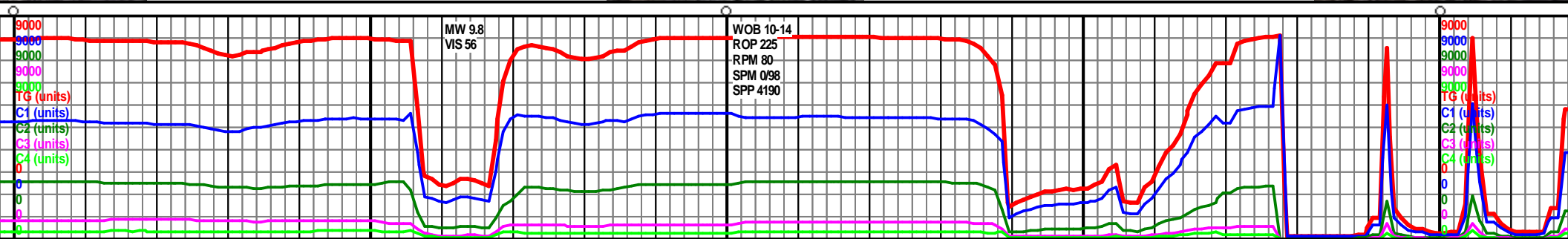
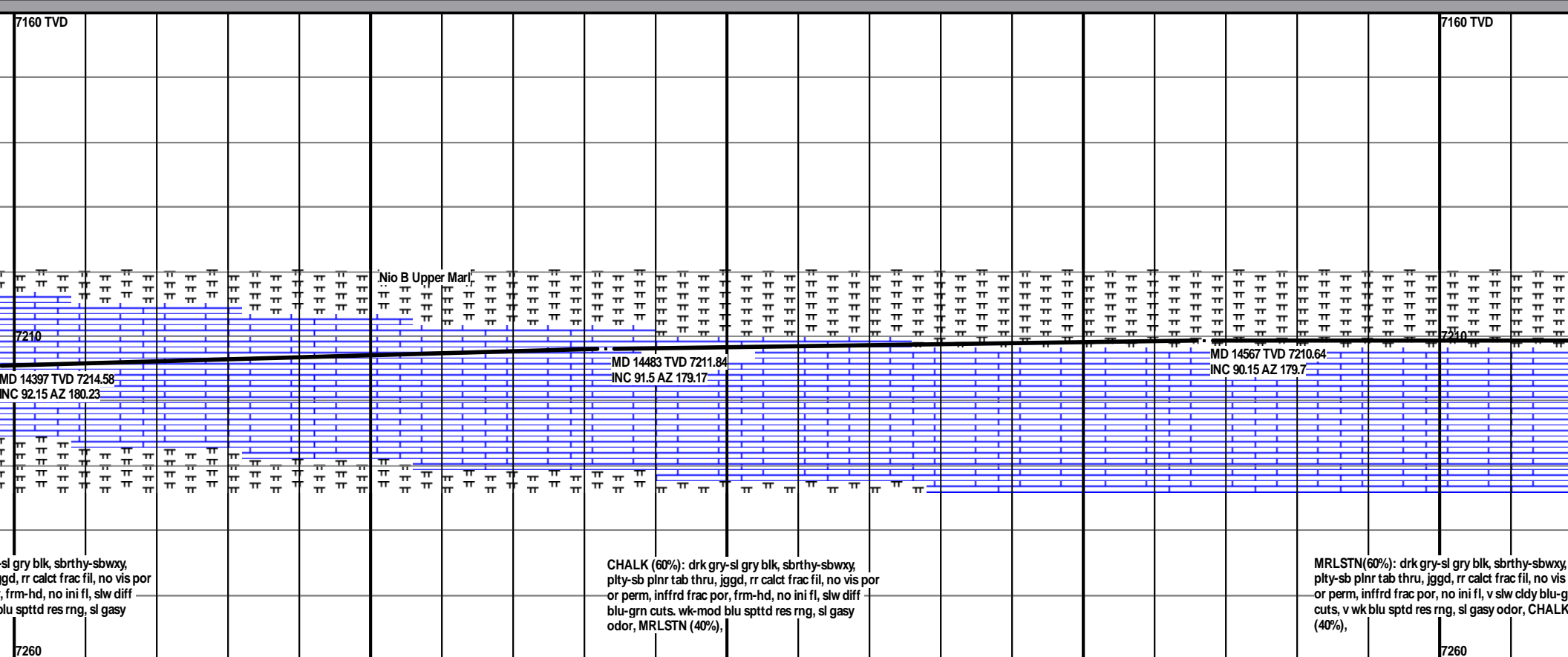
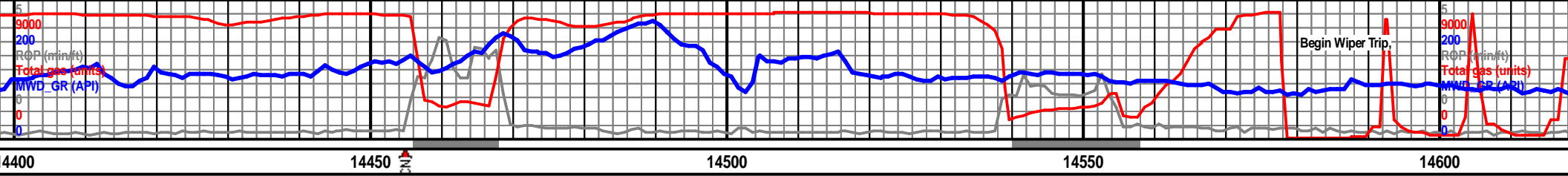
MRLSTN(80%): drk gry-sl gry blk, sbthy-sbwxy, ply-sb plnr tab thru, jggd, rr calct frac fil, no vis por or perm, inffrd frac por, no ini fl, v slw cldy blu-grn cuts, v wk blu sptd res rng, sl gasy odor, CHALK (20%), Tr SH.

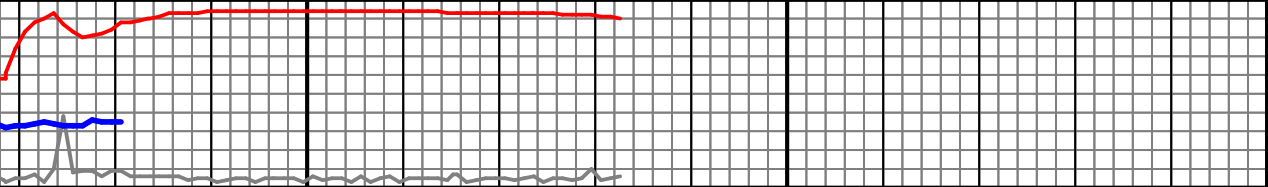
CHALK (60%): drk gry-sl gry blk, sbthy-sbwxy, ply-sb plnr tab thru, jggd, rr calct frac fil, no vis por or perm, inffrd frac por, frm-hd, no ini fl, slw-mod fst diff blu-grn cuts. gd blu even res rng, mod-gd gasy odor, MRLSTN (40%),











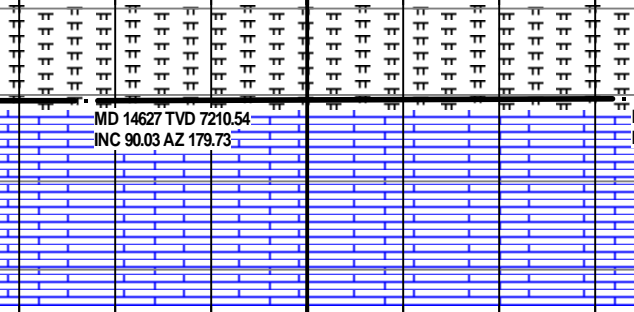
14650

14700

147

DMTD reached @ 22:15 hrs on Feb 21, 2014

Short Trip @ 14,683' DMTD, condition
hole, hang 4 1/2" production liner.
Landed @ 14,668'. OB #2, Drld 7,007'
in 63hrs, ave ROP 111 ft/hr.



MD 14627 TVD 7210.54
INC 90.03 AZ 179.73

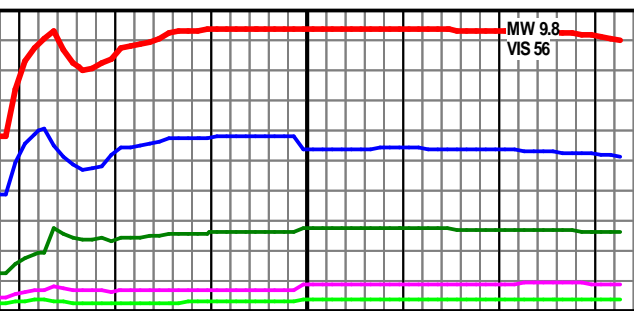
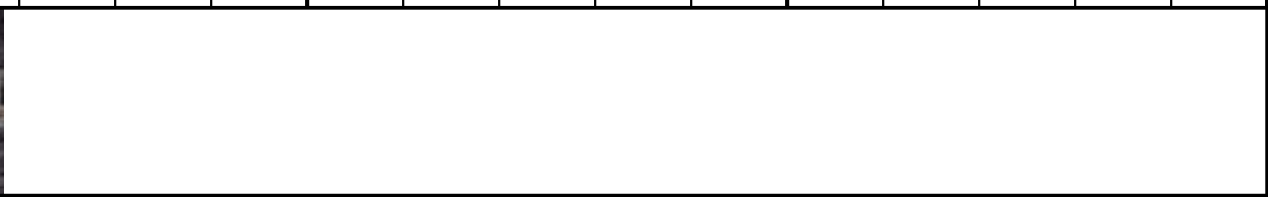
Projected Survey
MD 14683 TVD 7210.51
INC 90.03 AZ 179.73

Formation Top Picks by John Morgan,
Anadarko

Sharon Springs	7,166' (-2,108')
Niobrara A	7,301' (-2,188')
Niobrara B Chalk	7,409' (-2,236')
DMTD	14,683'
Production csg	14,668'

Wellsite Geologists Andrew Krueger, Ian Harris,
& Shelton Davis; Goolsby Brothers &
Associates.

por
rn
'



MW 9.8
VIS 56