

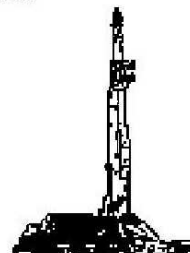
GOOLSBY BROTHERS and associates, inc.

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: NRC 3C-8HZ
Well Id:
Location: Sec. 4 T1N R67W Weld County, CO.
License Number: API:0512338945 AFE: 2085765 Region: Wattenberg
Spud Date: March 25th, 2014 Drilling Completed: March 30th, 2014
Surface Coordinates: 350' FSL, 1980' FWL
Lat. 40.0715880, Lon. -104.9164580, Sec.4, T1N R67W
Bottom Hole x' FNL, xxx' FWL
Coordinates: Sec. x, TxNRxxW
Ground Elevation (ft): 5052' K.B. Elevation (ft): 5077'
Logged Interval (ft): 7100' To: 12929' Total Depth (ft): 12929'
Formation: Codell
Type of Drilling Fluid: LSND (Polymer-Water)
Printed by HORIZONTAL.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Anadarko Petroleum Corporation
Address: Granite Tower - 1099 18th St, Ste 1800
Denver, CO 80202
CO Geologist, Tom Birmingham.

GEOLOGIST

Name: Hank McCroskey, George Bezan
Company: Goolsby Brothers & Assoc. (GBA), Inc. (www.goolsbybrothers.com)
Address: 575 Union Blvd.
Suite 208,
Lakewood CO. 80228

E-logs

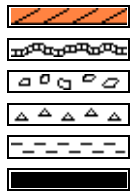
Casing

Intermediate casing: 7", 26#, HTC 110 LTC, set at xxx'

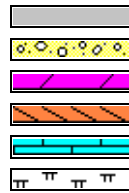
Liner: 4 1/2", packer and assembly, 11.5#, HCP 110, LTC & D2X, set at xxx'

Comments

ROCK TYPES



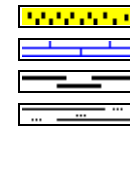
Anhy
Bent
Brec
Cht
Clyst
Coal



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
 Breclfrag
 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
 Slststrg
 Ssstrg

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

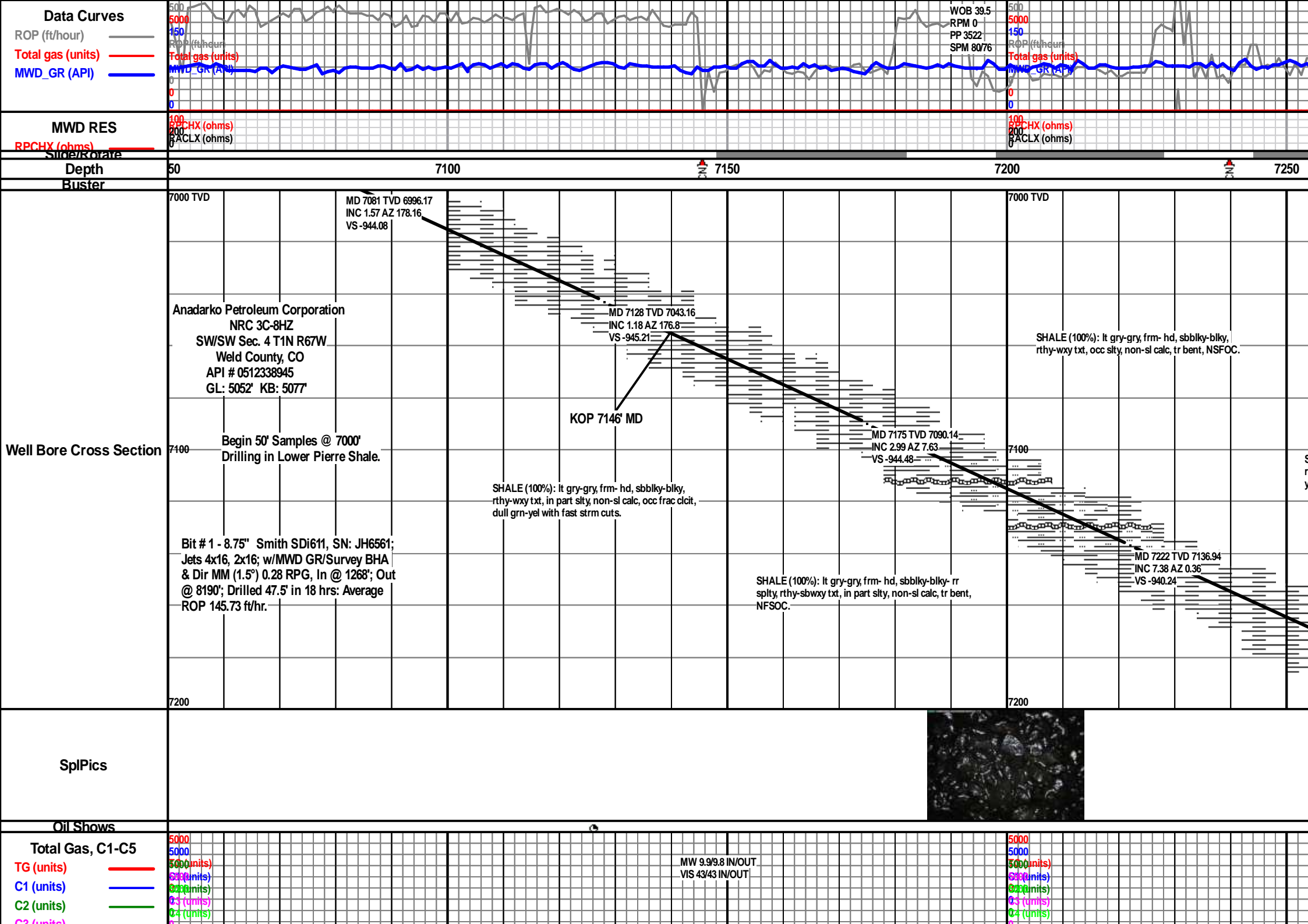
ROUNDING

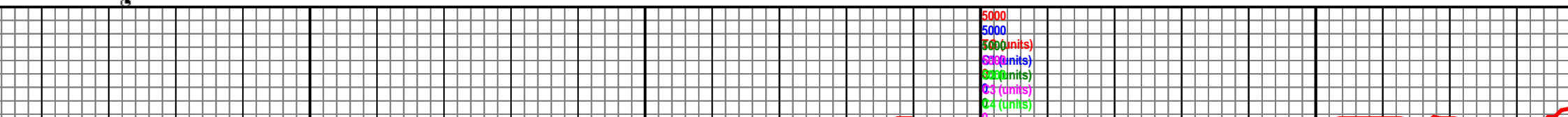
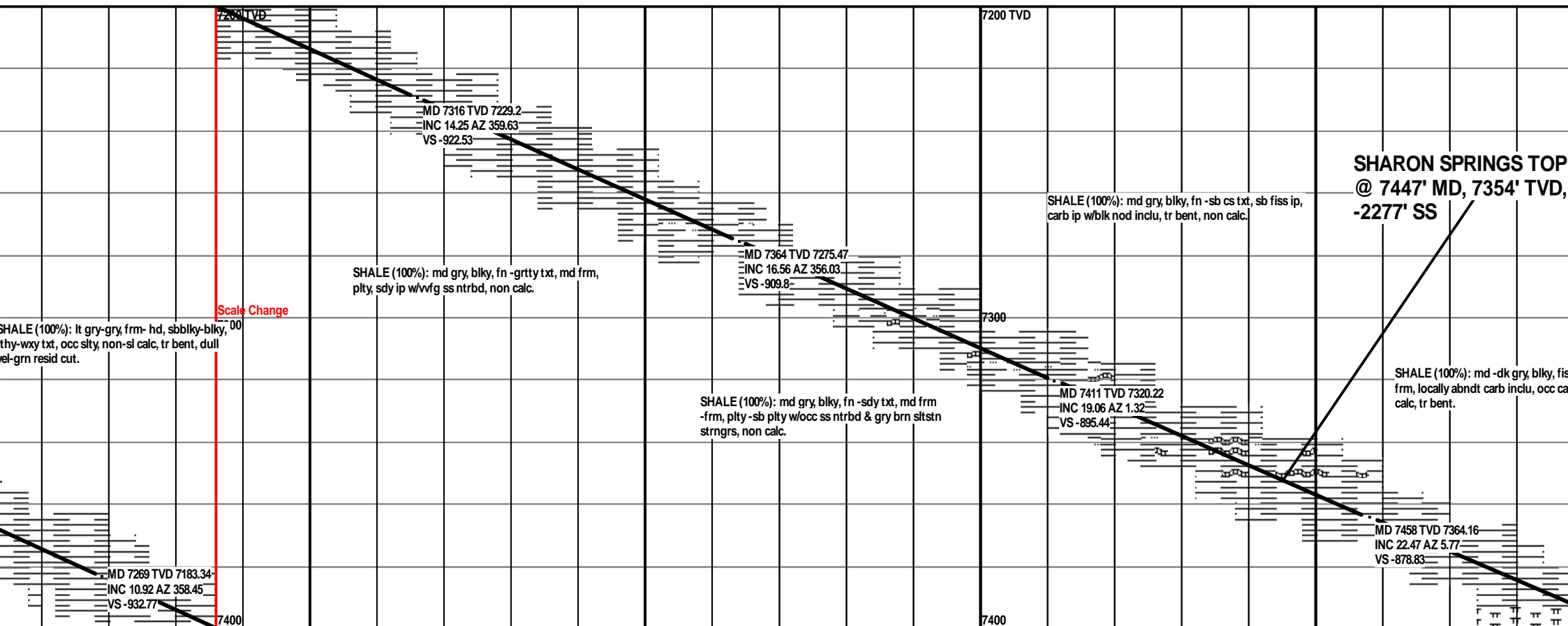
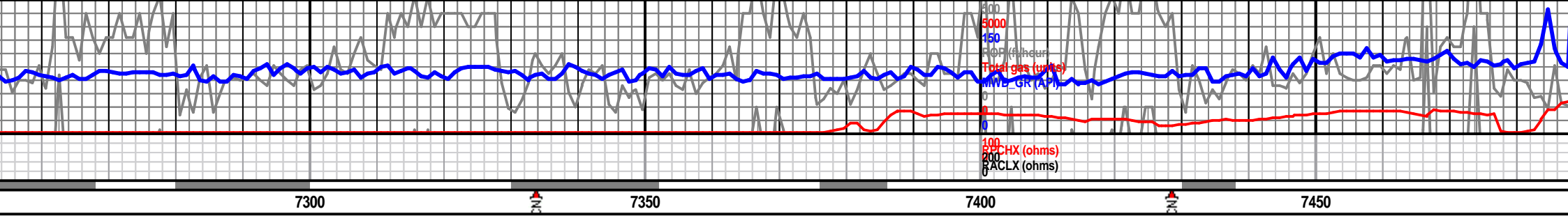
Rounded
 Subrnd
 Subang

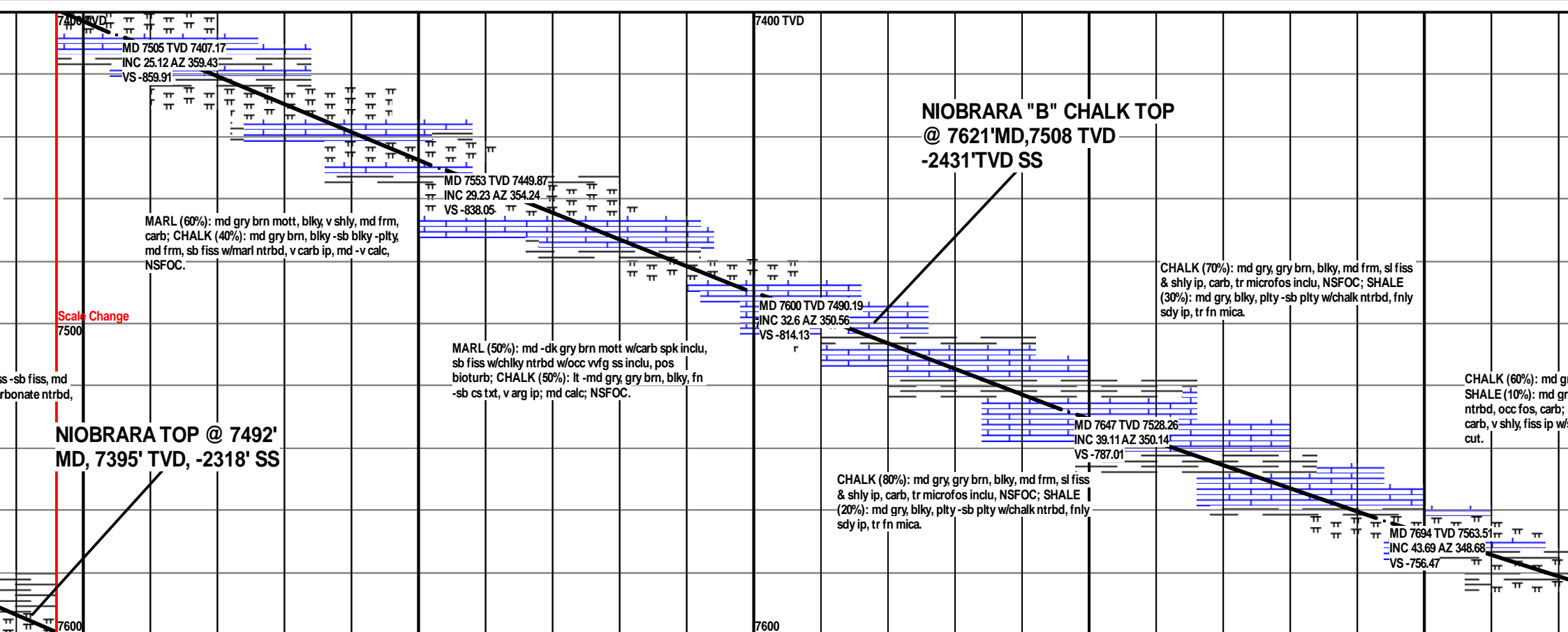
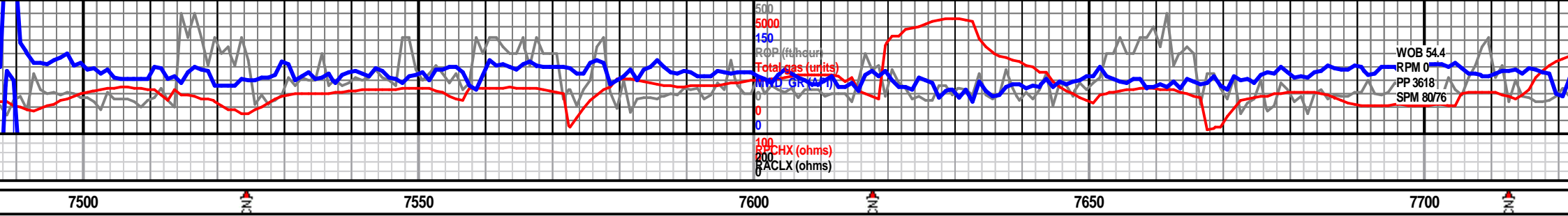
Angular

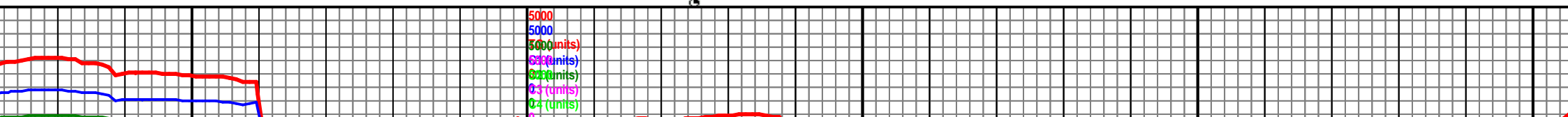
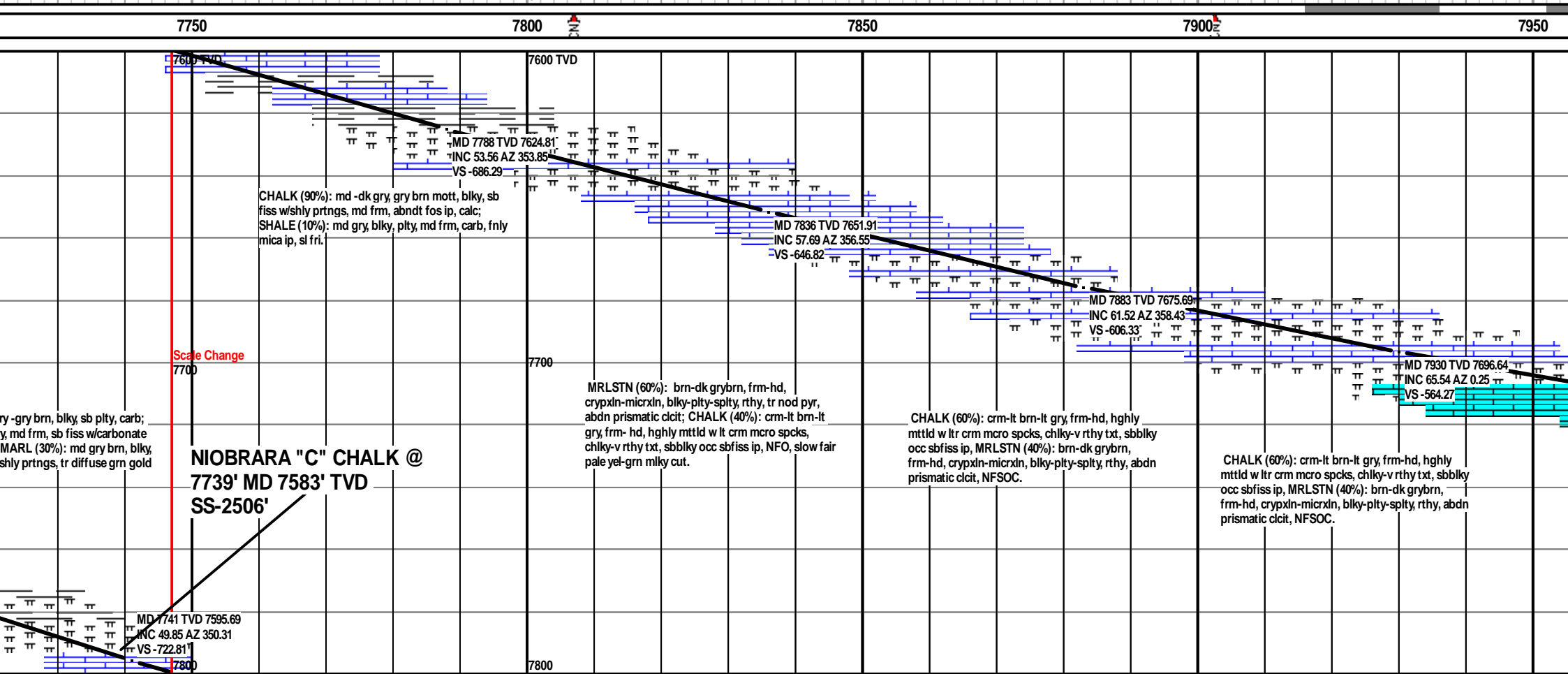
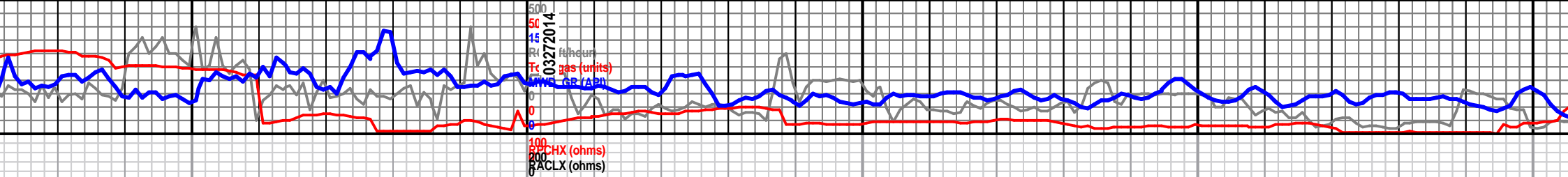
SORTING

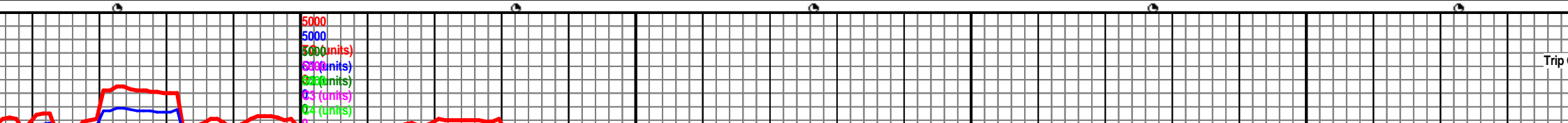
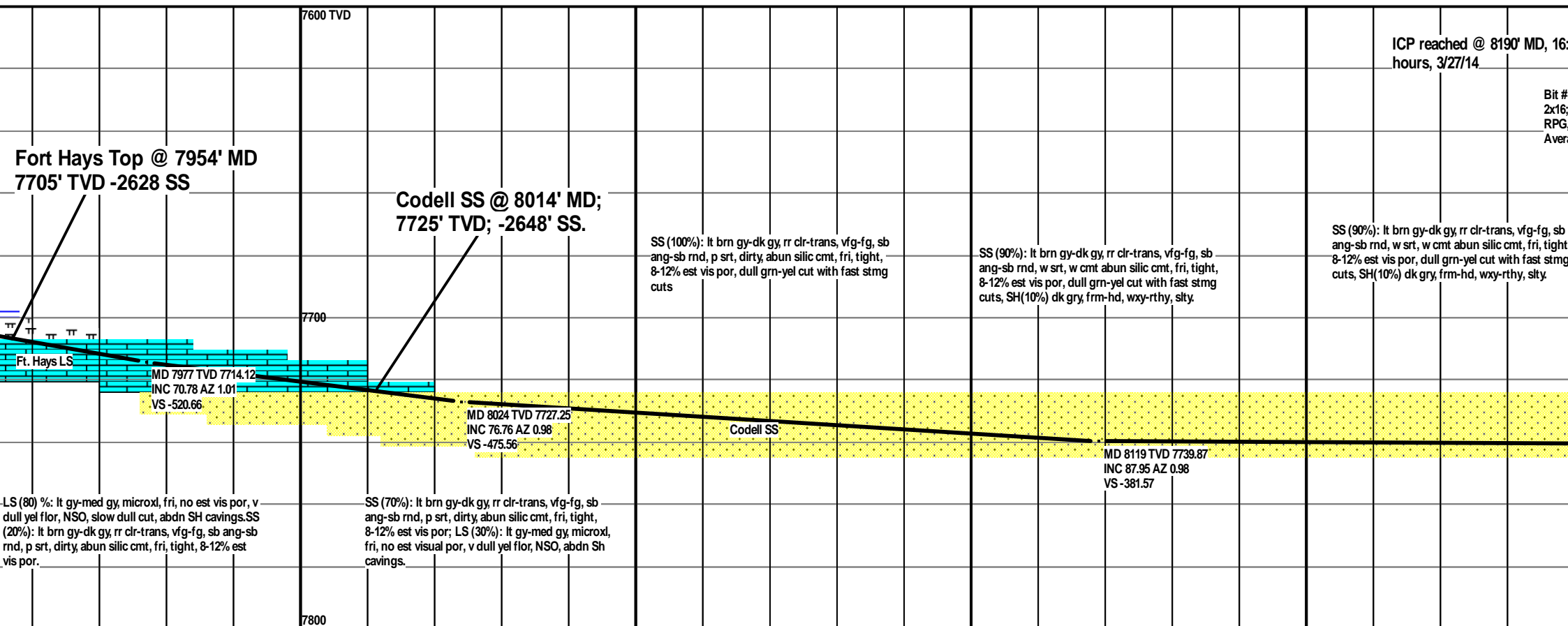
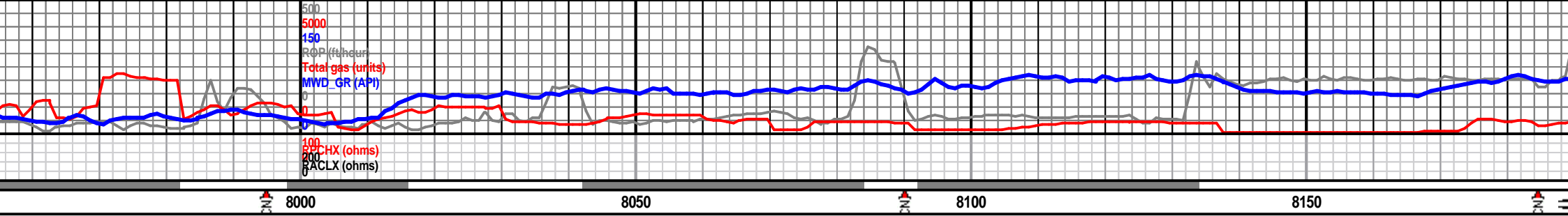
Well
 Moderate
 Poor

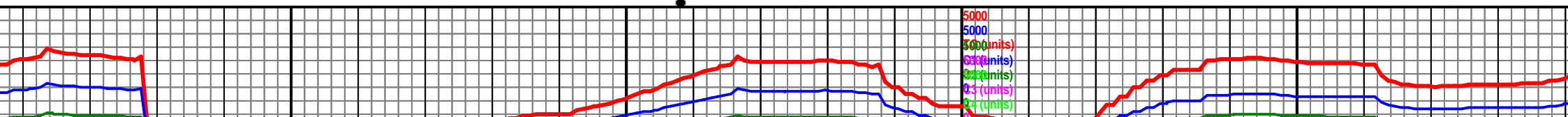
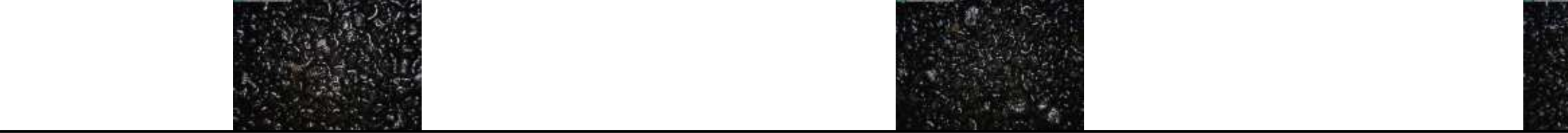
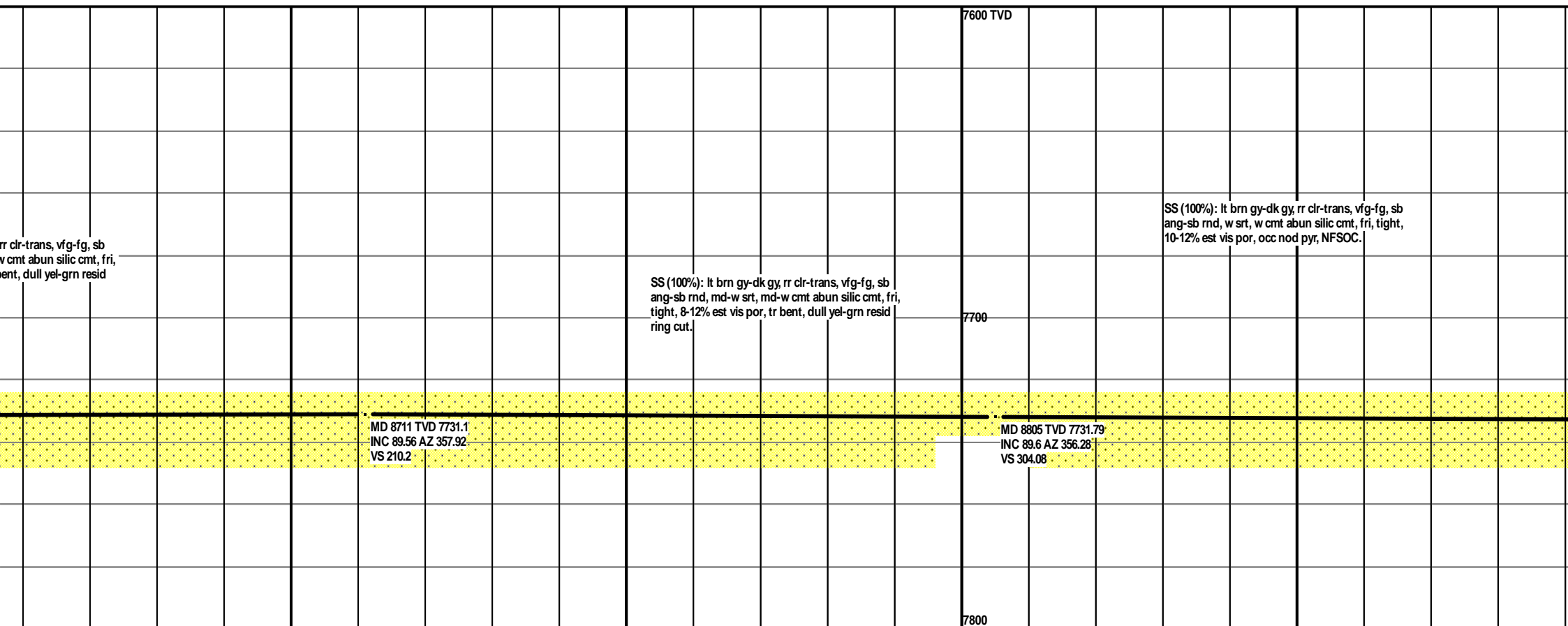
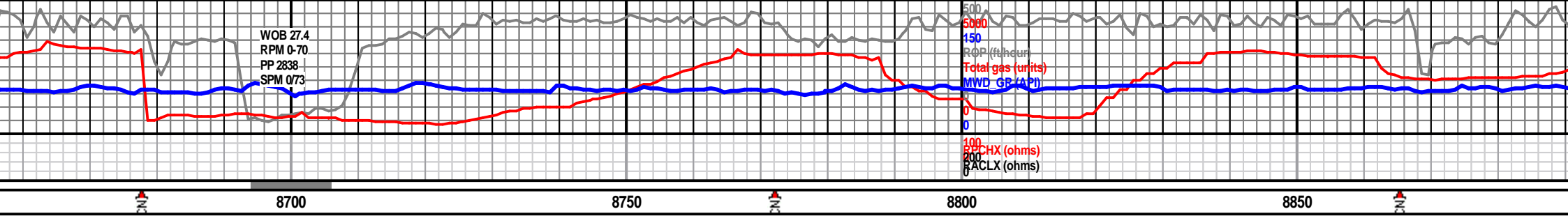


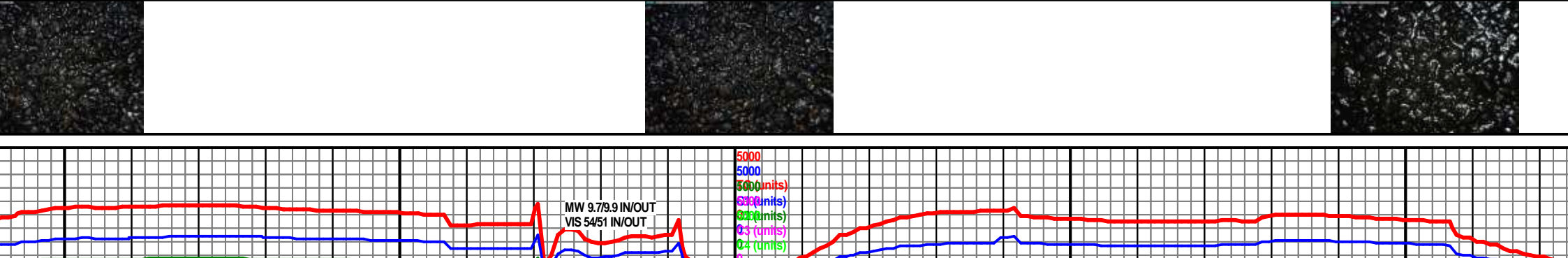
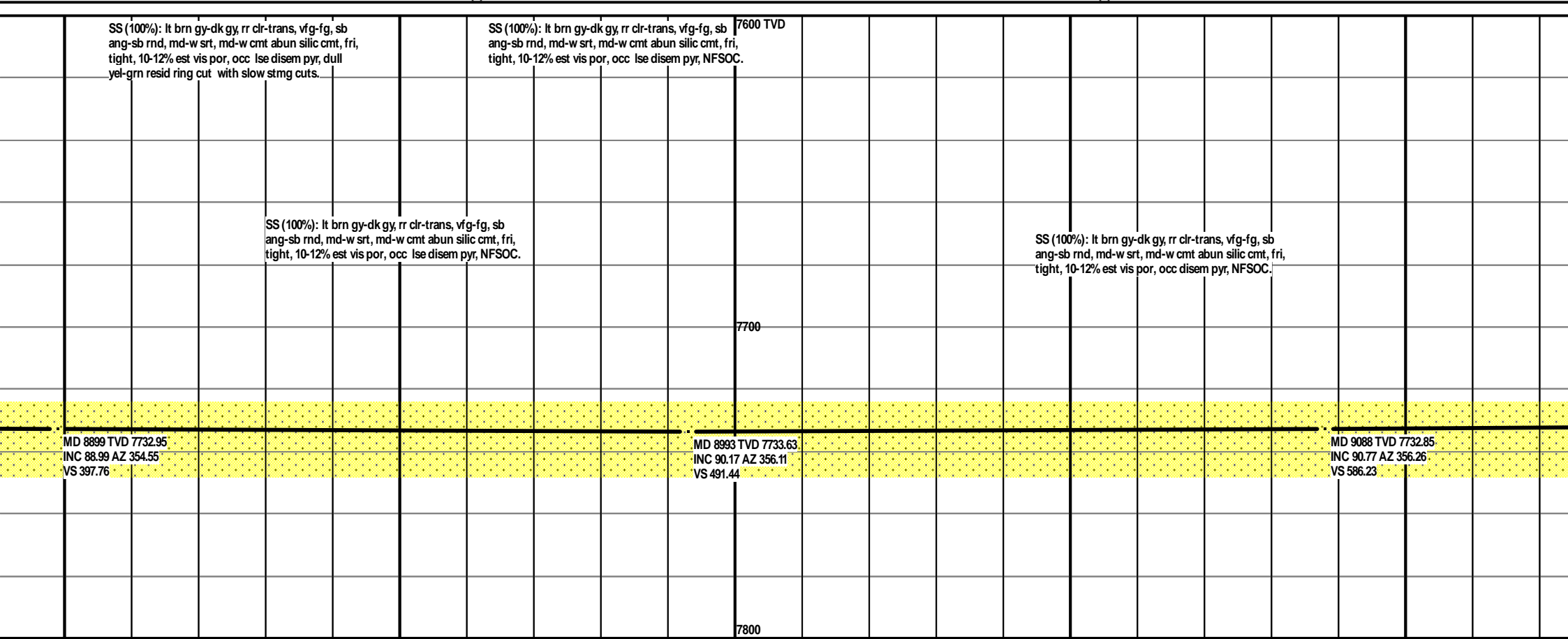


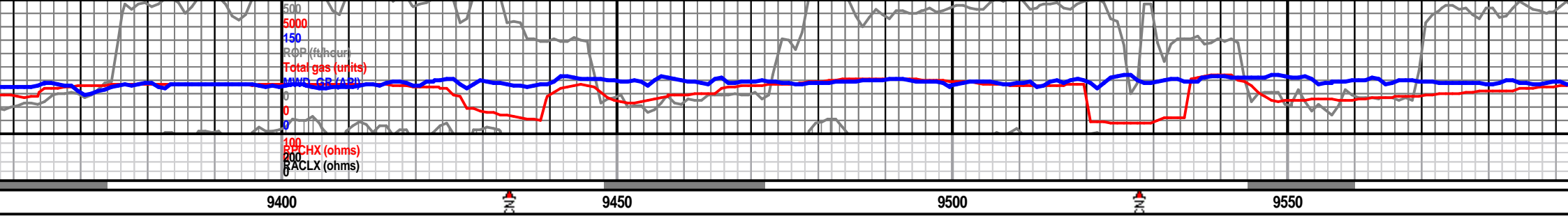




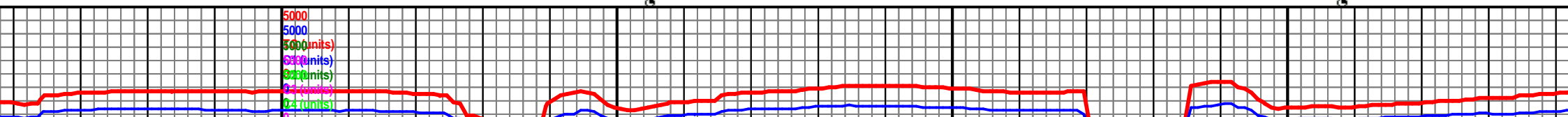


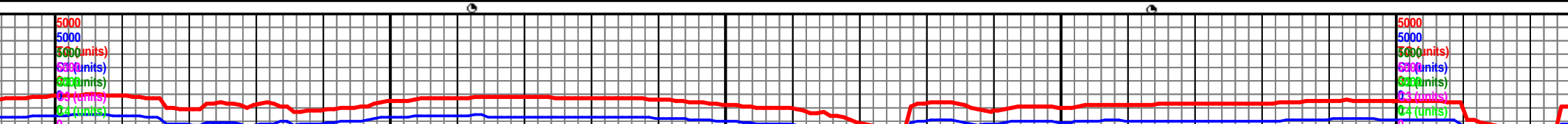
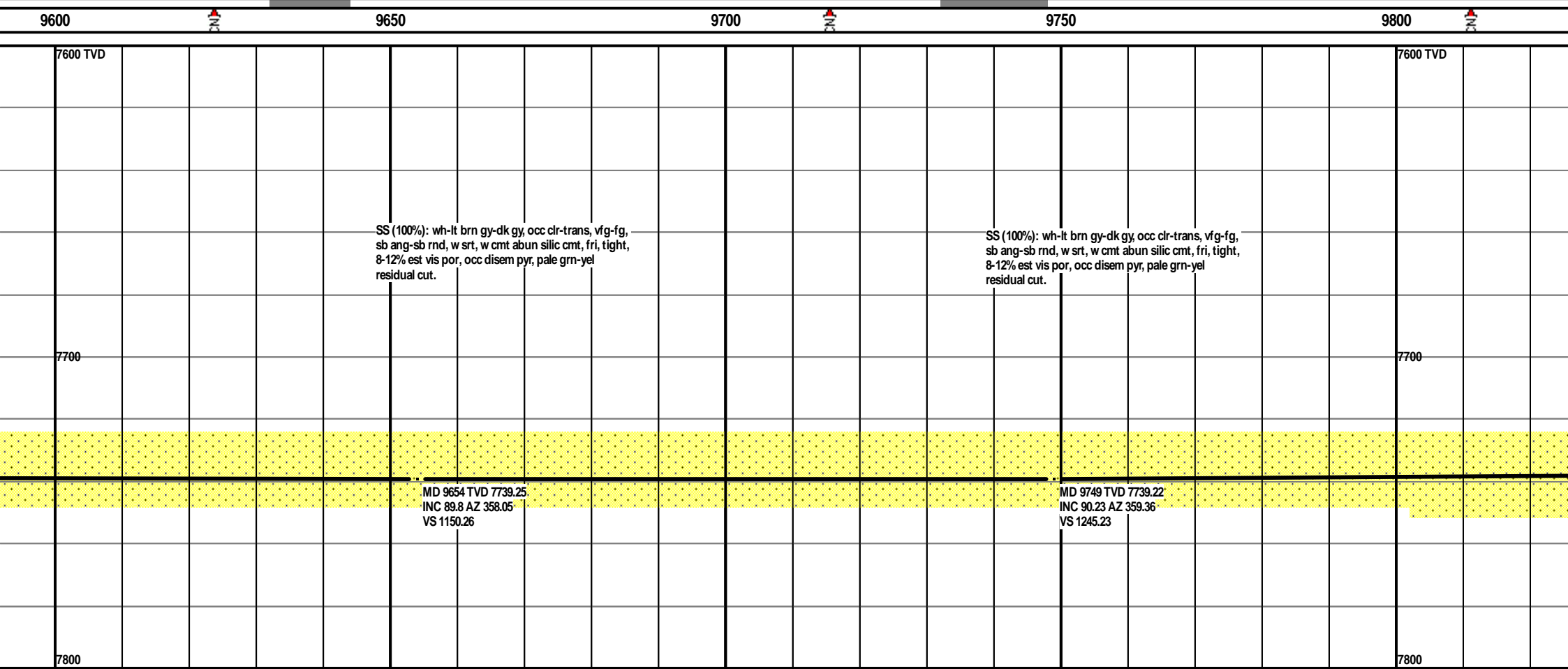
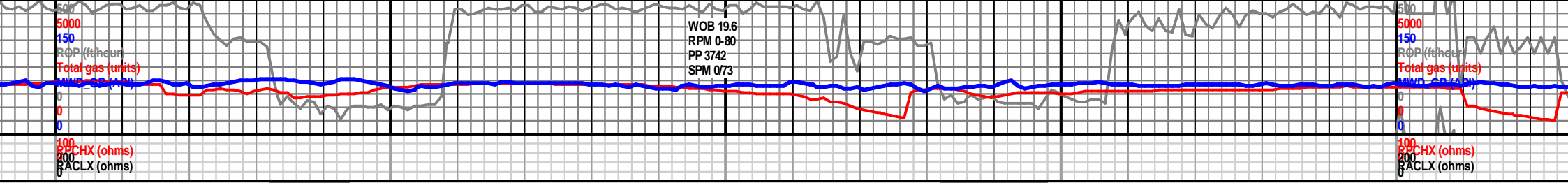


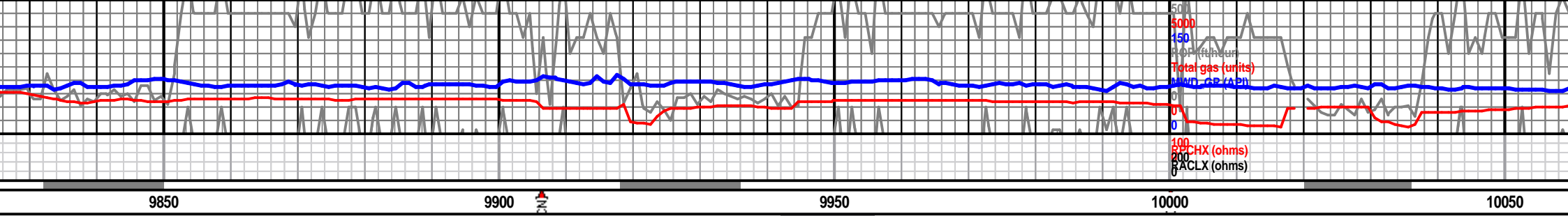




7600 TVD																			
k gy, occ clr-trans, vfg-fg, md cmt abun silic cmt, fri, occ disem pyr, NFSOC.										SS (100%): wh-lt brn gy-dk gy, occ clr-trans, vfg-fg, sb ang-sb rnd, w srt, w cmt abun silic cmt, fri, tight, 8-12% est vis por, occ disem pyr, pale grn-yel residual cut.									
7700																			
MD 9371 TVD 7734.18 INC 88.22 AZ 354.19 VS 868										MD 9466 TVD 7736.99 INC 88.39 AZ 355.6 VS 962.58									
										MD 9560 TVD 7738.7 INC 89.53 AZ 356.77 VS 1056.36									
7800																			







SAND (100%): clr, frstd, fn gr, sb ang, md -wl srt'd,
md cons w/dk gry-blk, carb mtz, tr felds xtls,
approx. 8% por, tr dull grn fluor, pale yel, slow cut.

SAND (100%): clr, frstd, fn gr, sb ang, md -wl srt'd,
md cons w/dk gry-blk, carb mtz, tr felds xtls,
approx. 8% por, tr dull grn fluor, pale yel, slow cut;
tr SHALE: md gry-blk, fn -grtty txt, brittl, md frm.

SAND (95%): clr, frstd, fn gr, sb ang, md -wl srt'd,
md cons w/dk gry mott wht, carb mtz, tr felds xtls,
inclu, v shly ip grading occ ntr
SHALE; tr md brn siltstn; scat
gold cut w/faint residue.

7600 TVD

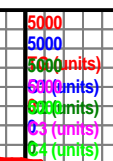
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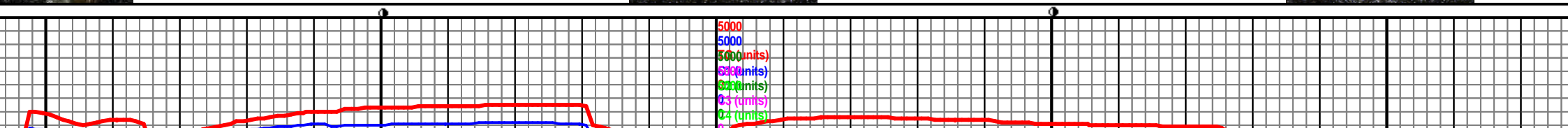
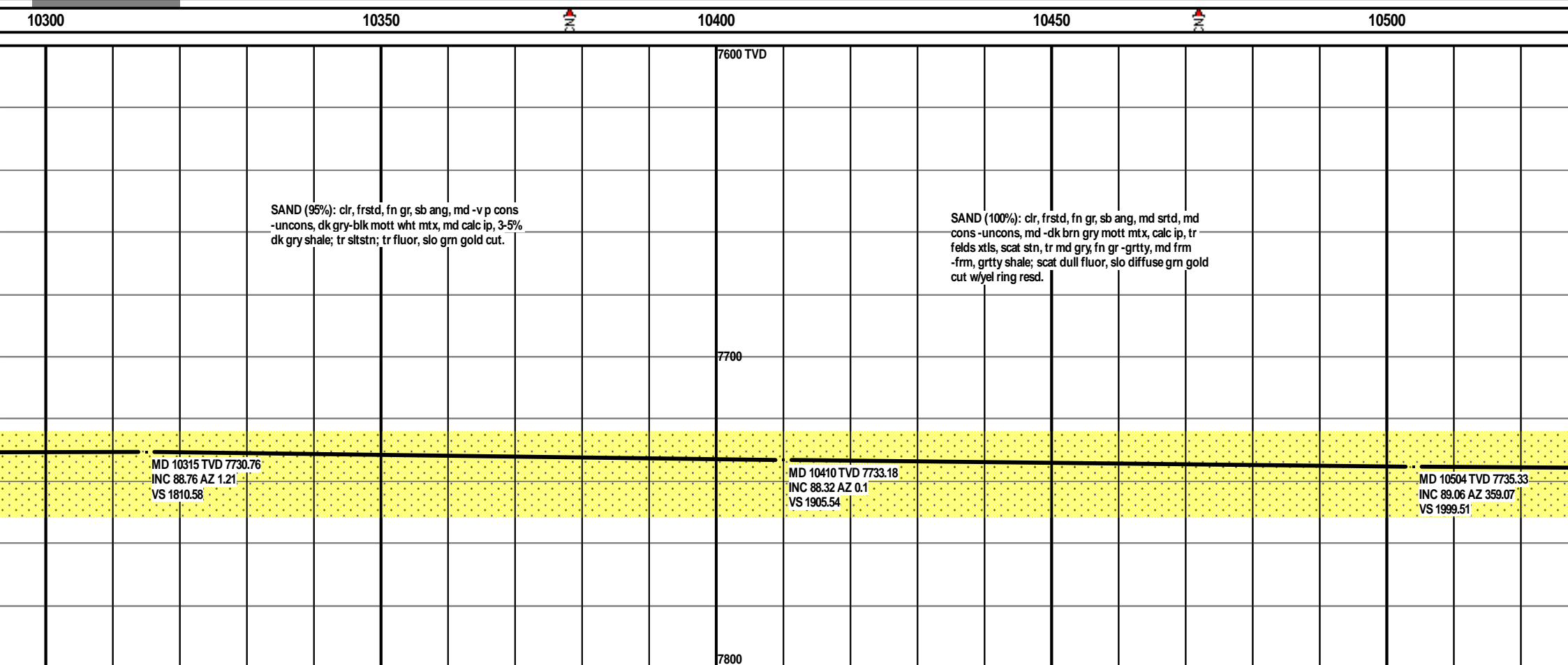
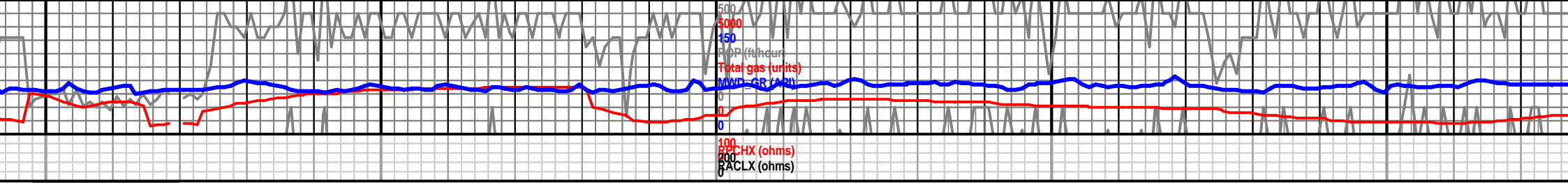
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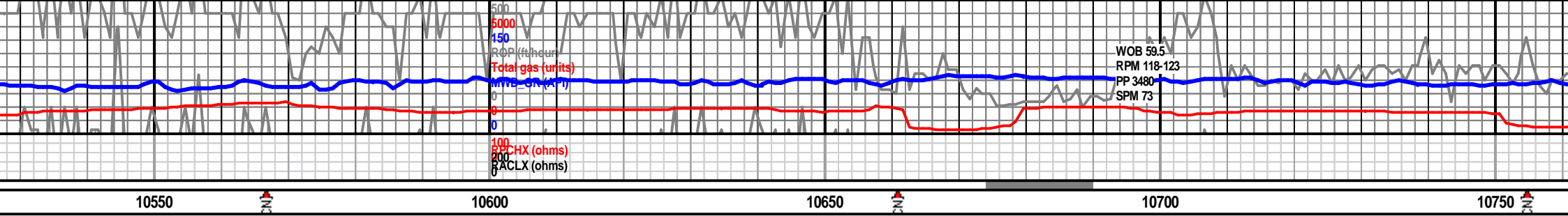
MD 9843 TVD 7738.07
INC 91.17 AZ 0.39
VS 1339.22

MD 9938 TVD 7735.76
INC 91.61 AZ 2.36
VS 1434.16

MD 10032 TVD 7733.94
INC 90.6 AZ 3.96
VS 1528







SAND (95%): clr, frstd, fn gr, sb ang, md srted, md cons w/dk gry -blk, carb mtX w/scat stn, tr felds xtlS; SHALE (5%): dk gry -blk, flky, sb plty, frm, brittl, grtty; tr dull fluor w/solv, p diffuse grn gold cut w/yel resd.

SAND (95%): clr, frstd, fn gr, sb ang, md srted, md cons -uncons w/dk gry -blk, carb mtX w/scat stn, tr felds xtlS; SHALE (5%): dk gry -blk, flky, sb plty, frm, brittl, grtty; tr md brn sltstn; tr dull fluor w/solv, p diffuse grn gold cut w/yel resd.

SAND (95%): clr, frstd, fn gr, sb ang, md cons -uncons w/dk gry -blk, carb mtX w/scat stn, tr felds xtlS; SLTSTN (5%): non calc; tr free calcite, tr dk gry sha w/solv, p diffuse grn gold cut w/yel resd.

7600 TVD

7700

MD 10599 TVD 7736.58
INC 89.43 AZ 358.2
VS 2094.47

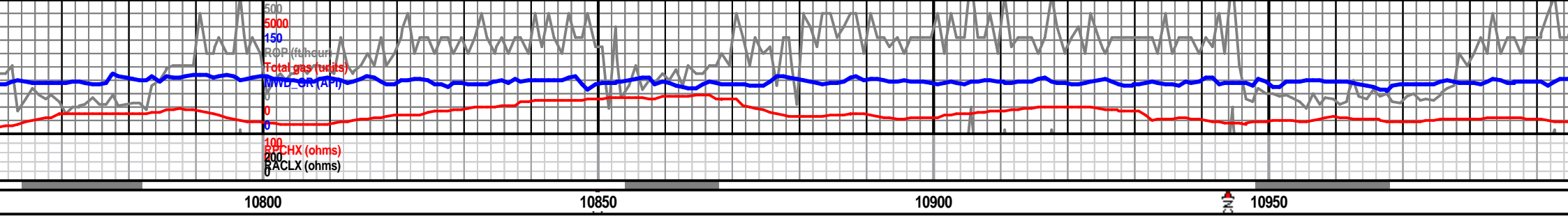
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MD 10693 TVD 7737.41
INC 89.56 AZ 359.27
VS 2188.44

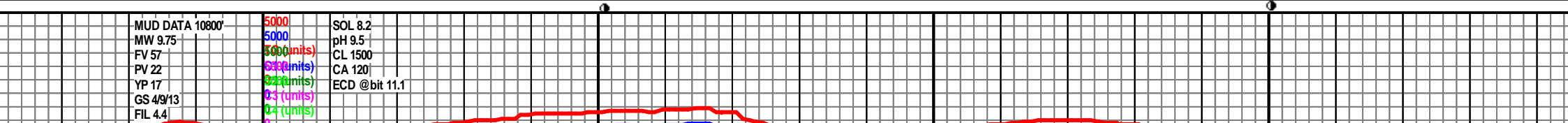
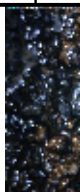


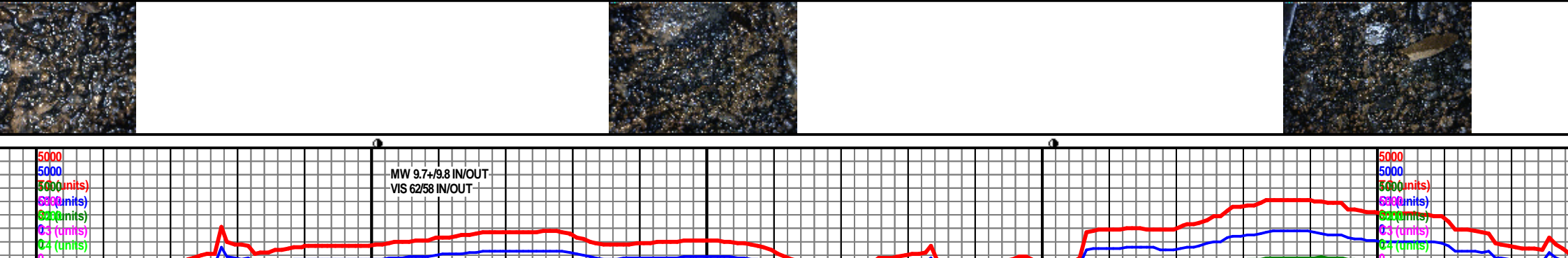
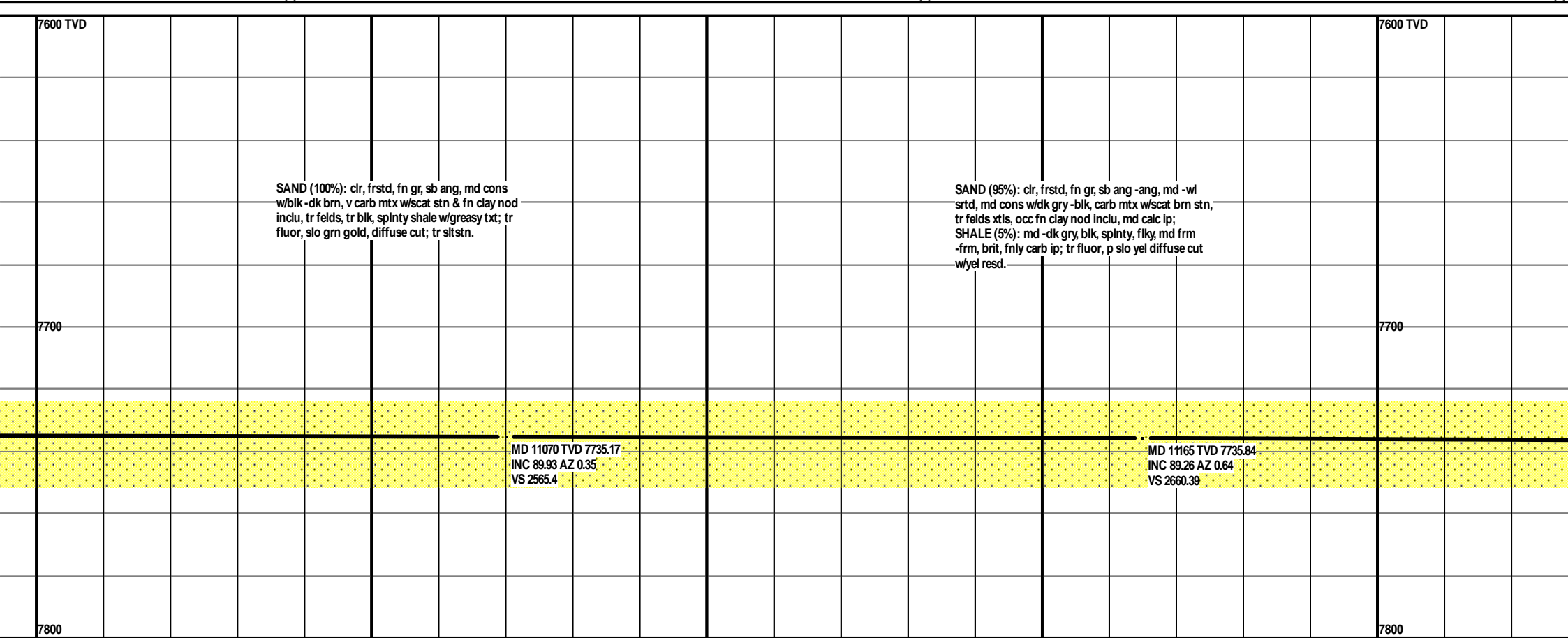
5000
5000
5000 (units)
0.1 (units)
0.2 (units)
0.3 (units)
0.4 (units)

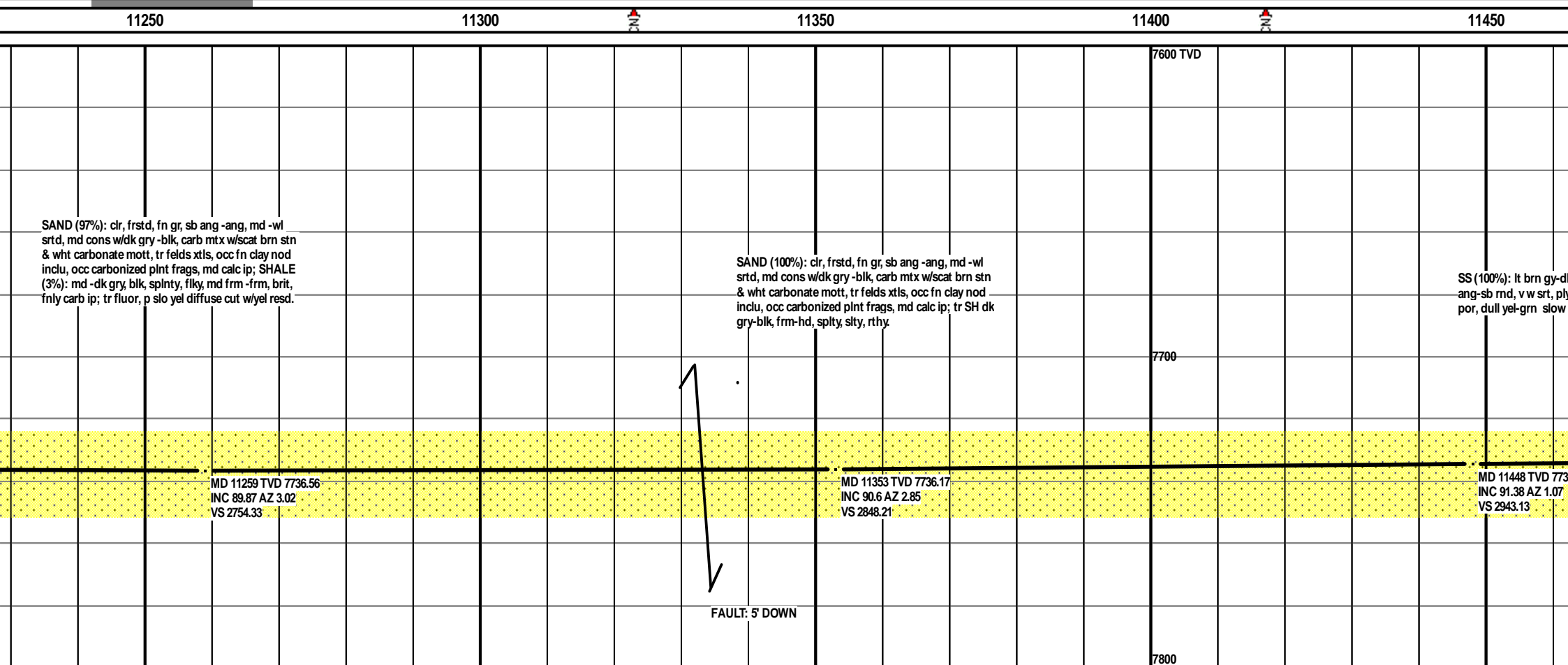
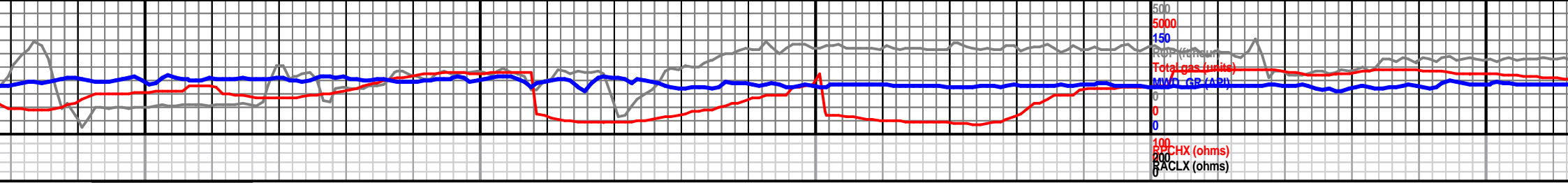
MW 9.7+/9.8 IN/OUT
VIS 60/63 IN/OUT



, md srted, md x; v shly ip,): md brn, blk, ale; tr dull fluor resd.										SAND (90%): clr, frstd, sb ang, md srted, md cons -uncons w/md -dk brn, blk, carb ip, mtx; SLTSTN (10%): md brn, blk, non calc, fnly sdy; occ dull fluor, slo, diffuse yel cut w/faint resd.										SAND (95%): clr, frstd, fn gr, sb ang -ang, md -wl srted, md -p cons w/md -dk brn-blk mtx w/occ wht carbonate mott, tr felds xtls; SHALE (5%): md -dk gry, blk, flky, splnty, brttl, carb; p grn gold, slo cut w/yel resd.									
7600 TVD																													
7700																													
MD 10787 TVD 7737.21 INC 90.67 AZ 0.33 VS 2282.44										MD 10881 TVD 7735.48 INC 91.44 AZ 359.26 VS 2376.42										MD 10976 TVD 7734.7 INC 89.5 AZ 358.85 VS 2471.4									
7800																													







SAND (97%): clr, frstd, fn gr, sb ang -ang, md -wl srt'd, md cons w/dk gry -blk, carb mt'x w/scat brn stn & wht carbonate mott, tr felds xtls, occ fn clay nod inclu, occ carbonized plnt frags, md calc ip; SHALE (3%): md -dk gry, blk, splnty, filky, md frm -frm, brit, fnly carb ip; tr fluor, p slo yel diffuse cut w/yel resd.

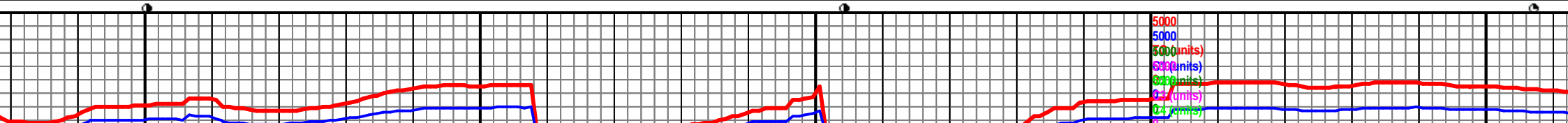
SAND (100%): clr, frstd, fn gr, sb ang -ang, md -wl srt'd, md cons w/dk gry -blk, carb mt'x w/scat brn stn & wht carbonate mott, tr felds xtls, occ fn clay nod inclu, occ carbonized plnt frags, md calc ip; tr SH dk gry-blk, frm-hd, splty, slty, rthy.

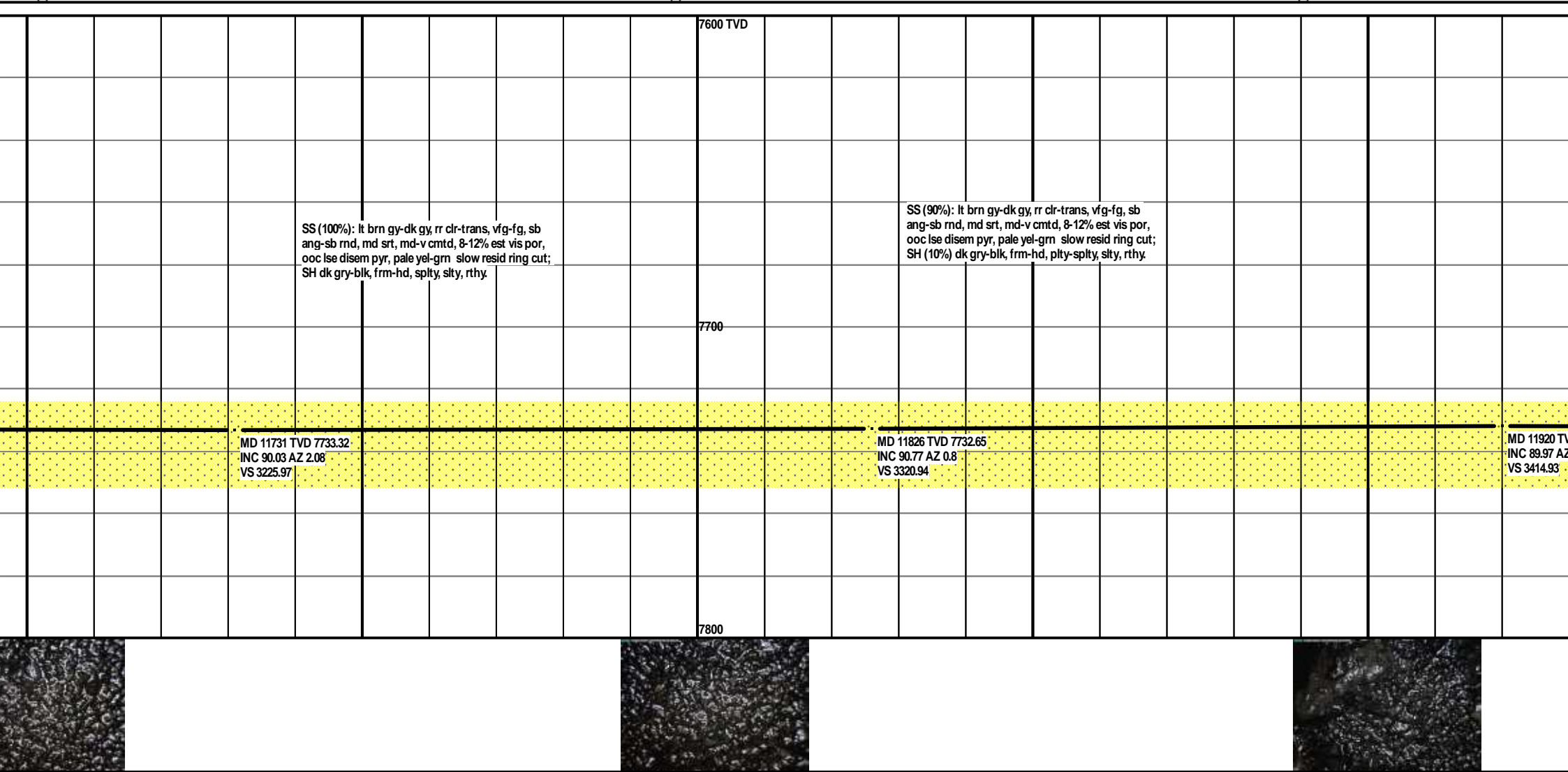
SS (100%): lt brn gy-d ang-sb rnd, v w srt, ply por, dull yel-grn slow

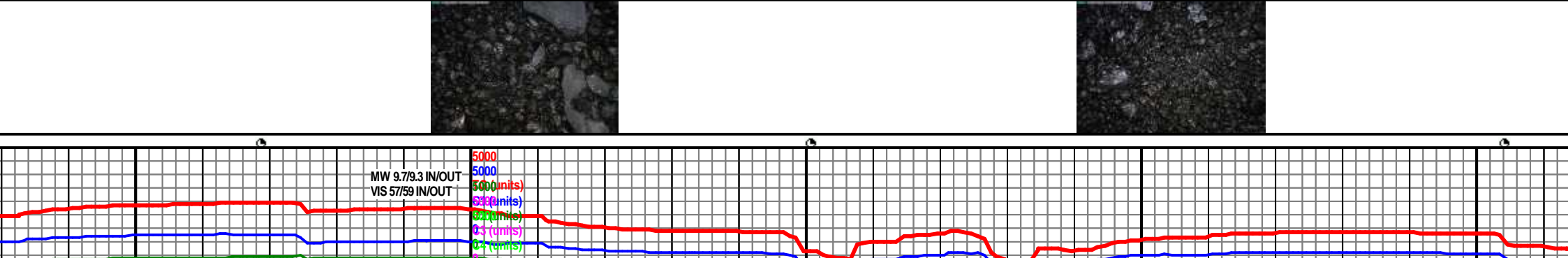
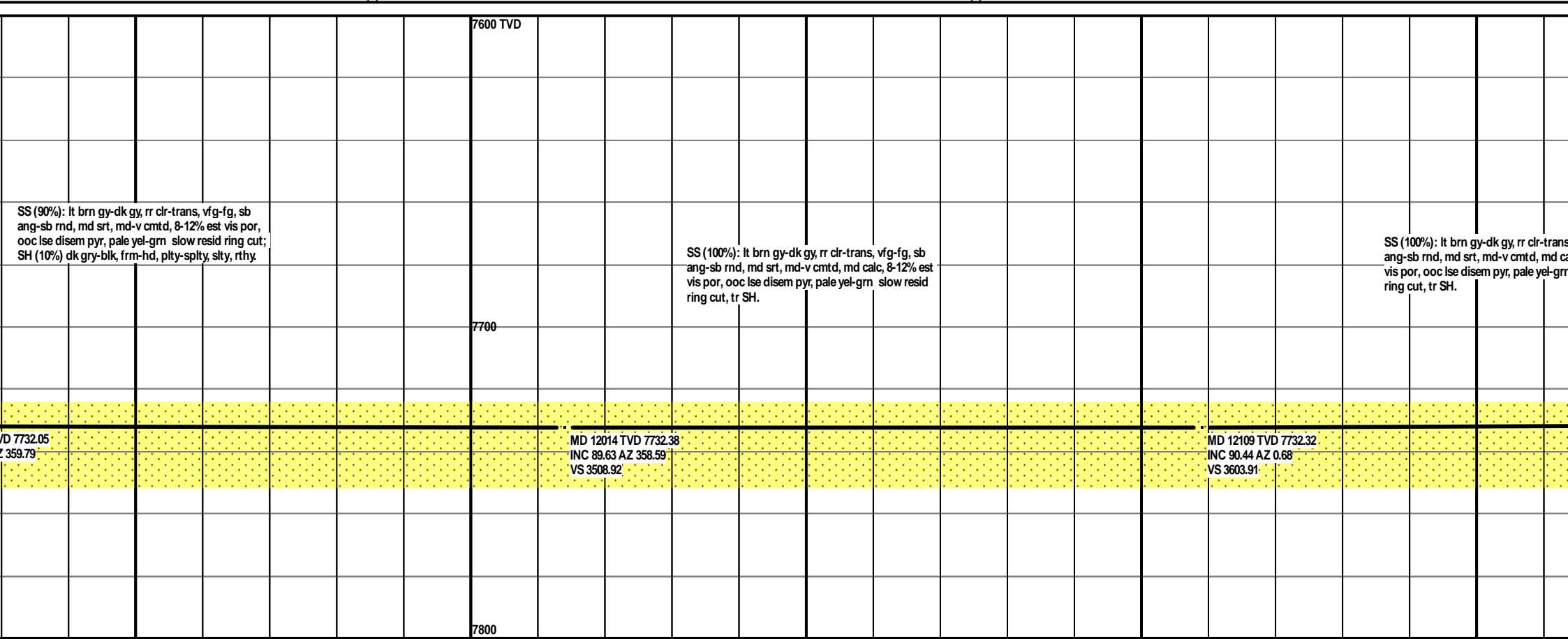
MD 11259 TVD 7736.56
INC 89.87 AZ 3.02
VS 2754.33

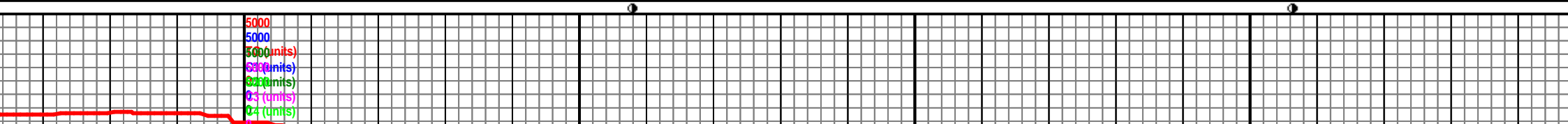
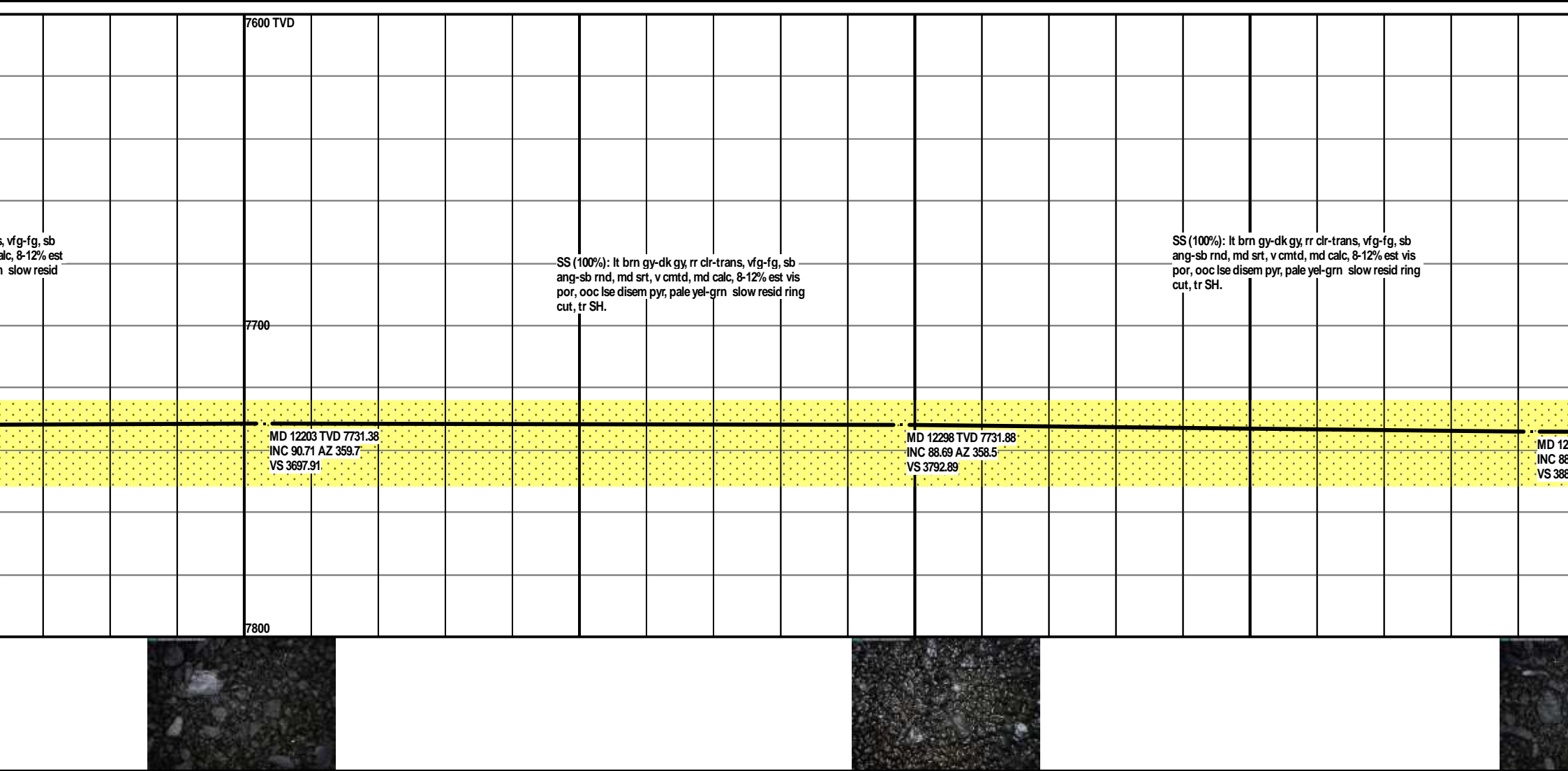
MD 11353 TVD 7736.17
INC 90.6 AZ 2.85
VS 2848.21

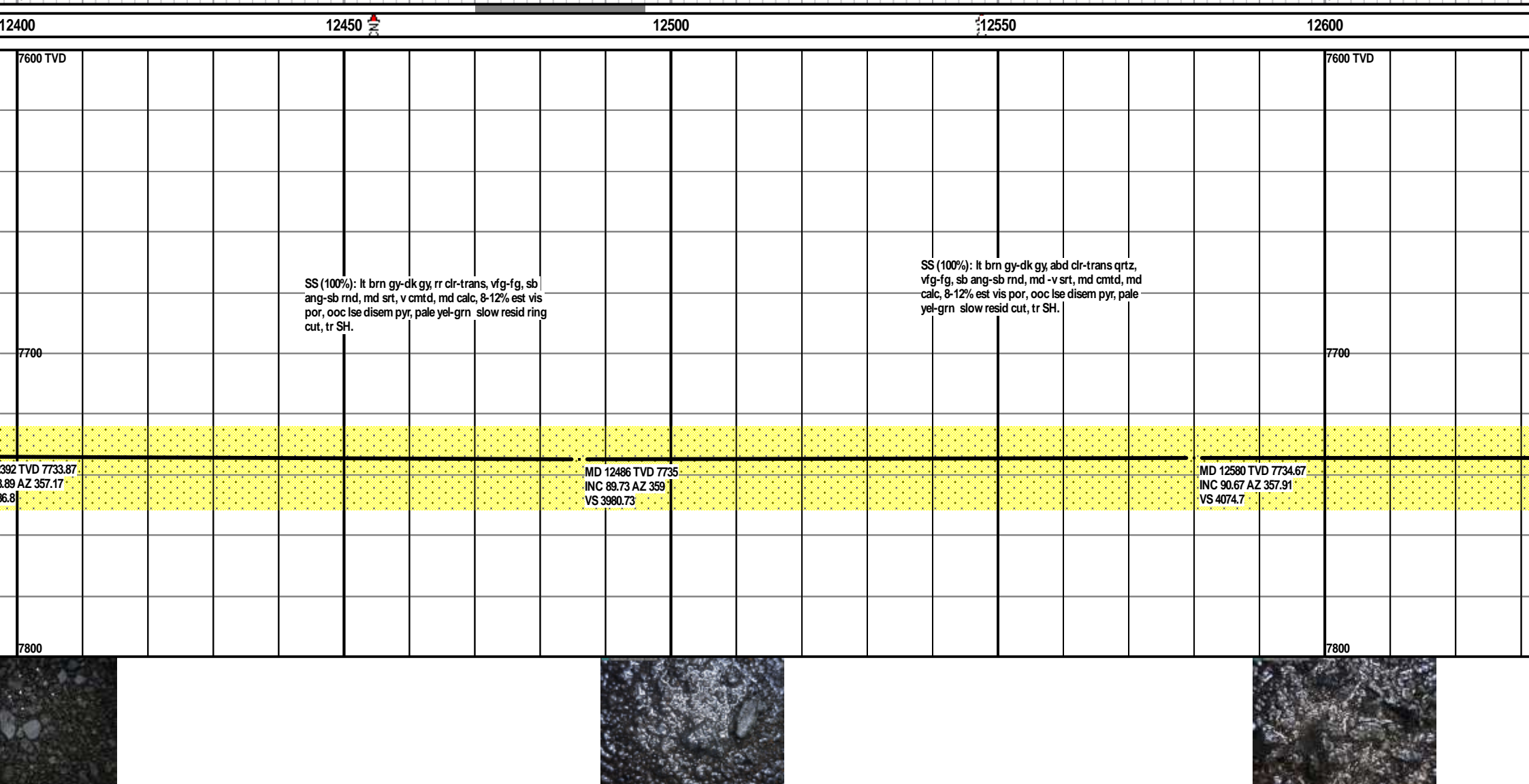
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INC 91.38 AZ 1.07
VS 2943.13

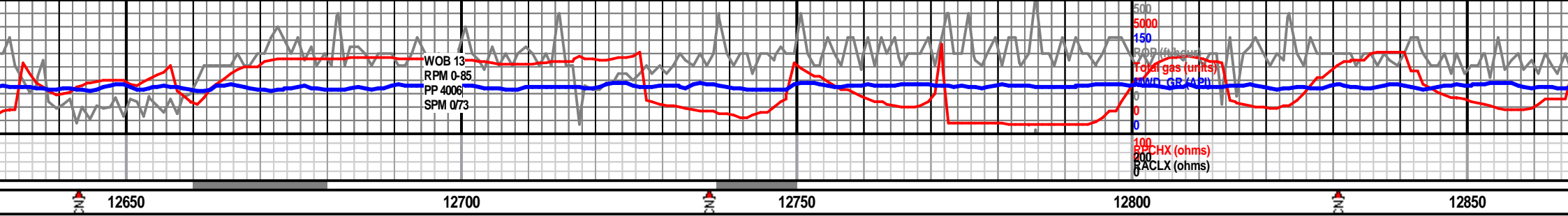












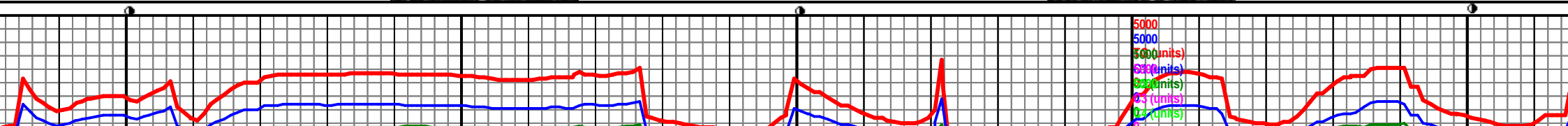
SS (100%): lt brn gy-dk gy, abd clr-trans qrtz, vfg-fg, sb ang-sb rnd, md -v srt, md cmt, md calc, 8-12% est vis por, ooc lse disem pyr, pale yel-grn slow resid cut, tr SH.

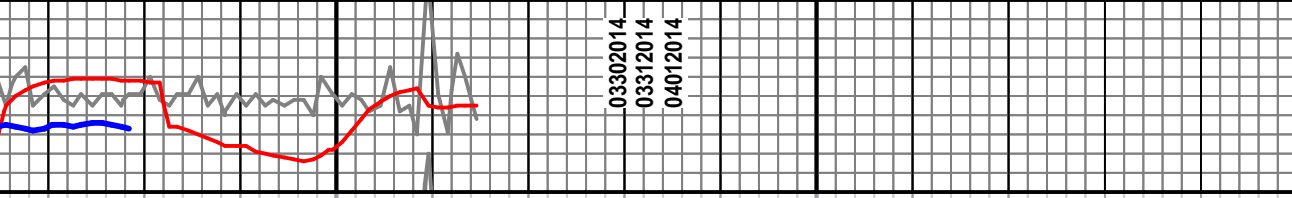
SS (100%): lt brn gy-dk gy, abd clr-trans qrtz, v f grns-f grns, sb ang-sb rnd, md -v srt, md cmt, md calc, 8-12% est vis por, ooc lse disem pyr, pale yel-grn slow resid cut, tr SH.

SS (100%): lt brn gy-dk gy, abd cl grns-f grns, sb ang-sb rnd, md - calc, 8-12% est vis por, ooc lse di yel-grn slow resid cut, tr SH.

MD 12674 TVD 7734.5
INC 89.53 AZ 359.49

MD 12769 TVD 7735.03
INC 89.83 AZ 358.53





03302014
03312014
04012014

12900



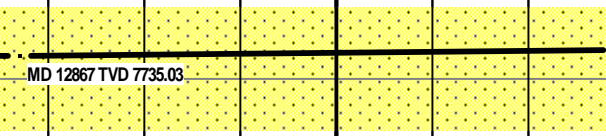
12950

13

tr-trans qrtz, v f
v srt, md cmted, md
sem pyr, pale

Production casing set at 12,914' MD
04/01/2014 @ 12:00 hours

SAND (100%): clr, frstd, fn gr, sbang -ang, md -wl
srted, md cons w/dk gry -blk, carb mtx w/scat fn clay
nods & feldspr xtls, no vis por, tr dull grn fluor
w/slo, diffuse, grn gold cut w/faint resid yel ring; tr
dk gry, filky, grtty, frm shale.



MD 12867 TVD 7735.03

PROJECTION TO BIT
MD 12929 TVD 7733.69
INC 90.77 AZ 357.56

