

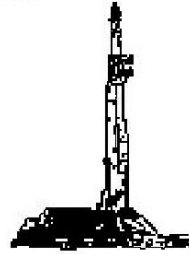
GOOLSBY BROTHERS
and associates, inc.

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: Throudt 34C 33HZ
Well Id:
Location: Sec. 33 T2N R67W Weld County, CO.
License Number: API:0512339284 AFE: 2089408
Spud Date: April 11, 2014
Surface Coordinates: 305' FSL, 1500' FWL
Lat. 40.228429, Long. 10.942864, Sec.33, T2N R67W
Bottom Hole 460' FNL, 350' FWL
Coordinates: Lat. 40.226805, Long. 104.9795, Sec. 33, T2N R67W
Ground Elevation (ft): 5037' K.B. Elevation (ft): 5062'
Logged Interval (ft): 7200' To: 12385' Total Depth (ft): 12385'
Formation: Codell
Type of Drilling Fluid: Oil based mud

Region: Wattenberg
Drilling Completed: April 18, 2015

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
Operations Geologist: Ian Harris

GEOLOGIST

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

E-logs

MWD Gamma

Casing

Intermediate casing: 7", 26#, HTC 110 LTC, set at 8305' MD

Liner: 4 1/2", packer and assembly, 11.5#, HCP 110, LTC & D2X, set at 12810'

Comments

Drilling Contractor: H&P 311

Pumps 1 & 2: Gardner Denver PZ 11 6" x 11" (.0914 bbl/stk)

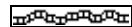
Rig Manager: Jerud Wittrock

Drillers: Terrene Fite,

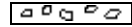
ROCK TYPES



Anhy



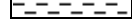
Bent



Brec



Cht



Clyst



Coal



Oil sat.



Congl



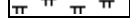
Dol



Gyp



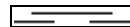
Lmst



Mrlst



Salt



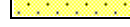
Shale



Shcol



Shgy



Ss



Sltst



Ss



Chalk



Carb sh



Sltly sh

ACCESSORIES

MINERAL

	Anhy
	Arggrn
	Arg
	Bent
	Bit
	Brecfrag
	Calc
	Carb
	Chtdk
	Chtlit
	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
	Wackest

OTHER SYMBOLS

OIL SHOWS

	Even
	Spotted
	Ques
	Dead
	Vspotty
	near even

POROSITY TYPE

	Earthy
	Fenest
	Fracture
	Inter
	Moldic
	Organic

	Pinpoint
	Vuggy

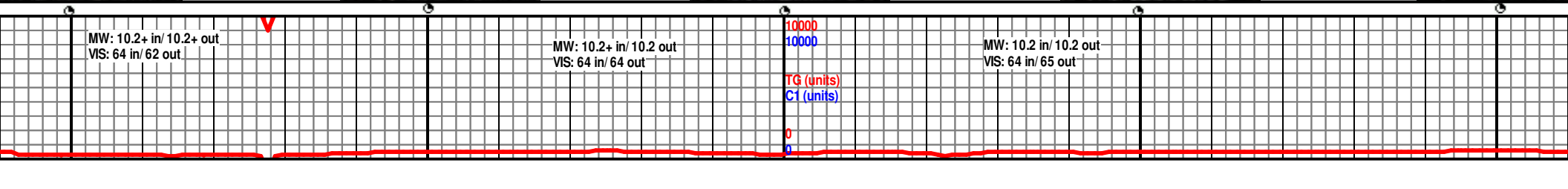
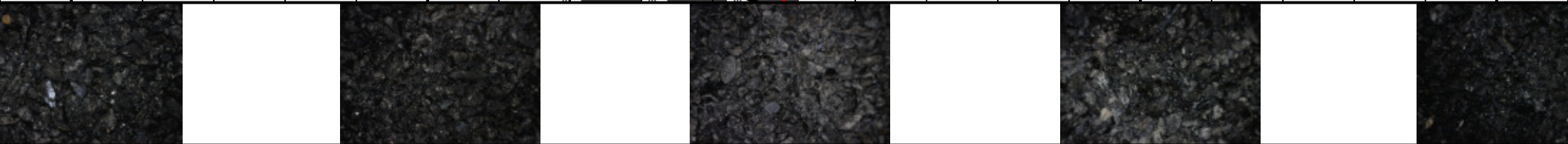
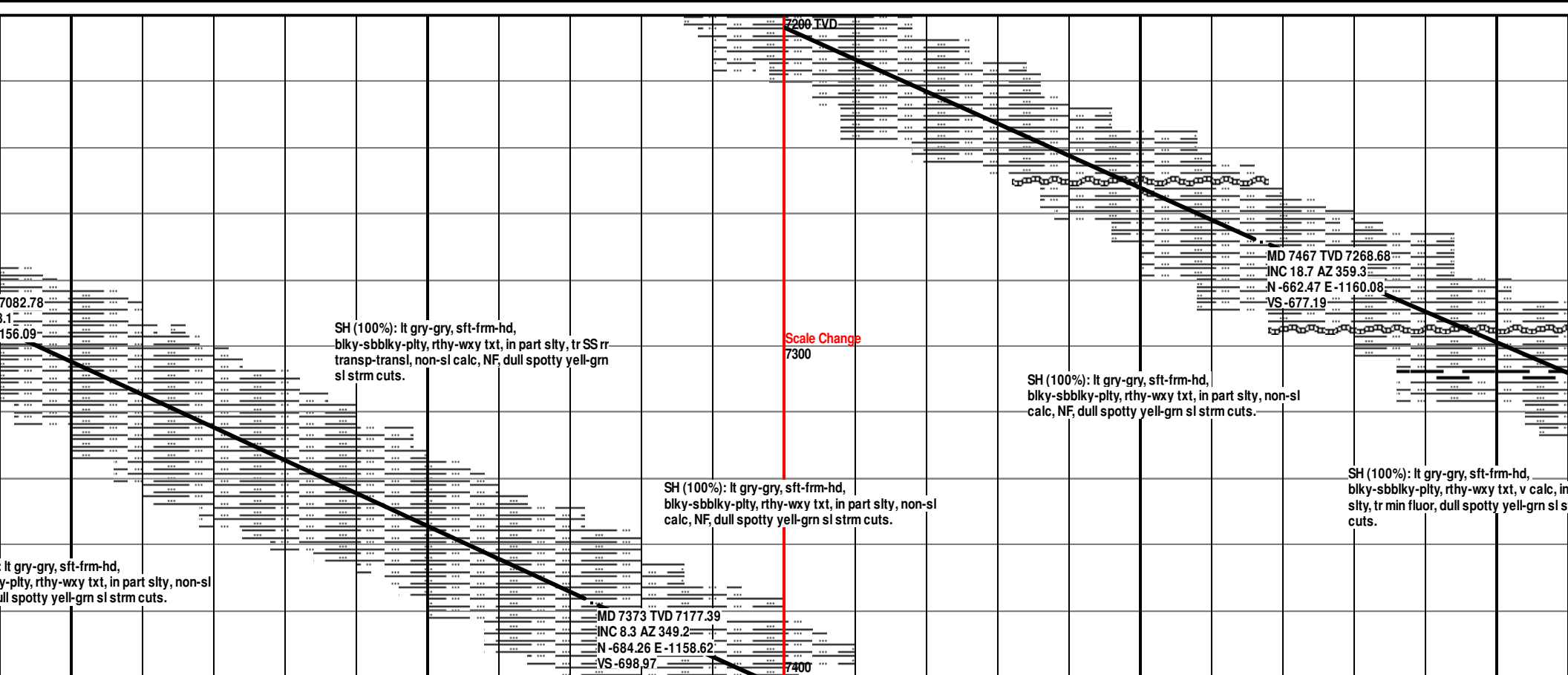
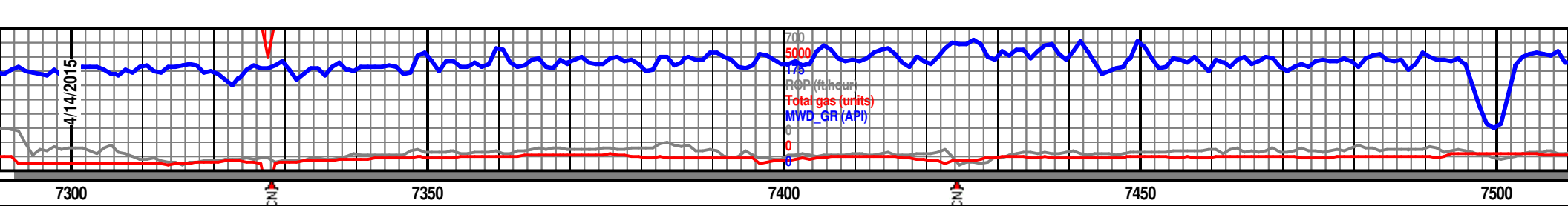
ROUNDING

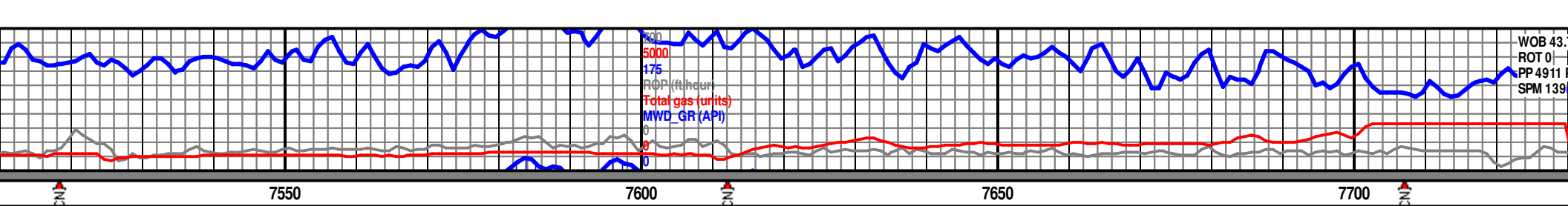
	Rounded
	Subrnd
	Subang

	Angular
--	---------

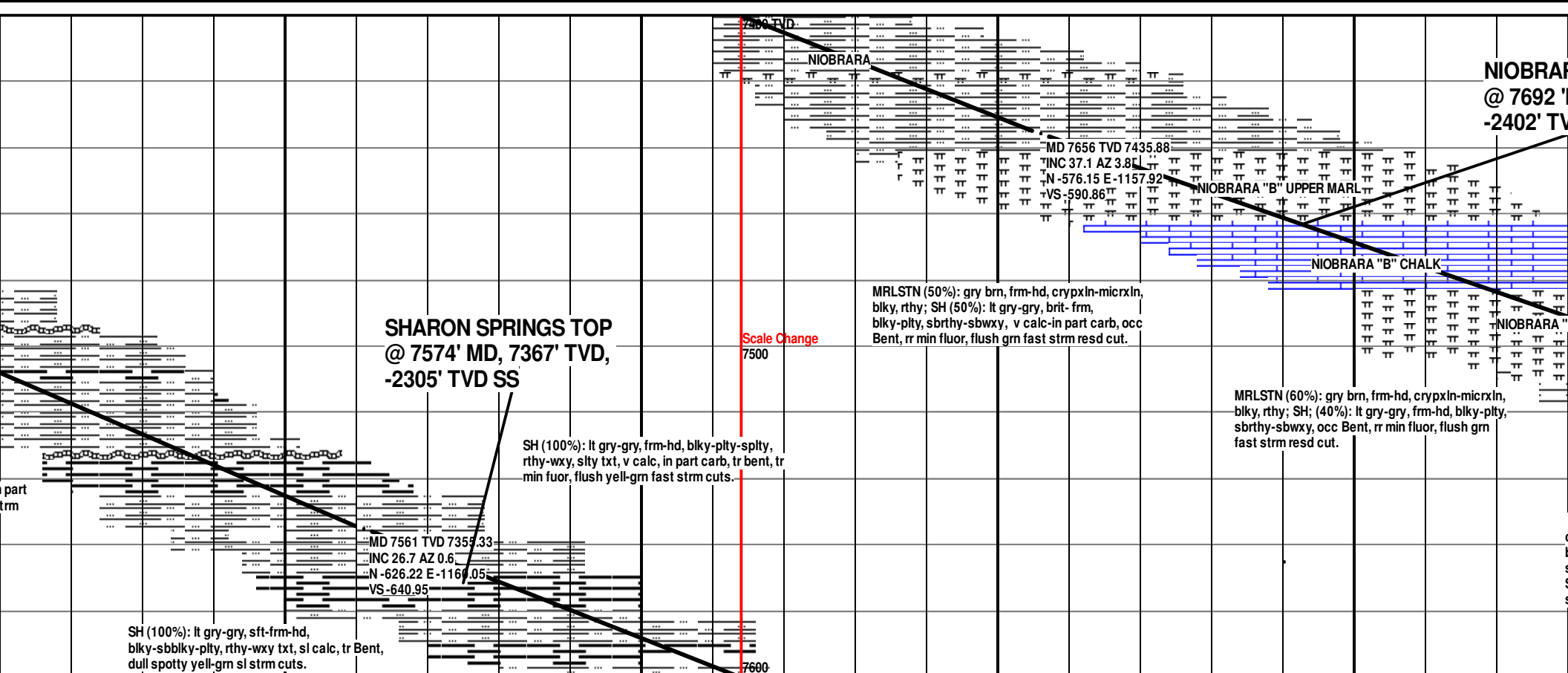
SORTING

	Well
	Moderate
	Poor





WOB 43.
ROT 0
PP 4911
SPM 139



**SHARON SPRINGS TOP
@ 7574' MD, 7367' TVD,
-2305' TVD SS**

SH (100%): lt gry-gry, frm-hd, blk-y-pity-sply,
rthy-wxy, slty txt, v calc, in part carb, tr bent, tr
min fluor, flush yell-grn sl strm cuts.

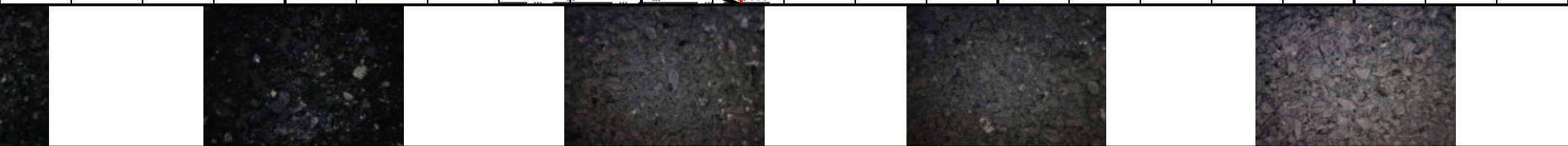
MRLSTN (50%): gry brn, frm-hd, crypxln-micrxln,
blk-y, rthy; SH (50%): lt gry-gry, brit-frm,
blk-y-pity, sbrthy-sbwxy, v calc-in part carb, occ
Bent, rr min fluor, flush grn fast strm resd cut.

MRLSTN (60%): gry brn, frm-hd, crypxln-micrxln,
blk-y, rthy; SH; (40%): lt gry-gry, frm-hd, blk-y-pity,
sbrthy-sbwxy, occ Bent, rr min fluor, flush grn
fast strm resd cut.

MD 7561 TVD 7355.33
INC 26.7 AZ 0.6
N -626.22 E -116.05
VS -640.95

MD 7656 TVD 7435.88
INC 37.1 AZ 3.8
N -576.15 E -1157.92
VS -590.86

SH (100%): lt gry-gry, sft-frm-hd,
blk-y-sbbkly-pity, rthy-wxy txt, sl calc, tr Bent,
dull spotty yell-grn sl strm cuts.

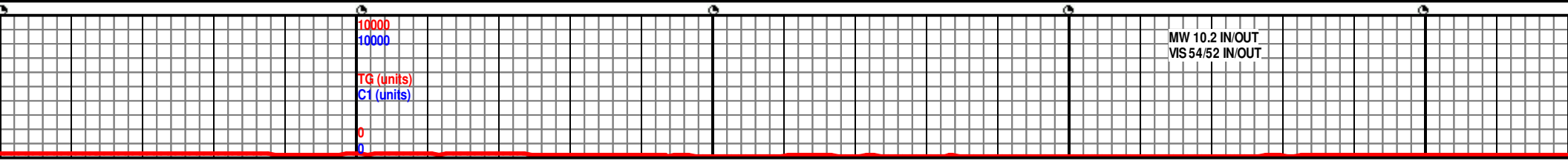
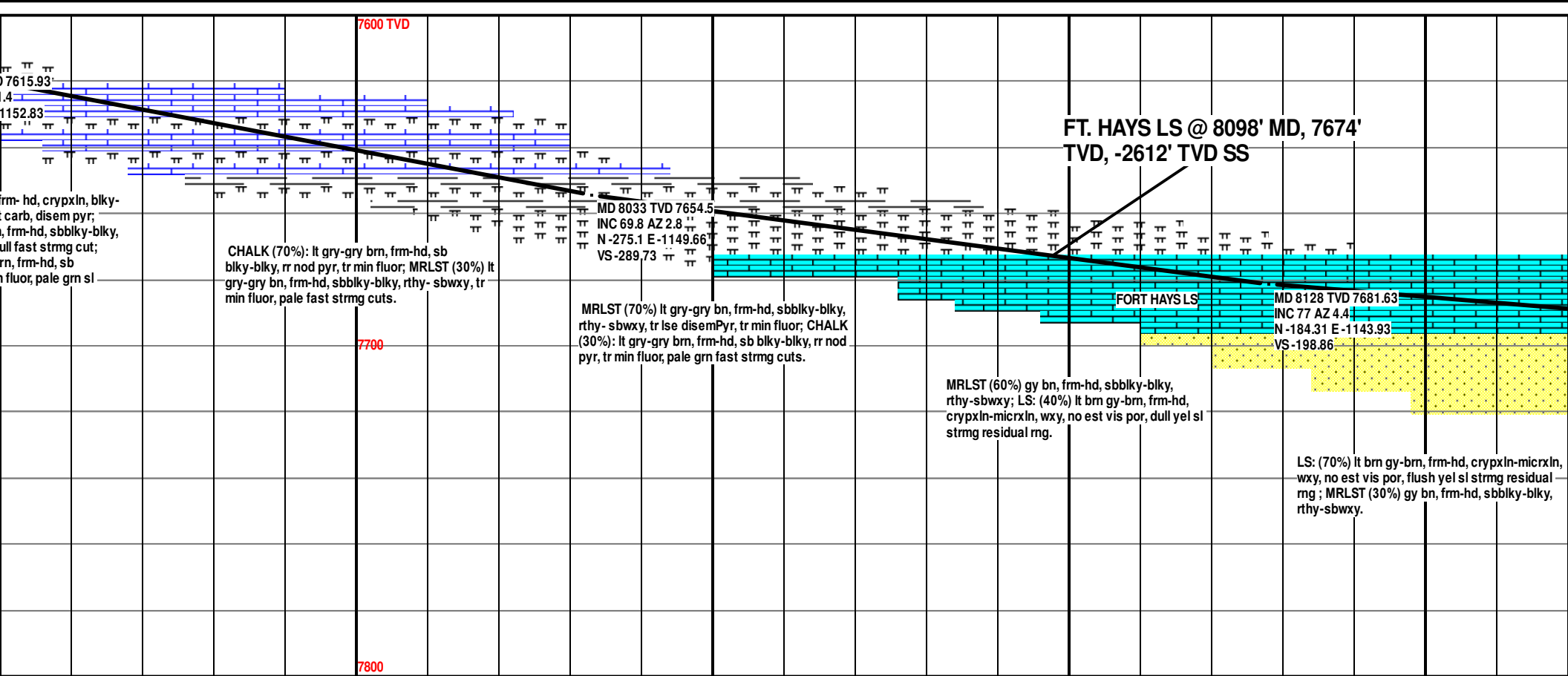
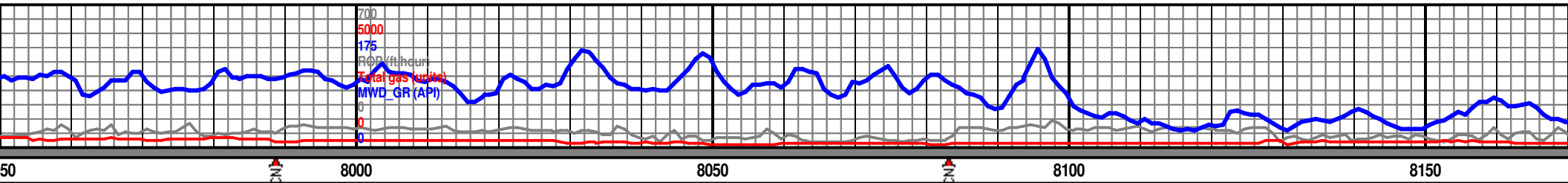


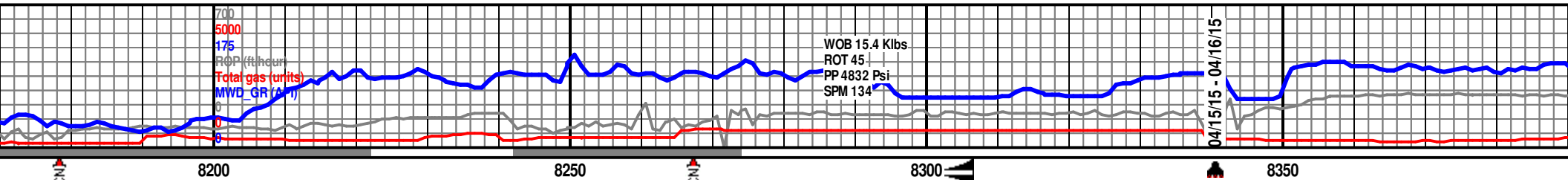
MW: 10.2 in/ 10.2 out
VIS: 63 in/ 62 out

10000
10000
TG (units)
C1 (units)

FG 1893 u
CG 1630 u

MW 1
VIS 5





CODELL SS @ 8208' MD,
7696' TVD, -2634' TVD SS

ICP AT 8340' MD REACHED ON 04/14/15 @
21:40 HRS. CONDITION HOLE, TOH, 8340'.
CASING, SET @ 8305', WT: 26 ppf; Grade:
HCP110, SET @ MD 8305'.

BHA # 2 - 6.125 Baker TD405S, SN:
7045852; Jets 5x18; w/MWD
GR/Survey BHA & Dir MM (1.5°) 1.03
RPG, In @ 8340'; Out @ 12835'; Drilled
4495' in 33.5 hrs: Average ROP 134.18
ft/hr.

WPT#1 8350' MD to 9500' MD:
Window Top: 7705' TVD

Target: 7710' TVD

Window Bottom: 7715' TVD

Start 100' Sample Catch

LS: (100%) lt brn gy-brn, frm-hd, crypxln-micrxln,
wxy, no est vis por, flush yel sl strmg residual
rng, OBM contam.

MD 8222 TVD 7697.7
INC 83.3 AZ 2.2
N -91.9 E -1138.61
VS -106.4

SST (60%): lt brn gy-dk gy, occ clr-trans, vfg-fg,
md-w srt, w cmt, sb ang-sb rnd, abun silic cmt,
10-12% est vis por, NF, cldy gm-yel fast strmg
resid rng contam by OBM; LS: (40%) lt brn
gy-brn, frm-hd, crypxln-micrxln, wxy, no est vis
por.

MD 8285 TVD 7702.7
INC 87.6 AZ 1.8
N -29.15 E -1136.42
VS -43.62

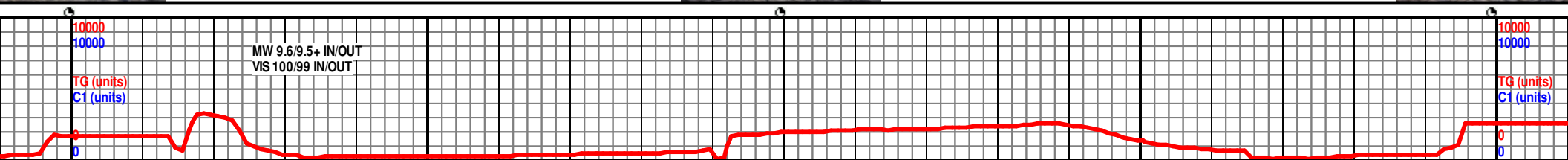
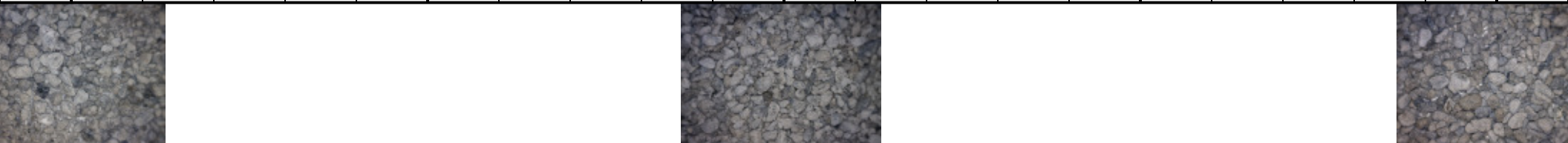
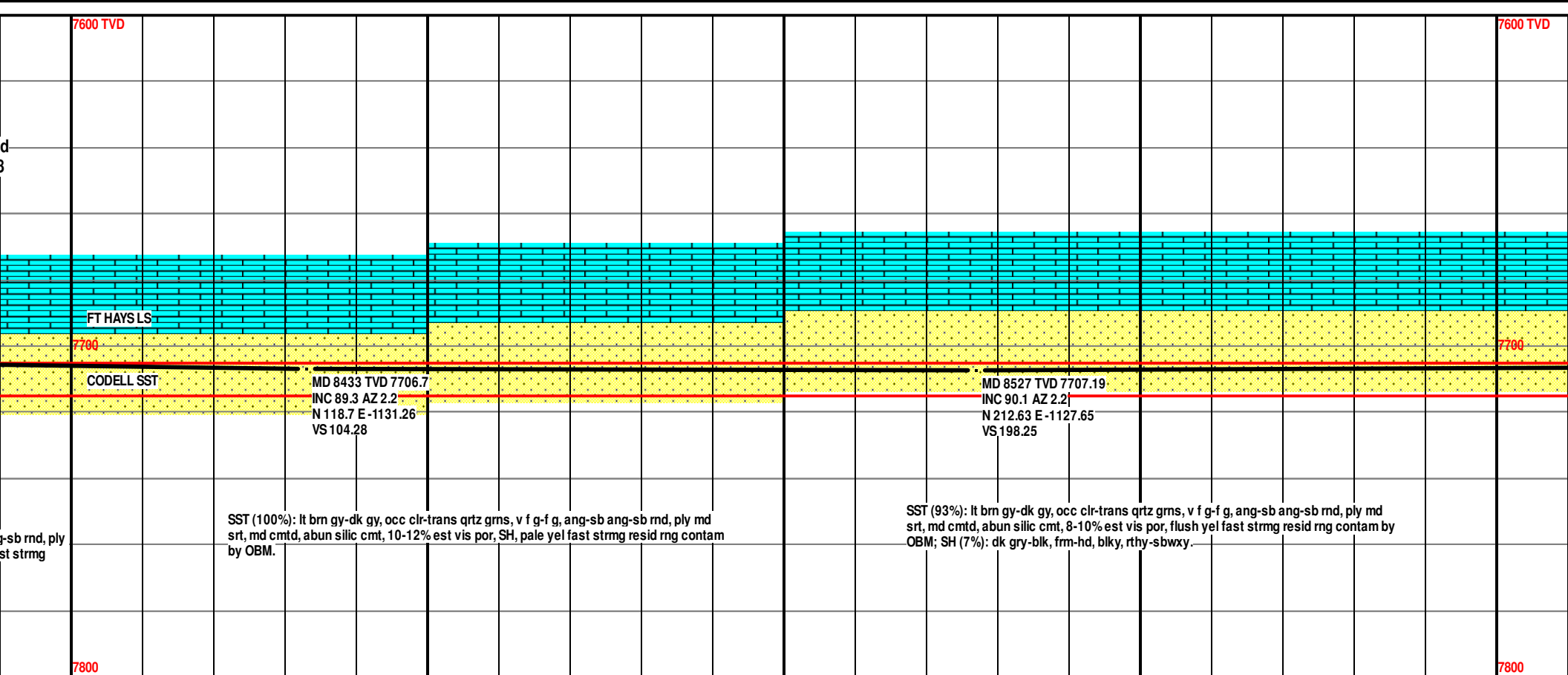
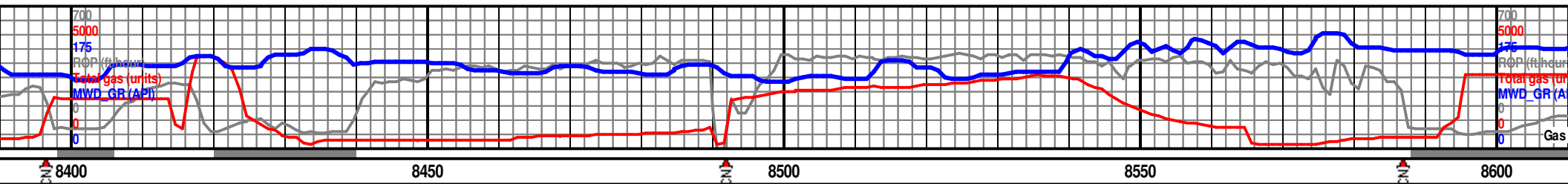
SST (100%): lt brn gy-dk gy, occ clr-trans, vfg-fg,
md-w srt, w cmt, sb ang-sb rnd, abun silic cmt,
10-12% est vis por; NF, cldy gm-yel fast strmg
resid rng contam by OBM.

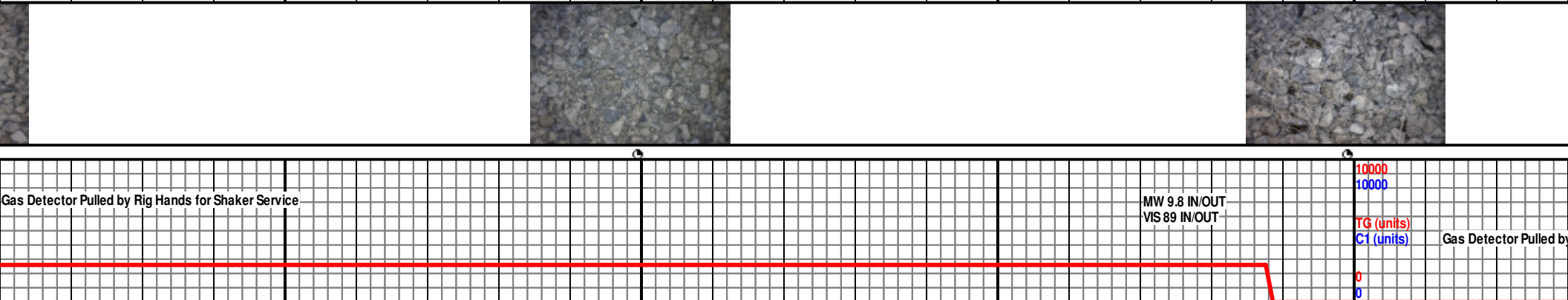
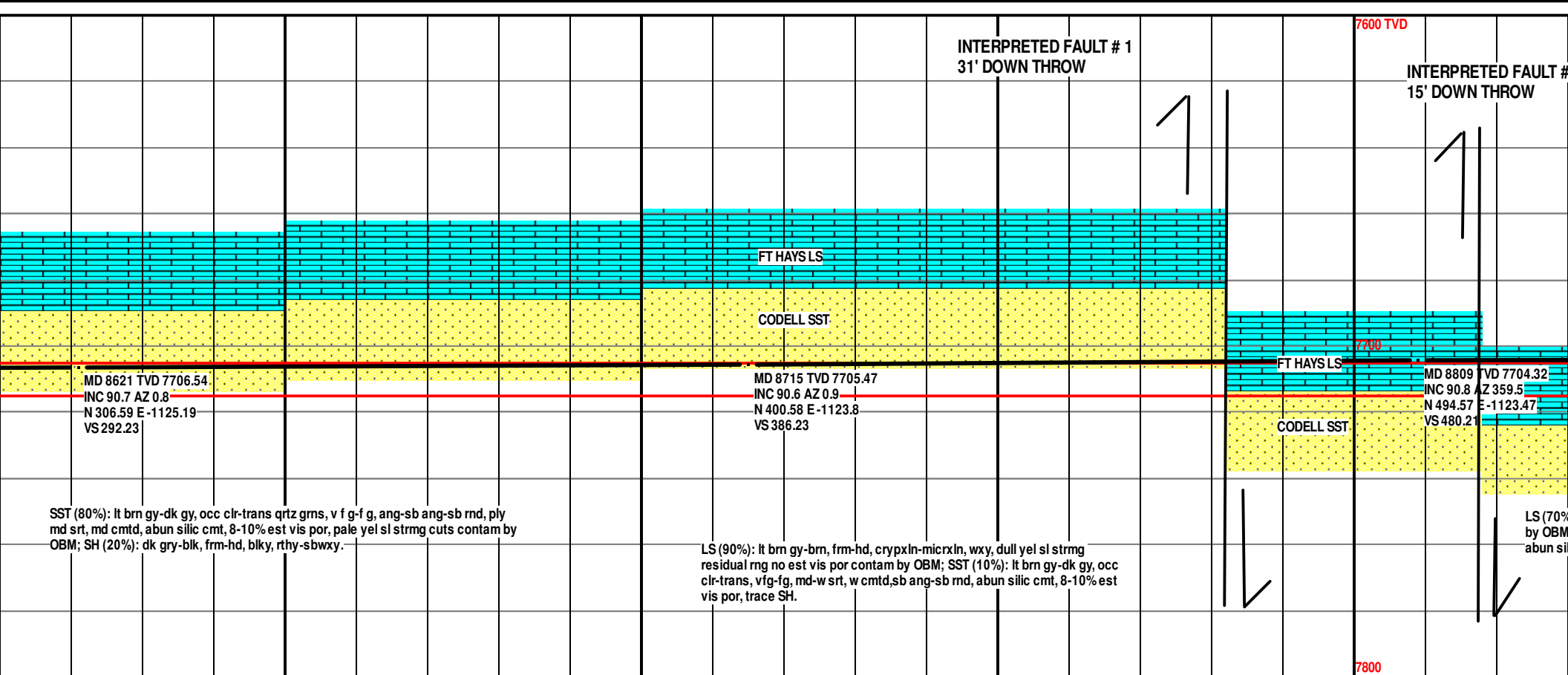
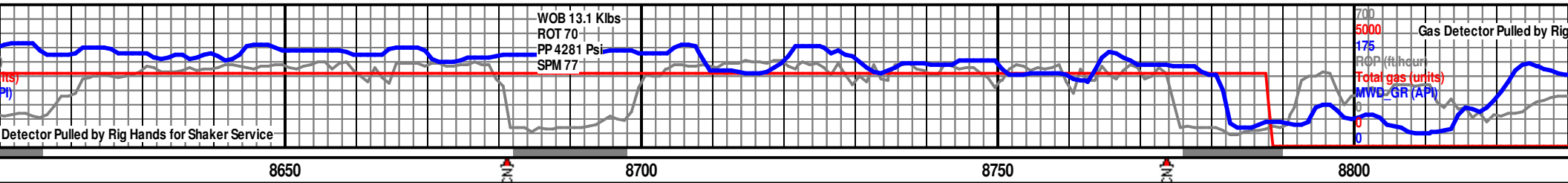
SST (100%): lt brn gy-dk gy, occ clr-trans qrtz grms, v f g-f g, ang-sb ang
md srt, md cmt, abun silic cmt, 10-12% est vis por, tr LS-SH, dull yel fa
resid rng contam by OBM.

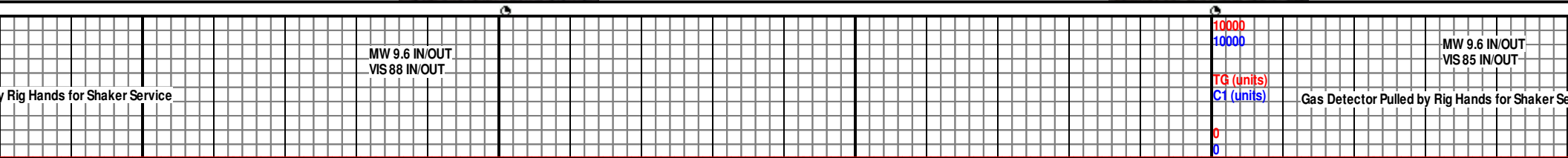
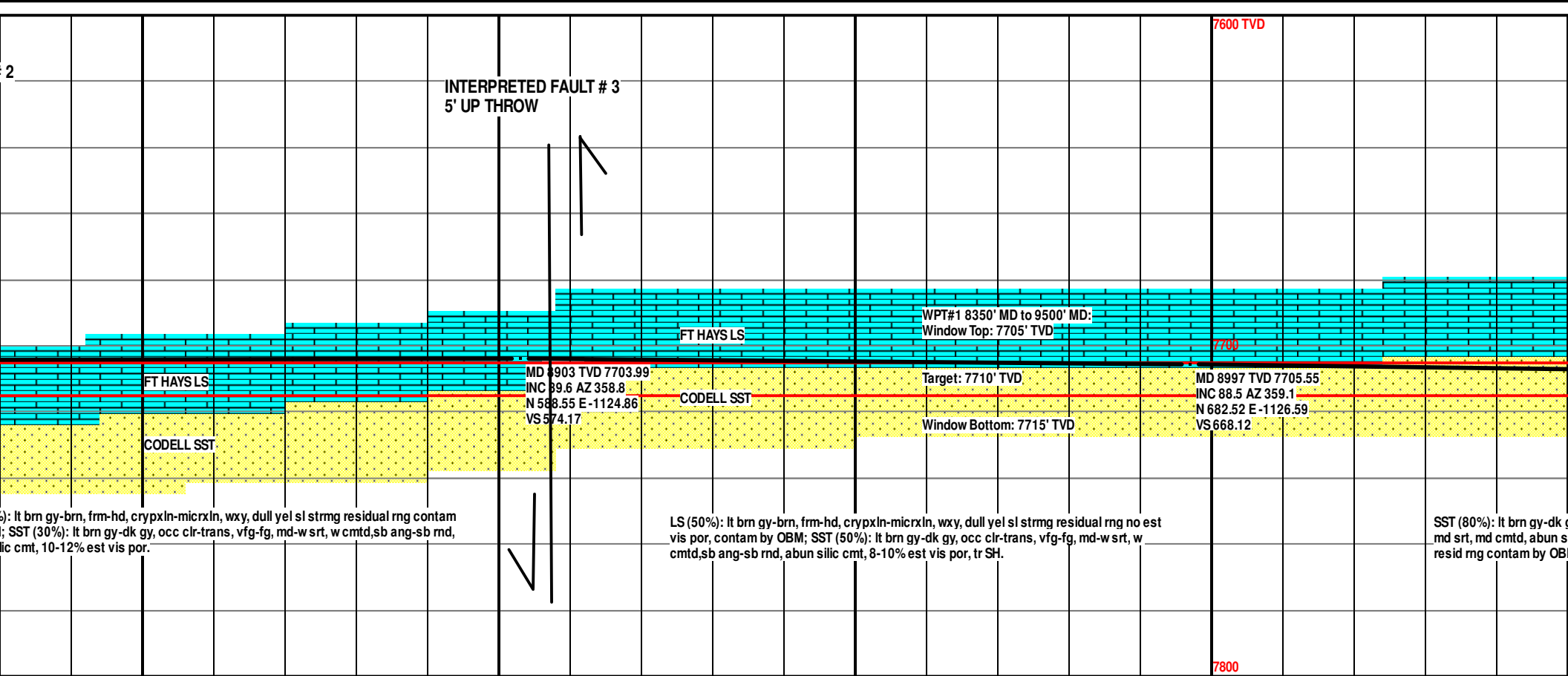
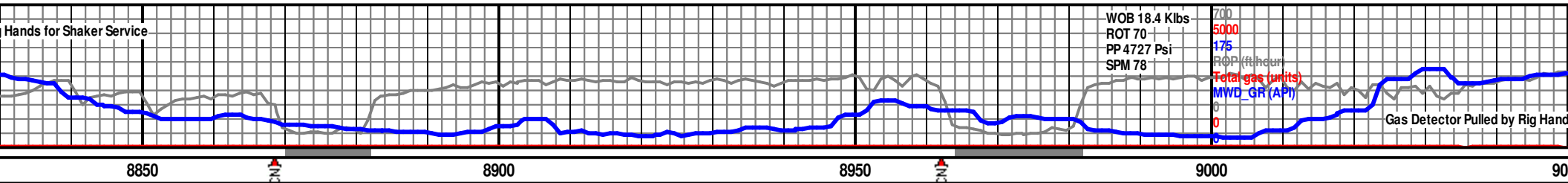
MW 10.2+/10.2 IN/OUT
VIS 57/56 IN/OUT

MW 10.3 IN
VIS 55 IN

10000
10000
TG (units)
Cf (units)
0
0







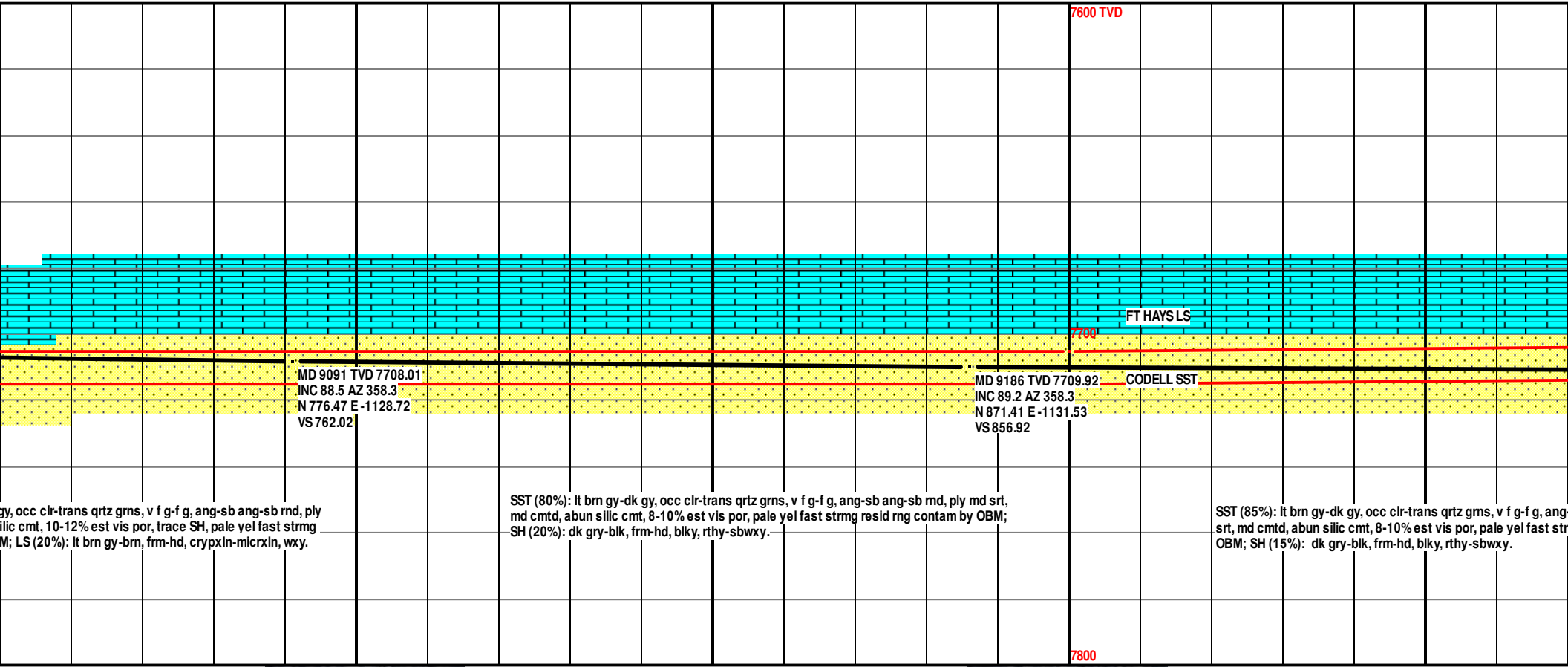
is for Shaker Service

04/17/15

700
5000
175
Total gas (units)
MWD_GR (API)

Gas Detector Pulled by Rig Hands for Shaker Service

50 9100 9150 9200 9250

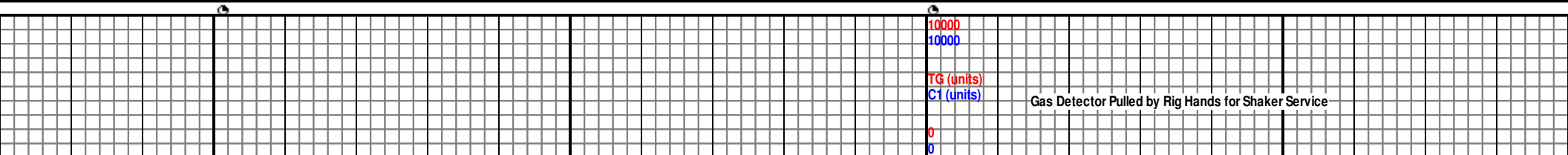
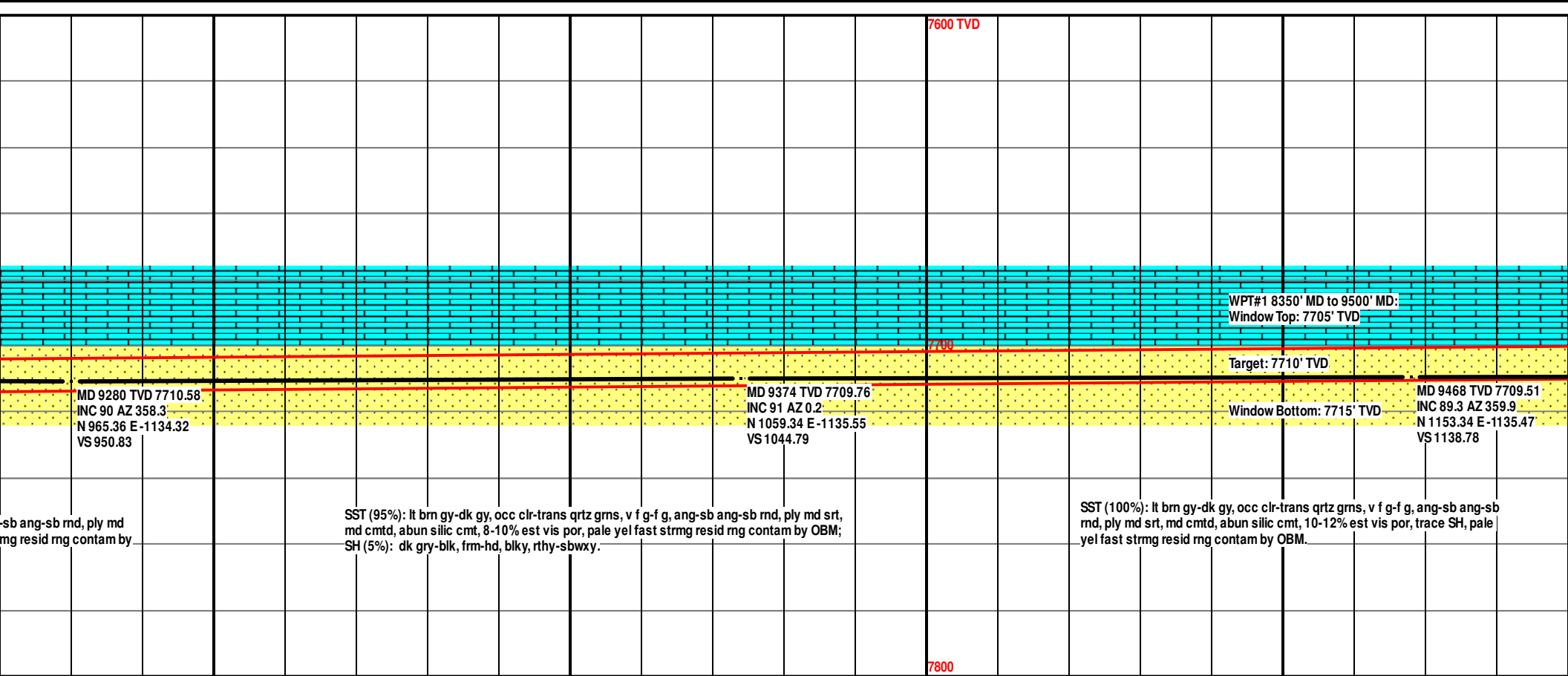
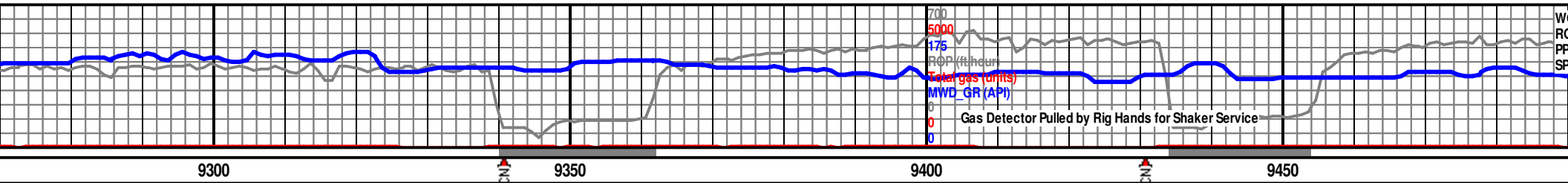


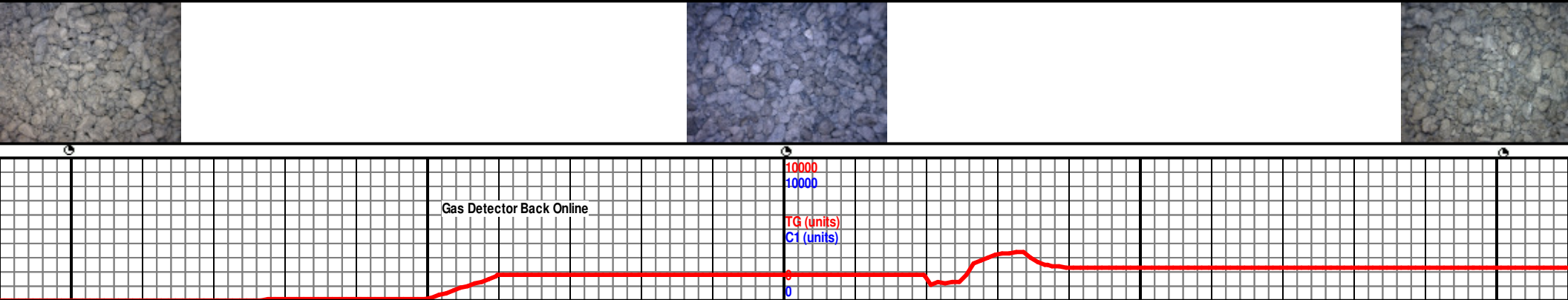
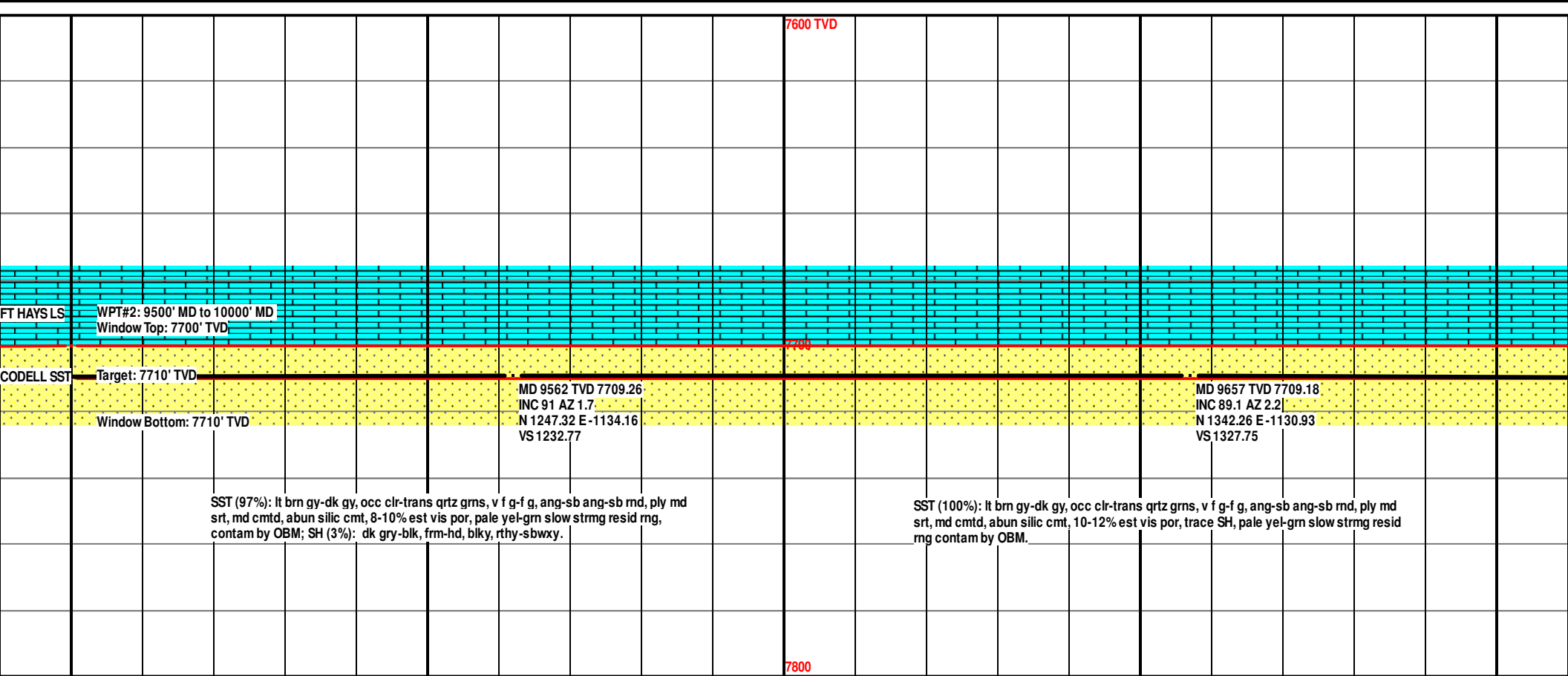
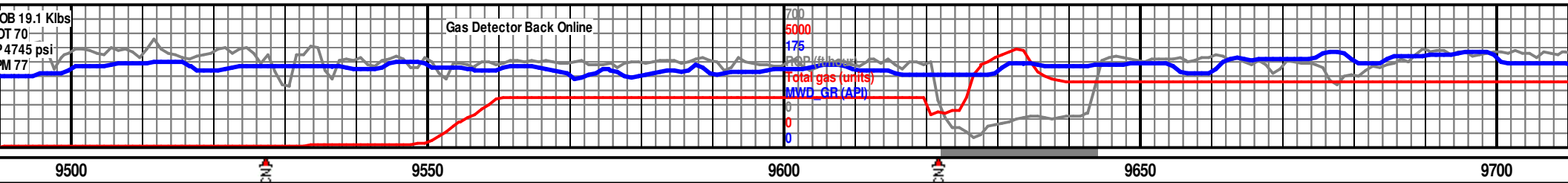
ervice

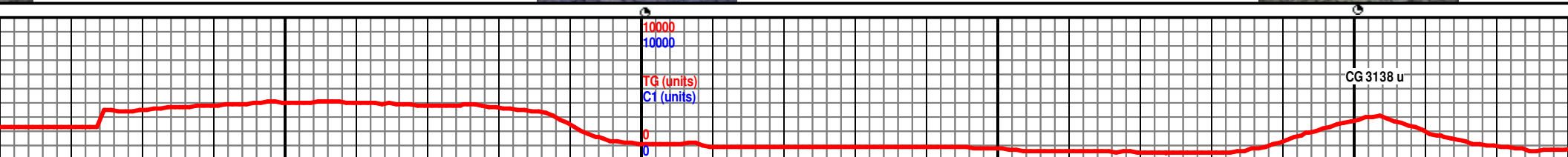
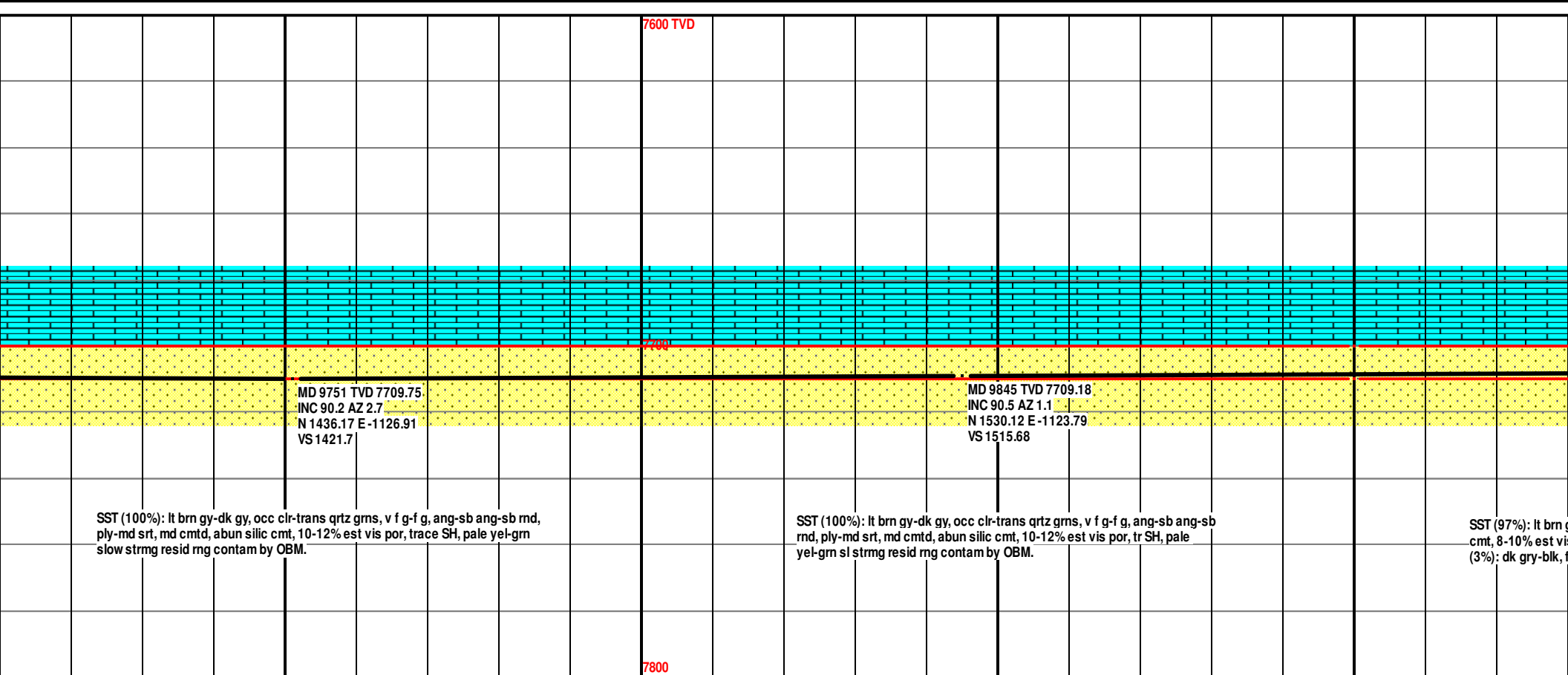
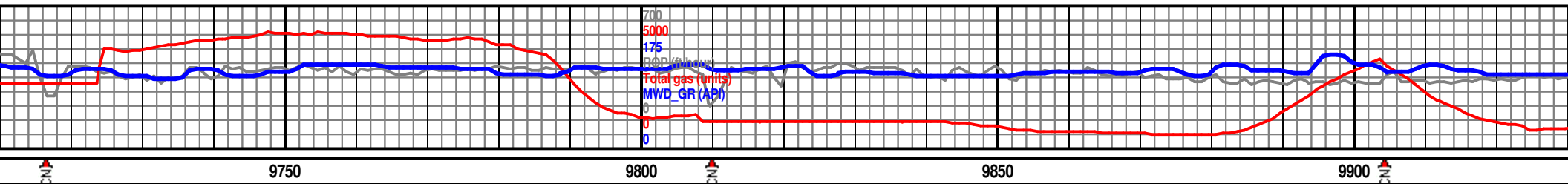
MW 9.6 IN/OUT
VIS 86 IN/OUT

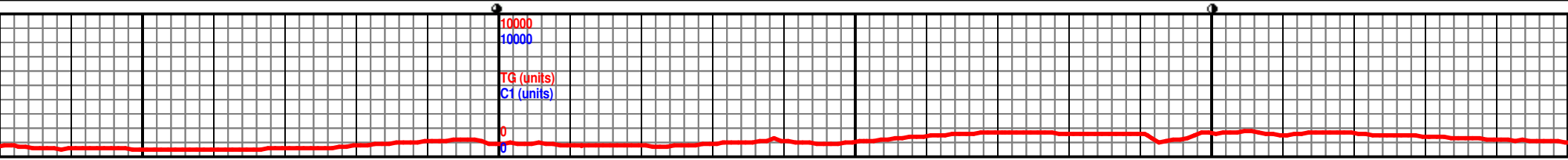
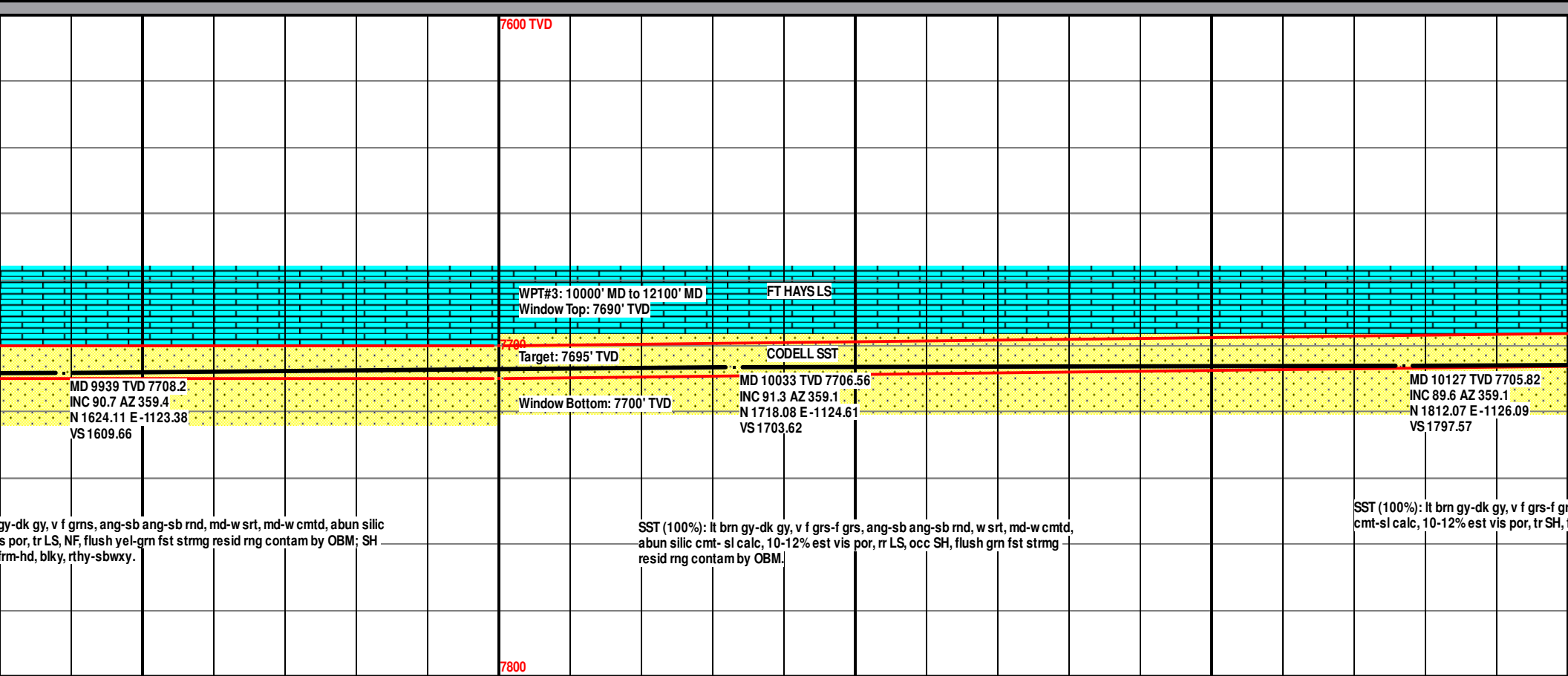
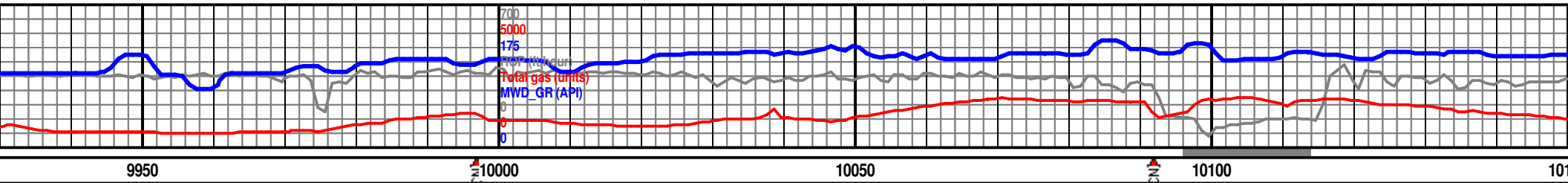
10000
10000
TG (units)
C1 (units)

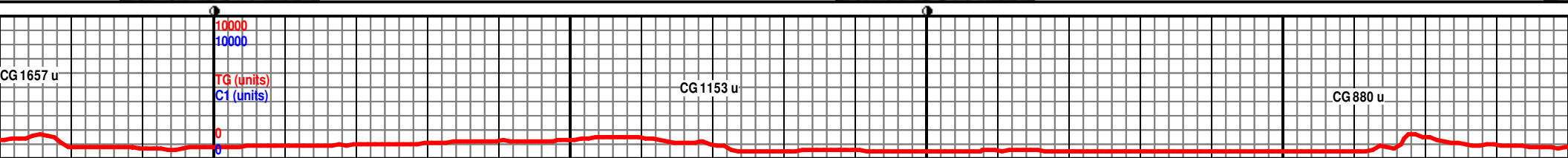
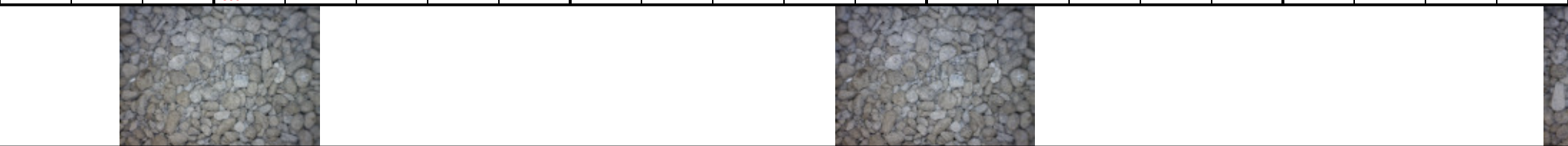
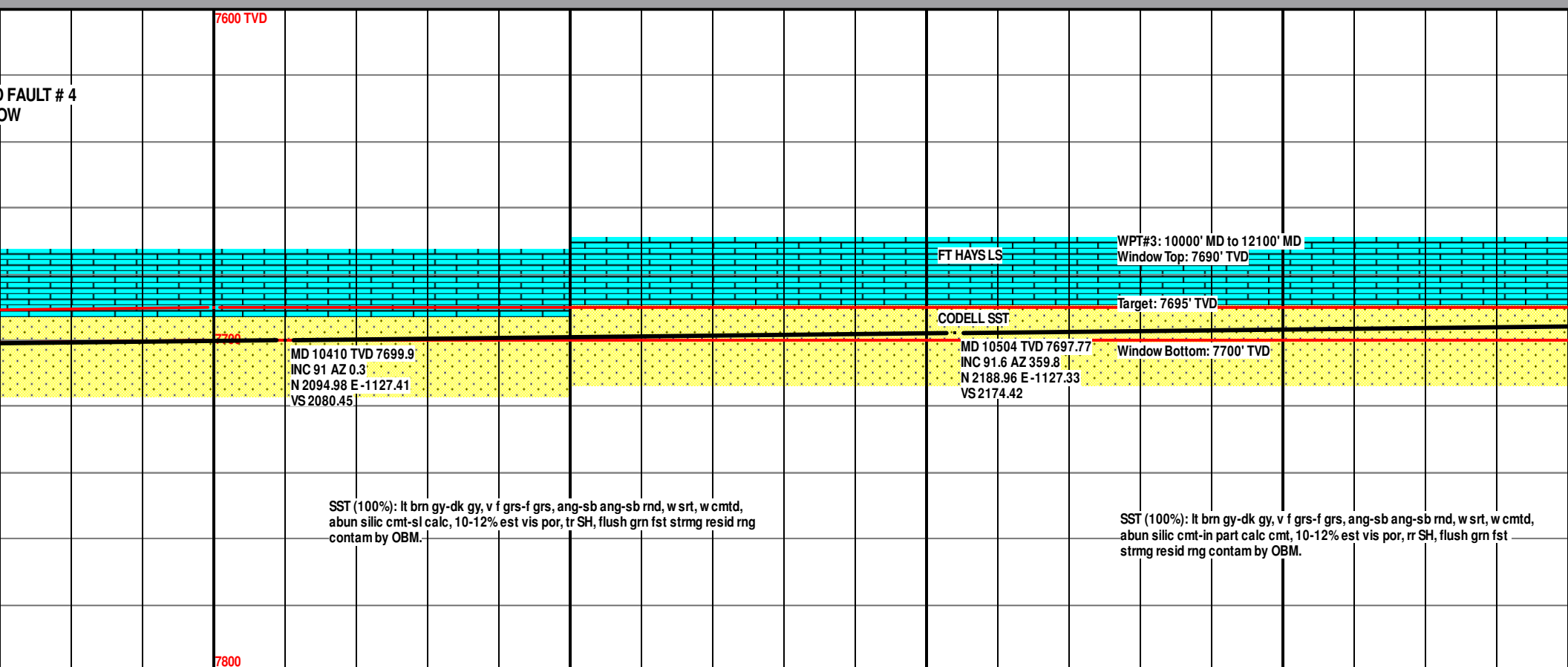
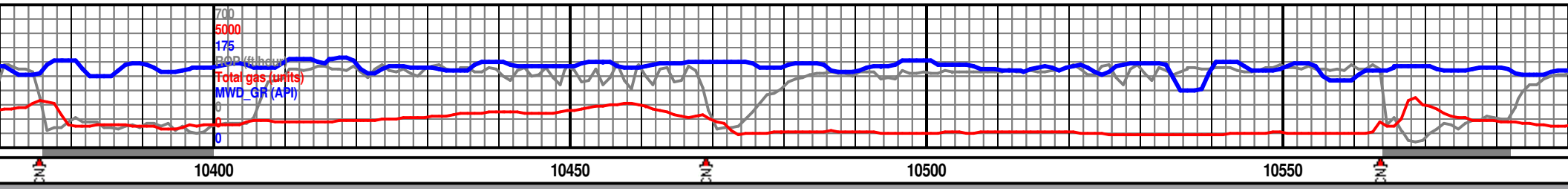
Gas Detector Pulled by Rig Hands for Shaker Service

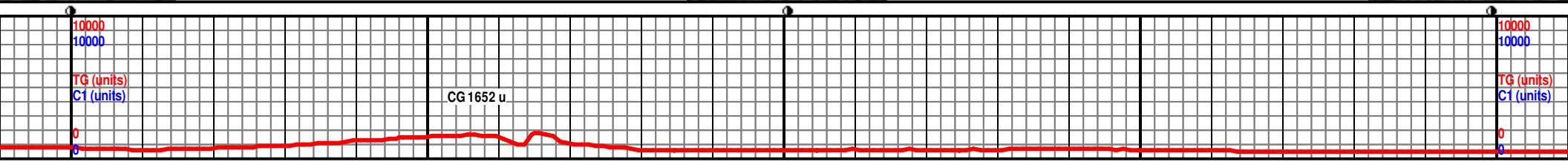
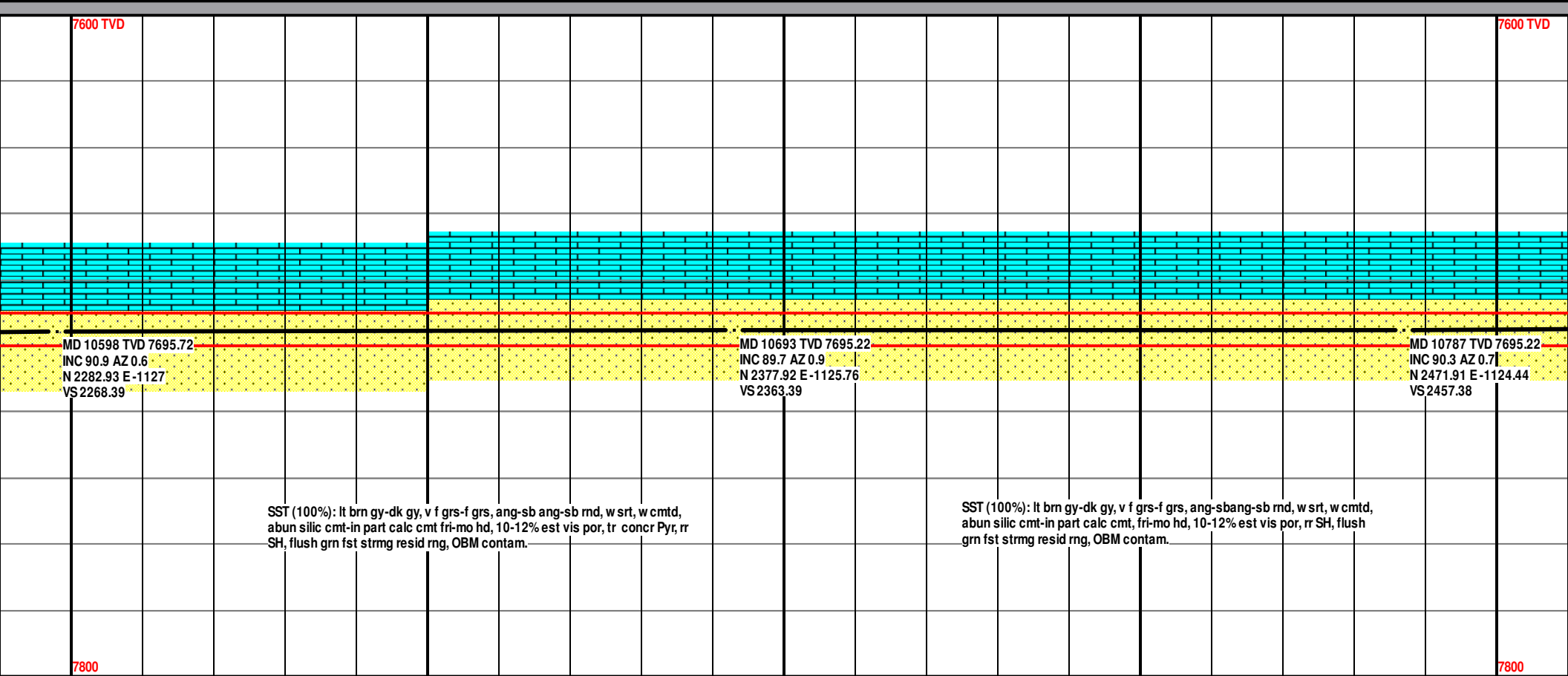
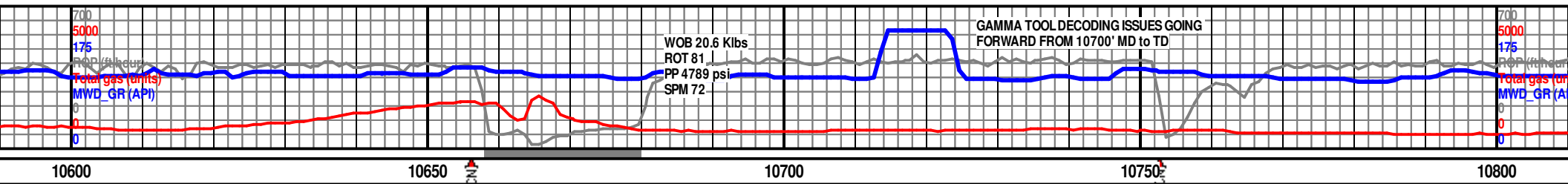


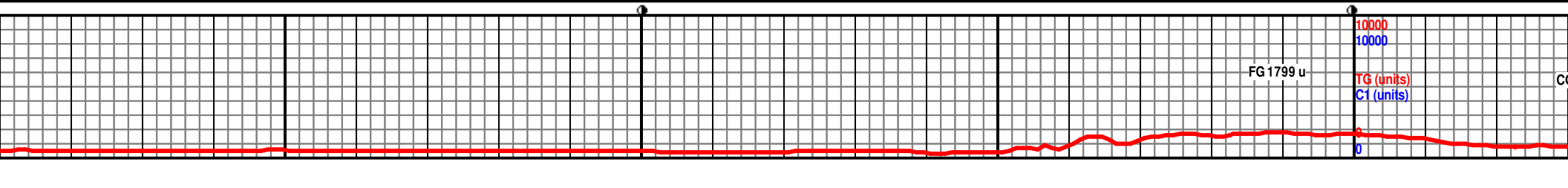
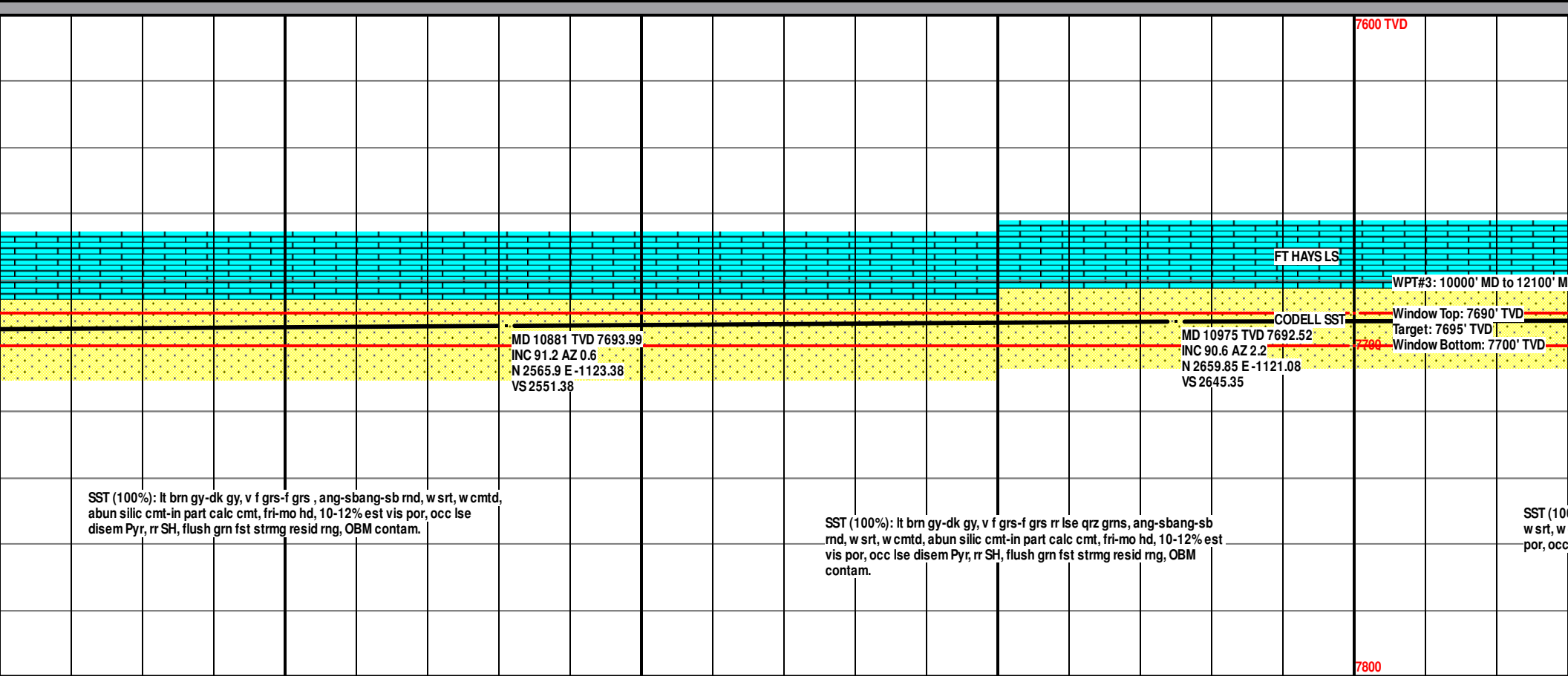
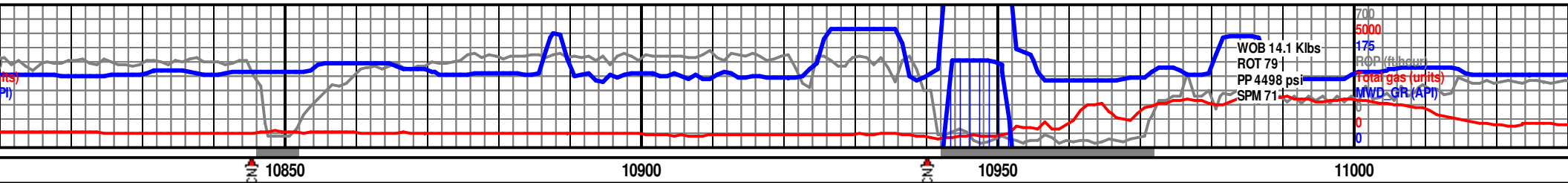


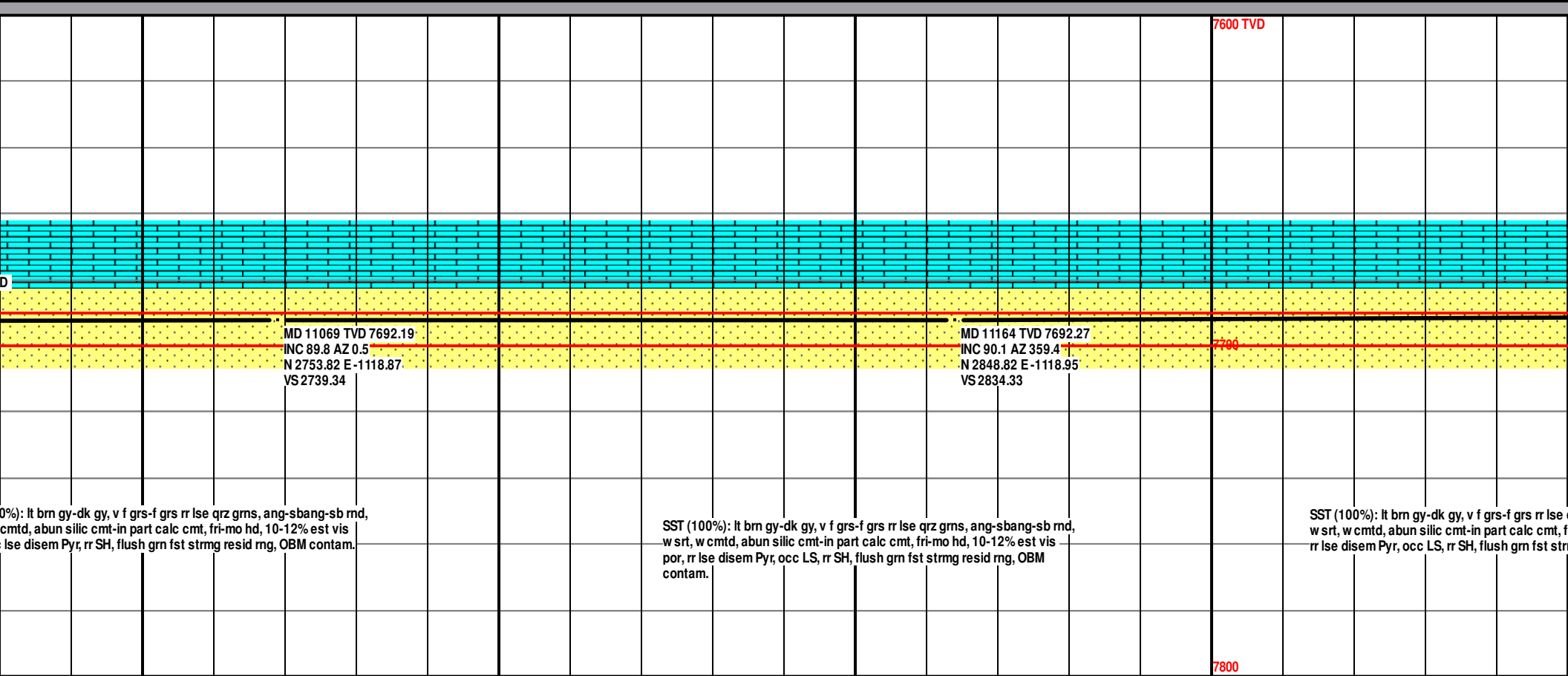
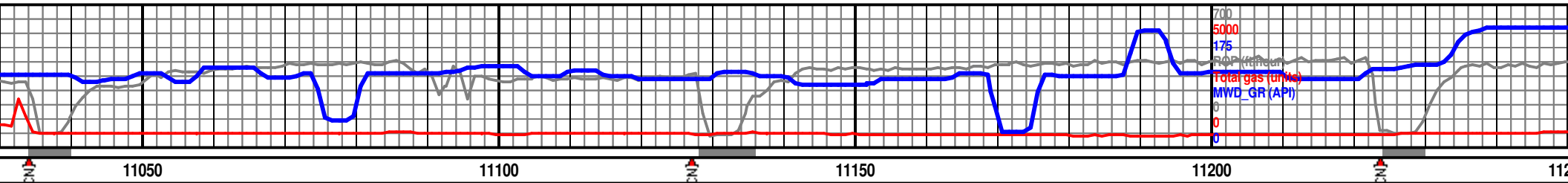








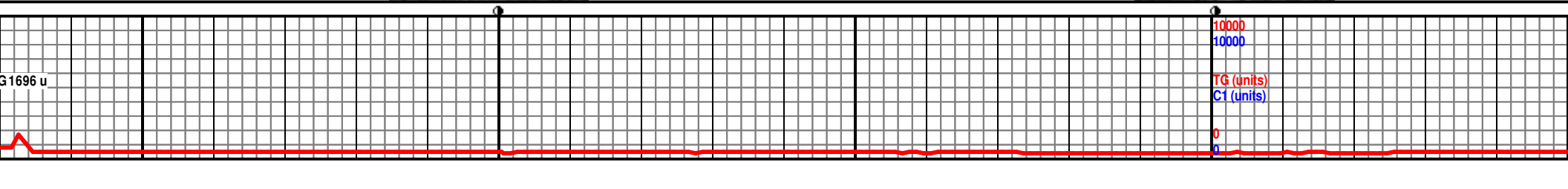


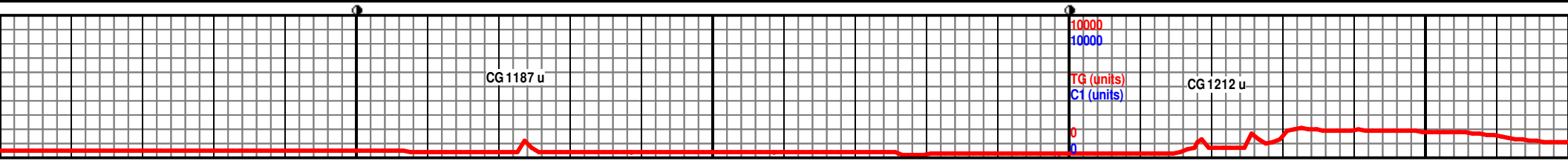
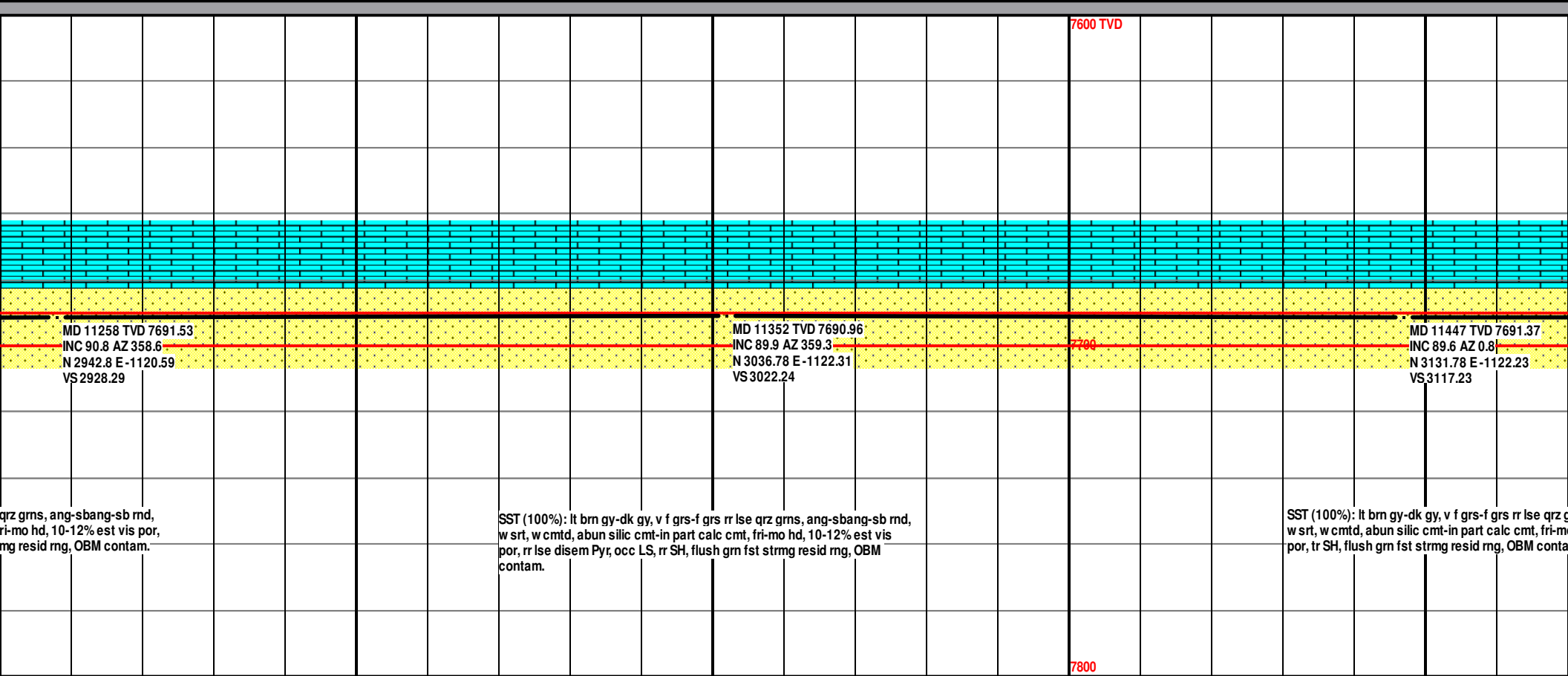
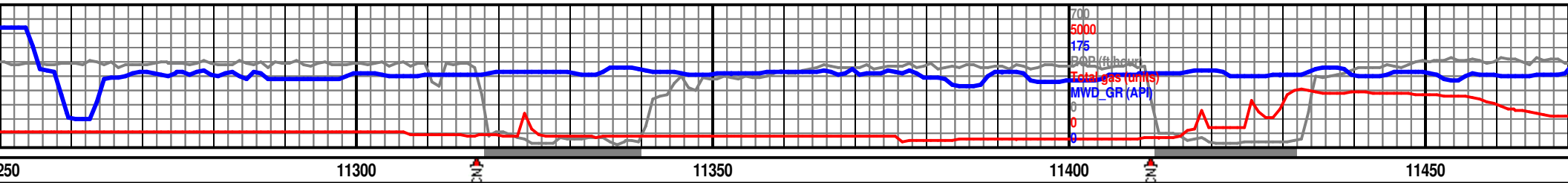


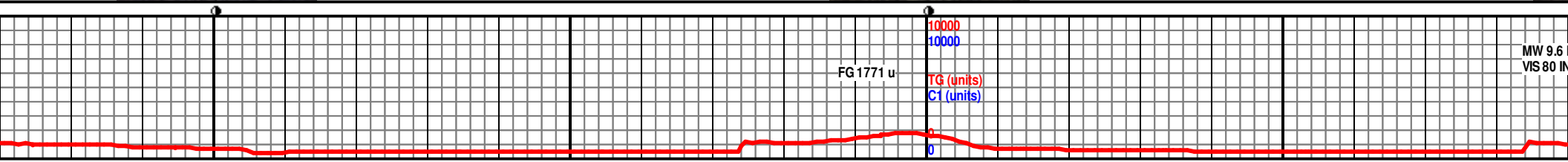
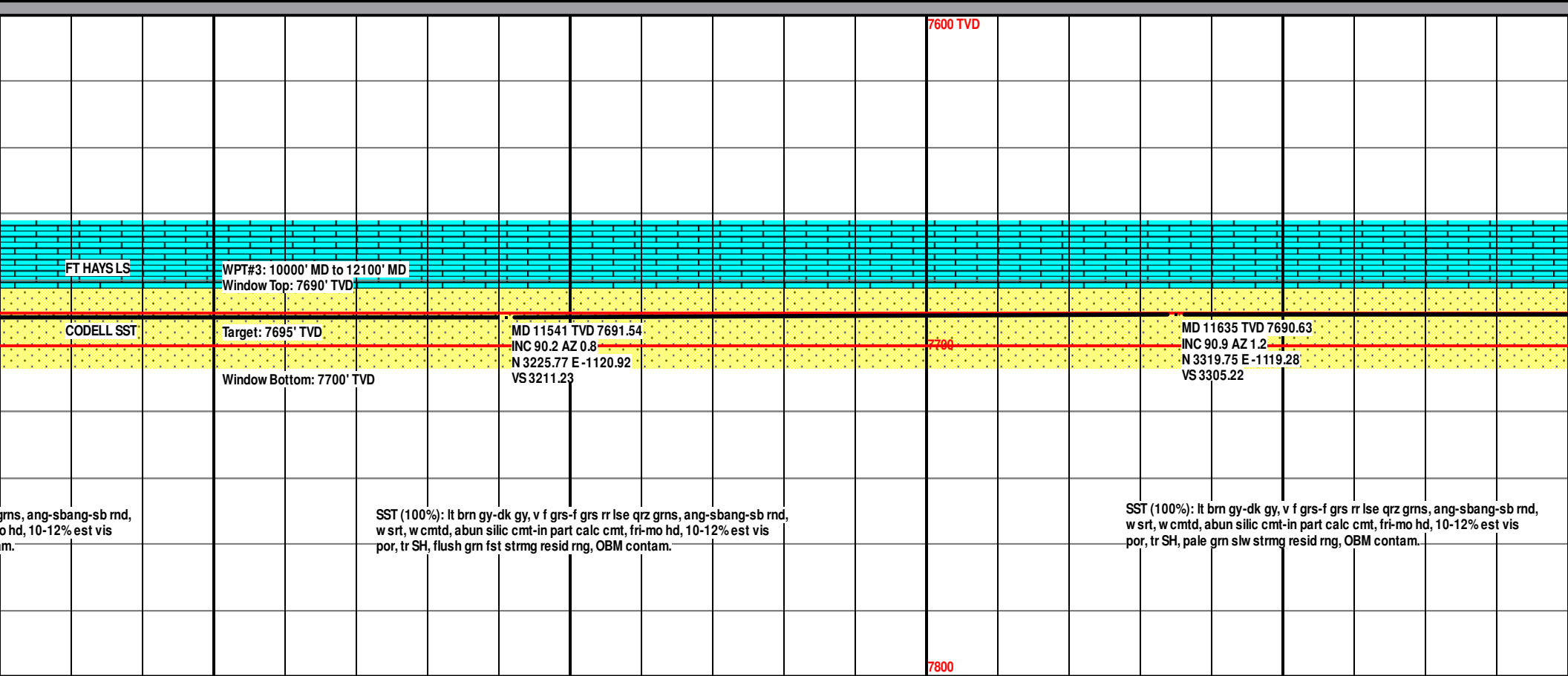
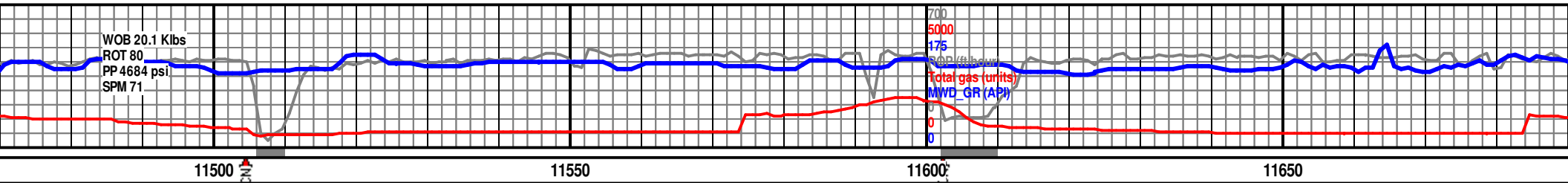
0%): lt brn gy-dk gy, v f grs-f grs rr lse qrz gms, ang-sbang-sb md, cmt, abun silic cmt-in part calc cmt, fri-mo hd, 10-12% est vis lse disem Pyr, rr SH, flush grn fst strmg resid mg, OBM contam.

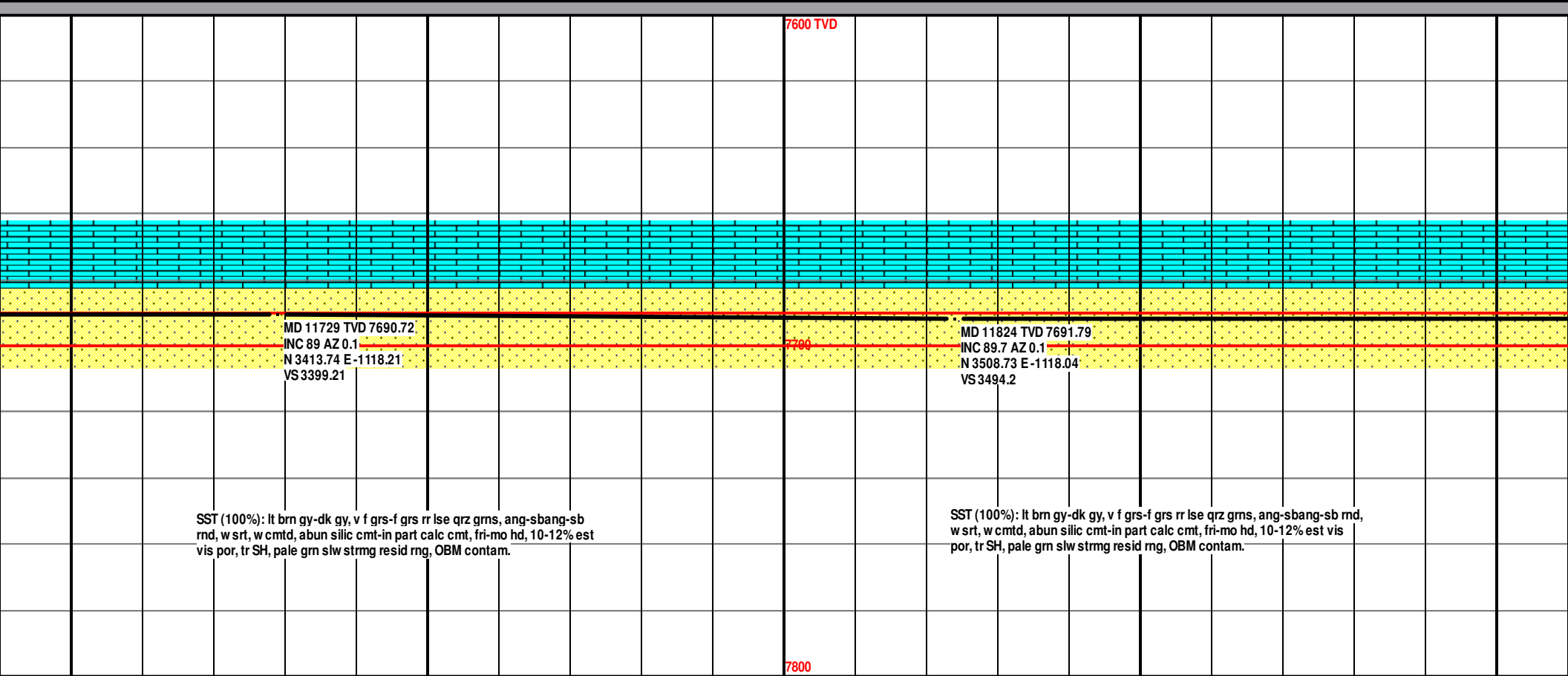
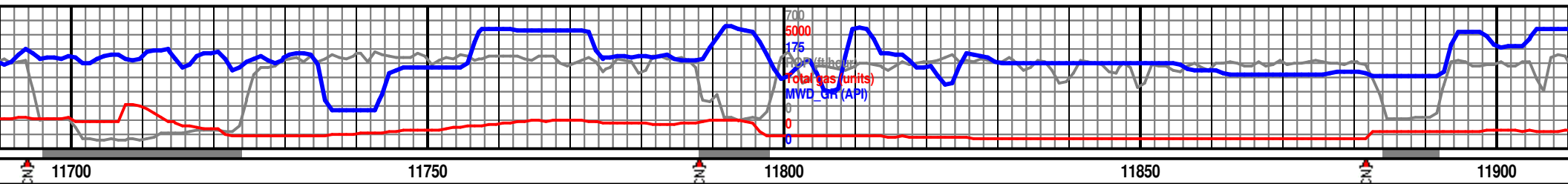
SST (100%): lt brn gy-dk gy, v f grs-f grs rr lse qrz gms, ang-sbang-sb md, w srt, w cmt, abun silic cmt-in part calc cmt, fri-mo hd, 10-12% est vis por, rr lse disem Pyr, occ LS, rr SH, flush grn fst strmg resid mg, OBM contam.

SST (100%): lt brn gy-dk gy, v f grs-f grs rr lse qrz gms, ang-sbang-sb md, w srt, w cmt, abun silic cmt-in part calc cmt, fri-mo hd, 10-12% est vis por, rr lse disem Pyr, occ LS, rr SH, flush grn fst strmg resid mg, OBM contam.







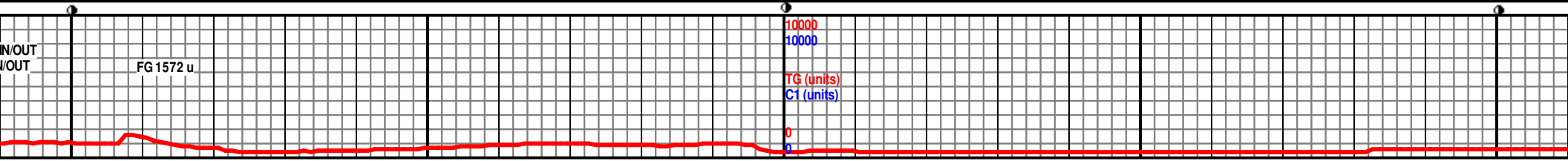


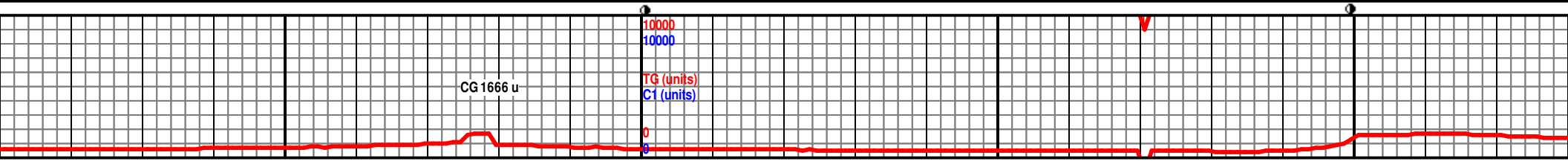
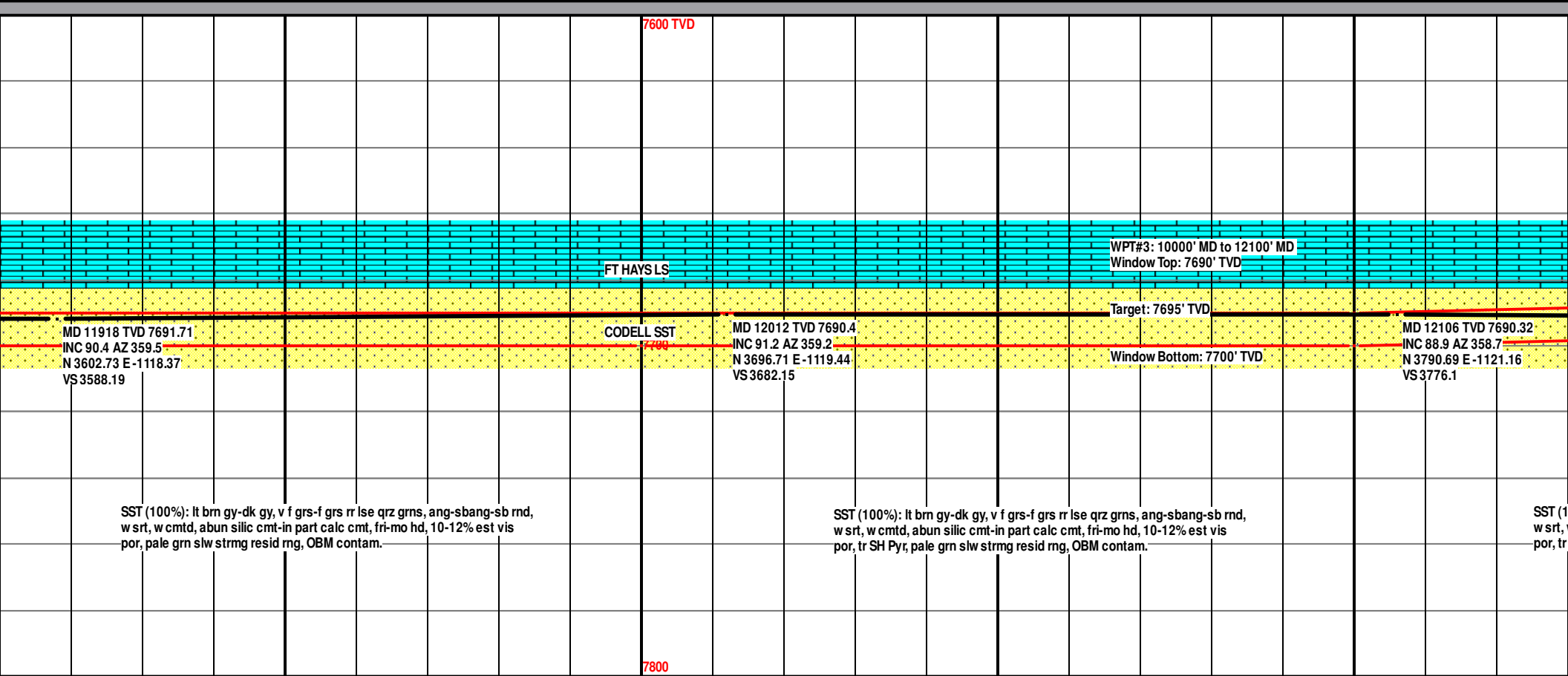
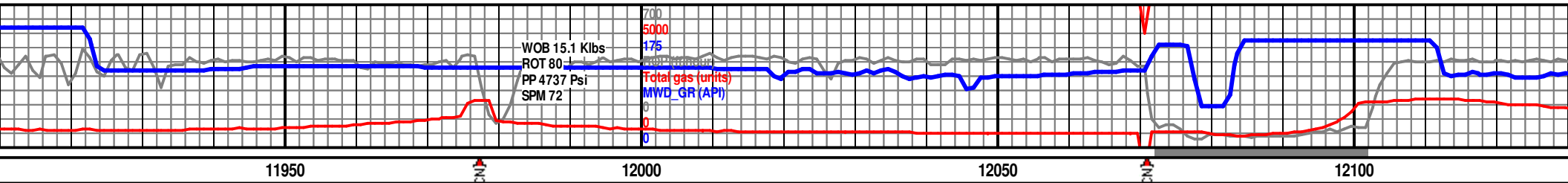
MD 11729 TVD 7690.72
INC 89 AZ 0.1
N 3413.74 E -1118.21
VS 3399.21

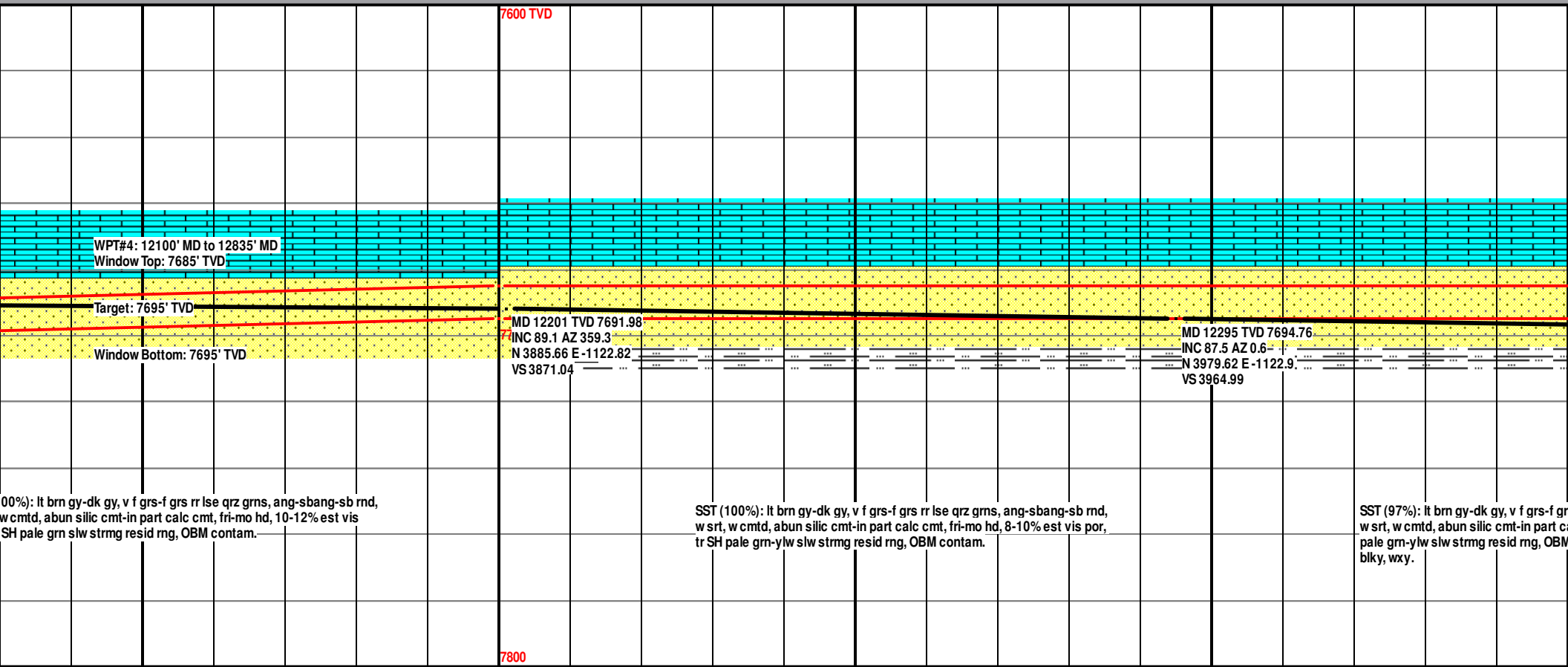
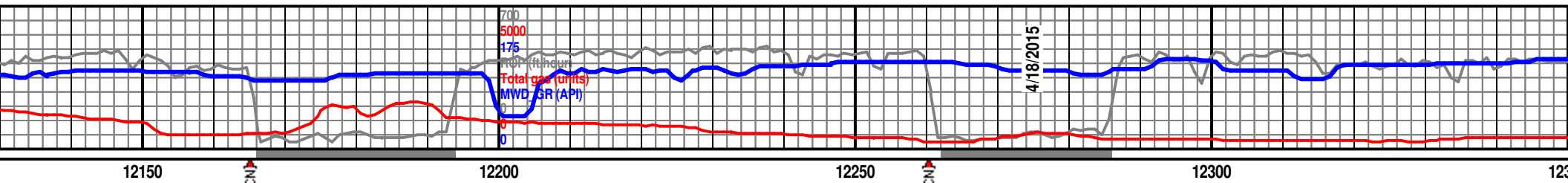
SST (100%): lt brn gy-dk gy, v f grs-f grs rr lse qrz grms, ang-sbang-sb rnd, w srt, w cmt, abun silic cmt-in part calc cmt, fri-mo hd, 10-12% est vis por, tr SH, pale grn slw strmg resid rng, OBM contam.

MD 11824 TVD 7691.79
INC 89.7 AZ 0.1
N 3508.73 E -1118.04
VS 3494.2

SST (100%): lt brn gy-dk gy, v f grs-f grs rr lse qrz grms, ang-sbang-sb rnd, w srt, w cmt, abun silic cmt-in part calc cmt, fri-mo hd, 10-12% est vis por, tr SH, pale grn slw strmg resid rng, OBM contam.



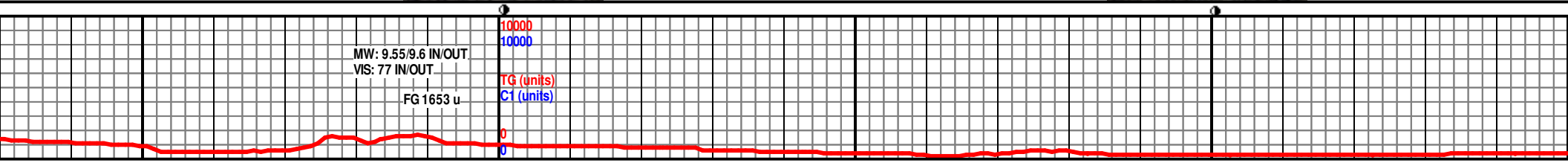


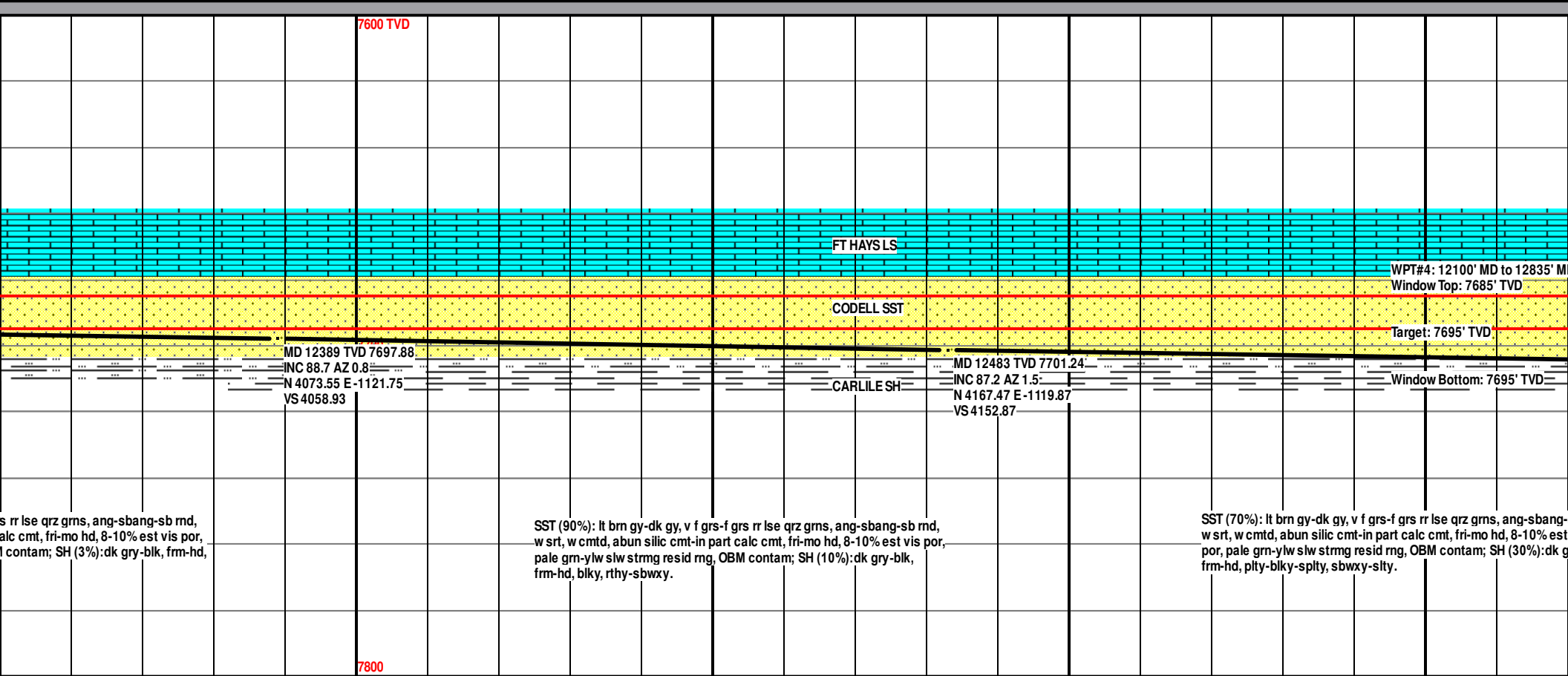
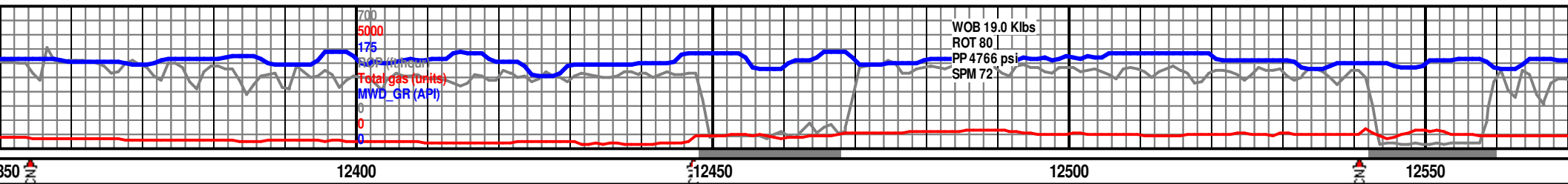


00%): lt brn gy-dk gy, v f grs-f grs rr lse qrz grns, ang-sbang-sb rnd,
w cmt, abun silic cmt-in part calc cmt, fri-mo hd, 10-12% est vis
SH pale grn slw strmg resid rng, OBM contam.

SST (100%): lt brn gy-dk gy, v f grs-f grs rr lse qrz grns, ang-sbang-sb rnd,
w srt, w cmt, abun silic cmt-in part calc cmt, fri-mo hd, 8-10% est vis por,
tr SH pale grn-ylw slw strmg resid rng, OBM contam.

SST (97%): lt brn gy-dk gy, v f grs-f grs rr lse qrz grns, ang-sbang-sb rnd,
w srt, w cmt, abun silic cmt-in part calc cmt, fri-mo hd, 8-10% est vis por,
tr SH pale grn-ylw slw strmg resid rng, OBM contam.

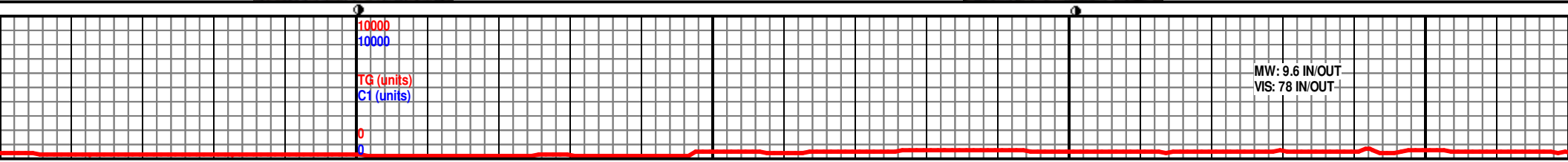




s rr lse qrz grns, ang-sbang-sb rnd,
alc cmt, fri-mo hd, 8-10% est vis por,
contam; SH (3%): dk gry-blk, frm-hd,

SST (90%): lt brn gy-dk gy, v f grs-f grs rr lse qrz grns, ang-sbang-sb rnd,
w srt, w cmt, abun silic cmt-in part calc cmt, fri-mo hd, 8-10% est vis por,
pale grn-ylw slw strmg resid mg, OBM contam; SH (10%): dk gry-blk,
frm-hd, blk, rthy-sbwxy.

SST (70%): lt brn gy-dk gy, v f grs-f grs rr lse qrz grns, ang-sbang-
w srt, w cmt, abun silic cmt-in part calc cmt, fri-mo hd, 8-10% est
por, pale grn-ylw slw strmg resid mg, OBM contam; SH (30%): dk g
frm-hd, plty-blky-sply, sbwxy-slty.



MW: 9.6 IN/OUT
VIS: 78 IN/OUT

