

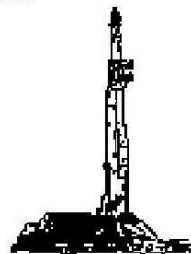
GOOLSBY BROTHERS
and associates, inc.

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 27C-8HZ

API: 51233909400

Location: SWSE Sec. 8 T1N R67W

License Number: AFE: 2085768

Spud Date: May 27, 2014

Region: Wattenberg

Drilling Completed: June 4th, 2014

Surface Coordinates: 350' FSL, 1810' FEL

Lat. 40.0592720 Long. --104.9115600, Sec.8, T1N R67W

Bottom Hole

Coordinates:

Ground Elevation (ft): 5,063'

K.B. Elevation (ft): 5,076'

Logged Interval (ft): 7190'

To: 12980' Total Depth (ft): 12980'

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

E-logs


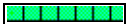



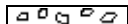



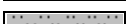
Casing

Intermediate casing: 7", 26#, HTC 110 LTC, set at 8246'
Liner: 4 1/2", packer and assembly, 11.5#, HCP 110, LTC & D2X, set at 12987'

Comments

- 1) Drilling Contractor: H&P 311
Pumps 1 & 2: Gardner Denver PZ 11 6" x 11" (.0914 bbl/stk)
Rig Manager: Christopher Moore, James Baggett.
Drillers: Michael Munroe, Christopher Moore, Kenneth Jones, Christopher Beckstead.
- 2) Company Man: Doug Blair, Ruben Hernandez
- 3) Mud Company: Halliburton, Steven McNeil
- 4) Directional Drilling: Scientific Drilling
Directional Drillers: Arin Hatfield
MWD: Mohamed Sharker.
- 5) Gas Equipment: Mudlogging Systems Inc.
by Terra Services
Redbox # ML-055

ROCK TYPES

	Anhy		Oil sat.		Salt		Ss
	Bent		Congl		Shale		Chalk
	Brec		Dol		Shcol		Carb sh
	Cht		Gyp		Shgy		Sltly sh
	Clyst		Lmst		Ss		
	Coal		Mrlst		Sltst		

ACCESSORIES

MINERAL

	Anhy
	Arggrn
	Arg
	Bent
	Bit
	Brecfrag
	Calc
	Carb
	Chtdk
	Chtl
	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

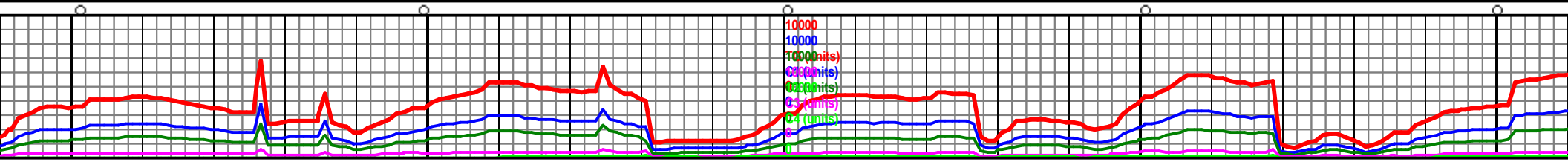
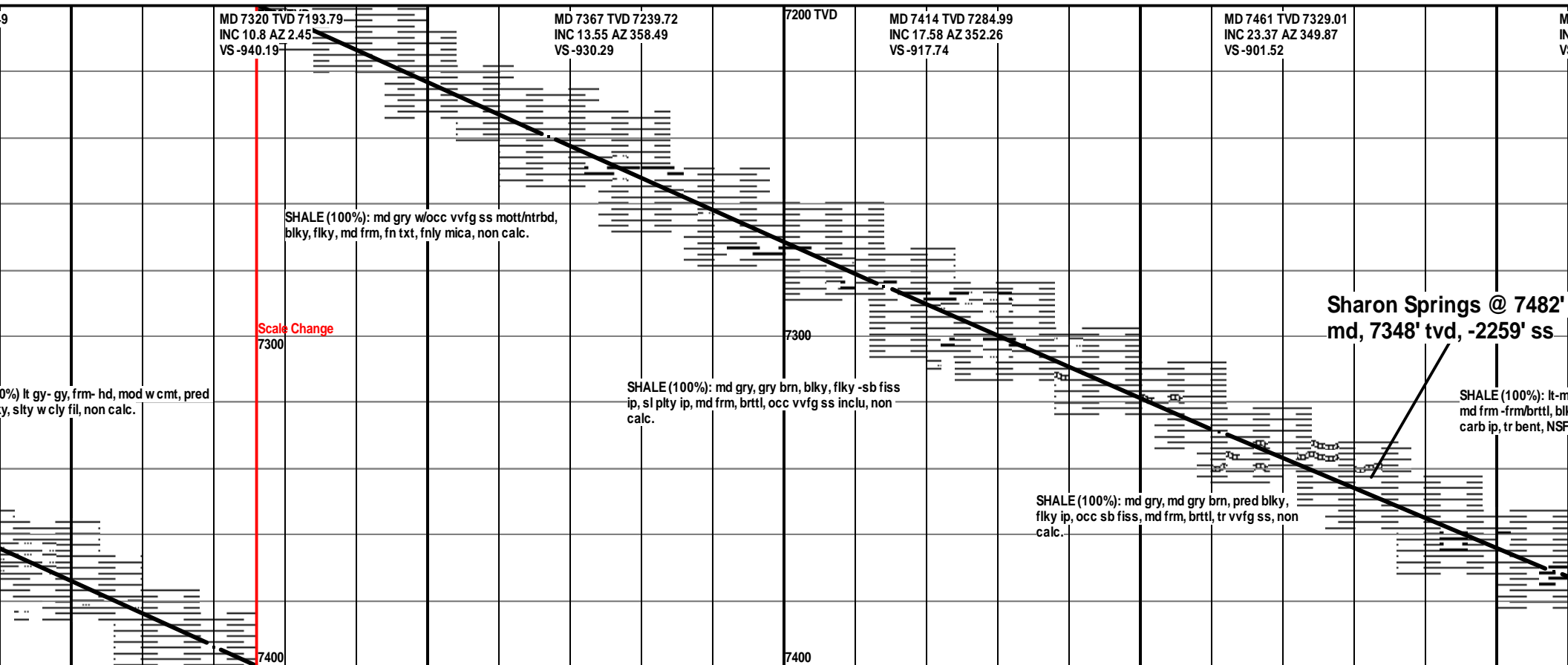
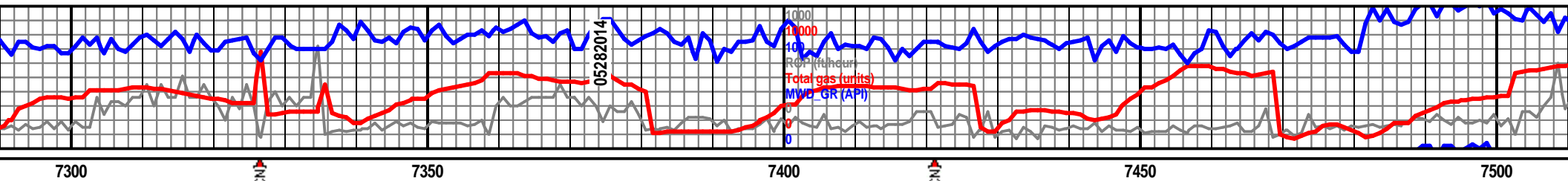
ROUNDING

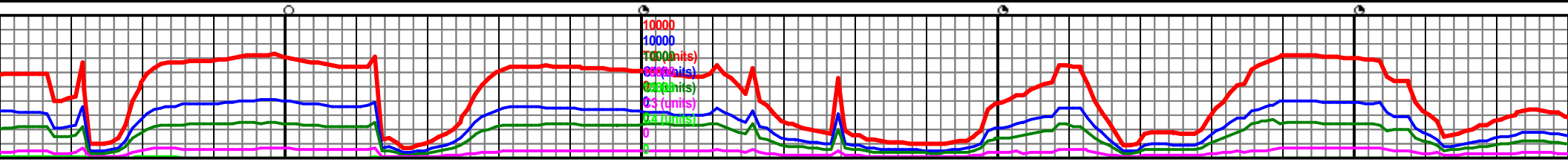
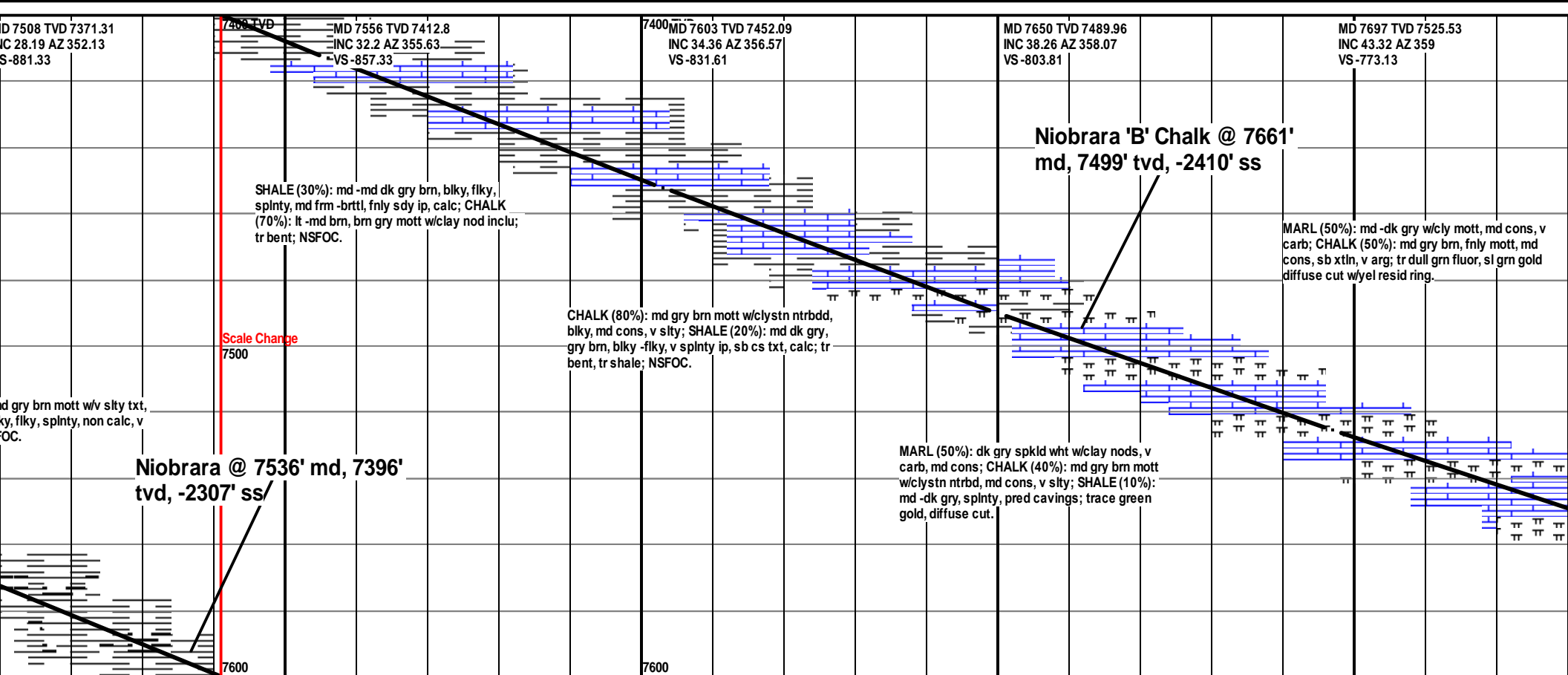
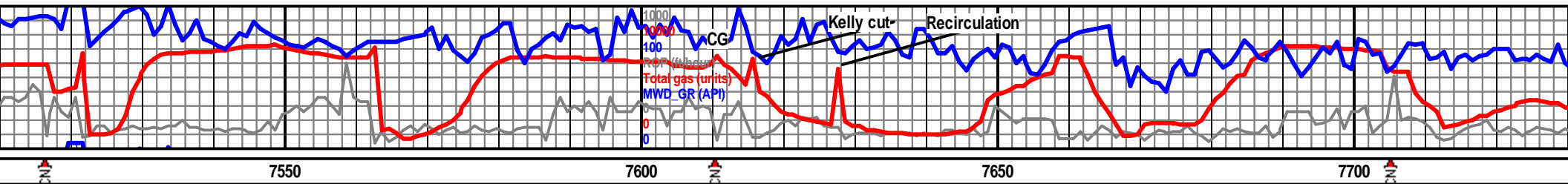
	Rounded
	Subrnd
	Subang

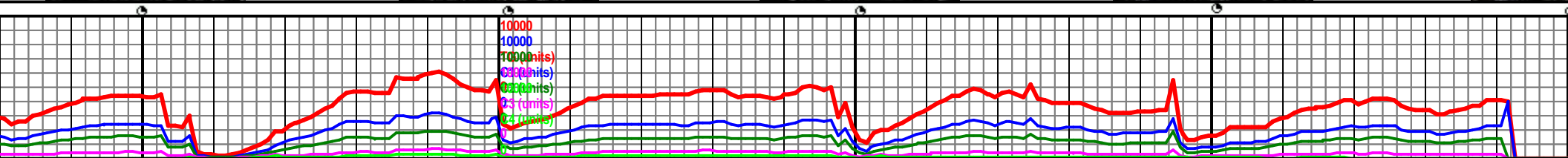
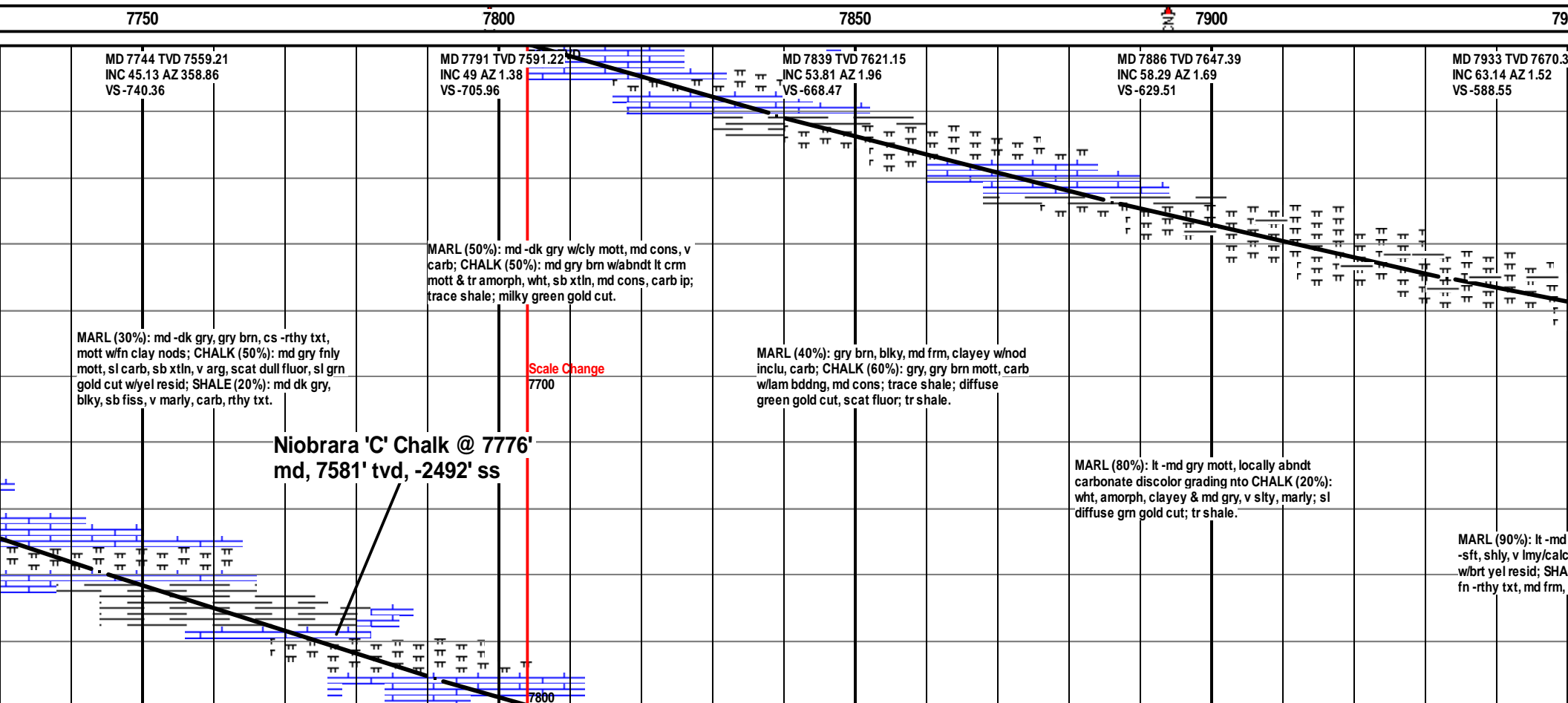
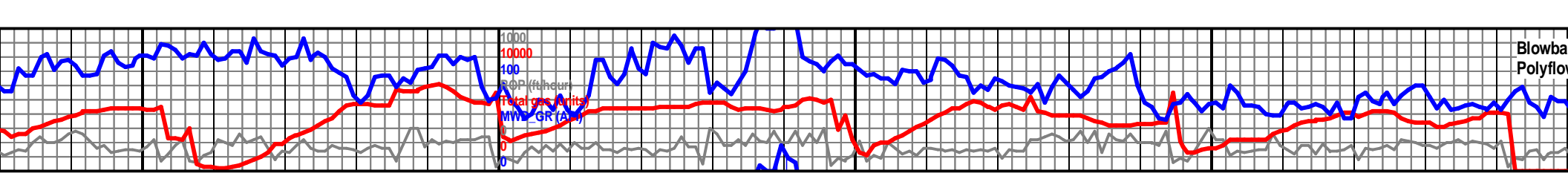
	Angular
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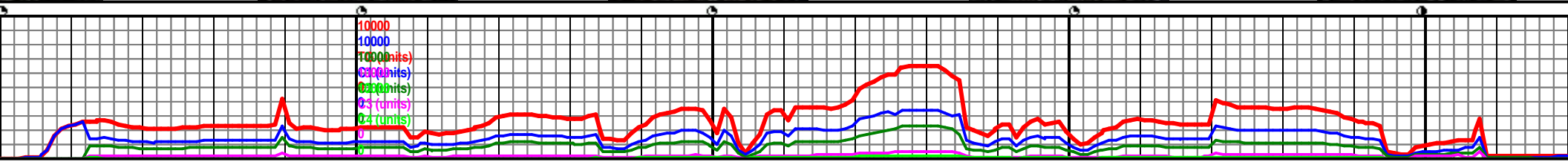
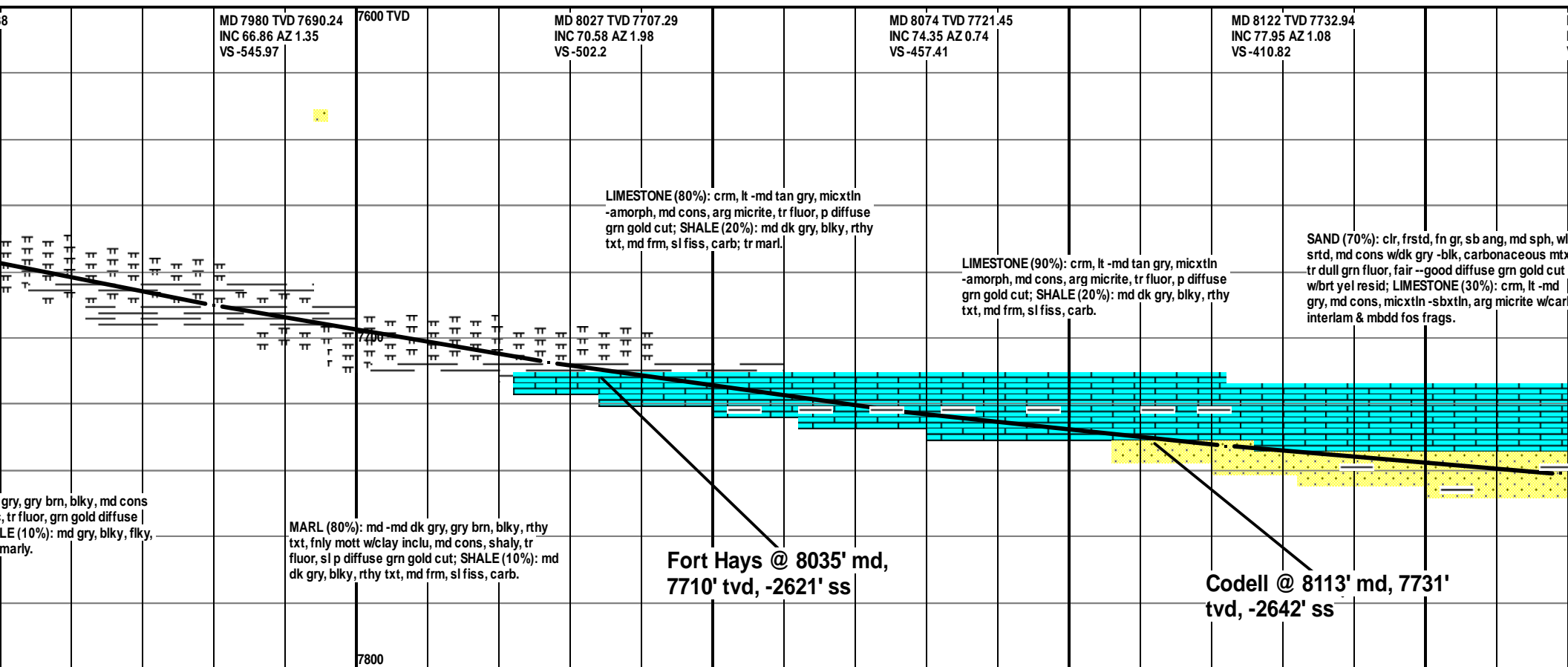
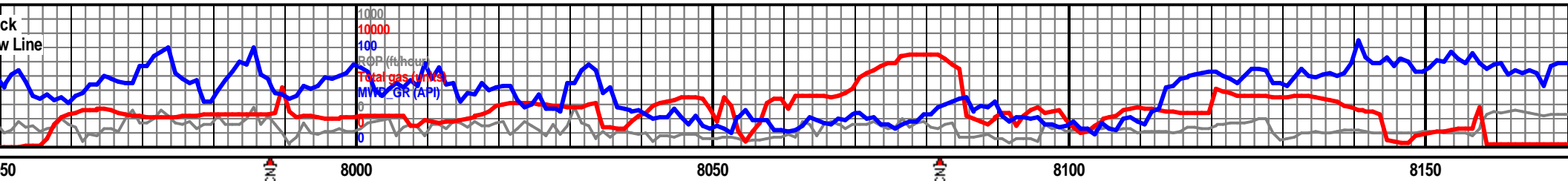
SORTING

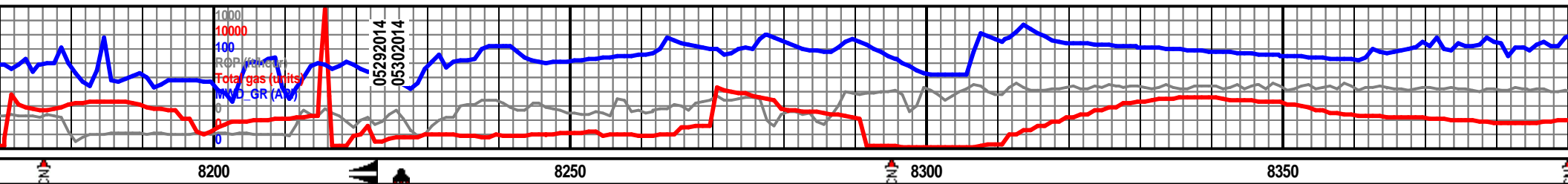
	Well
	Moderate
	Poor











MD 8169 TVD 7740.94
INC 82.43 AZ 0.3
VS -364.52

7600 TVD

Bit # 2 - 6.125" ULTERA U513S, SN:
25236; Jets 3x18, 4x20; w/MWD
GR/Survey BHA & Dir MM (1.5°) 0.28
RPG., In @ 8223'; Out @ 10104'; Drilled
1881' in 14.5 hrs; Average ROP 129.72
ft/hr.

MD 8328 TVD 7752.92
INC 88.92 AZ 359.41
VS -206.06

SAND (80%): clr, frstd, fn gr, sb ang, md sph, wl
srtd, md cons w/dk gry -blk, carbonaceous mtz,
tr dull grn fluor, fair --good diffuse grn gold cut
w/brt yel resid; LIMESTONE (20%): cm, lt -md
gry, md cons, micxtln -sbxtln, arg micrite; tr lt
gry, flky, grtty txt, shale.

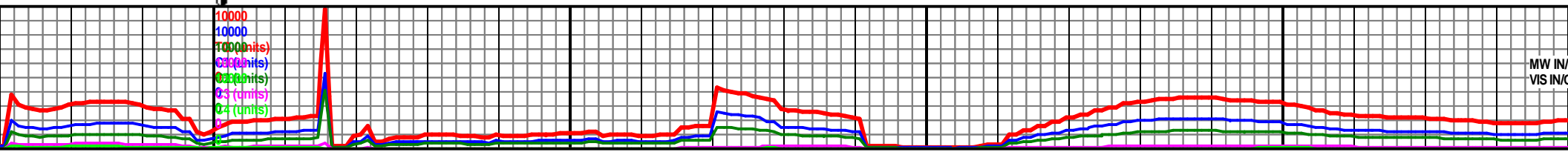
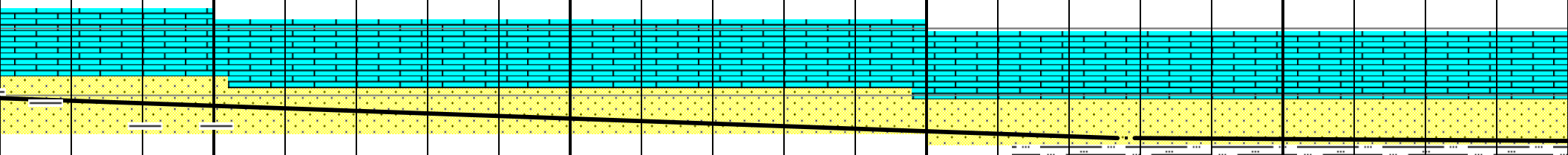
**TD ICP @ 8223',
05/28/2014,
13:55 hours**

SS (100%): lt brn gy- gy, transp- transl, v f grn-f
g, sb ang-sb rnd, mod srt, ply-mod cons, md
calc, sl sil, tr LS & SH, 8-12% est vis por, NFSOC.

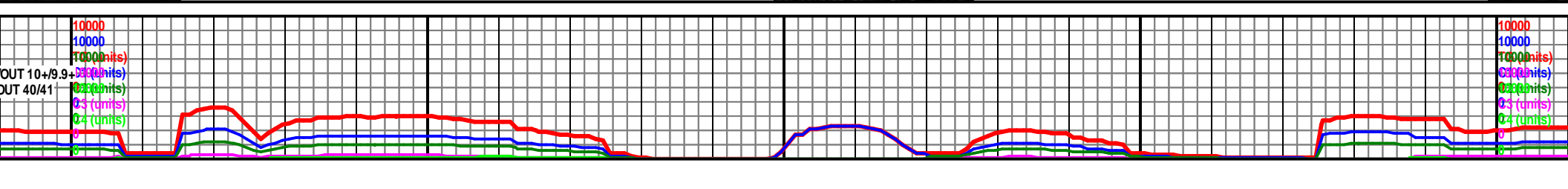
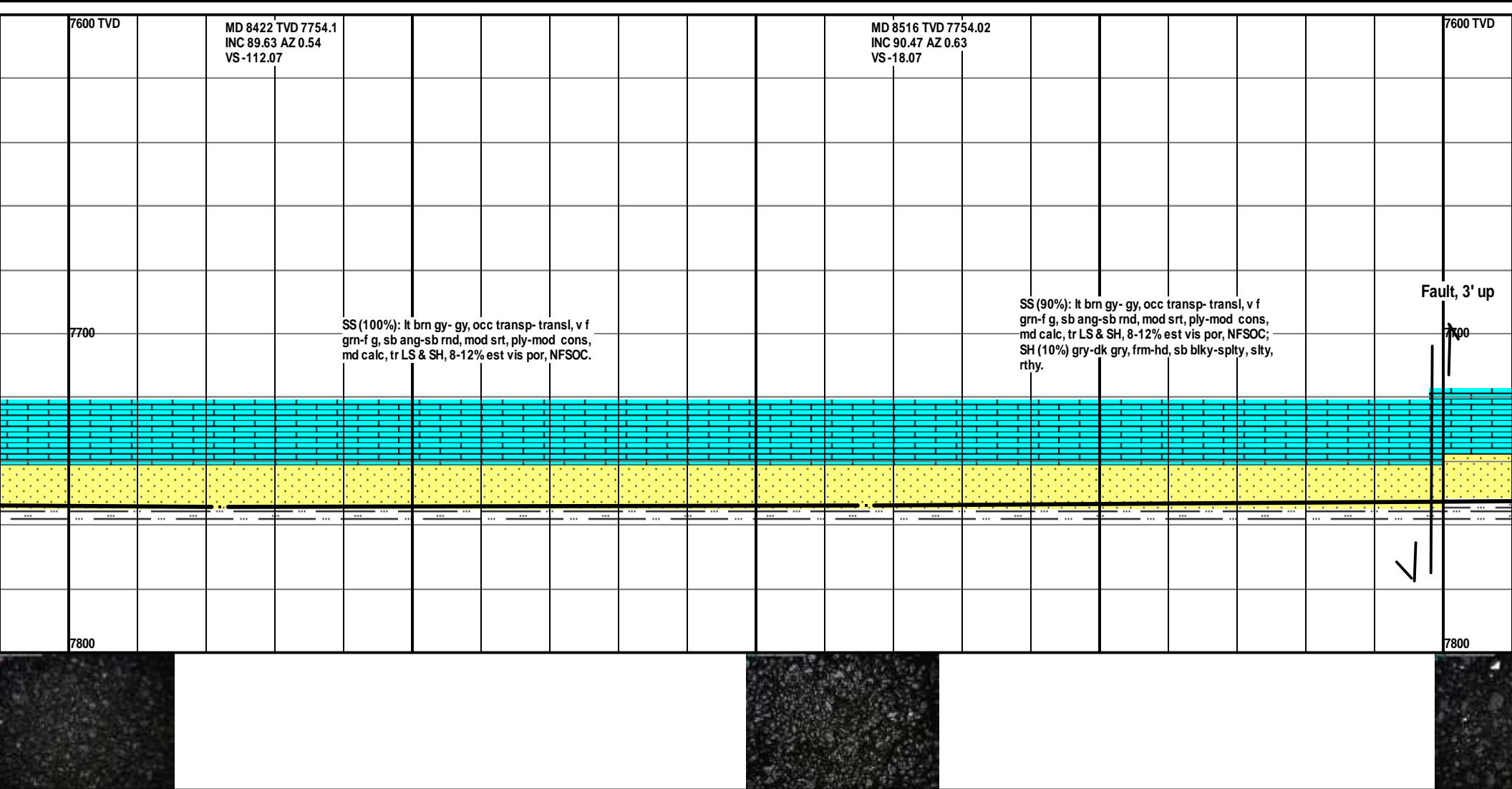
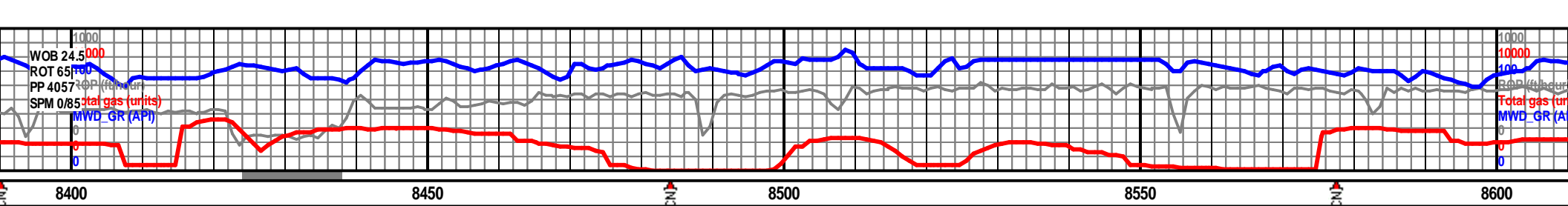
SS (100%): lt brn gy- gy, transp- transl, v f grn-f
g, sb ang-sb rnd, mod srt, ply-mod cons, md
calc, tr LS & SH, 8-12% est vis por, NFSOC.

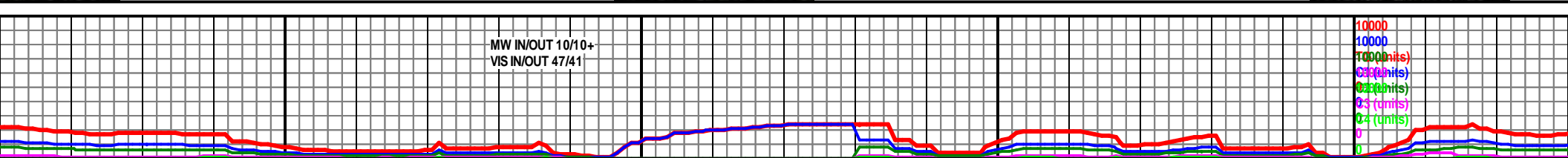
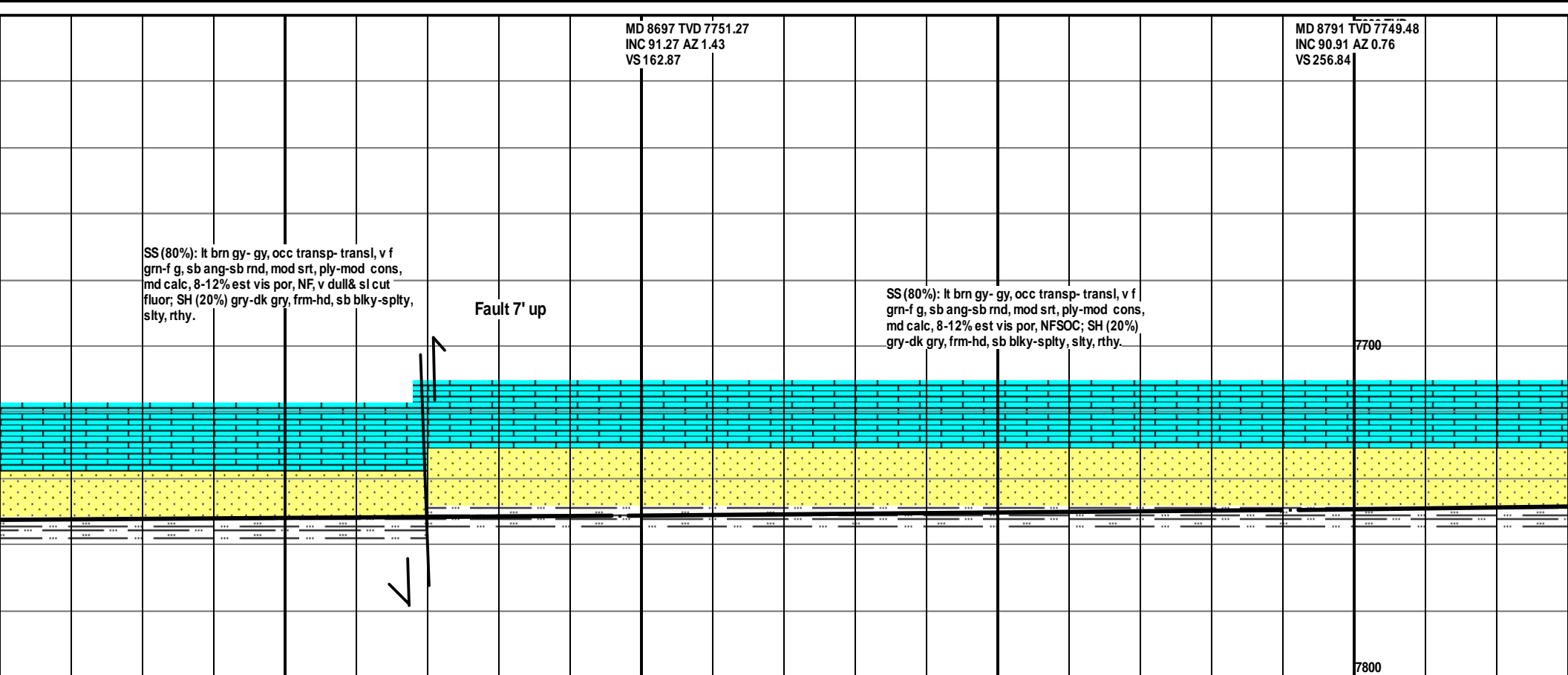
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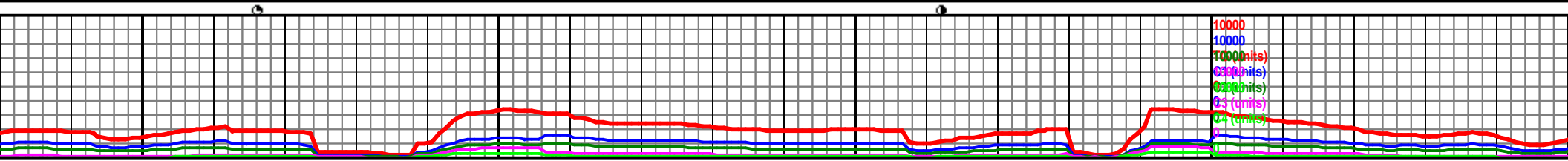
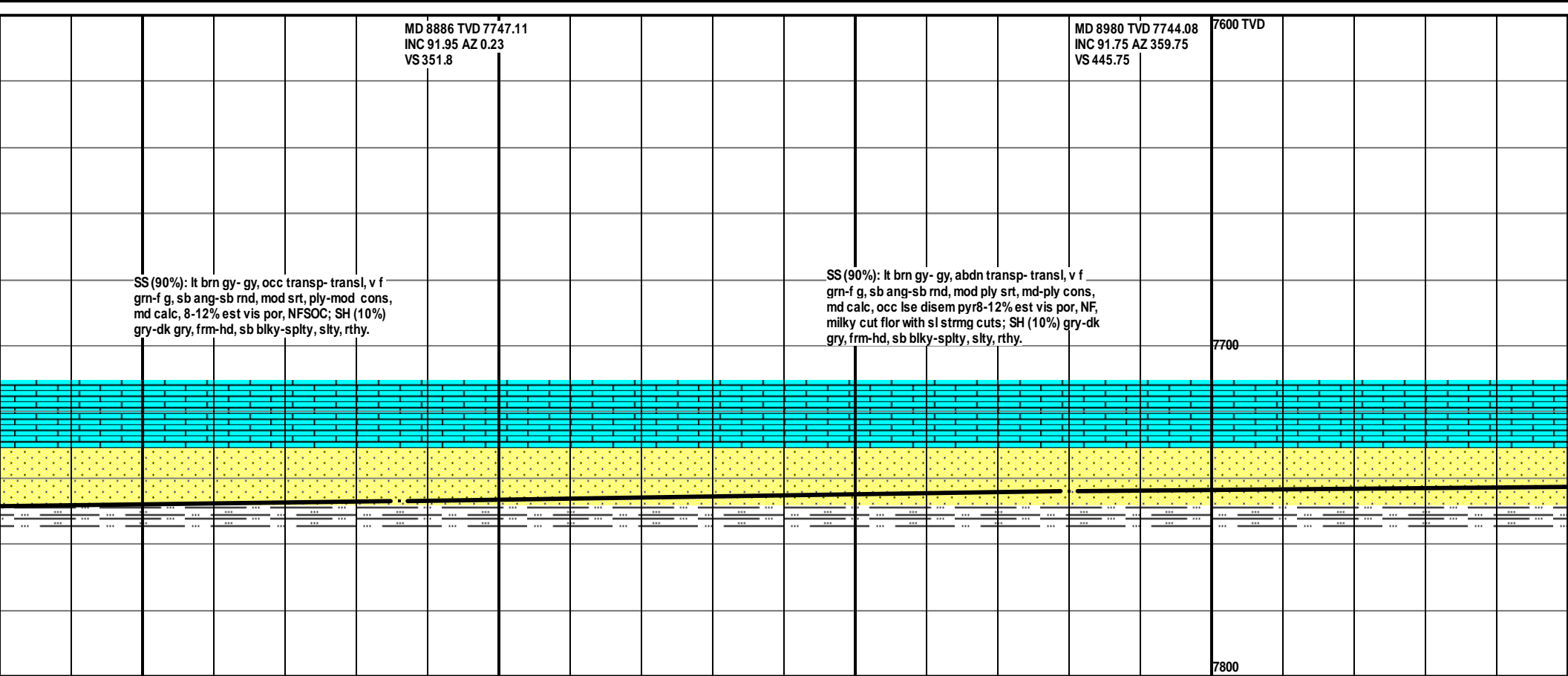
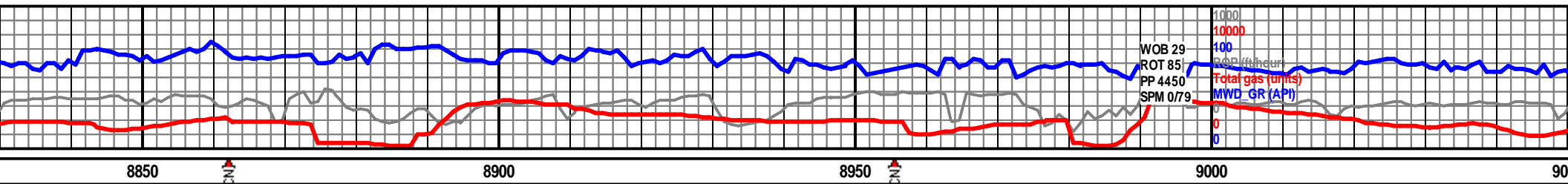
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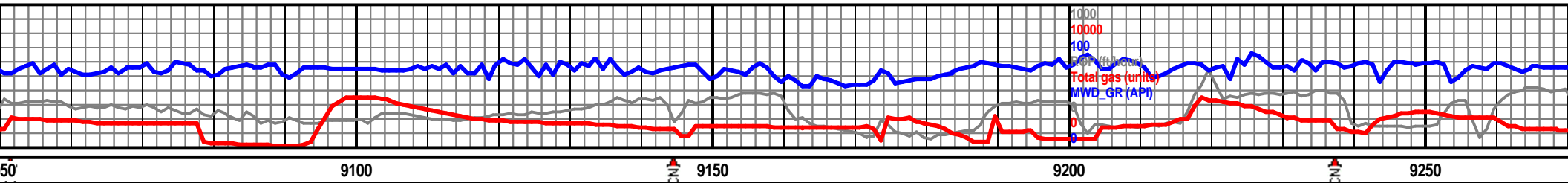


MW IN/
VIS IN/

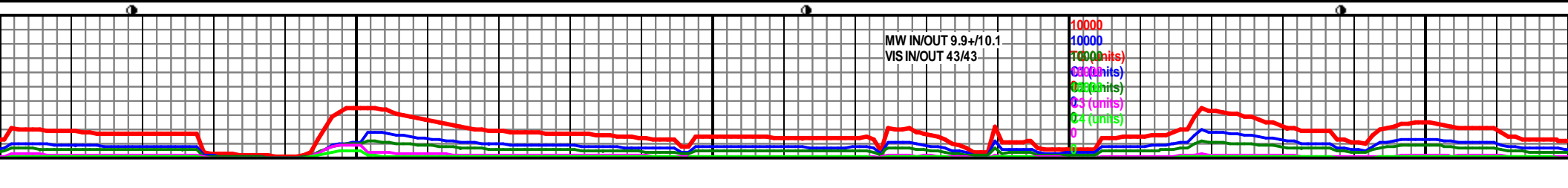


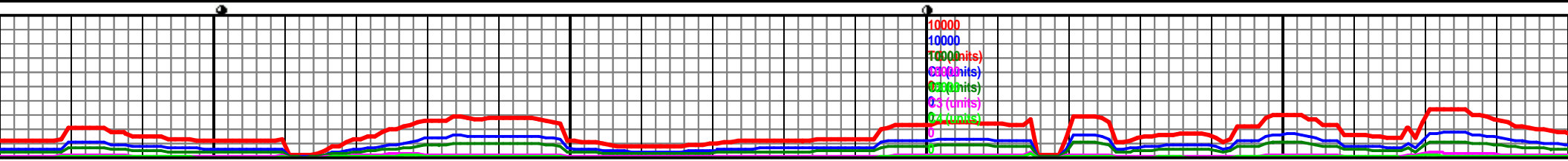
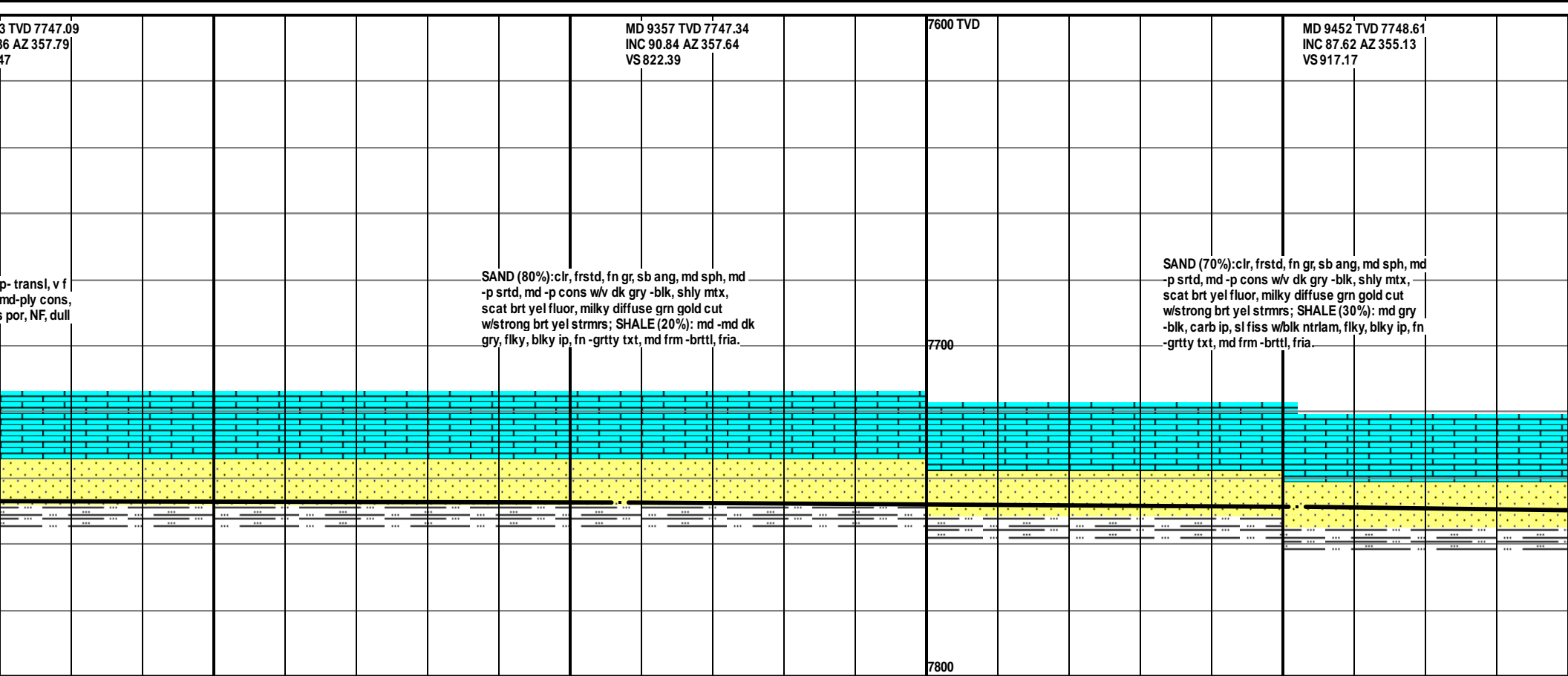
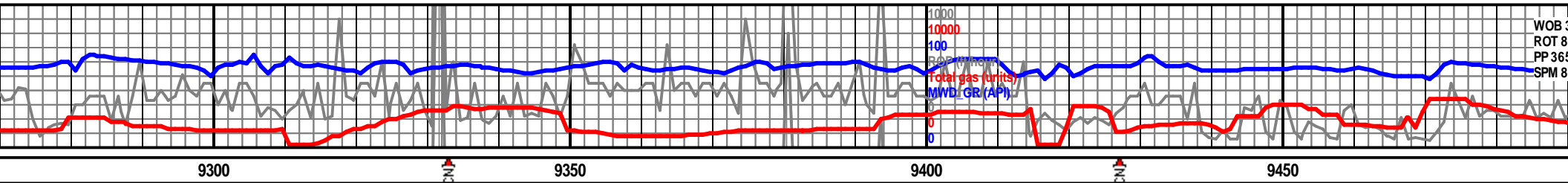


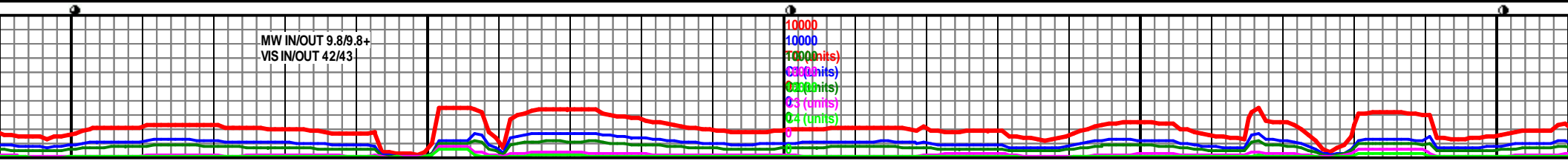
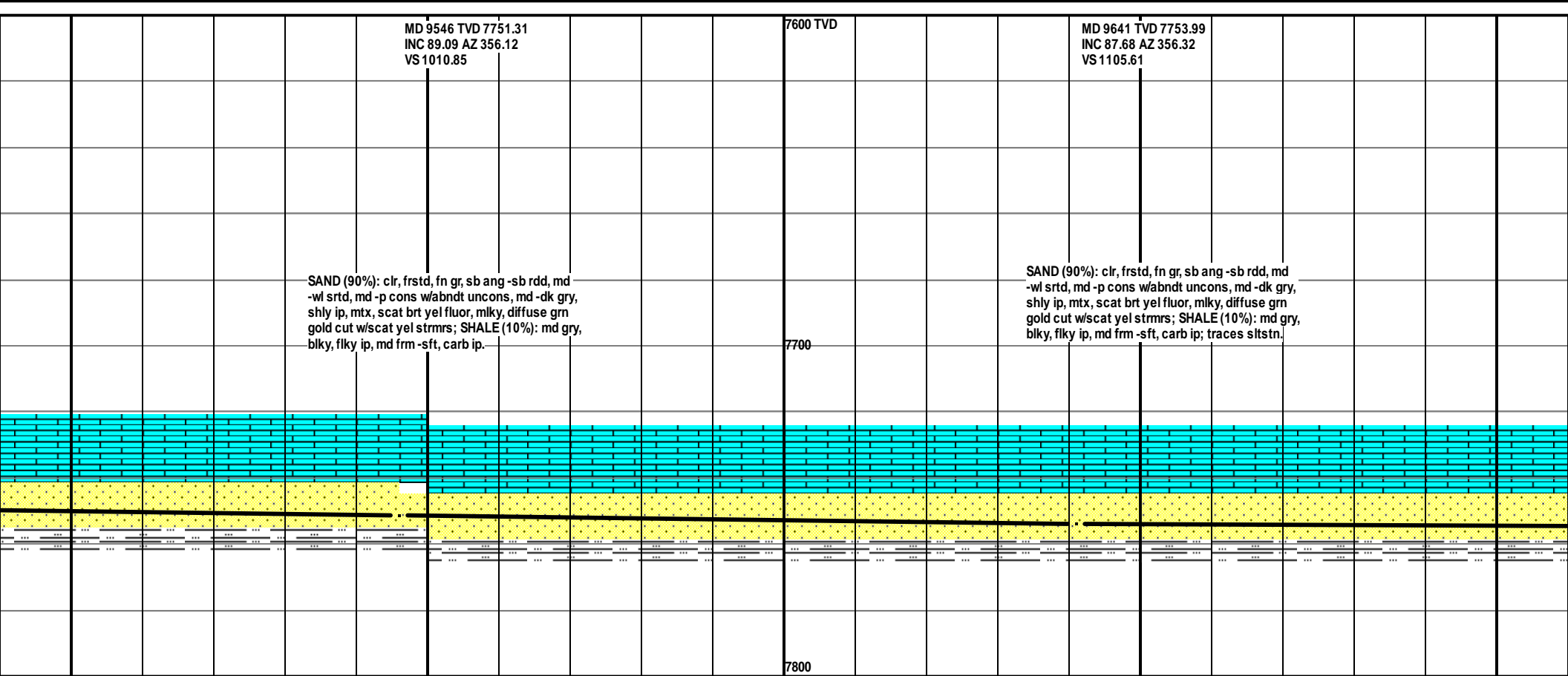
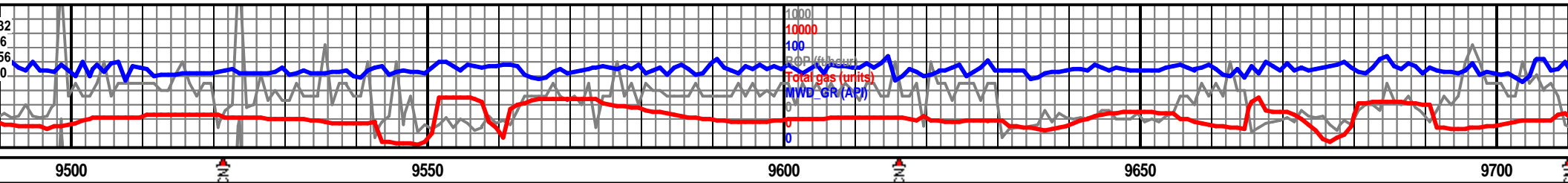


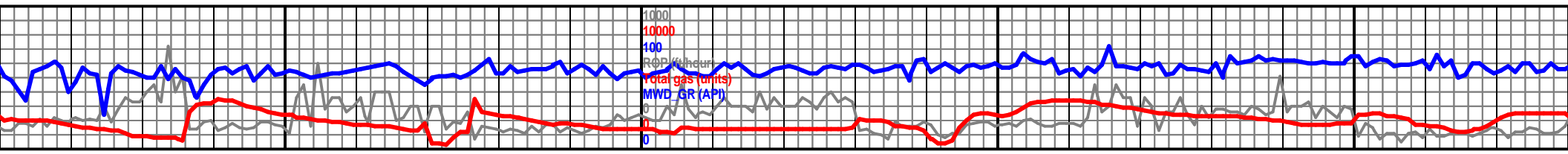


MD 9075 TVD 7742.13 INC 90.61 AZ 358.9 VS 540.73		MD 9169 TVD 7743.89 INC 87.25 AZ 356.86 VS 634.63	7600 TVD	MD 9261 TVD 7744.89 INC 88.86 AZ 356.86 VS 728.43
SS (100%): lt brn gy- gy, abdn transp- transl, v f grn-f g, sb ang-sb rnd, mod ply srt, md-ply cons, v calc, pred calc cmt, 8-12% est vis por, NF, dull cut flr with sl strmg cuts.	SS (100%): lt brn gy- gy, abdn transp- transl, v f grn-f g, sb ang-sb rnd, mod ply srt, md-ply cons, v calc, pred calc cmt, 8-12% est vis por, NF, dull cut flr with fast strmg cuts.		7700 7800	SS (100%): lt brn gy- gy, abdn transp- transl, v f grn-f g, sb ang-sb rnd, mod ply srt, md-ply cons, v calc, pred calc cmt, 8-12% est vis por, NF, dull cut flr with fast strmg cuts.









MD 9735 TVD 7754.76
INC 91.38 AZ 358.48
VS 1199.48

SAND (90%): clr, frstd, fn gr, sb rdd-sb ang, md
srted, md-p cons-uncons, md gry brn mtx w/ext
stn, scat brt yel fluor, milky diffuse grn gold cut
w/strng brt yel strms; SHALE (10%): md-dk gry,
gry brn, flky, splnty, fn-grtty txt, md frm, brttl,
fnly carb ip.

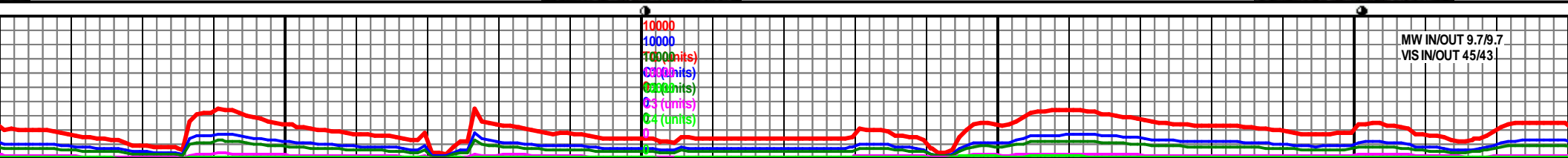
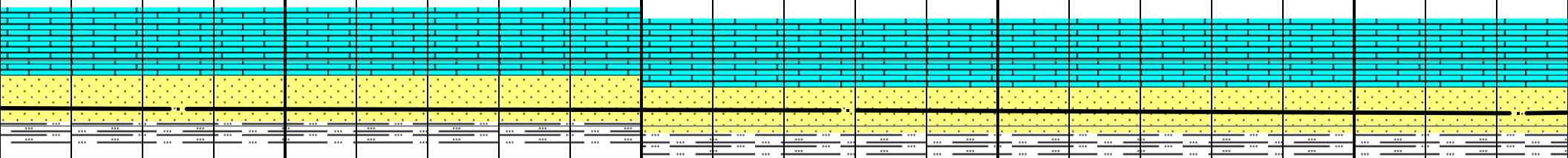
7600 TVD

MD 9829 TVD 7755.31
INC 87.95 AZ 356.61
VS 1293.38

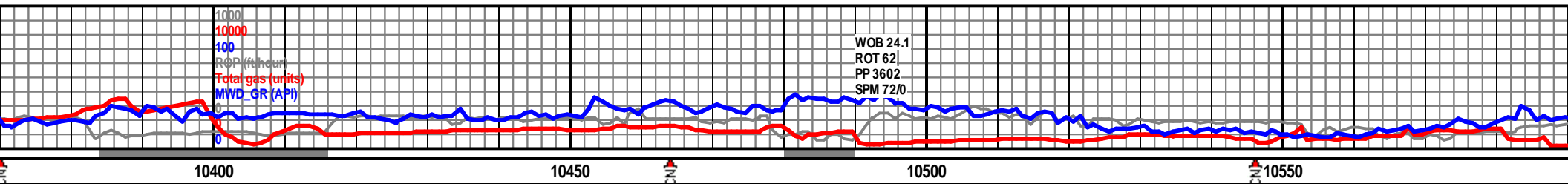
SAND (90%): clr, frstd, fn gr, sb rdd-sb ang, md
srted, md-p cons-uncons, md gry brn mtx w/ext
stn, scat brt yel fluor, milky diffuse grn gold cut
w/strng brt yel strms; SHALE (10%): md-dk gry,
gry brn, flky, splnty, fn-grtty txt, md frm, brttl,
fnly carb ip; traces gry brn micrite.

7700

7800



MW IN/OUT 9.7/9.7
VIS IN/OUT 45/43



MD 10394 TVD 7741.81
INC 90.24 AZ 2.75
VS 1858

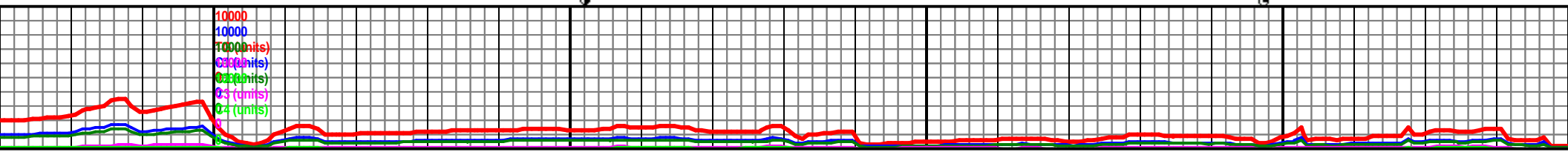
MD 10519 TVD 7741.81
INC 91.6 AZ 2.75
VS 2046

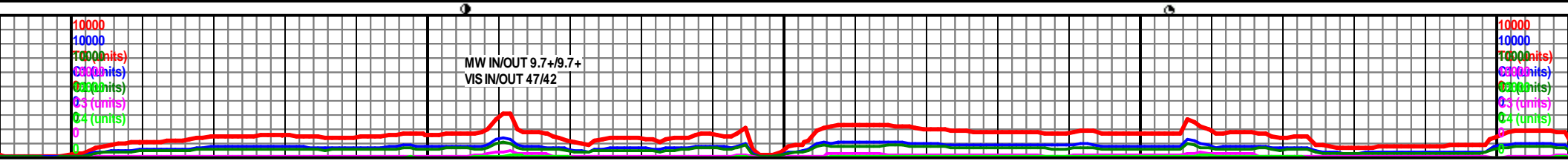
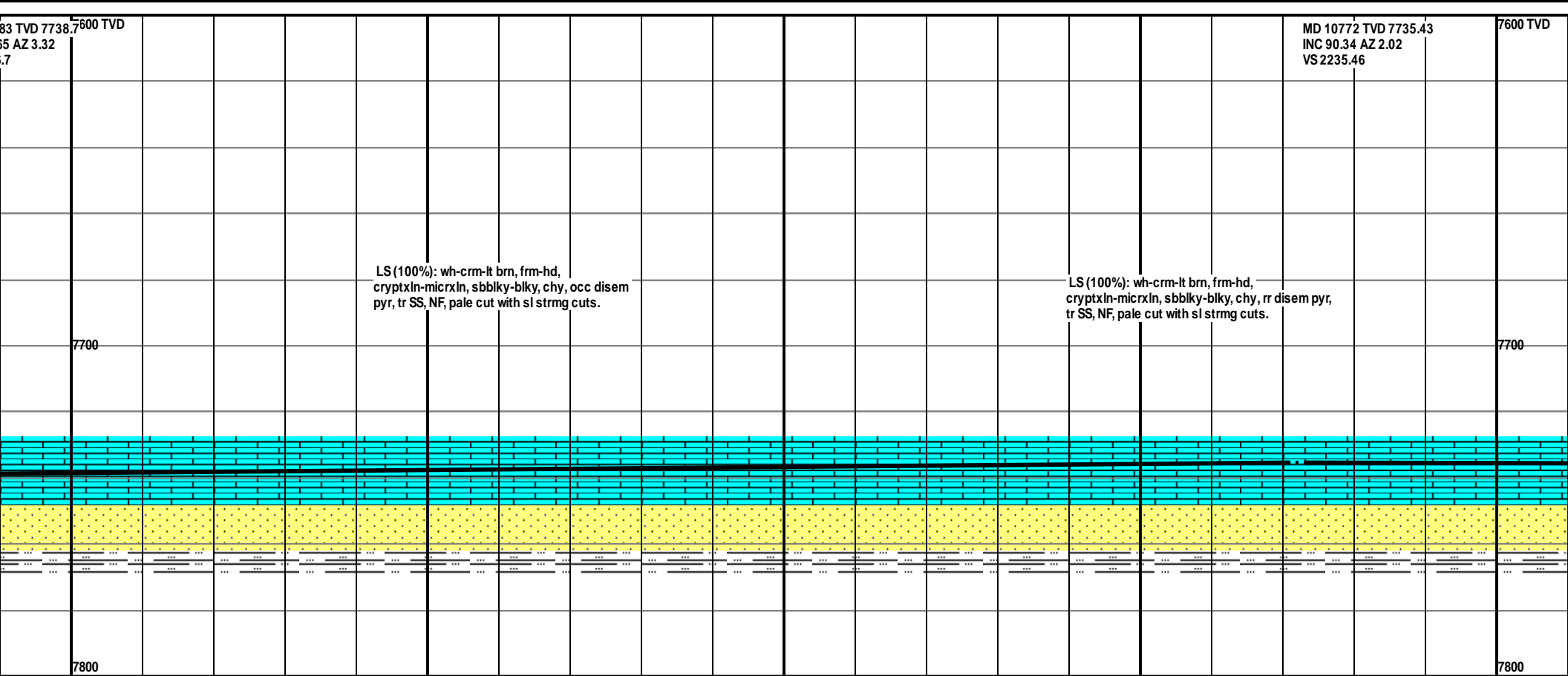
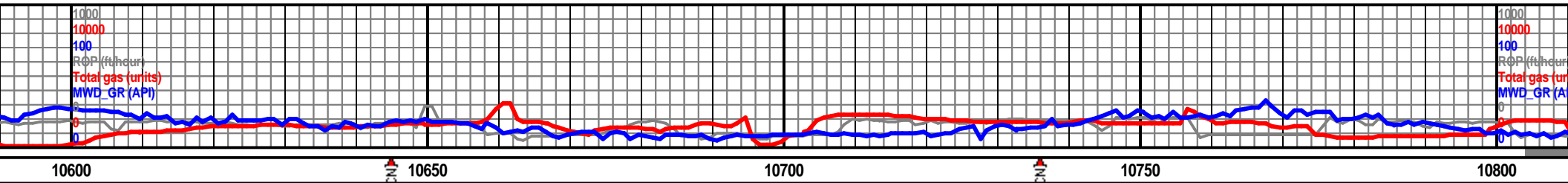
LS (100%): wh-crm-lt brn, frm-hd,
cryptxln-micrxln, sbbky-blky, chy, tr SS, NF,
flush cut with fast strng cuts.

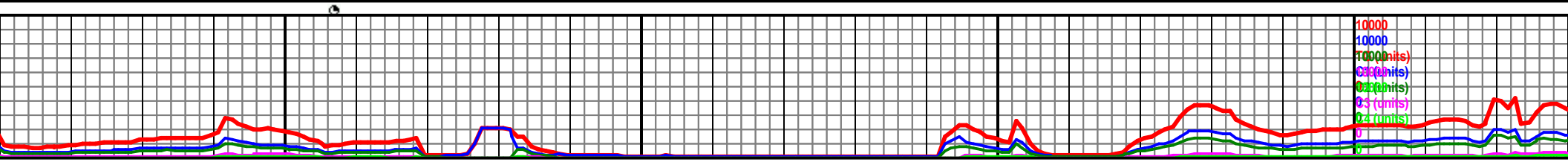
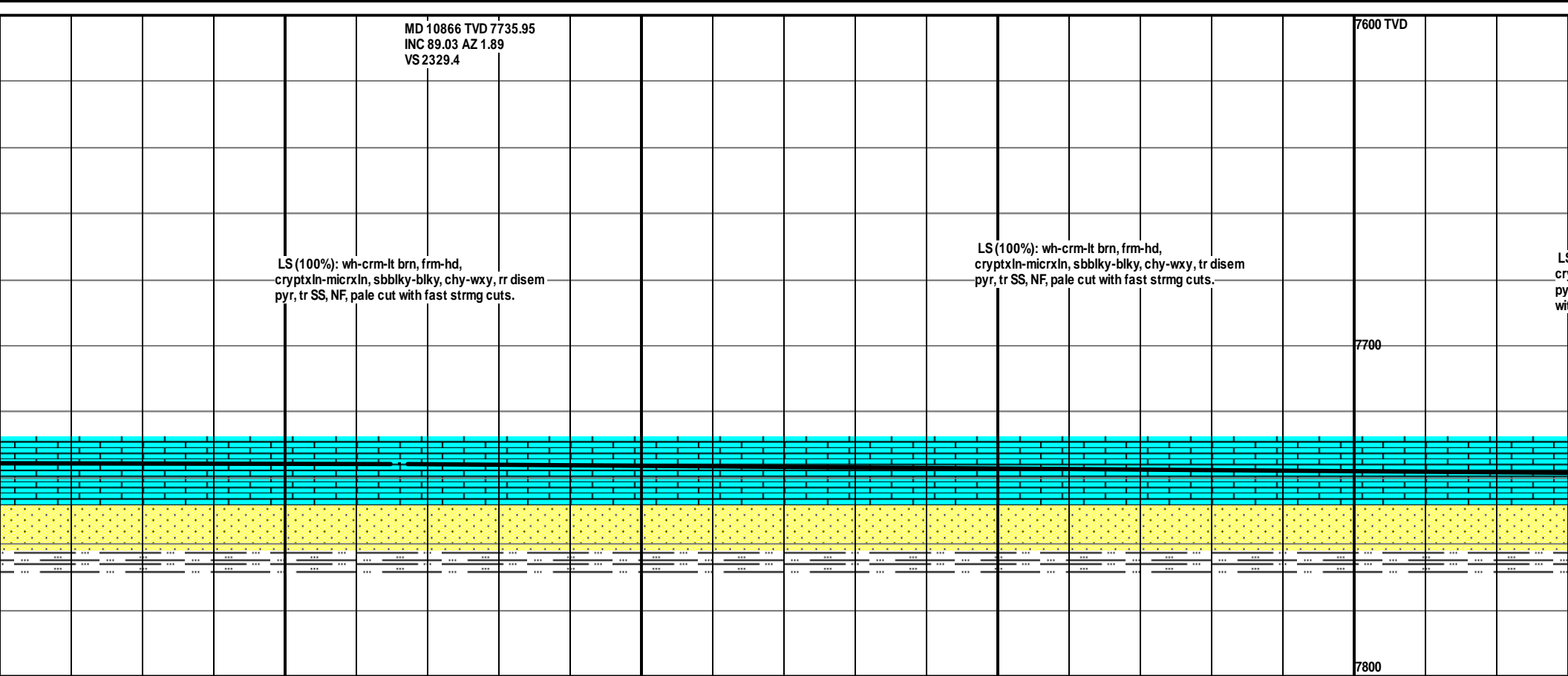
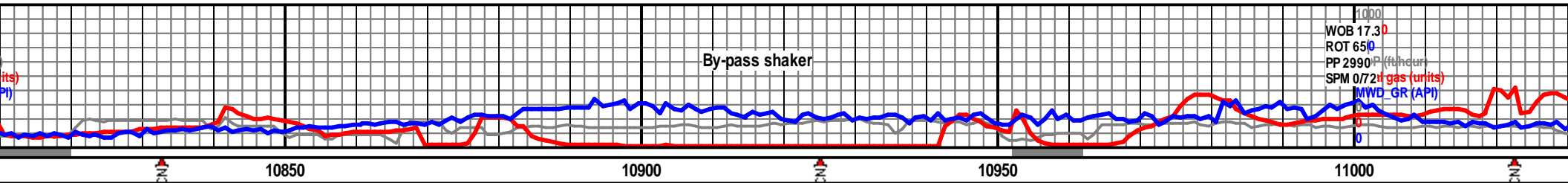
LS (100%): wh-crm-lt brn, frm-hd,
cryptxln-micrxln, sbbky-blky, chy, occ disem
pyr, tr SS, NF, cldy cut with sl strng cuts.

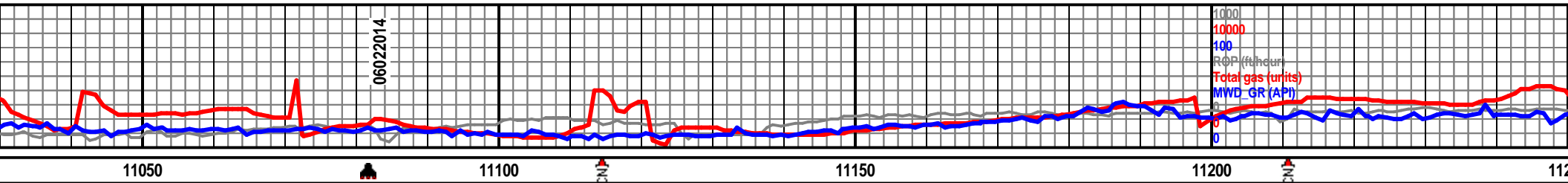
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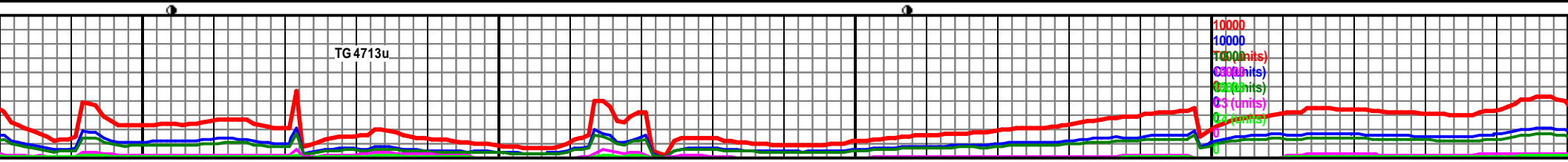


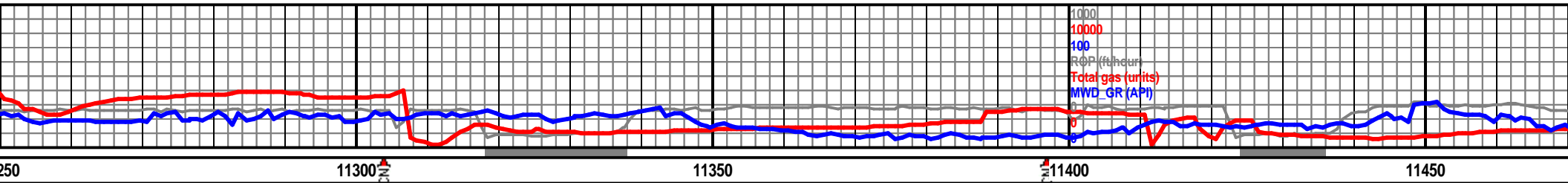




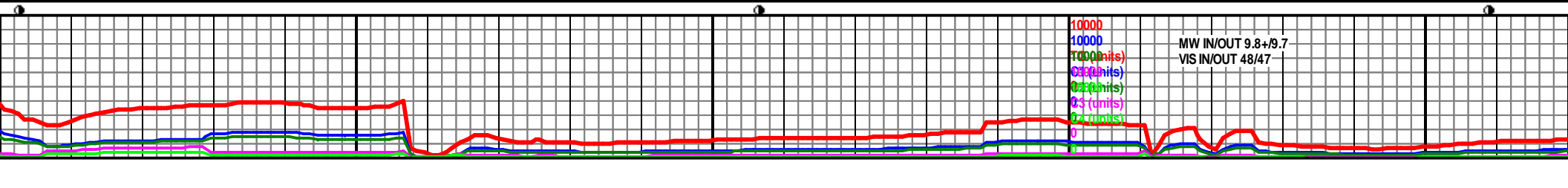


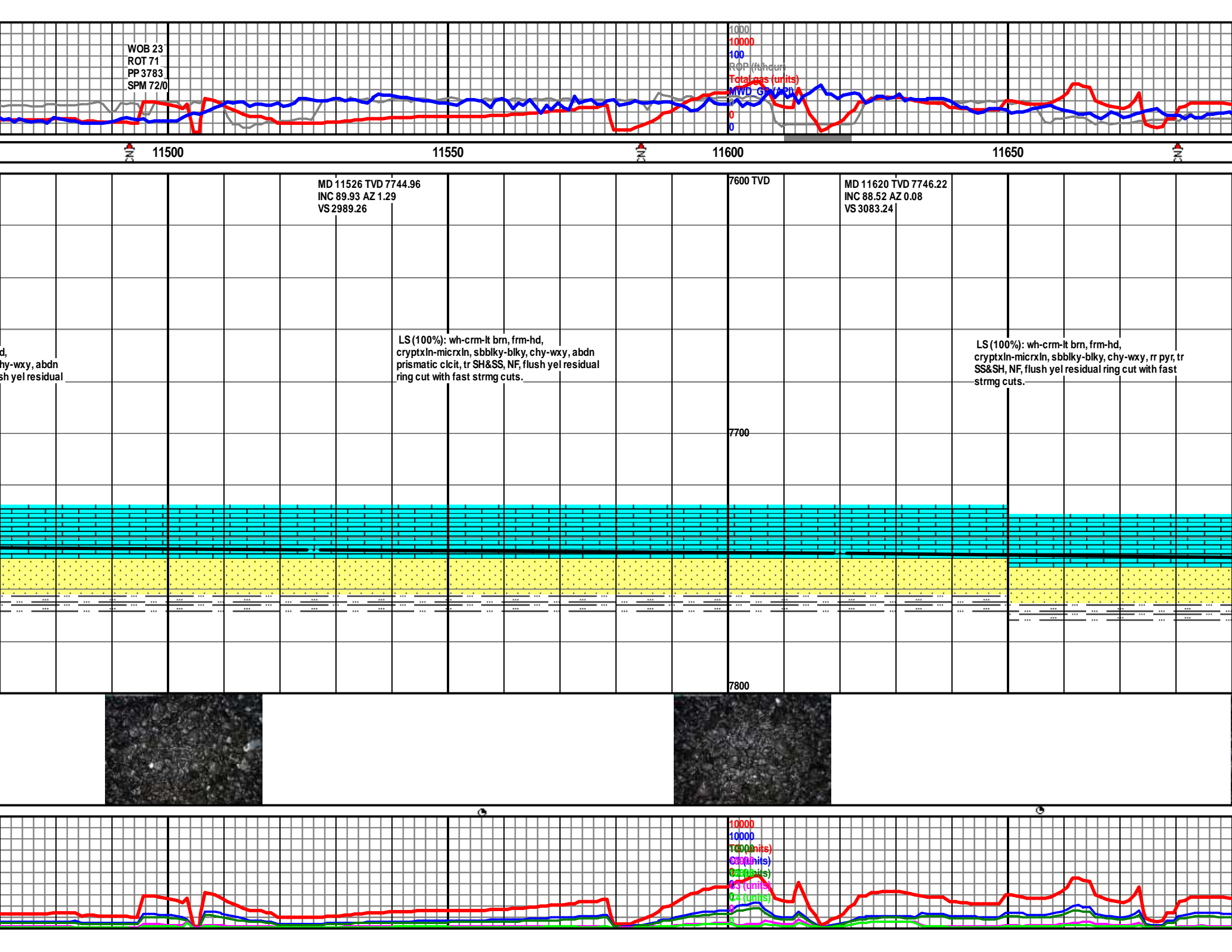
<p>MD 11054 TVD 7738.65 INC 89.33 AZ 0.88 VS 2517.32</p> <p>Trip for downhole motor, 11083'</p>	<p>Bit # 4 - 6.125" Smith SDi513, SN: JJ1343; Jets 3x20, 4x20; w/MWD GR/Survey BHA & Dir MM (1.5") 0.28 RPG., In @ 11083'; Out @ 11748'; Drilled 665' in 6 hrs: Average ROP 110.83 ft/hr.</p>	<p>MD 11149 TVD 7739.79 INC 89.29 AZ 359.97 VS 2612.31</p>	<p>7600 TVD</p>
<p>S (100%): wh-crm-lt brn, frm-hd, cryptxln-micrxln, sbbky-blky, chy-wxy, tr disem pr, rr prismatic clcit, tr SH&SS, NF, flush cut th fast strmg cuts.</p>		<p>LS (100%): wh-crm-lt brn, frm-hd, cryptxln-micrxln, sbbky-blky, chy-wxy, tr disem pyr, rr prismatic clcit, tr SH&SS, NF, flush cut with fast strmg cuts.</p>	<p>LS (100%): wh-crm-lt brn, frm-hd, cryptxln-micrxln, sbbky-blky, chy-wxy, tr disem pyr, rr prismatic clcit, tr SH&SS, NF, flush cut with fast strmg cuts.</p>

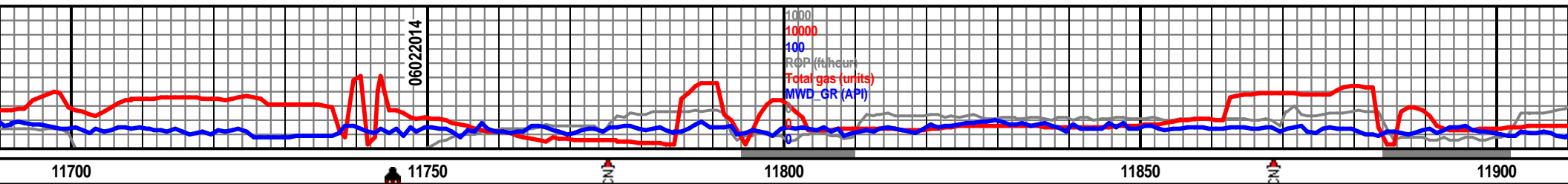




250	11300	11350	11400	11450
	MD 11338 TVD 7741.79 INC 89.5 AZ 359.78 VS 2801.3	7600 TVD	MD 11432 TVD 7743.55 INC 88.35 AZ 0.66 VS 2895.28	
crm-lt brn, frm-hd, n, sbblky-blky, chy-wxy, tr disem atic clcit, tr SH&SS, NF, flush ring cut with fast strmg cuts.	LS (100%): wh-crm-lt brn, frm-hd, cryptxln-micrxln, sbblky-blky, chy-wxy, abdn prismatic clcit, tr SH&SS, NF, flush yel residual ring cut with fast strmg cuts.	7700	7800	LS (100%): wh-crm-lt brn, frm-hd, cryptxln-micrxln, sbblky-blky, chy-wxy, abdn prismatic clcit, tr SH&SS, NF, flush ring cut with fast strmg cuts.







MD 11715 TVD 7748.34
INC 88.92 AZ 359.23
VS 3178.21

Trip for BHA, 11748' MD

LS (100%): crm-lt brn, frm-hd, cryptxln-micrxln,
sbbiky-blky, chy-wxy, tr SS, NF, cldy yel cut with
fast strmg cuts.

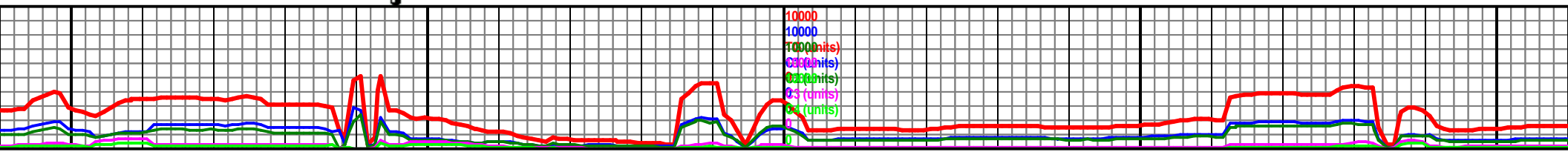
7600 TVD

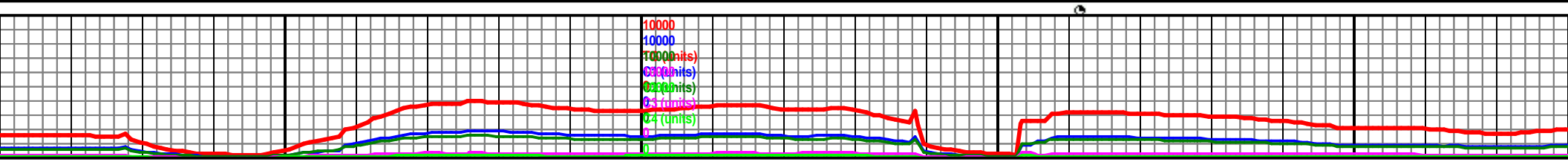
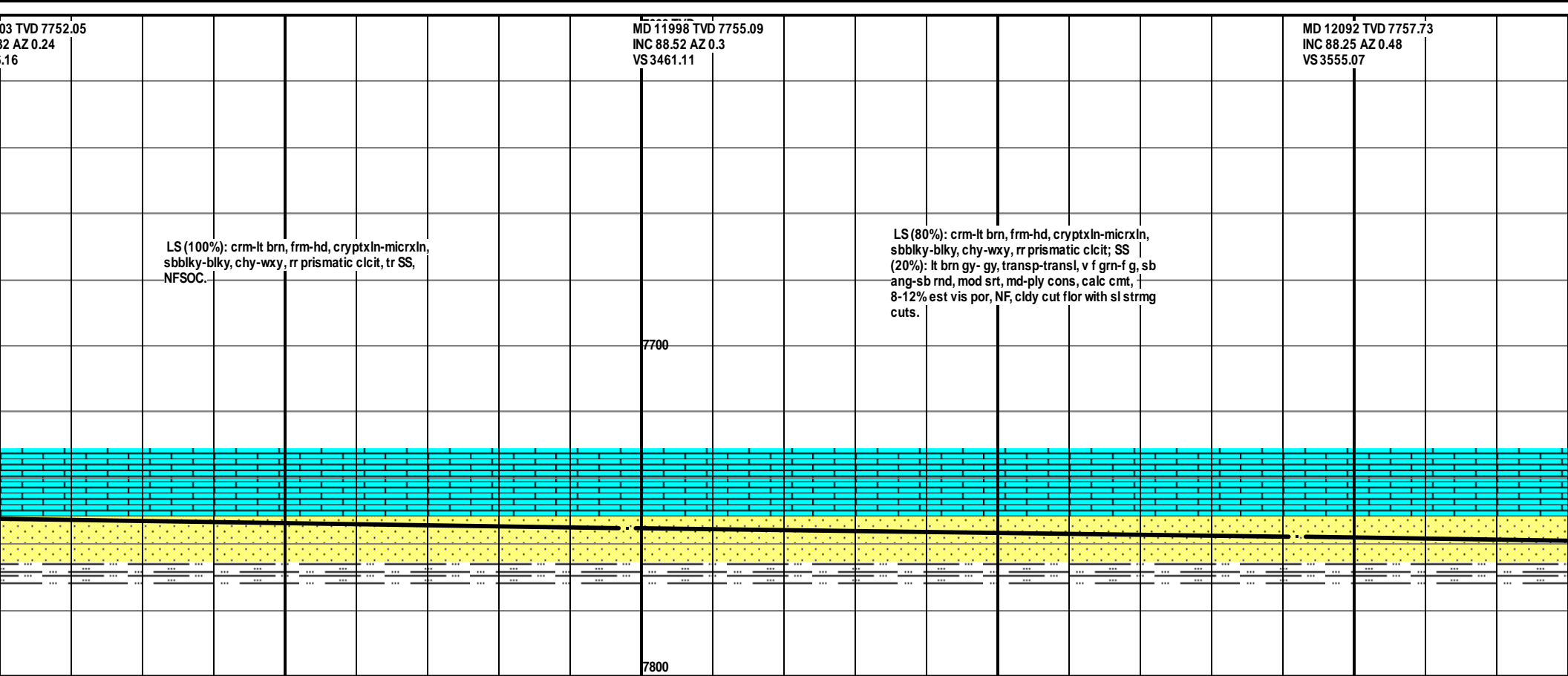
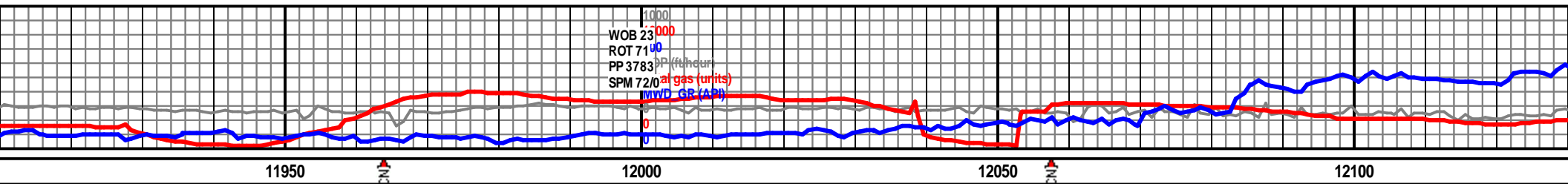
MD 11809 TVD 7749.74
INC 89.36 AZ 359.8
VS 3272.2

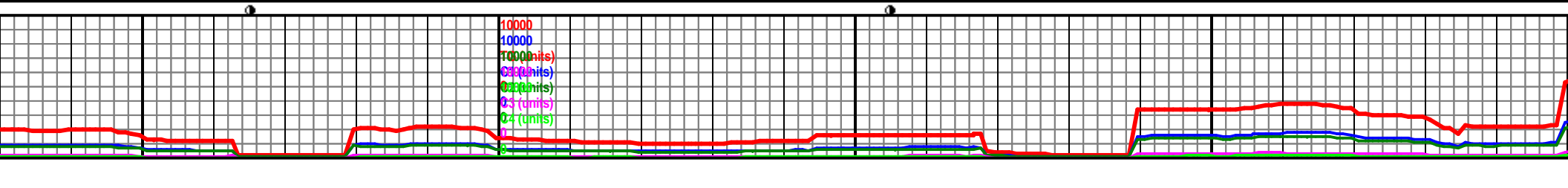
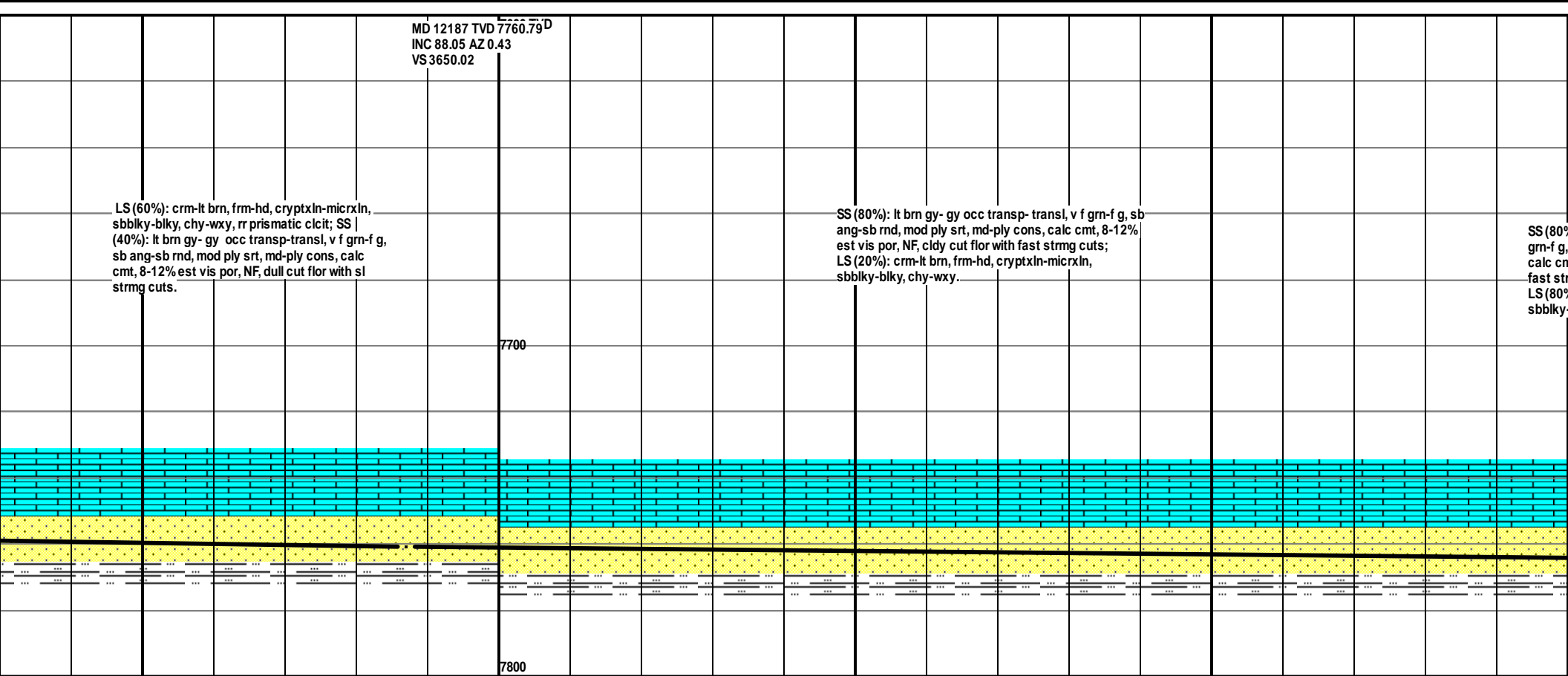
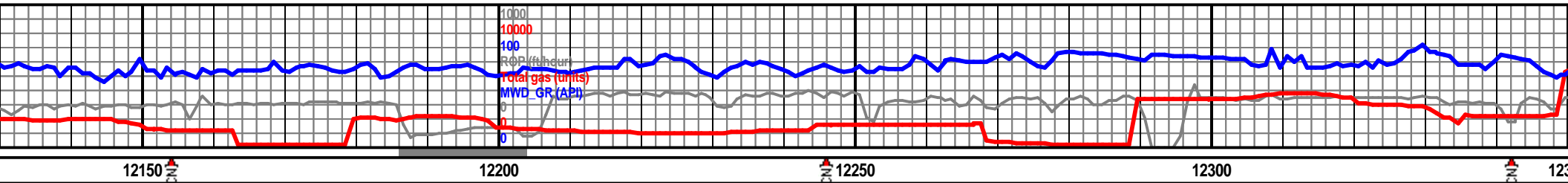
LS (100%): crm-lt brn, frm-hd, cryptxln-micrxln,
sbbiky-blky, chy-wxy, rr prismatic clcit, tr SS,
NFSOC.

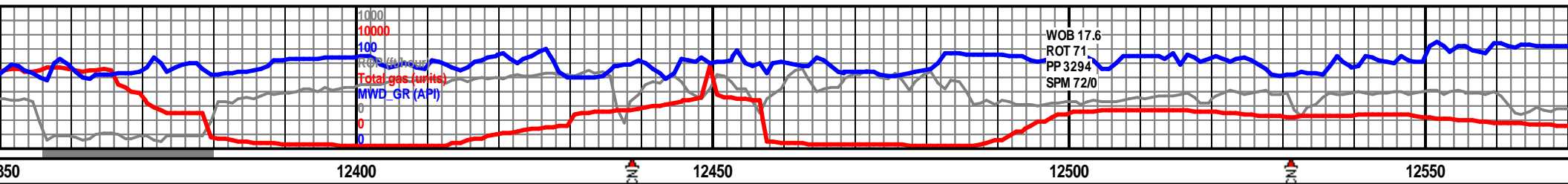
7700

7800

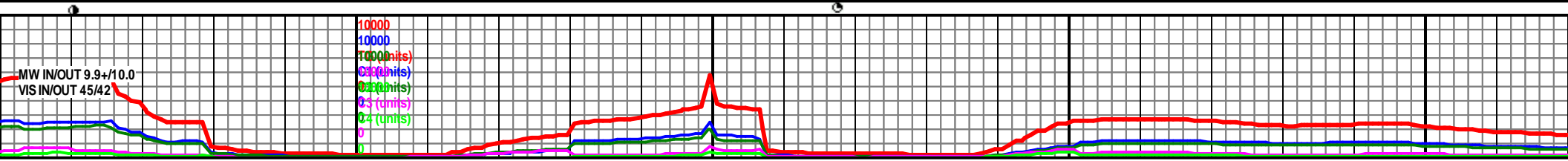


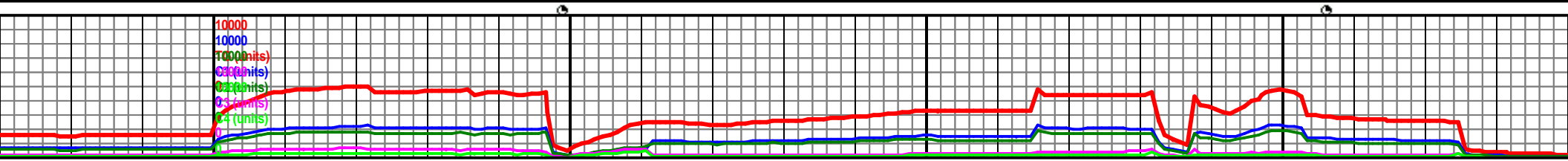
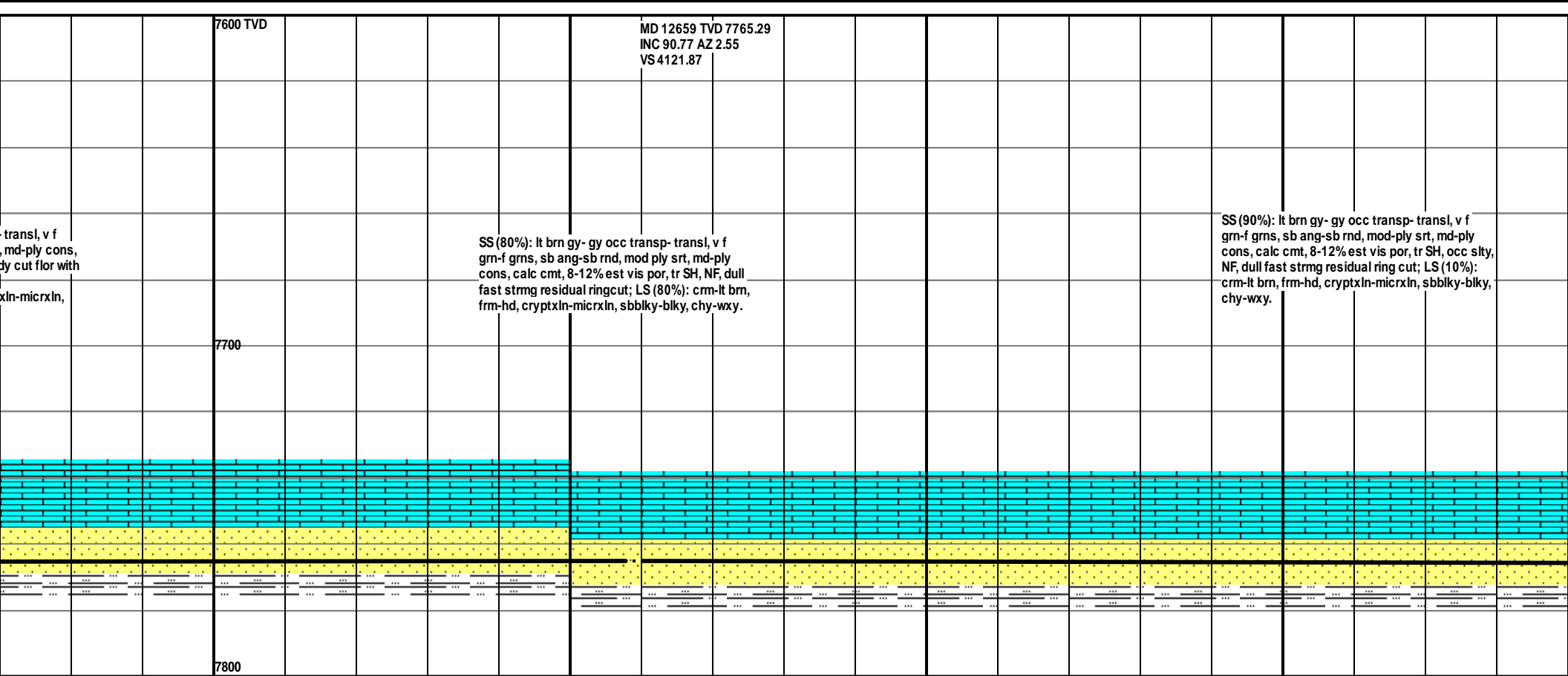
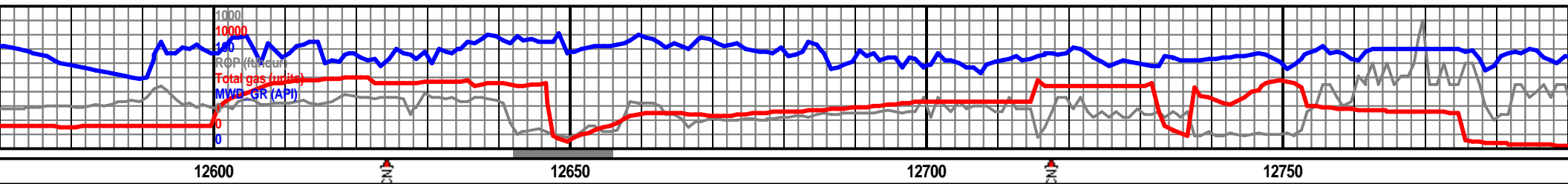


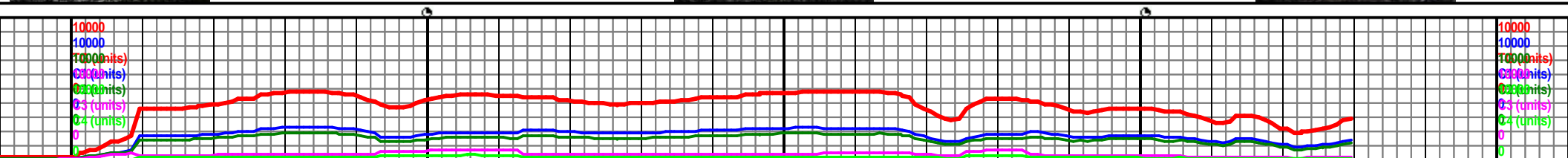
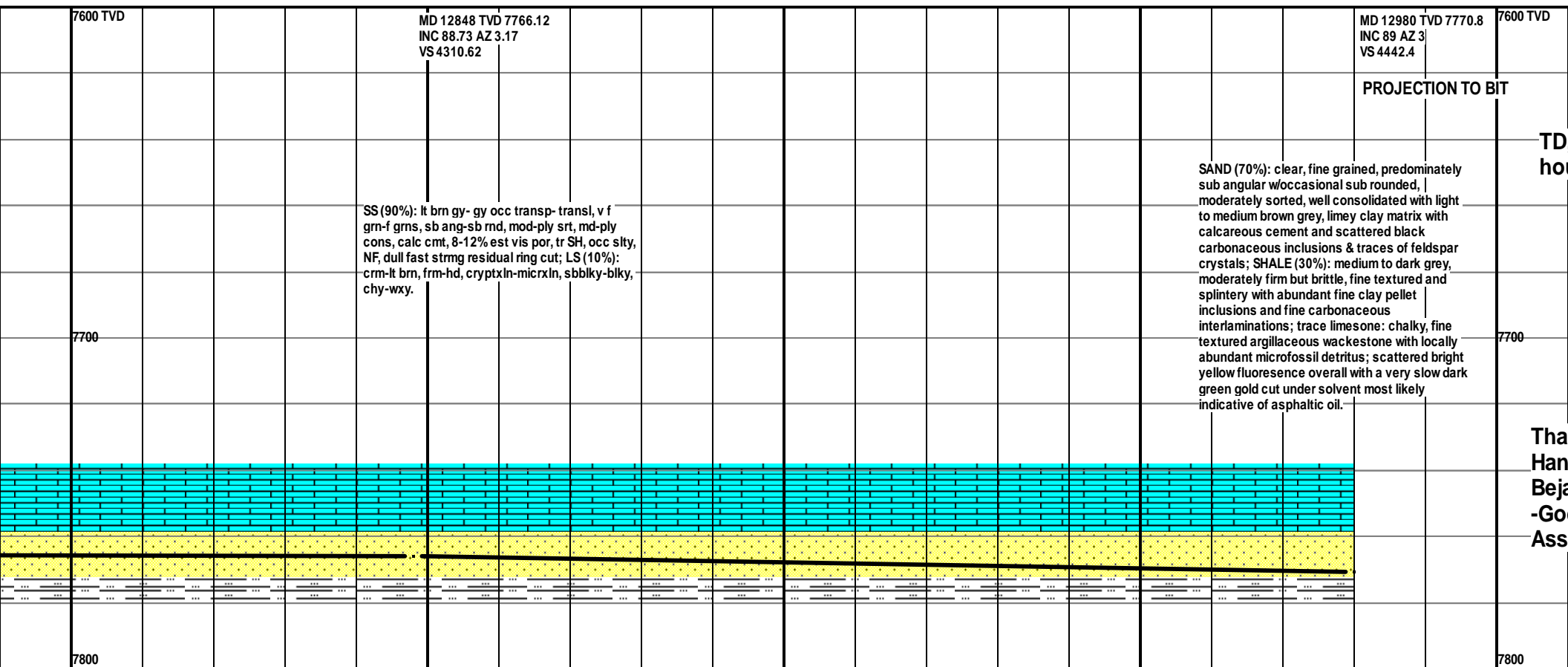
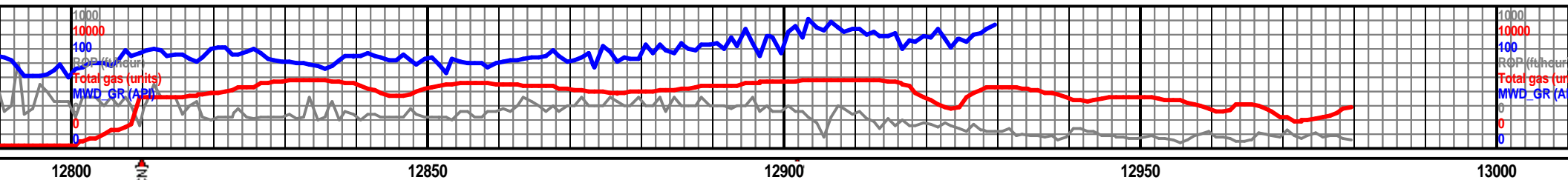


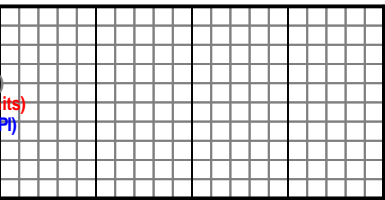


MD 12376 TVD 7764.55 INC 89.66 AZ 0.88 VS 3838.97				MD 12470 TVD 7765.41 INC 89.29 AZ 0.64 VS 3932.95			
SS (70%): lt brn gy- gy occ transp- transl, v f grn-f g, sb ang-sb rnd, mod ply srt, md-ply cons, calc cmt, 8-12% est vis por, NF, cldy cut flor with fast strmg cuts; LS (30%): crm-lt brn, frm-hd, cryptxln-micrxln, sbbiky-blky, chy-wxy.				SS (80%): lt brn gy- gy occ transp- grn-f g, sb ang-sb rnd, mod ply srt, calc cmt, 8-12% est vis por, NF, cl fast strmg cuts; LS (20%): crm-lt brn, frm-hd, crypt sbbiky-blky, chy-wxy.			
7600 TVD							
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urs, 06/04/2014

Cement Production Liner hung at
12970' md

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