

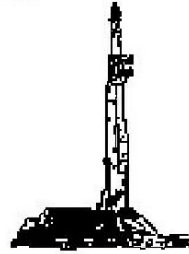
GOOLSBY BROTHERS
and associates, inc.

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: **Cobra 30C-14HZ**
Well Id:
Location: **NWSW Sec. 23 T2N R67W, Weld County, CO.**
License Number: **API: 05-123-40406 AFE: 2088916** Region: **Wattenberg**
Spud Date: **2-27-2015** Drilling Completed: **3/7/2015**
Surface Coordinates: **2337' FSL, 710' FWL**
Lat. 40.122816, Long. -104.864897, Sec. 23, T2N R67W
Bottom Hole **60' FNL, 345' FEL**
Coordinates: **Lat. 40.1451905, Long. -104.8660120, Sec. 14, T2N R67W**
Ground Elevation (ft): **4977** K.B. Elevation (ft): **5002**
Logged Interval (ft): **5600'** To: **13583** Total Depth (ft): **13583'**
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, Michael Chisam.

GEOLOGIST

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

E-logs

MWD Gamma -1,192' MD - 13,534' MD

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 xxxxx'

Comments

Drilling Contractor: H&P 311

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

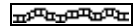
Rig Manager: Maurice Bourdeau

Drillers: Michael Munroe, Christopher Beckstead

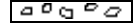
ROCK TYPES



Anhy



Bent



Brec



Cht



Clyst



Coal



Oil sat.



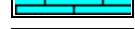
Congl



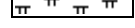
Dol



Gyp



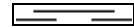
Lmst



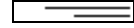
Mrlst



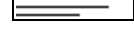
Salt



Shale



Shcol



Shgy



Ss



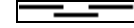
Sltst



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
	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

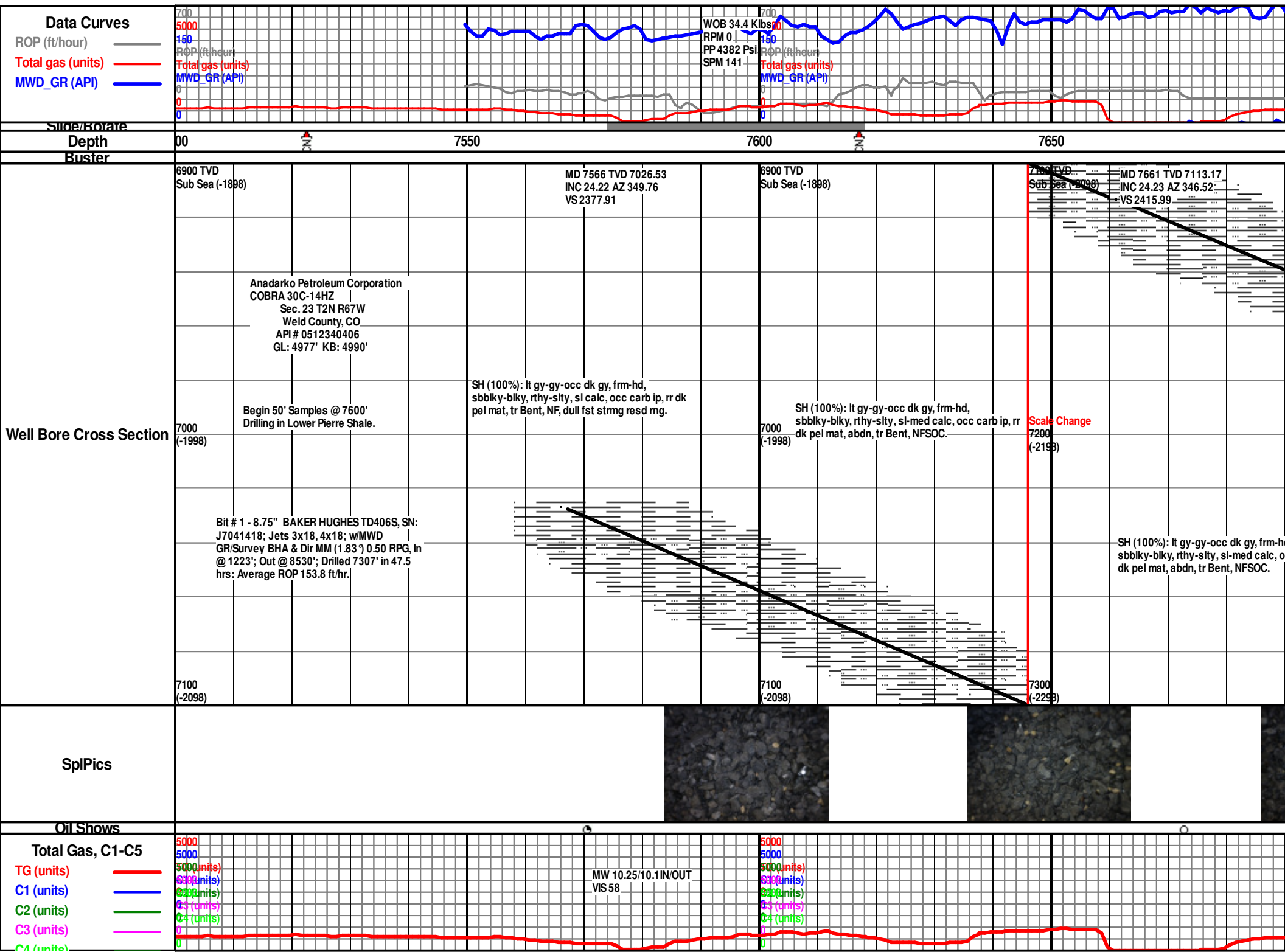
ROUNDING

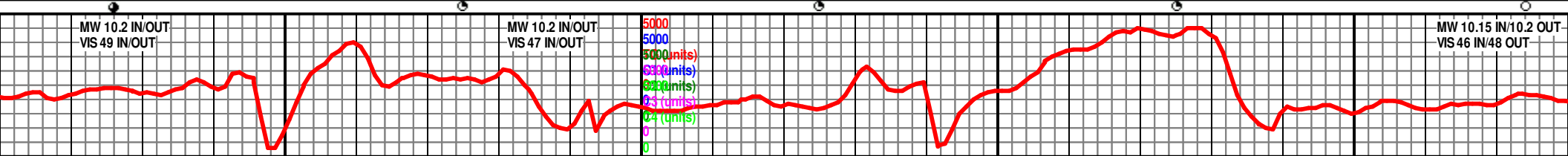
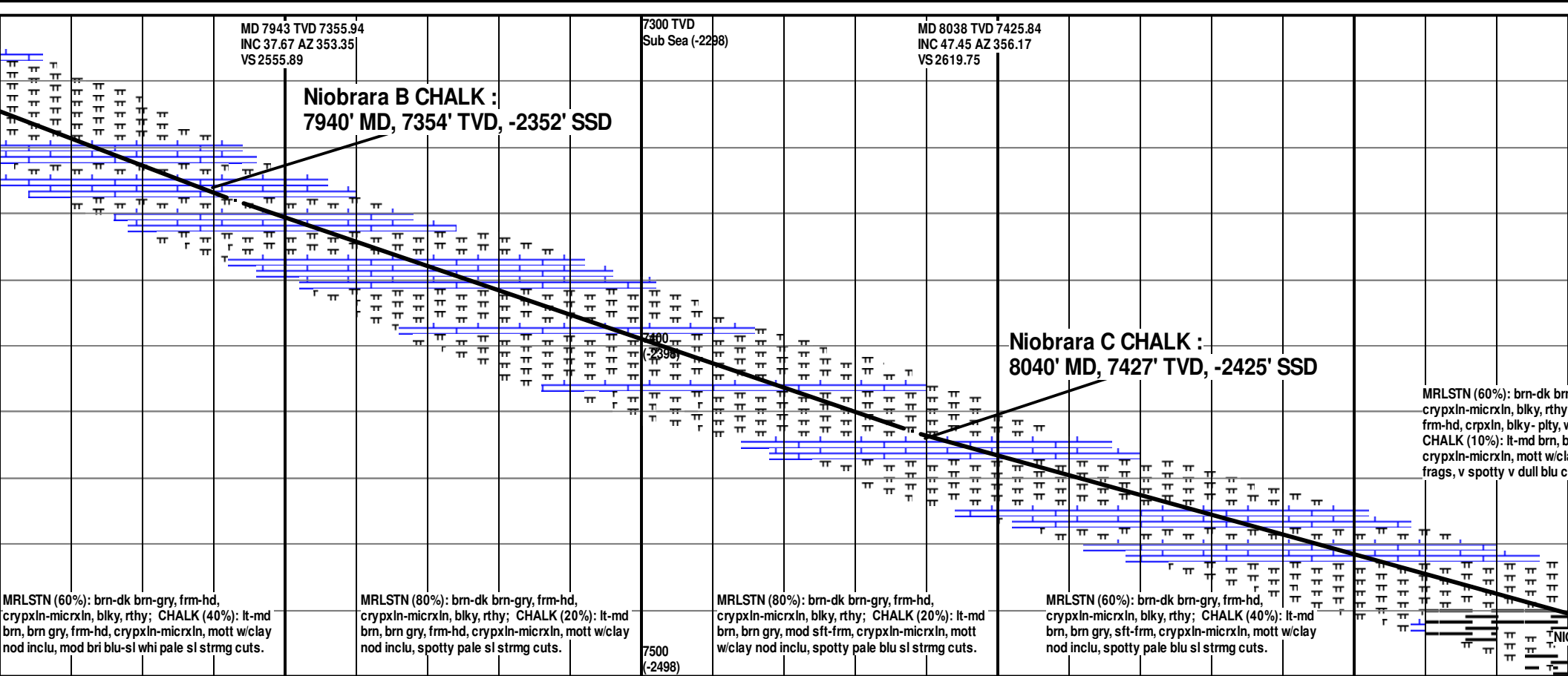
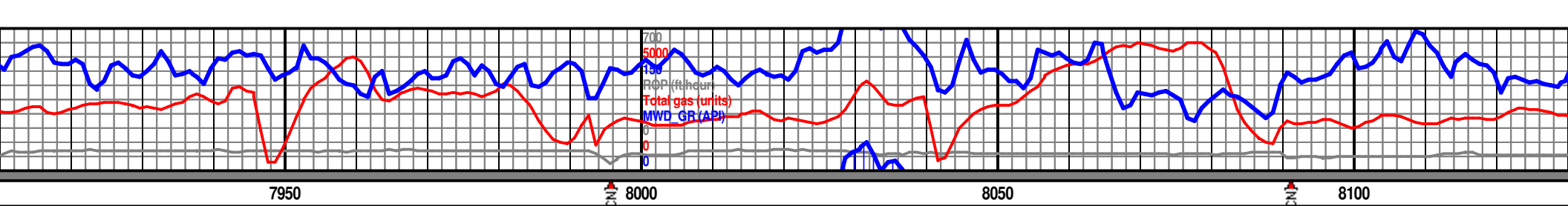
	Rounded
	Subrnd
	Subang

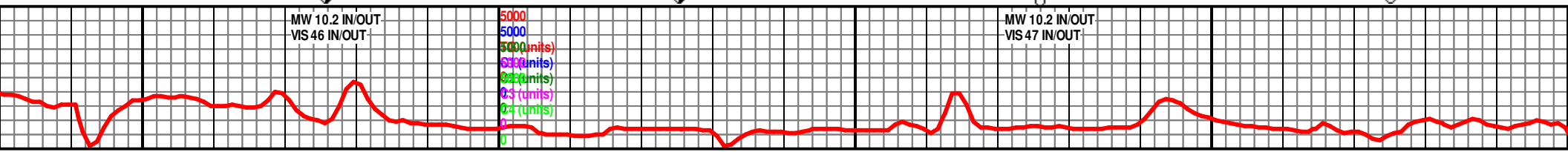
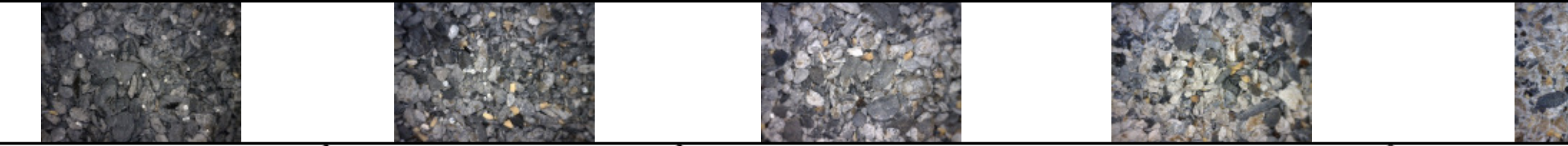
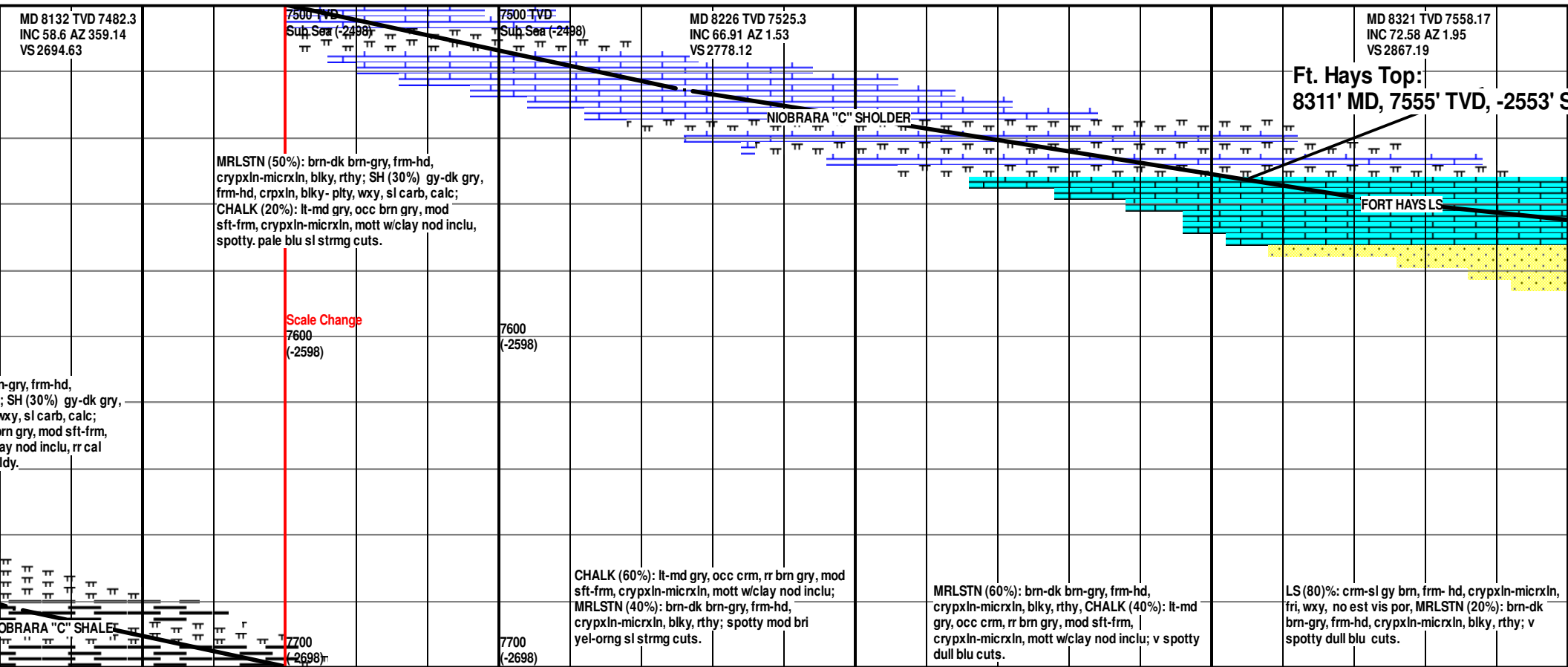
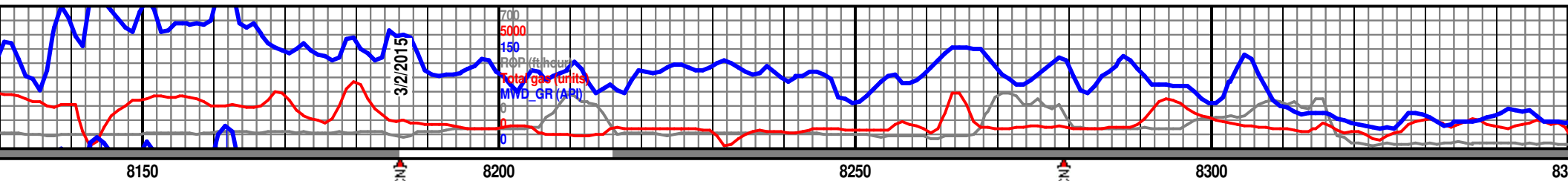
	Angular
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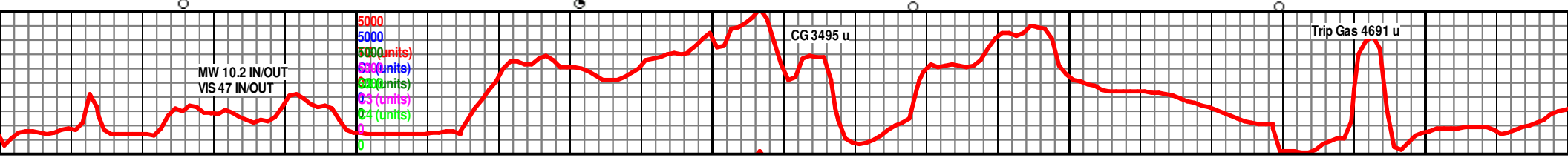
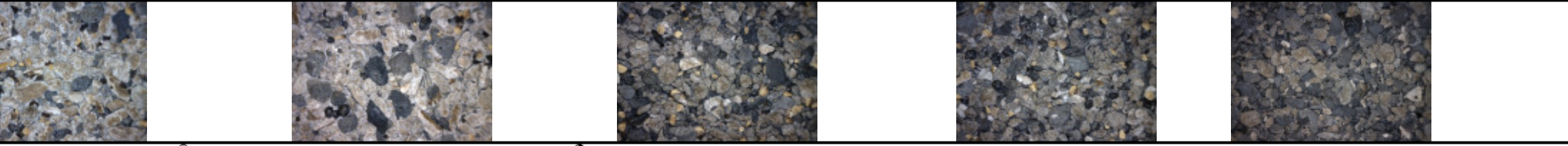
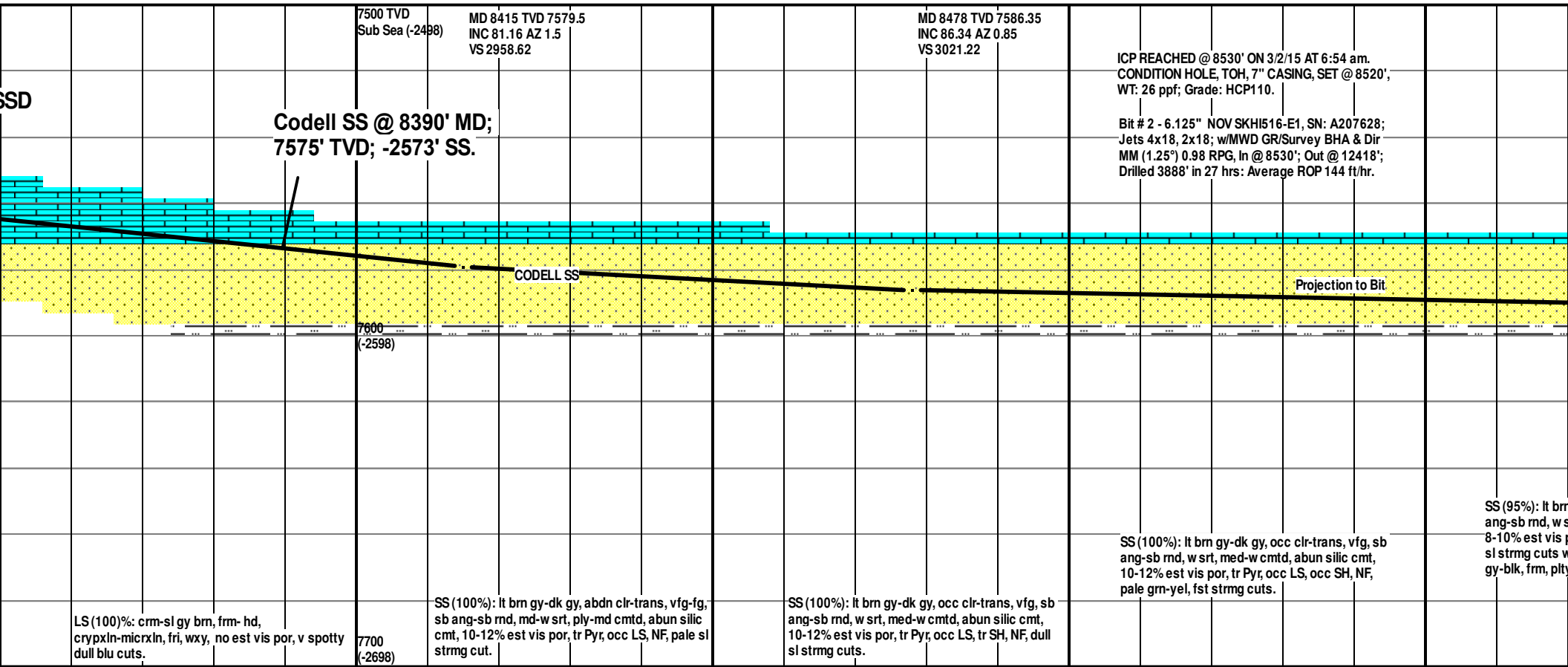
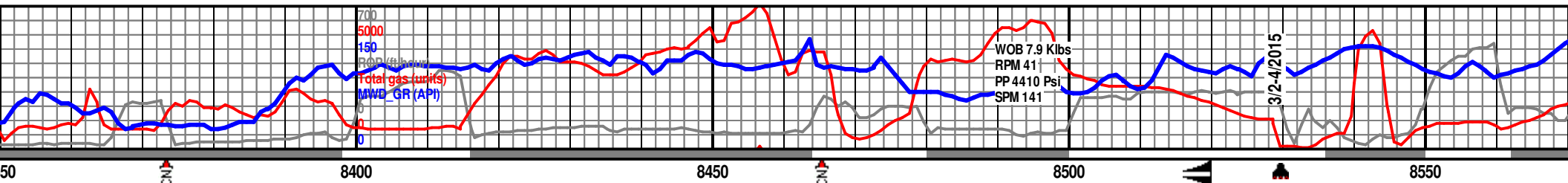
SORTING

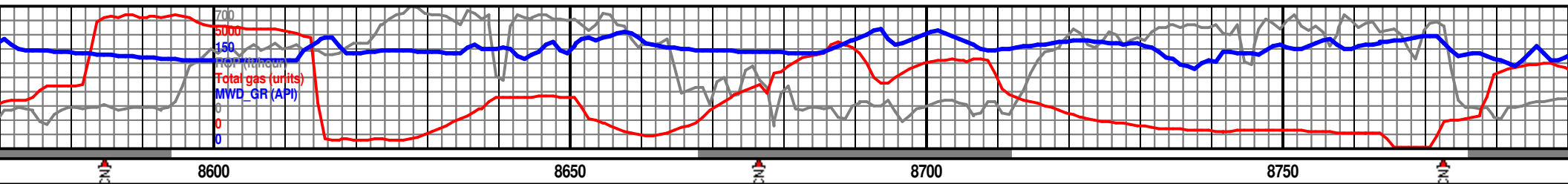
	Well
	Moderate
	Poor





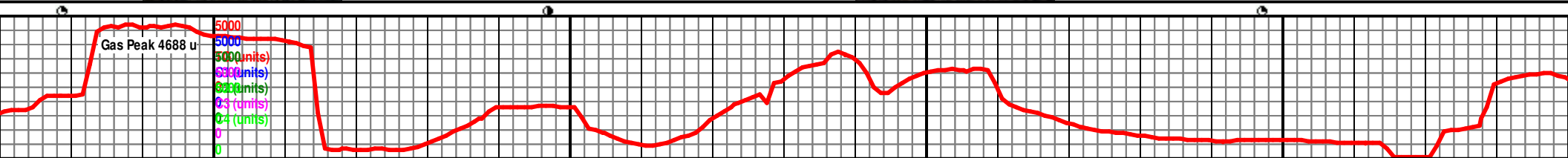


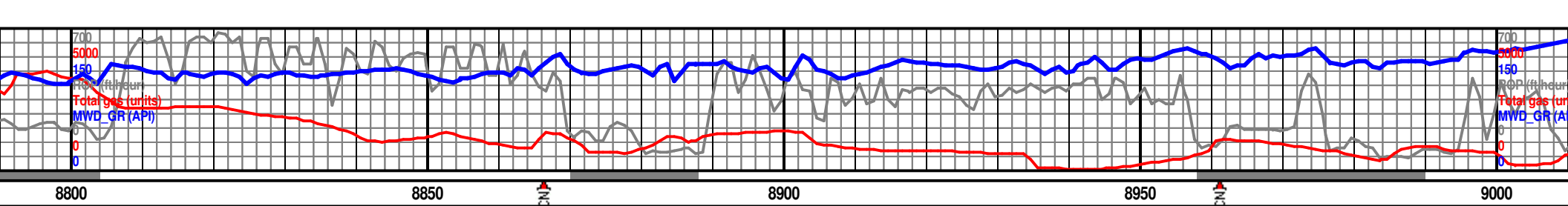




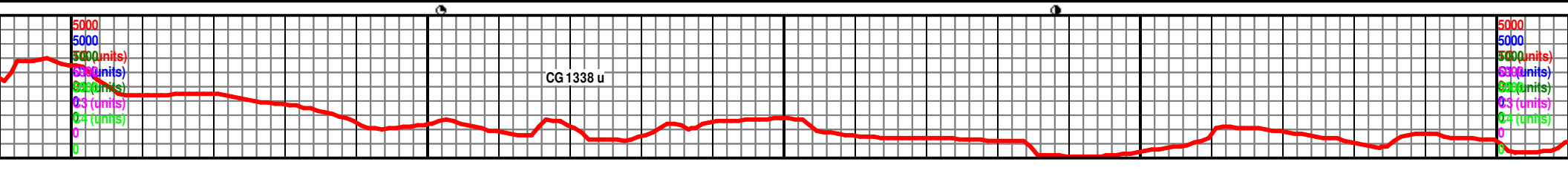
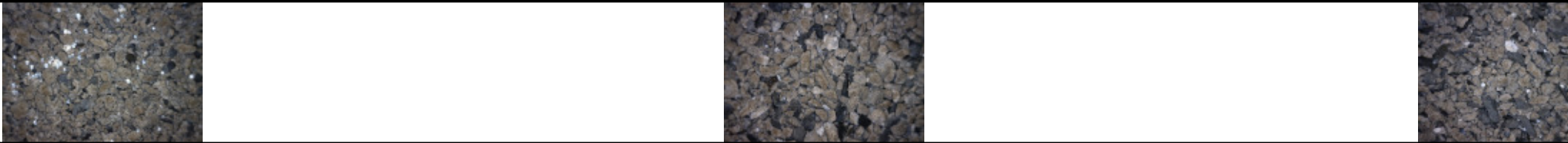


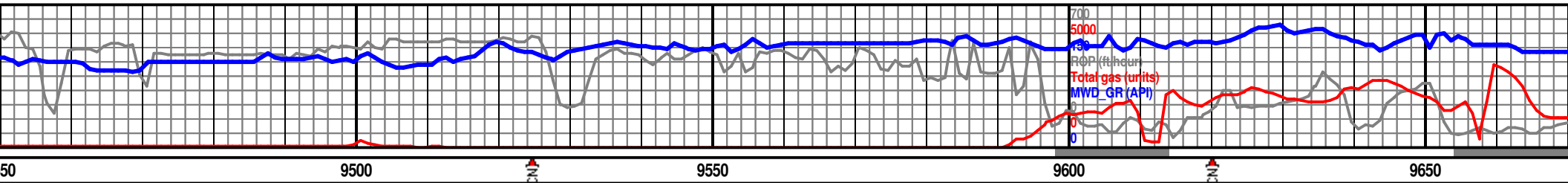
	7500 TVD Sub Sea (-2498)	MD 8615 TVD 7591.9 INC 89.03 AZ 1.29 VS 3158.09		MD 8709 TVD 7593 INC 89.63 AZ 0.05 VS 3252.08		
<p>gy-dk gy, occ clr-trans, vfg, sb srt, med-w cmt, abun silic cmt, oor, tr Pyr, occ LS, NF, pale gm-yel, with resid mg; SH: (5%) v dk y, fiss, sb wxy-wxy, n slty, sl carb.</p>	7600 (-2598)	<p>SS (100%): lt brn gy-dk gy, occ clr-trans, vfg, sb ang-sb rnd, w srt, med-w cmt, abun silic cmt, 8-10% est vis por, occ concr Pyr, occ SH, NF, flush gm-yel, fst strmg cuts.</p>			<p>SS (95%): lt brn gy-dk gy, vf grns, sb ang-sb rnd, w srt, med-w cmt, abun silic cmt, 8-10% est vis por, tr Pyr, occ LS, NF, cldy yel-grn sl strmg cuts; SH: (5%) v dk gy-blk, frm, plty, fiss, sb wxy-wxy, n slty, sl carb.</p>	
	7700 (-2698)					



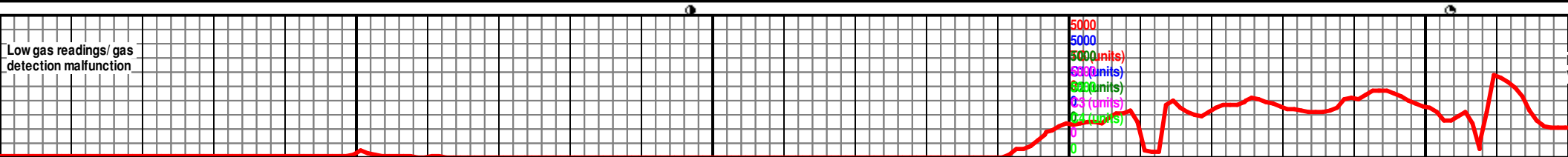


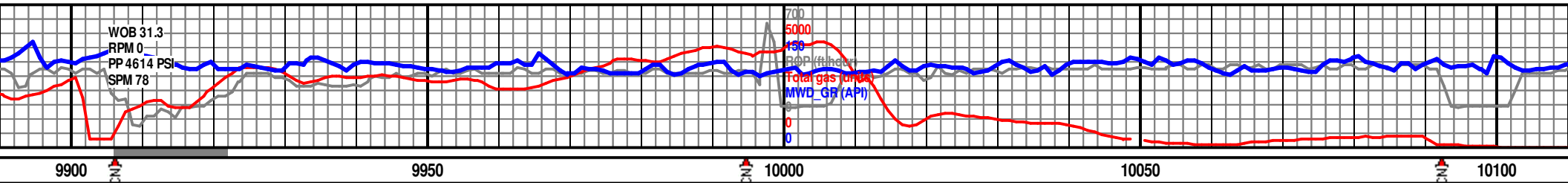
<p>7500 TMD 8804 TVD 7593.25 Sub S INC 90.07 AZ 0.2 VS 3347.08</p>	<p>MD 8898 TVD 7592.76 INC 90.54 AZ 359.77 VS 3441.07</p>	<p>MD 8992 TVD 7591.41 INC 91.11 AZ 0.1^a (-24) VS 3535.06</p>
<p>7600 (-2598)</p> <p>SS (93%): lt brn gy-dk gy, vf grms, sb ang-sb md, w srt, med-w cmt, abun silic cmt, 8-10% est vis por, tr Pyr, rr flky clcit, NF, cldy yel-grn sl strmg cuts; SH: (7%) v dk gy-blk, frm, plty, fiss, sb wxy-wxy, n slty, sl carb</p> <p>7700 (-2698)</p>	<p>7600 (-2598)</p> <p>SS (80%): lt brn gy-dk gy, vf grms, sb ang-sb md, w srt, med-w cmt, abun silic cmt, 8-10% est vis por, tr Pyr, rr flky clcit, NF, flush yel-grn fst strmg cuts& resid mg; SH: (20%) v dk gy-blk, frm, plty, fiss, sb wxy-wxy, n slty, sl carb.</p> <p>7700 (-2698)</p>	<p>7600 (-2598)</p> <p>7700 (-2698)</p>



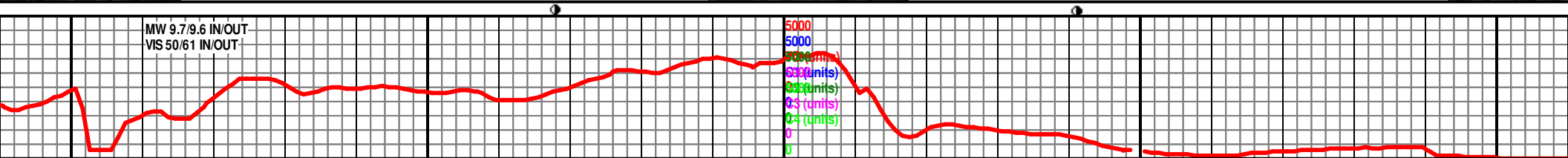


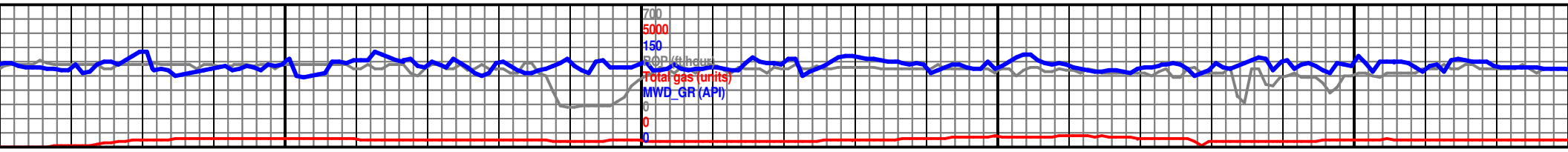
MD 9462 TVD 7583.61 INC 91.14 AZ 1.44 VS 4004.96										MD 9557 TVD 7582.3 INC 90.44 AZ 0.62 VS 4099.95										7500 TVD Sub Sea (-2498)										MD 9651 TVD 7581.47 INC 90.57 AZ 1.06 VS 4193.94				
dk gy, vf grns, sb ang-sb rnd, abun silic cmt, 8-10% est vis flush yel-grn sl strmg cuts & v dk gy-blk, frm, plty-splty, lty, sl carb.										SS (80%): lt brn gy-dk gy, vf grns, sb ang-sb rnd, w srt, med-w cmt, abun silic cmt, 8-10% est vis por, rr flky clcit, NF, flush-yel, cldy, v fast strmg cuts & resid rng; SH: (20%) v dk gy-blk, frm, plty-splty, fiss, sb wxy-wxy, slty, sl carb.										7600 (-2598)														
																				7700 (-2698)														





MD 9933 TVD 7578.31 INC 90.24 AZ 1.49 VS 4475.89															7500 TVD Sub Sea (-2498)															MD 10028 TVD 7578.37 INC 89.7 AZ 1.1 VS 4570.88																													
<p>SS (100%): lt brn gy-dk gy, occ trans-trasl lse qrtz grns, f-med grns, sb ang-sb rnd, med srt, med-w cmt, abun silic cmt, 10-12% est vis por, abdn concr PYR, NF, flush-yel, sl fast strmg cuts & resid rng.</p>																																													7600 (-2598)														
																																													7700 (-2698)														





10150

10200

10250

10300

MD 10122 TVD 7578.89
INC 89.66 AZ 0.75
VS 4664.88

7500 TVD
Sub Sea (-2498)

MD 10216 TVD 7579.03
INC 90.17 AZ 0.88
VS 4758.87

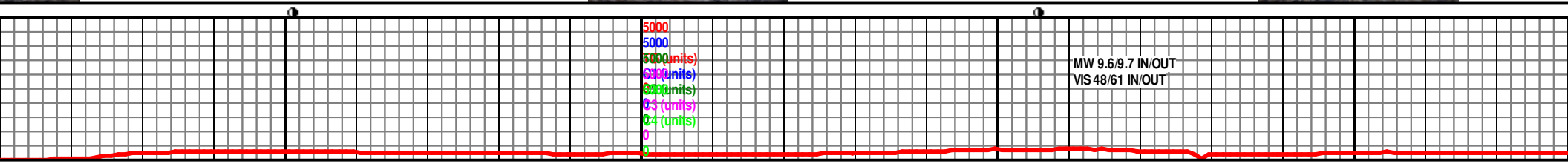
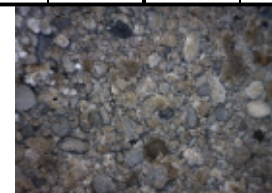
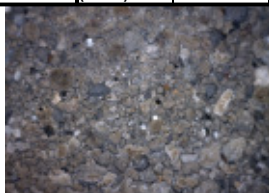
MD 10311 TVD 7578.05
INC 91.01 AZ 1.84
VS 4853.85

SS (100%): lt brn gy-dk gy, occ trans-trasl lse
qrtz grns, f-med grns, sb ang-sb rnd, med srt,
med-w cmt, abun silic cmt, 10-12% est vis por,
occ concr PYR, tr LS, NF, bri-yel-blu, fast strmg
cuts & resid rng.

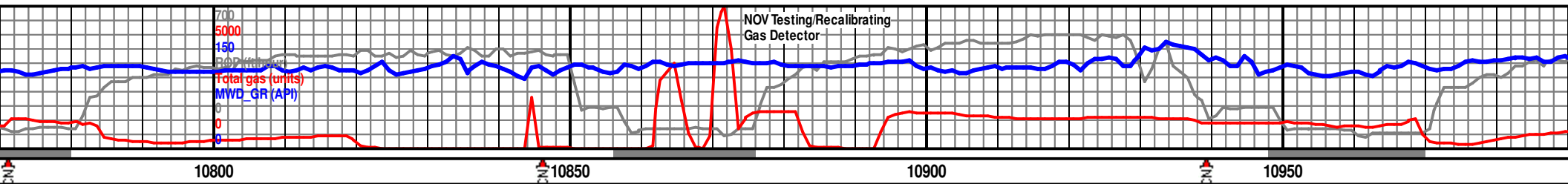
SS (100%): lt brn gy-dk gy, occ trans-trasl lse
qrtz grns, f-med grns, sb ang-sb rnd, med srt,
med-w cmt, abun silic cmt, 10-12% est vis por,
occ concr PYR, tr LS, NF, bri-yel-blu, fast strmg
cuts & resid rng.

7600
(-2598)

7700
(-2698)



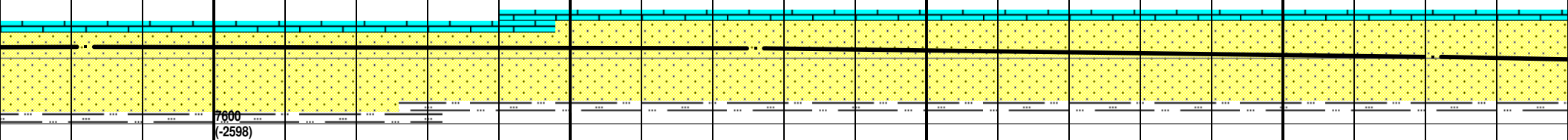
MW 9.6/9.7 IN/OUT
VIS 48/61 IN/OUT



MD 10782 TVD 7576.56
INC 90.6 AZ 2.65
VS 5324.54

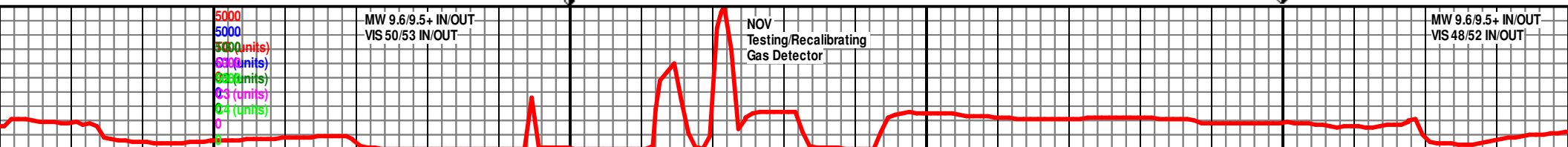
MD 10876 TVD 7577.09
INC 88.76 AZ 1.78
VS 5418.49

MD 10971 TVD 7579.9
INC 87.85 AZ 1.04
VS 5513.43



SS (100%): lt brn gy-dk gy, occ trans-trasl lse
qtz grns, f-med grns, sb ang-sb rnd, med srt,
med-w cmt, abun silic cmt, 10-12% est vis por,
occ concr PYR, tr SH, NF, bri-yel-blu, fast strmg
cuts & resid mg.

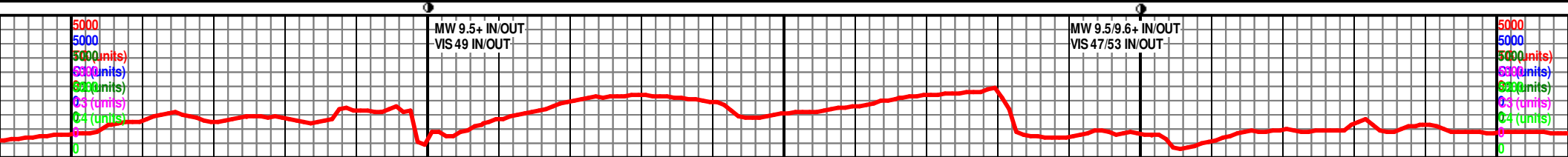
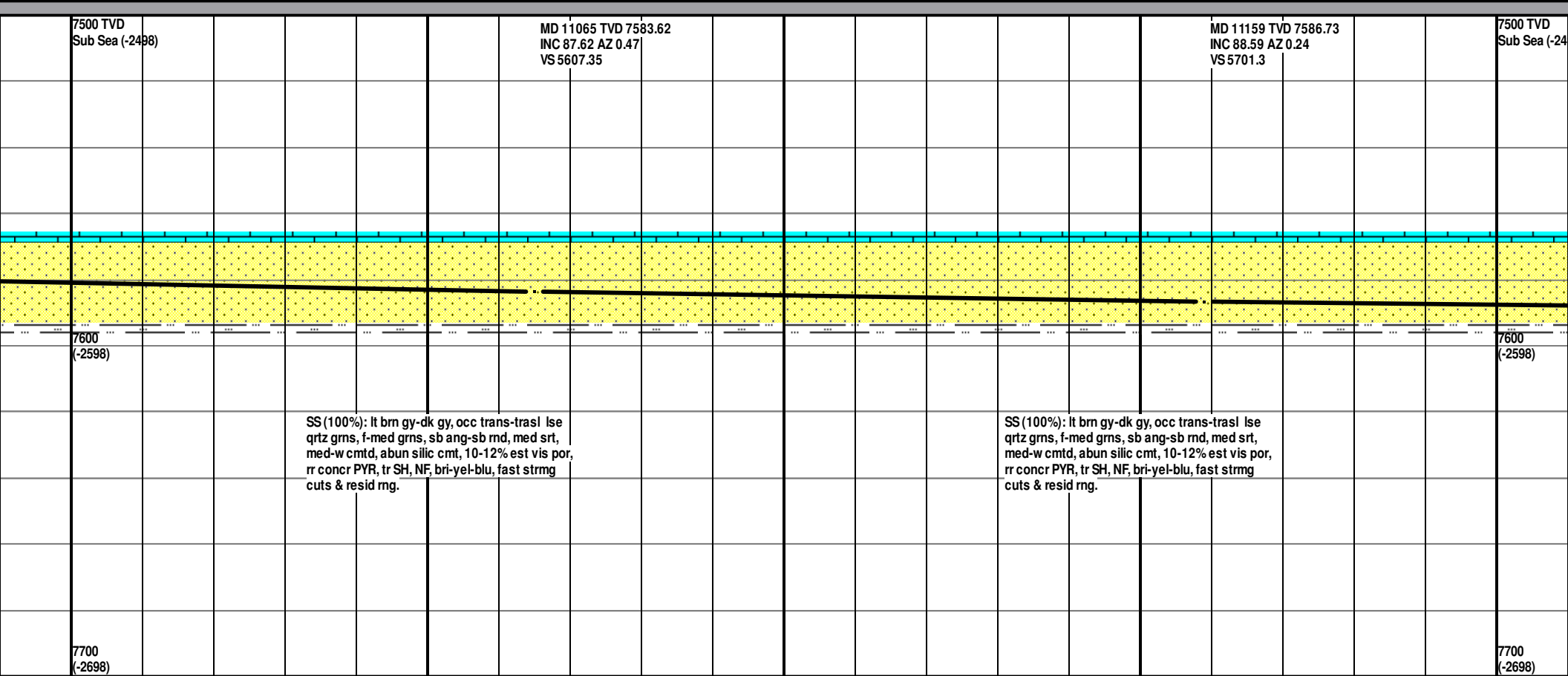
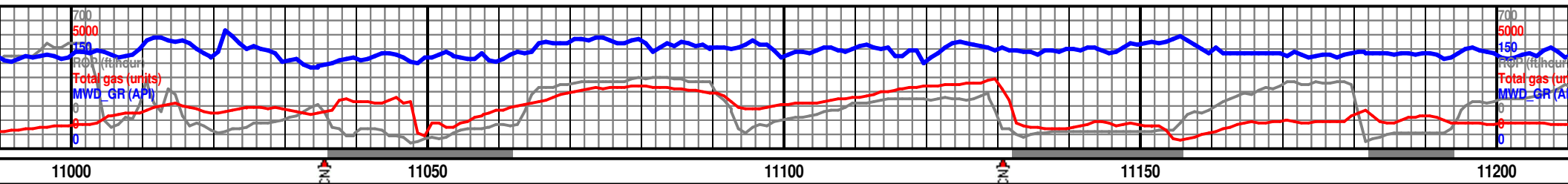
SS (100%): lt brn gy-dk gy, occ trans-trasl lse
qtz grns, f-med grns, sb ang-sb rnd, med srt,
med-w cmt, abun silic cmt, 10-12% est vis por,
rr concr PYR, tr SH, NF, bri-yel-blu, fast strmg
cuts & resid mg.

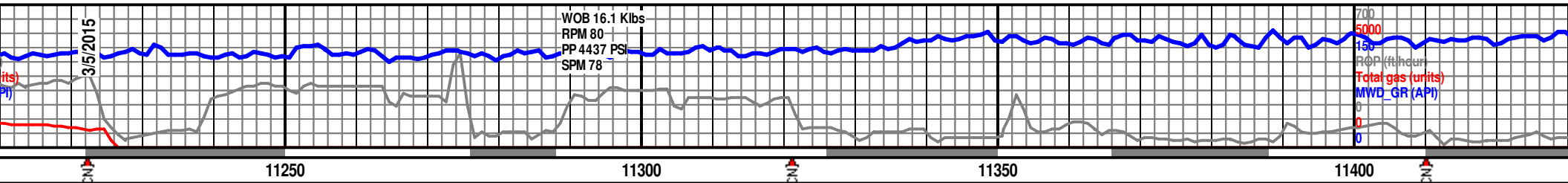


MW 9.6/9.5+ IN/OUT
VIS 50/53 IN/OUT

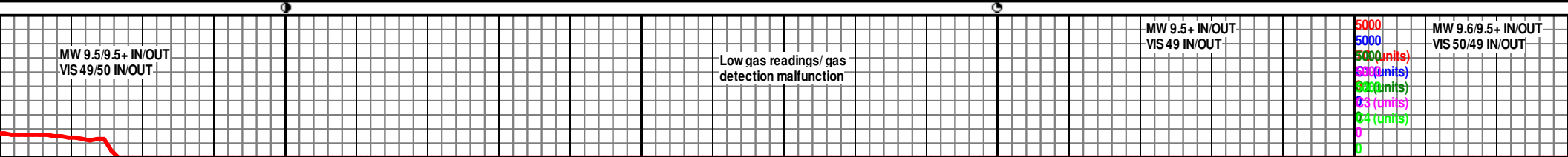
NOV
Testing/Recalibrating
Gas Detector

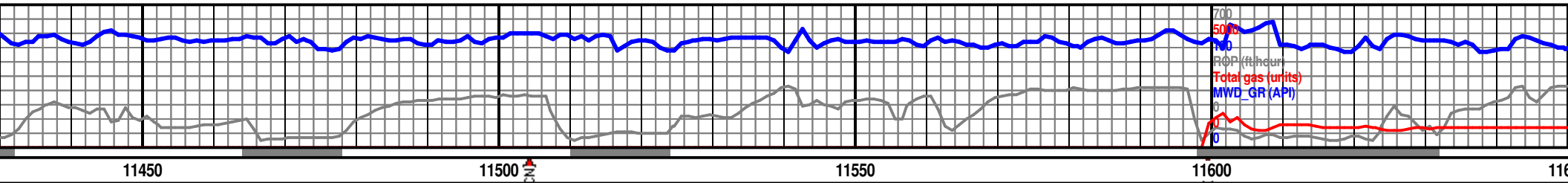
MW 9.6/9.5+ IN/OUT
VIS 48/52 IN/OUT



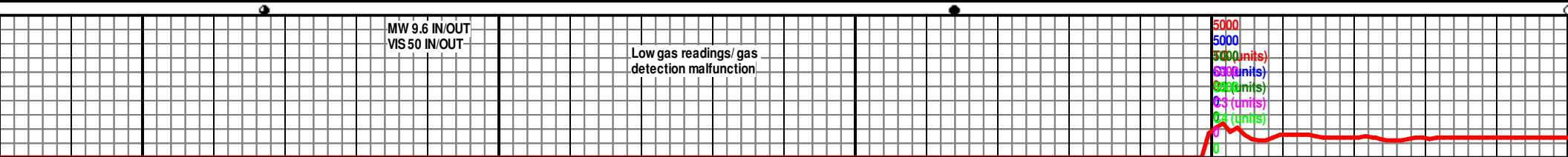


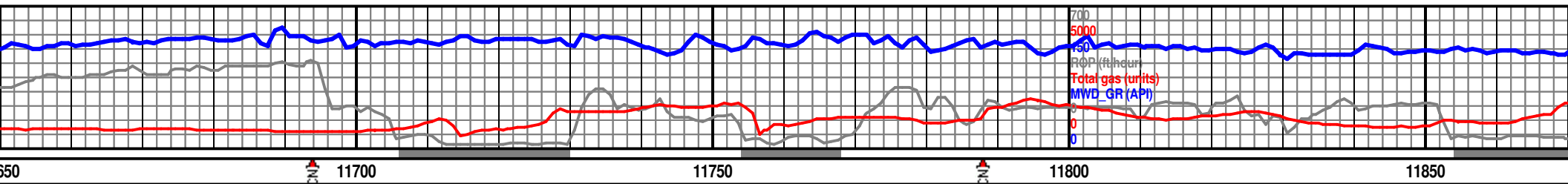
MD 11254 TVD 7588.76 INC 88.96 AZ 359.76 VS 5796.28	MD 11348 TVD 7590 INC 89.53 AZ 359.11 VS 5890.25	7500 TVD Sub Sea (-2498)
<p>SS (90%): lt brn gy-dk gy, occ trans-trasl lse qrtz grns, f-med grns, sb ang-sb rnd, med srt, med-w cmt, abun silic cmt, 10-12% est vis por, rr concr PYR, NF, bri-yel-blu, fast strmg cuts & resid mg; SH (10%), dk gy-blk, frm, plty-splty, fiss, sb wxy-wxy, slty, sl carb.</p> <p>SS (50%): lt brn gy-dk gy, occ trans-trasl lse qrtz grns, f-med grns, sb ang-sb rnd, med srt, med-w cmt, abun silic cmt, 10-12% est vis por, rr concr PYR, NF, bri-yel-blu, fast strmg cuts & resid mg; SH (50%) dk gy-blk, frm, plty-splty, fiss, sb wxy-wxy, slty, sl carb.</p>		
		7600 (-2598)
		7700 (-2698)



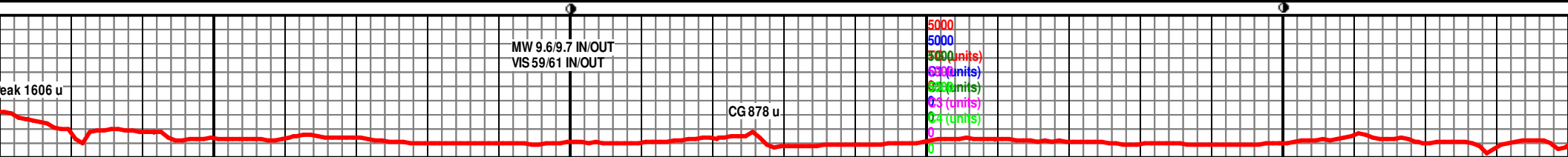
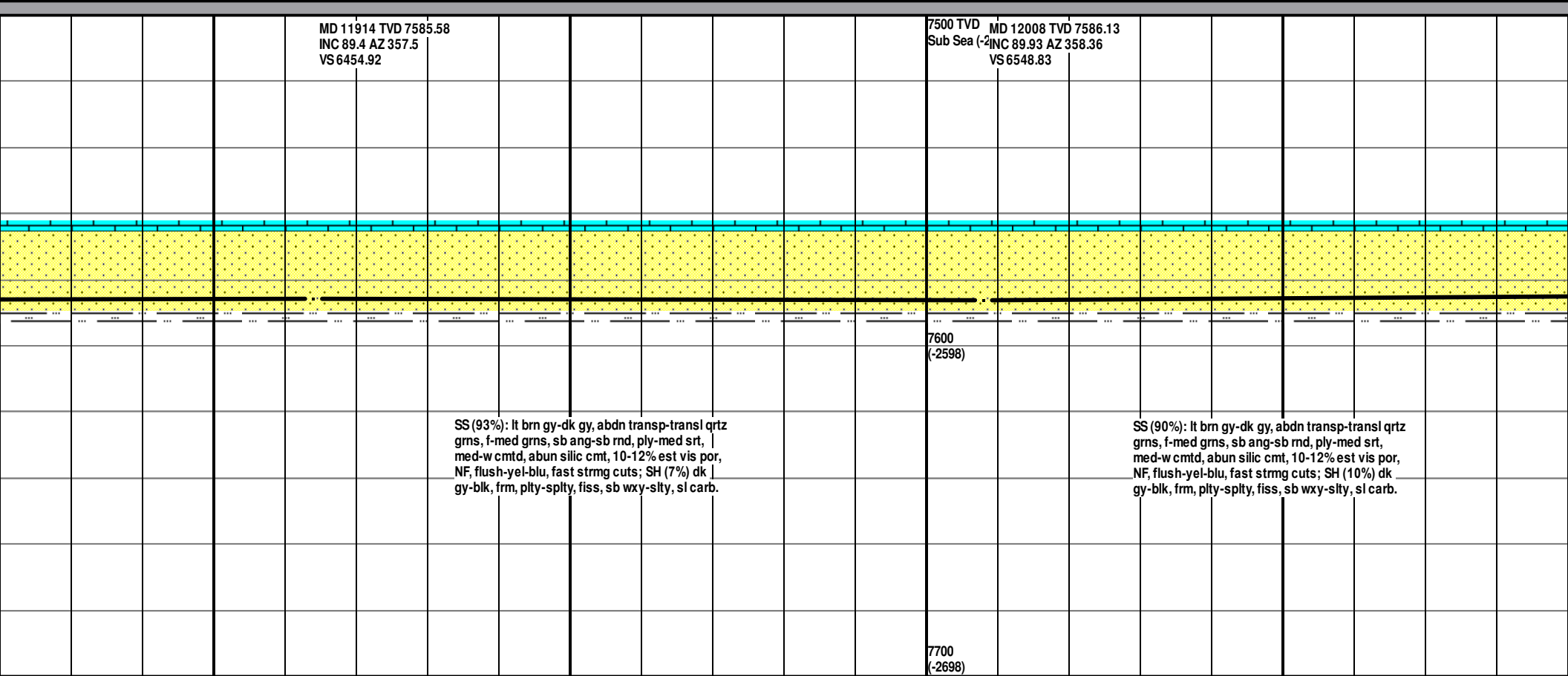
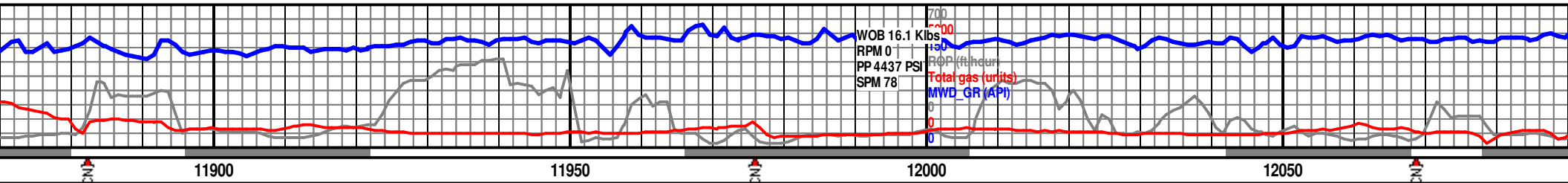


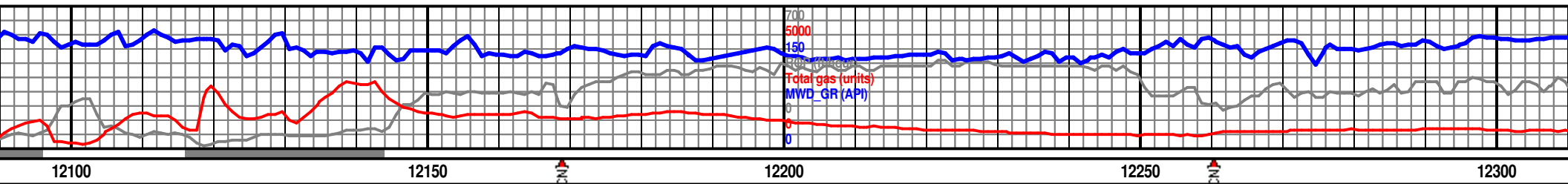
<div>MD 11442 TVD 7589.97 INC 90.5 AZ 357.88 VS 5984.2</div> <div>MD 11537 TVD 7589.25 INC 90.37 AZ 357.05 VS 6079.07</div> <div>7500 TVD Sub Sea (-2498)</div> <div>MD 11631 TVD 7588.37 INC 90.71 AZ 356.5 VS 6172.87</div>		<div>SS (70%): lt brn gy-dk gy, abdn trans-trasl lse qrtz grns, f-med grns, sb ang-sb rnd, med srt, ply-med cmt, abun silic cmt, 8-12% est vis por, tr PYR, NF, bri-yel-blu, fast strmg cuts & resid rng; SH (30%) dk gy-blk, frm, pty-splty, fiss, sb wxy-wxy, slty, sl carb.</div> <div>SS (70%): lt brn gy-dk gy, abdn trans-trasl lse qrtz grns, f-med grns, sb ang-sb rnd, med srt, ply-med cmt, abun silic cmt, 8-12% est vis por, tr lse disem PYR, NF, bri-yel-blu, fast strmg cuts; SH (30%), dk gy-blk, frm, pty-splty, fiss, sb wxy-wxy, slty, sl carb.</div> <div>SS (75%): lt brn gy-dk gy, abdn trans-trasl lse qrtz grns, f-med grns, sb ang-sb rnd, med srt, ply-med cmt, abun silic cmt, 8-12% est vis por, tr lse disem PYR, NF, bri-yel-blu, fast strmg cuts & resid rng; SH (30%) dk gy-blk, frm, pty-splty, fiss, sb wxy-wxy, slty, sl carb.</div>	<div>7600 (-2598)</div> <div>7700 (-2698)</div>
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										MD 11725 TVD 7587.48 INC 90.37 AZ 355.81 VS 6266.61																				7500 TVD Sub Sea (-2498)										MD 11819 TVD 7586.13 INC 91.28 AZ 354.67 VS 6360.21																																																																															

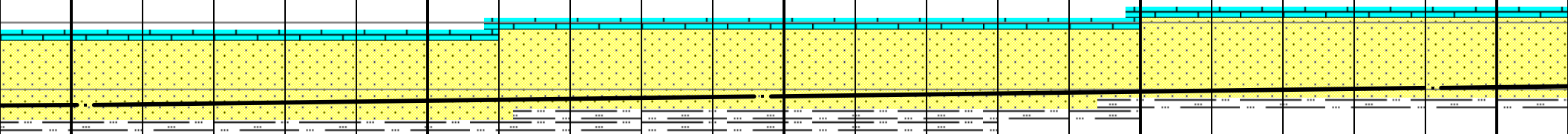




MD 12102 TVD 7585
INC 91.44 AZ 358.74
VS 6642.77

MD 12197 TVD 7582.44
INC 91.65 AZ 359.65
VS 6737.72

MD 12291 TVD 7579.87
INC 91.48 AZ 359.55
VS 6831.67

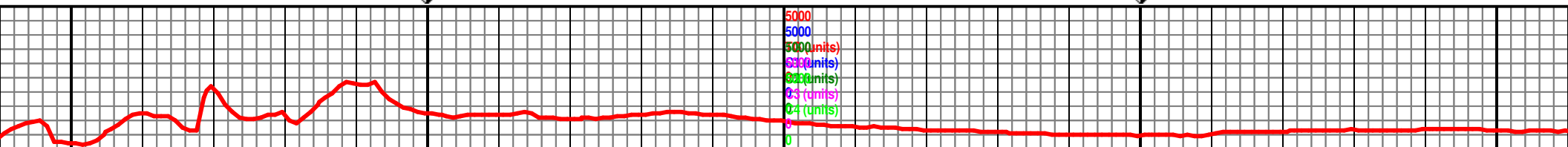


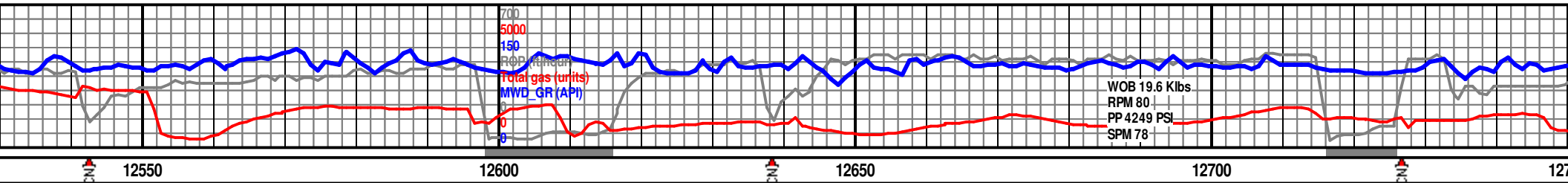
SS (100%): lt brn gy-dk gy, abdn transp-transl
qrtz grns, f-med grns, sb ang-sb rnd, ply-med srt,
med-w cmt, abun silic cmt, 10-12% est vis por,
NF, flush-yel-blu, fast strmg cuts; tr SH, dk
gy-blk, frm, pty-spty, fiss, sb wxy-sity, sl carb.

SS (80%): lt brn gy-dk gy, abdn transp-transl qrtz
grns, f-med grns, sb ang-sb rnd, ply-med srt,
med-w cmt, abun silic cmt, 10-12% est vis por,
NF, flush-yel-blu, fast strmg cuts; SH (20%)
med-dk gy, rr blk, frm, pty-spty, fiss, sb
wxy-sity, sl carb.

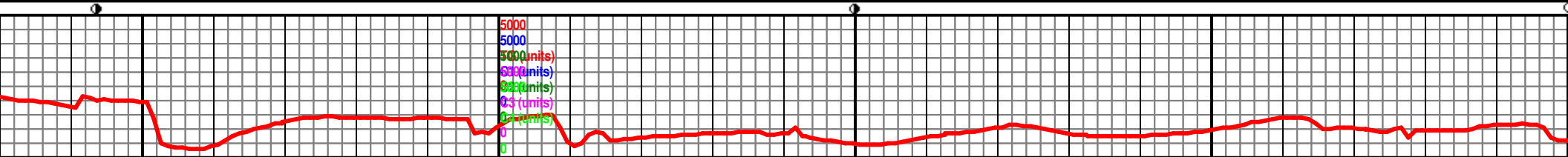
7600
(-2598)

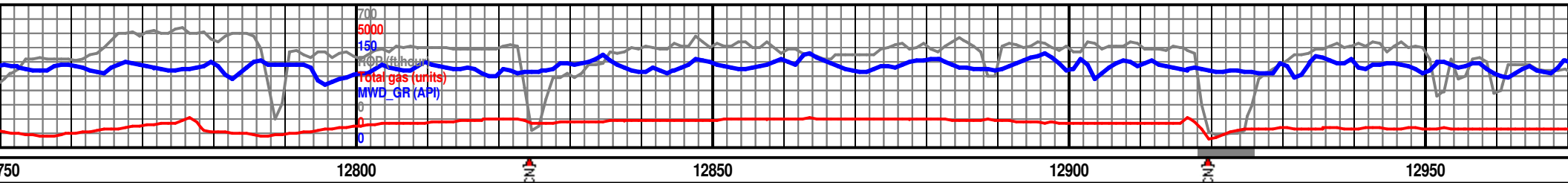
7700
(-2698)



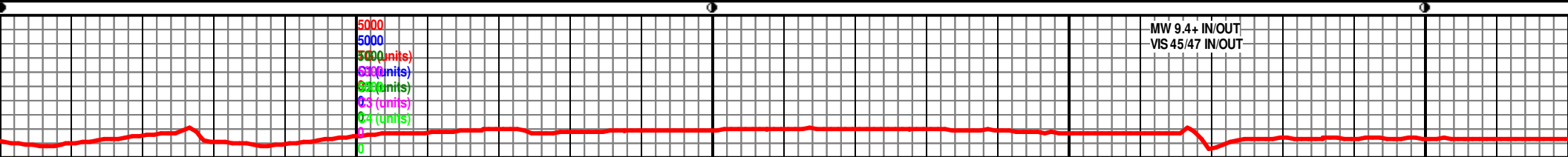


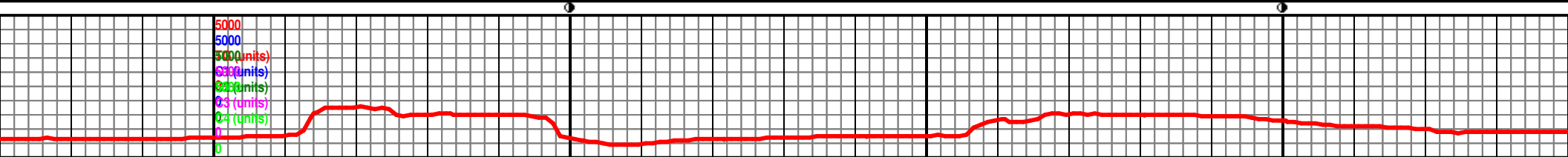
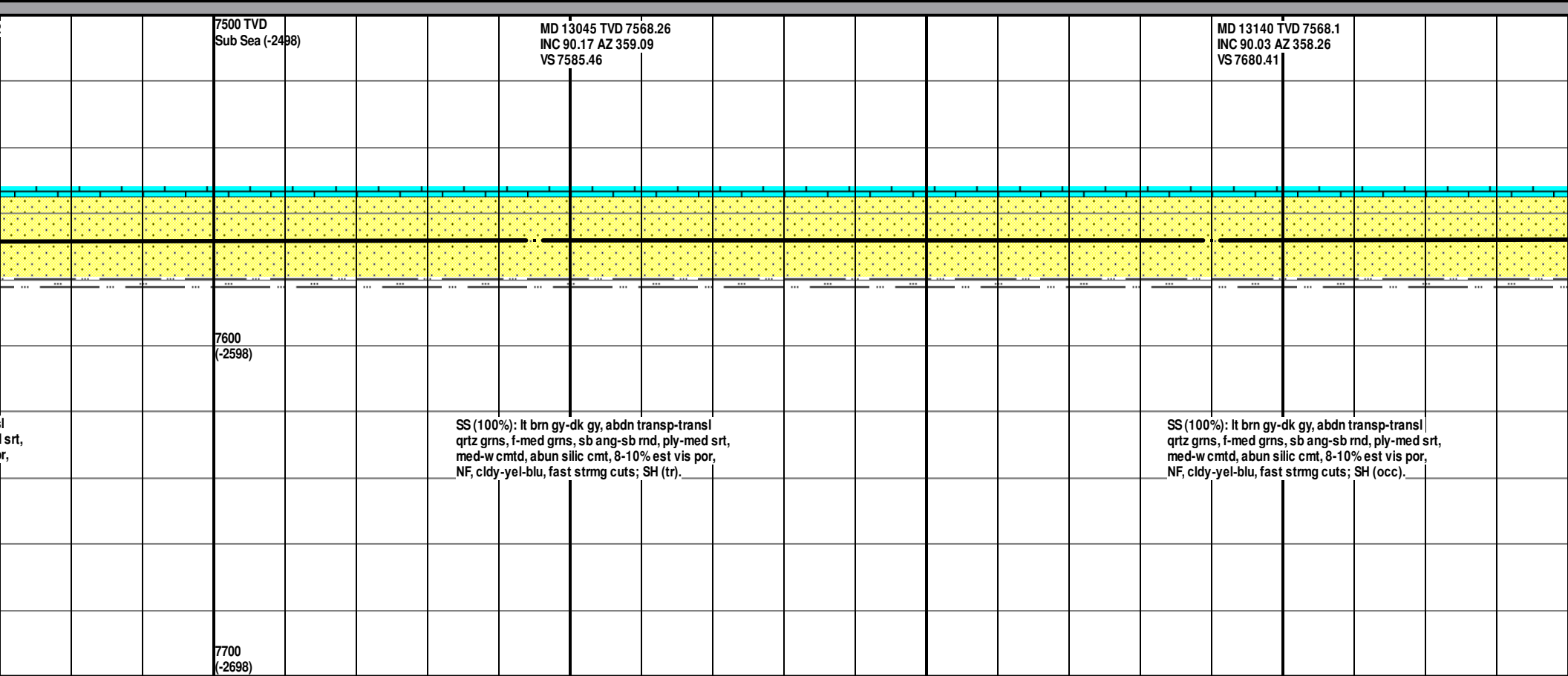
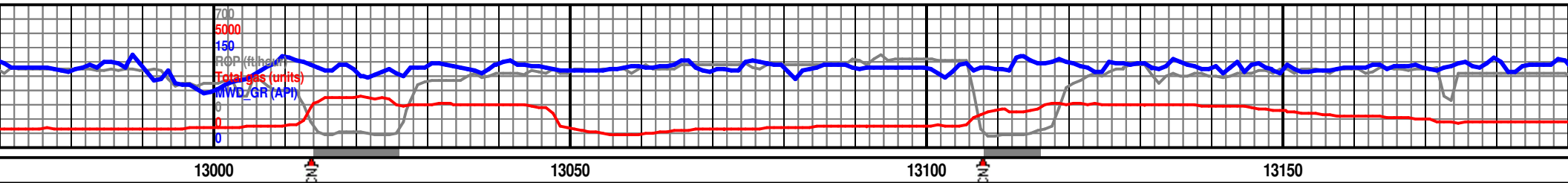
<p>MD 12574 TVD 7570.82 INC 92.28 AZ 0.1 VS 7114.52</p>	<p>7500 TVD Sub Sea (-2498)</p>	<p>MD 12668 TVD 7568.32 INC 90.77 AZ 1.04 VS 7208.48</p>	
<p>SS (80%): lt brn gy-dk gy, abdn transp-transl qrtz grns, f-med grns, sb ang-sb rnd, ply-med srt, med-w cmt, abun silic cmt, 8-10% est vis por, NF, cldy-yel-blu, fast strmg cuts; SH (20%) med gy-gy, frm, plty-splty, fiss, sb wxy-slty, sl carb.</p>	<p>7600 (-2598)</p> <p>7700 (-2698)</p>	<p>SS (95%): lt brn gy-dk gy, abdn transp-transl qrtz grns, f-med grns, sb ang-sb rnd, ply-med srt, med-w cmt, abun silic cmt, 8-10% est vis por, NF, cldy-yel-blu, fast strmg cuts; SH (5%) med gy-gy, frm, plty-splty, fiss, sb wxy-slty, sl carb.</p>	<p>SS (100%): lt brn gy-dk gy, abdn transp-transl qrtz grns, f-med grns, sb ang-sb rnd, ply-med srt, med-w cmt, abun silic cmt, 8-10% est vis por, NF, cldy-yel-blu, fast strmg cuts; SH (5%) med gy-gy, frm, plty-splty, fiss, sb wxy-slty, sl carb.</p>

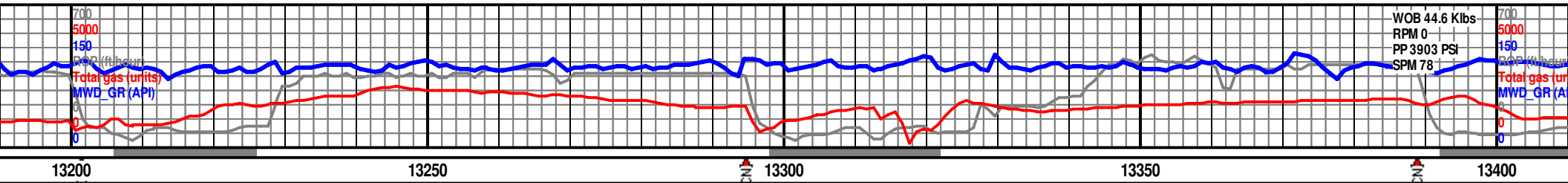




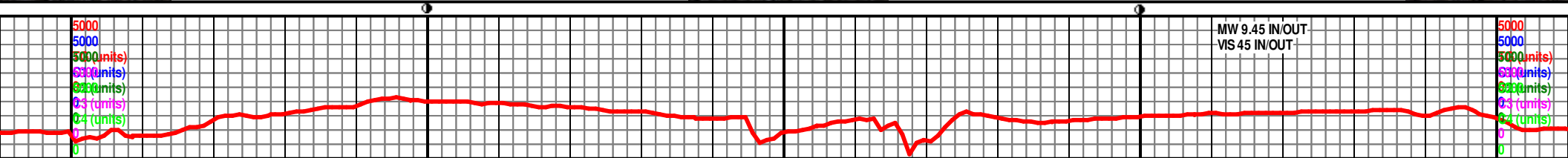
<p>MD 12762 TVD 7567.77 INC 89.9 AZ 0.85 VS 7302.47</p>	<p>7500 TVD Sub Sea (-2498)</p>	<p>MD 12857 TVD 7568.04 INC 89.77 AZ 0.04 VS 7397.47</p>	<p>MD 12951 TVD 7568.32 INC 89.9 AZ 359.86 VS 7491.47</p>
<p>gy-dk gy, abdn transp-transl ms, sb ang-sb rnd, ply-med srt, silic cmt, 8-10% est vis por, fast strmg cuts; SH (tr).</p>	<p>7600 (-2598)</p>	<p>SS (100%): lt brn gy-dk gy, abdn transp-transl qtz grns, f-med grns, sb ang-sb rnd, ply-med srt, med-w cmt, abun silic cmt, 8-10% est vis por, NF, cldy-yel-blu, fast strmg cuts; SH (tr).</p>	<p>SS (100%): lt brn gy-dk gy, abdn transp-transl qtz grns, f-med grns, sb ang-sb rnd, ply-med med-w cmt, abun silic cmt, 8-10% est vis por, NF, cldy-yel-blu, fast strmg cuts; SH (tr).</p>
<p>7700 (-2698)</p>			

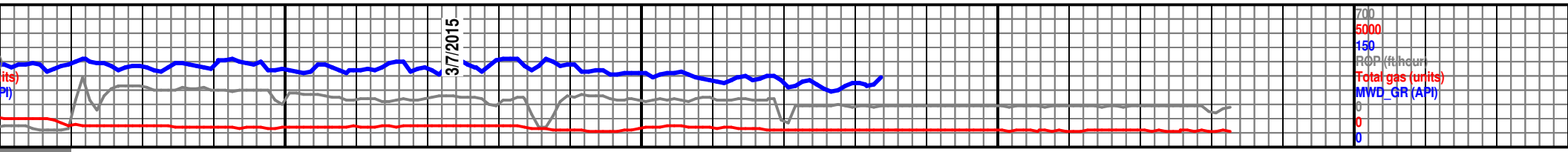






7500 TVD Sub Sea (-2498)	MD 13234 TVD 7567.6 INC 90.57 AZ 358.06 VS 7774.34	MD 13328 TVD 7567.24 INC 89.87 AZ 357.81 VS 7868.25	7500 TVD Sub Sea (-2498)
7600 (-2598)	SS (100%): lt brn gy-dk gy, abdn transp-transl qrtz grms, f-med grms, sb ang-sb rnd, ply-med srt, med-w cmt, abun silic cmt, 8-10% est vis por, NF, cldy-yel-blu, fast strmg cuts; SH (tr).	SS (100%): lt brn gy-dk gy, abdn transp-transl qrtz grms, f-med grms, sb ang-sb rnd, ply-med srt, med-w cmt, abun silic cmt, 8-10% est vis por, NF, cldy-yel-blu, fast strmg cuts; SH (tr).	7600 (-2598)
7700 (-2698)			7700 (-2698)





13450



13500

13550



13600

98)	MD 13422 TVD 7566.11 INC 91.51 AZ 359.76 VS 7962.19												MD 13516 TVD 7564.33 INC 90.67 AZ 358.45 VS 8056.15		MD 13583 TVD 7563.45 INC 90.67 AZ 358.45 VS 8123.11	

SS (100%): lt brn gy-dk gy, abdn transp-transl
qtz grns, f-med grns, sb ang-sb rnd, ply-med srt,
med-w cmt, abun silic cmt, 8-10% est vis por,
NF, cldy-yel-blu, fast strmg cuts; SH (tr).

SS (100%): lt brn gy-dk gy, abdn transp-transl
qtz grns, f-med grns, sb ang-sb rnd, ply-med srt,
med-w cmt, abun silic cmt, 8-10% est vis por,
NF, cldy-yel-blu, fast strmg cuts; SH (r).

Survey projected to bit

(GOOLSBY BROTHERS & ASSO

TD @ 13,583' REACHED
ON 03/7/15 @ 00:52 HRS MD

4.5" production liner set and c
,WT: 11.6 ppf; Grade: HCP110

7600
(-2598)

7700
(-2698)

