

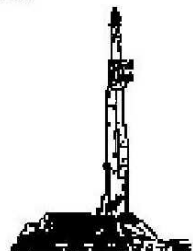
**GOOLSBY BROTHERS**  
and associates, inc.

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



Geological Wellsite  
Supervision

[www.goolsbybrothers.com](http://www.goolsbybrothers.com)



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

**Well Name:** Reynolds Cattle 31C-23HZ

**API:** 05-123-39133-0000

**Location:** Section 23, T3N, R68W

**License Number:**

**Spud Date:** June 27, 2014

**Surface Coordinates:** NENE Sec 23 T3N R68W; 620' FNL & 155' FEL

Lat N 40.217216 Long W -104.961383

**Bottom Hole Coordinates:** SWNW Sec 23 T3N R68W; 925' FNL; 50' FWL

**Ground Elevation (ft):** 4,931'

**Logged Interval (ft):** 6,800'

**To:** 12,637'

**K.B. Elevation (ft):** 4,947'

**Total Depth (ft):** 12,637' DMTD

**Formation:** Pierre Shales/Sands, Niobrara, Ft. Hayes, Codell Target

**Type of Drilling Fluid:** Water & Poly to 6,600', LSND 6,600'-12,457'

**Region:** Wattenberg, DJ Basin  
**Drilling Completed:** July 2, 2014

Printed by HORIZONTAL.LOG from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

**OPERATOR**

**Company:** Kerr-McGee Oil & Gas Onshore LP

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

Denver, CO 80202

CO Geologist, Tom Birmingham

**GEOLOGIST**

**Name:** Larry Goolsby & Daniel Kabala

**Company:** Goolsby Brothers & Assoc. (GBA), Inc. ([www.goolsbybrothers.com](http://www.goolsbybrothers.com))

**Address:** 575 Union Blvd.

Suite 208,

Lakewood CO. 80228

## E-logs

MWD GR 6800' - 12631'

## Casing

9 5/8" Surface Casing set @ 1,297' MD

7" Intermediate Casing set @ 7728' MD

4 1/2" Production Liner hung 07/3/2014, landed @ 12,622'

## Comments

1) Drilling Contractor: Xtreme Drilling, Rig #20

Toolpusher: Joseph Contreras

2) Company Man: Marvin Hackworth & Tim Walker

3) Mud Company : AES

Engineer: Shannon Davis

4) Directional Drilling: Baker Hughes

Pulse Tool

Drillers: Barry Combs & Tony Besse





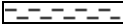
MWD: Greg Dore & David Camp

5) Gas Equipment: Pason Systems






6) Wellsite Geology: Goolsby Brothers & Associates






Geologists: Dan Kabala & Larry Goolsby

## ROCK TYPES

 Anhy  
 Bent  
 Brec  
 Cht  
 Clyst

 Coal  
 Oil sat.  
 Congl  
 Dol  
 Gyp

 Lmst  
 Mrlst  
 Salt  
 Shale  
 Shcol

 Shgy  
 Ss  
 Slstst  
 Ss  
 Chalk

 Carb sh  
 Slty sh

## ACCESSORIES

### MINERAL

Anhy  
 Arggrn  
 Arg  
 Bent  
 Bit  
 Brecfrag  
 Calc  
 Carb  
 Chtdk  
 Chtlt  
 Dol  
 Feldspar  
 Ferrpel  
 Ferr  
 Glau

Gyp  
 Hvymin  
 Kaol  
 Marl  
 Minxl  
 Nodule  
 Phos  
 Pyr  
 Salt  
 Sandy  
 Silt  
 Sil  
 Sulphur  
 Tuff

### FOSSIL

Algae  
 Amph  
 Belm  
 Bioclst  
 Brach  
 Bryozoa  
 Cephal  
 Coral  
 Crin  
 Echin  
 Fish  
 Foram  
 Fossil  
 Gastro  
 Oolite

Ostra  
 Pelec  
 Pellet  
 Pisolite  
 Plant  
 Strom

### STRINGER

Chlkstg  
 Anhy  
 Arg  
 Bent  
 Coal  
 Dol  
 Gyp  
 Ls

Mrst  
 Sltstgr  
 Ssstgr

### TEXTURE

Boundst  
 Chalky  
 Cryxln  
 Earthy  
 Finexln  
 Grainst  
 Lithogr  
 Microxln  
 Mudst  
 Packst  
 Wackst

## OTHER SYMBOLS

### OIL SHOWS

Even  
 Spotted  
 Ques  
 Dead  
 Vspotty

near even

### POROSITY TYPE

Earthy  
 Fenest  
 Fracture

Inter  
 Moldic  
 Organic  
 Pinpoint  
 Vuggy

### ROUNDING

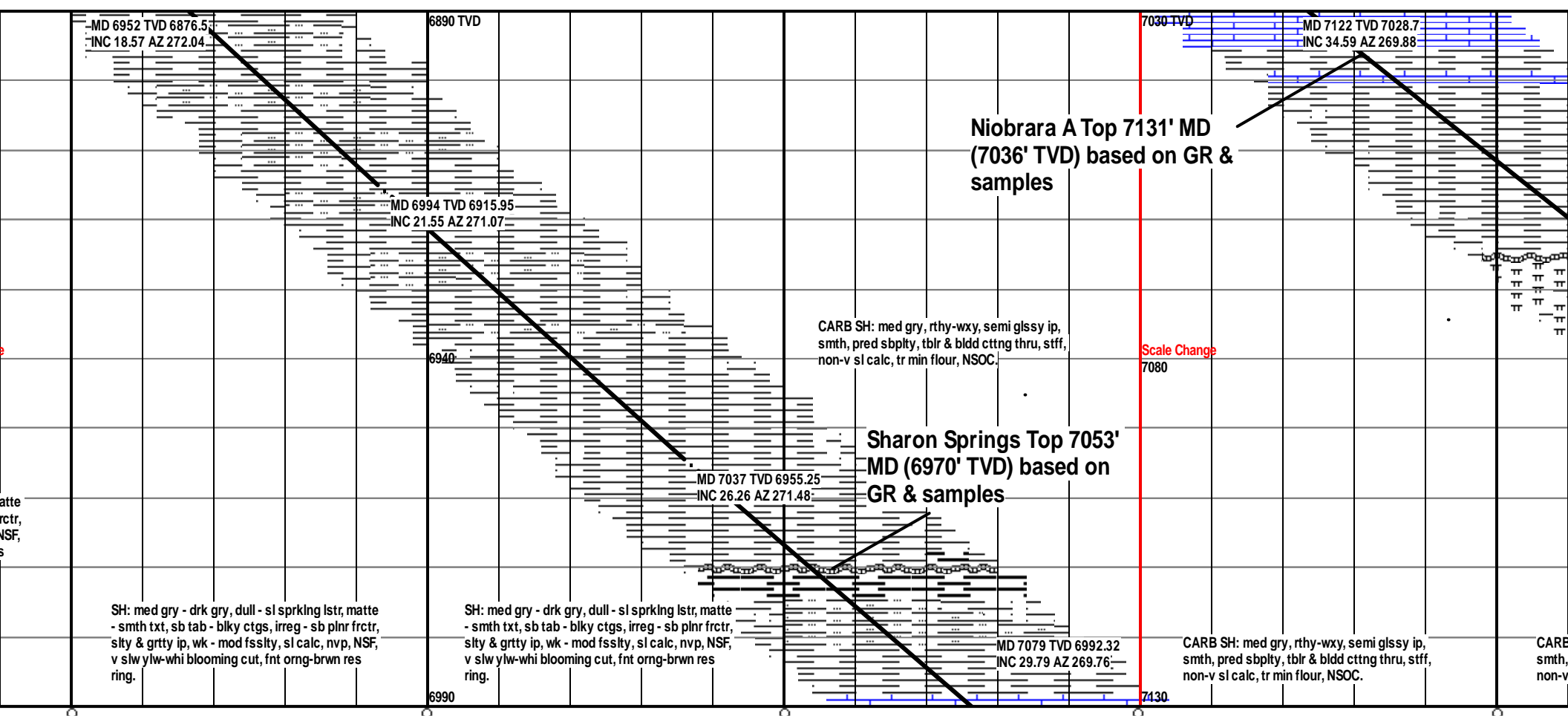
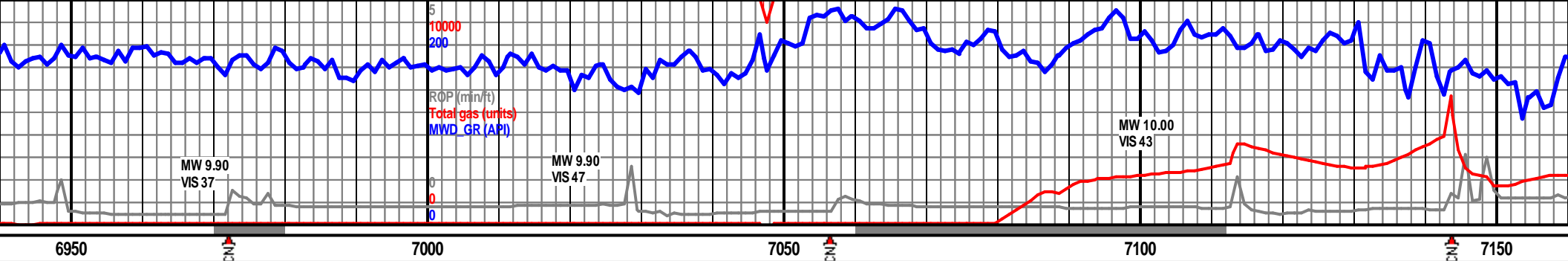
Rounded  
 Subrnd  
 Subang  
 Angular

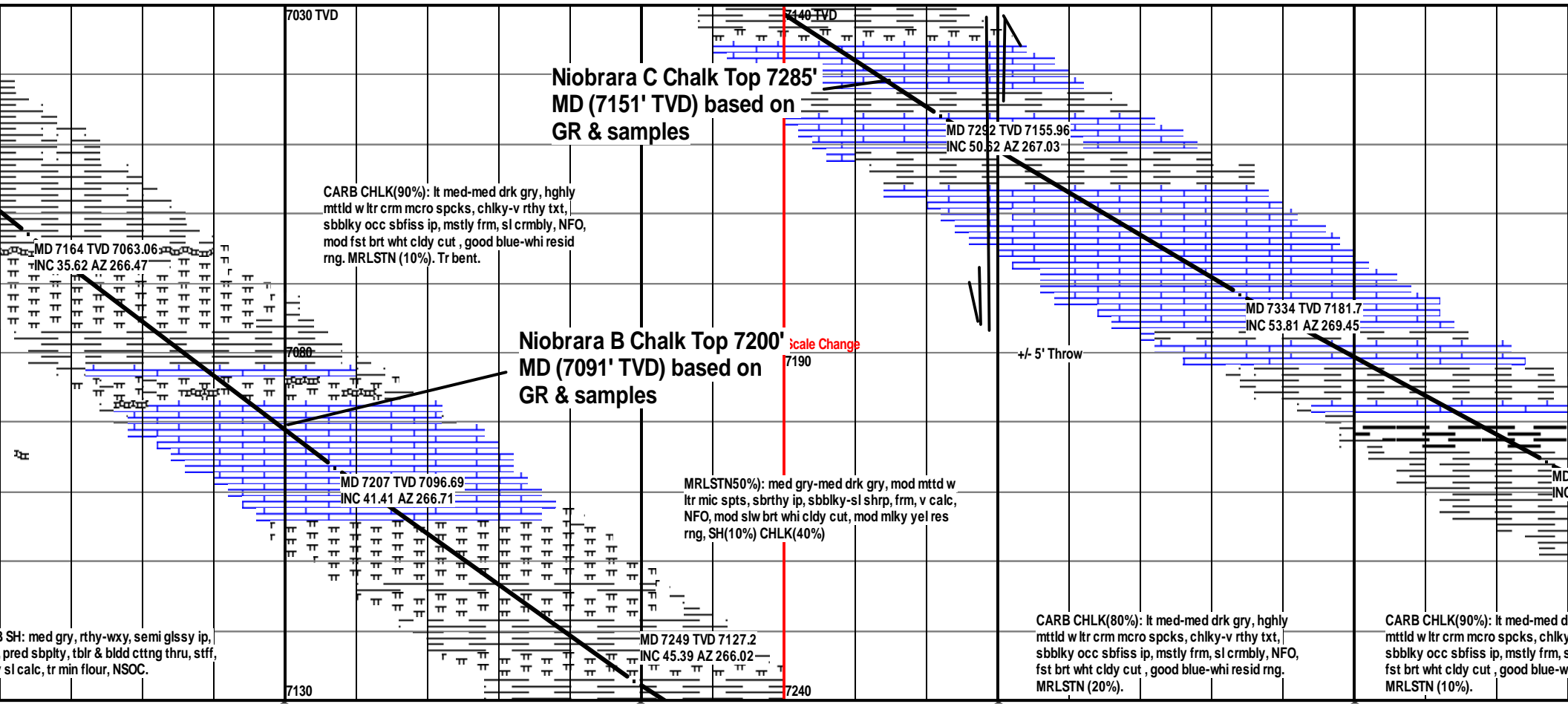
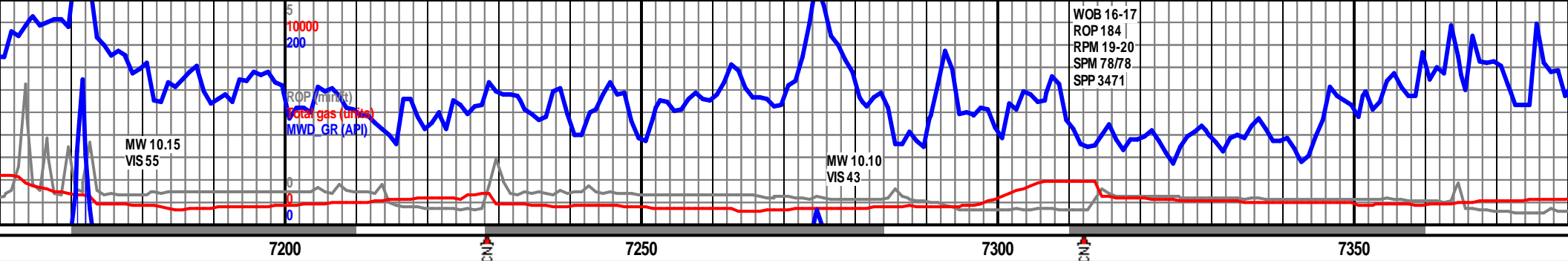
### SORTING

Well  
 Moderate  
 Poor

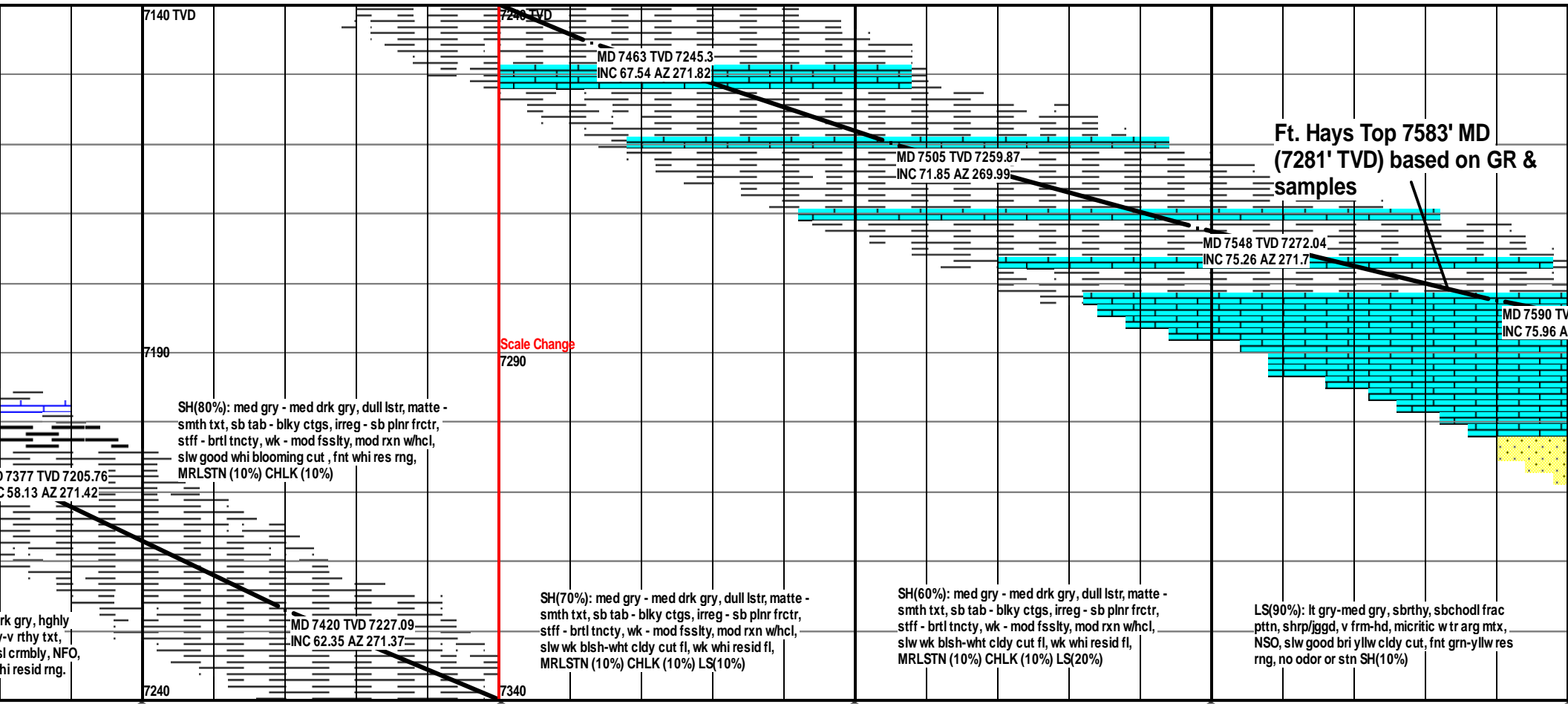
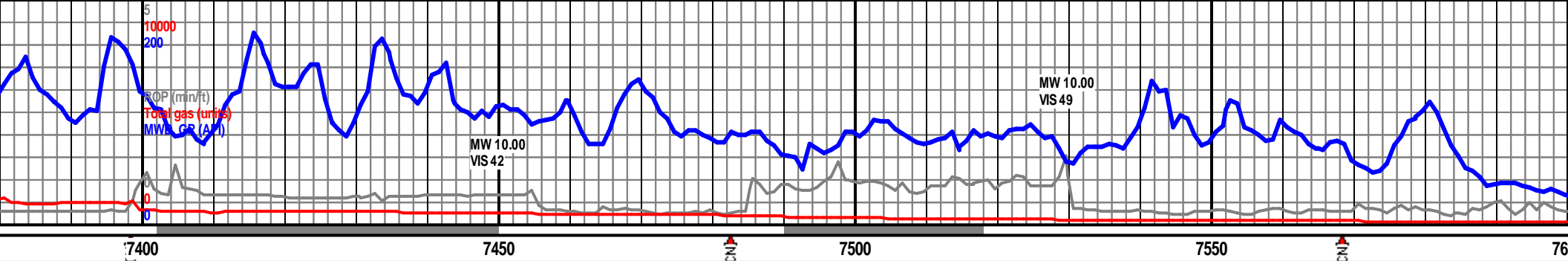
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ROP 116  
RPM 0  
SPM 71/72  
SPP 2501

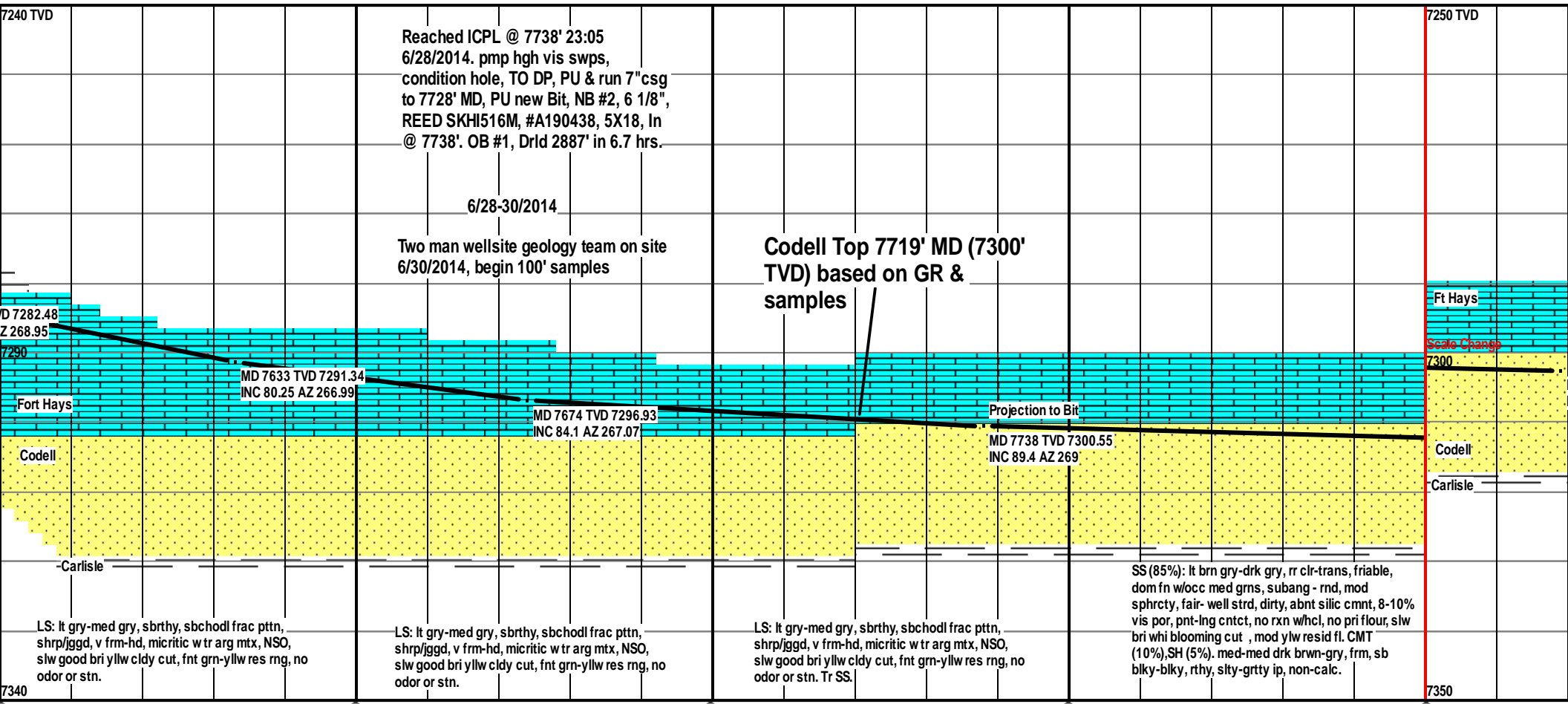
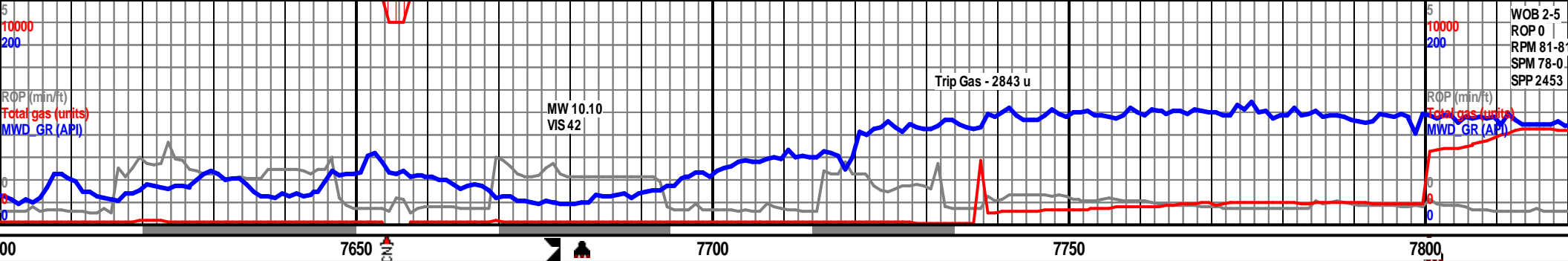
MW 10.00  
VIS 40



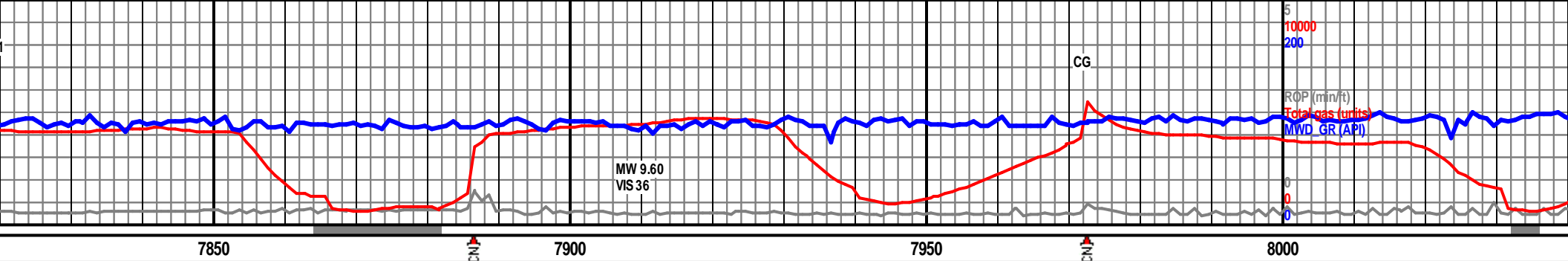




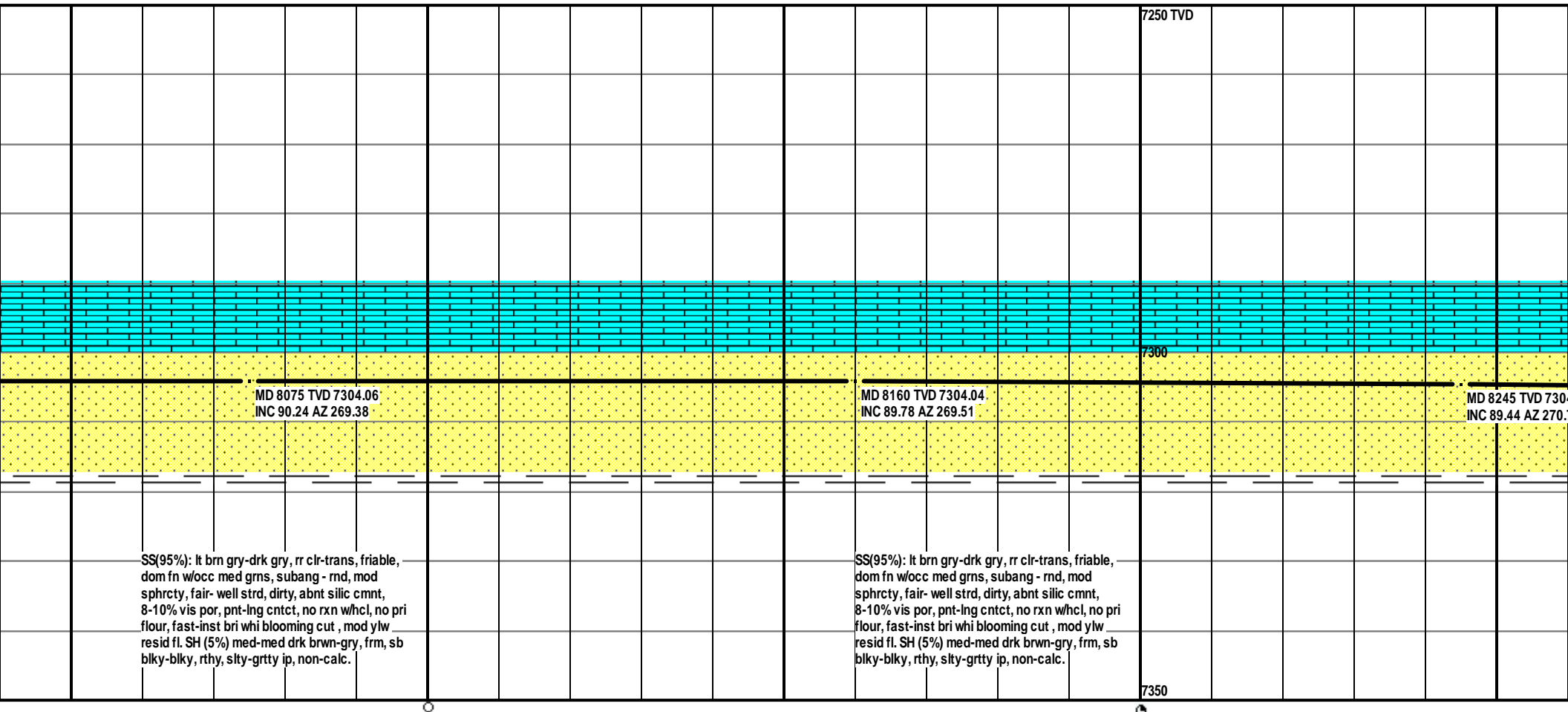


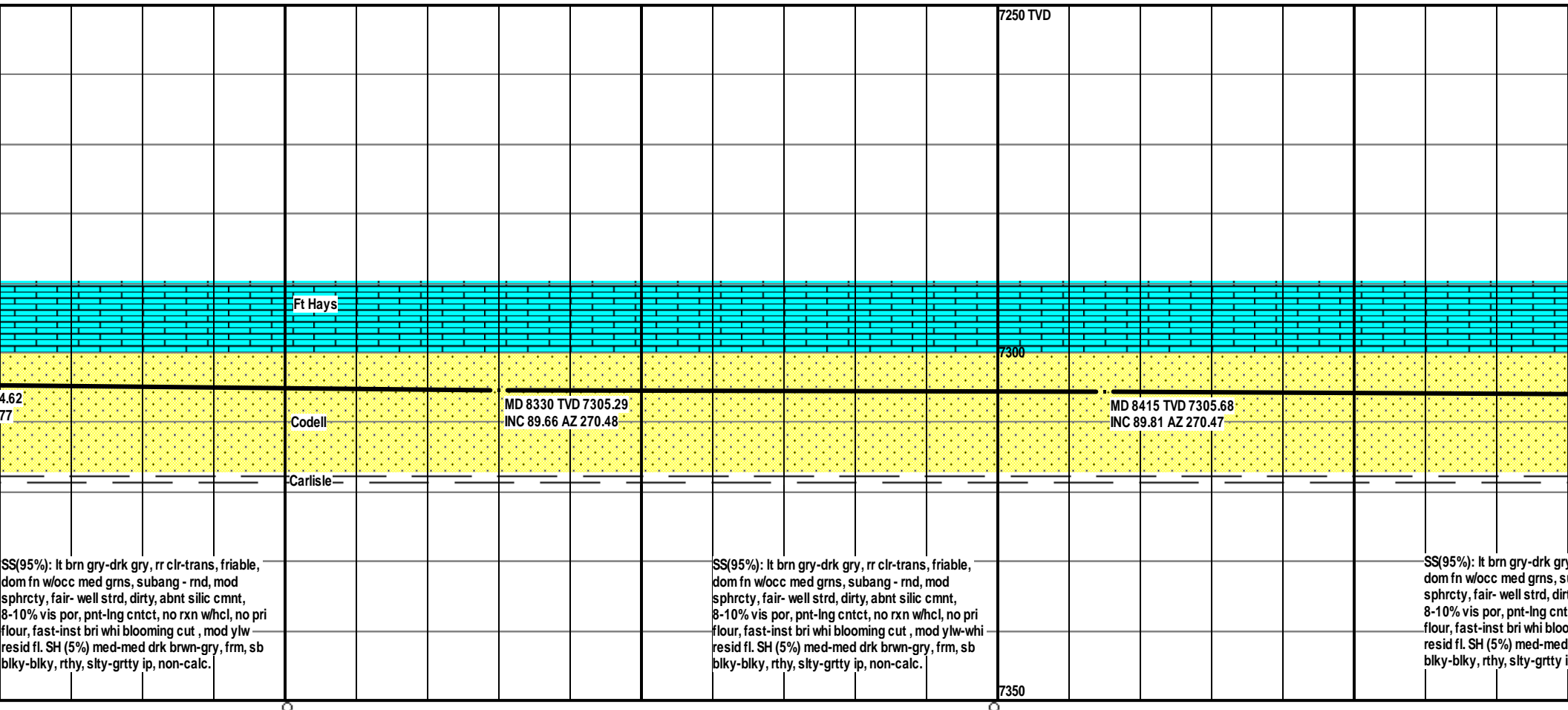
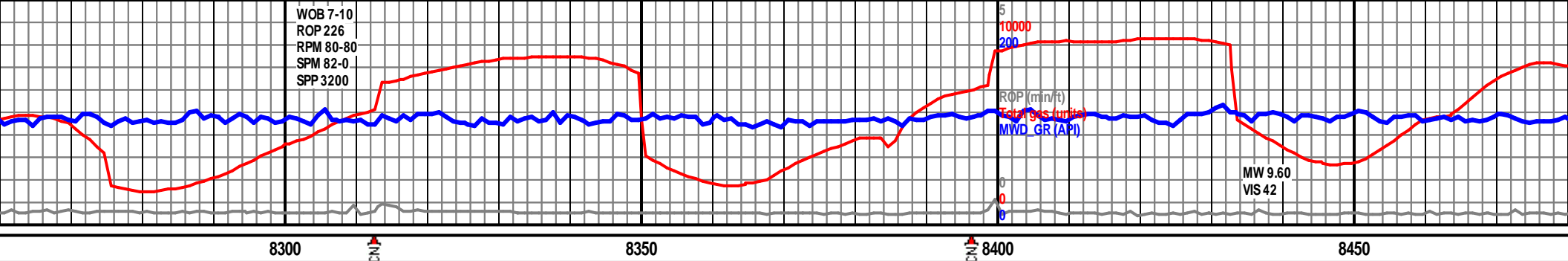


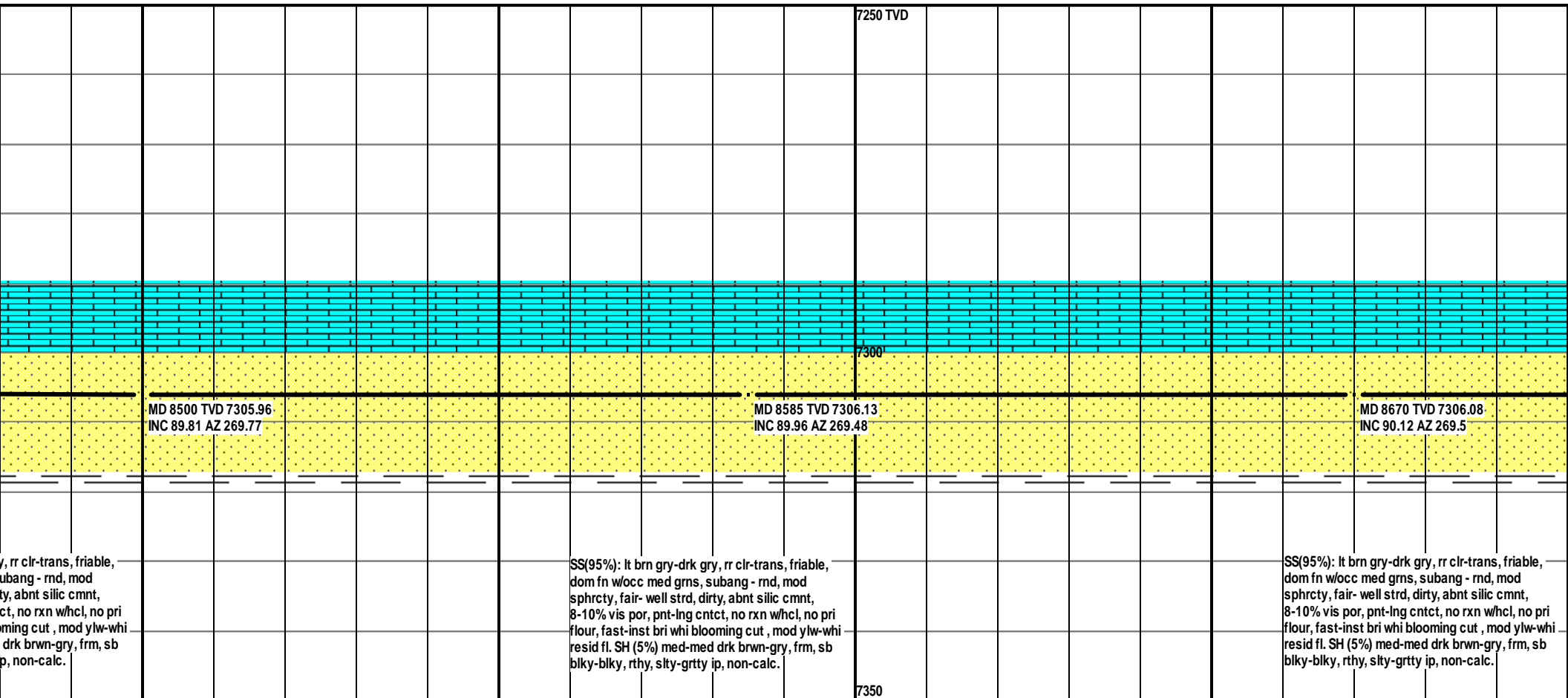


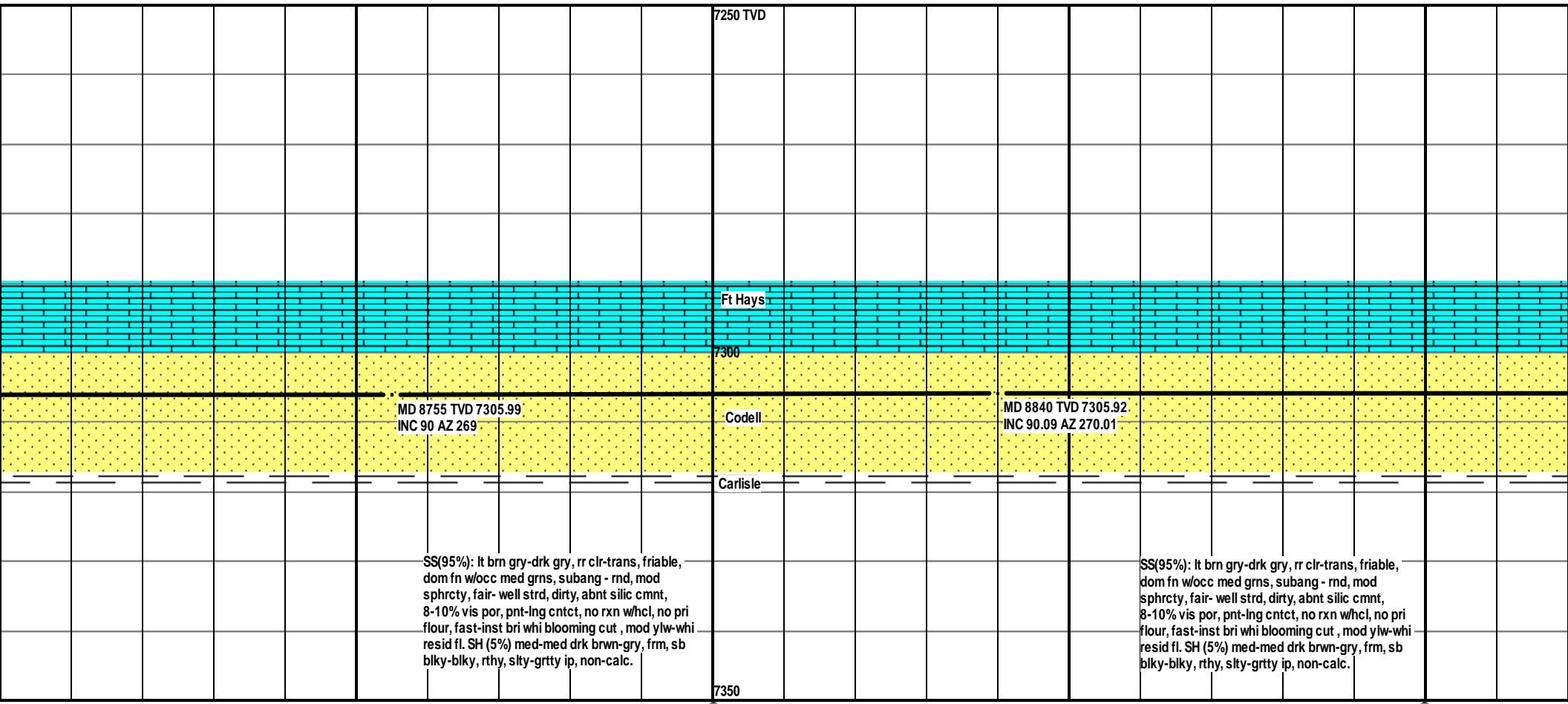
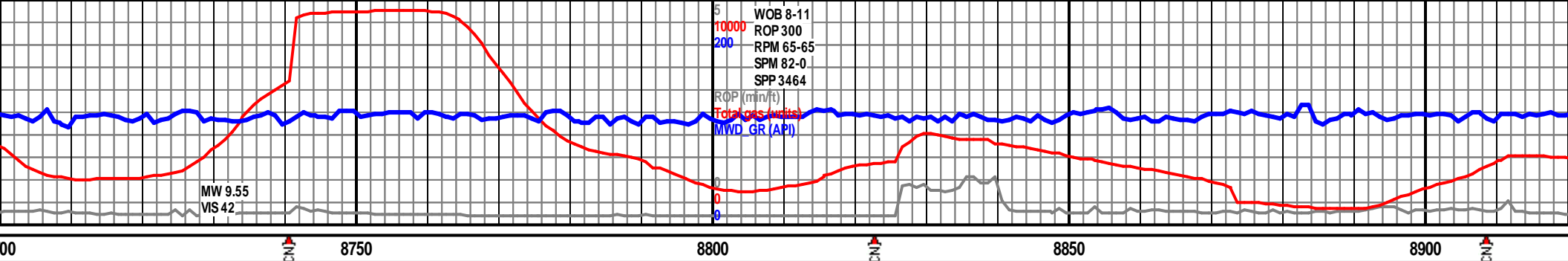


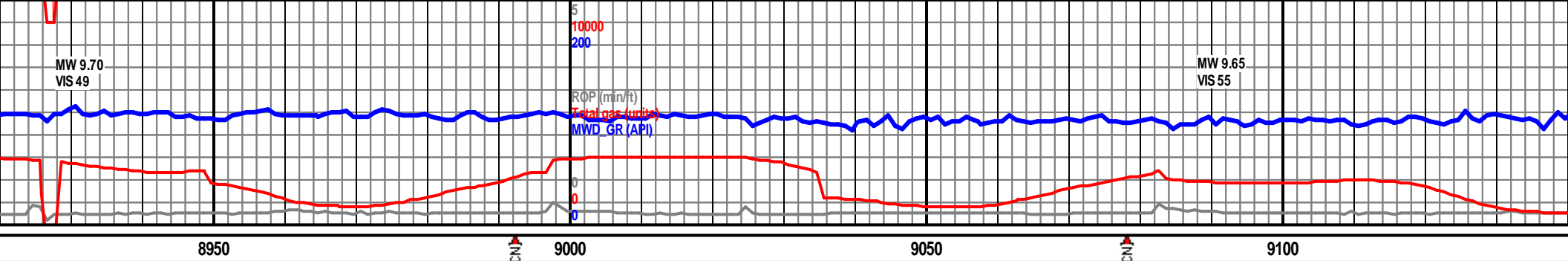
										7250 TVD																			
																				</									







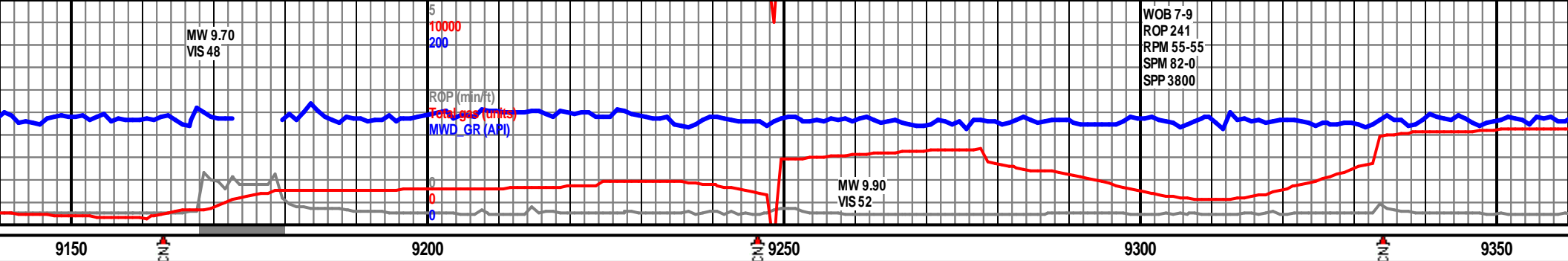




7250 TVD									
7300									
MD 8926 TVD 7305.76 INC 90.12 AZ 270.31									
MD 9011 TVD 7305.58 INC 90.12 AZ 269.95									
MD 9096 TVD 7305.41 INC 90.12 AZ 269.86									
SS(95%): lt brn gry-drk gry, rr clr-trans, friable, dom fn w/occ med grns, subang - rnd, mod sphrcty, fair- well strd, dirty, abnt silic cmnt, 8-10% vis por, pnt-ling cntct, no rxn w/hcl, no pri flour, fast bri whi blooming cut , good whi resid fl. SH (5%) med-med drk brwn-gry, frm, sb blkly-blky, rthy, slty-grtty ip, non-calc.									
7350									

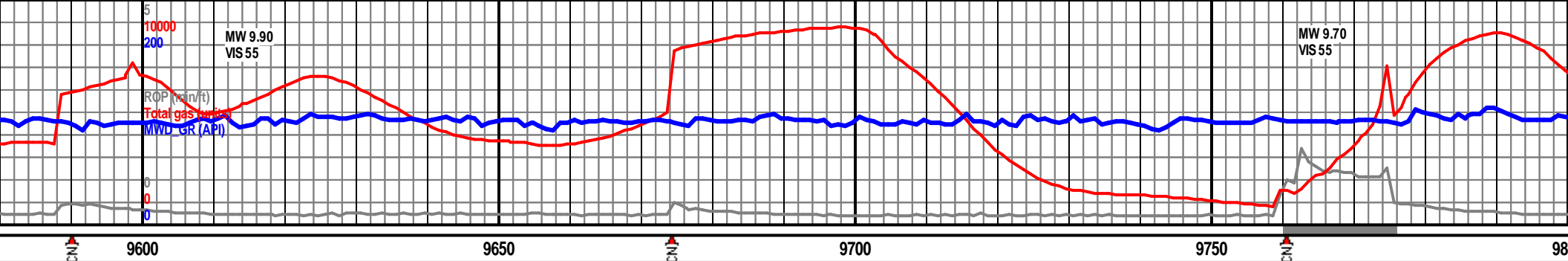




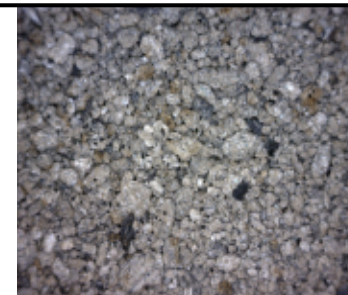
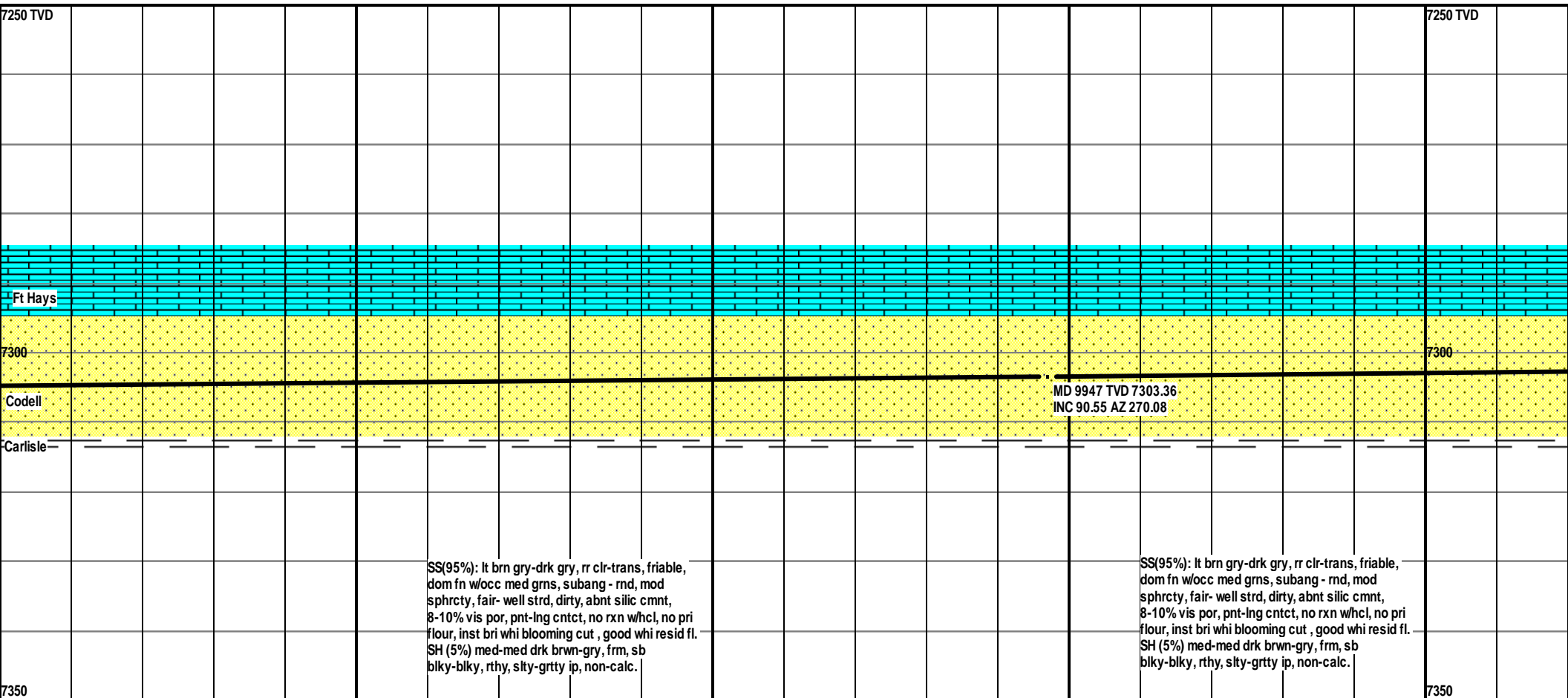


										7250 TVD																			





7250 TVD									



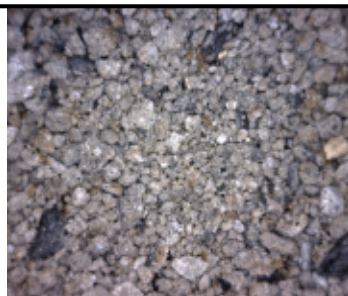


MD 10117 TVD 7301.73  
INC 90.55 AZ 269.98

SS(95%): lt brn gry-drk gry, rr clr-trans, friable, dom fn w/occ med grns, subang - rnd, mod sphrcty, fair- well strd, dirty, abnt silic cmnt, 8-10% vis por, pnt-Ing cntct, no rxn w/hcl, no pri flour, inst bri whi blooming cut , good whi resid fl. SH (5%) med-med drk brwn-gry, frm, sb blkly-blky, rthy, slty-grtty ip, non-calc.

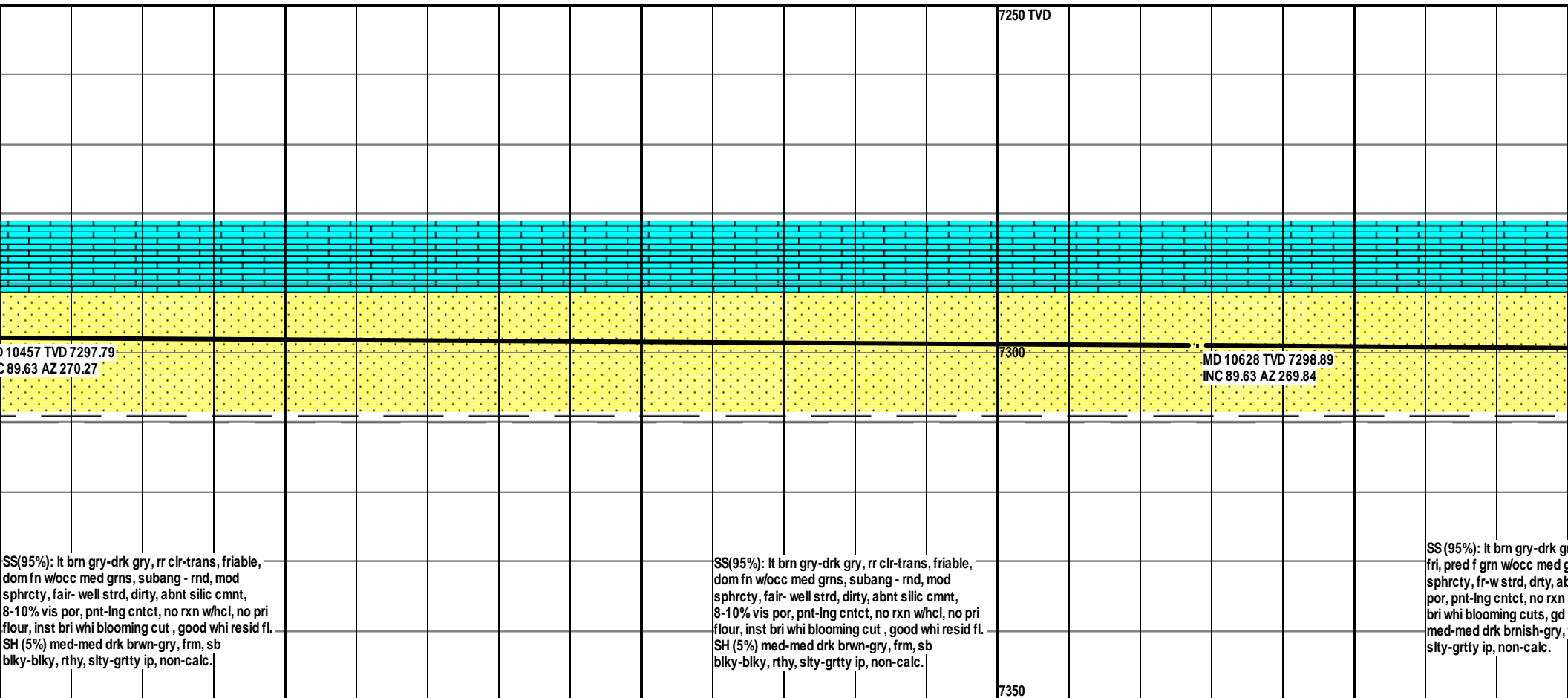
SS(95%): lt brn gry-drk gry, rr clr-trans, friable, dom fn w/occ med grns, subang - rnd, mod sphrcty, fair- well strd, dirty, abnt silic cmnt, 8-10% vis por, pnt- lng cntct, no rxn w/hcl, no pri flour, inst bri whi blooming cut , good whi resid fl. SH (5%) med-med drk brwn-gry, frm, sb blkvy-blky, rthy, slty-grtty ip, non-calc.

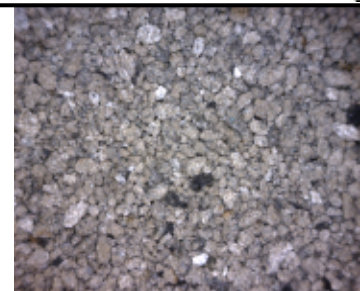
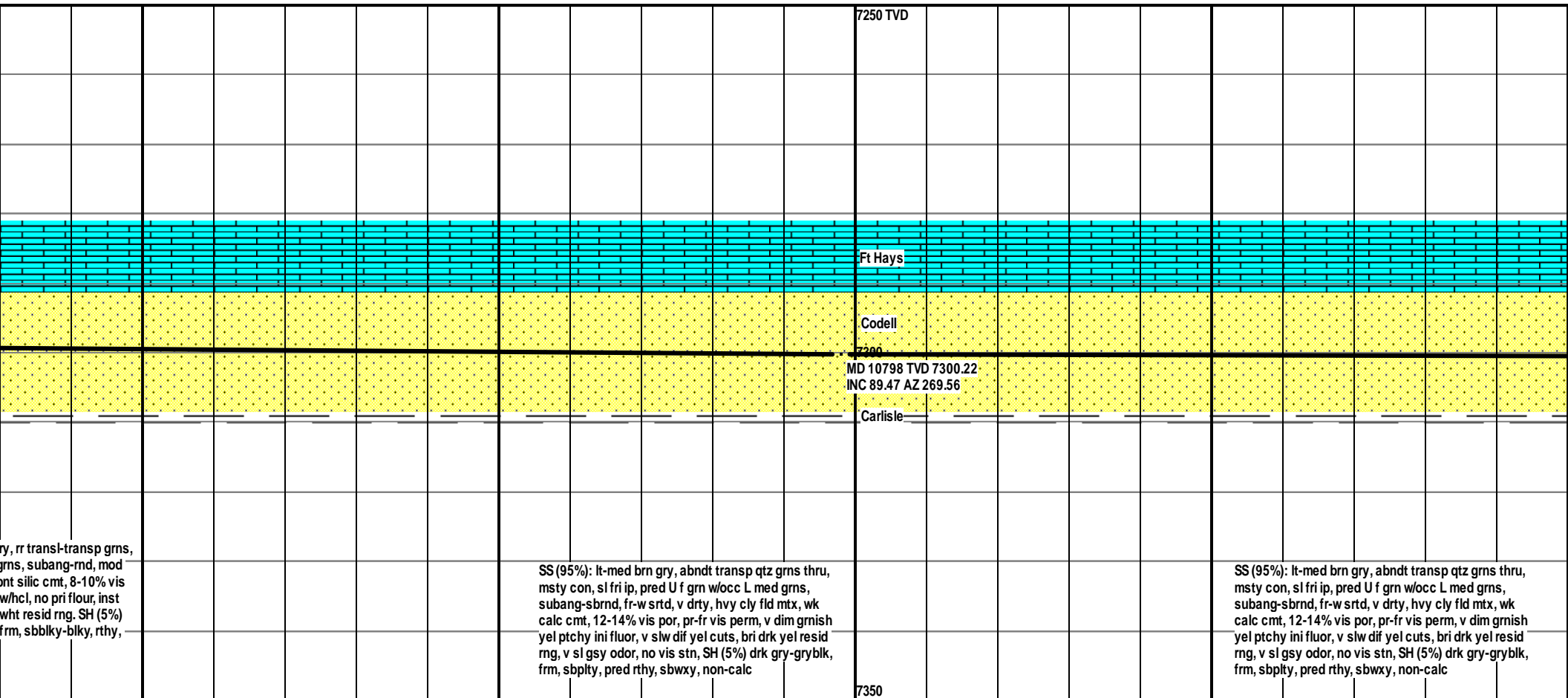
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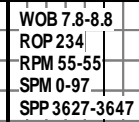












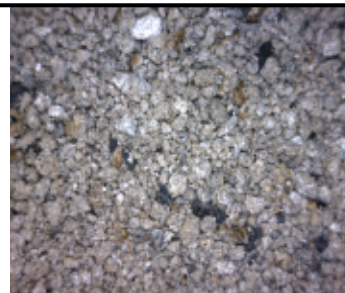
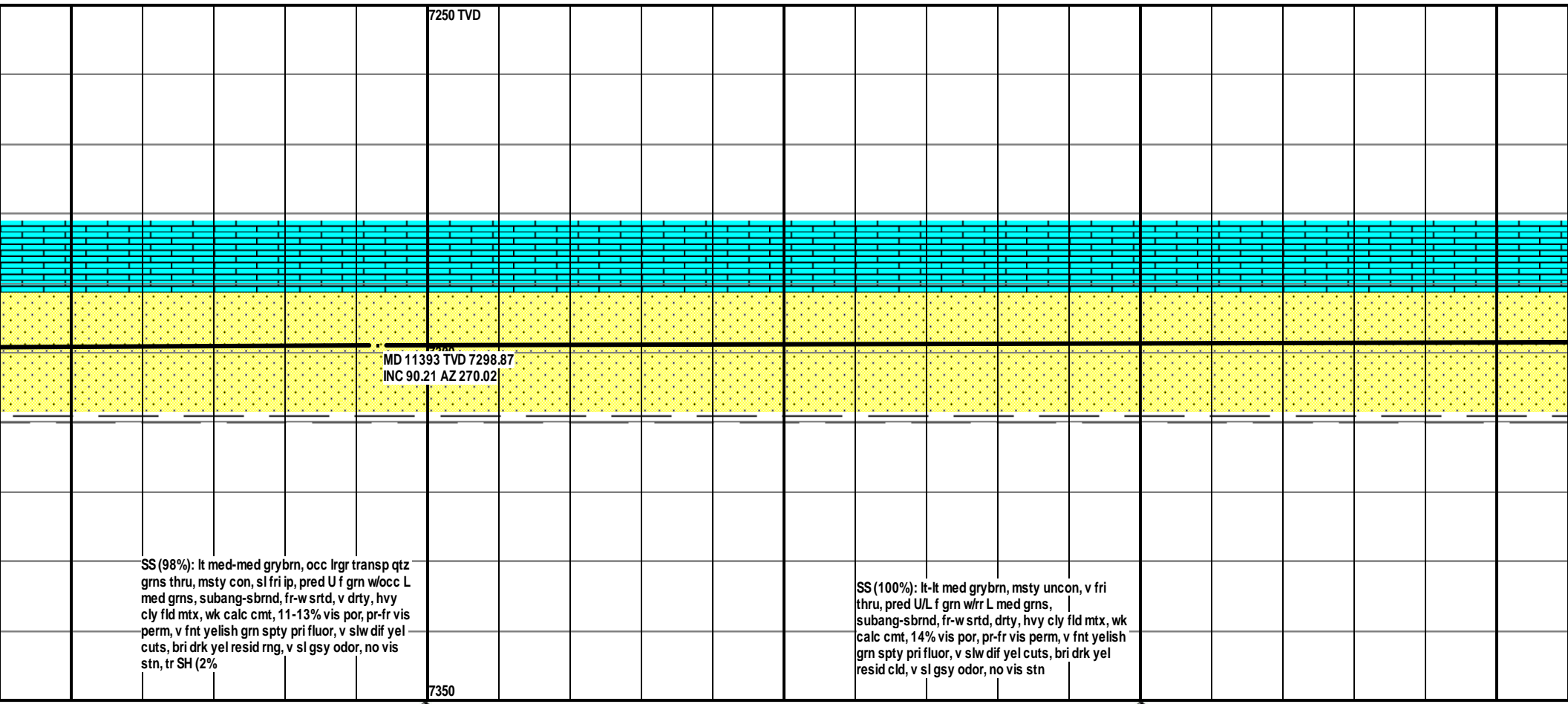
7900

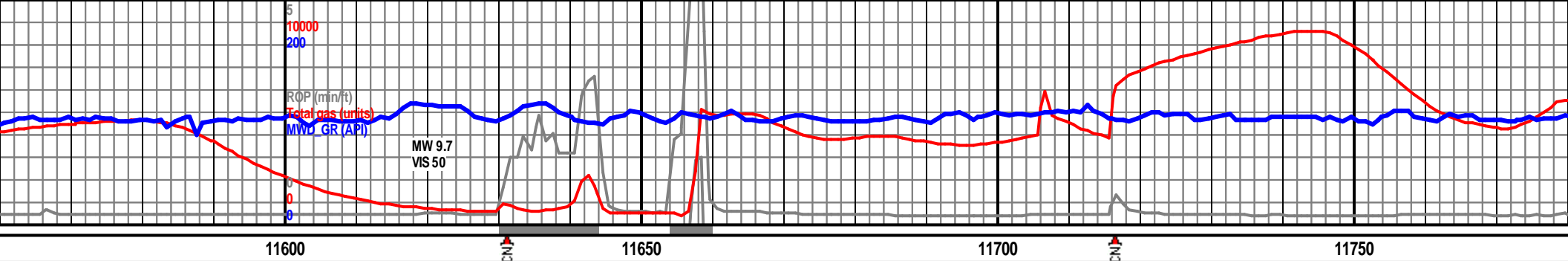
MD 11309 TVD 7299.3  
INC 90.37 AZ 269.19

SS (90%): It med-med grybrn, occ lgrg transp qtz  
grns thru, substy con, sl fri ip, pred U f grn wocc L  
med grns, subang-sbrnd, fr-w srt'd, v drty, hvy cly  
fld mtx, wk calc cnt, 11-13% vis por, pr-fr vis  
perm, v fnt yelish grn spty pri fluor, v slw dif yel  
cuts, brn drk yel resid rng, v sl gsy odor, no vis stn,  
SH (10%): drk gry-grybld, frm, sbply, pred rthy,  
sbwxy, non-calc

SS (98%): lt med-med grybrn, occ lgrg transp qtz grns thru, msty con, sl fri ip, pred U f grn w/occ L med grns, subang-sbrnd, fr-w srted, v drty, hvy cly fld mtz, wk calc cmt, 11-13% vis por, pr-fr vis perm, v fnt yelish grn spty pri fluor, v slw dif yel cuts, bri drk yel resid rng, v sl gsy odor, no vis stn, tr SH (2%)

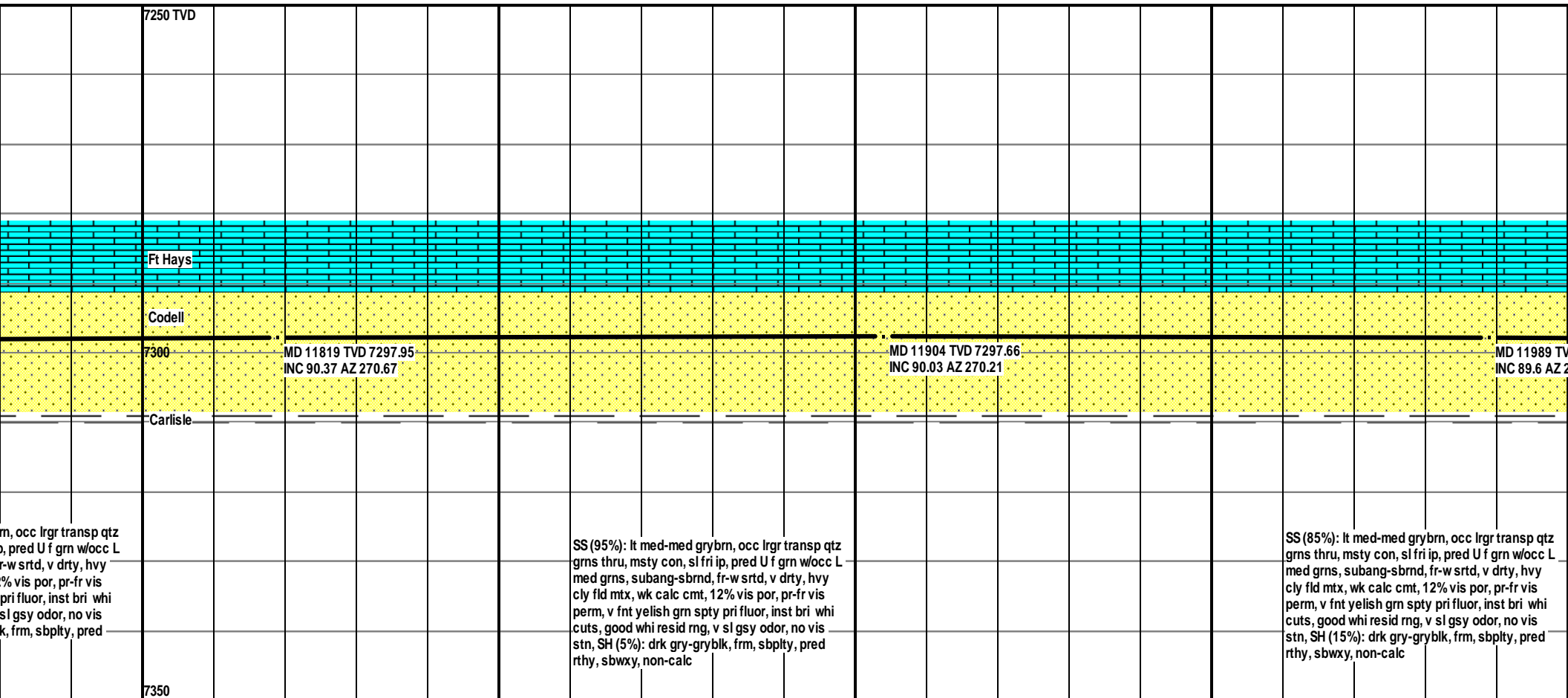


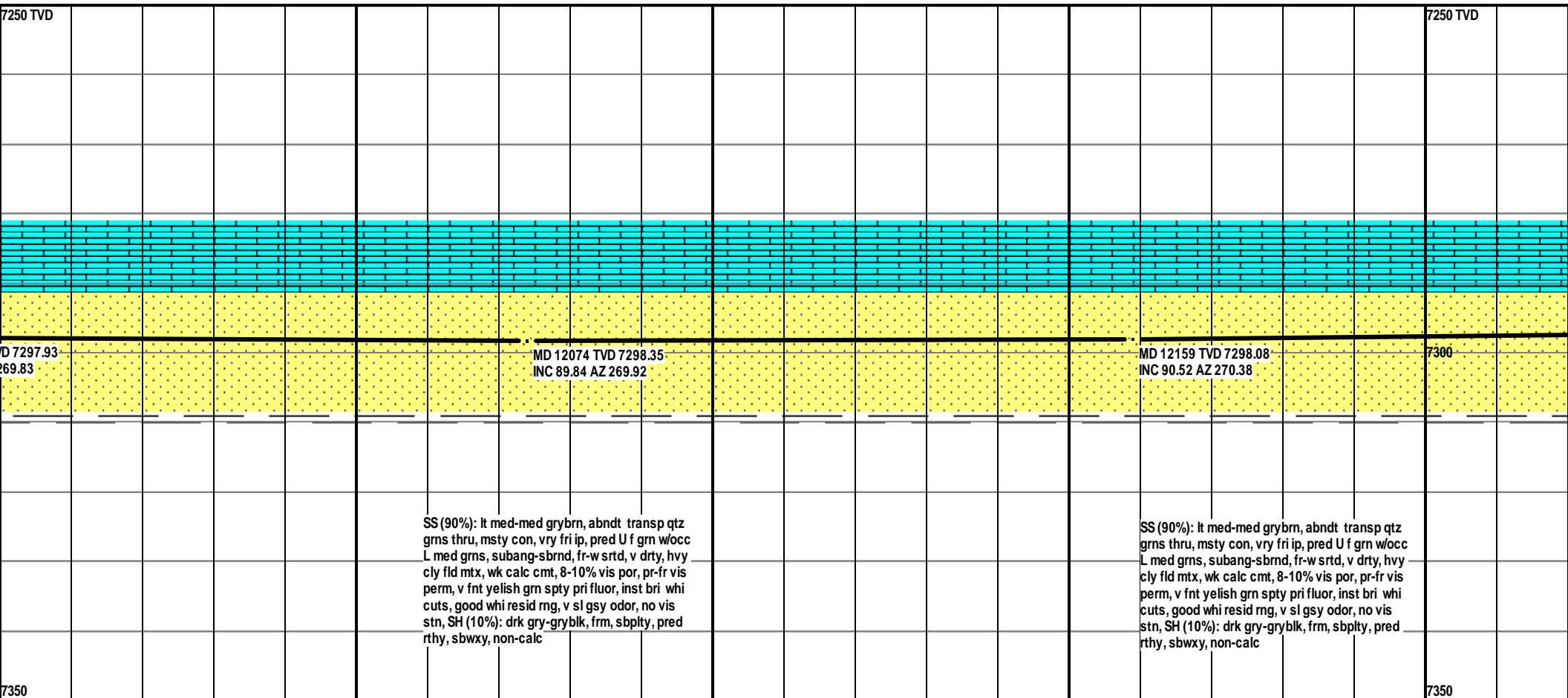


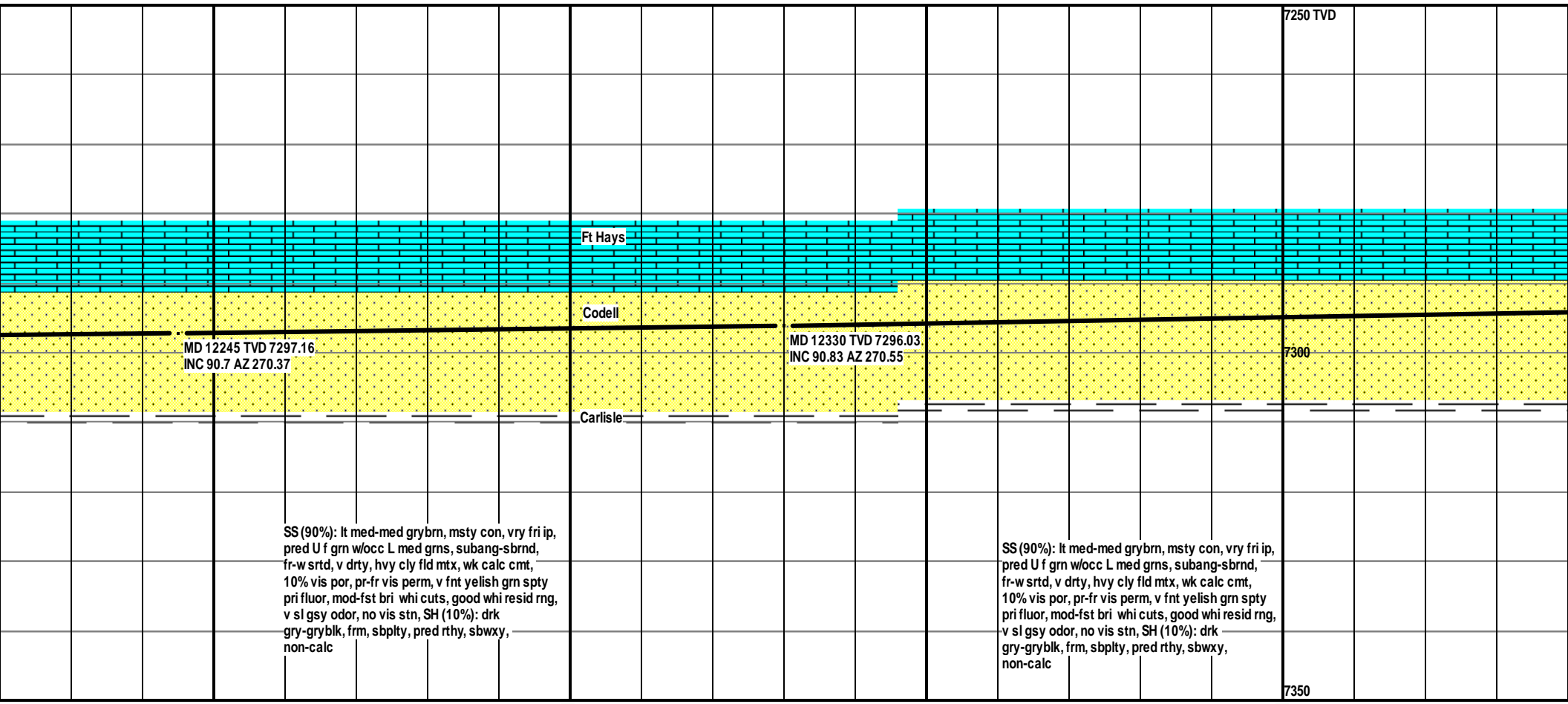
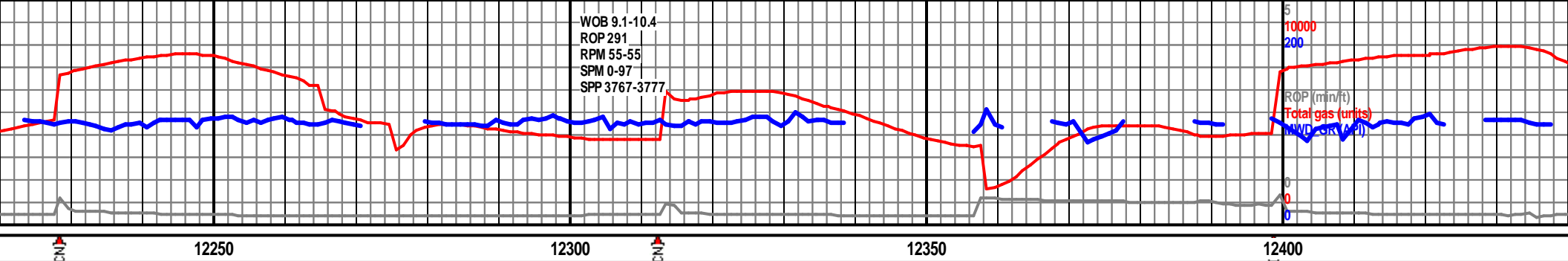


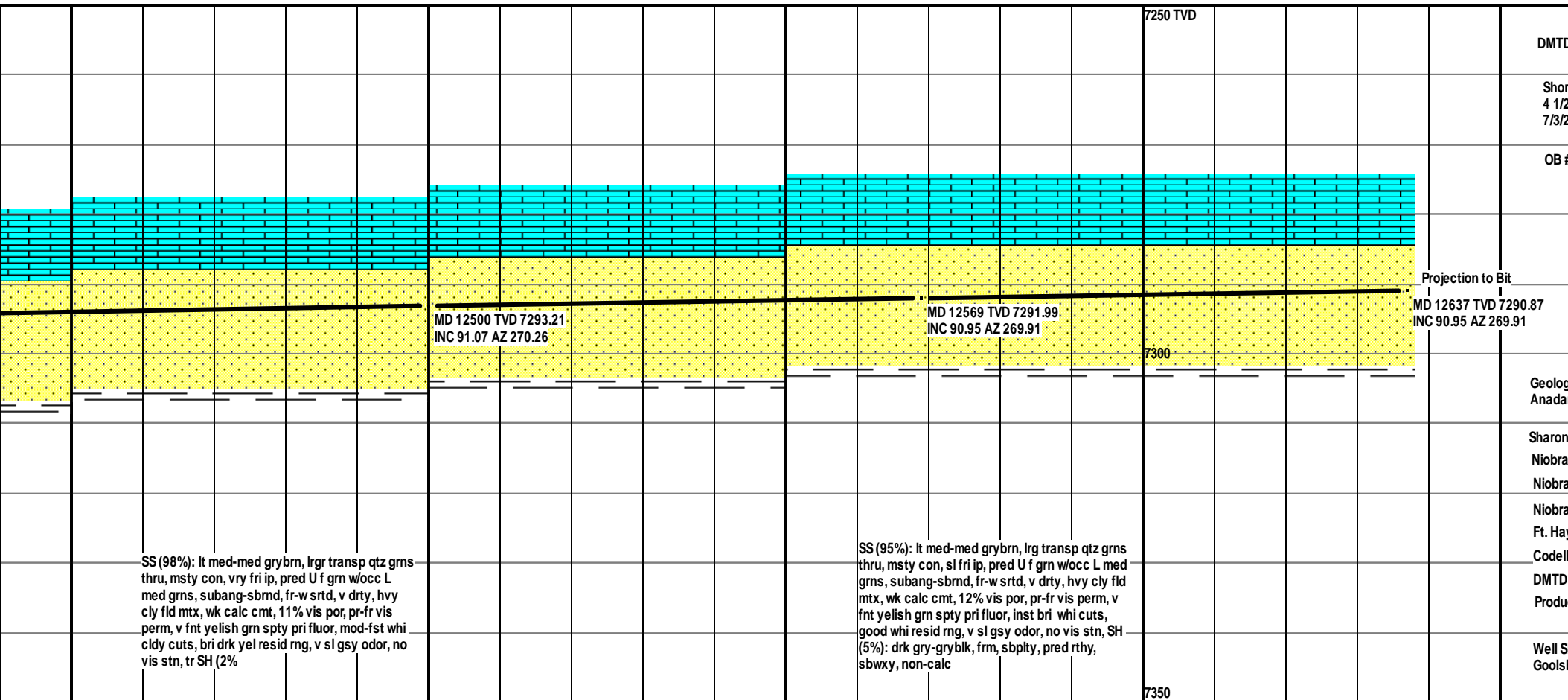
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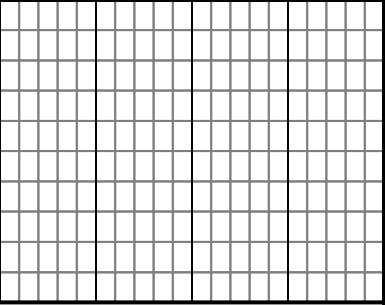












12

reached @ 06:13hrs on July 2, 2014			
Trip @ 12,637 DMTD, condition hole, hang production liner landed @ 12,622' on 014			
2 drilled 4,899 ' in 24.4hrs			
ic Tops picked by John Morgan, ko			
Springs	6970' (-2,023')		
ra	7036' (-2,089')		
ra B Chalk	7,091' (-2,144')		
ra C Chalk	7,151' (-2,204')		
s	7,281' (-2,334')		
	7,300' (-2,353')		
	12,637' MD		
ction csg	12,622'		
te Geologists Dan Kabala & Larry y, GBA			