

OPERATOR: **Cub Creek Energy**

WELL NAME: **Markham 4**

FIELD NAME: DJ Basin - Wattenberg

DRILLING RIG: Xtreme 18

API #: 05-123-43243

LAT/LONG: 40.26875, -105.02313

SURFACE HOLE: NWSE S32-T4N-R68W, 2373' FSL, 1515' FEL

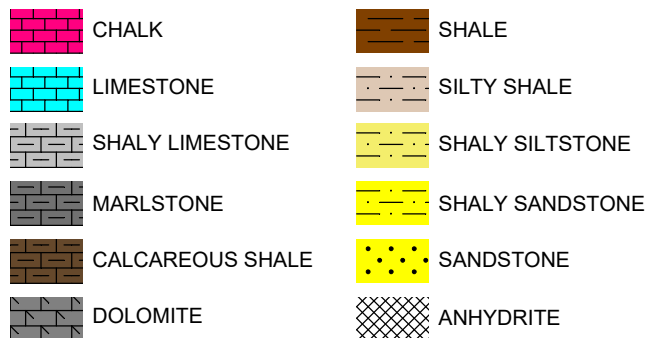
BOTTOM HOLE: SWSW S32-T4N-R68W, 825' FSL, 460' FWL



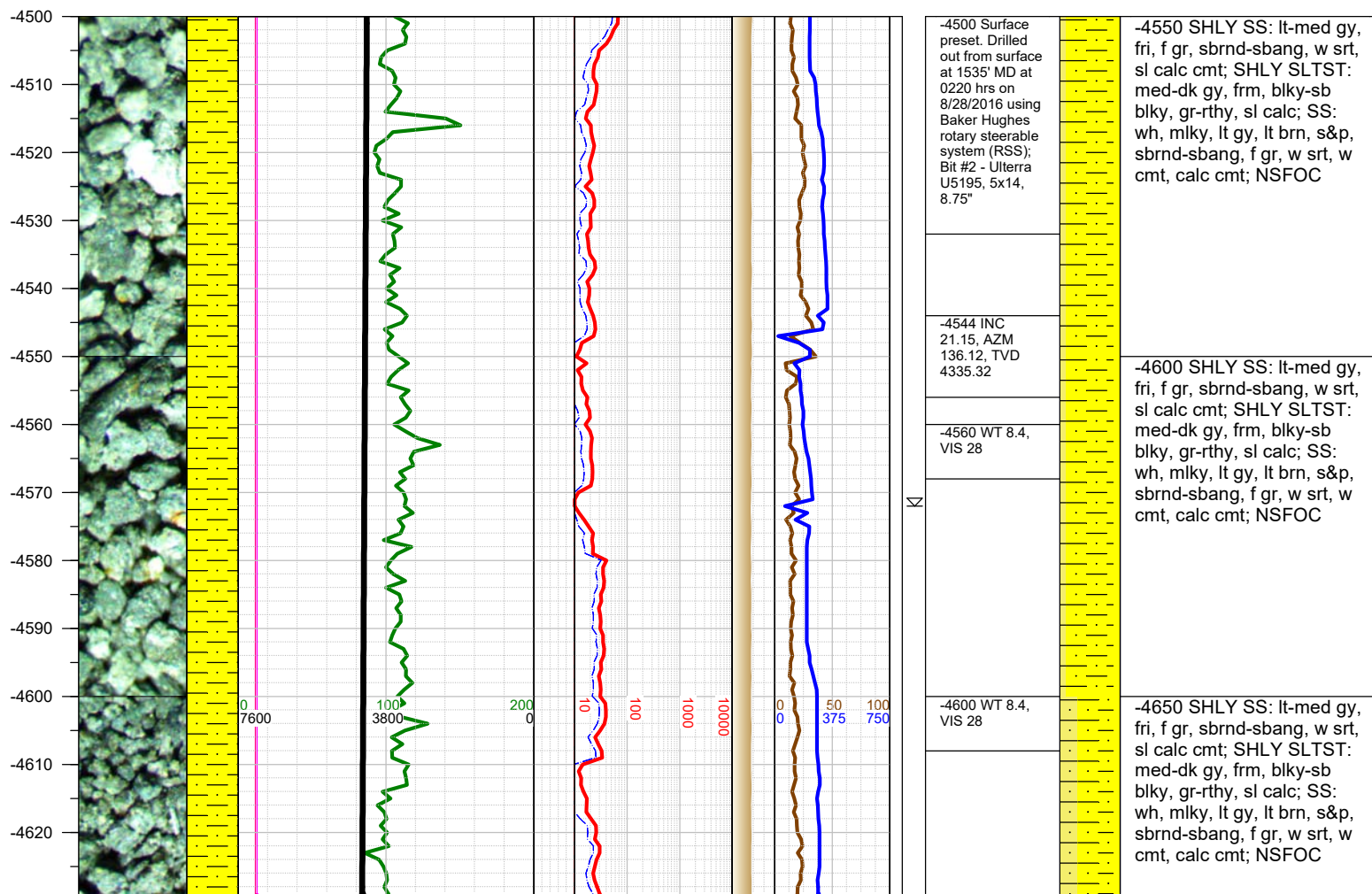
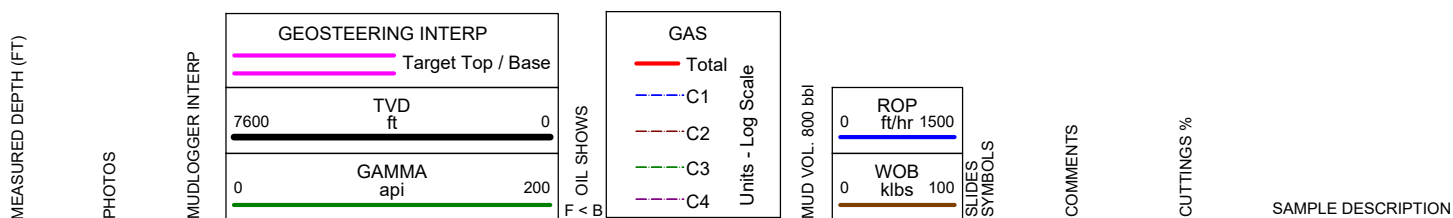
Earth Science Agency, LLC

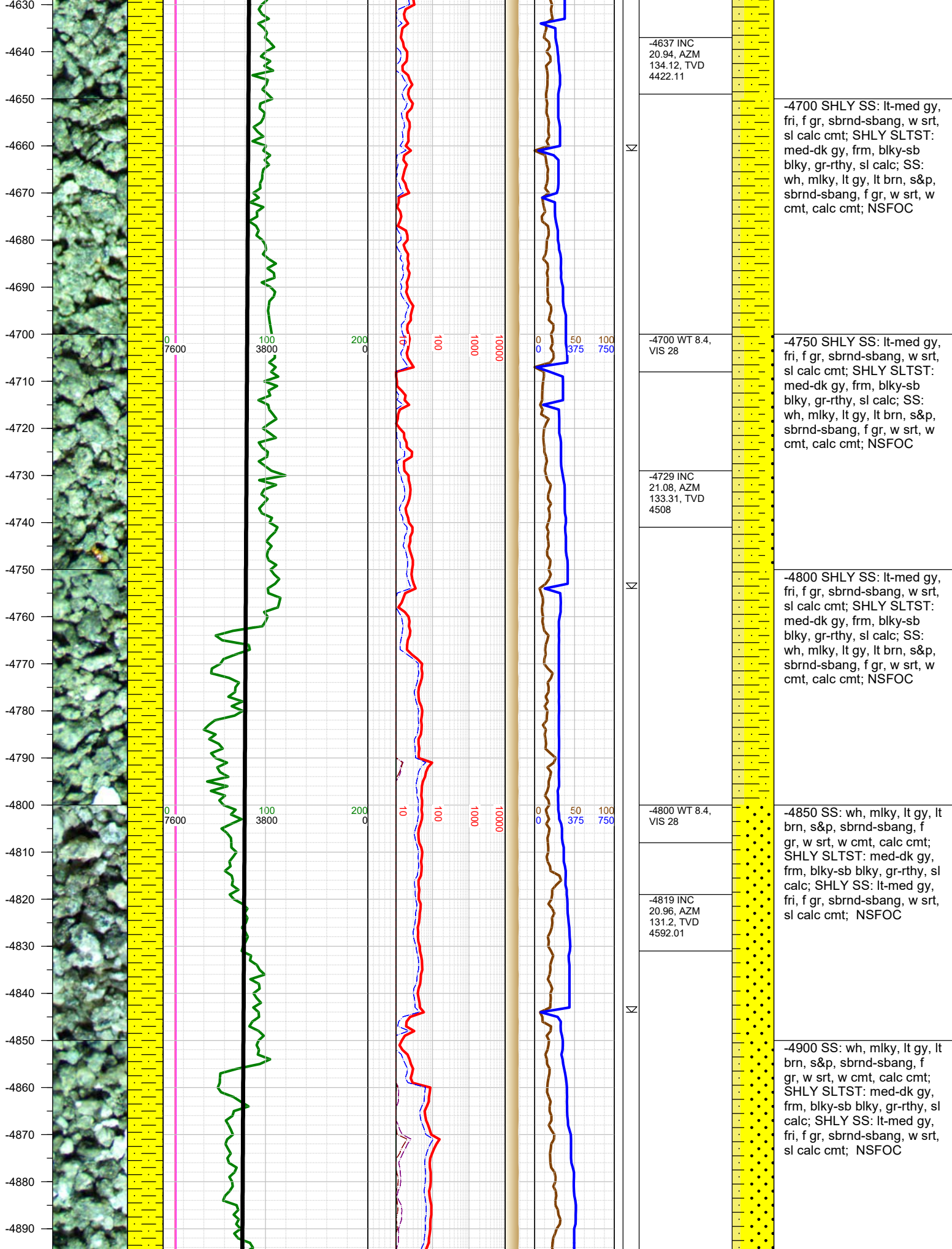
COUNTY: Weld  
STATE: Colorado  
GROUND ELEVATION: 5042'  
KELLY BUSHING: 5059'  
DRILLING FLUID: WBM  
TVD VS. MD: 7065' / 12055'  
SPUD DATE: August 28, 2016  
TD DATE: September 1, 2016  
  
DEPTHS LOGGED: 4500' - 12055'  
DATES LOGGED: August 28, 2016 - September 1, 2016  
GEOLOGISTS: Blue Spikes, Curtis Magnino, Blake Eatherton  
SCALE: 5" = 100'

#### LEGEND

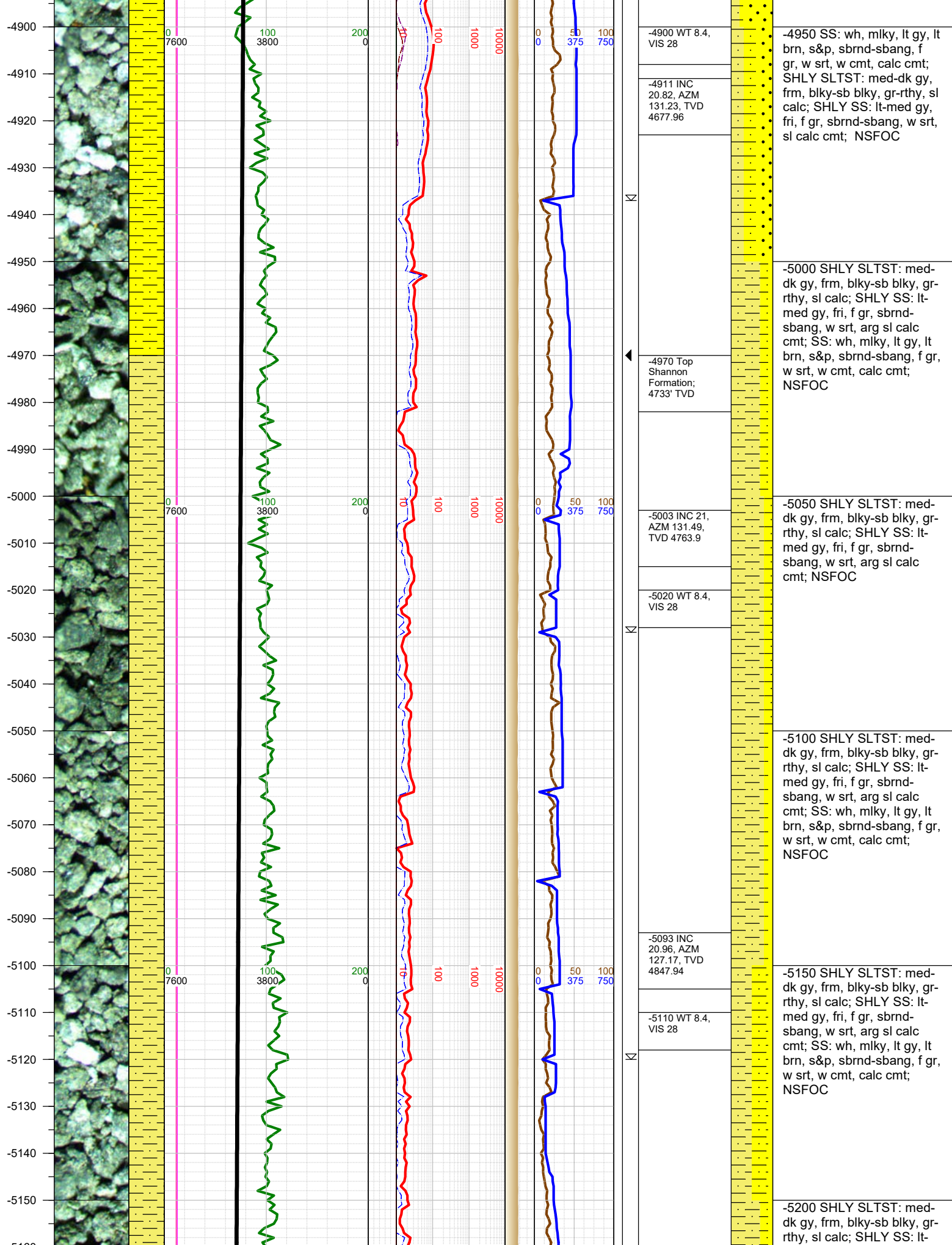


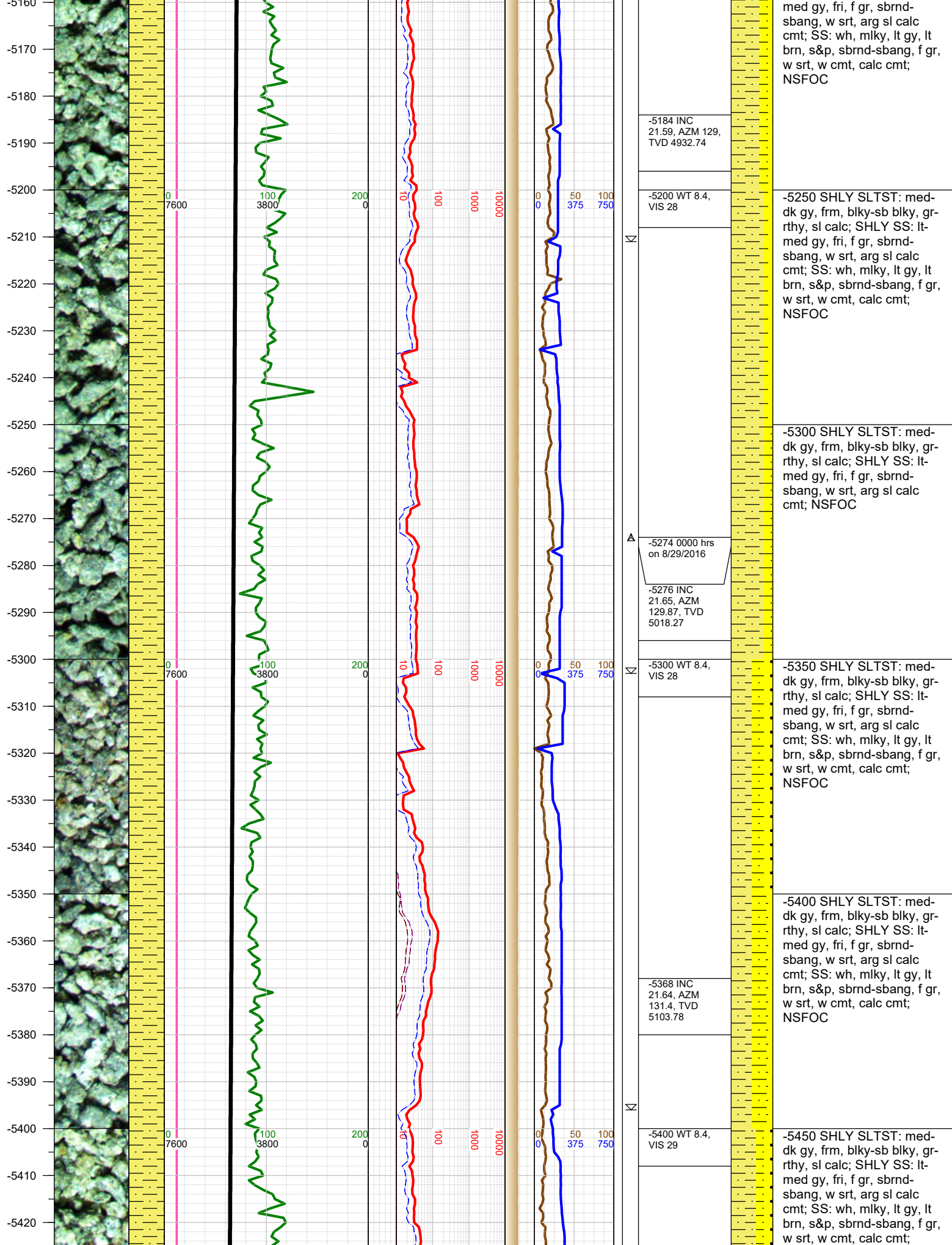
FORMATION CONNECTION MIDNIGHT NEW BIT GAS SHOW FAULT



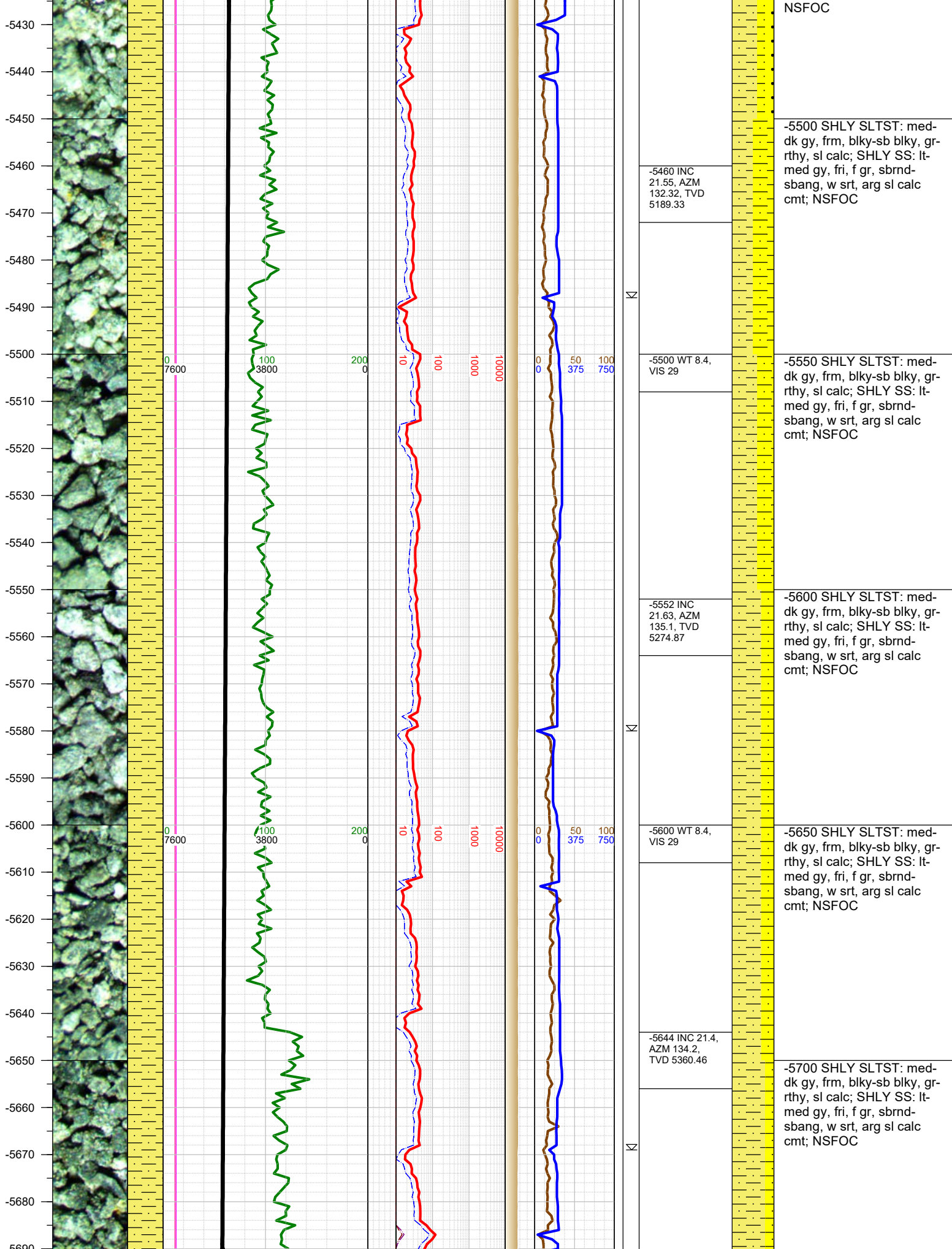


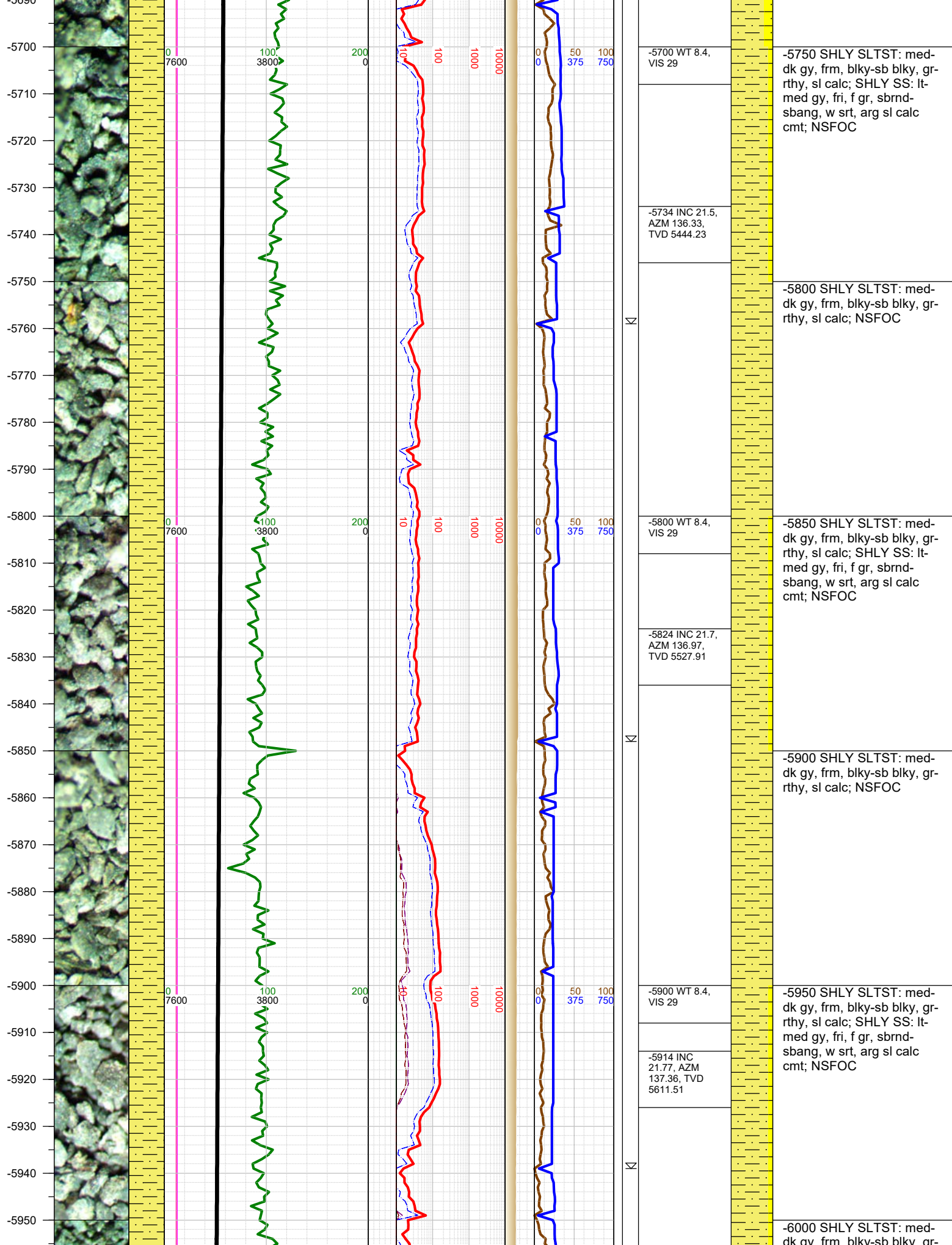




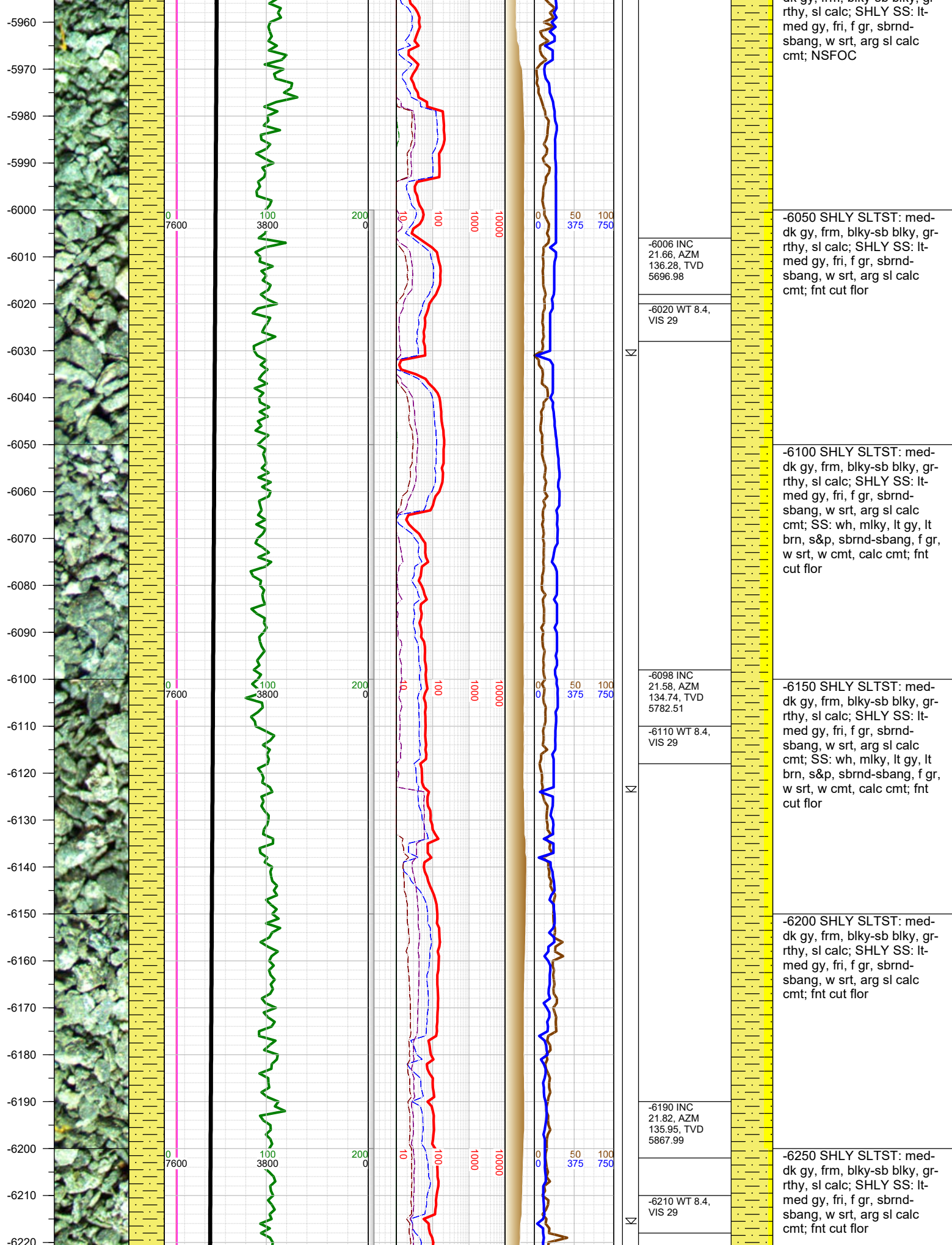












med gy, fri, f gr, sbrnd-sbang, w srt, arg sl calc cmt; NSFOC

-6050 SHLY SLTST: med-dk gy, frm, blk-sb blk, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, arg sl calc cmt; fnt cut flor

-6100 SHLY SLTST: med-dk gy, frm, blk-sb blk, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, arg sl calc cmt; SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; fnt cut flor

-6150 SHLY SLTST: med-dk gy, frm, blk-sb blk, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, arg sl calc cmt; SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; fnt cut flor

-6200 SHLY SLTST: med-dk gy, frm, blk-sb blk, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, arg sl calc cmt; fnt cut flor

-6250 SHLY SLTST: med-dk gy, frm, blk-sb blk, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, arg sl calc cmt; fnt cut flor

-6006 INC  
21.66, AZM  
136.28, TVD  
5696.98

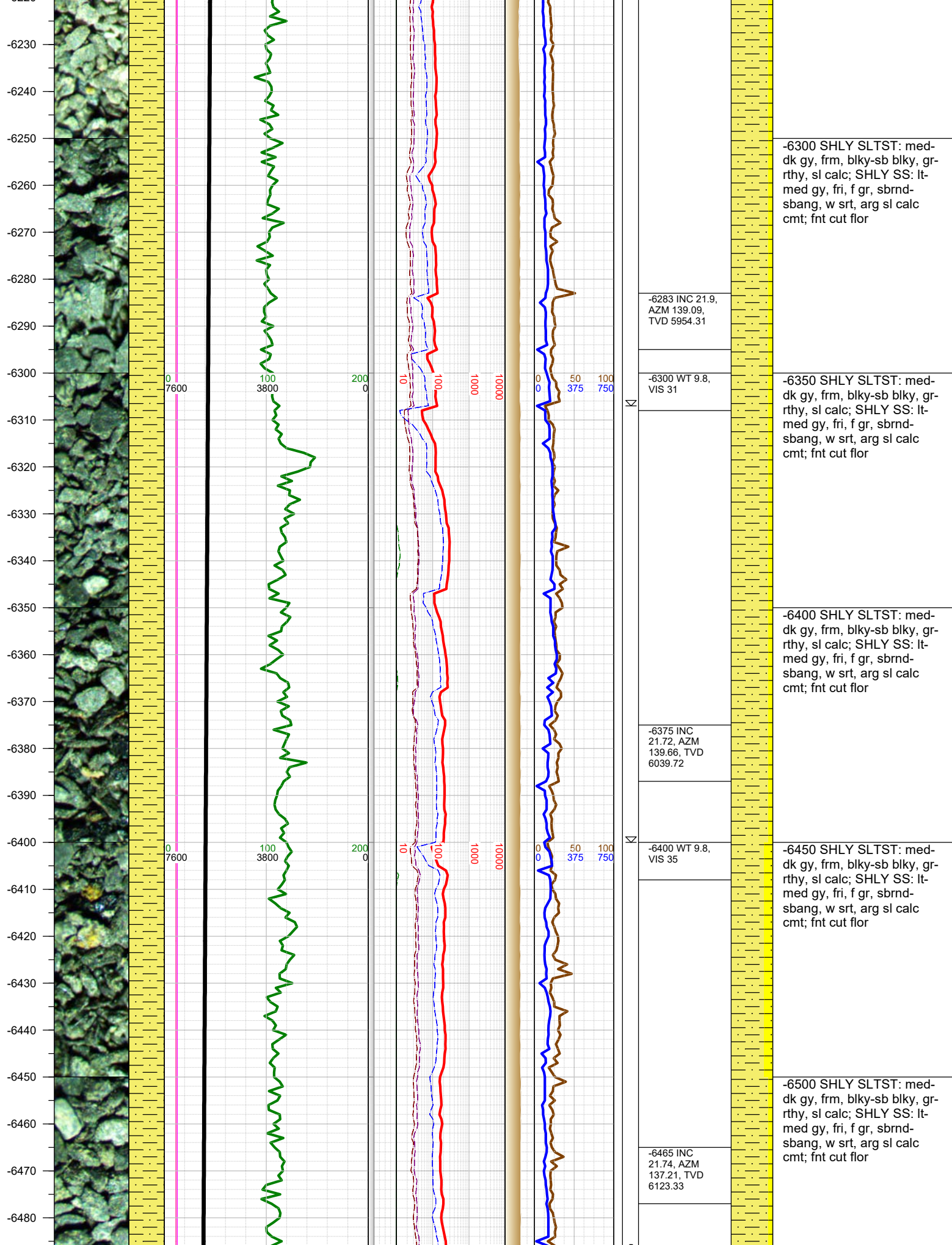
-6020 WT 8.4,  
VIS 29

-6098 INC  
21.58, AZM  
134.74, TVD  
5782.51

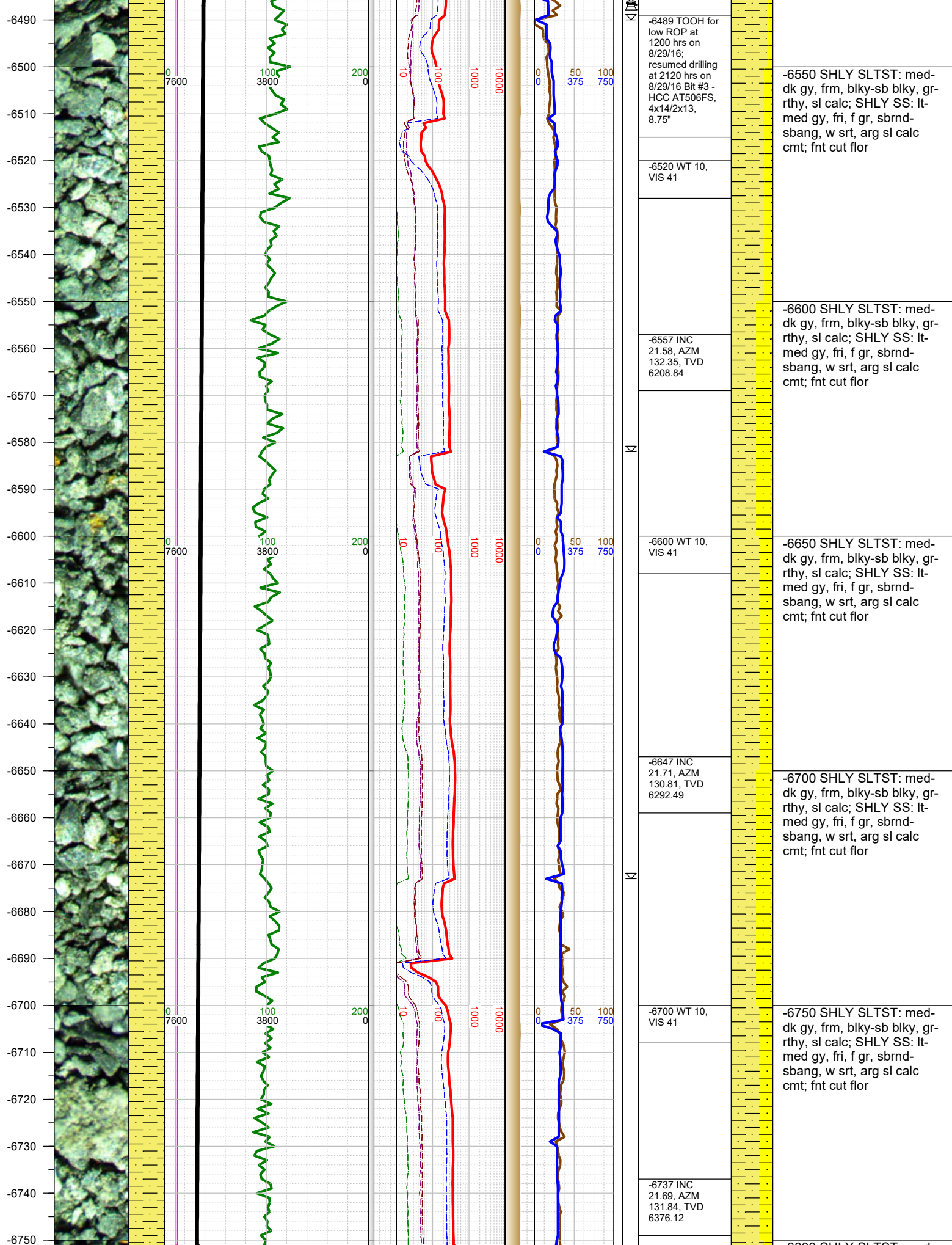
-6110 WT 8.4,  
VIS 29

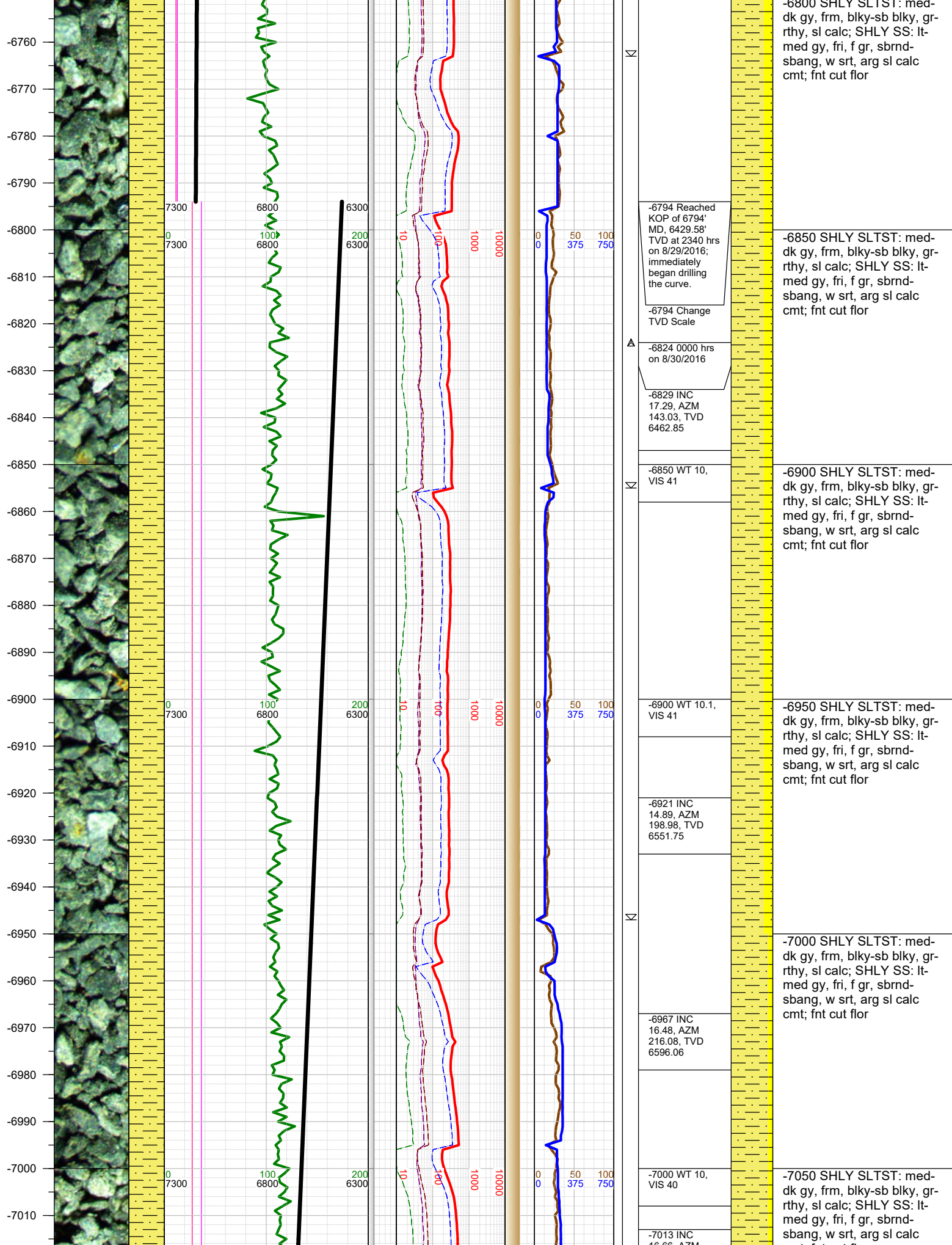
-6190 INC  
21.82, AZM  
135.95, TVD  
5867.99

-6210 WT 8.4,  
VIS 29

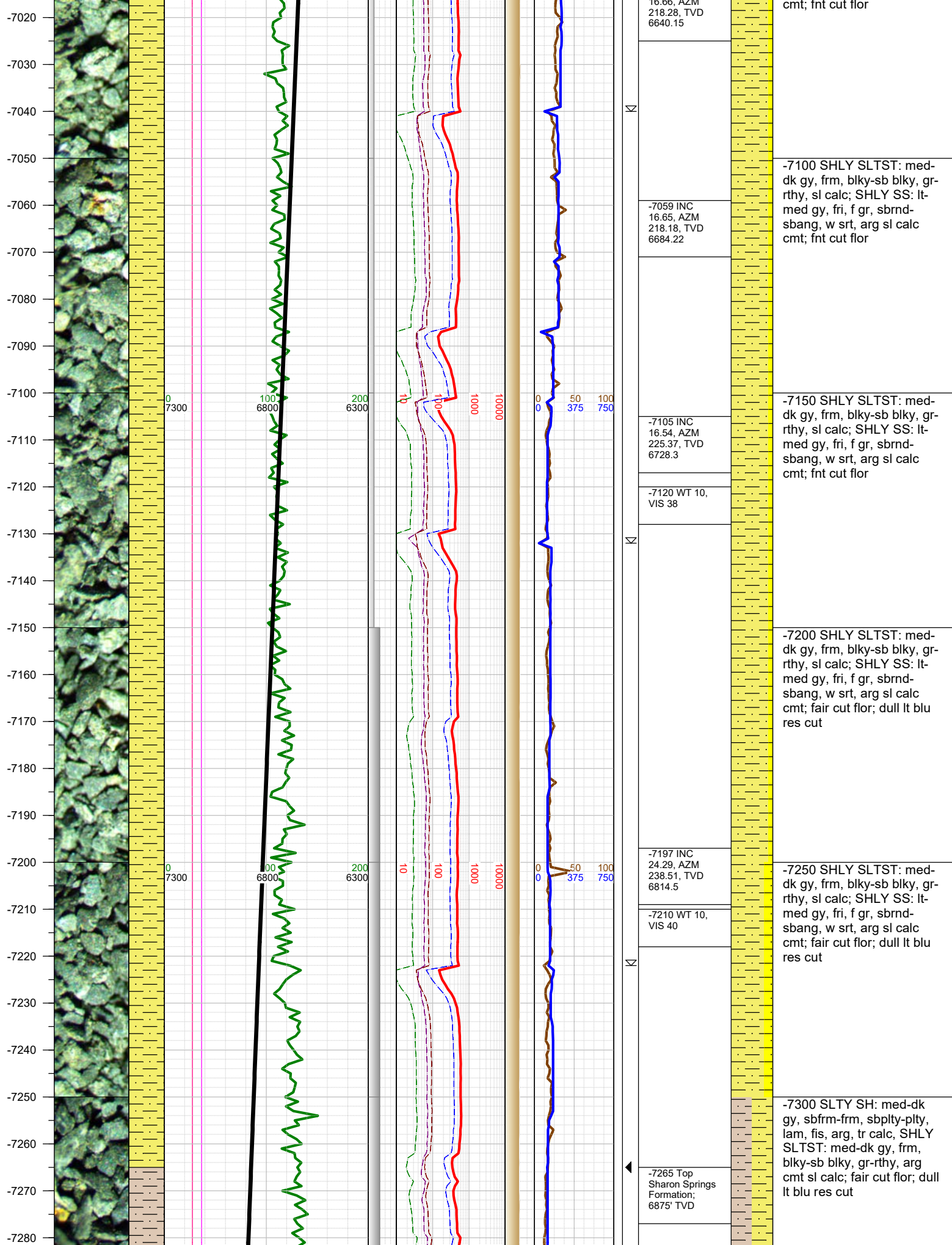












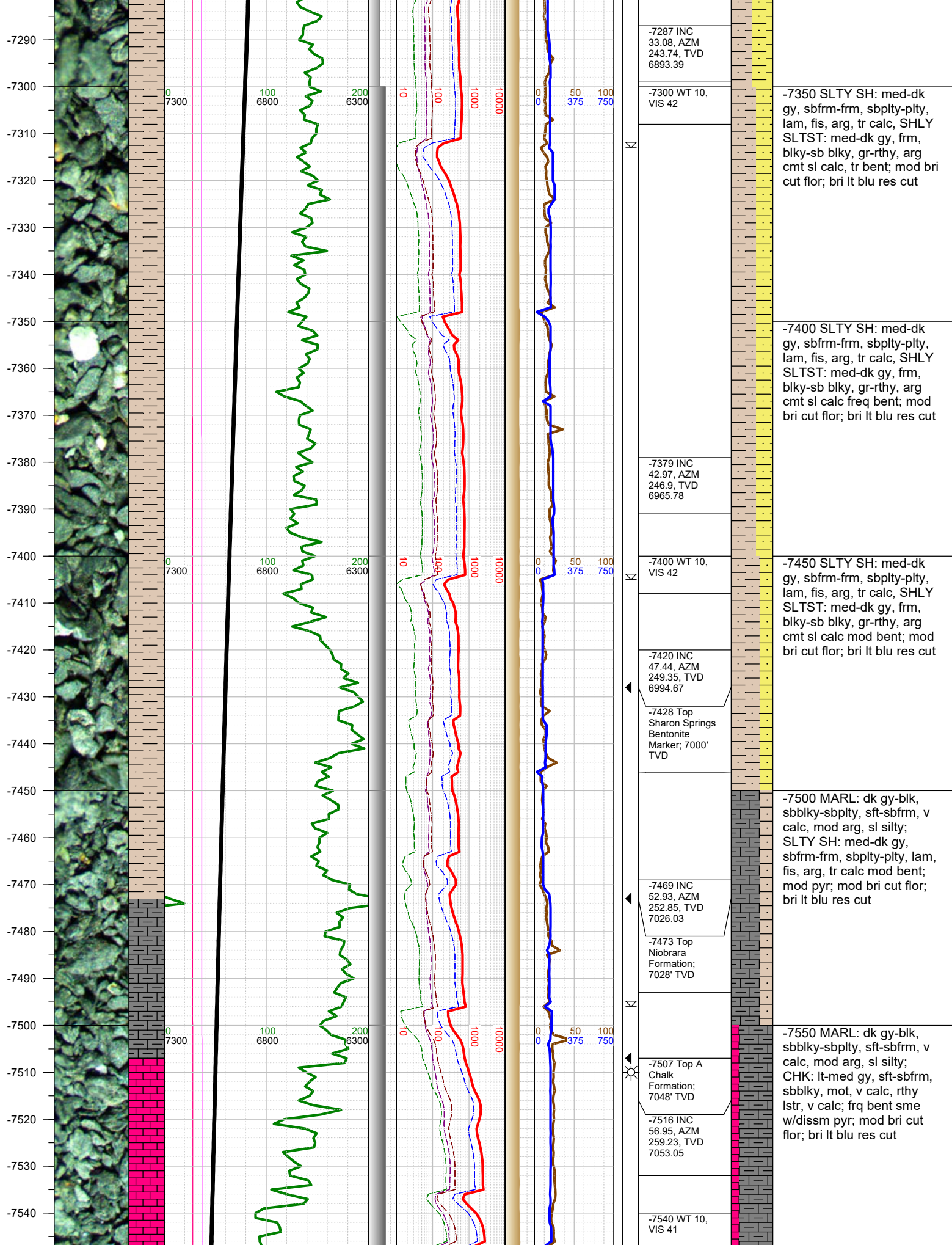
-7100 SHLY SLTST: med-dk gy, frm, blkysb blkys, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbnd-sbang, w srt, arg sl calc cmt; fnt cut flor

-7150 SHLY SLTST: med-dk gy, frm, blkysb blkys, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbnd-sbang, w srt, arg sl calc cmt; fnt cut flor

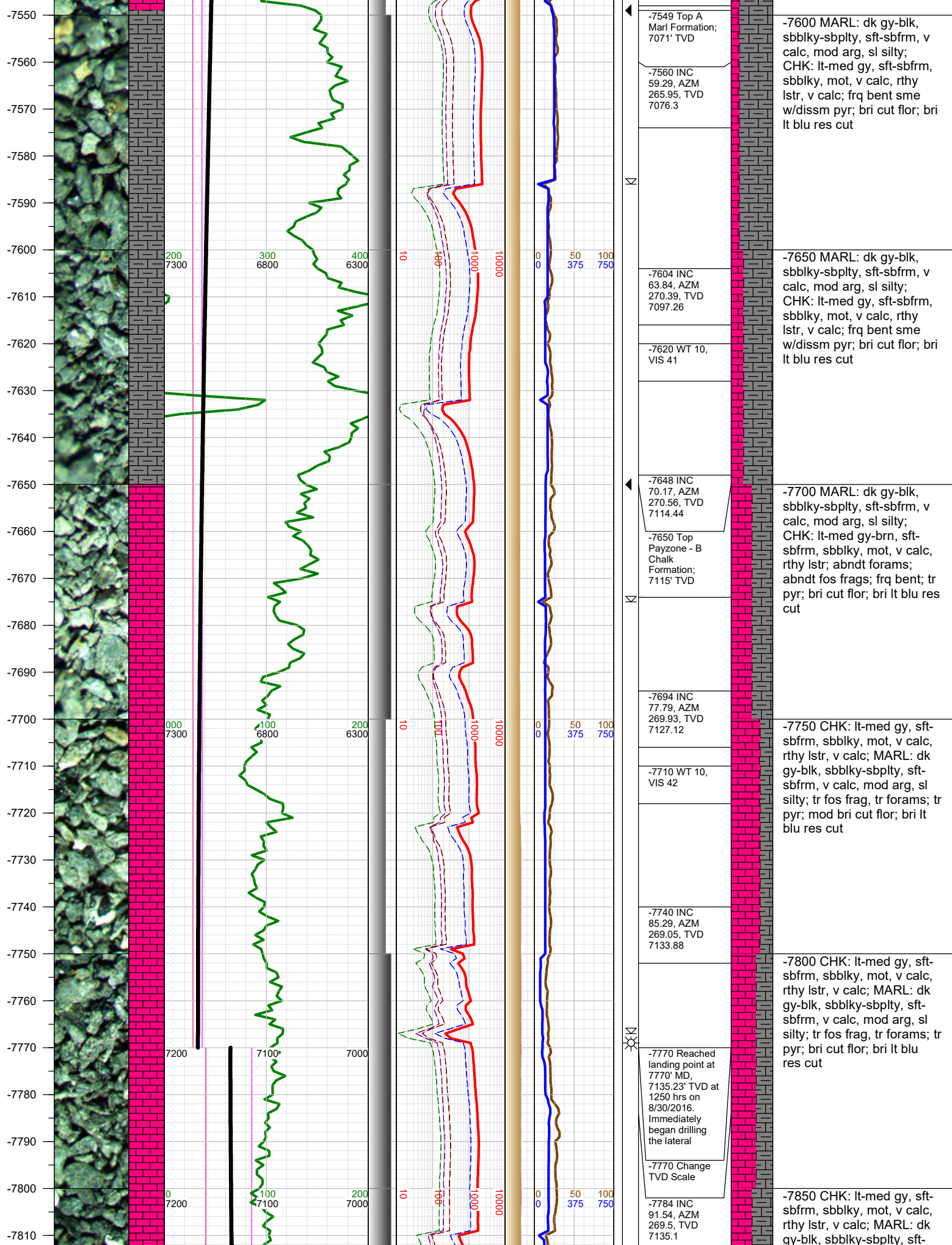
-7200 SHLY SLTST: med-dk gy, frm, blkysb blkys, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbnd-sbang, w srt, arg sl calc cmt; fair cut flor; dull lt blu res cut

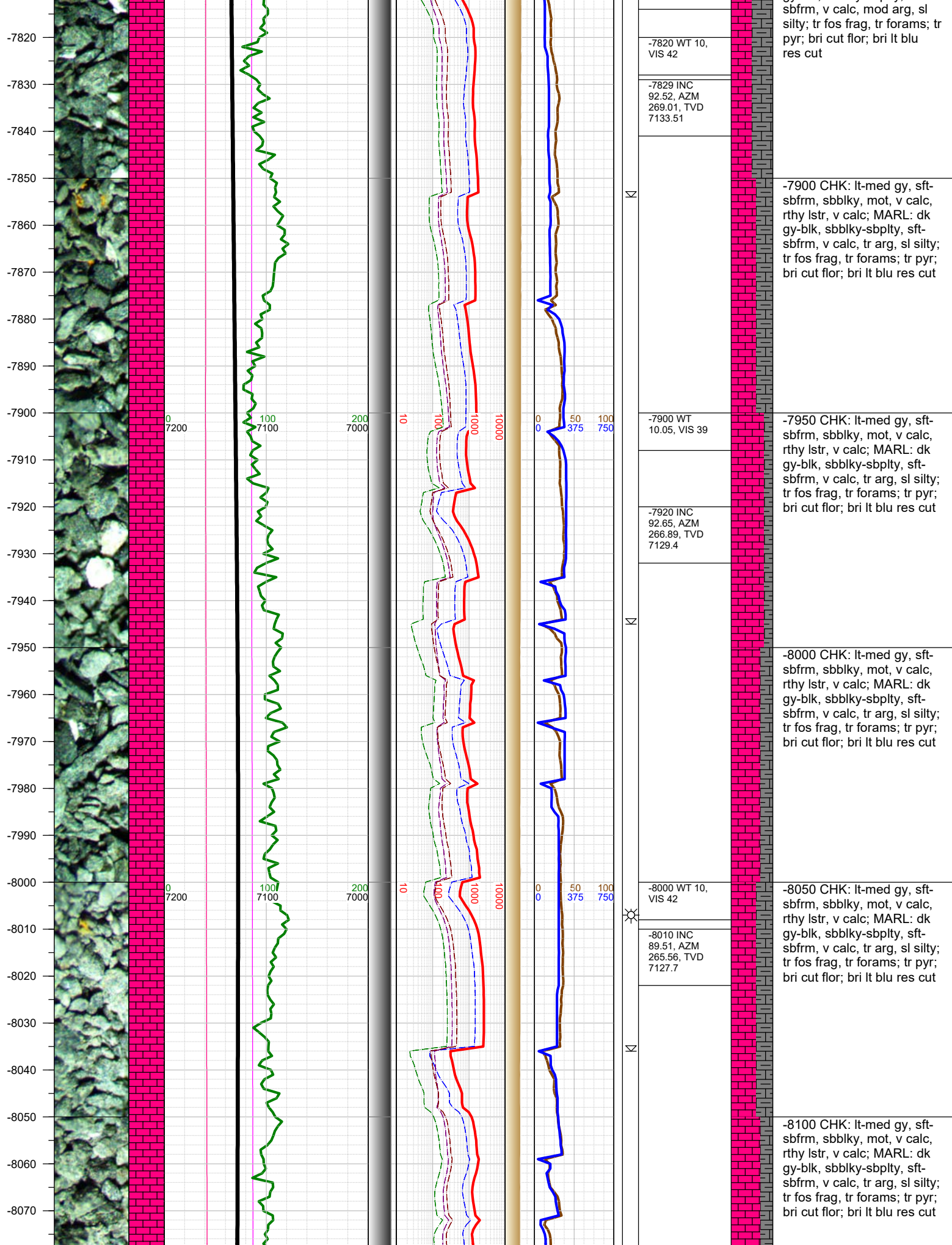
-7250 SHLY SLTST: med-dk gy, frm, blkysb blkys, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbnd-sbang, w srt, arg sl calc cmt; fair cut flor; dull lt blu res cut

-7300 SLTY SH: med-dk gy, sbfrm-frm, sbply-plty, lam, fis, arg, tr calc, SHLY SLTST: med-dk gy, frm, blkysb blkys, gr-rthy, arg cmt sl calc; fair cut flor; dull lt blu res cut

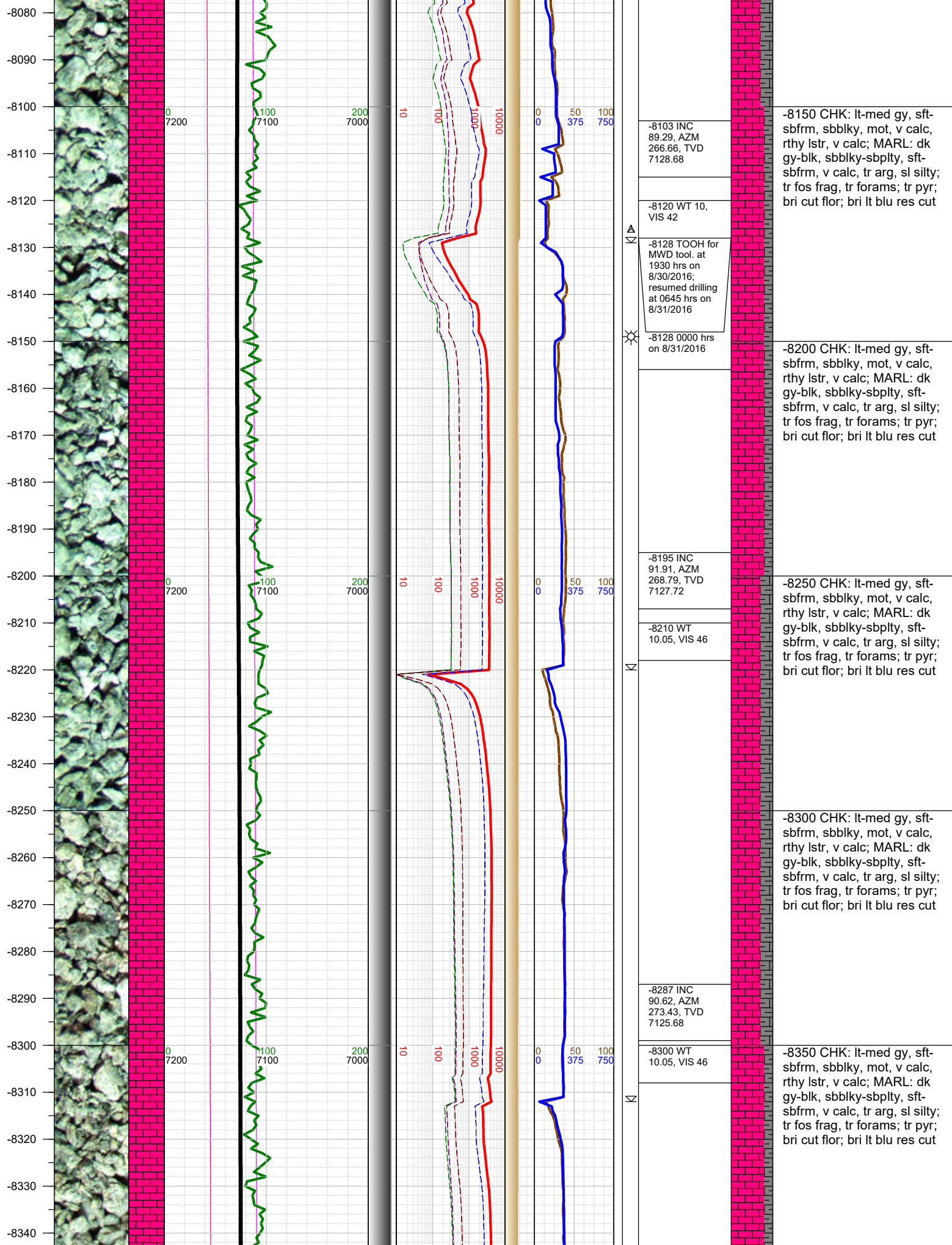


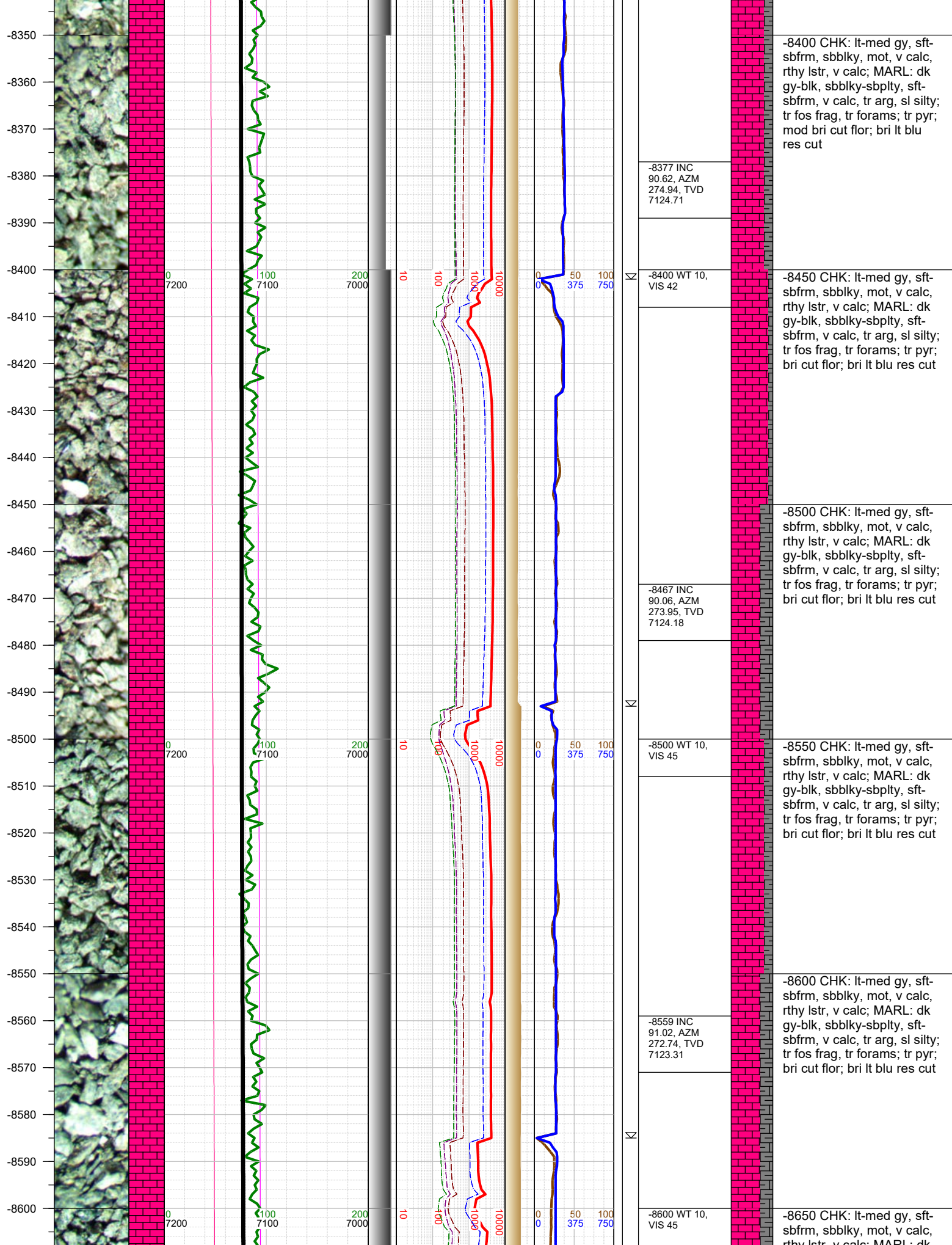




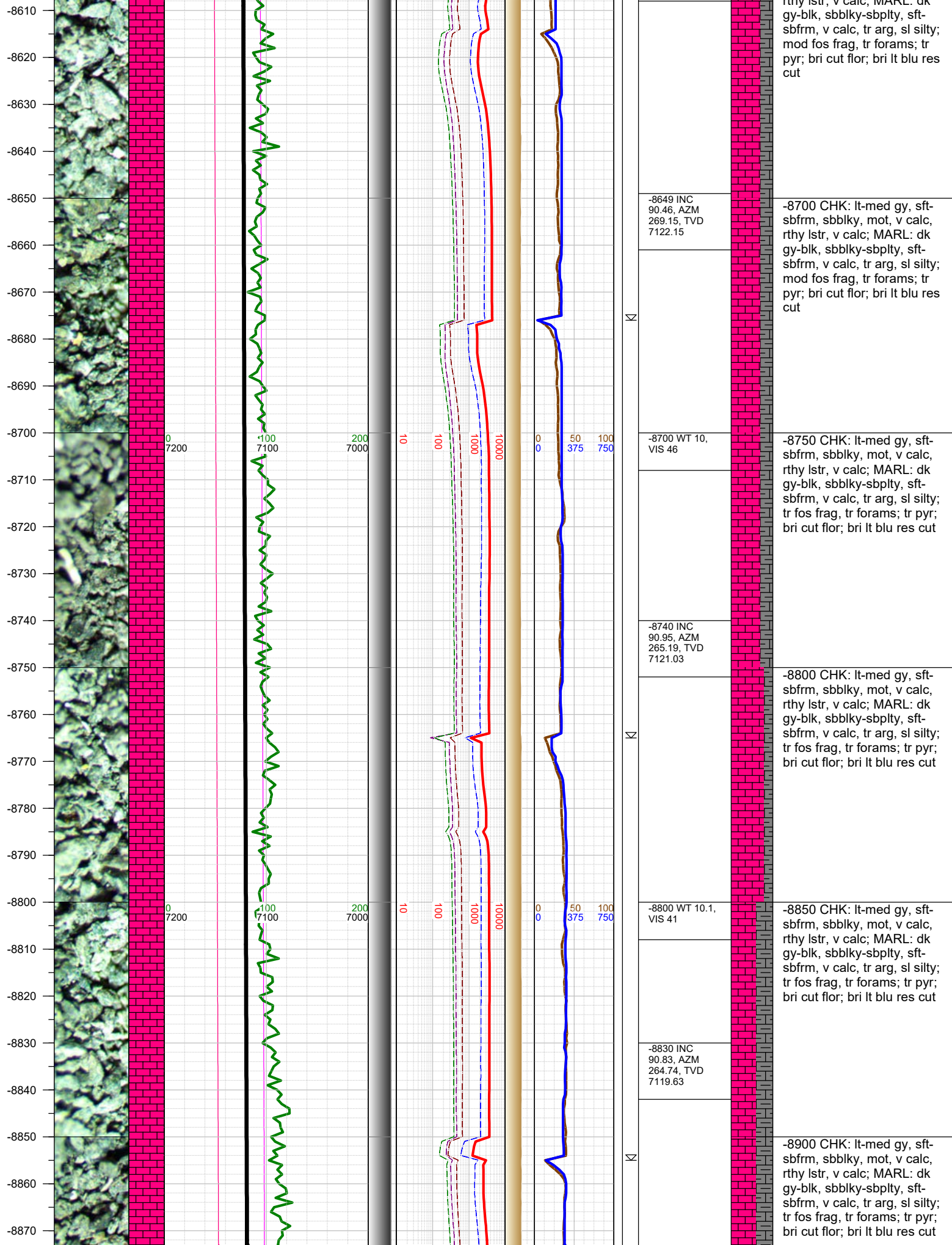


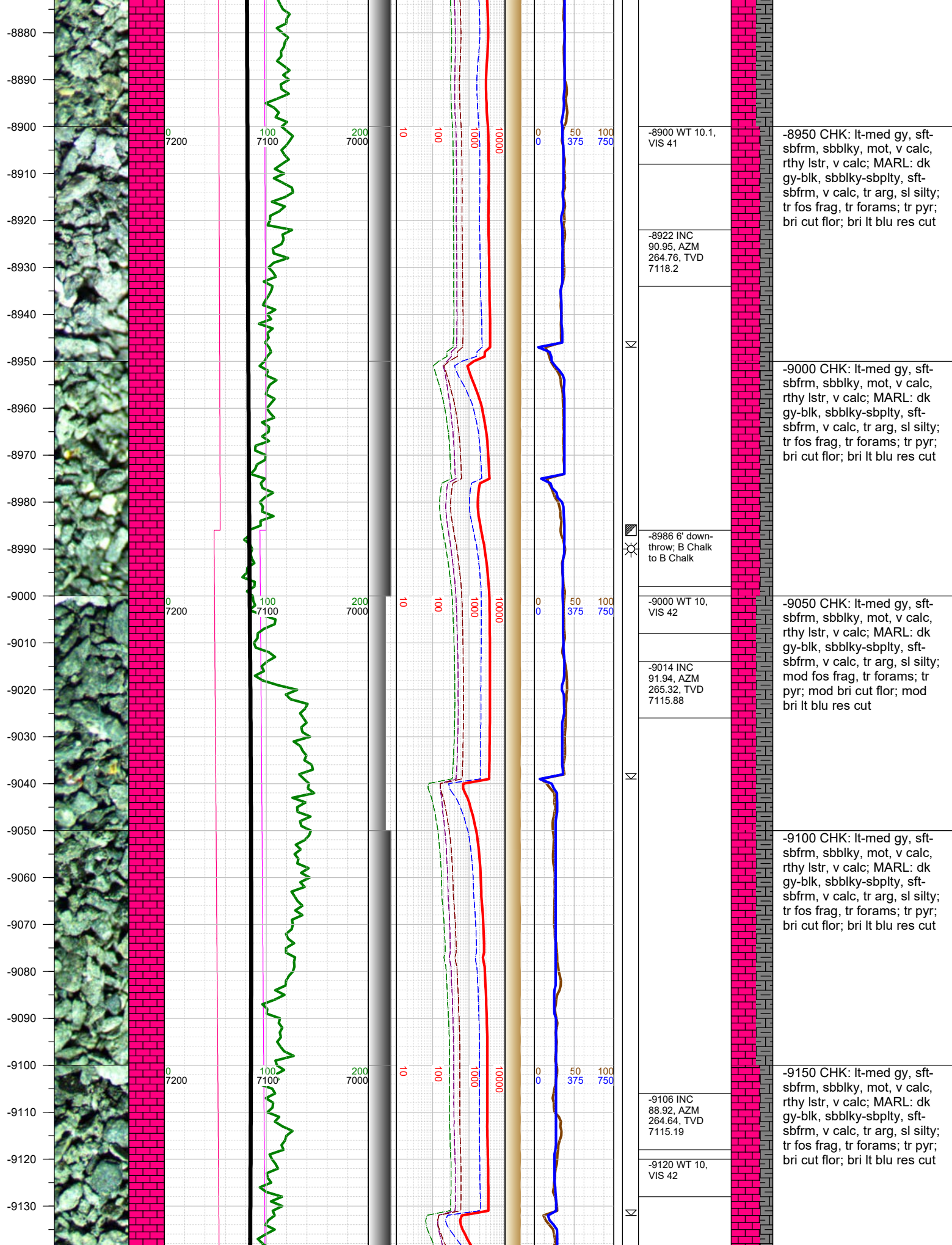




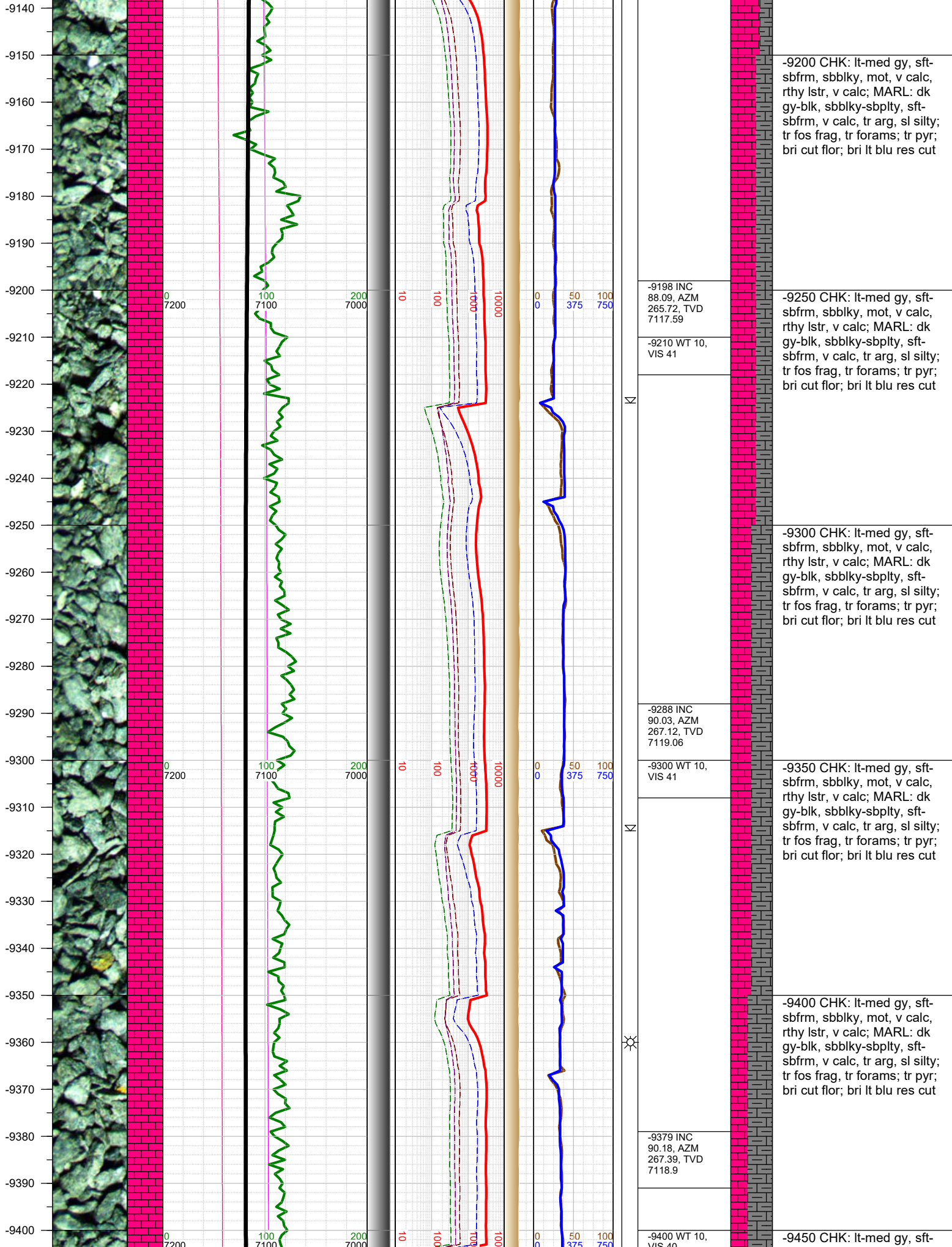


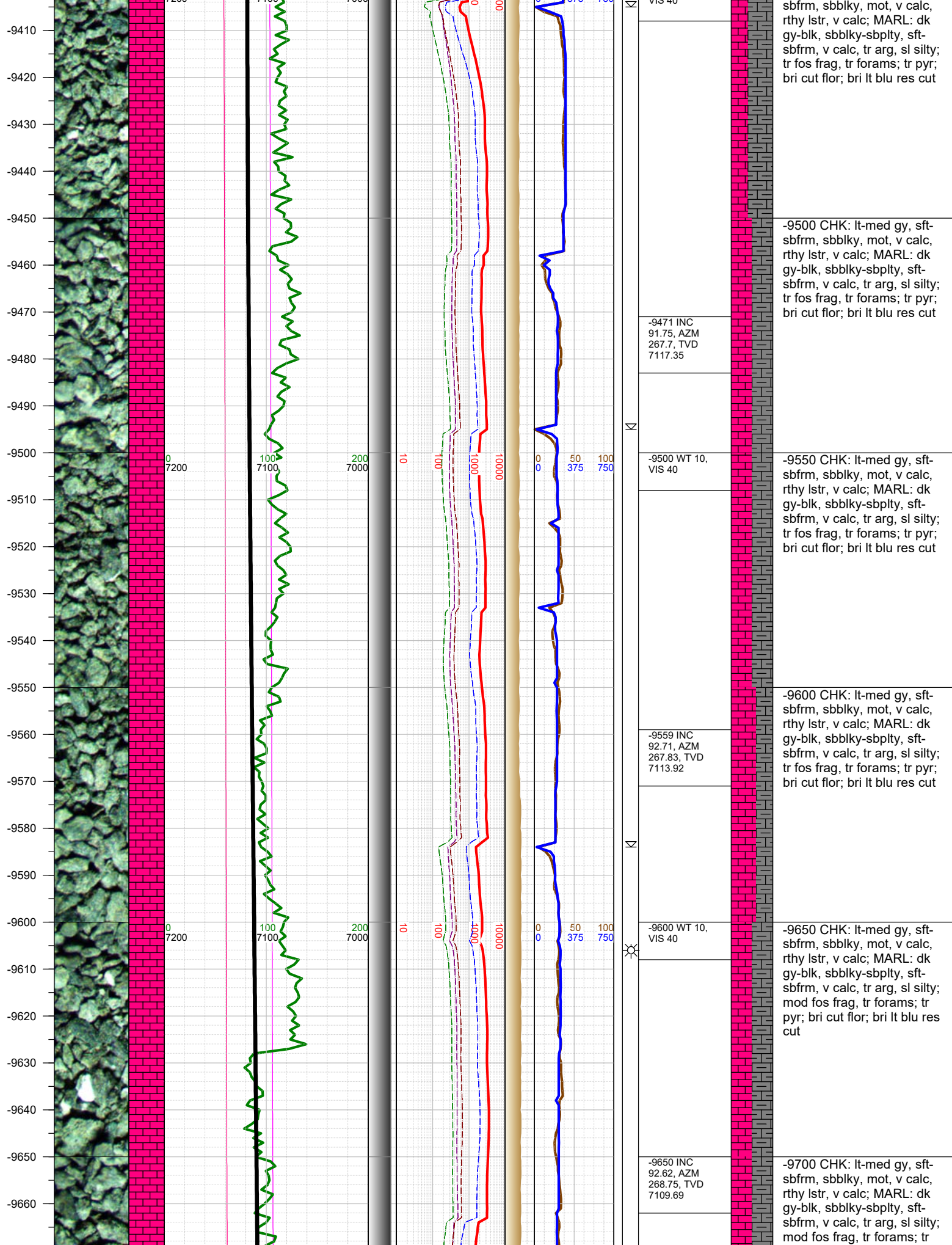




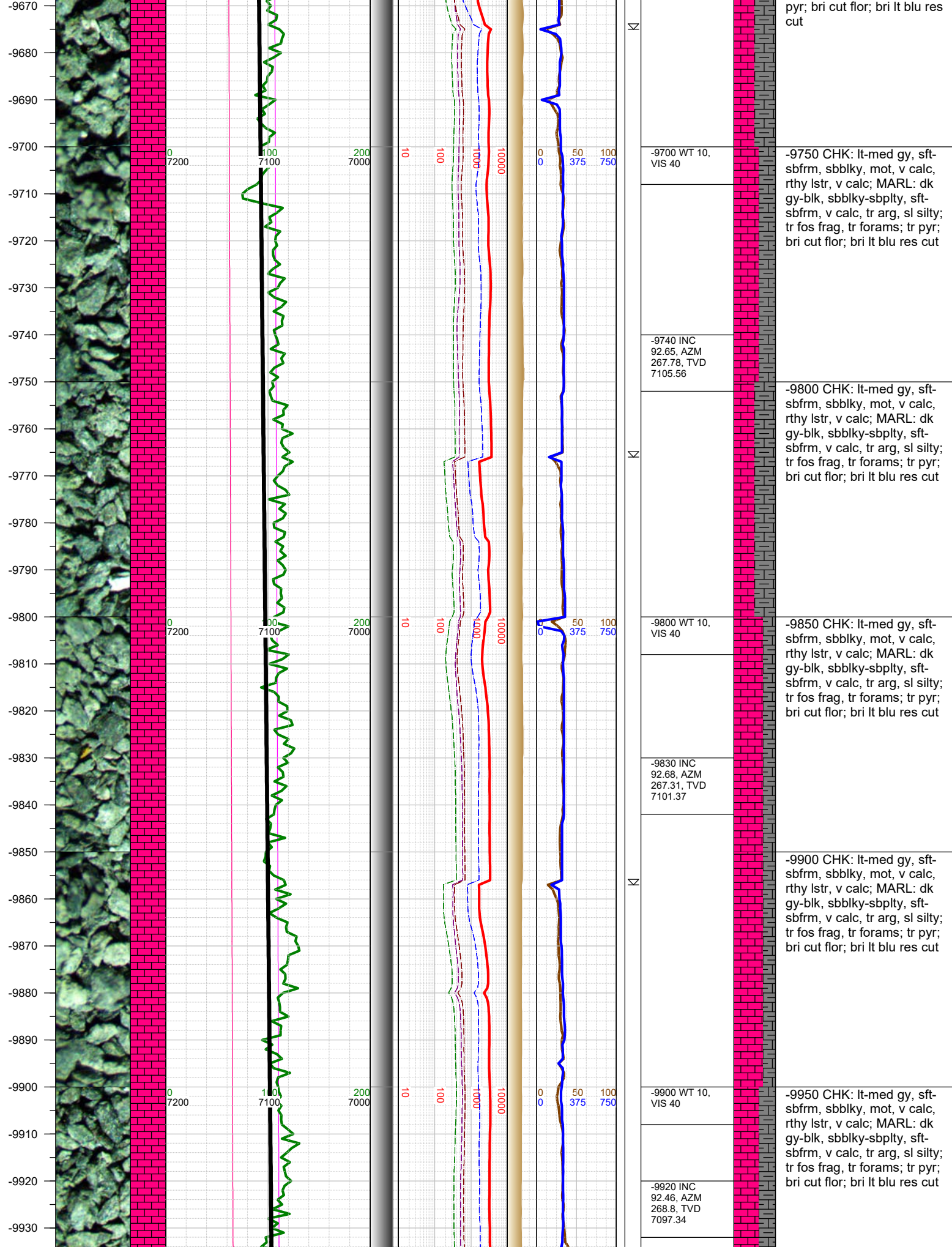


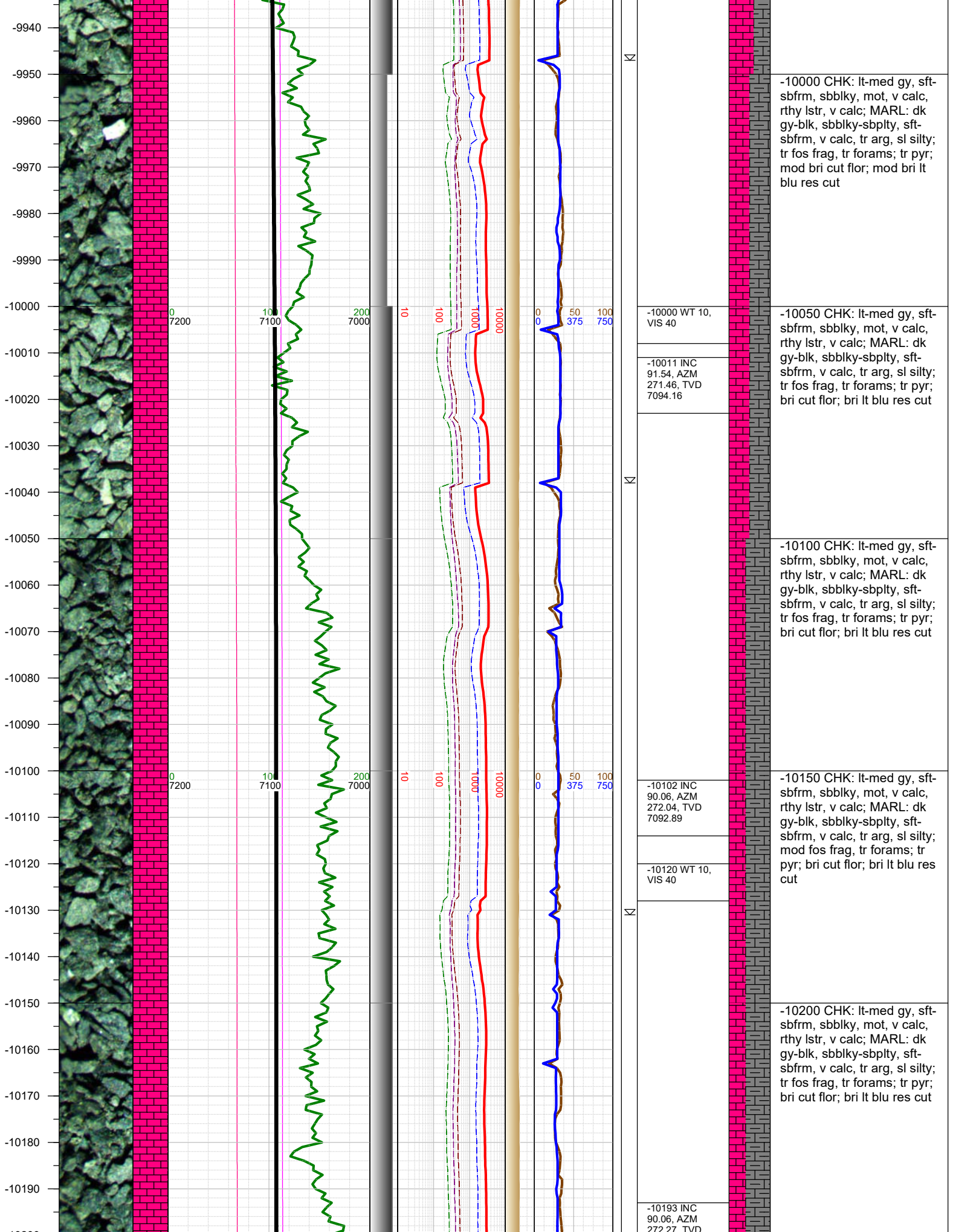












-10000 CHK: lt-med gy, sft-sbfrm, sbblky, mot, v calc, rthy lstr, v calc; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, v calc, tr arg, sl silty; tr fos frag, tr forams; tr pyr; mod bri cut flor; mod bri lt blu res cut

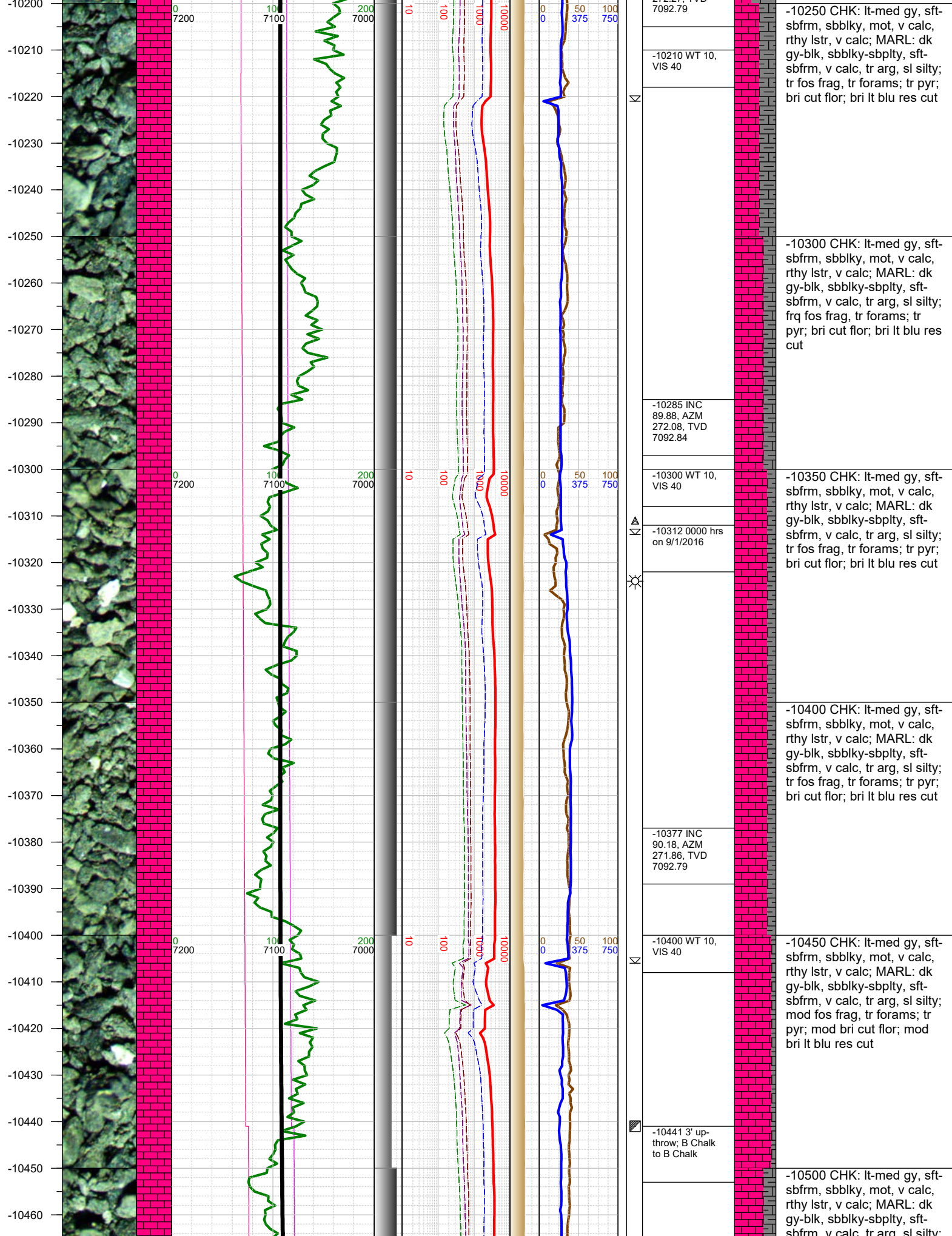
-10050 CHK: lt-med gy, sft-sbfrm, sbblky, mot, v calc, rthy lstr, v calc; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, v calc, tr arg, sl silty; tr fos frag, tr forams; tr pyr; bri cut flor; bri lt blu res cut

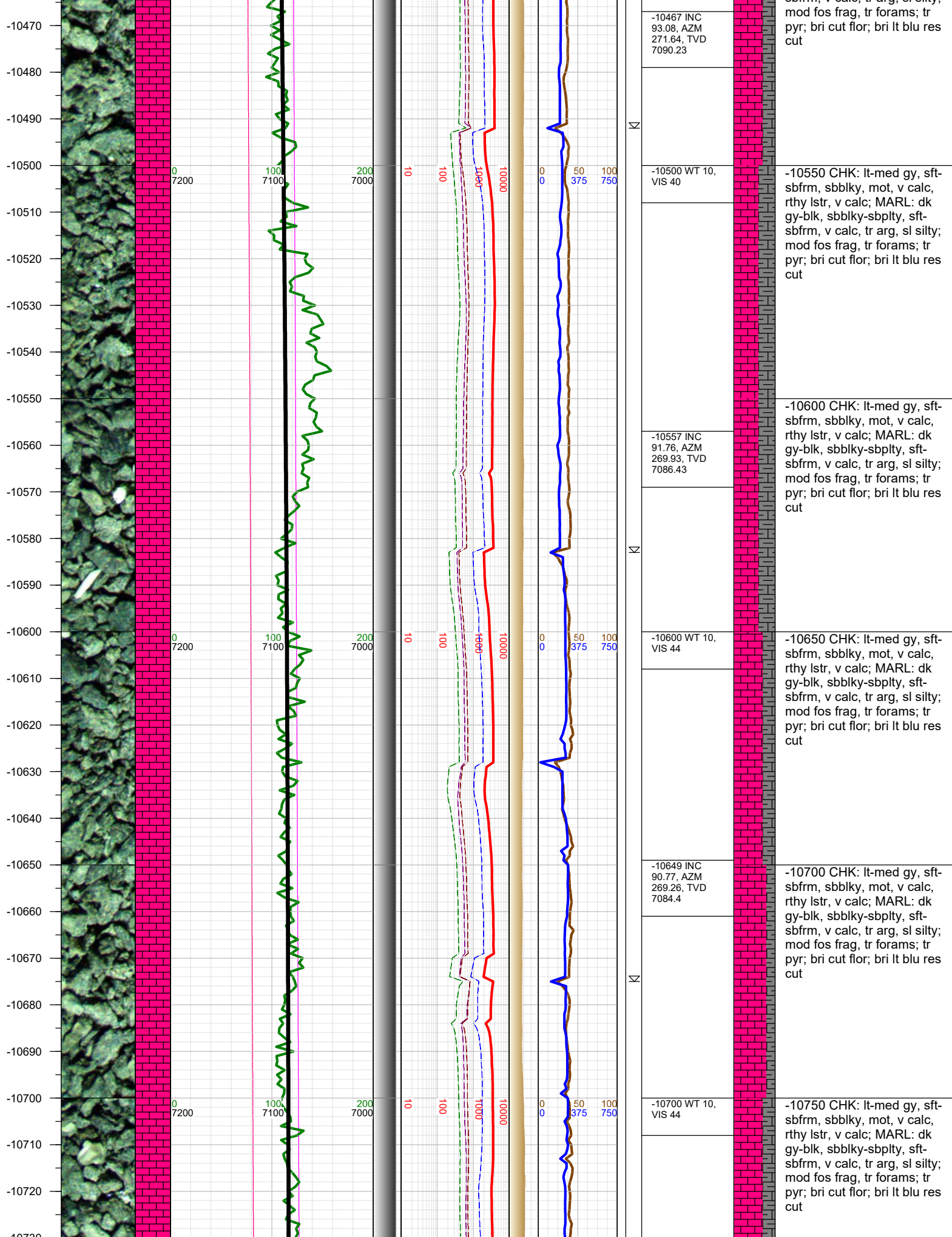
-10100 CHK: lt-med gy, sft-sbfrm, sbblky, mot, v calc, rthy lstr, v calc; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, v calc, tr arg, sl silty; tr fos frag, tr forams; tr pyr; bri cut flor; bri lt blu res cut

-10150 CHK: lt-med gy, sft-sbfrm, sbblky, mot, v calc, rthy lstr, v calc; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, v calc, tr arg, sl silty; mod fos frag, tr forams; tr pyr; bri cut flor; bri lt blu res cut

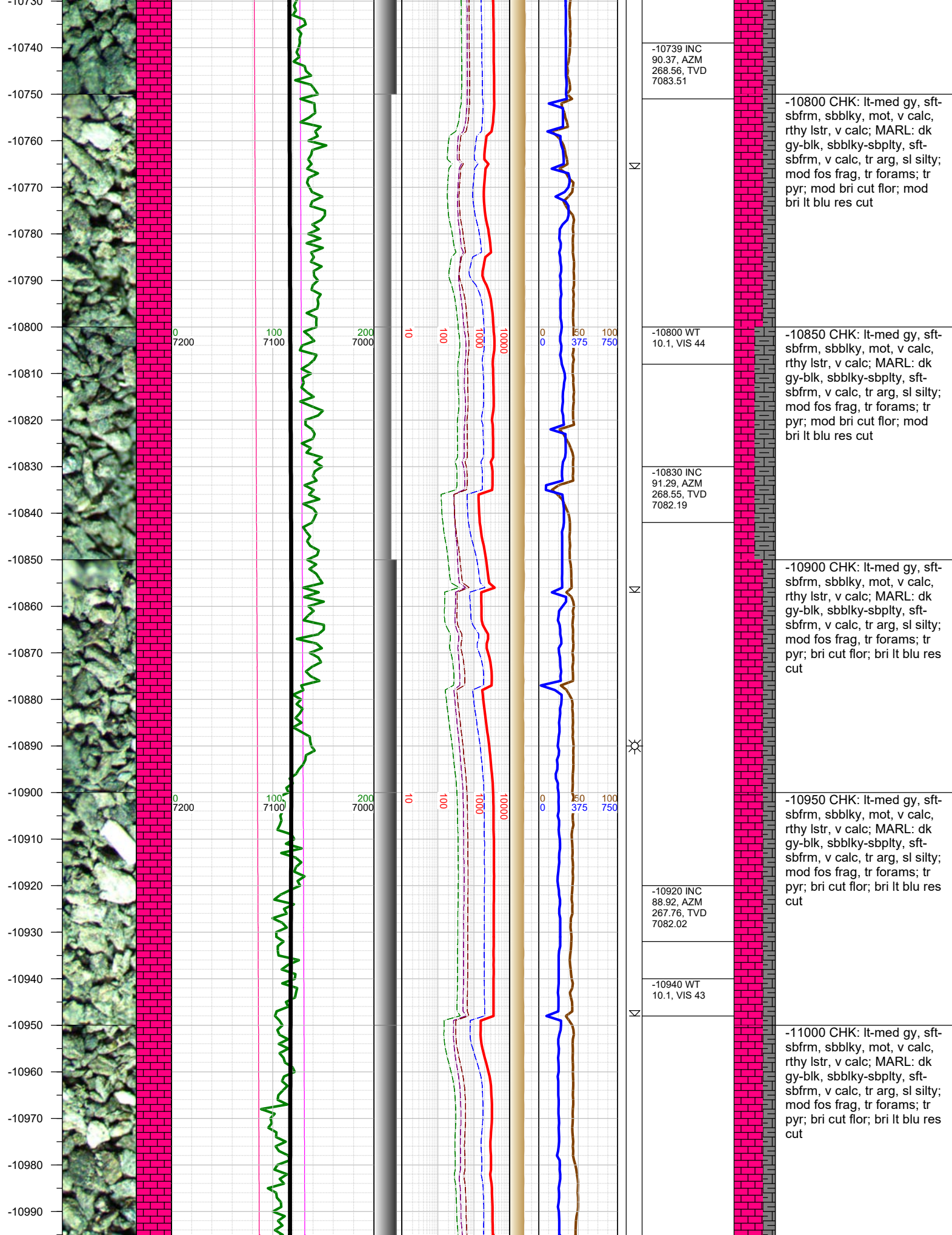
-10200 CHK: lt-med gy, sft-sbfrm, sbblky, mot, v calc, rthy lstr, v calc; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, v calc, tr arg, sl silty; tr fos frag, tr forams; tr pyr; bri cut flor; bri lt blu res cut

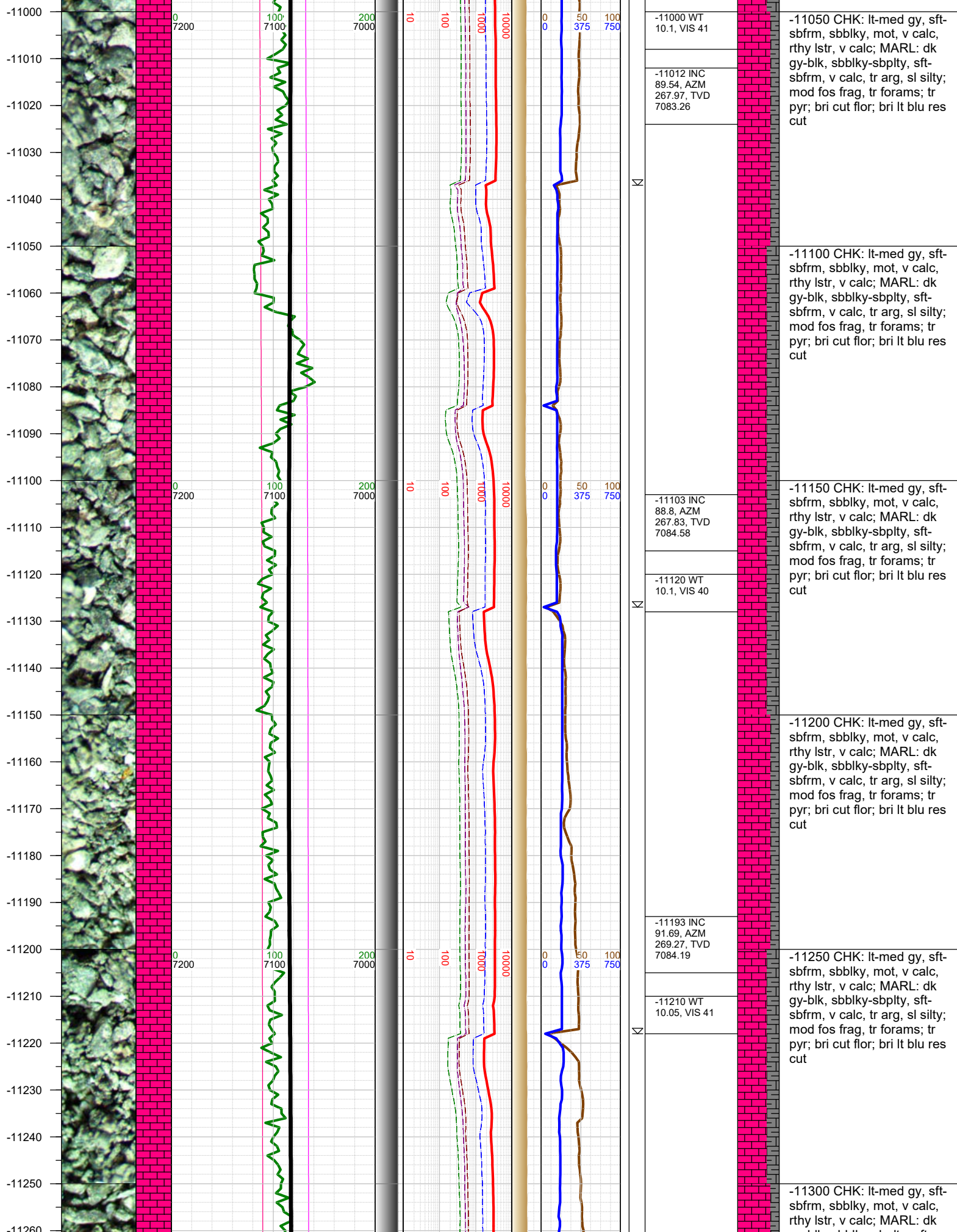




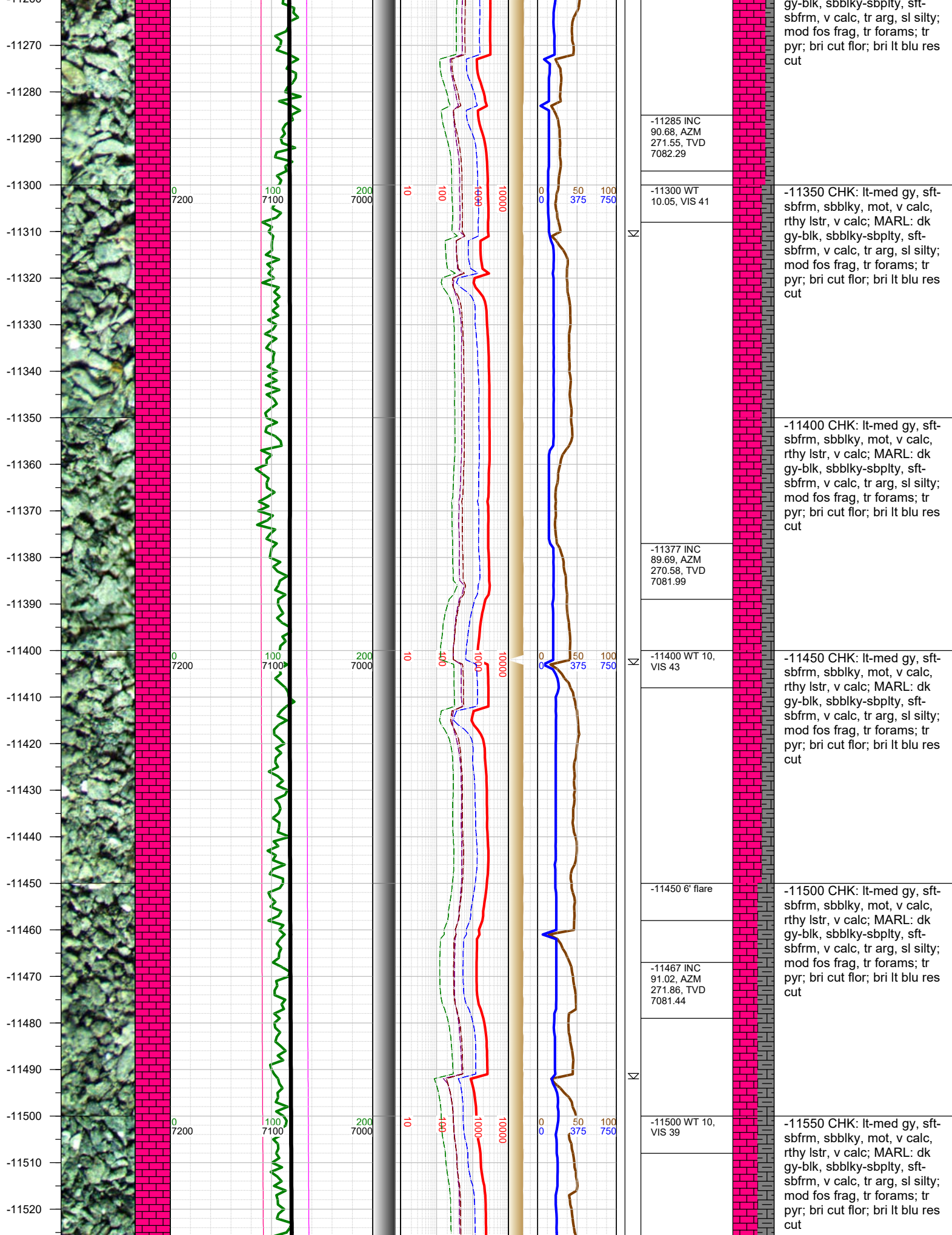


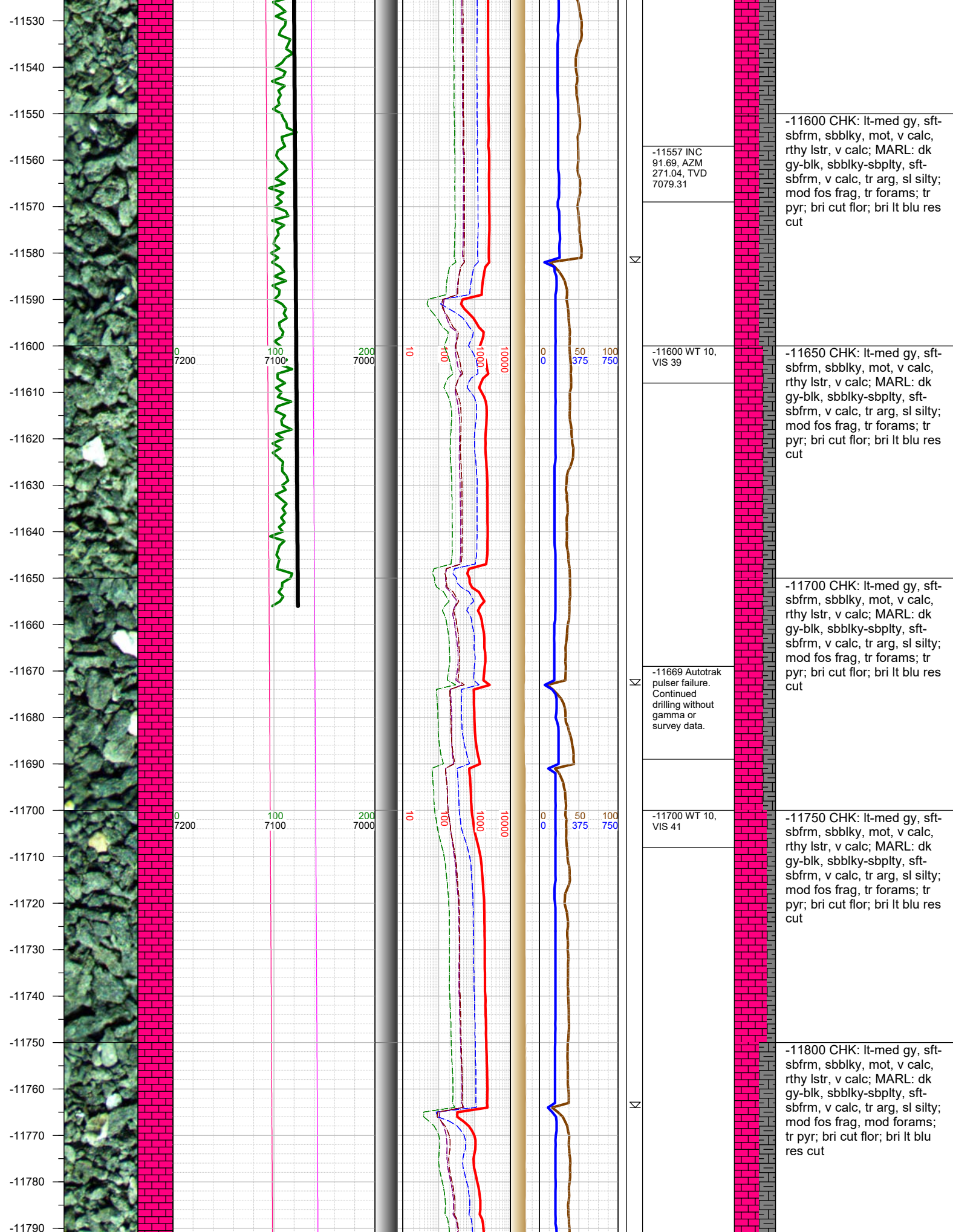




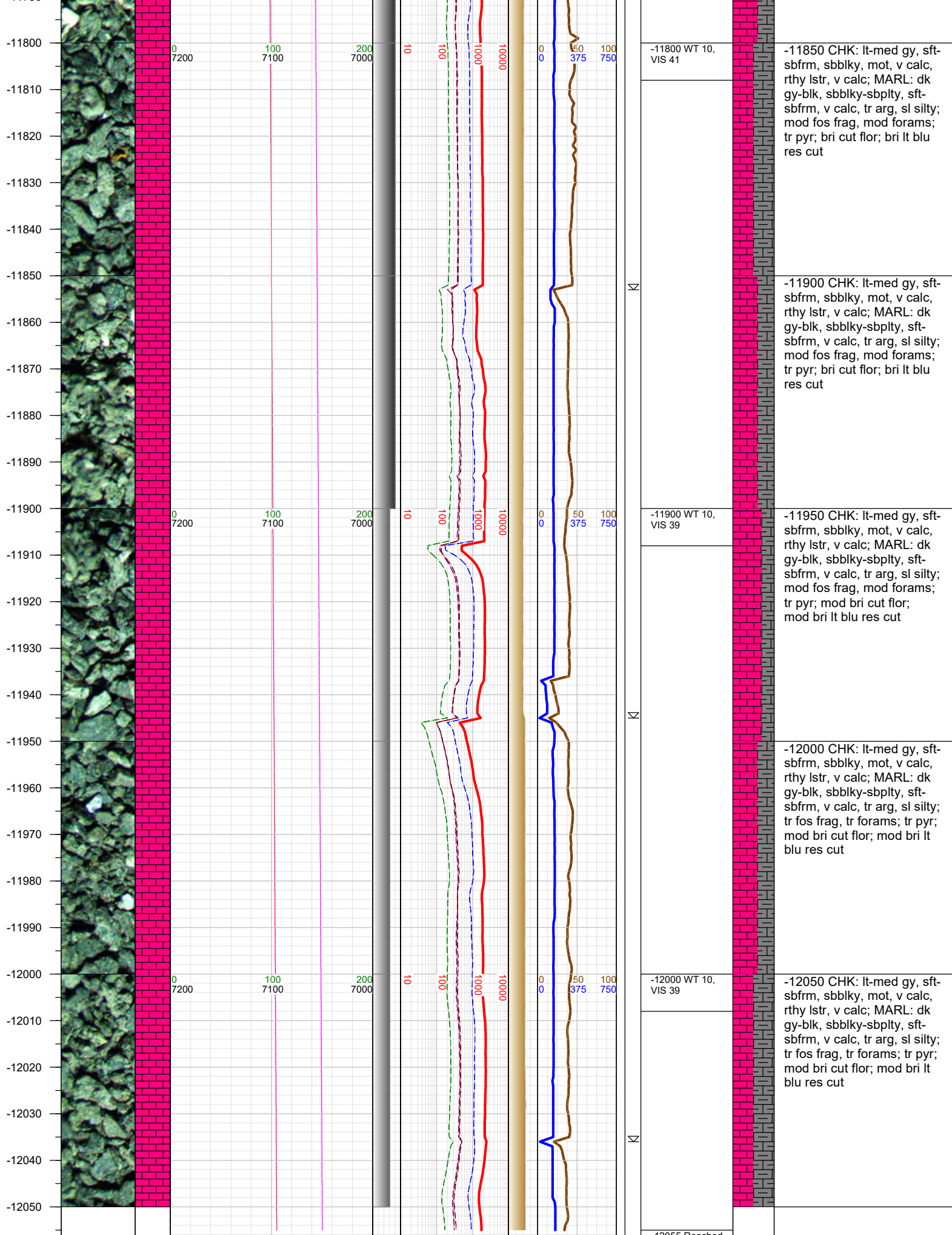












-11800 WT 10,  
VIS 41

-11850 CHK: lt-med gy, sft-sbfrm, sbbly, mot, v calc, rthy lstr, v calc; MARL: dk gy-blk, sbbly-sbply, sft-sbfrm, v calc, tr arg, sl silty; mod fos frag, mod forams; tr pyr; bri cut flr; bri lt blu res cut

11

-11900 CHK: lt-med gy, sft-sbfrm, sbbly, mot, v calc, rthy lstr, v calc; MARL: dk gy-blk, sbbly-sbply, sft-sbfrm, v calc, tr arg, sl silty; mod fos frag, mod forams; tr pyr; bri cut flr; bri lt blu res cut

-11900 WT 10,  
VIS 39

-11950 CHK: lt-med gy, sft-sbfrm, sbbly, mot, v calc, rthy lstr, v calc; MARL: dk gy-blk, sbbly-sbply, sft-sbfrm, v calc, tr arg, sl silty; mod fos frag, mod forams; tr pyr; mod bri cut flr; mod bri lt blu res cut

11

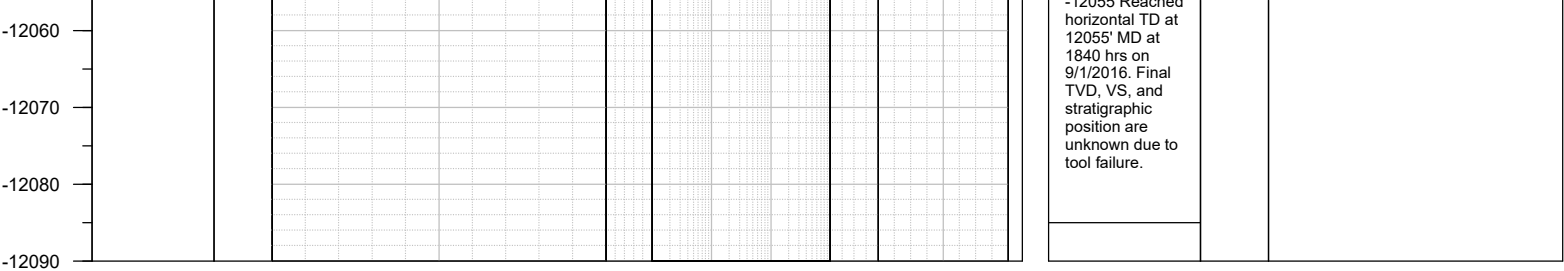
-12000 CHK: lt-med gy, sft-sbfrm, sbbly, mot, v calc, rthy lstr, v calc; MARL: dk gy-blk, sbbly-sbply, sft-sbfrm, v calc, tr arg, sl silty; tr fos frag, tr forams; tr pyr; mod bri cut flr; mod bri lt blu res cut

-12000 WT 10,  
VIS 39

-12050 CHK: lt-med gy, sft-sbfrm, sbbly, mot, v calc, rthy lstr, v calc; MARL: dk gy-blk, sbbly-sbply, sft-sbfrm, v calc, tr arg, sl silty; tr fos frag, tr forams; tr pyr; mod bri cut flr; mod bri lt blu res cut

11

12055 Drilled



TOTAL DEPTH =    12055'

Thank you for using Earth Science Agency