

OPERATOR: **Cub Creek Energy**

WELL NAME: **Markham 5**

FIELD NAME: DJ Basin - Wattenberg

DRILLING RIG: Xtreme 18

API #: 05-123-43247

LAT/LONG: 40.2688, -105.02313

SURFACE HOLE: NWSE S32-T4N-R68W, 2389' FSL, 1515' FEL

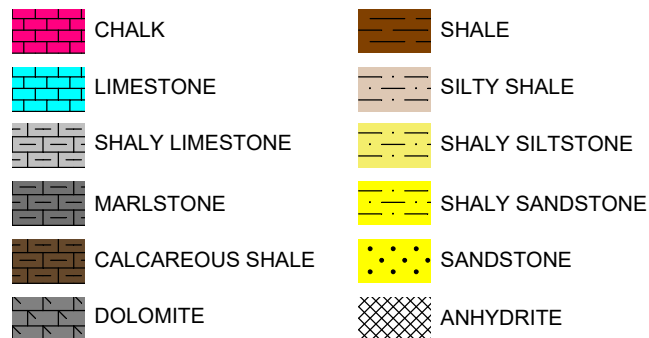
BOTTOM HOLE: SWSW S32-T4N-R68W, 990' FSL, 460' FWL



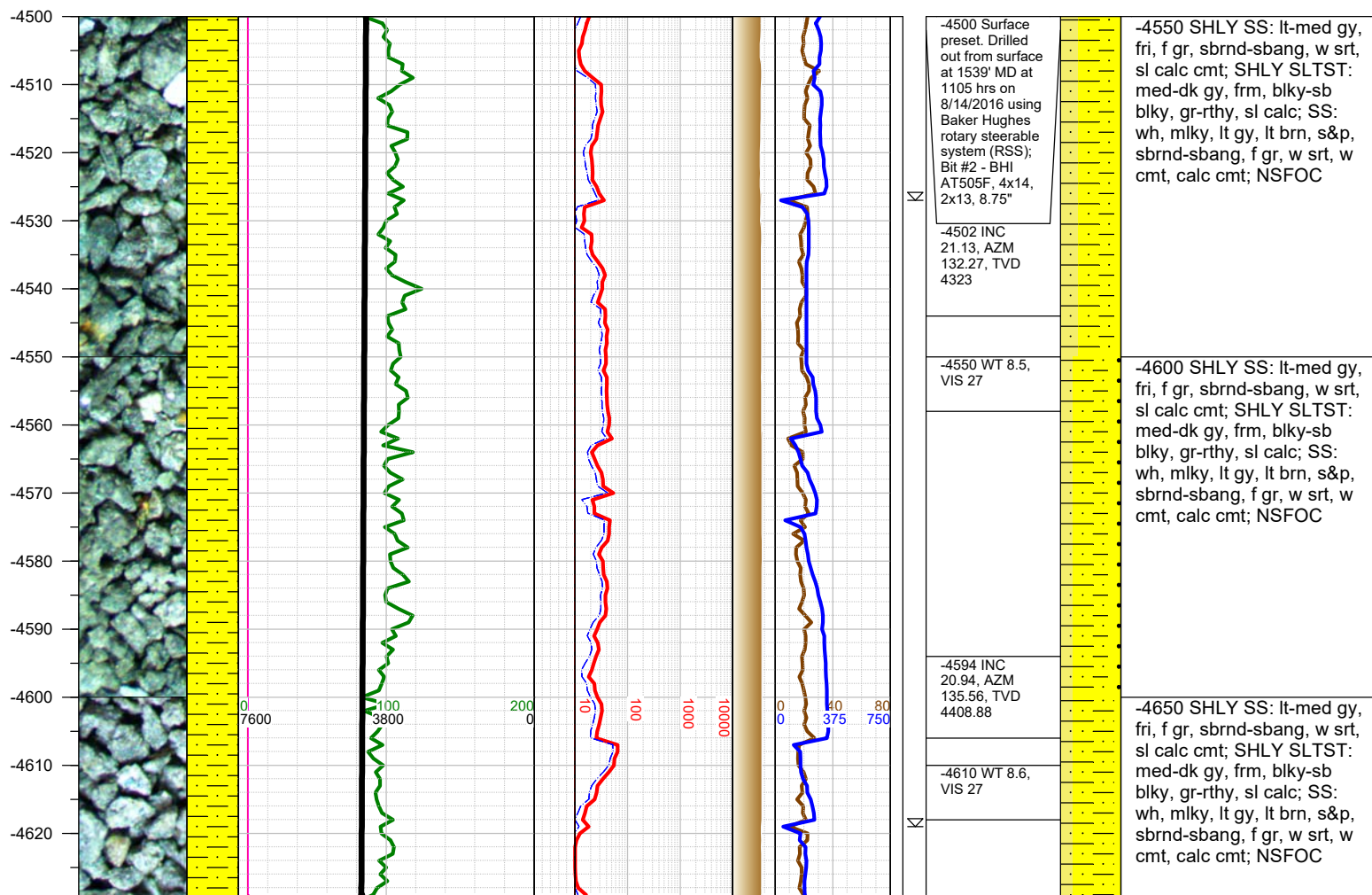
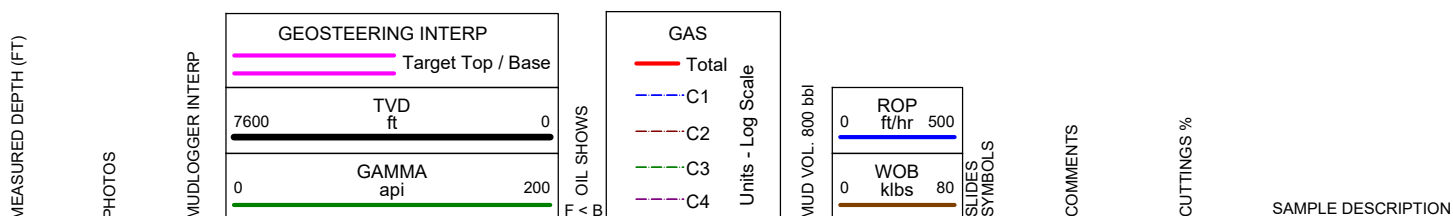
Earth Science Agency, LLC

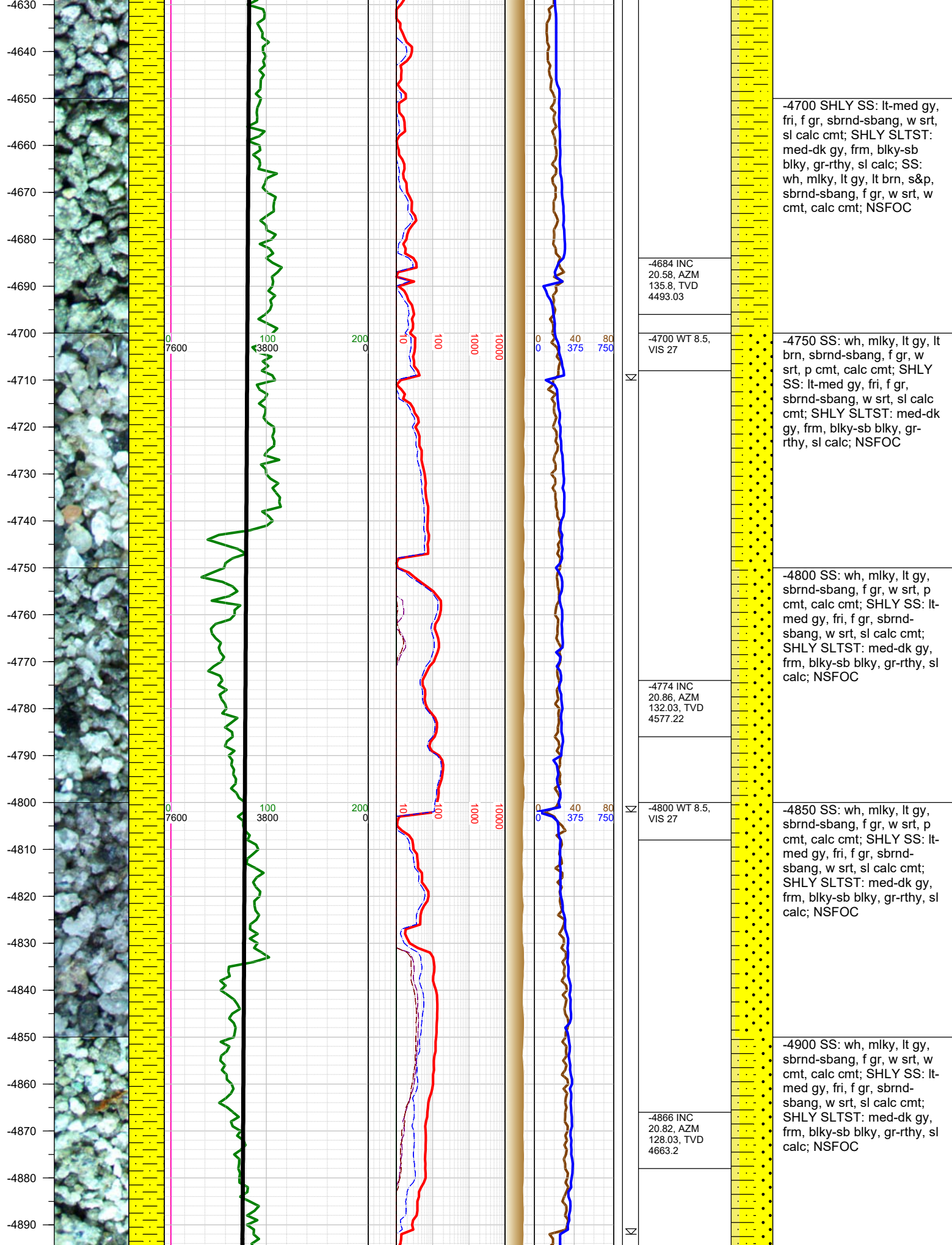
COUNTY: Weld  
STATE: Colorado  
GROUND ELEVATION: 5041'  
KELLY BUSHING: 5058'  
DRILLING FLUID: WBM  
TVD VS. MD: 7281' / 12254'  
SPUD DATE: August 14, 2016  
TD DATE: August 18, 2016  
  
DEPTHS LOGGED: 4500' - 12254'  
DATES LOGGED: August 14, 2016 - August 18, 2016  
GEOLOGISTS: Blue Spikes, Tracy Lawson, Curtis Magnino  
SCALE: 5" = 100'

#### LEGEND



FORMATION  $\approx$  CONNECTION  $\Delta$  MIDNIGHT NEW BIT GAS SHOW FAULT





-4700 SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SHLY SLTST: med-dk gy, frm, blkly-sb blkly, gr-rthy, sl calc; SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; NSFOC

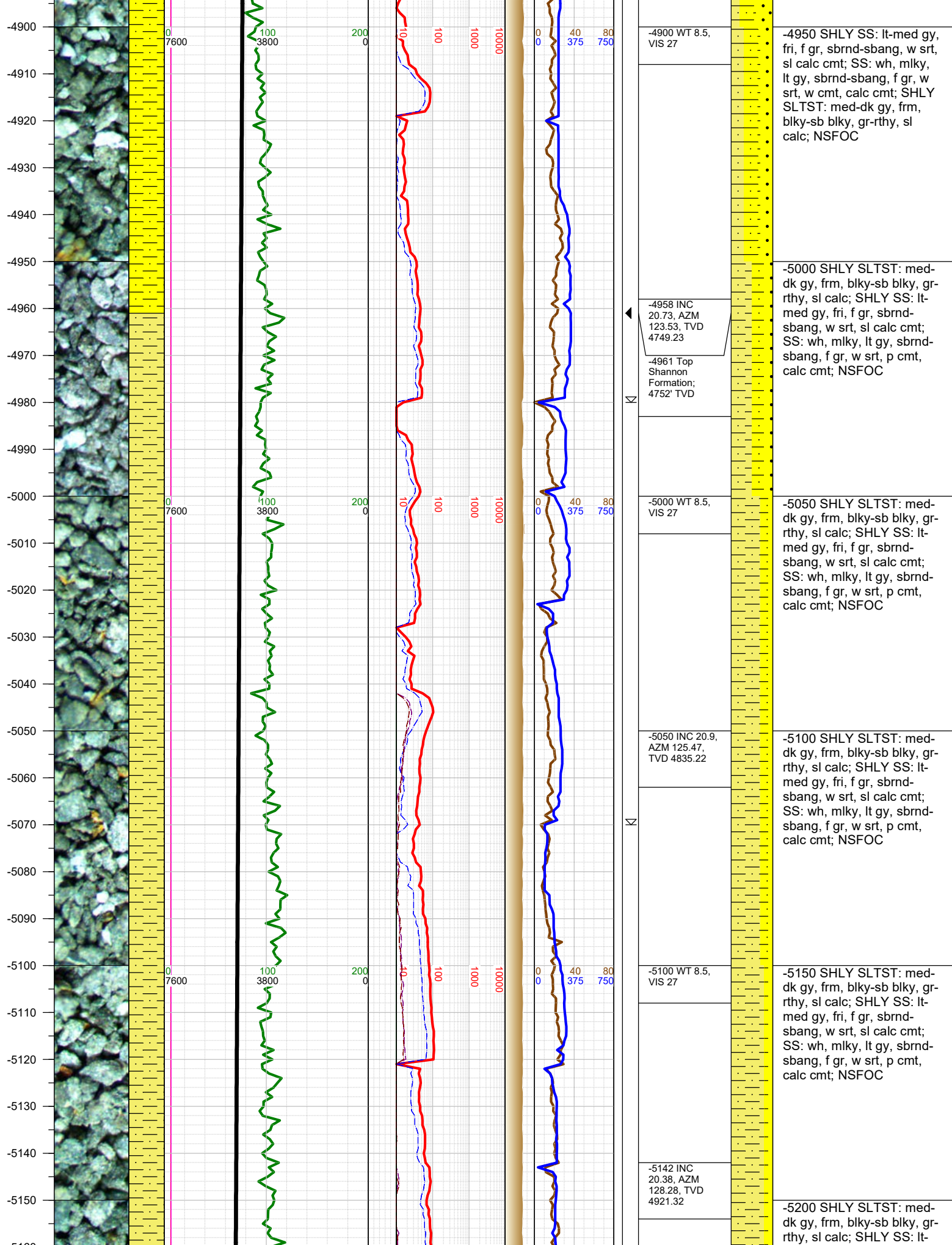
-4750 SS: wh, mlky, lt gy, lt brn, sbrnd-sbang, f gr, w srt, p cmt, calc cmt; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SHLY SLTST: med-dk gy, frm, blkly-sb blkly, gr-rthy, sl calc; NSFOC

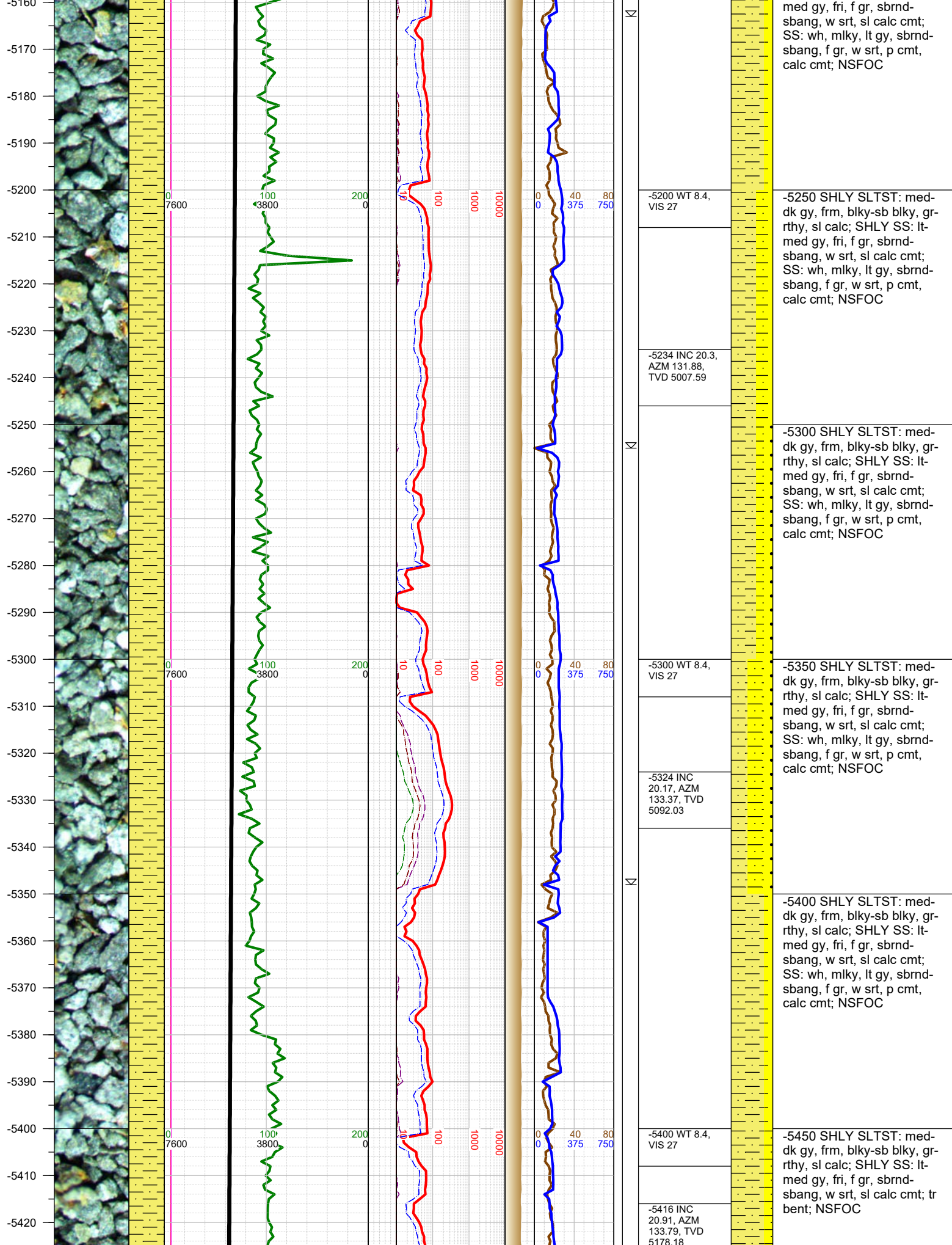
-4800 SS: wh, mlky, lt gy, sbrnd-sbang, f gr, w srt, p cmt, calc cmt; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SHLY SLTST: med-dk gy, frm, blkly-sb blkly, gr-rthy, sl calc; NSFOC

-4850 SS: wh, mlky, lt gy, sbrnd-sbang, f gr, w srt, p cmt, calc cmt; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SHLY SLTST: med-dk gy, frm, blkly-sb blkly, gr-rthy, sl calc; NSFOC

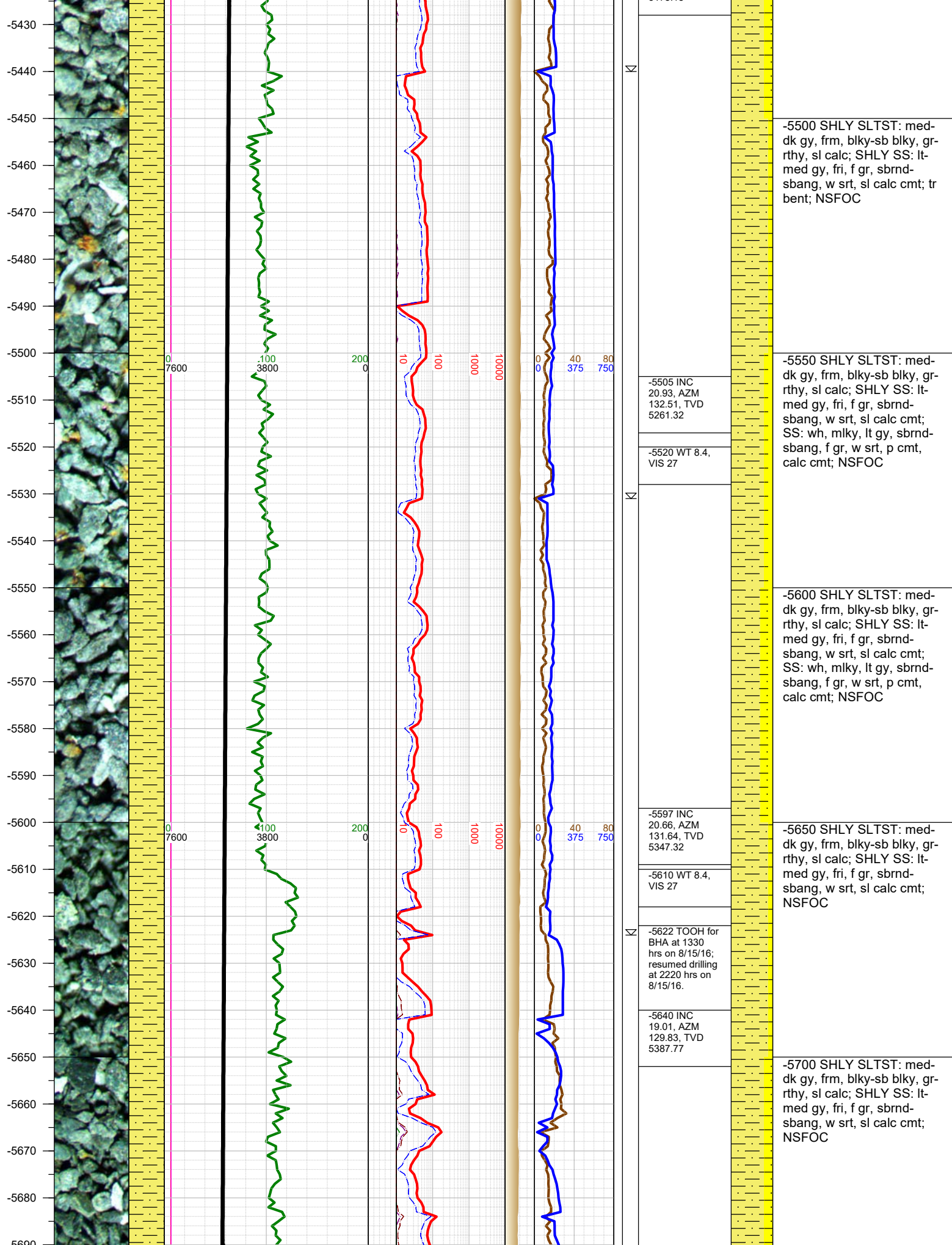
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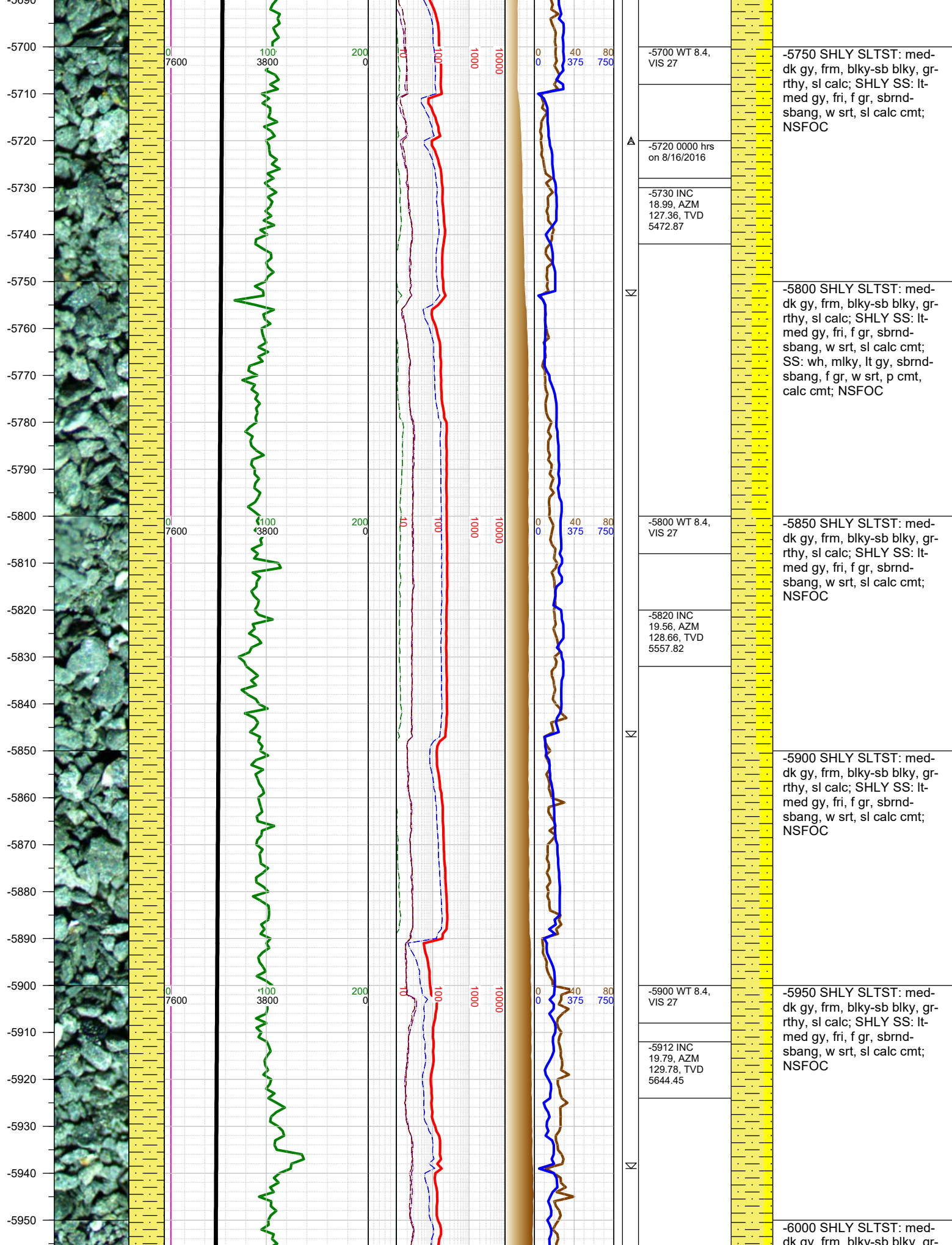




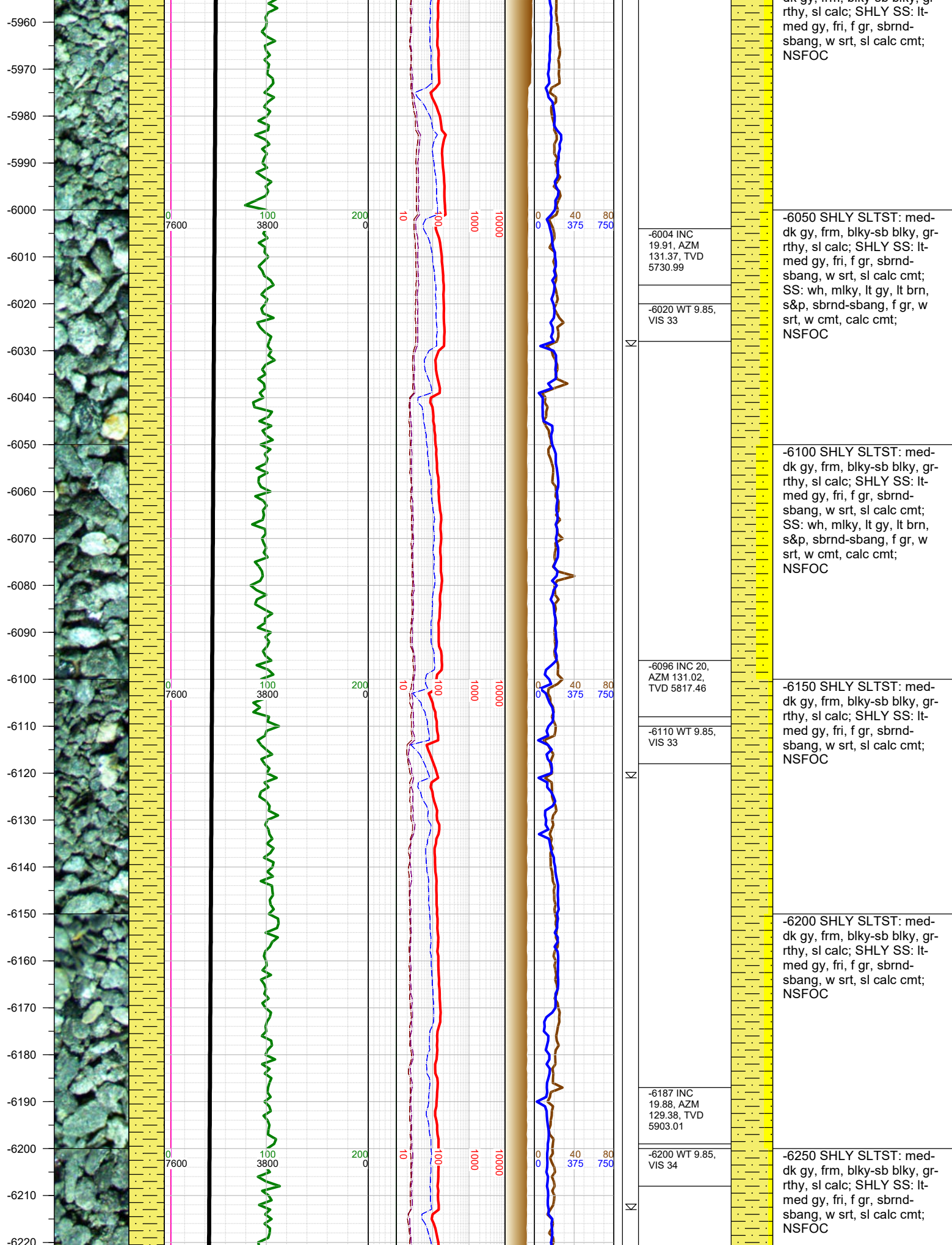


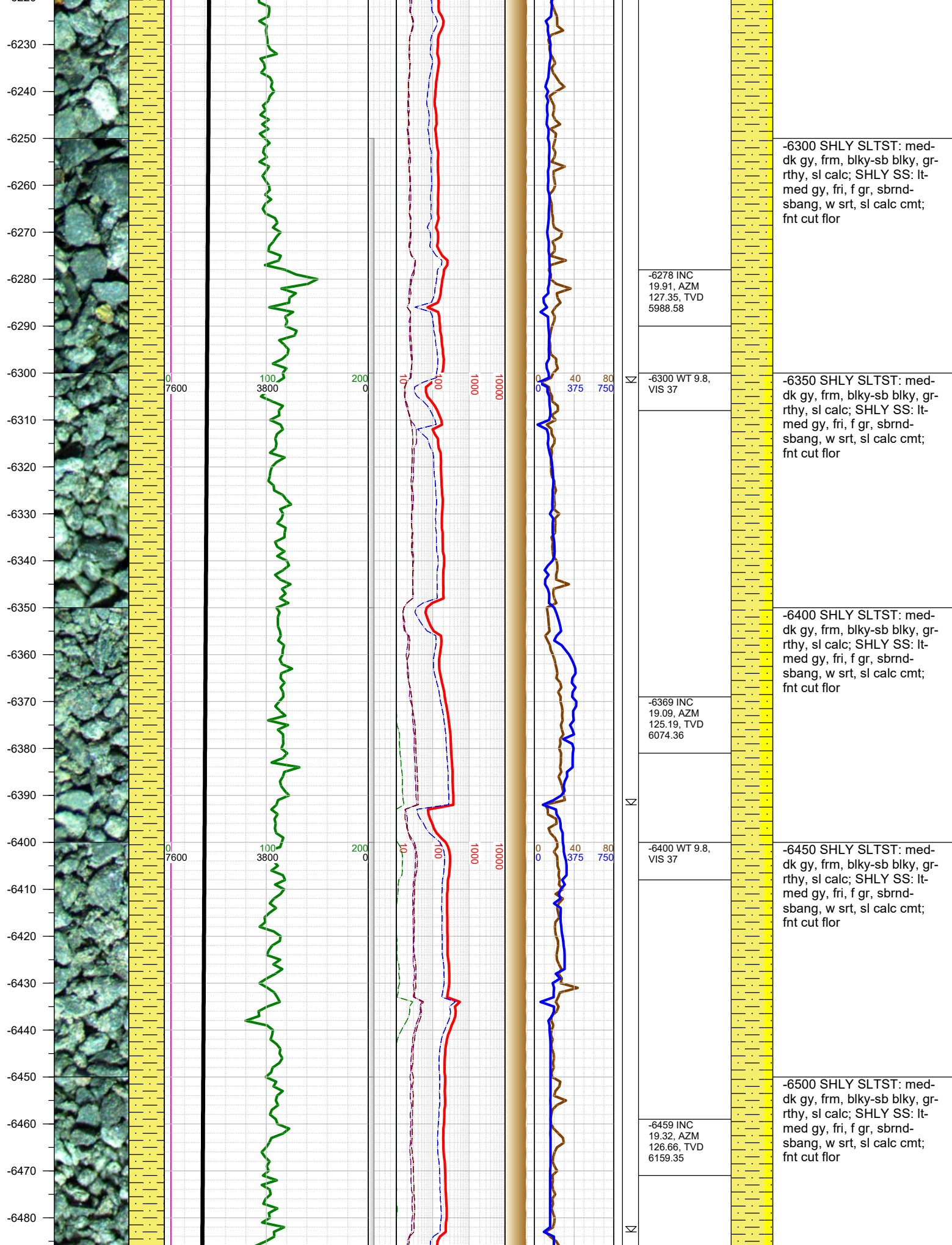












-6278 INC  
19.91, AZM  
127.35, TVD  
5988.58

-6300 WT 9.8,  
VIS 37

-6369 INC  
19.09, AZM  
125.19, TVD  
6074.36

-6400 WT 9.8,  
VIS 37

-6459 INC  
19.32, AZM  
126.66, TVD  
6159.35

-6300 SHLY SLTST: med-dk gy, frm, blkysb blkys, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; fnt cut flor

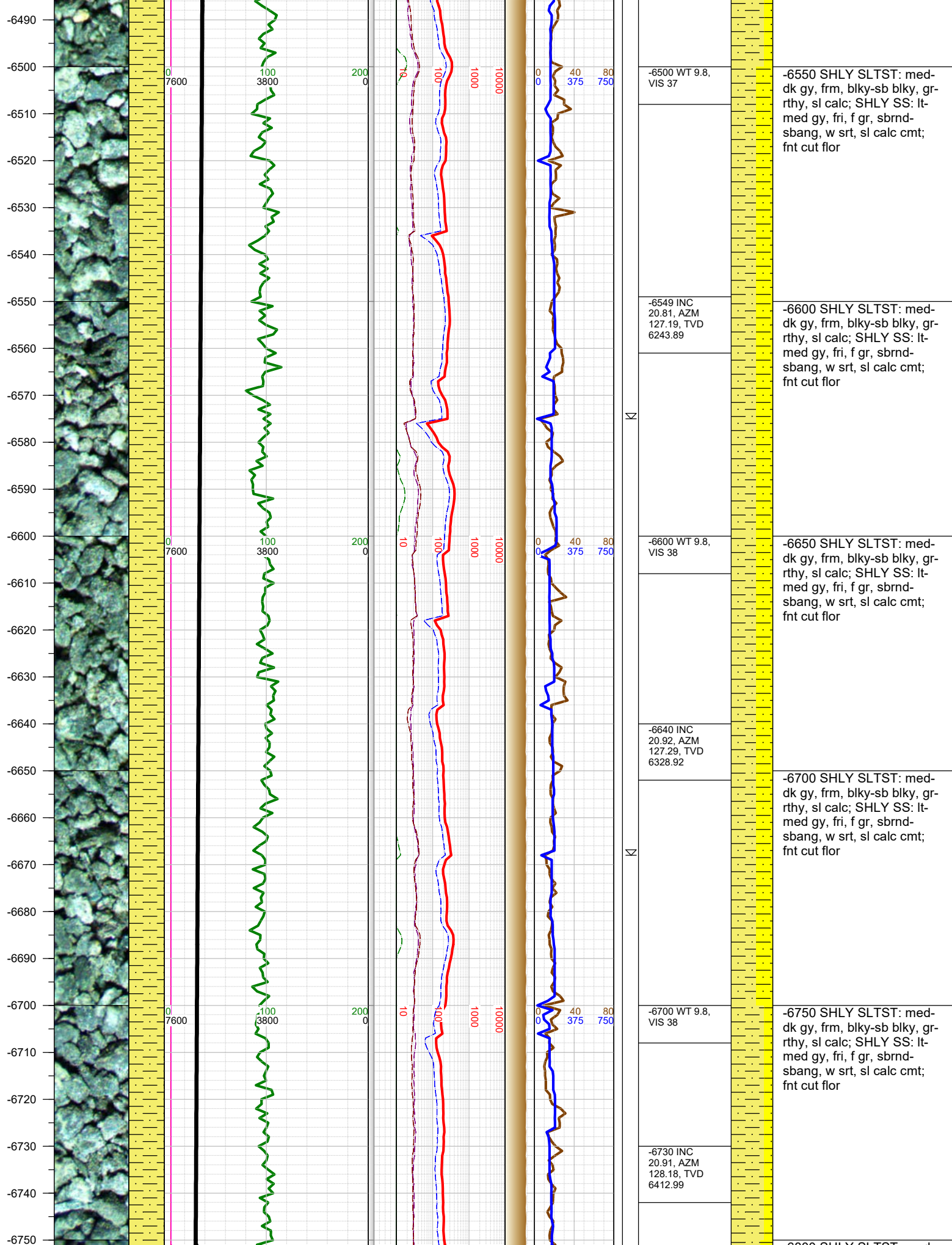
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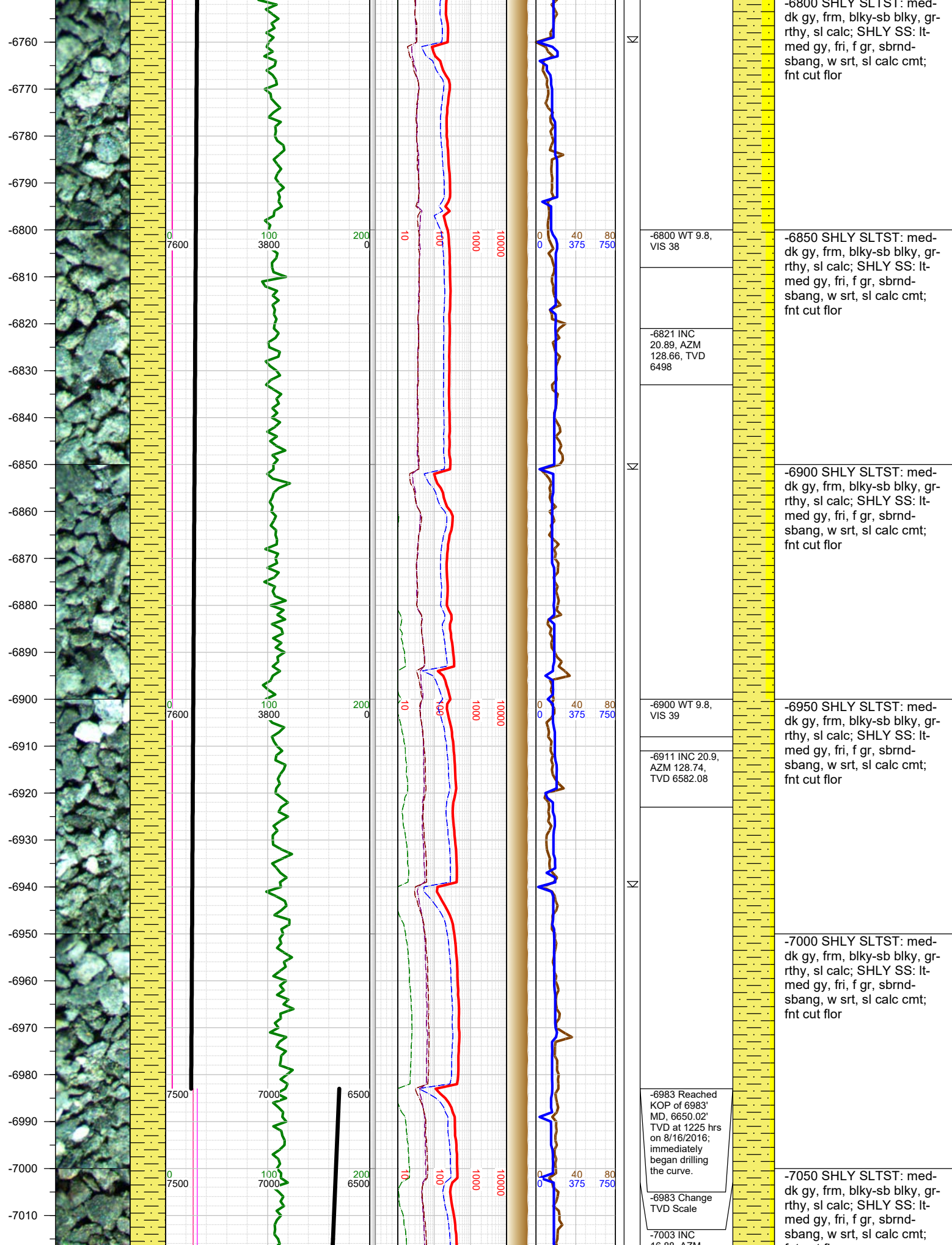
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-6450 SHLY SLTST: med-dk gy, frm, blkysb blkys, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; fnt cut flor

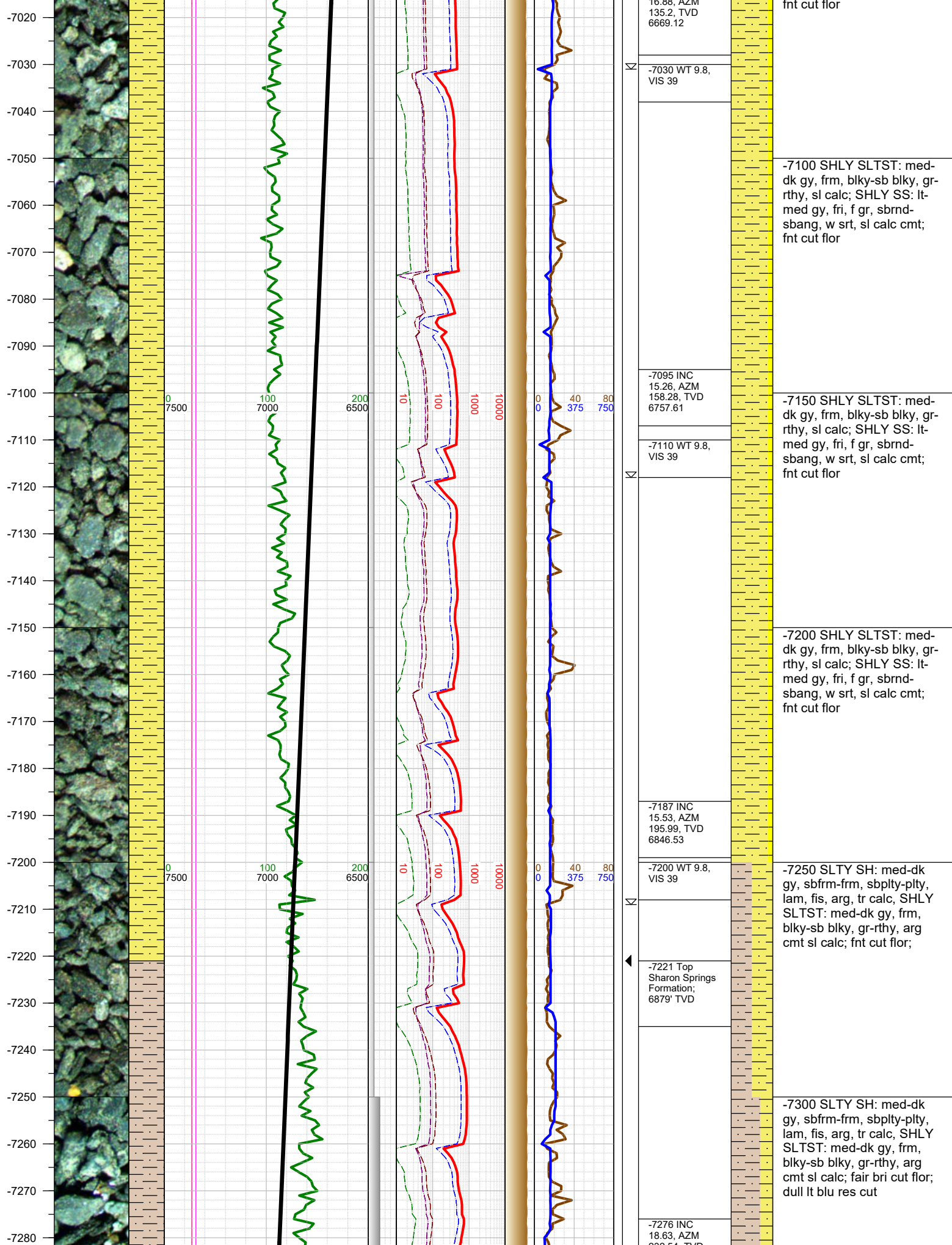
-6500 SHLY SLTST: med-dk gy, frm, blkysb blkys, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; fnt cut flor

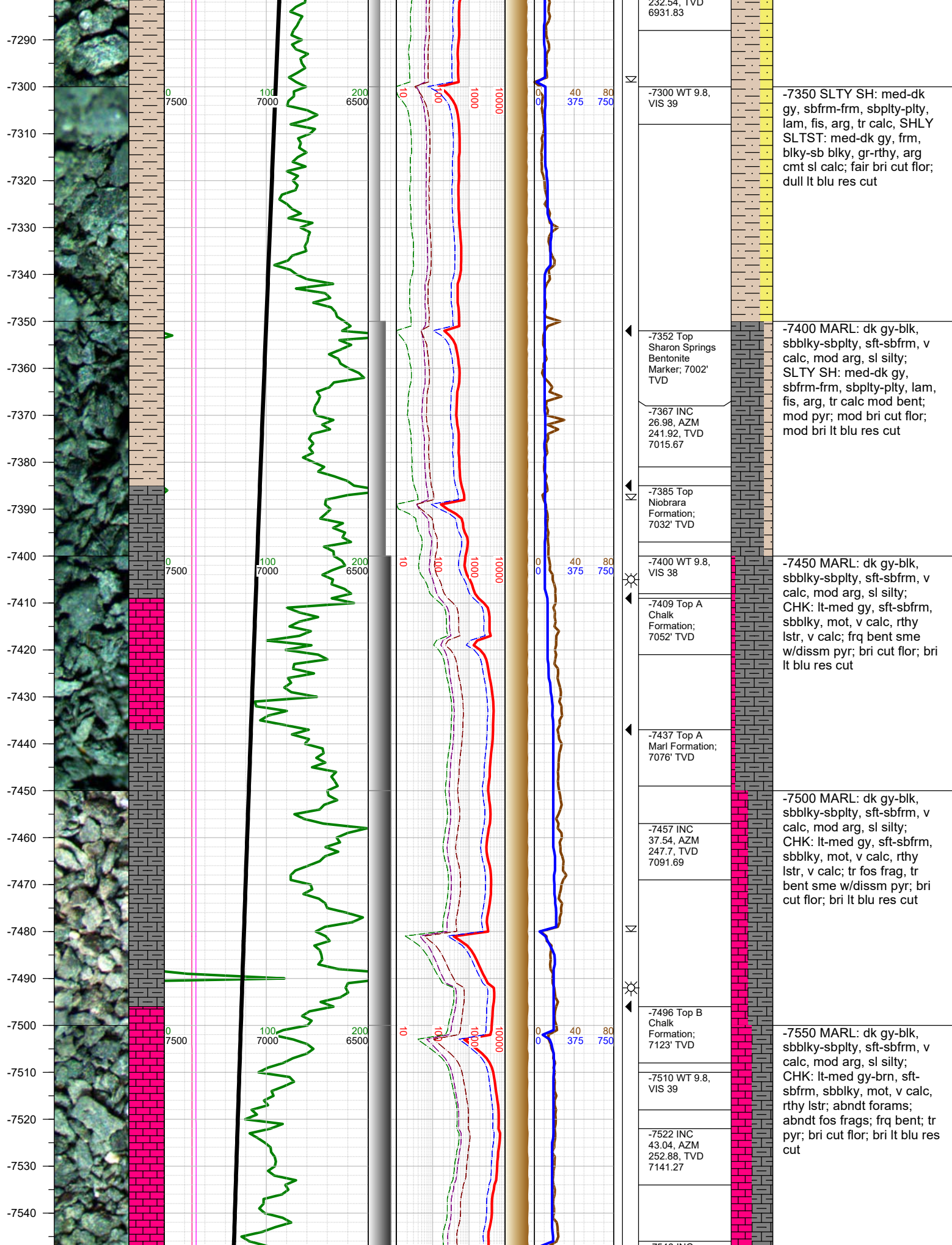




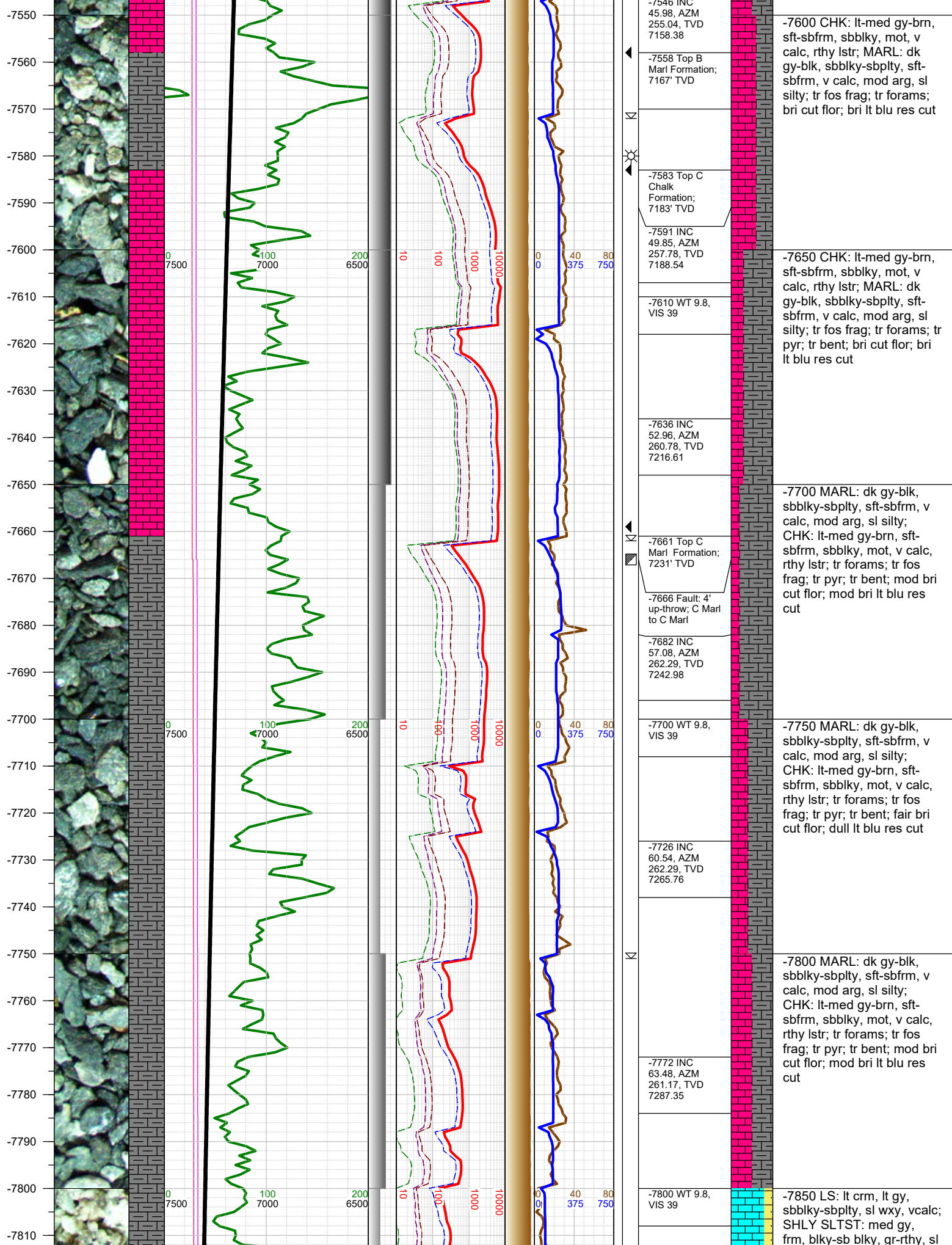


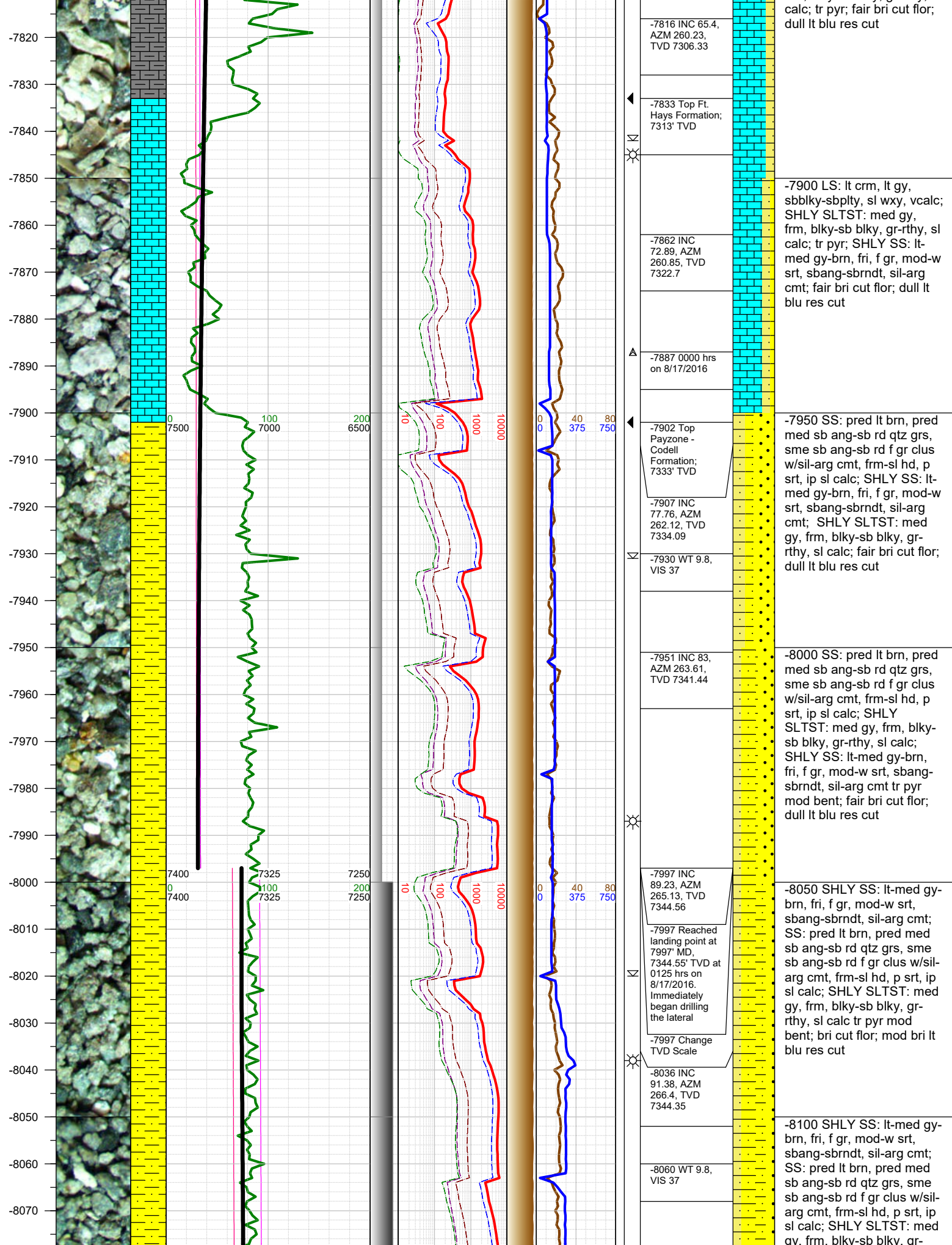




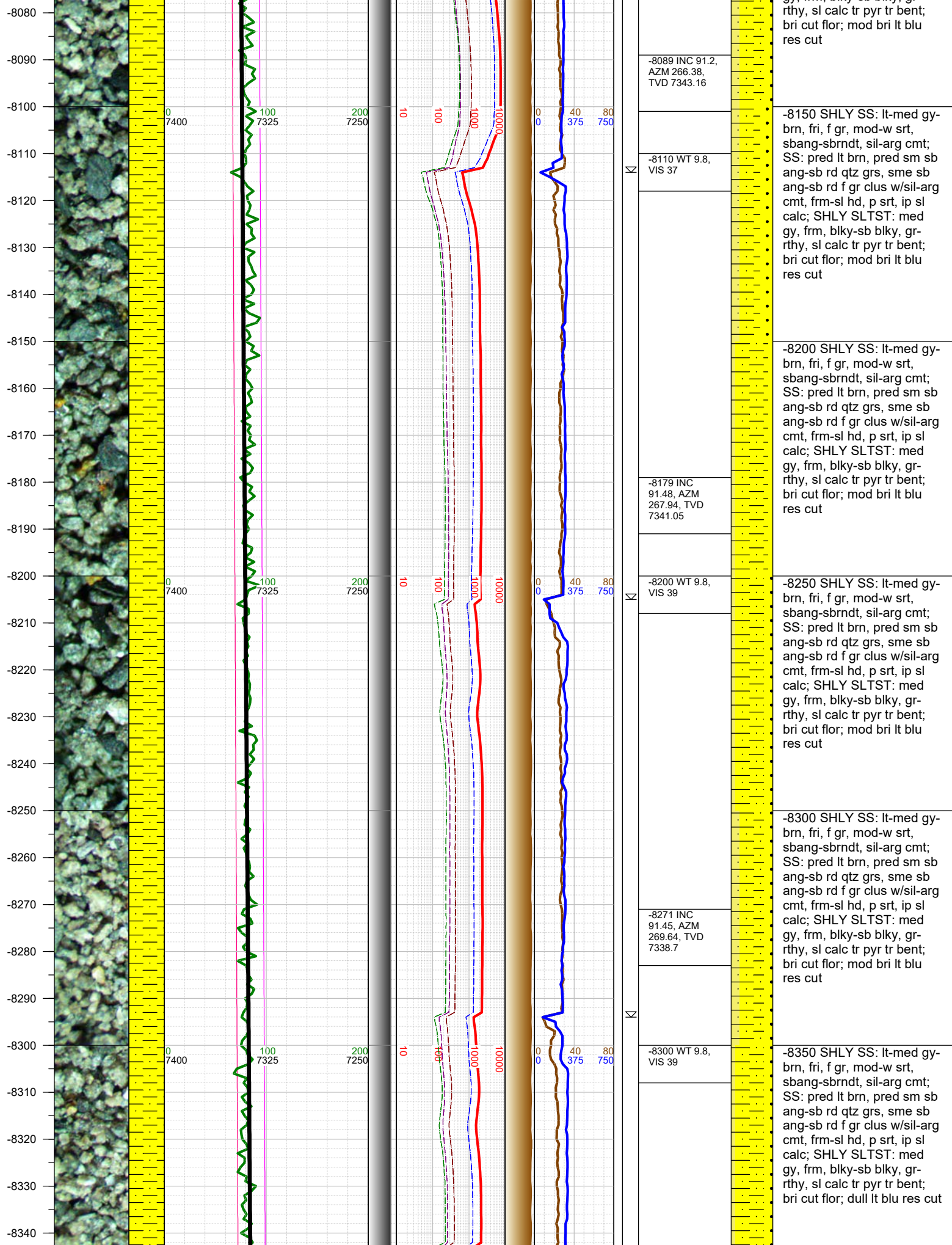


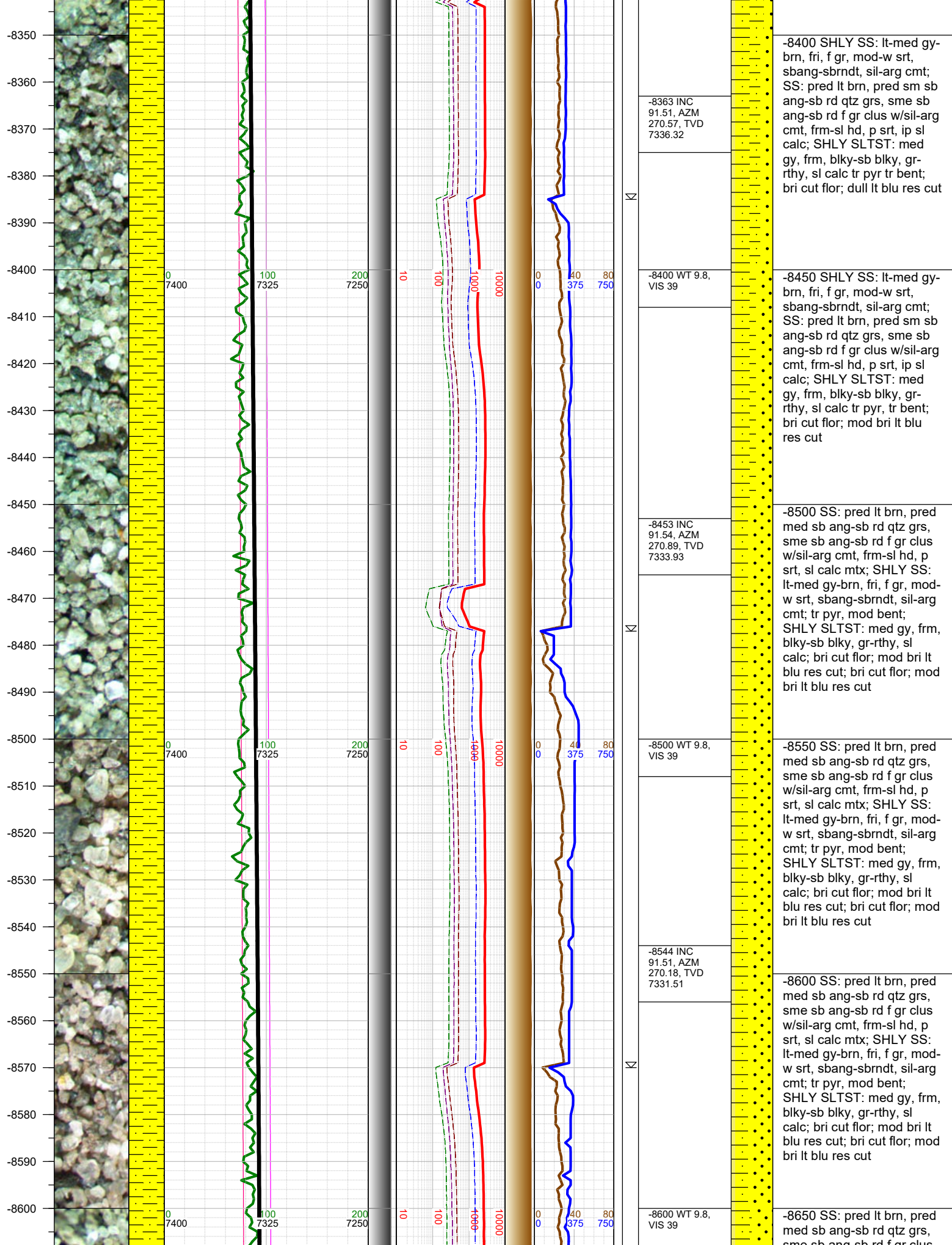




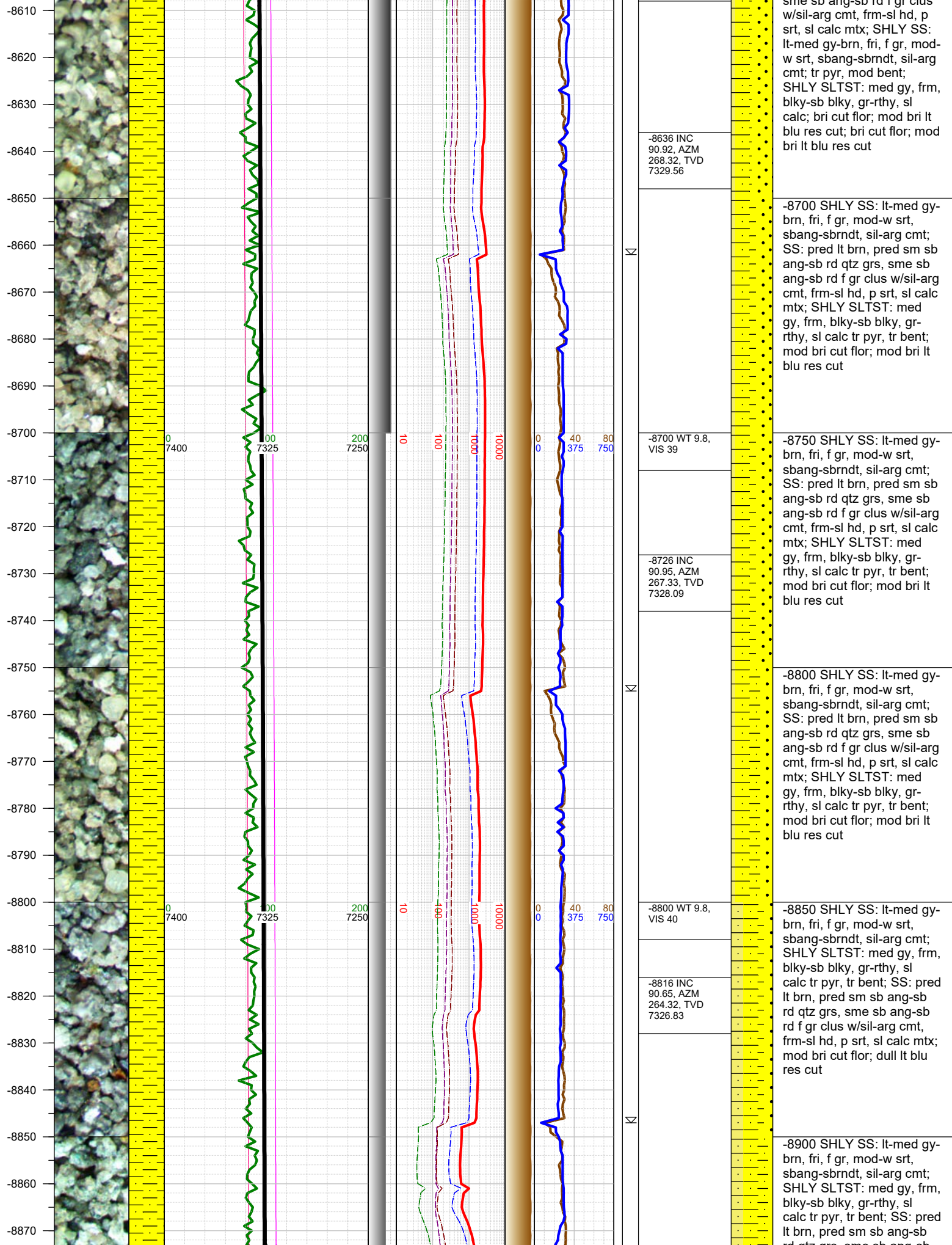












-8636 INC  
90.92, AZM  
268.32, TVD  
7329.56

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-8700 WT 9.8,  
VIS 39

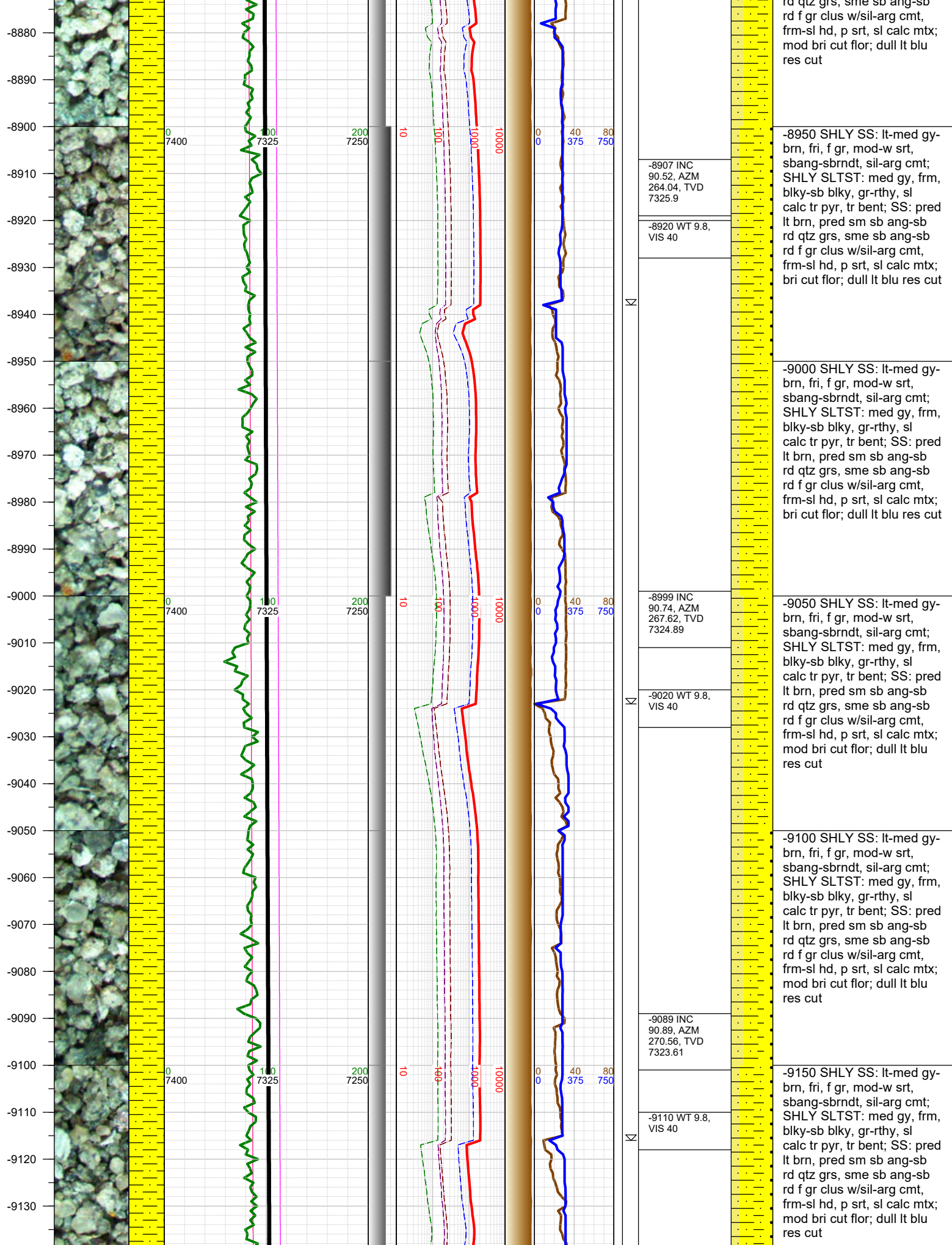
-8726 INC  
90.95, AZM  
267.33, TVD  
7328.09

Δ

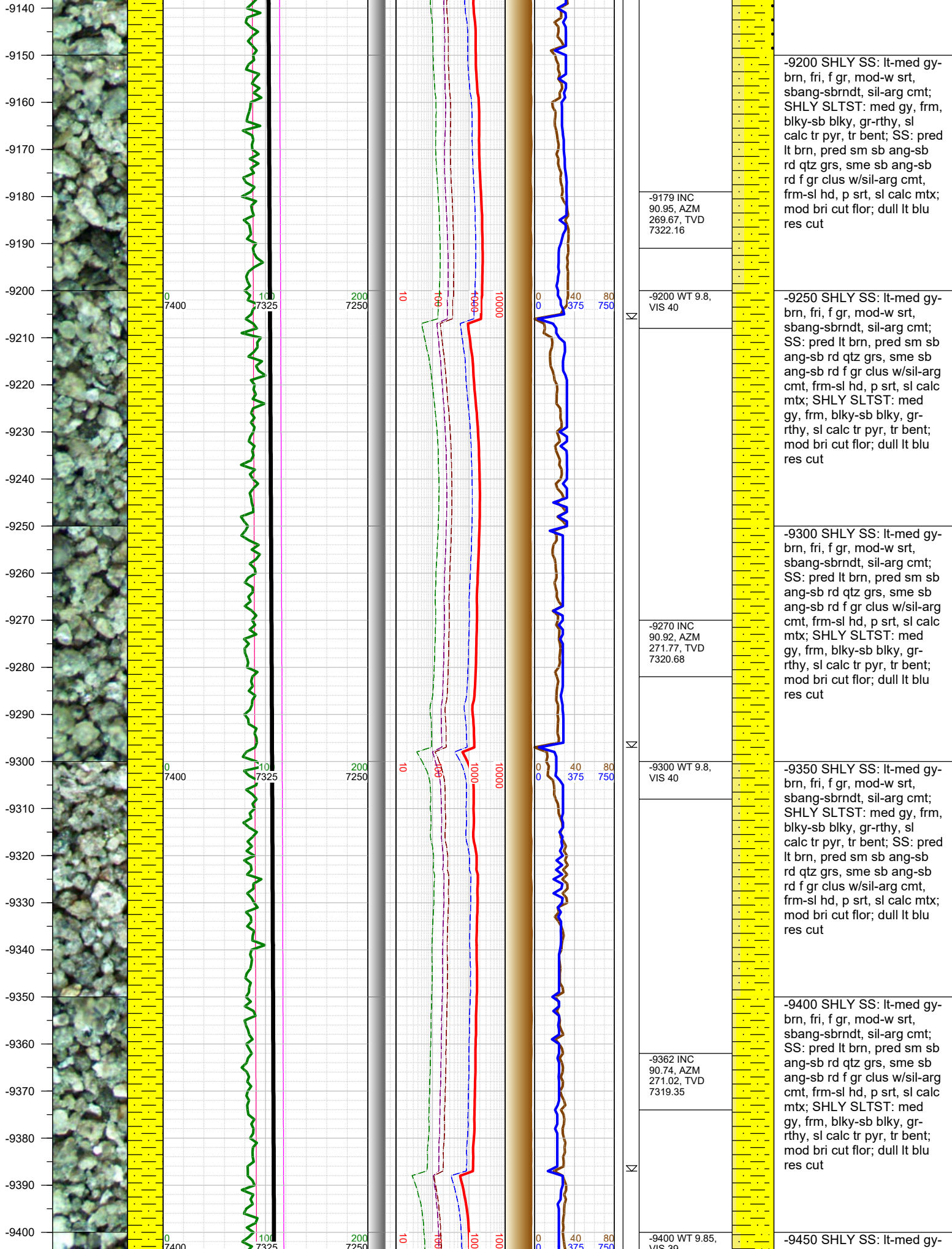
-8800 WT 9.8,  
VIS 40

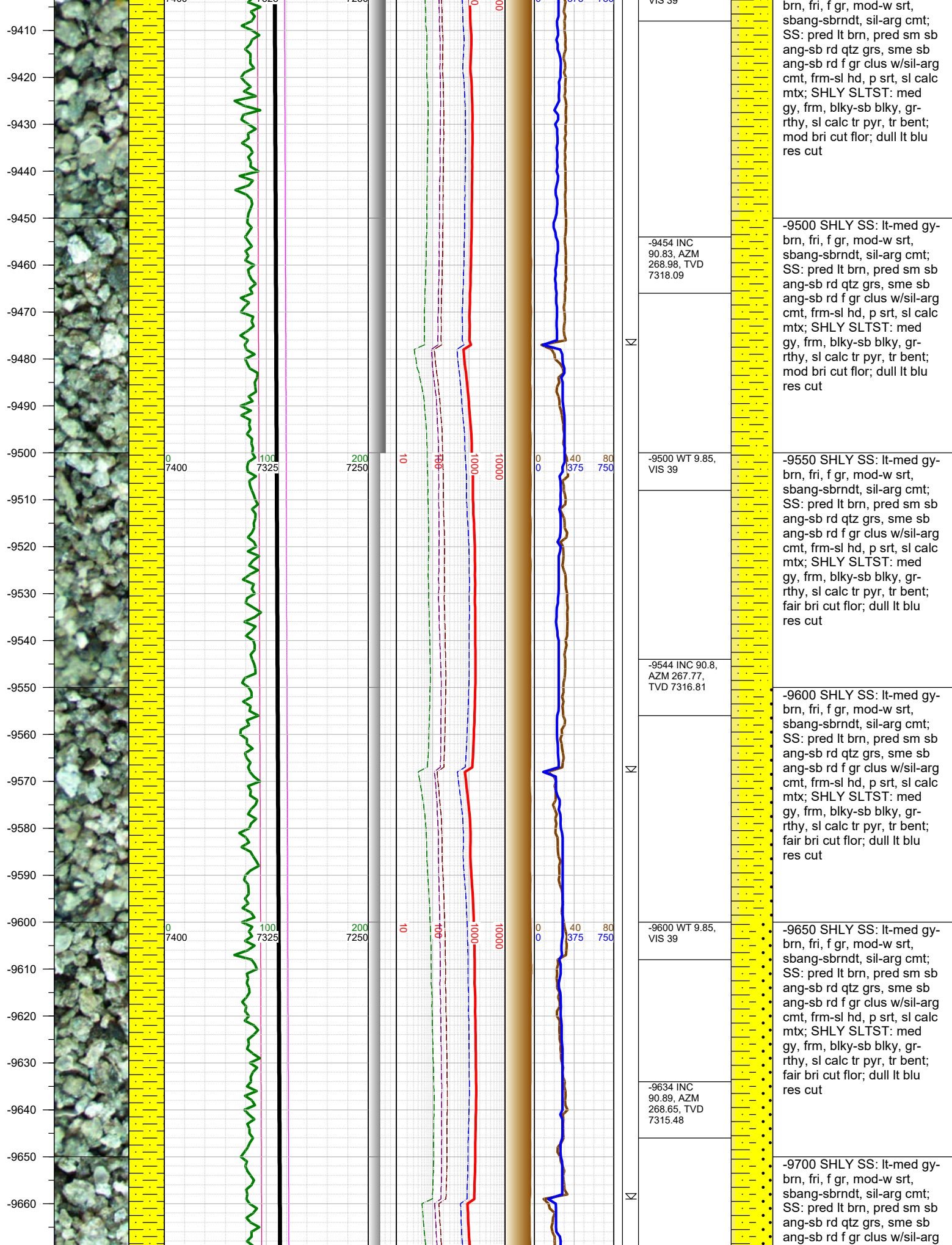
-8816 INC  
90.65, AZM  
264.32, TVD  
7326.83

Δ









brn, fri, f gr, mod-w srt, sbang-sbrndt, sil-arg cmt; SS: pred lt brn, pred sm sb ang-sb rd qtz grs, sme sb ang-sb rd f gr clus w/sil-arg cmt, frm-sl hd, p srt, sl calc mtx; SHLY SLTST: med gy, frm, blkysb blkys, gr-rthy, sl calc tr pyr, tr bent; mod bri cut flor; dull lt blu res cut

-9500 SHLY SS: lt-med gy-brn, fri, f gr, mod-w srt, sbang-sbrndt, sil-arg cmt; SS: pred lt brn, pred sm sb ang-sb rd qtz grs, sme sb ang-sb rd f gr clus w/sil-arg cmt, frm-sl hd, p srt, sl calc mtx; SHLY SLTST: med gy, frm, blkysb blkys, gr-rthy, sl calc tr pyr, tr bent; mod bri cut flor; dull lt blu res cut

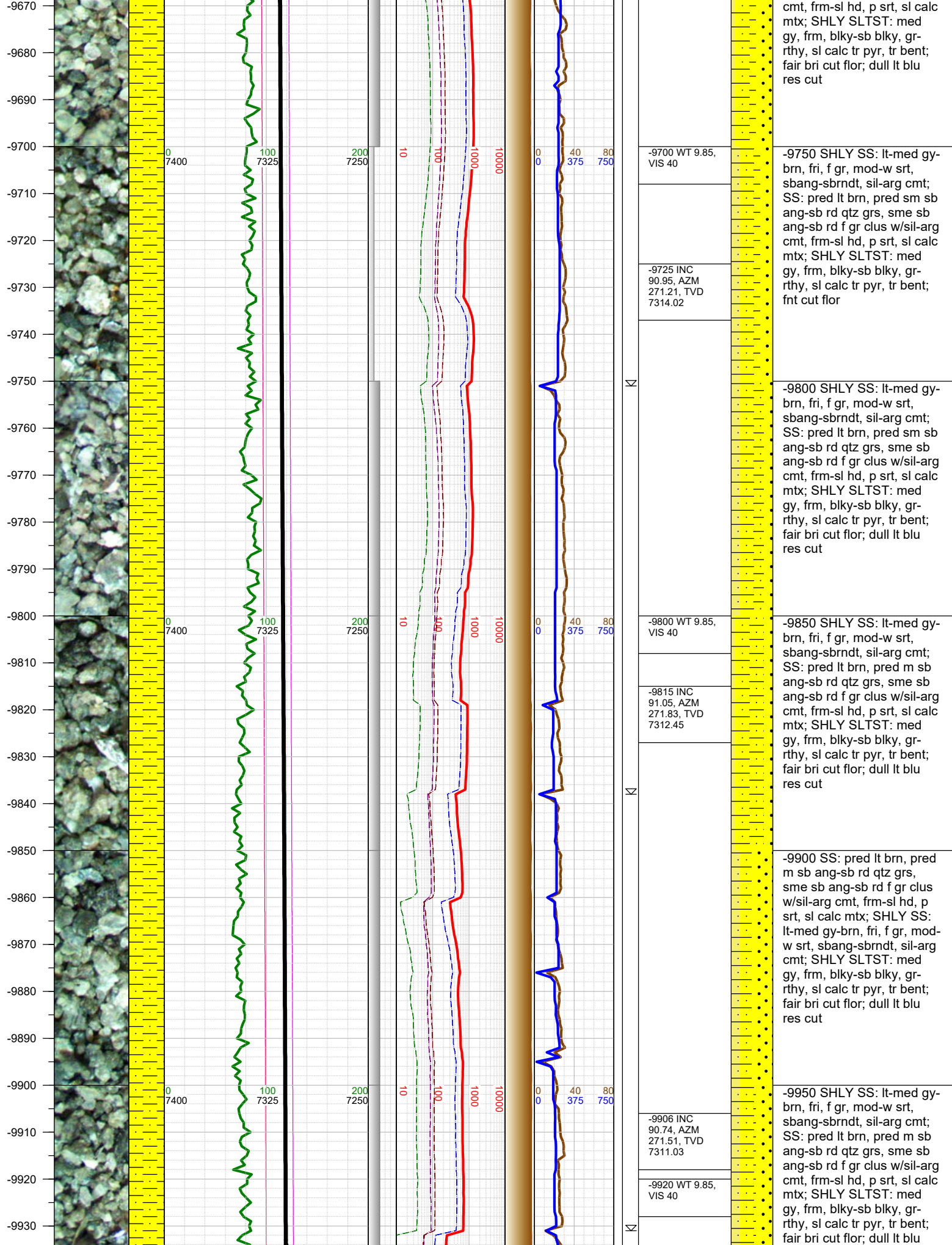
-9550 SHLY SS: lt-med gy-brn, fri, f gr, mod-w srt, sbang-sbrndt, sil-arg cmt; SS: pred lt brn, pred sm sb ang-sb rd qtz grs, sme sb ang-sb rd f gr clus w/sil-arg cmt, frm-sl hd, p srt, sl calc mtx; SHLY SLTST: med gy, frm, blkysb blkys, gr-rthy, sl calc tr pyr, tr bent; fair bri cut flor; dull lt blu res cut

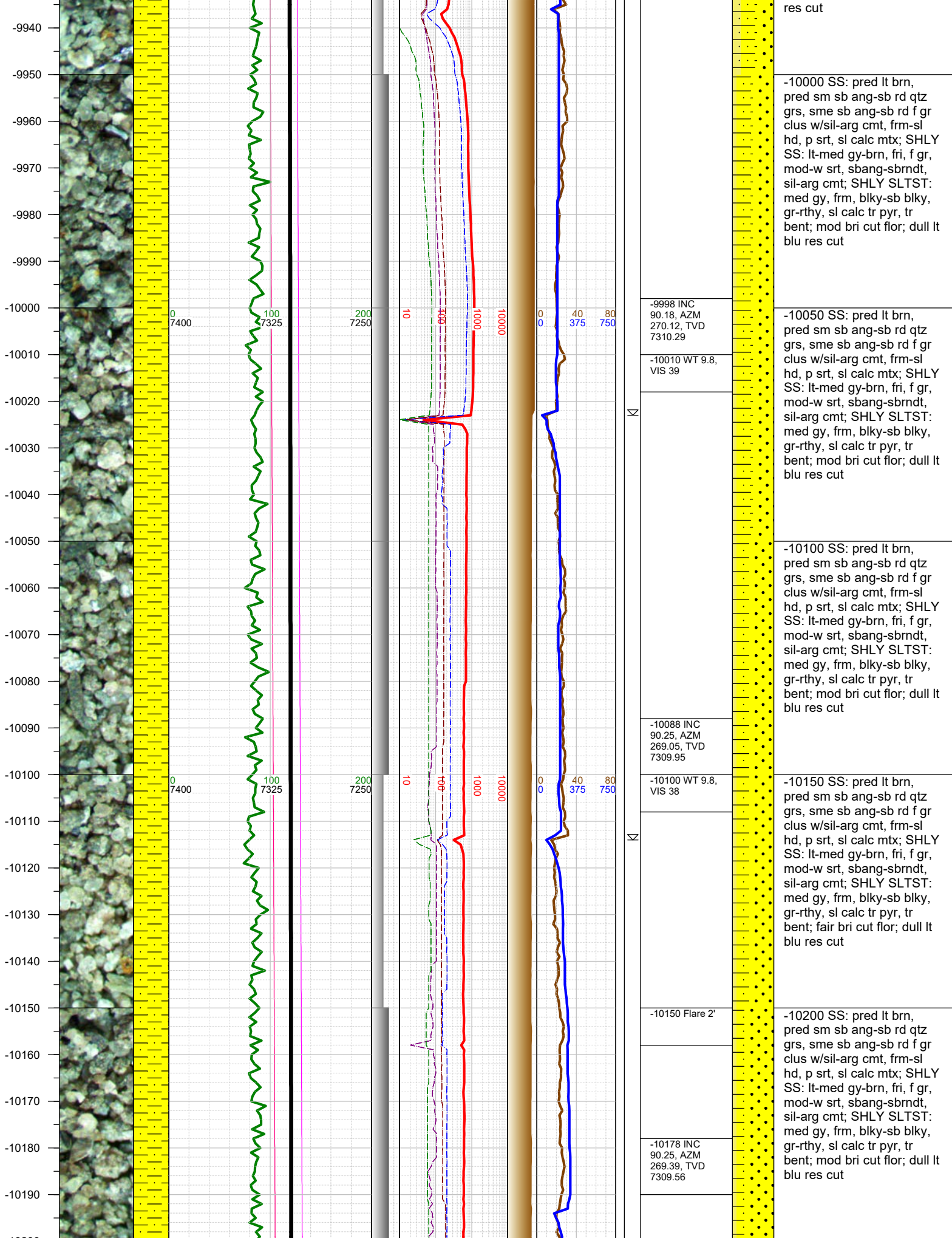
-9600 SHLY SS: lt-med gy-brn, fri, f gr, mod-w srt, sbang-sbrndt, sil-arg cmt; SS: pred lt brn, pred sm sb ang-sb rd qtz grs, sme sb ang-sb rd f gr clus w/sil-arg cmt, frm-sl hd, p srt, sl calc mtx; SHLY SLTST: med gy, frm, blkysb blkys, gr-rthy, sl calc tr pyr, tr bent; fair bri cut flor; dull lt blu res cut

-9650 SHLY SS: lt-med gy-brn, fri, f gr, mod-w srt, sbang-sbrndt, sil-arg cmt; SS: pred lt brn, pred sm sb ang-sb rd qtz grs, sme sb ang-sb rd f gr clus w/sil-arg cmt, frm-sl hd, p srt, sl calc mtx; SHLY SLTST: med gy, frm, blkysb blkys, gr-rthy, sl calc tr pyr, tr bent; fair bri cut flor; dull lt blu res cut

-9700 SHLY SS: lt-med gy-brn, fri, f gr, mod-w srt, sbang-sbrndt, sil-arg cmt; SS: pred lt brn, pred sm sb ang-sb rd qtz grs, sme sb ang-sb rd f gr clus w/sil-arg







res cut

-10000 SS: pred lt brn, pred sm sb ang-sb rd qtz grs, sme sb ang-sb rd f gr clus w/sil-arg cmt, frm-sl hd, p srt, sl calc mtz; SHLY SS: lt-med gy-brn, fri, f gr, mod-w srt, sbang-sbrndt, sil-arg cmt; SHLY SLTST: med gy, frm, blk-sb blk, gr-rthy, sl calc tr pyr, tr bent; mod bri cut flr; dull lt blu res cut

-10050 SS: pred lt brn, pred sm sb ang-sb rd qtz grs, sme sb ang-sb rd f gr clus w/sil-arg cmt, frm-sl hd, p srt, sl calc mtz; SHLY SS: lt-med gy-brn, fri, f gr, mod-w srt, sbang-sbrndt, sil-arg cmt; SHLY SLTST: med gy, frm, blk-sb blk, gr-rthy, sl calc tr pyr, tr bent; mod bri cut flr; dull lt blu res cut

-10100 SS: pred lt brn, pred sm sb ang-sb rd qtz grs, sme sb ang-sb rd f gr clus w/sil-arg cmt, frm-sl hd, p srt, sl calc mtz; SHLY SS: lt-med gy-brn, fri, f gr, mod-w srt, sbang-sbrndt, sil-arg cmt; SHLY SLTST: med gy, frm, blk-sb blk, gr-rthy, sl calc tr pyr, tr bent; mod bri cut flr; dull lt blu res cut

-10150 SS: pred lt brn, pred sm sb ang-sb rd qtz grs, sme sb ang-sb rd f gr clus w/sil-arg cmt, frm-sl hd, p srt, sl calc mtz; SHLY SS: lt-med gy-brn, fri, f gr, mod-w srt, sbang-sbrndt, sil-arg cmt; SHLY SLTST: med gy, frm, blk-sb blk, gr-rthy, sl calc tr pyr, tr bent; fair bri cut flr; dull lt blu res cut

-10200 SS: pred lt brn, pred sm sb ang-sb rd qtz grs, sme sb ang-sb rd f gr clus w/sil-arg cmt, frm-sl hd, p srt, sl calc mtz; SHLY SS: lt-med gy-brn, fri, f gr, mod-w srt, sbang-sbrndt, sil-arg cmt; SHLY SLTST: med gy, frm, blk-sb blk, gr-rthy, sl calc tr pyr, tr bent; mod bri cut flr; dull lt blu res cut

-9998 INC  
90.18, AZM  
270.12, TVD  
7310.29

-10010 WT 9.8,  
VIS 39

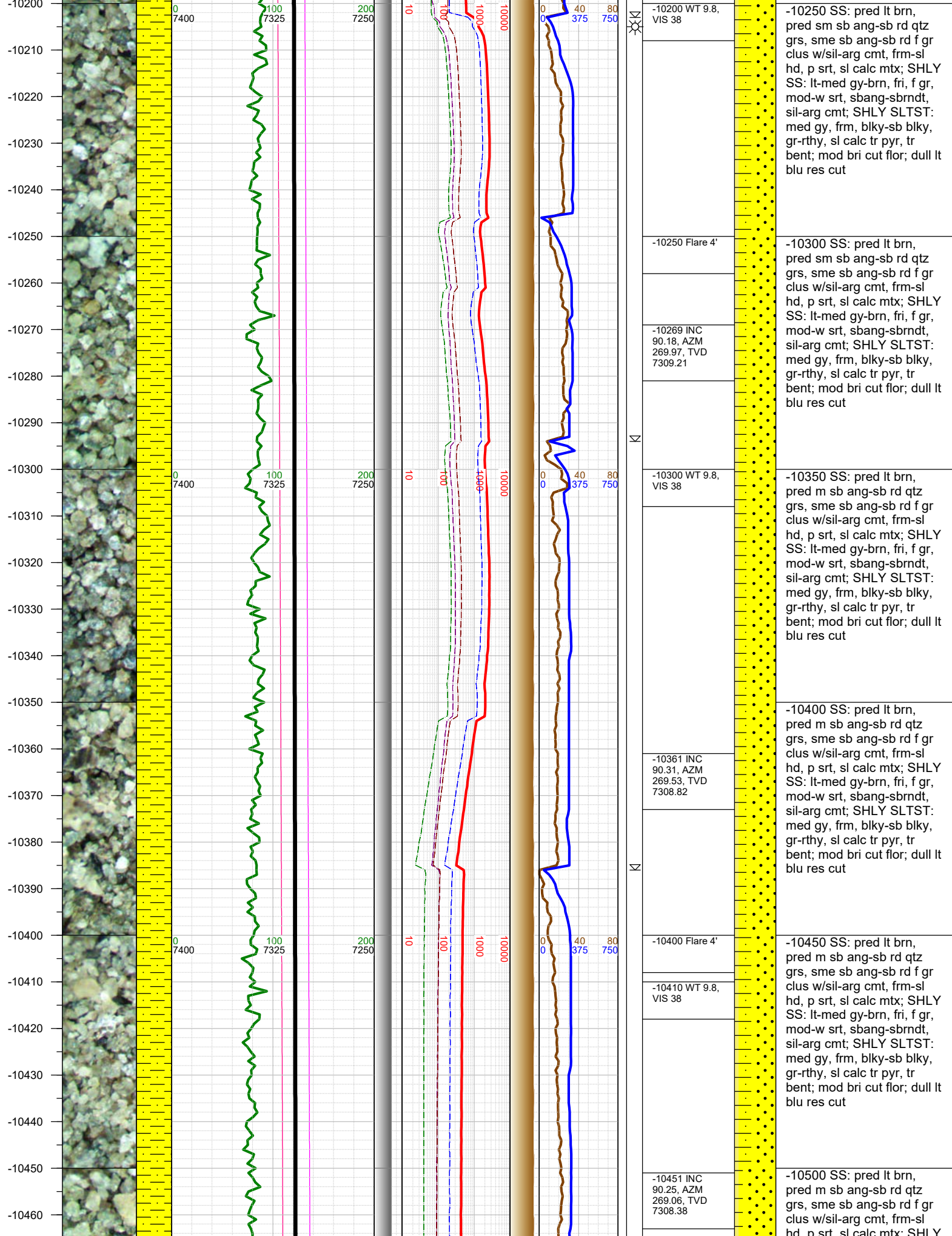
-10088 INC  
90.25, AZM  
269.05, TVD  
7309.95

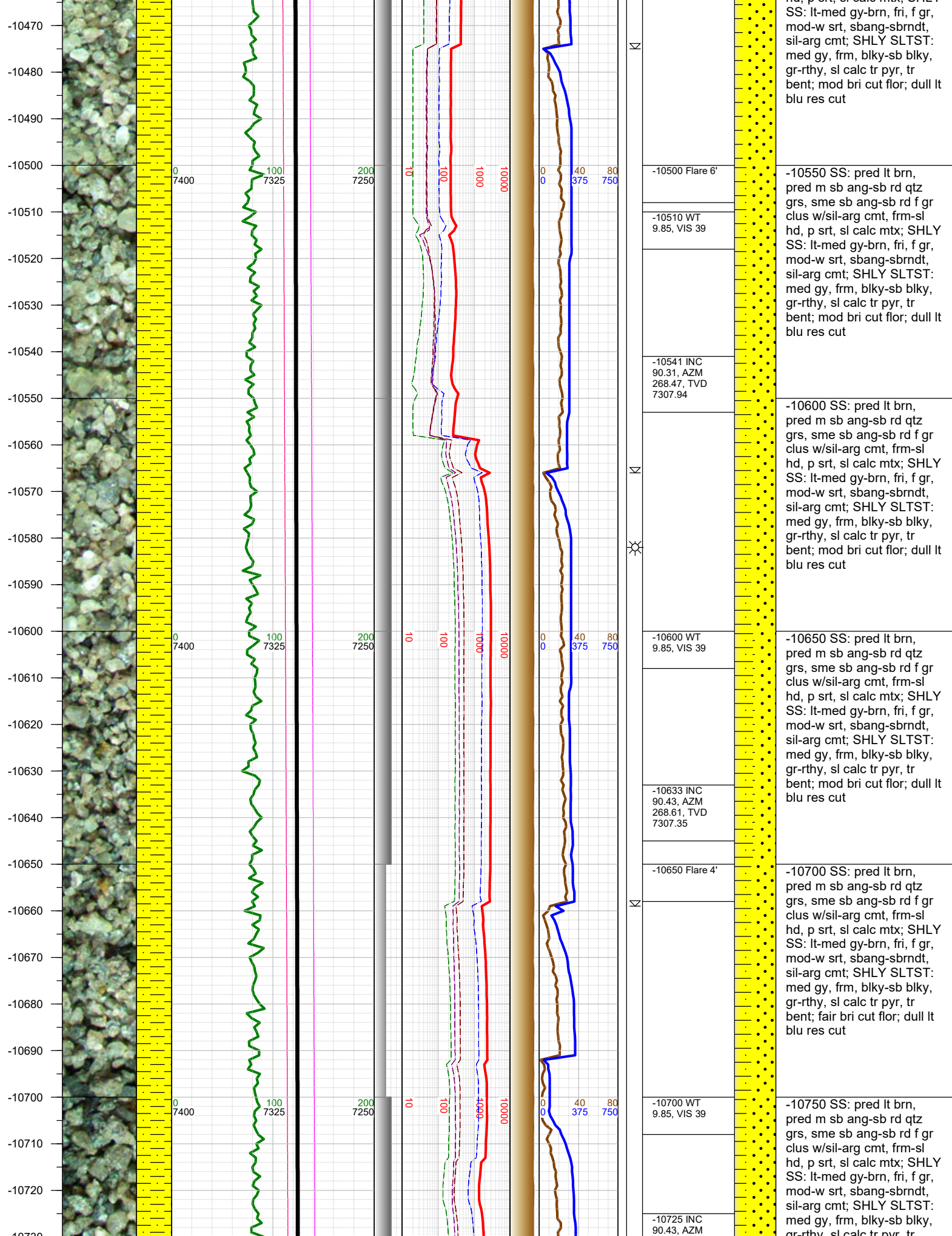
-10100 WT 9.8,  
VIS 38

-10150 Flare 2'

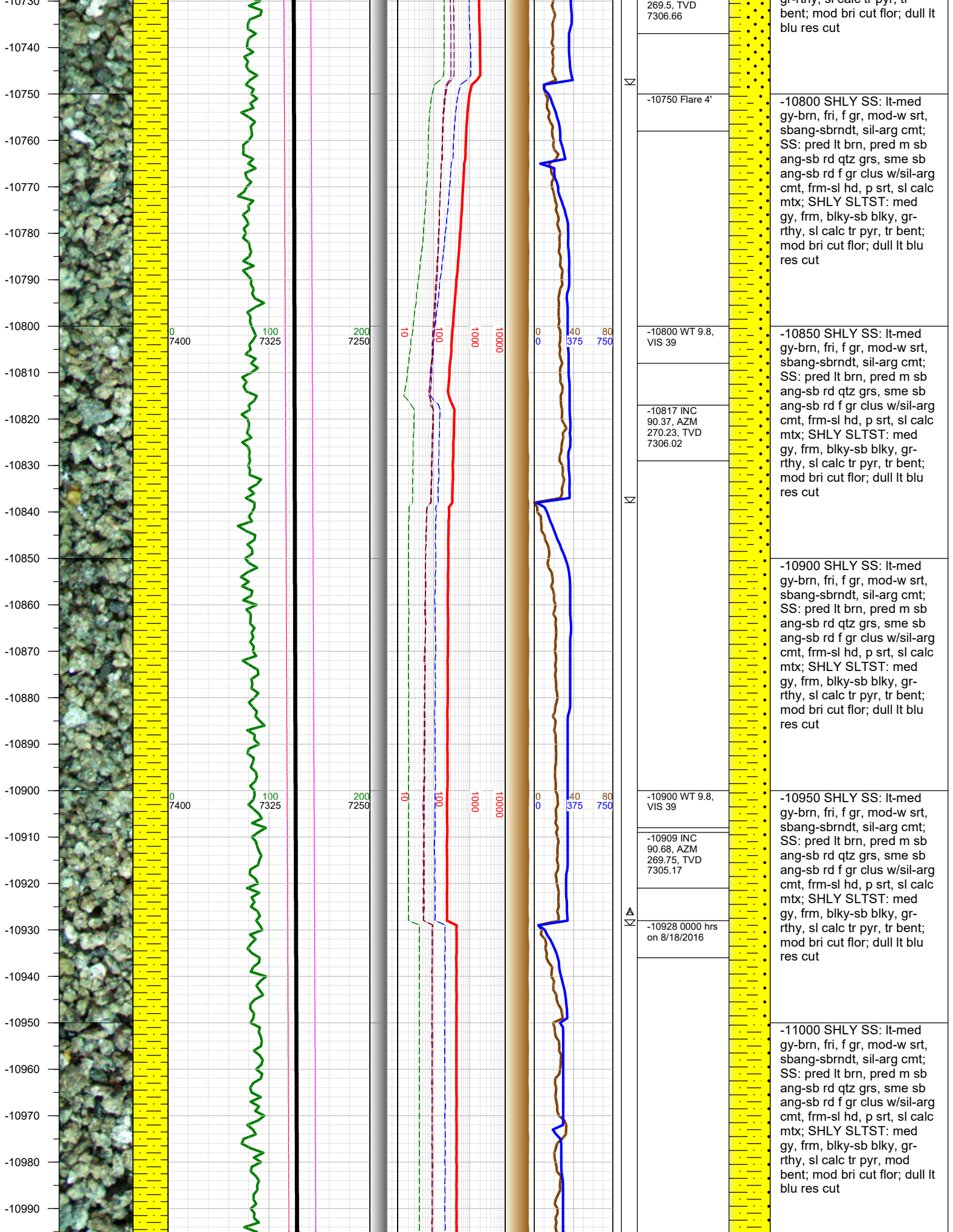
-10178 INC  
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269.39, TVD  
7309.56

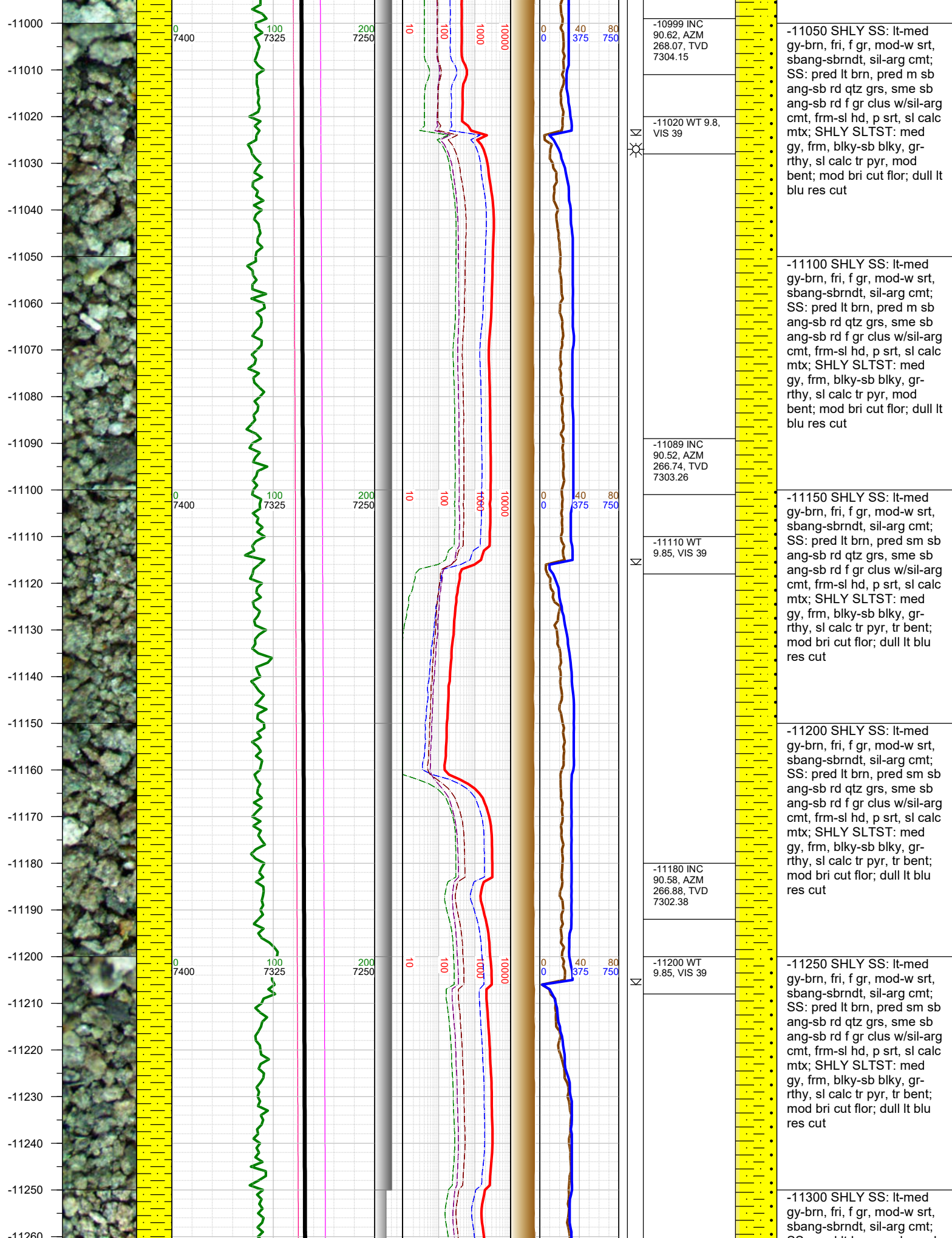




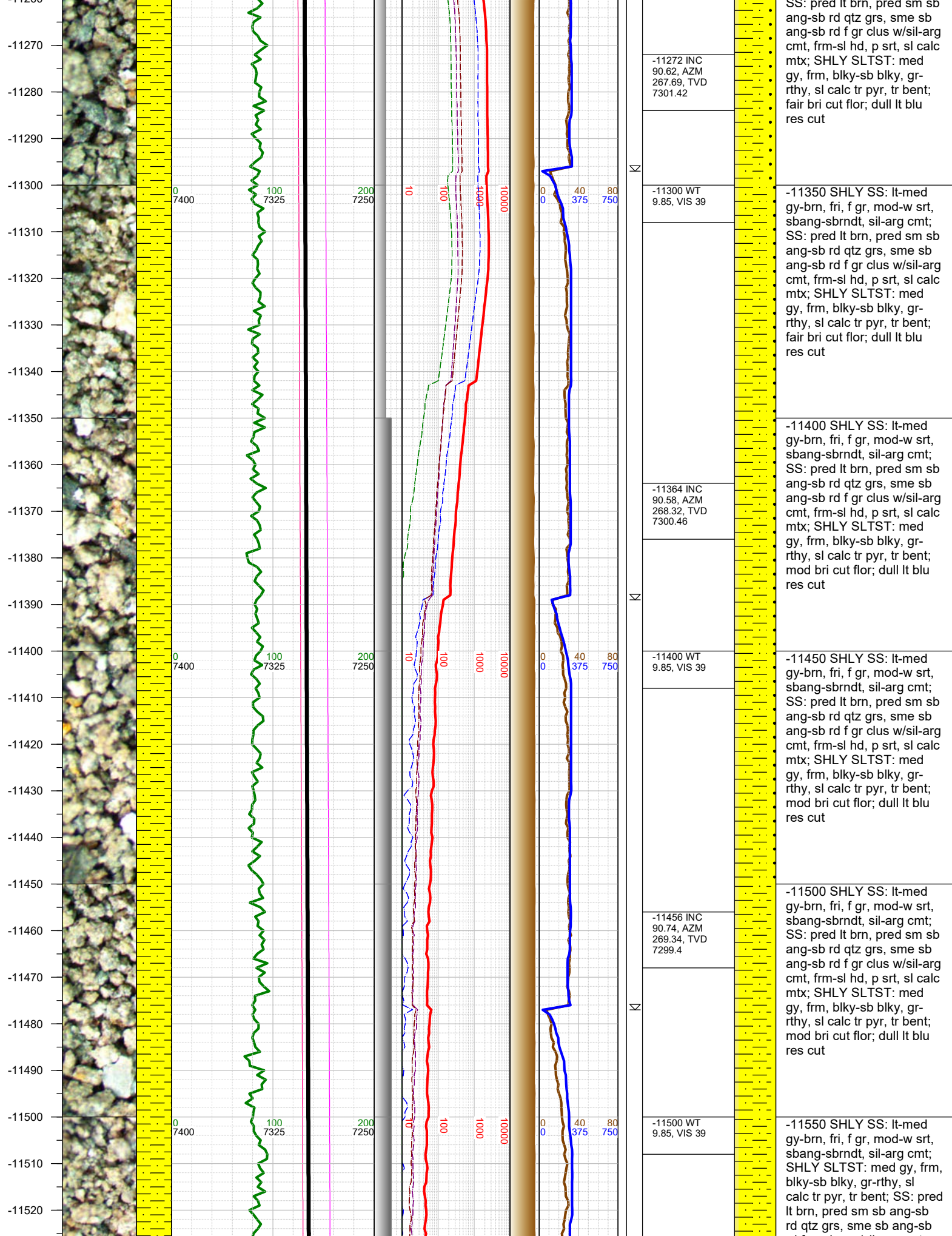


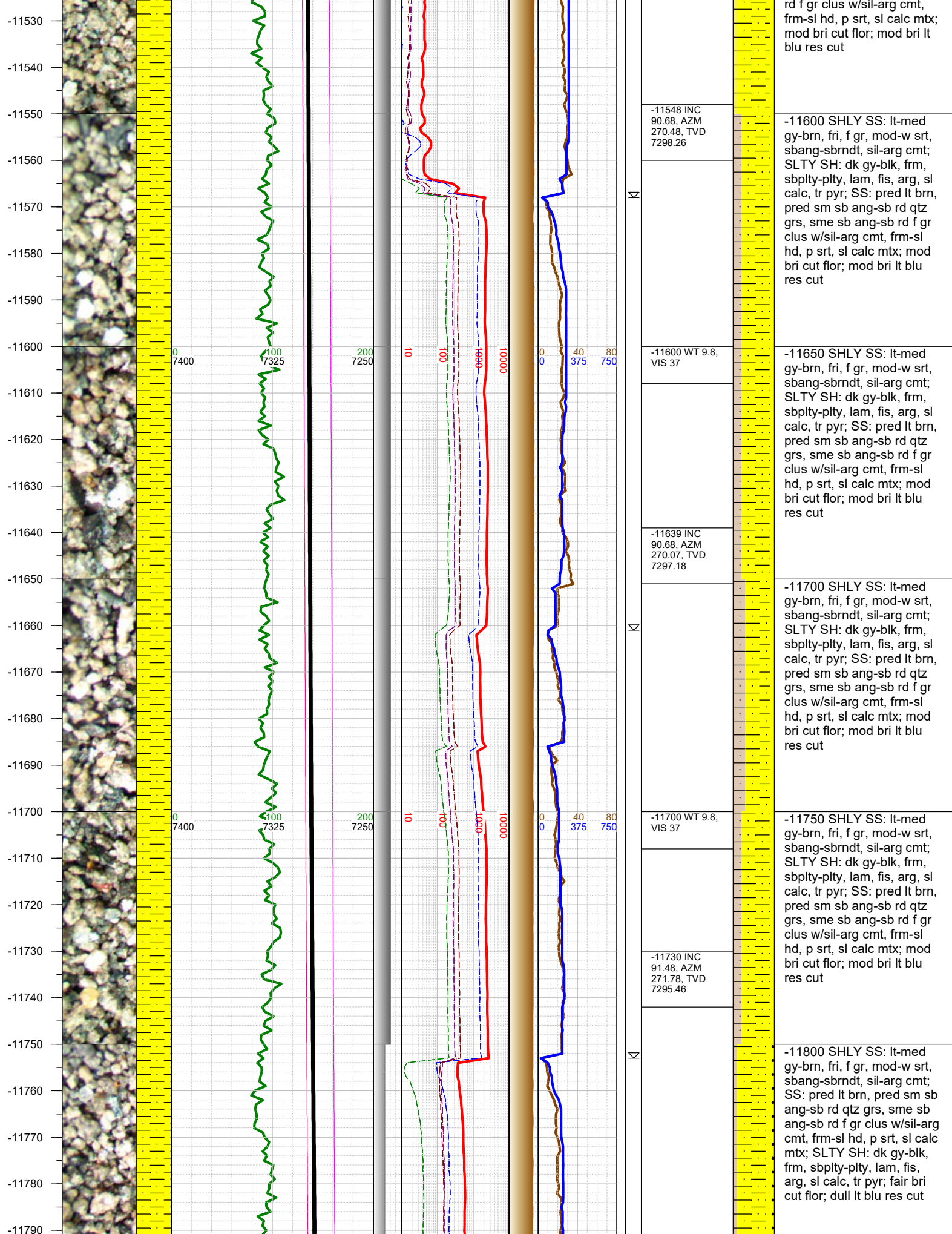




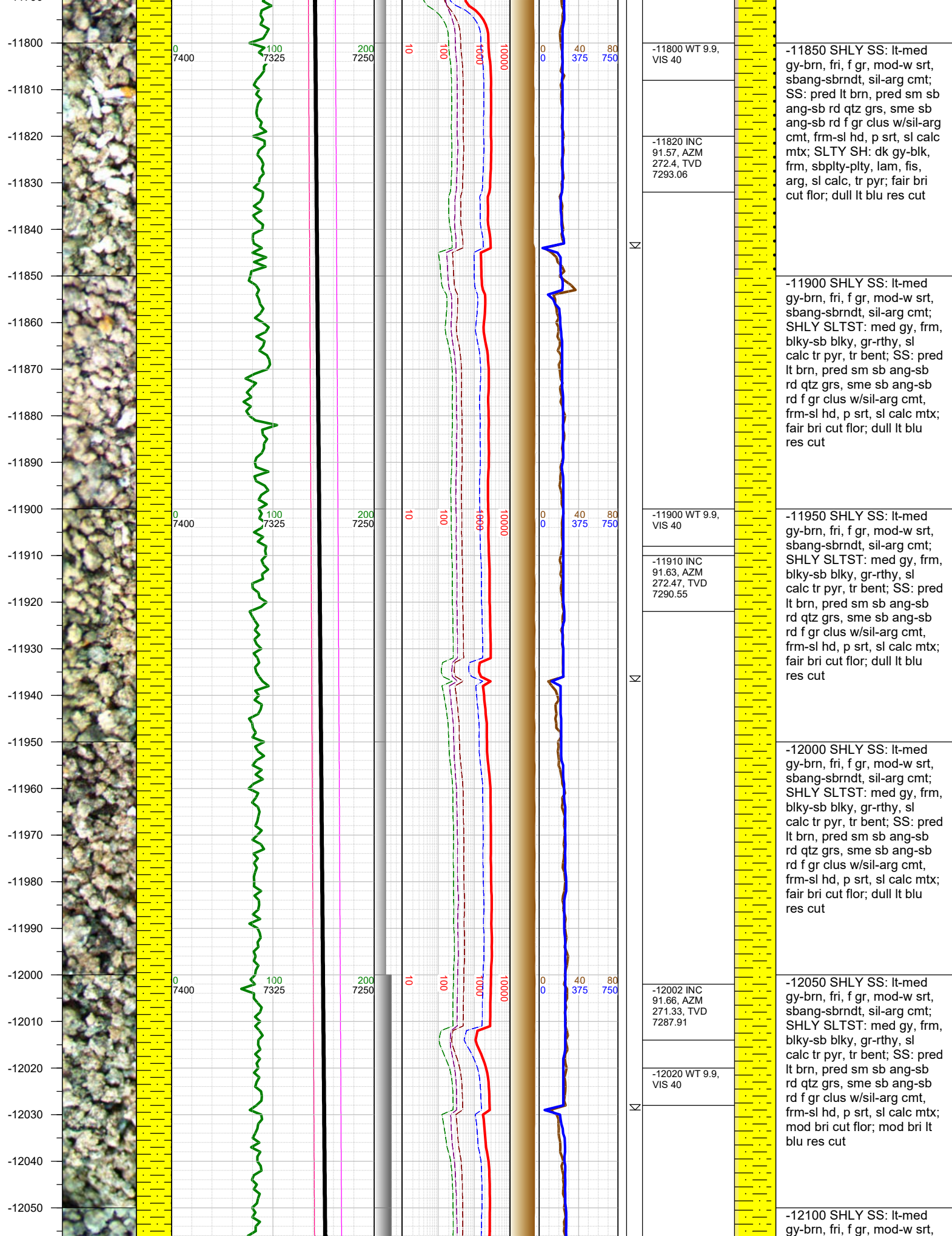


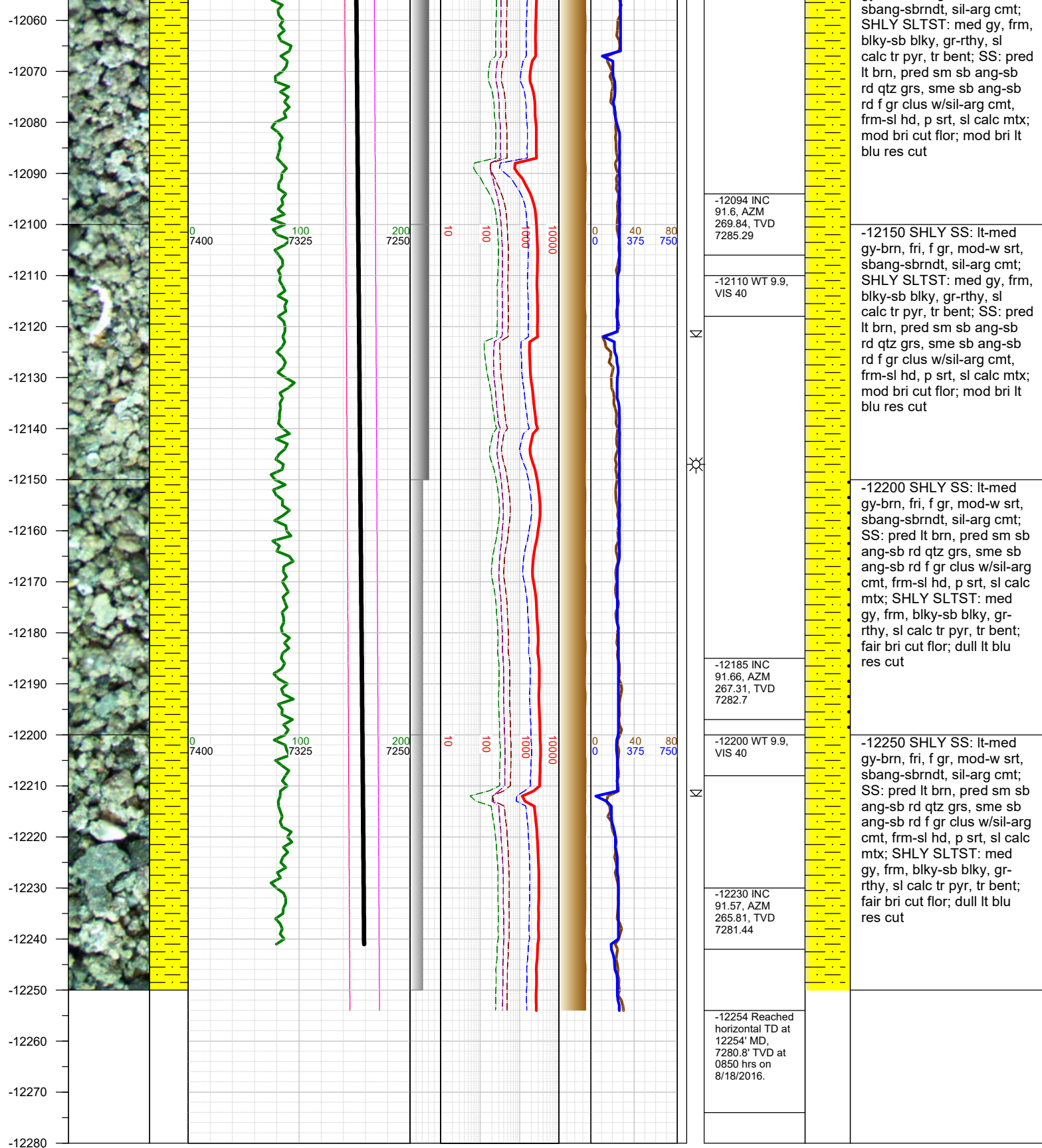












TOTAL DEPTH = 12254'

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