

OPERATOR: **Extraction Oil & Gas**

WELL NAME: **Launer 12N**

FIELD NAME: DJ Basin - Wattenberg

DRILLING RIG: Patterson 346

API #: 05-123-45178

LAT/LONG: 40.539624, -104.852607

SURFACE HOLE: SESE S26-T7N-R67W, 630' FSL, 459' FEL

BOTTOM HOLE: S27-T7N-R67W, 254' FSL, 2561' FEL



Earth Science Agency, LLC

COUNTY: Weld

STATE: Colorado

GROUND ELEVATION: 4926'

KELLY BUSHING: 4951'

DRILLING FLUID: OBM

TVD VS. MD: 7003' / 14580'

SPUD DATE: November 13, 2017

TD DATE: November 16, 2017

DEPTHS LOGGED: 6000' - 14580'

DATES LOGGED: November 14, 2017 - November 16, 2017

GEOLOGISTS: Brian Whitfield, Ross Apodaca

SCALE: 5" = 100'

#### LEGEND

CHALK

LIMESTONE

SHALY LIMESTONE

MARLSTONE

CALCAREOUS SHALE

DOLOMITE

SHALE

SILTY SHALE

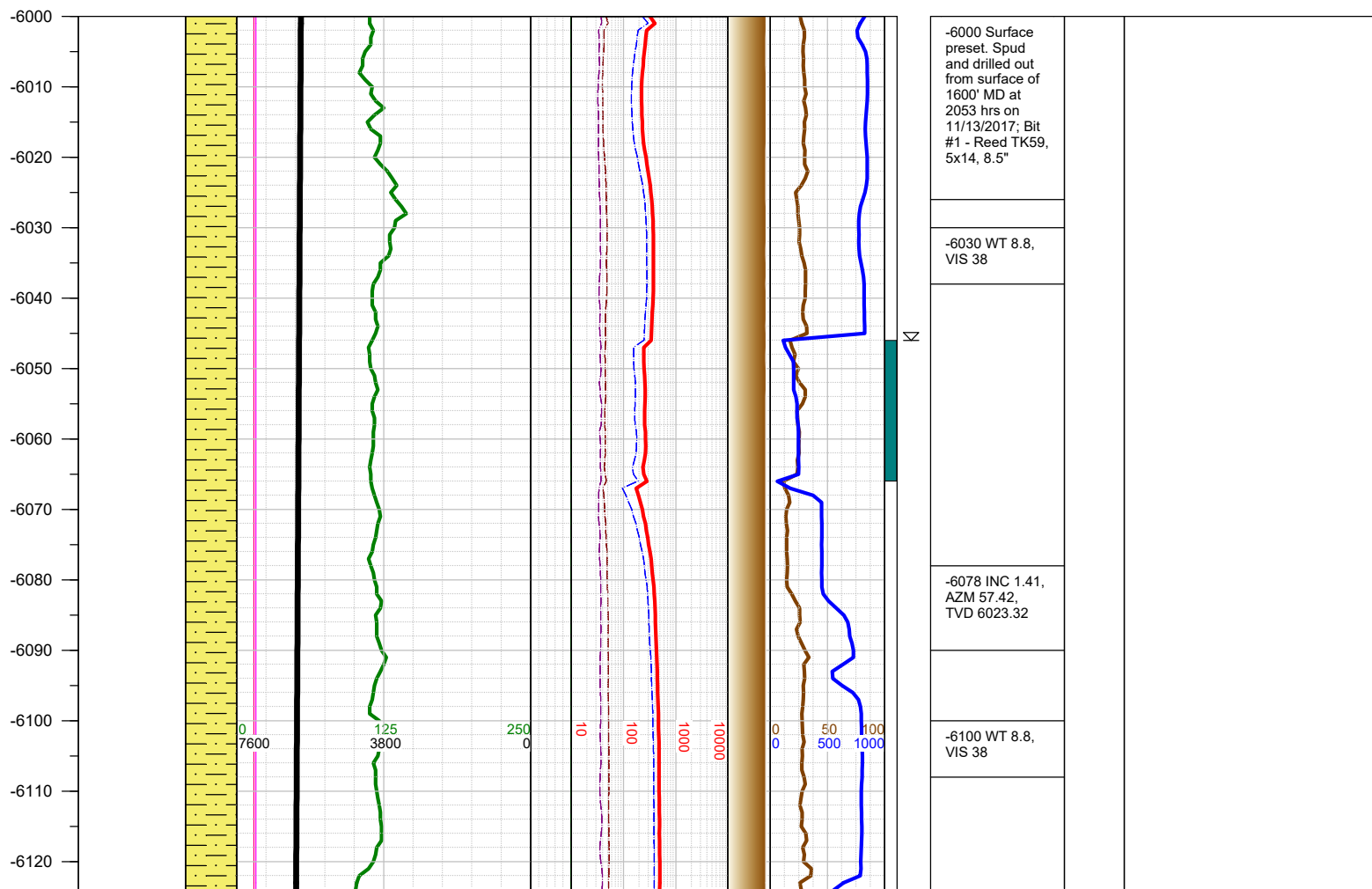
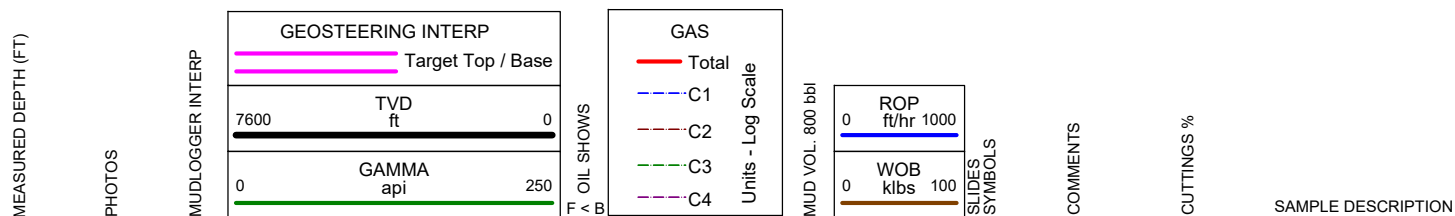
SHALY SILTSTONE

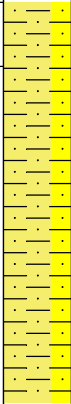
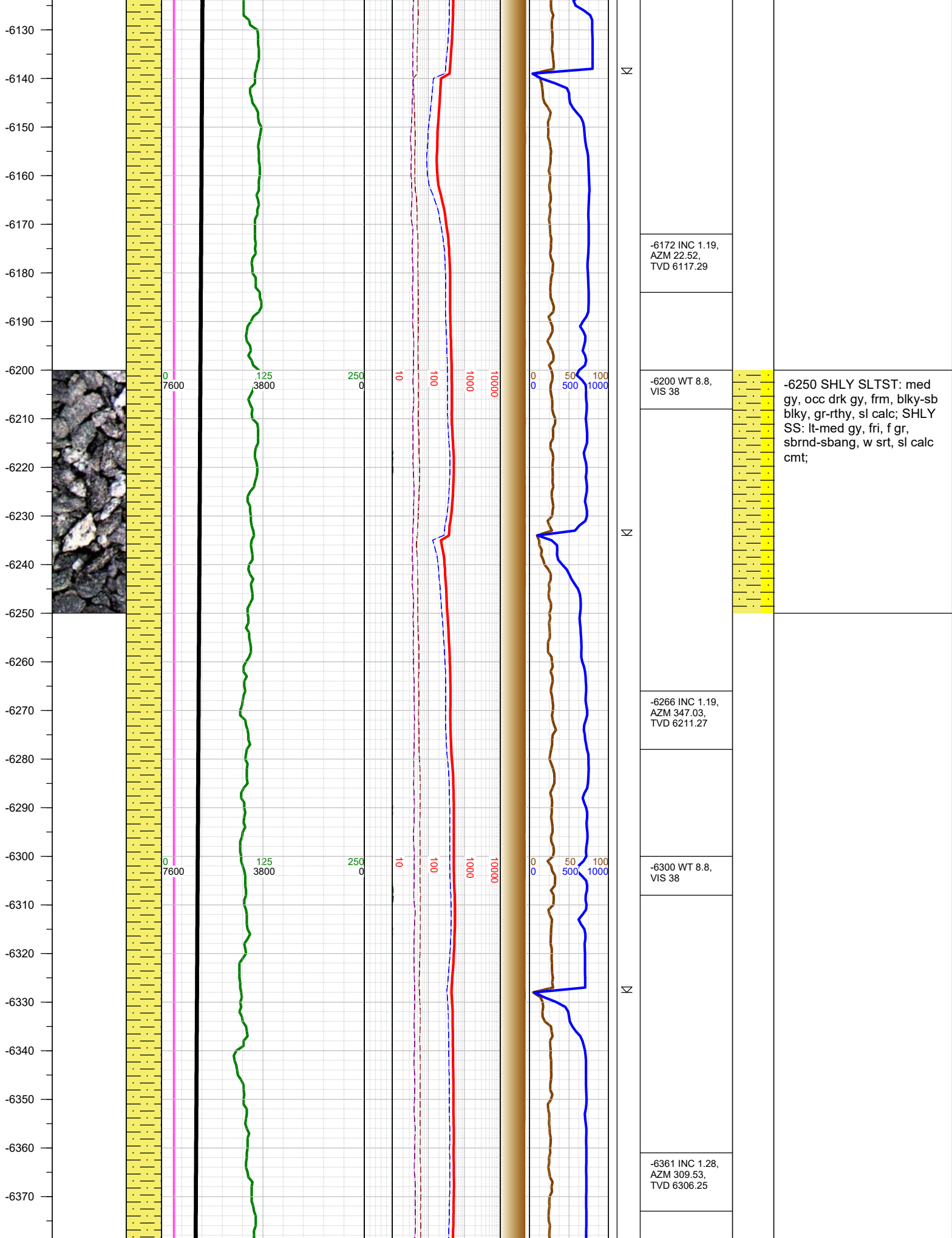
SHALY SANDSTONE

SANDSTONE

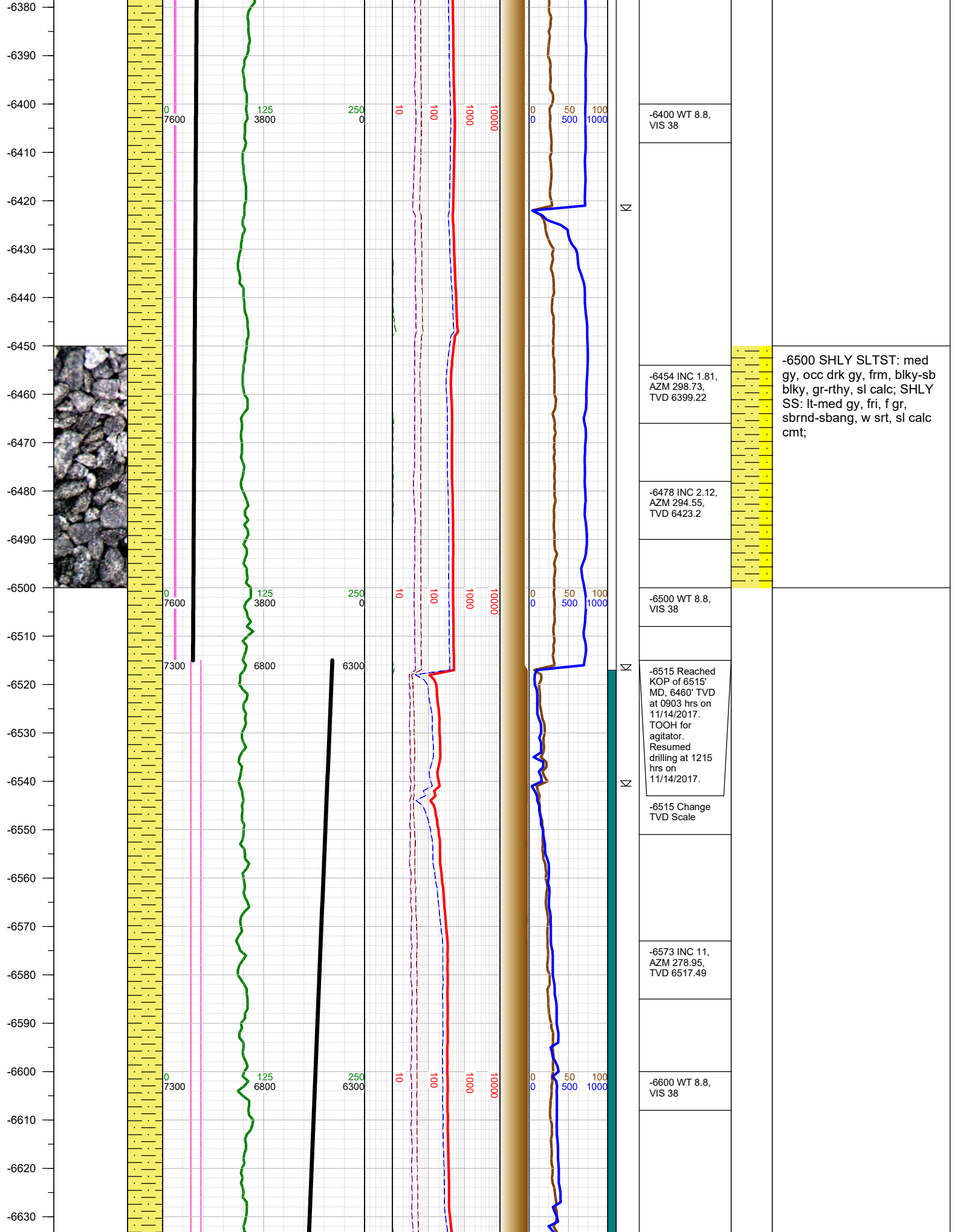
ANHYDRITE

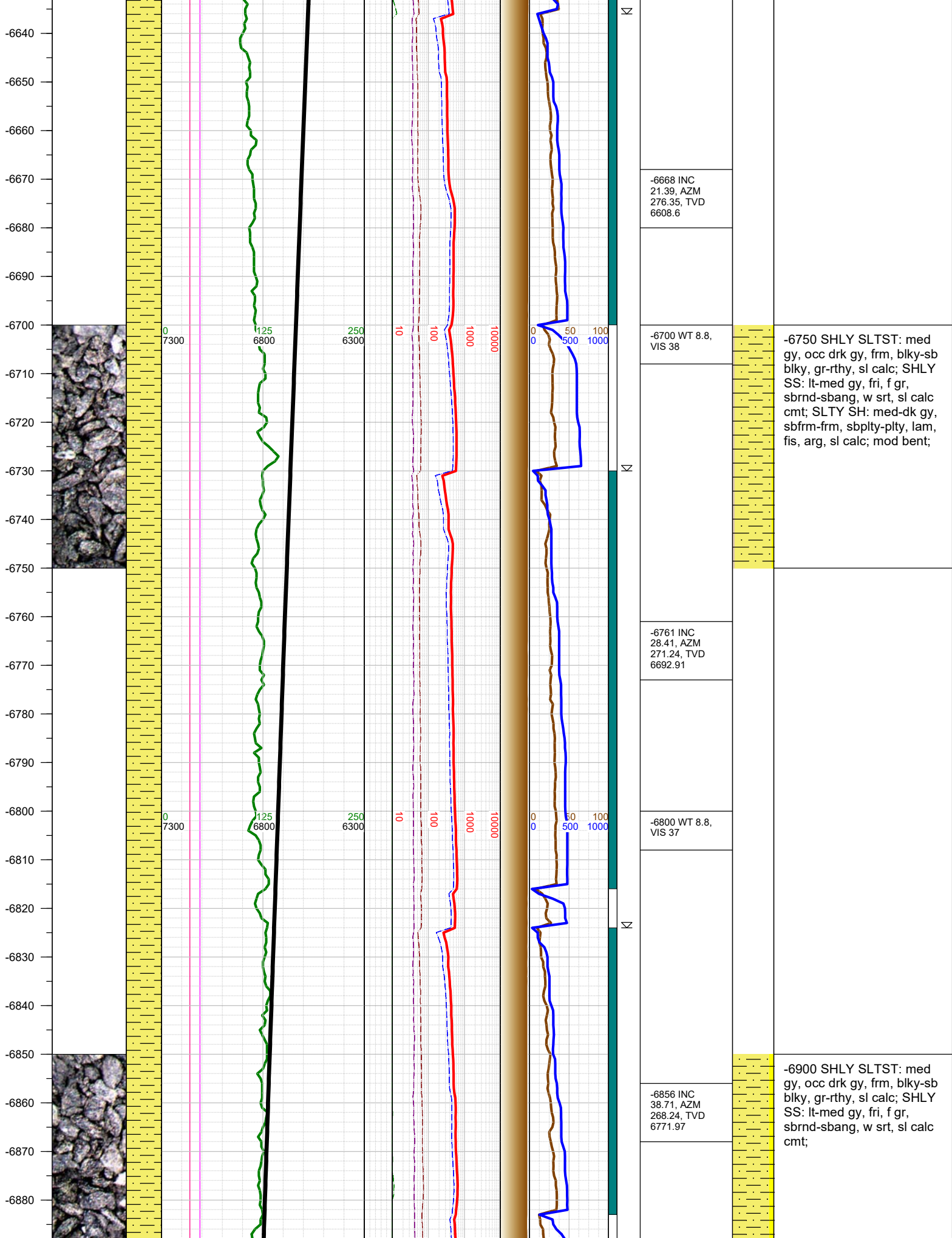
FORMATION  $\approx$  CONNECTION  $\Delta$  MIDNIGHT NEW BIT GAS SHOW FAULT



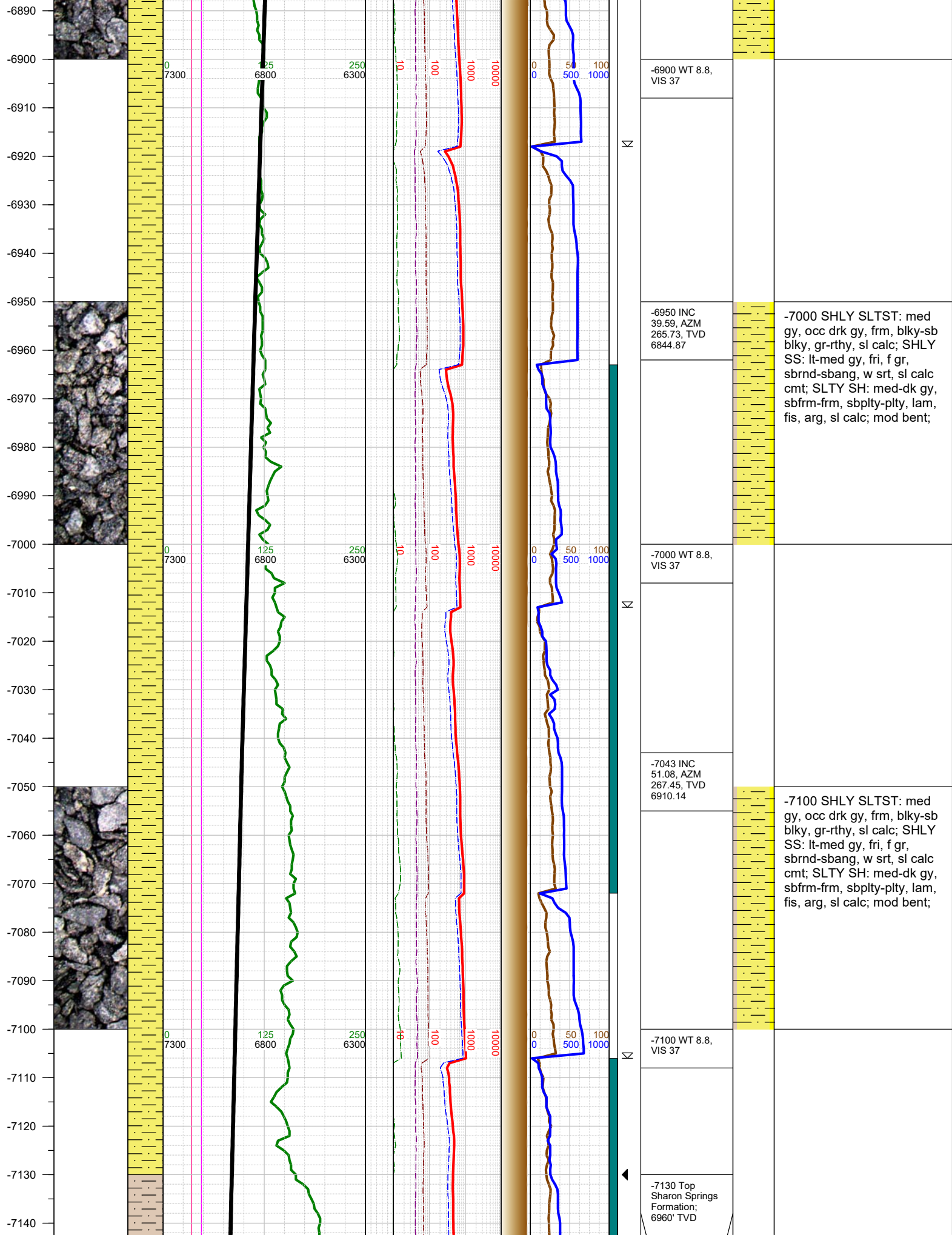


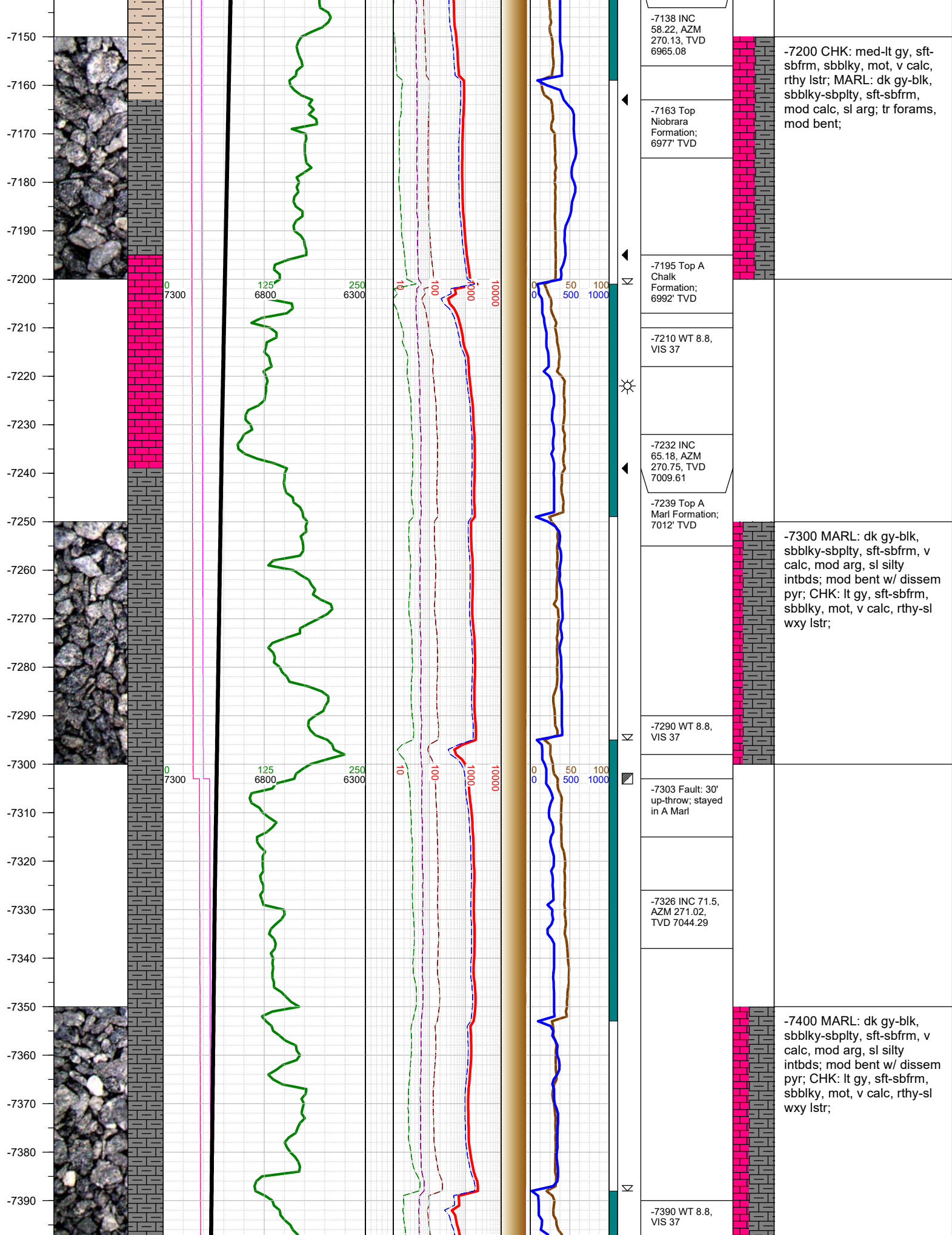
-6250 SHLY SLTST: med gy, occ drk gy, frm, blk-sb blk, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt;

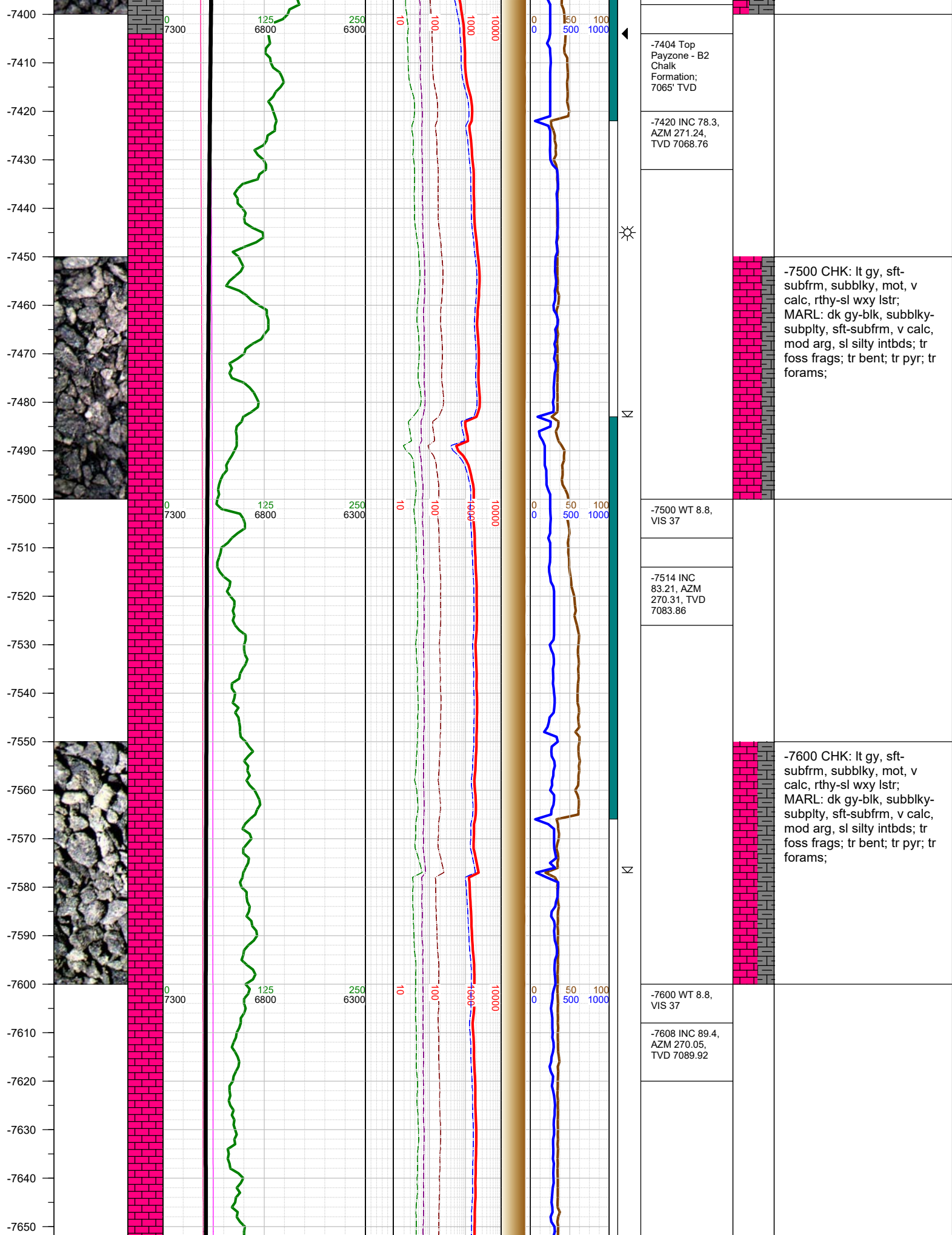




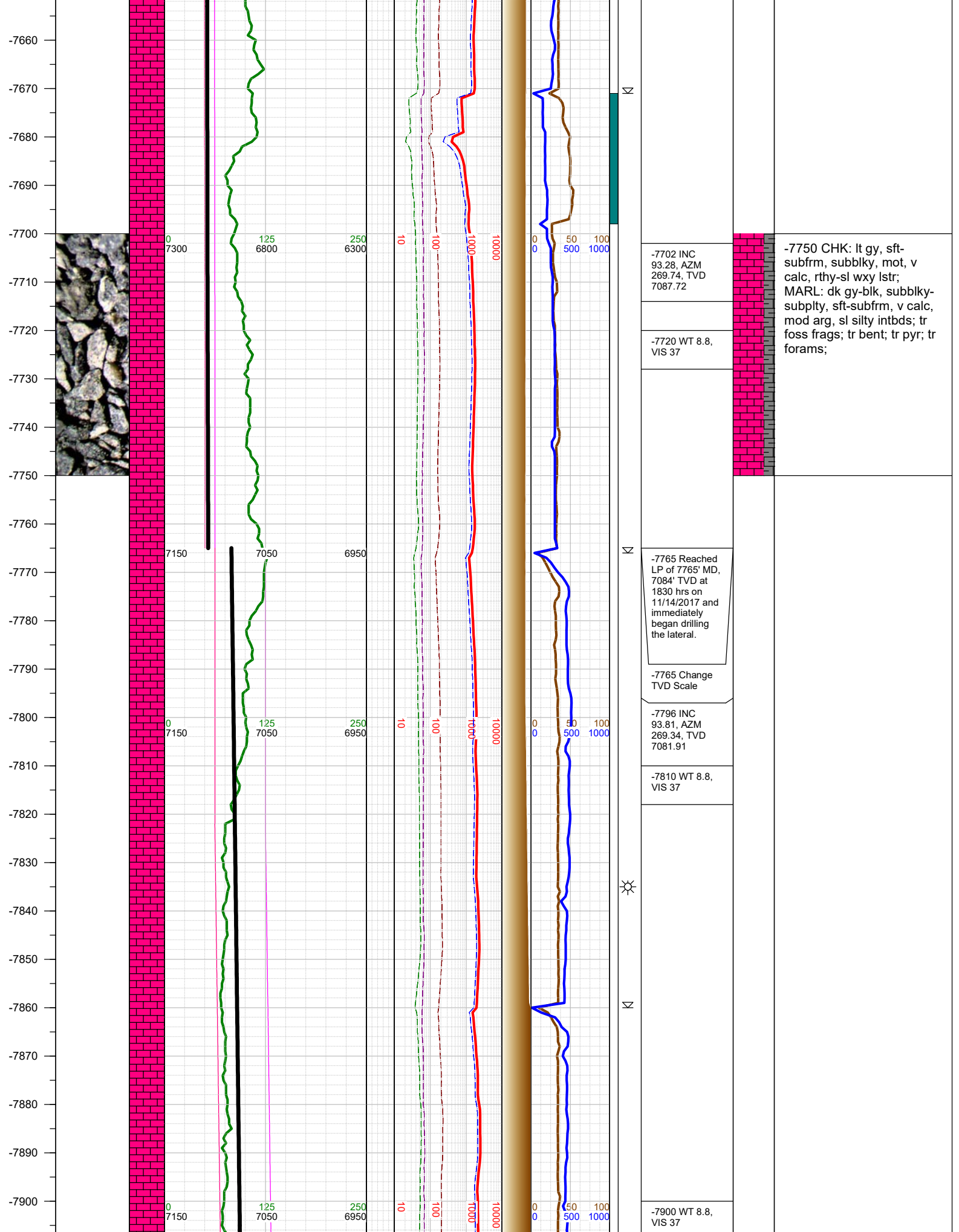




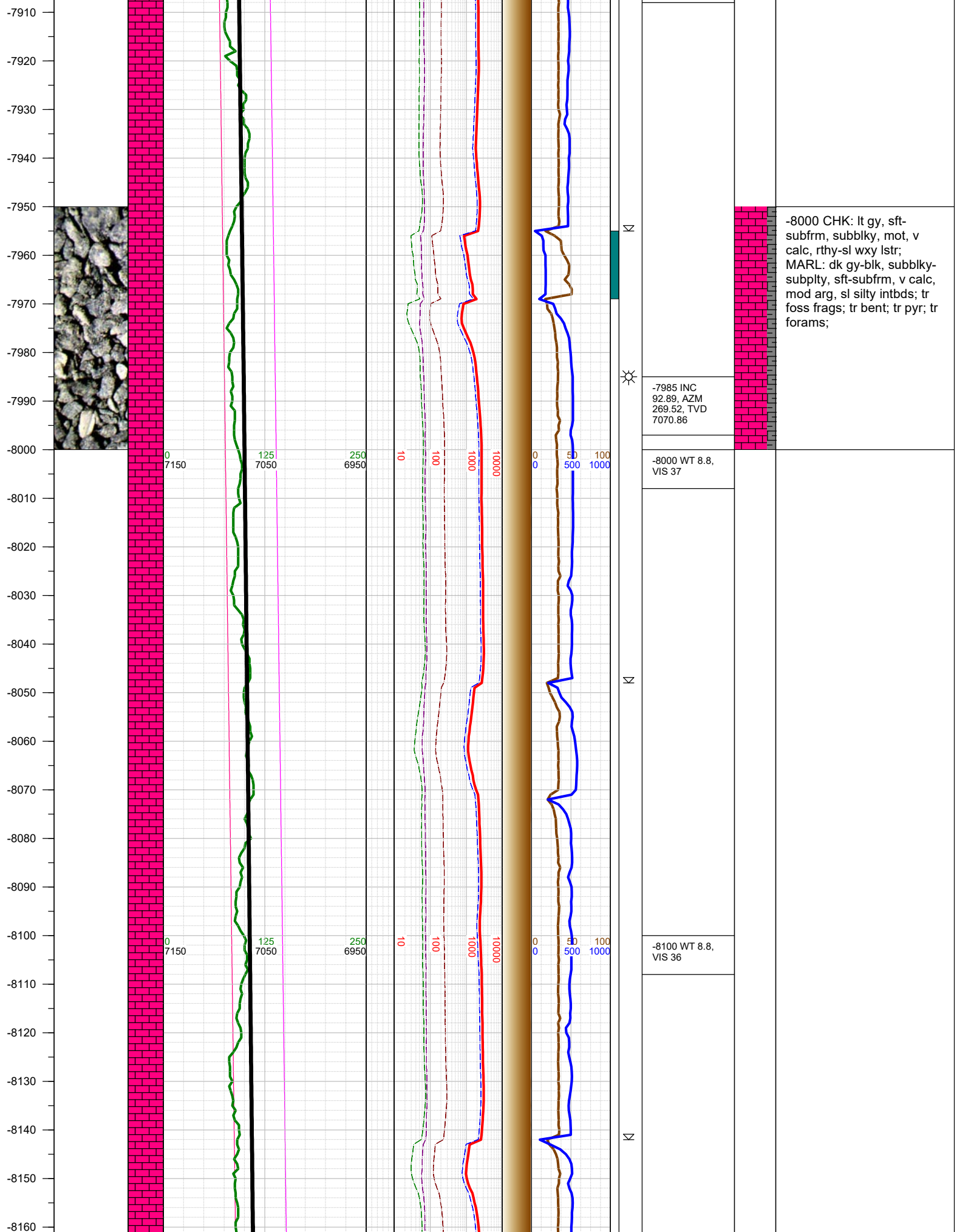


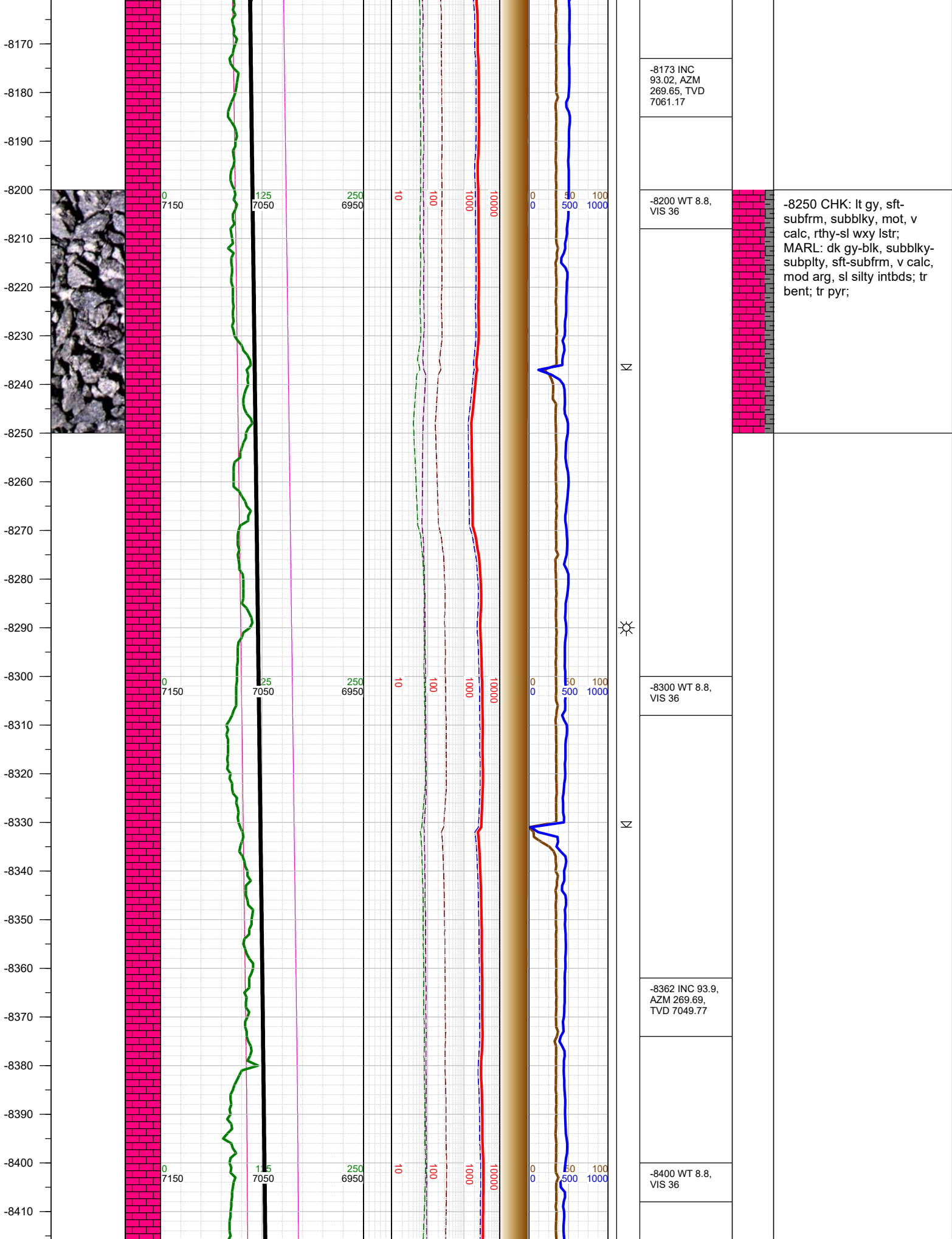




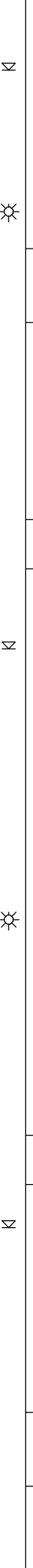
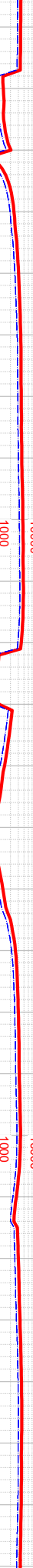
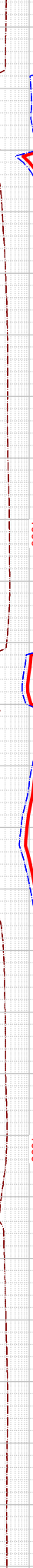
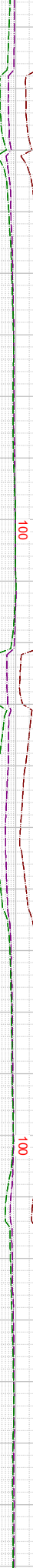
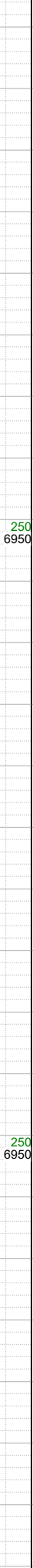
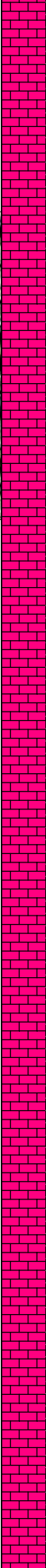








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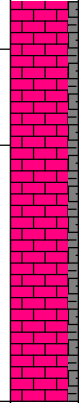
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-8456 INC  
92.18, AZM  
269.21, TVD  
7044.78

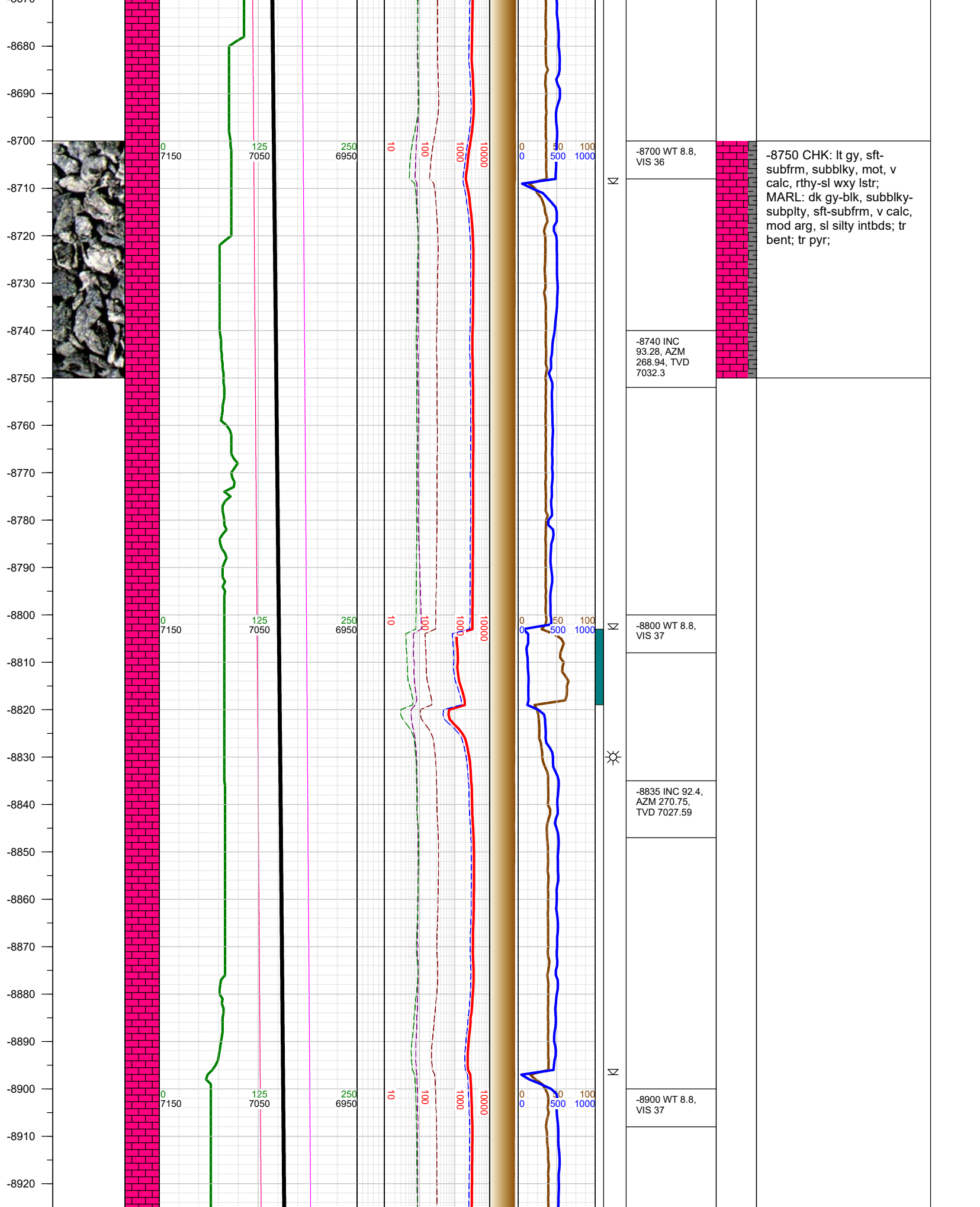
-8500 WT 8.8,  
VIS 36

-8600 WT 8.8,  
VIS 36

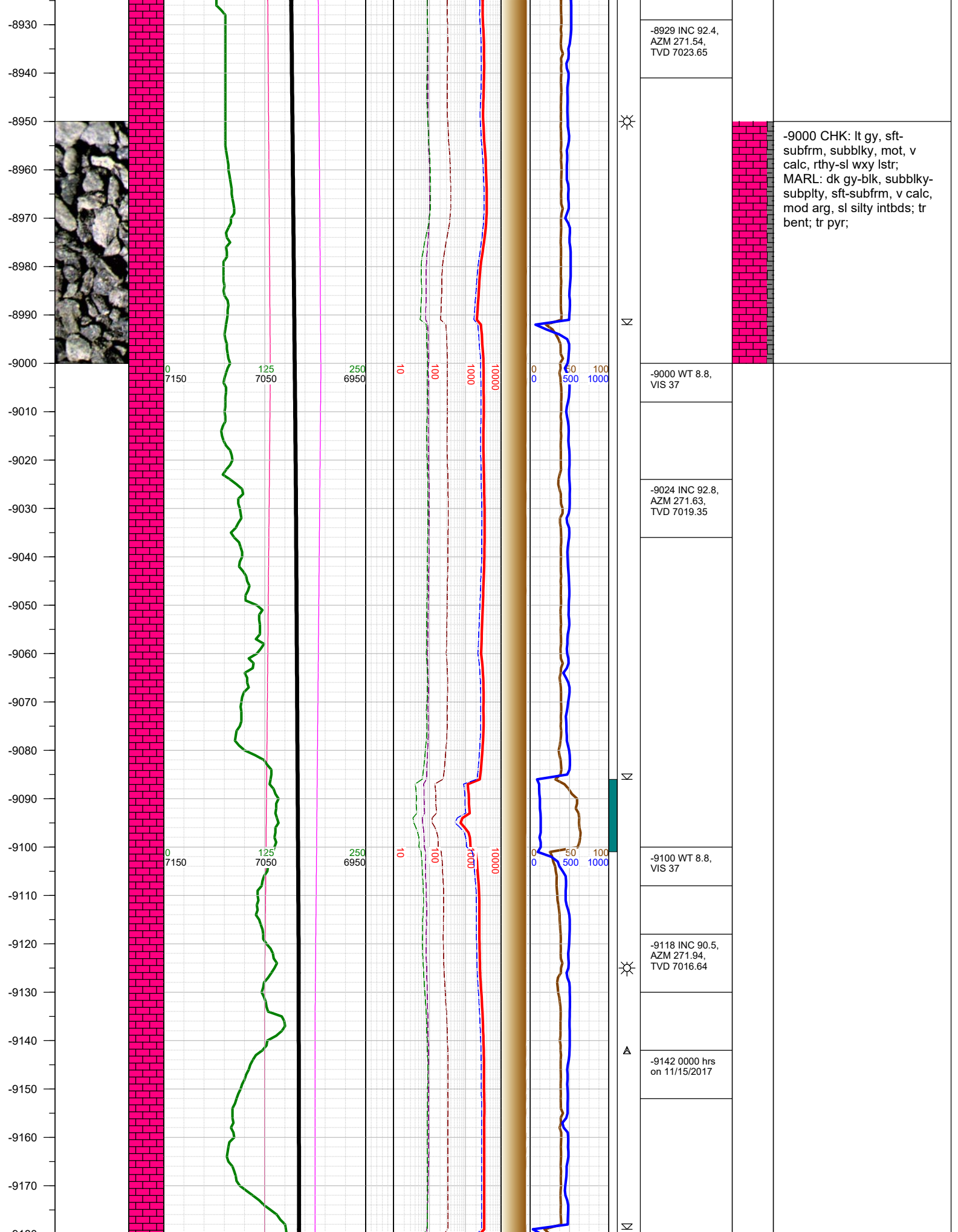
-8645 INC  
92.49, AZM  
269.12, TVD  
7037.08

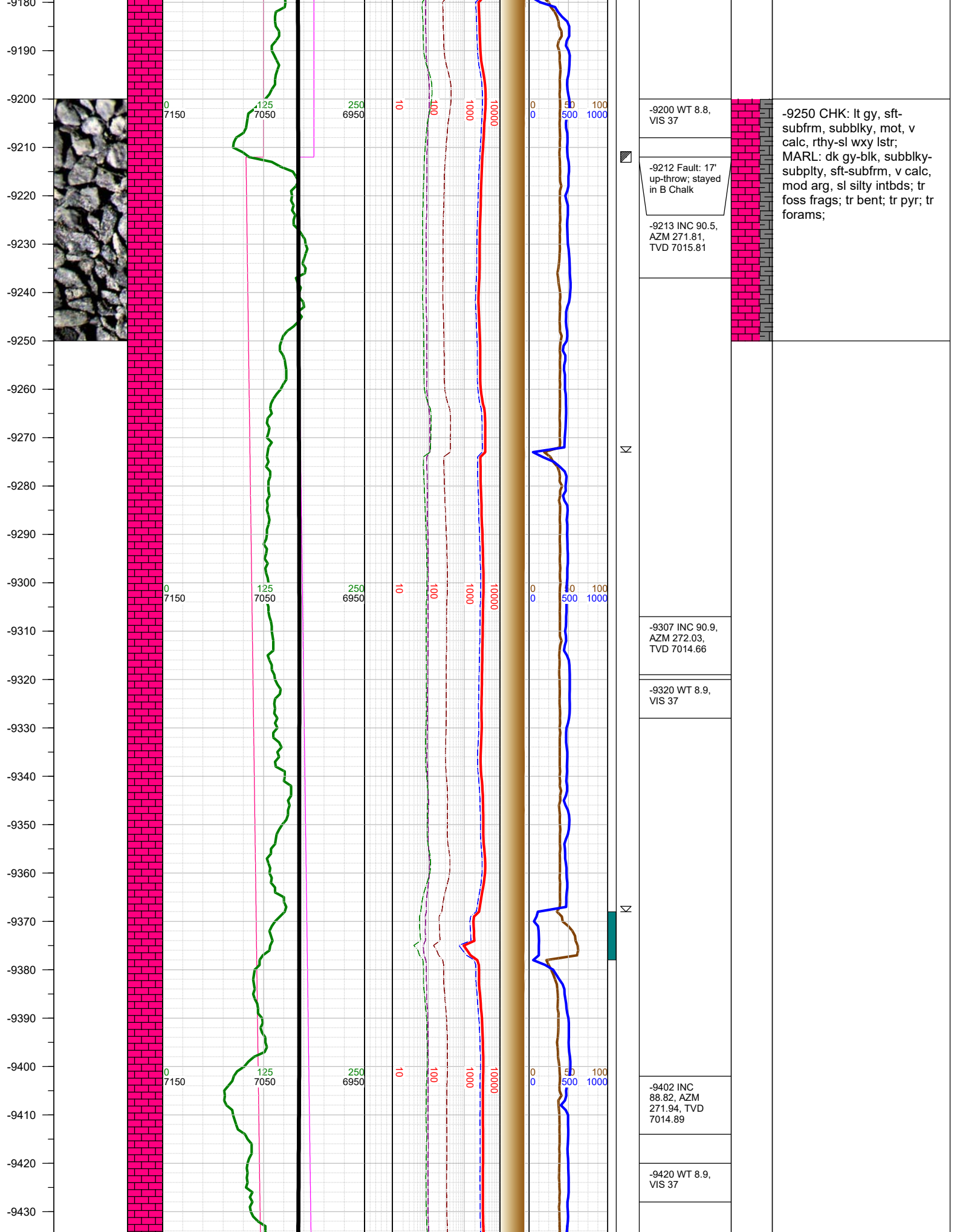


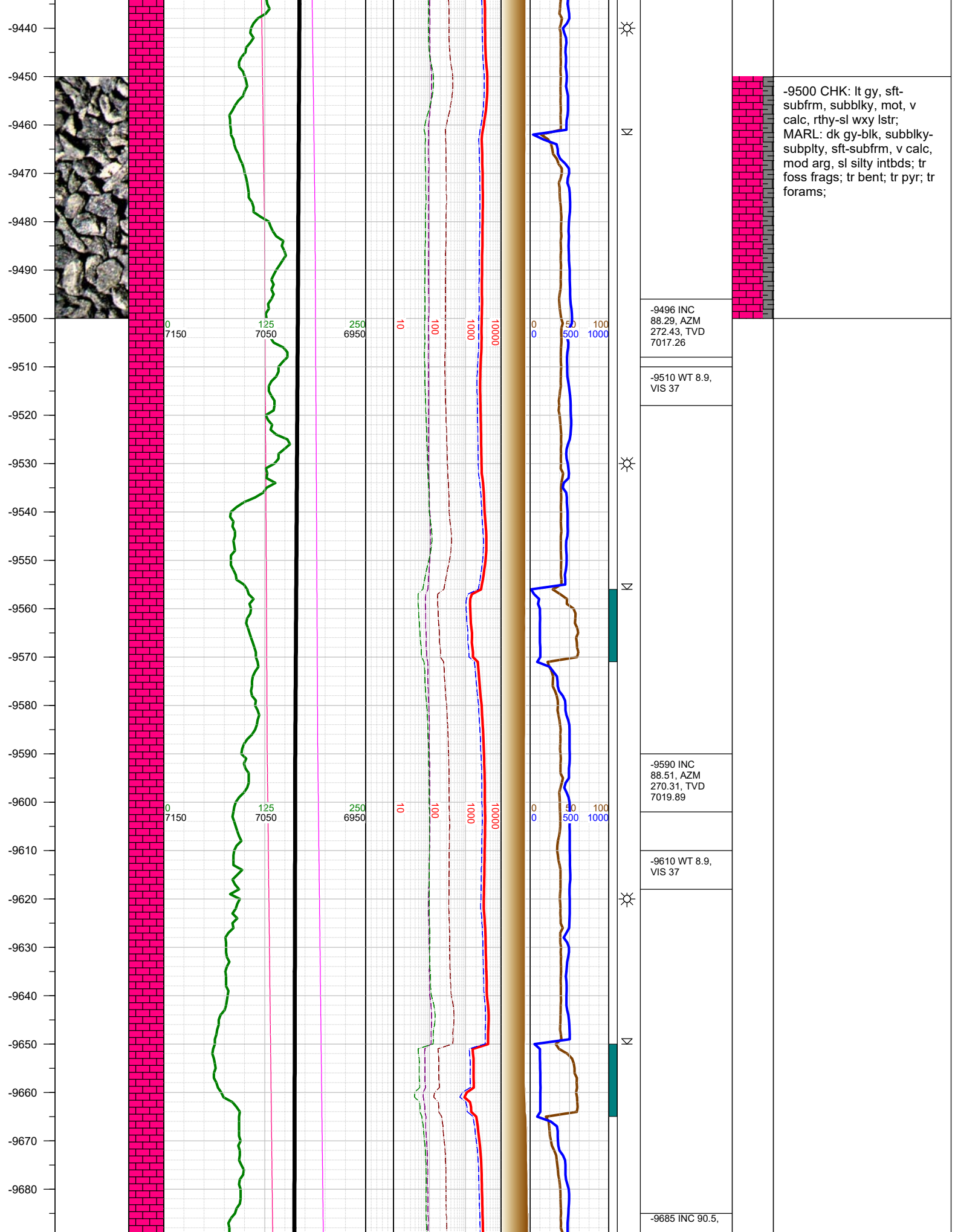
-8500 CHK: lt gy, sft-  
subfrm, subblky, mot, v  
calc, rthy-sl wxy lstr;  
MARL: dk gy-blk, subblky-  
subply, sft-subfrm, v calc,  
mod arg, sl silty intbds; tr  
bent; tr pyr;



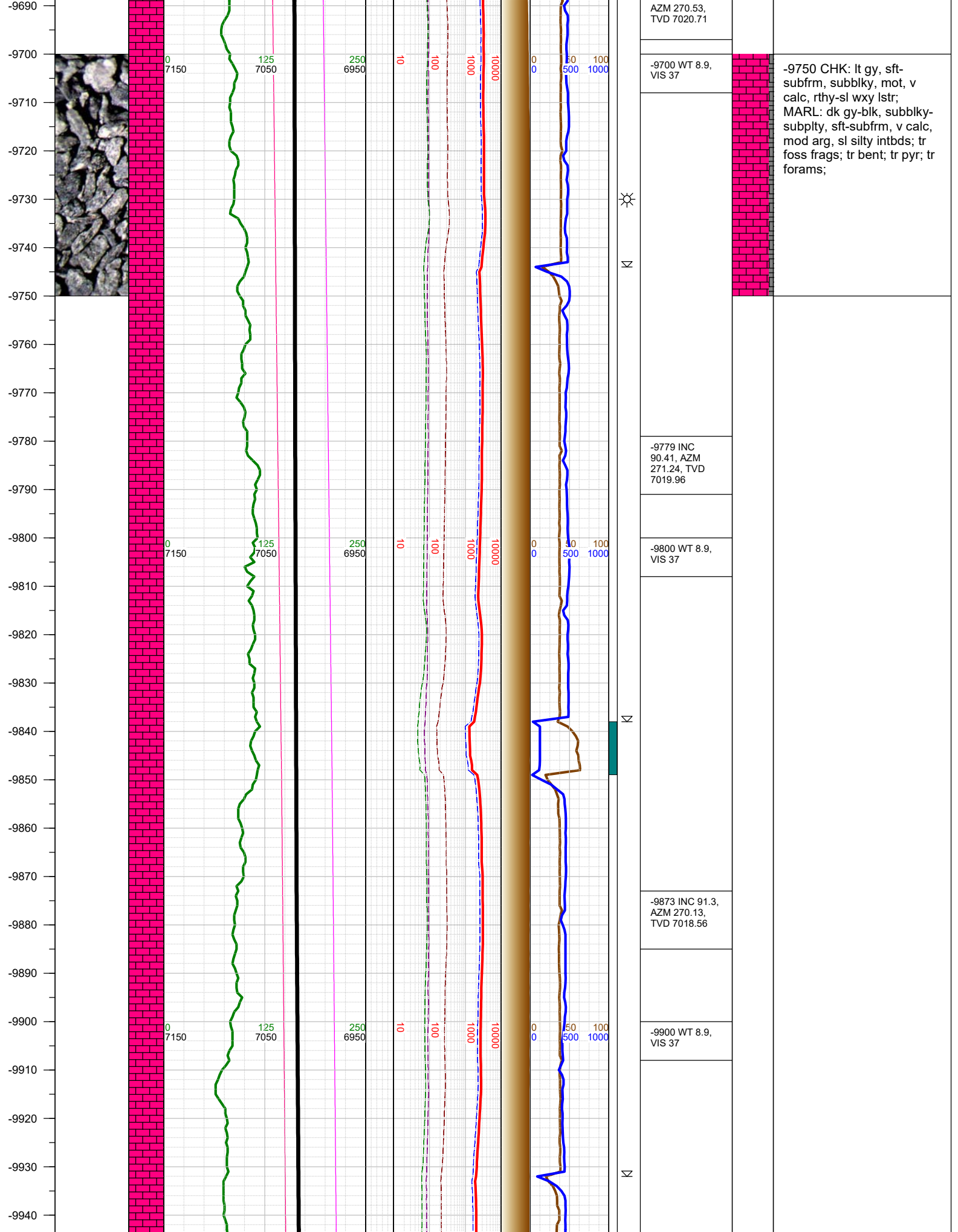




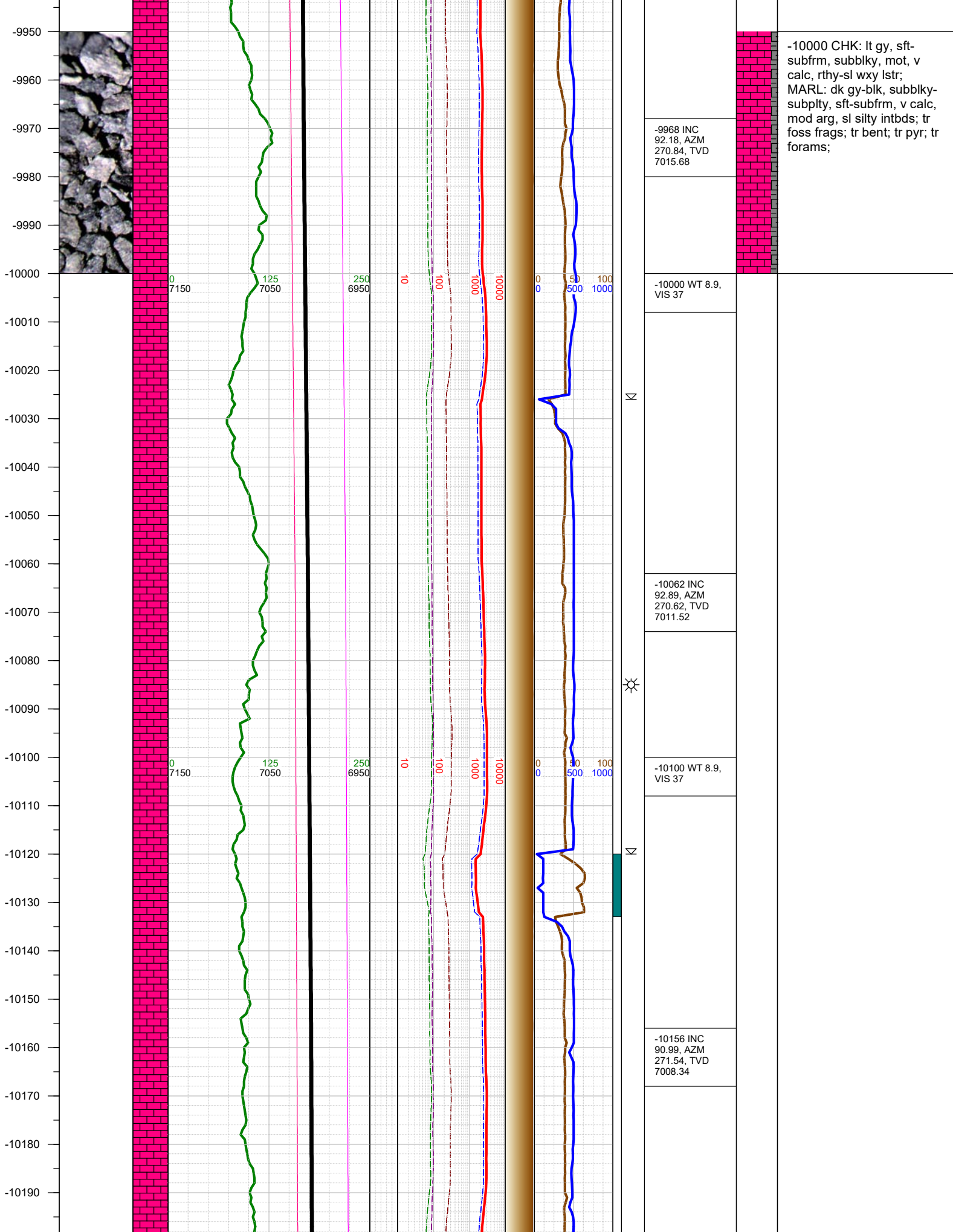




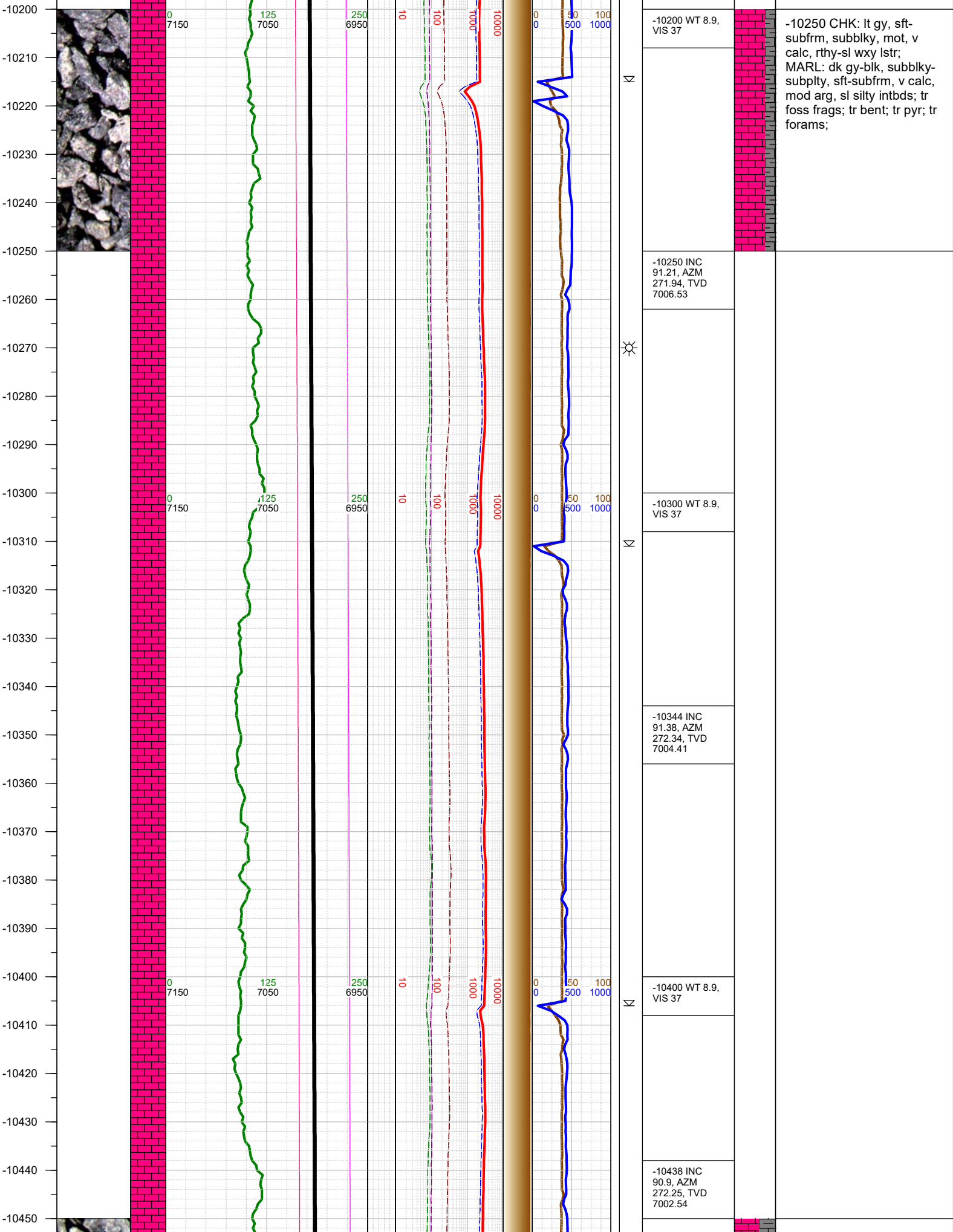


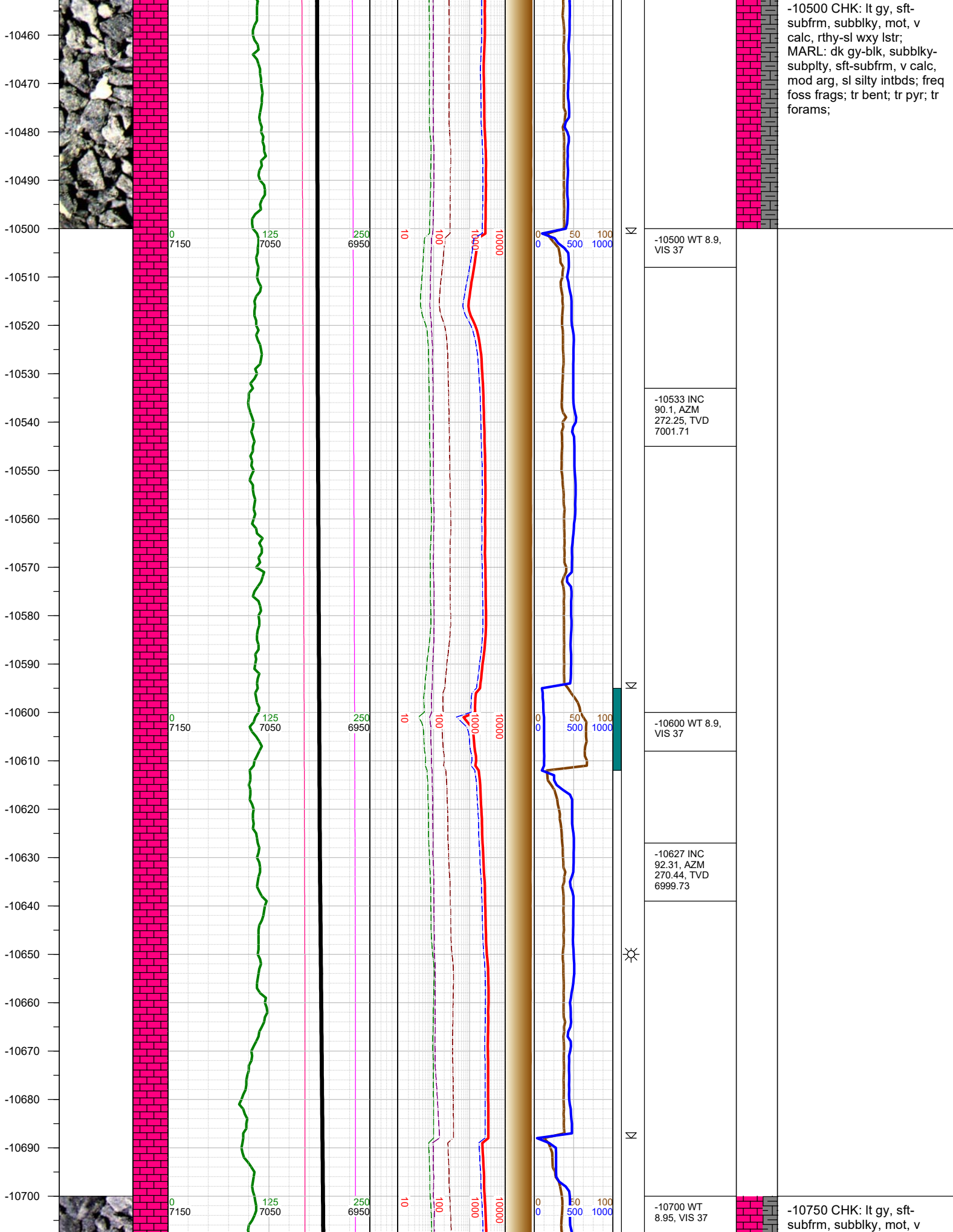




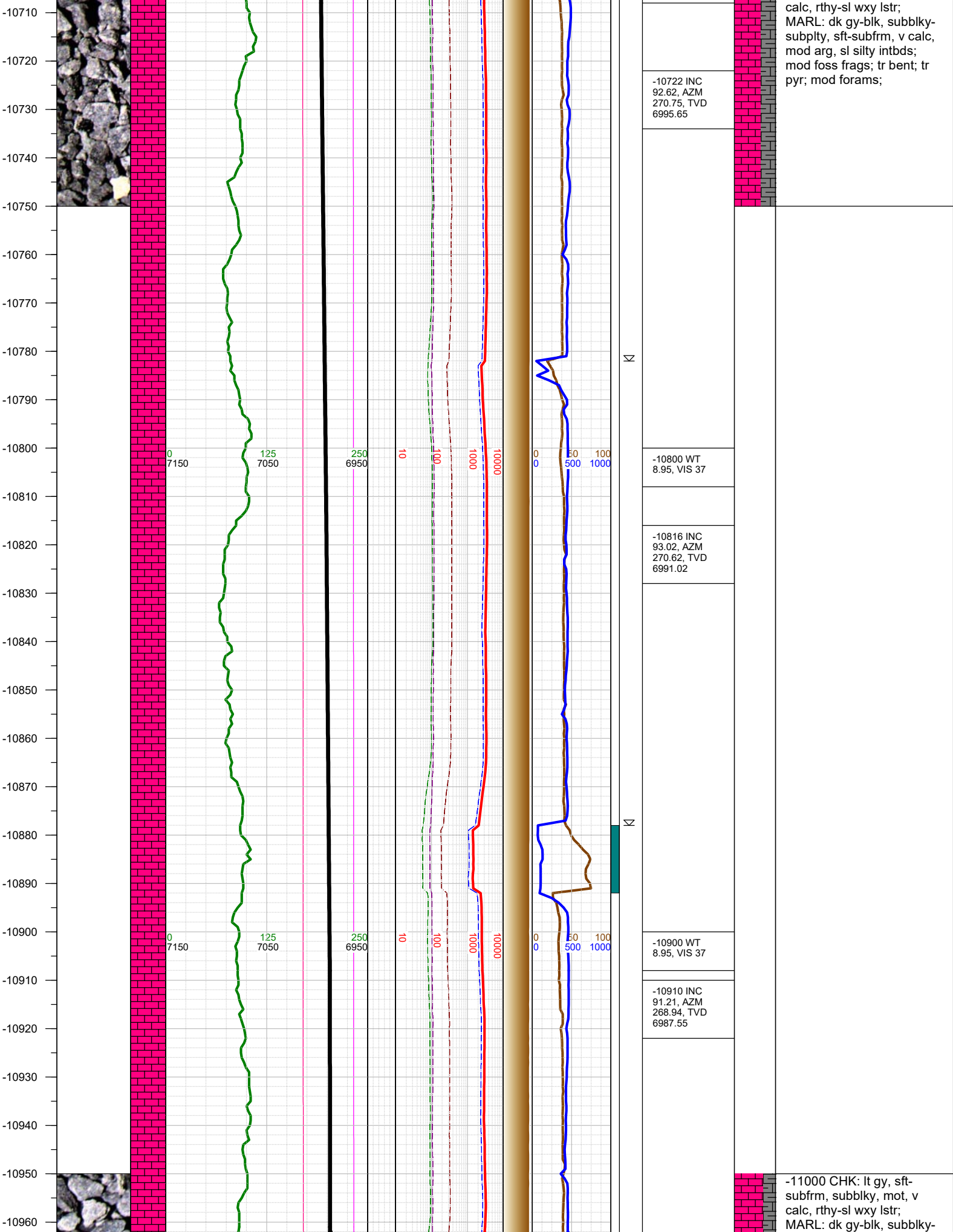


-10000 CHK: lt gy, sft-subfrm, subblky, mot, v calc, rthy-sl wxy lstr; MARL: dk gy-blk, subblky-subply, sft-subfrm, v calc, mod arg, sl silty intbds; tr foss frags; tr bent; tr pyr; tr forams;

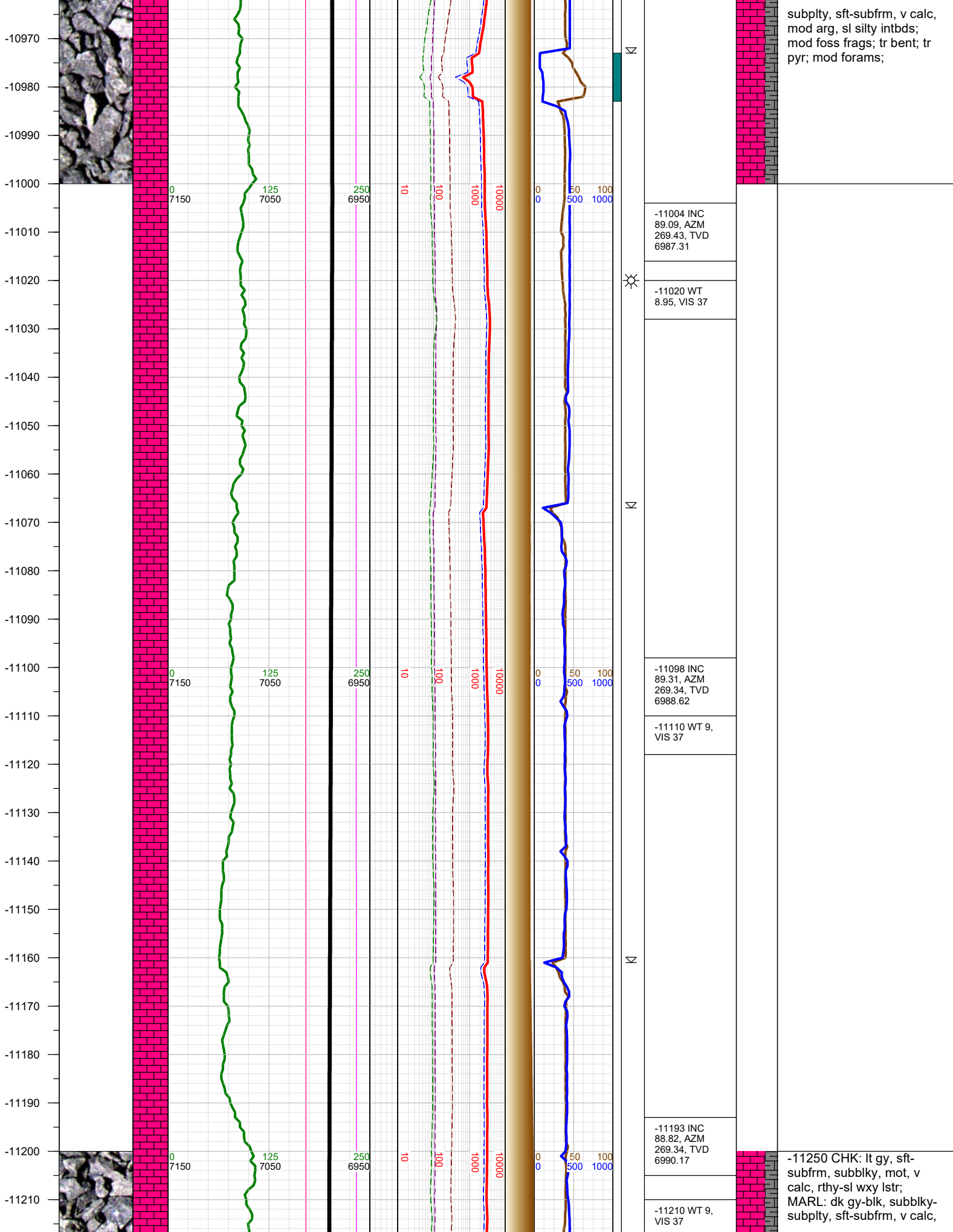












subply, sft-subfrm, v calc,  
mod arg, sl silty intbds;  
mod foss frags; tr bent; tr  
pyr; mod forams;

-11004 INC  
89.09, AZM  
269.43, TVD  
6987.31

-11020 WT  
8.95, VIS 37

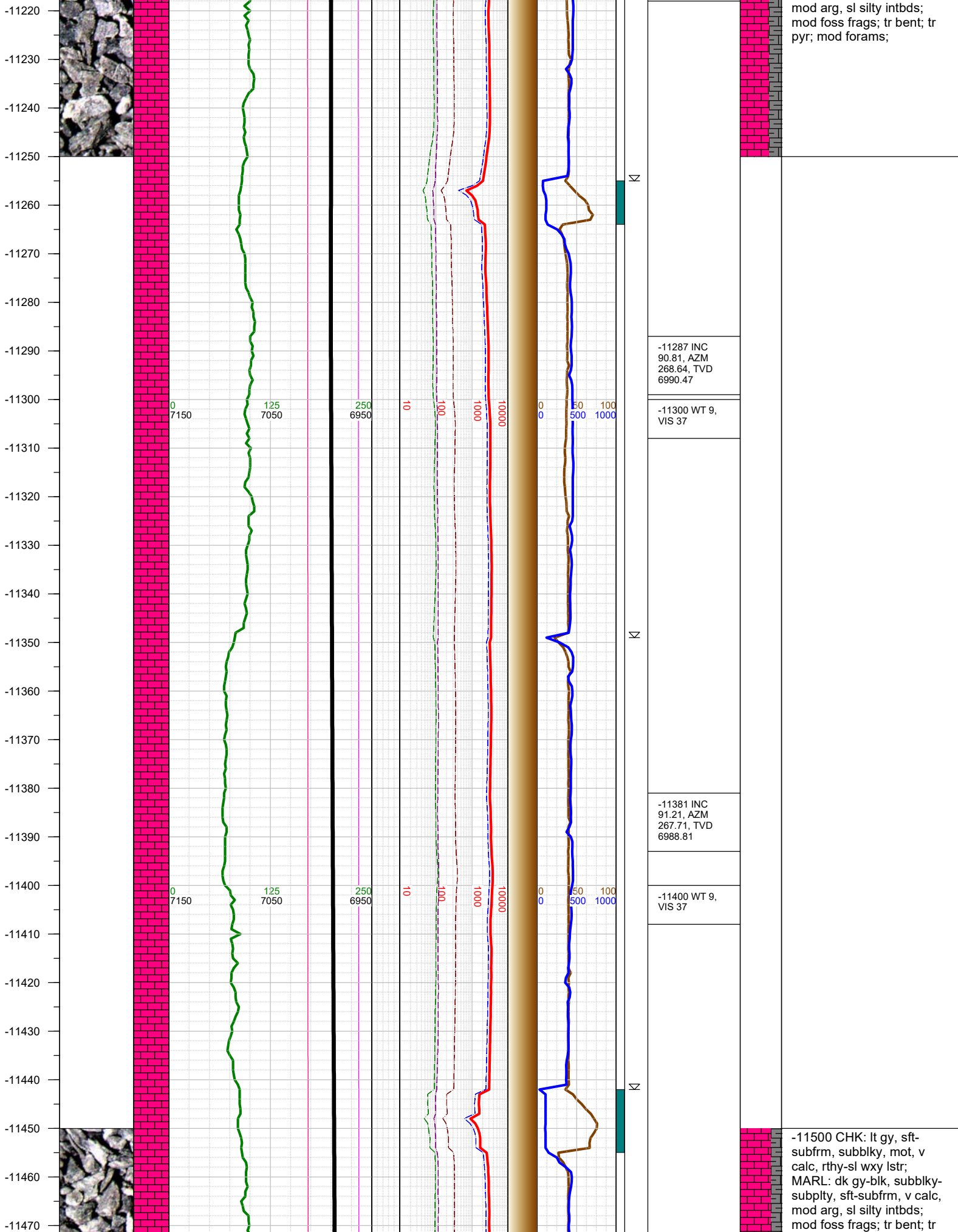
-11098 INC  
89.31, AZM  
269.34, TVD  
6988.62

-11110 WT 9,  
VIS 37

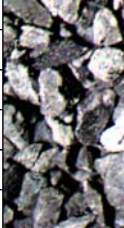
-11193 INC  
88.82, AZM  
269.34, TVD  
6990.17

-11210 WT 9,  
VIS 37

-11250 CHK: lt gy, sft-  
subfrm, subblky, mot, v  
calc, rthy-sl wxy lstr;  
MARL: dk gy-blk, subblky-  
subply, sft-subfrm, v calc,



-11480  
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-11475 INC  
91.38, AZM  
270.05, TVD  
6986.69

-11500 WT 9,  
VIS 37

-11569 INC  
91.91, AZM  
269.74, TVD  
6983.99

-11600 WT 9,  
VIS 37

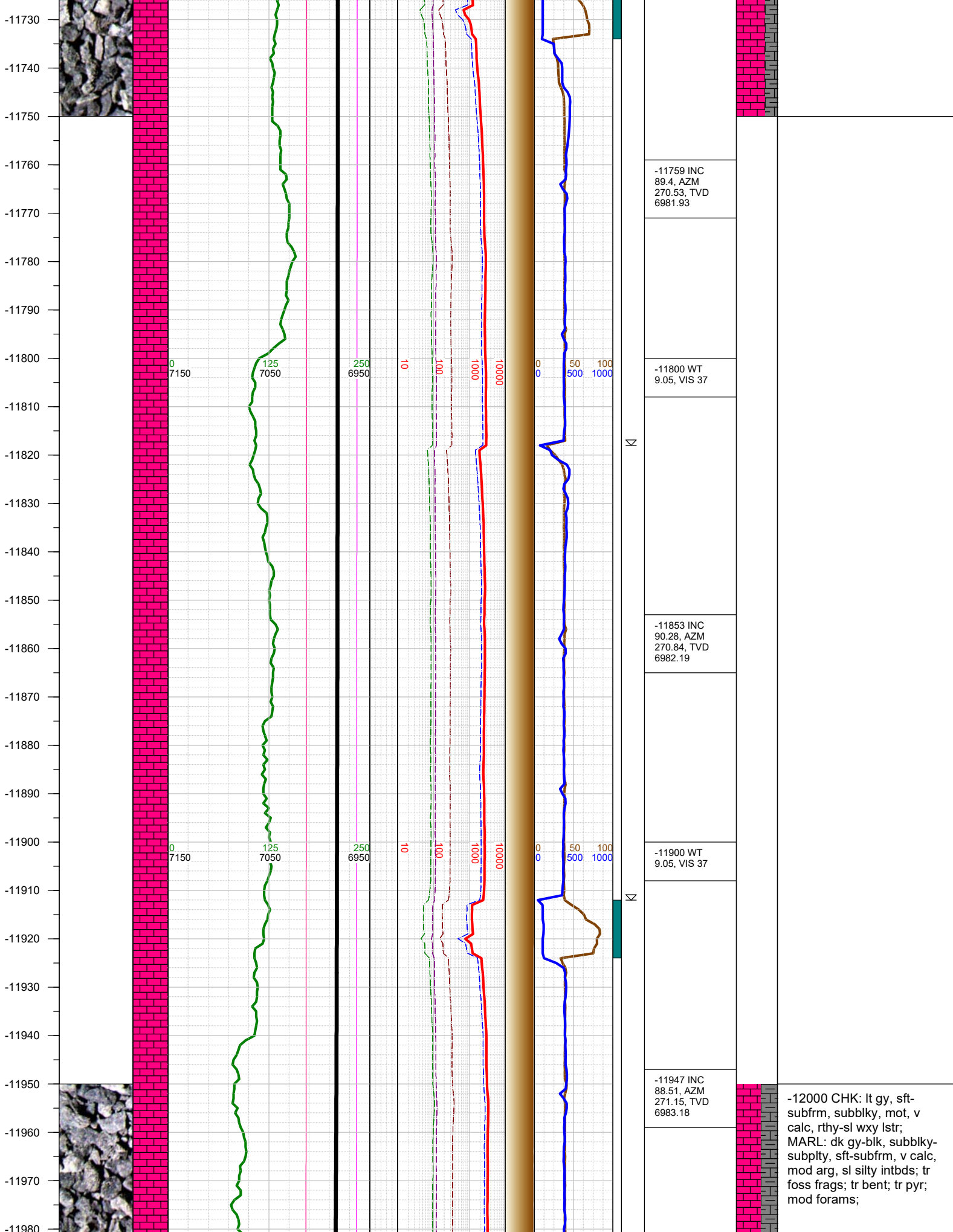
-11664 INC  
90.59, AZM  
271.02, TVD  
6981.92

-11700 WT  
9.05, VIS 37

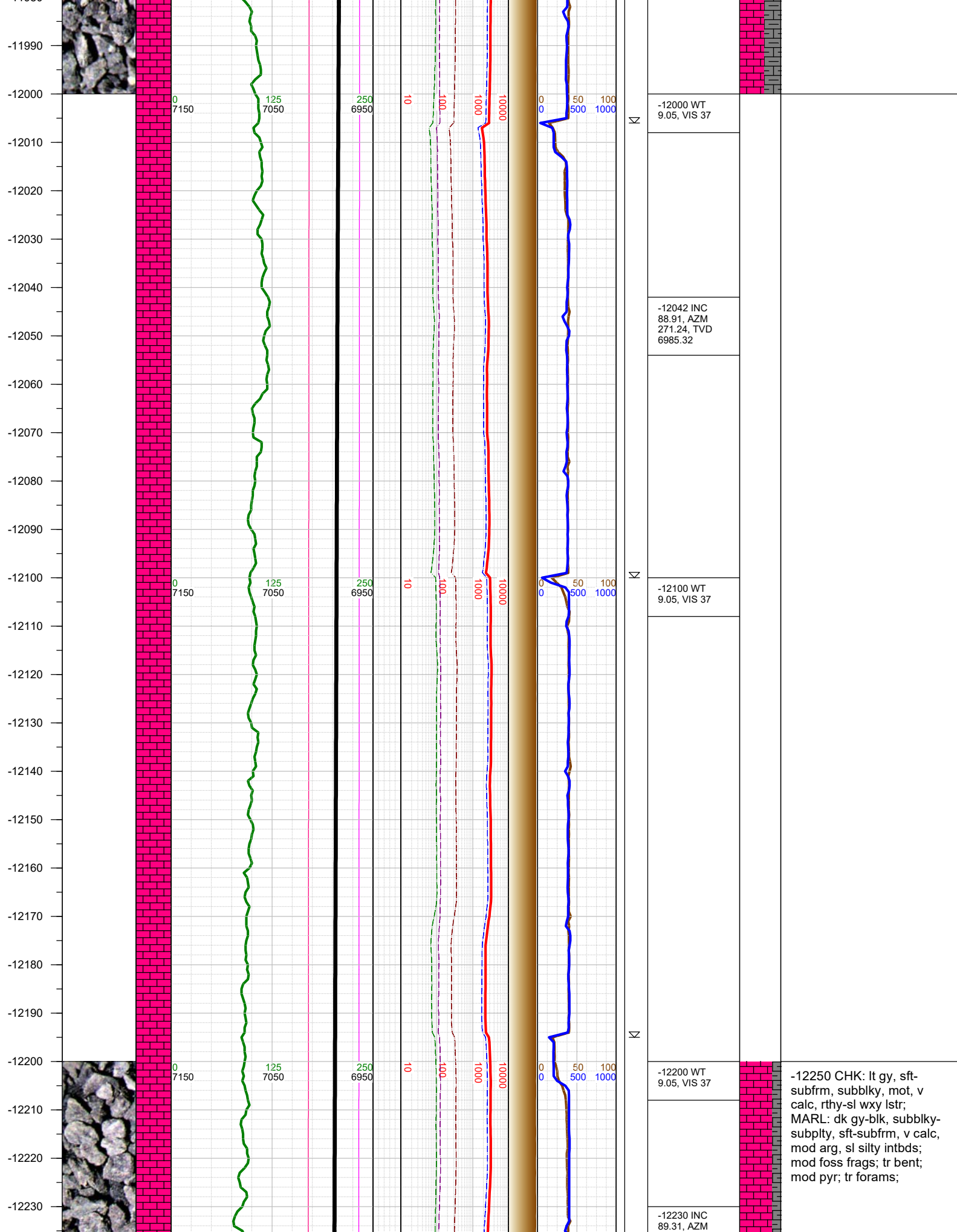
pyr; mod forams;

-11750 CHK: lt gy, sft-  
subfrm, subblky, mot, v  
calc, rthy-sl wxy lstr;  
MARL: dk gy-blk, subblky-  
subply, sft-subfrm, v calc,  
mod arg, sl silty intbds;  
mod foss frags; tr bent; tr  
pyr; mod forams;









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272.03, TVD  
6988.24

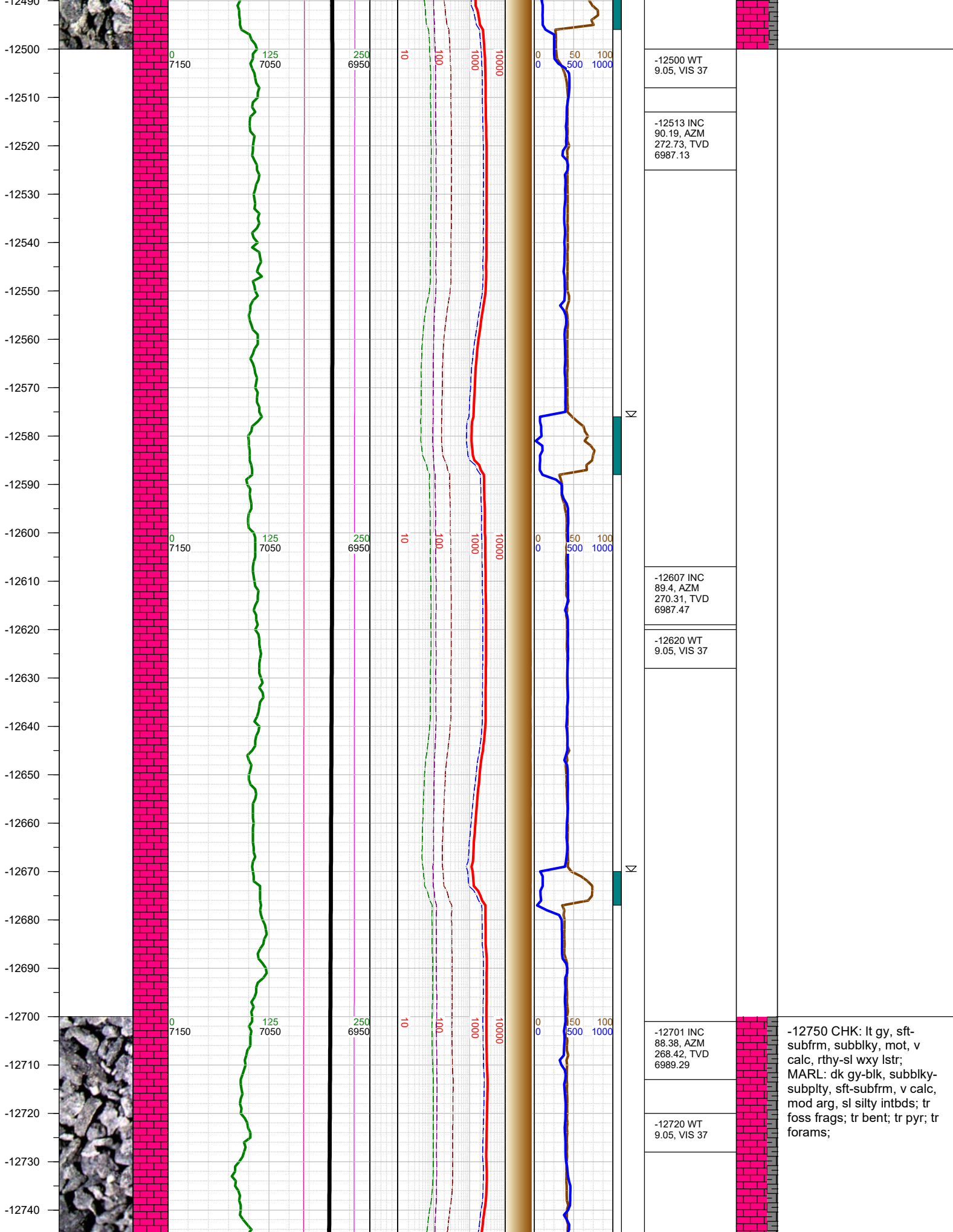
-12300 WT  
9.05, VIS 37

-12324 INC  
89.62, AZM  
271.63, TVD  
6989.12

-12400 WT  
9.05, VIS 37

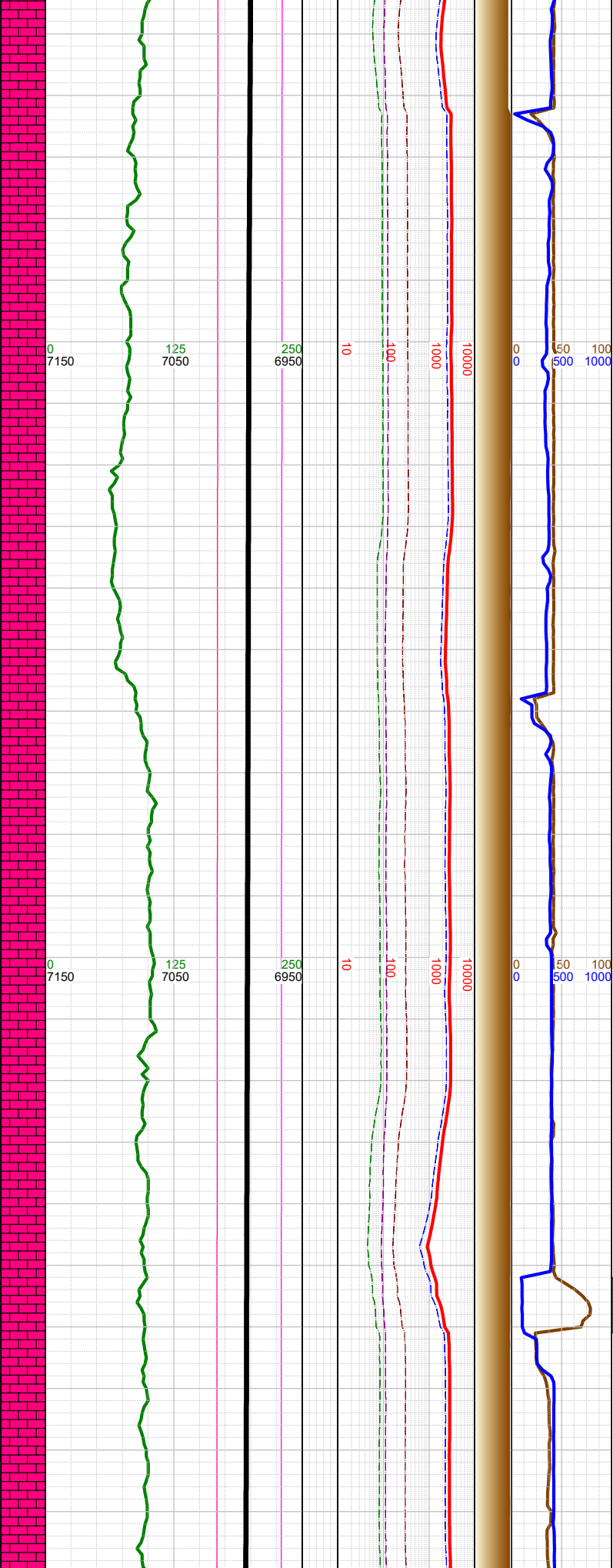
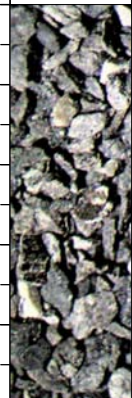
-12418 INC  
91.3, AZM  
274.01, TVD  
6988.36

-12500 CHK: lt gy, sft-subfrm, subblky, mot, v calc, rthy-sl wxy lstr; MARL: dk gy-blk, subblky-subplty, sft-subfrm, v calc, mod arg, sl silty intbds; freq foss frags; tr bent; tr pyr; tr forams;



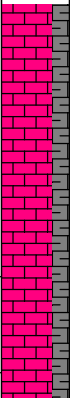


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-12990

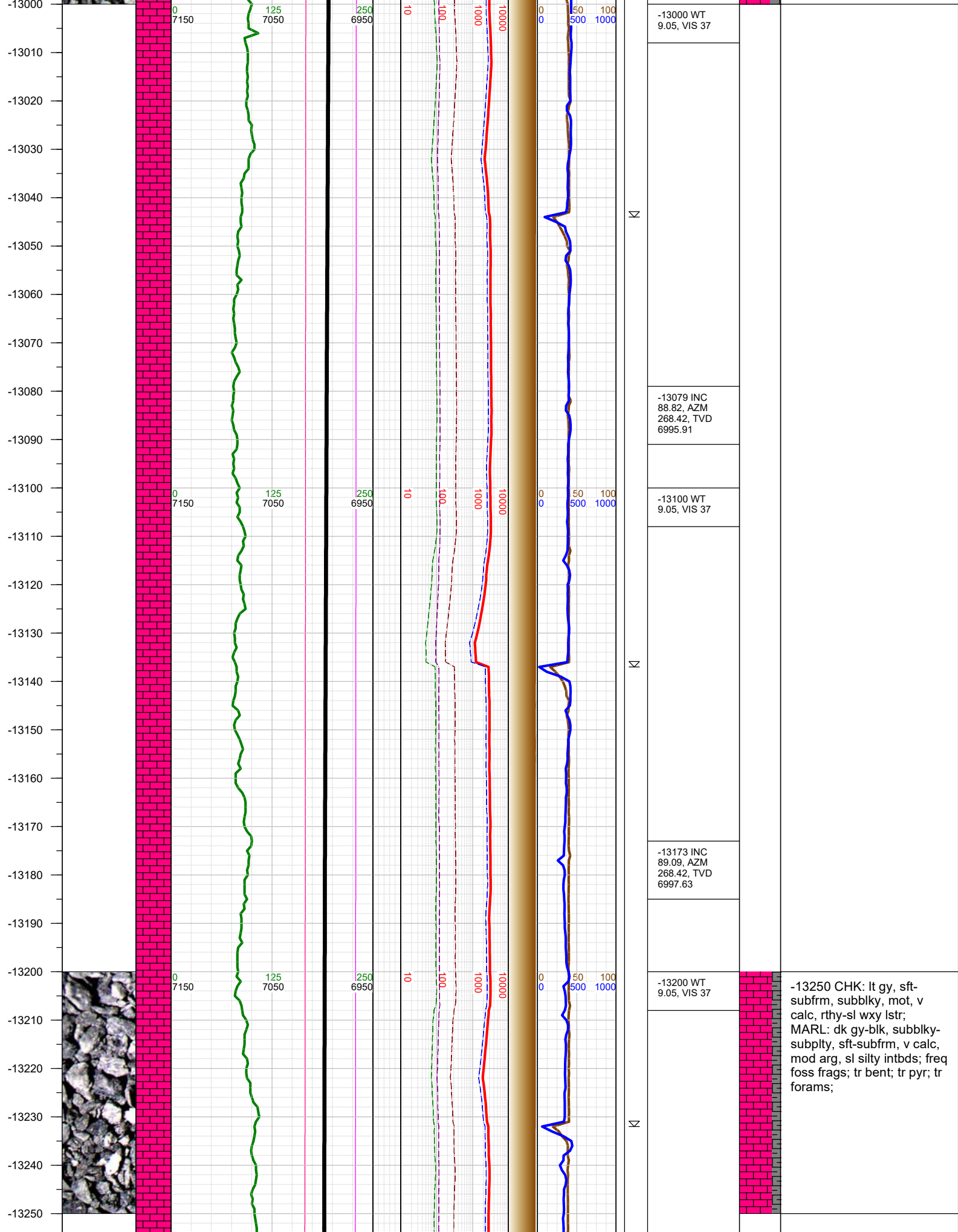


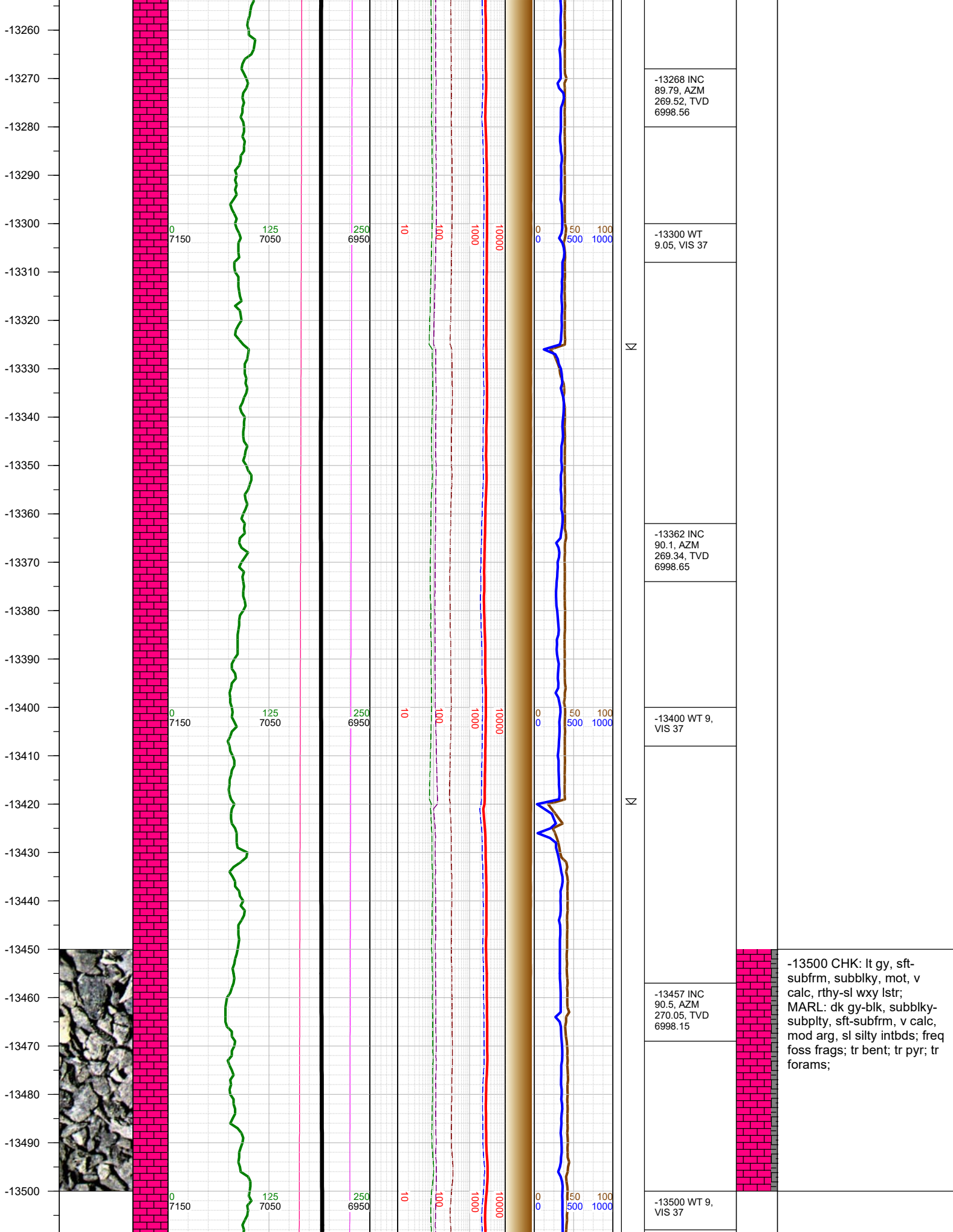
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	-12796 INC 88.69, AZM 268.81, TVD 6991.72
	-12810 WT 9.05, VIS 37
	-12890 INC 90.1, AZM 269.52, TVD 6992.71
	-12910 WT 9.05, VIS 37
	-12984 INC 88.6, AZM 268.15, TVD 6993.77



-13000 CHK: lt gy, sft-subfrm, subblky, mot, v calc, rthy-sl wxy lstr; MARL: dk gy-blk, subblky-subply, sft-subfrm, v calc, mod arg, sl silty intbds; tr foss frags; tr bent; tr pyr; tr forams;





-13268 INC  
89.79, AZM  
269.52, TVD  
6998.56

-13300 WT  
9.05, VIS 37

-13362 INC  
90.1, AZM  
269.34, TVD  
6998.65

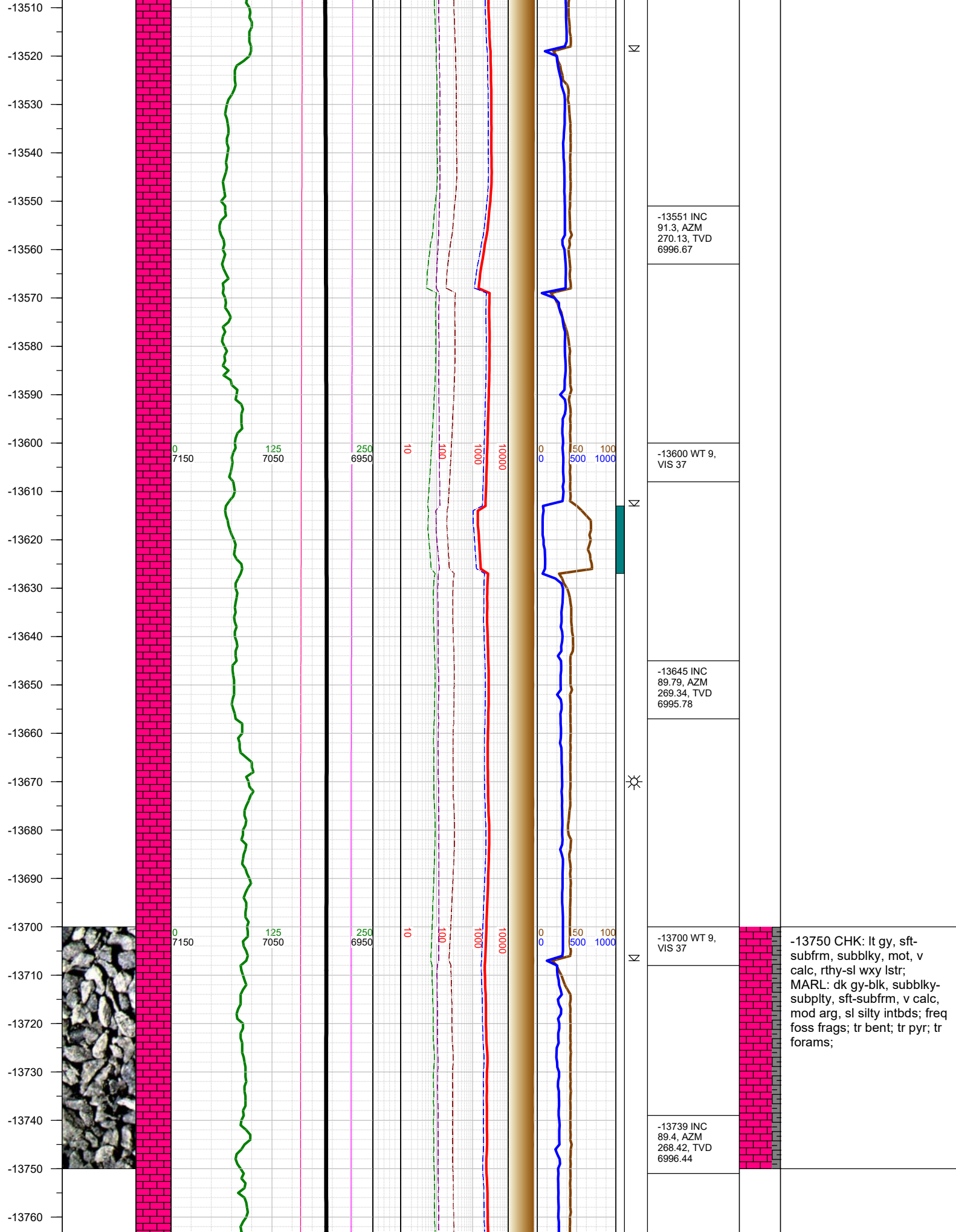
-13400 WT 9,  
VIS 37

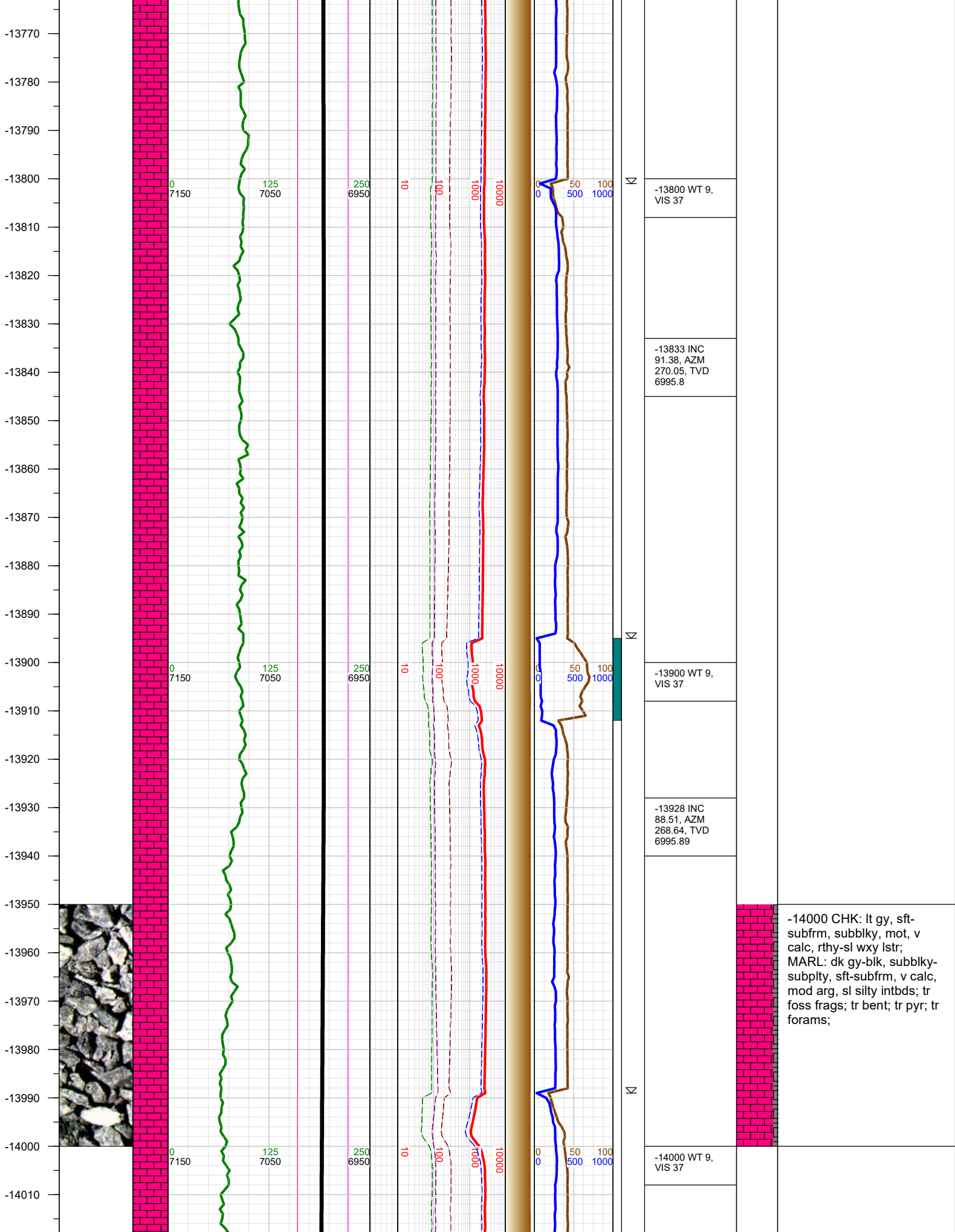
-13457 INC  
90.5, AZM  
270.05, TVD  
6998.15

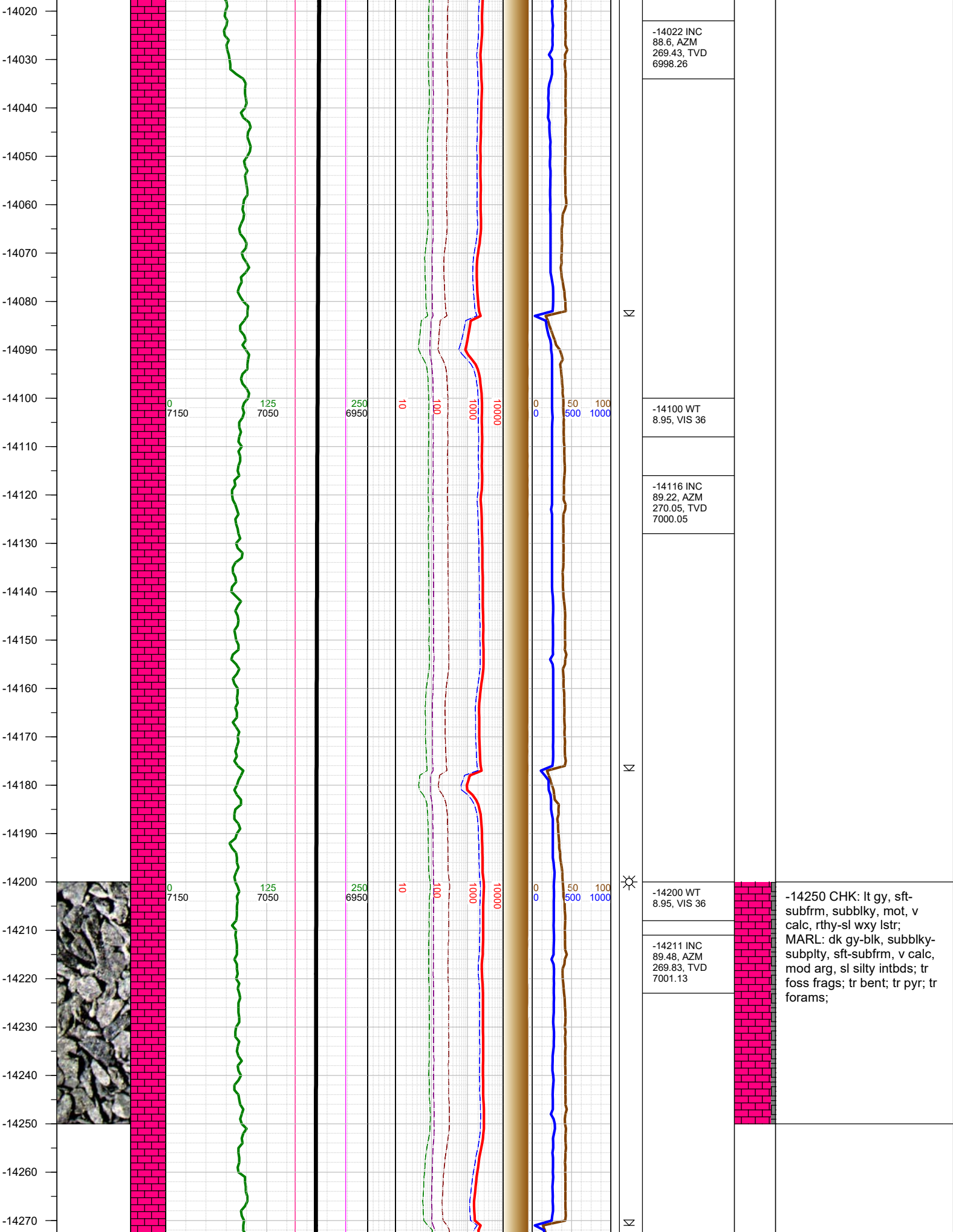
-13500 WT 9,  
VIS 37

-13500 CHK: lt gy, sft-  
subfrm, subblky, mot, v  
calc, rthy-sl wxy lstr;  
MARL: dk gy-blk, subblky-  
subply, sft-subfrm, v calc,  
mod arg, sl silty intbds; freq  
foss frags; tr bent; tr pyr; tr  
forams;

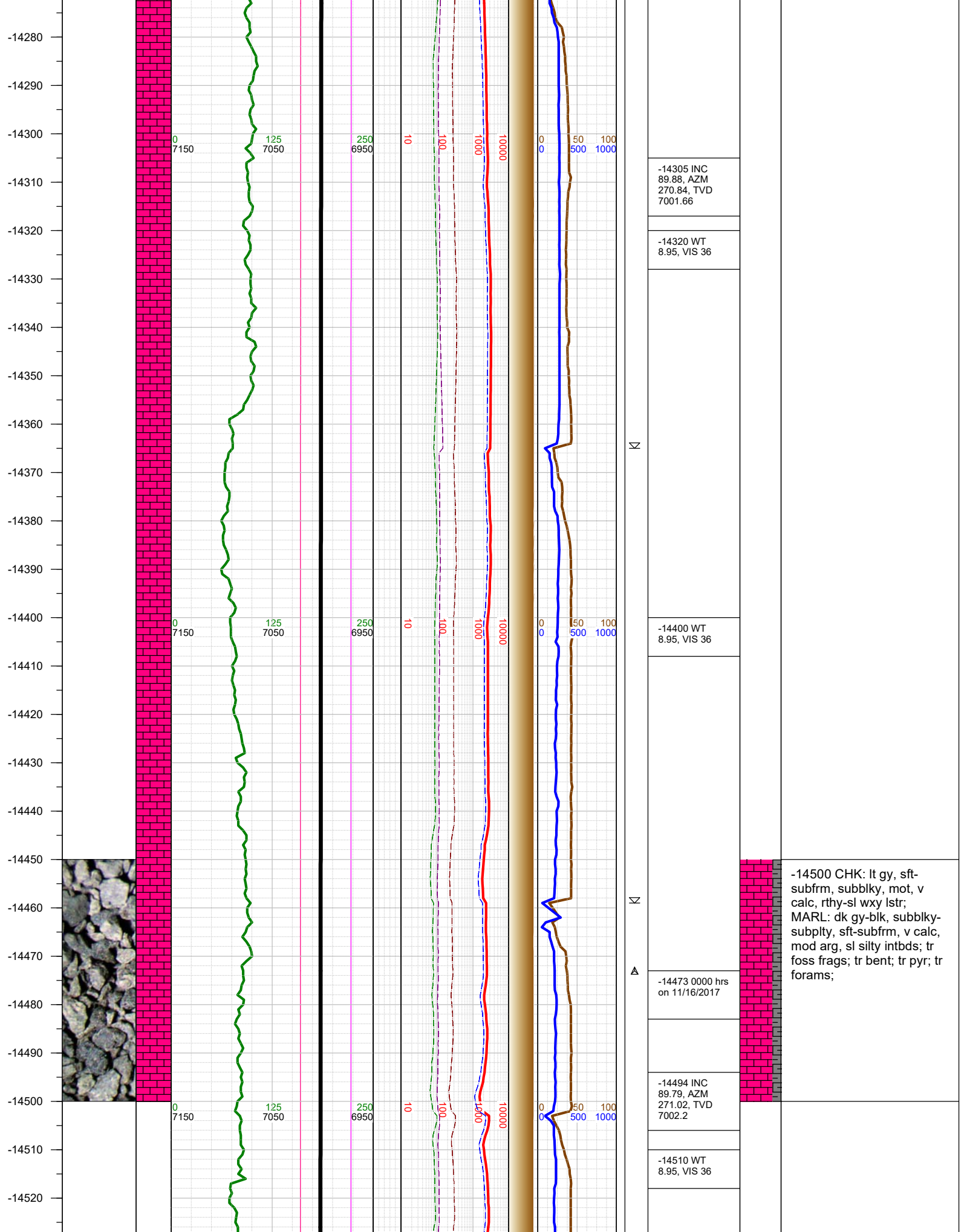


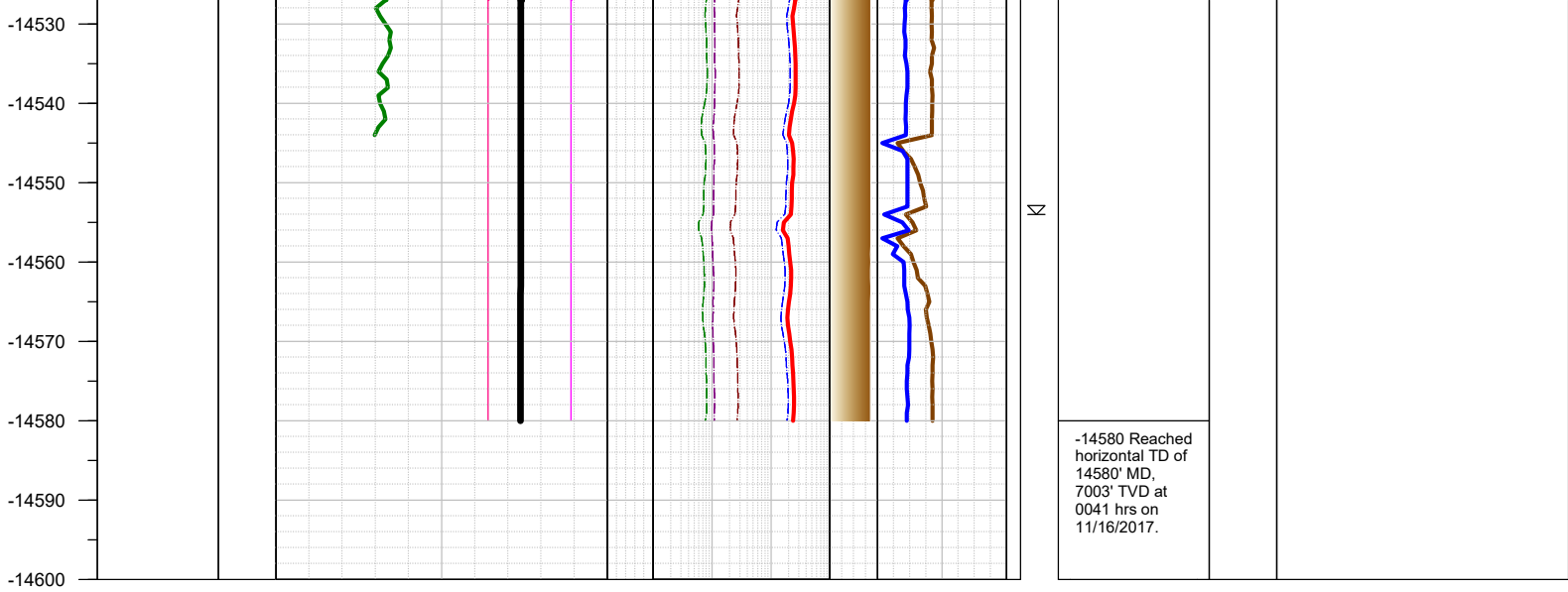












TOTAL DEPTH = 14580'

Thank you for using Earth Science Agency