

OPERATOR: **Extraction Oil & Gas**

WELL NAME: **Duck Club 12W-20-7N**

FIELD NAME: DJ Basin - Wattenberg

DRILLING RIG: Patterson 901

API #: 05-001-10167

LAT/LONG: 39.97899, -104.73095

SURFACE HOLE: NWSW S12-T1S-R66W, 2436' FSL, 687' FWL

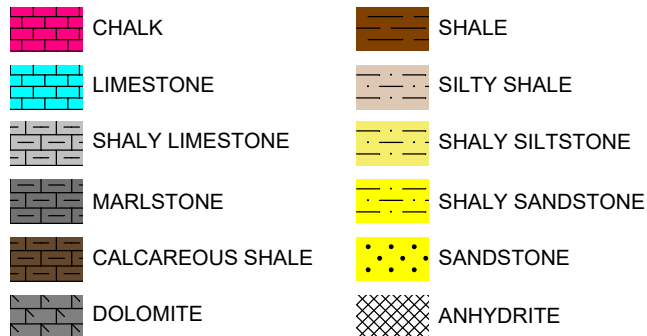
BOTTOM HOLE: S10-T1S-R66W, 2440' FSL, 2178' FEL



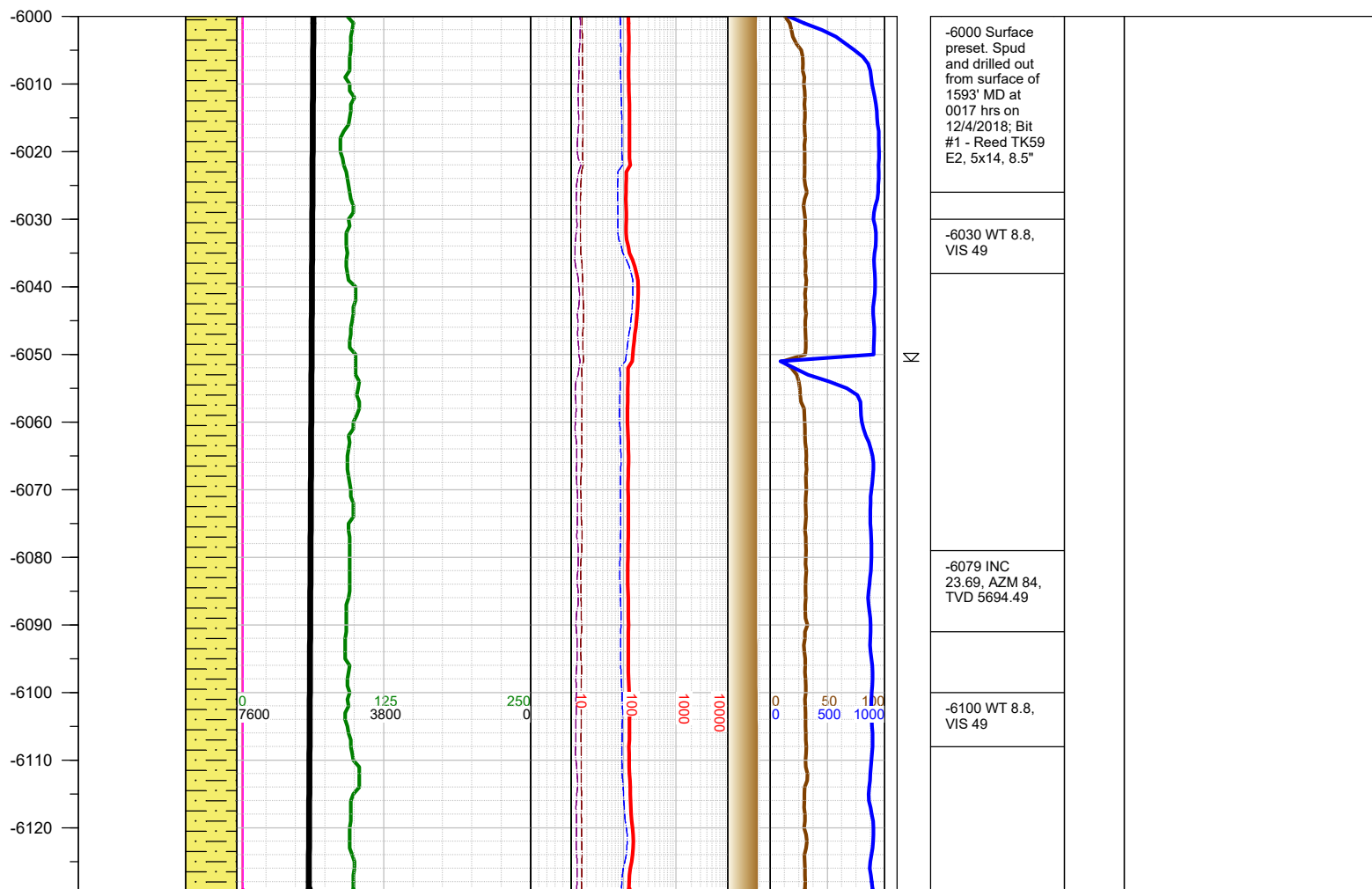
Earth Science Agency, LLC

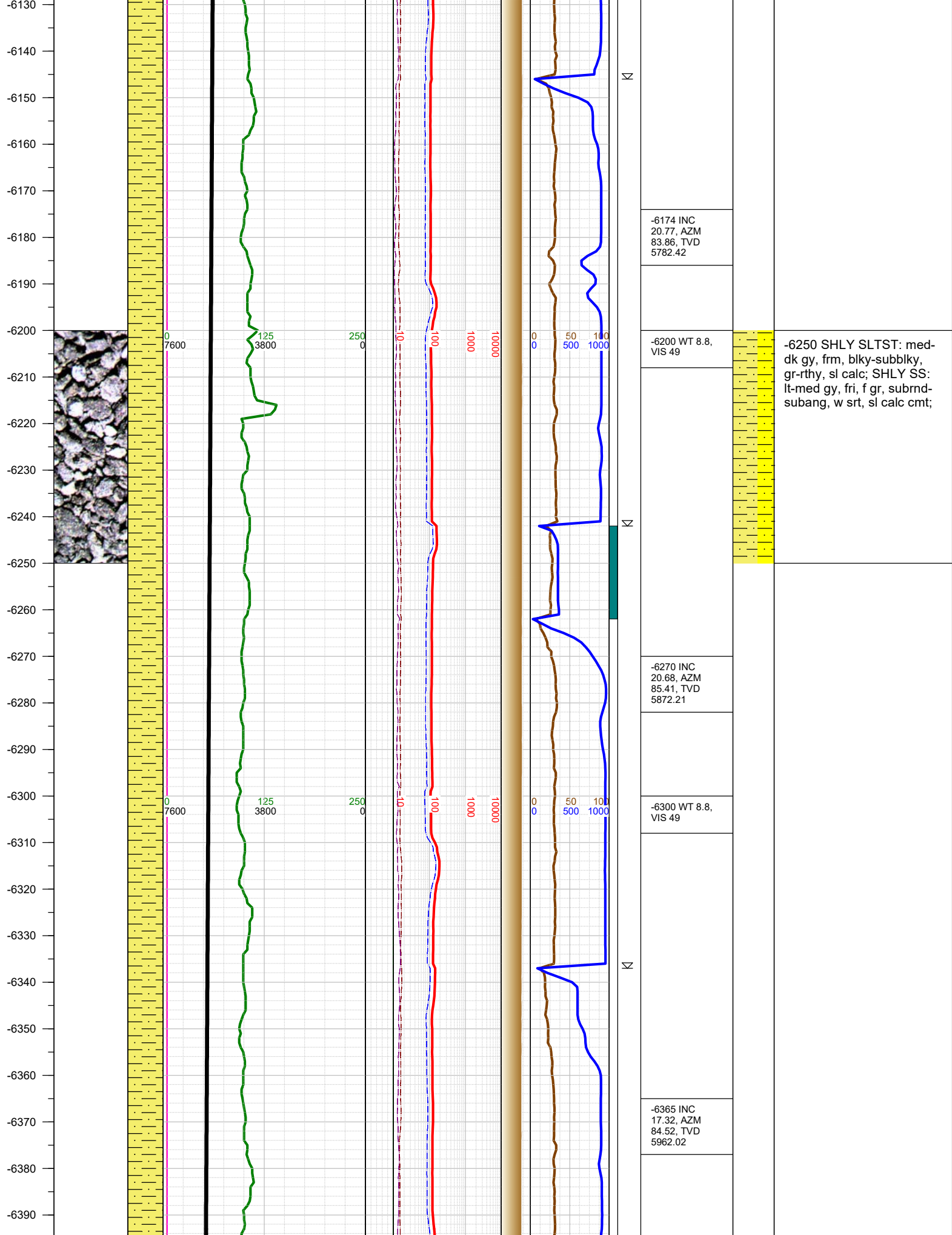
COUNTY: Adams  
STATE: Colorado  
GROUND ELEVATION: 5037'  
KELLY BUSHING: 5066'  
DRILLING FLUID: OBM  
TVD VS. MD: 7465' / 17699'  
SPUD DATE: December 4, 2018  
TD DATE: December 7, 2018  
  
DEPTHS LOGGED: 6000' - 17699'  
DATES LOGGED: December 4, 2018 - December 7, 2018  
GEOLOGISTS: Dan Jacobs, Madison Miller  
SCALE: 5" = 100'

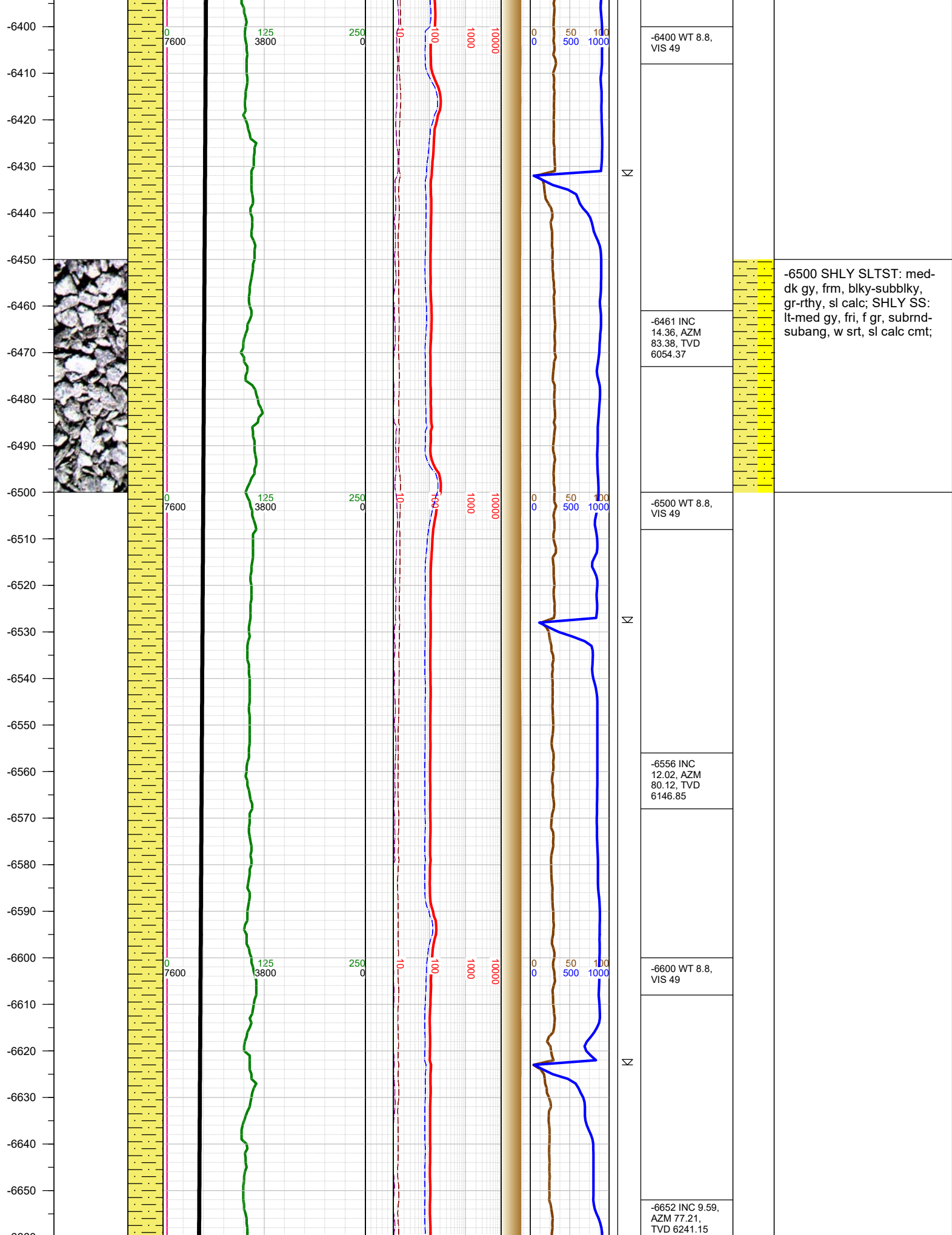
#### LEGEND

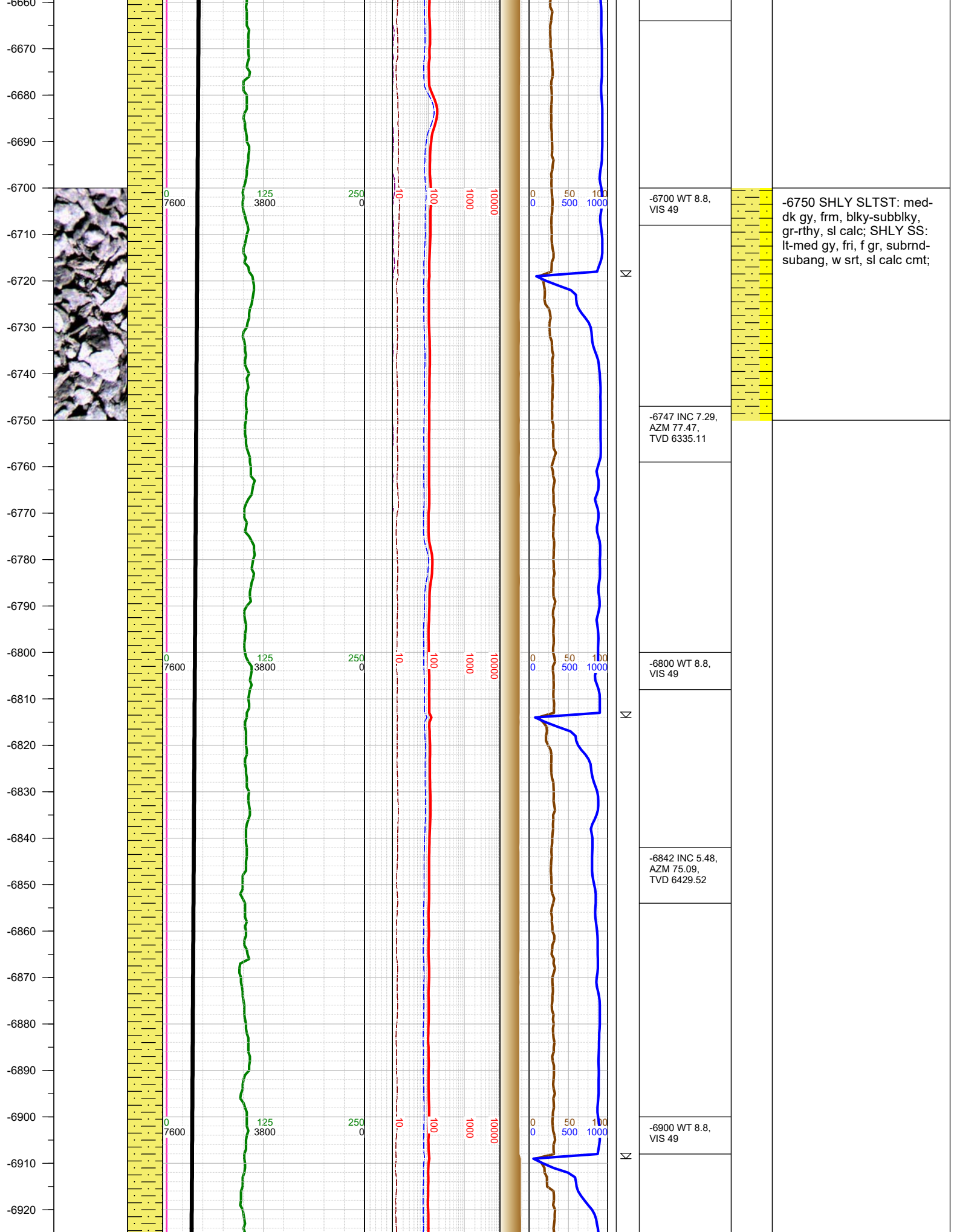


FORMATION CONNECTION MIDNIGHT NEW BIT GAS SHOW FAULT

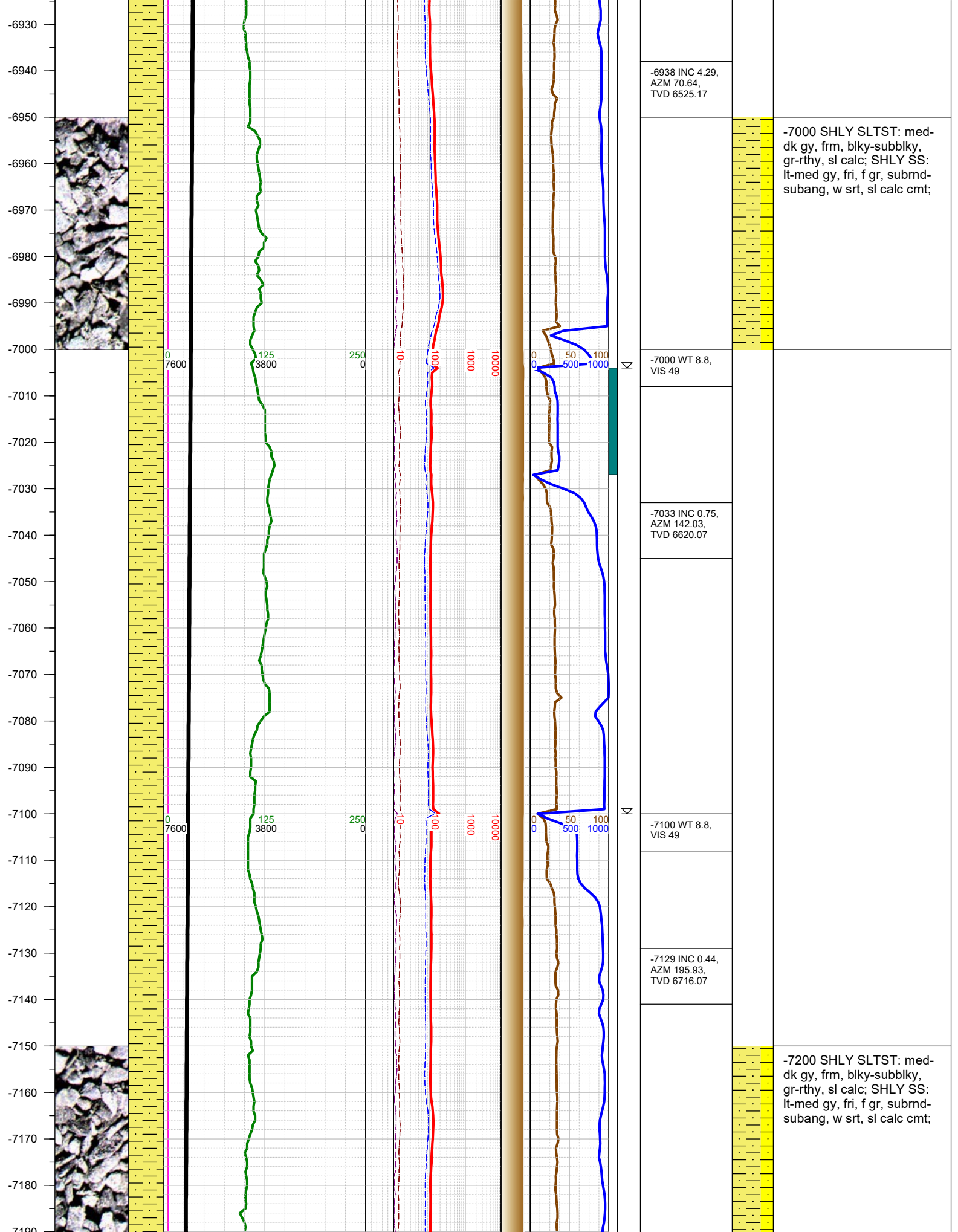


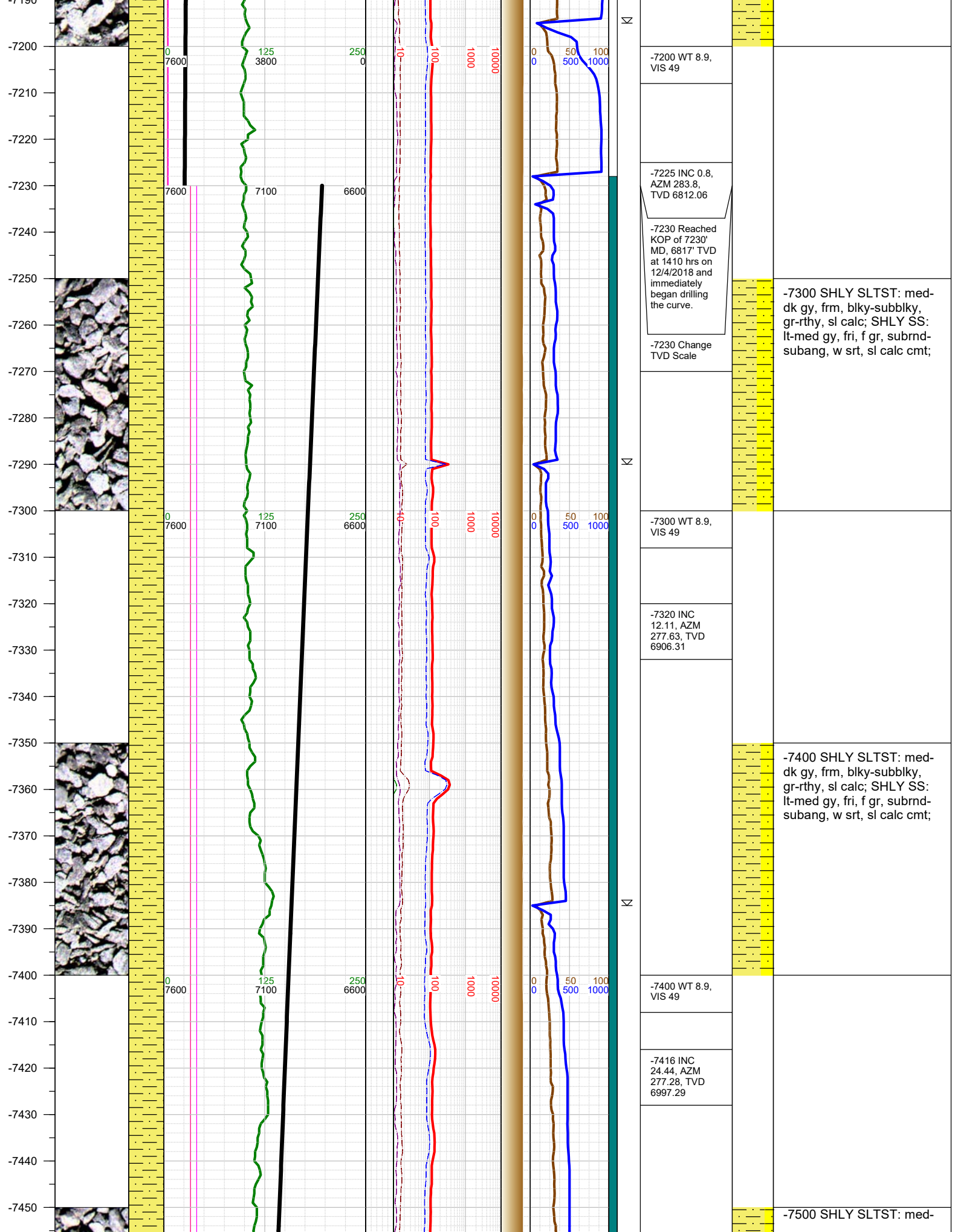


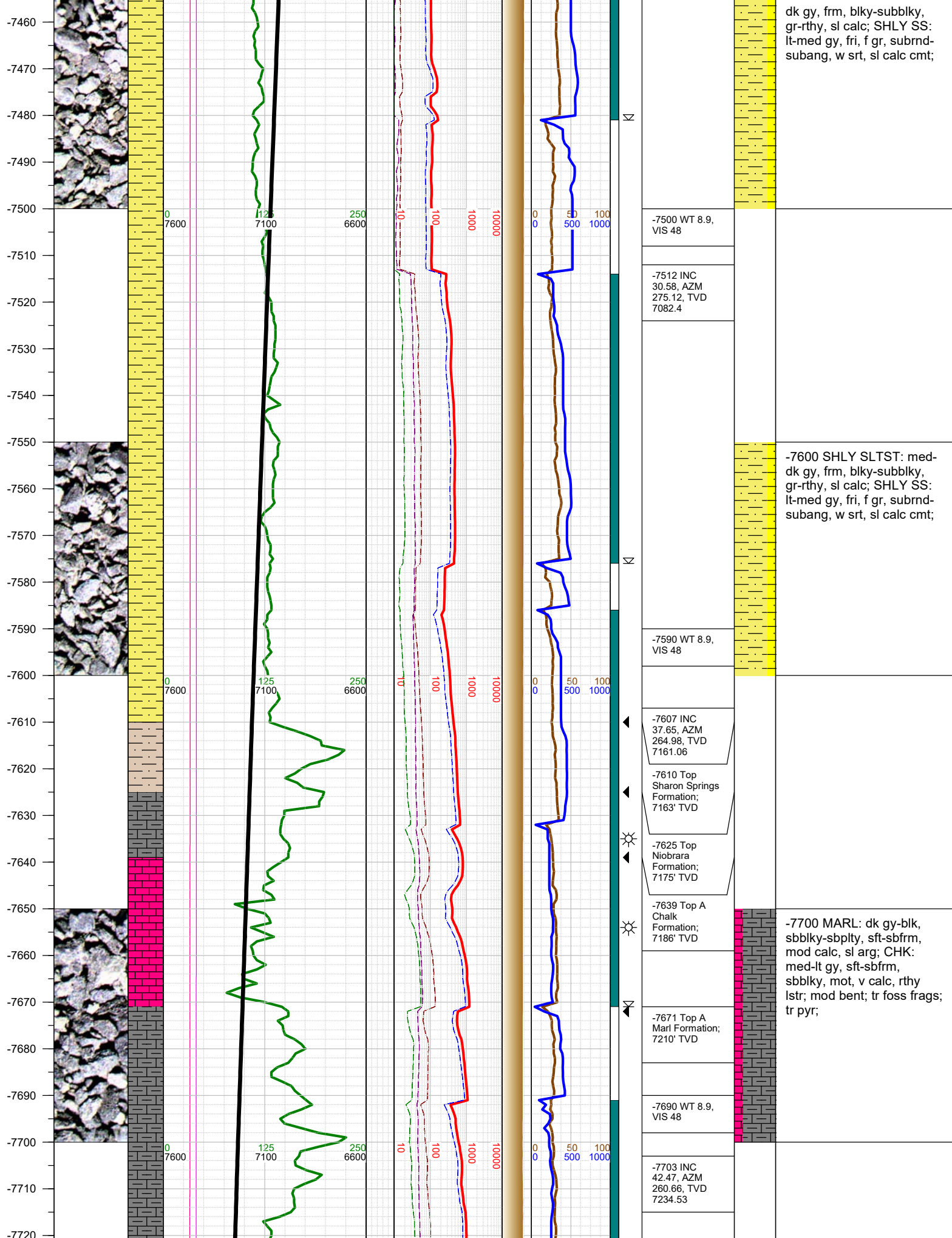




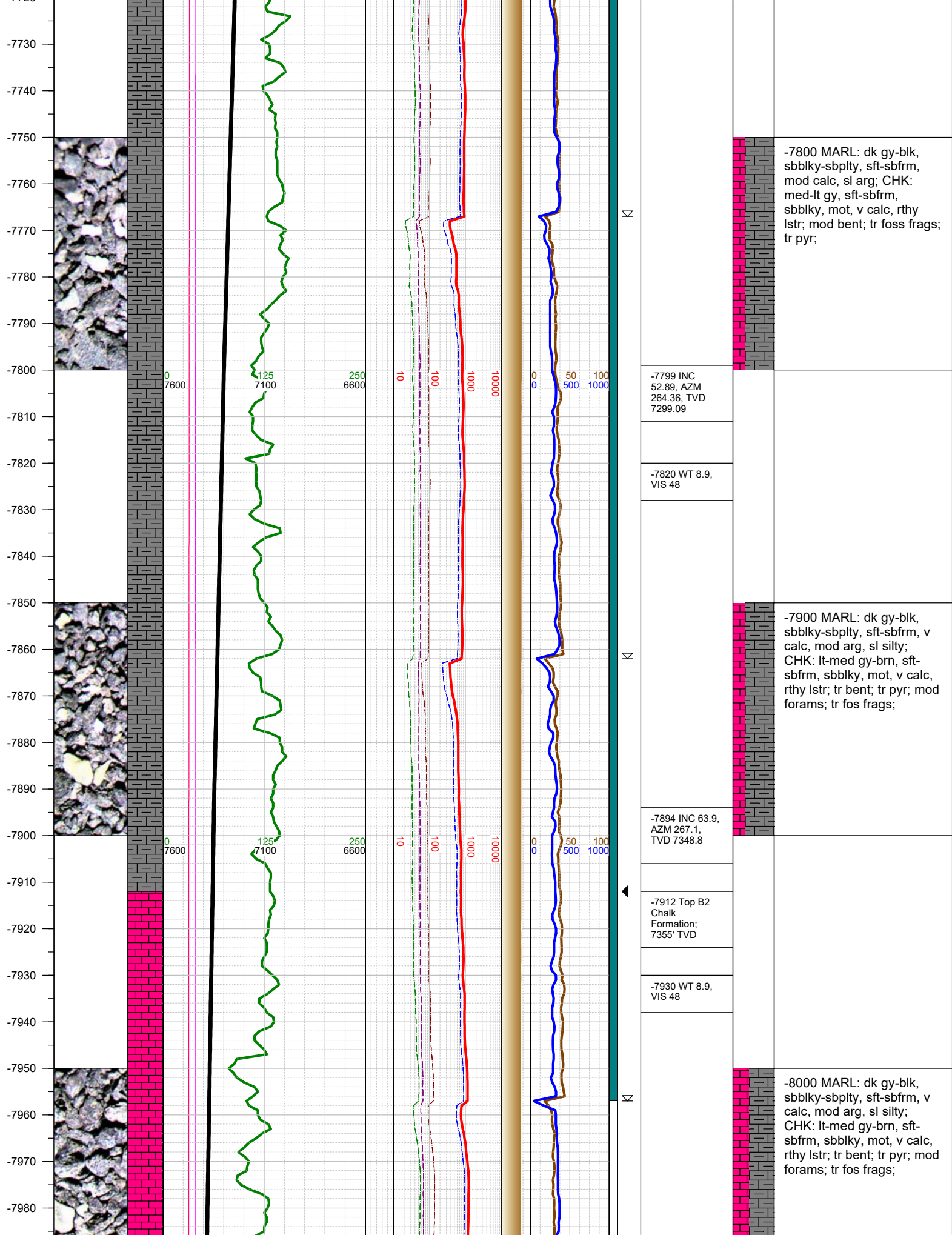






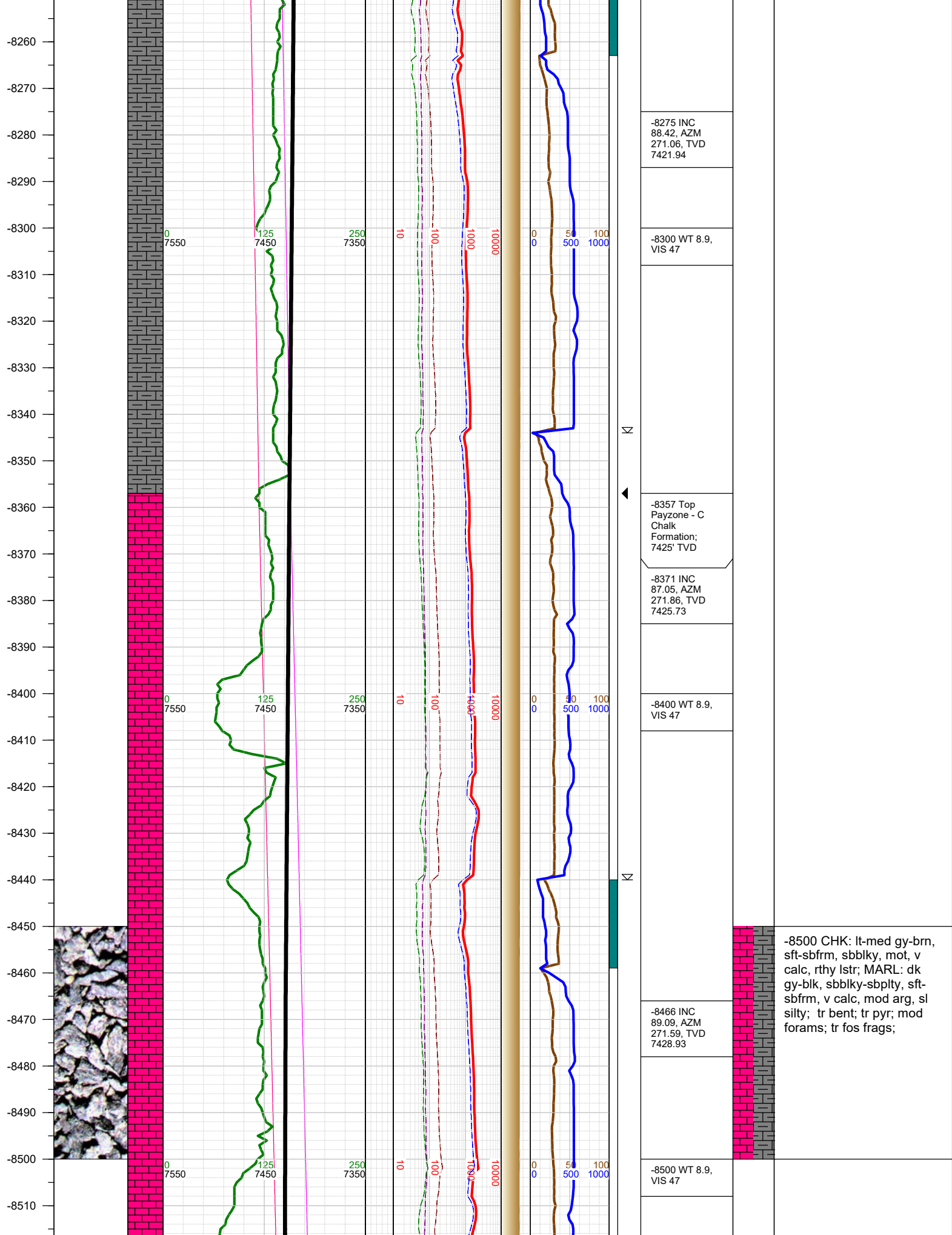


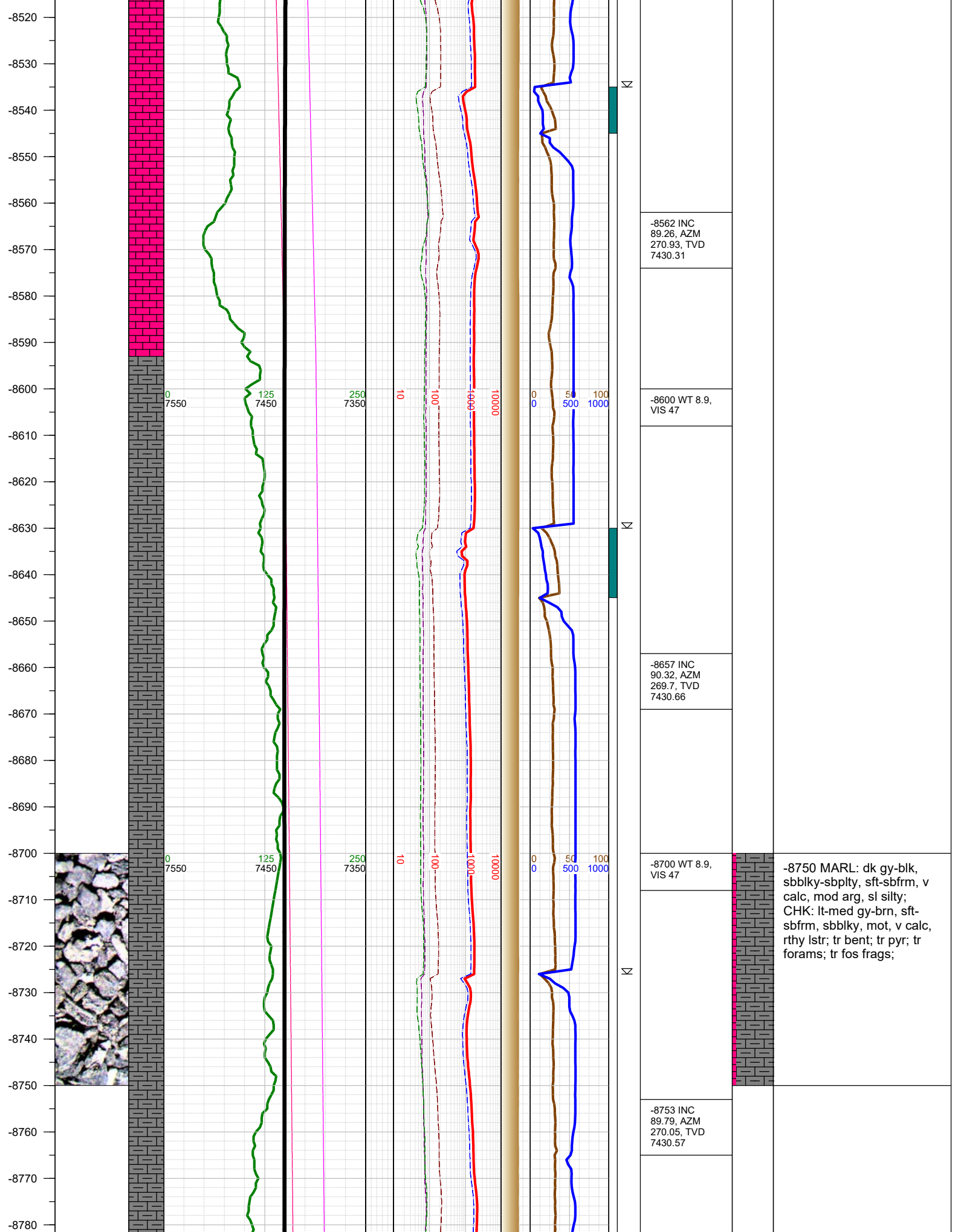




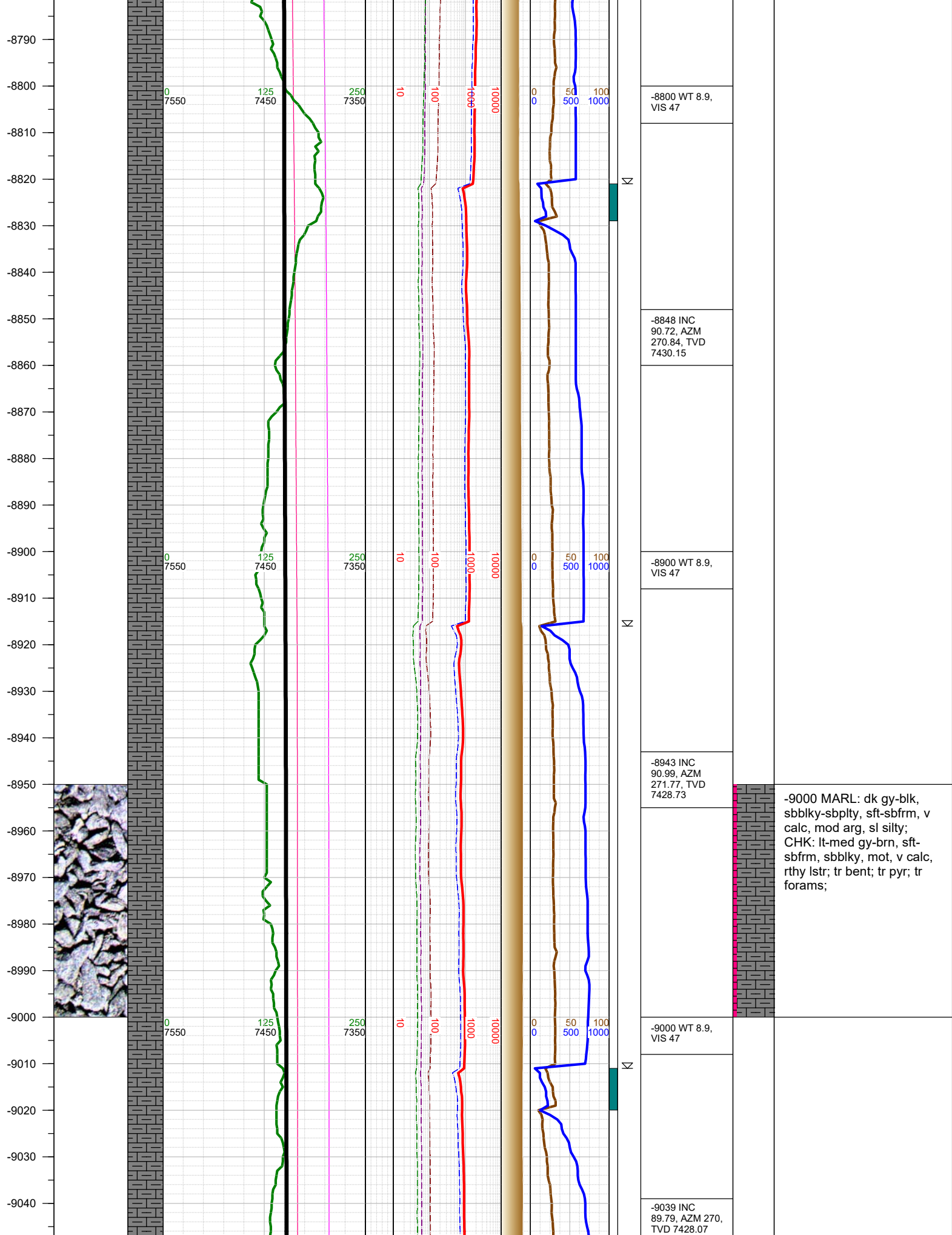




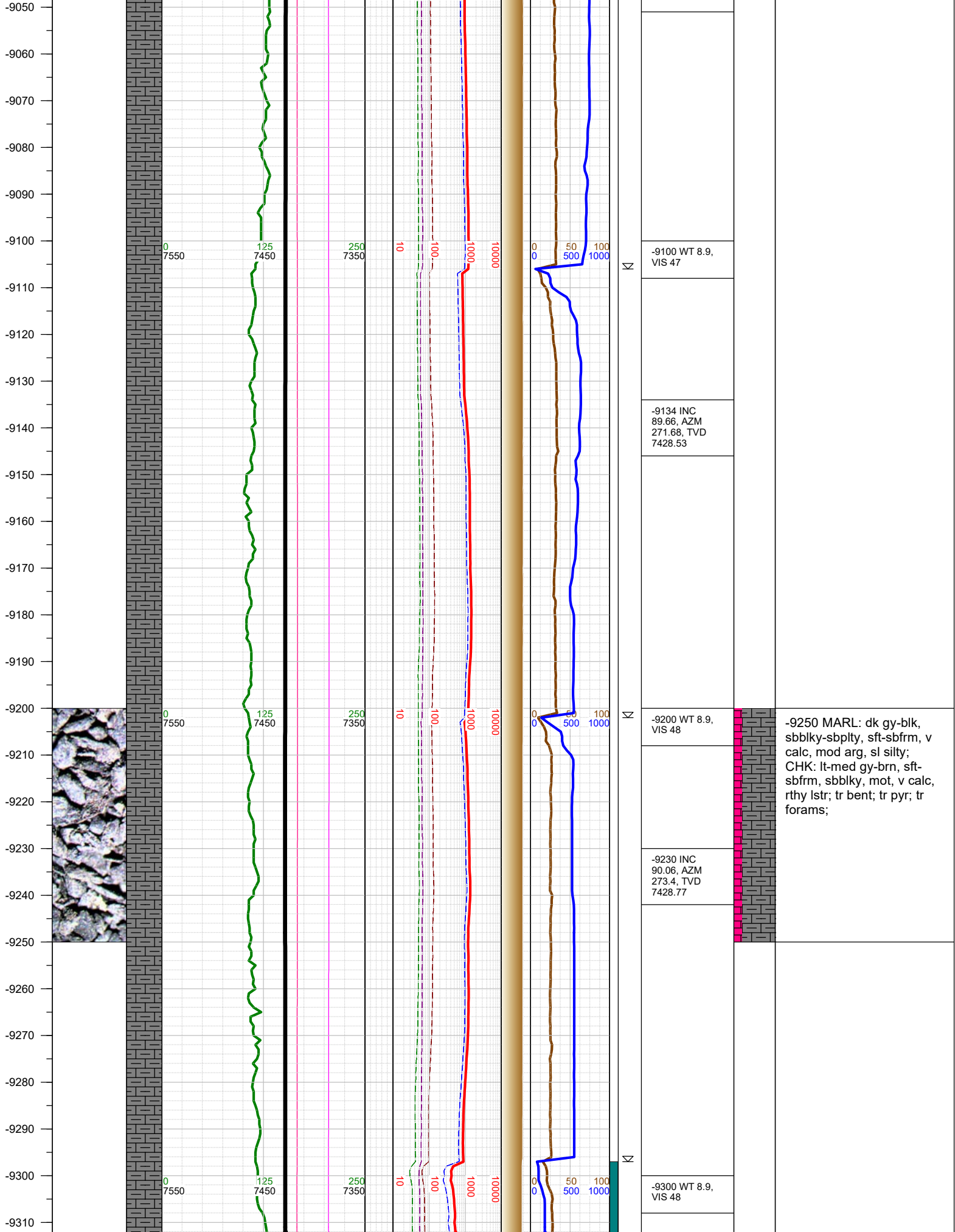


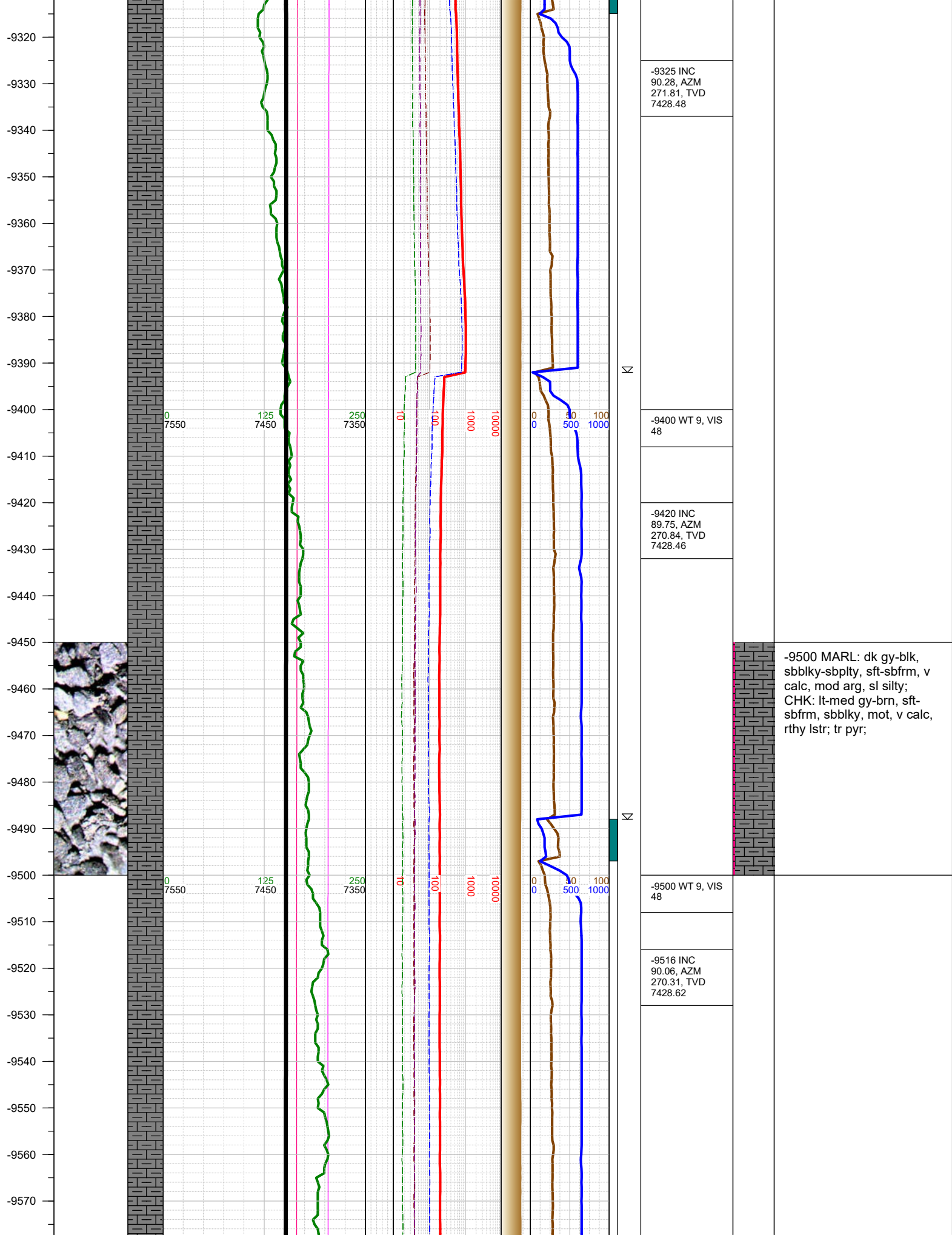


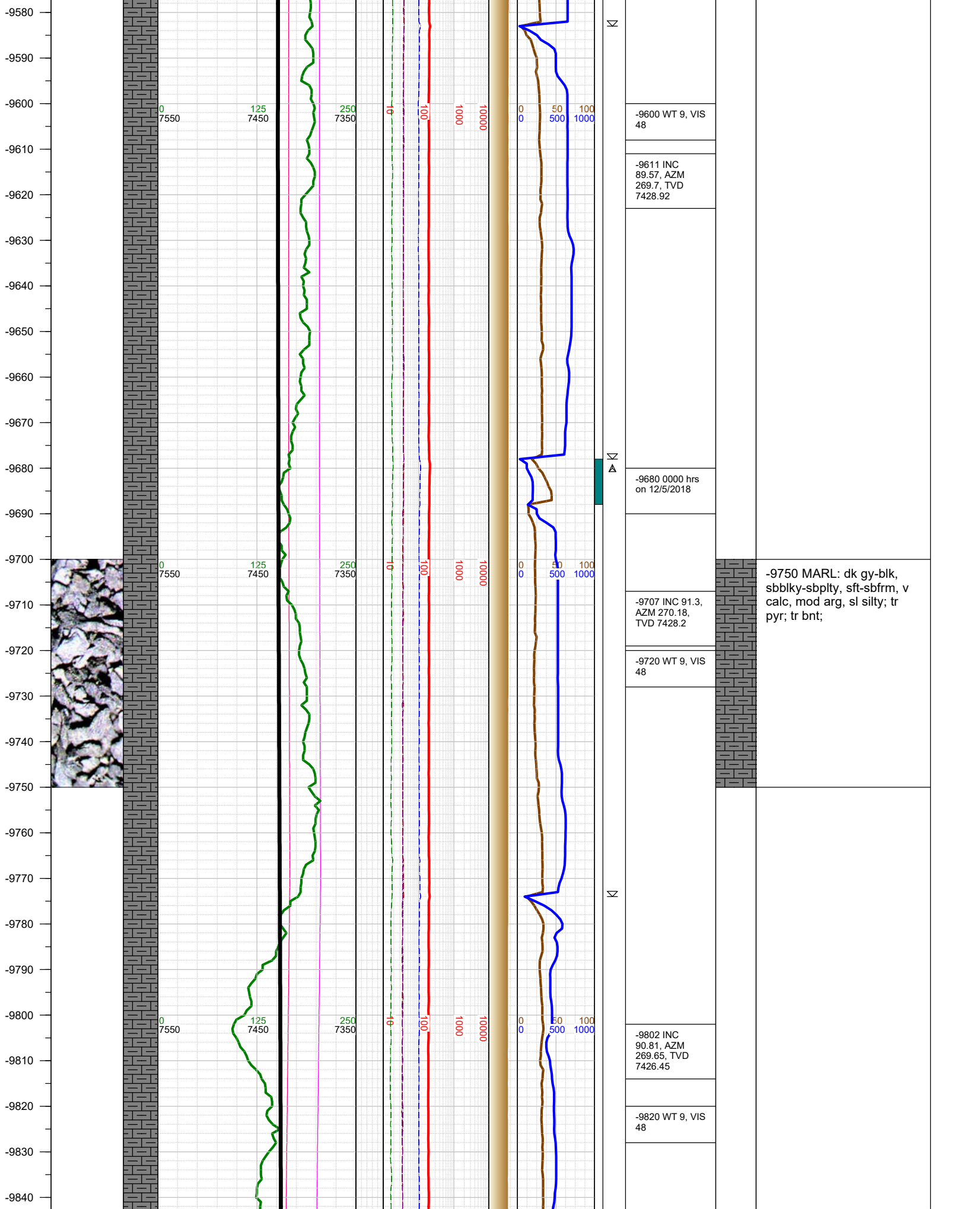




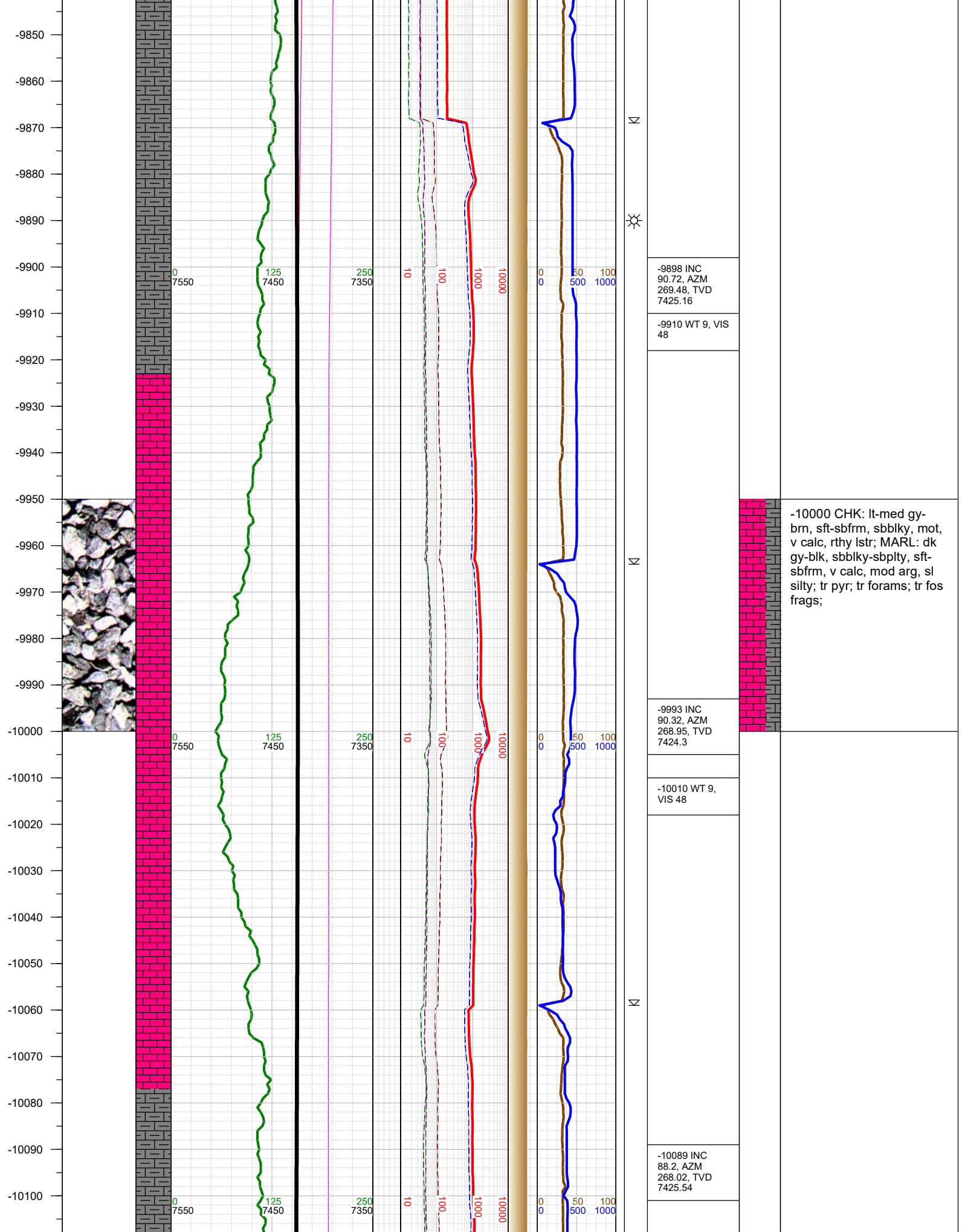




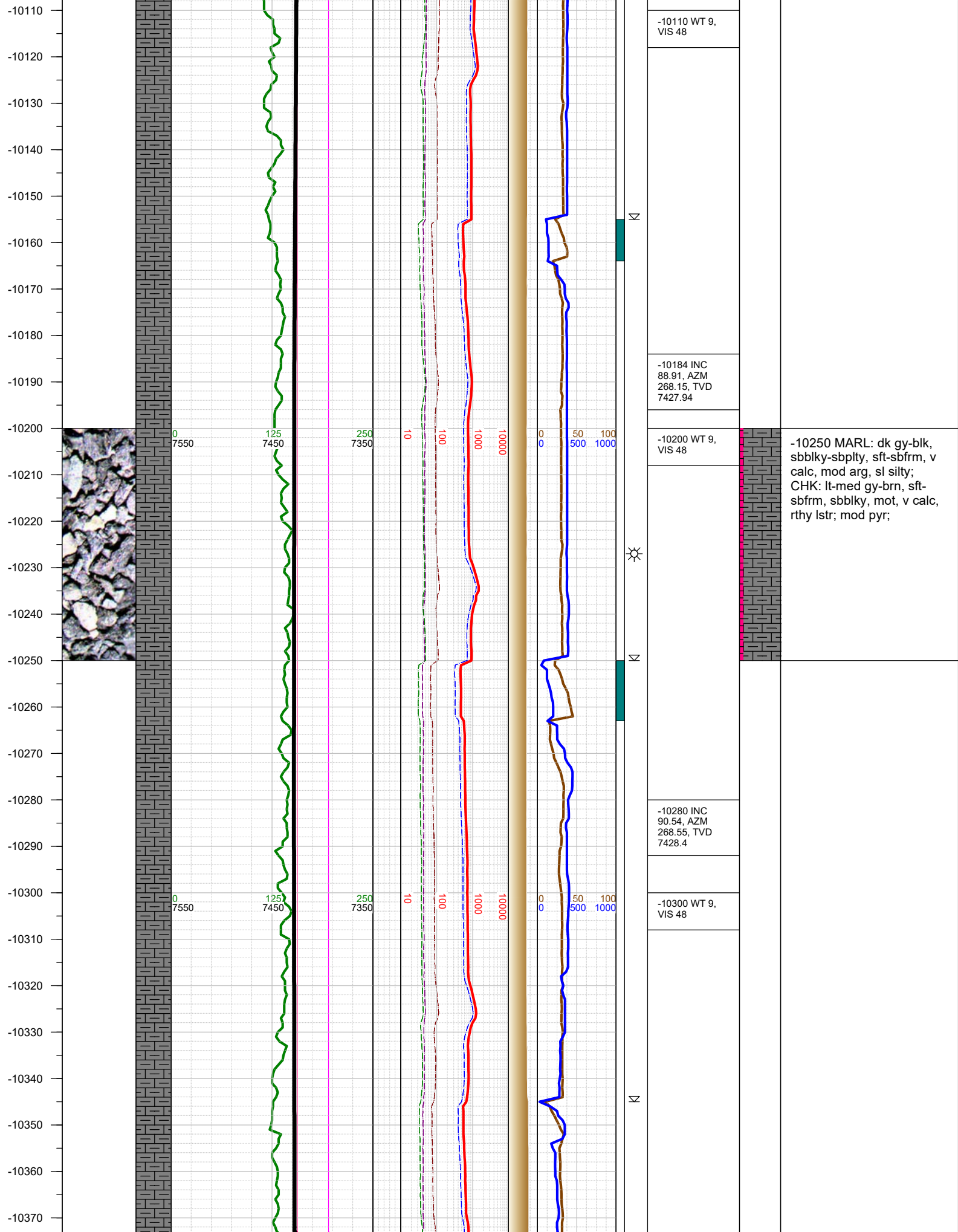


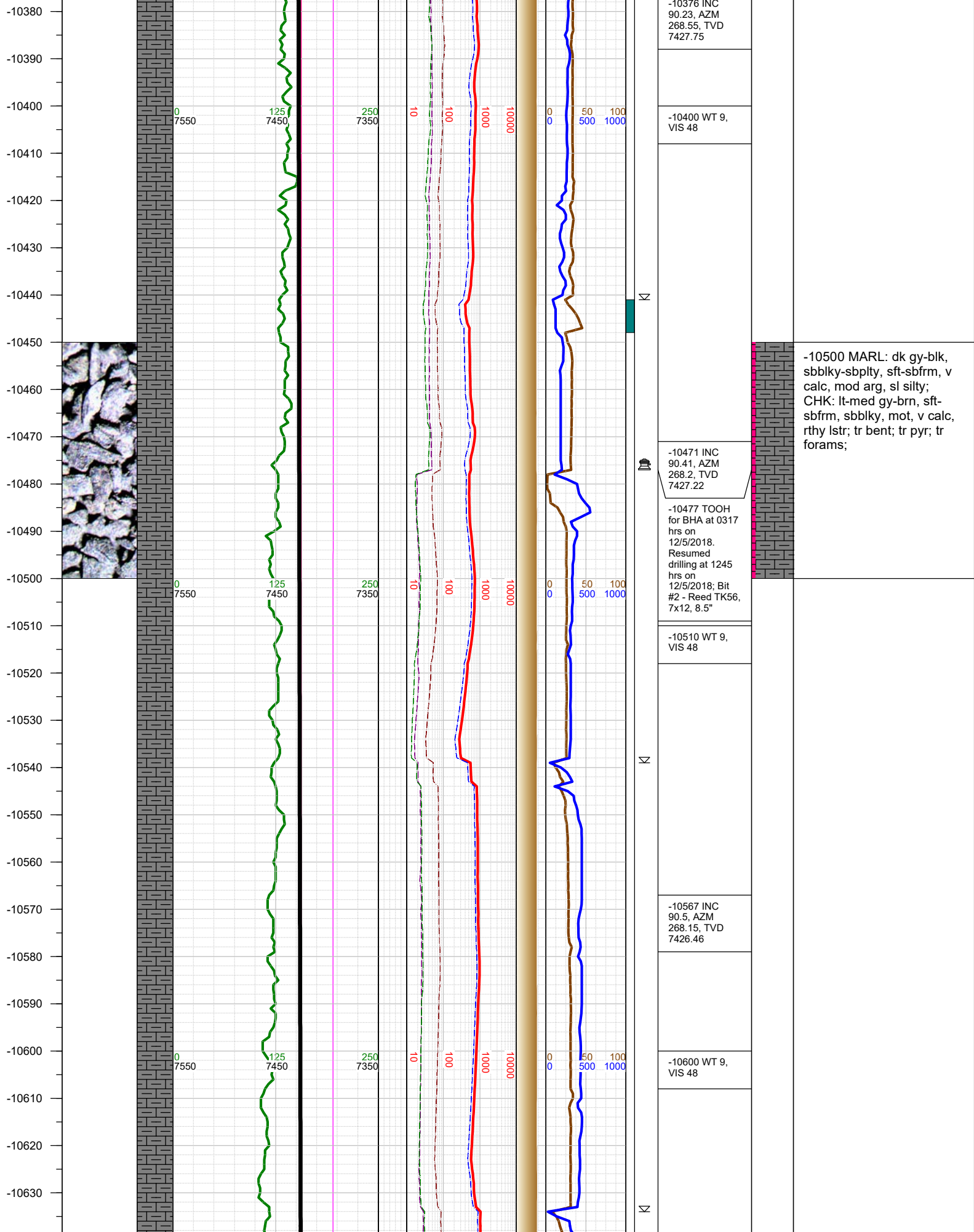


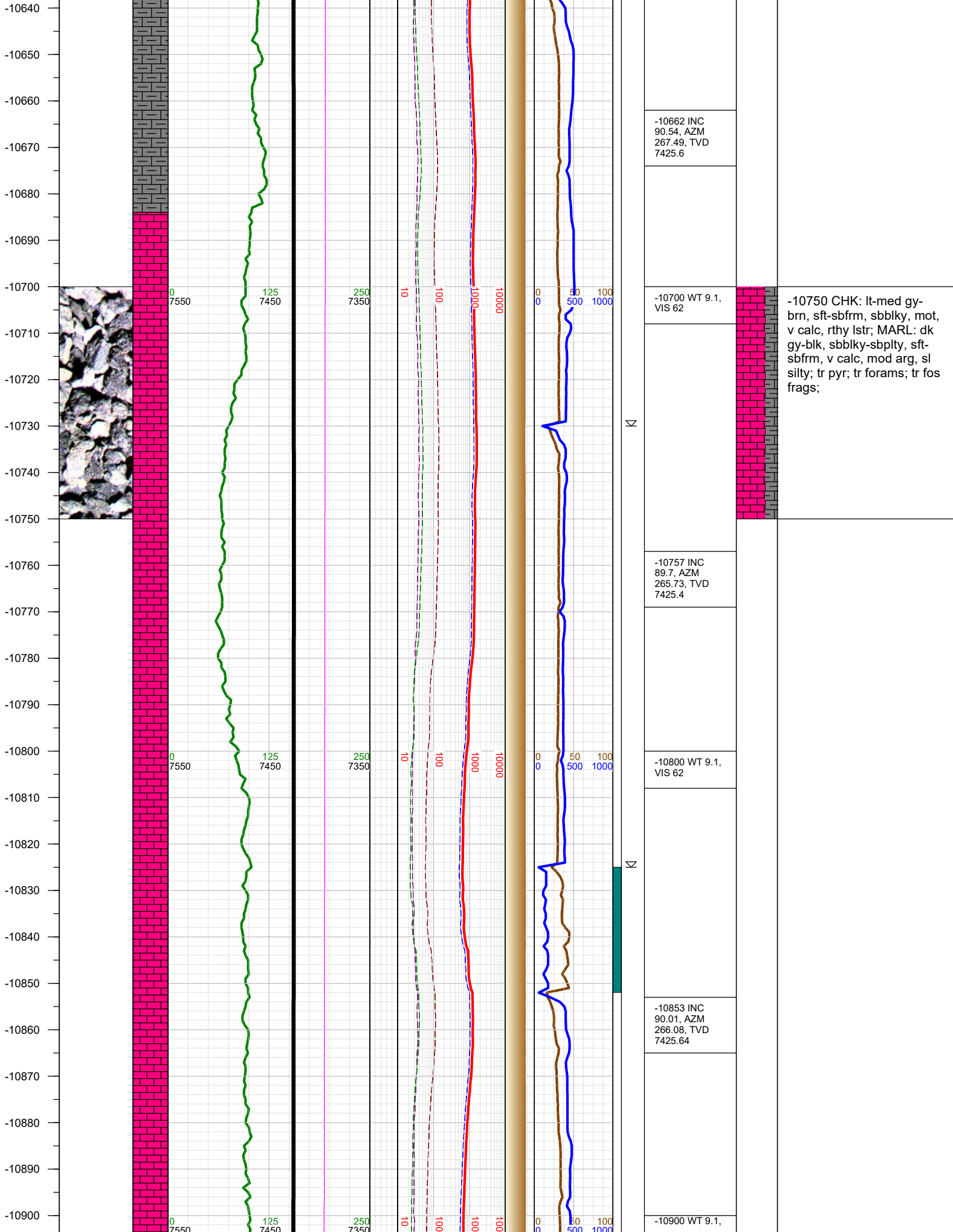




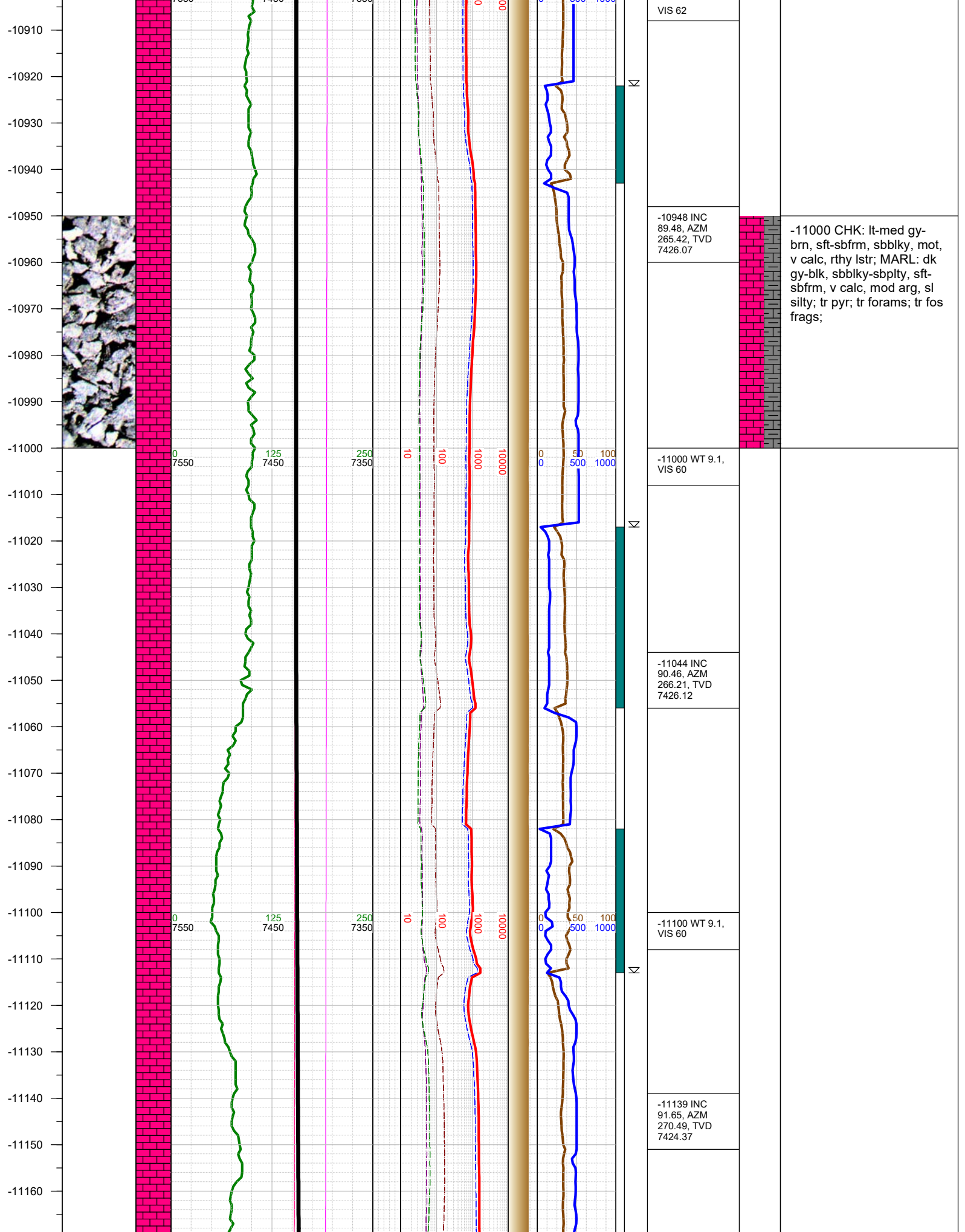




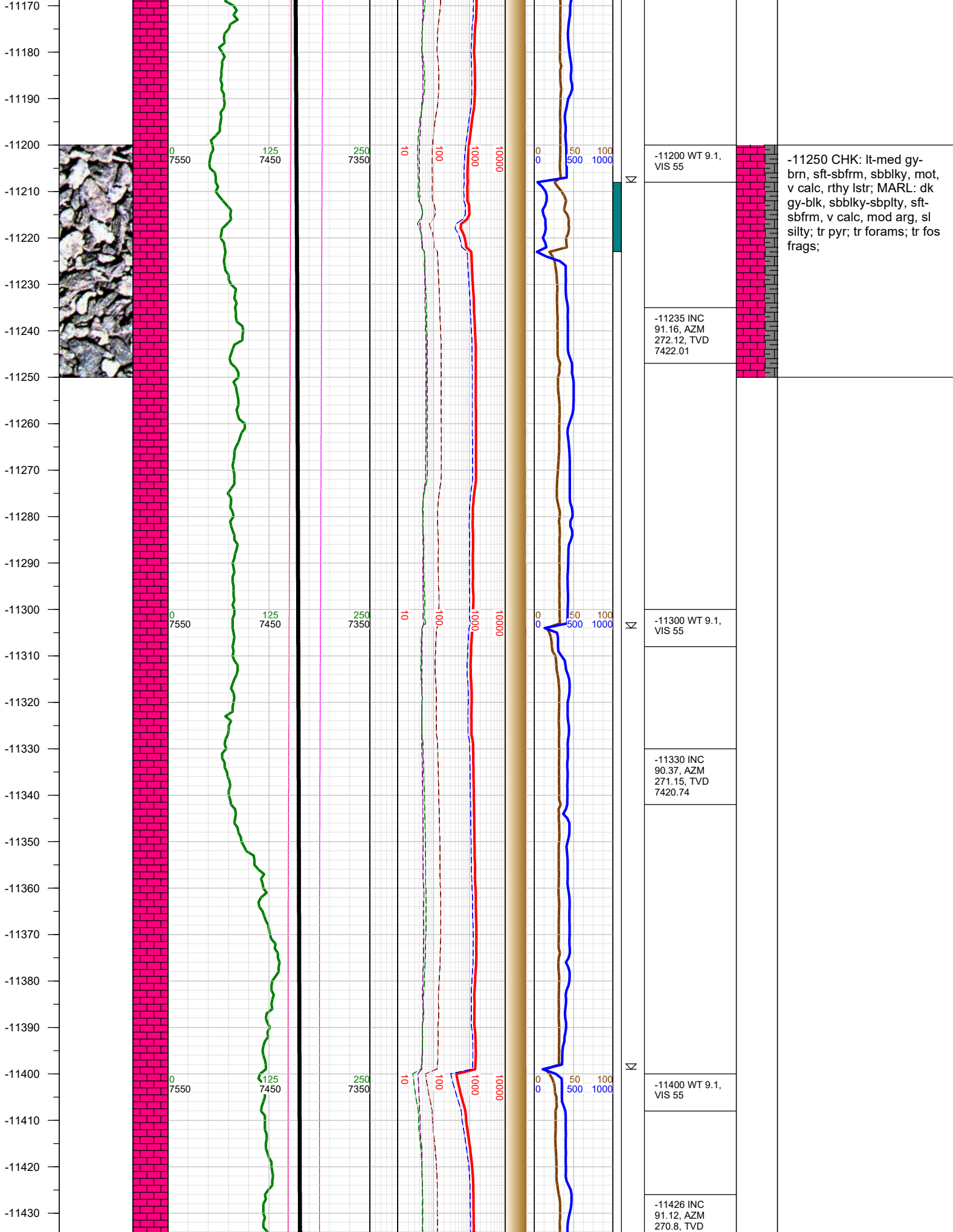






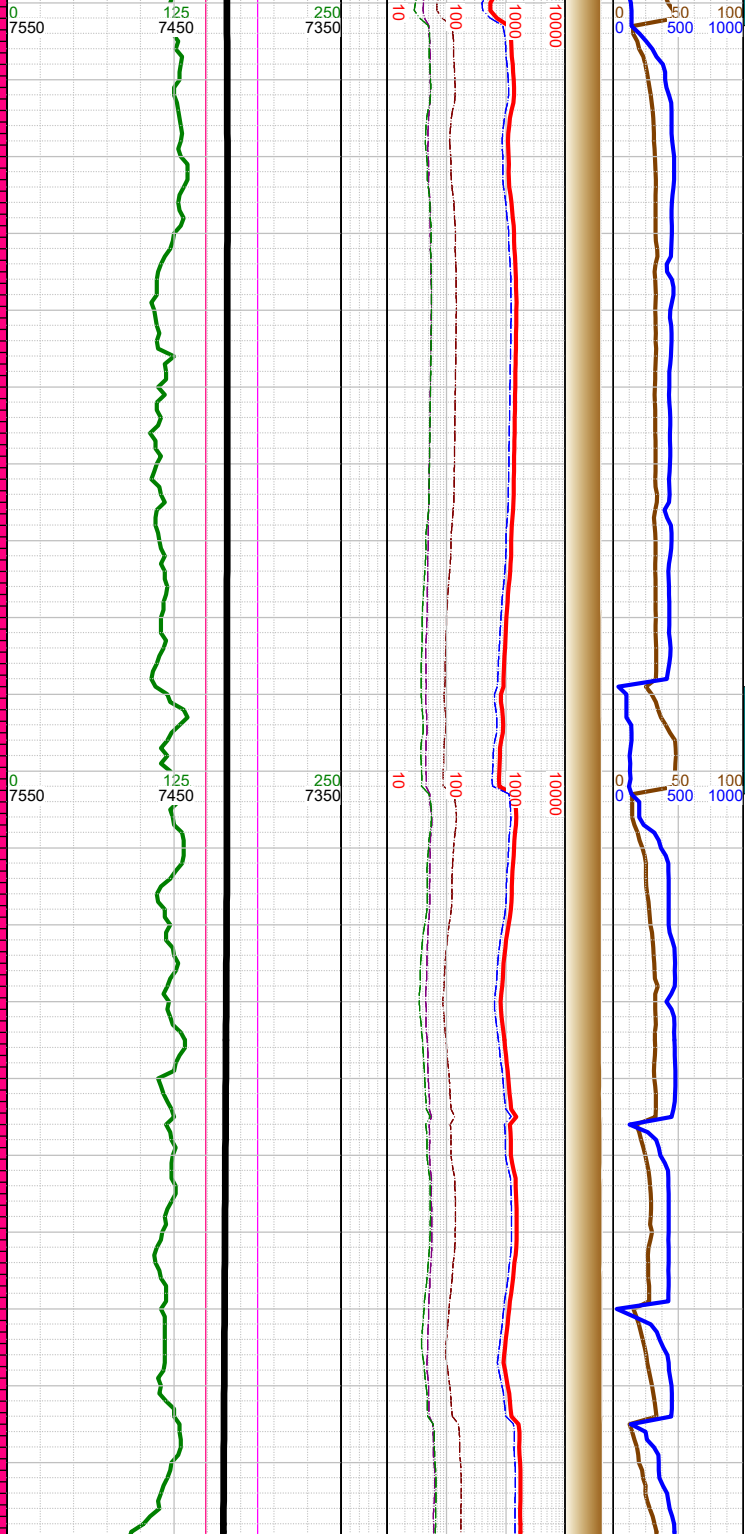
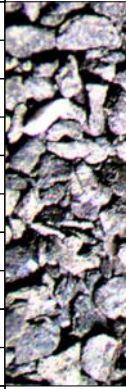






-11250 CHK: lt-med gy-brn, sft-sbfrm, sbbkly, mot, v calc, rthy lstr; MARL: dk gy-blk, sbbkly-sbplty, sft-sbfrm, v calc, mod arg, sl silty; tr pyr; tr forams; tr fos frags;

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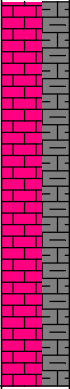
7419.49

-11500 WT 9.1,  
VIS 53

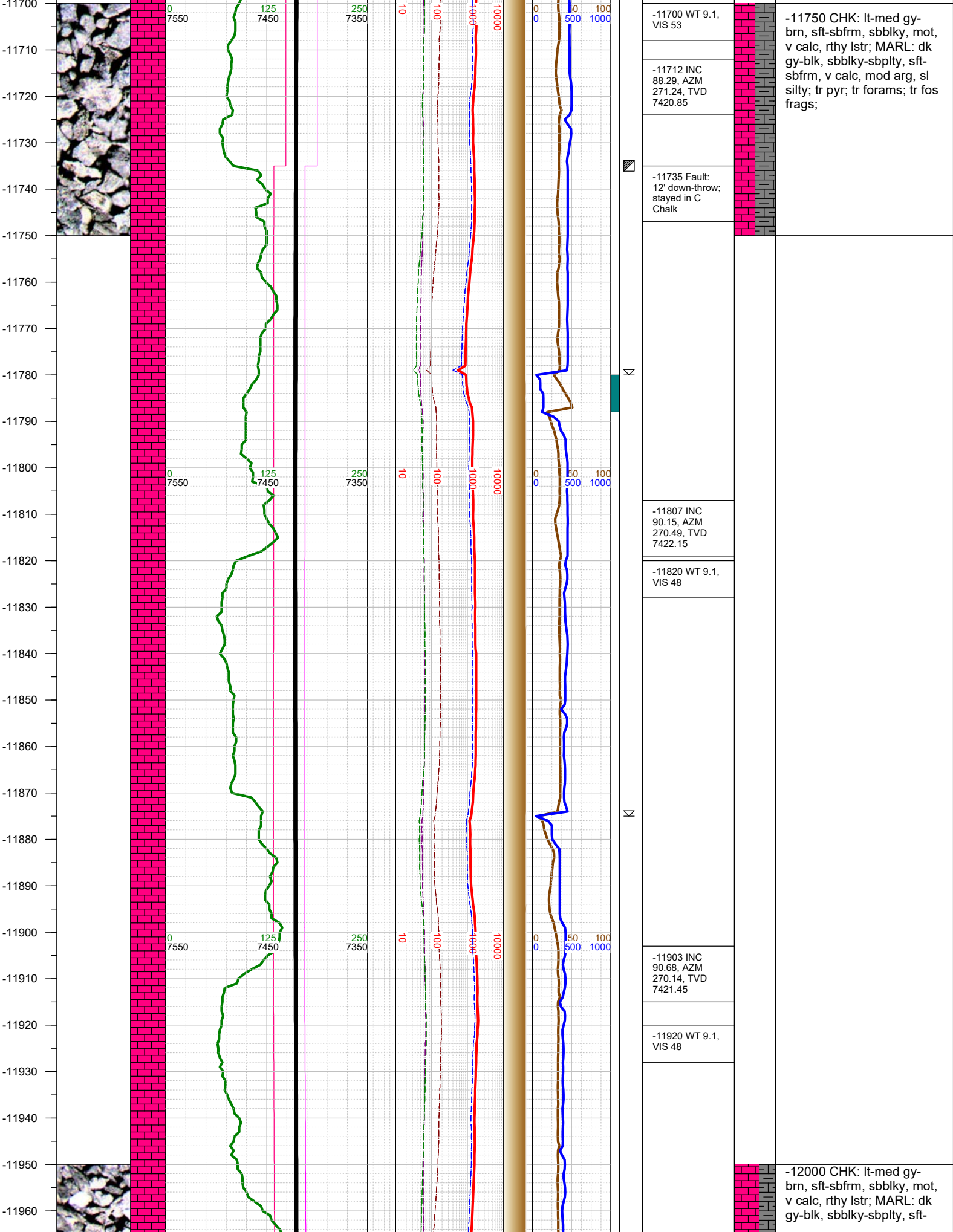
-11521 INC  
90.54, AZM  
270.8, TVD  
7418.12

-11600 WT 9.1,  
VIS 53

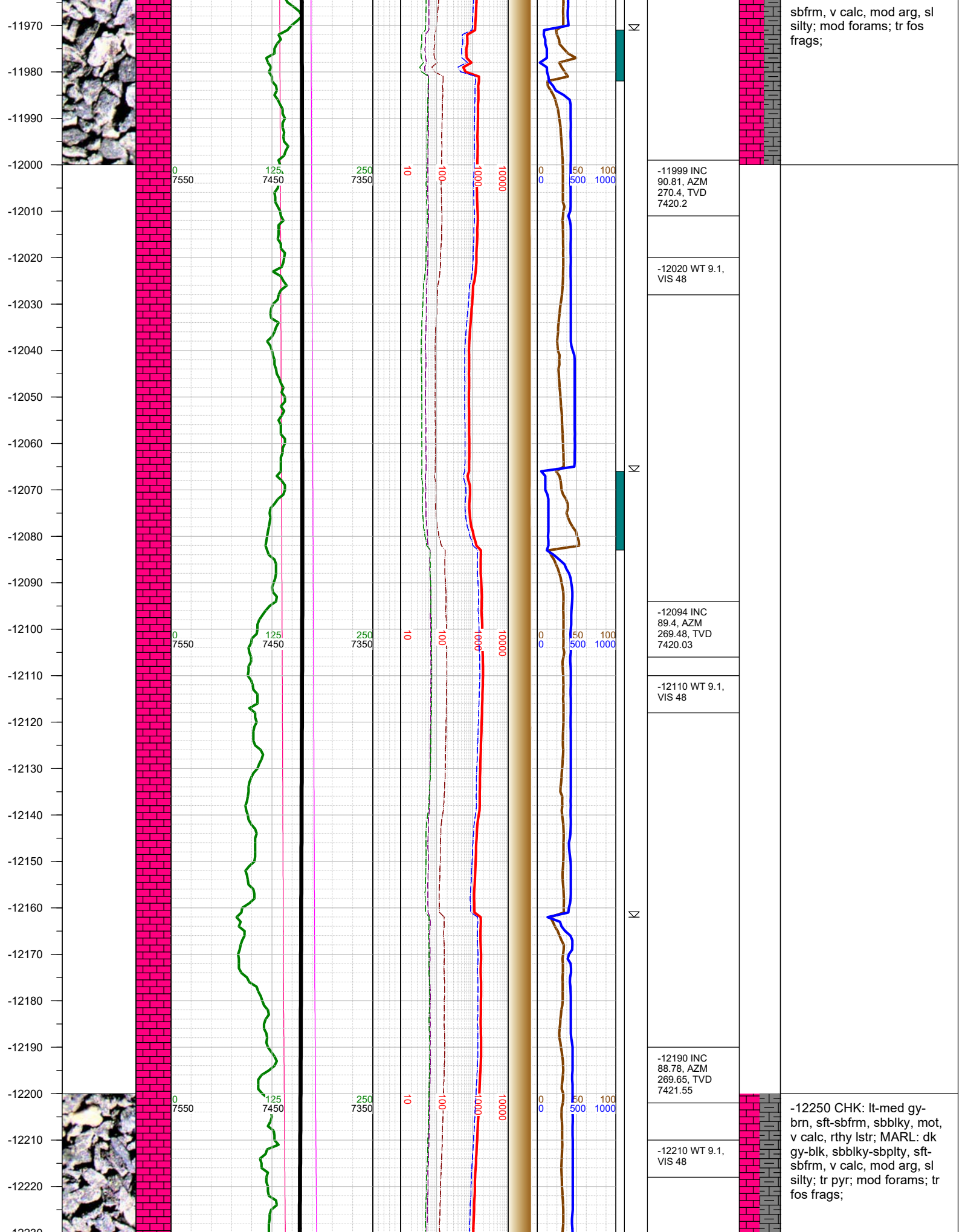
-11616 INC  
88.95, AZM  
271.59, TVD  
7418.54

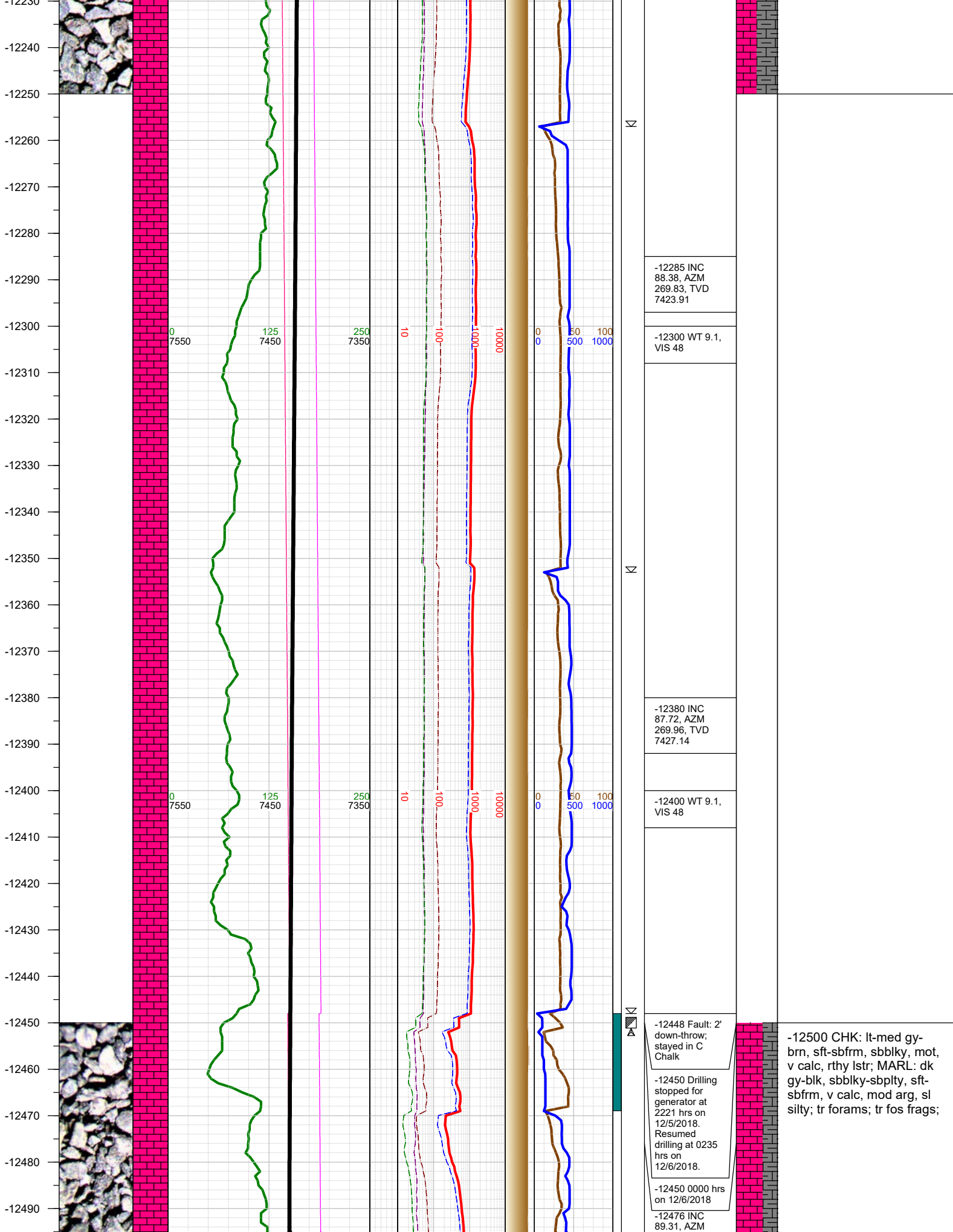


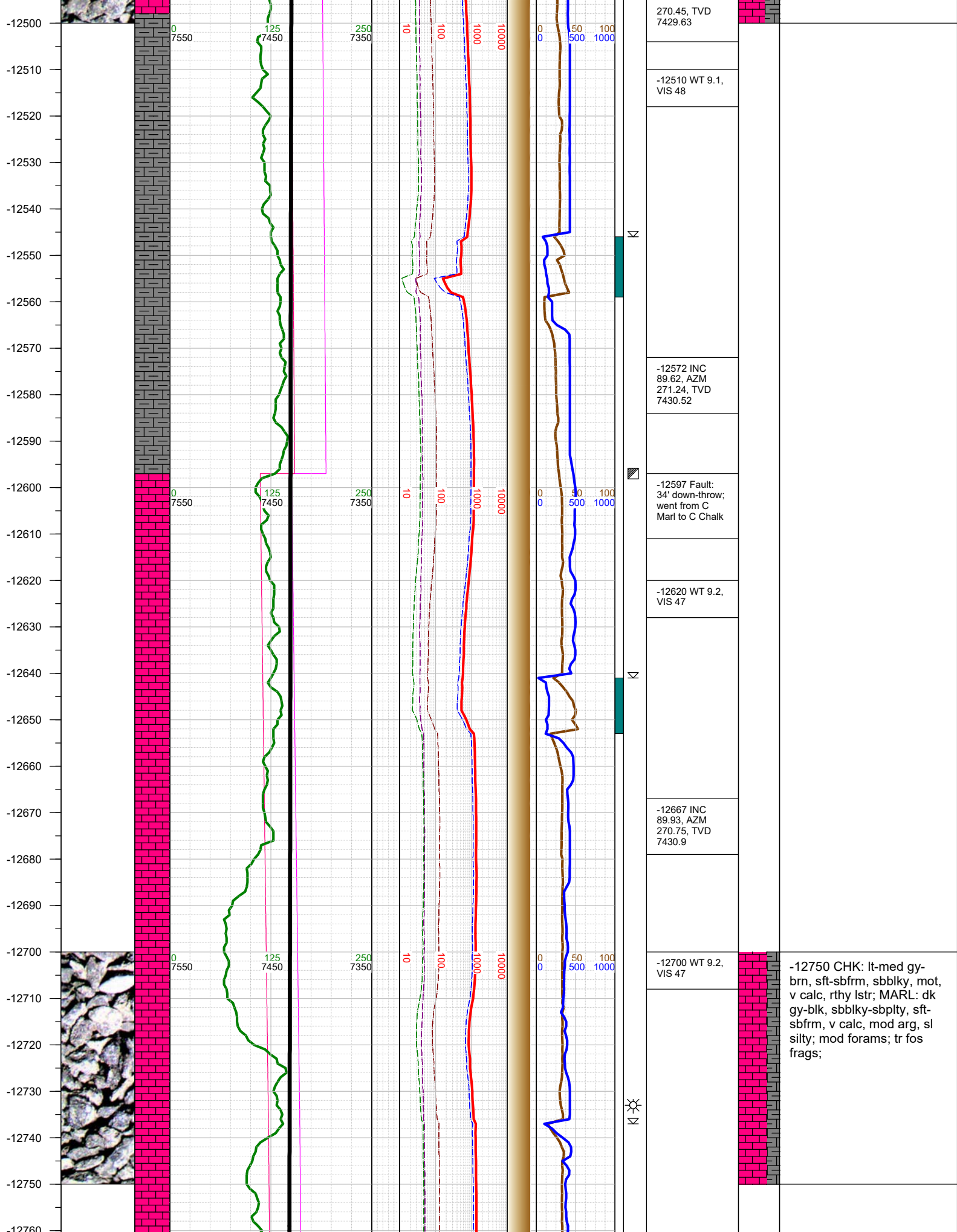
-11500 CHK: lt-med gy-brn, sft-sbfrm, sbbkly, mot, v calc, rthy lstr; MARL: dk gy-blk, sbbkly-sbply, sft-sbfrm, v calc, mod arg, sl silty; tr pyr; tr forams; tr fos frags;



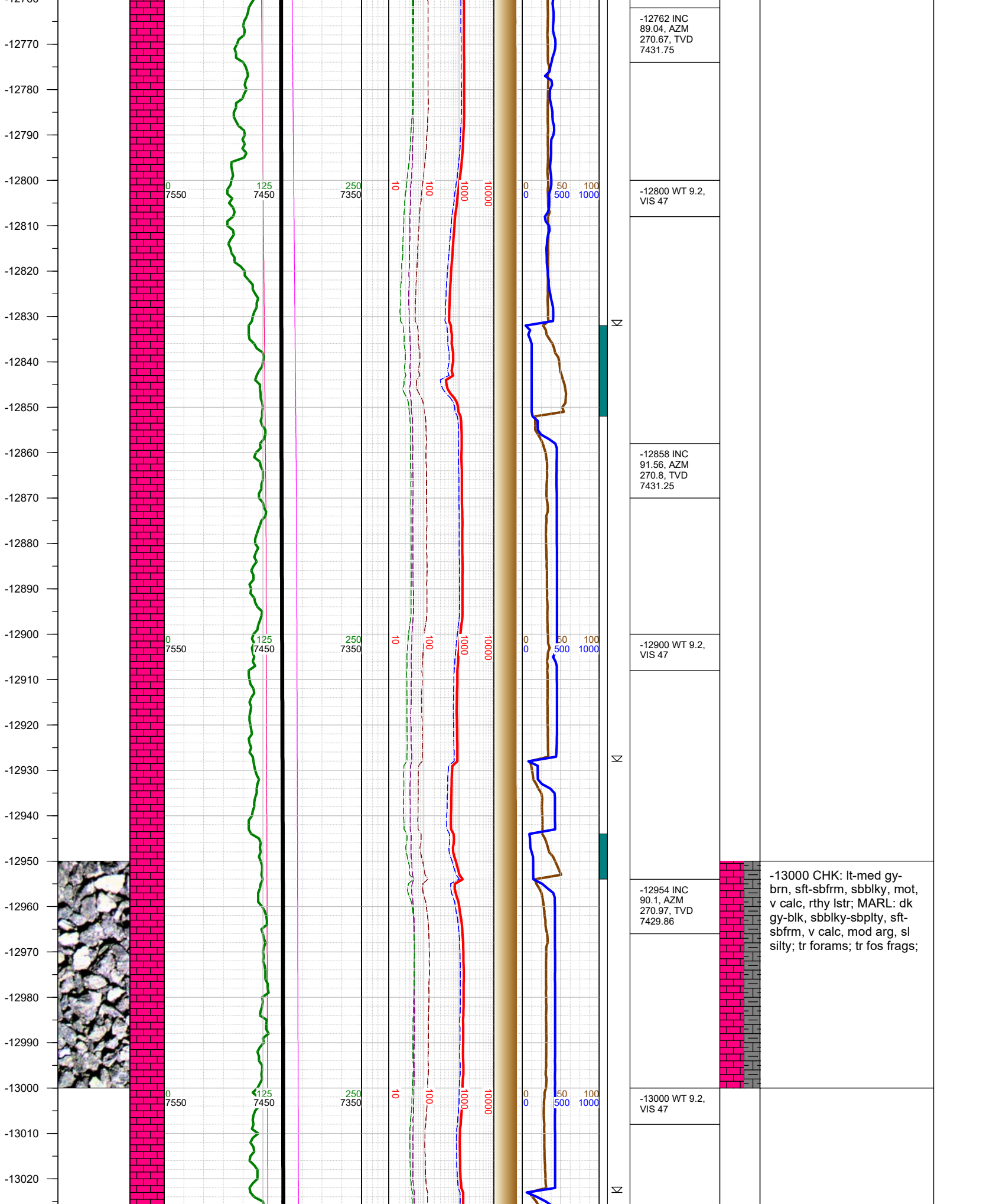




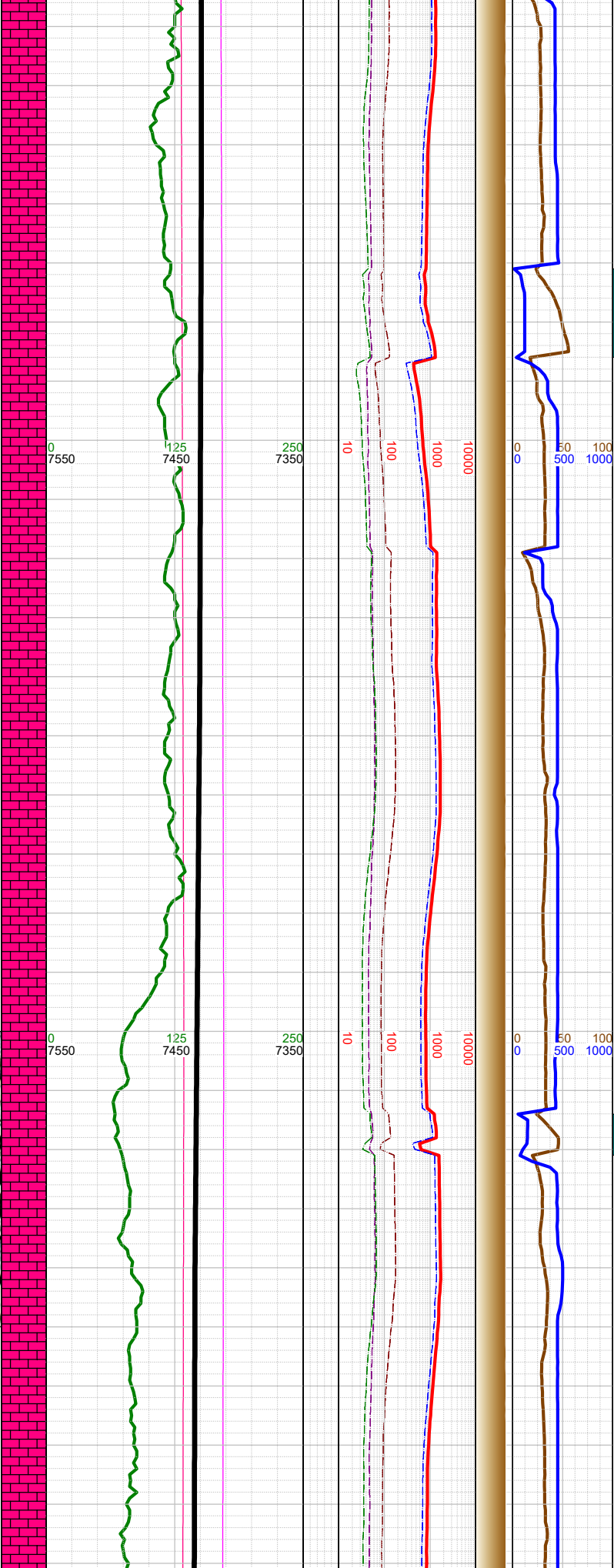
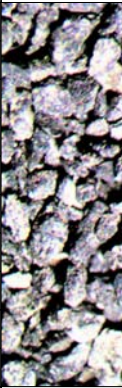








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-13049 INC  
90.59, AZM  
272.38, TVD  
7429.29

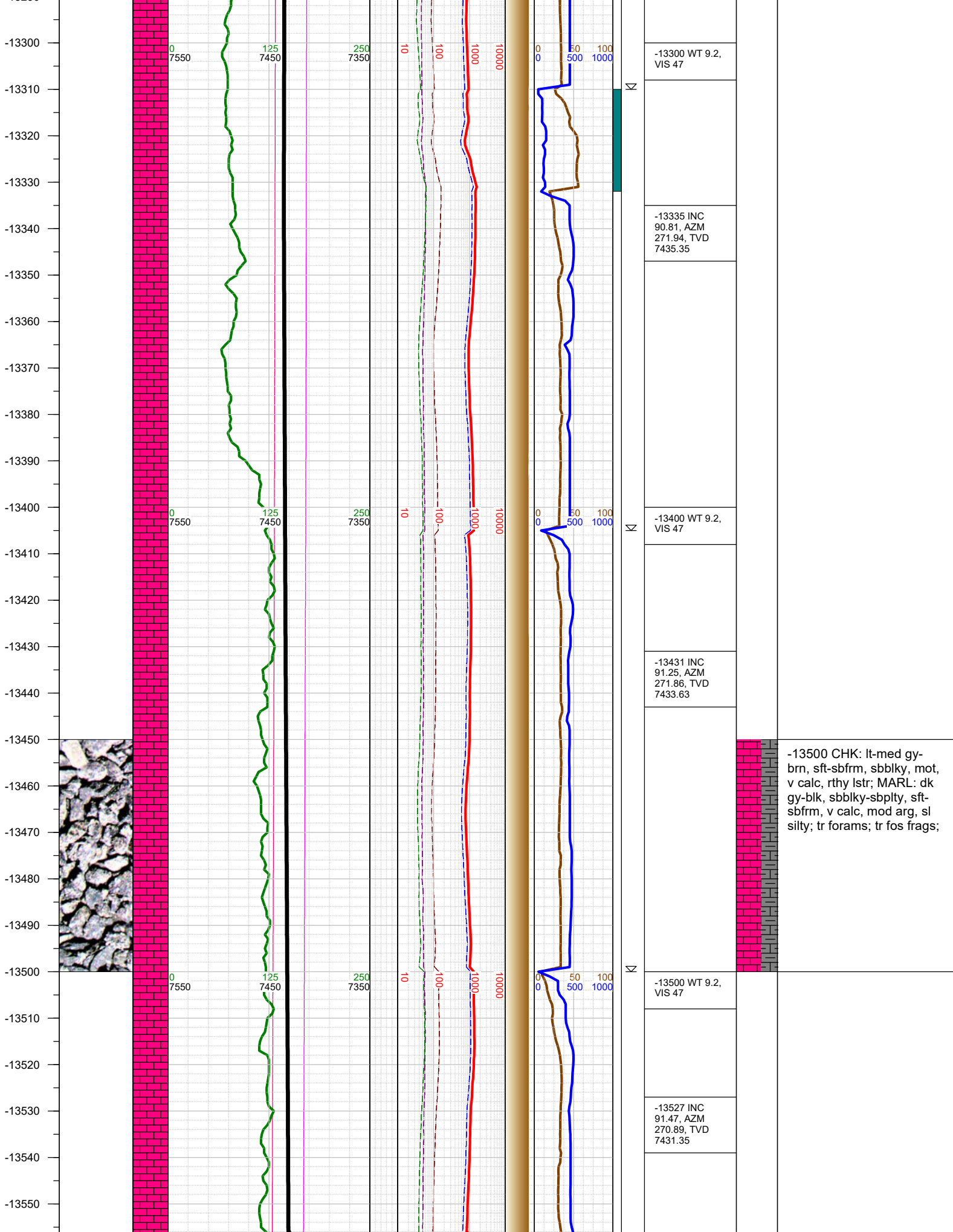
-13100 WT 9.2,  
VIS 47

-13145 INC  
87.76, AZM  
271.55, TVD  
7430.67

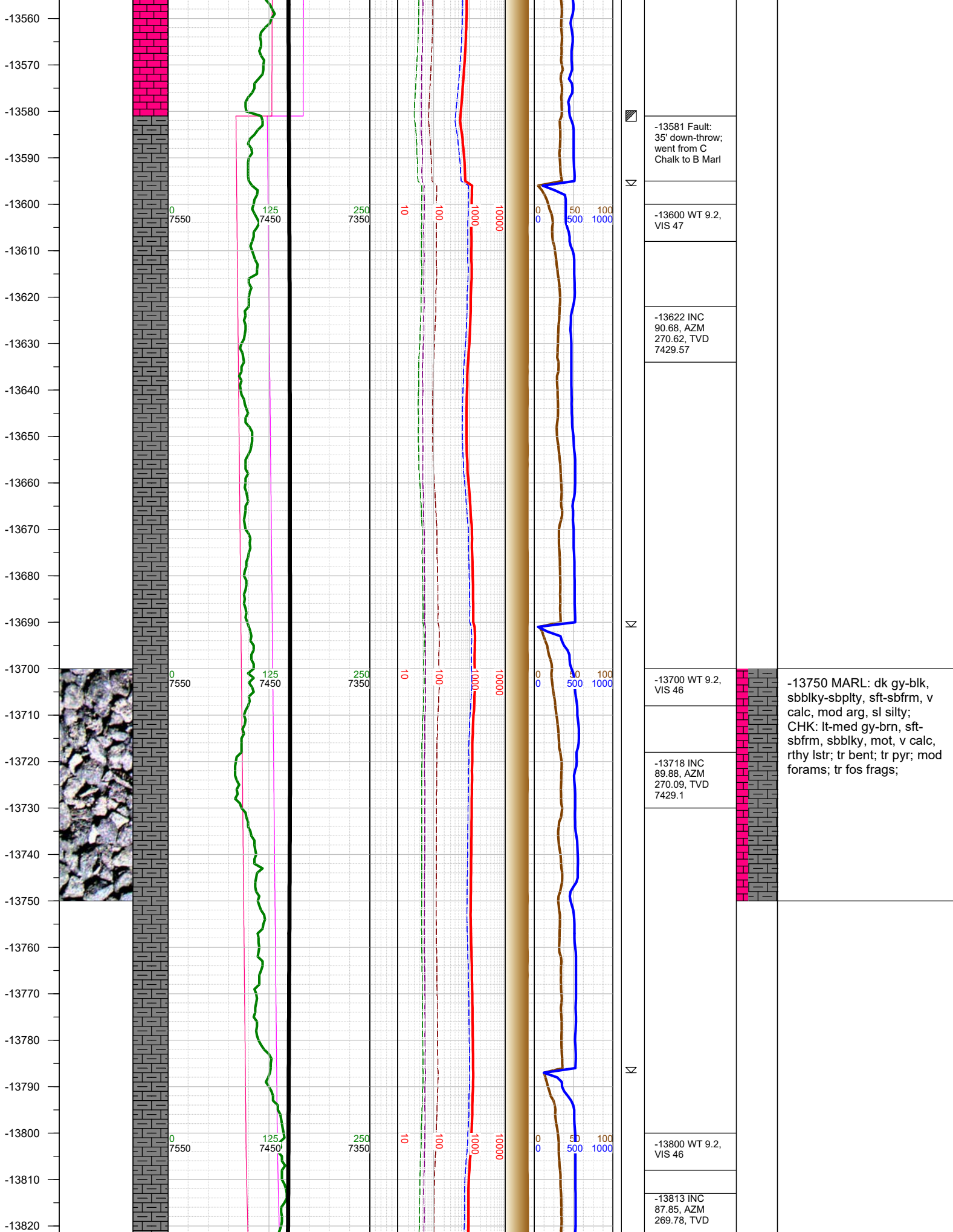
-13200 WT 9.2,  
VIS 47

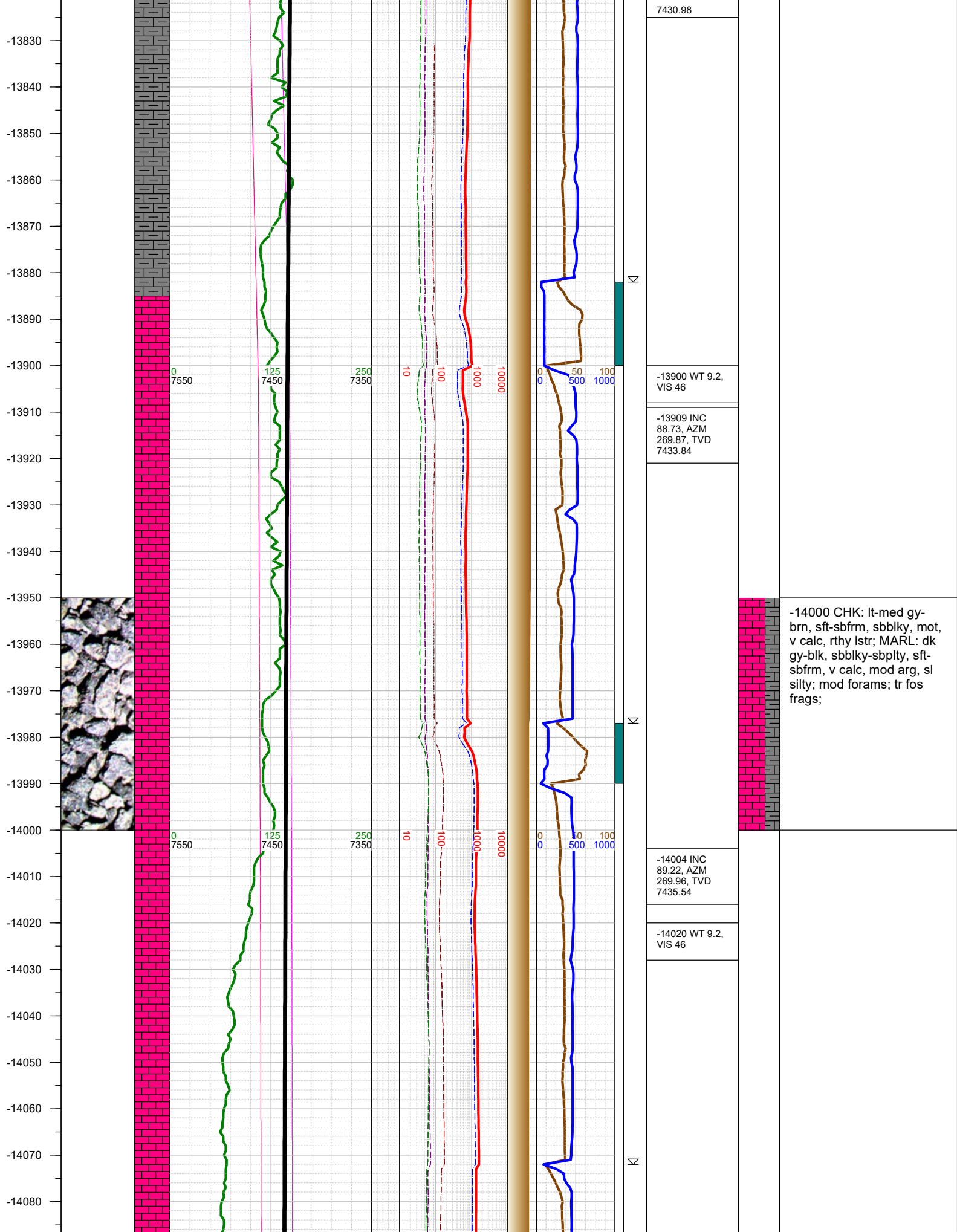
-13240 INC  
87.89, AZM  
272.43, TVD  
7434.27

-13250 CHK: lt-med gy-  
bm, sft-sbfrm, sbbkly, mot,  
v calc, rthy lstr; MARL: dk  
gy-blk, sbbkly-sbply, sft-  
sbfrm, v calc, mod arg, sl  
silty; tr forams; tr fos frags;

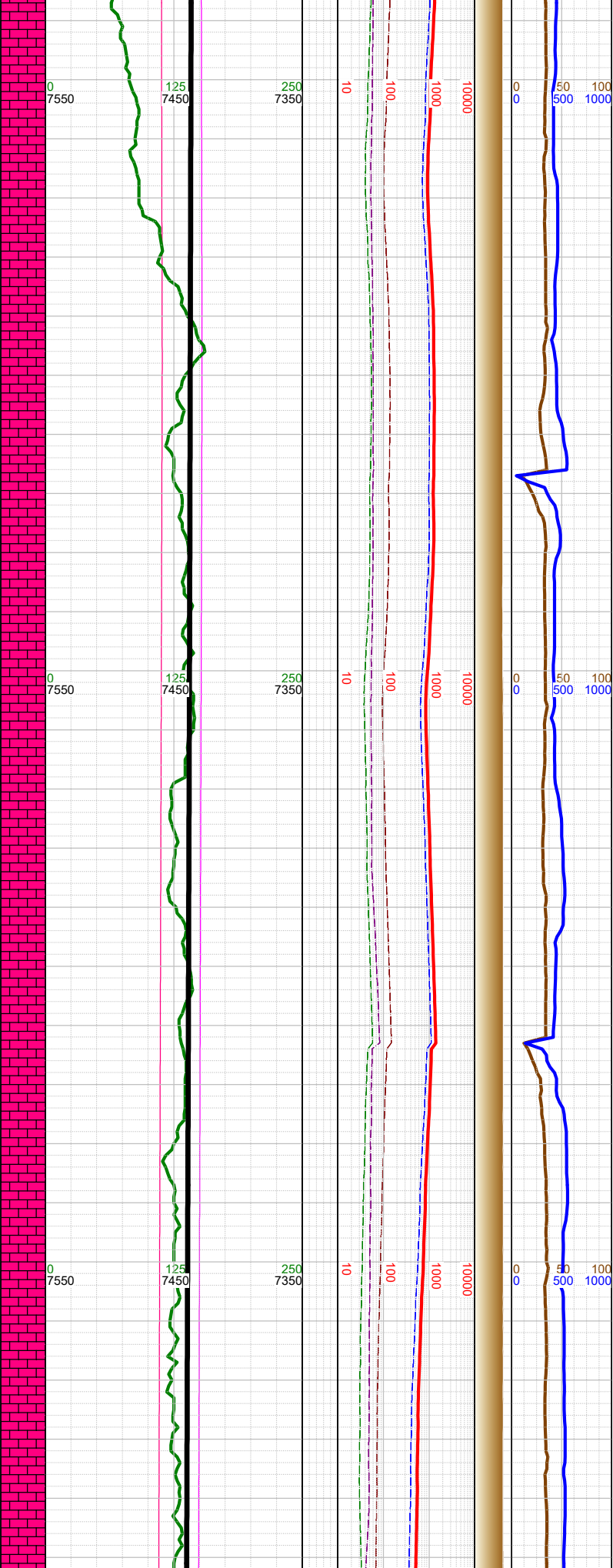




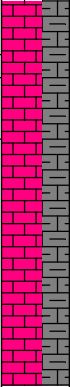




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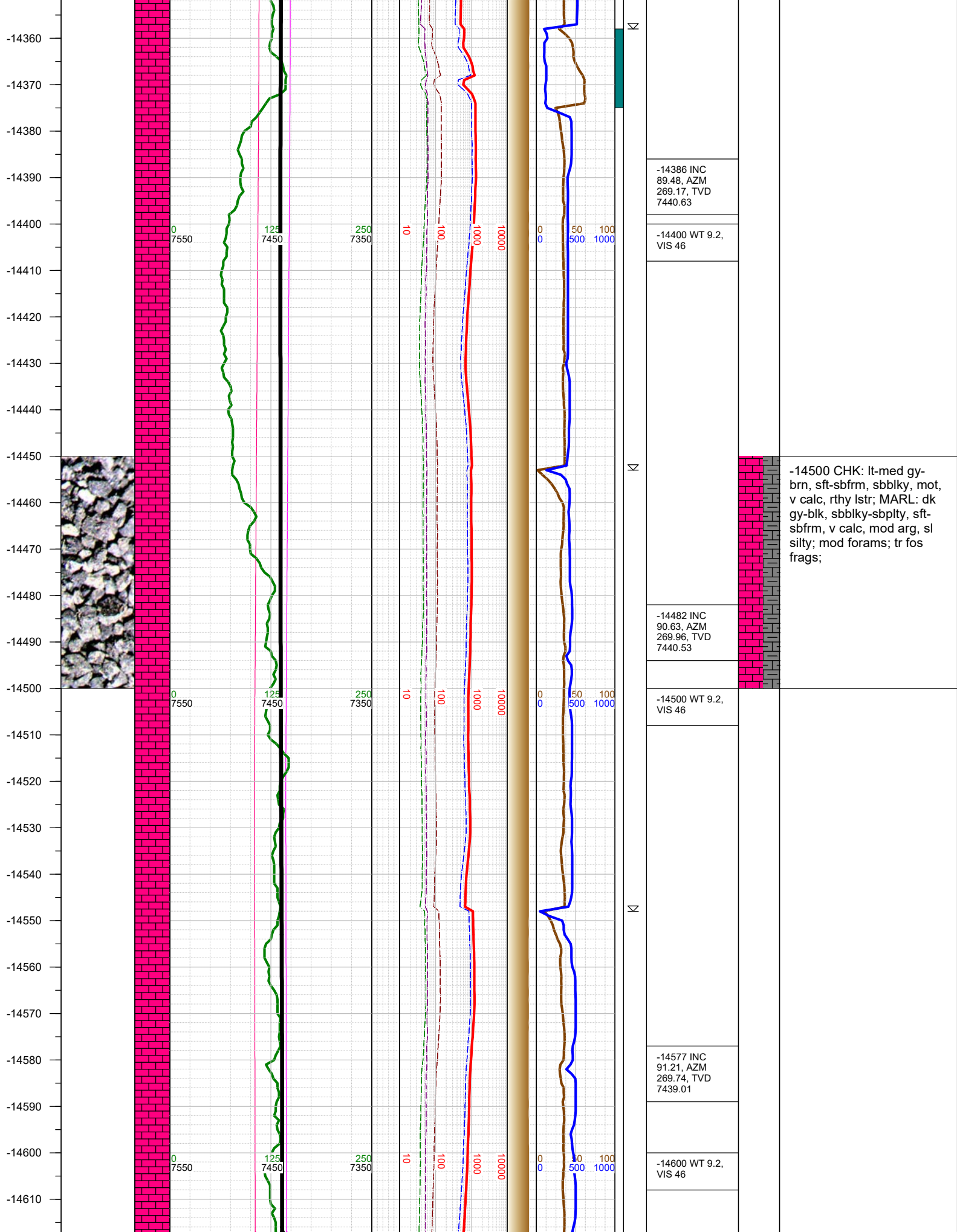


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| -14100 INC<br>89.26, AZM<br>269.87, TVD<br>7436.82 |
| -14120 WT 9.2,<br>VIS 46                           |
| -14195 INC<br>89.48, AZM<br>270.18, TVD<br>7437.86 |
| -14210 WT 9.2,<br>VIS 46                           |
| -14290 INC<br>88.86, AZM<br>269.03, TVD<br>7439.24 |
| -14310 WT 9.2,<br>VIS 46                           |

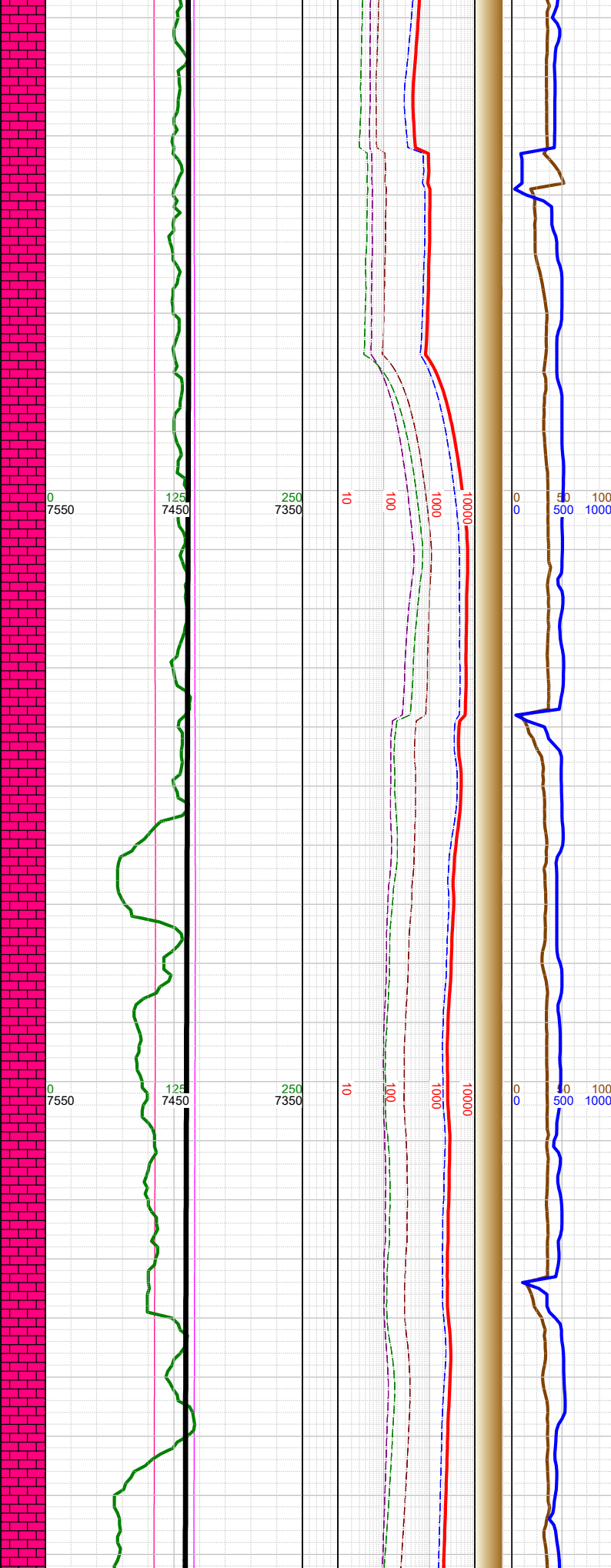
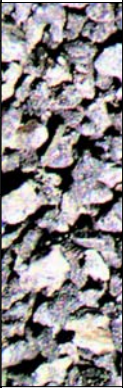


-14250 CHK: lt-med gy-  
brn, sft-sbfrm, sbblky, mot,  
v calc, rthy lstr; MARL: dk  
gy-blk, sbblky-sbplty, sft-  
sbfrm, v calc, mod arg, sl  
silty; tr forams; tr fos frags;





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-14673 INC  
89.17, AZM  
267.8, TVD  
7438.69

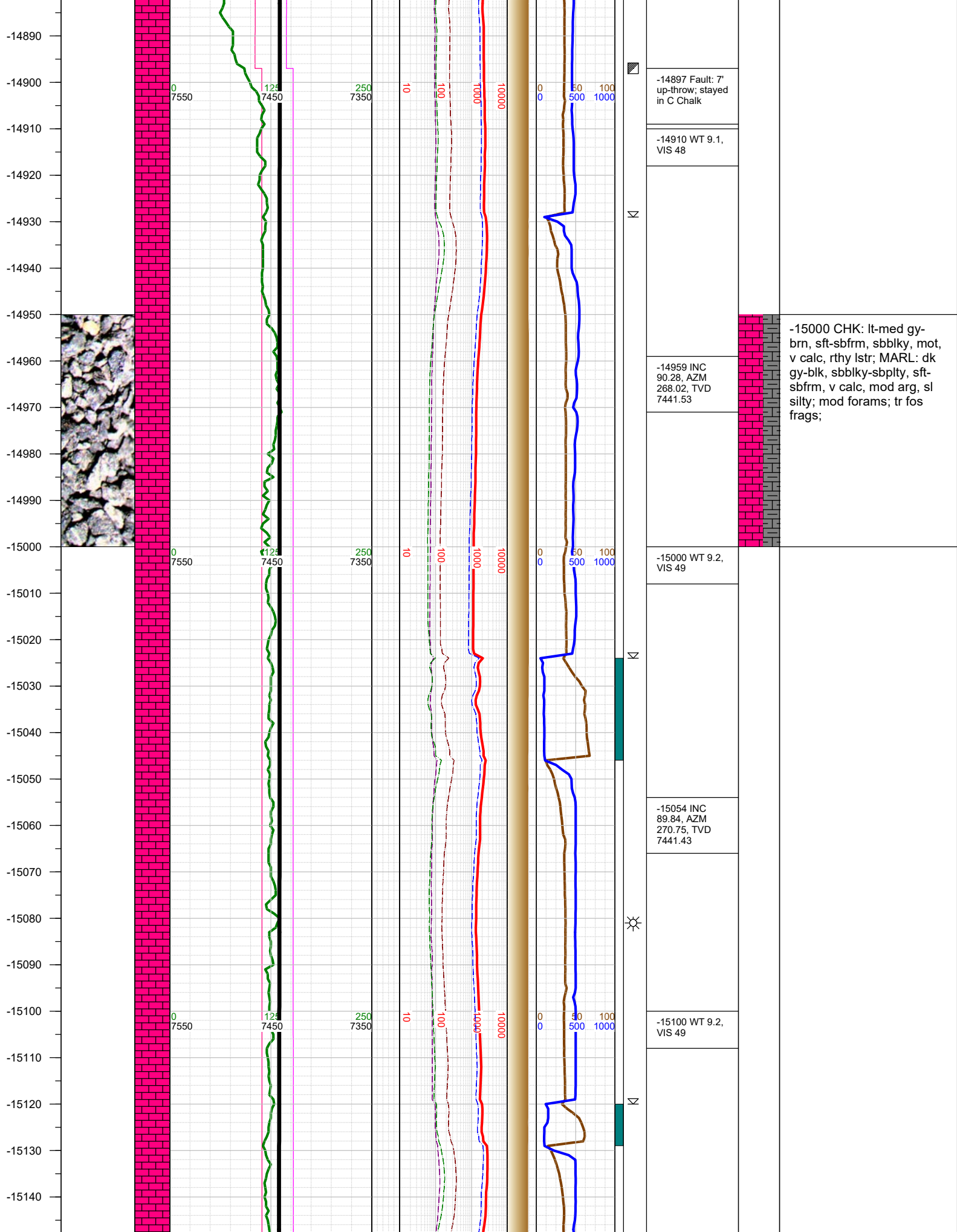
-14700 WT 9.1,  
VIS 48

-14769 INC  
89.35, AZM  
268.37, TVD  
7439.93

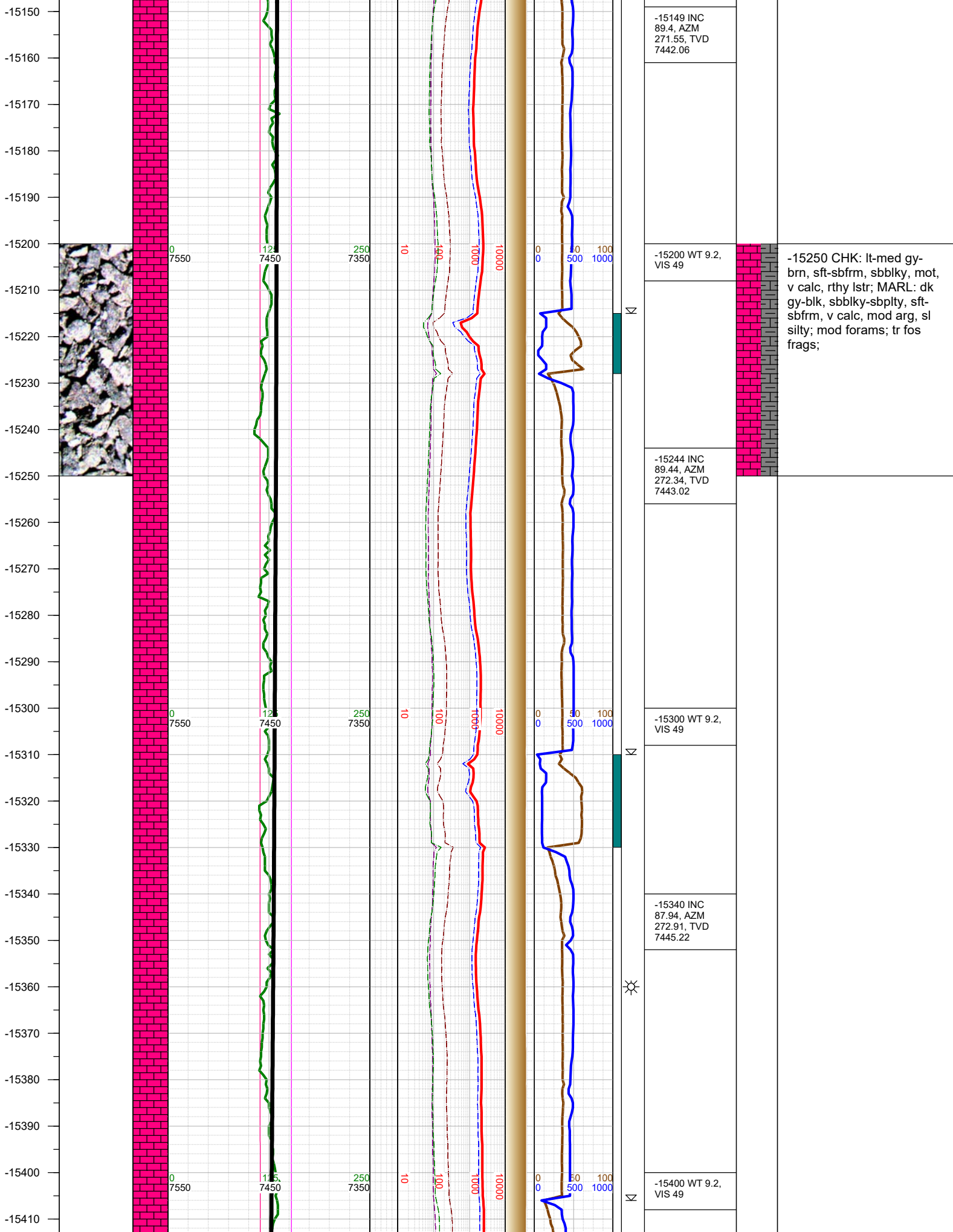
-14800 WT 9.1,  
VIS 48

-14864 INC  
89.22, AZM  
267.8, TVD  
7441.12

-14750 CHK: lt-med gy-  
bn, sft-sbfrm, sbblky, mot,  
v calc, rthy lstr; MARL: dk  
gy-blk, sbblky-sbplty, sft-  
sbfrm, v calc, mod arg, sl  
silty; mod forams; tr fos  
frags;







-15149 INC  
89.4, AZM  
271.55, TVD  
7442.06

-15200 WT 9.2,  
VIS 49

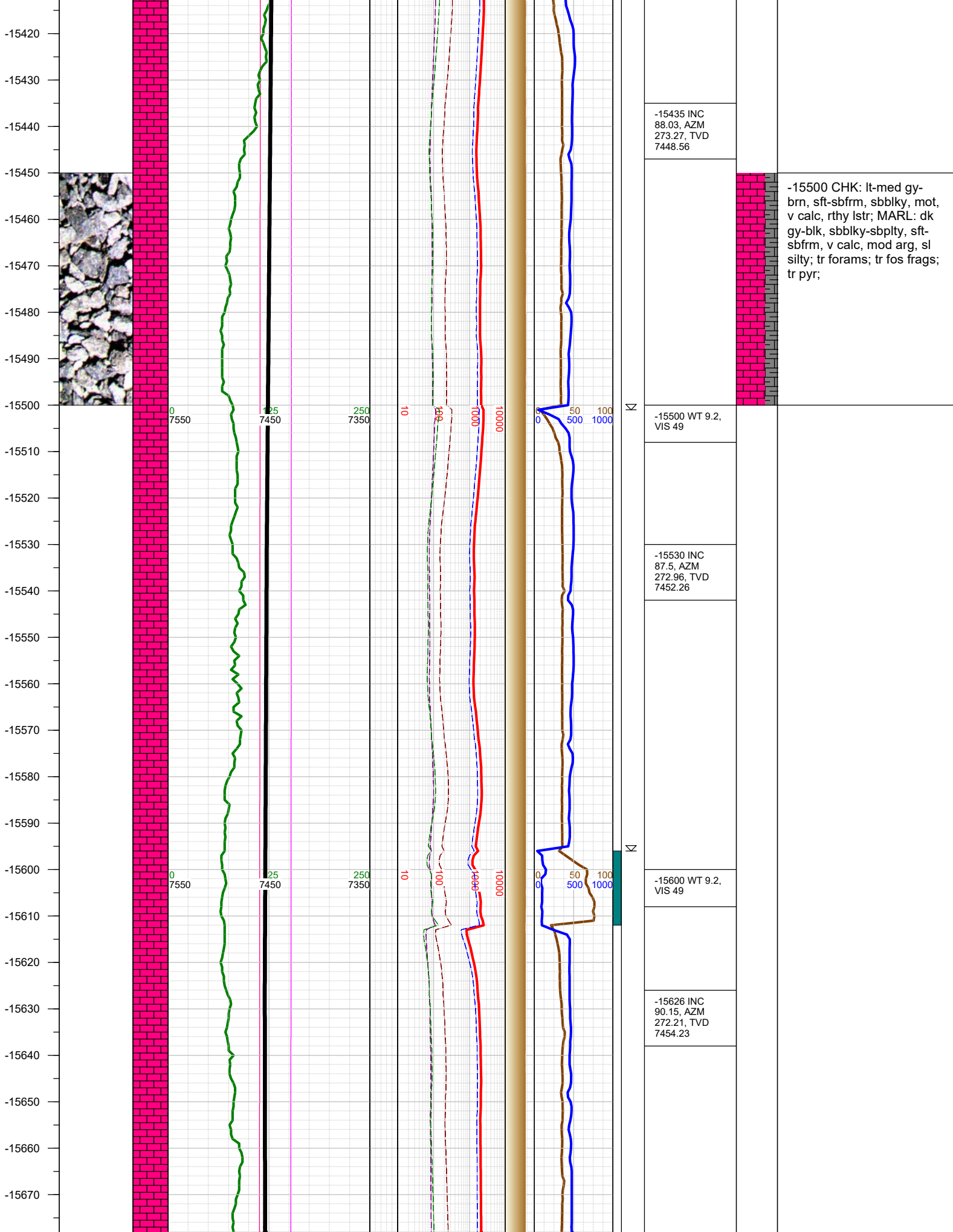
-15244 INC  
89.44, AZM  
272.34, TVD  
7443.02

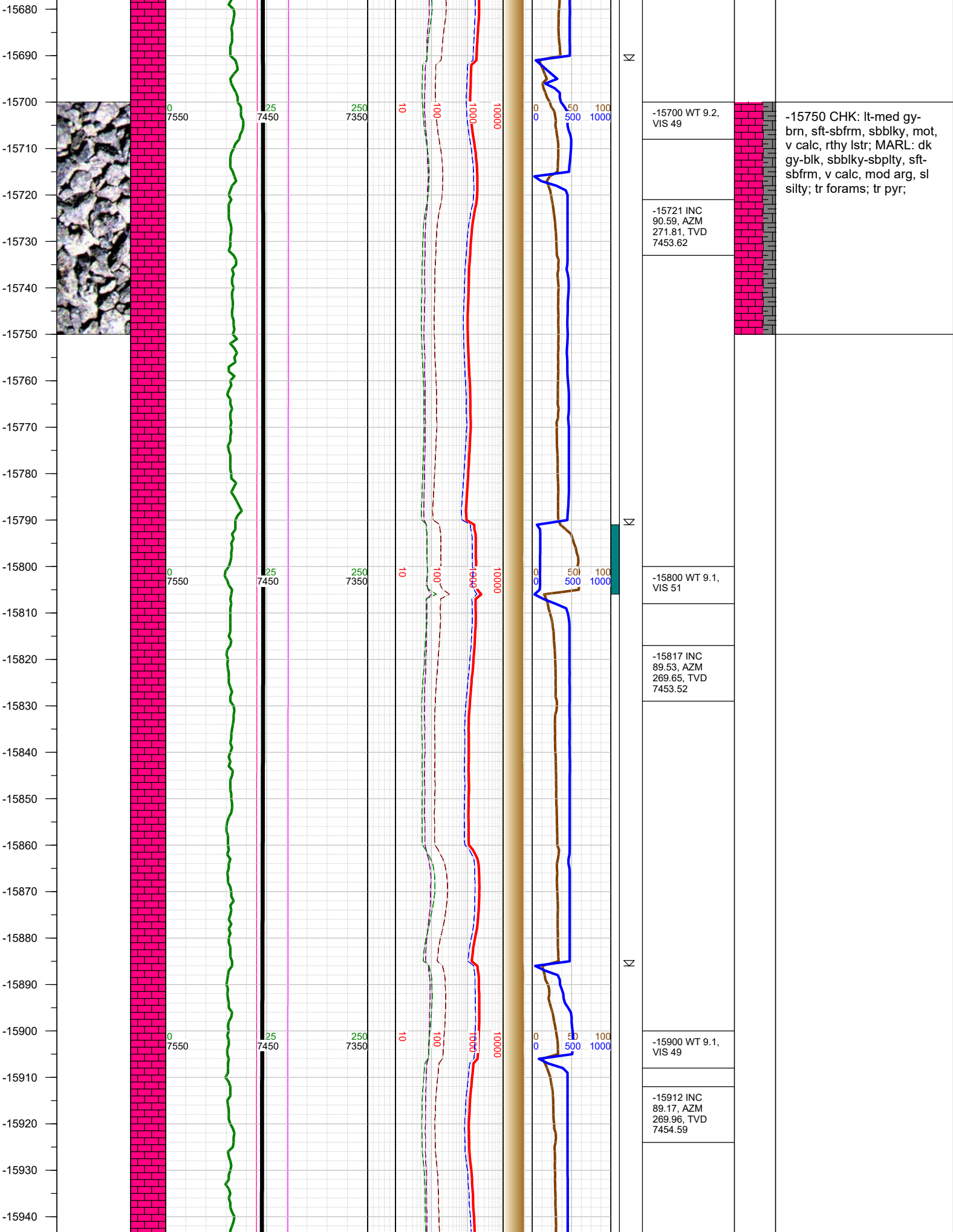
-15300 WT 9.2,  
VIS 49

-15340 INC  
87.94, AZM  
272.91, TVD  
7445.22

-15400 WT 9.2,  
VIS 49

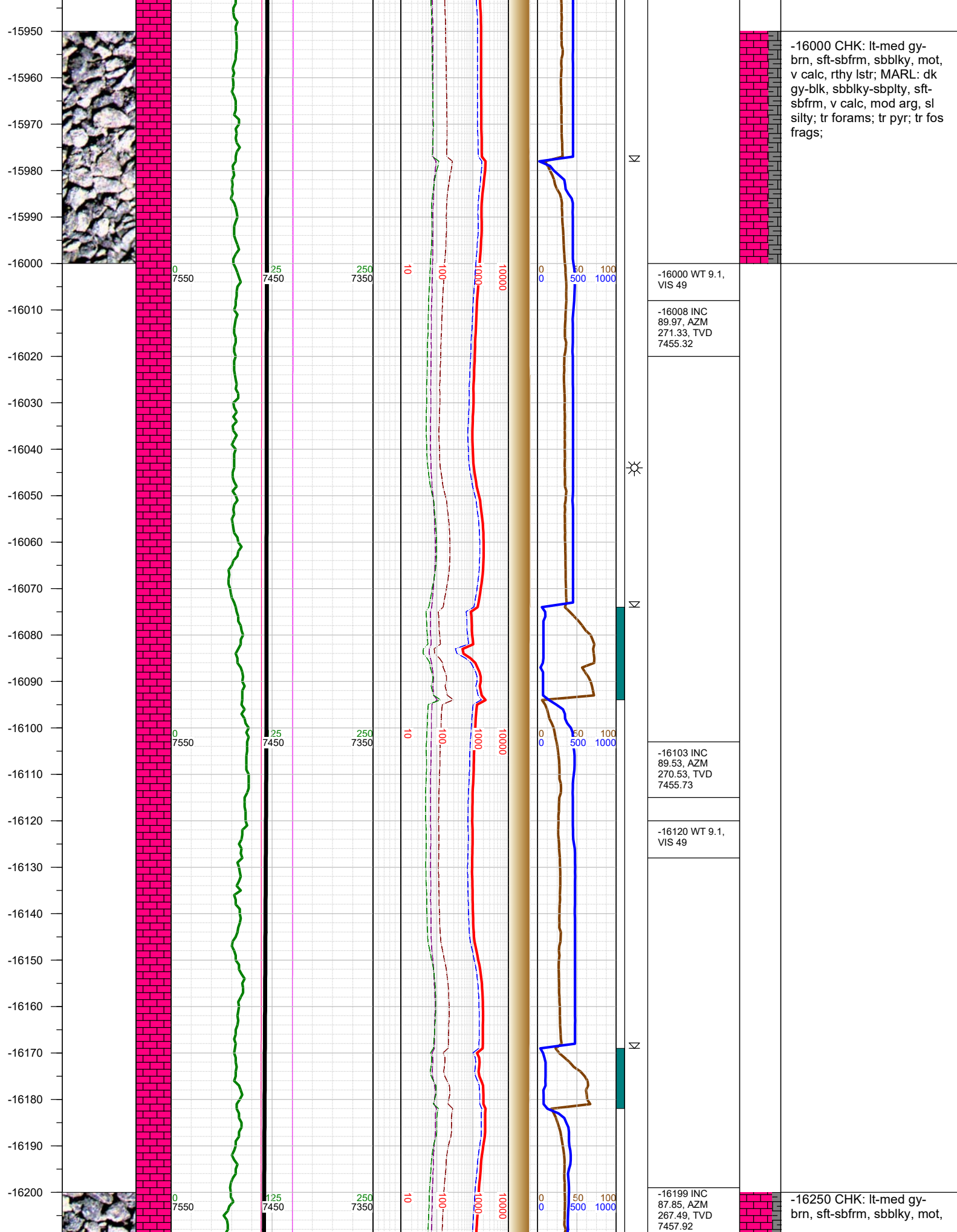
-15250 CHK: lt-med gy-  
brn, sft-sbfrm, sbbiky, mot,  
v calc, rthy lstr; MARL: dk  
gy-blk, sbbiky-sbply, sft-  
sbfrm, v calc, mod arg, sl  
silty; mod forams; tr fos  
frags;

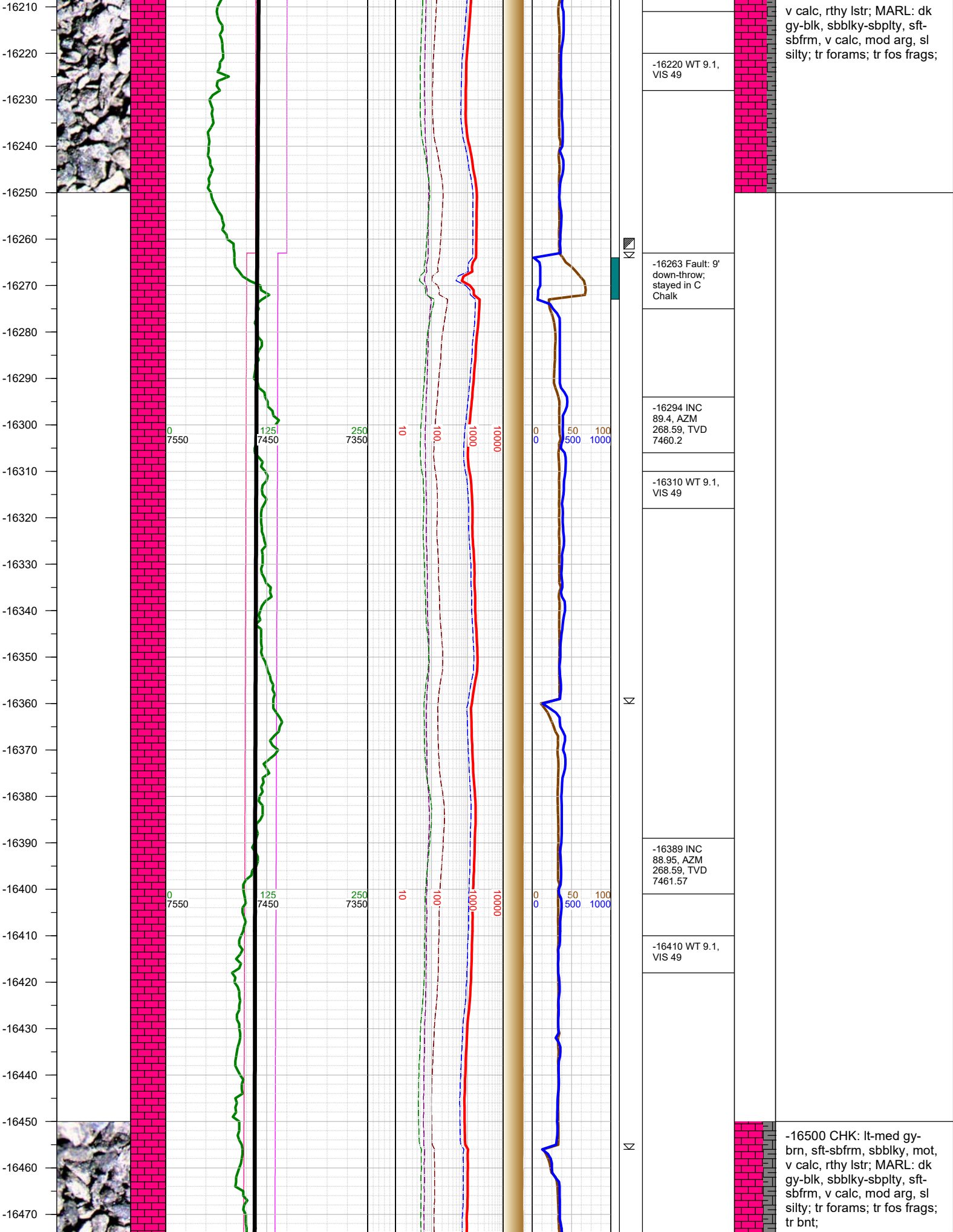


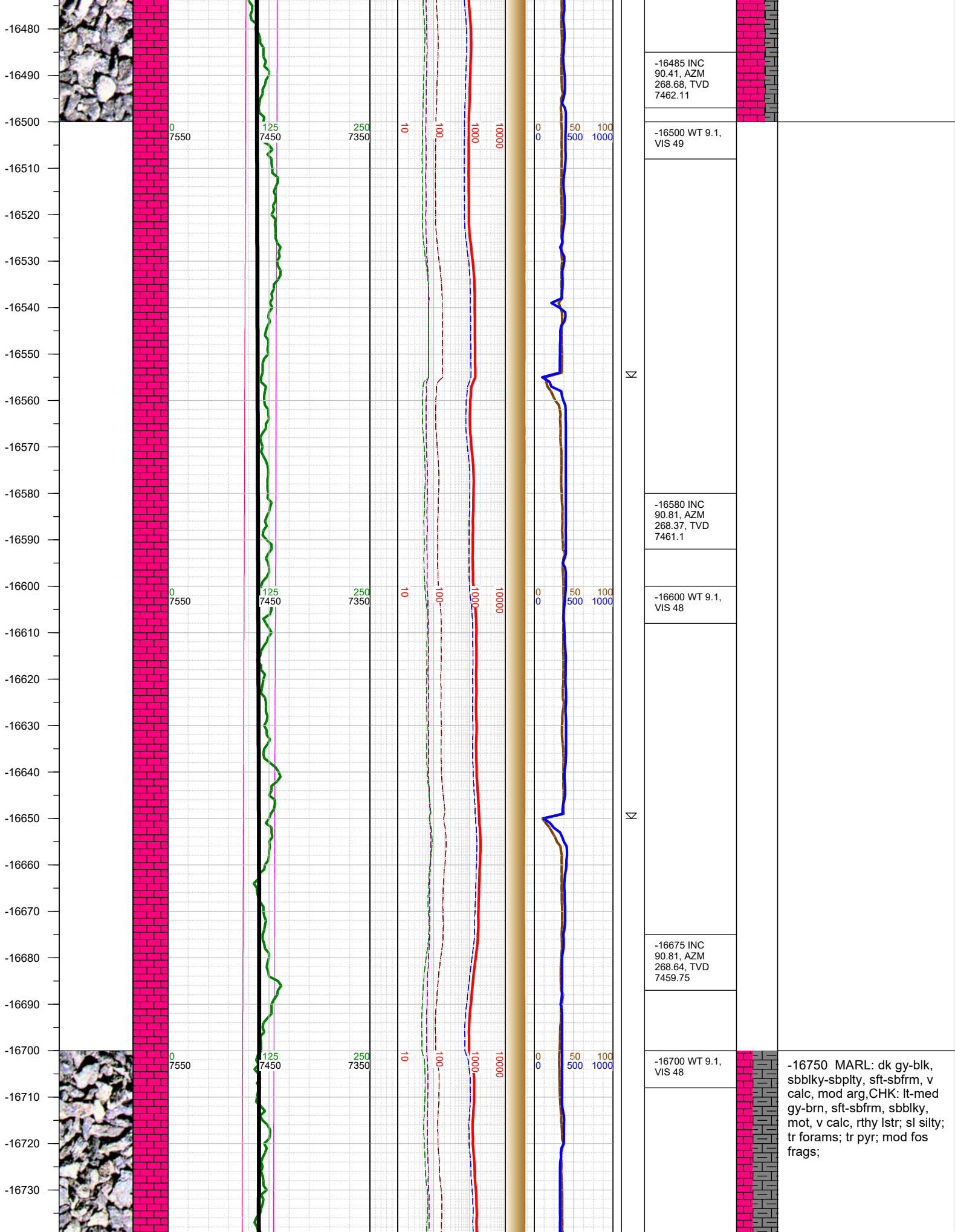


-15750 CHK: lt-med gy-brn, sft-sbfrm, sbbkly, mot, v calc, rthy lstr; MARL: dk gy-blk, sbbkly-sbply, sft-sbfrm, v calc, mod arg, sl silty; tr forams; tr pyr;

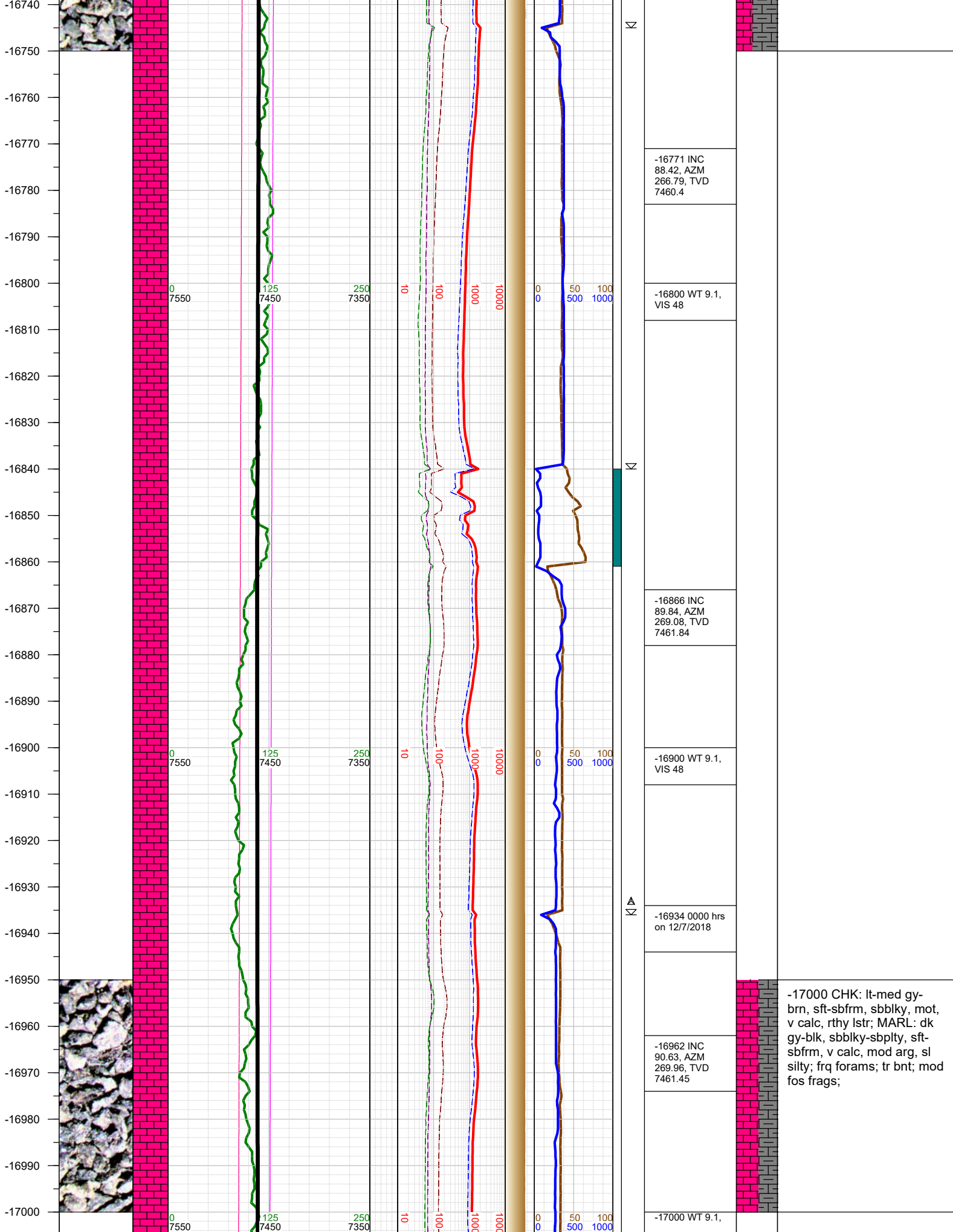












-16771 INC  
88.42, AZM  
266.79, TVD  
7460.4

-16800 WT 9.1,  
VIS 48

-16866 INC  
89.84, AZM  
269.08, TVD  
7461.84

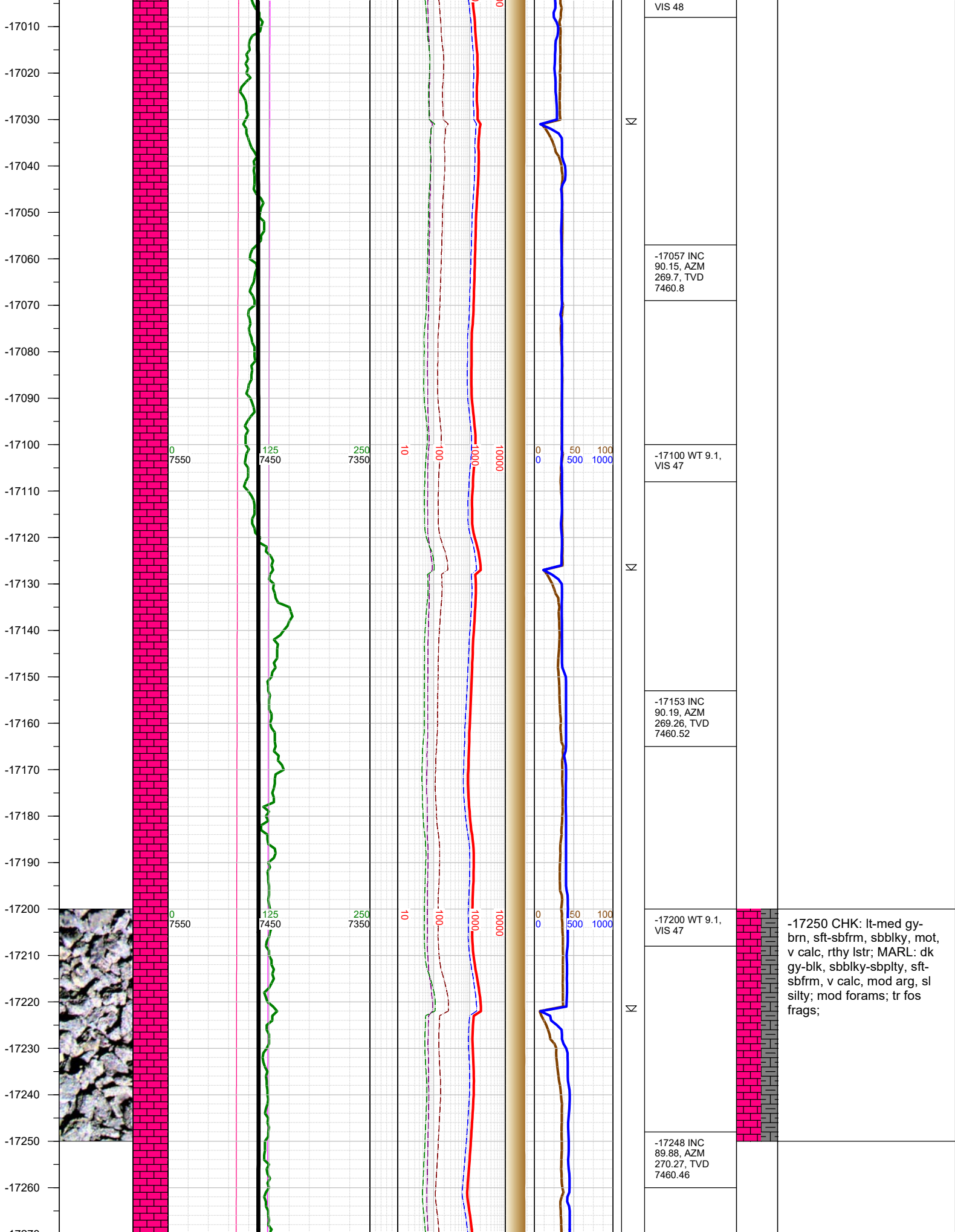
-16900 WT 9.1,  
VIS 48

-16934 0000 hrs  
on 12/7/2018

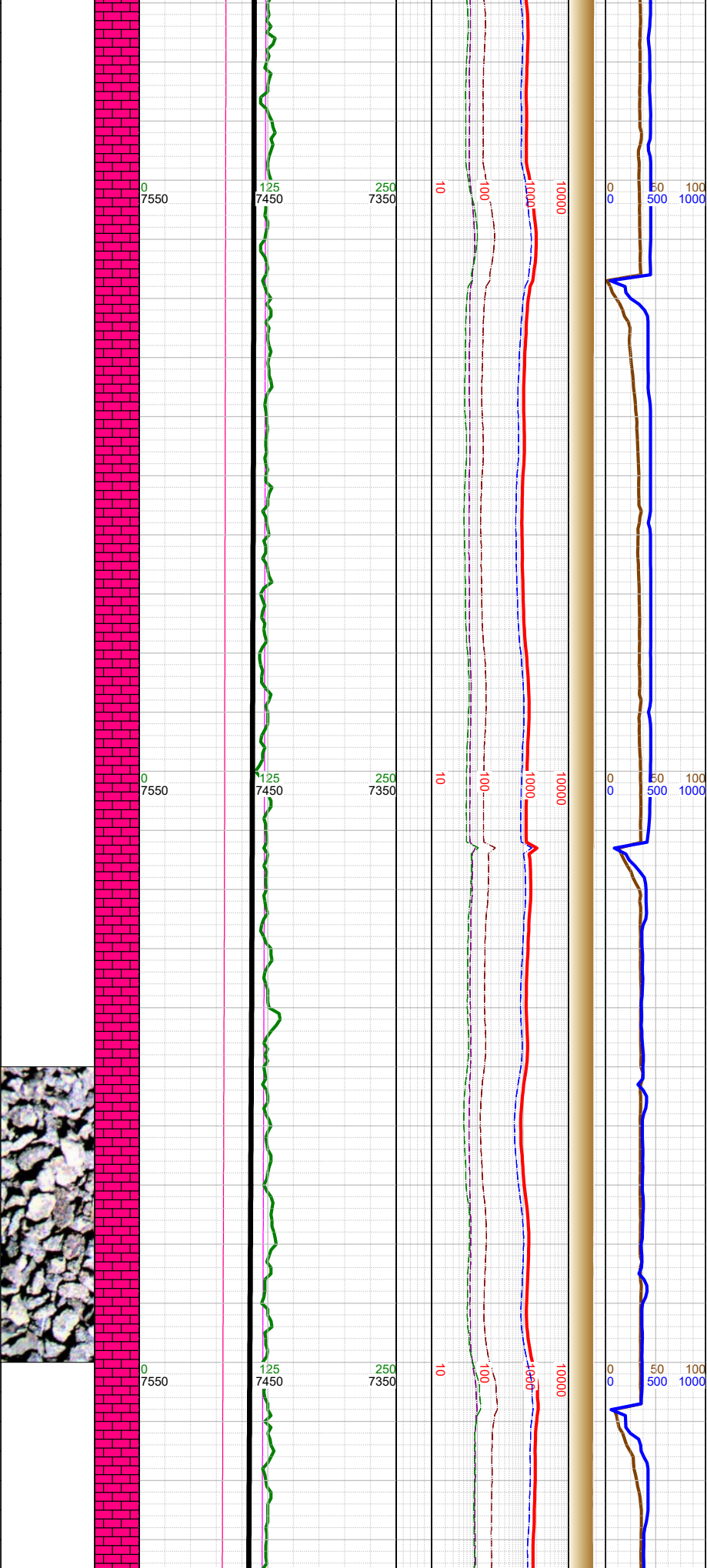
-16962 INC  
90.63, AZM  
269.96, TVD  
7461.45

-17000 WT 9.1,

-17000 CHK: lt-med gy-  
brn, sft-sbfrm, sbbkly, mot,  
v calc, rthy lstr; MARL: dk  
gy-blk, sbbkly-sbply, sft-  
sbfrm, v calc, mod arg, sl  
silty; frq forams; tr bnt; mod  
fos frags;

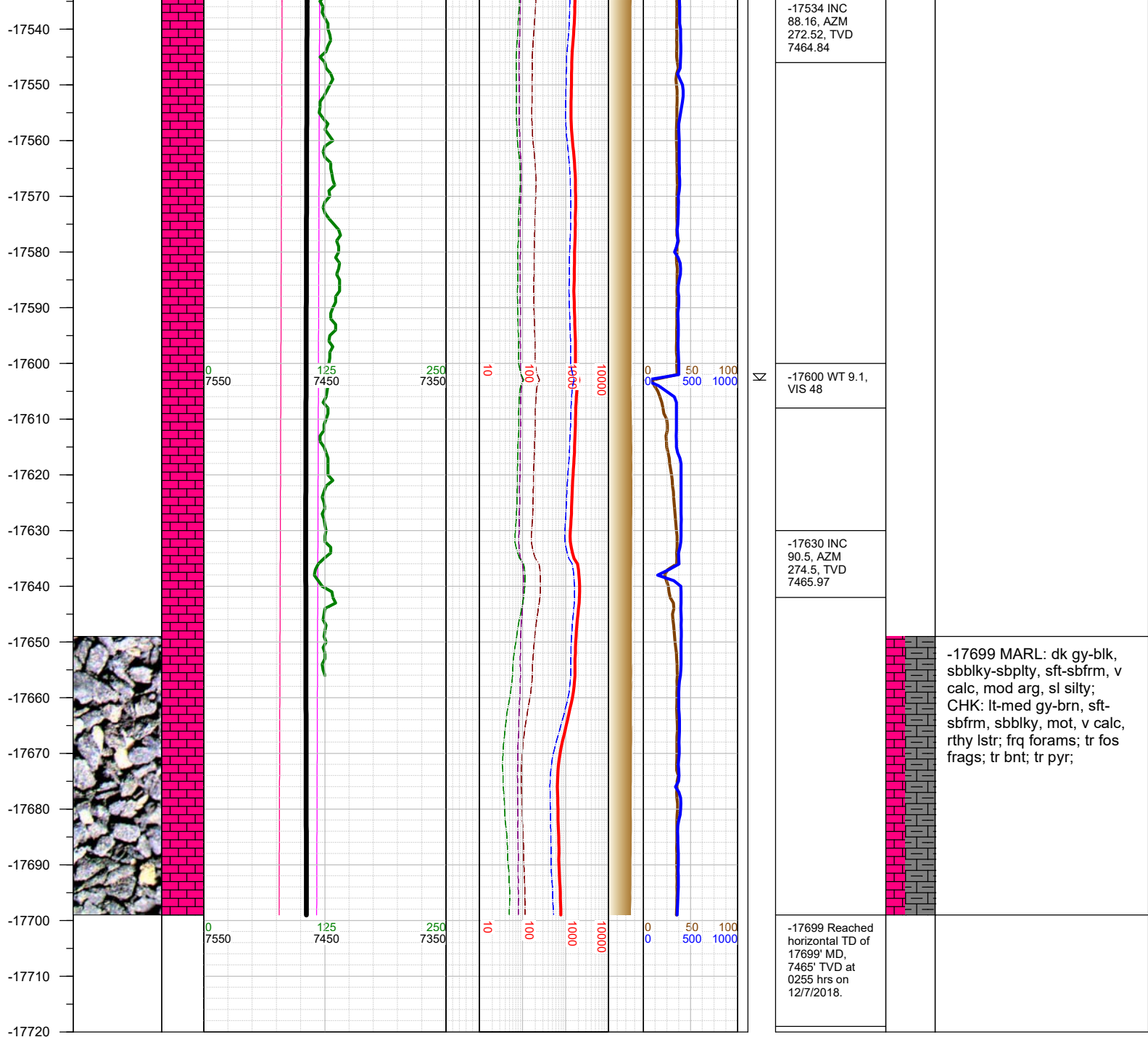


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|---|---|--|
| N | -17300 WT 9.1, VIS 47                     |  |
|   | -17343 INC 89.22, AZM 270.97, TVD 7461.2  |  |
| N | -17400 WT 9.1, VIS 47                     |  |
|   | -17438 INC 89.13, AZM 272.74, TVD 7462.57 | -17500 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, v calc, mod arg, sl silty; mod forams; mod fos frags; tr bnt; tr pyr; |
| N | -17500 WT 9.1, VIS 48                     |  |





TOTAL DEPTH = 17699'

Thank you for using Earth Science Agency