

OPERATOR: **Extraction Oil & Gas**

WELL NAME: **Launer 3N**

FIELD NAME: DJ Basin - Wattenberg

DRILLING RIG: Patterson 346

API #: 05-123-45175

LAT/LONG: 40.540005, -104.852266
SURFACE HOLE: SESE S26-T7N-R67W, 769' FSL, 364' FEL
BOTTOM HOLE: S27-T7N-R67W, 2204' FSL, 2562' FEL

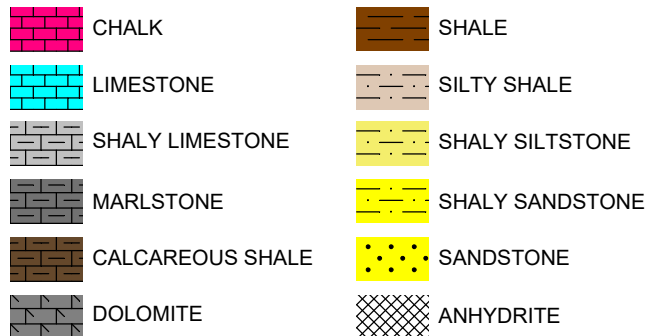


Earth Science Agency, LLC

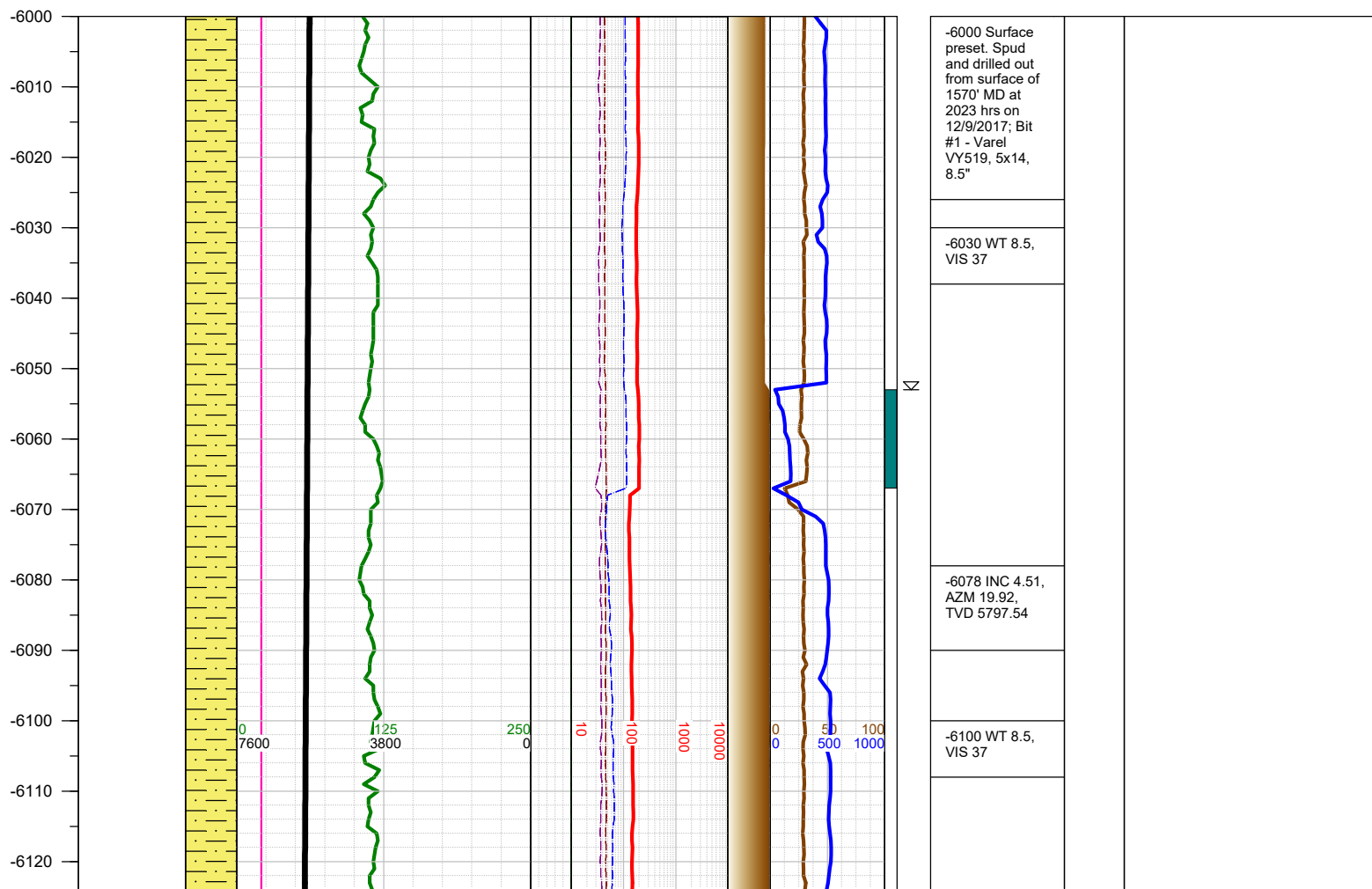
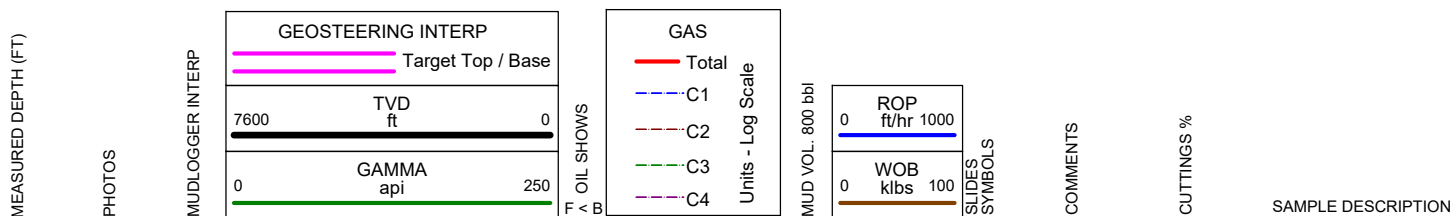
COUNTY: Weld
STATE: Colorado
GROUND ELEVATION: 4928'
KELLY BUSHING: 4953'
DRILLING FLUID: OBM
TVD VS. MD: 6886' / 14800
SPUD DATE: December 9, 2017
TD DATE: December 13, 2017

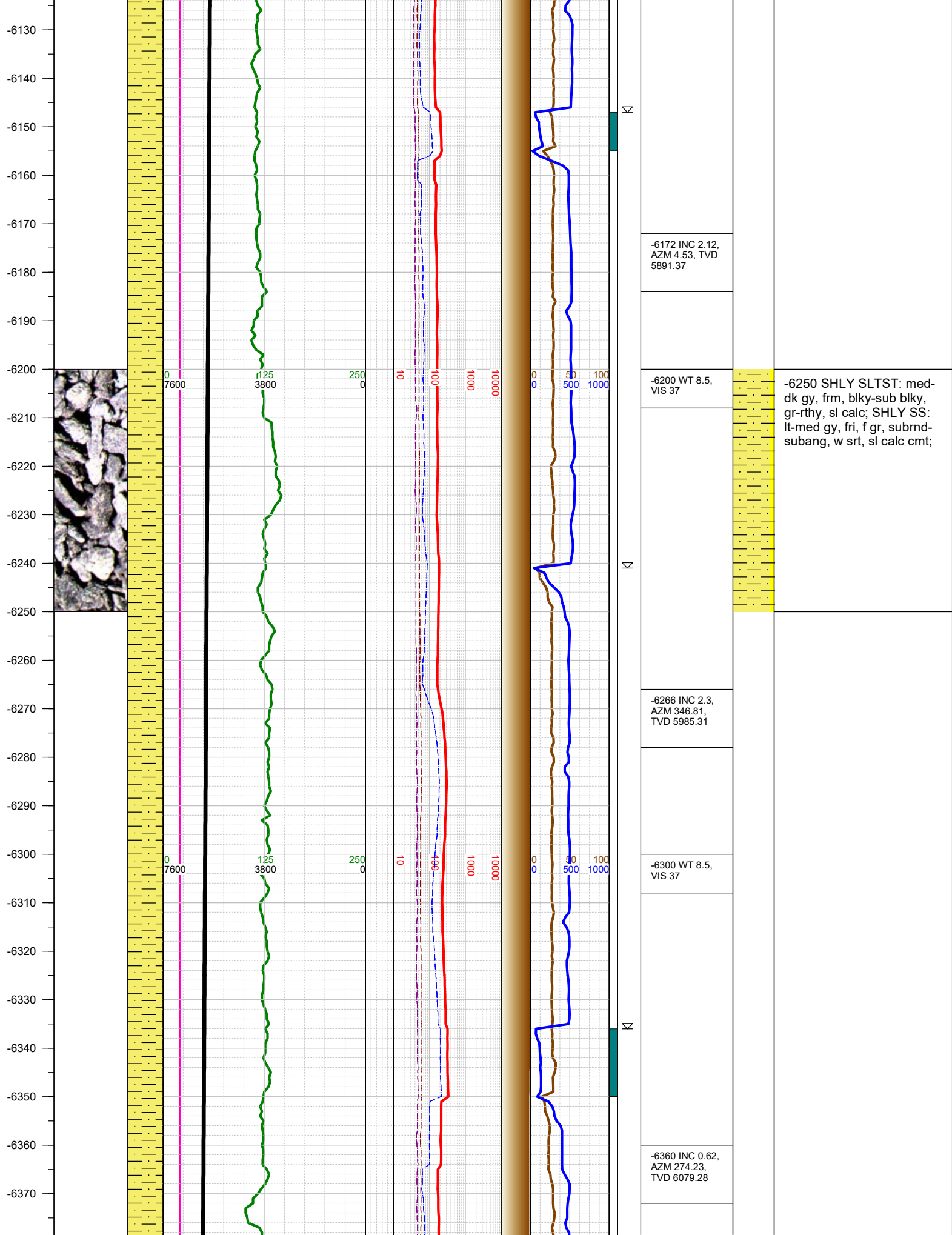
DEPTHS LOGGED: 6000' - 14800'
DATES LOGGED: December 10, 2017 - December 13, 2017
GEOLOGISTS: Ross Apodaca, Brian Whitfield
SCALE: 5" = 100'

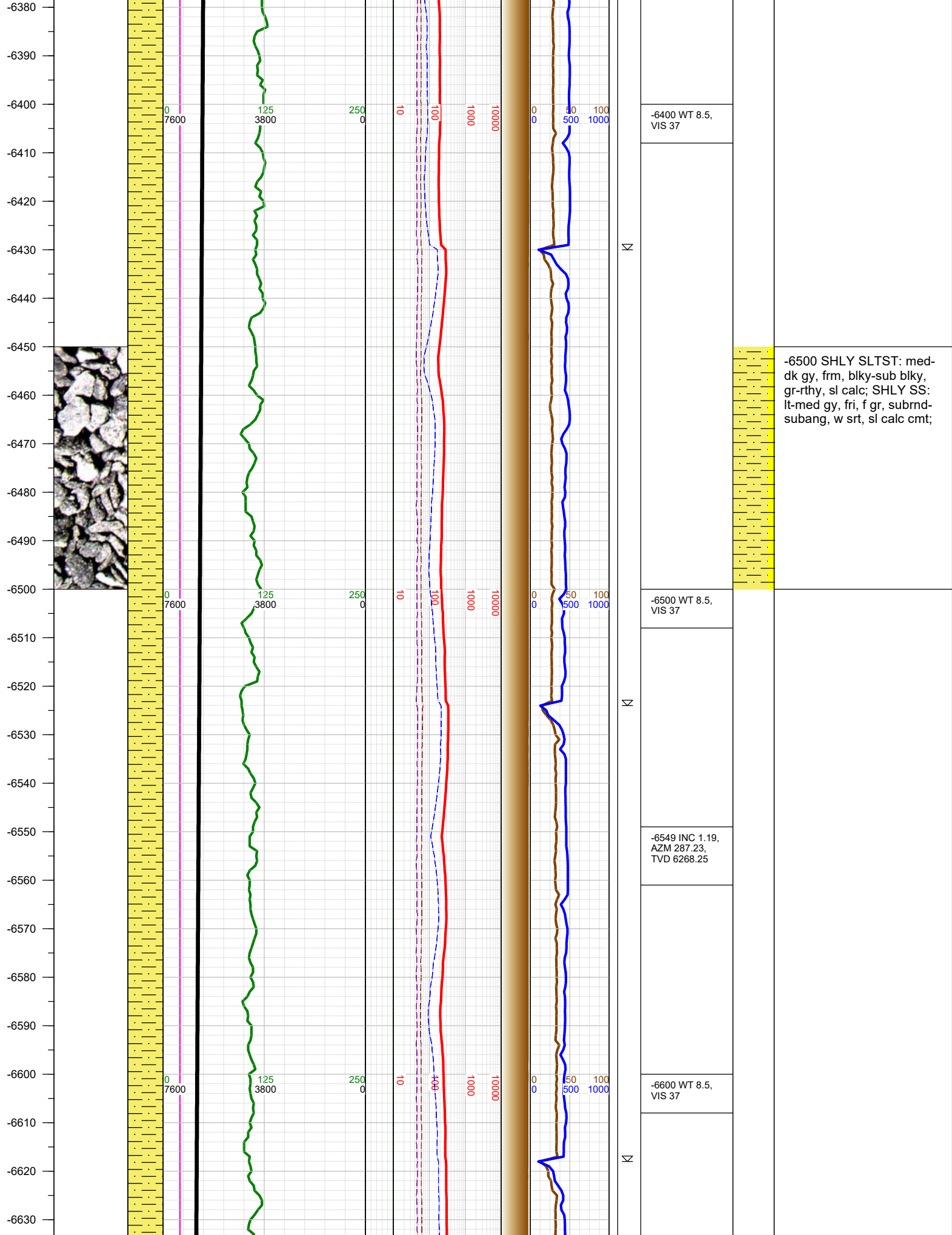
LEGEND

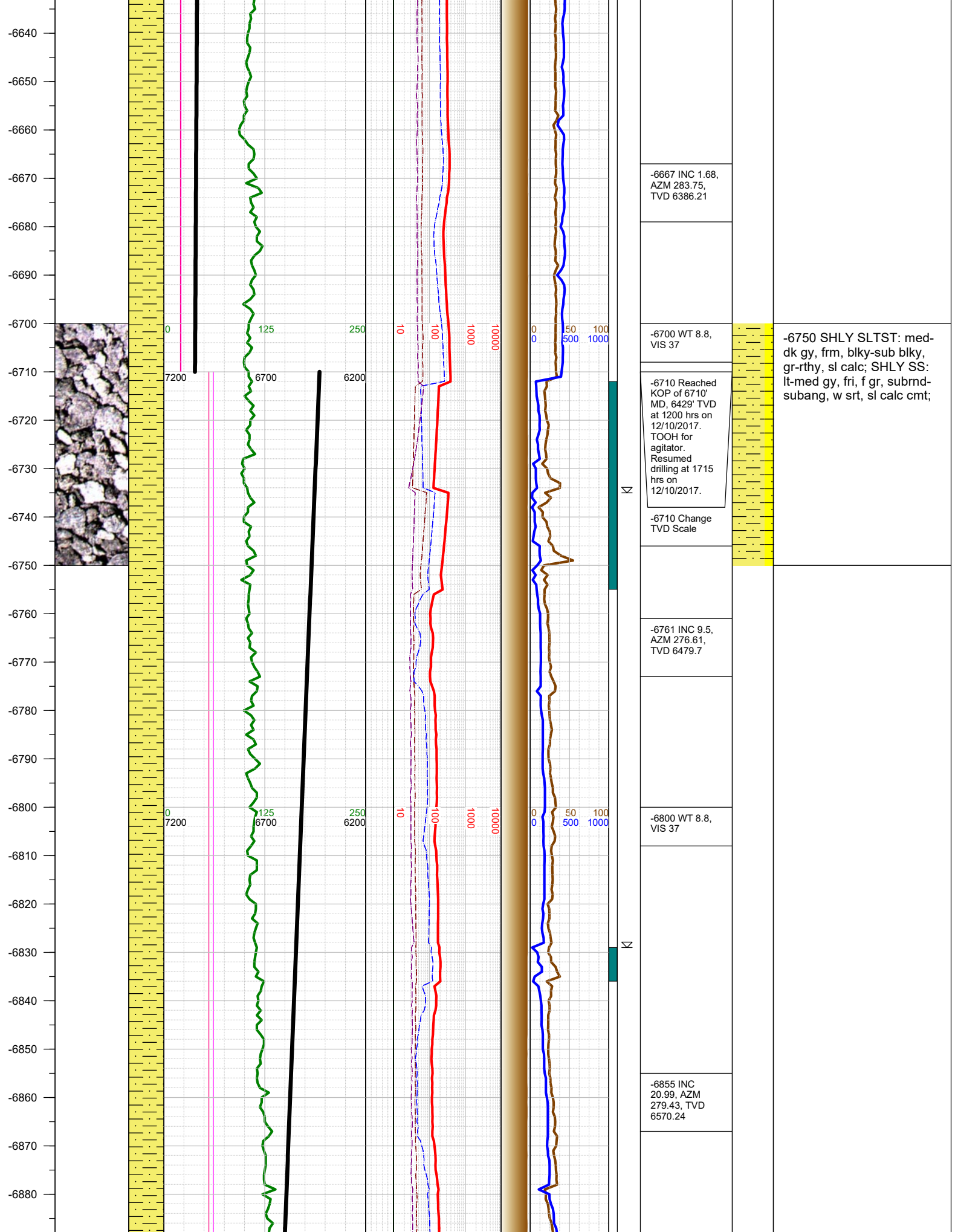


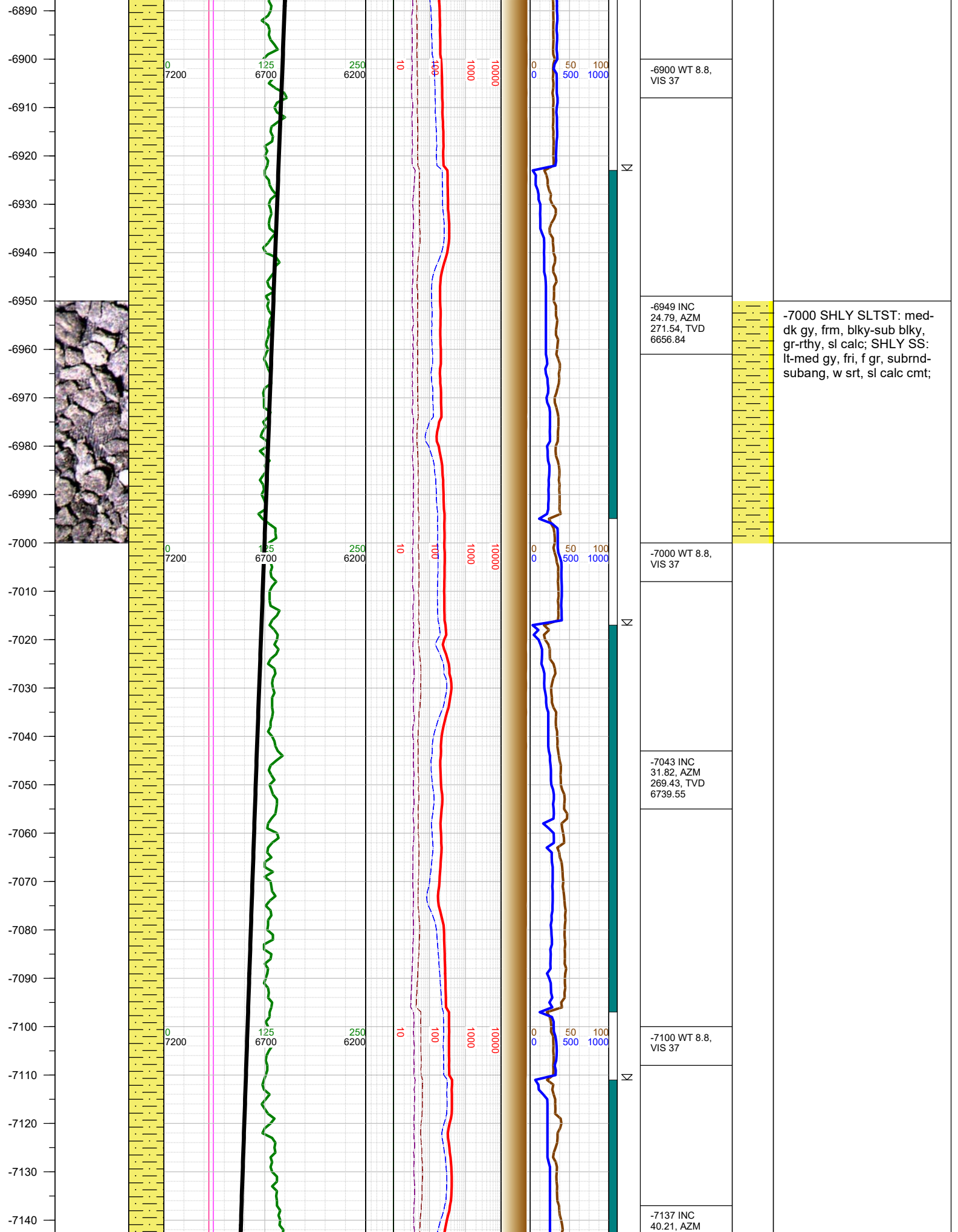
FORMATION CONNECTION MIDNIGHT NEW BIT GAS SHOW FAULT

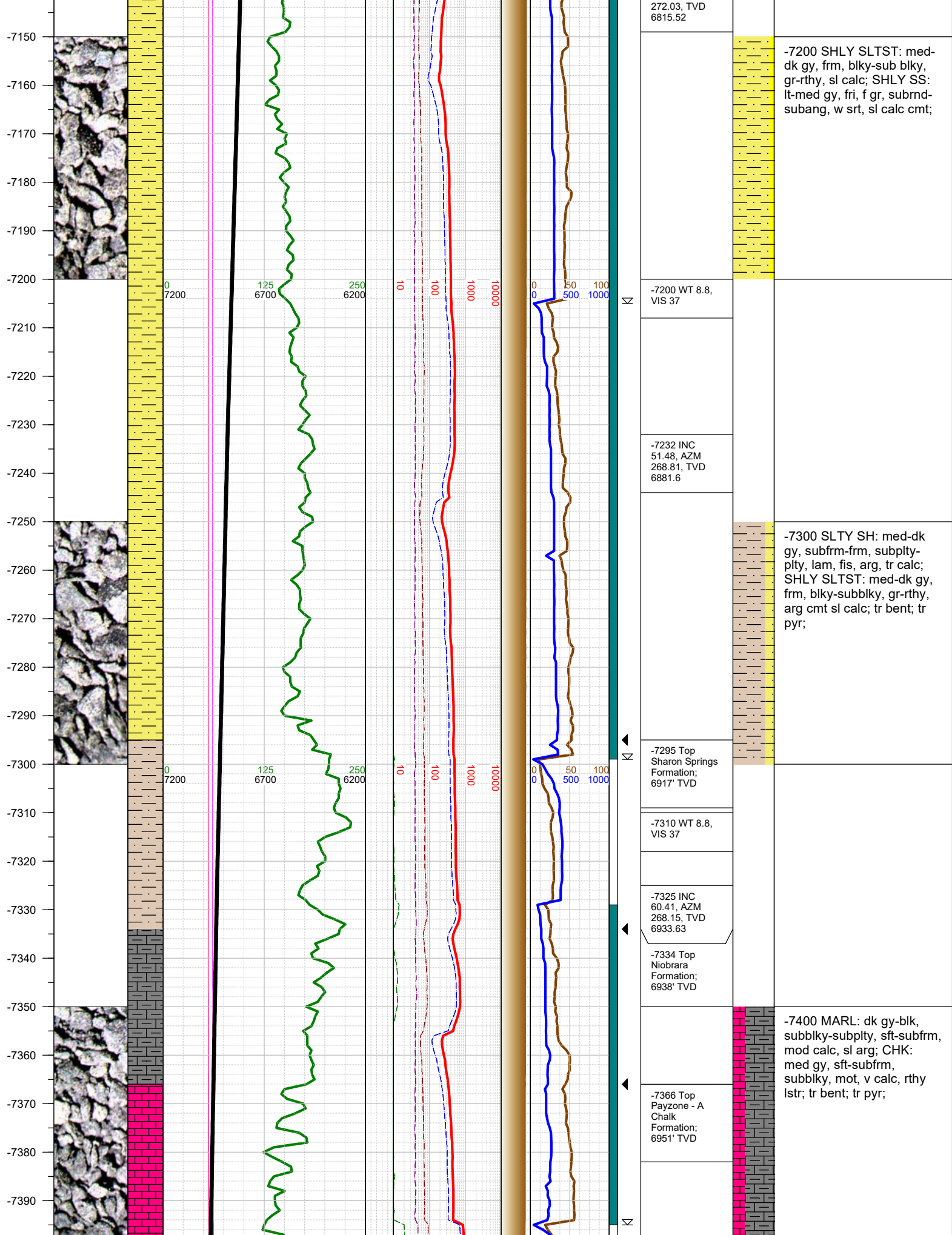


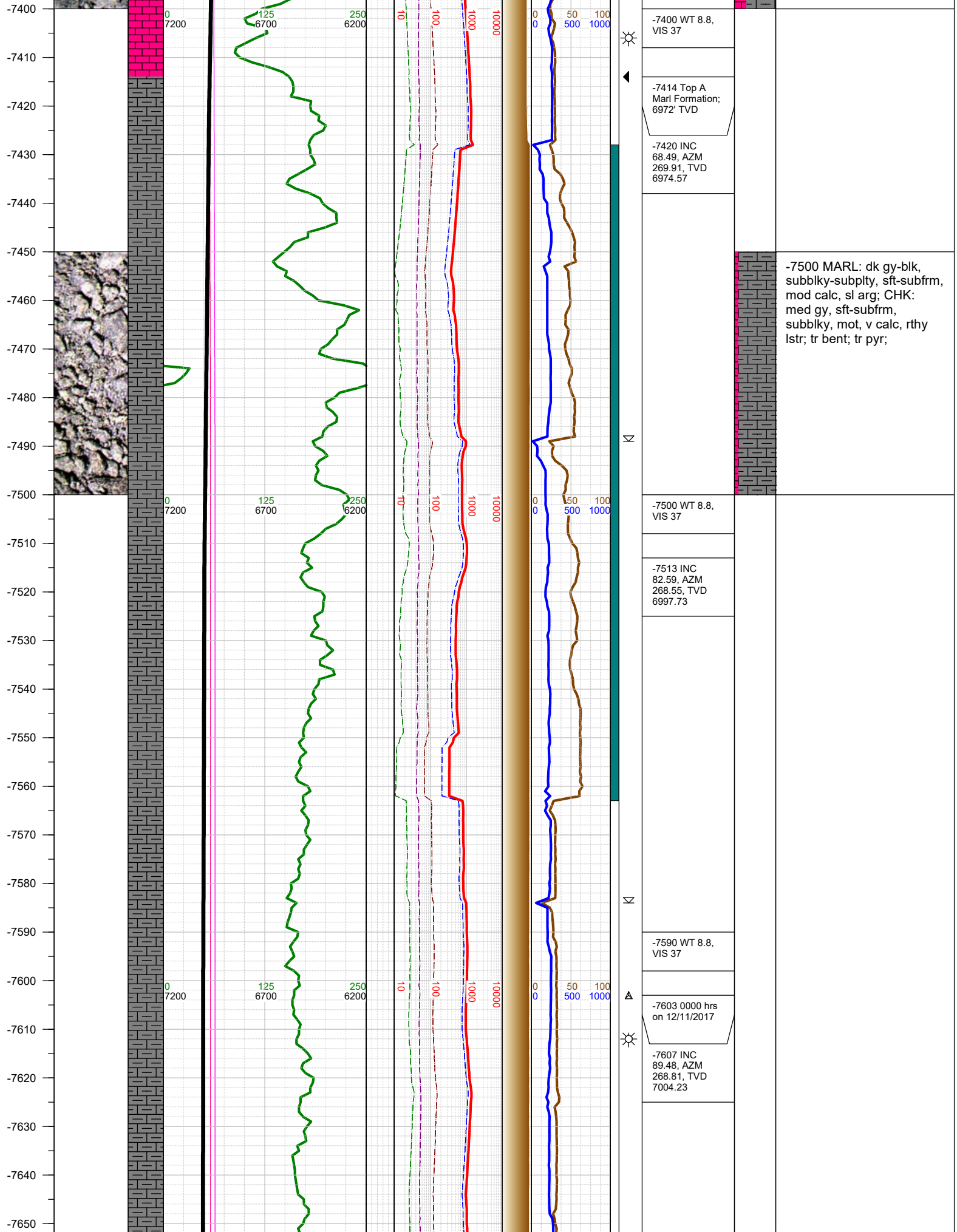


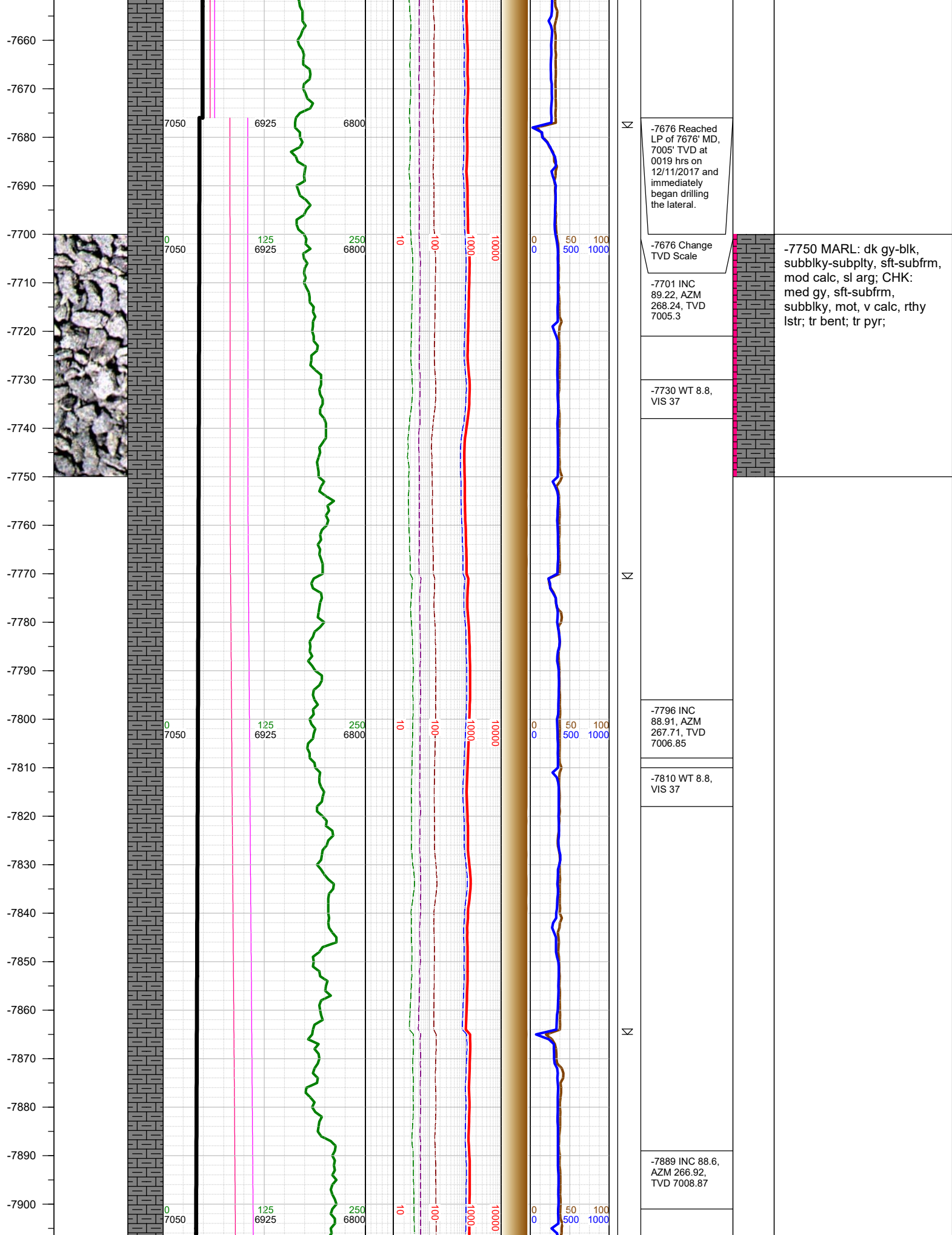


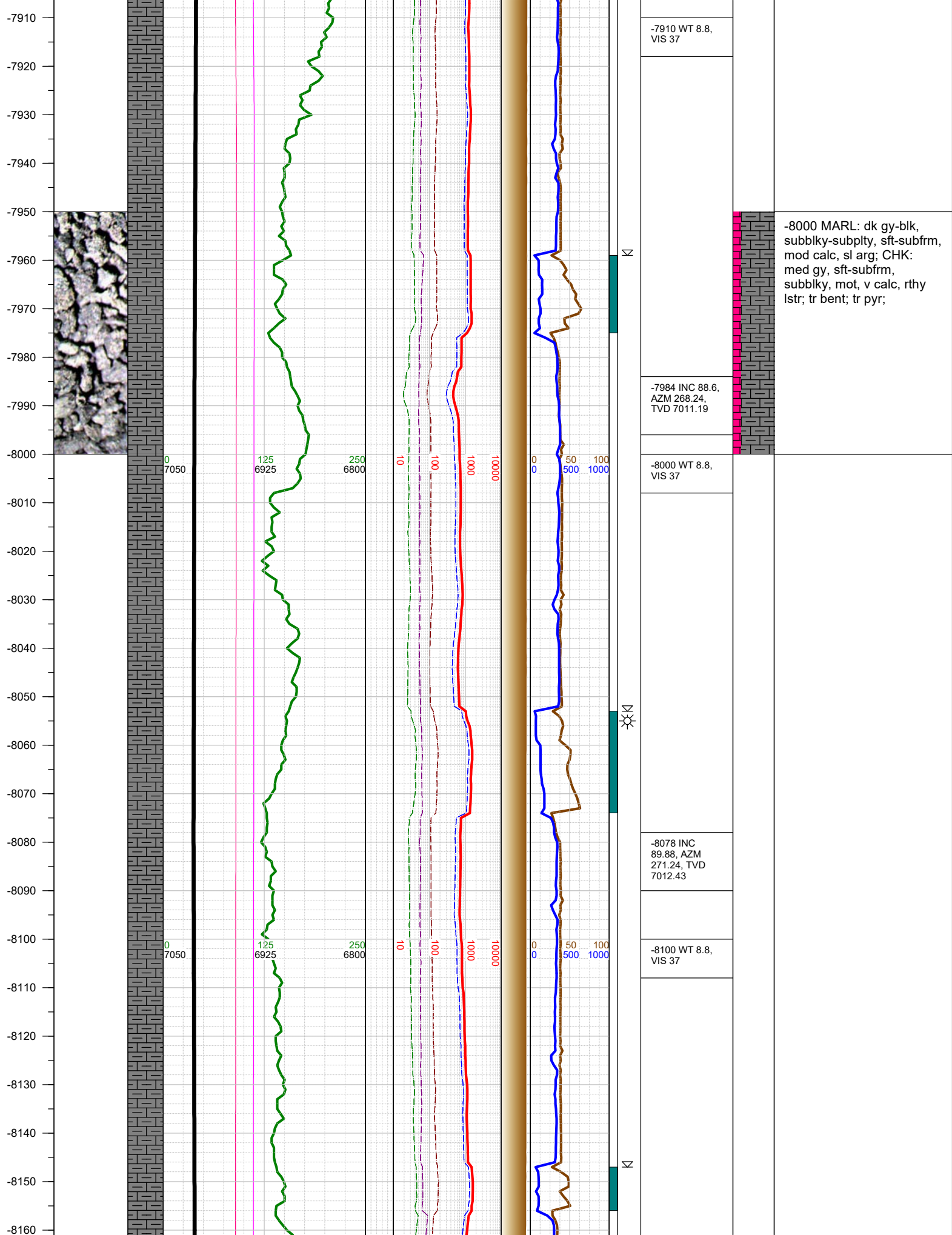


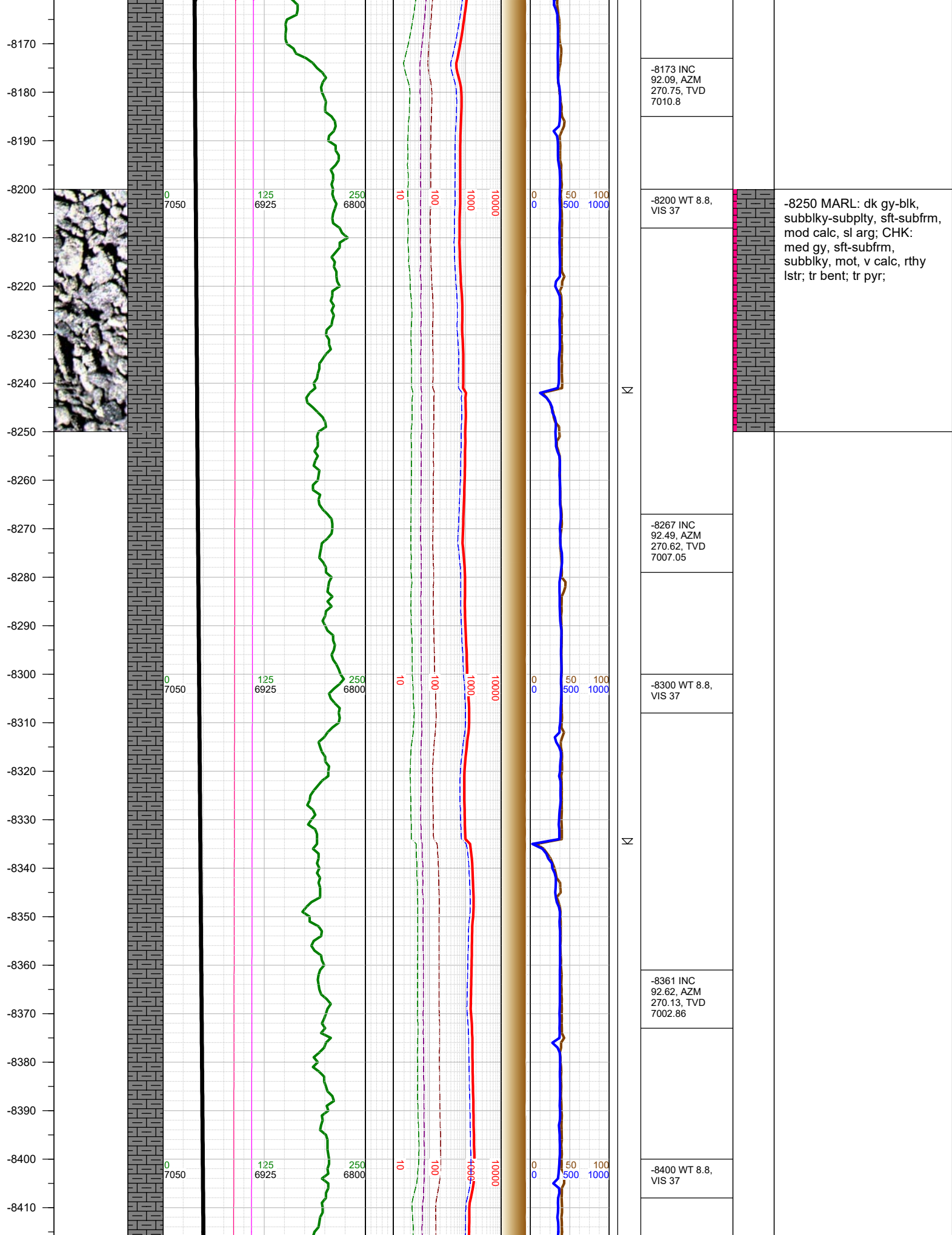




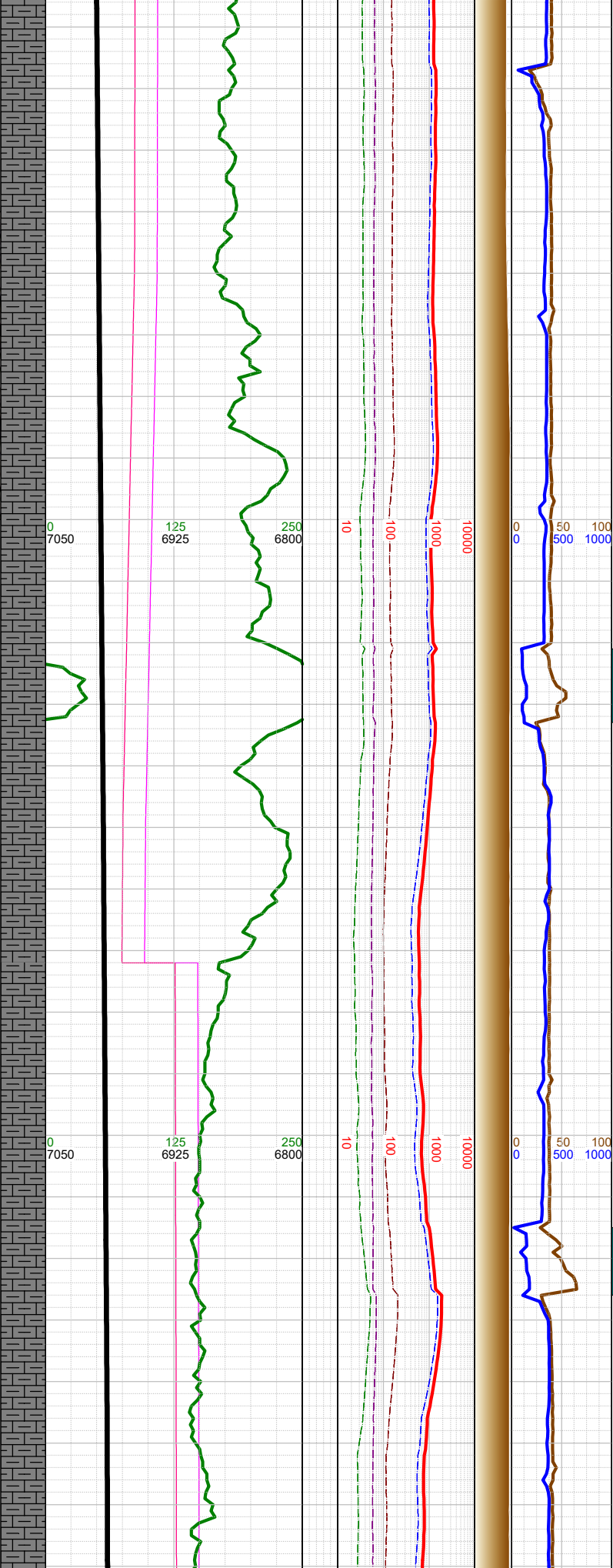




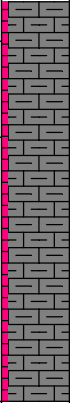




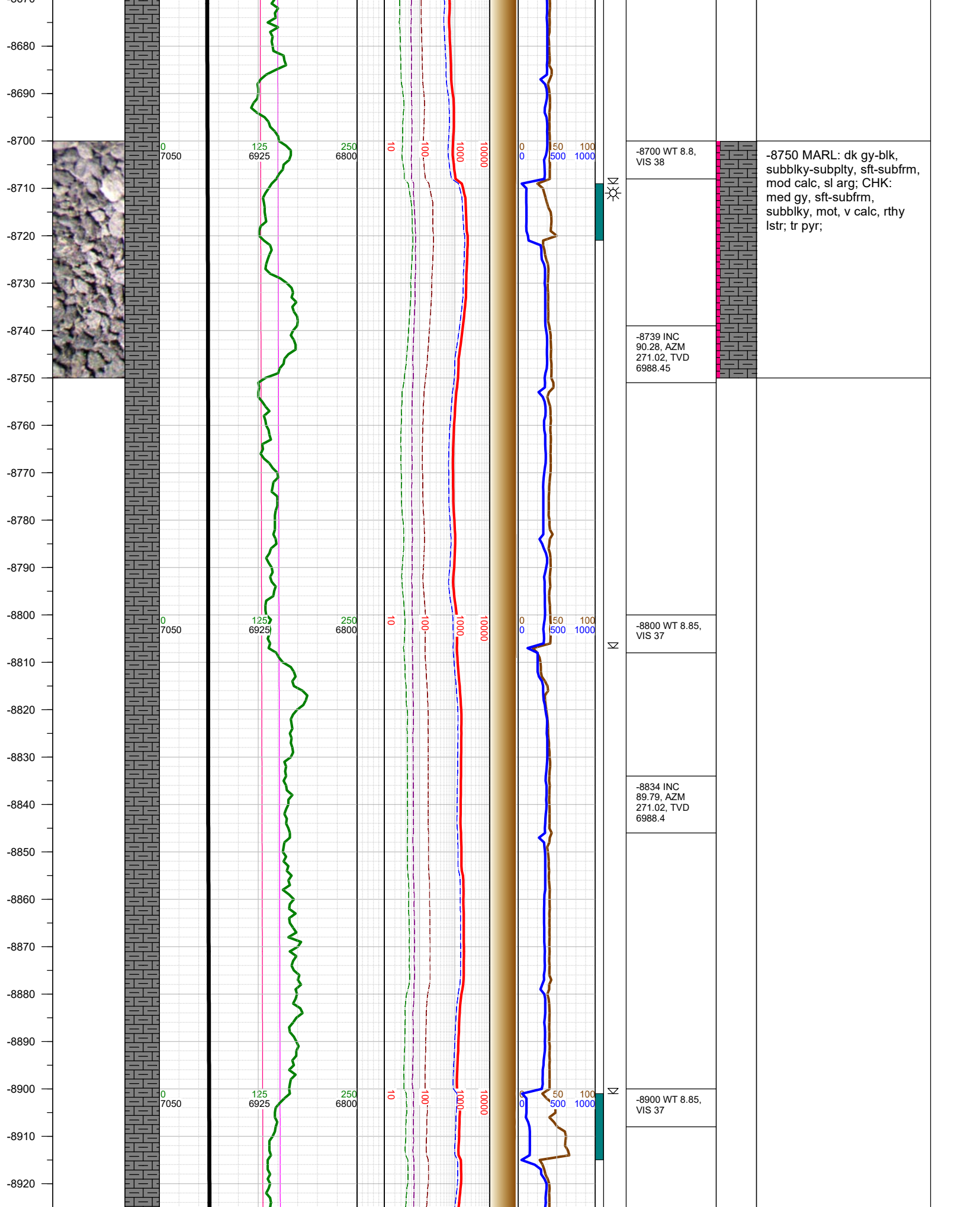
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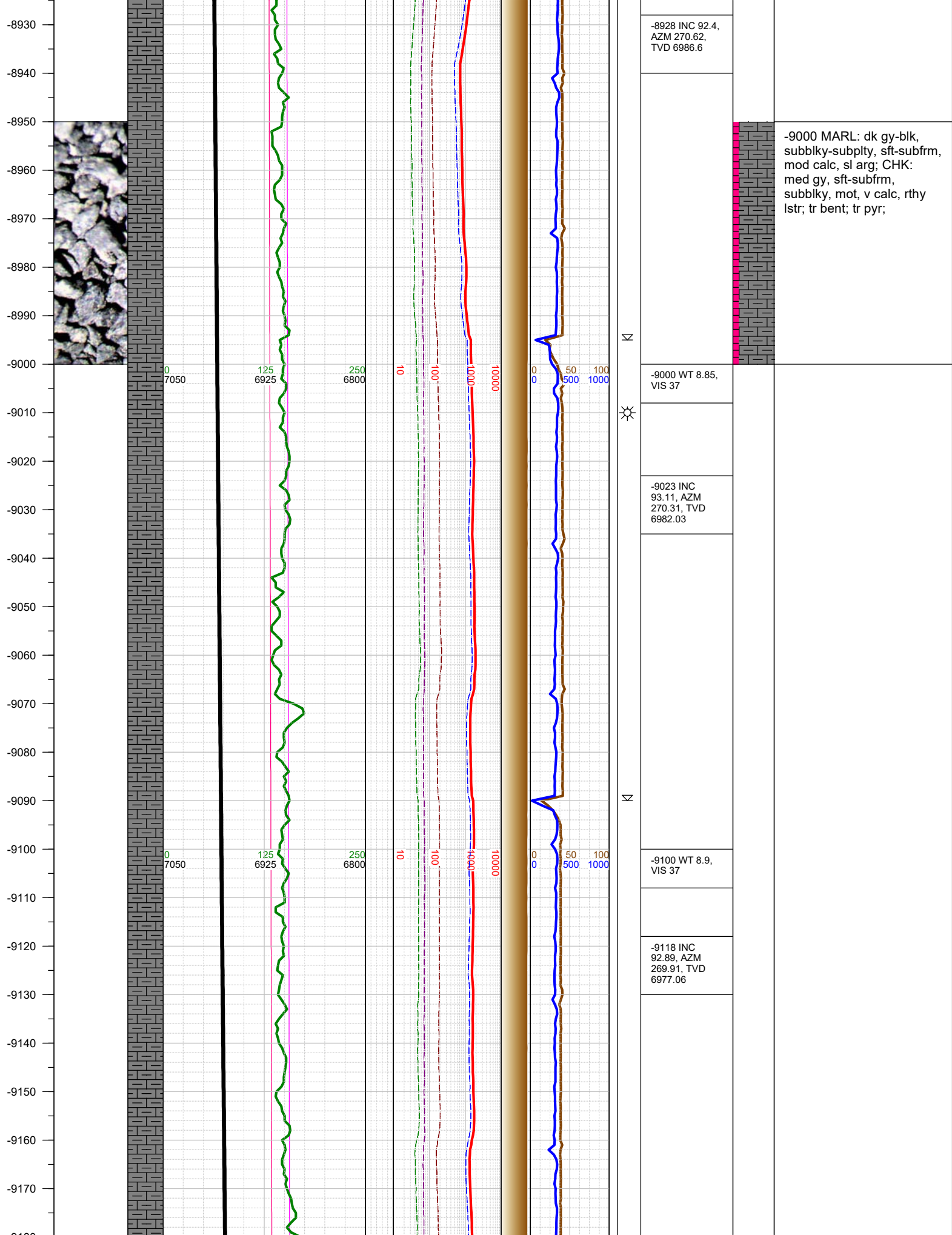


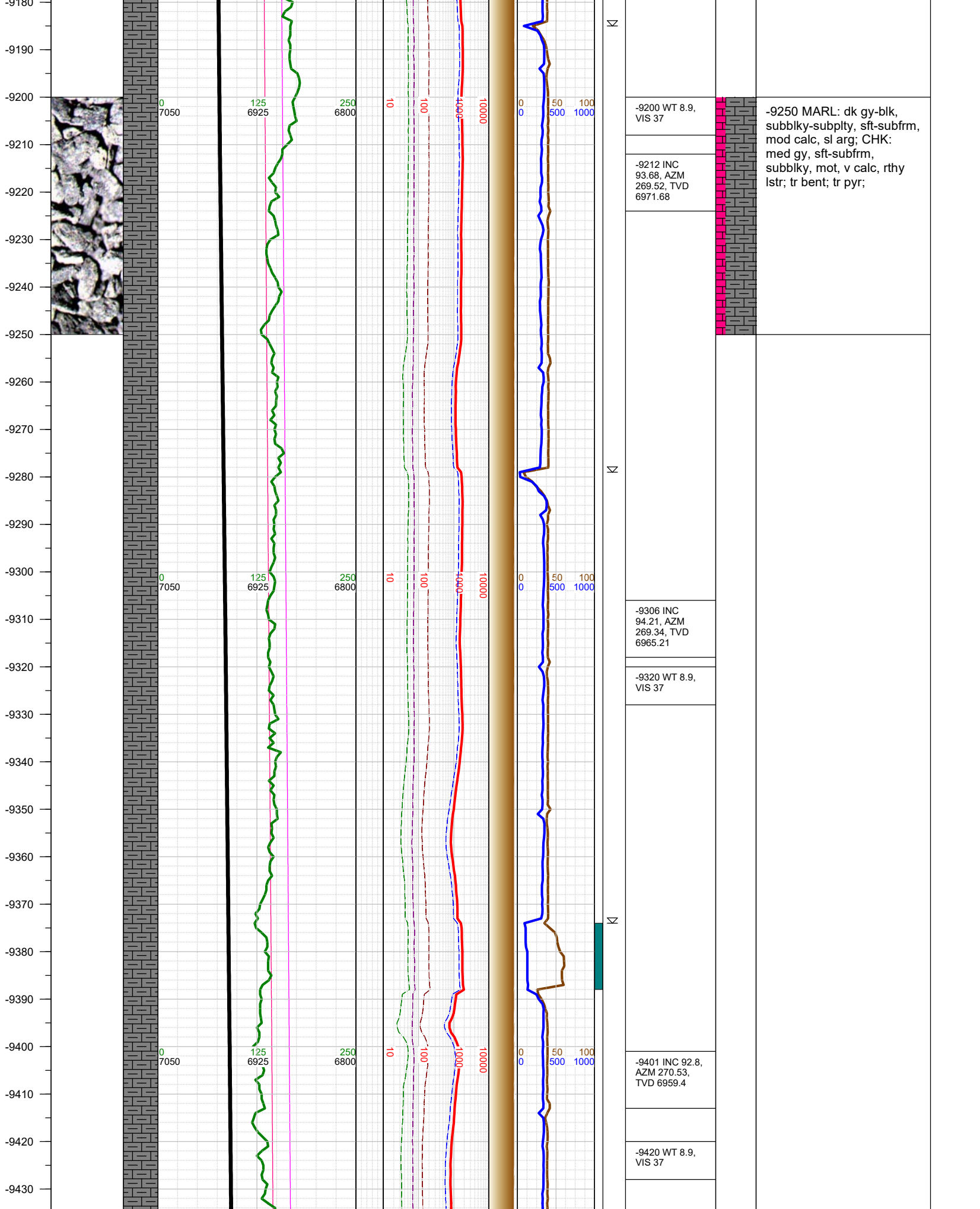
-8455 INC 92.89, AZM 269.83, TVD 6998.34	-8500 WT 8.8, VIS 37	-8550 INC 92.71, AZM 271.15, TVD 6993.7	-8572 Fault: 51' up-throw; went from A Marl to B1 Chalk/Marl	-8600 WT 8.8, VIS 38	-8644 INC 91.69, AZM 270.44, TVD 6990.09



-8500 MARL: dk gy-blk,
subblky-subplty, sft-subfrm,
mod calc, sl arg; CHK:
med gy, sft-subfrm,
subblky, mot, v calc, rthy
lstr; tr bent; tr pyr;







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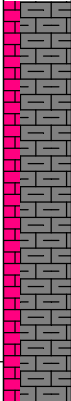
-9495 INC
93.28, AZM
271.02, TVD
6954.42

-9510 WT 8.9,
VIS 37

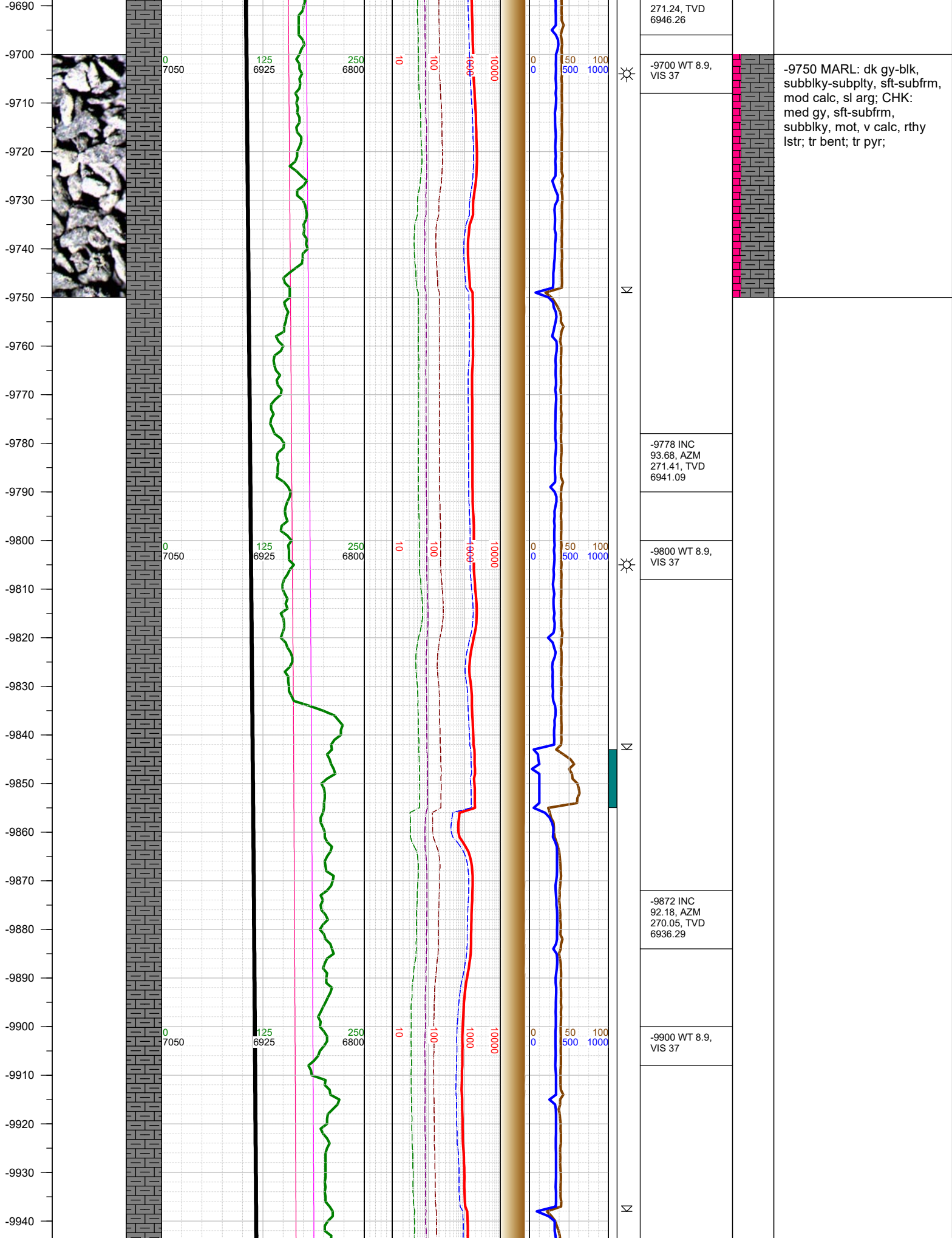
-9589 INC 92,
AZM 271.32,
TVD 6950.09

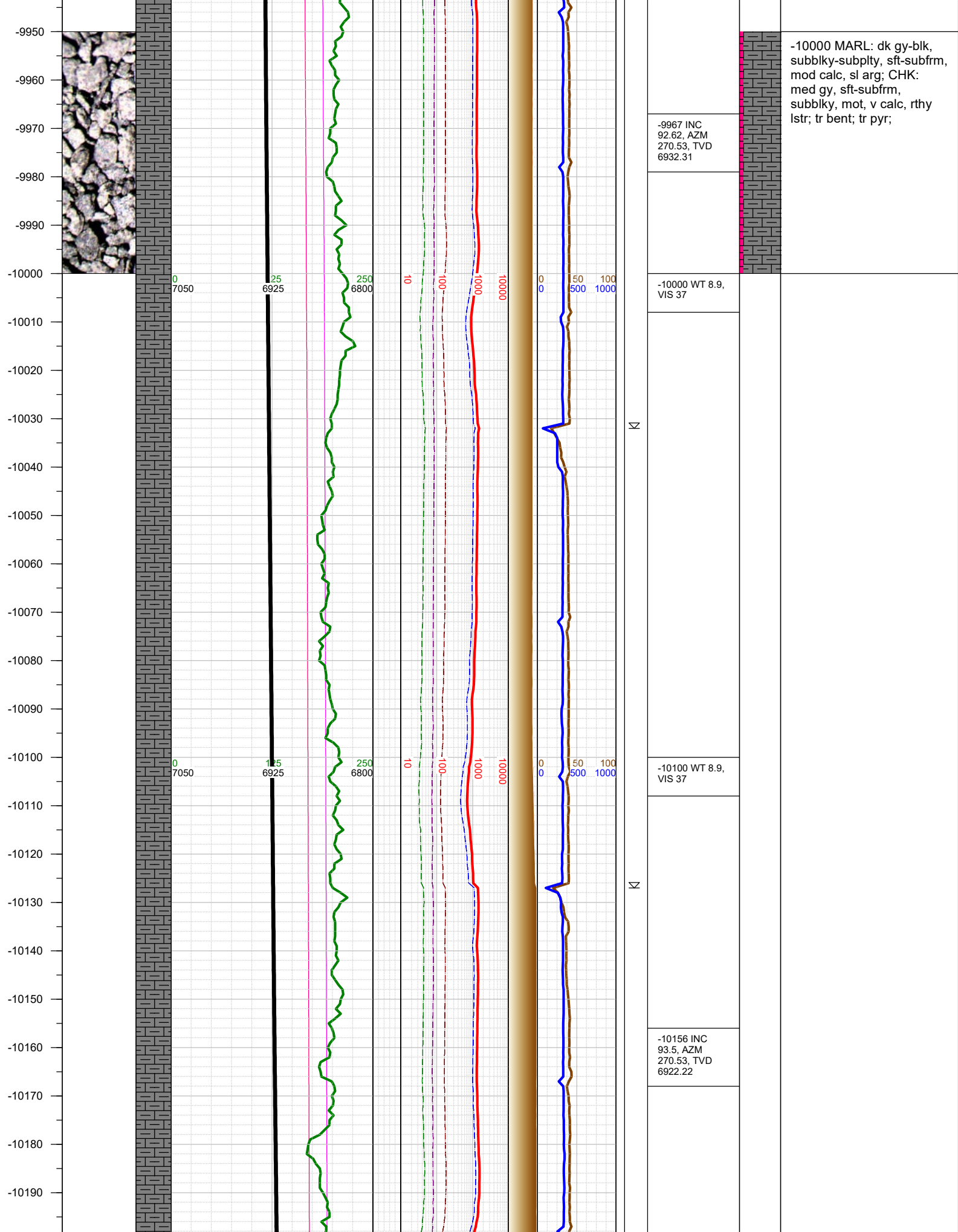
-9610 WT 8.9,
VIS 37

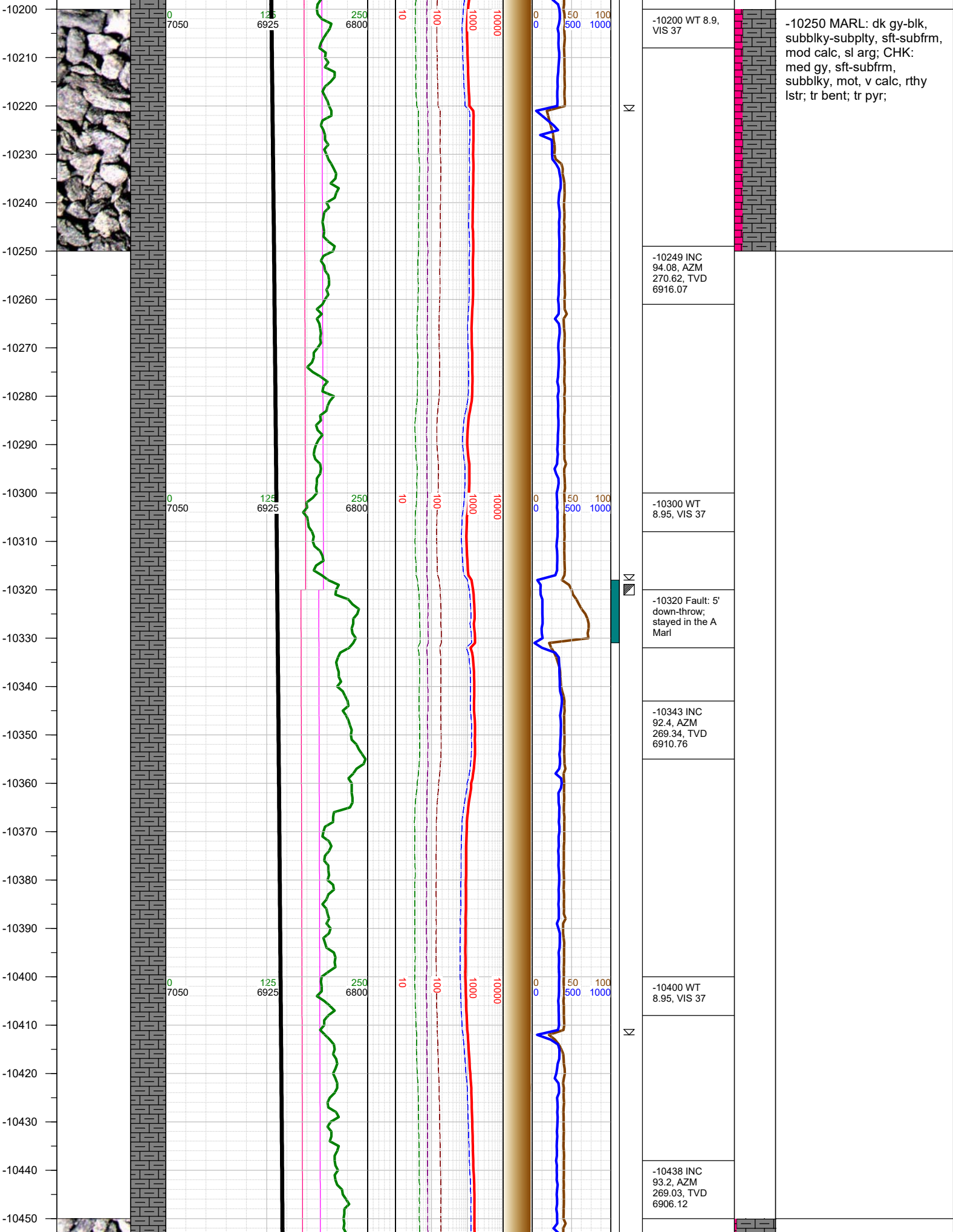
-9684 INC
92.62, AZM

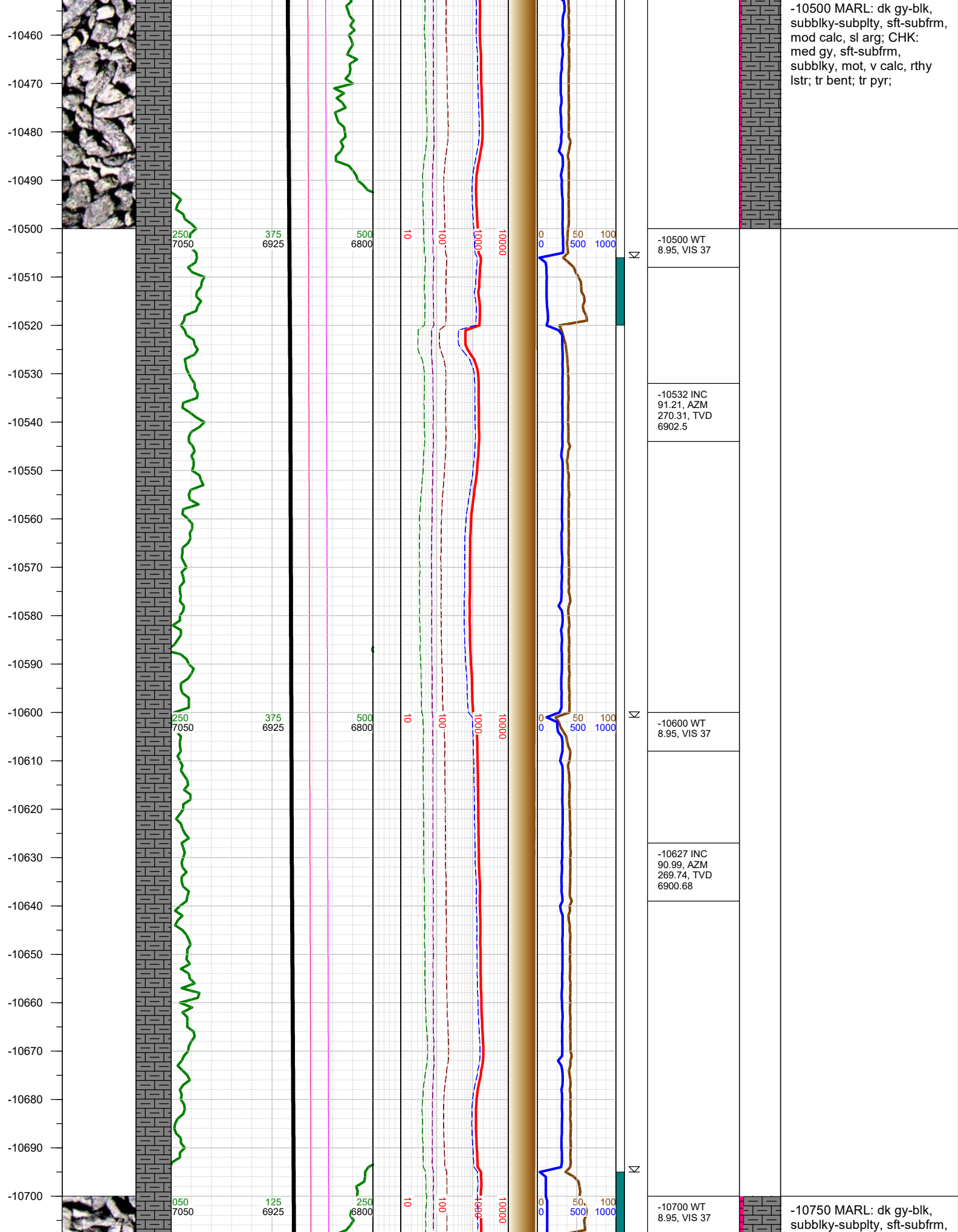


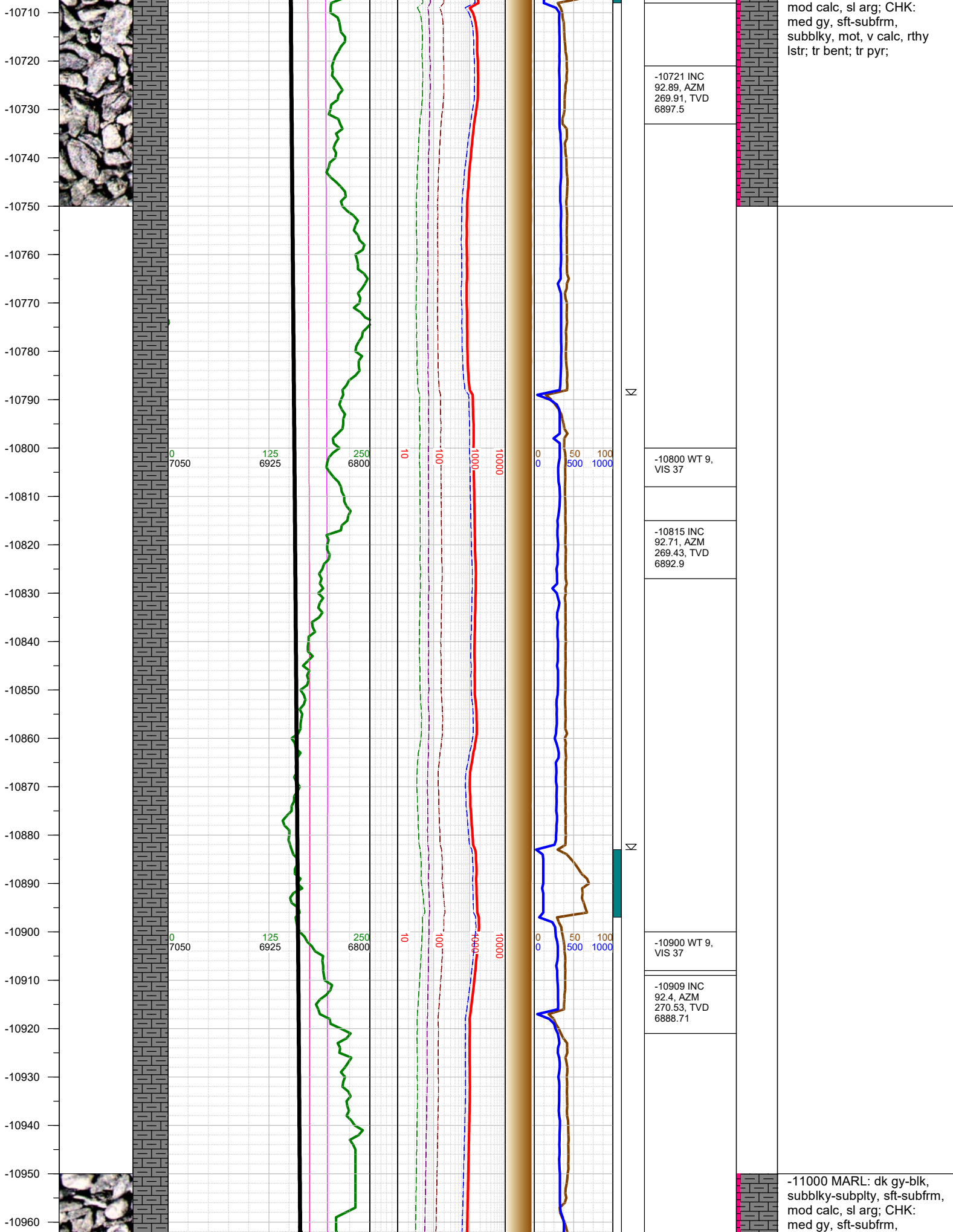
-9500 MARL: dk gy-blk,
subbly-subplty, sft-subfrm,
mod calc, sl arg; CHK:
med gy, sft-subfrm,
subbly, mot, v calc, rthy
lstr; tr bent; tr pyr;



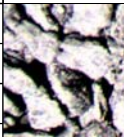








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-11003 INC
92.49, AZM
270.75, TVD
6884.7

-11020 WT 9,
VIS 37

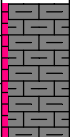
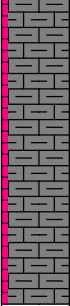
-11098 INC
90.41, AZM
271.63, TVD
6882.3

-11110 WT 9,
VIS 37



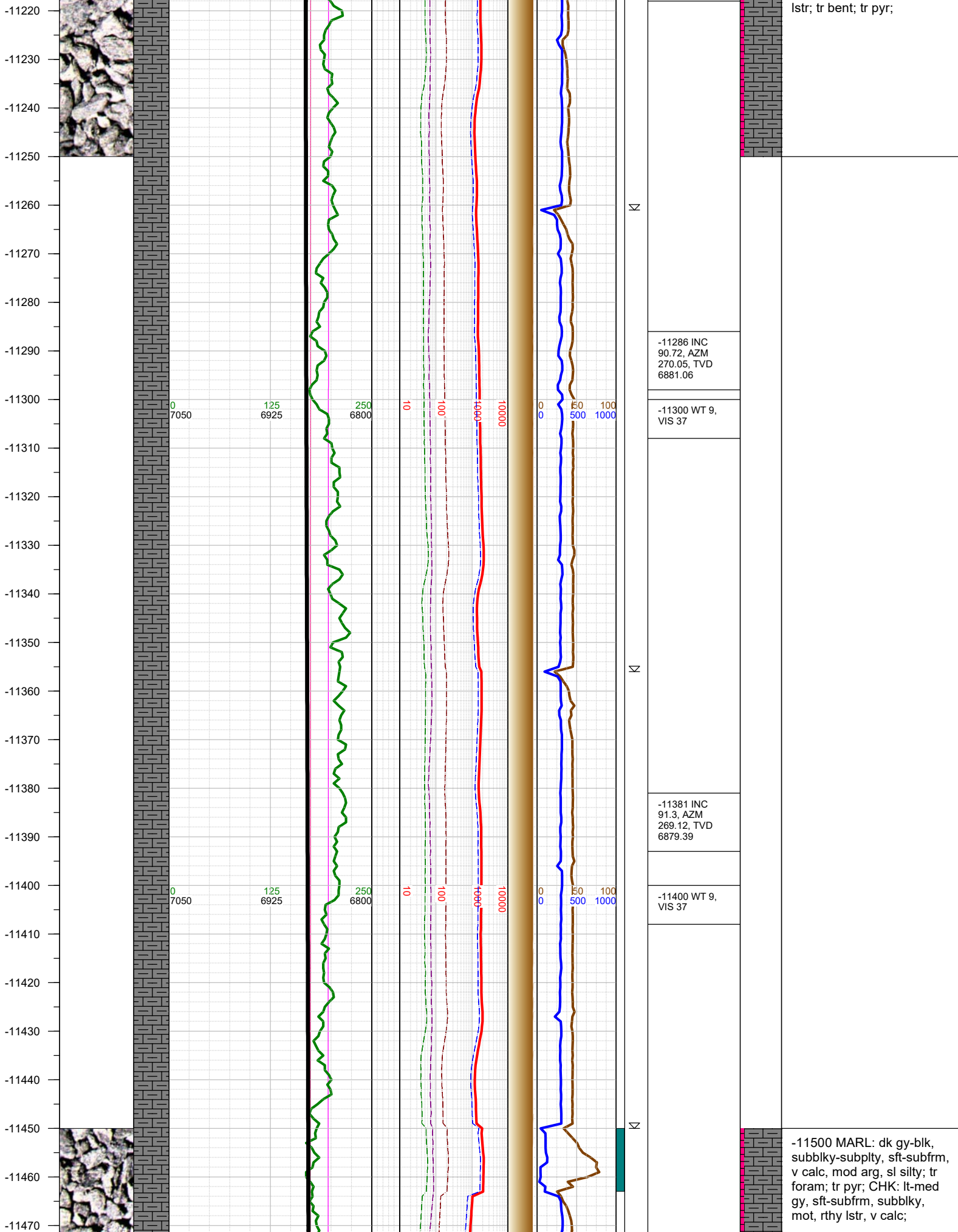
-11192 INC
90.19, AZM
270.53, TVD
6881.81

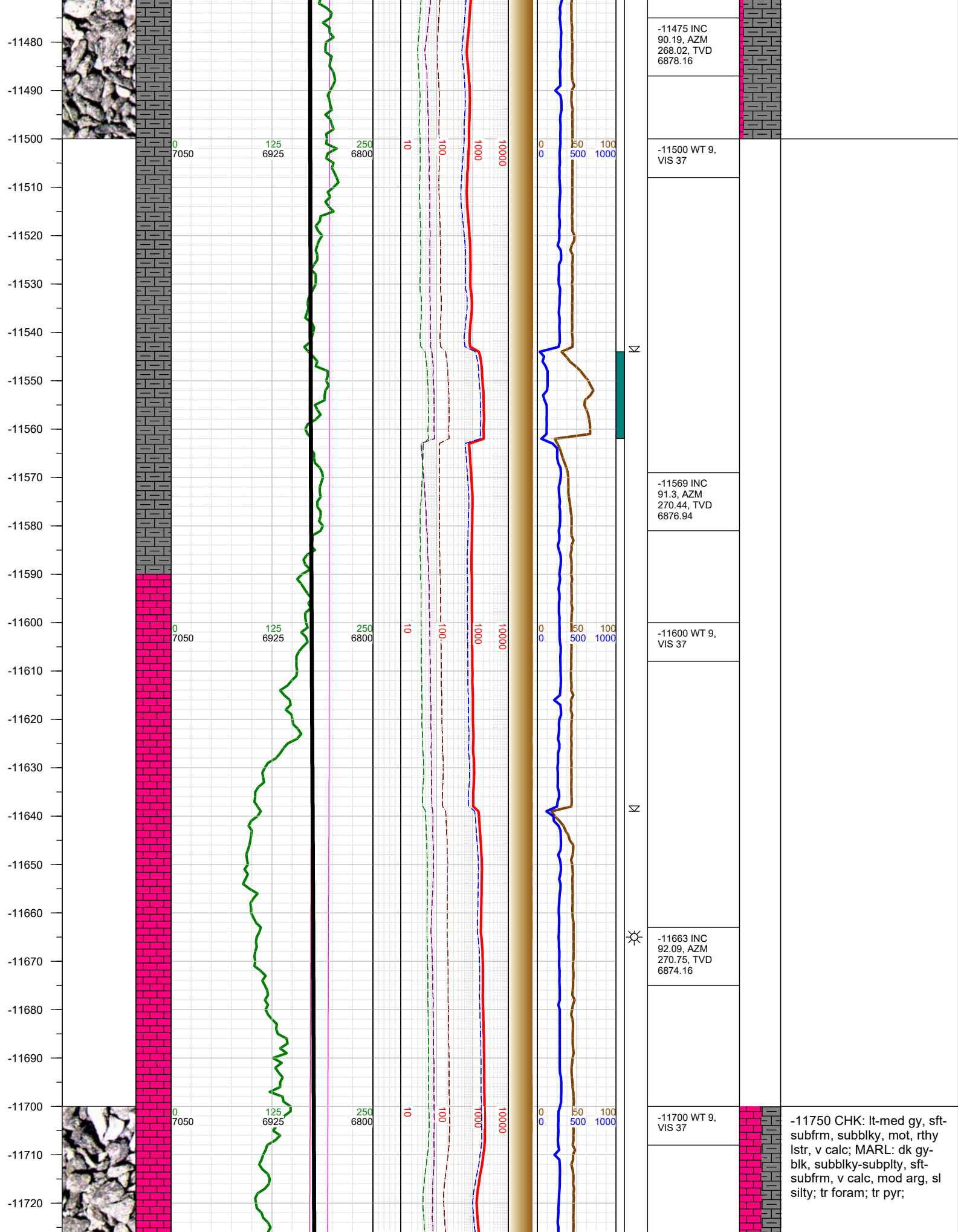
-11210 WT 9,
VIS 37



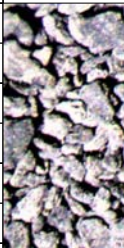
subblky, mot, v calc, rthy
lstr; tr bent; tr pyr;

-11250 MARL: dk gy-blk,
subblky-subply, sft-subfrm,
mod calc, sl arg; CHK:
med gy, sft-subfrm,
subblky, mot, v calc, rthy





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-11758 INC
90.19, AZM
271.63, TVD
6872.27

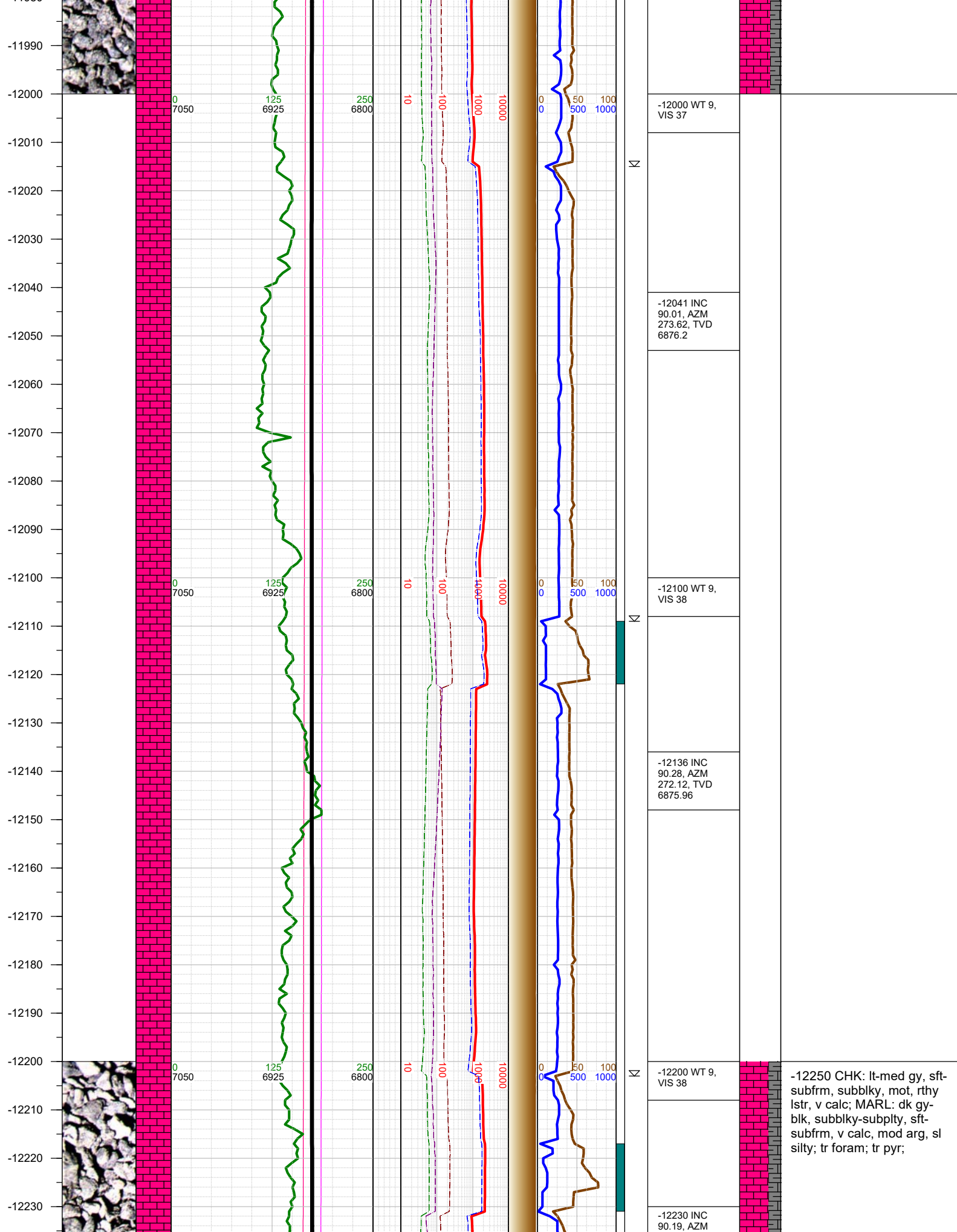
-11800 WT 9,
VIS 37

-11852 INC
88.29, AZM
269.83, TVD
6873.52

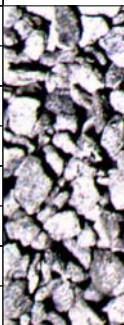
-11900 WT 9,
VIS 37

-11946 INC
89.22, AZM
272.82, TVD
6875.56

-12000 CHK: lt-med gy, sft-
subfrm, subblky, mot, rthy
lstr, v calc; MARL: dk gy-
blk, subblky-subply, sft-
subfrm, v calc, mod arg, sl
silty; tr foram; tr pyr;



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270.62, TVD
6875.57

-12300 WT 9,
VIS 37

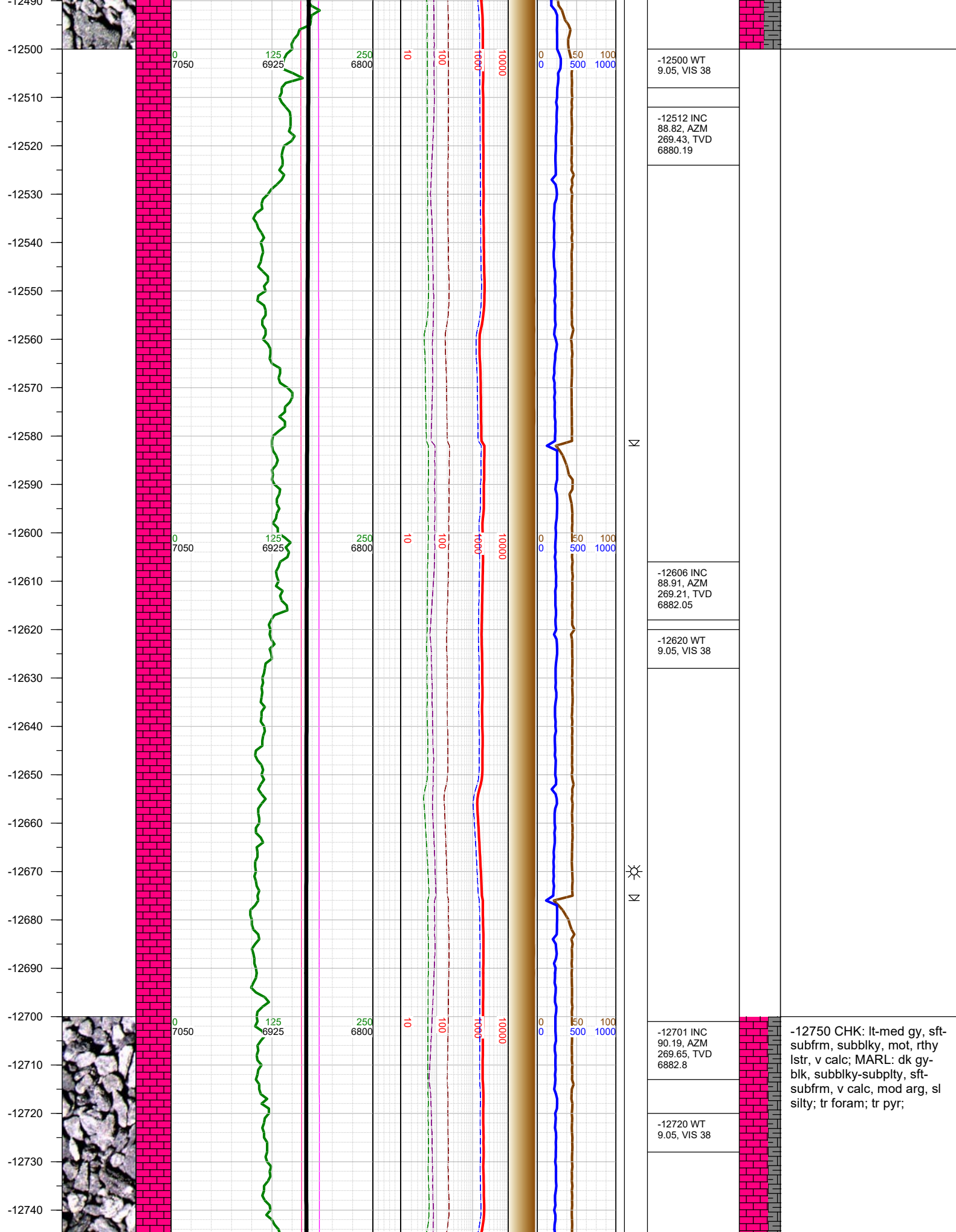
-12324 INC
89.48, AZM
269.12, TVD
6875.84

-12377 0000 hrs
on 12/12/2017

-12400 WT 9,
VIS 37

-12418 INC
88.2, AZM
269.52, TVD
6877.75

-12500 CHK: lt-med gy, sft-
subfrm, subblky, mot, rthy
lstr, v calc; MARL: dk gy-
blk, subblky-subply, sft-
subfrm, v calc, mod arg, sl
silty; tr foram; tr pyr;



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-12795 INC
90.5, AZM
270.05, TVD
6882.23

-12810 WT 9.1,
VIS 38

Σ

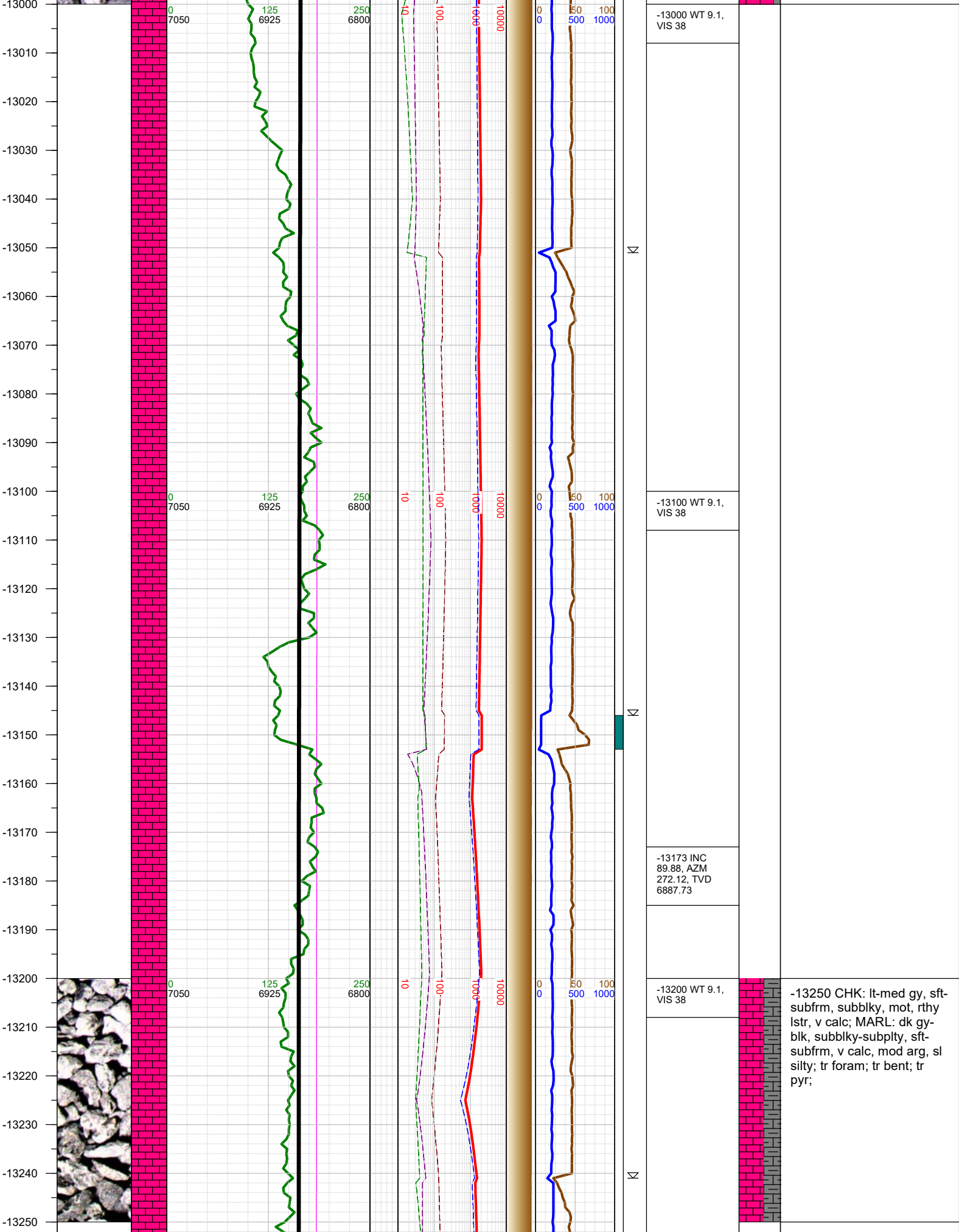
-12889 INC
88.51, AZM
271.32, TVD
6883.05

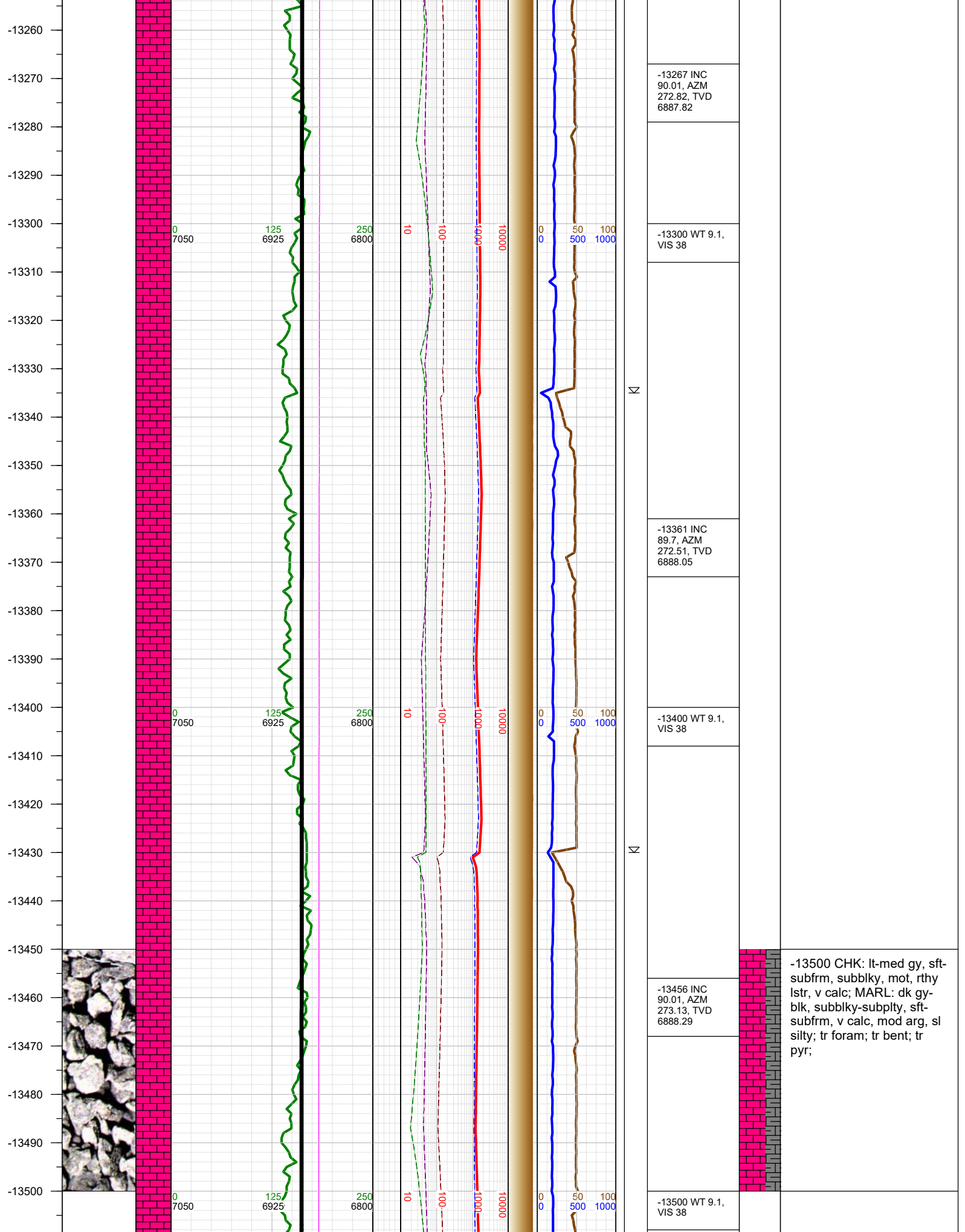
-12910 WT 9.1,
VIS 38

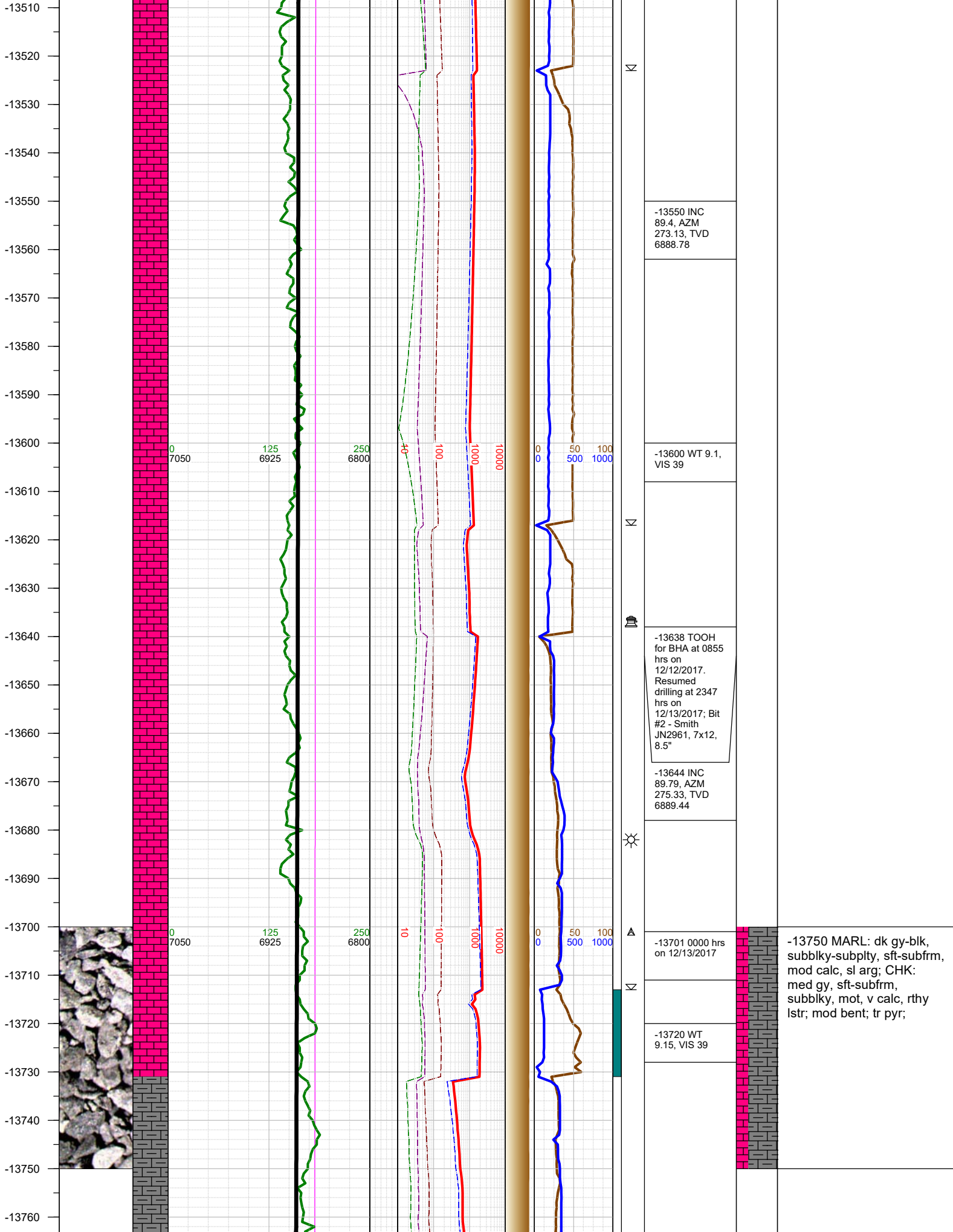
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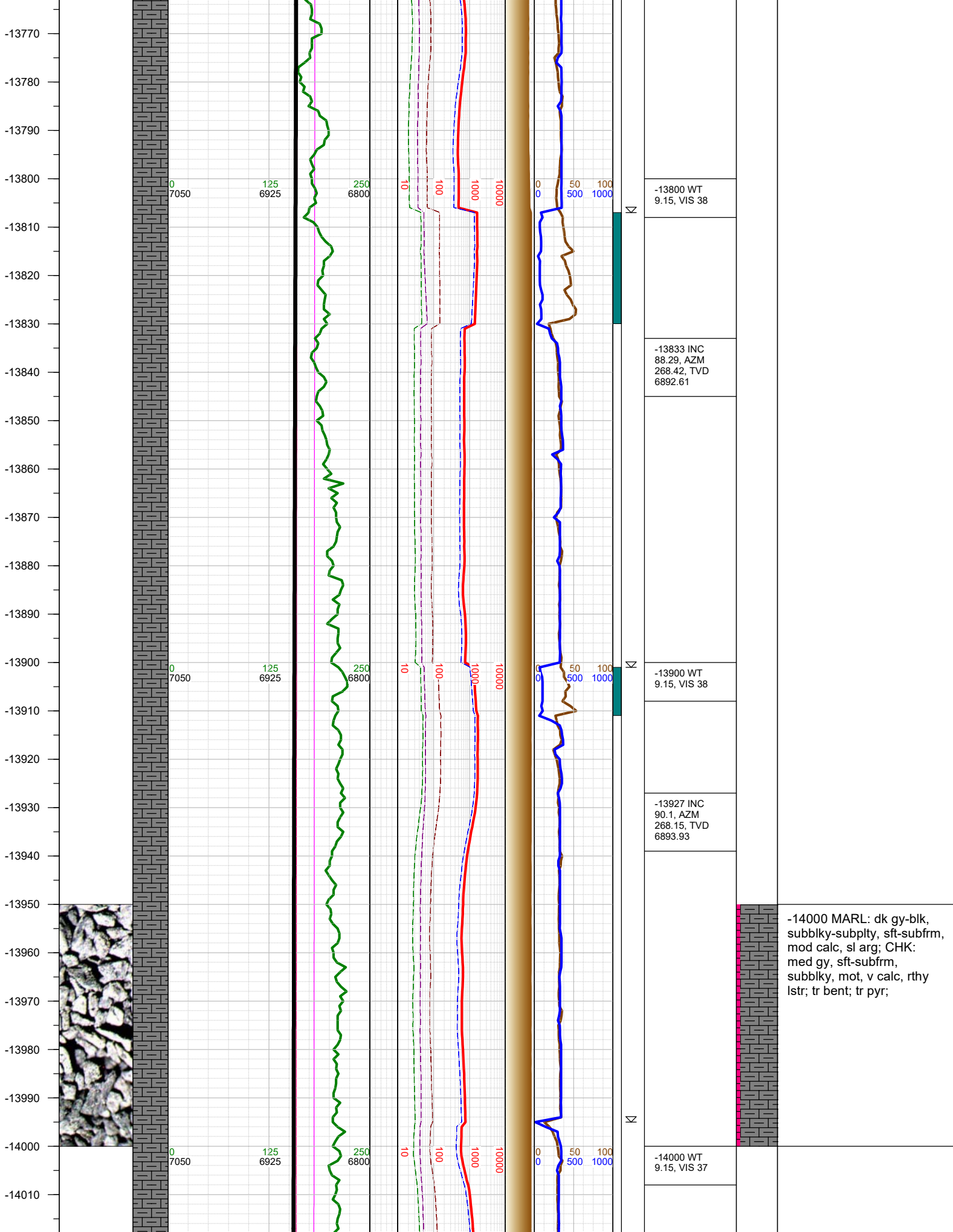
-12984 INC
88.69, AZM
271.41, TVD
6885.37

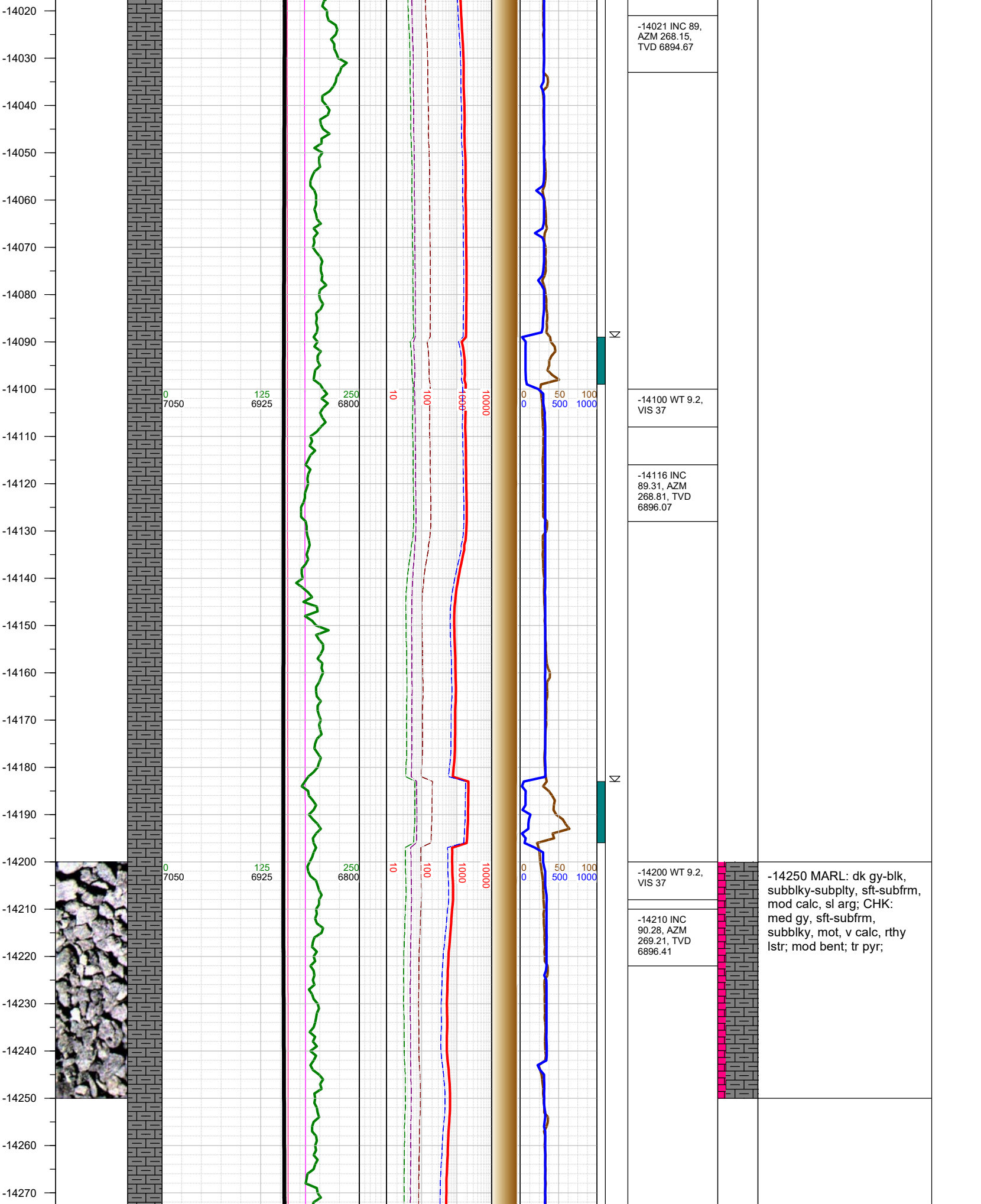
-13000 CHK: lt-med gy, sft-
subfrm, subblky, mot, rthy
lstr, v calc; MARL: dk gy-
blk, subblky-subpty, sft-
subfrm, v calc, mod arg, sl
silty; tr foram; tr pyr;

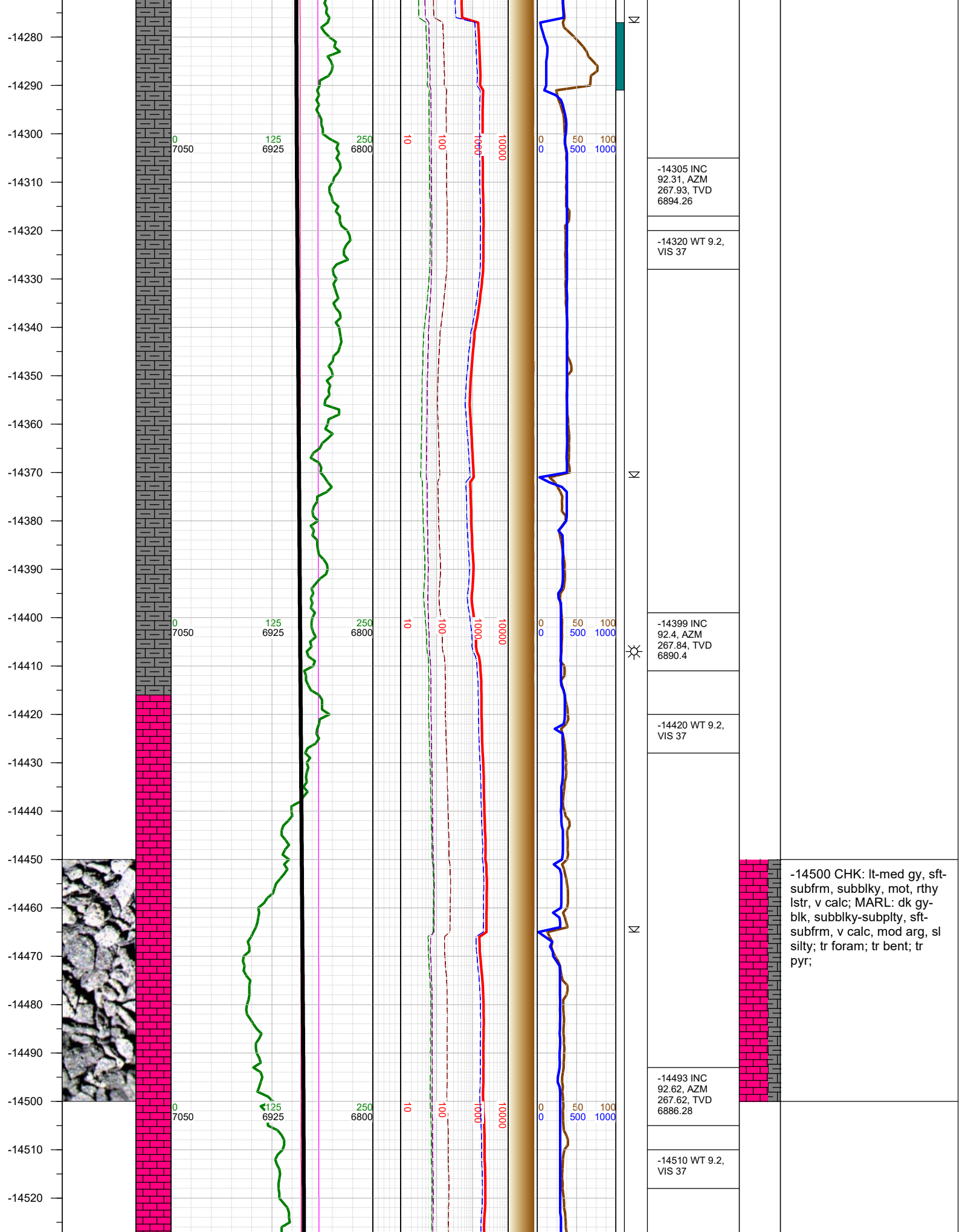


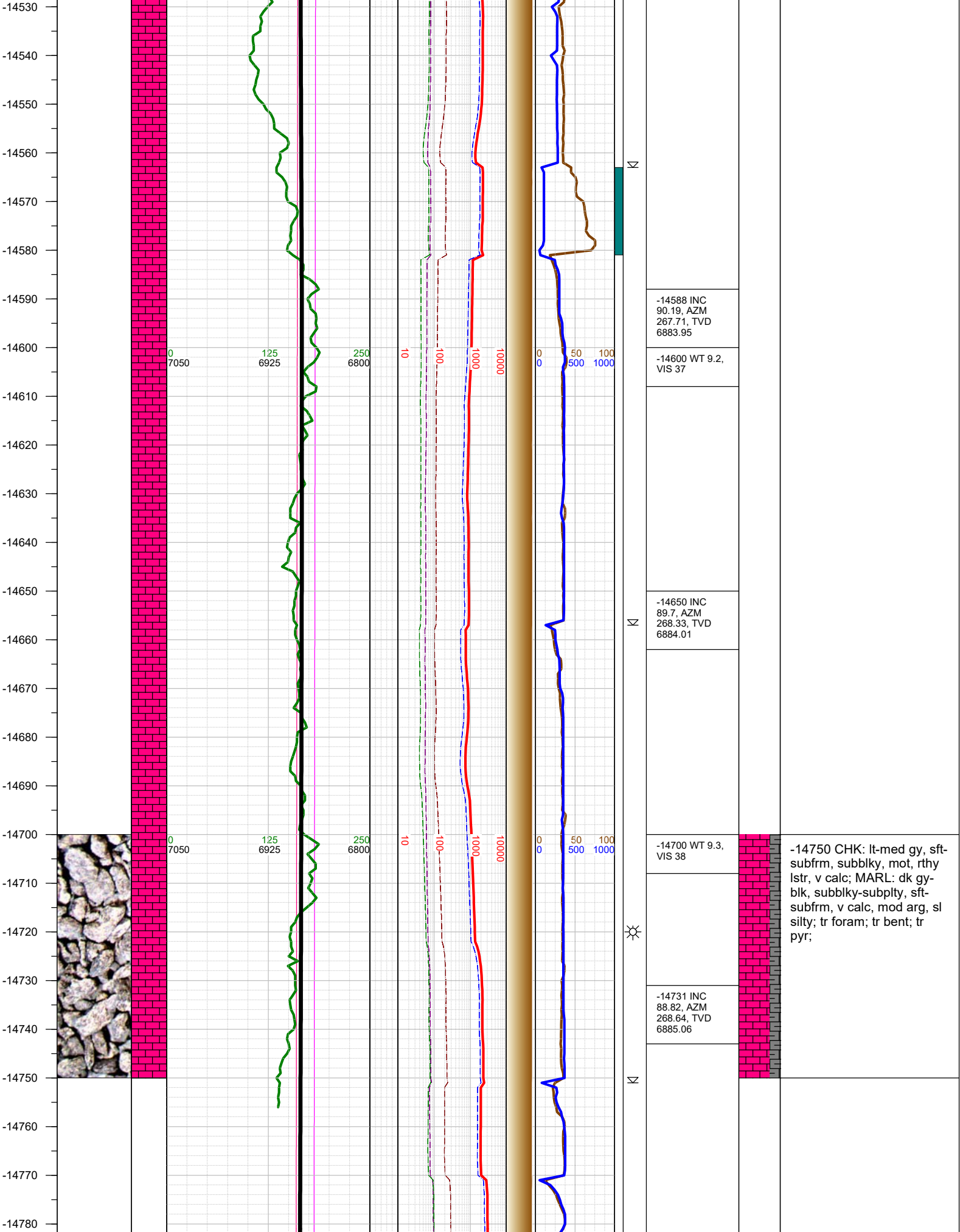


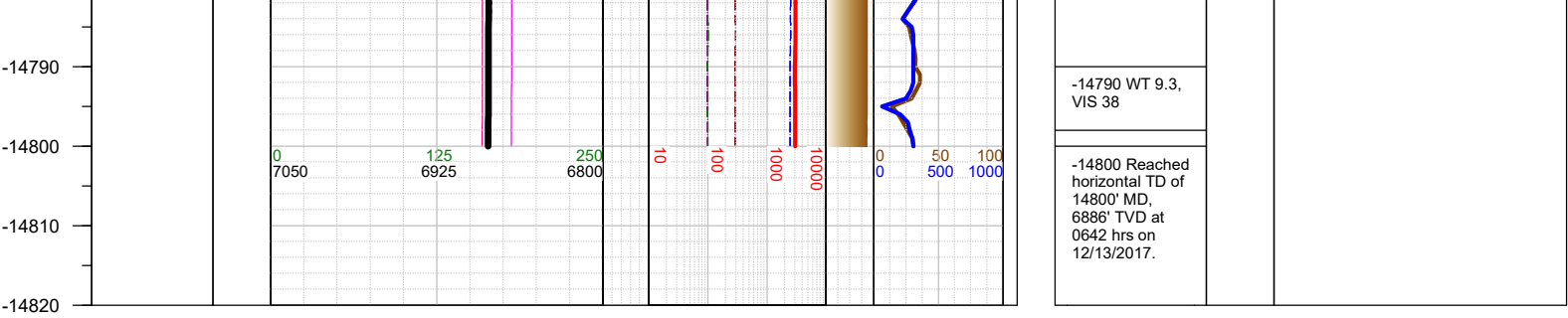












TOTAL DEPTH = 14800'

Thank you for using Earth Science Agency