

OPERATOR: **Extraction Oil & Gas**

WELL NAME: **Launer 5N**

FIELD NAME: DJ Basin - Wattenberg

DRILLING RIG: Patterson 346

API #: 05-123-45172

LAT/LONG: 40.539941, -104.852323
SURFACE HOLE: SESE S26-T7N-R67W, 746' FSL, 380' FEL
BOTTOM HOLE: S27-T7N-R67W, 1884' FSL, 2562' FEL

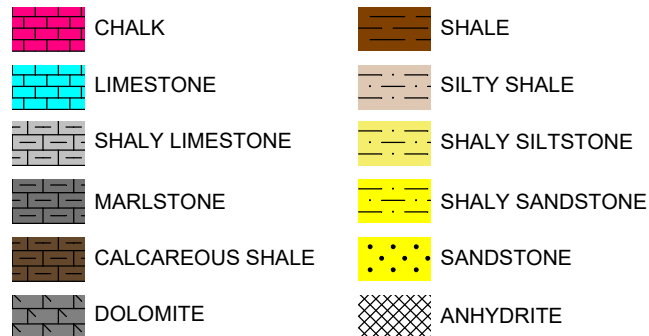


Earth Science Agency, LLC

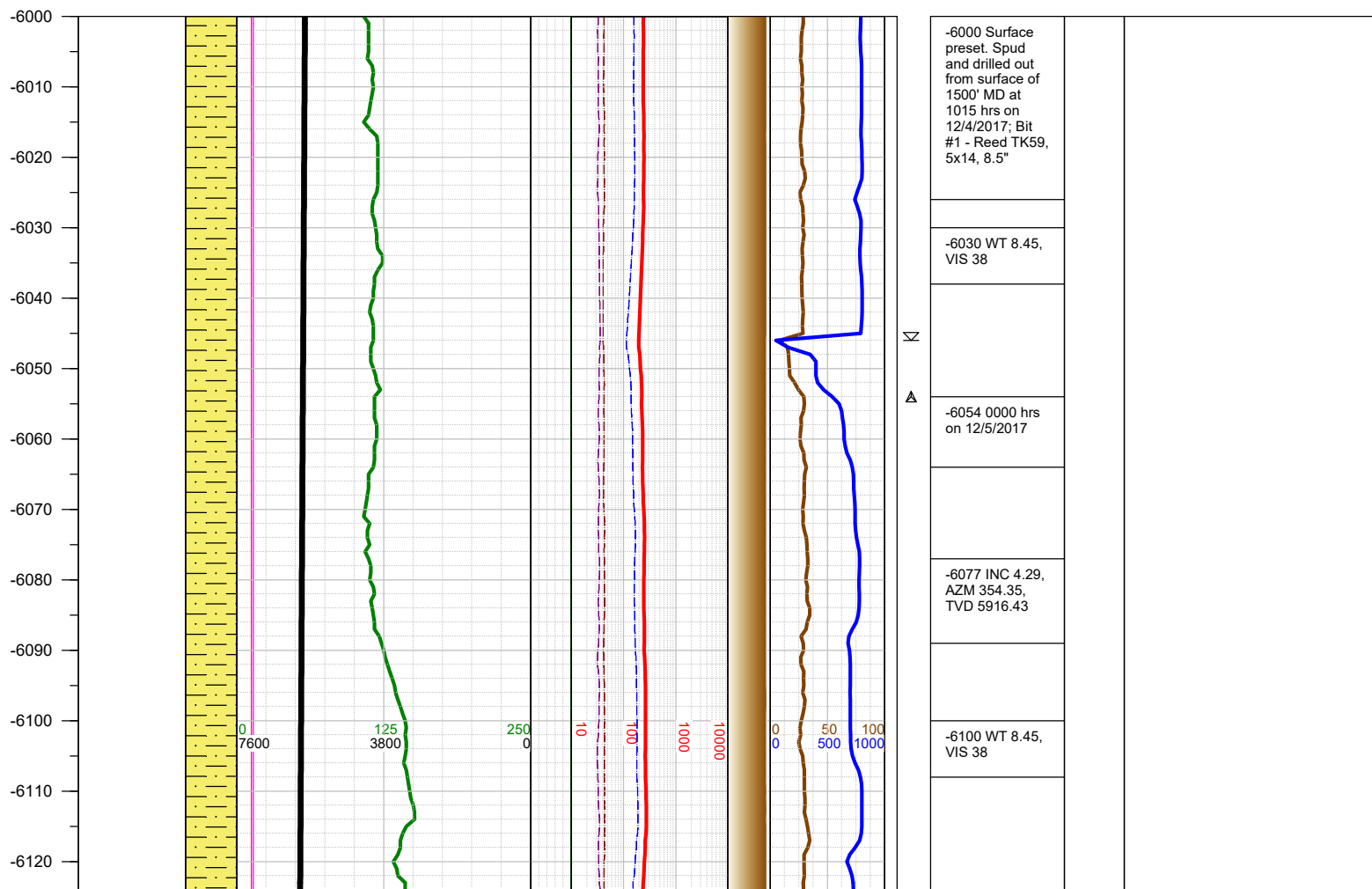
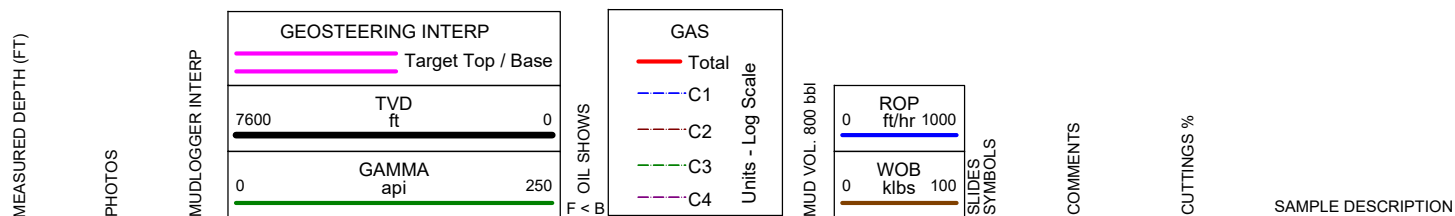
COUNTY: Weld
STATE: Colorado
GROUND ELEVATION: 4927'
KELLY BUSHING: 4952'
DRILLING FLUID: OBM
TVD VS. MD: 7102' / 14806'
SPUD DATE: December 4, 2017
TD DATE: December 8, 2017

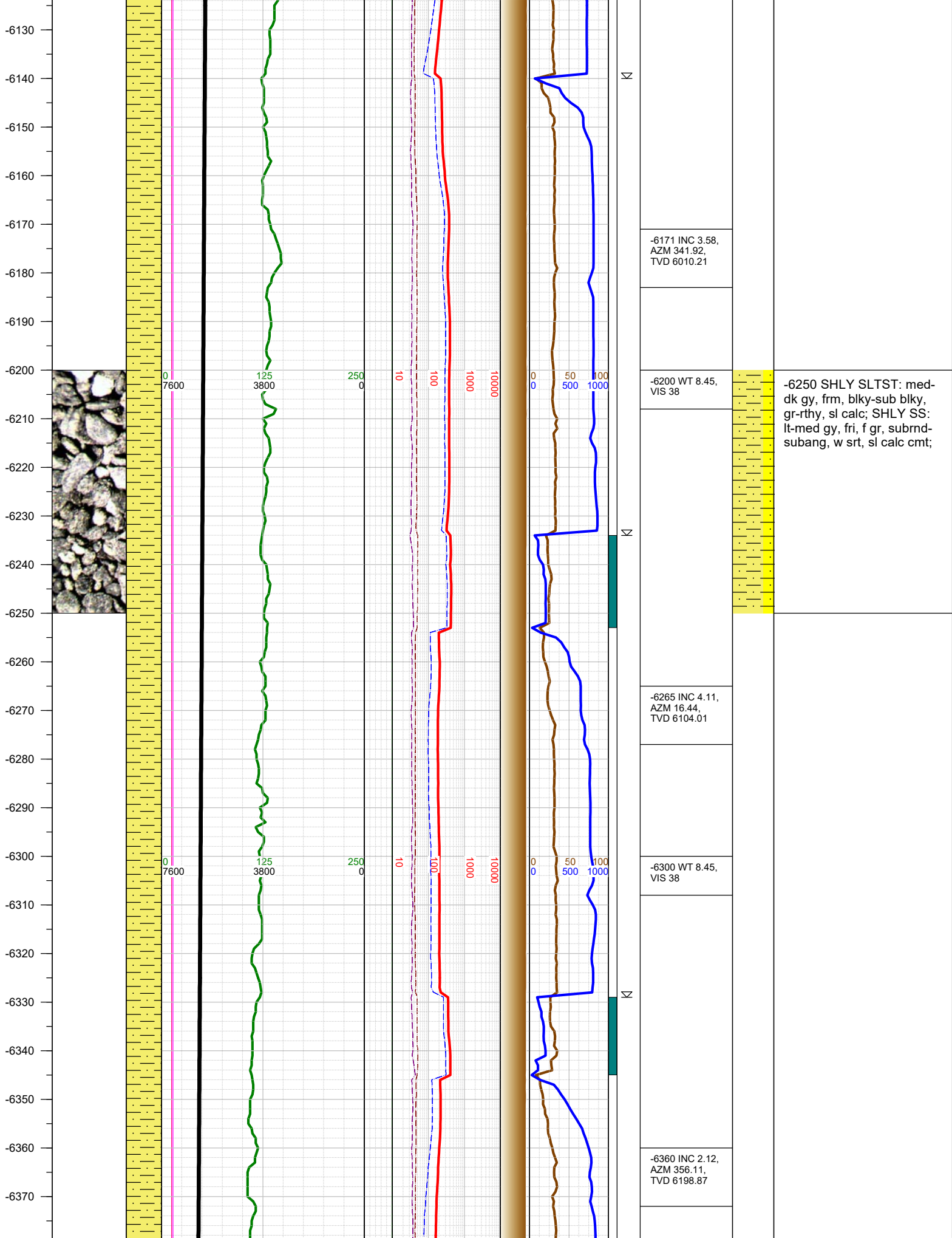
DEPTHS LOGGED: 6000' - 14806'
DATES LOGGED: December 4, 2017 - December 8, 2017
GEOLOGISTS: Brian Whitfield, Ross Apodaca
SCALE: 5" = 100'

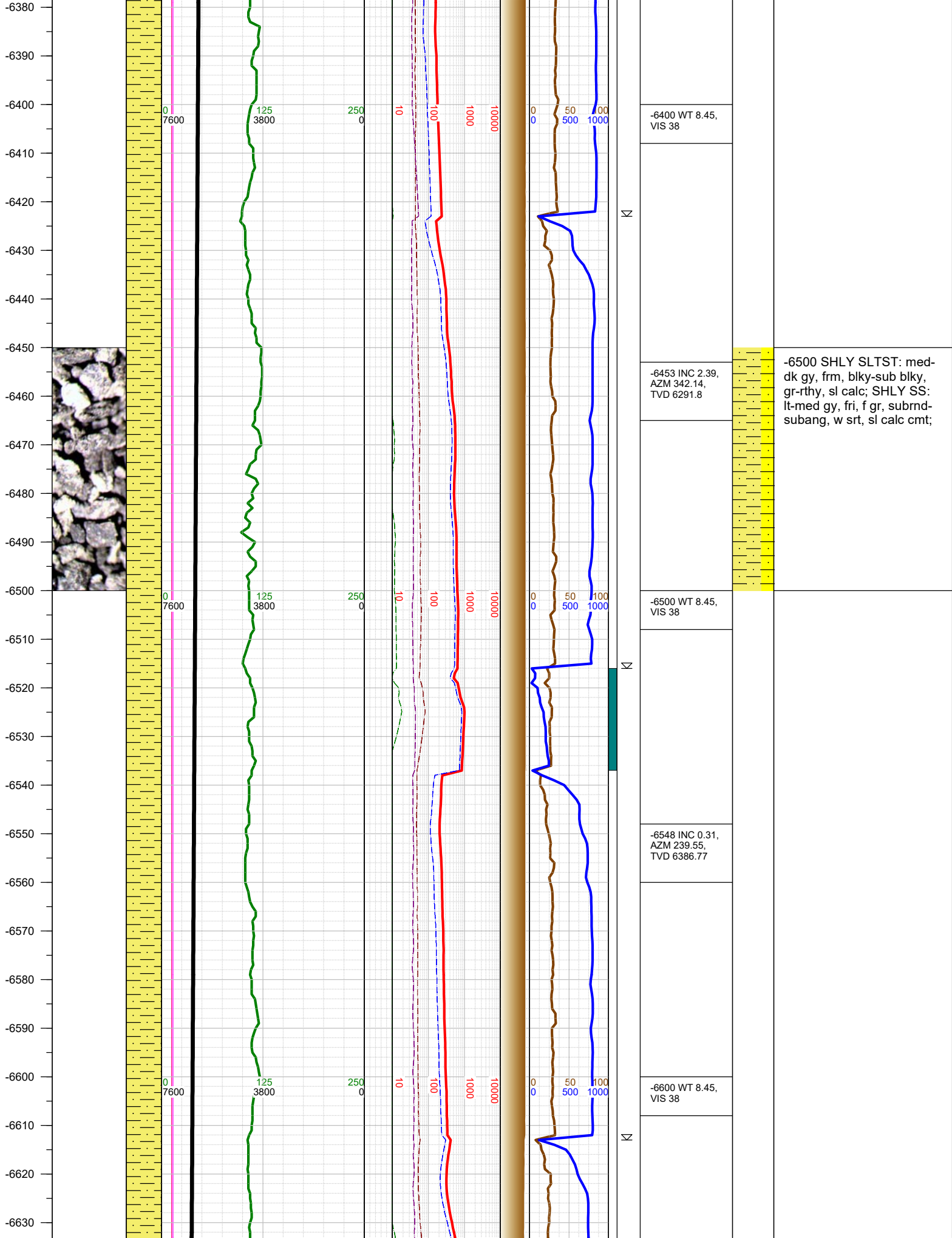
LEGEND

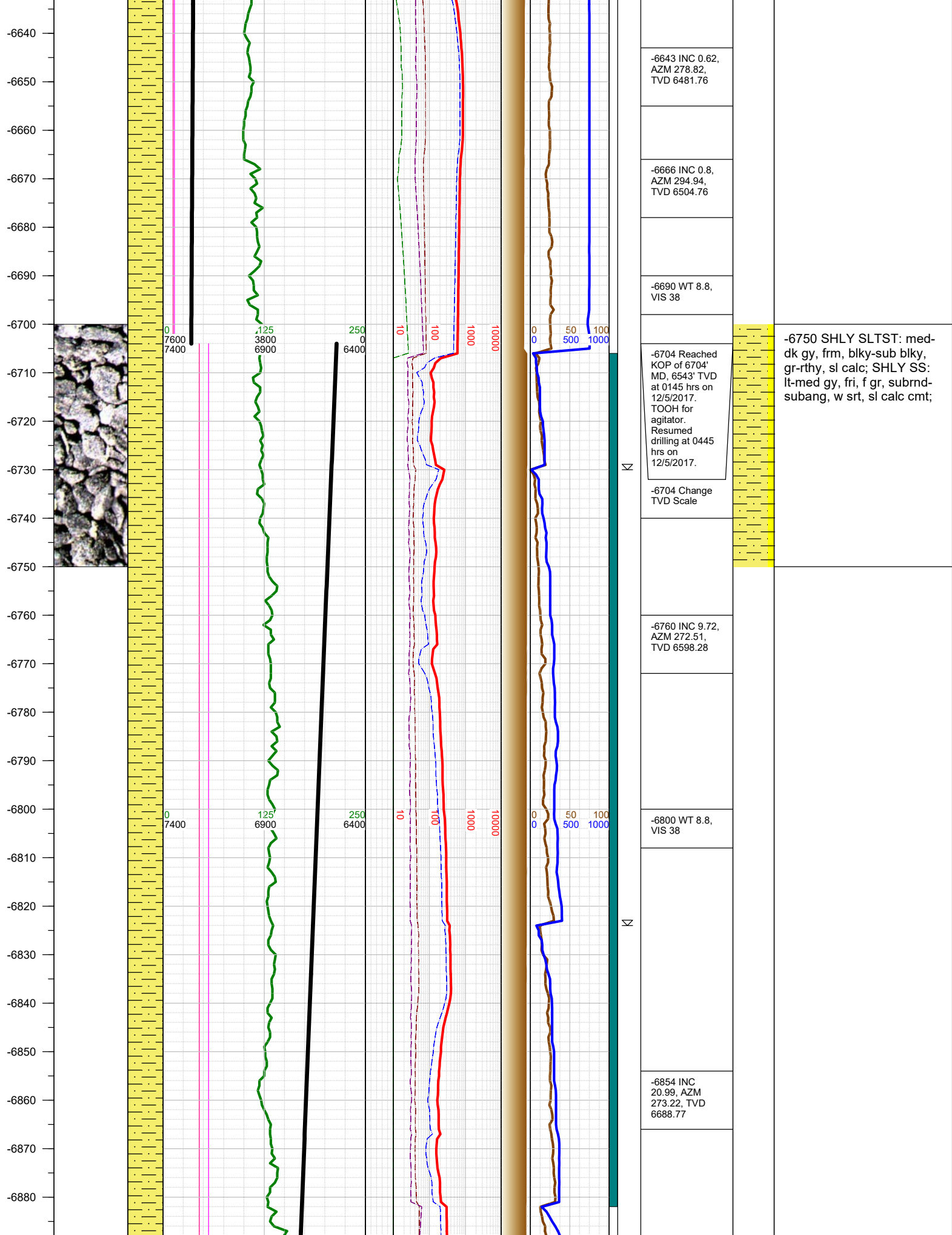


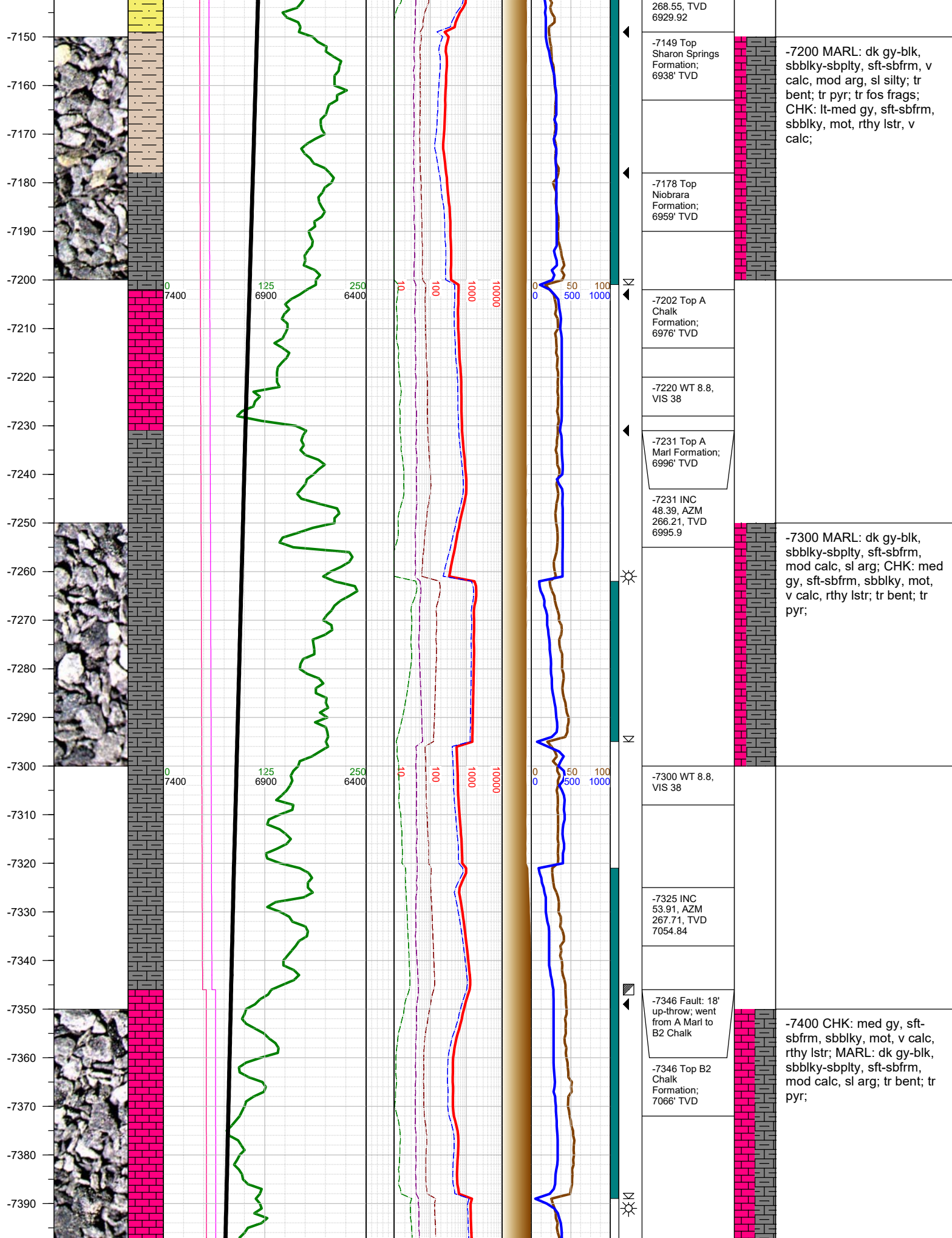
FORMATION \approx CONNECTION Δ MIDNIGHT NEW BIT GAS SHOW FAULT

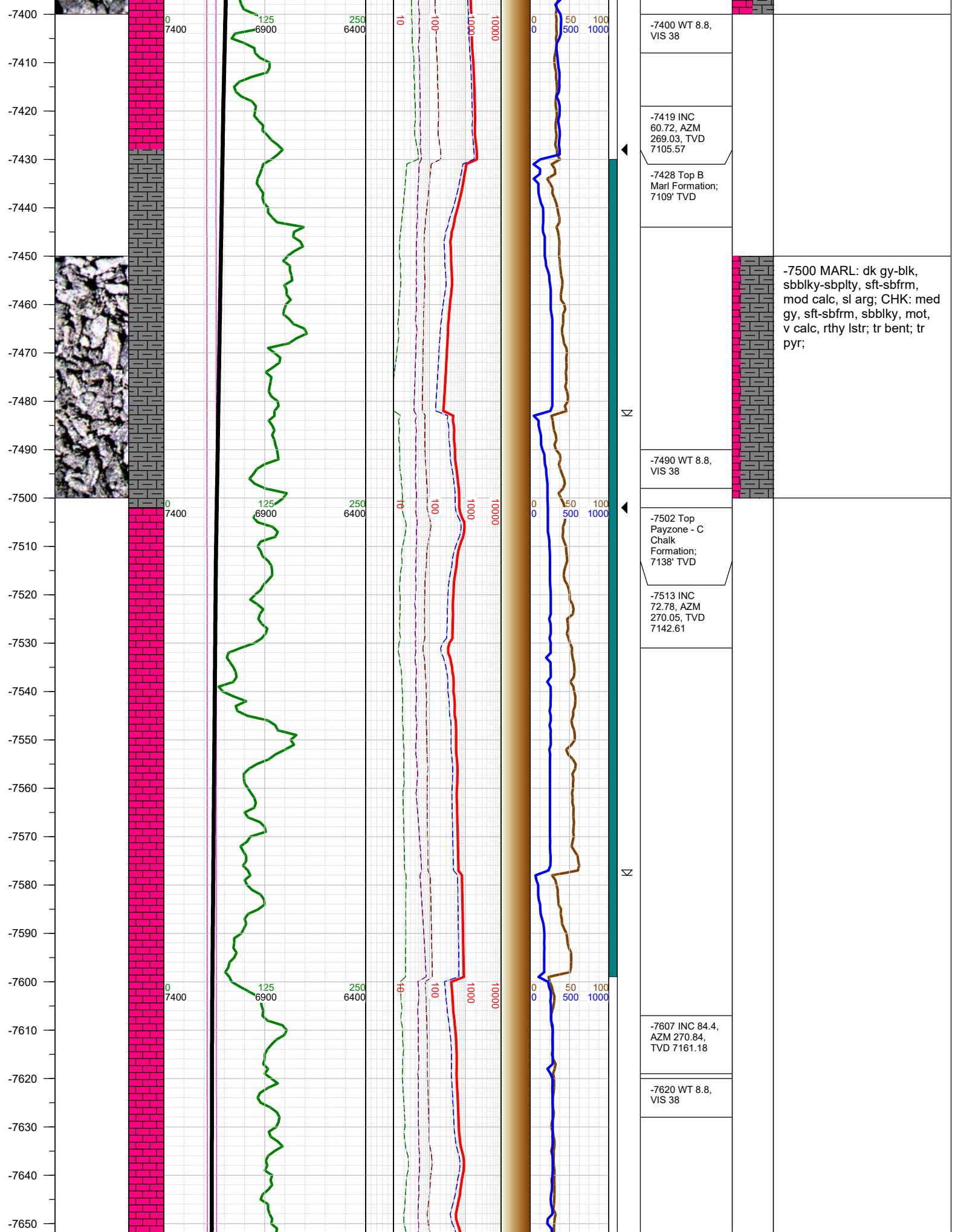


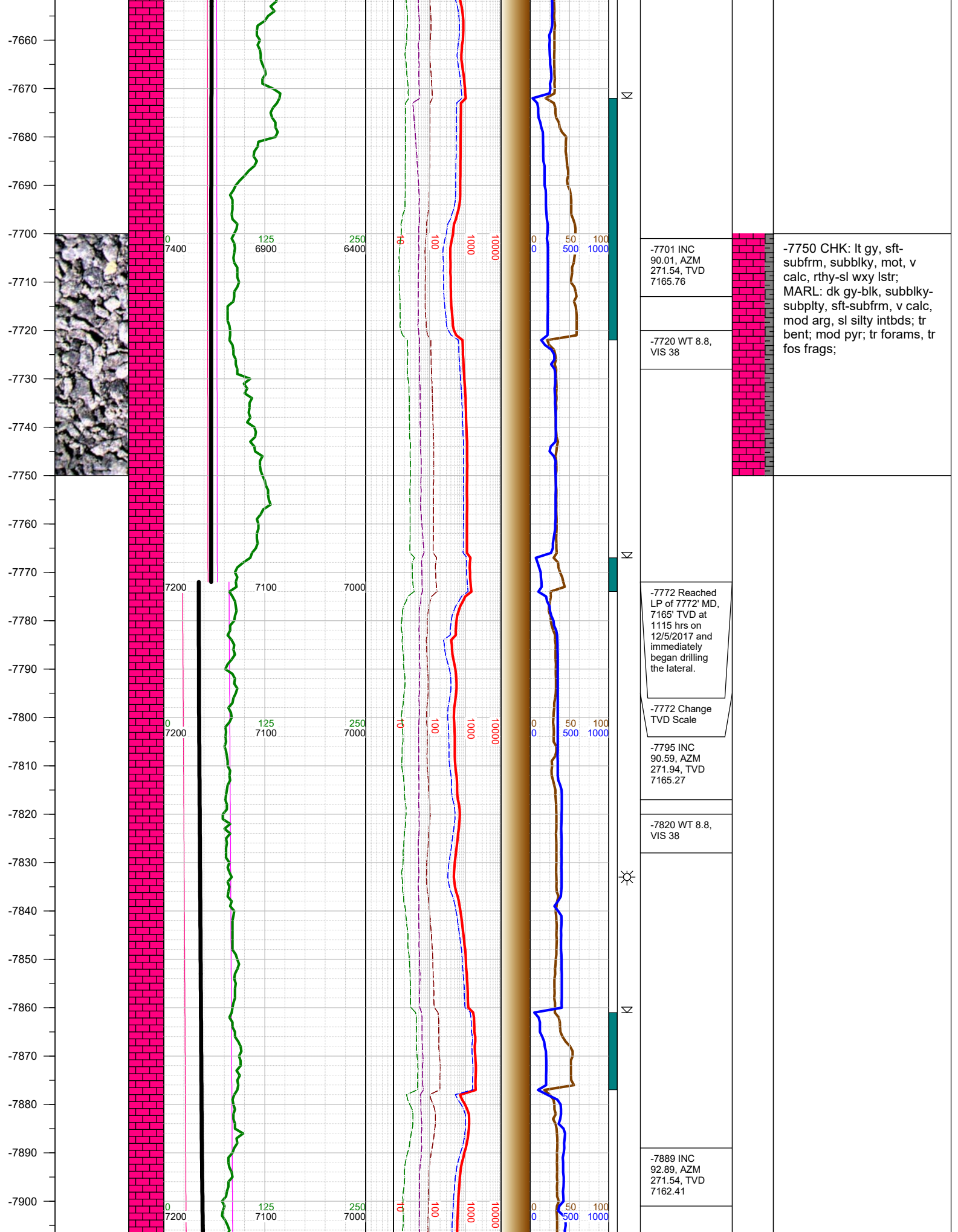


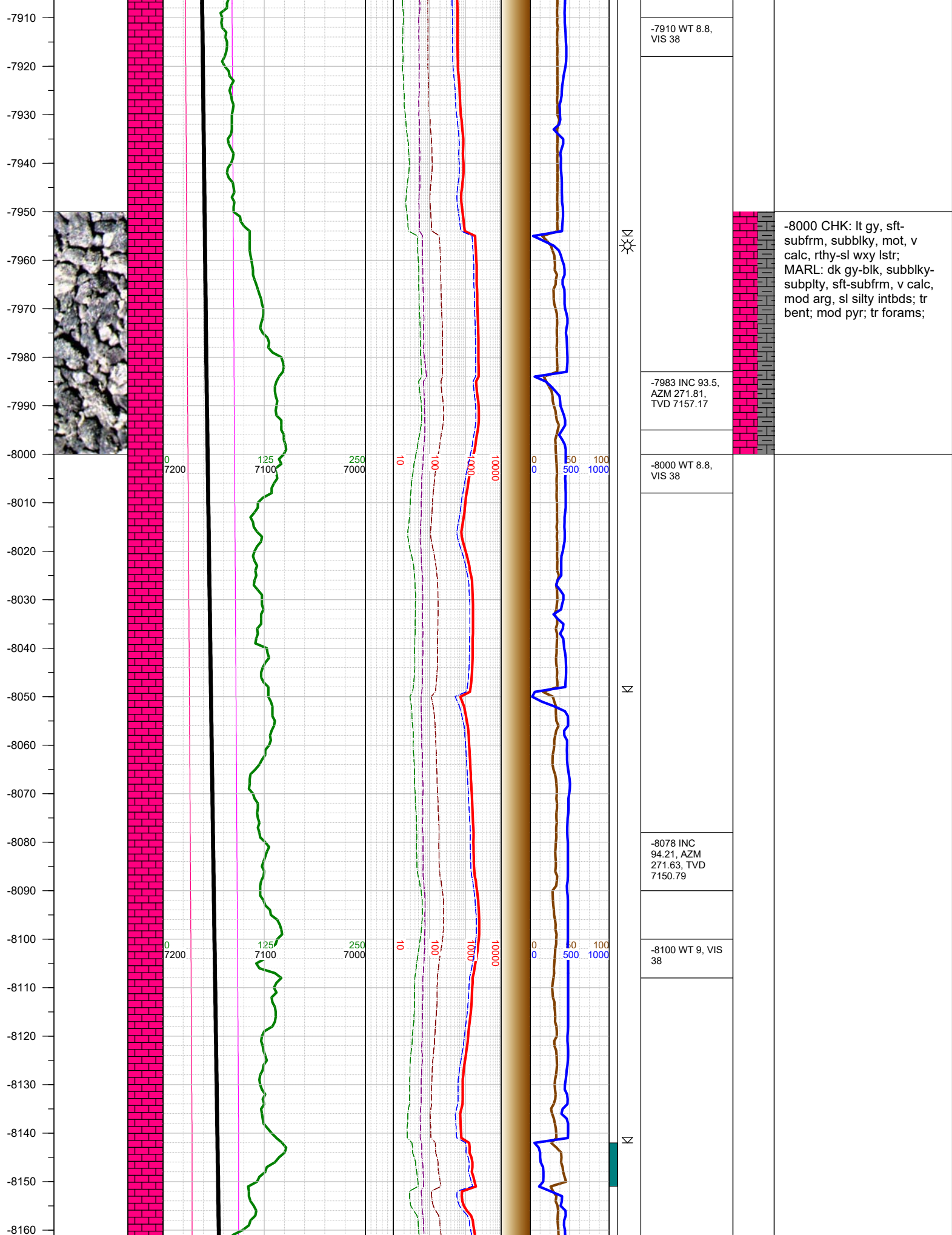


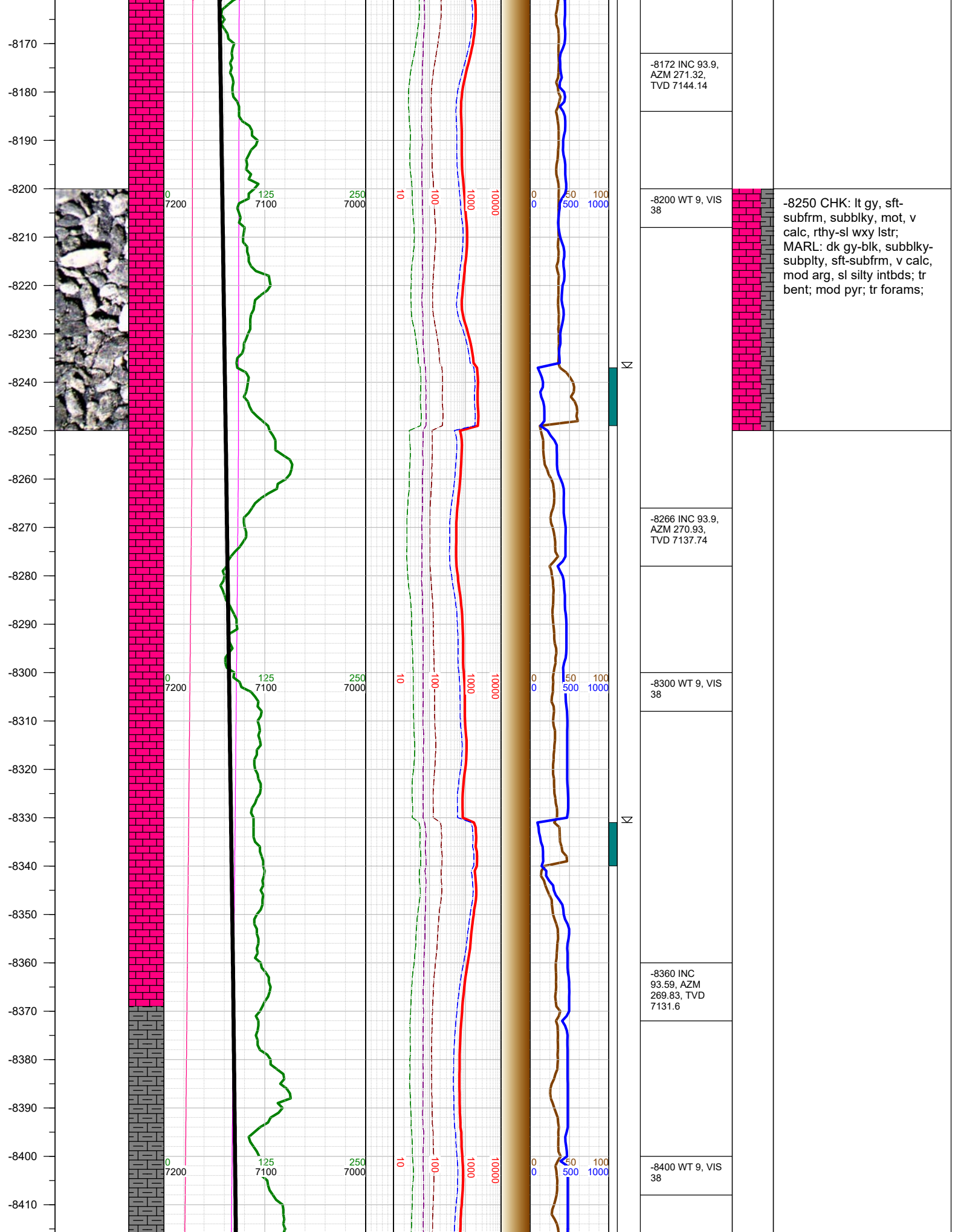




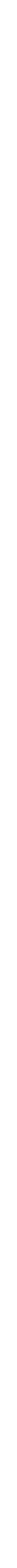
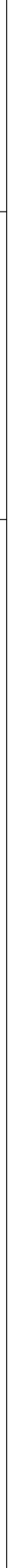
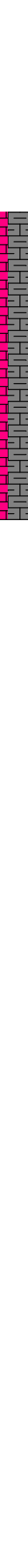
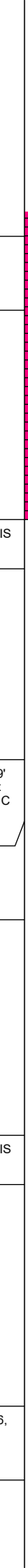
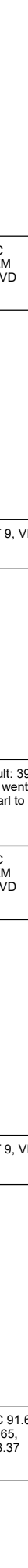
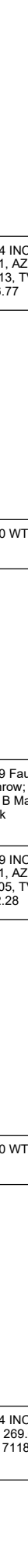
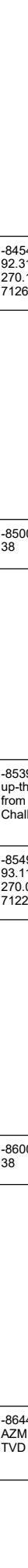
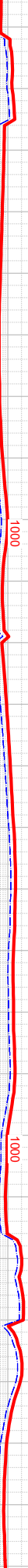
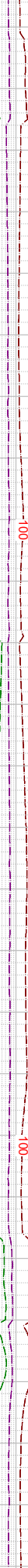
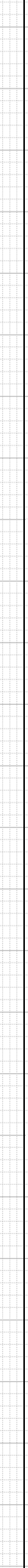
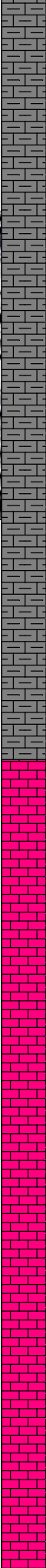








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-8454 INC
92.31, AZM
270.13, TVD
7126.77

-8500 WT 9, VIS
38

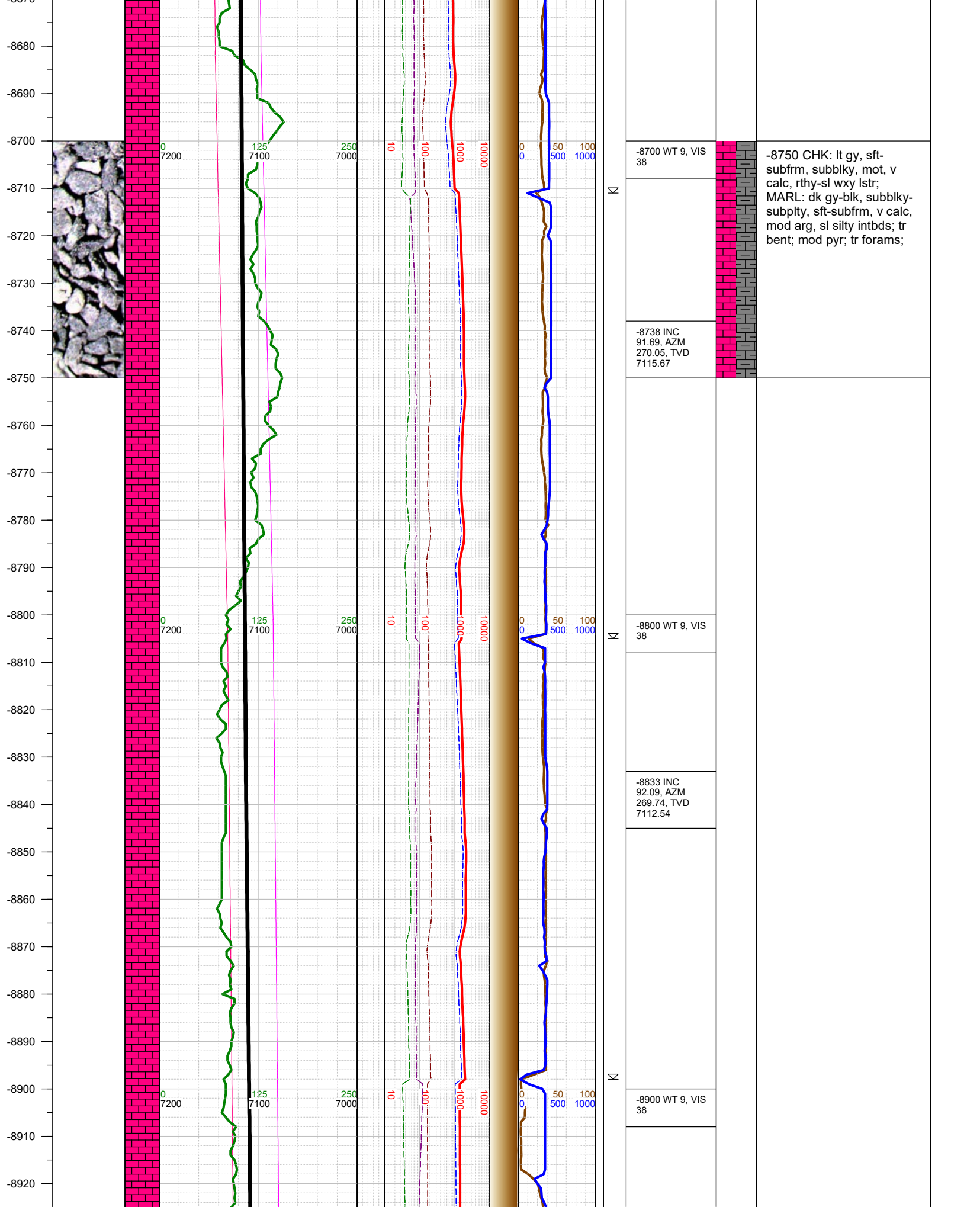
-8539 Fault: 39'
up-throw; went
from B Marl to C
Chalk

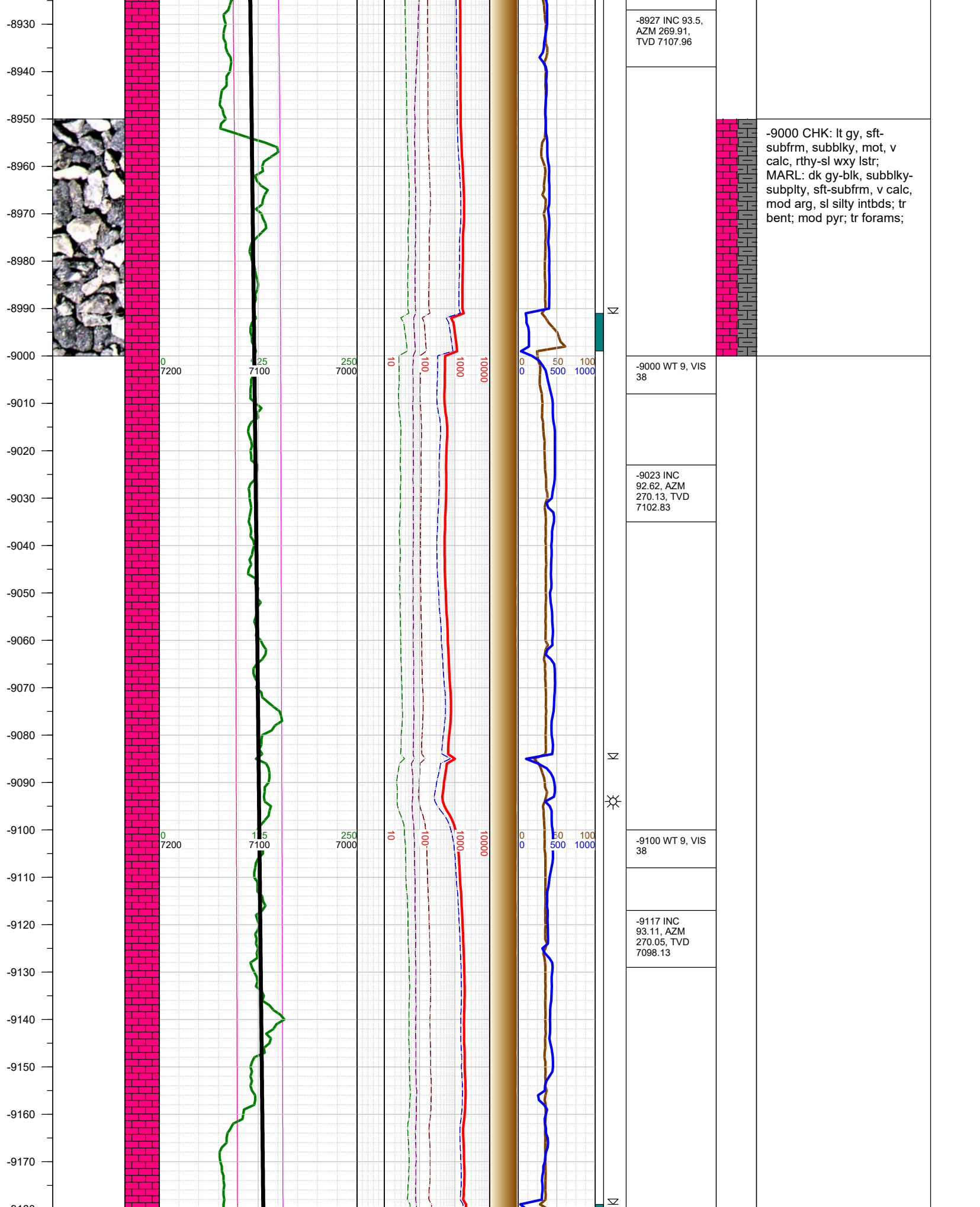
-8549 INC
93.11, AZM
270.05, TVD
7122.28

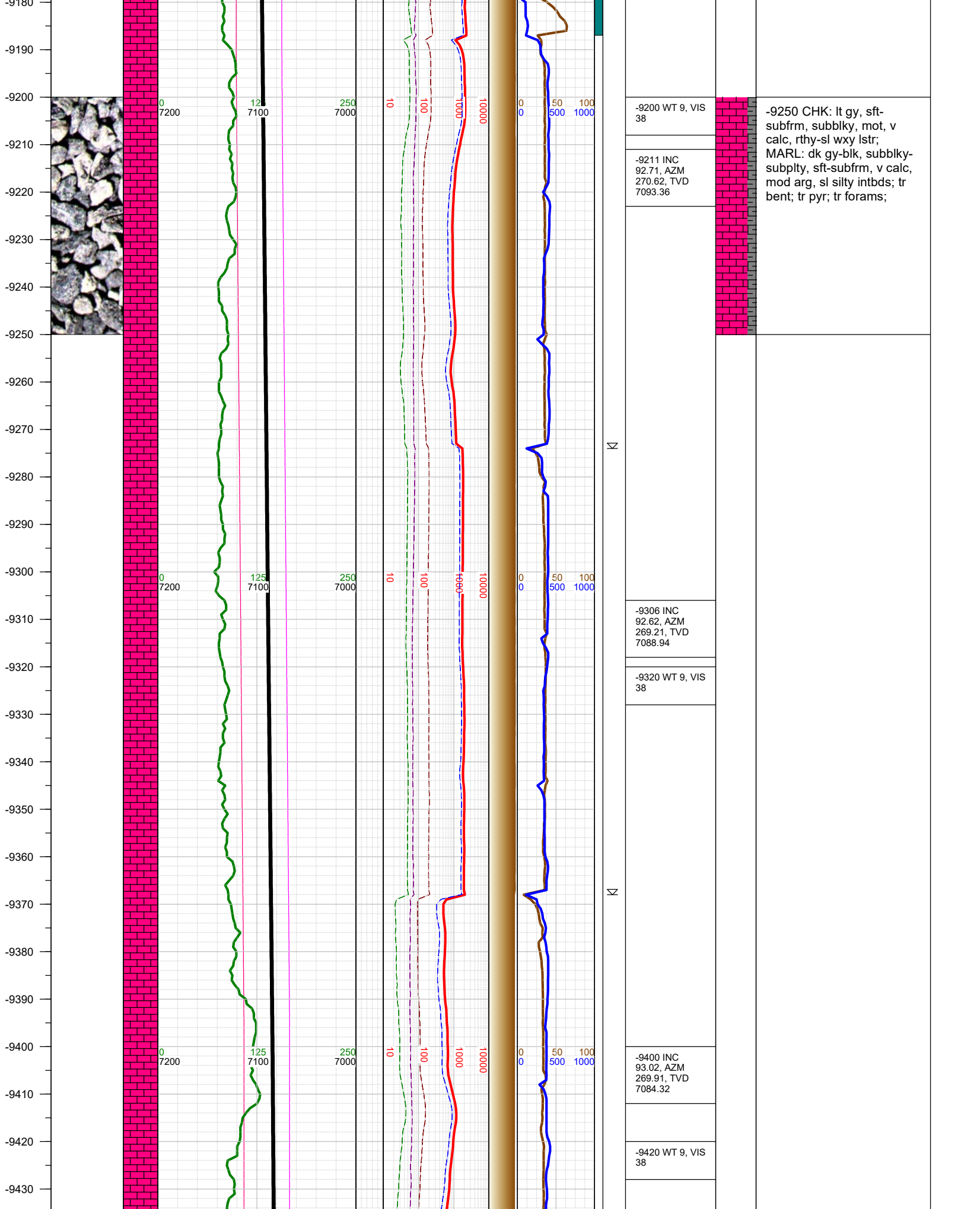
-8600 WT 9, VIS
38

-8644 INC 91.6,
AZM 269.65,
TVD 7118.37

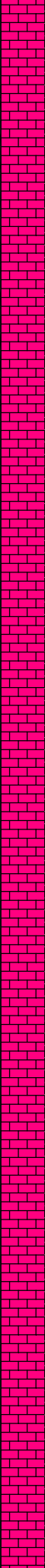
-8500 MARL: dk gy-blk,
sbbkly-sbplty, sft-sbfrm,
mod calc, sl arg; CHK: med
gy, sft-sbfrm, sbbkly, mot,
v calc, rthy lstr; tr bent; tr
pyr;







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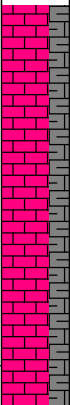
10000

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0 500 1000

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-9500 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; tr bent; tr pyr; tr forams;

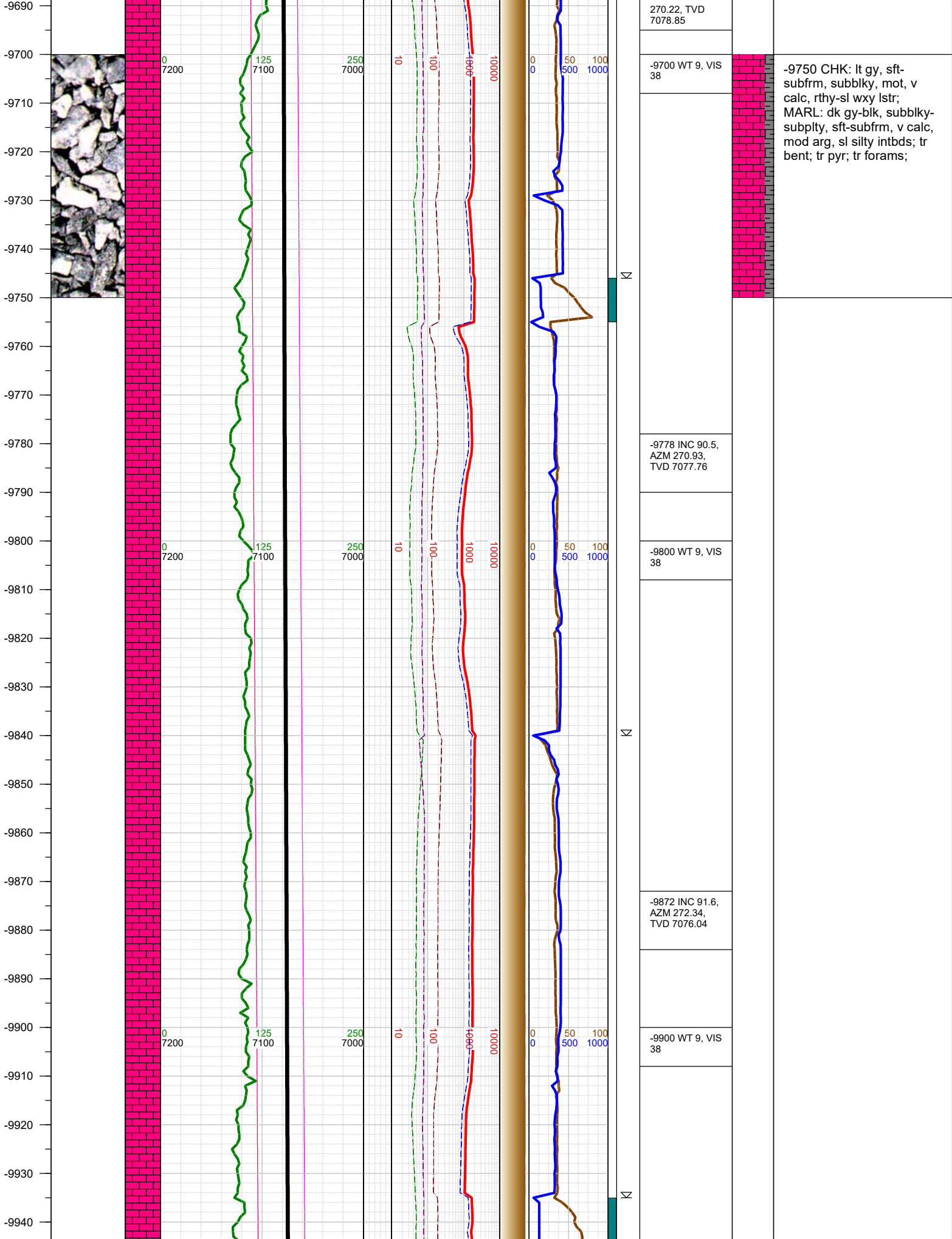
-9495 INC
90.99, AZM
270.44, TVD
7081

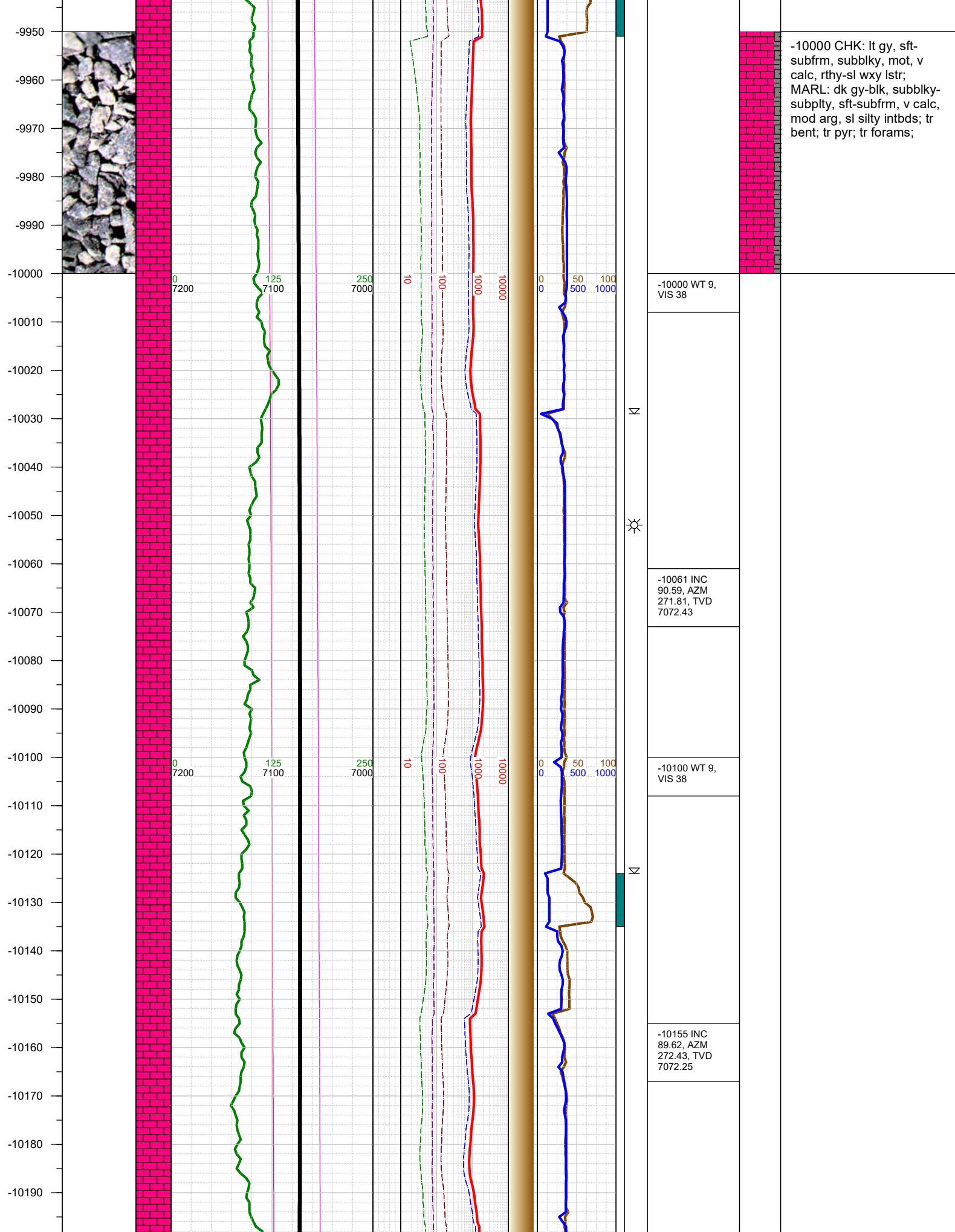
-9510 WT 9, VIS
38

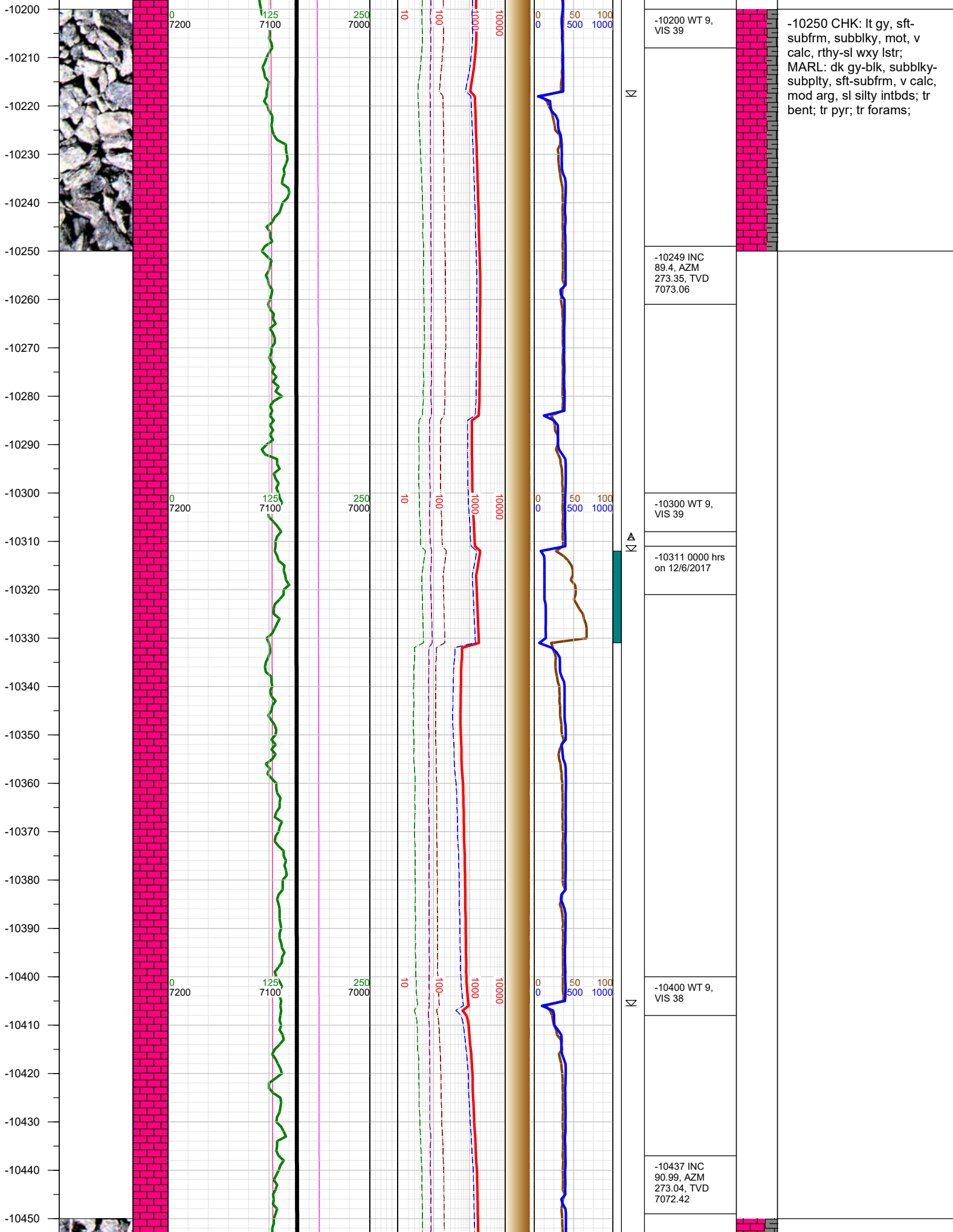
-9589 INC
90.41, AZM
269.74, TVD
7079.85

-9610 WT 9, VIS
38

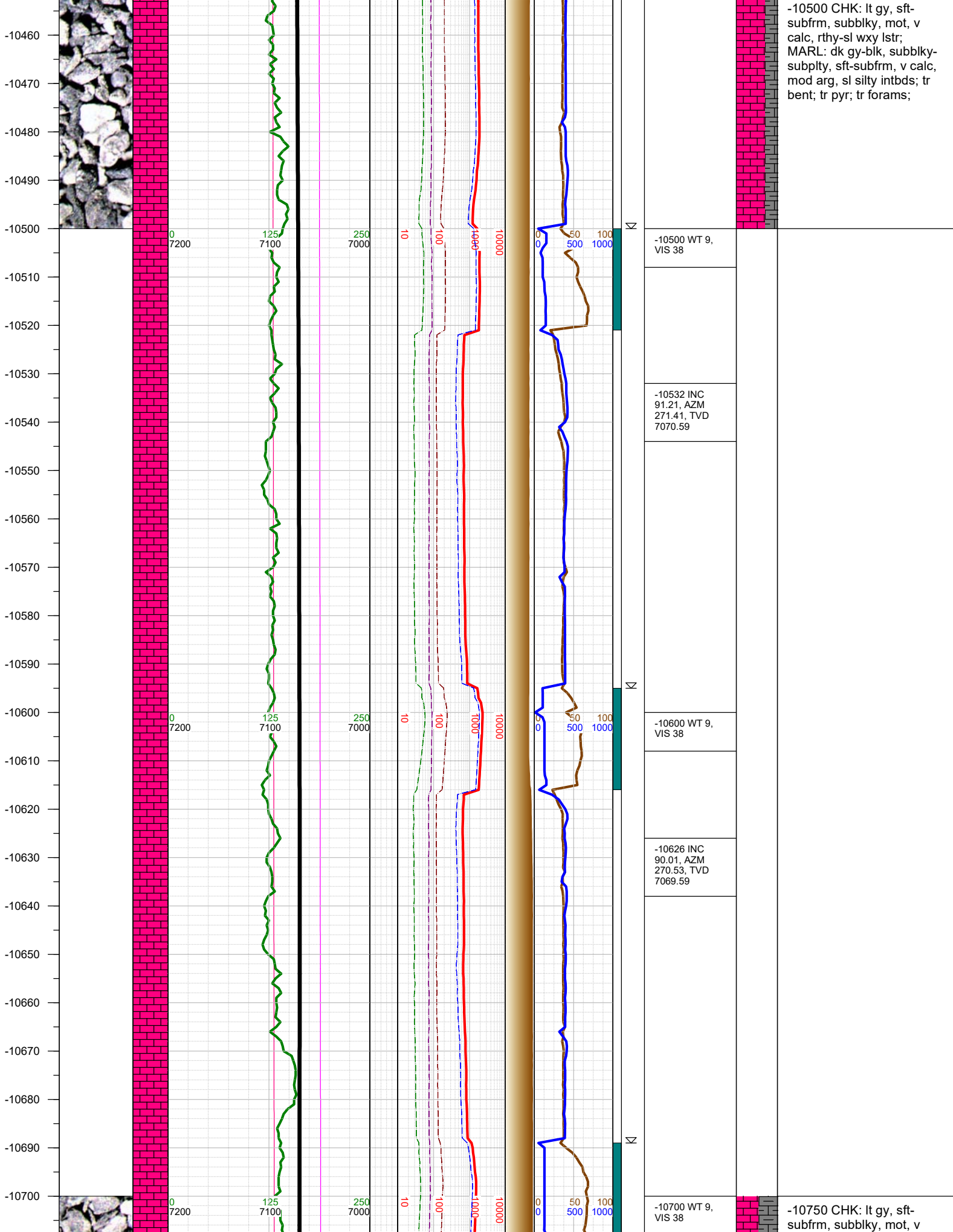
-9683 INC
90.81, AZM





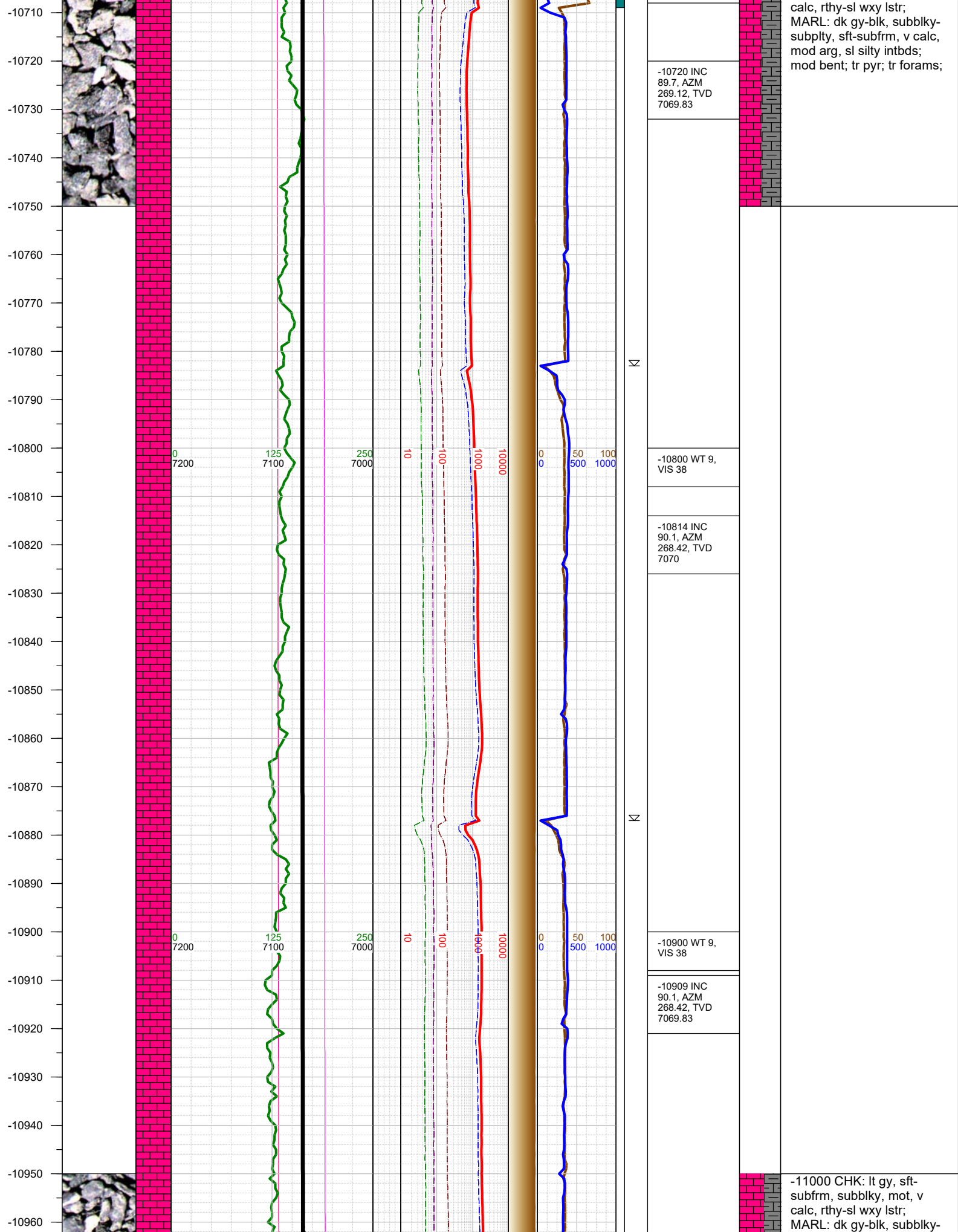


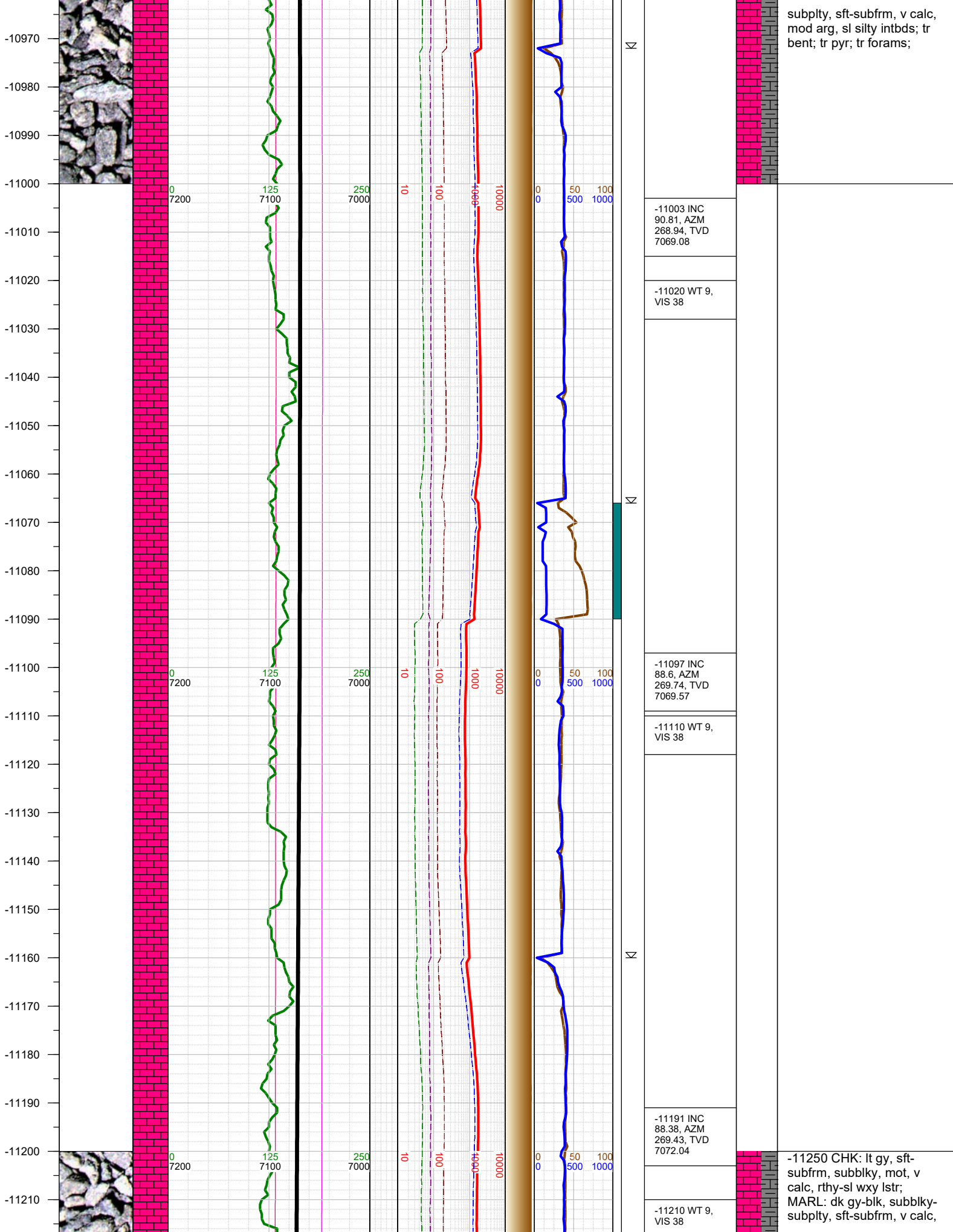
-10250 CHK: lt gy, sft-subfrm, subblky, mot, v calc, rthy-sl wxy lstr; MARL: dk gy-blk, subblky-subply, sft-subfrm, v calc, mod arg, sl silty intbds; tr bent; tr pyr; tr forams;



-10500 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; tr forams;

-10750 CHK: lt gy, sft-subfrm, subblky, mot, v

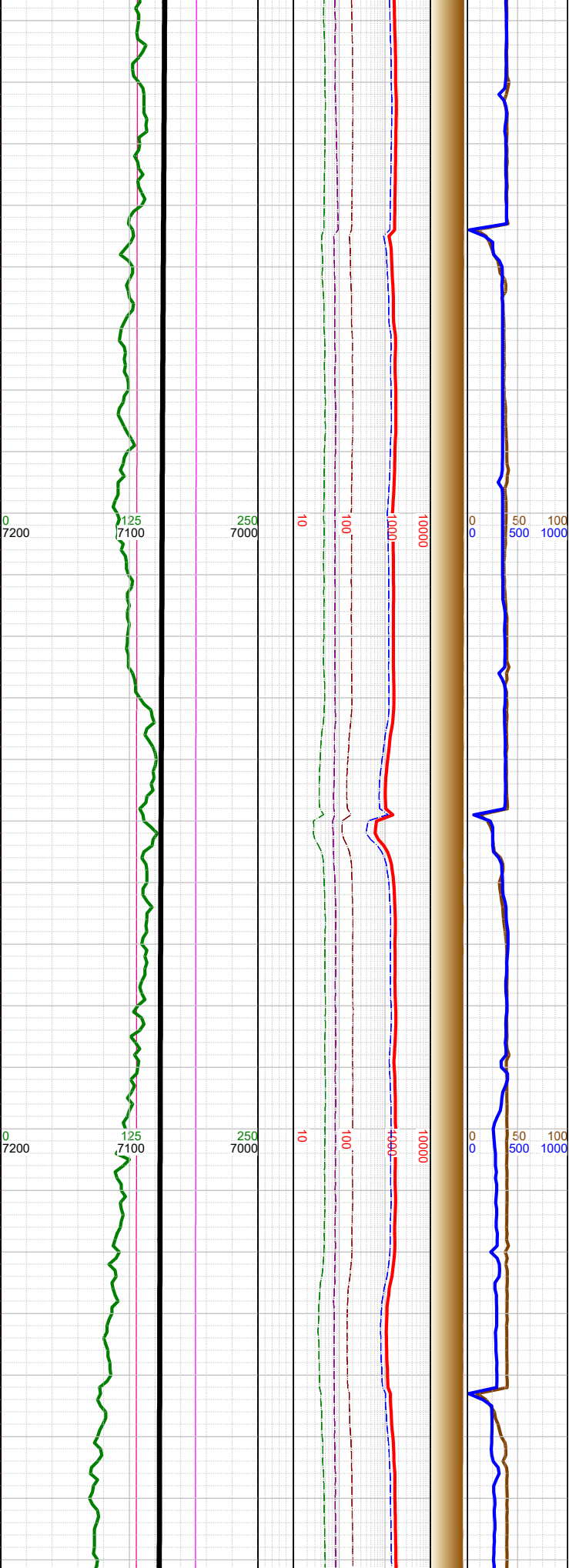
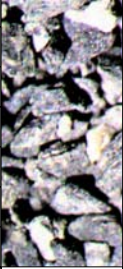




subply, sft-subfrm, v calc,
mod arg, sl silty intbds; tr
bent; tr pyr; tr forams;

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

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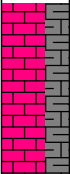
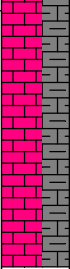


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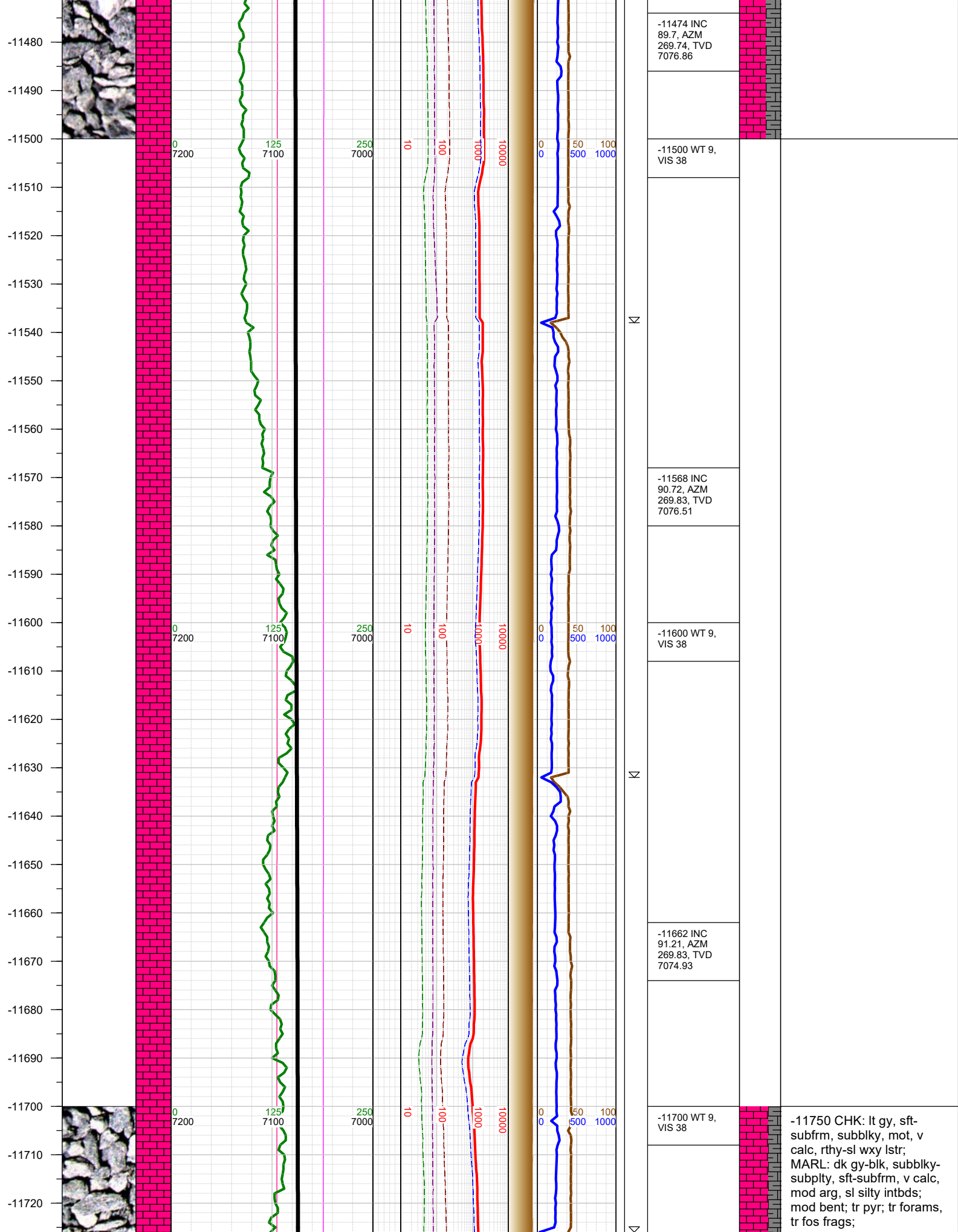
K

-11286 INC 88.82, AZM 269.65, TVD 7074.37	
-11300 WT 9, VIS 38	
-11380 INC 89.22, AZM 269.43, TVD 7075.97	
-11400 WT 9, VIS 38	

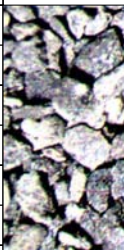
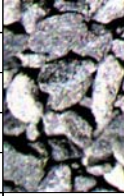


mod arg, sl silty intbds;
mod bent; tr pyr; tr forams;

-11500 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 bent; tr pyr; tr forams;



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-11757 INC
89.7, AZM
270.13, TVD
7074.18

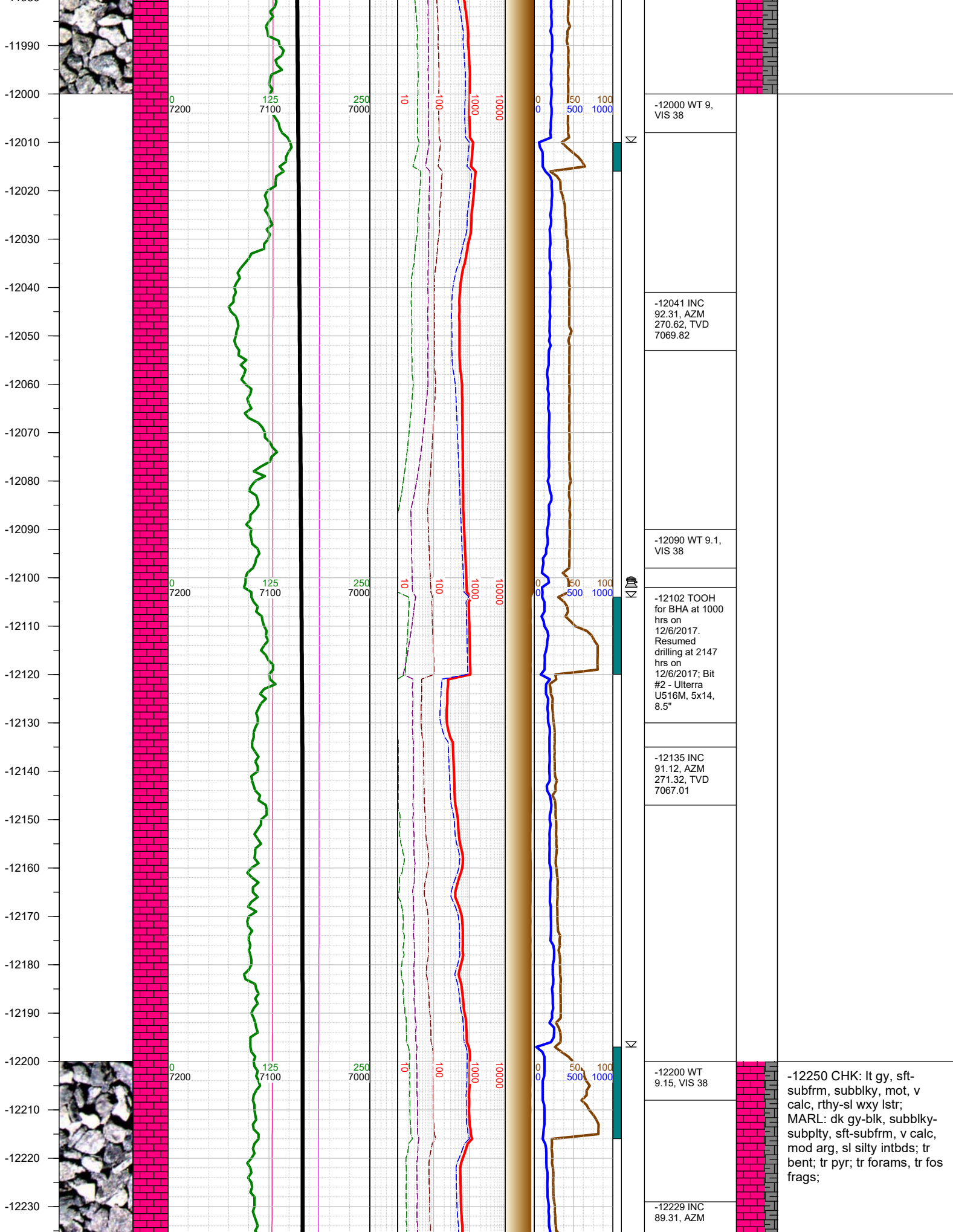
-11800 WT 9,
VIS 38

-11851 INC
89.62, AZM
270.53, TVD
7074.73

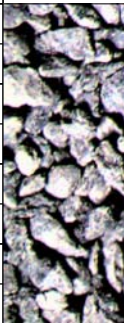
-11900 WT 9,
VIS 38

-11946 INC 92,
AZM 270.13,
TVD 7073.39

-12000 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 bent; tr pyr; tr forams,
tr fos frags;



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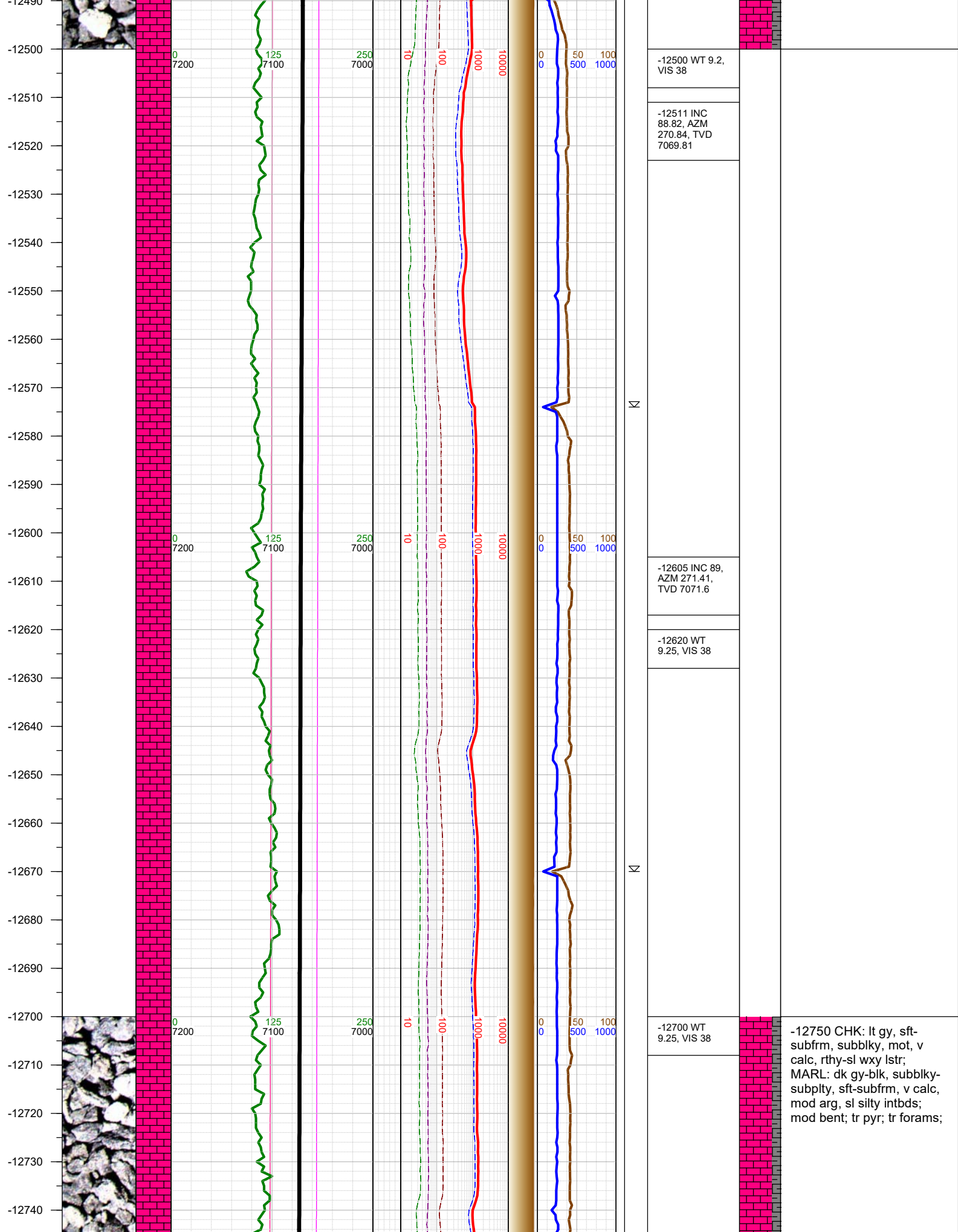
Σ

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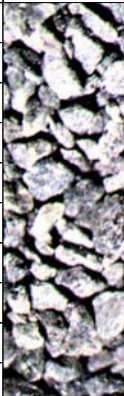
Σ

271.54, TVD 7066.65
-12300 WT 9.15, VIS 38
-12323 INC 89.31, AZM 271.15, TVD 7067.79
-12384 0000 hrs on 12/7/2017
-12400 WT 9.2, VIS 38
-12417 INC 89.7, AZM 270.75, TVD 7068.6

-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; tr bent; tr pyr; tr forams, tr fos frags;



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-12795 INC
89.7, AZM
270.13, TVD
7073.76

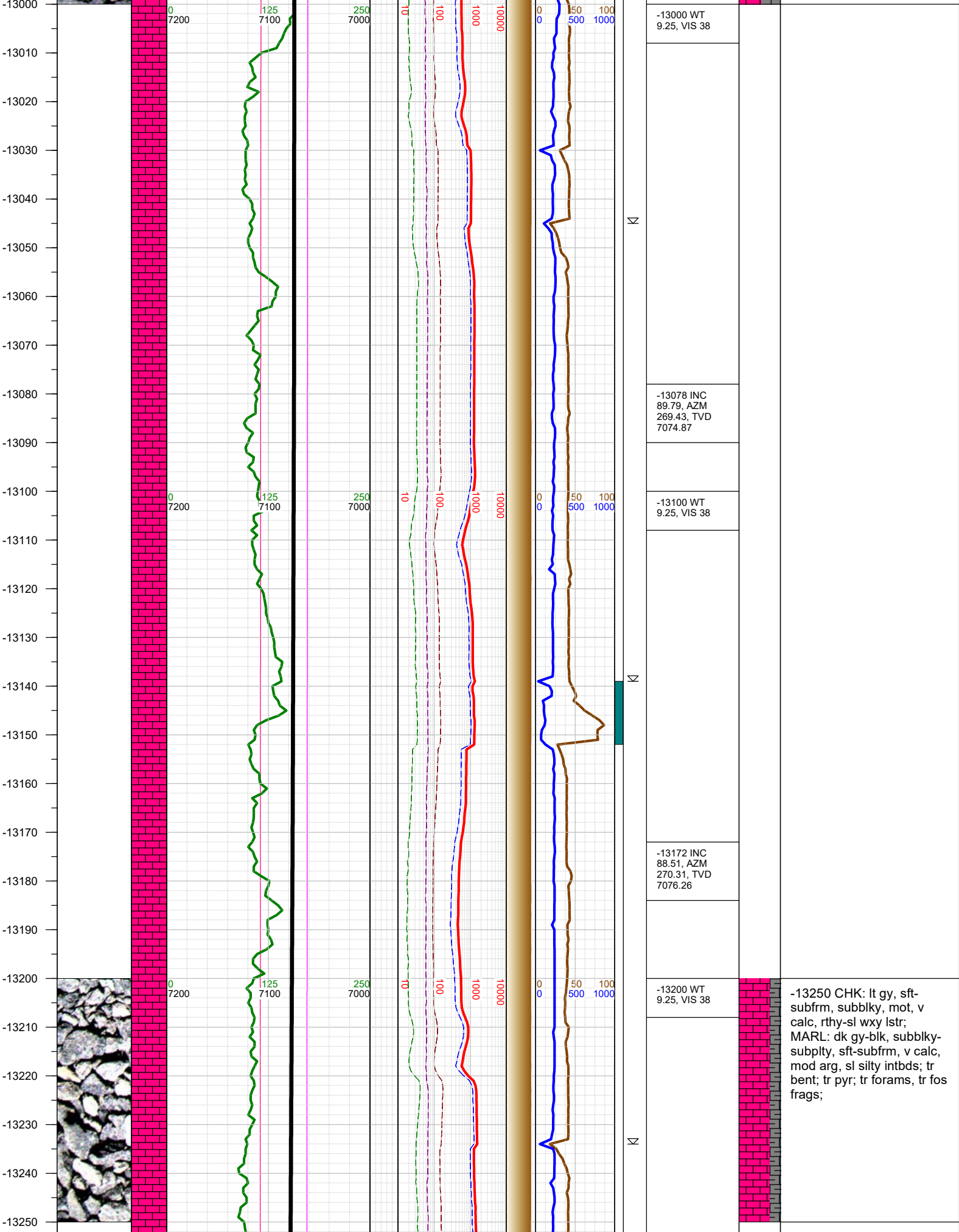
-12810 WT
9.25, VIS 38

-12836 Fault: 4'
down-throw;
stayed in C
Chalk

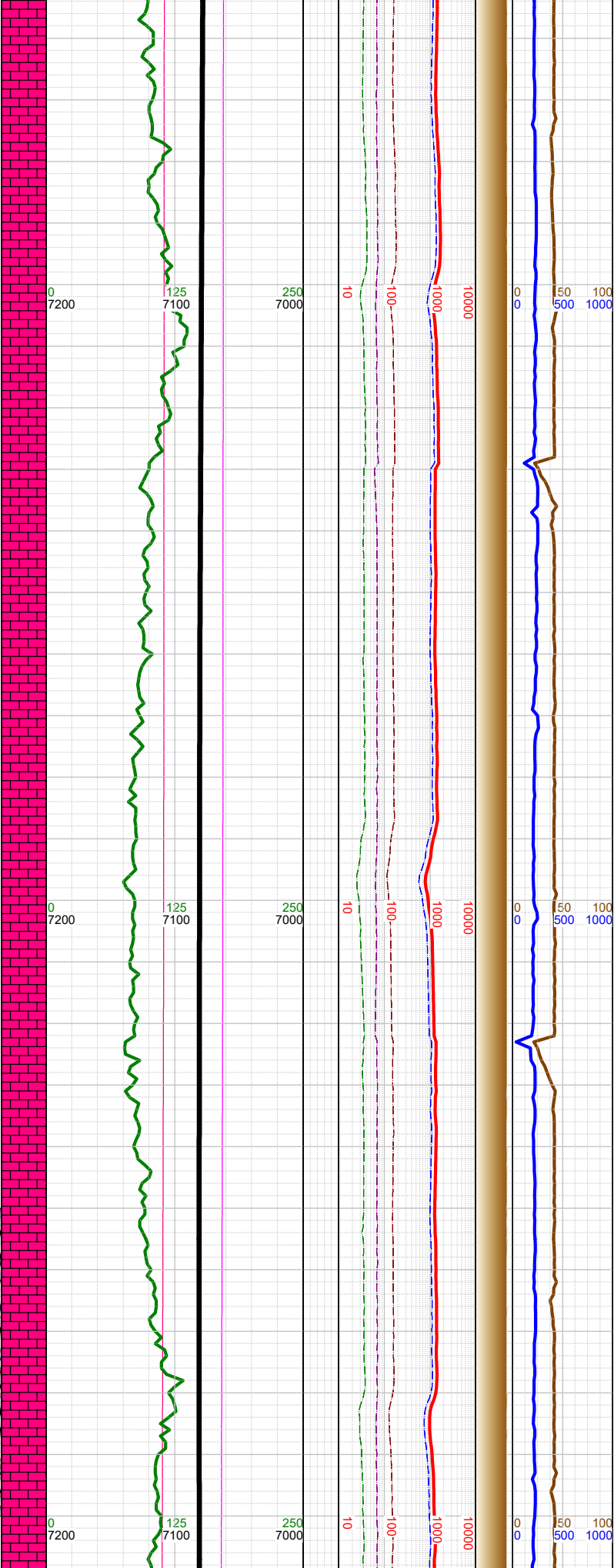
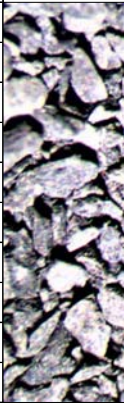
-12888 INC
89.79, AZM
269.52, TVD
7074.17

-12900 WT
9.25, VIS 38

-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
bent; tr pyr; tr forams, tr fos
frags;



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-13480
-13490
-13500



-13266 INC
88.69, AZM
270.93, TVD
7078.56

-13300 WT
9.25, VIS 38

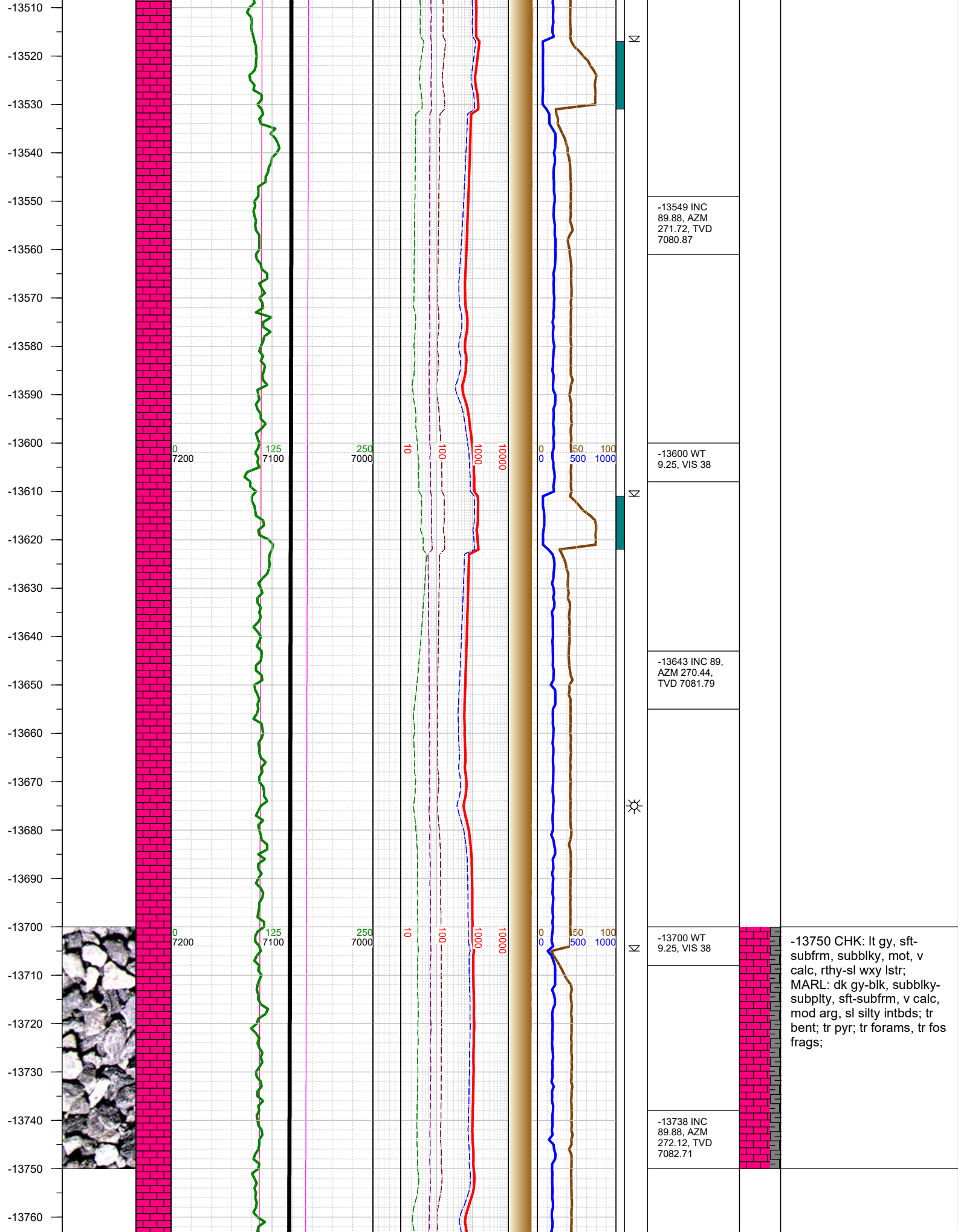
-13361 INC
88.91, AZM
271.19, TVD
7080.55

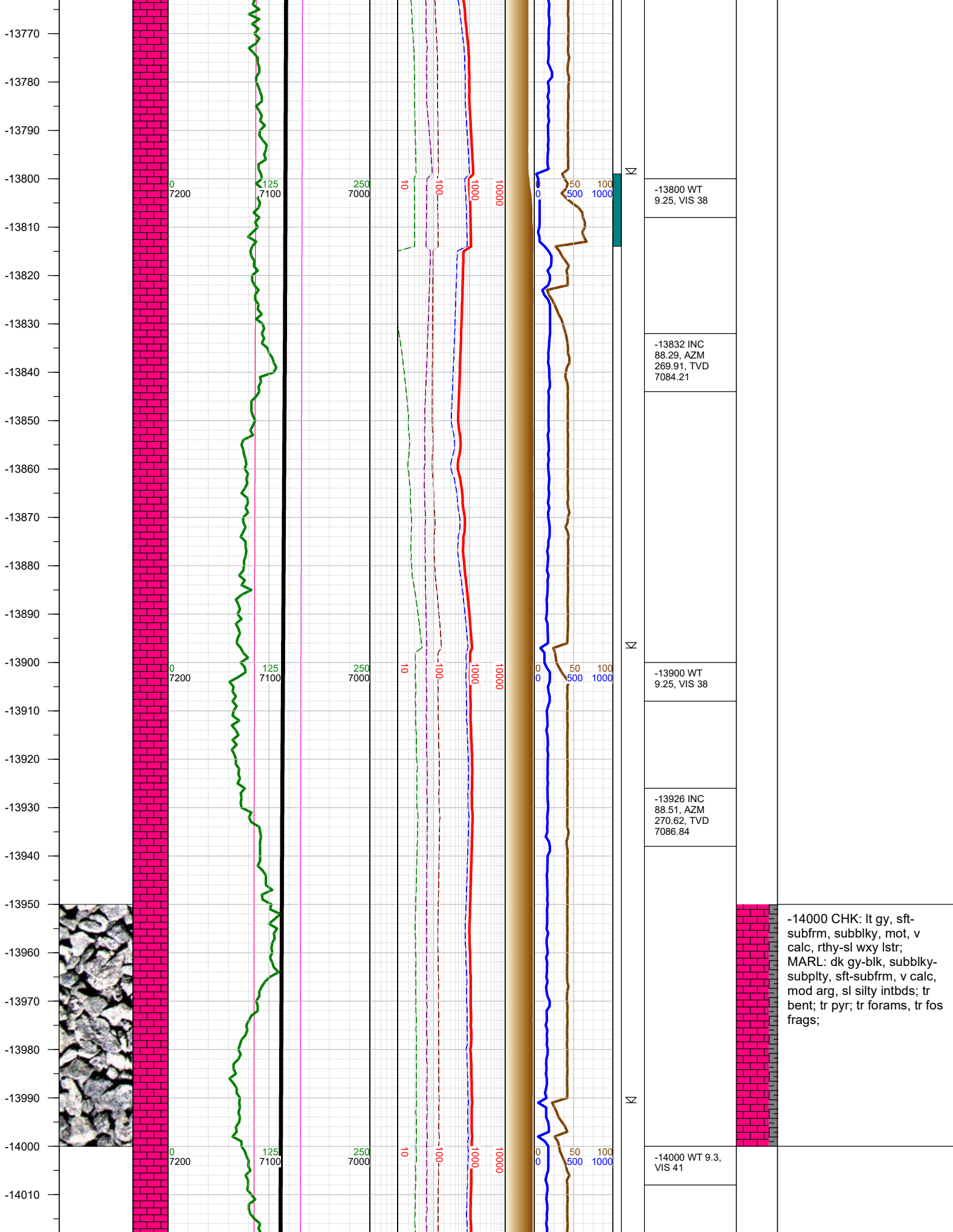
-13400 WT
9.25, VIS 38

-13455 INC
90.41, AZM
273.22, TVD
7081.1

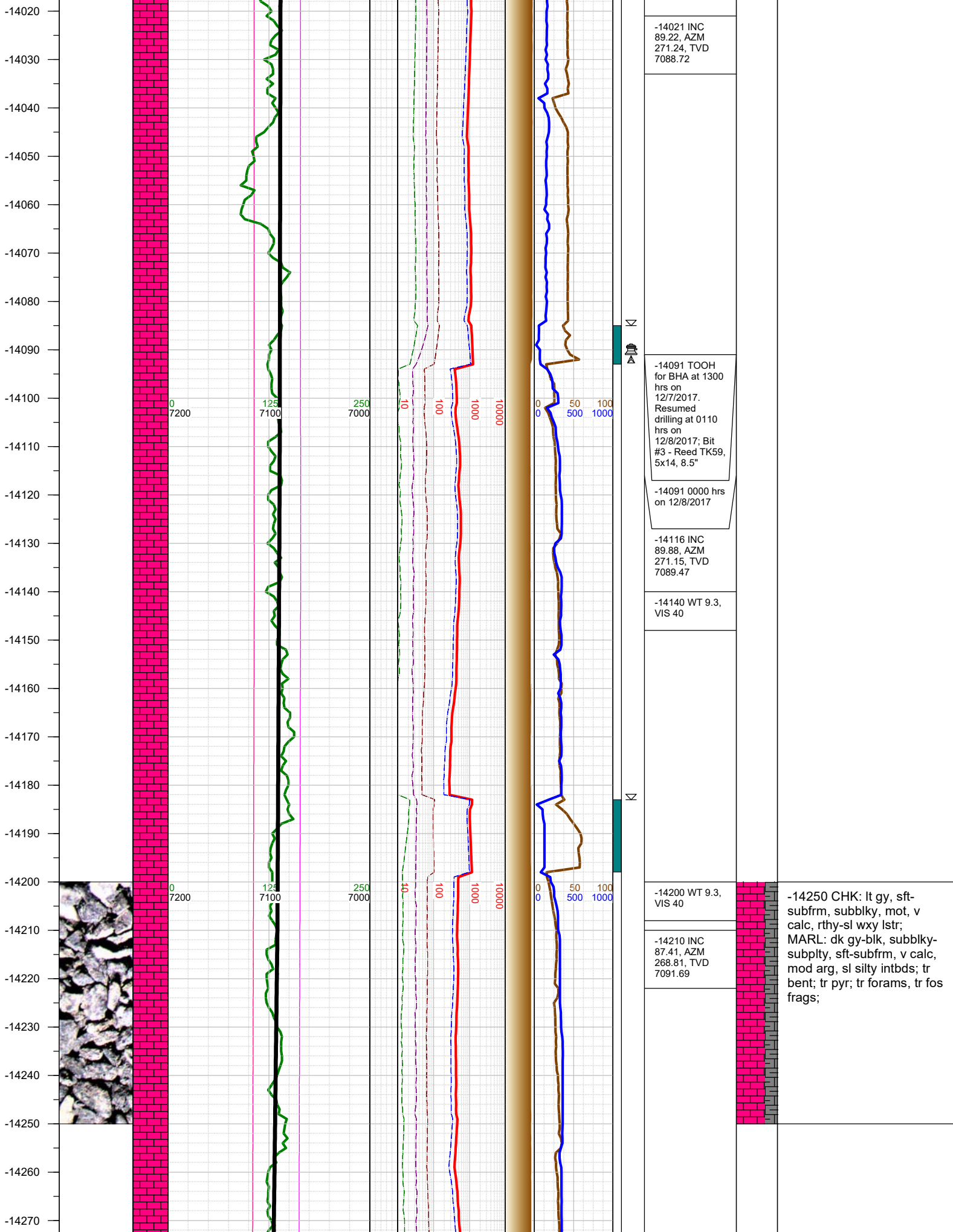
-13500 WT
9.25, VIS 38

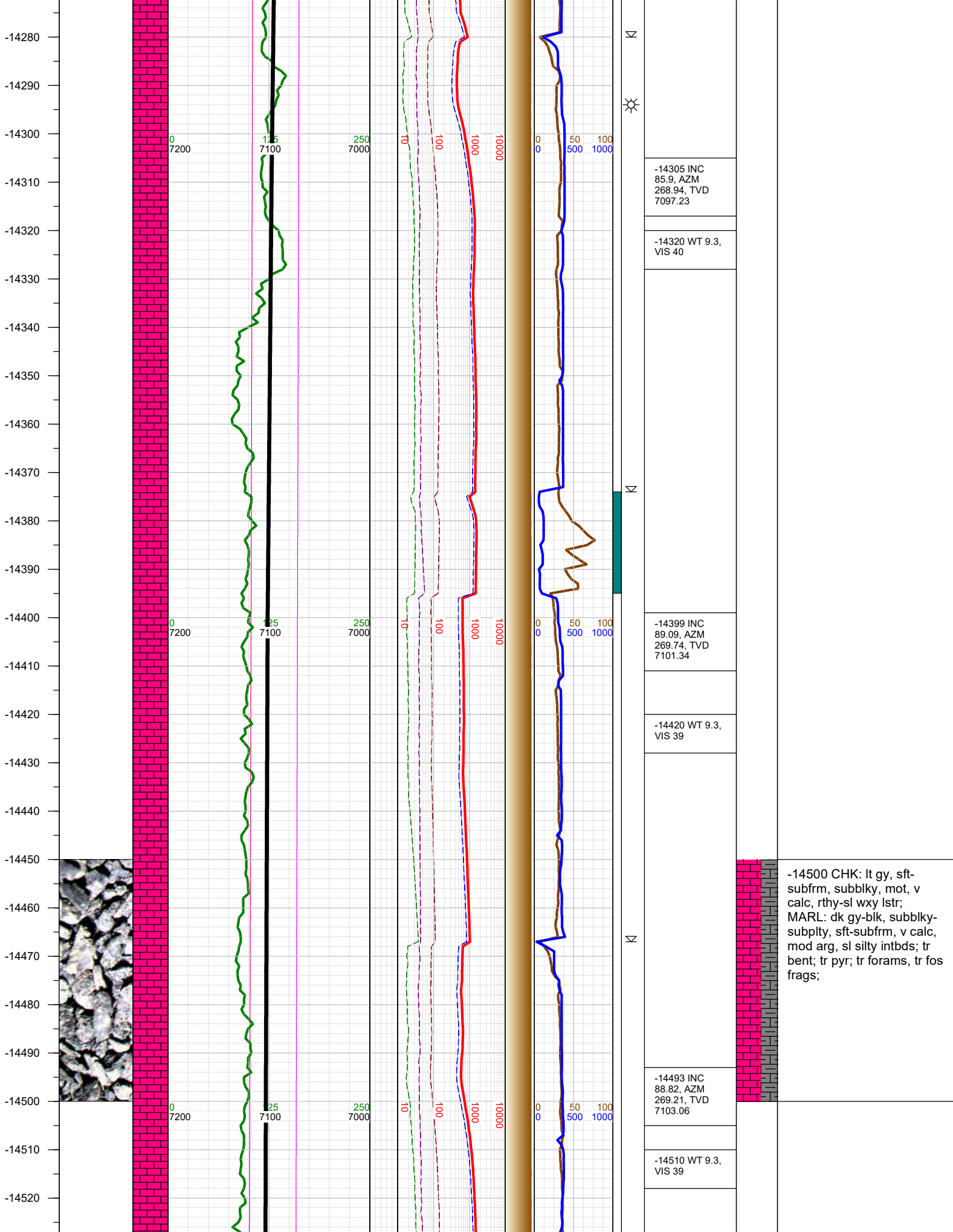
-13500 CHK: lt gy, sft-
subfrm, subblky, mot, v
calc, rthy-sl wxy lstr;
MARL: dk gy-blk, subblky-
subply, sft-subfrm, v calc,
mod arg, sl silty intbds; tr
bent; tr pyr; tr forams, tr fos
frags;

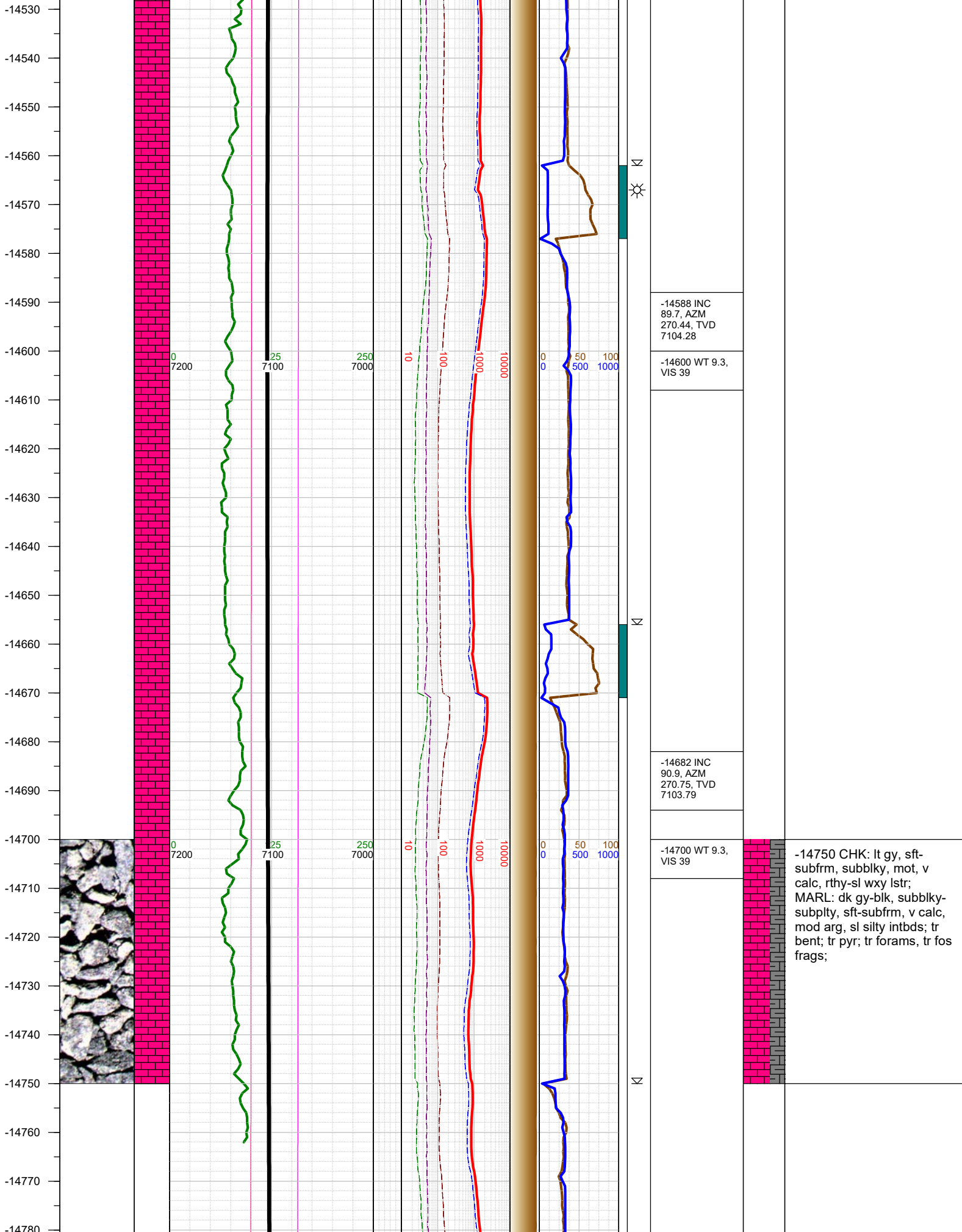


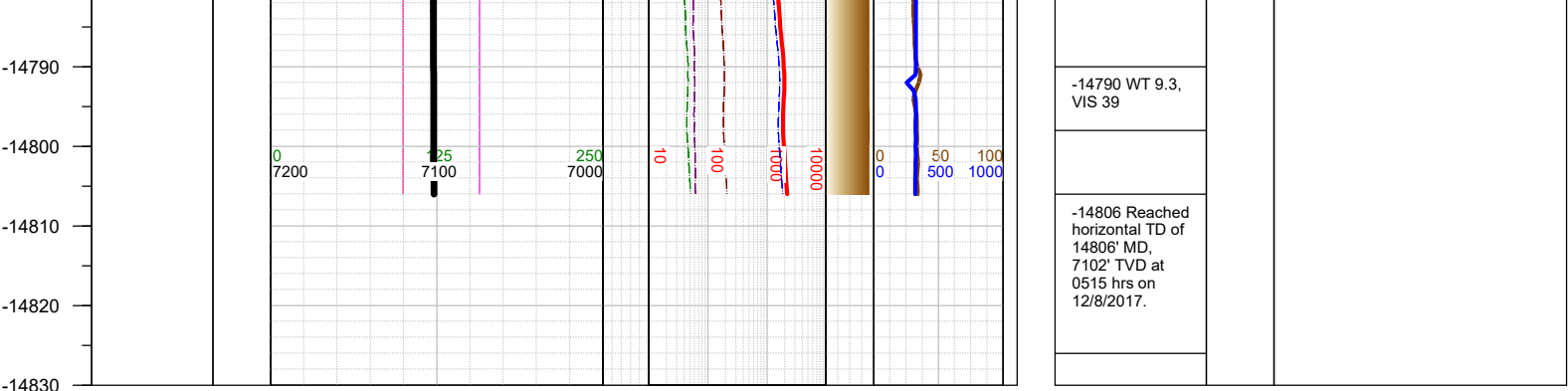


-14000 CHK: lt gy, sft-subfrm, subblky, mot, v calc, rthy-sl wxy lstr; MARL: dk gy-blk, subblky-subply, sft-subfrm, v calc, mod arg, sl silty intbds; tr bent; tr pyr; tr forams, tr fos frags;









TOTAL DEPTH = 14806'

Thank you for using Earth Science Agency