

OPERATOR: **Extraction Oil & Gas**

WELL NAME: **Varra 2**

FIELD NAME: DJ Basin - Wattenberg

DRILLING RIG: Patterson 341

API #: 05-123-39982

LAT/LONG: 40.513295, -104.923878

SURFACE HOLE: NWSW S5-T6N-R67W, 1719' FSL, 791' FWL

BOTTOM HOLE: S4-T6N-R67W, 1954' FNL, 460' FWL



Earth Science Agency, LLC

COUNTY: Weld

STATE: Colorado

GROUND ELEVATION: 4874'

KELLY BUSHING: 4899'

DRILLING FLUID: OBM

TVD VS. MD: 6970' / 16991'

SPUD DATE: September 22, 2016

TD DATE: September 26, 2016

DEPTHS LOGGED: 6000' - 16991'

DATES LOGGED: September 23, 2016 - September 26, 2016

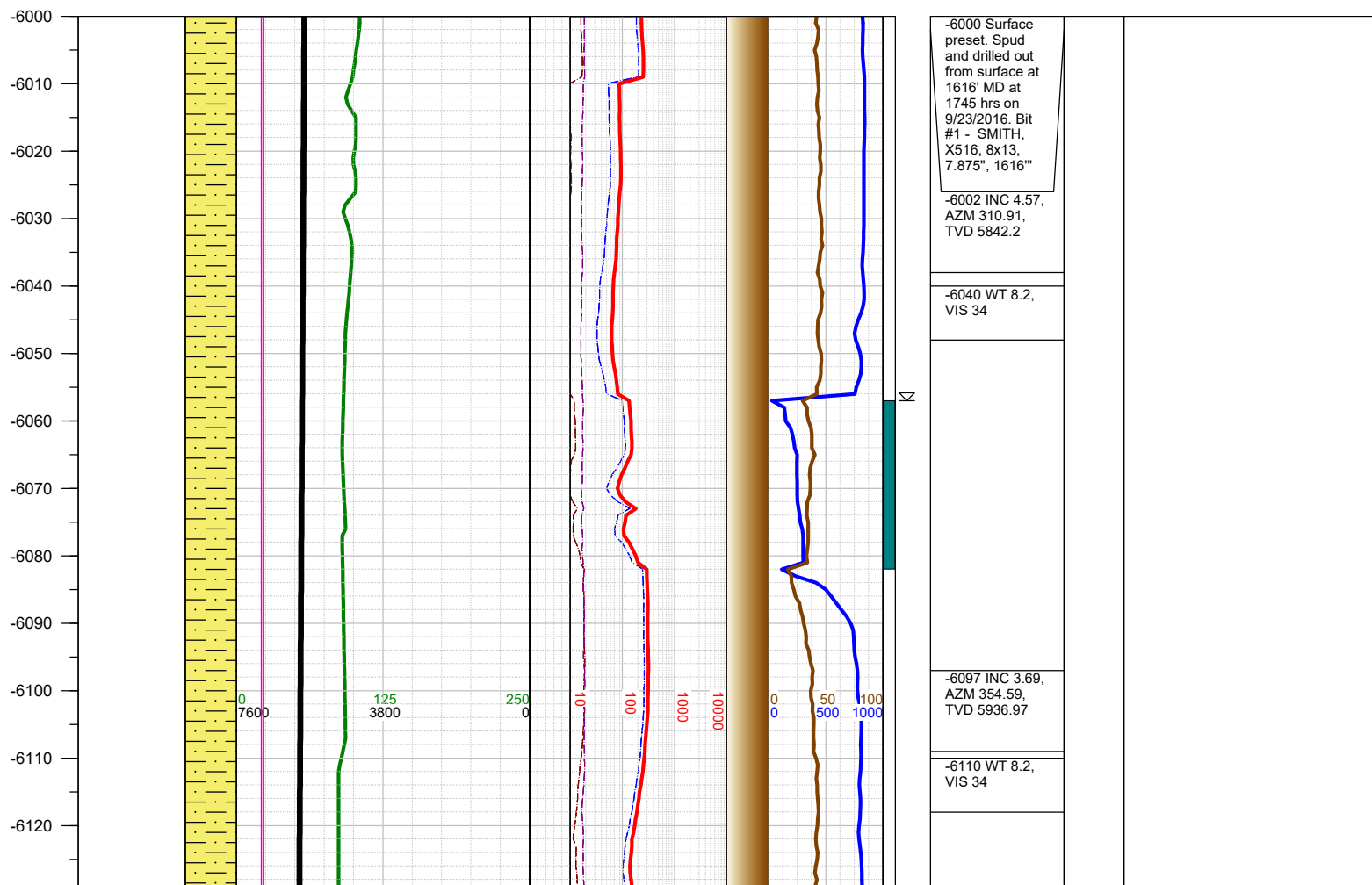
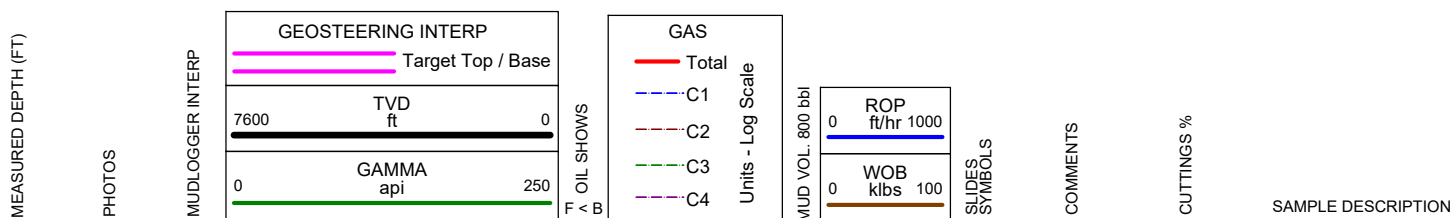
GEOLOGISTS: Miles Wentland, Jared Gerard

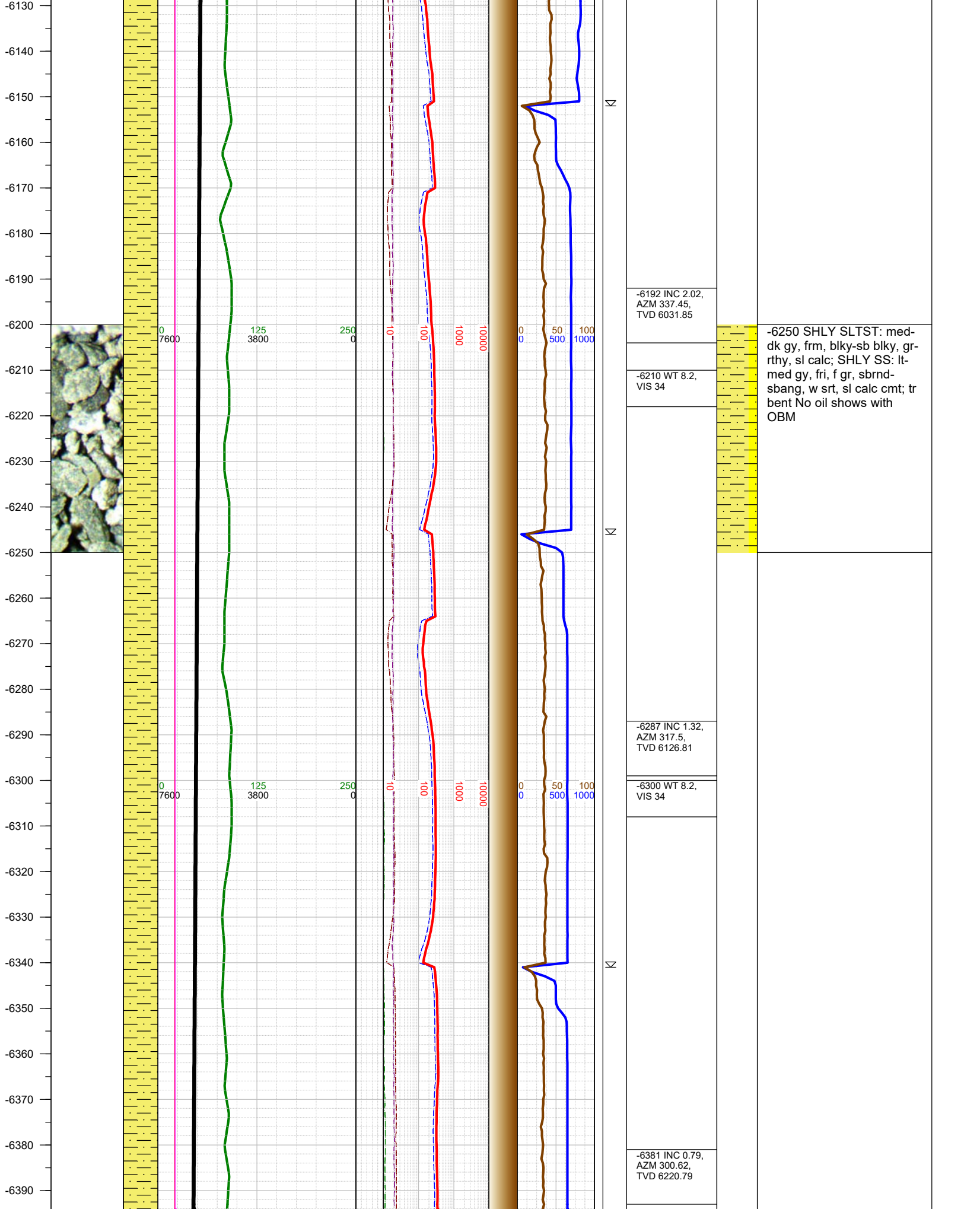
SCALE: 5" = 100'

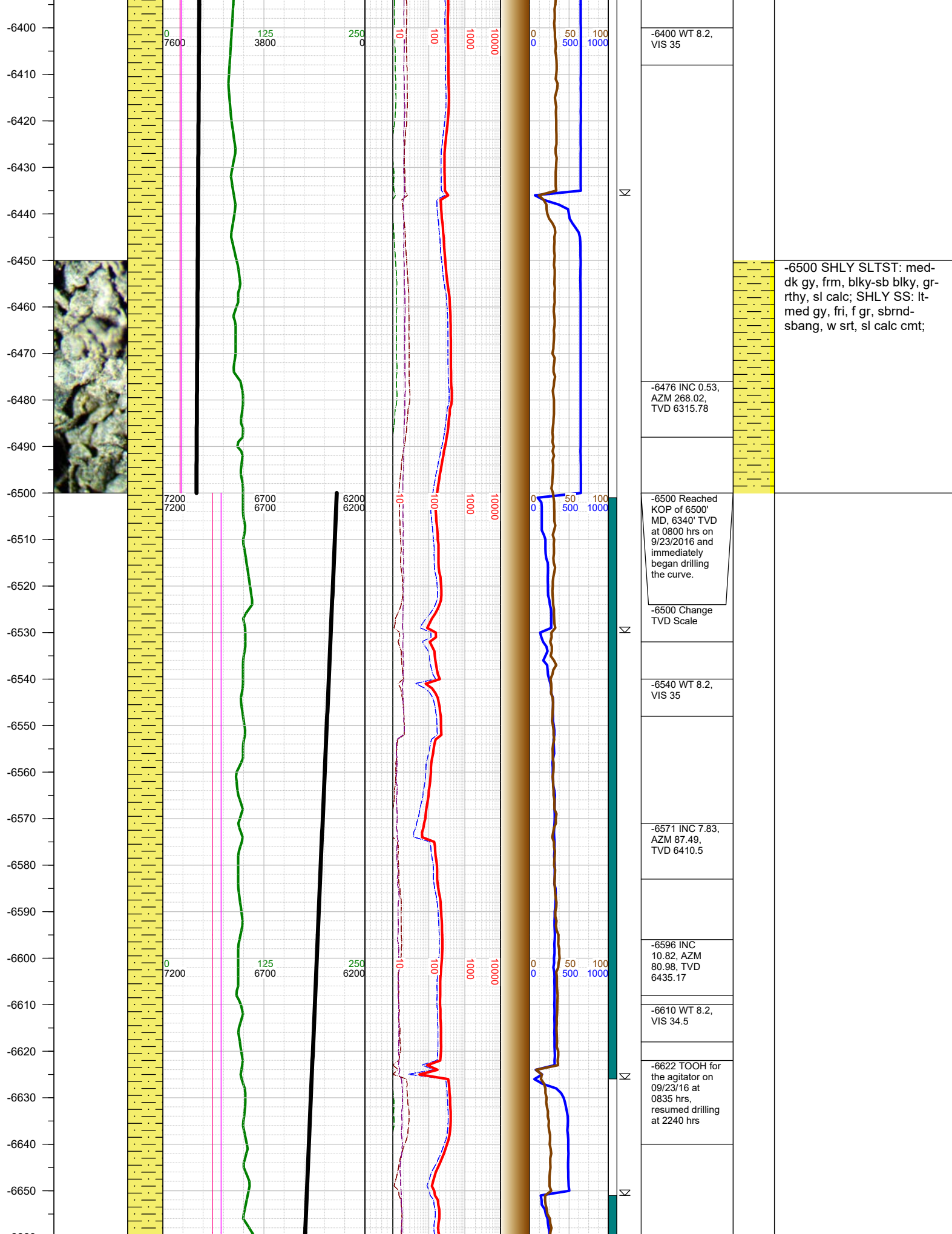
LEGEND

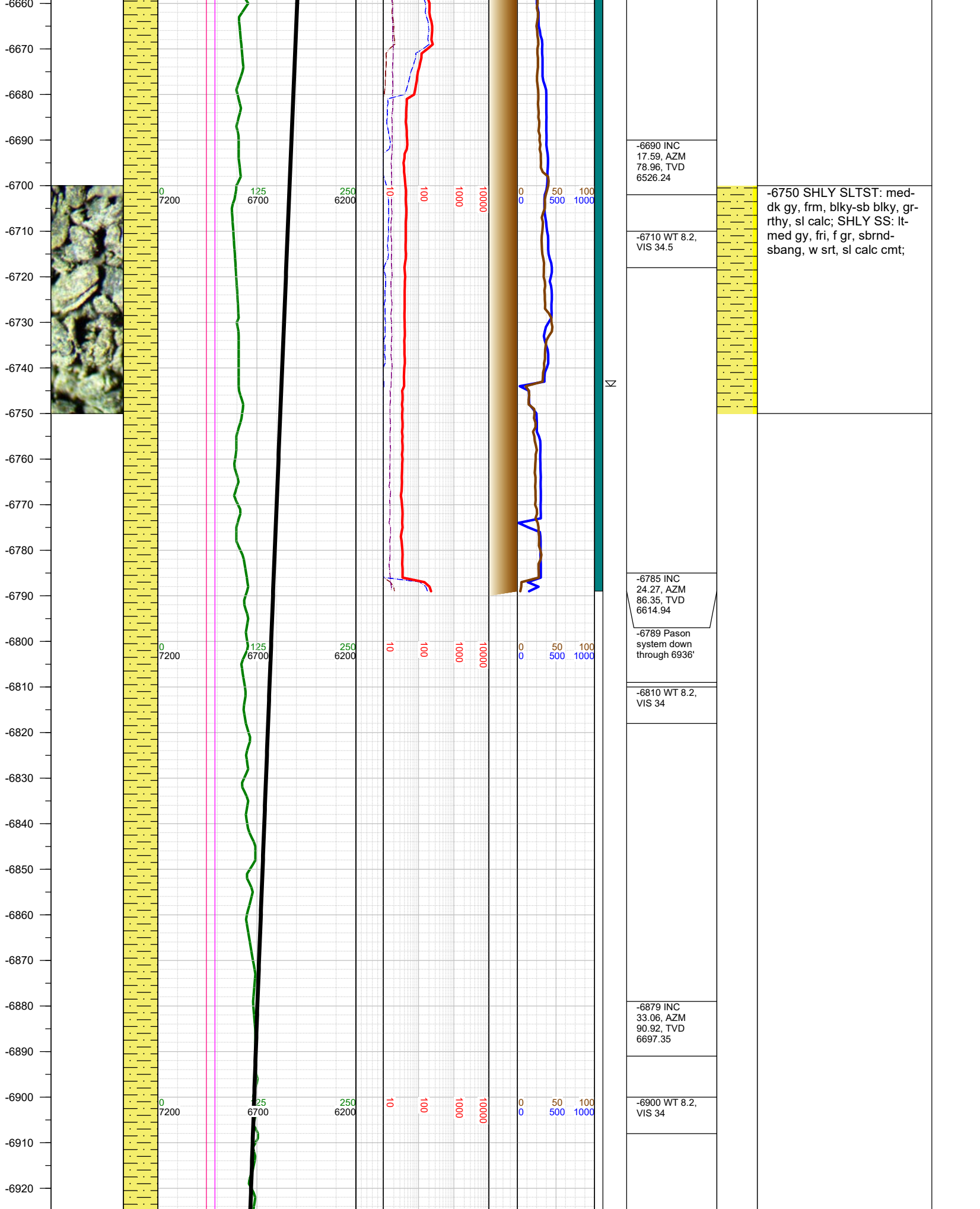
	CHALK		SHALE
	LIMESTONE		SILTY SHALE
	SHALY LIMESTONE		SHALY SILTSTONE
	MARLSTONE		SHALY SANDSTONE
	CALCAREOUS SHALE		SANDSTONE
	DOLOMITE		ANHYDRITE

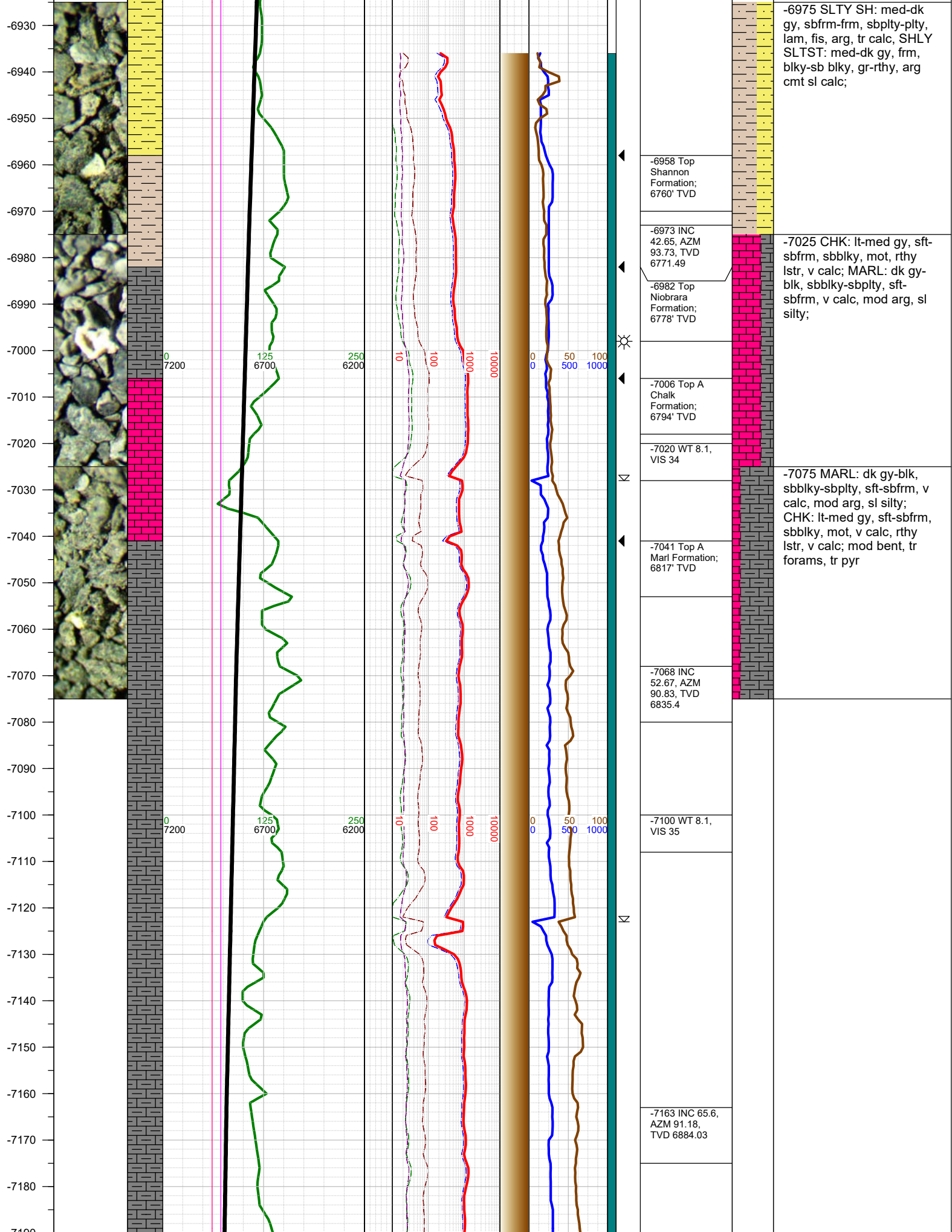
FORMATION CONNECTION MIDNIGHT NEW BIT GAS SHOW FAULT

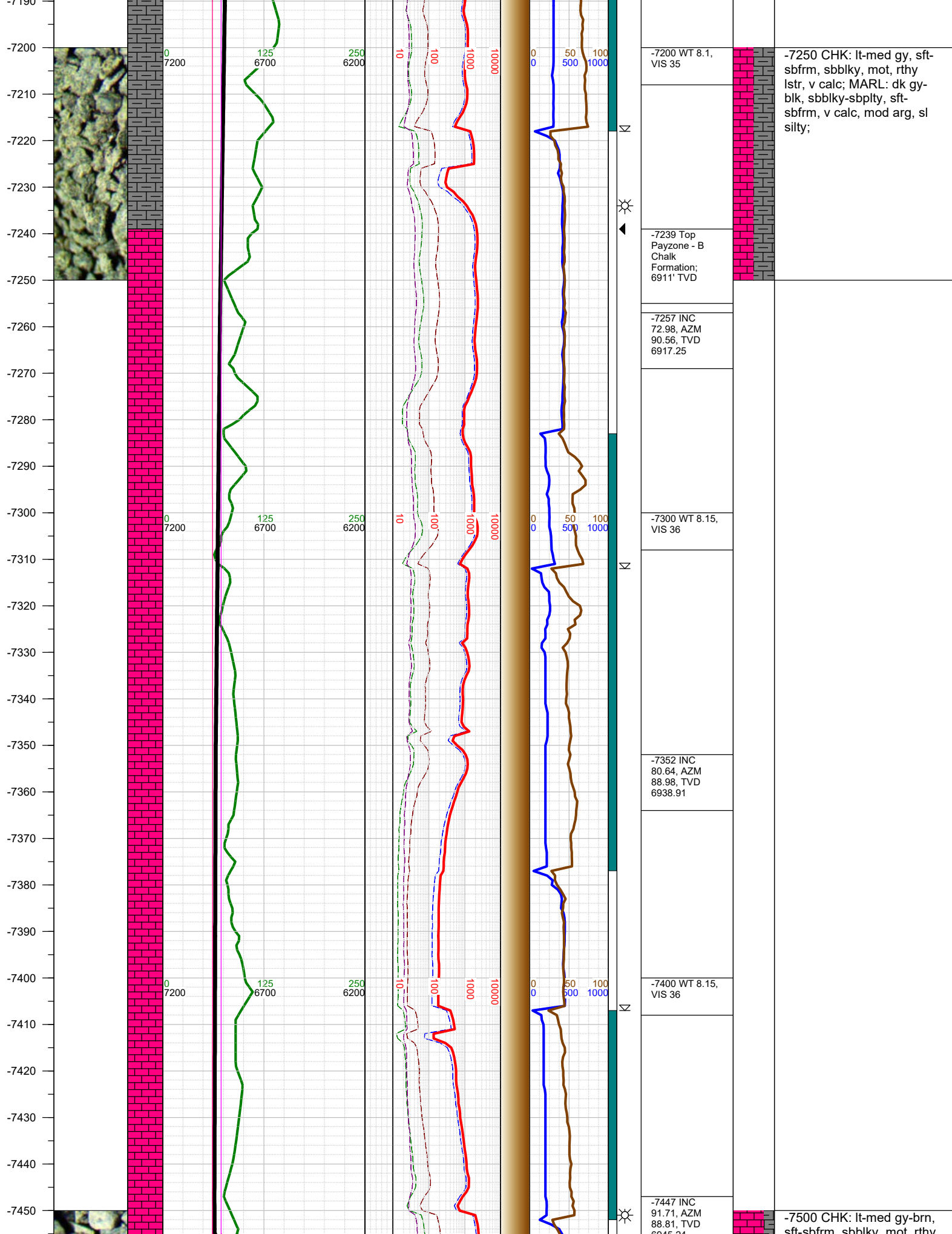


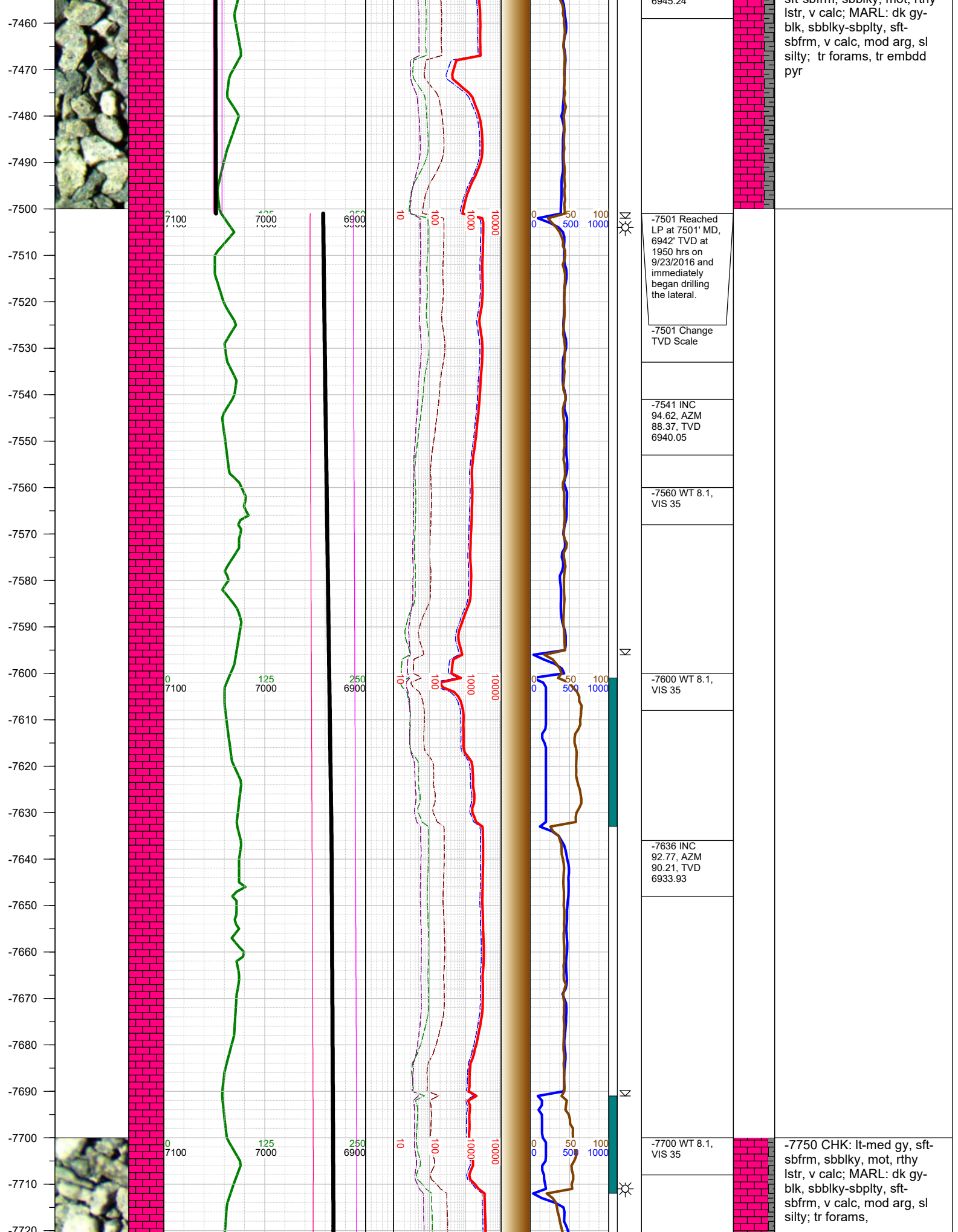


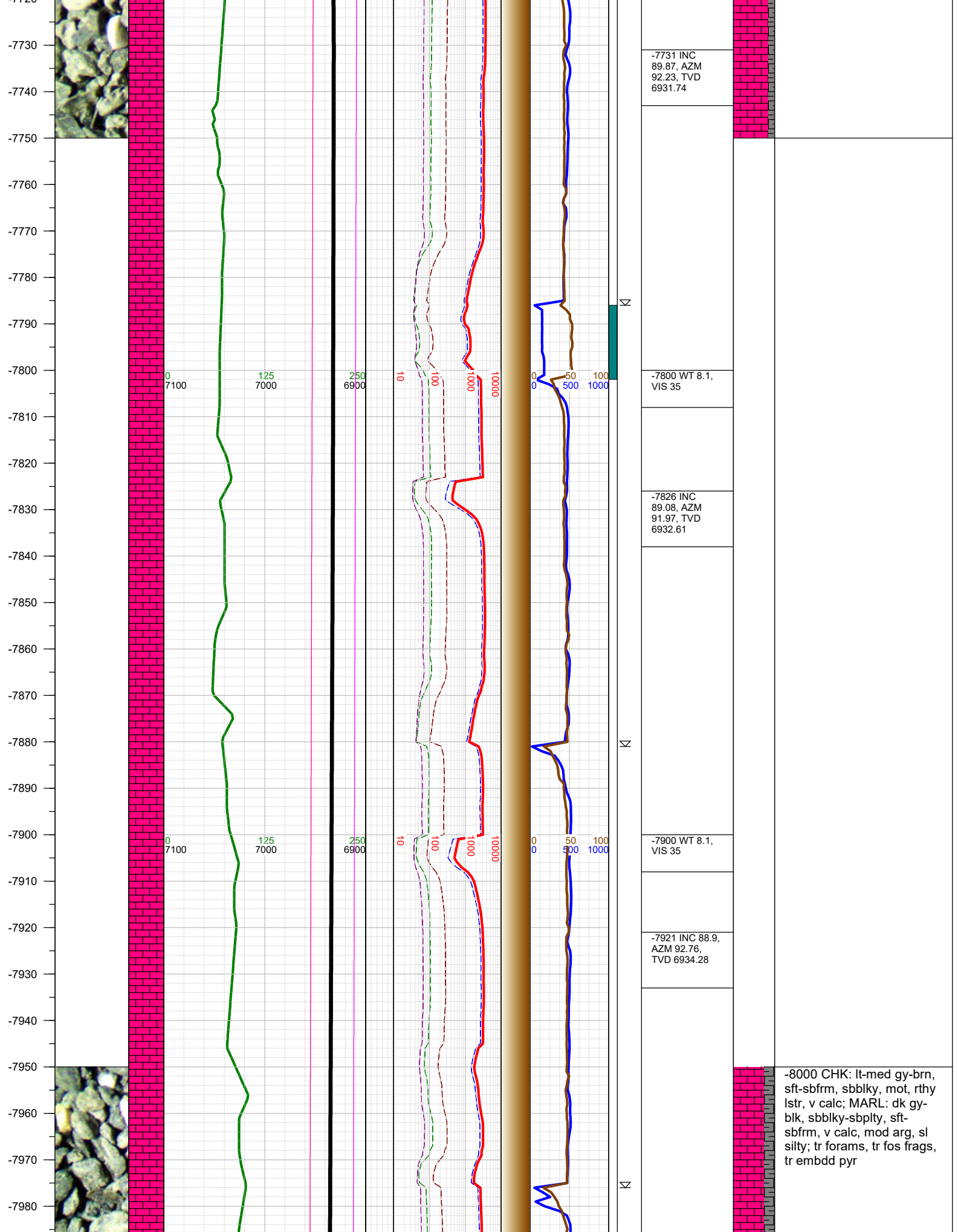


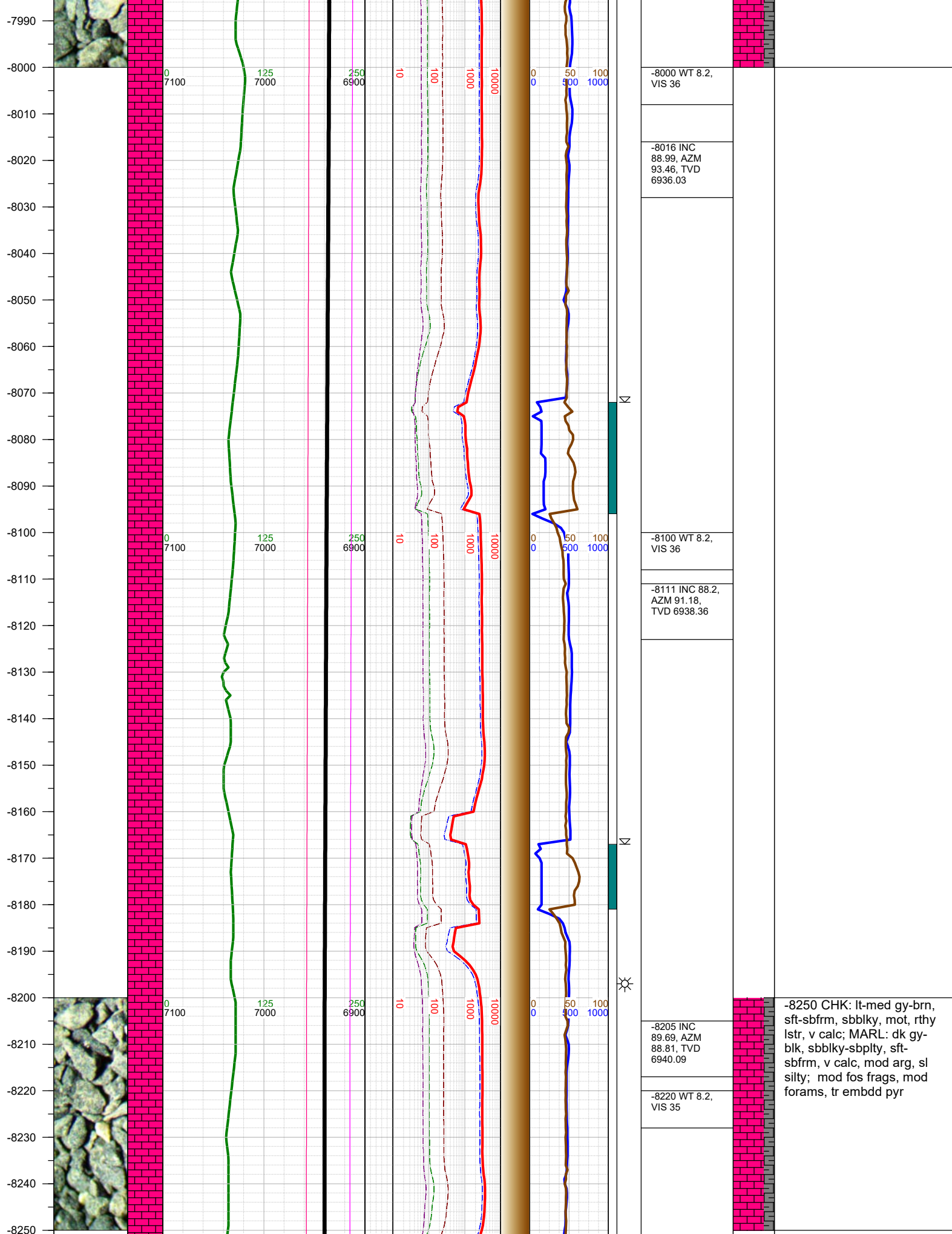


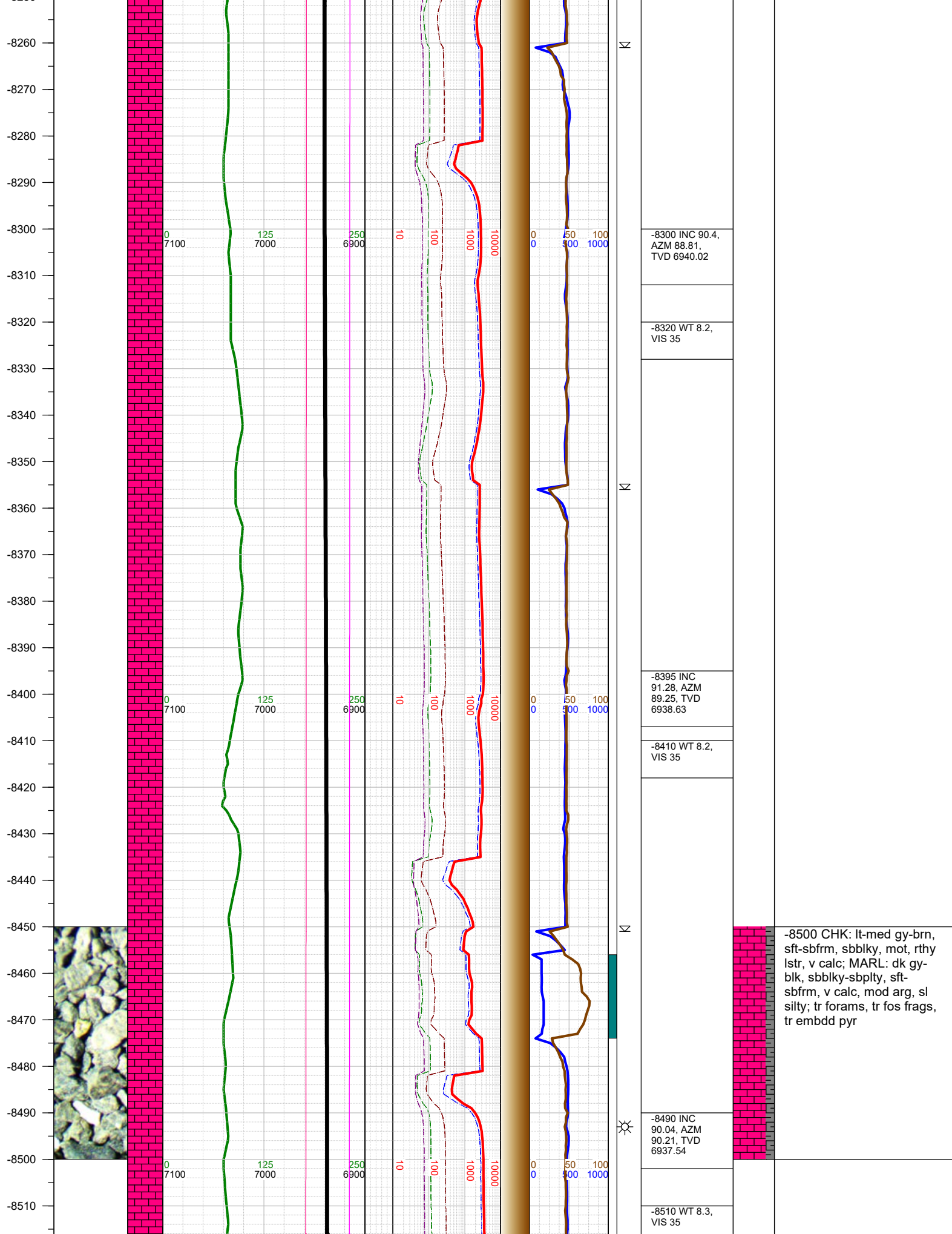


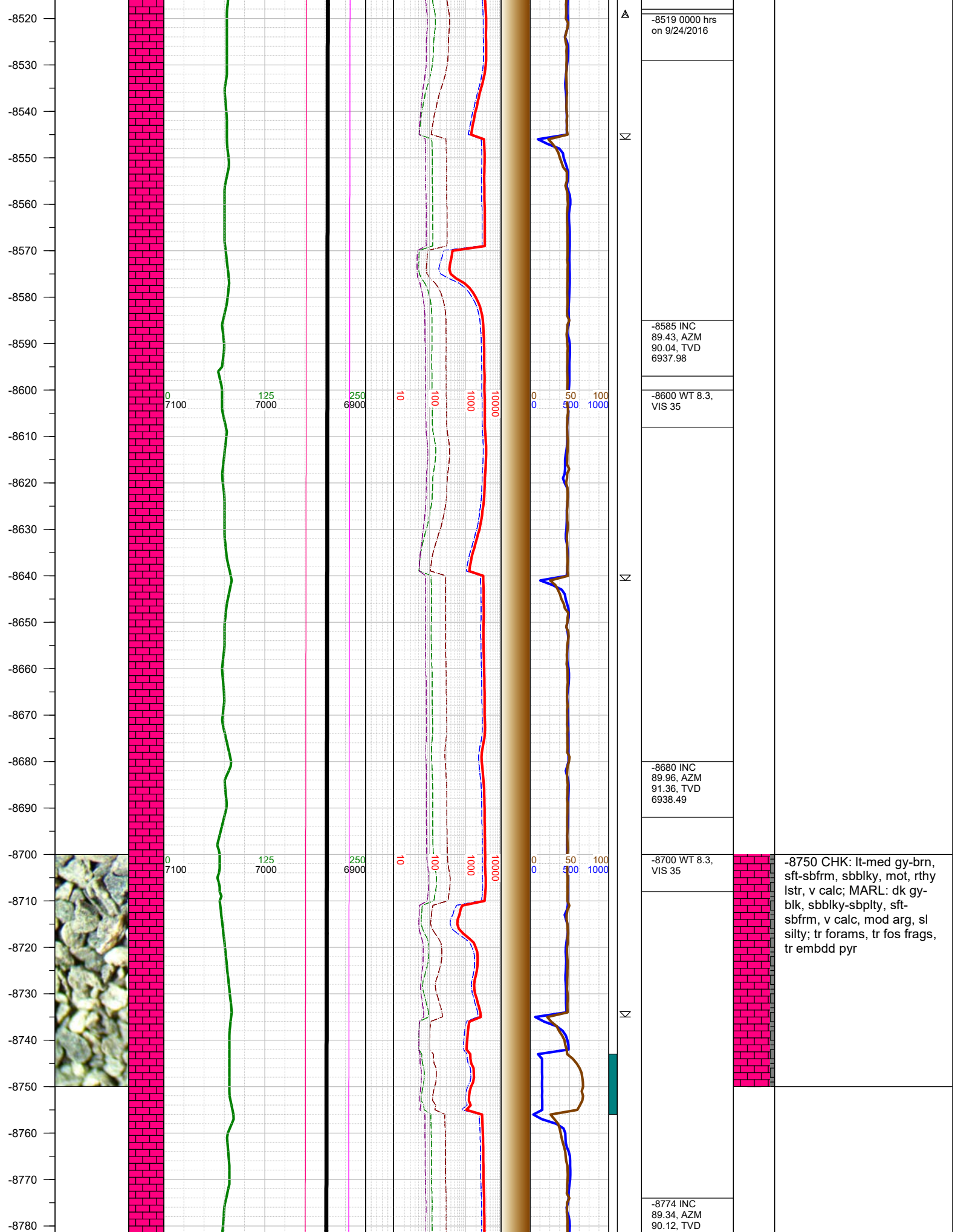


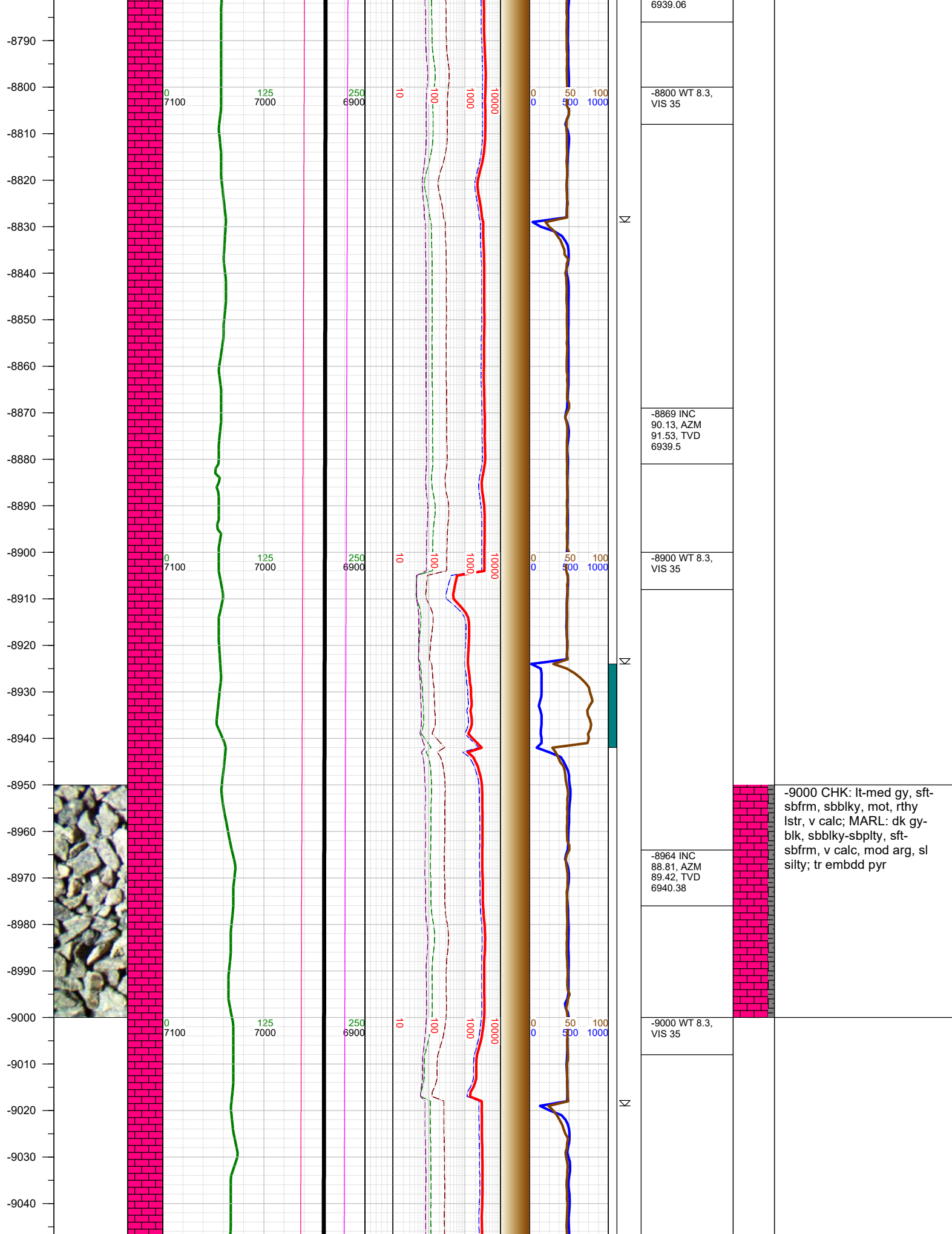


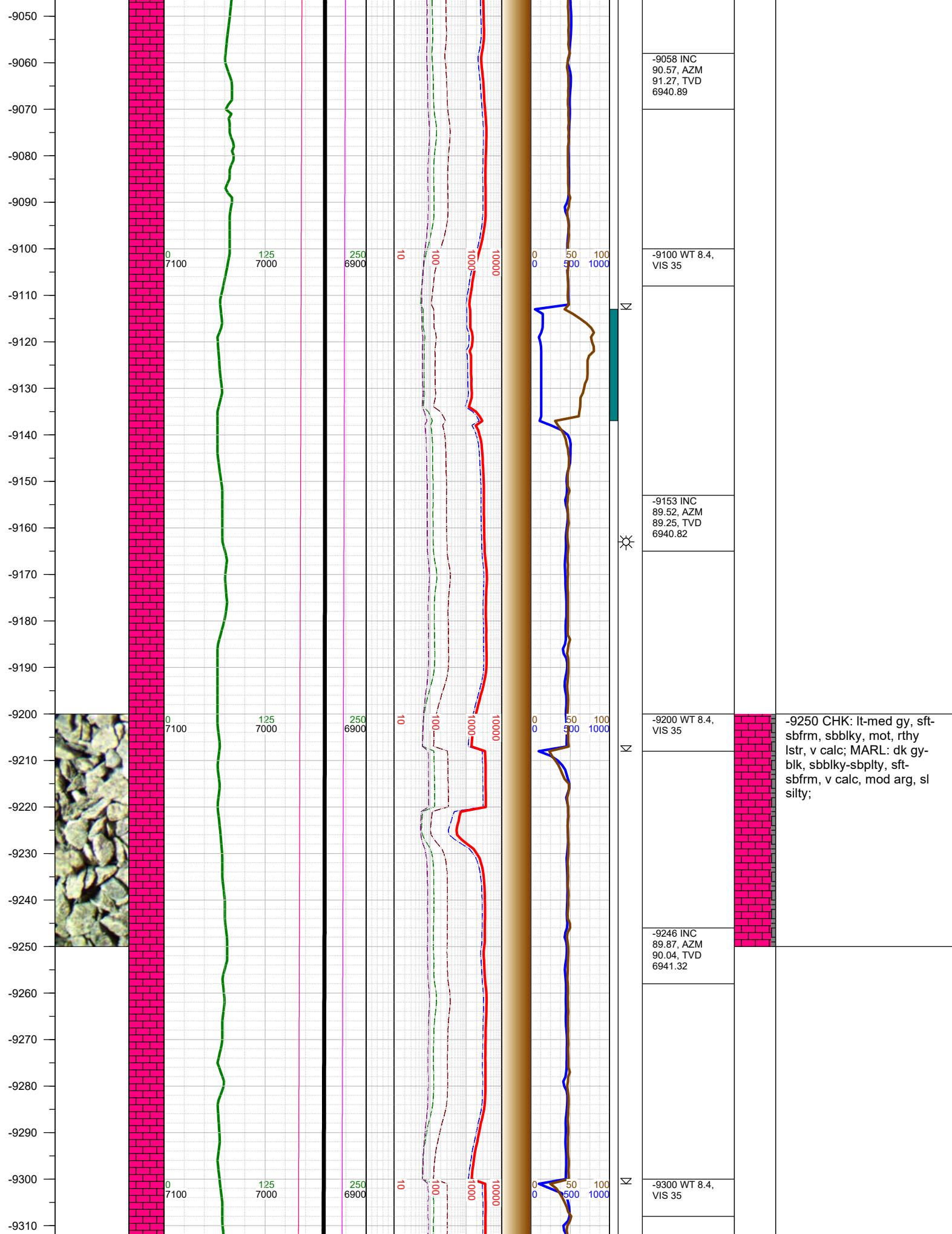


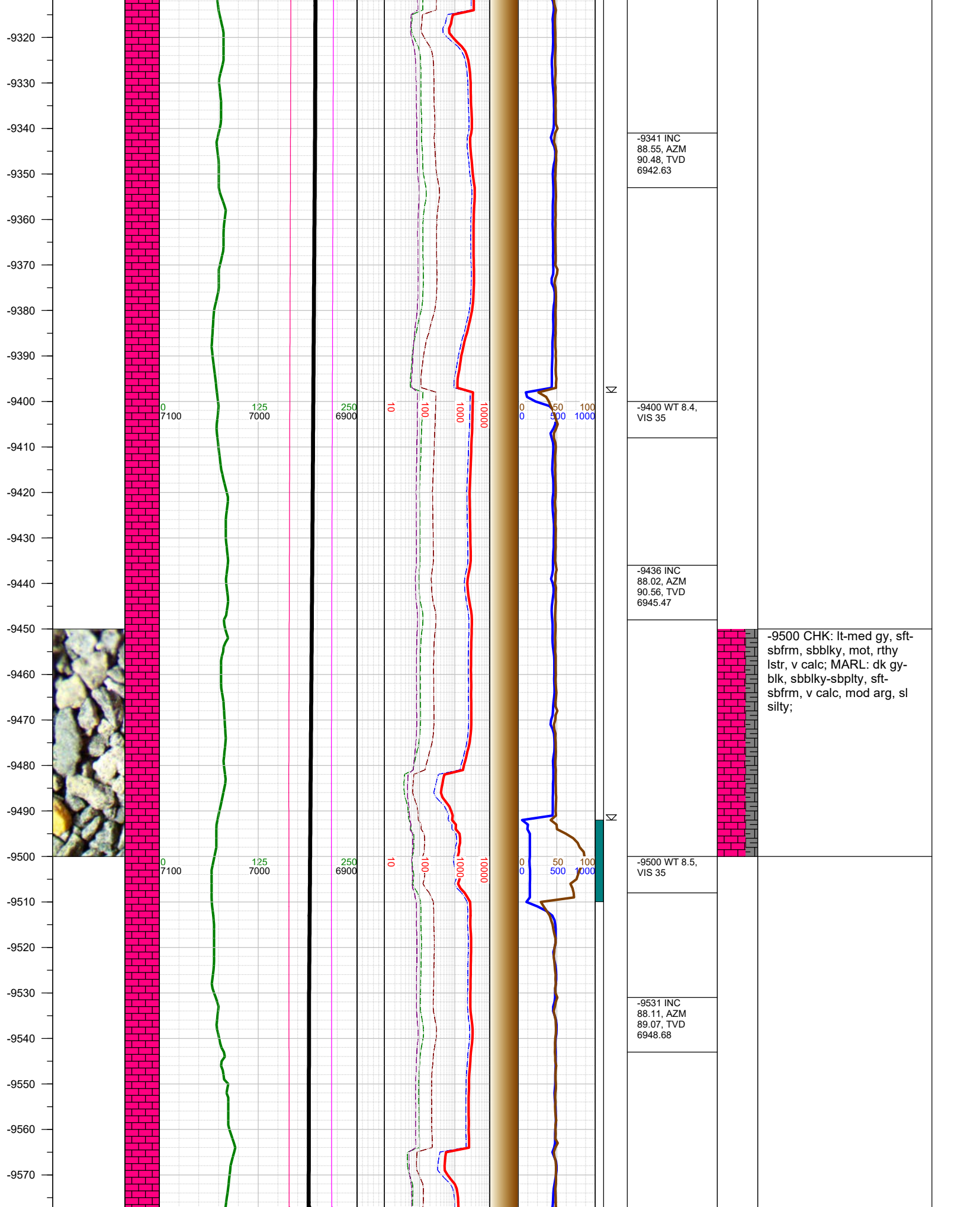




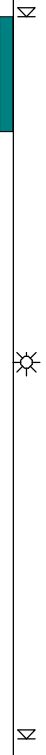
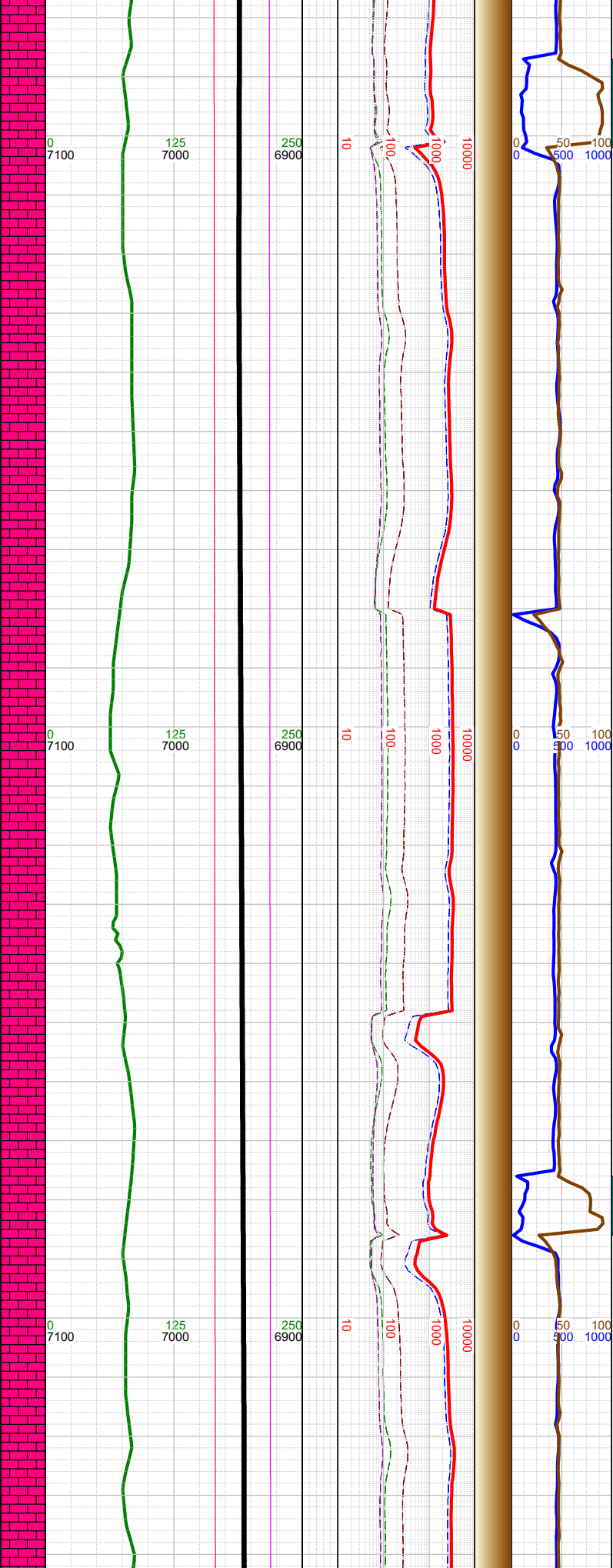




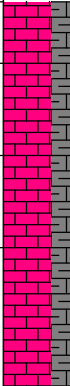




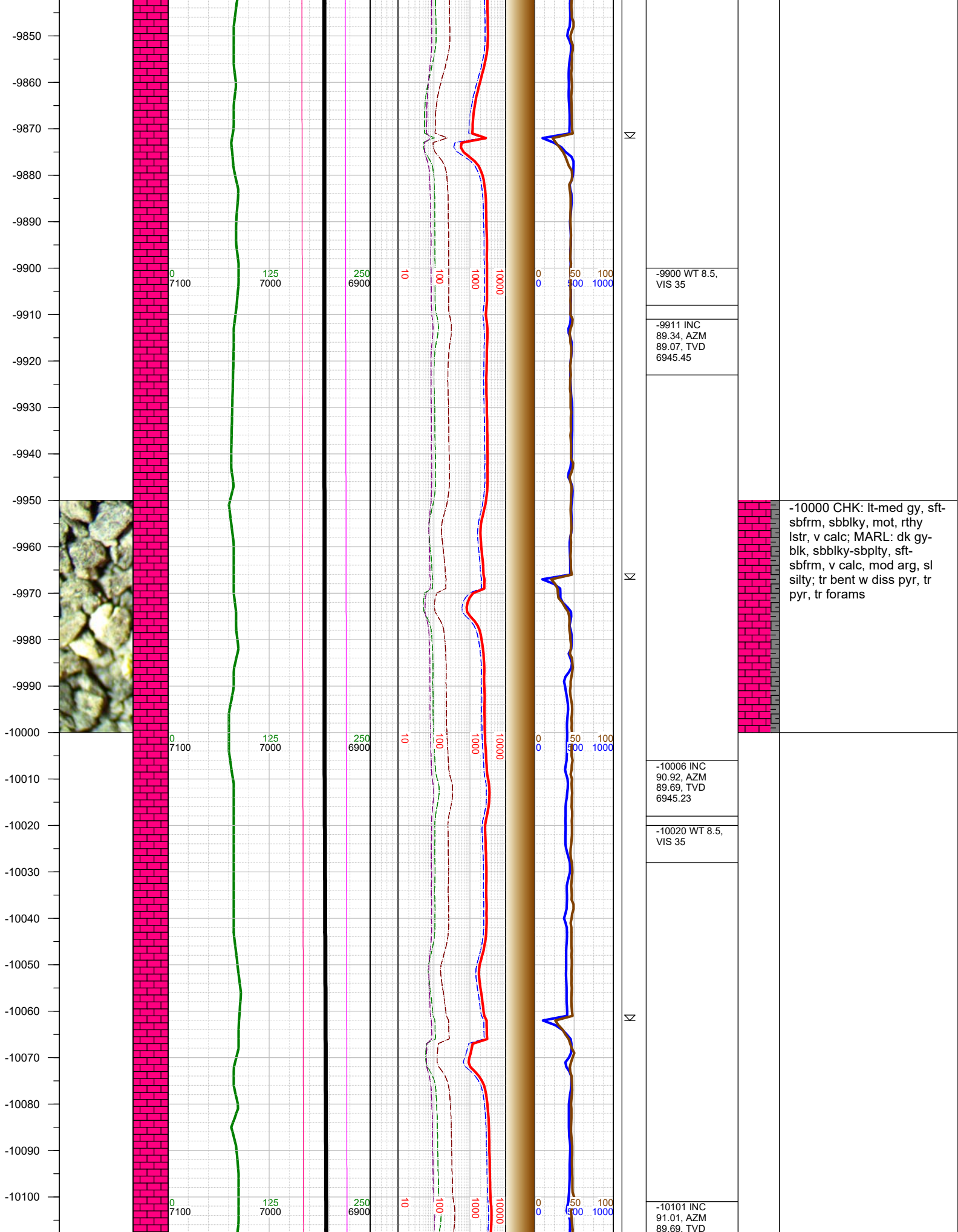
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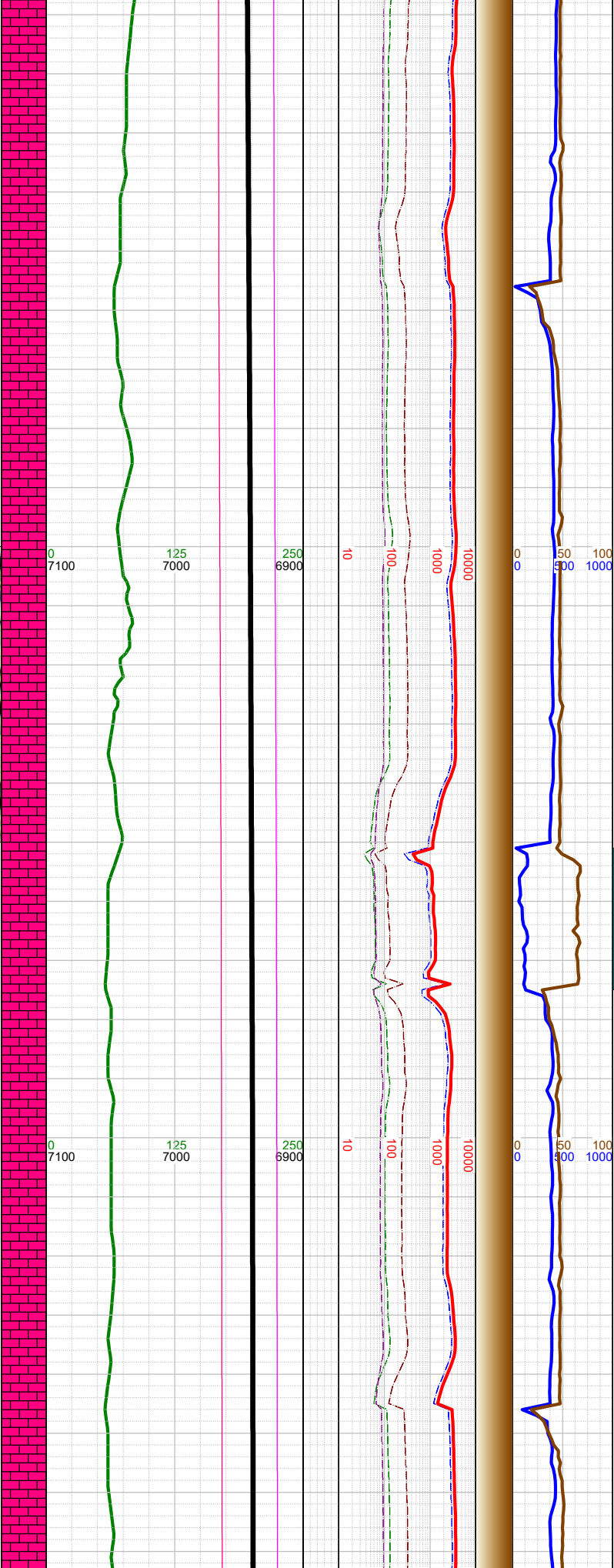
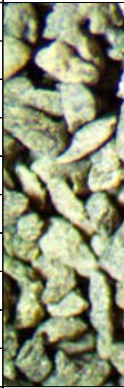
-9600 WT 8.5, VIS 35
-9625 INC 90.92, AZM 89.07, TVD 6949.48
-9700 WT 8.5, VIS 35
-9720 INC 91.54, AZM 89.33, TVD 6947.44
-9800 WT 8.5, VIS 35
-9816 INC 90.75, AZM 89.33, TVD 6945.52



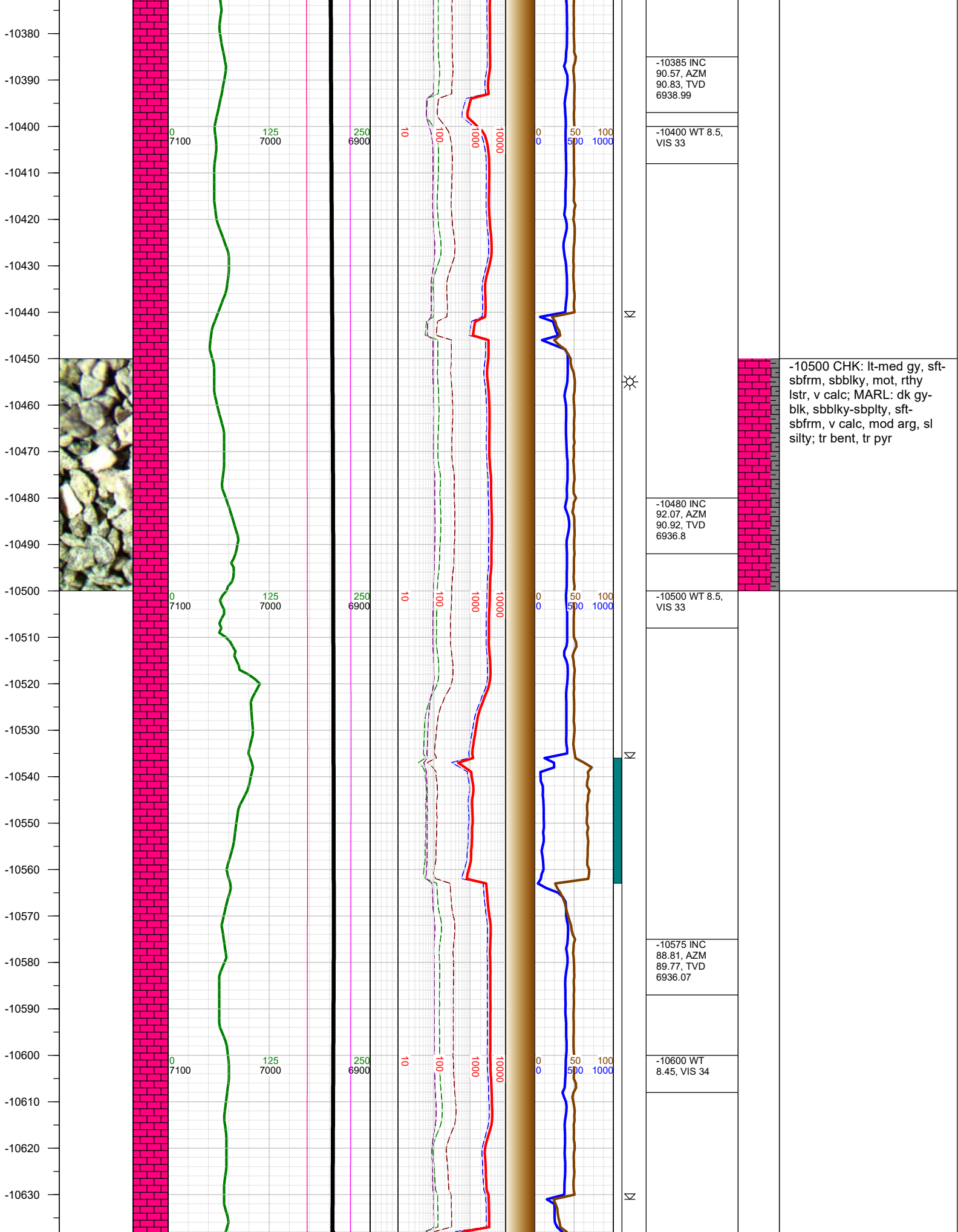
-9750 CHK: lt-med gy, sft-sbfrm, sbbkly, mot, rthy lstr, v calc; MARL: dk gy-blk, sbbkly-sbply, sft-sbfrm, v calc, mod arg, sl silty; tr forams,

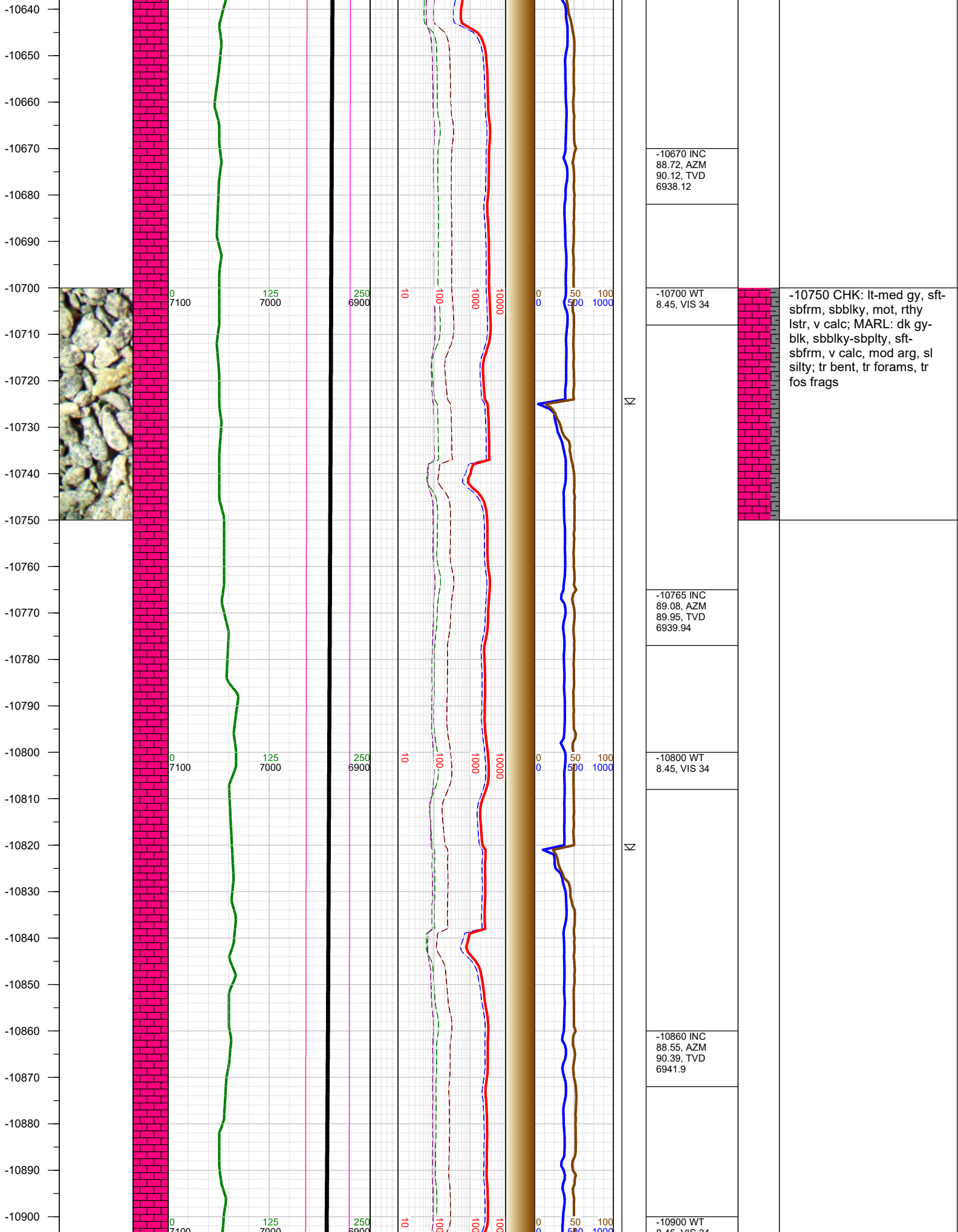


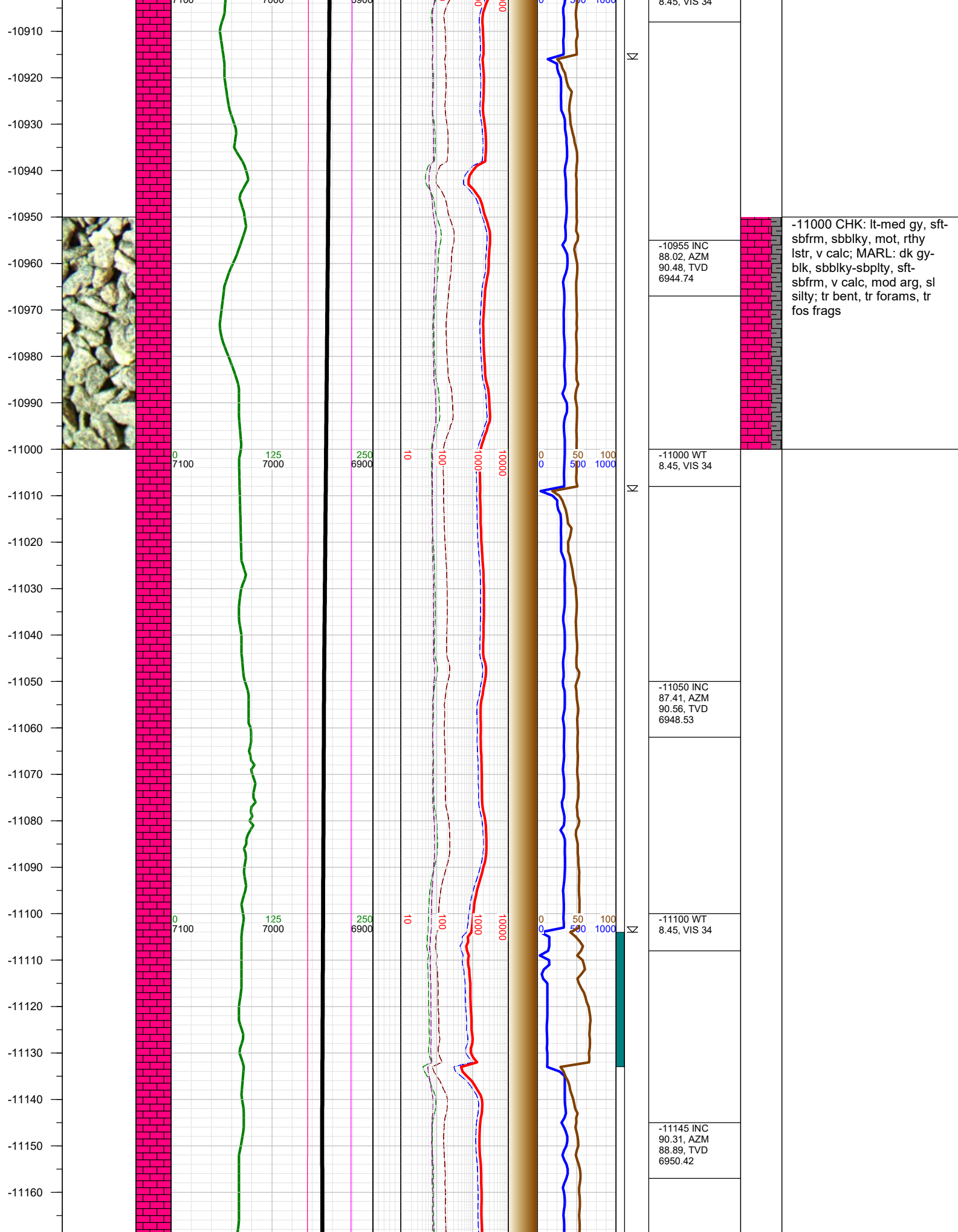
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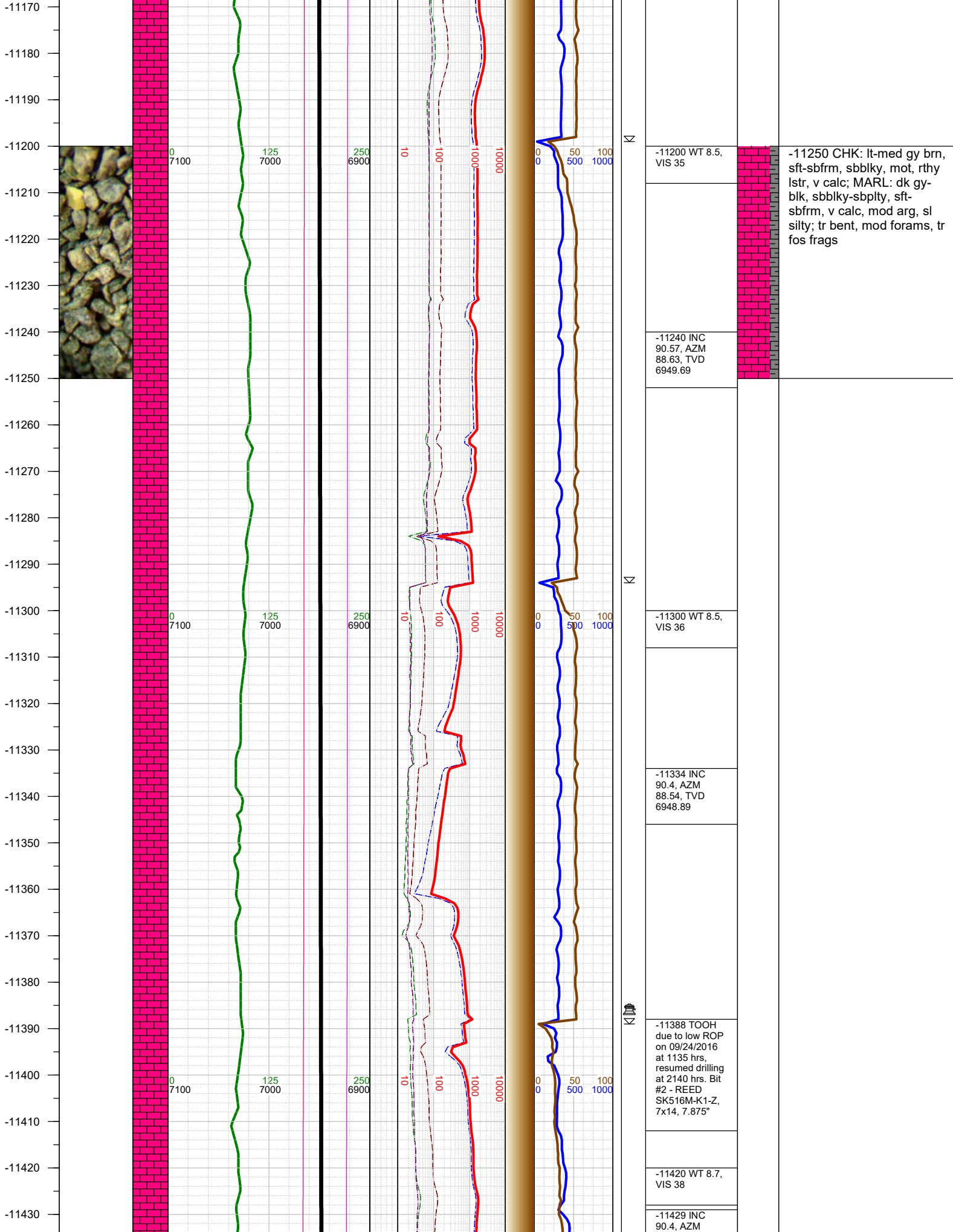


6943.63		
-10120 WT 8.5, VIS 35		
-10196 INC 91.8, AZM 89.77, TVD 6941.3		
-10210 WT 8.5, VIS 35		-10250 CHK: lt-med gy, sft- sbfrm, sbbkly, mot, rthy lstr, v calc; MARL: dk gy- blk, sbbkly-sbplty, sft- sbfrm, v calc, mod arg, sl silty; mod bent, tr pyr, tr forams
-10290 INC 90.22, AZM 90.12, TVD 6939.64		
-10310 WT 8.5, VIS 35		

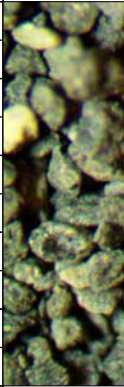








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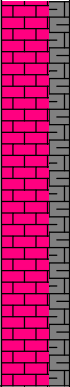
88.45, TVD
6948.23

-11500 WT 8.7,
VIS 38

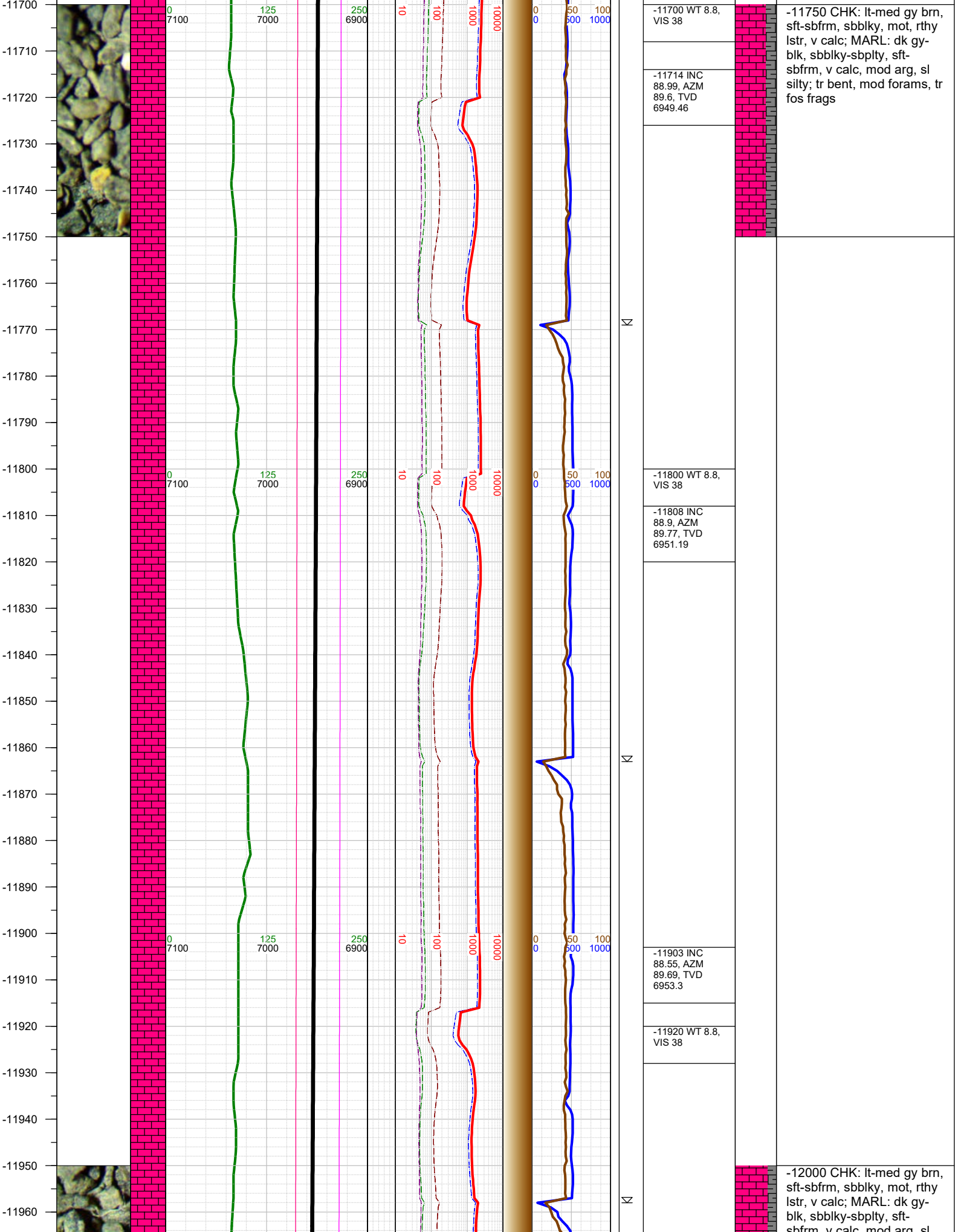
-11524 INC
90.66, AZM
87.22, TVD
6947.35

-11600 WT 8.7,
VIS 38

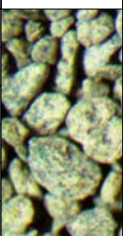
-11619 INC
88.9, AZM
89.33, TVD
6947.71



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



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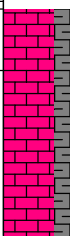
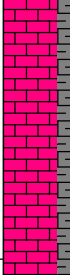
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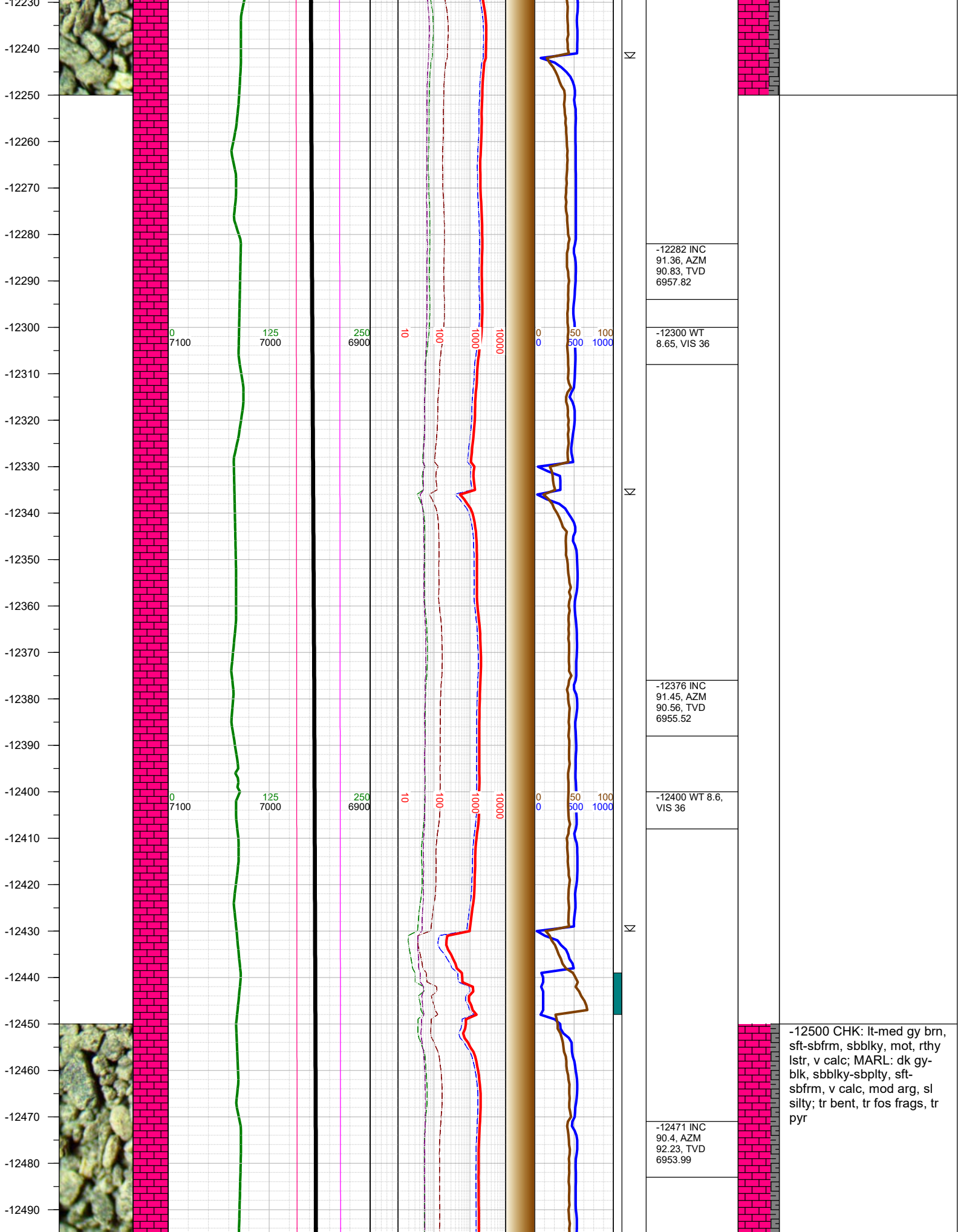
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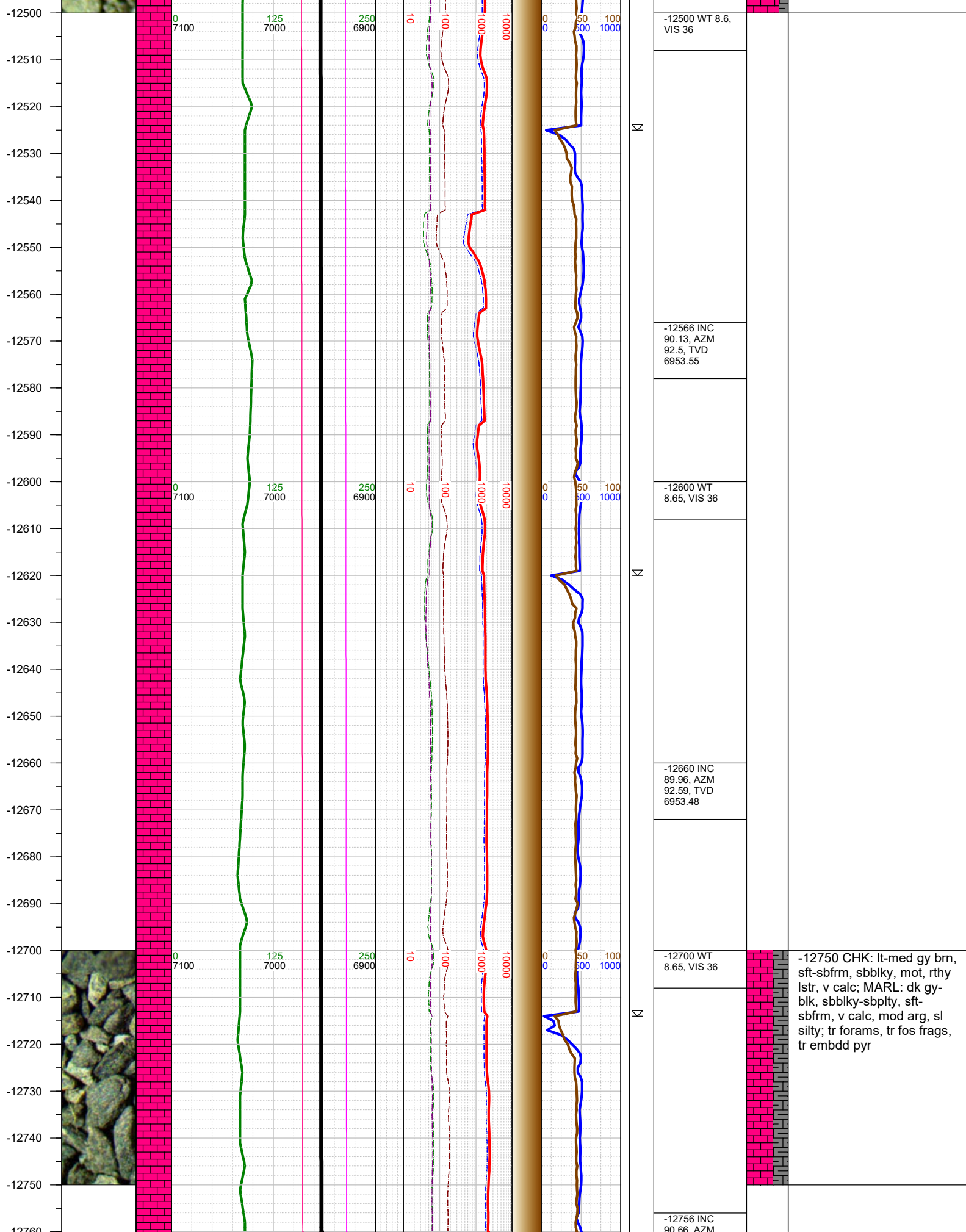
-11998 INC 88.46, AZM 89.77, TVD 6955.78
-12010 WT 8.8, VIS 38
-12048 0000 hrs on 9/25/2016
-12093 INC 88.2, AZM 89.86, TVD 6958.55
-12110 WT 8.7, VIS 37
-12187 INC 90.66, AZM 90.65, TVD 6959.49
-12200 WT 8.65, VIS 37



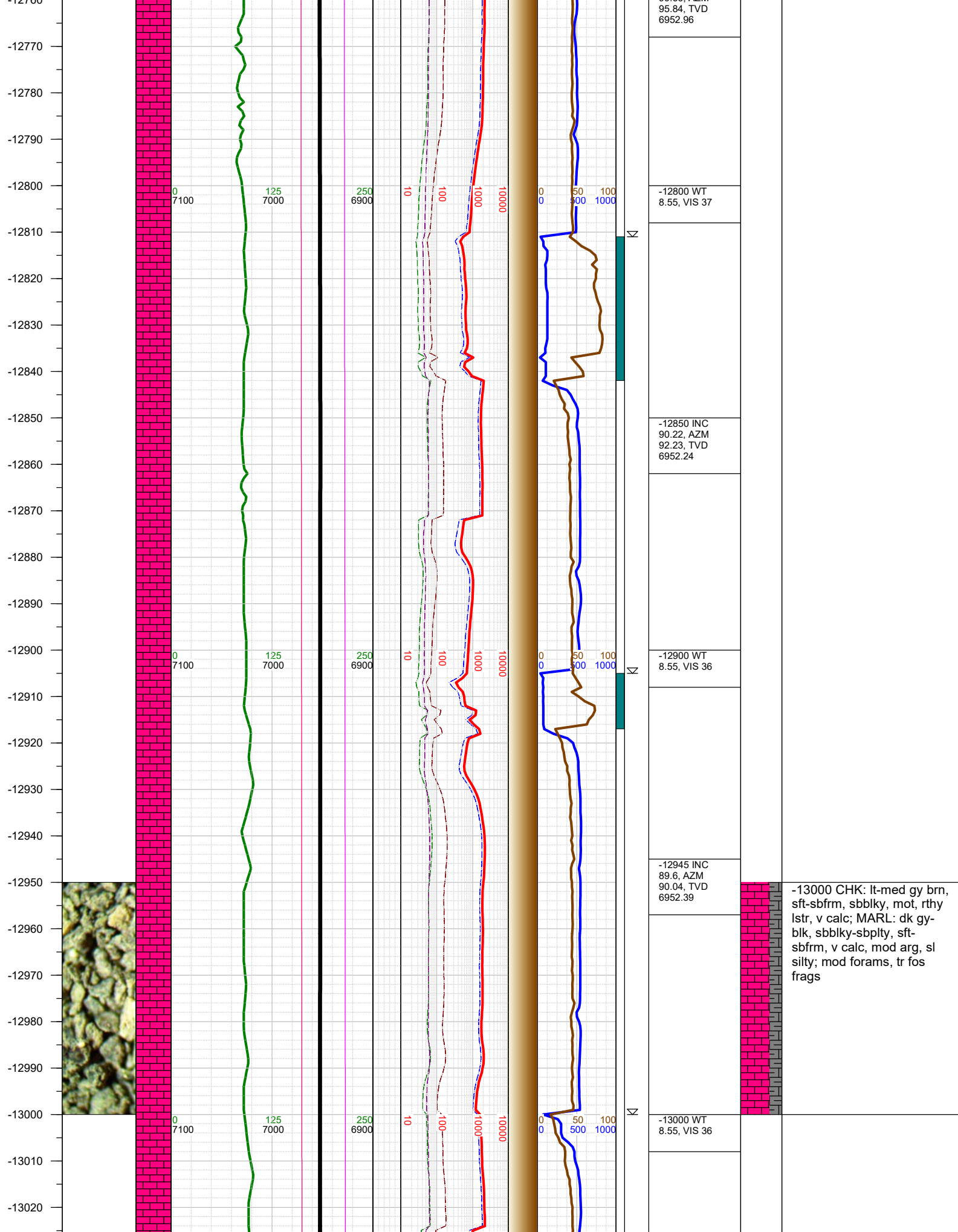
siltst, v calc, mod arg, sl
silty; mod forams, mod fos
frags, tr embdd pyr

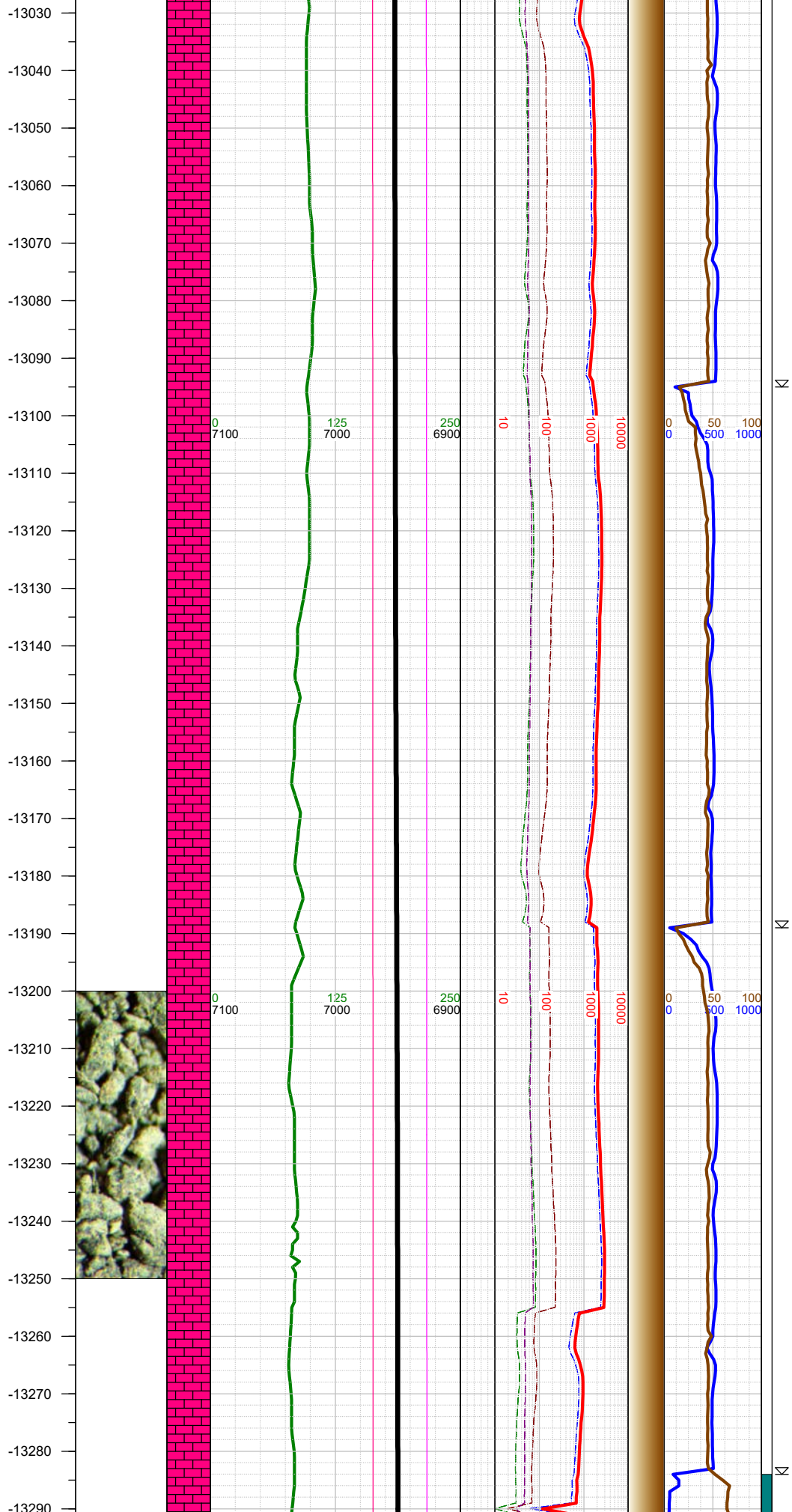
-12250 CHK: lt-med gy brn,
sft-sbfrm, sbblky, mot, rthy
lstr, v calc; MARL: dk gy-
blk, sbblky-sbplty, sft-
sbfrm, v calc, mod arg, sl
silty; mod forams, mod fos
frags, tr embdd pyr





-12750 CHK: lt-med gy brn, sft-sbfrm, sbblky, mot, rthy lstr, v calc; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, v calc, mod arg, sl silty; tr forams, tr fos frags, tr embdd pyr





-13040 INC
90.13, AZM
89.6, TVD
6952.61

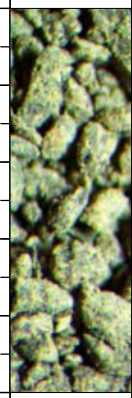
-13100 WT
8.55, VIS 36

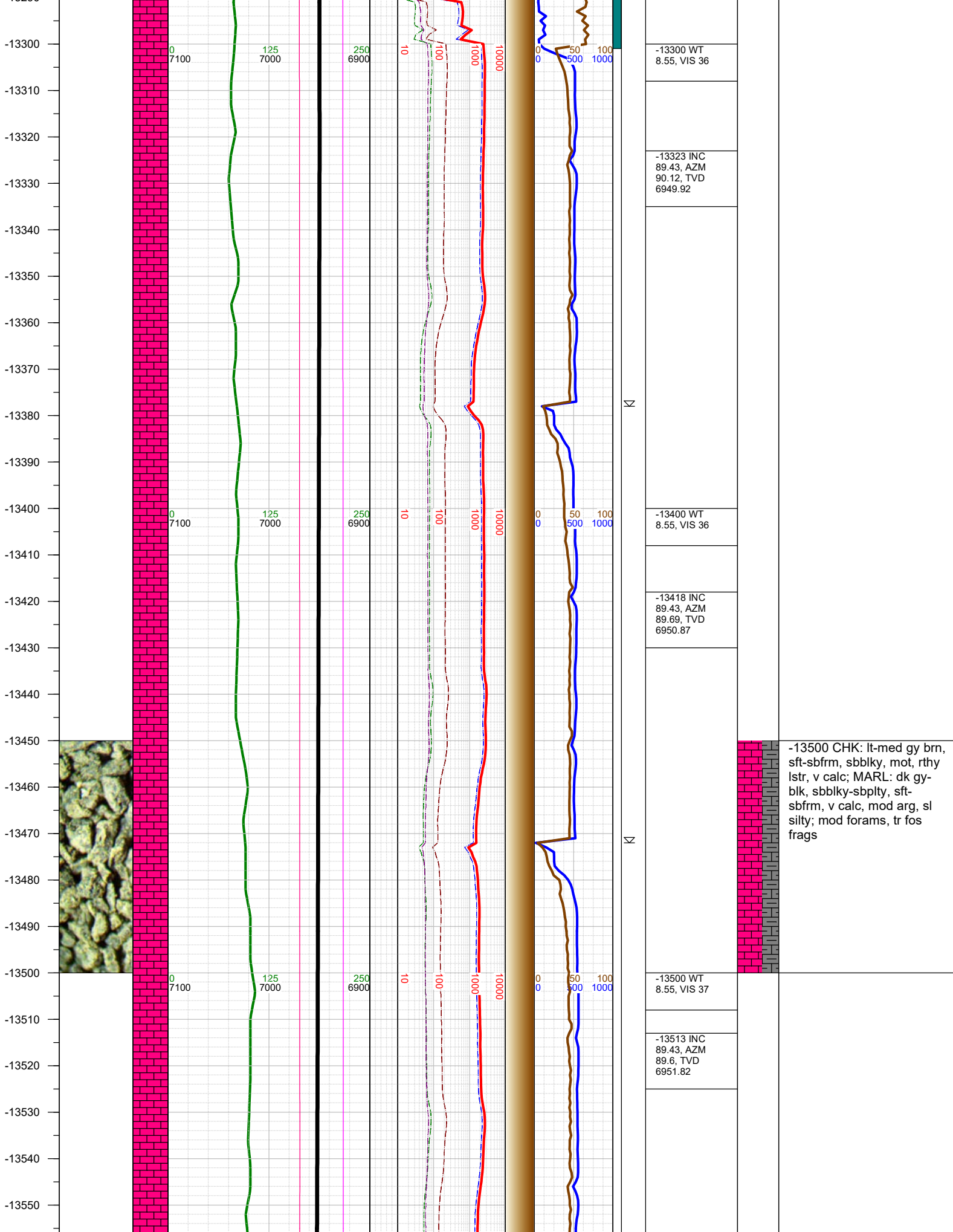
-13134 INC
90.66, AZM
89.86, TVD
6951.96

-13200 WT
8.55, VIS 36

-13229 INC
91.19, AZM
90.12, TVD
6950.43

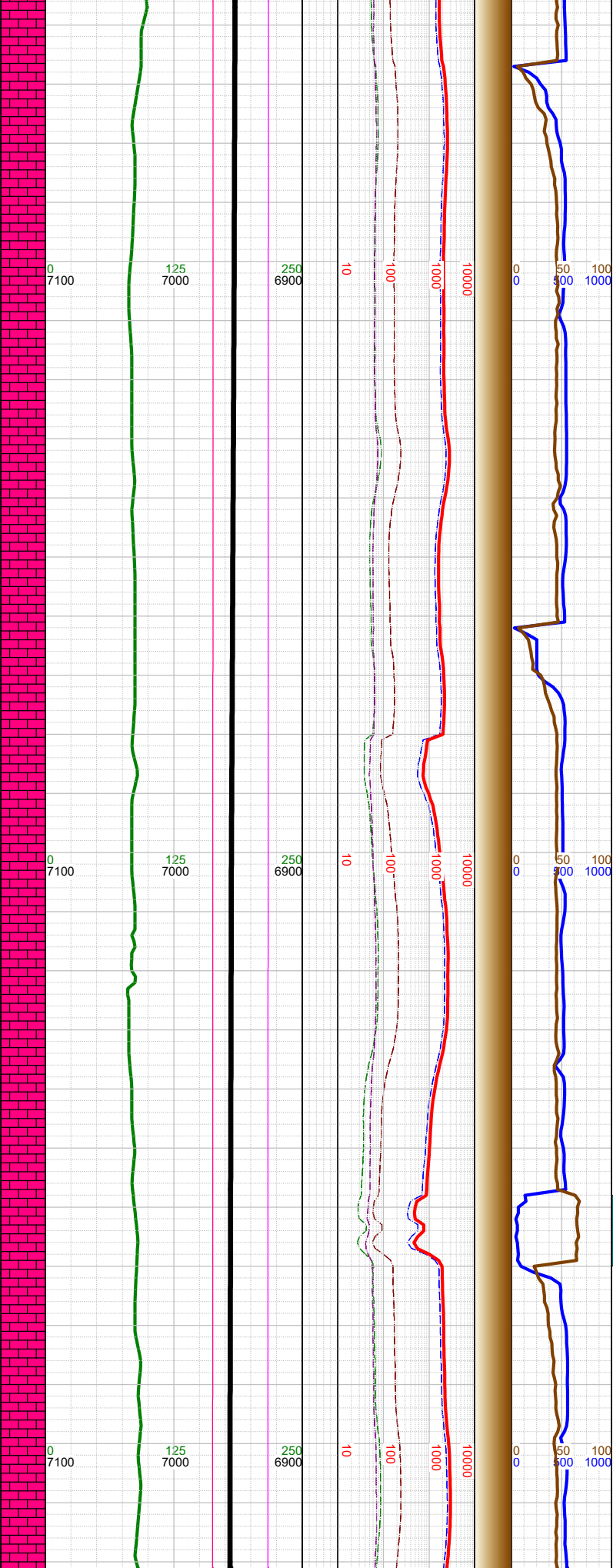
-13250 CHK: lt-med gy brn,
sft-sbfrm, sbbkly, mot, rthy
lstr, v calc; MARL: dk gy-
blk, sbbkly-sbply, sft-
sbfrm, v calc, mod arg, sl
silty; mod forams, tr fos
frags



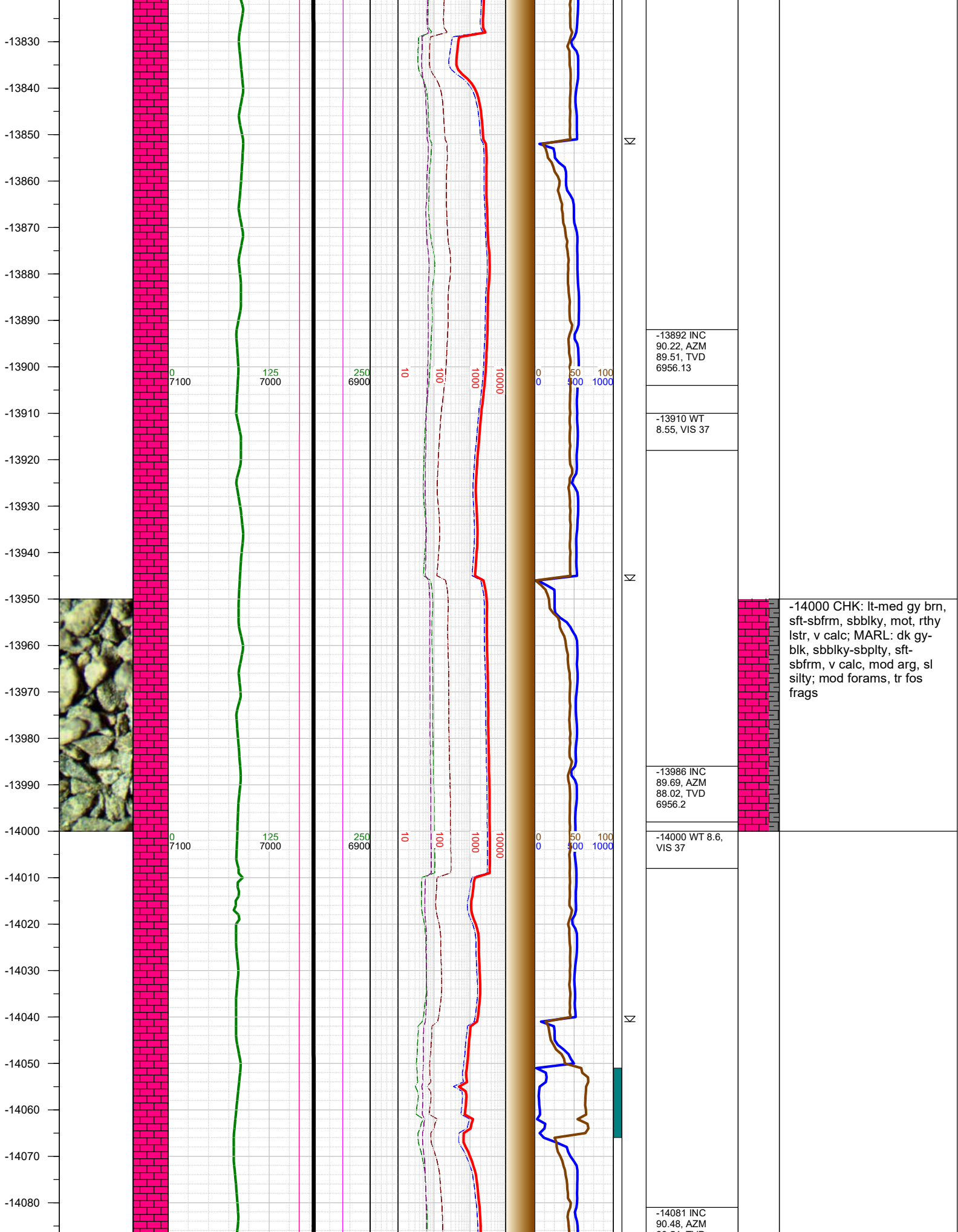


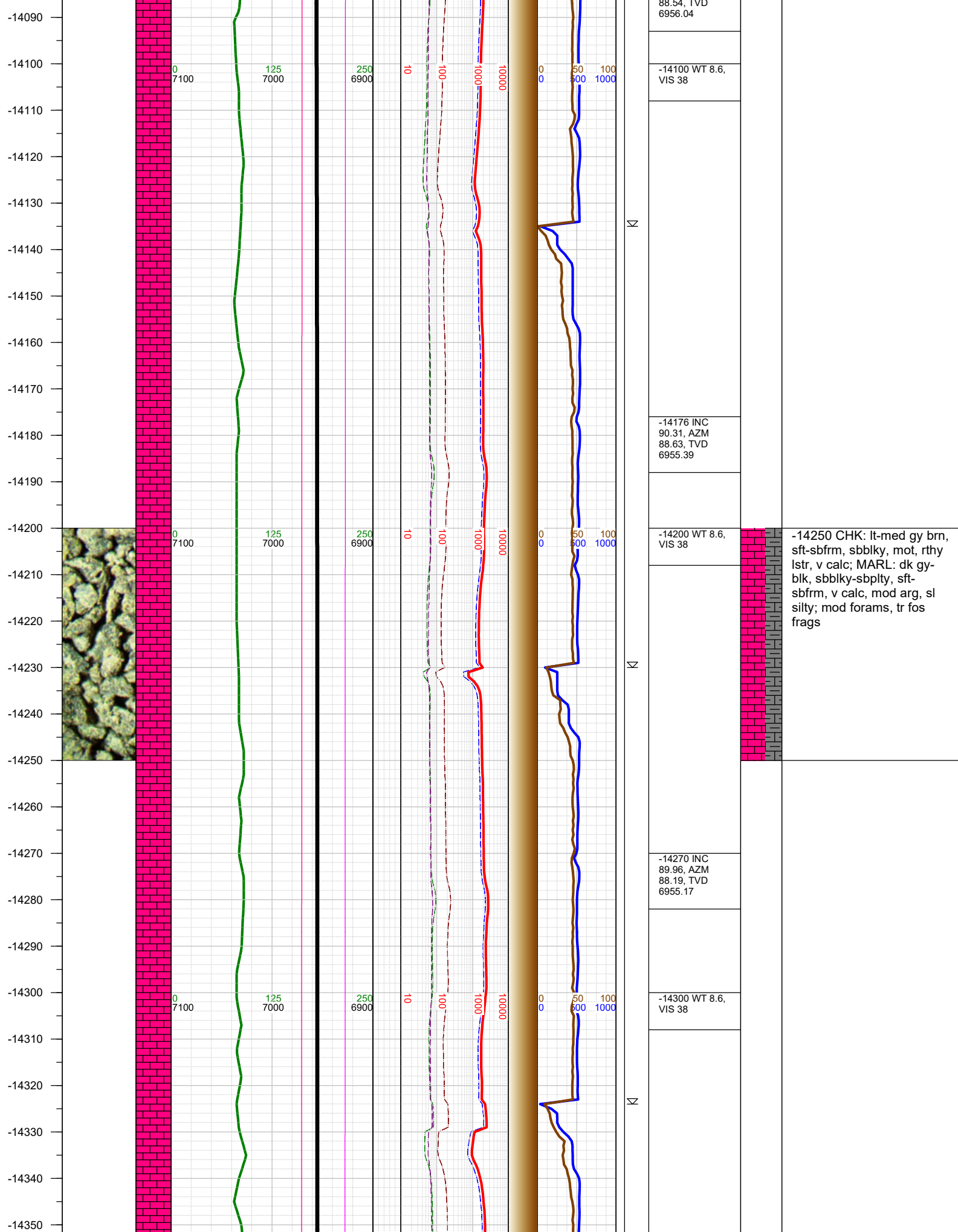
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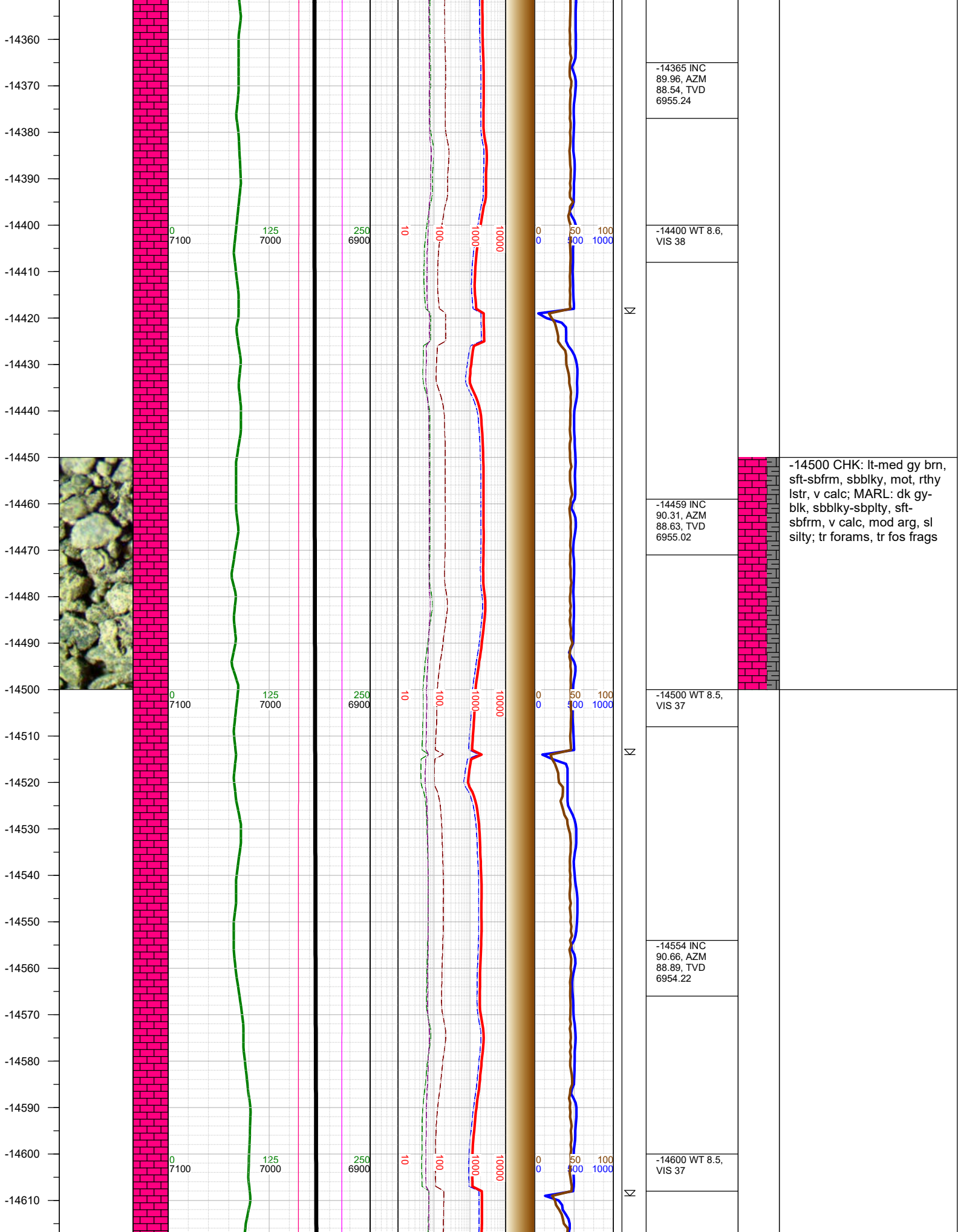
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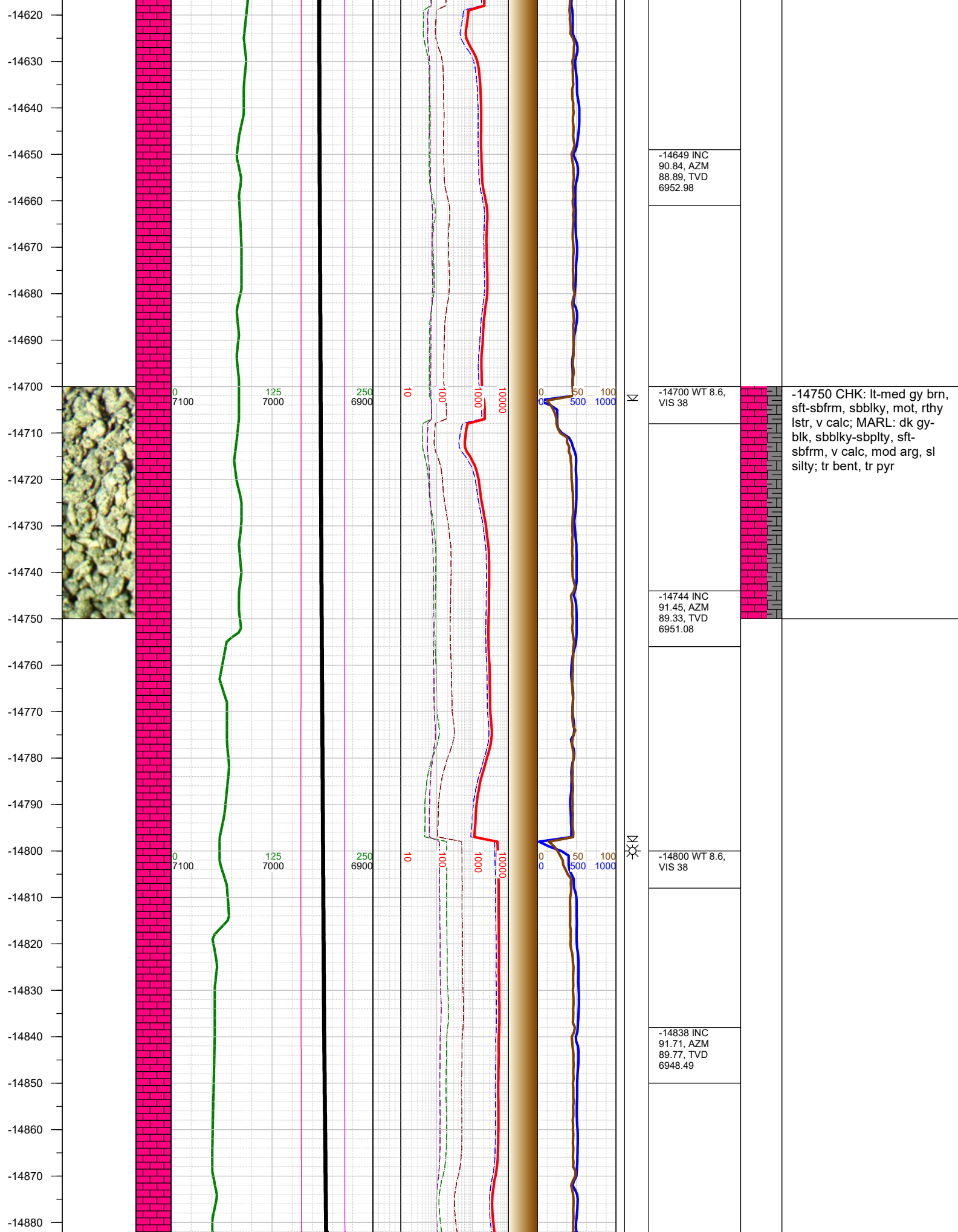


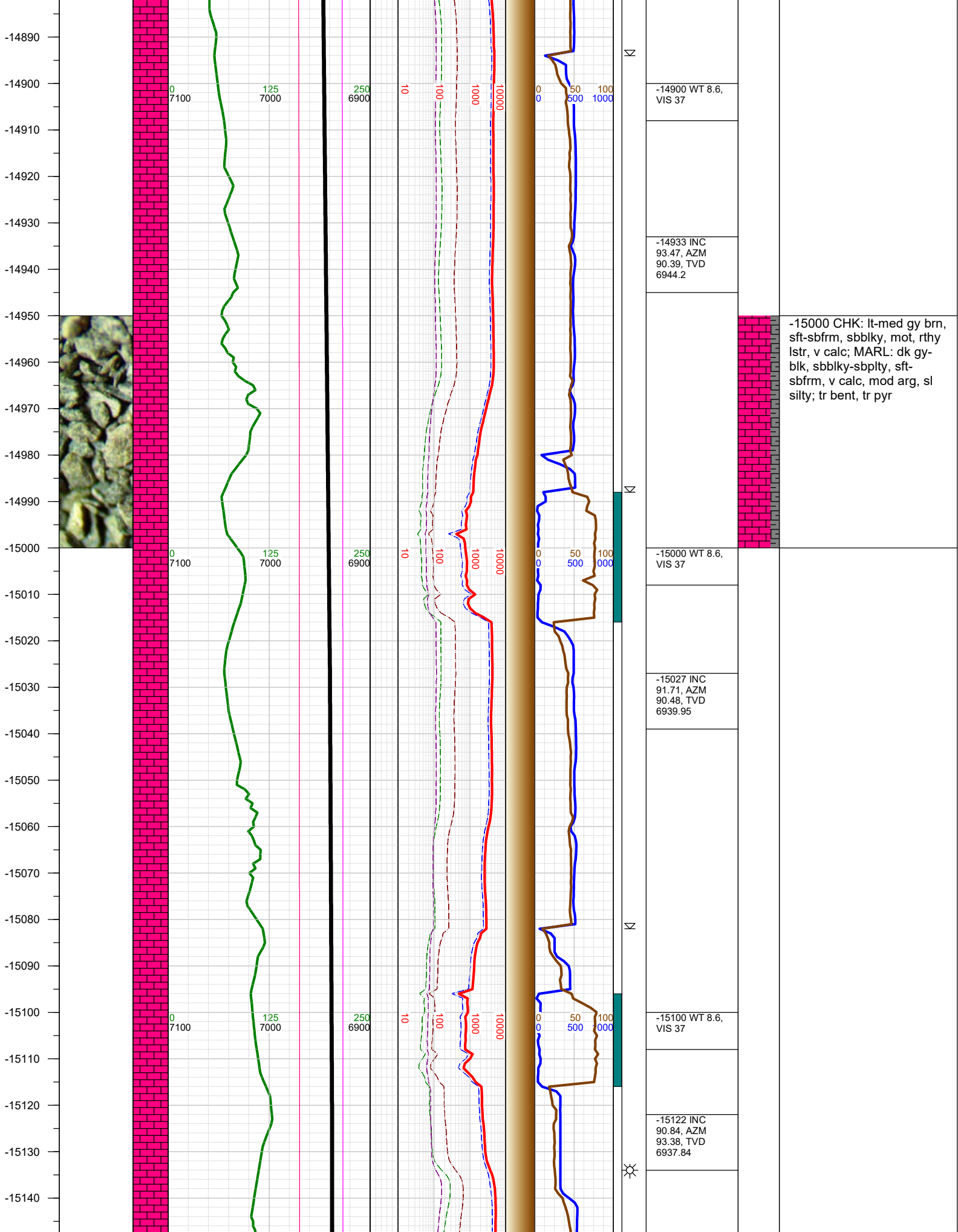
-13600 WT 8.55, VIS 37	-13608 INC 88.81, AZM 90.12, TVD 6953.28		-13703 INC 88.72, AZM 89.42, TVD 6955.33	-13720 WT 8.55, VIS 37	-13750 CHK: lt-med gy brn, sft-sbfrm, sbblky, mot, rthy lstr, v calc; MARL: dk gy- blk, sbblky-sbply, sft- sbfrm, v calc, mod arg, sl silty; mod forams, tr fos frags
-13797 INC 90.04, AZM 89.6, TVD 6956.35	-13810 WT 8.55, VIS 37				

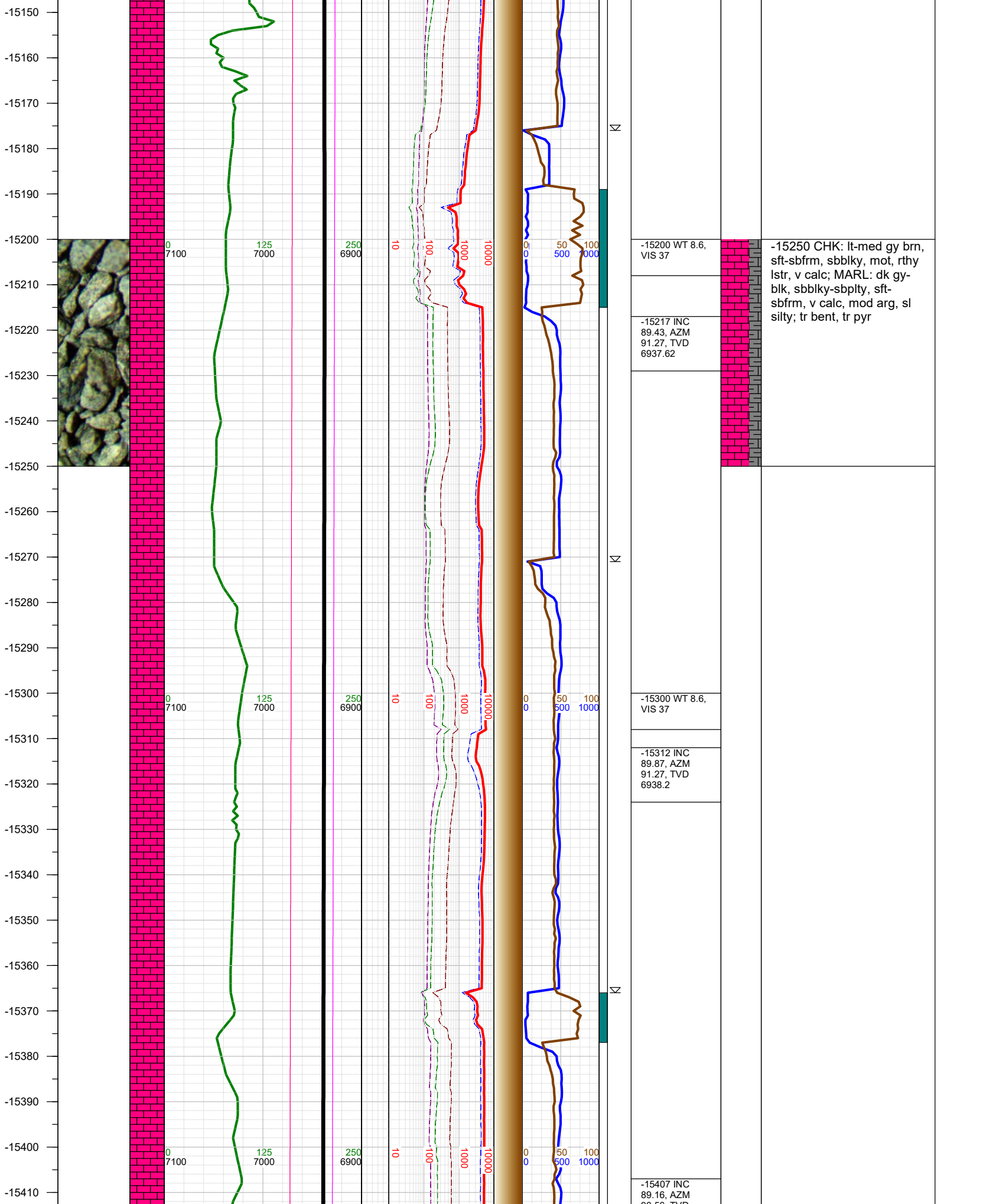


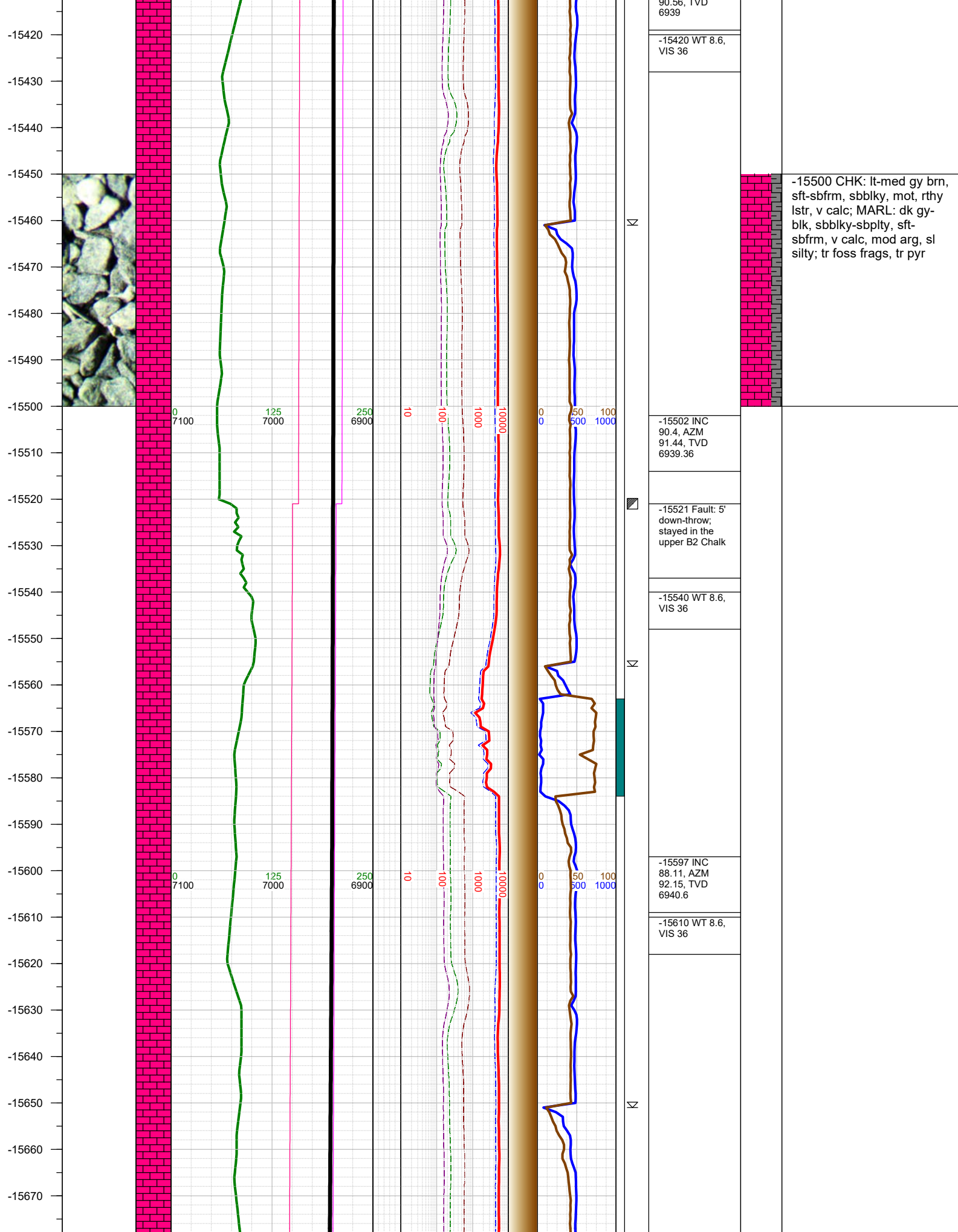


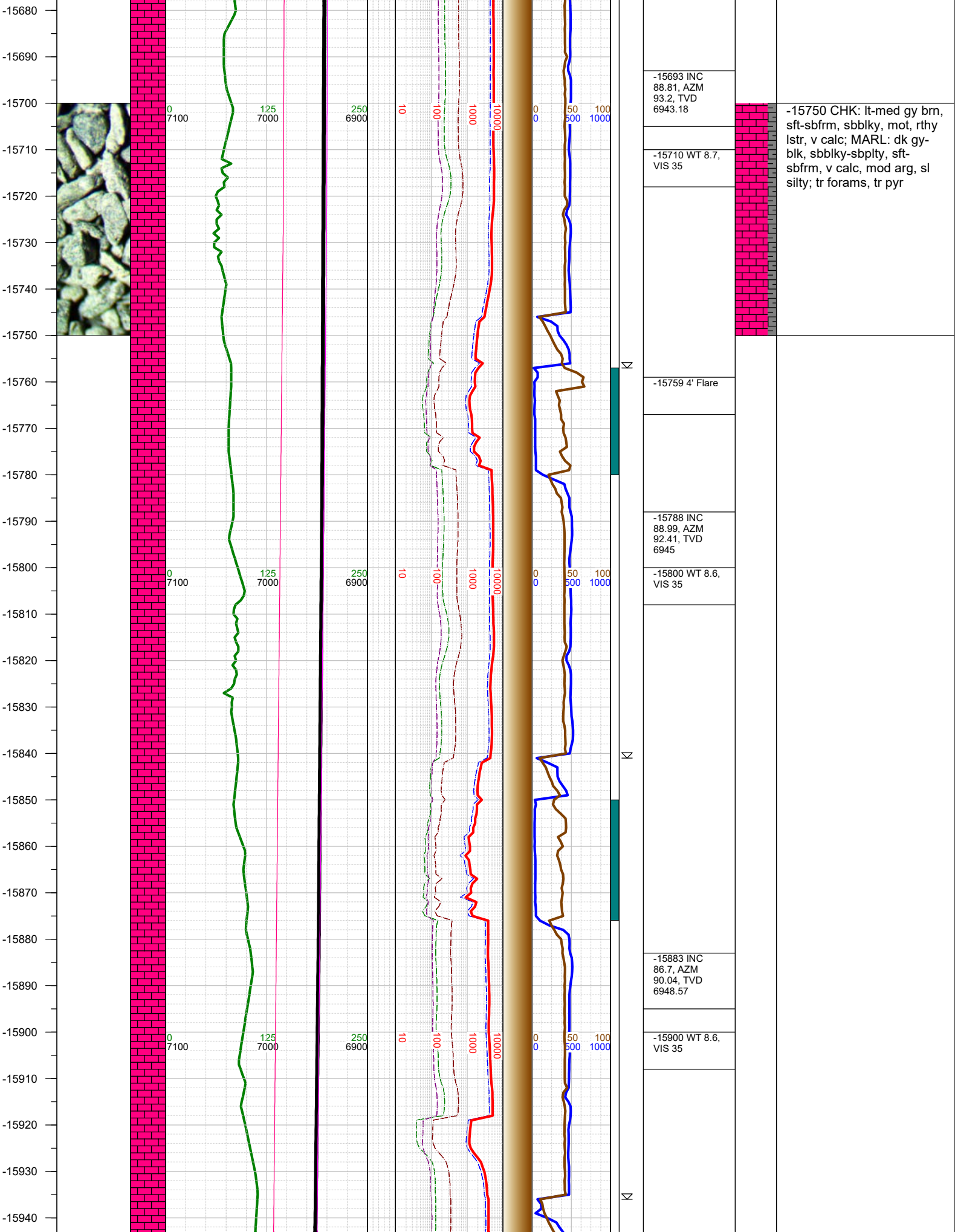


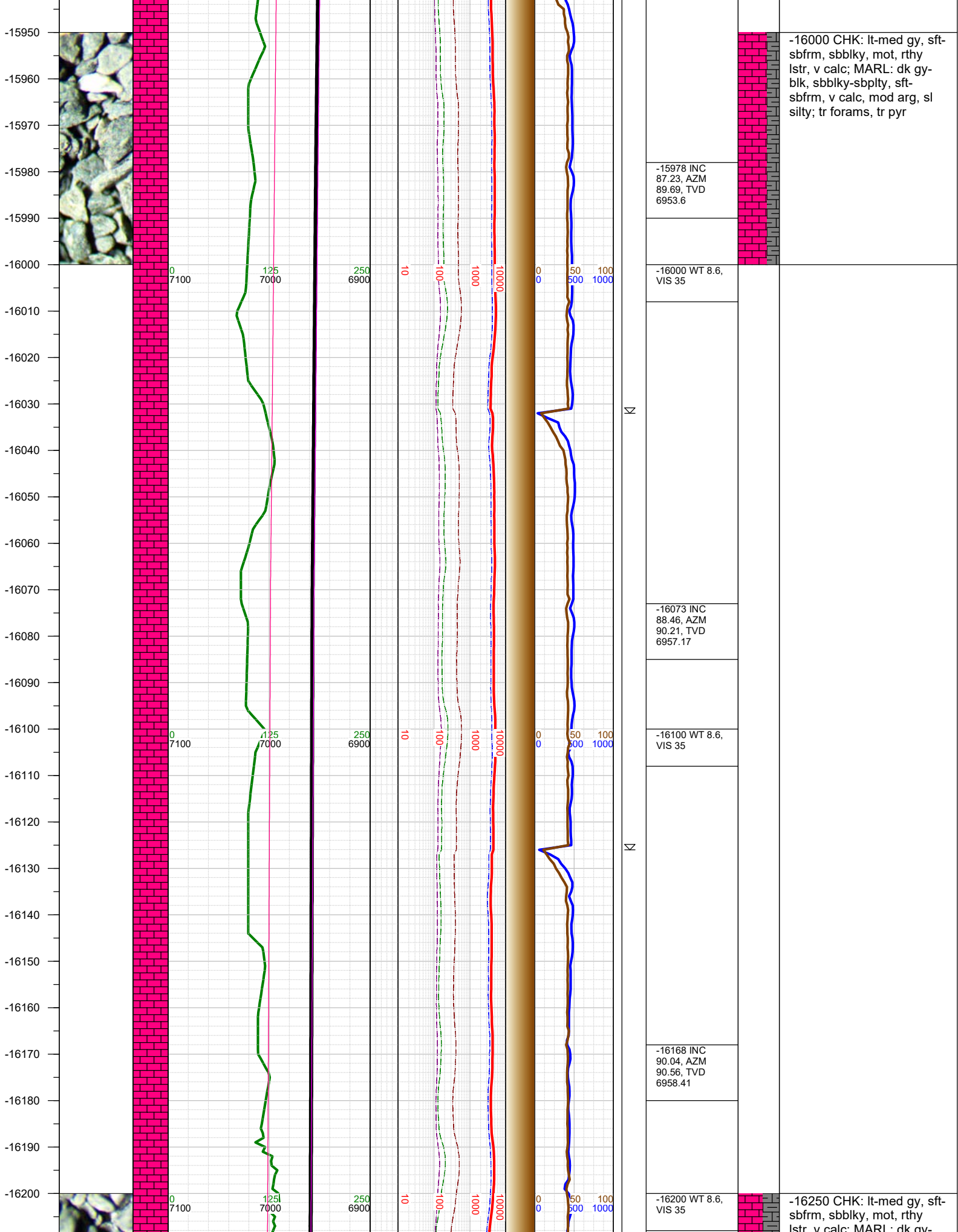


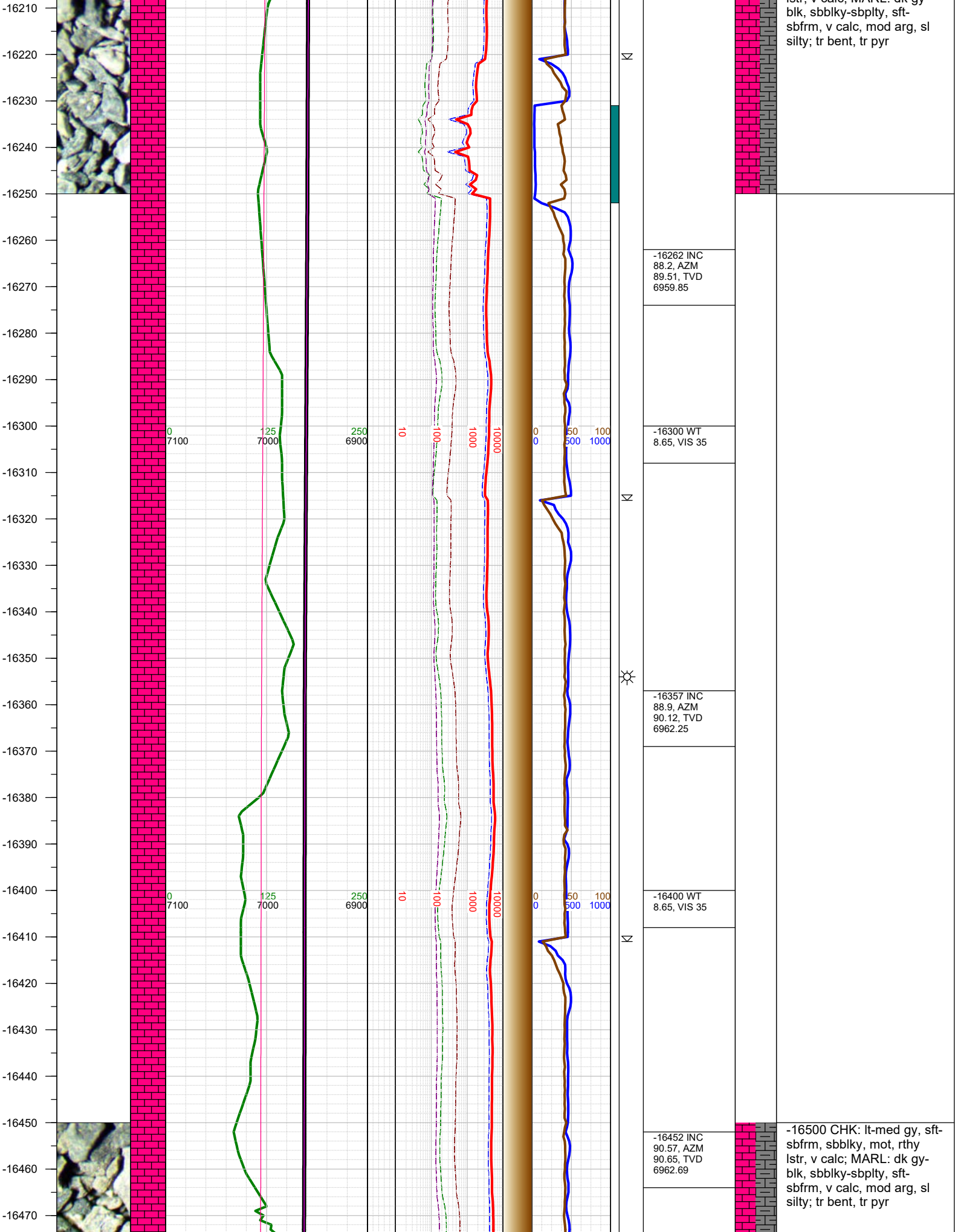




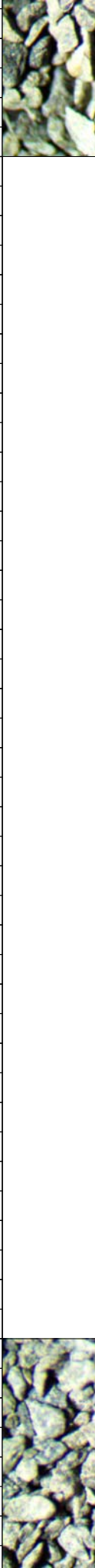








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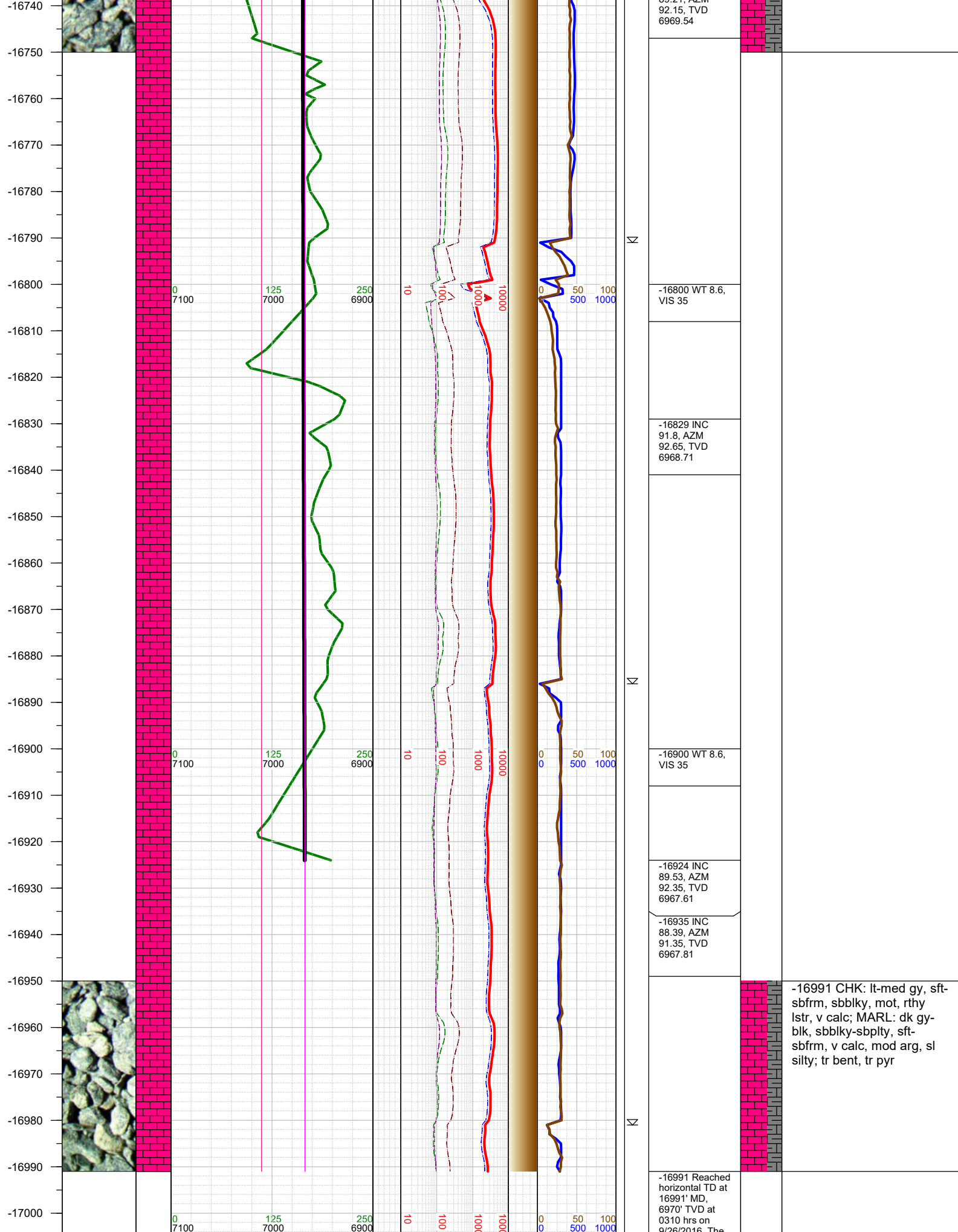
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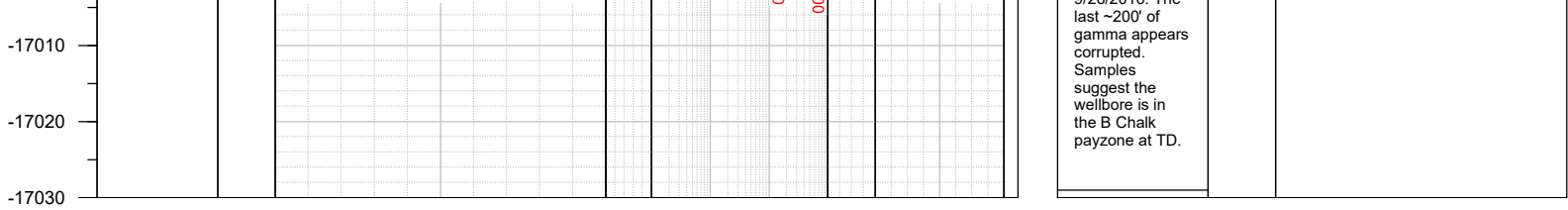
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-16500 WT 8.6, VIS 35
-16515 0000 hrs on 9/26/2016
-16520 2' Flare
-16547 INC 87.58, AZM 89.86, TVD 6964.22
-16600 WT 8.6, VIS 35
-16642 INC 88.37, AZM 91.36, TVD 6967.58
-16642 MWD tool failed but the final surveys and gamma were recovered with memory logs, although the last ~200' of gamma appears corrupted.
-16700 WT 8.6, VIS 35
-16735 INC 89.21, AZM

-16750 CHK: lt-med gy, sft-sbfrm, sbbkly, mot, rthy lstr, v calc; MARL: dk gy-blk, sbbkly-sbply, sft-sbfrm, v calc, mod arg, sl silty; tr bent, tr pyr





TOTAL DEPTH = 16991'

Thank you for using Earth Science Agency