

OPERATOR: **Extraction Oil & Gas**

WELL NAME: **VT LDS C4-16-18**

FIELD NAME: DJ Basin - Wattenberg

DRILLING RIG: Patterson 901

API #: 05-123-44414

LAT/LONG: 40.40126, -104.65714

SURFACE HOLE: SWNW S15-T5N-R65W, 1904' FNL, 483' FWL

BOTTOM HOLE: S18-T5N-R65W, 2167' FNL, 460' FWL

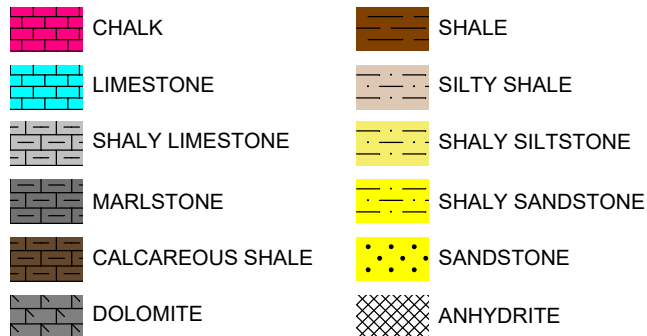


Earth Science Agency, LLC

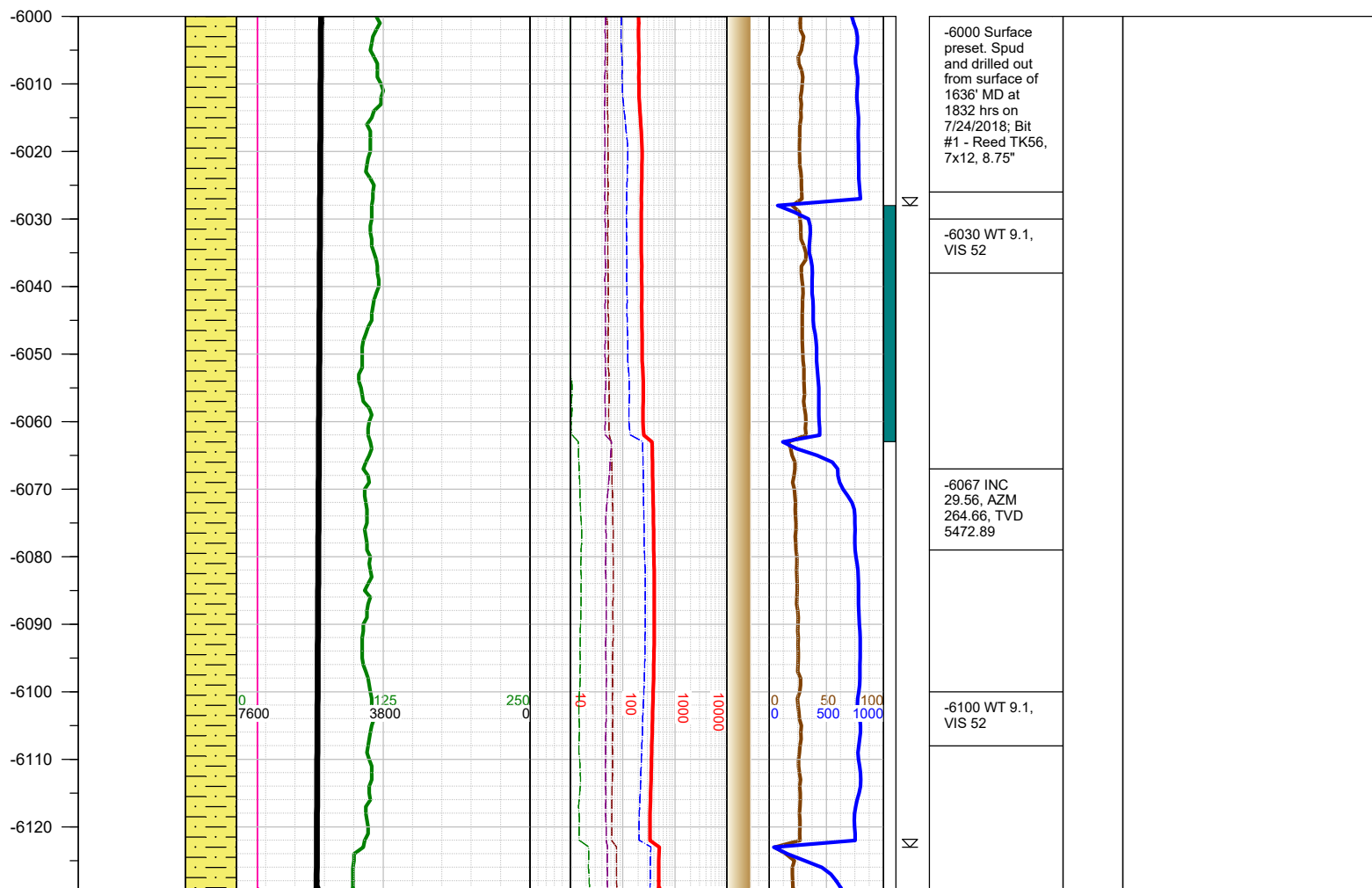
COUNTY: Weld
STATE: Colorado
GROUND ELEVATION: 4648'
KELLY BUSHING: 4677'
DRILLING FLUID: OBM
TVD VS. MD: 7044' / 20365'
SPUD DATE: July 24, 2018
TD DATE: July 28, 2018

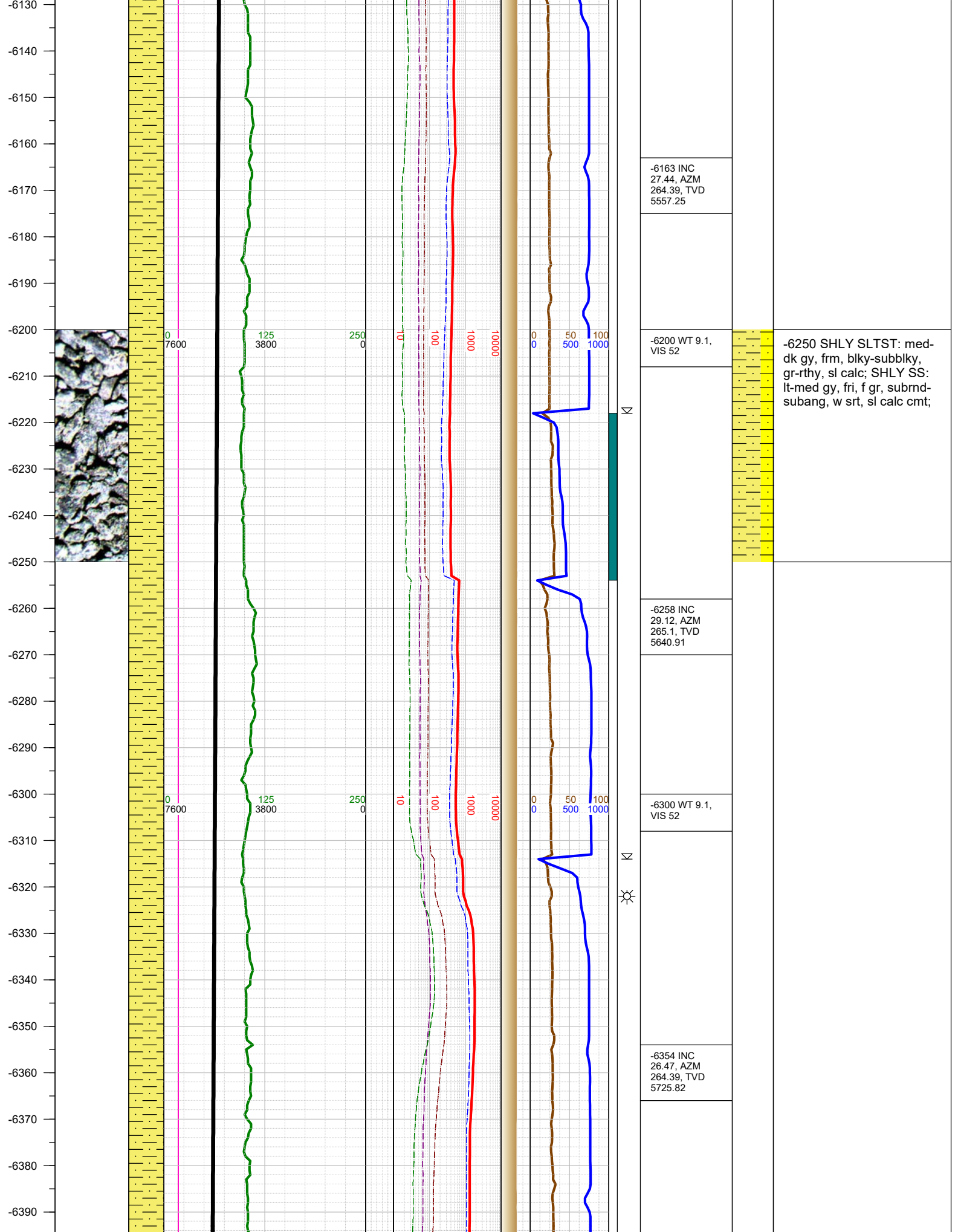
DEPTHS LOGGED: 6000' - 20365'
DATES LOGGED: July 24, 2018 - July 28, 2018
GEOLOGISTS: Blake Eatherton, Dan Jacobs
SCALE: 5" = 100'

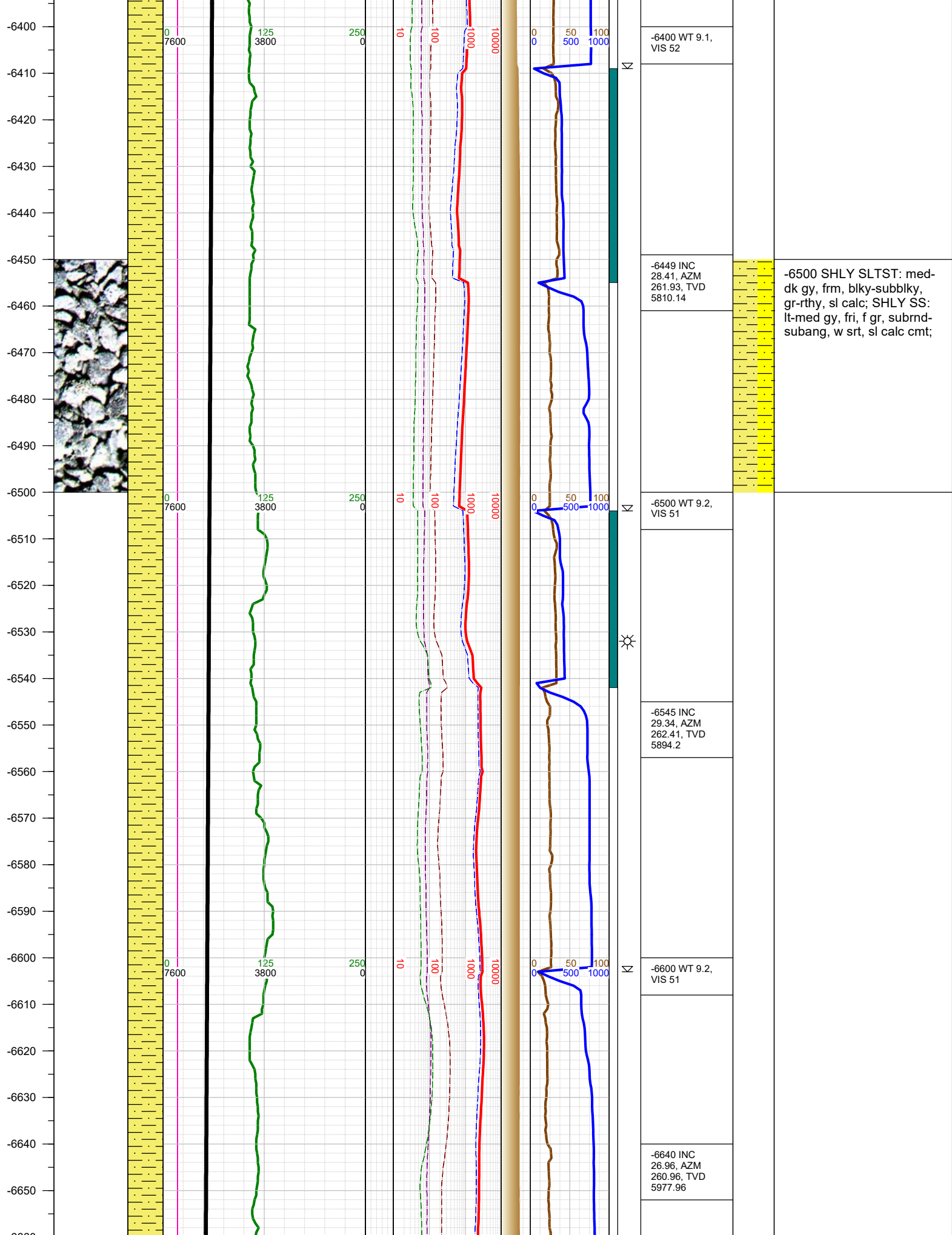
LEGEND

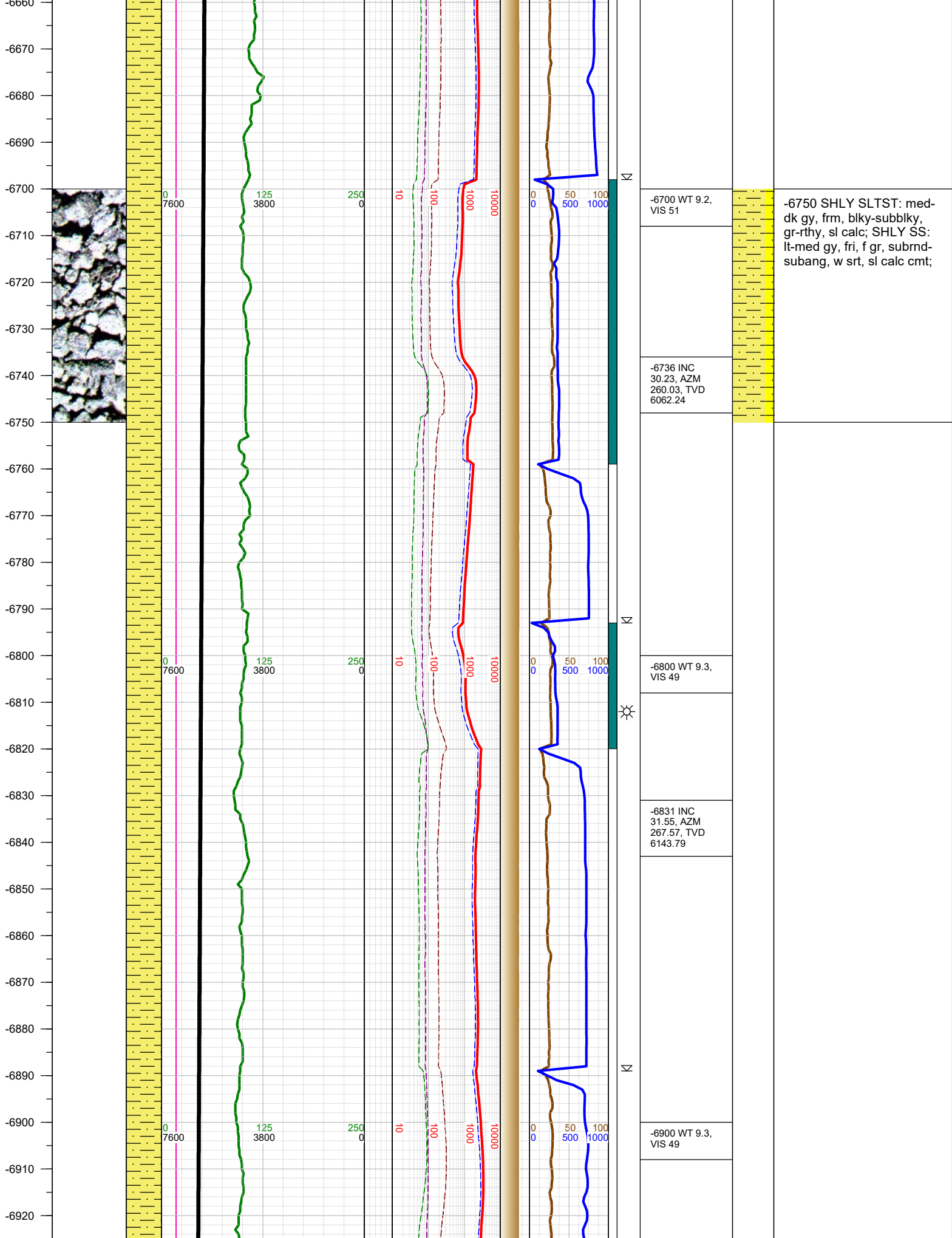


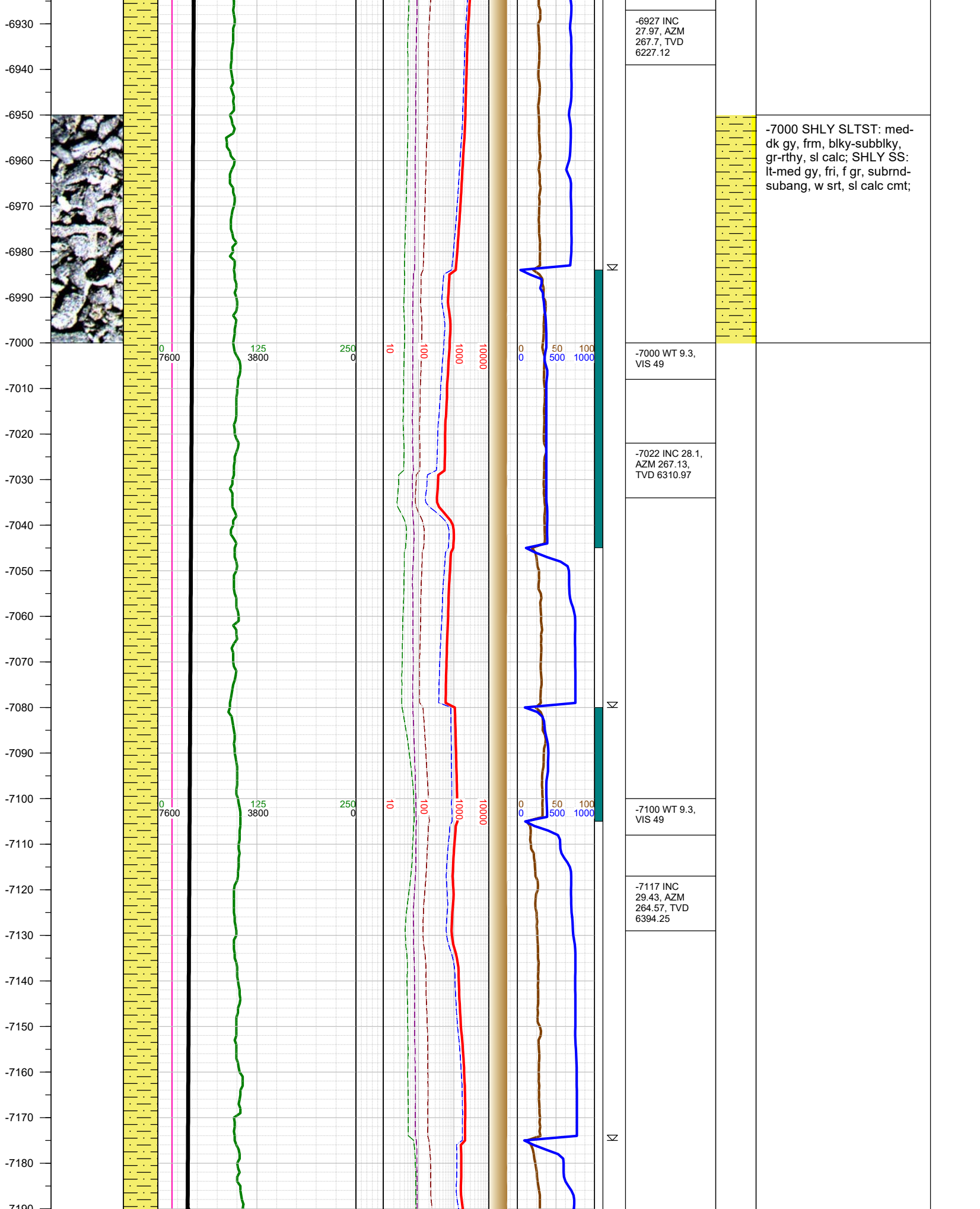
FORMATION \approx CONNECTION Δ MIDNIGHT NEW BIT GAS SHOW FAULT

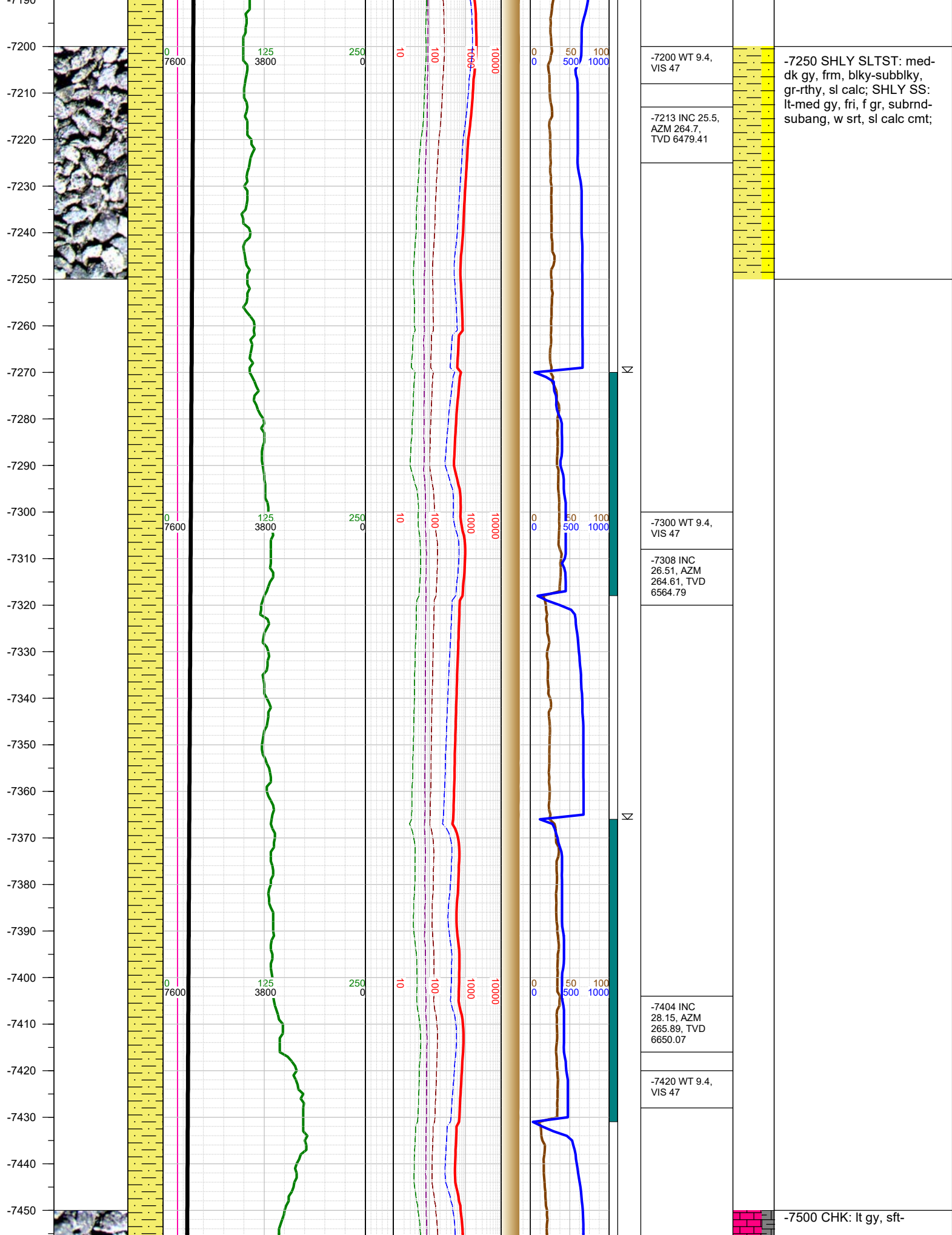


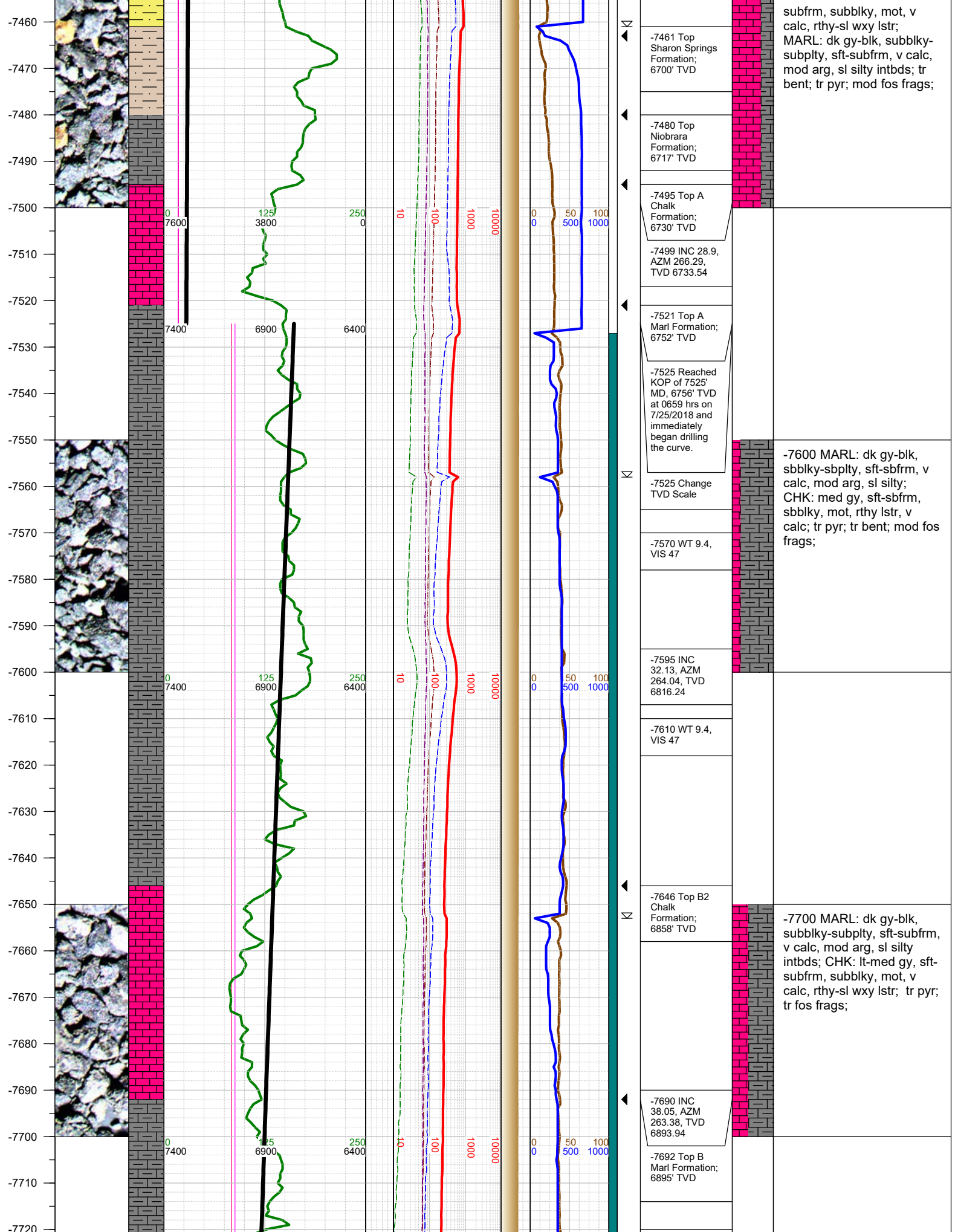


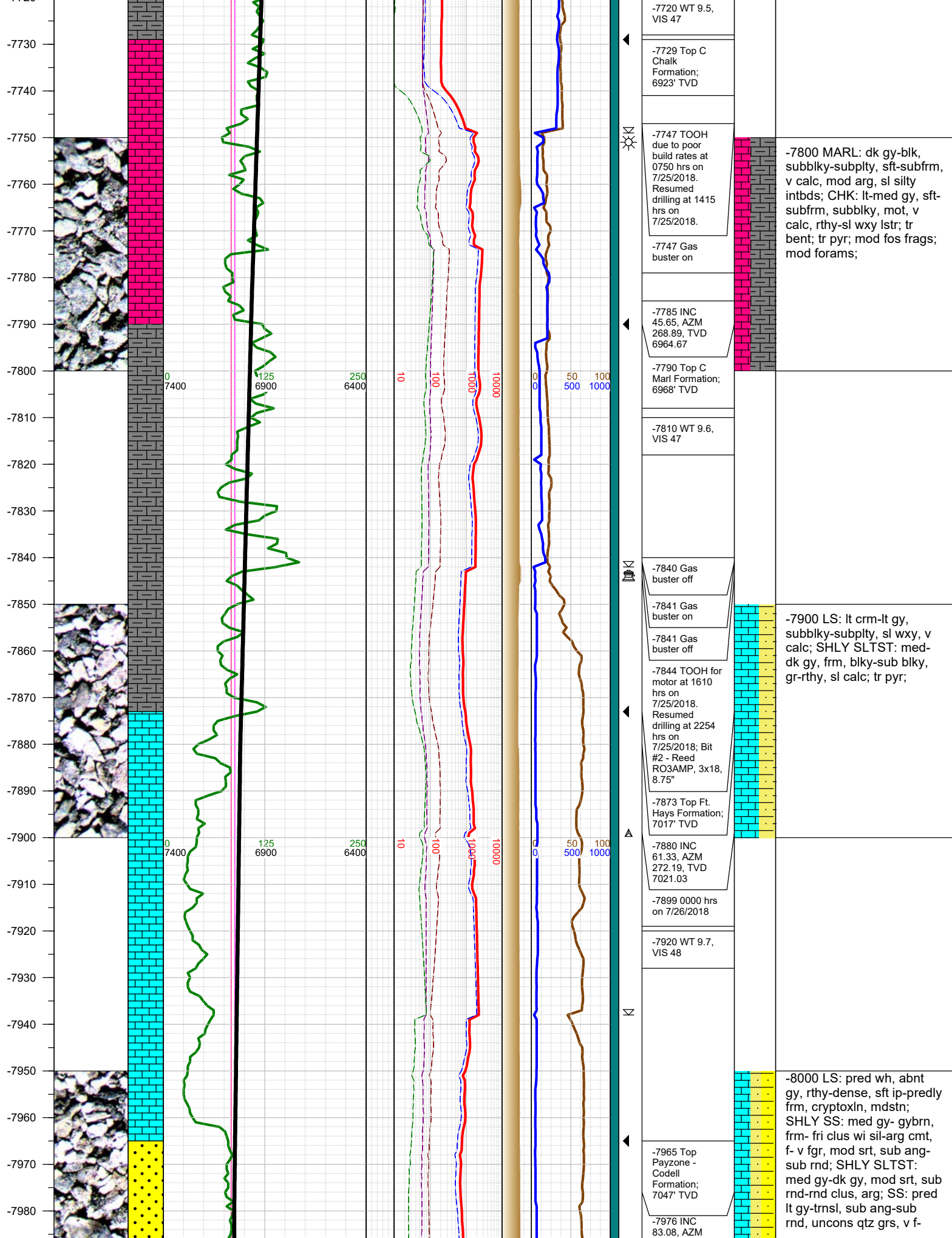


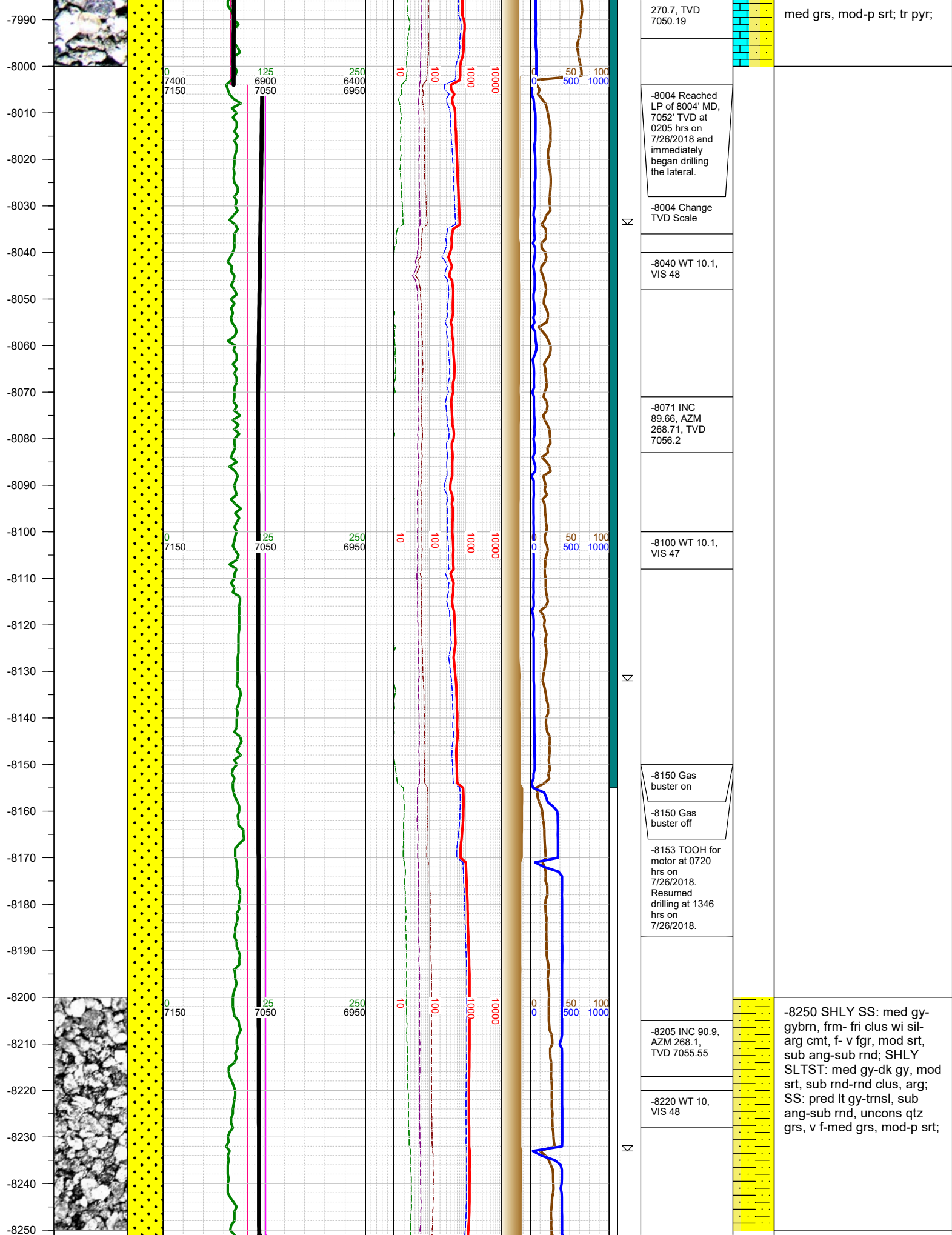


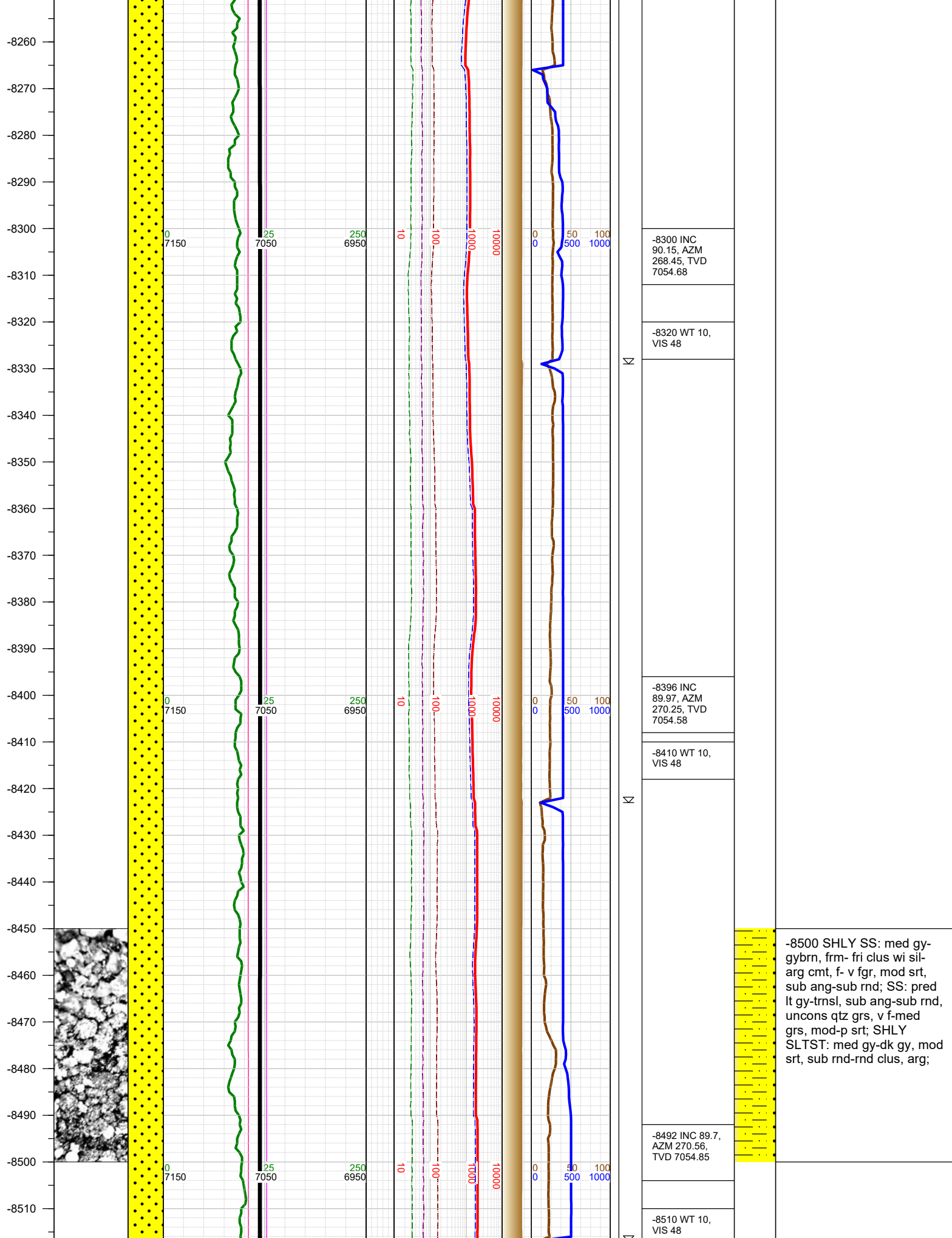




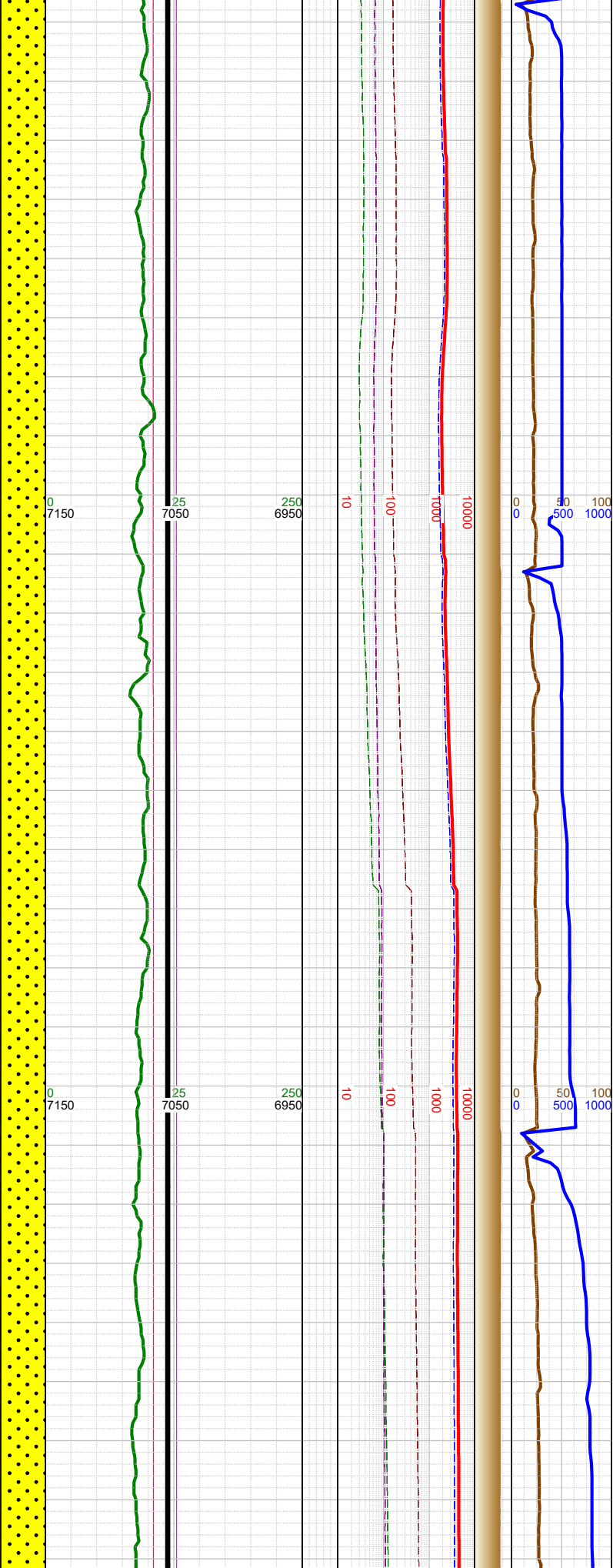
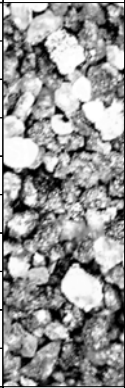




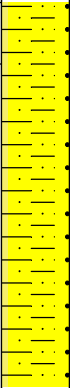




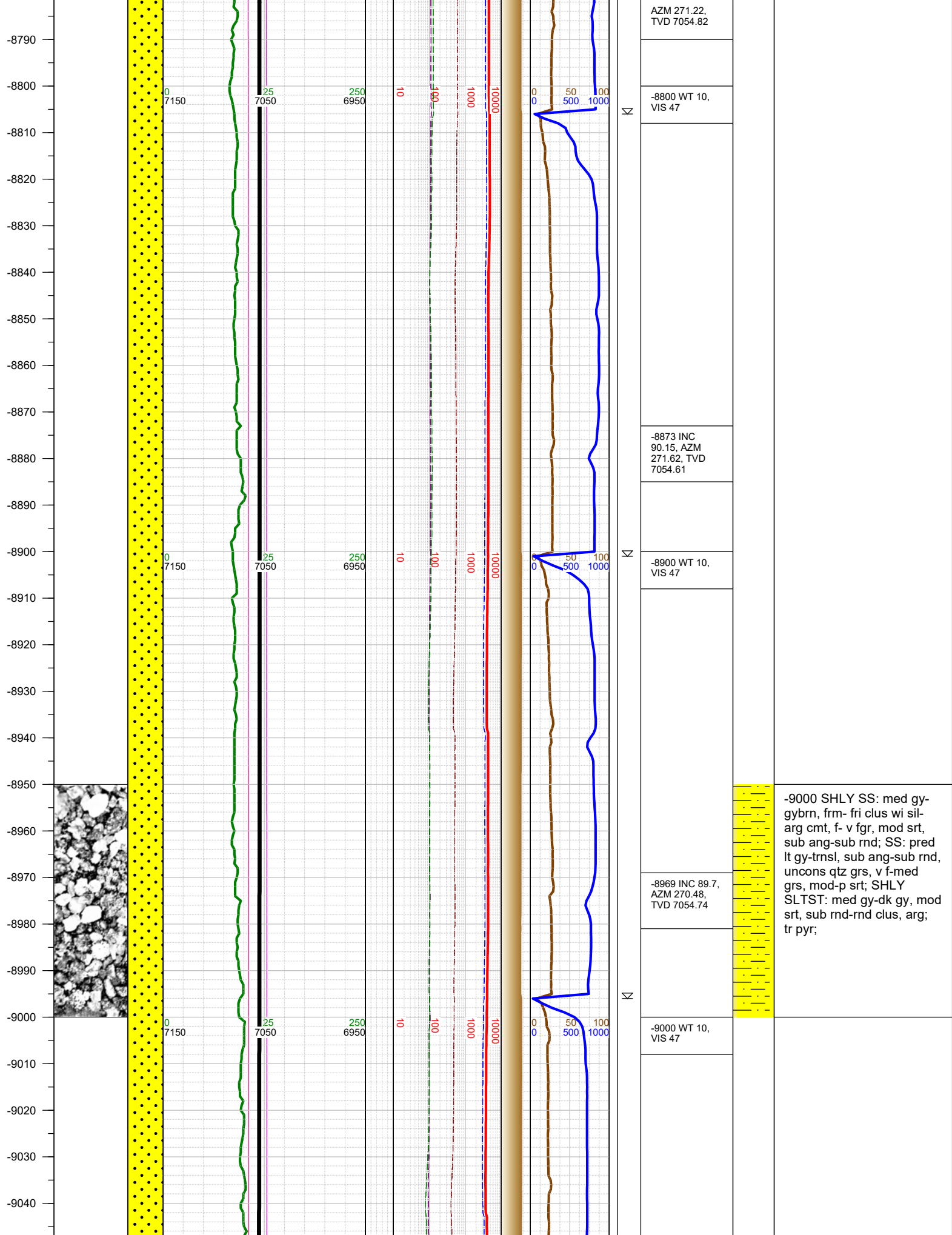
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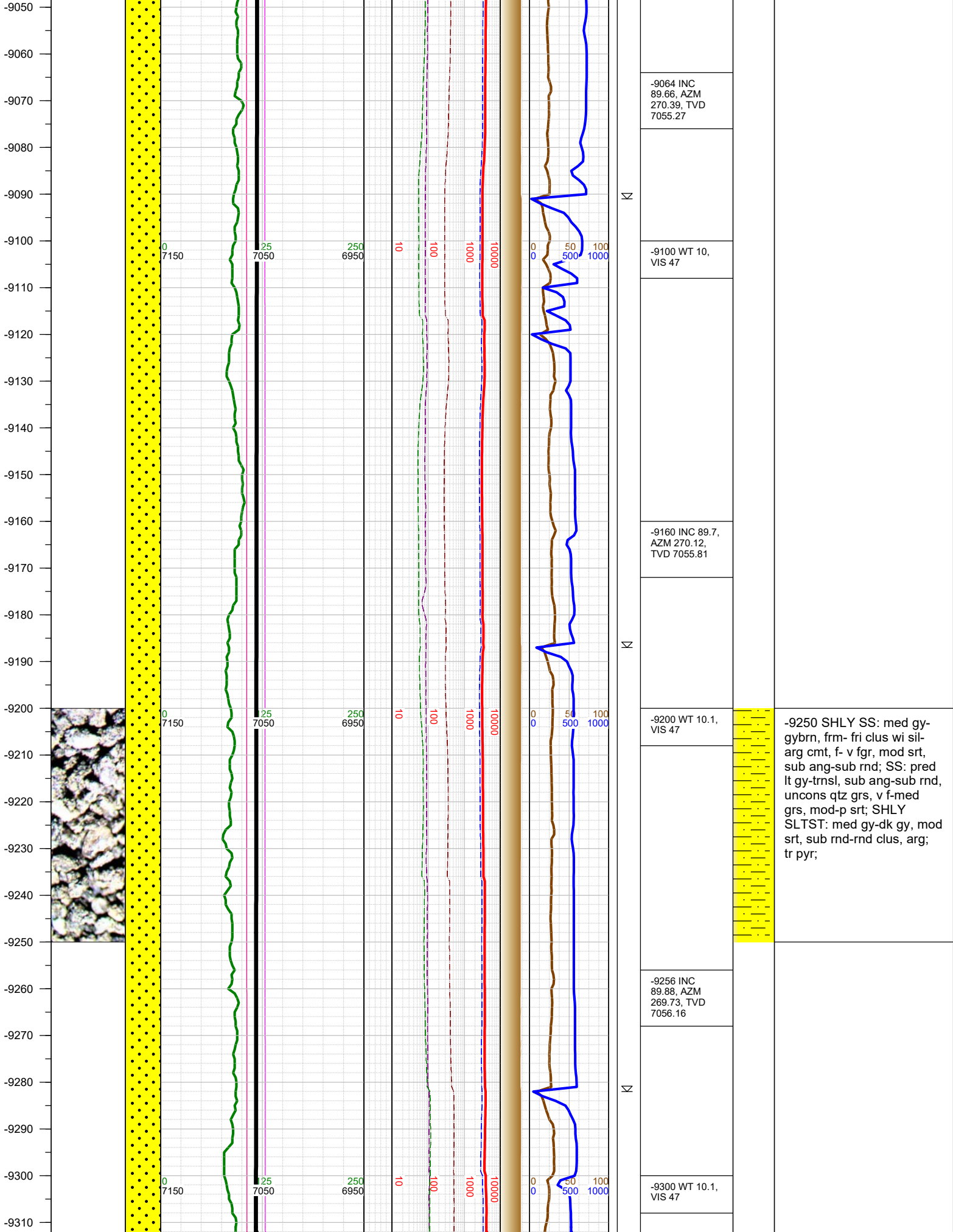


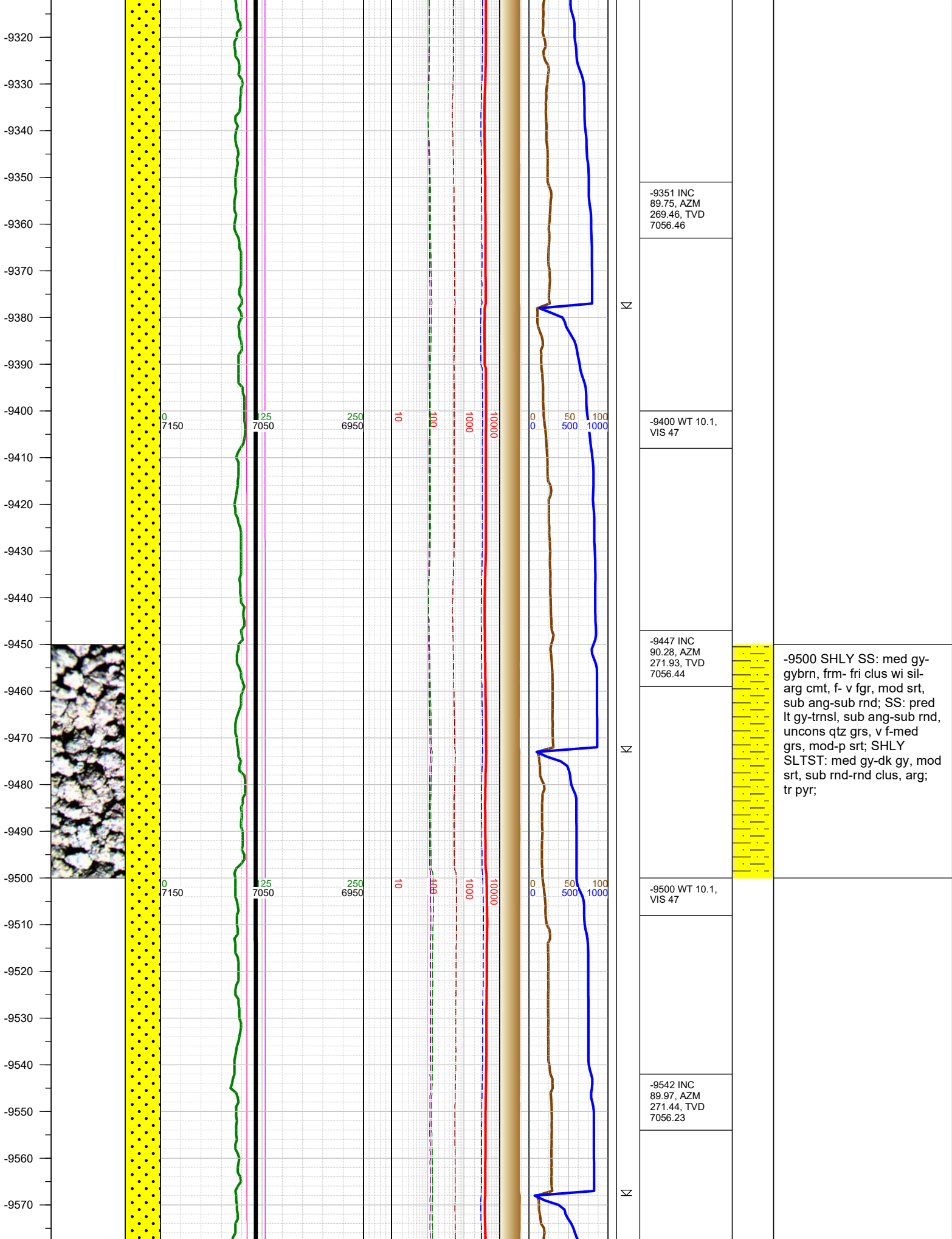
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		-8600 WT 10, VIS 48
X		
		-8683 INC 89.93, AZM 270.92, TVD 7054.85
		-8700 WT 10, VIS 47
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		-8778 INC 90.1,

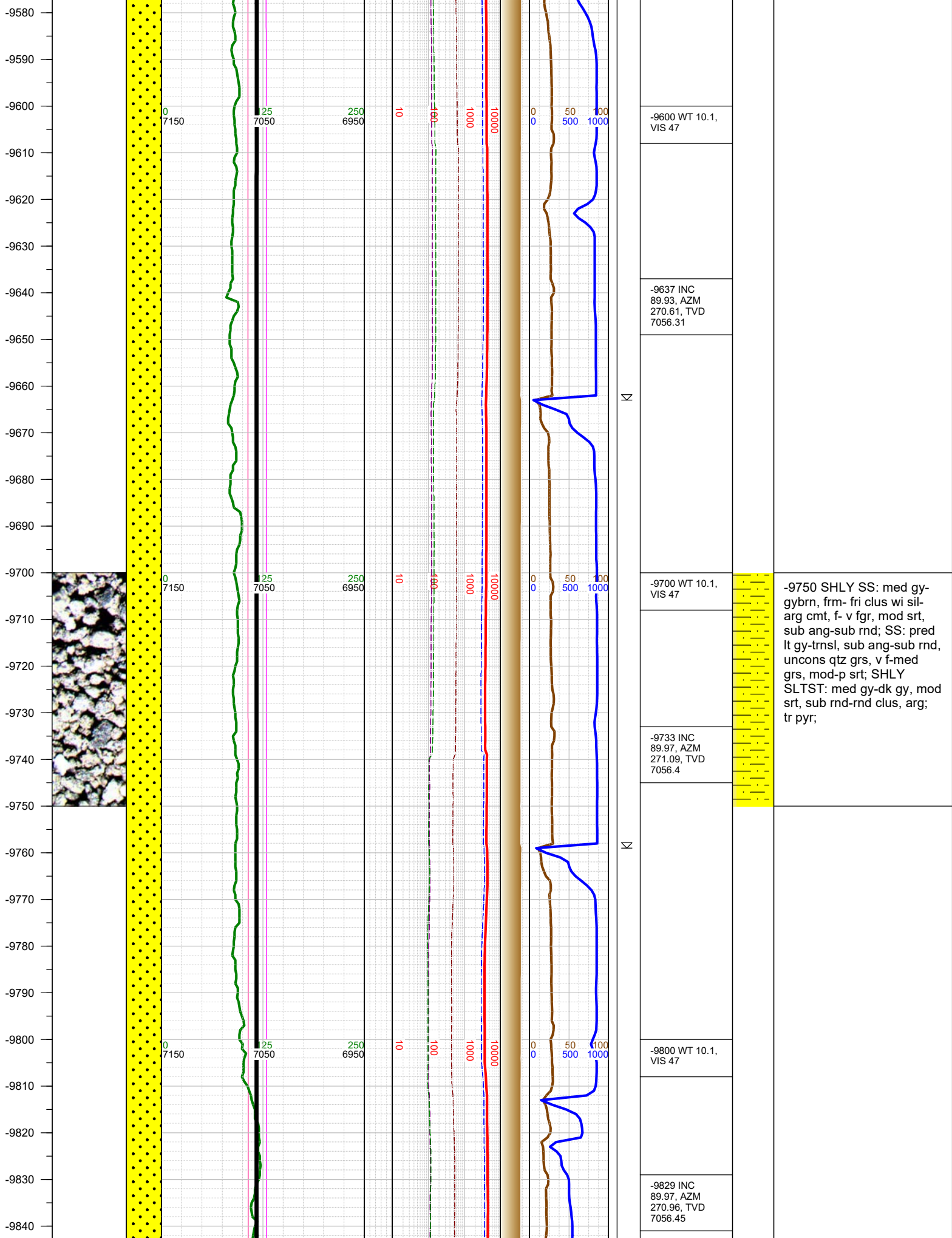


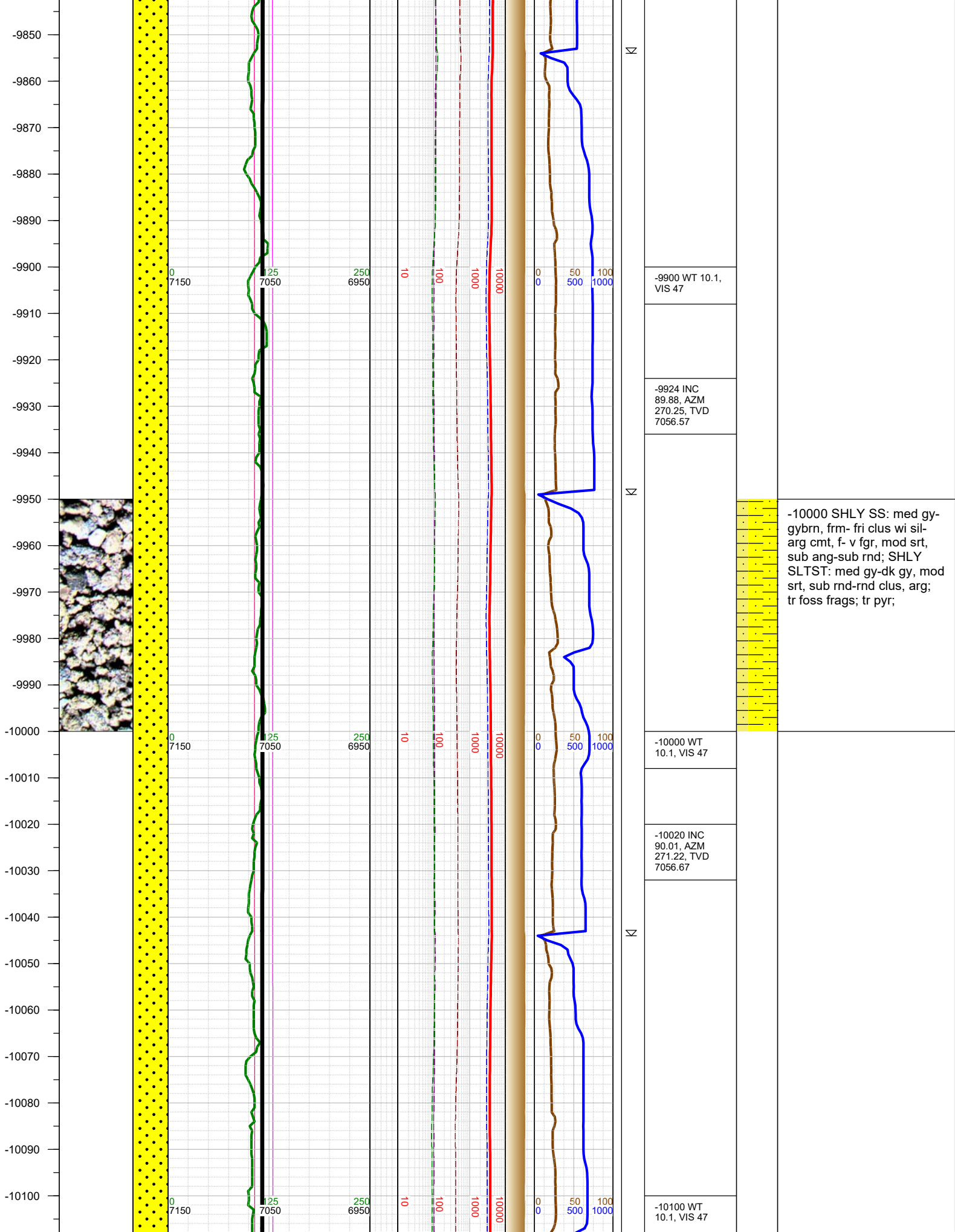
-8750 SHLY SS: med gy-gybrn, frm- fri clus wi sil-arg cmt, f- v fgr, mod srt, sub ang-sub rnd; SS: pred lt gy-trnsl, sub ang-sub rnd, uncons qtz grs, v f-med grs, mod-p srt; SHLY SLTST: med gy-dk gy, mod srt, sub rnd-rnd clus, arg;



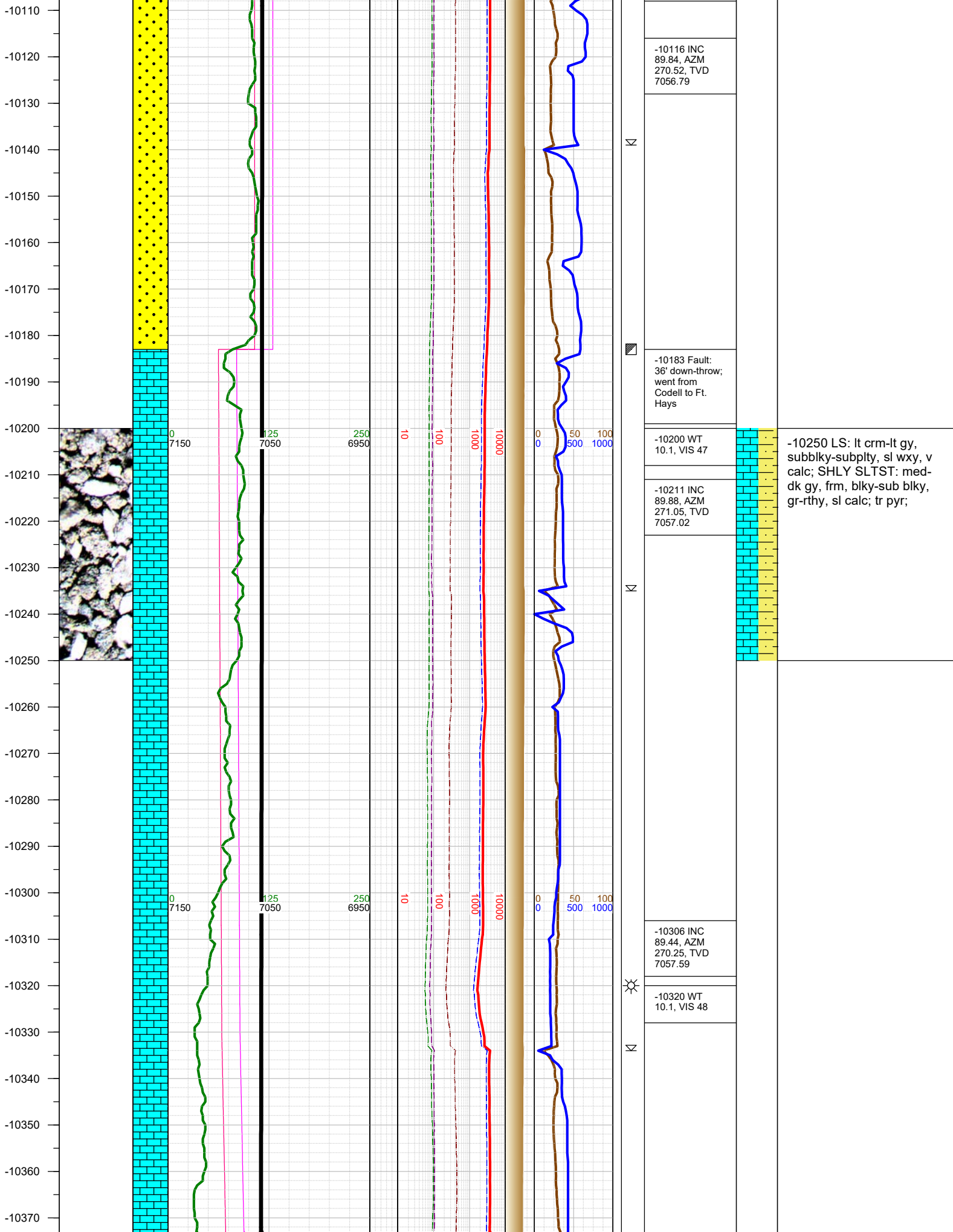


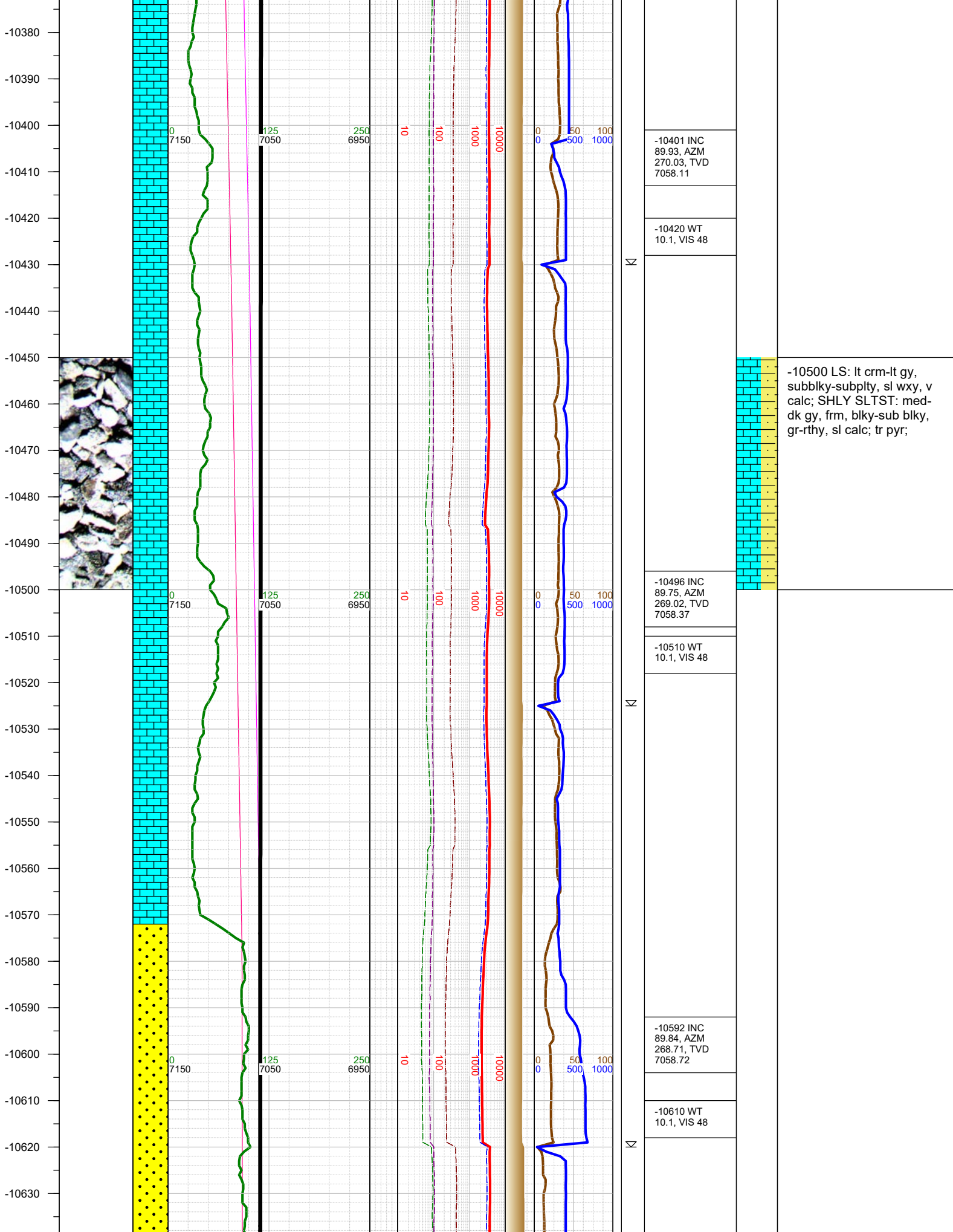


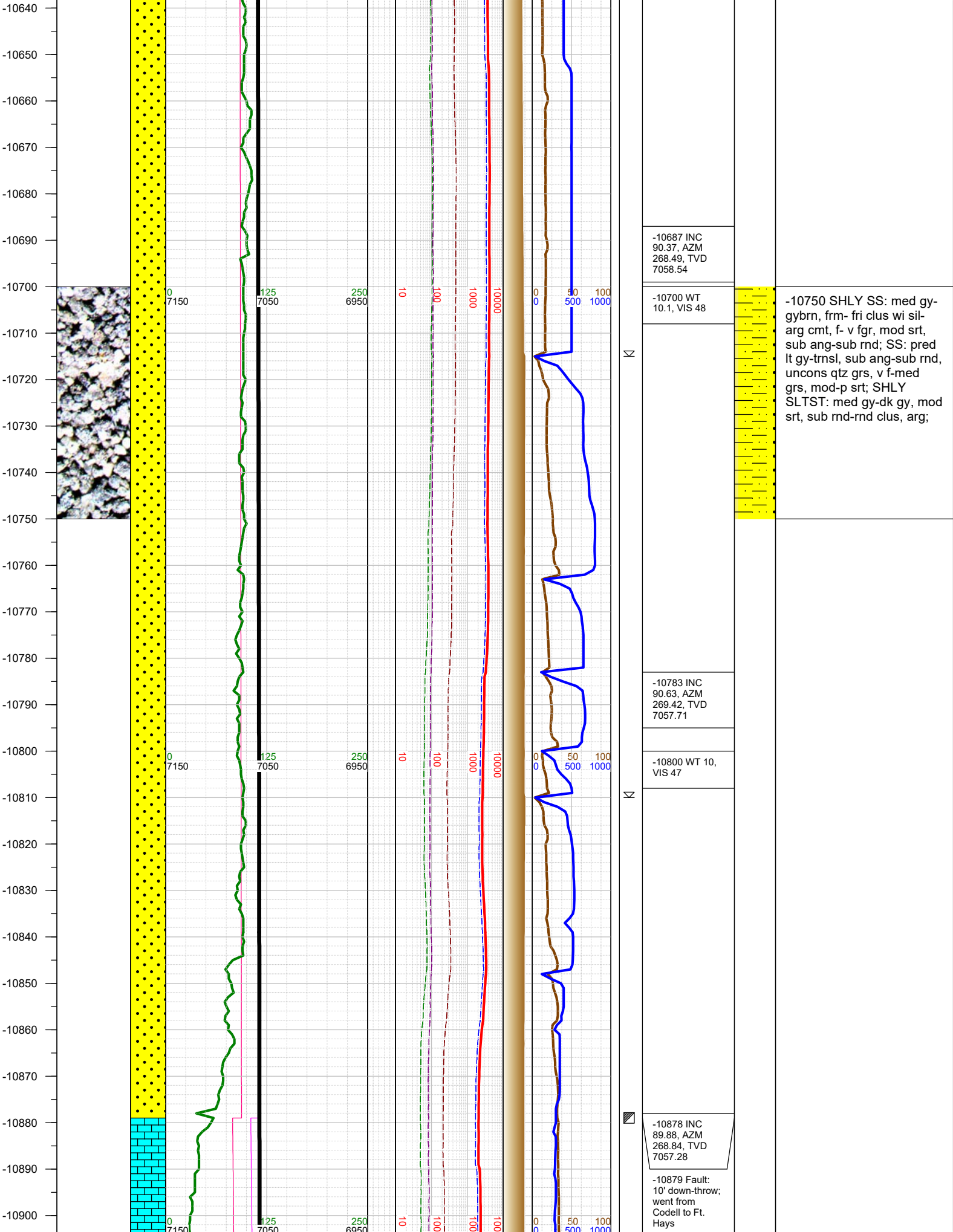




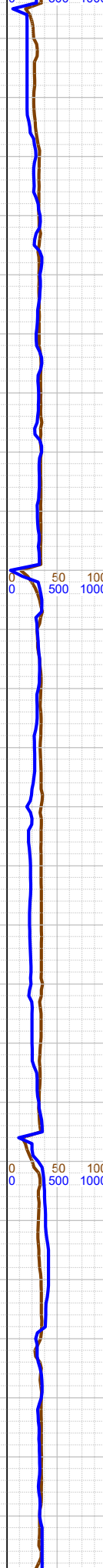
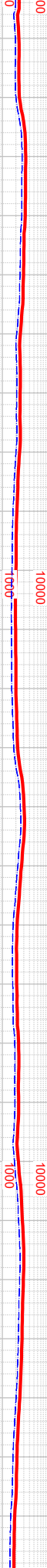
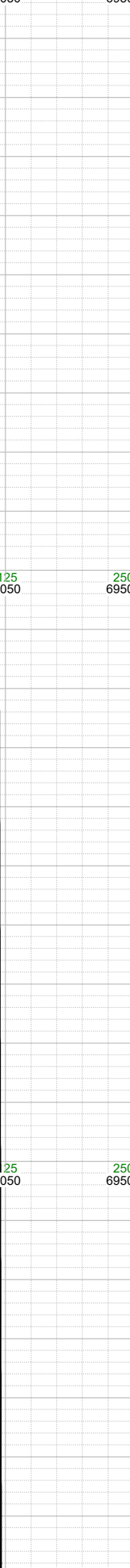
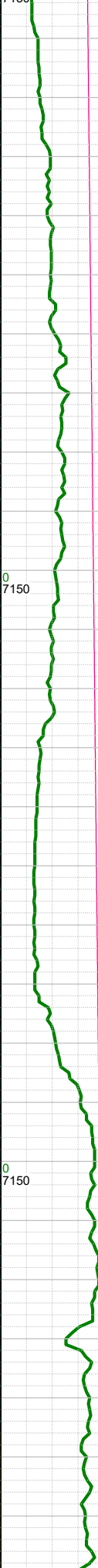
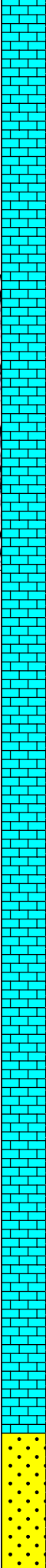
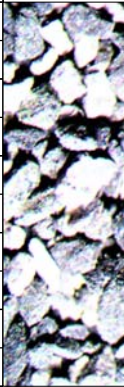
-10000 SHLY SS: med gy-gybrn, frm- fri clus wi sil-arg cmt, f- v fgr, mod srt, sub ang-sub rnd; SHLY SLTST: med gy-dk gy, mod srt, sub rnd-rnd clus, arg; tr foss frags; tr pyr;







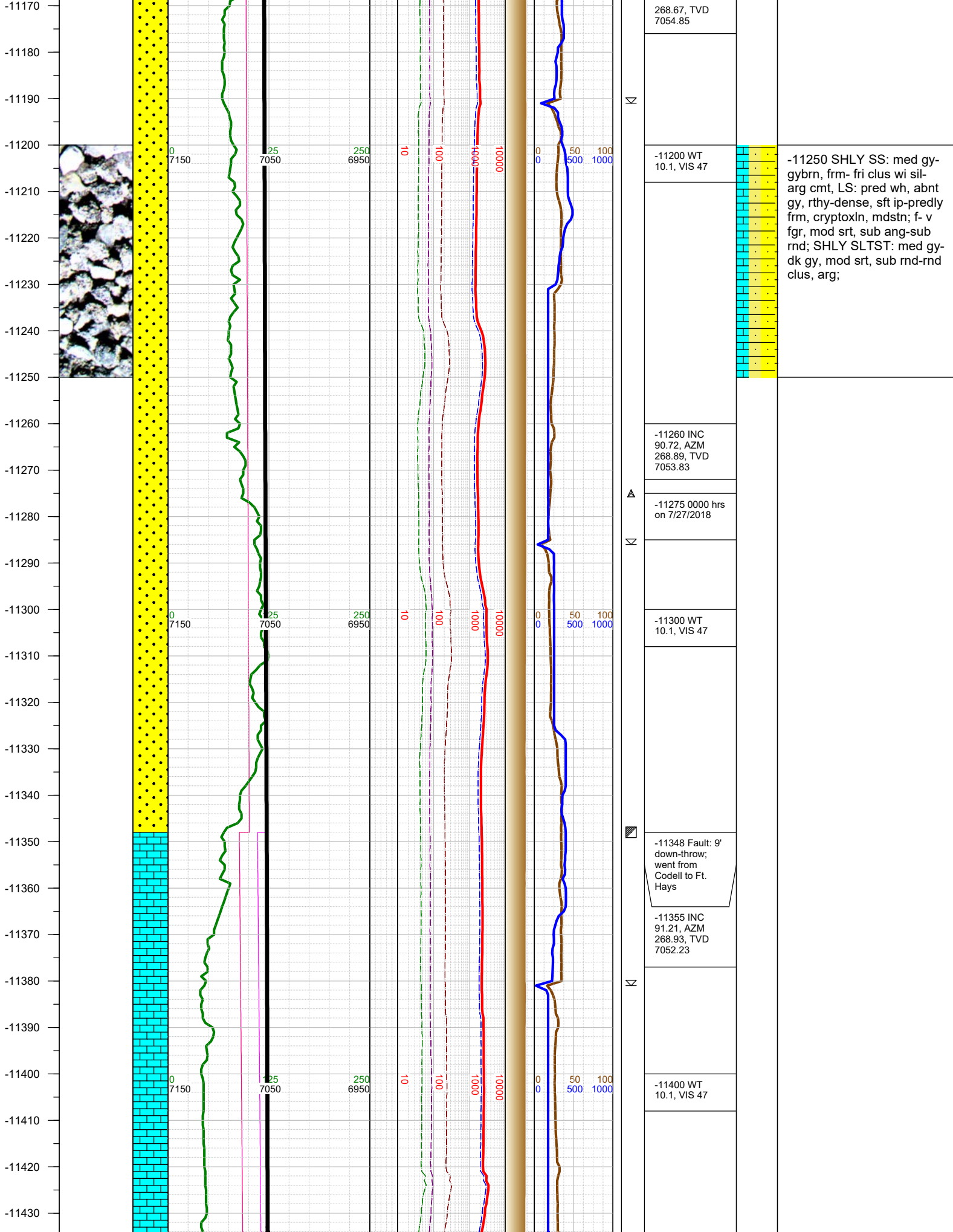
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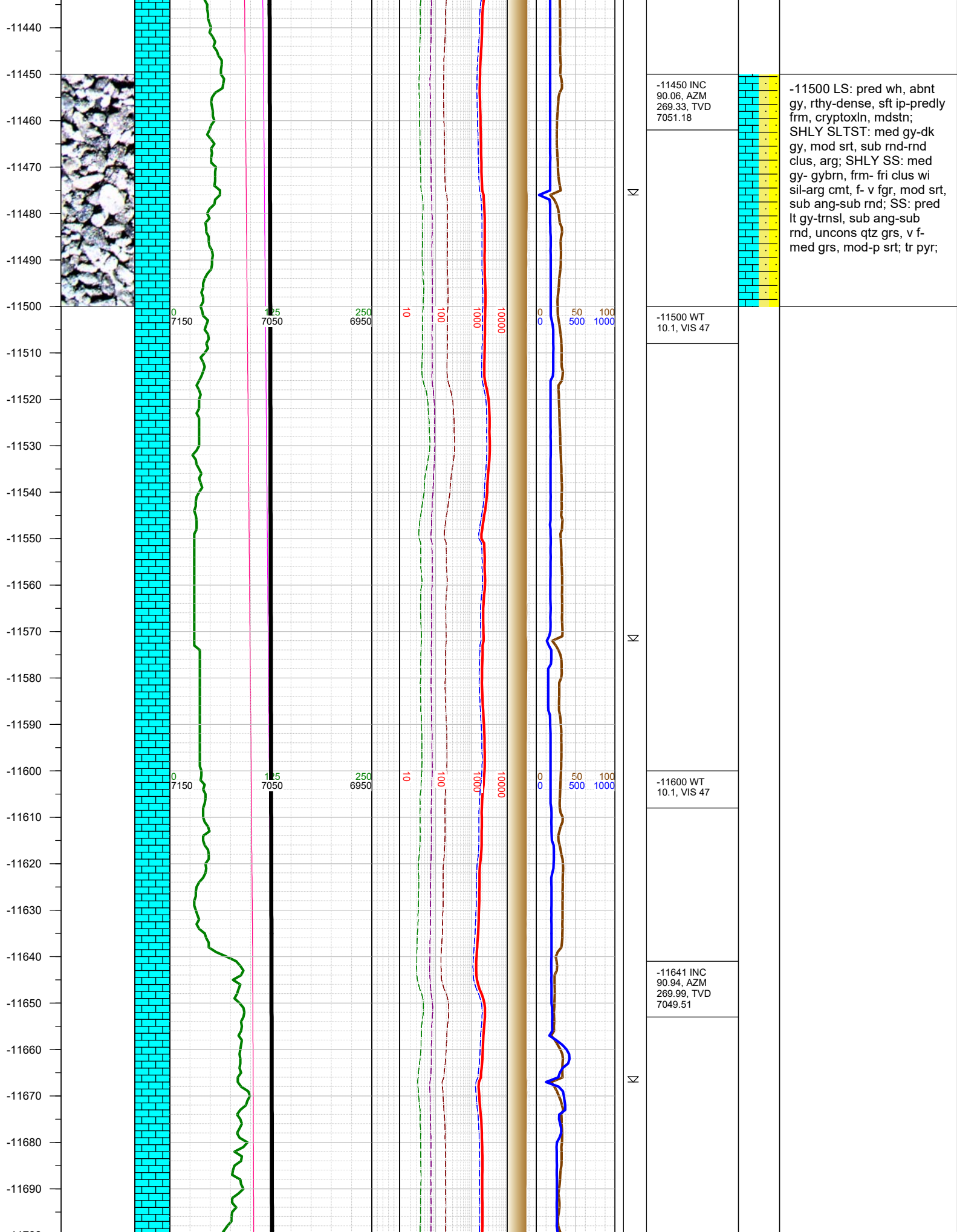


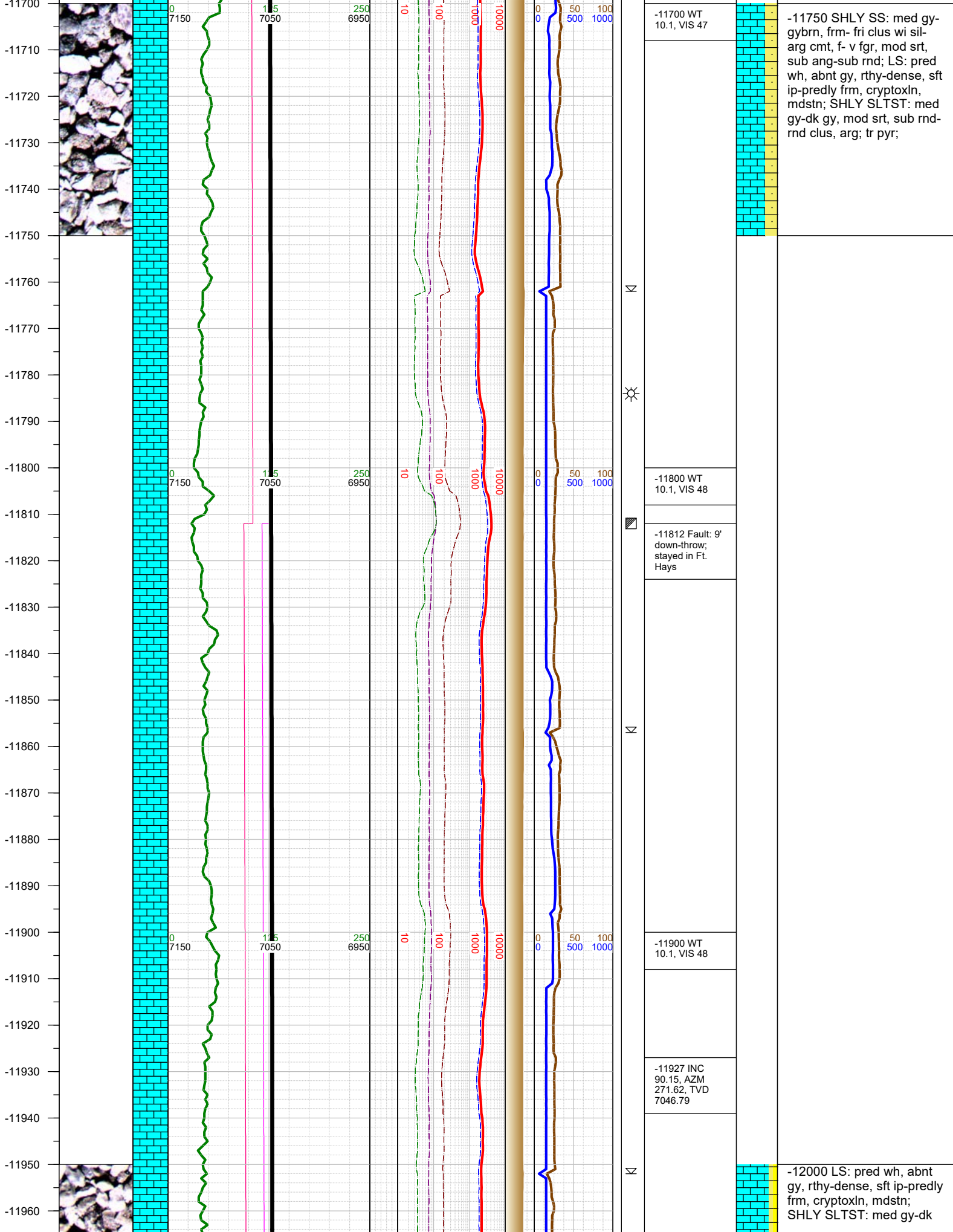
-10910 WT 10, VIS 47
-10973 INC 90.68, AZM 268.71, TVD 7056.82
-11000 WT 10.1, VIS 47
-11100 WT 10.1, VIS 47
-11164 INC 90.5, AZM



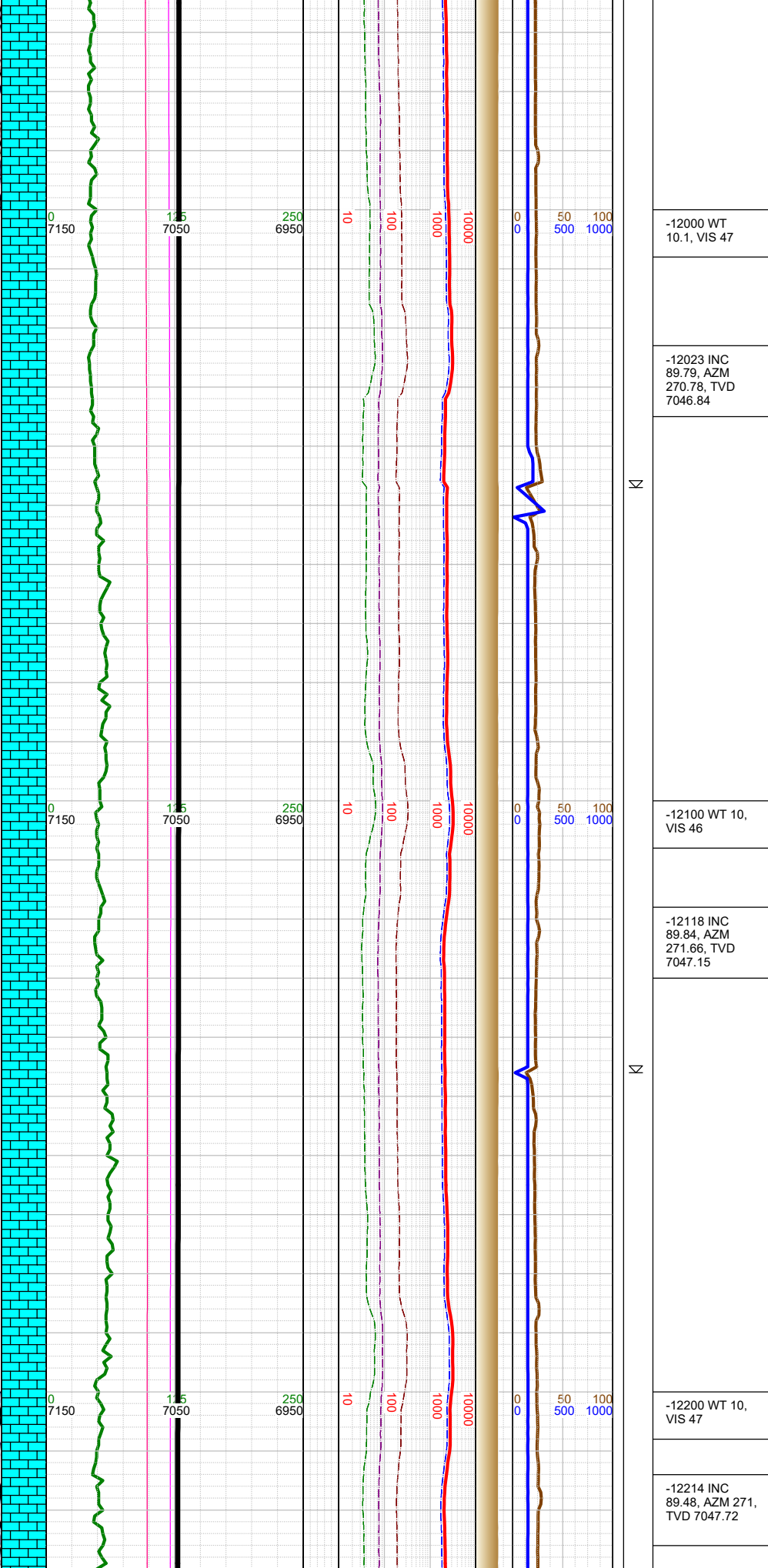
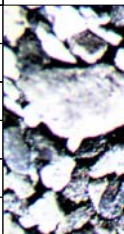
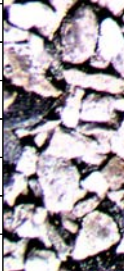
-11000 LS: lt crm-lt gy,
subblky-subplty, sl wxy, v
calc; SHLY SLTST: med-
dk gy, frm, blk-sub blk,
gr-rthy, sl calc; tr pyr;







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gy, mod srt, sub rnd-rnd
clus, arg; SHLY SS: med
gy- gybrn, frm- fri clus wi
sil-arg cmt, f- v fgr, mod srt,
sub ang-sub rnd; tr pyr;

-12000 WT
10.1, VIS 47

-12023 INC
89.79, AZM
270.78, TVD
7046.84

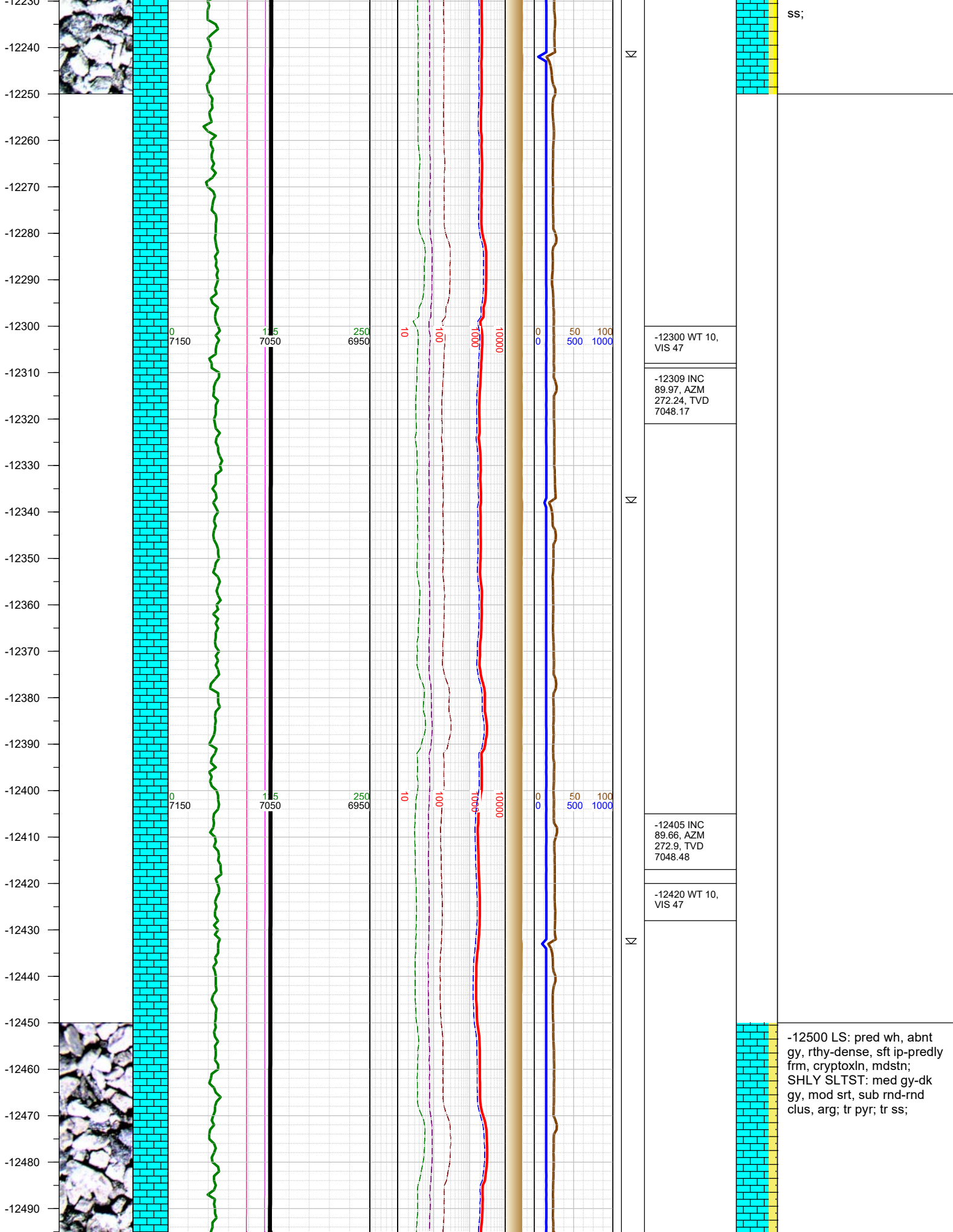
-12100 WT 10,
VIS 46

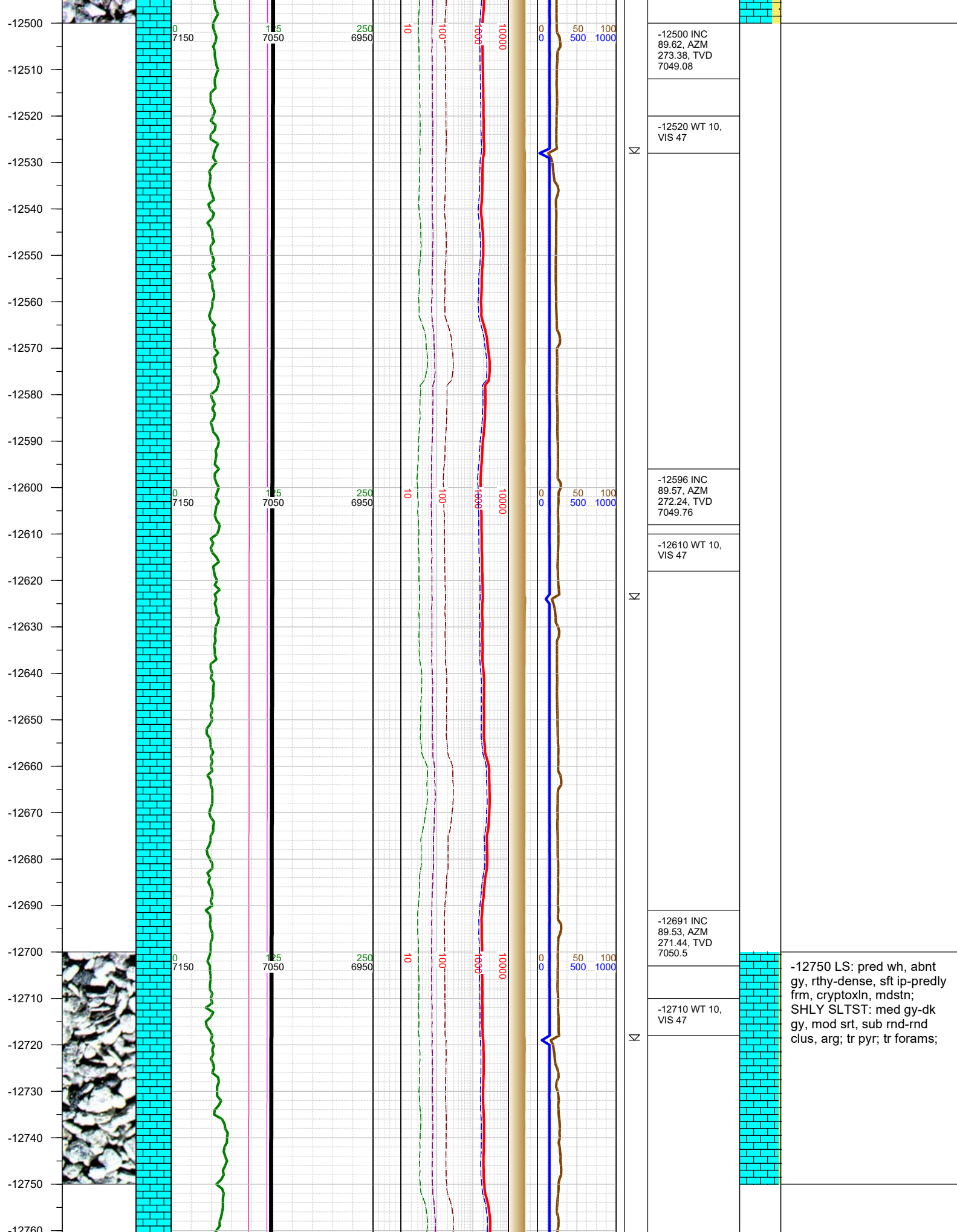
-12118 INC
89.84, AZM
271.66, TVD
7047.15

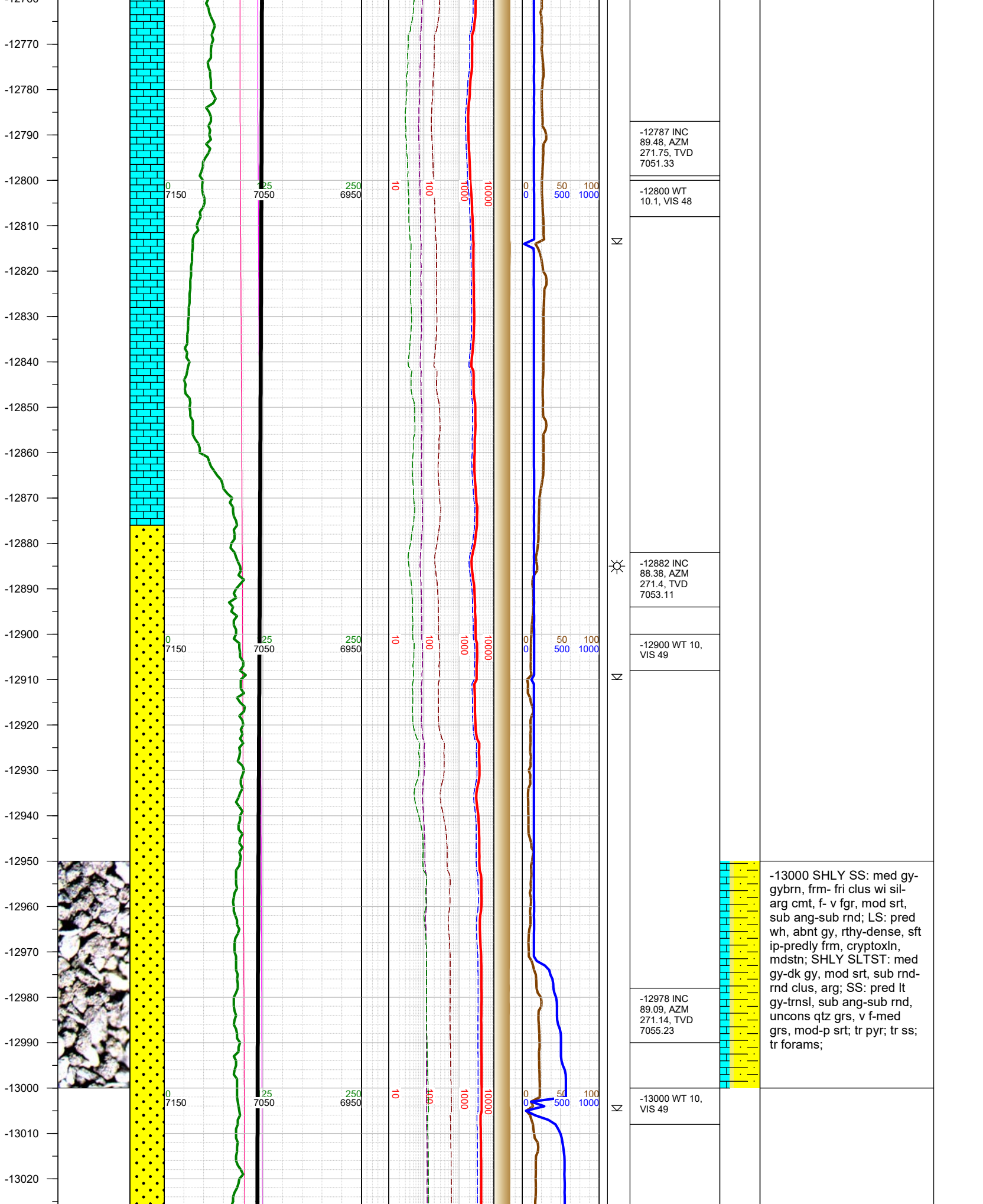
-12200 WT 10,
VIS 47

-12214 INC
89.48, AZM 271,
TVD 7047.72

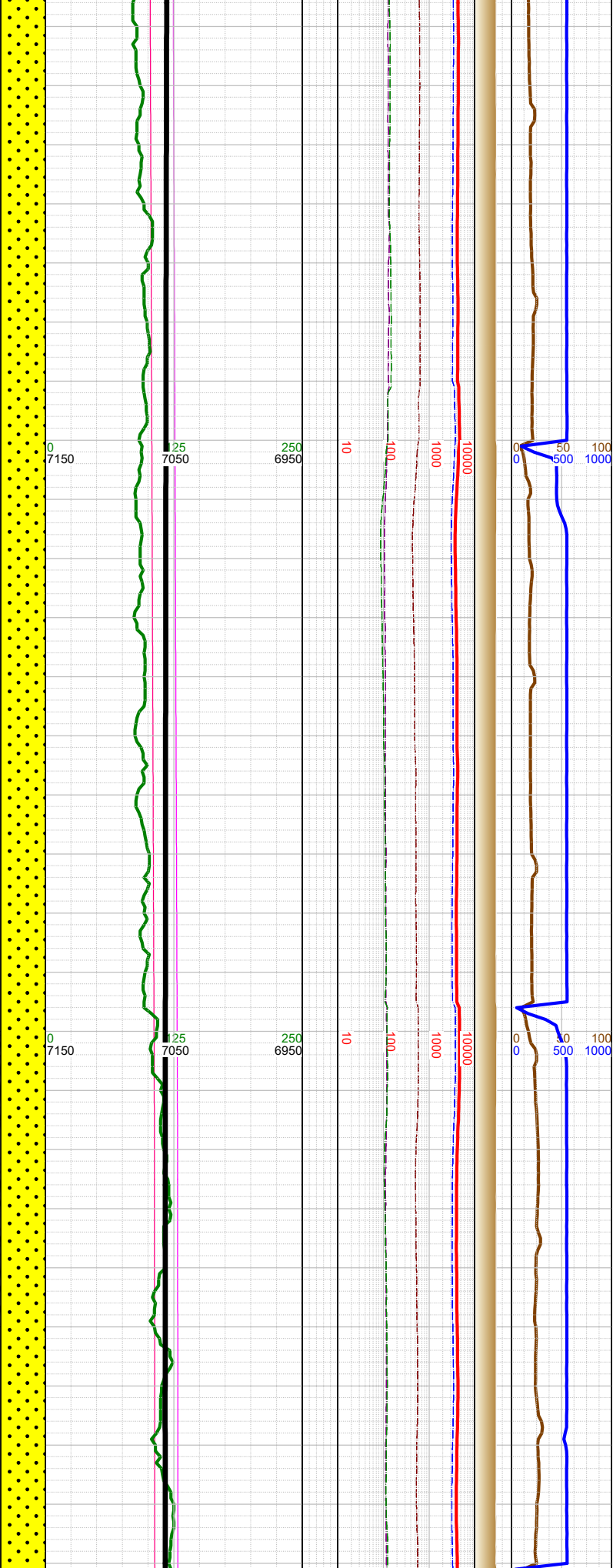
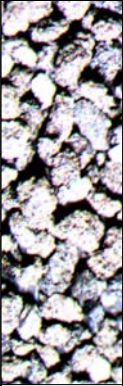
-12250 LS: pred wh, abnt
gy, rthy-dense, sft ip-predly
frm, cryptoxln, mdstn;
SHLY SLTST: med gy-dk
gy, mod srt, sub rnd-rnd
clus, arg; SHLY SS: med
gy- gybrn, frm- fri clus wi
sil-arg cmt, f- v fgr, mod srt,
sub ang-sub rnd; tr pyr; tr







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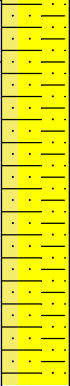
-13074 INC
89.84, AZM
271.49, TVD
7056.12

-13100 WT 10,
VIS 49

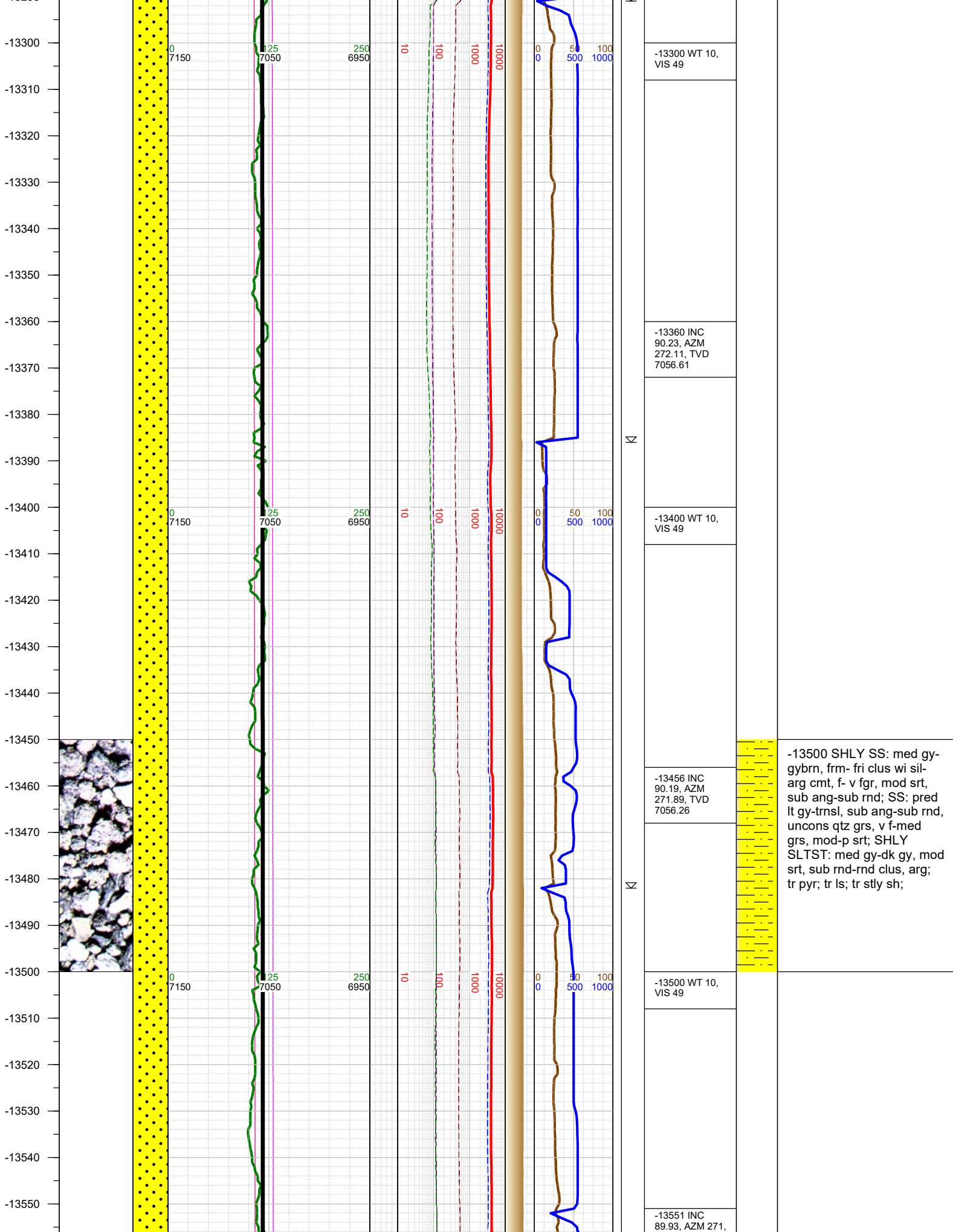
-13169 INC
89.57, AZM
271.09, TVD
7056.61

-13200 WT 10,
VIS 49

-13264 INC
90.1, AZM
271.84, TVD
7056.89



-13250 SHLY SS: med gy-
gybrn, frm- fri clus wi sil-
arg cmt, f- v fgr, mod srt,
sub ang-sub rnd; SHLY
SLTST: med gy-dk gy, mod
srt, sub rnd-rnd clus, arg;
SS: pred lt gy-trnsl, sub
ang-sub rnd, uncons qtz
grs, v f-med grs, mod-p srt;
tr pyr; tr ls;



-13300 WT 10,
VIS 49

-13360 INC
90.23, AZM
272.11, TVD
7056.61

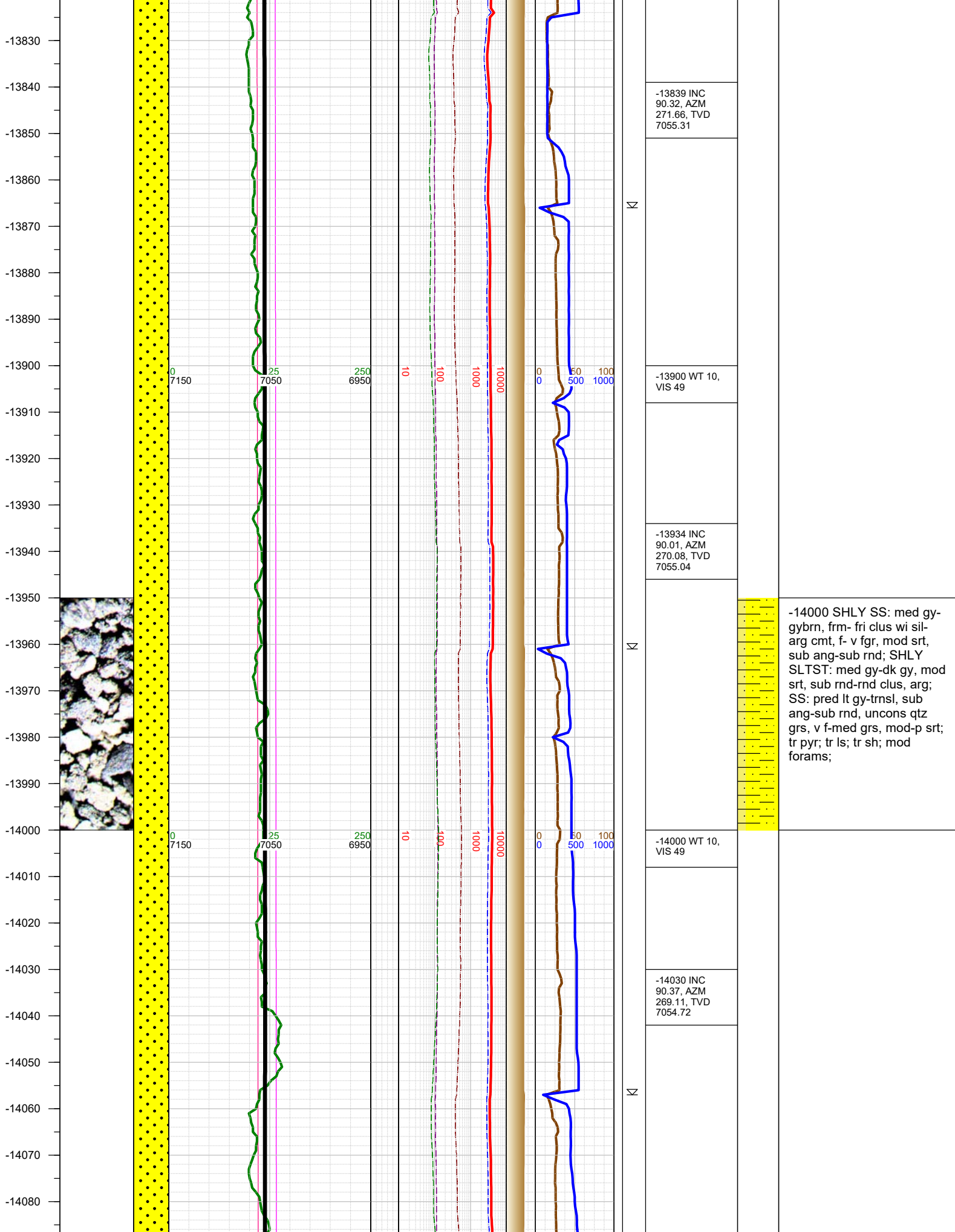
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VIS 49

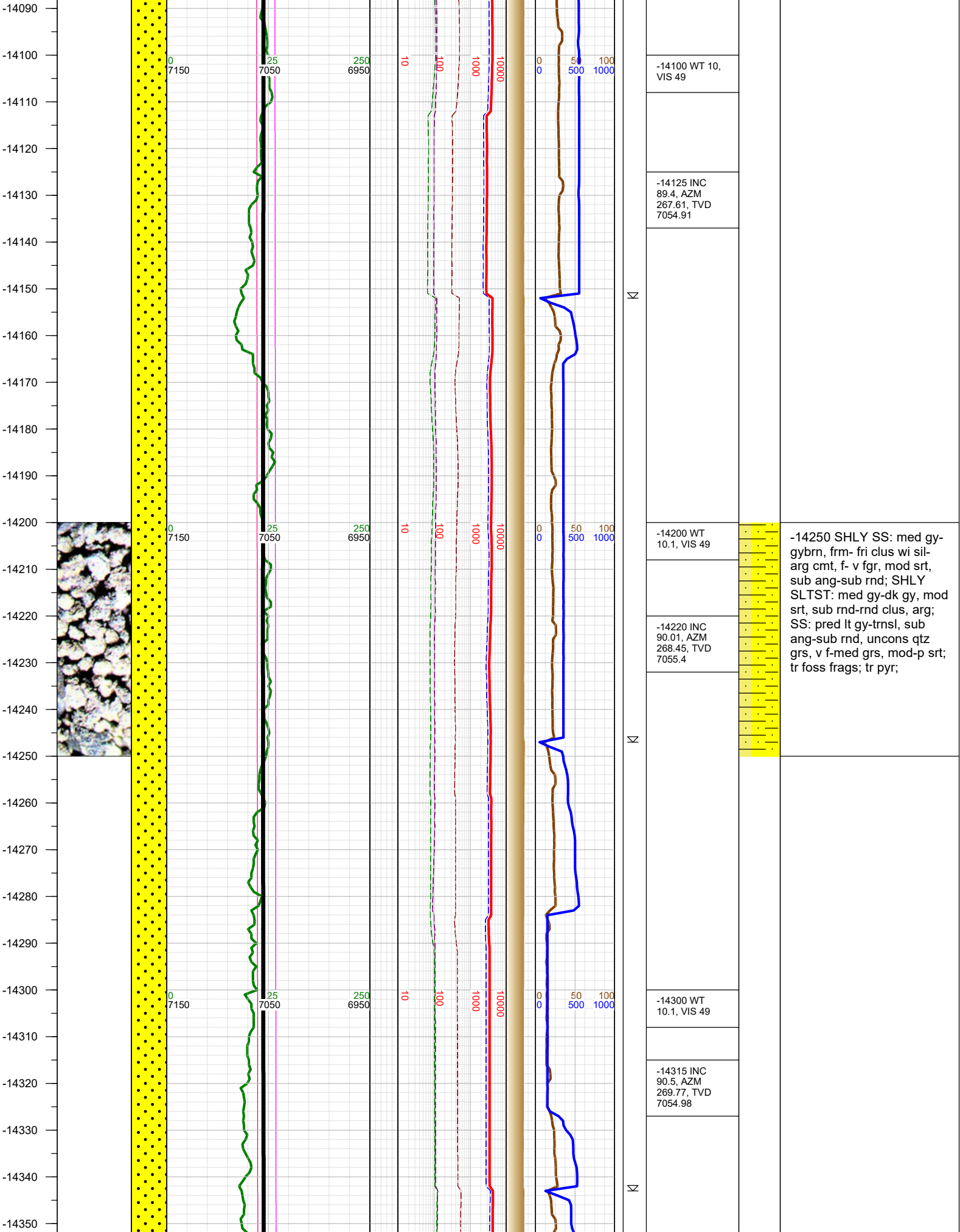
-13456 INC
90.19, AZM
271.89, TVD
7056.26

-13500 WT 10,
VIS 49

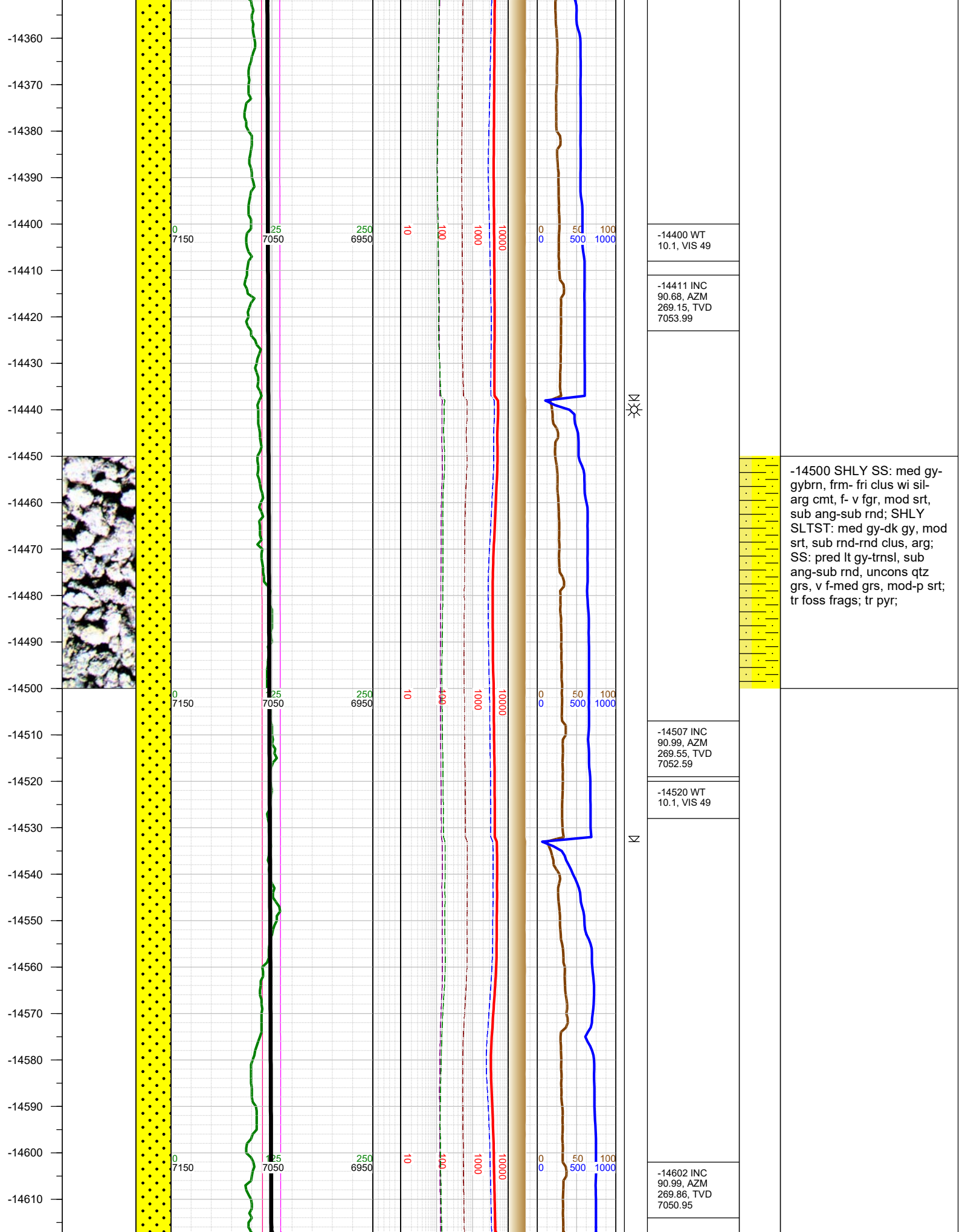
-13551 INC
89.93, AZM 271,

-13500 SHLY SS: med gy-gybrn, frm- fri clus wi sil-arg cmt, f- v fgr, mod srt, sub ang-sub rnd; SS: pred lt gy-trnsl, sub ang-sub rnd, unconsl qtz grs, v f-med grs, mod-p srt; SHLY SLTST: med gy-dk gy, mod srt, sub rnd-rnd clus, arg; tr pyr; tr ls; tr stly sh;

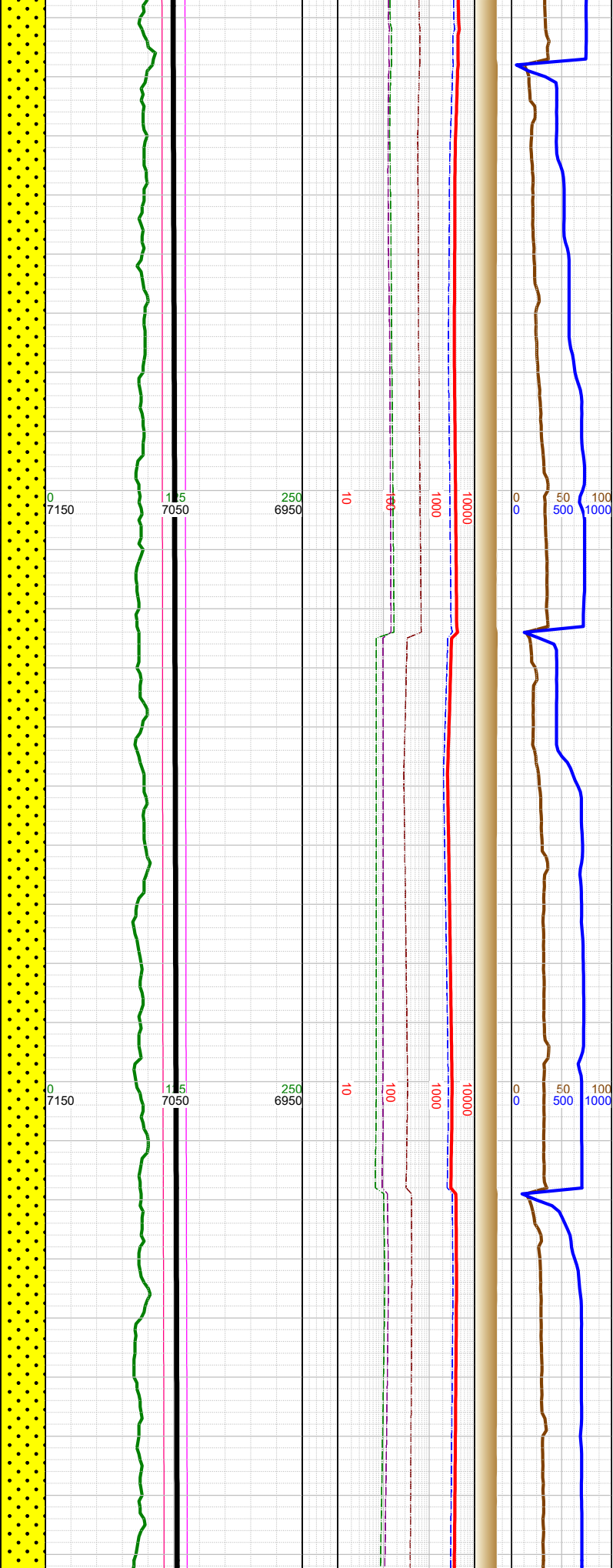




-14250 SHLY SS: med gy-gybrn, frm- fri clus wi sil-arg cmt, f- v fgr, mod srt, sub ang-sub rnd; SHLY SLTST: med gy-dk gy, mod srt, sub rnd-rnd clus, arg; SS: pred lt gy-trnsl, sub ang-sub rnd, uncons qtz grs, v f-med grs, mod-p srt; tr foss frags; tr pyr;

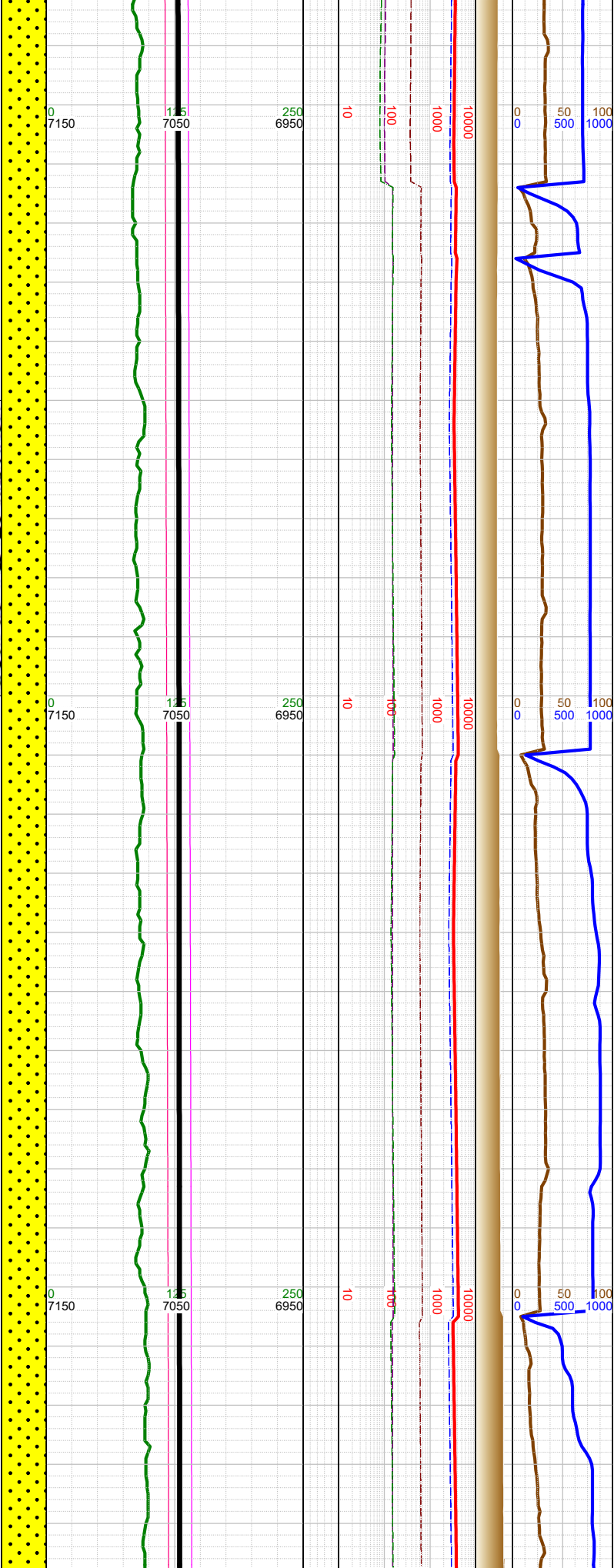
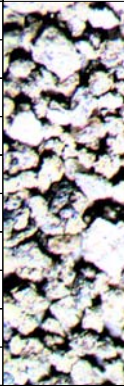


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N	-14620 WT 10.1, VIS 48		
N	-14697 INC 90.68, AZM 269.46, TVD 7049.56		-14750 SHLY SS: med gy- gybrn, frm- fri clus wi sil- arg cmt, f- v fgr, mod srt, sub ang-sub rnd; SS: pred lt gy-trnsl, sub ang-sub rnd, uncons qtz grs, v f-med grs, mod-p srt; SHLY SLTST: med gy-dk gy, mod srt, sub rnd-rnd clus, arg; tr pyr;
	-14710 WT 10.1, VIS 48		
N	-14793 INC 90.59, AZM 269.42, TVD 7048.5		
	-14810 WT 10.1, VIS 48		

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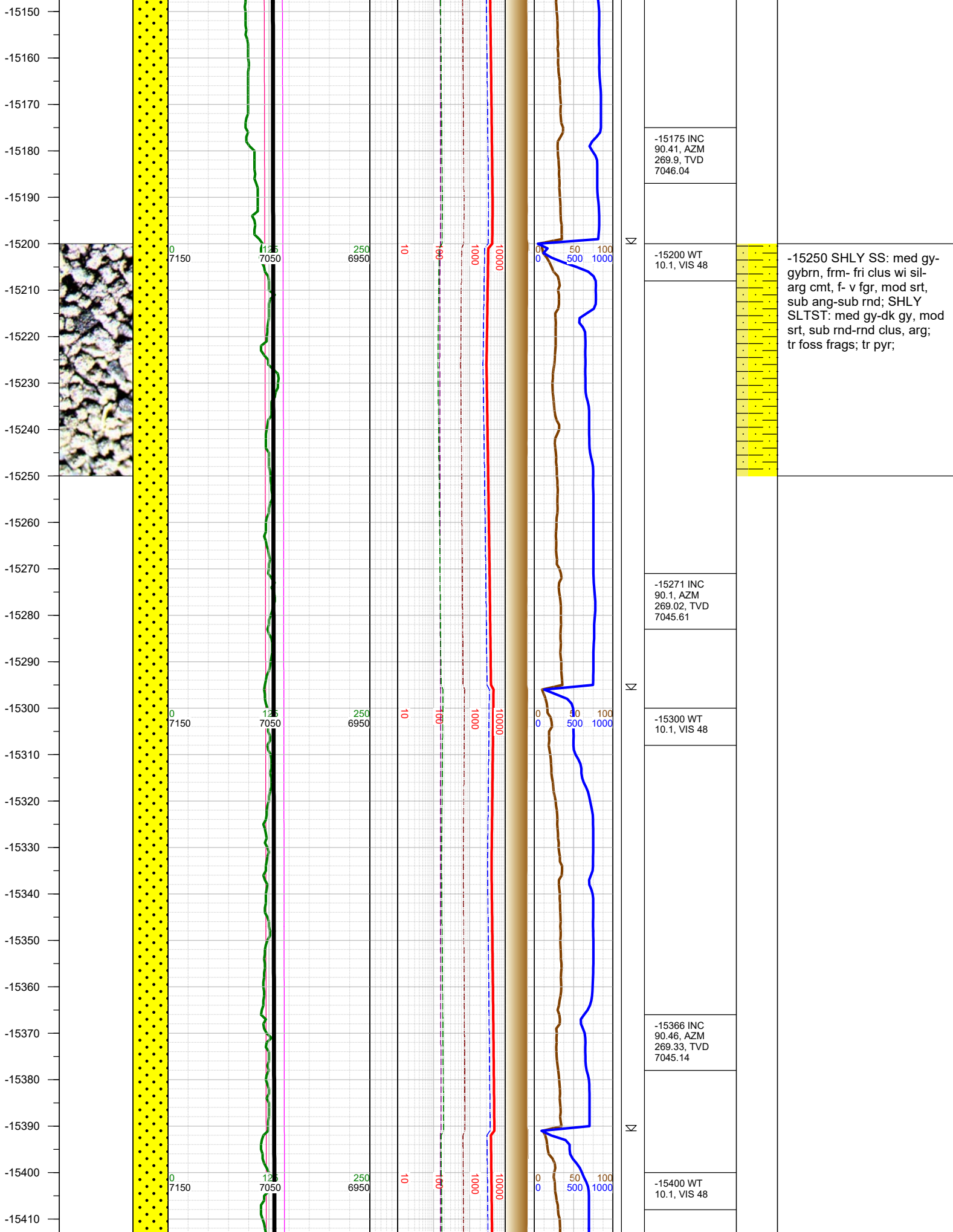
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-14888 INC 90.68, AZM 269.24, TVD 7047.45
-14900 WT 10.1, VIS 48
-14984 INC 90.15, AZM 268.67, TVD 7046.75
-15000 WT 10.1, VIS 48
-15080 INC 90.15, AZM 268.71, TVD 7046.5
-15100 WT 10.1, VIS 48



-15000 SHLY SS: med gy-gybrn, frm- fri clus wi sil-arg cmt, f- v fgr, mod srt, sub ang-sub rnd; SS: pred lt gy-trnsl, sub ang-sub rnd, uncons qtz grs, v f-med grs, mod-p srt; SHLY SLTST: med gy-dk gy, mod srt, sub rnd-rnd clus, arg; tr pyr;



-15175 INC
90.41, AZM
269.9, TVD
7046.04

-15200 WT
10.1, VIS 48

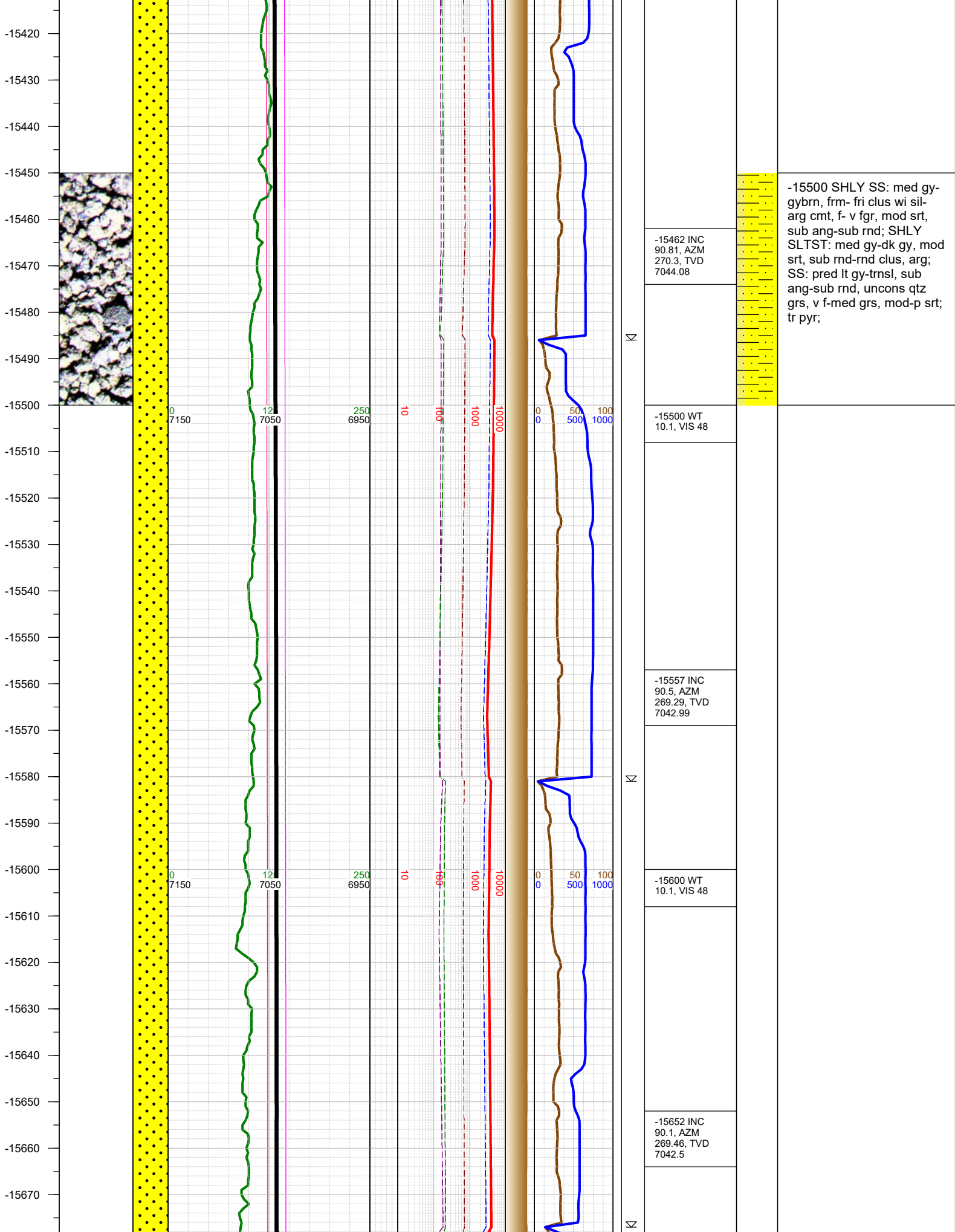
-15271 INC
90.1, AZM
269.02, TVD
7045.61

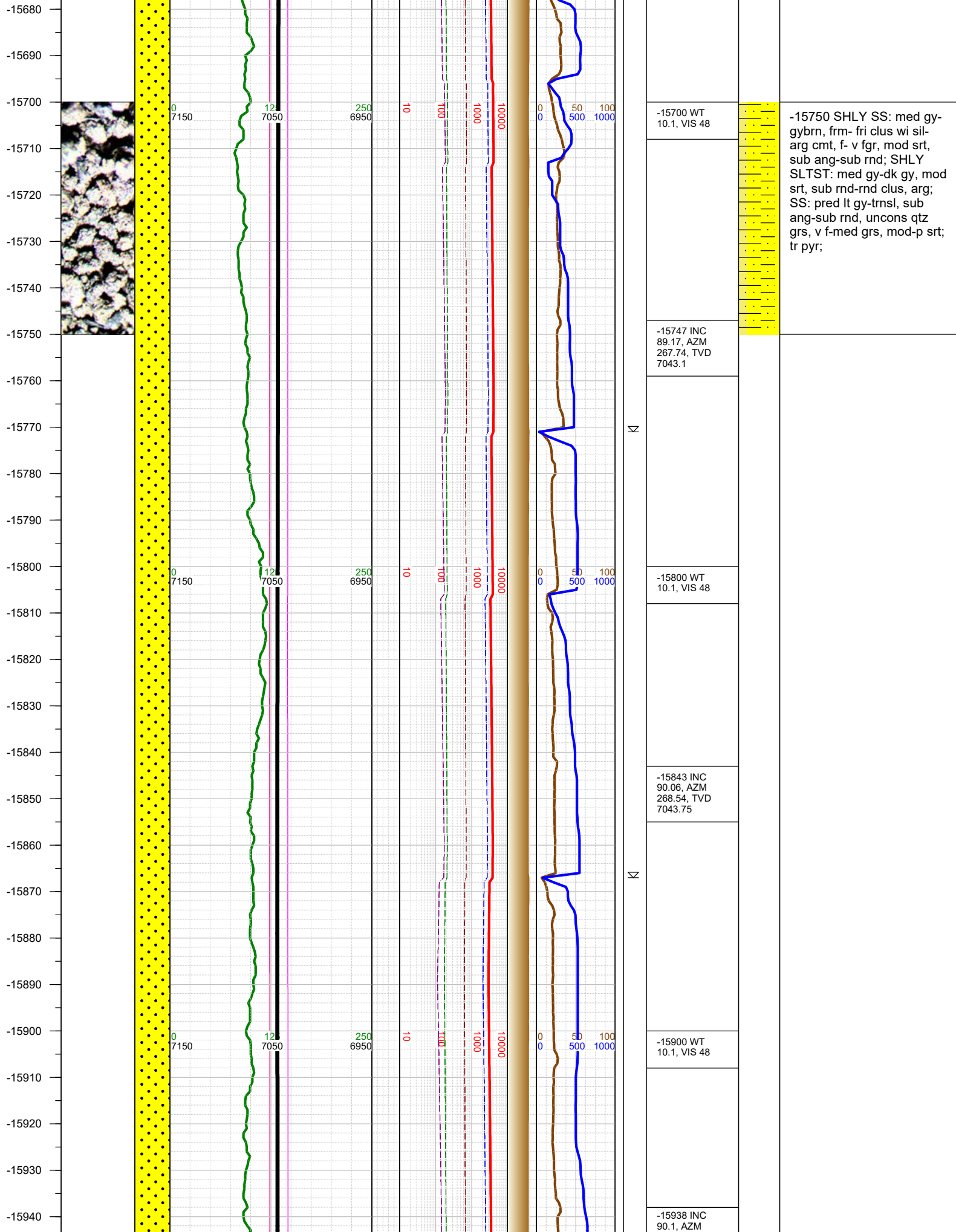
-15300 WT
10.1, VIS 48

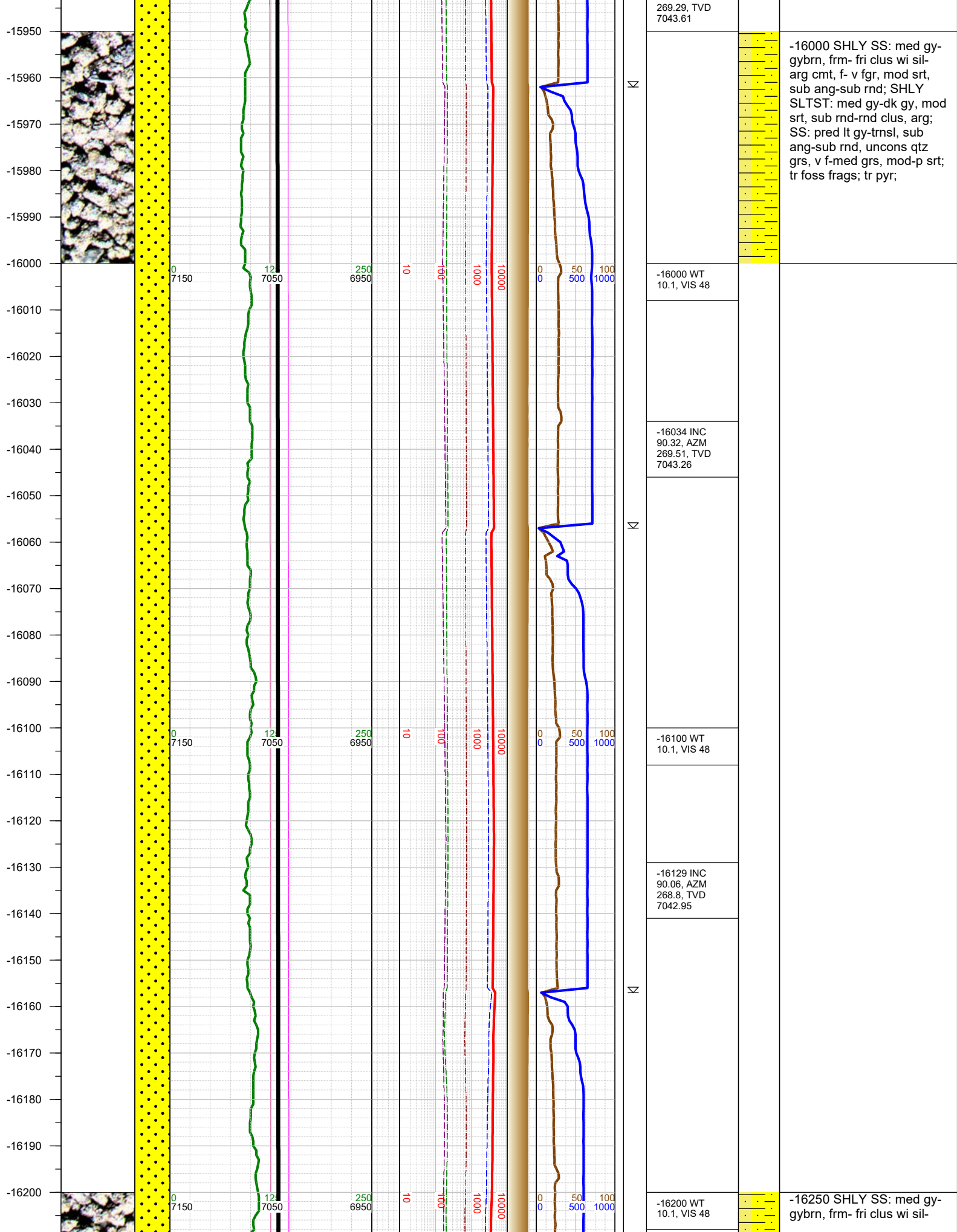
-15366 INC
90.46, AZM
269.33, TVD
7045.14

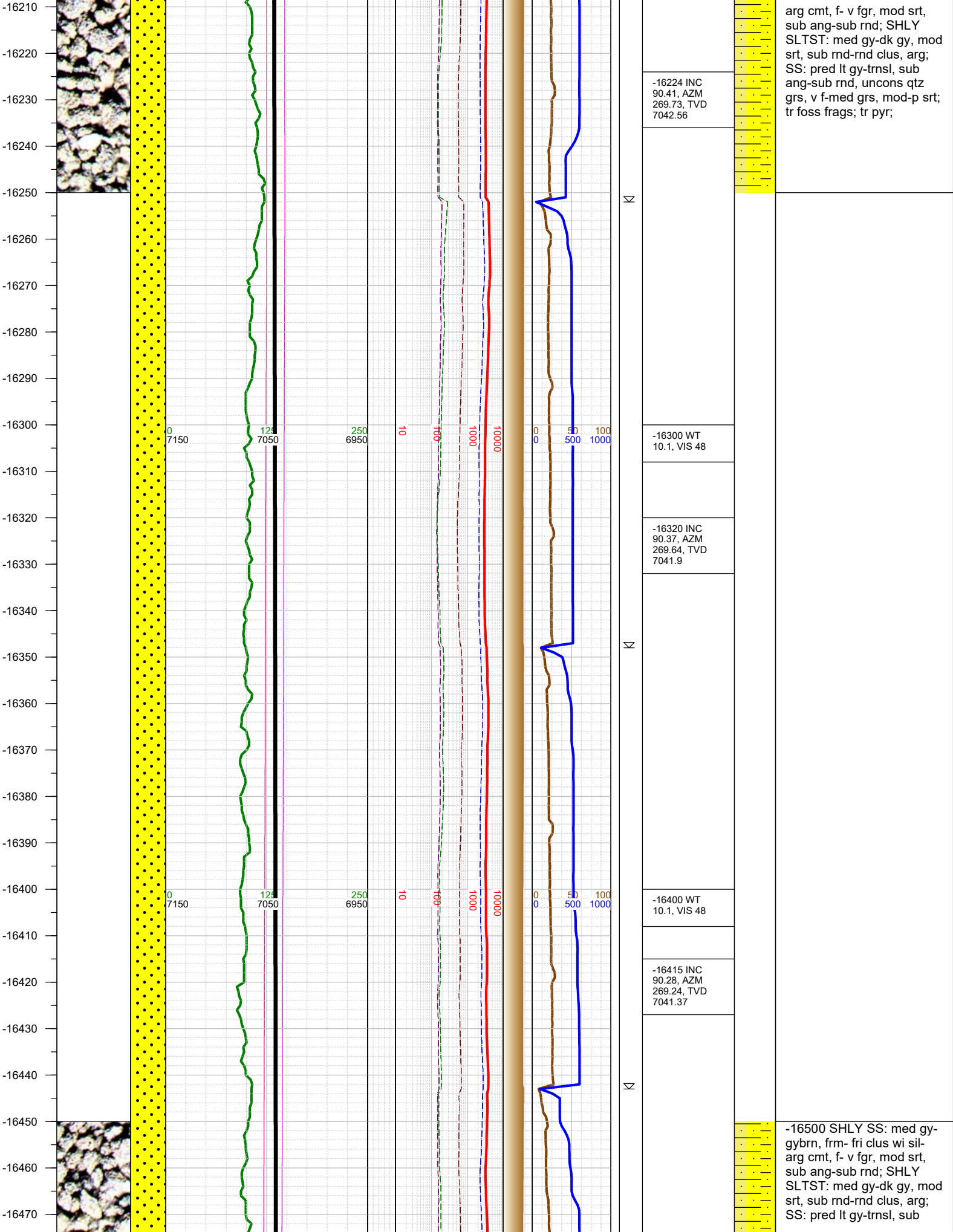
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10.1, VIS 48

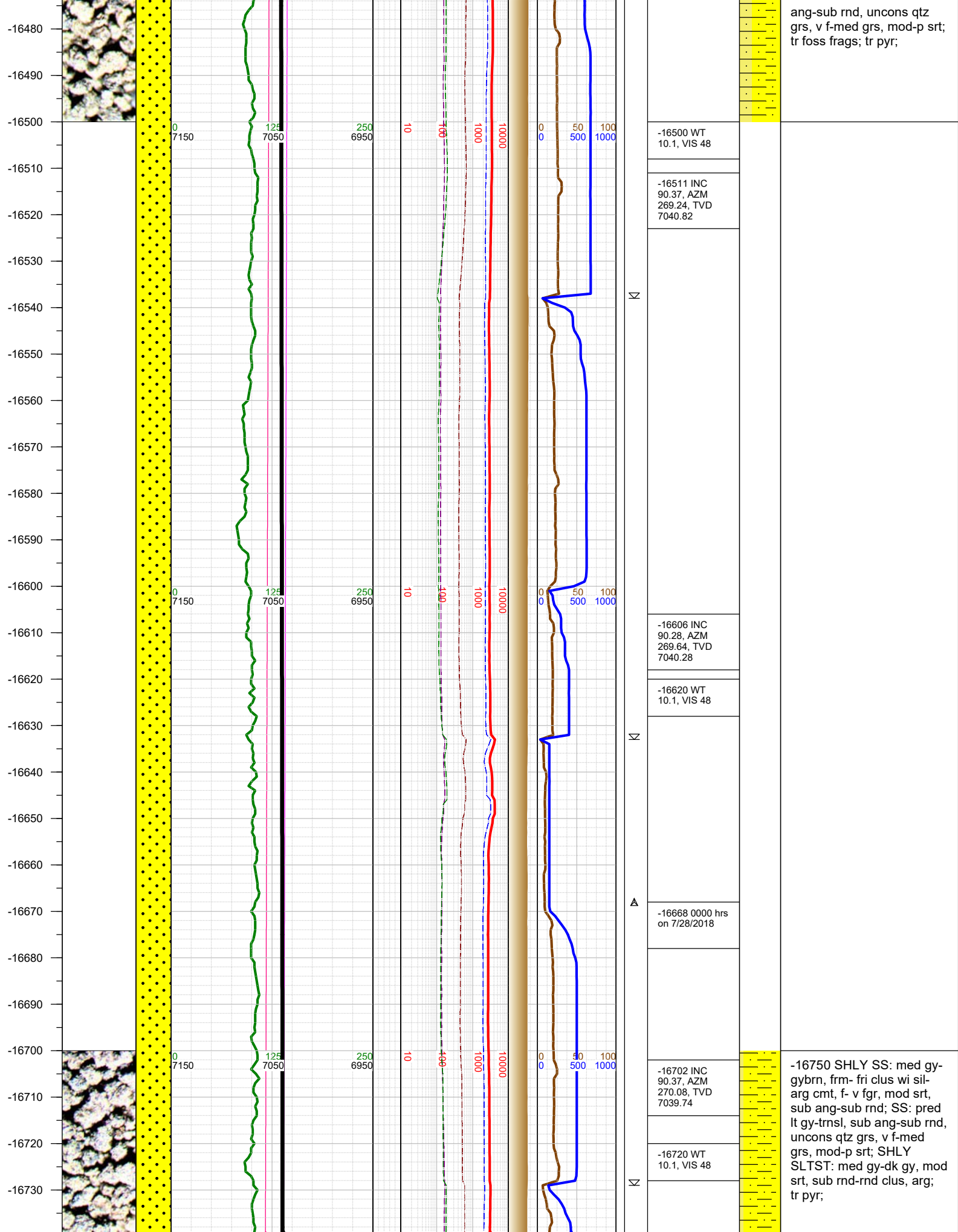
-15250 SHLY SS: med gy-gybrn, frm- fri clus wi sil-arg cmt, f- v fgr, mod srt, sub ang-sub rnd; SHLY SLTST: med gy-dk gy, mod srt, sub rnd-rnd clus, arg; tr foss frags; tr pyr;

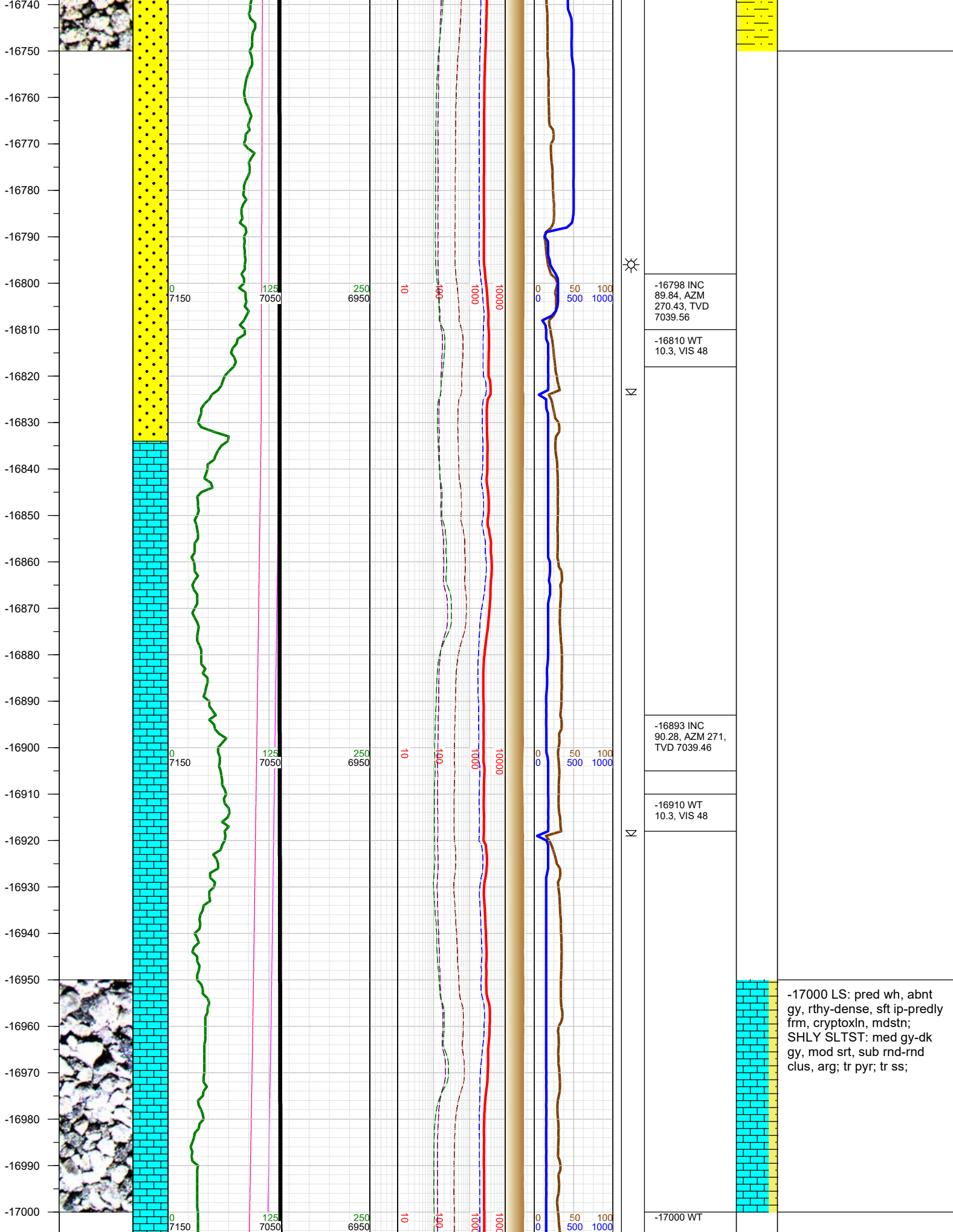


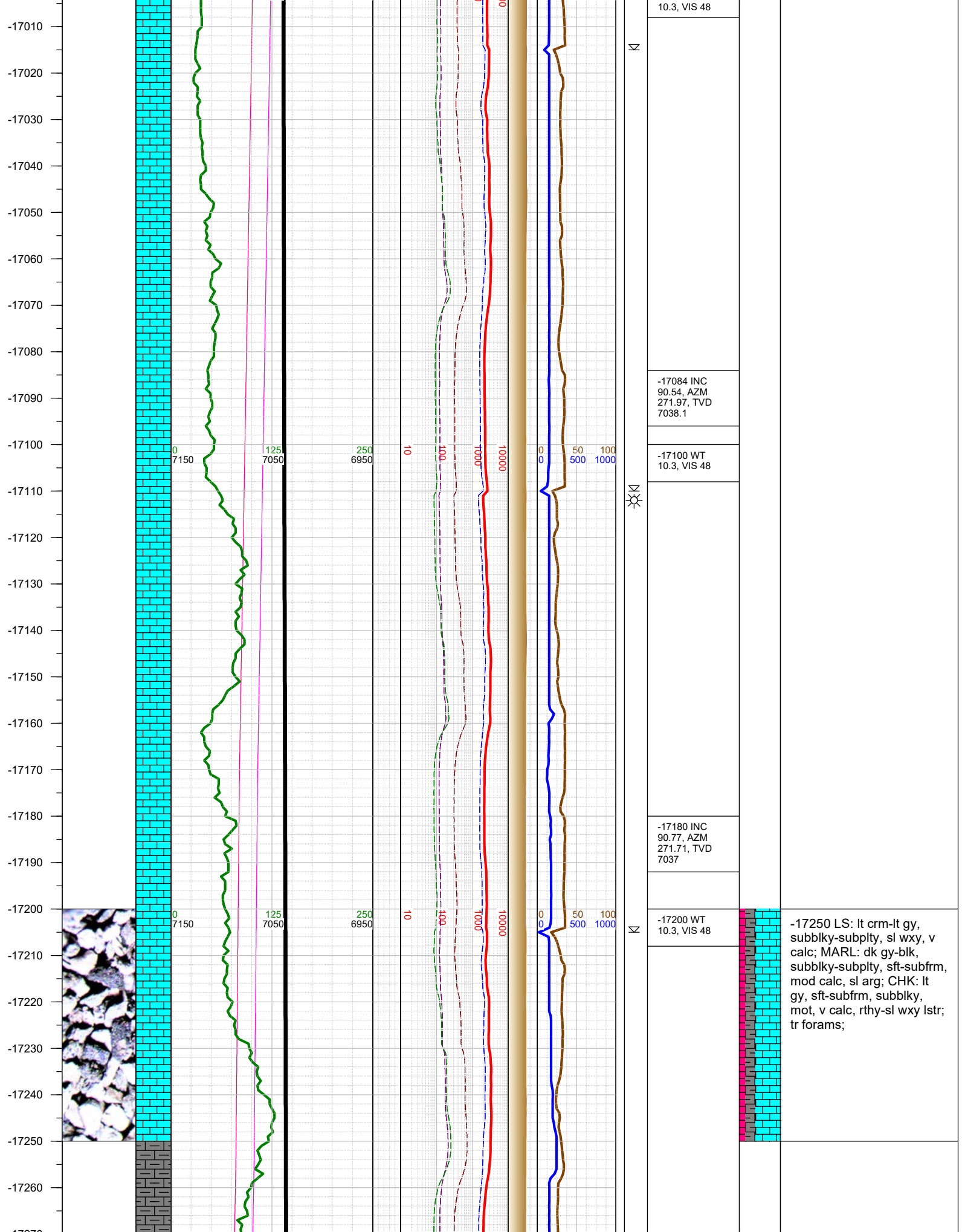


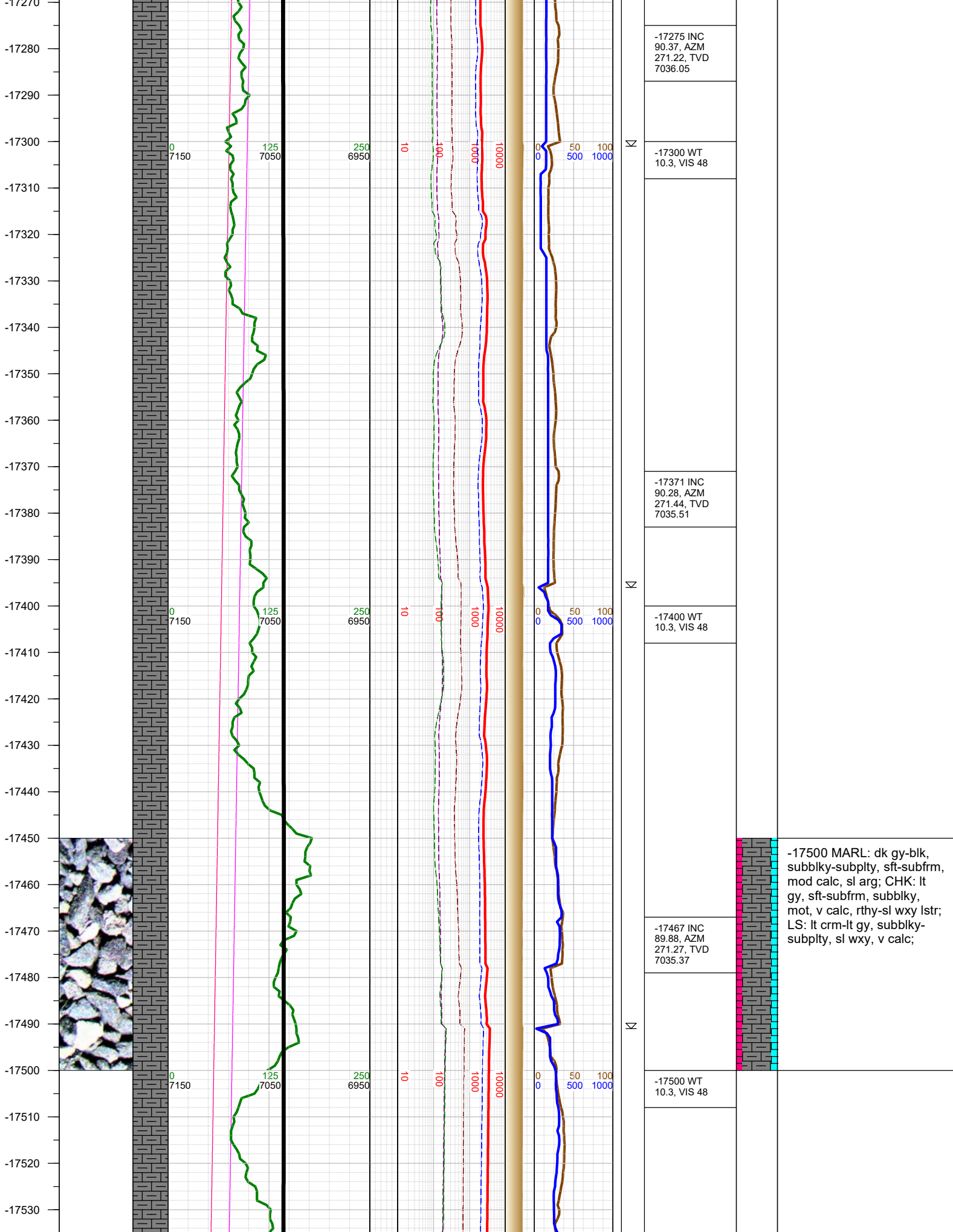




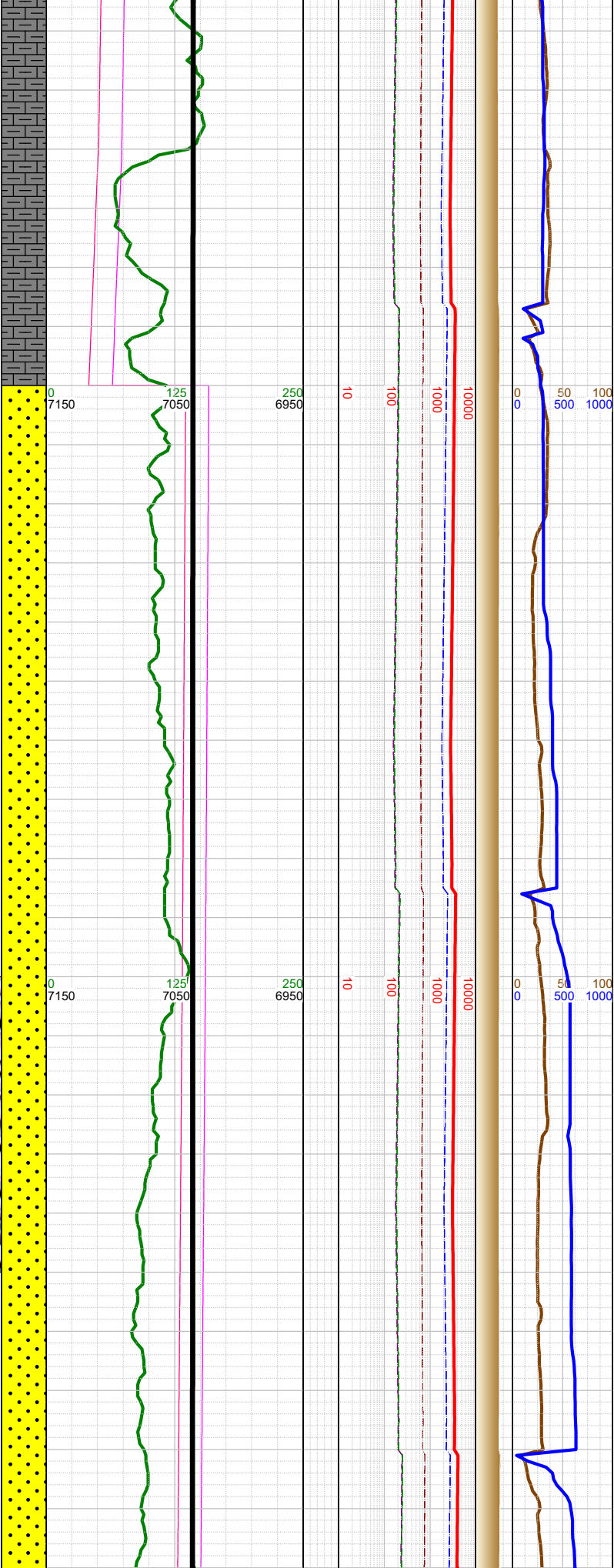
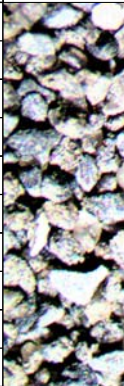




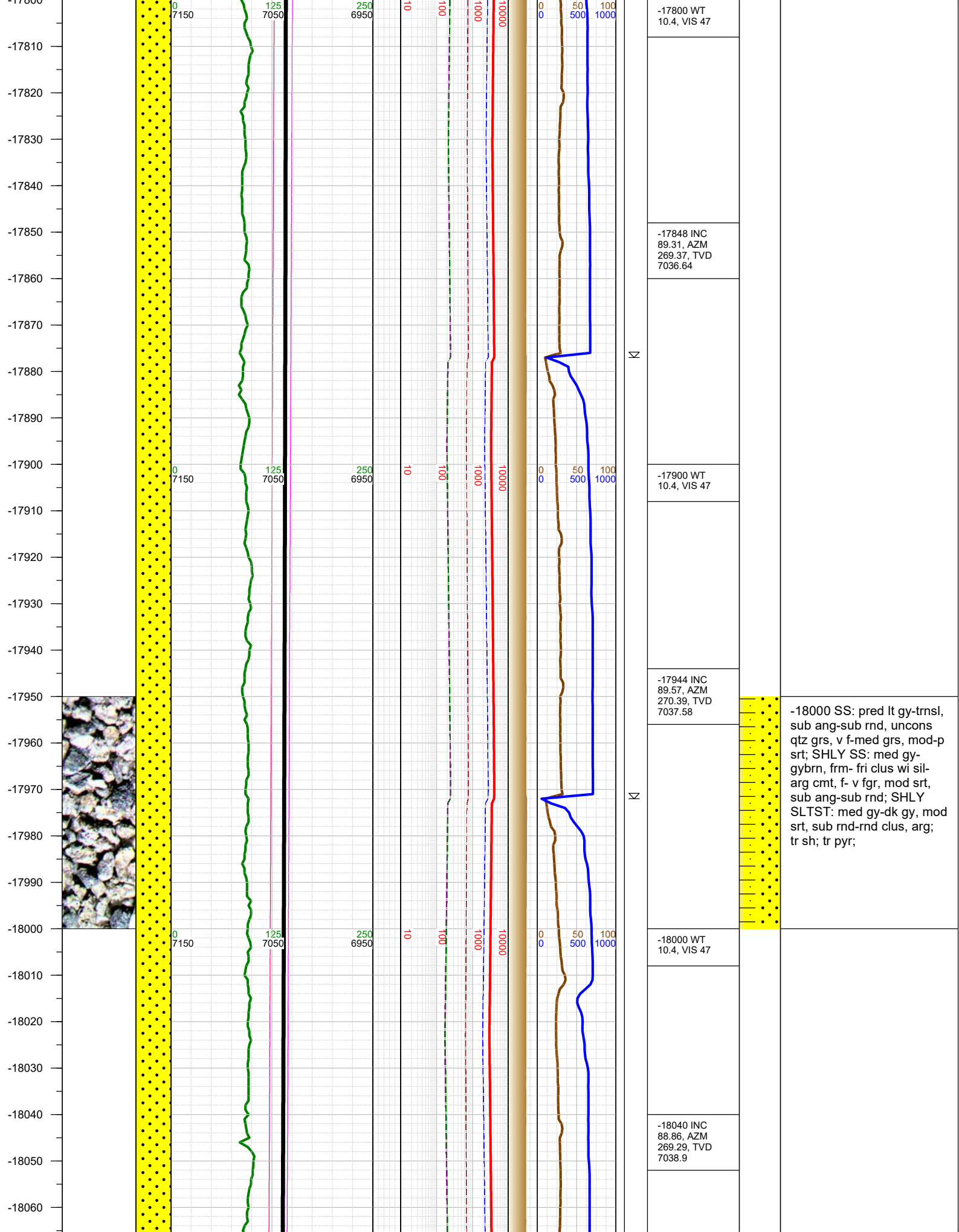


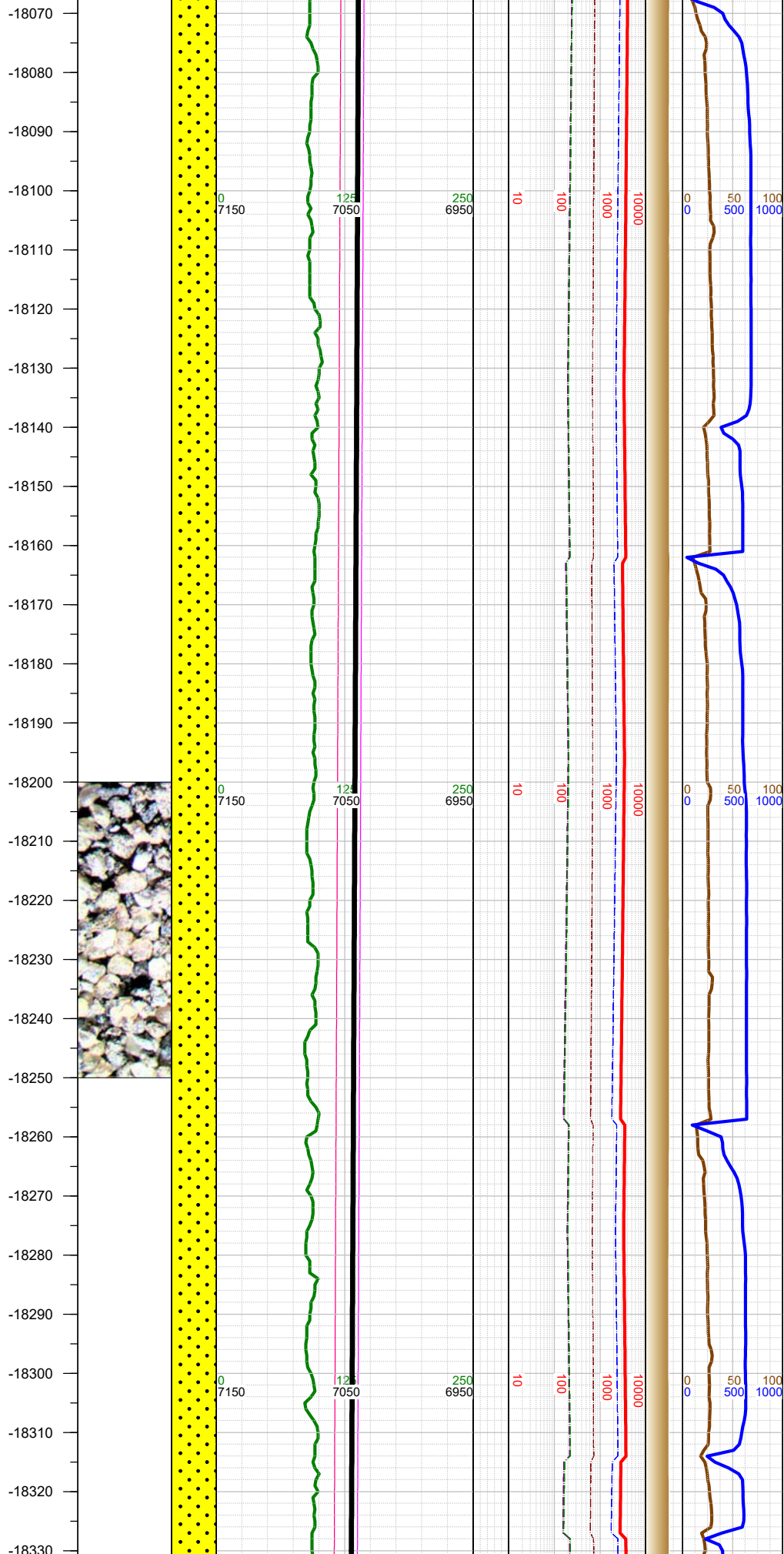


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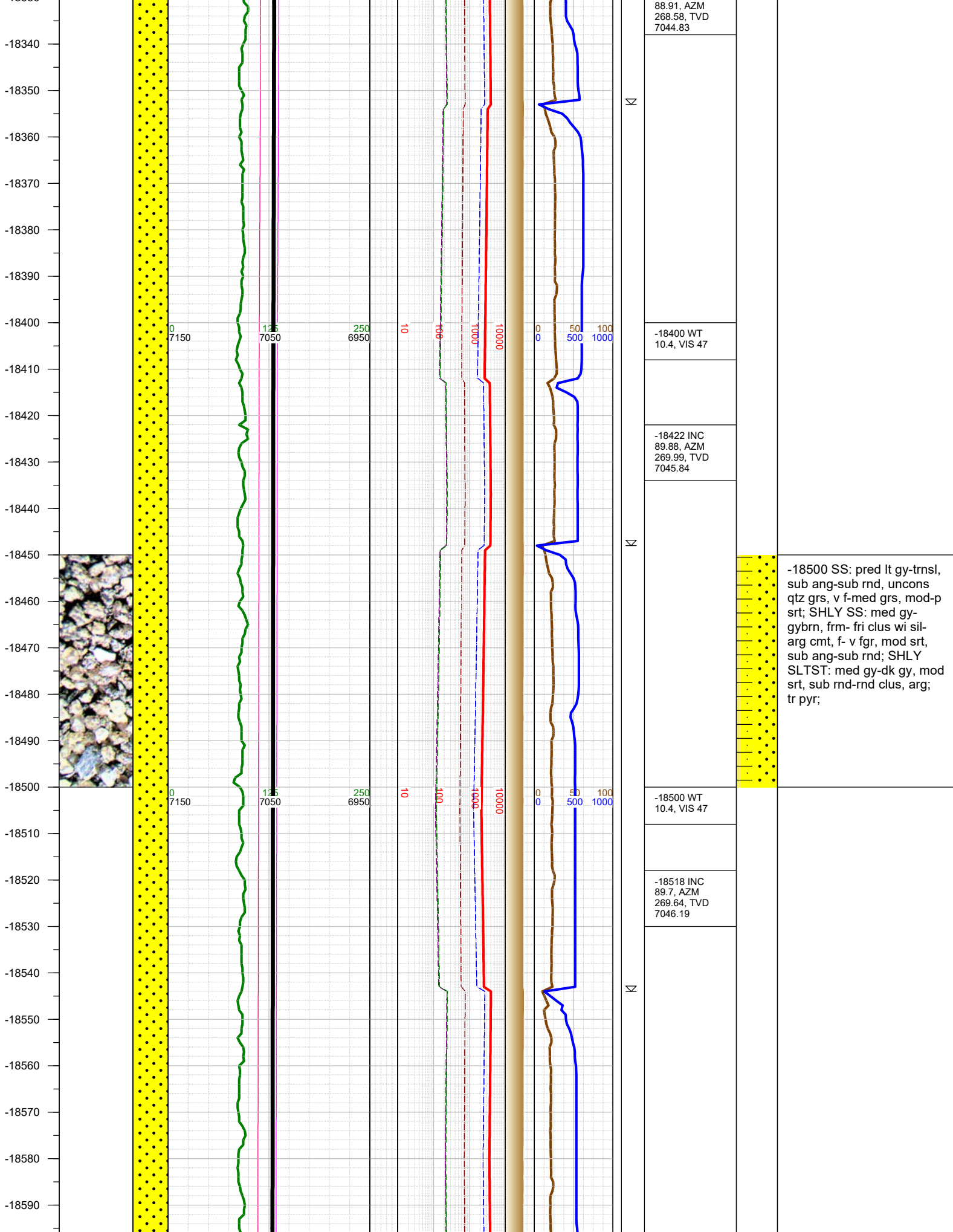


N		-17562 INC 89.66, AZM 270.65, TVD 7035.76	
		-17600 Fault: 74' up-throw; went from D Marl to Codell	
		-17620 WT 10.3, VIS 48	
		-17657 INC 89.97, AZM 271.62, TVD 7036.06	
N		-17700 WT 10.3, VIS 48	-17750 SHLY SS: med gy- gybrn, frm- fri clus wi sil- arg cmt, f- v fgr, mod srt, sub ang-sub rnd; SS: pred lt gy-trnsl, sub ang-sub rnd, uncons qtz grs, v f-med grs, mod-p srt; SHLY SLTST: med gy-dk gy, mod srt, sub rnd-rnd clus, arg; tr ls;
		-17753 INC 90.01, AZM 271.75, TVD 7036.08	
N			





N			-18100 WT 10.4, VIS 47	
N			-18135 INC 88.91, AZM 269.15, TVD 7040.75	
N			-18200 WT 10.4, VIS 47	-18250 SS: pred lt gy-trnsl, sub ang-sub rnd, uncons qtz grs, v f-med grs, mod-p srt; SHLY SS: med gy-gybrn, frm- fri clus wi sil-arg cmt, f- v fgr, mod srt, sub ang-sub rnd; SHLY SLTST: med gy-dk gy, mod srt, sub rnd-rnd clus, arg; tr pyr;
			-18231 INC 88.64, AZM 267.7, TVD 7042.8	
N				
			-18300 WT 10.4, VIS 47	
			-18326 INC	



88.91, AZM
268.58, TVD
7044.83

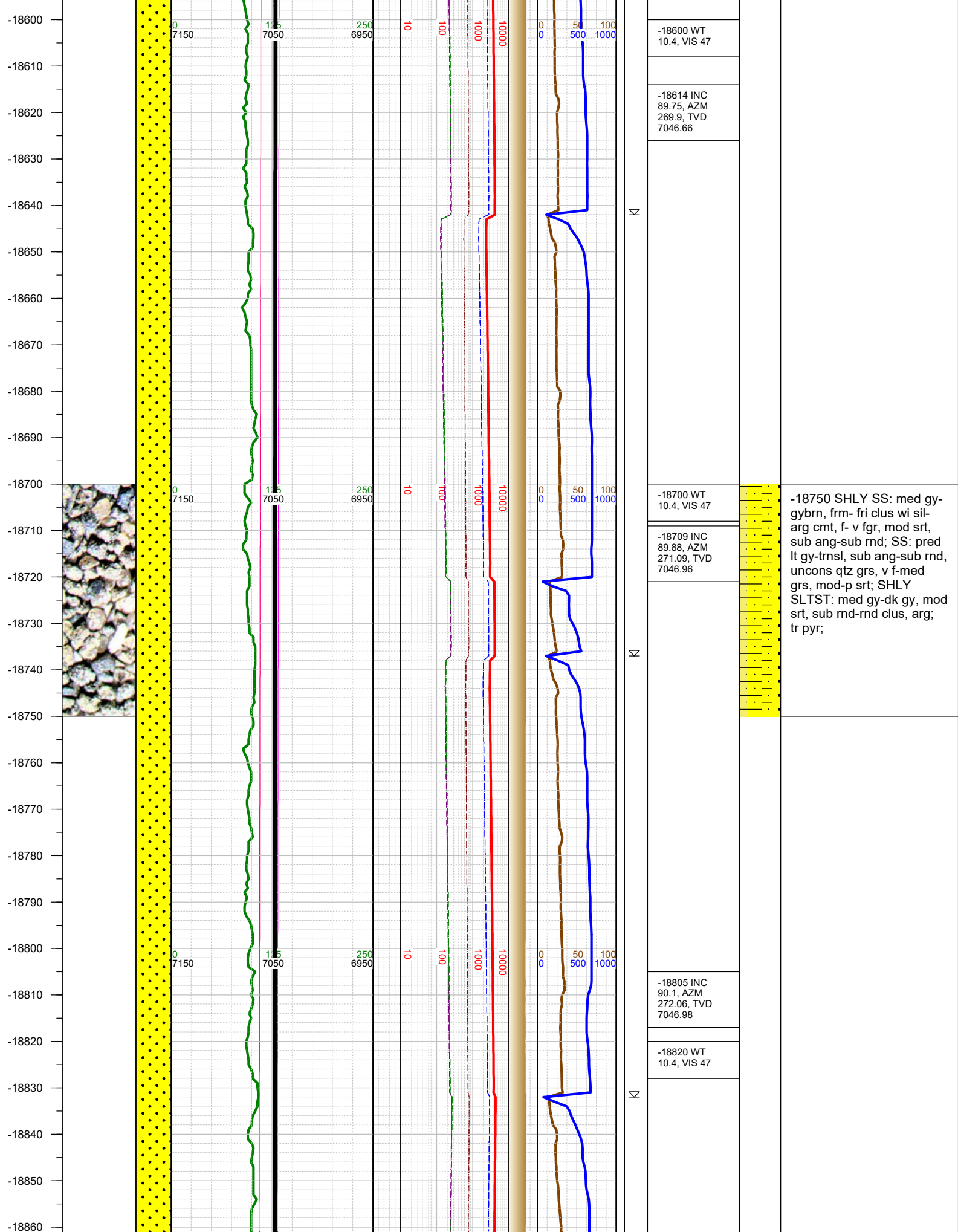
-18400 WT
10.4, VIS 47

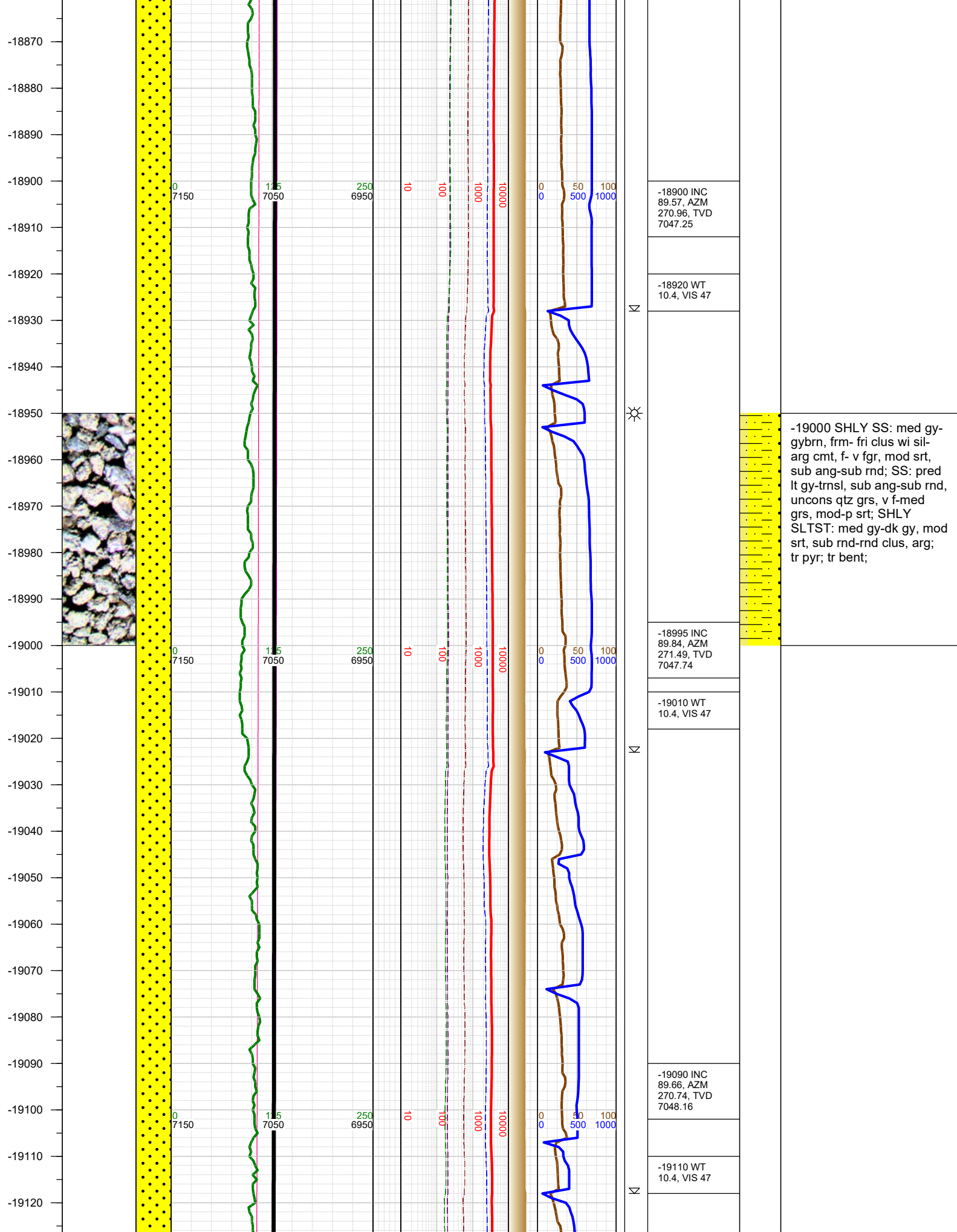
-18422 INC
89.88, AZM
269.99, TVD
7045.84

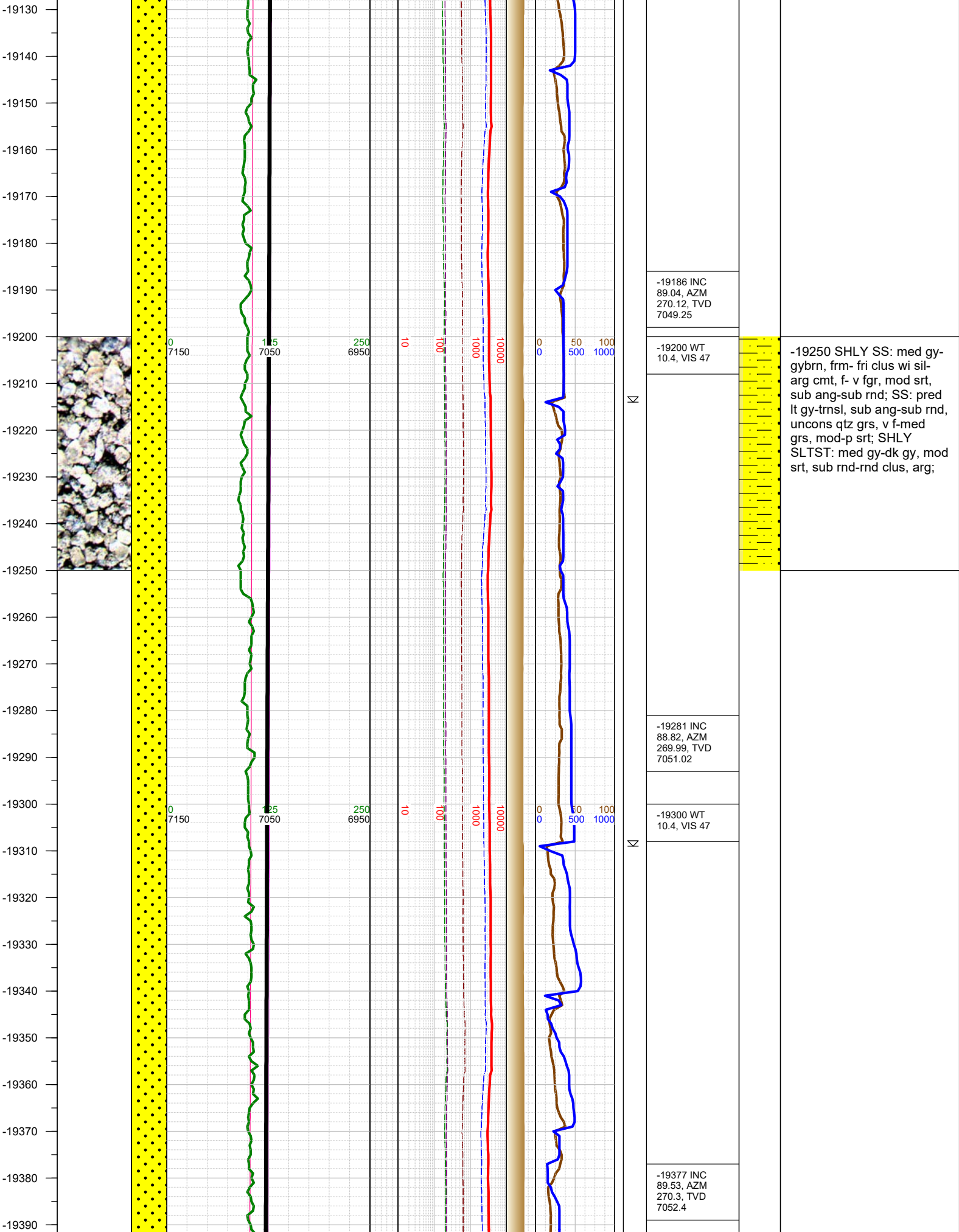
-18500 WT
10.4, VIS 47

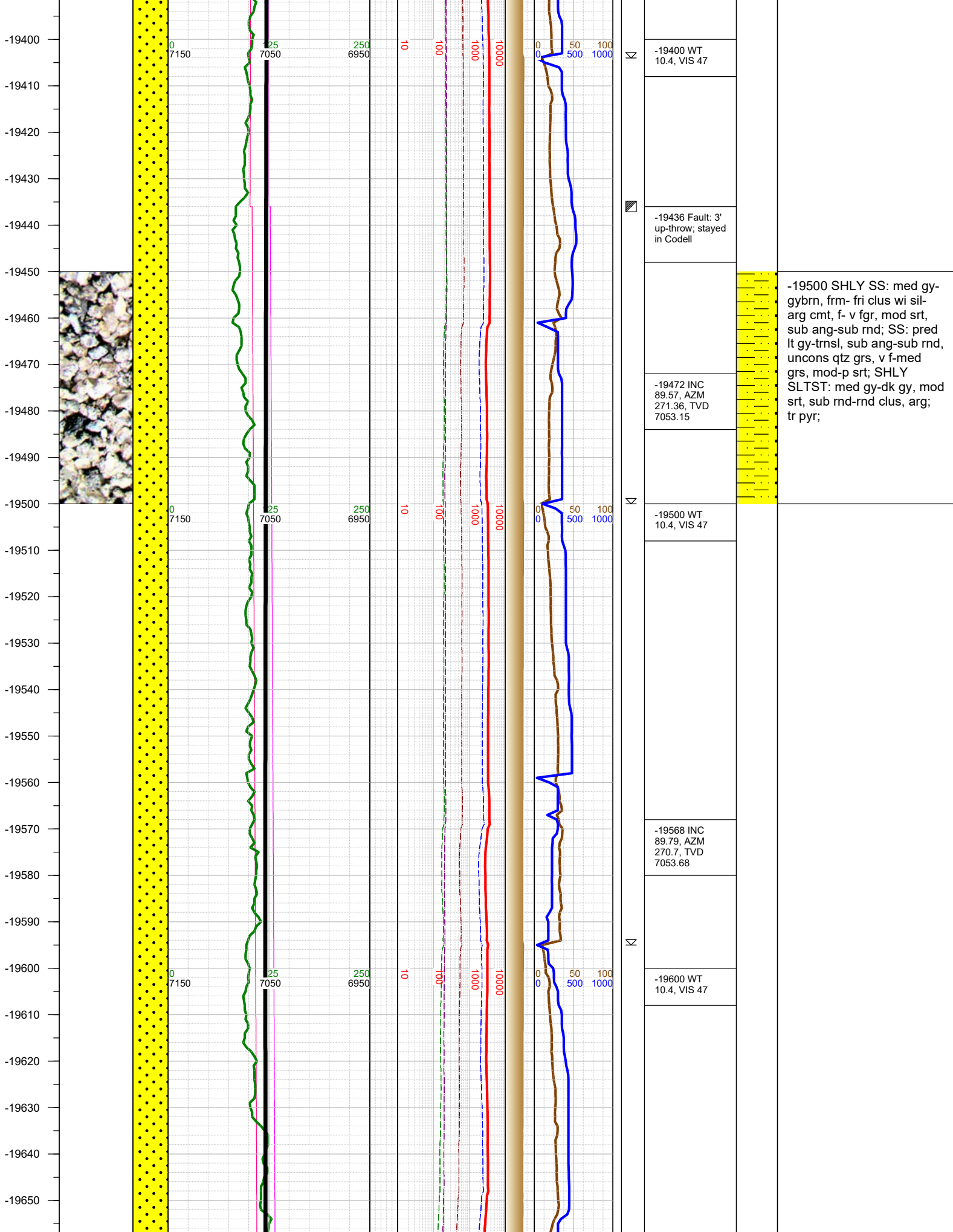
-18518 INC
89.7, AZM
269.64, TVD
7046.19

-18500 SS: pred lt gy-trnsl, sub ang-sub rnd, unconsl qtz grs, v f-med grs, mod-p srt; SHLY SS: med gy-gybrn, frm- fri clus wi sil-arg cmt, f- v fgr, mod srt, sub ang-sub rnd; SHLY SLTST: med gy-dk gy, mod srt, sub rnd-rnd clus, arg; tr pyr;









-19660
-19670
-19680
-19690
-19700
-19710
-19720
-19730
-19740
-19750
-19760
-19770
-19780
-19790
-19800
-19810
-19820
-19830
-19840
-19850
-19860
-19870
-19880
-19890
-19900
-19910
-19920



0
7150

25
7050

250
6950

10

100

1000

10000

0
0

50

100

500

1000

-19663 INC
90.37, AZM
271.97, TVD
7053.55

-19700 WT 11,
VIS 55

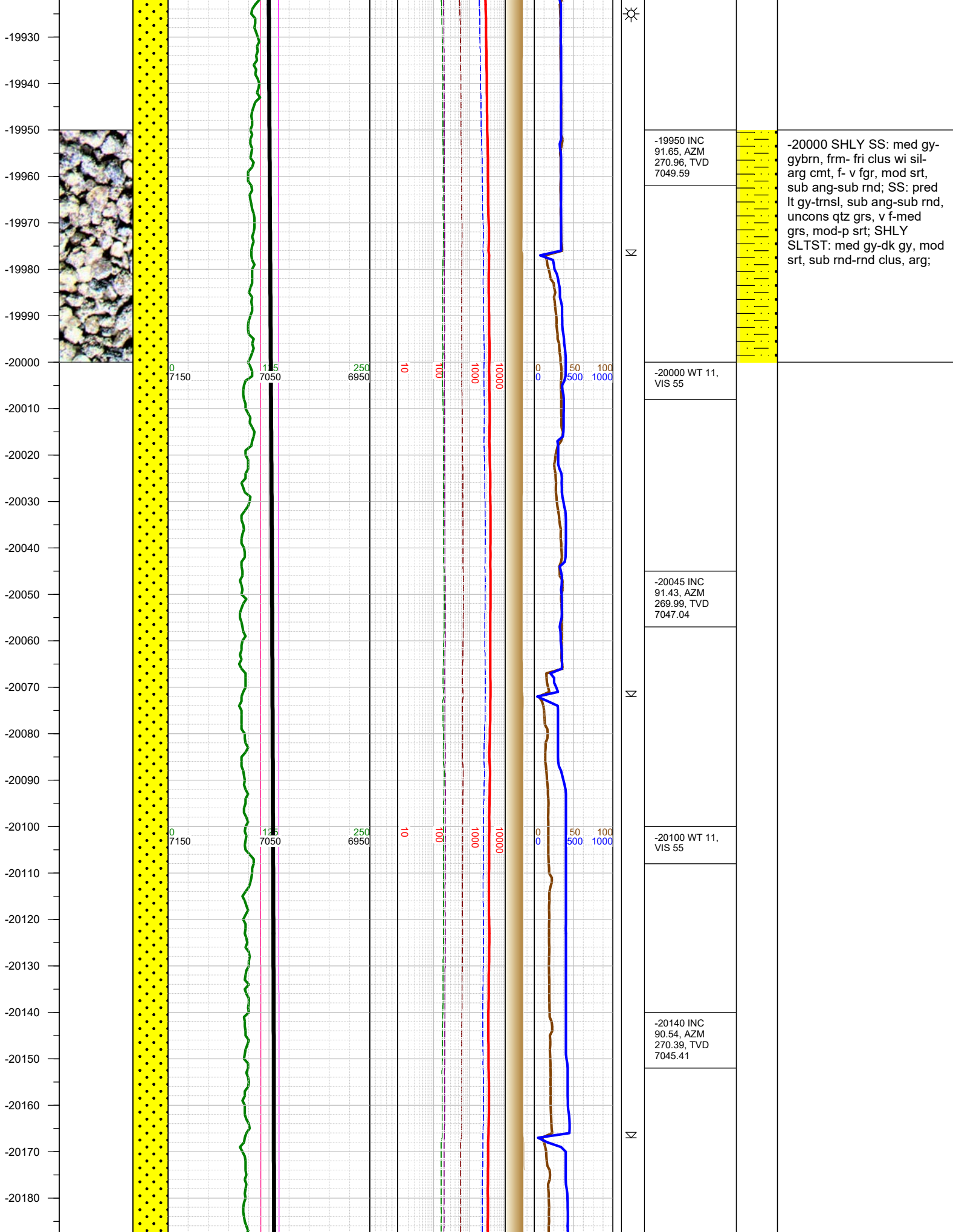
-19759 INC
90.37, AZM
271.14, TVD
7052.93

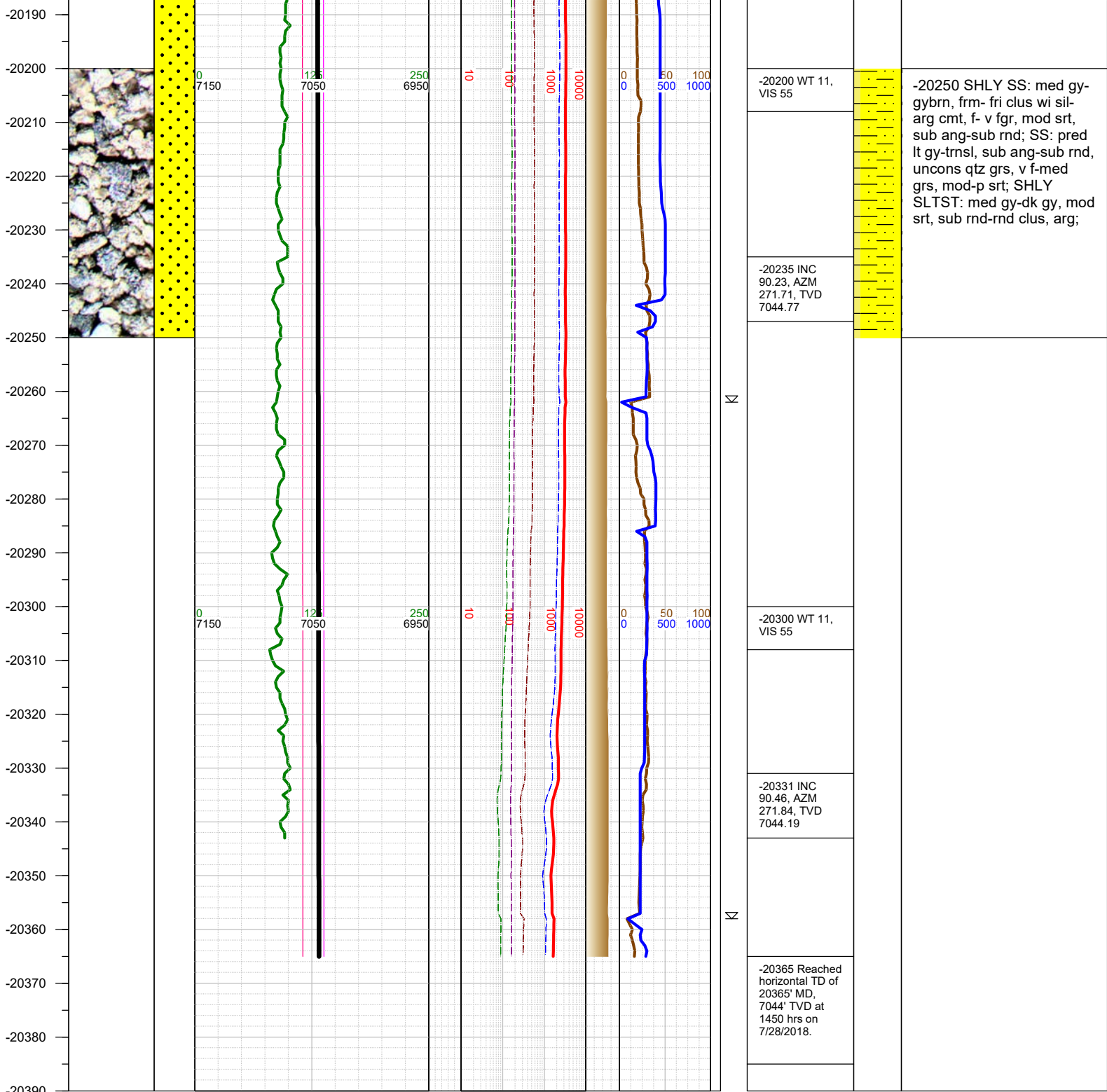
-19800 WT 11,
VIS 55

-19854 INC
90.99, AZM
271.4, TVD
7051.8

-19900 WT 11,
VIS 55

-19750 SHLY SS: med gy-
gybrn, frm- fri clus wi sil-
arg cmt, f- v fgr, mod srt,
sub ang-sub rnd; SS: pred
lt gy-trnsl, sub ang-sub rnd,
uncons qtz grs, v f-med
grs, mod-p srt; SHLY
SLTST: med gy-dk gy, mod
srt, sub rnd-rnd clus, arg;
tr pyr;





TOTAL DEPTH = 20365'

Thank you for using Earth Science Agency