

OPERATOR: **Extraction Oil & Gas**

WELL NAME: **Livingston S19-25-2C**

FIELD NAME: DJ Basin - Wattenberg

DRILLING RIG: Patterson 901

API #: 05-014-20753

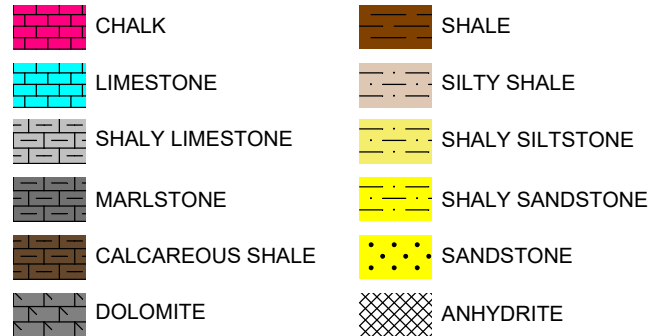
LAT/LONG: 39.978564, -105.040058
SURFACE HOLE: NWSE S7-T1S-R68W, 2332' FSL, 1510' FEL
BOTTOM HOLE: S19-T1S-R68W, 460' FSL, 640' FWL



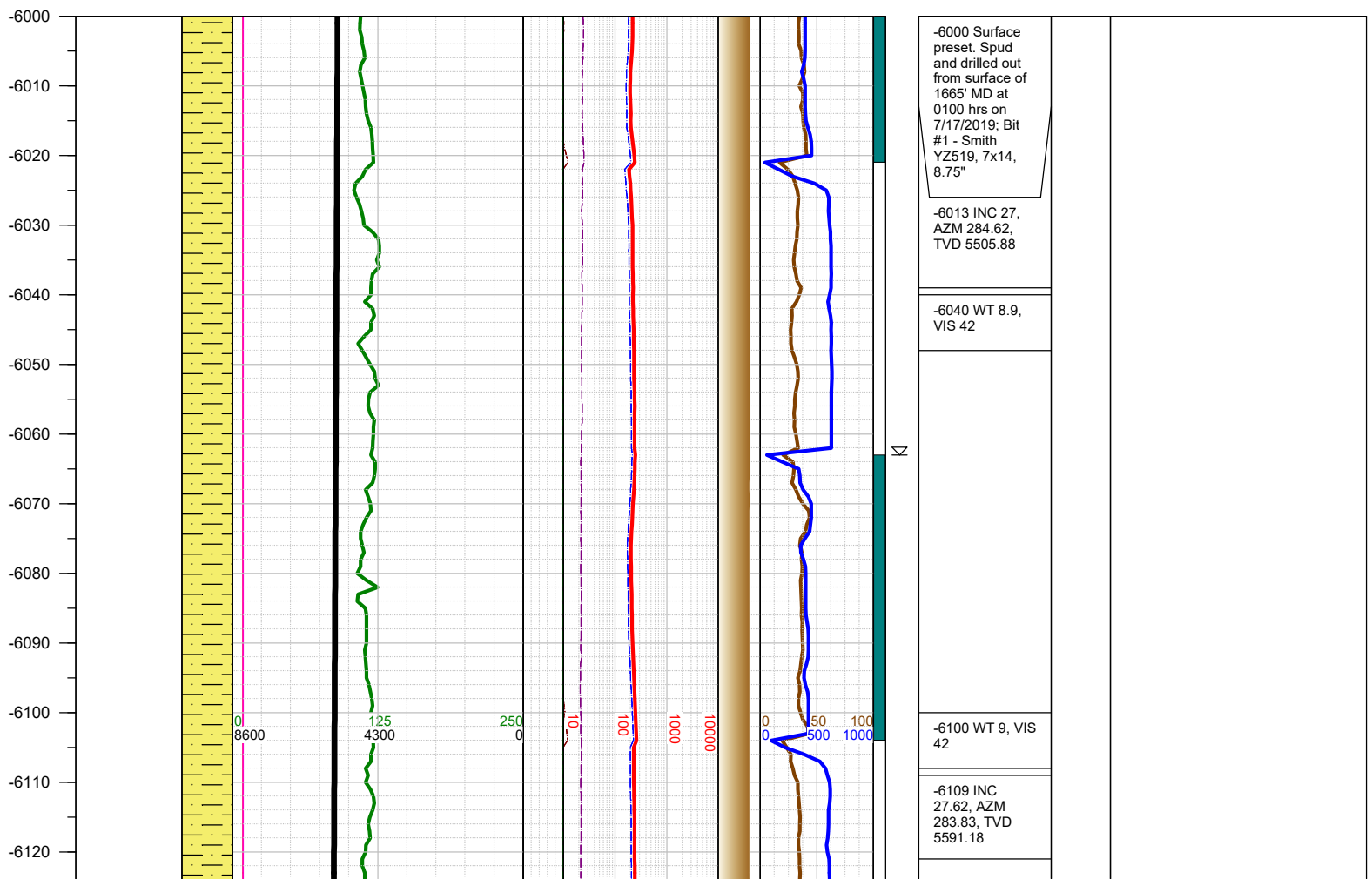
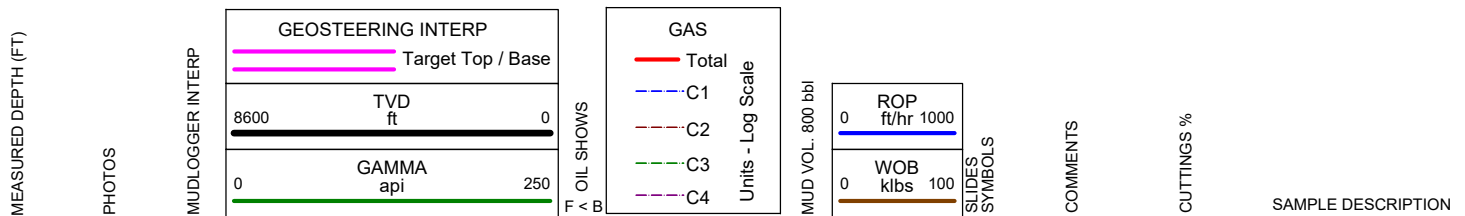
COUNTY: Broomfield
STATE: Colorado
GROUND ELEVATION: 5316'
KELLY BUSHING: 5345'
DRILLING FLUID: OBM
TVD VS. MD: 8352' / 21773'
SPUD DATE: July 17, 2019
TD DATE: July 24, 2019

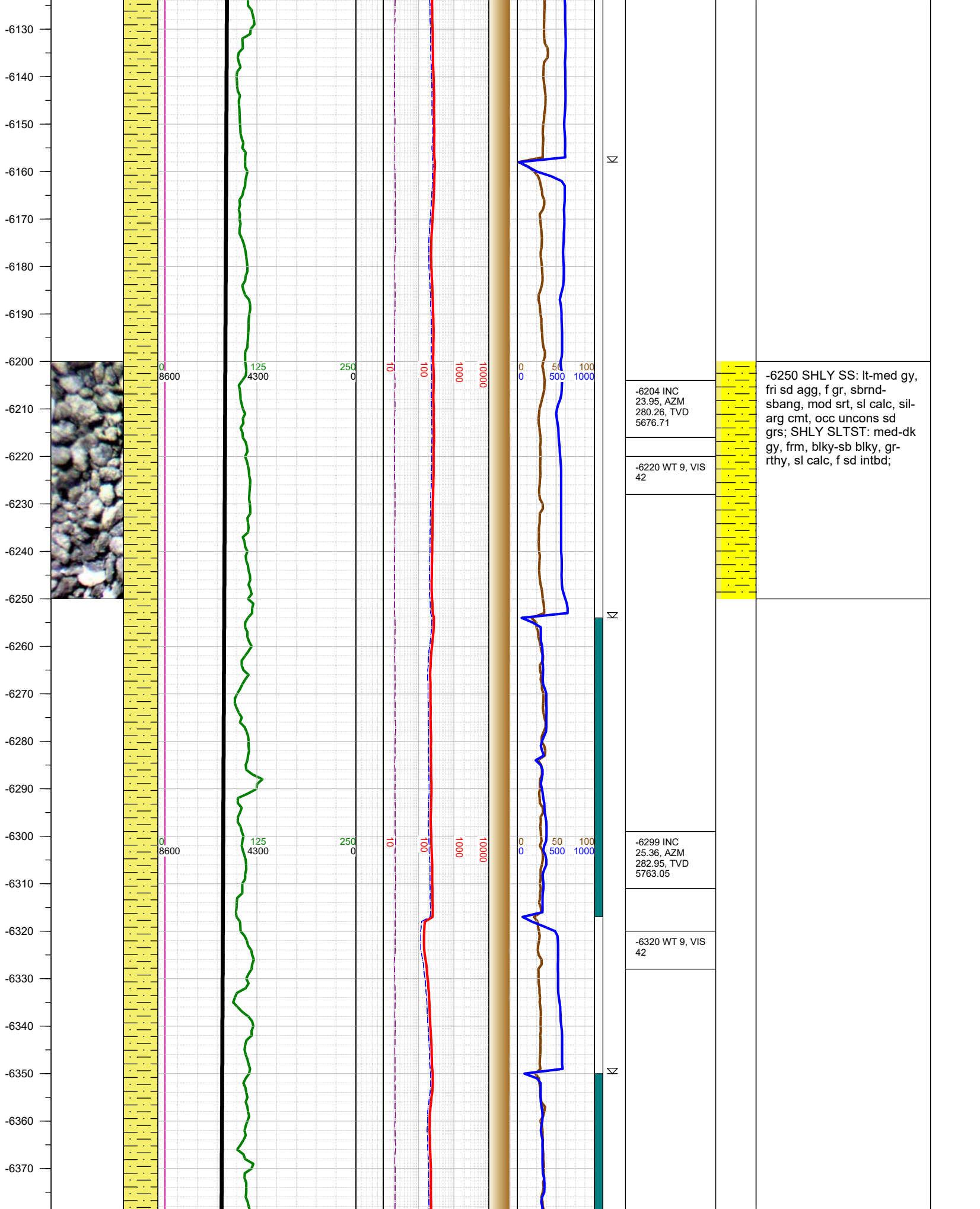
DEPTHS LOGGED: 6000' - 21773'
DATES LOGGED: July 17, 2019 - July 24, 2019
GEOLOGISTS: Dominic Pitre, Madison Miller
SCALE: 5" = 100'

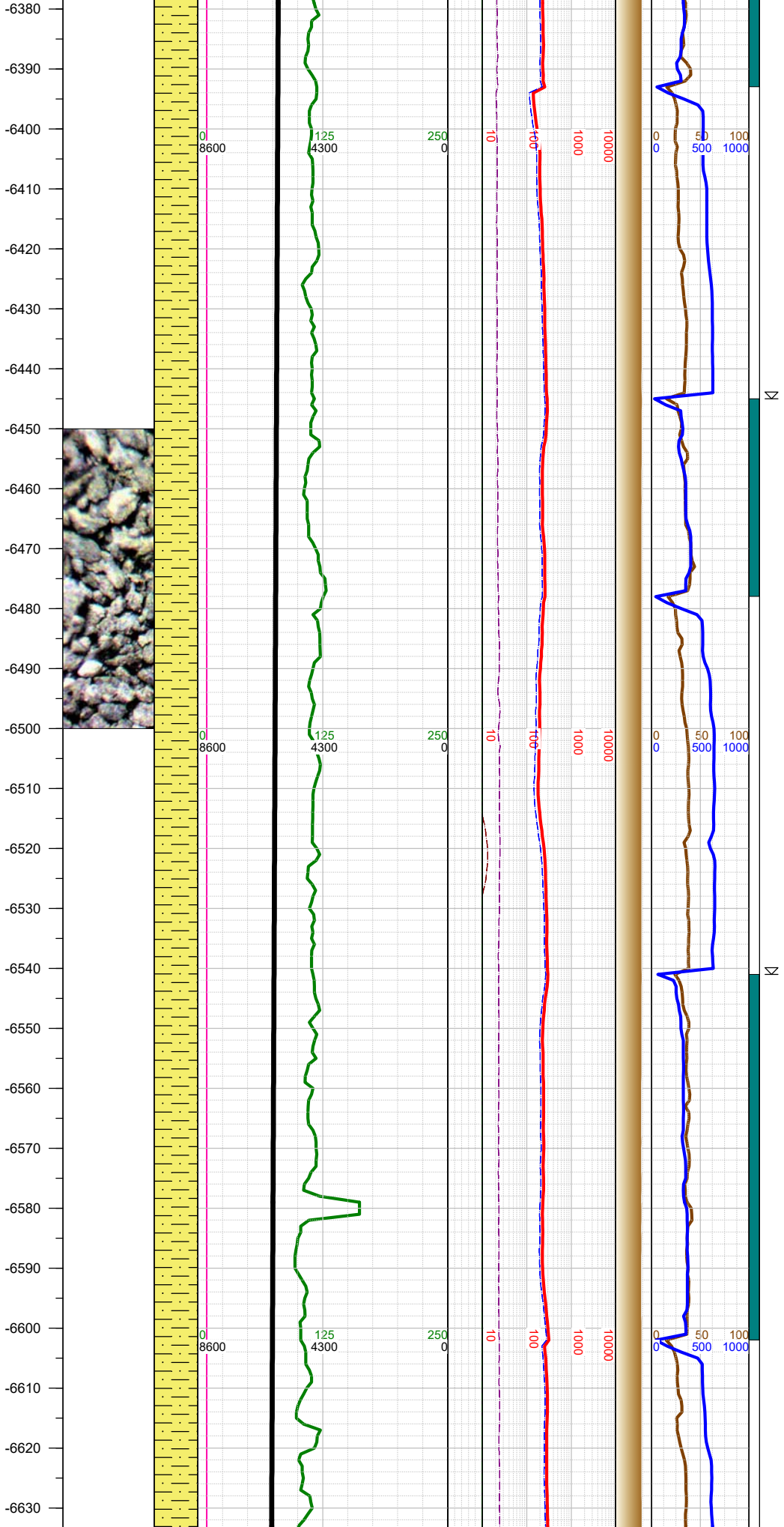
LEGEND



FORMATION CONNECTION MIDNIGHT NEW BIT GAS SHOW FAULT

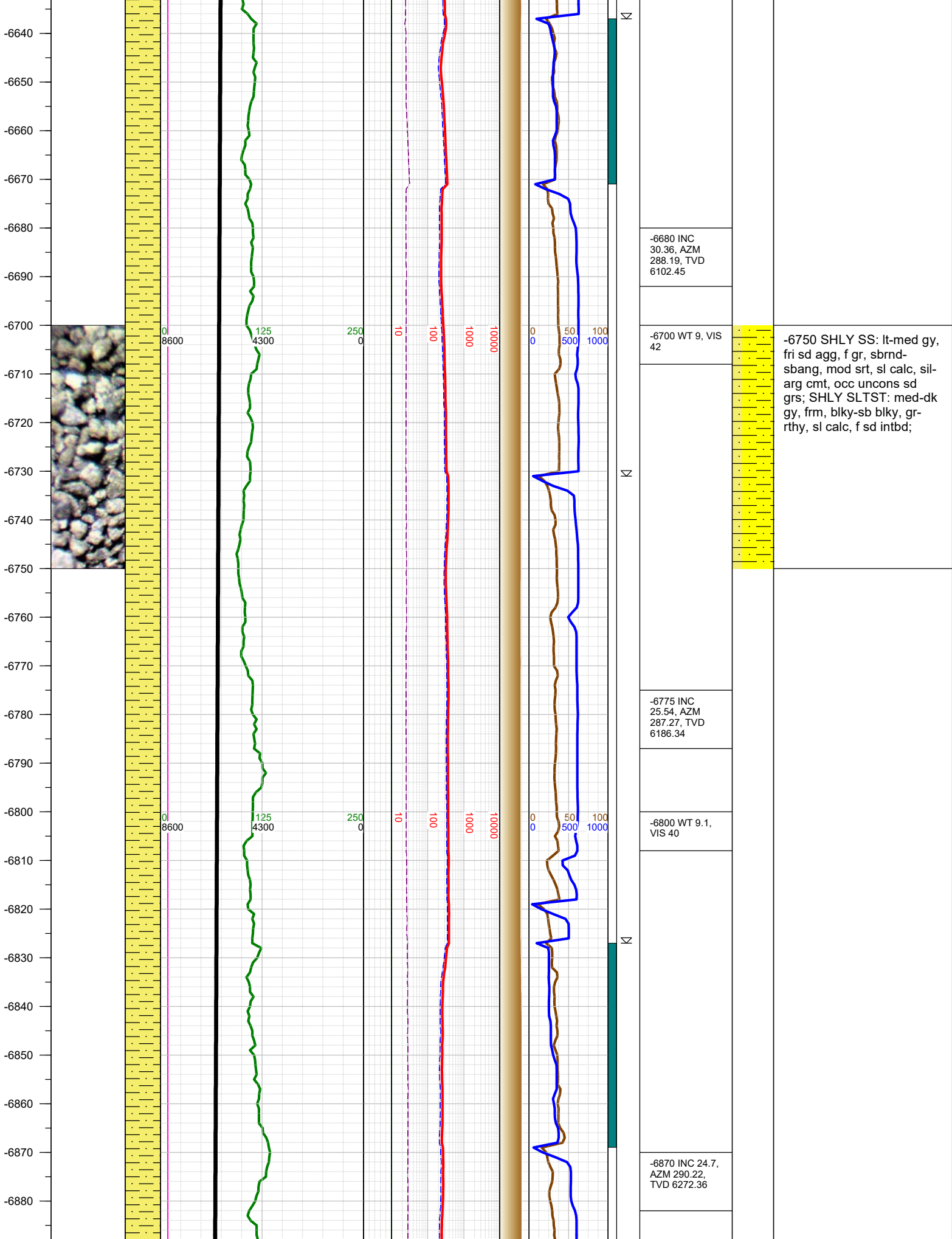


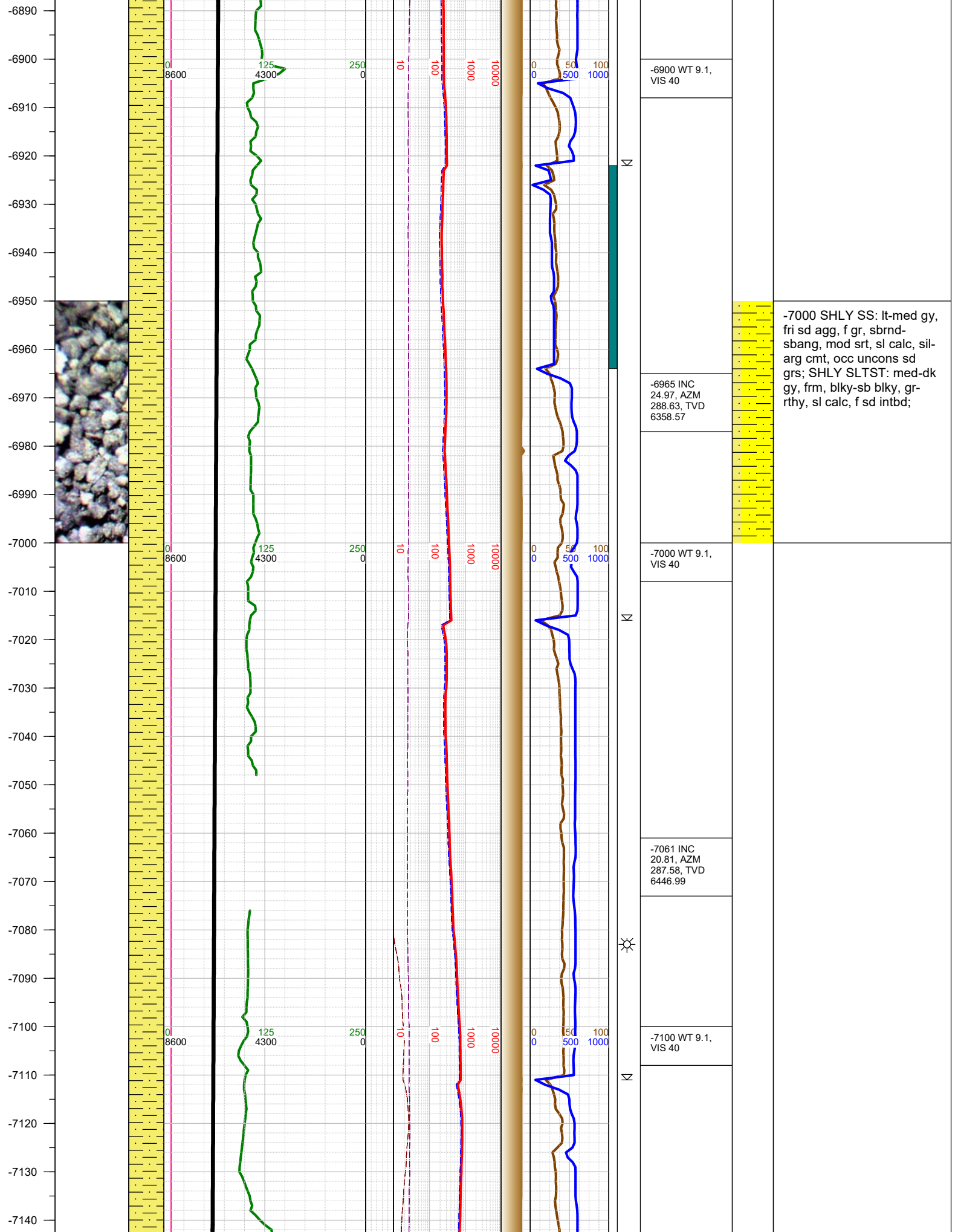


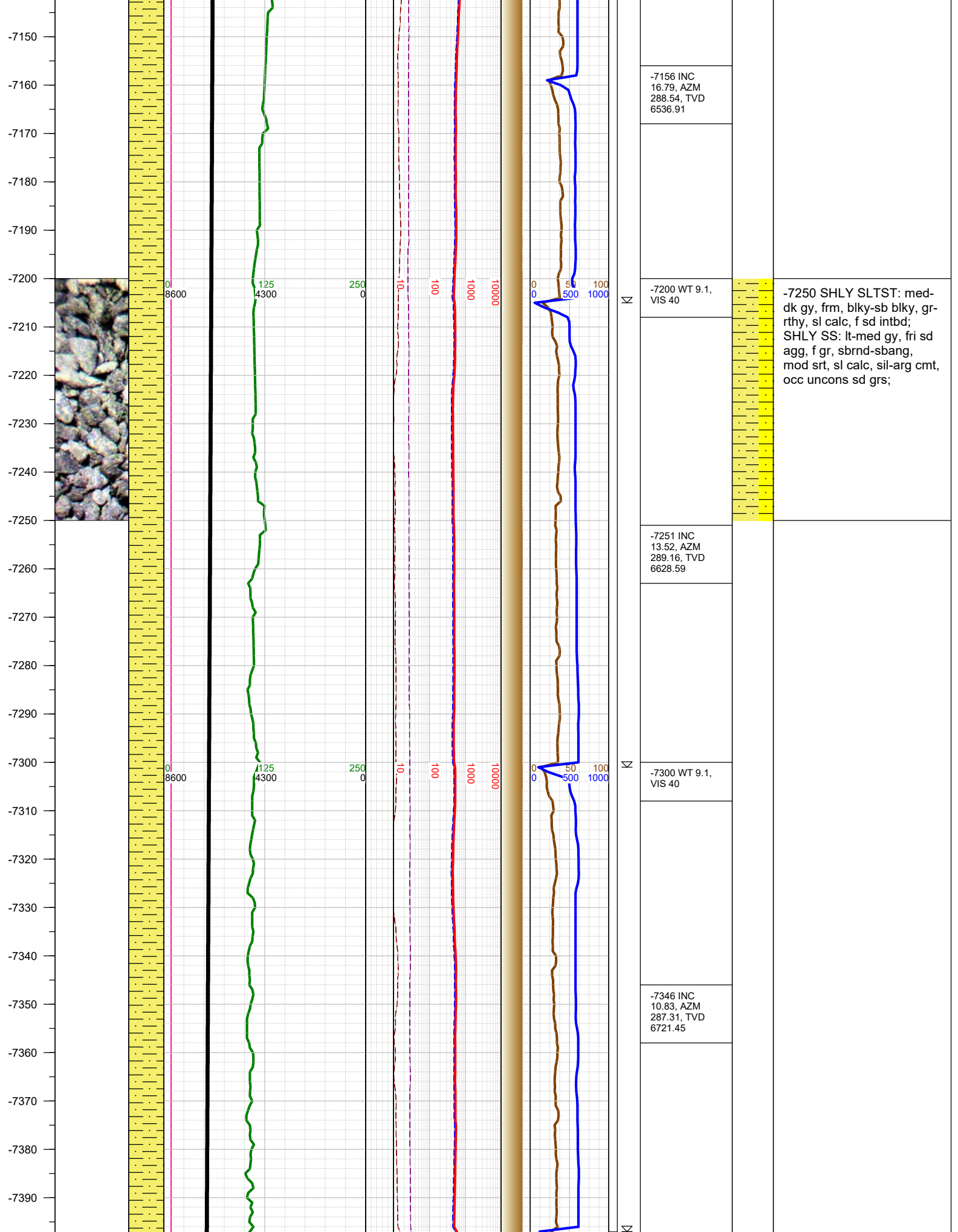


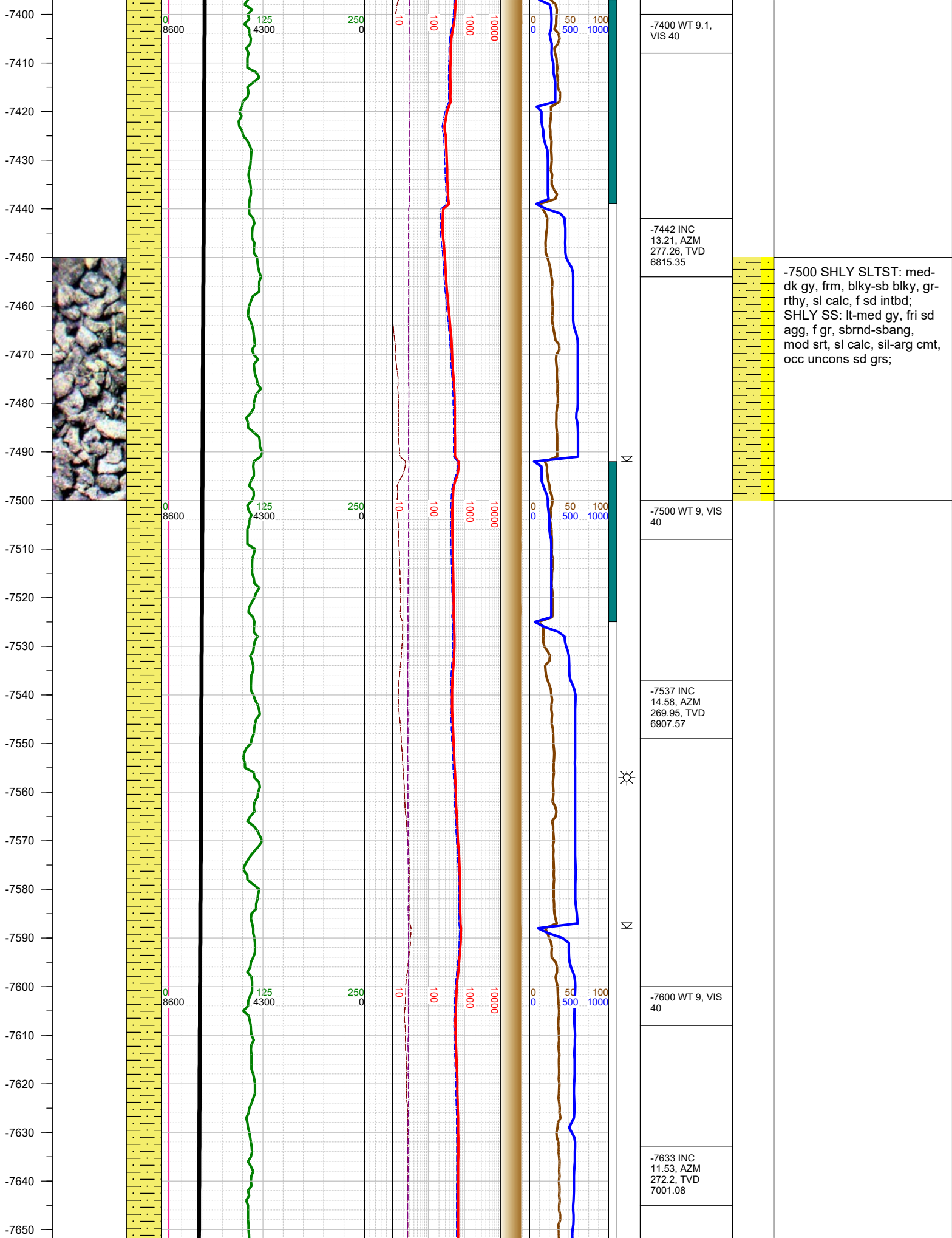
-6395 INC 28.19, AZM 282.51, TVD 5848.75	-6410 WT 9, VIS 42		
-6489 INC 24.79, AZM 284.98, TVD 5932.87	-6510 WT 9, VIS 42		
-6584 INC 27.13, AZM 289.38, TVD 6018.29	-6600 WT 9, VIS 42		

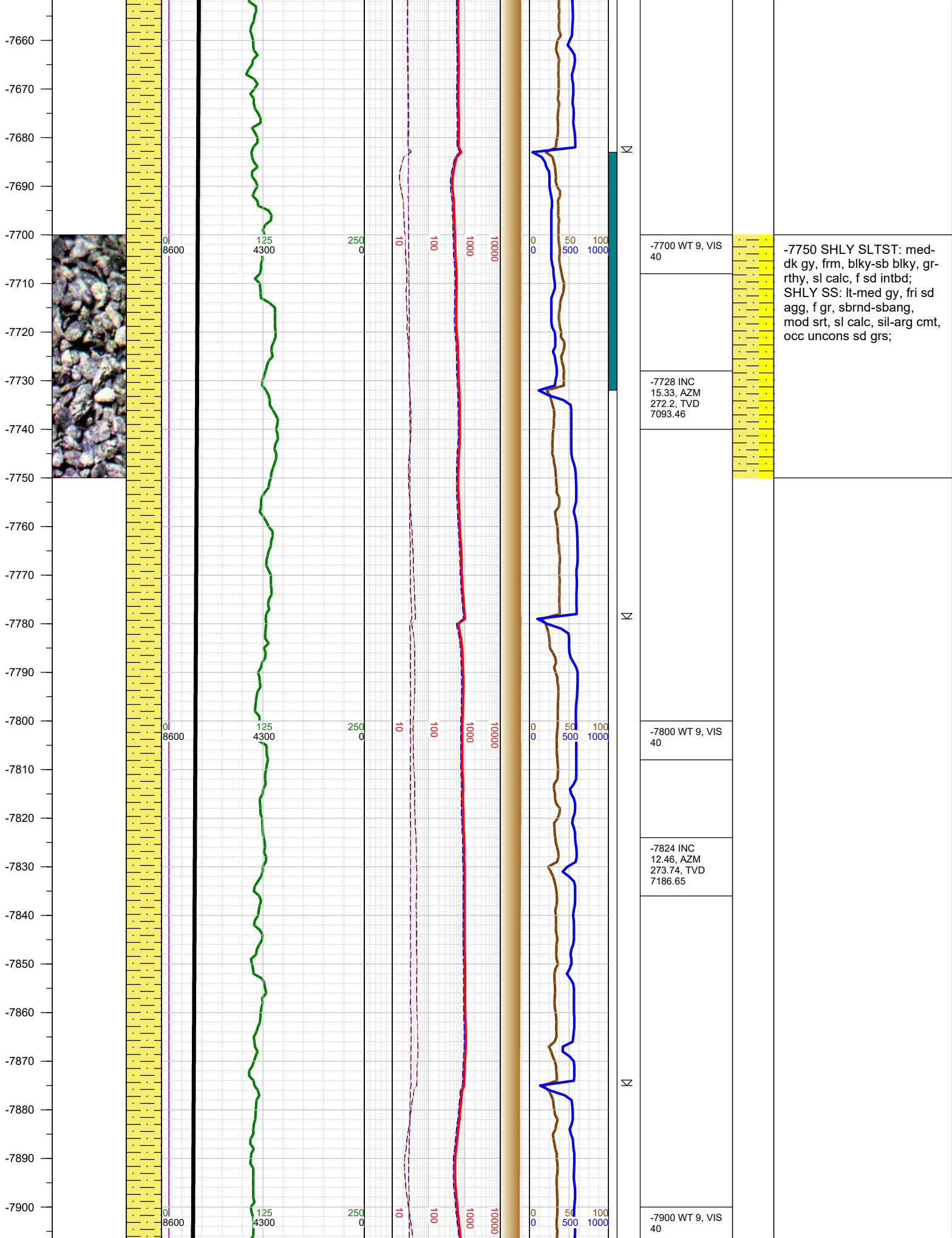
-6500 SHLY SS: lt-med gy, fri sd agg, f gr, sbrnd-sbang, mod srt, sl calc, sil-arg cmt, occ unconsl sd grs; SHLY SLTST: med-dk gy, frm, blk-sb blk, gr-rthy, sl calc, f sd intbd;

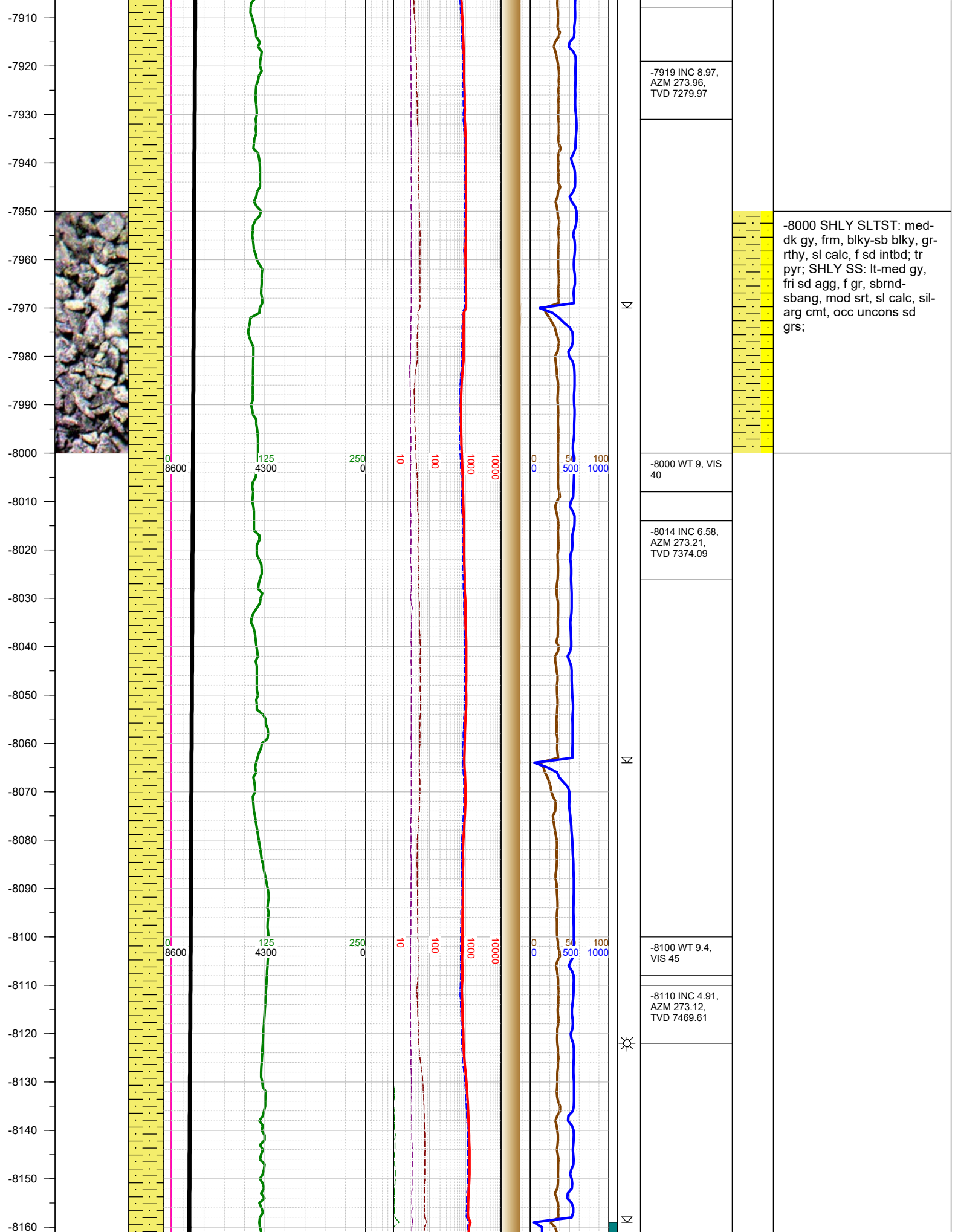


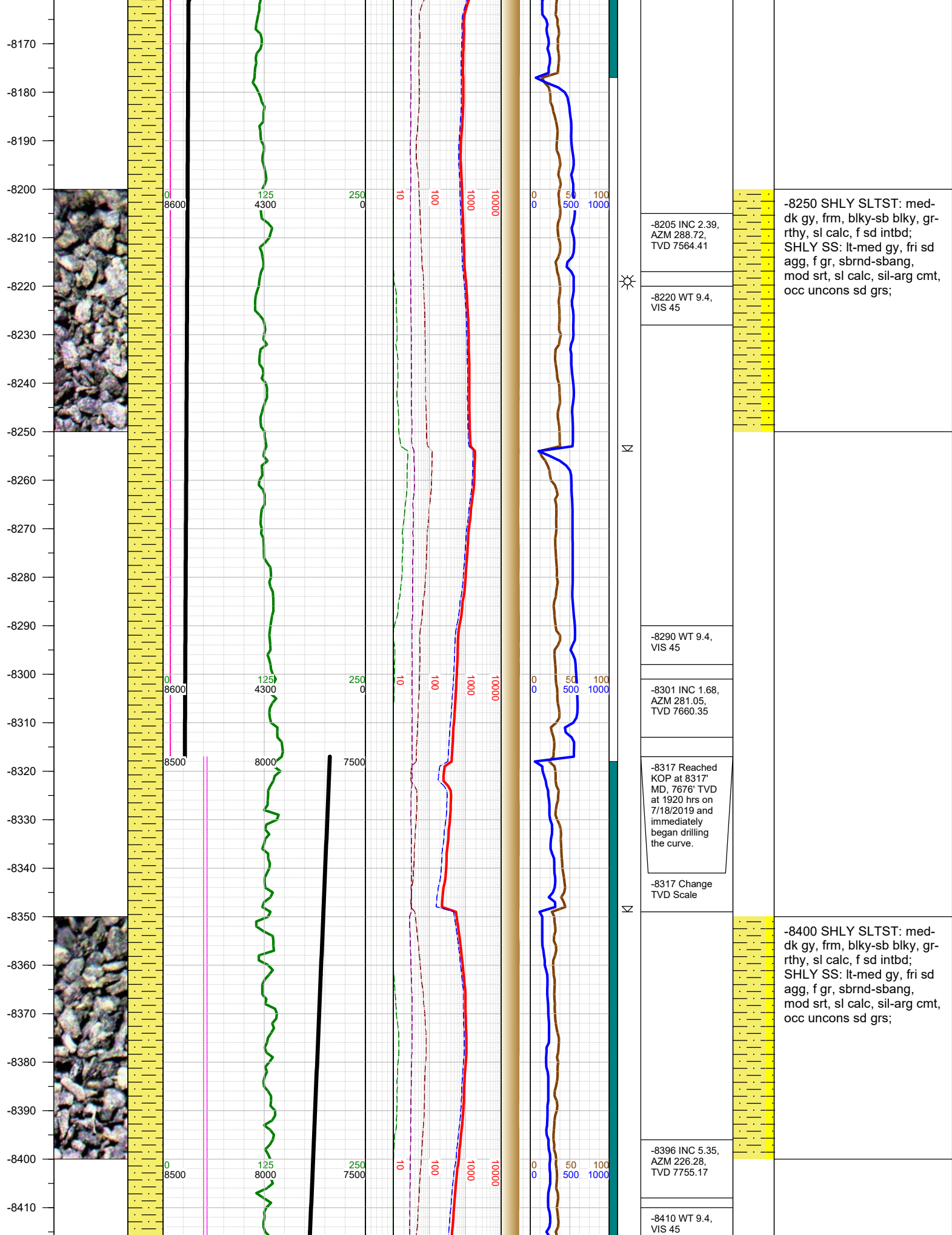


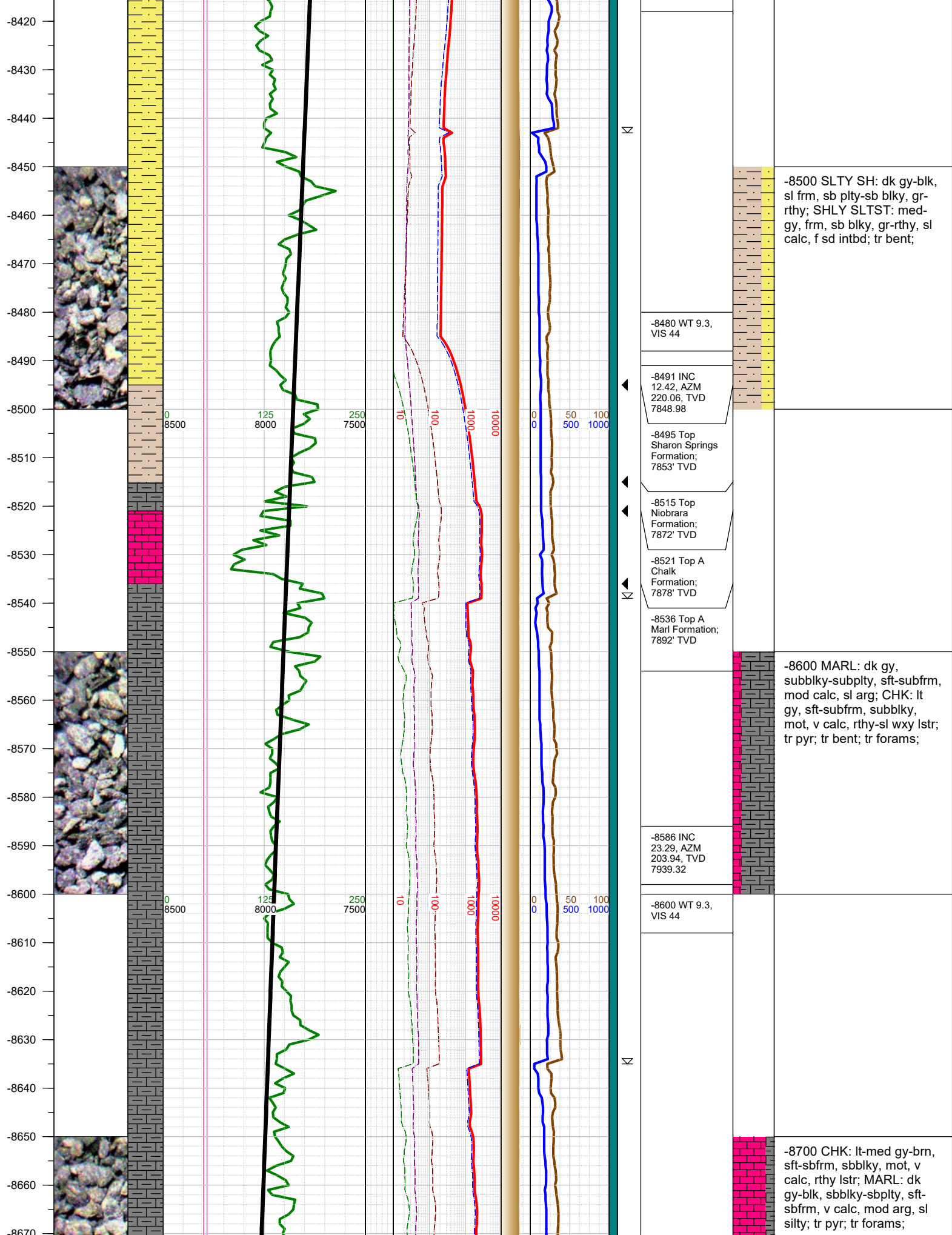


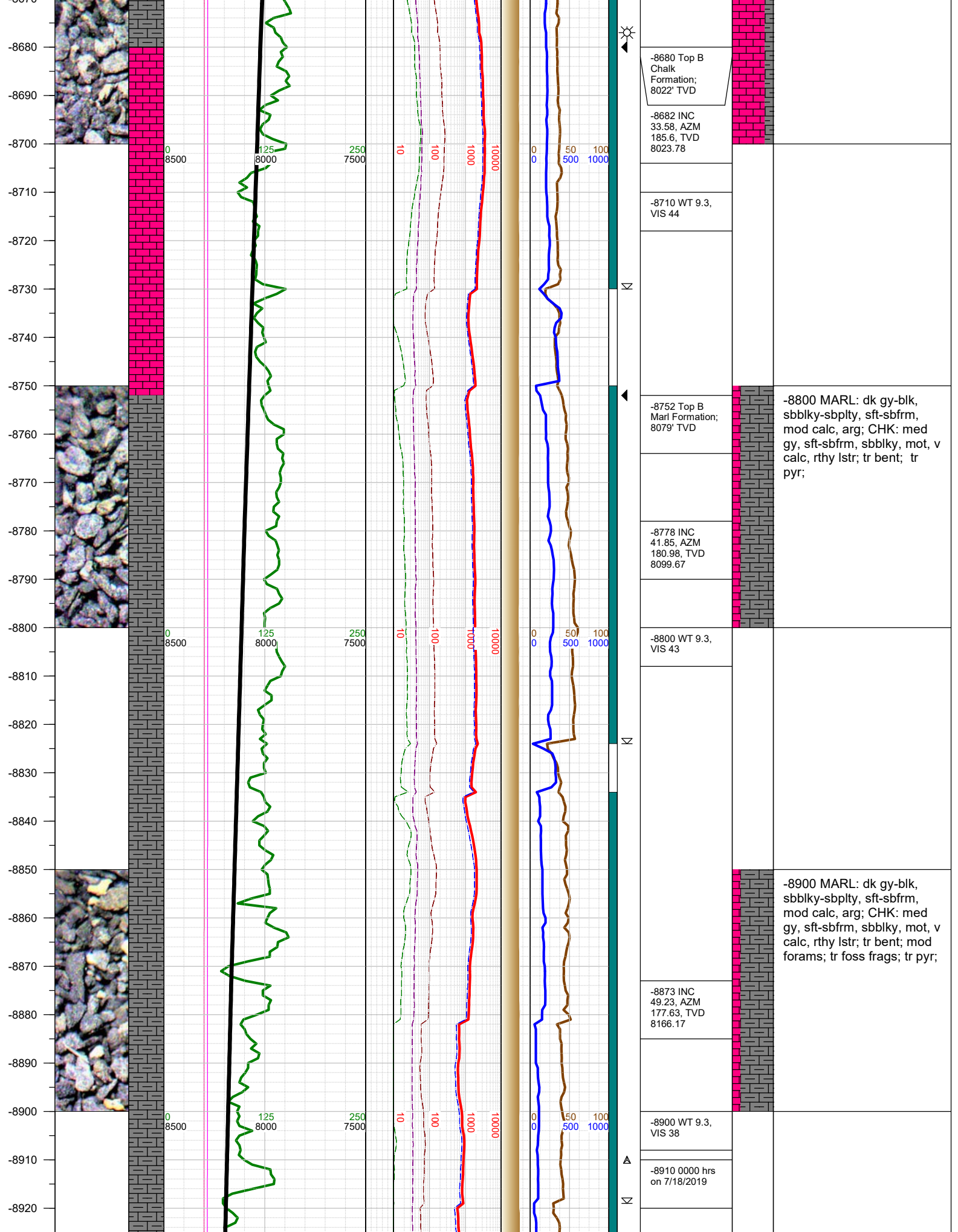


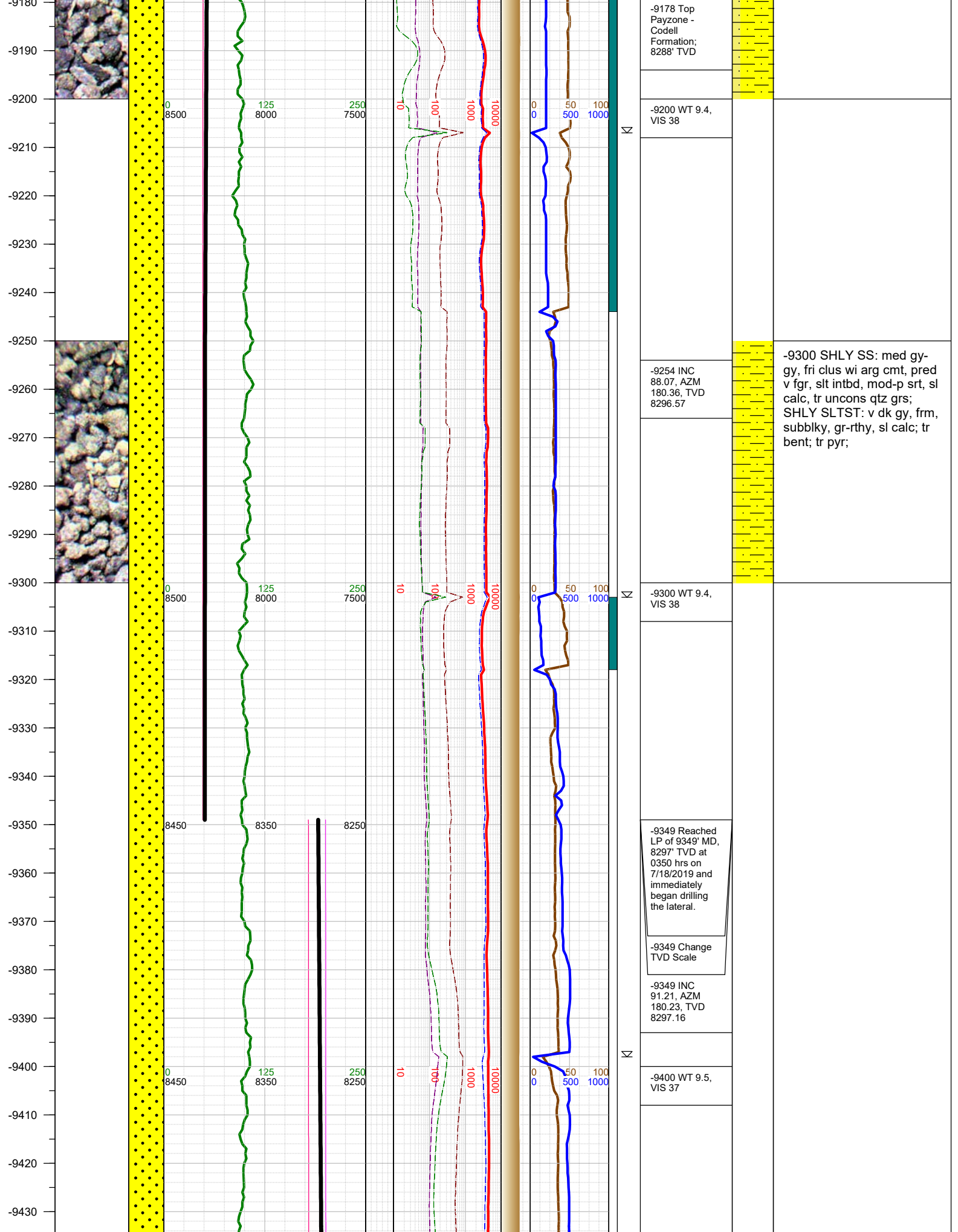


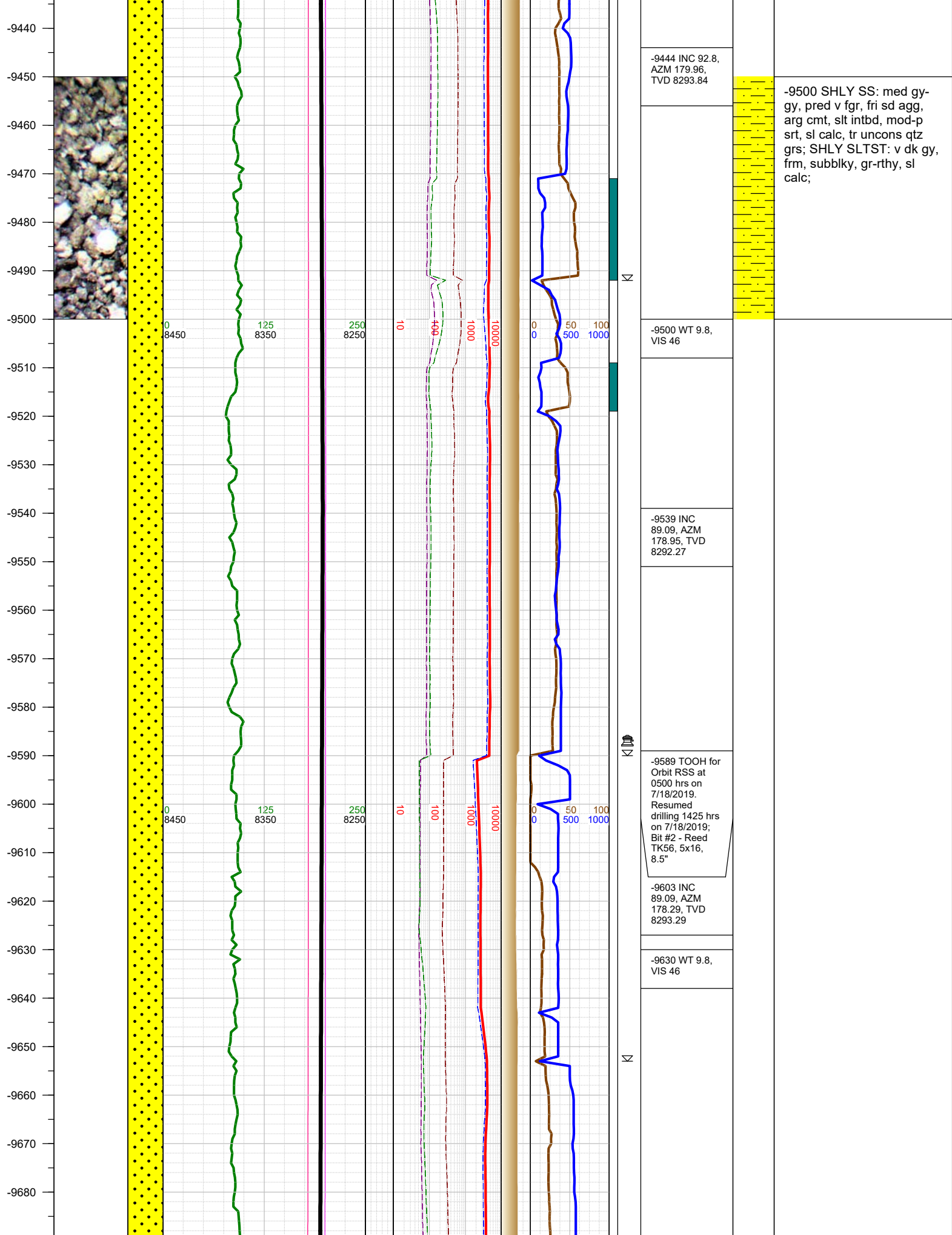


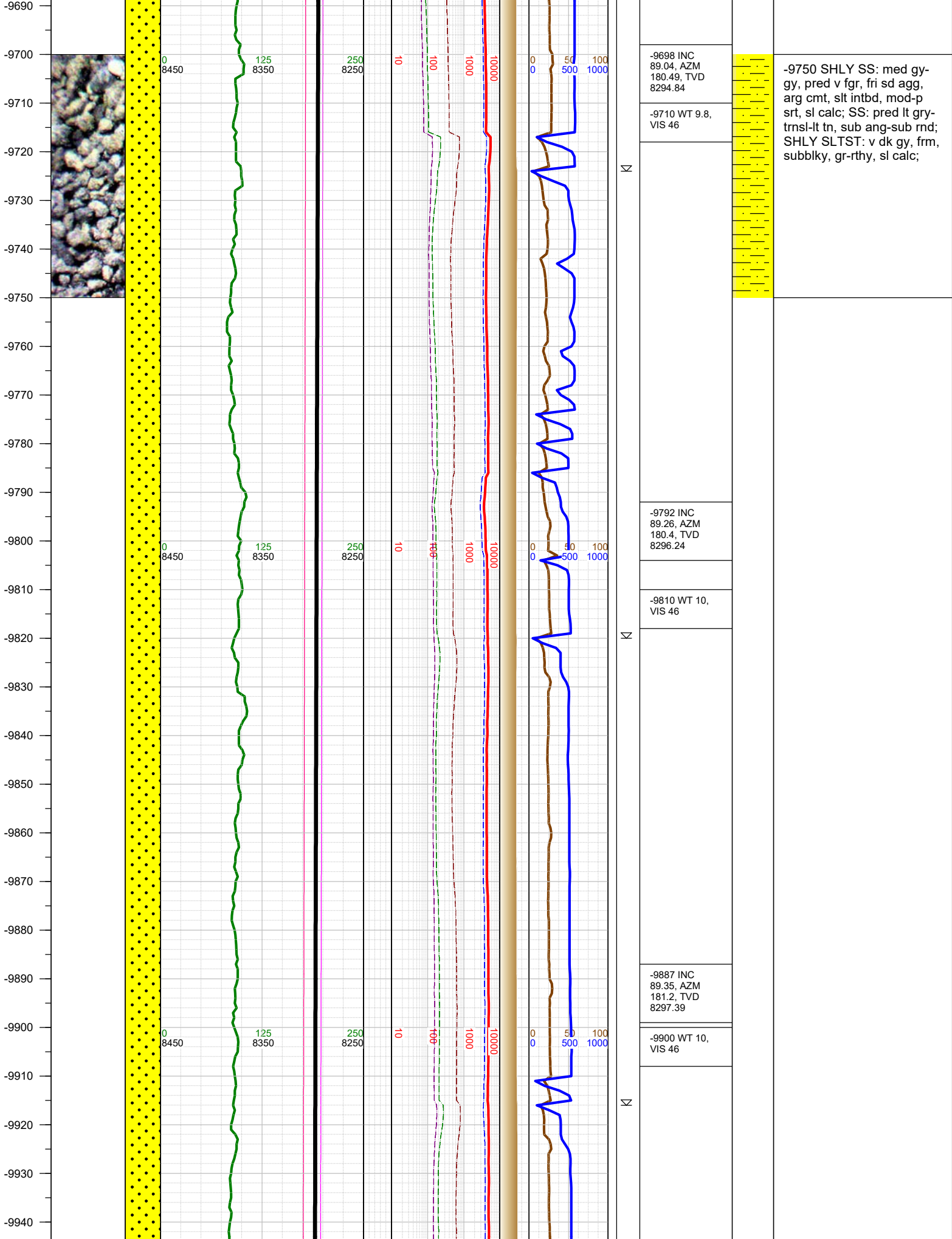


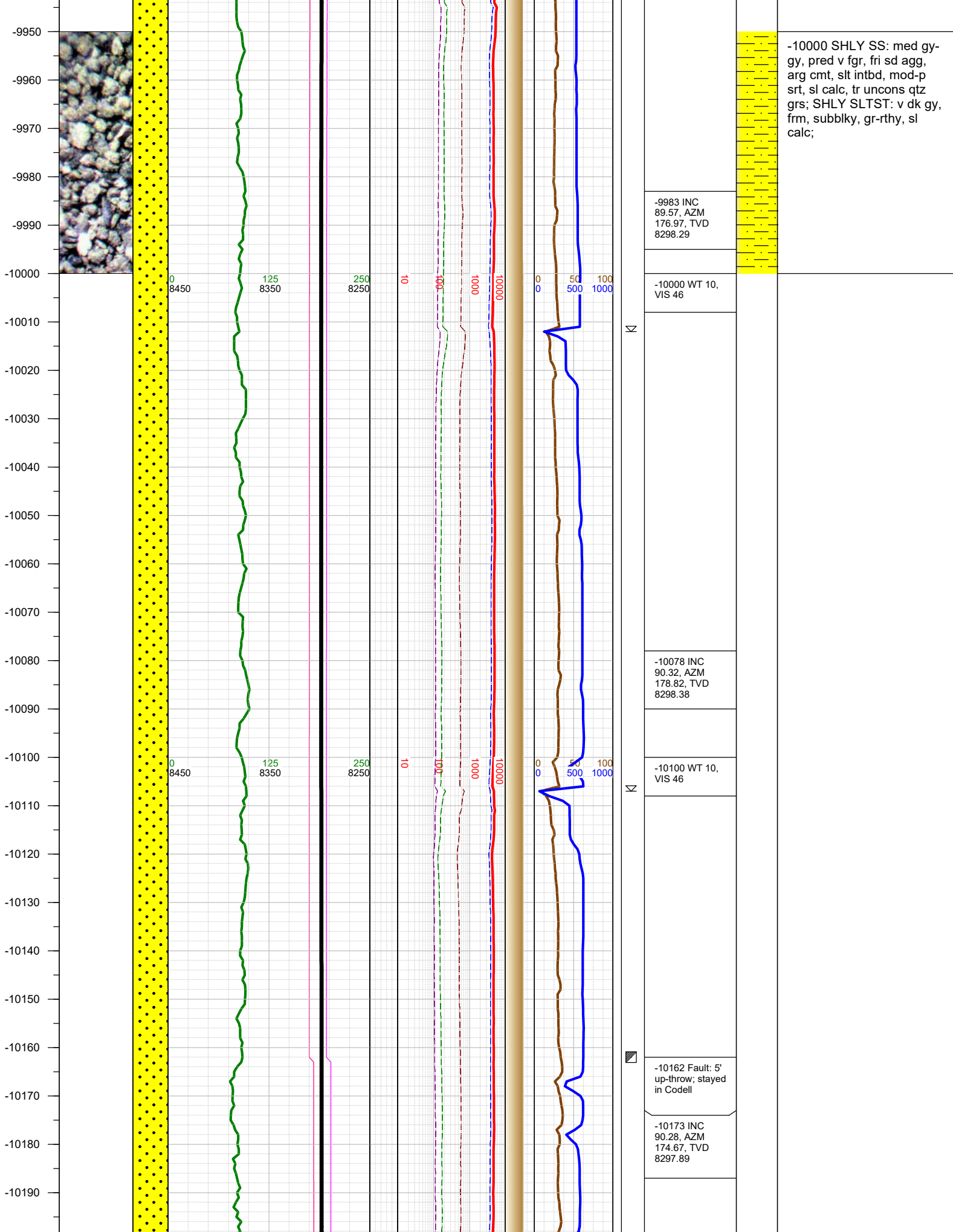


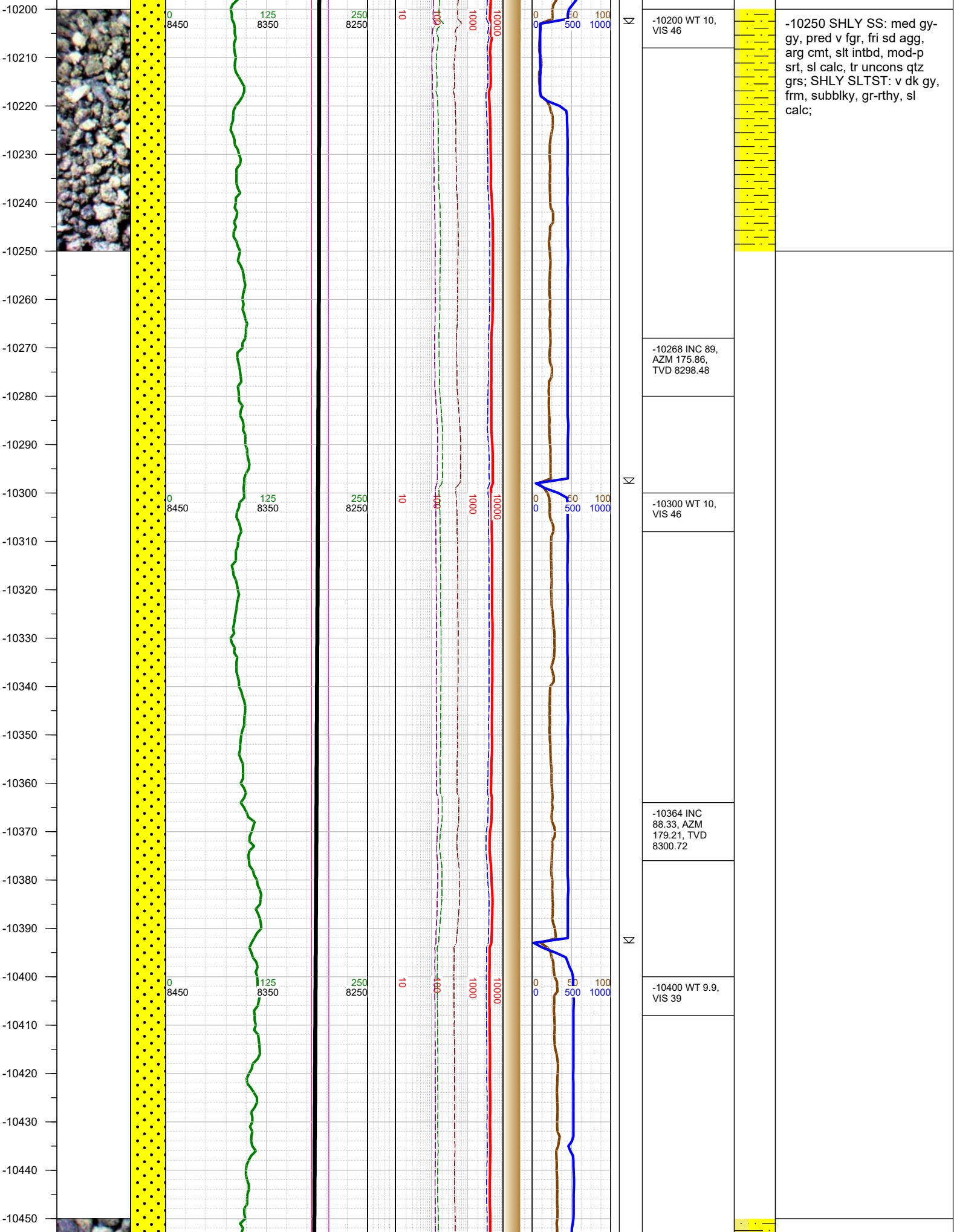


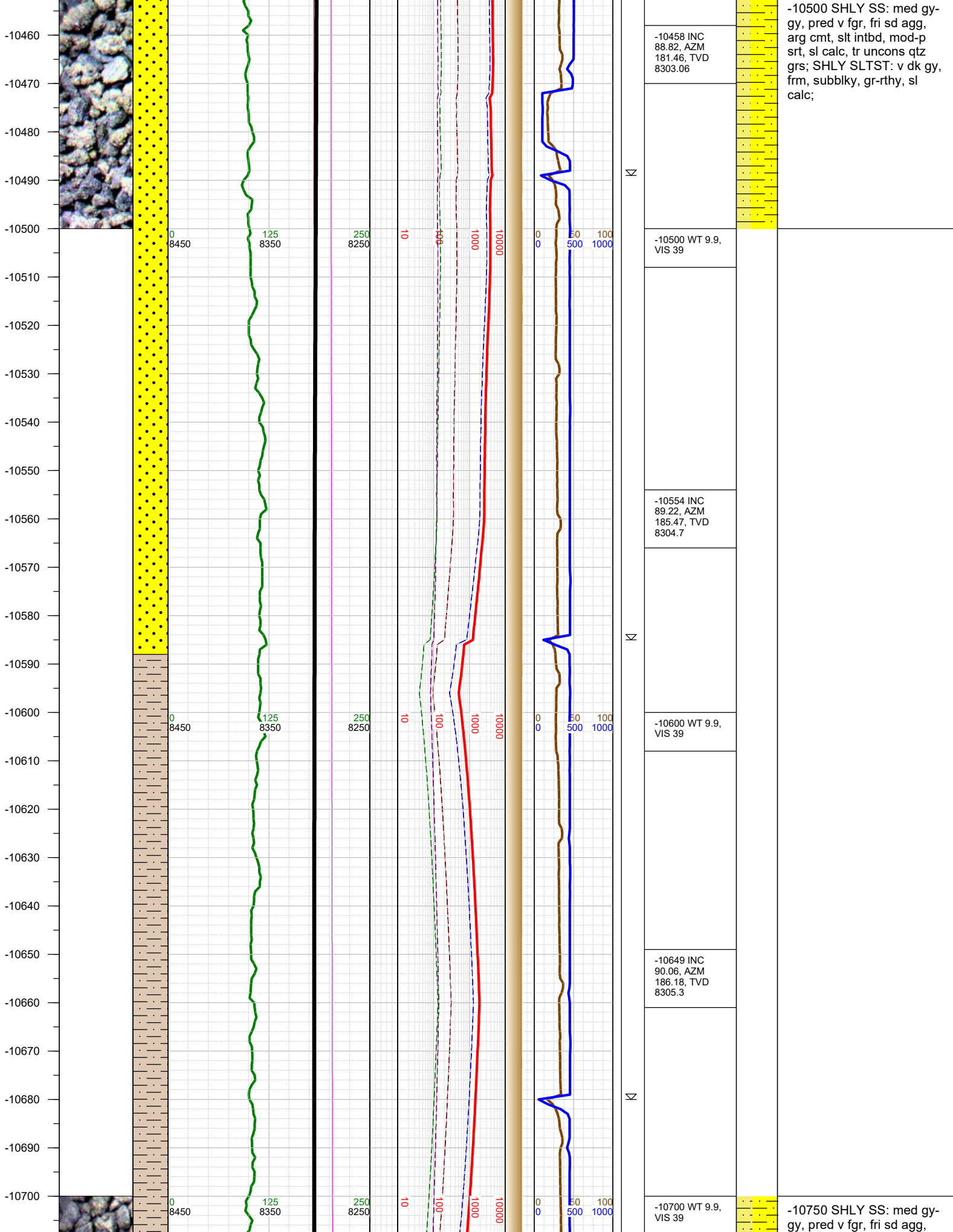


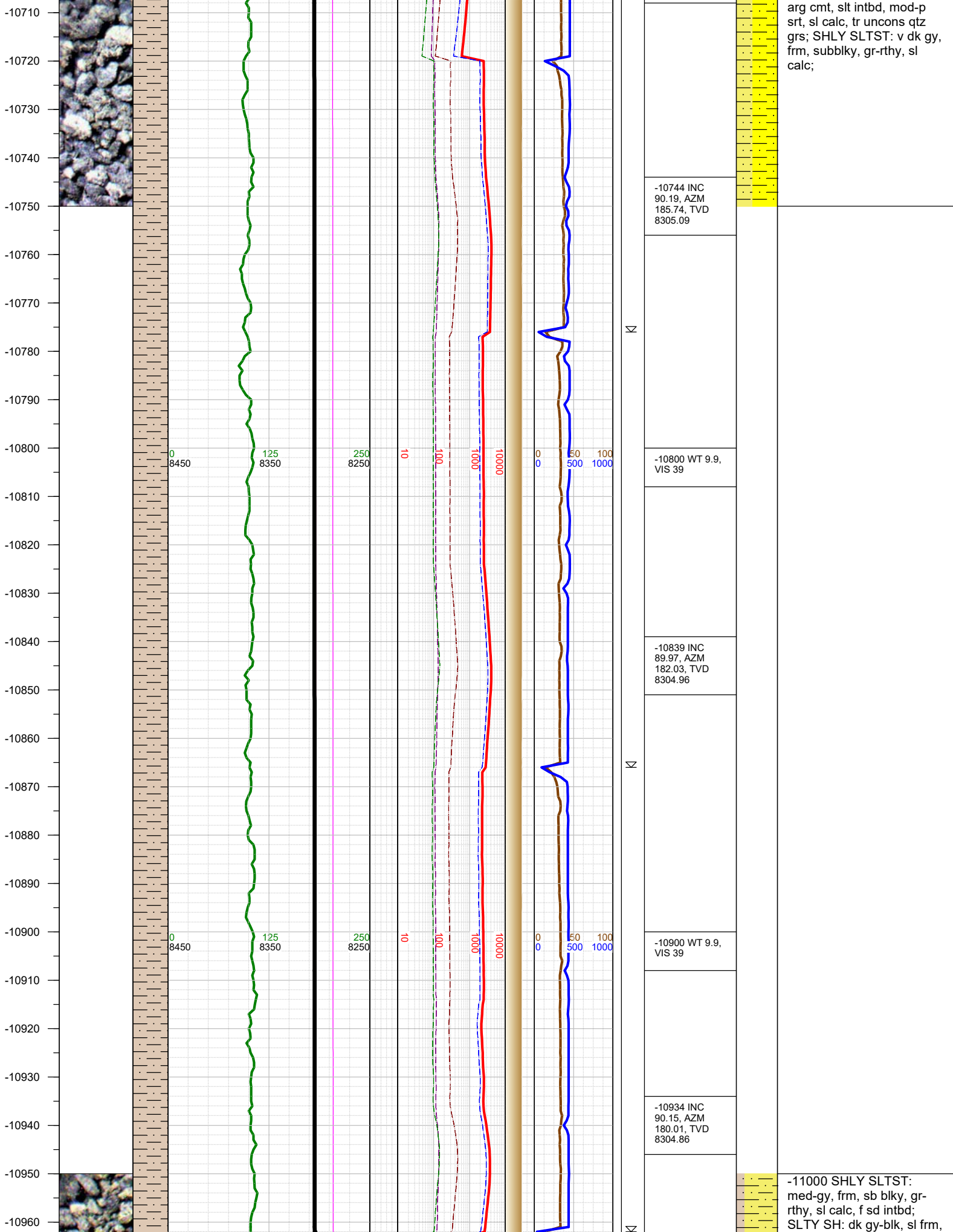


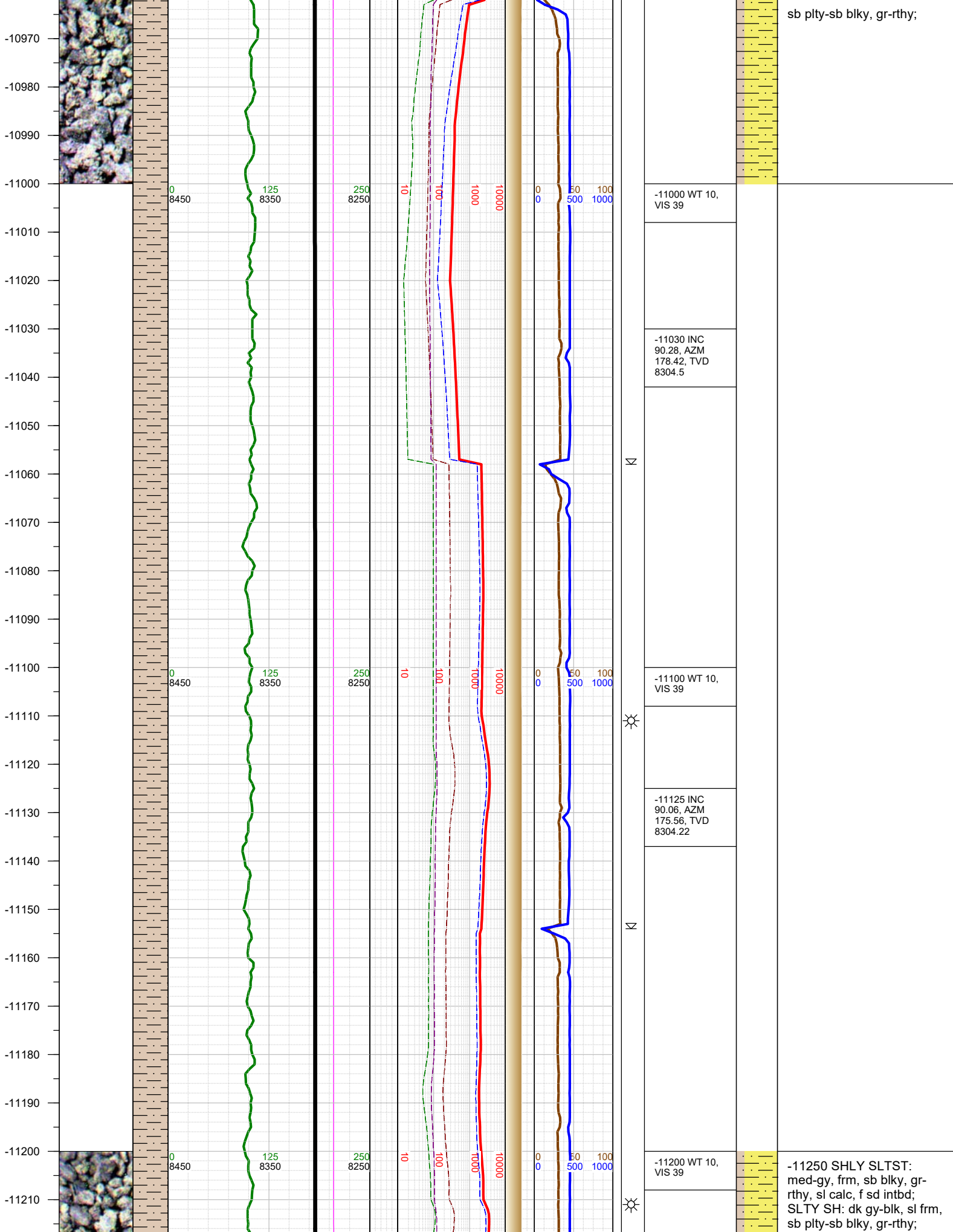


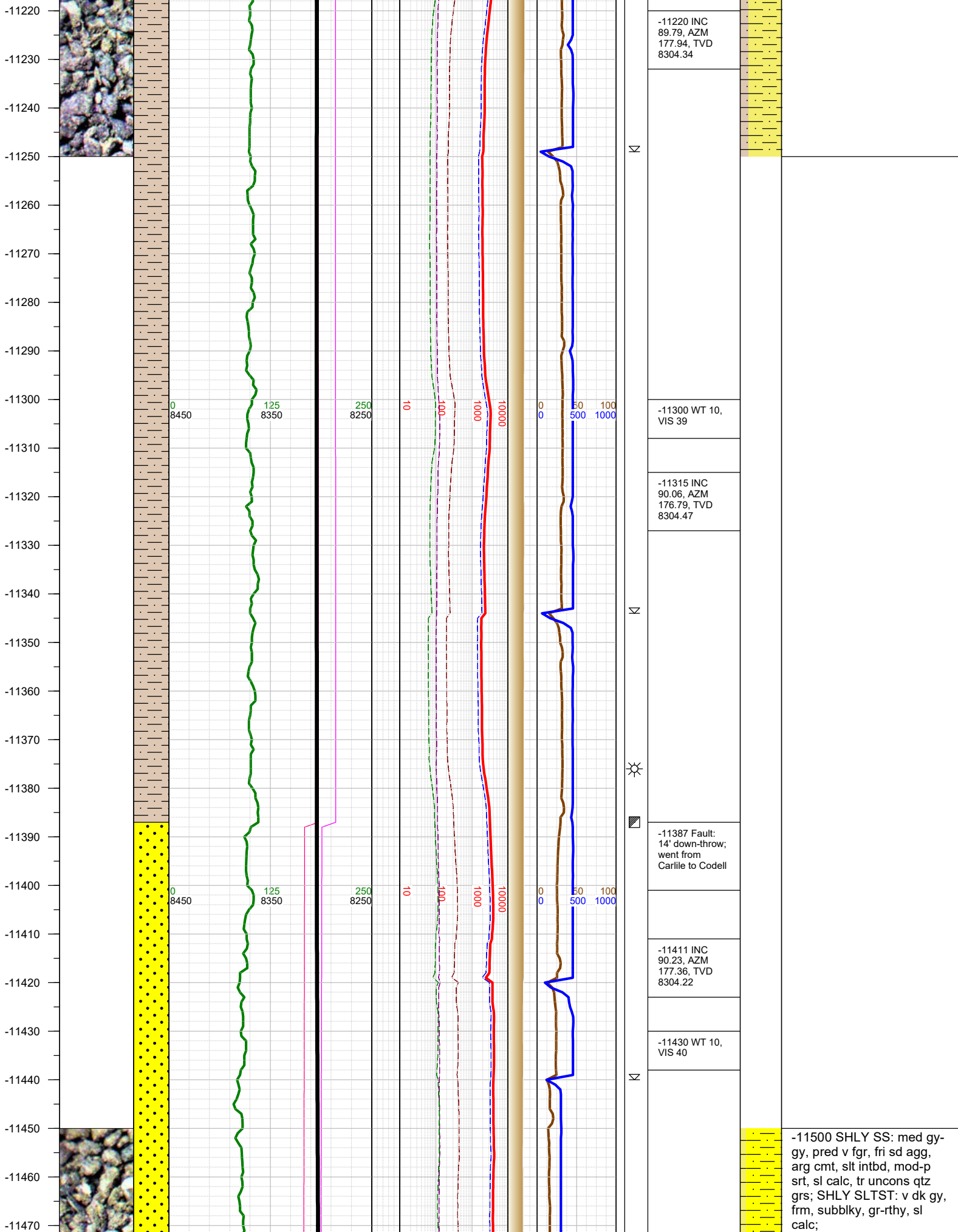


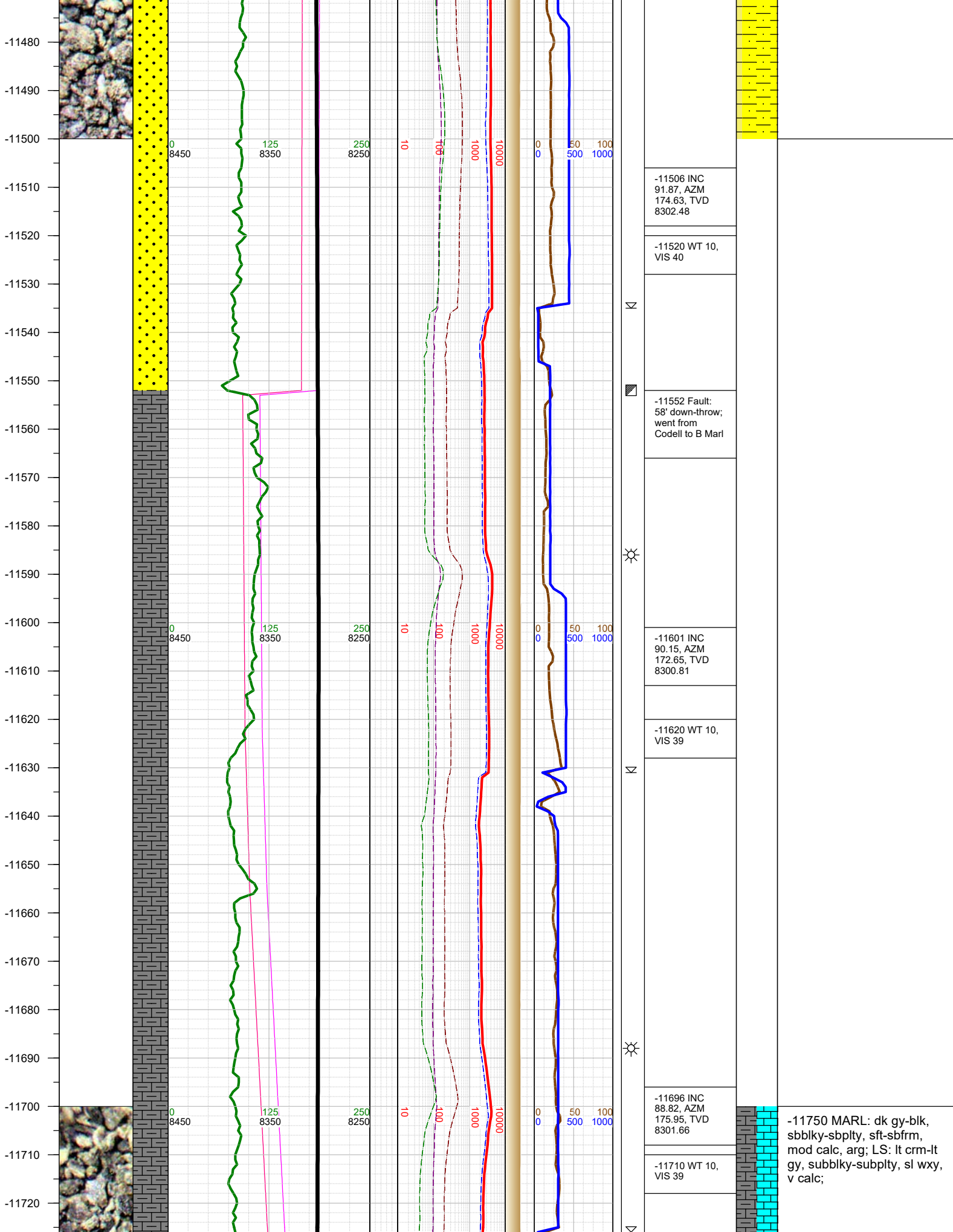




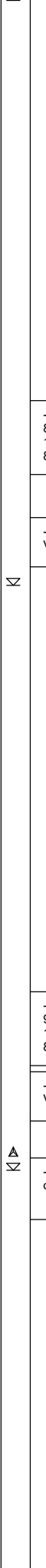
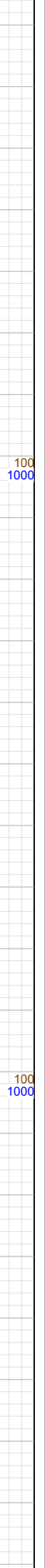
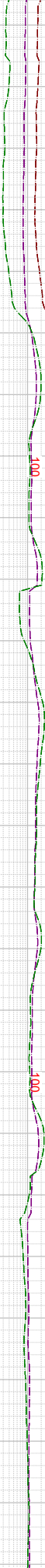
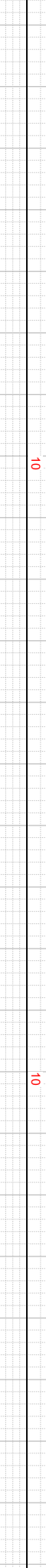
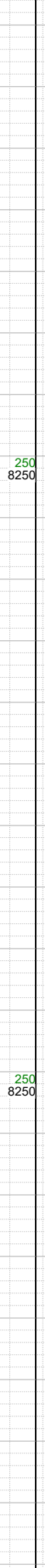
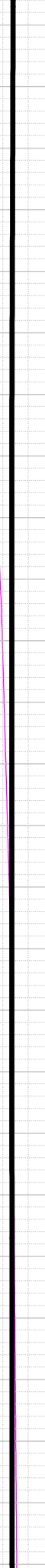
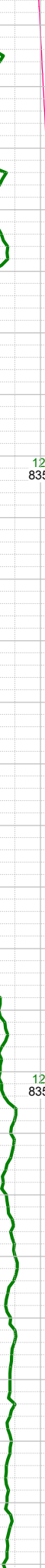
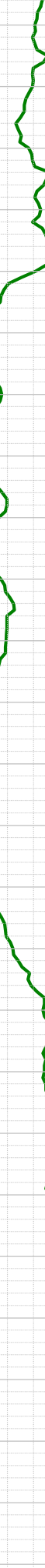
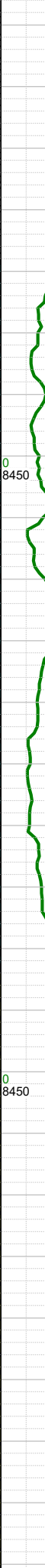
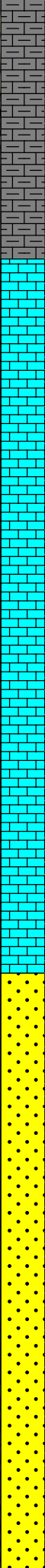








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-11791 INC
89.53, AZM
177.63, TVD
8303.03

-11810 WT 10,
VIS 39

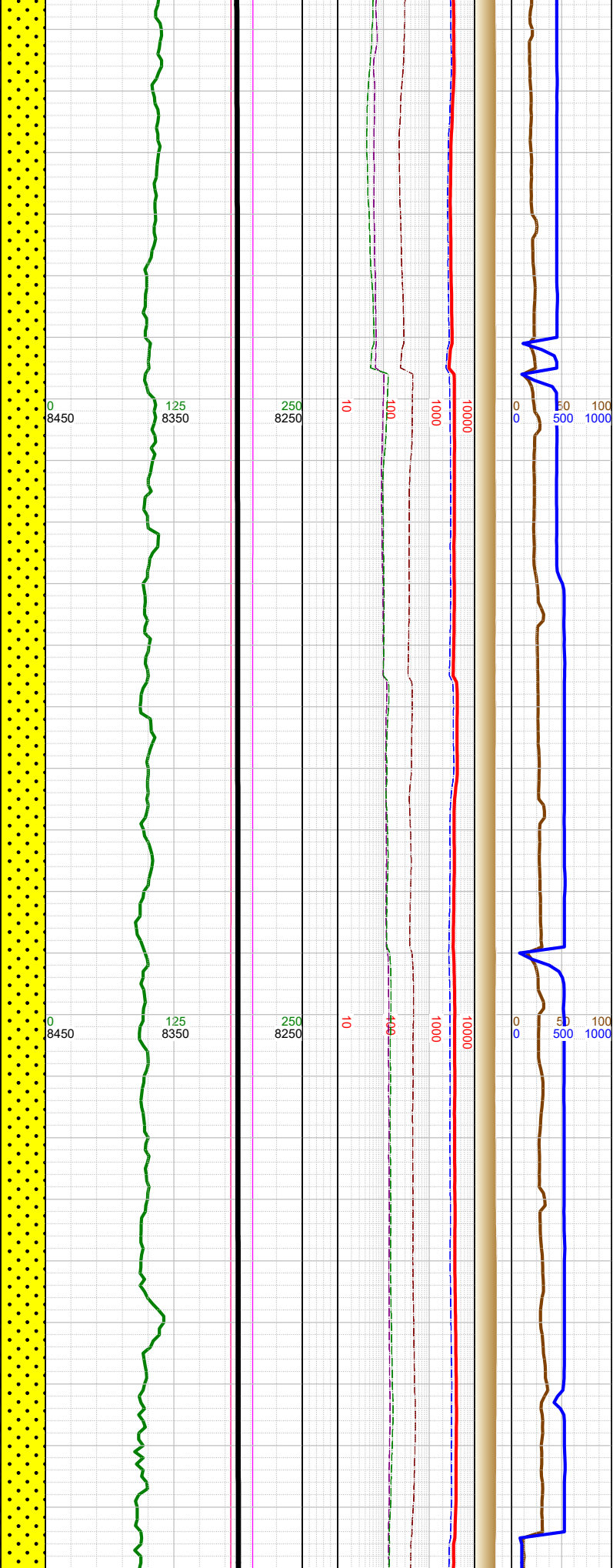
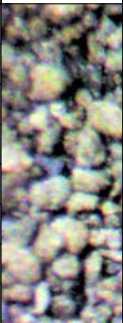
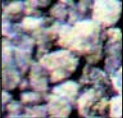
-11887 INC
90.37, AZM
178.02, TVD
8303.11

-11900 WT 10,
VIS 39

-11914 0000 hrs
on 7/19/2019

-12000 SHLY SS: med gy-
gy, pred v fgr, fri sd agg,
arg cmt, slt intbd, mod-p
srt, sl calc, tr uncons qtz
grs; SHLY SLTST: v dk gy,
frm, subblky, gr-rthy, sl
calc; tr pyr;

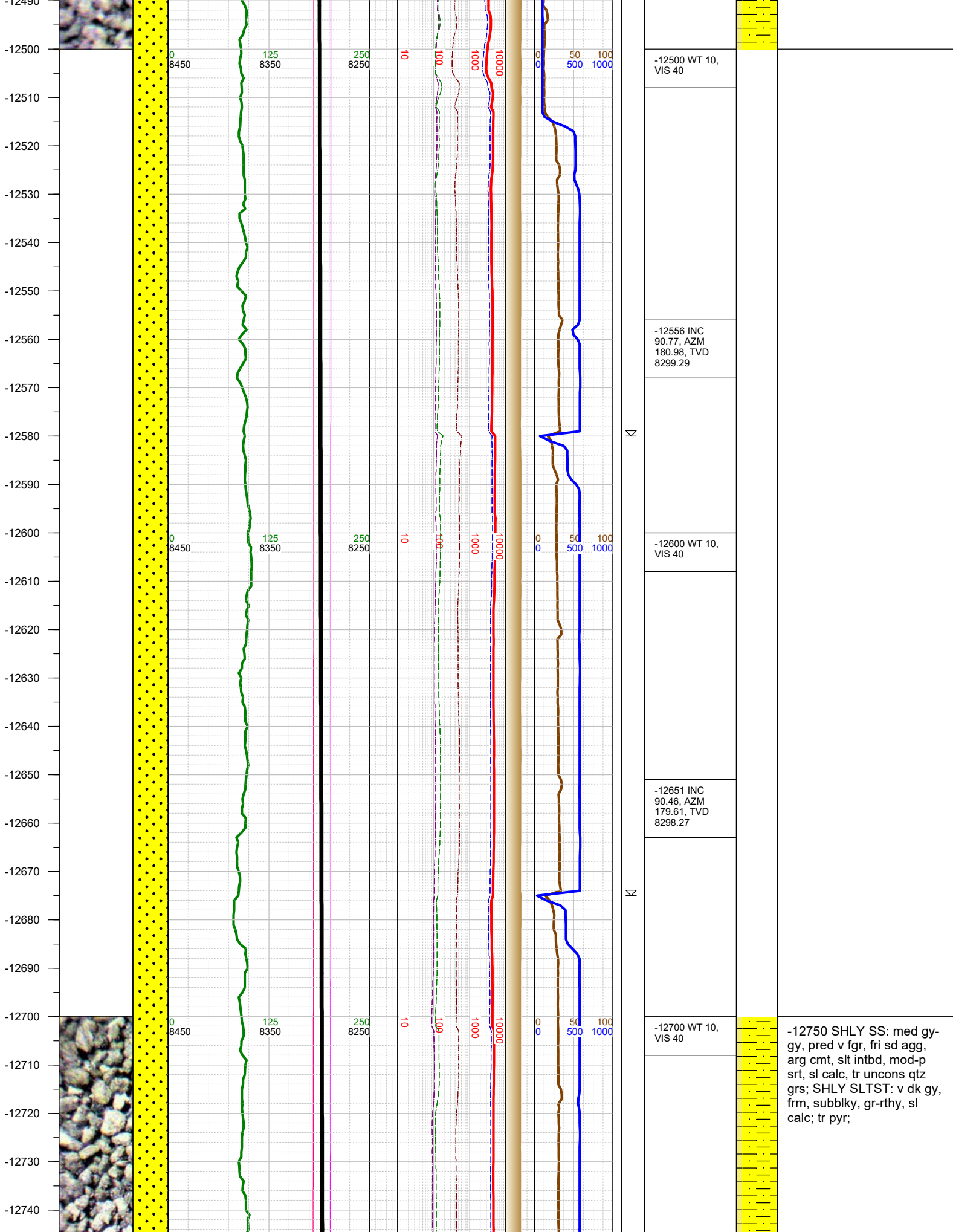
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-12490

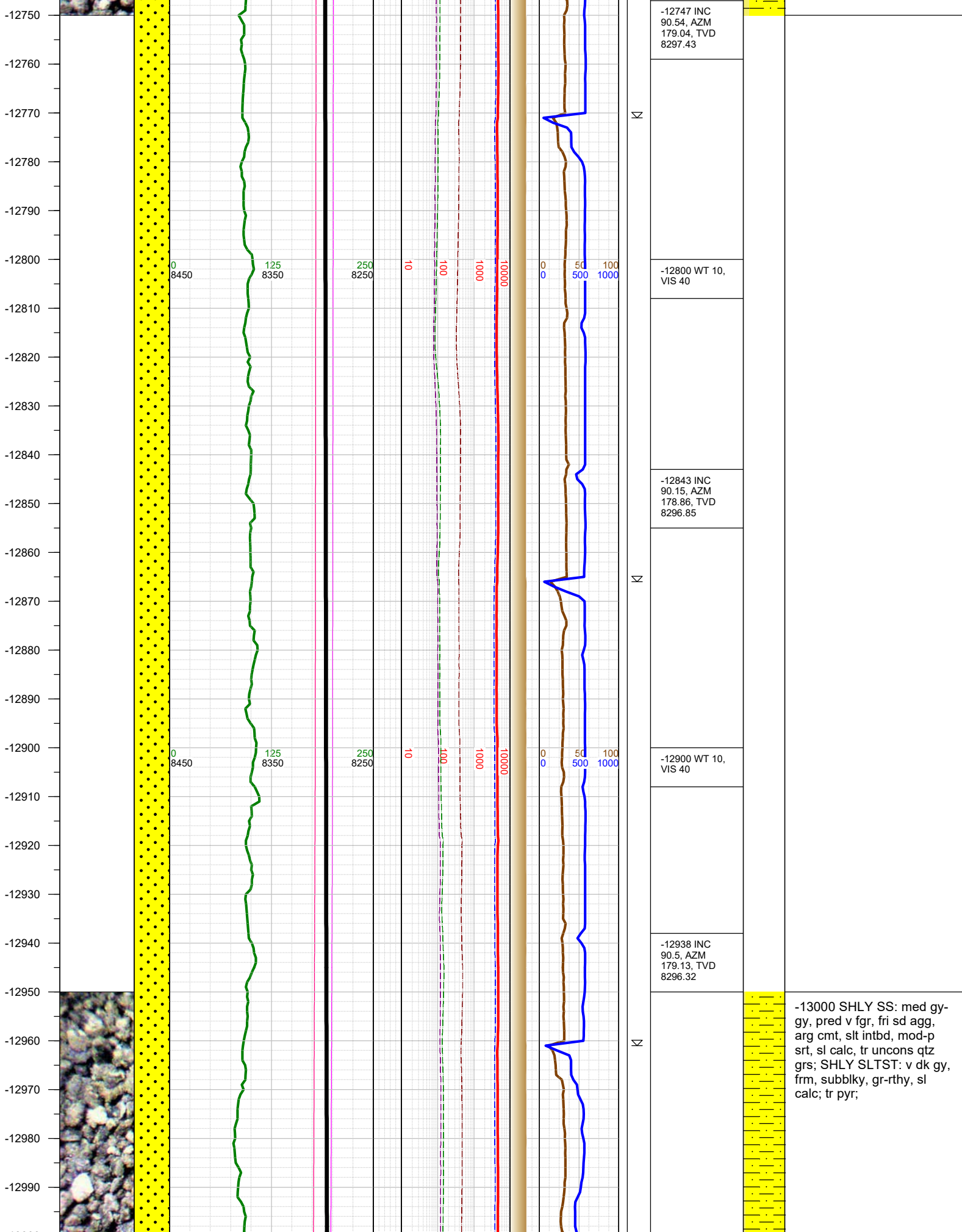


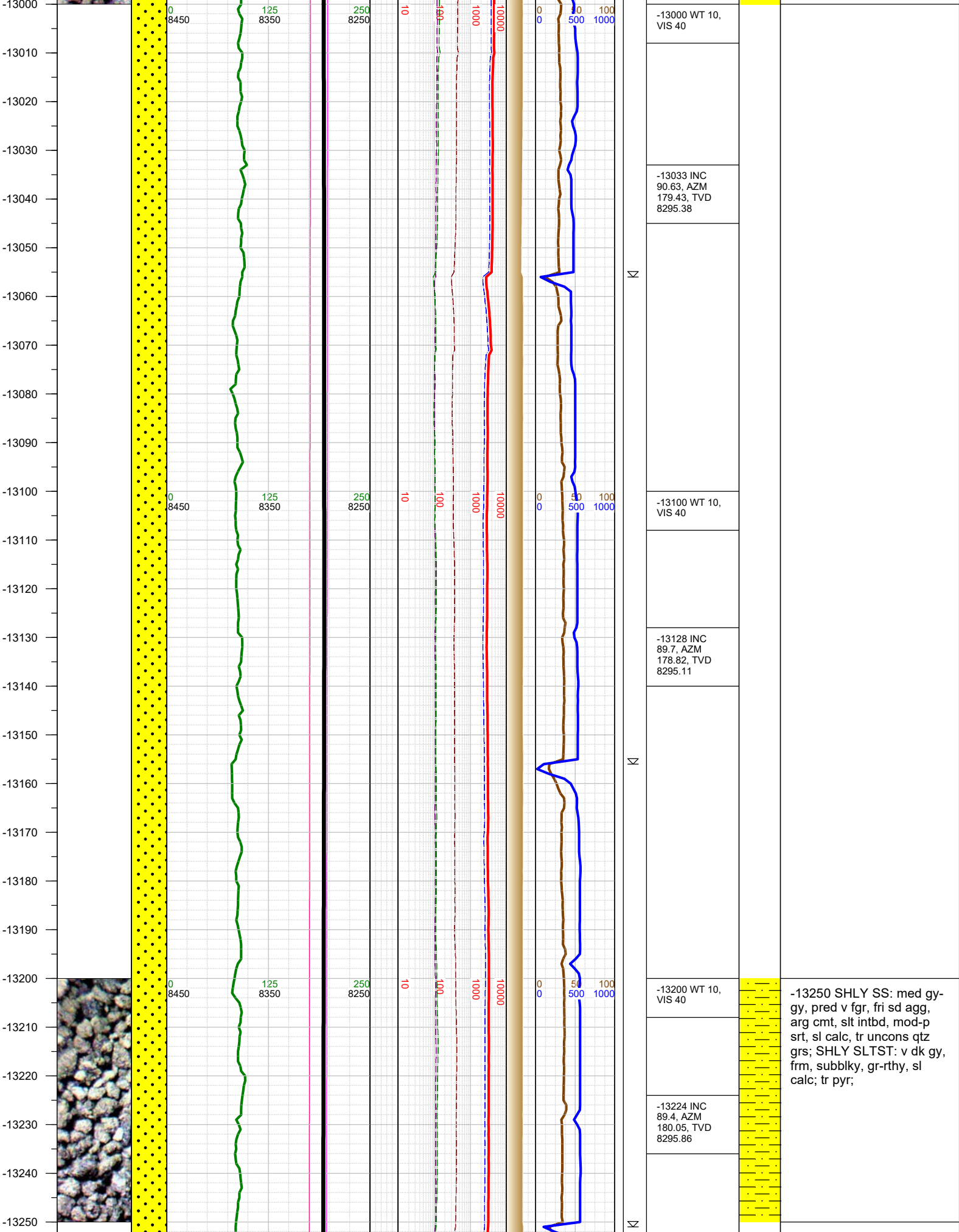
drilling at 1400 hrs on 7/19/2019; Bit #3 - Reed TK56, 5x16, 8.5"	
-12269 INC 90.37, AZM 184.72, TVD 8300.73	
-12300 WT 10, VIS 40	
-12350 Gas buster on	
-12365 INC 90.1, AZM 182.74, TVD 8300.33	
-12400 WT 10, VIS 40	
-12460 INC 90.19, AZM 181.33, TVD 8300.09	

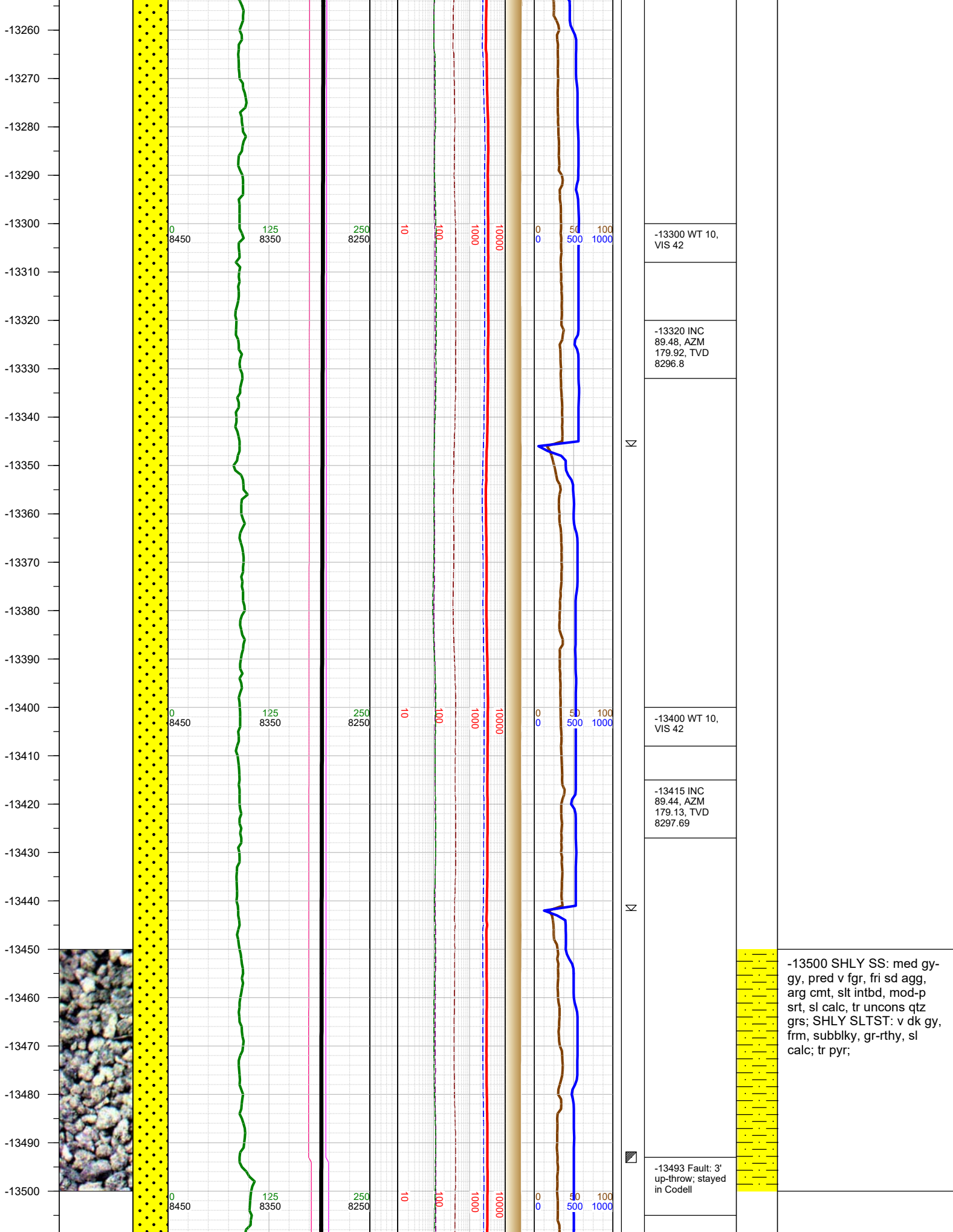


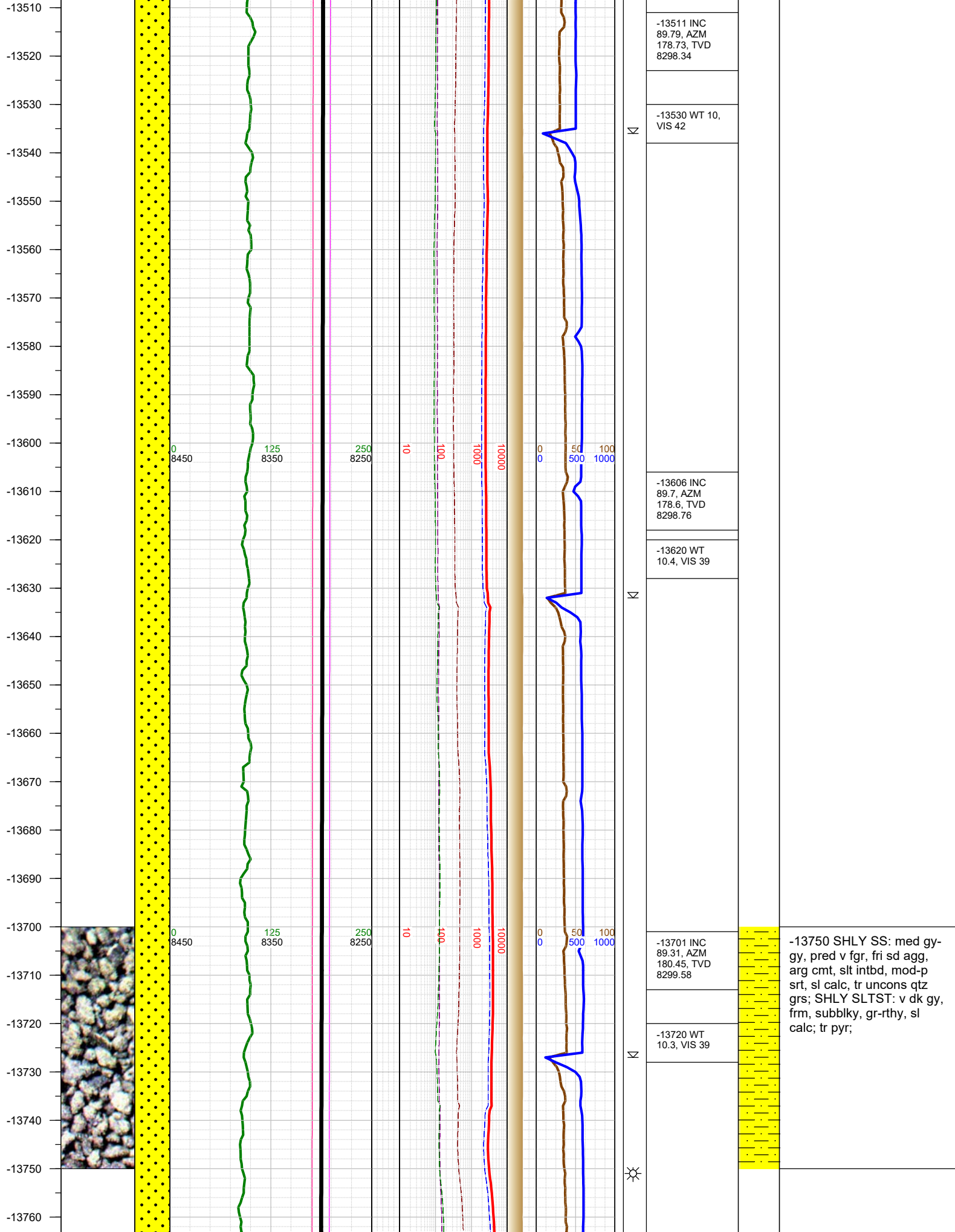
-12500 SHLY SS: med gy-gy, pred v fgr, fri sd agg, arg cmt, slt intbd, mod-p srt, sl calc, tr unconcs qtz grs; SHLY SLTST: v dk gy, frm, subblky, gr-rthy, sl calc; tr pyr;

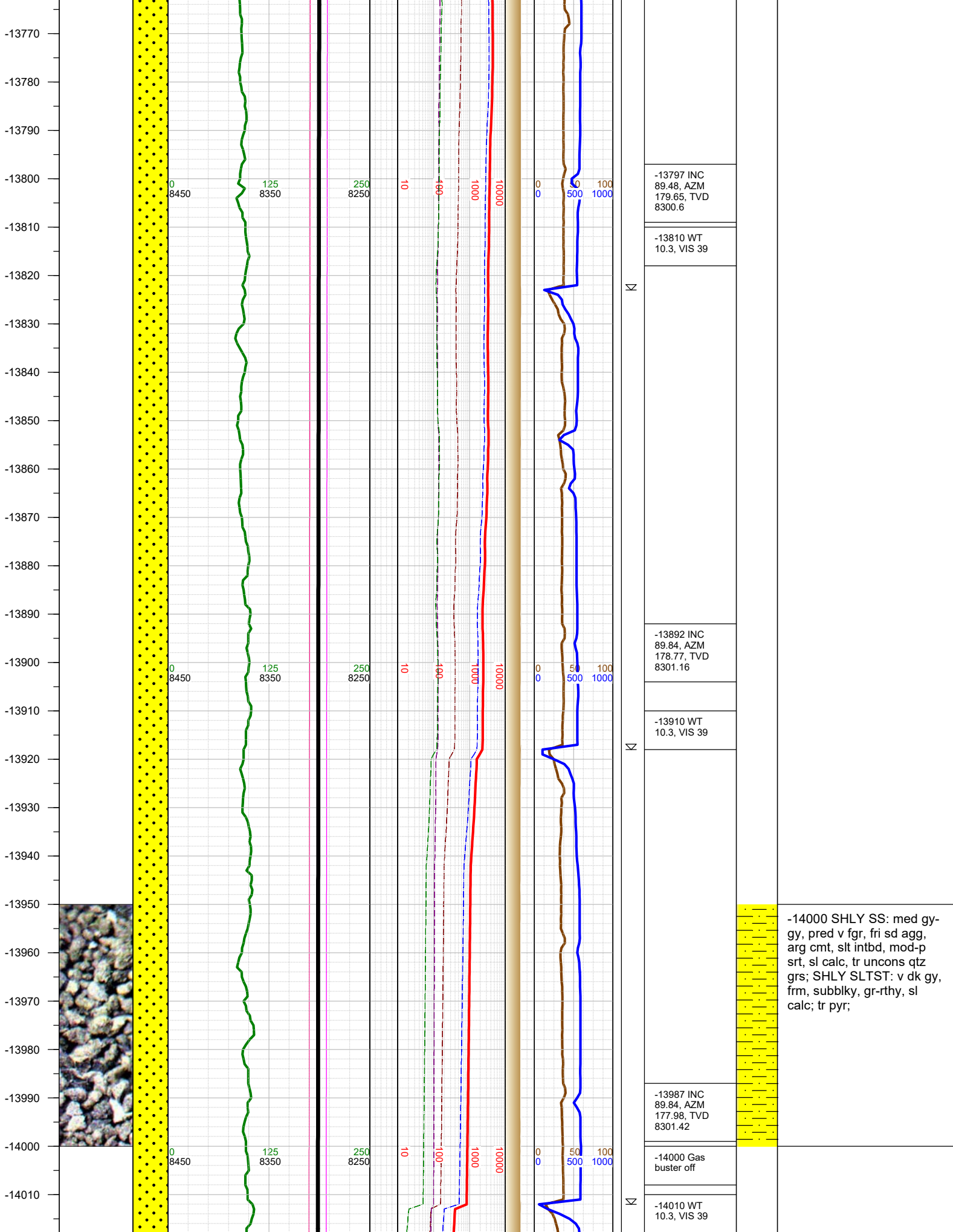


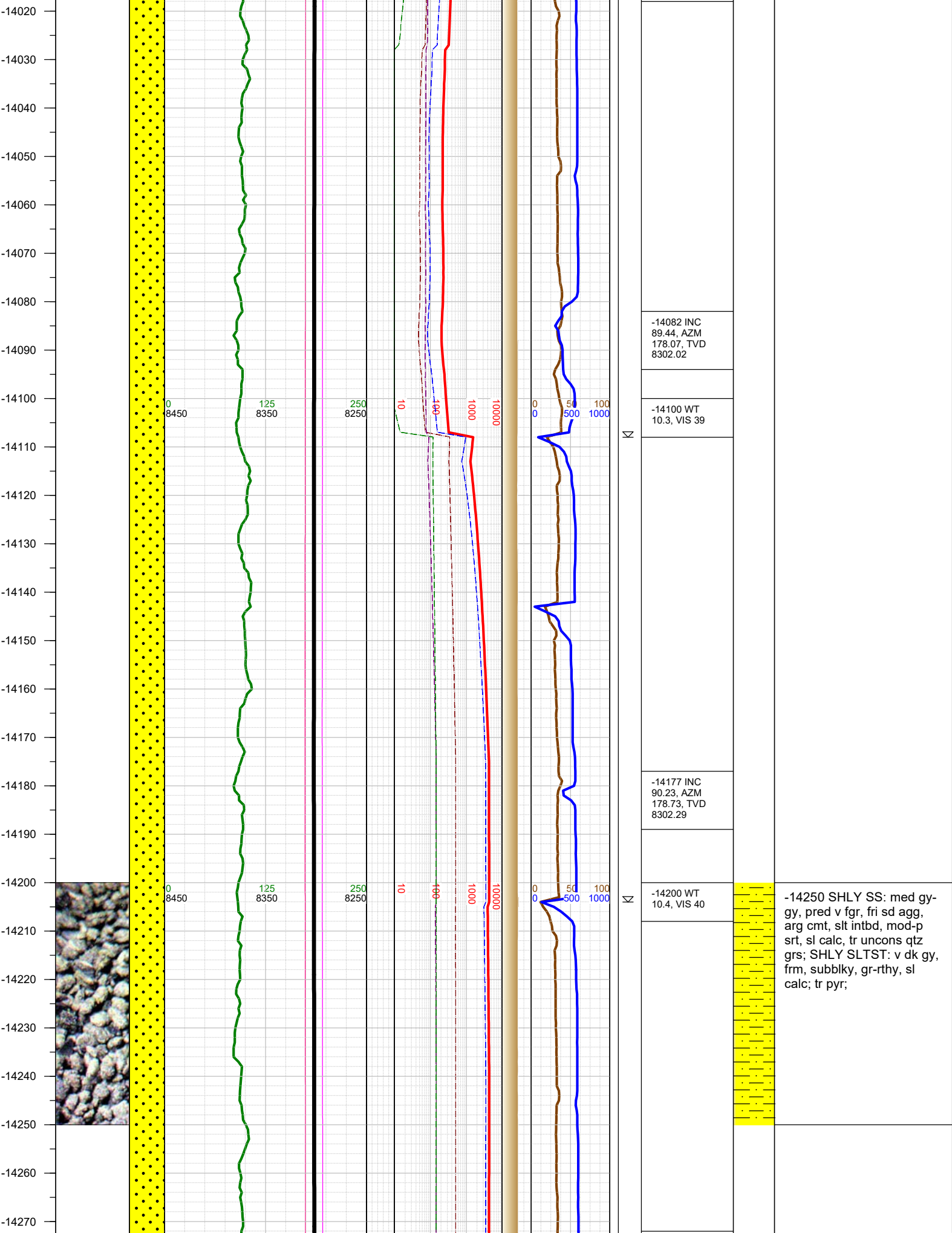


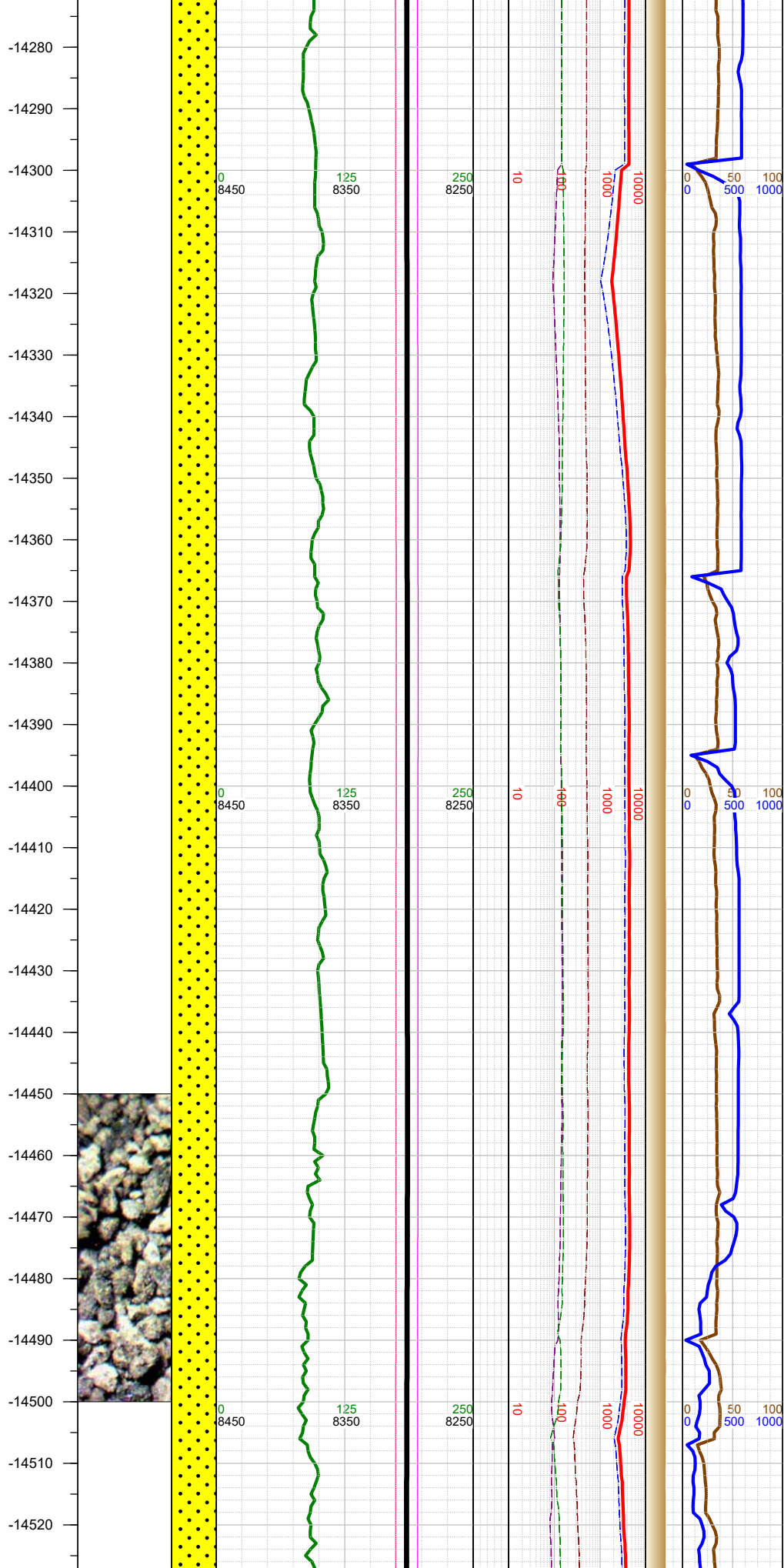






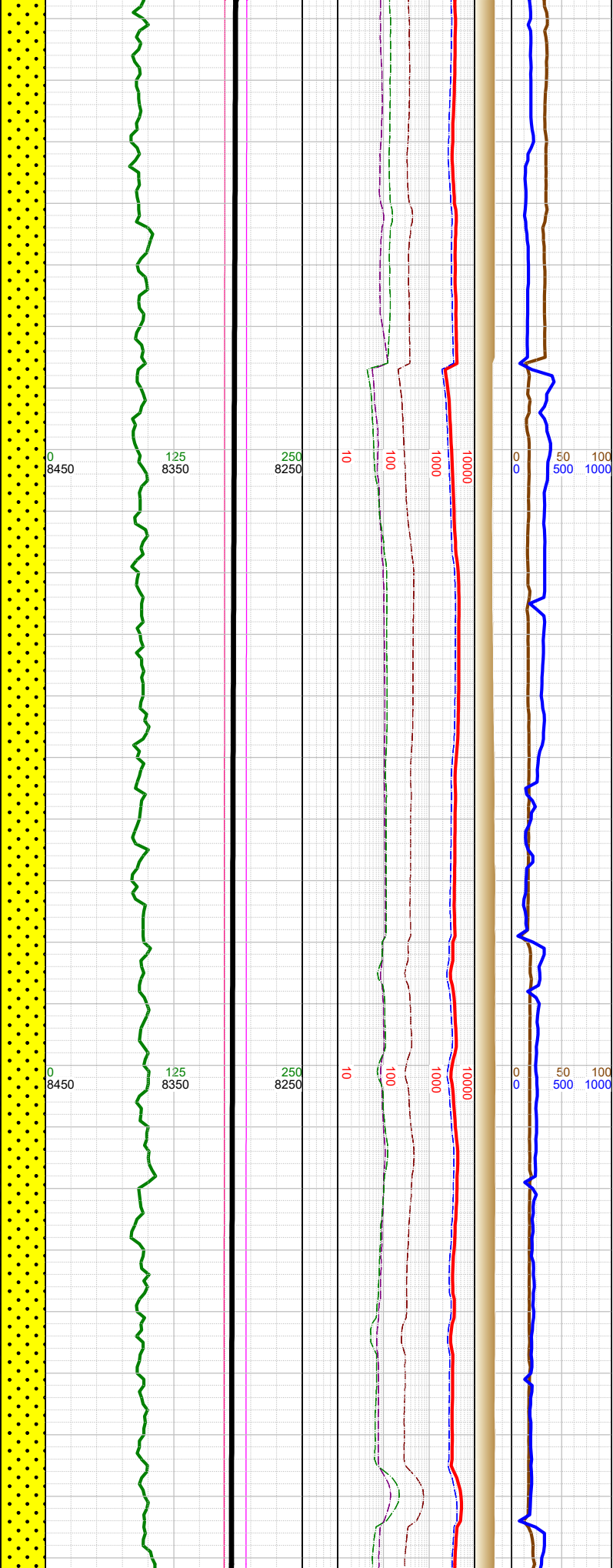
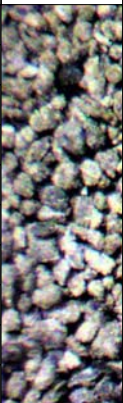






N	-14272 INC 90.32, AZM 177.67, TVD 8301.84	
	-14300 WT 10.4, VIS 40	
N	-14367 INC 90.1, AZM 177.67, TVD 8301.49	
	-14400 WT 10.4, VIS 40	
N	-14462 INC 90.19, AZM 178.02, TVD 8301.25	-14500 SHLY SS: med gy- gy, pred v fgr, fri sd agg, arg cmt, slt intbd, mod-p srt, sl calc, tr uncons qtz grs; SHLY SLTST: v dk gy, frm, subblky, gr-rthy, sl calc; tr pyr;
	-14500 WT 10.4, VIS 40	

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-14780



-14557 INC
88.38, AZM
178.68, TVD
8302.44

-14584 TOO
H for bit at 2141
hrs on
7/19/2019.
Resumed
drilling at 1200
hrs on
7/20/2019; Bit
#4 - Reed 516,
5x16, 8.5"

-14584 0000 hrs
on 7/20/2019

-14584 Gas
buster on

-14630 WT
10.4, VIS 40

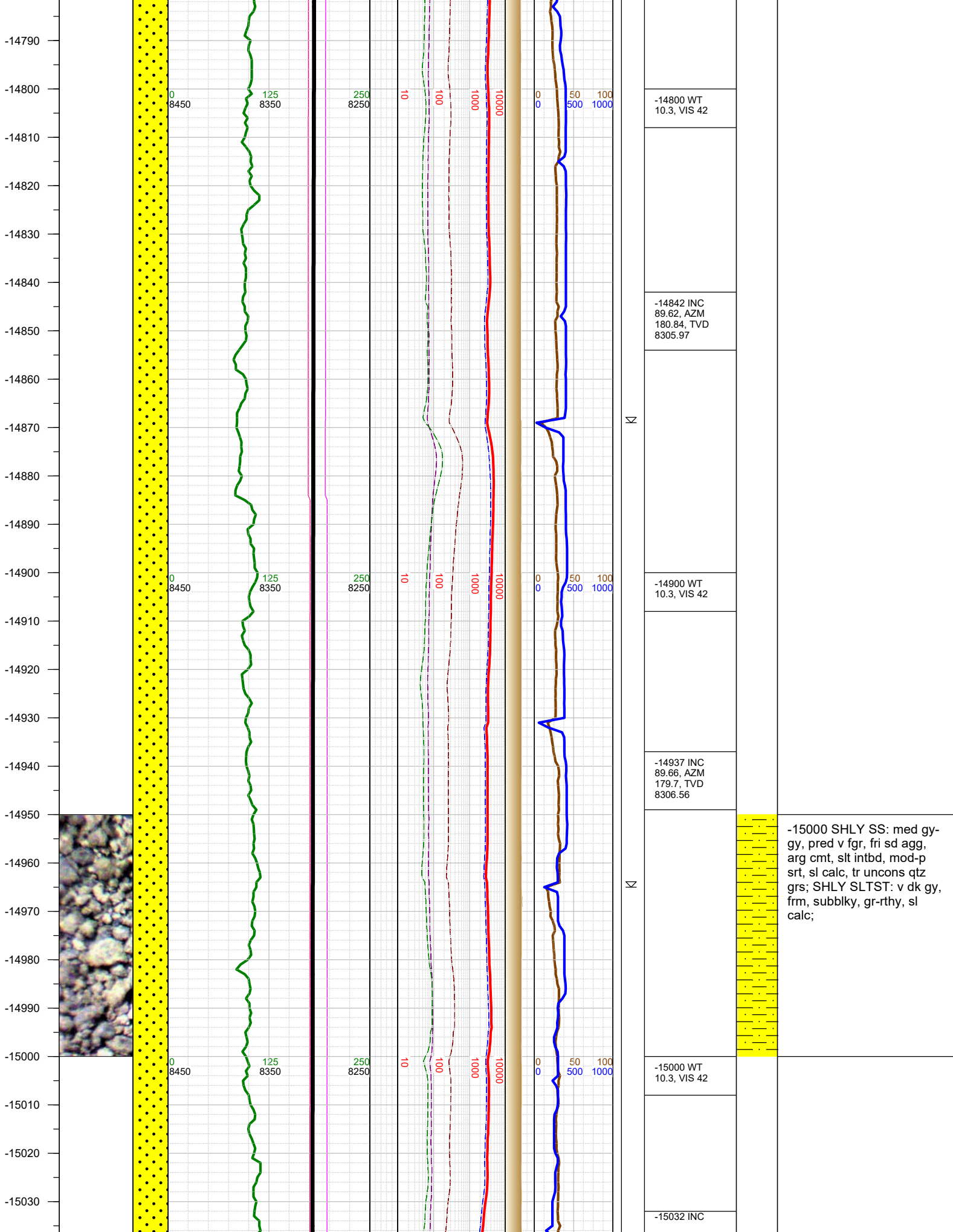
-14652 INC
89.7, AZM
181.77, TVD
8304.03

-14700 WT
10.3, VIS 42

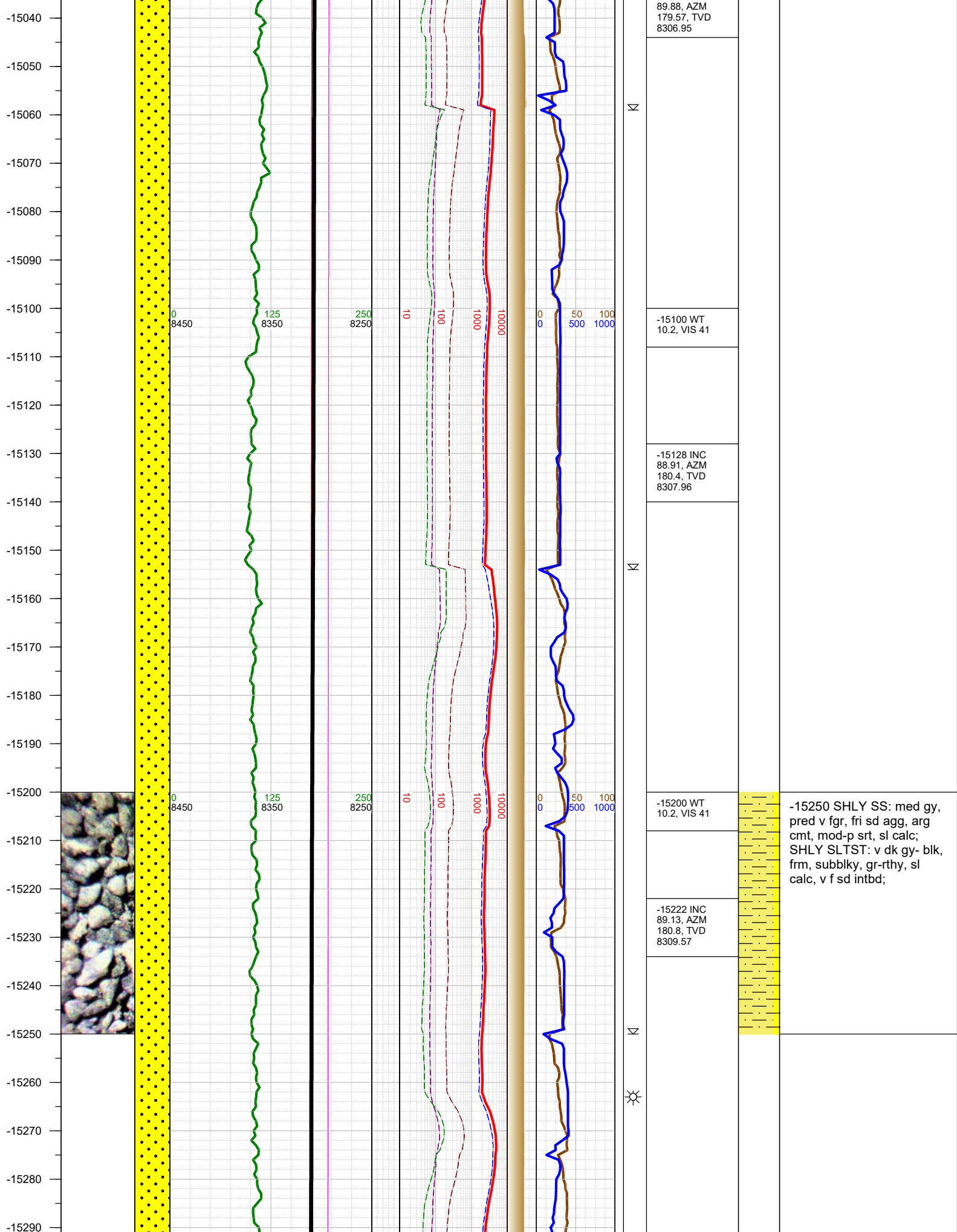
-14747 INC
89.17, AZM
181.51, TVD
8304.96

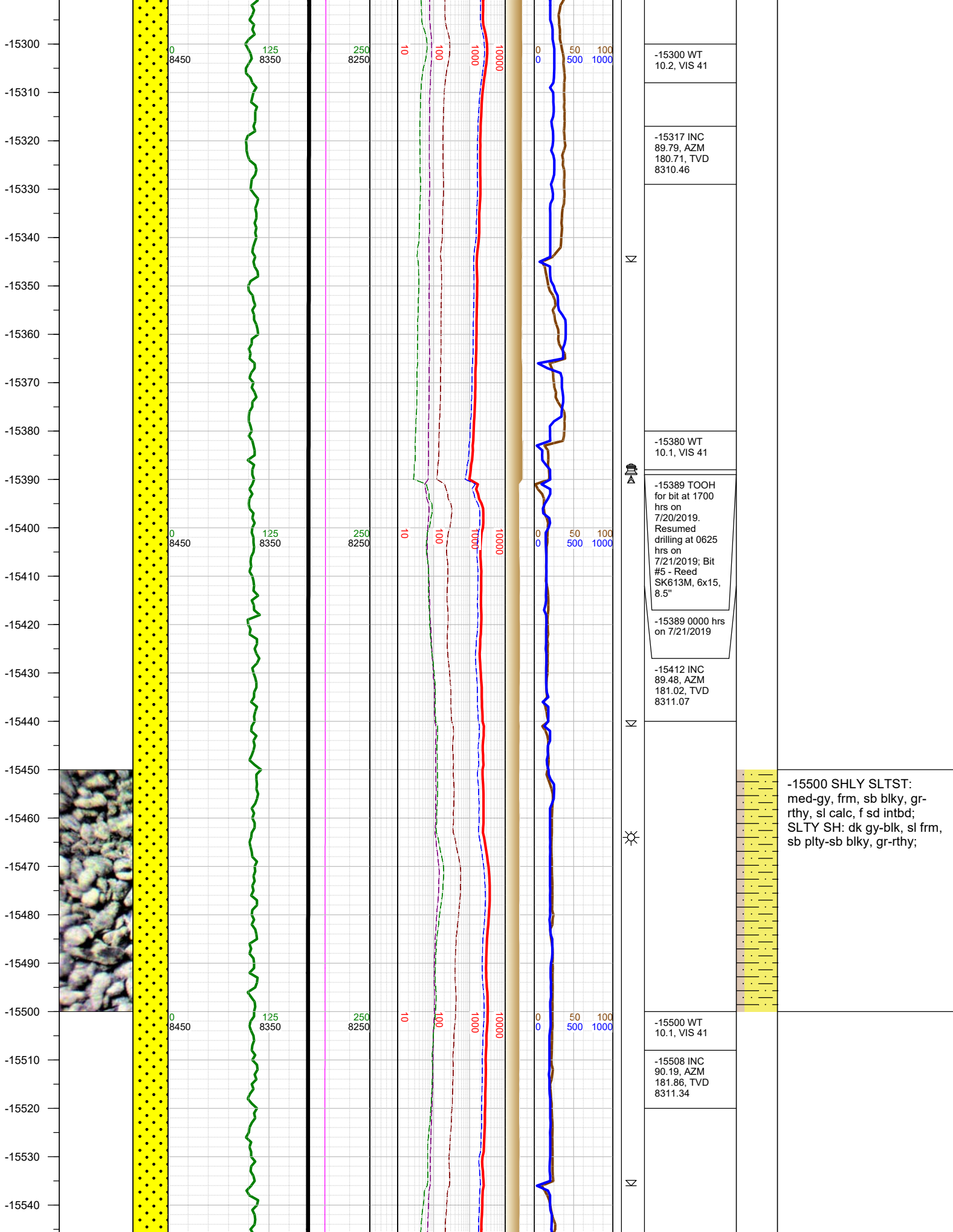


-14750 SHLY SS: med gy-
gy, pred v fgr, fri sd agg,
arg cmt, slt intbd, mod-p
srt, sl calc, tr unconsl qtz
grs; SHLY SLTST: v dk gy,
frm, subblky, gr-rthy, sl
calc;



-15000 SHLY SS: med gy-gy, pred v fgr, fri sd agg, arg cmt, slt intbd, mod-p srt, sl calc, tr uncons qtz grs; SHLY SLTST: v dk gy, frm, subblky, gr-rthy, sl calc;





-15300 WT
10.2, VIS 41

-15317 INC
89.79, AZM
180.71, TVD
8310.46

-15380 WT
10.1, VIS 41

-15389 TOO H
for bit at 1700
hrs on
7/20/2019.
Resumed
drilling at 0625
hrs on
7/21/2019; Bit
#5 - Reed
SK613M, 6x15,
8.5"

-15389 0000 hrs
on 7/21/2019

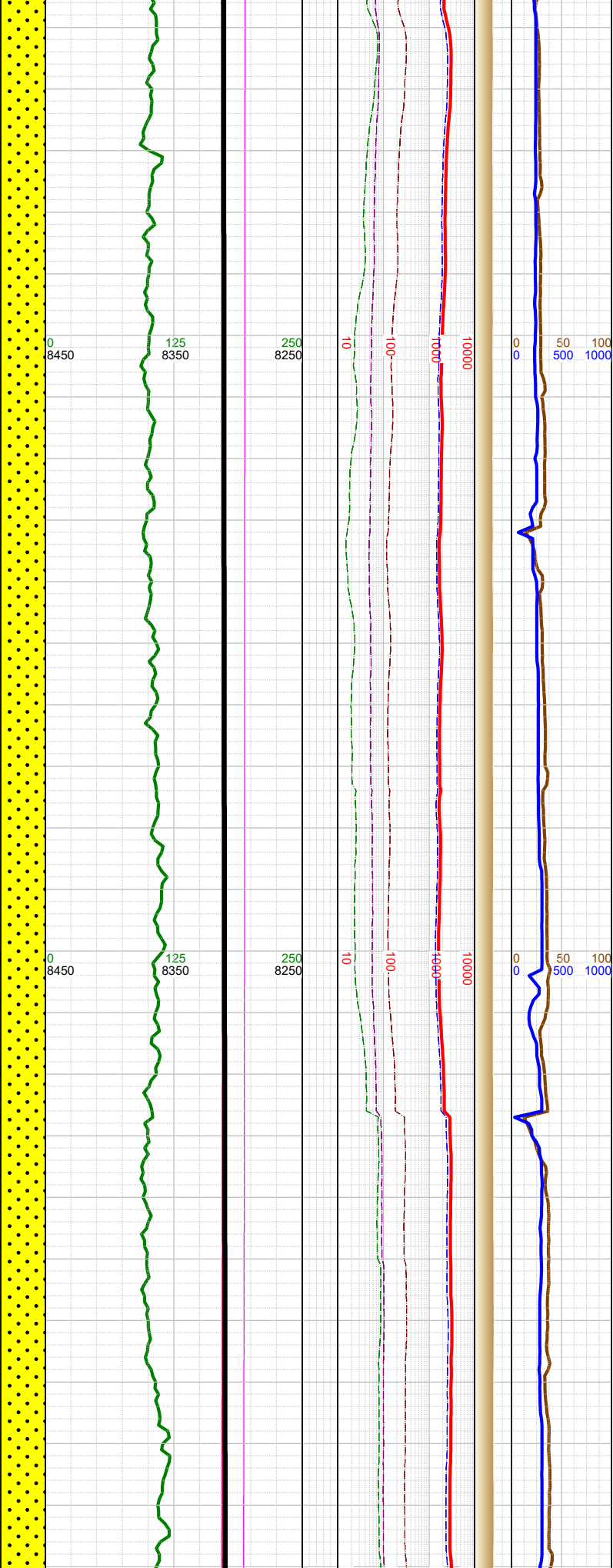
-15412 INC
89.48, AZM
181.02, TVD
8311.07

-15500 SHLY SLTST:
med-gy, frm, sb blk, gr-
rthy, sl calc, f sd intbd;
SLTY SH: dk gy-blk, sl frm,
sb plty-sb blk, gr-rthy;

-15500 WT
10.1, VIS 41

-15508 INC
90.19, AZM
181.86, TVD
8311.34

-15550
-15560
-15570
-15580
-15590
-15600
-15610
-15620
-15630
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-15800



10

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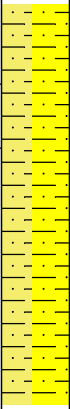
-15603 INC
89.93, AZM
179.83, TVD
8311.24

-15620 WT
10.1, VIS 41

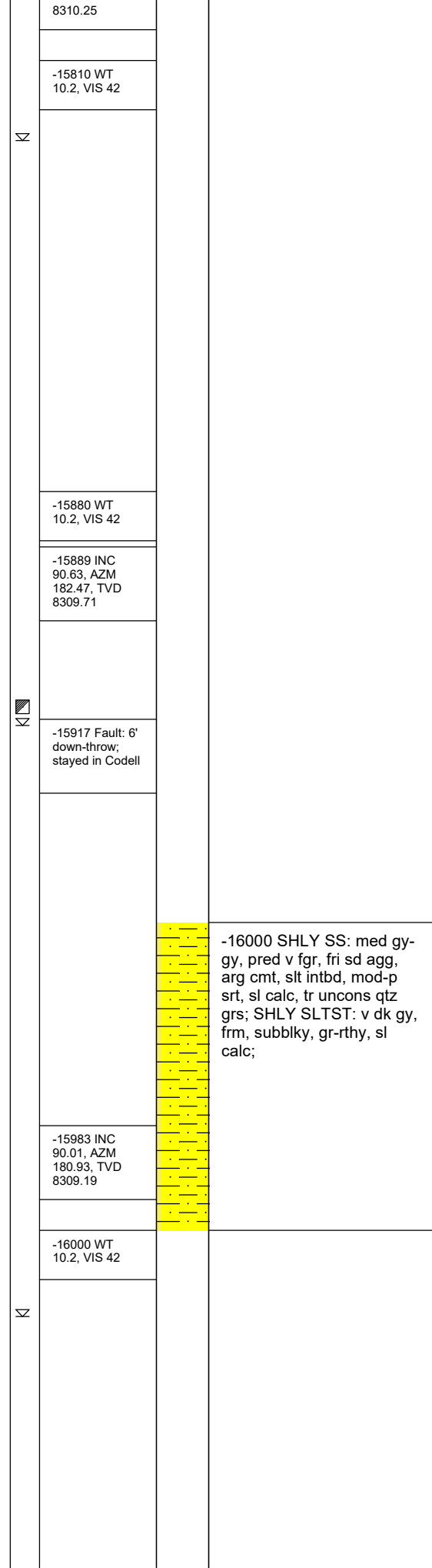
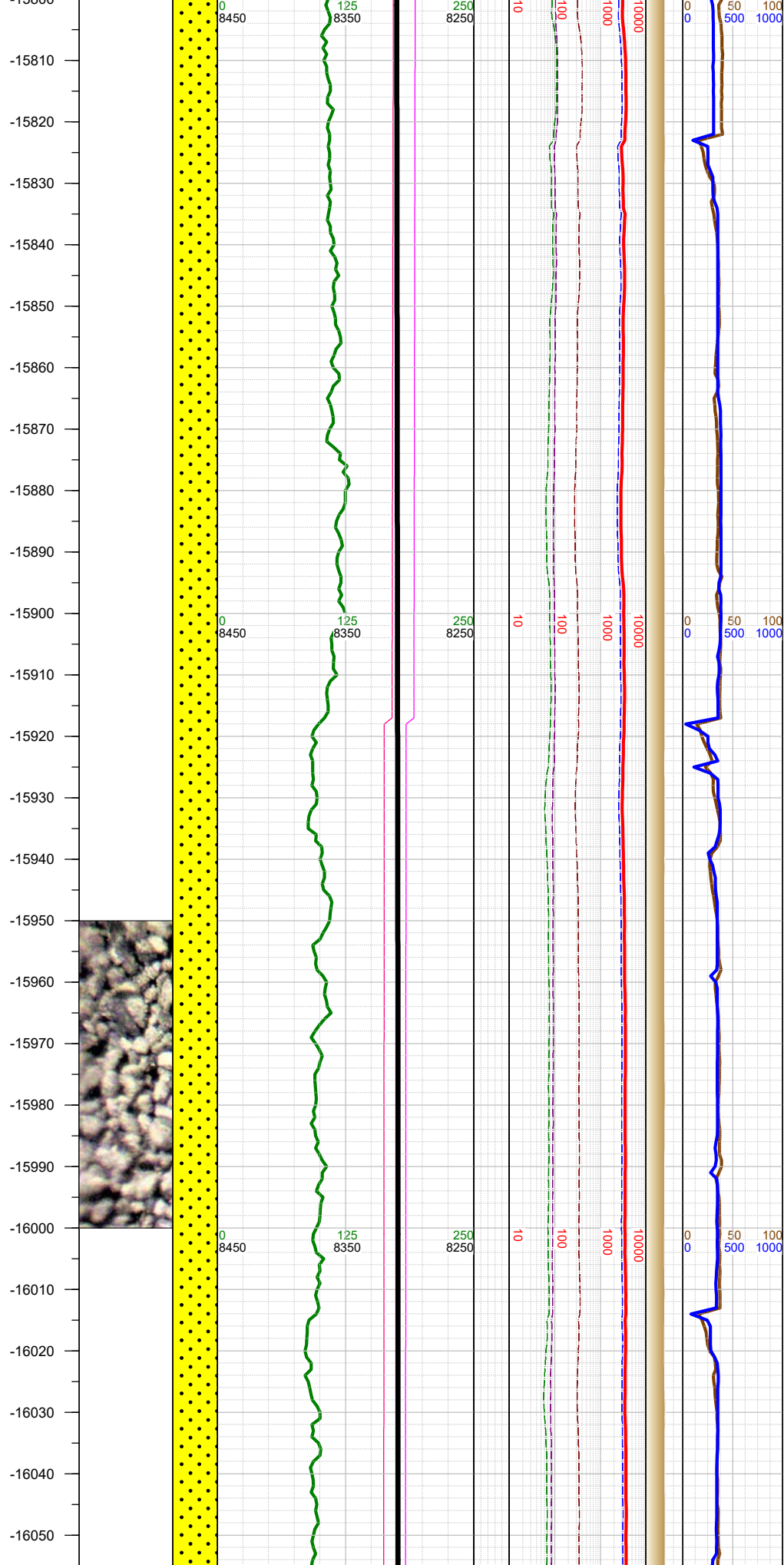
-15698 INC
90.63, AZM
180.32, TVD
8310.78

-15710 WT
10.1, VIS 41

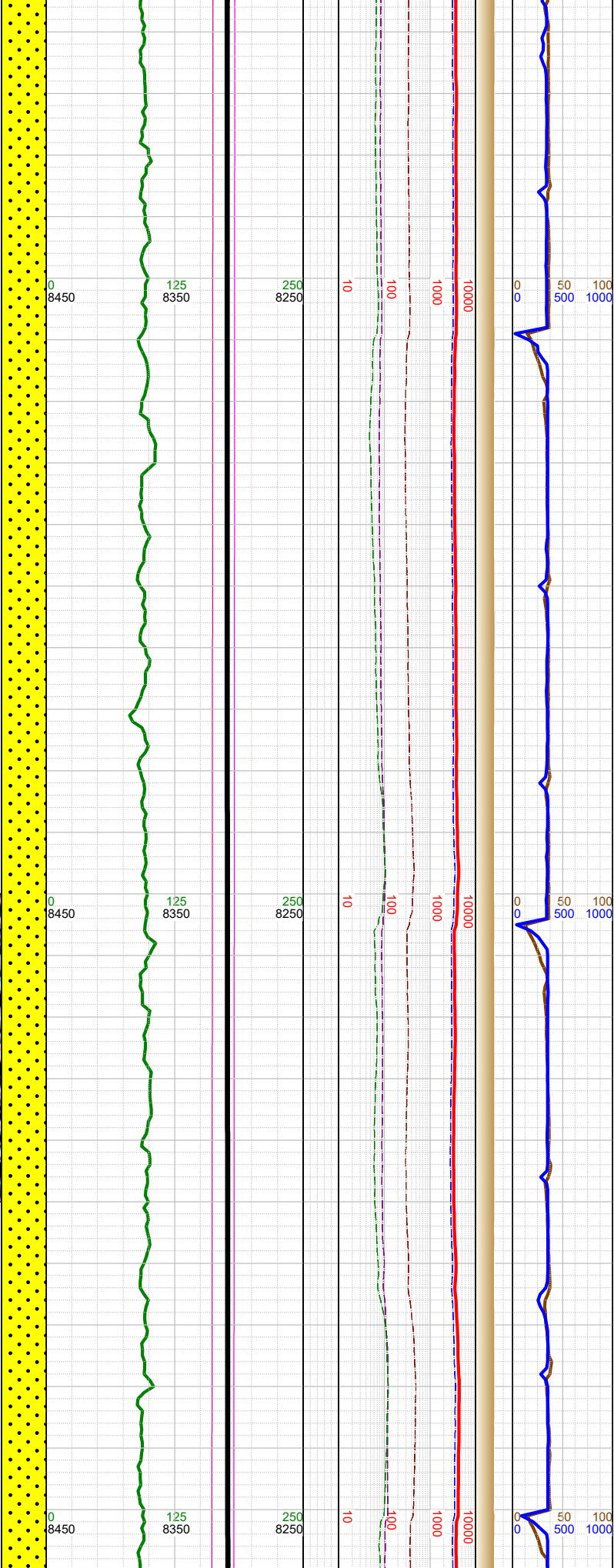
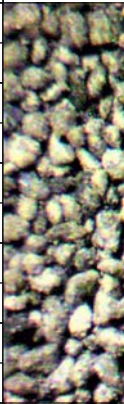
-15793 INC
90.01, AZM
180.36, TVD



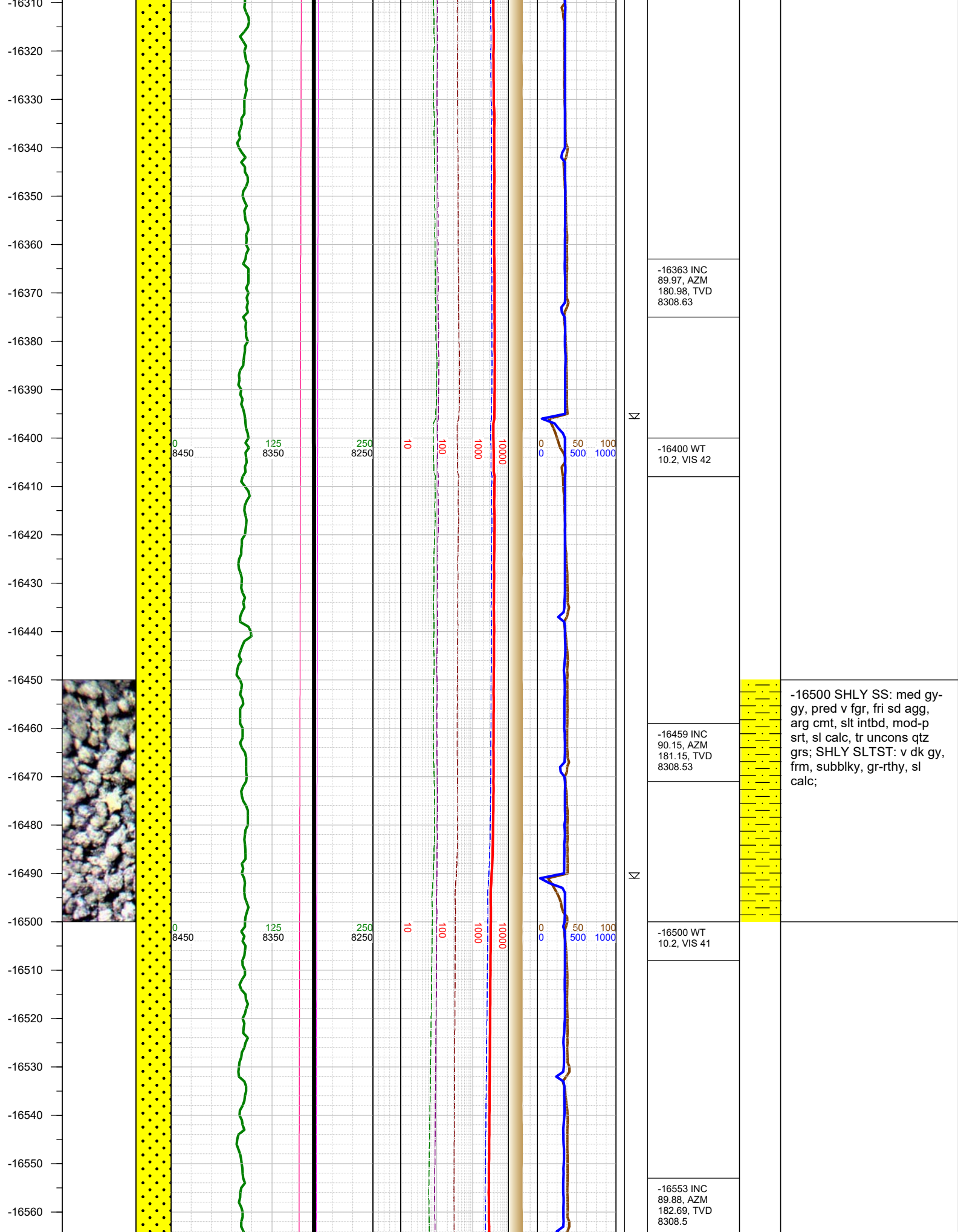
-15750 SHLY SS: med gy-
gy, pred v fgr, fri sd agg,
arg cmt, slt intbd, mod-p
srt, sl calc, tr uncons qtz
grs; SHLY SLTST: v dk gy-
blk, frm, subblky, gr-rthy, sl
calc, sd intbd;

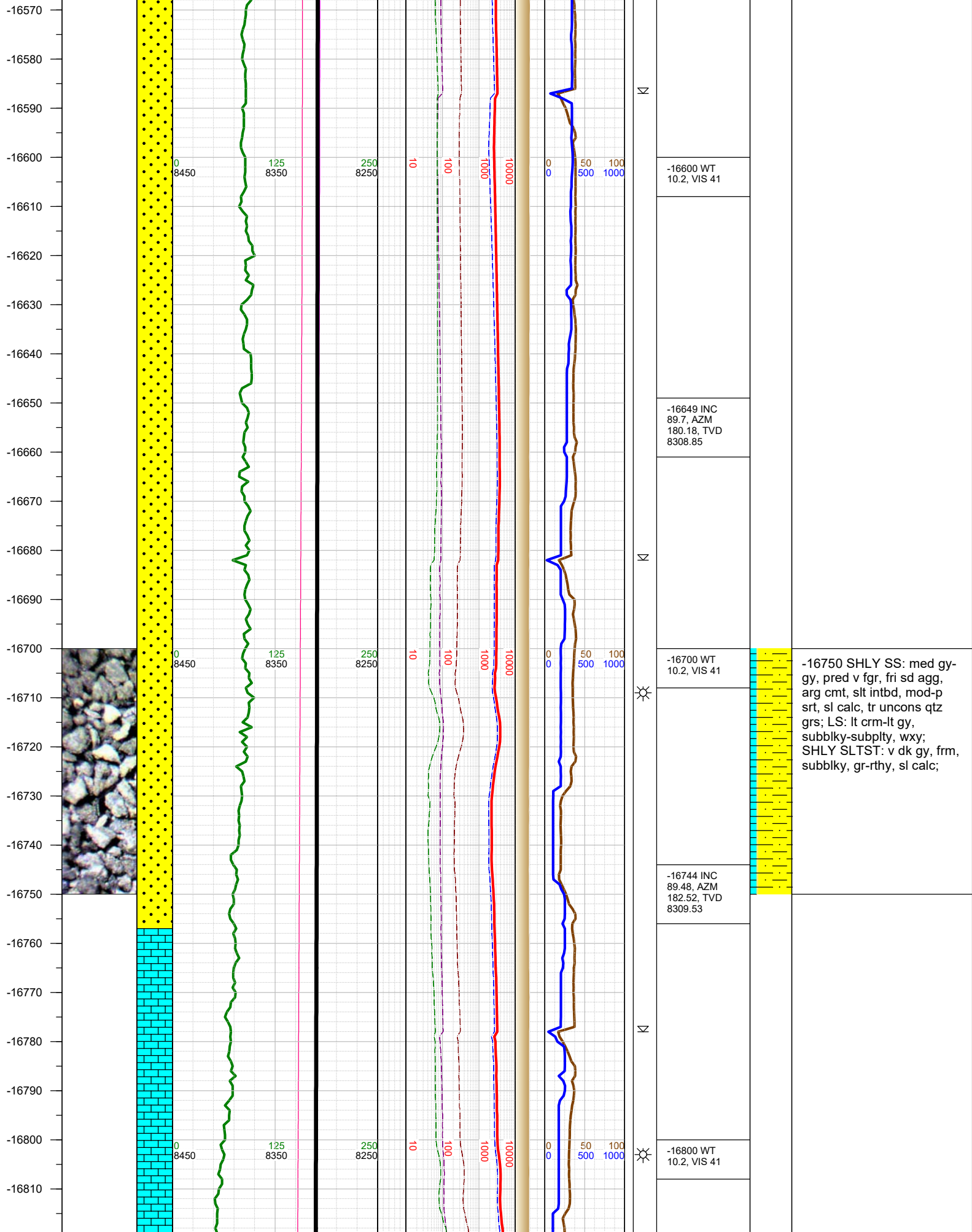


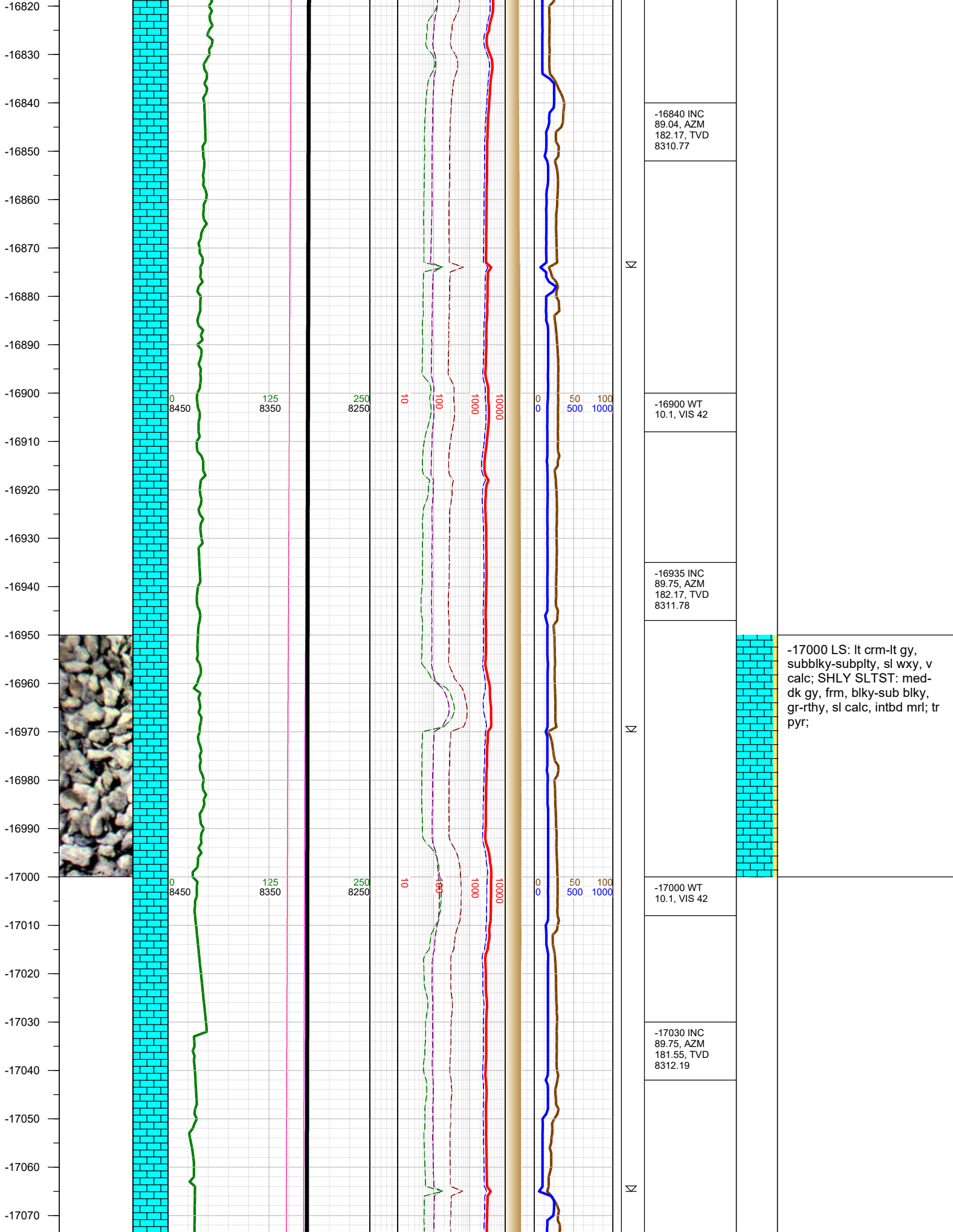
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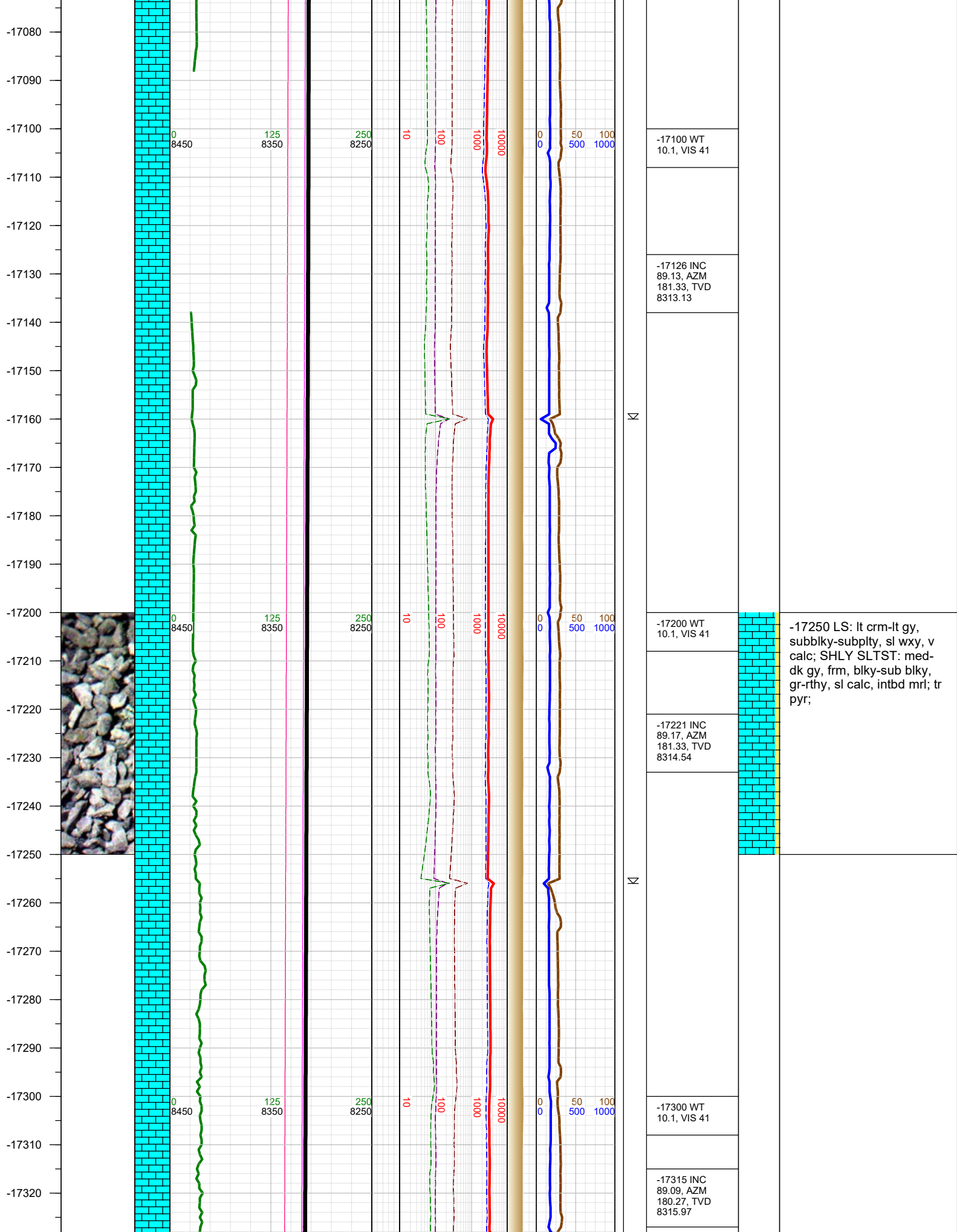


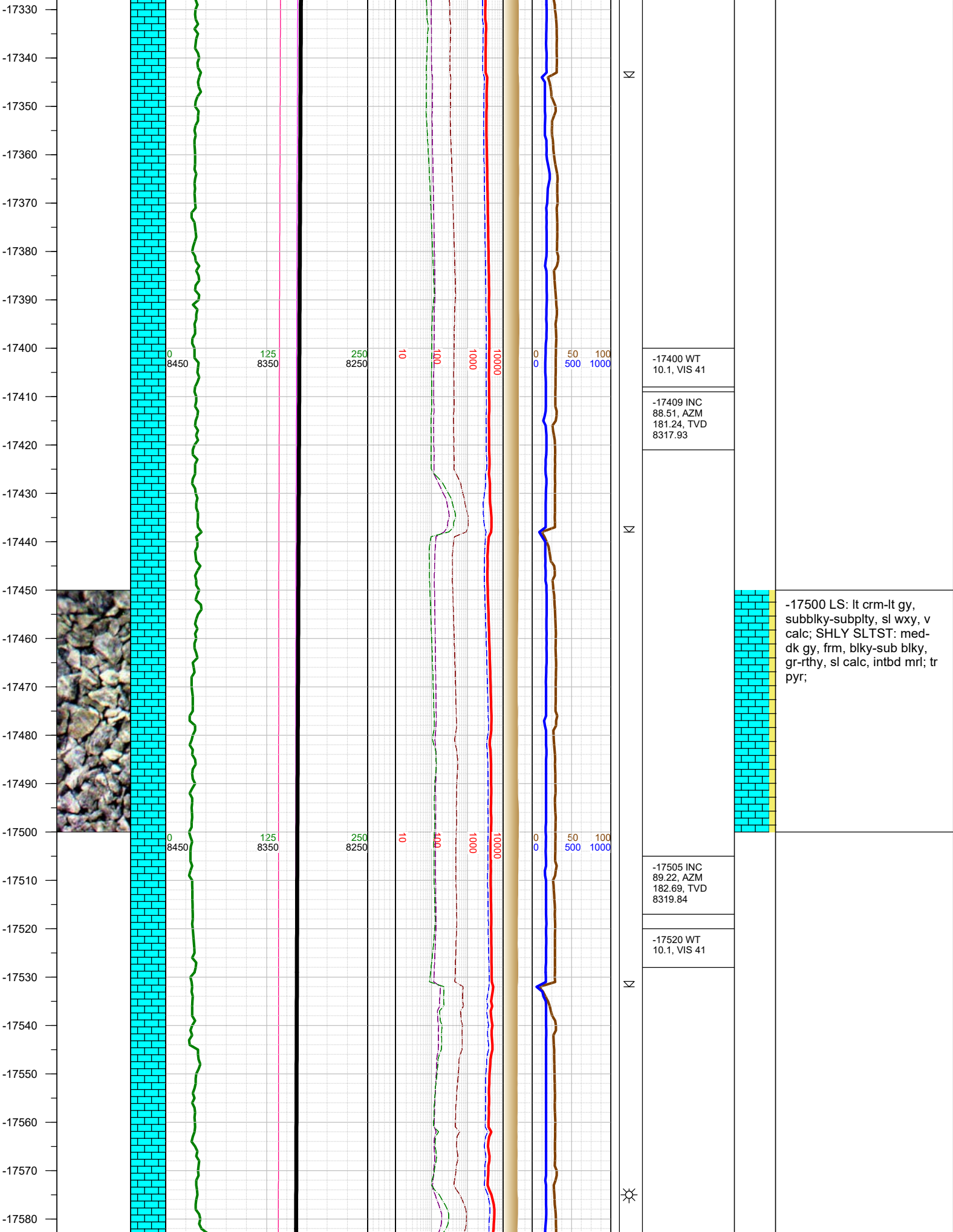
		-16078 INC 89.93, AZM 180.45, TVD 8309.24	
		-16100 WT 10.2, VIS 42	
		-16173 INC 90.1, AZM 181.37, TVD 8309.21	
		-16200 WT 10.2, VIS 42	-16250 SHLY SS: med gy- gy, pred v fgr, fri sd agg, arg cmt, slt intbd, mod-p srt, sl calc, tr uncons qtz grs; SHLY SLTST: v dk gy, frm, subblky, gr-rthy, sl calc;
		-16267 INC 90.32, AZM 181.59, TVD 8308.87	
		-16300 WT 10.2, VIS 42	

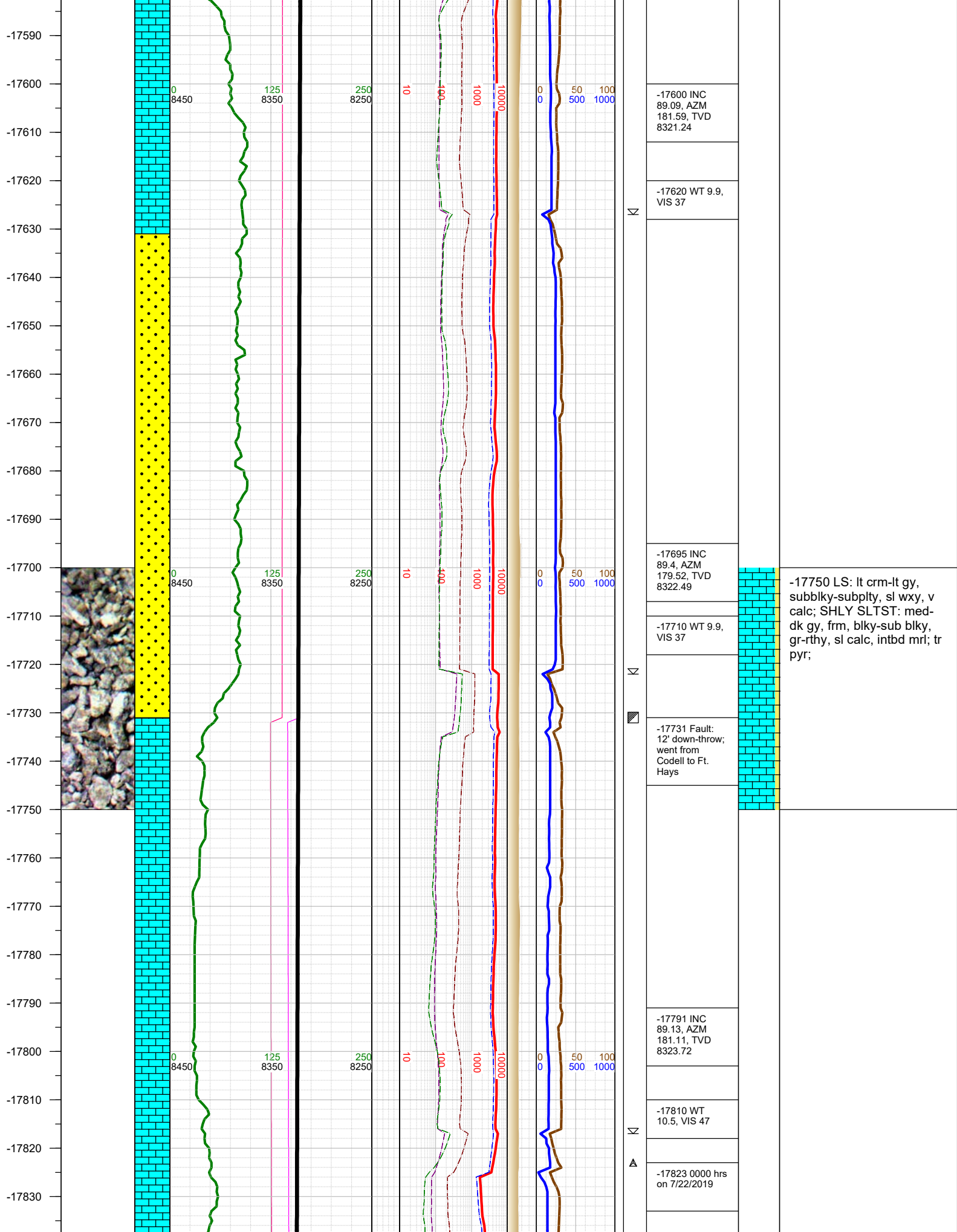


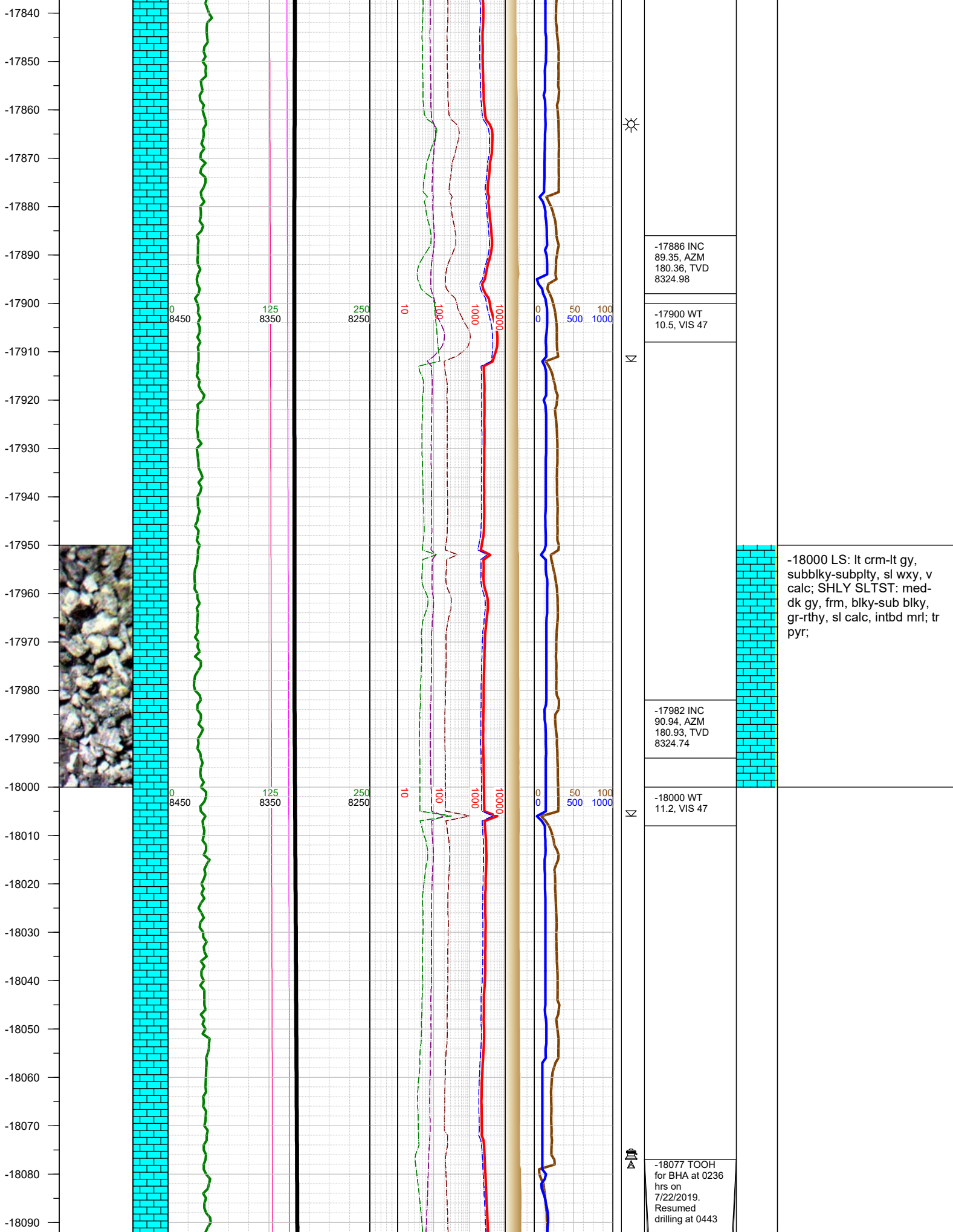












-17886 INC
89.35, AZM
180.36, TVD
8324.98

-17900 WT
10.5, VIS 47



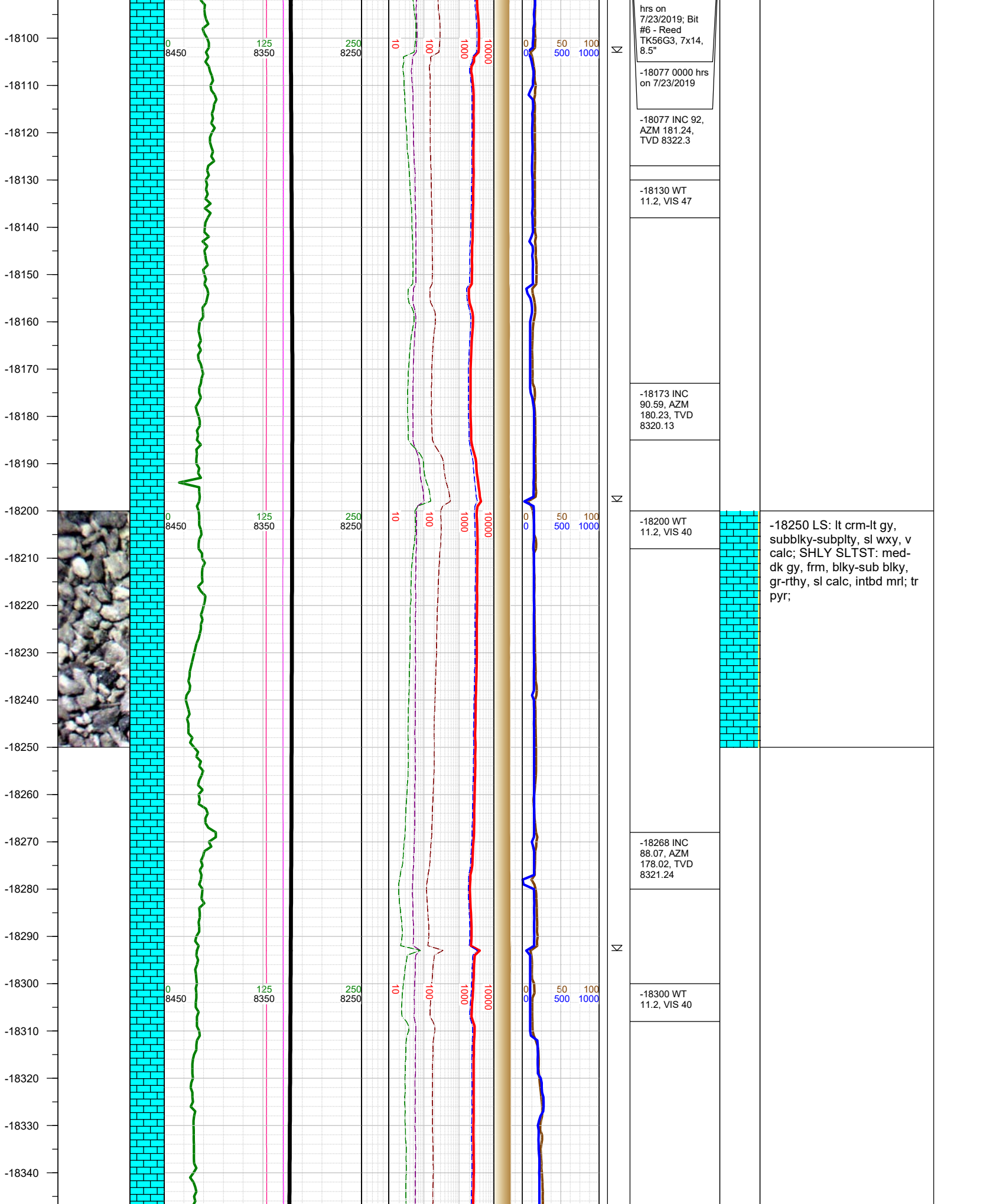
-18000 LS: lt crm-lt gy,
subblky-subplty, sl wxy, v
calc; SHLY SLTST: med-
dk gy, frm, blky-sub blky,
gr-rthy, sl calc, intbd mrl; tr
pyr;

-17982 INC
90.94, AZM
180.93, TVD
8324.74

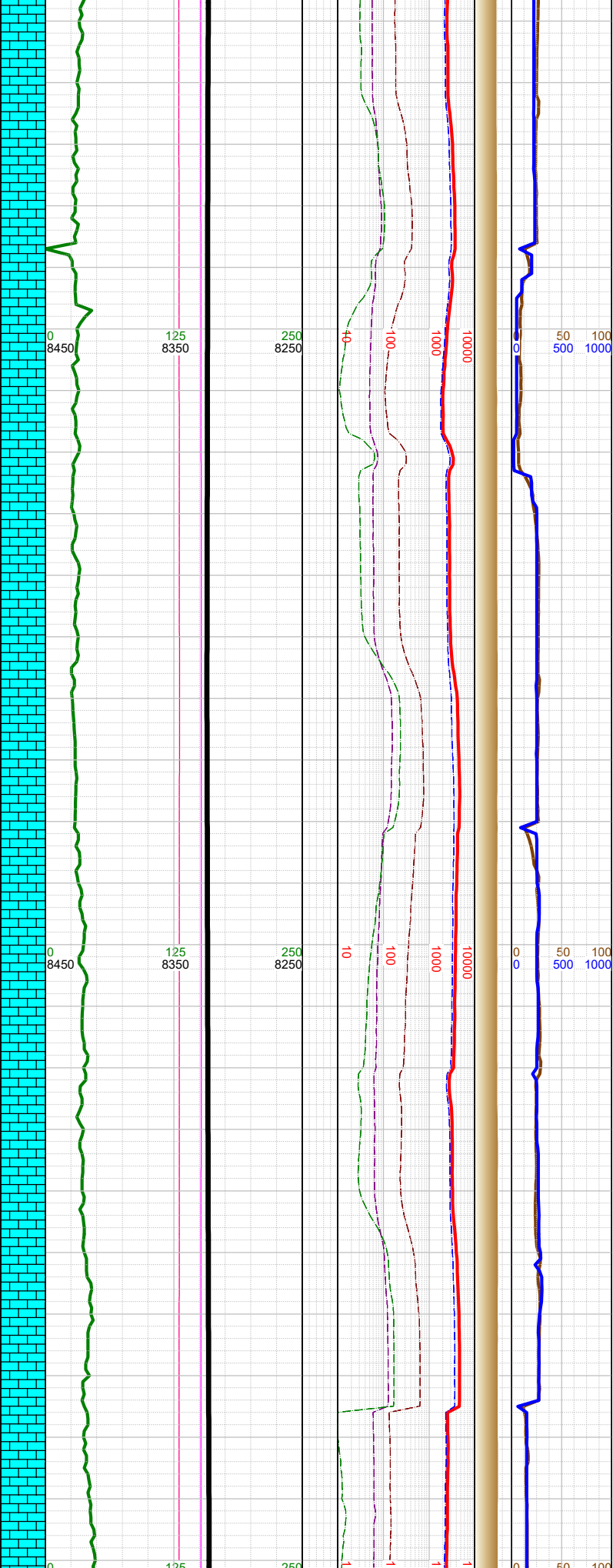
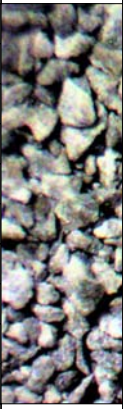
-18000 WT
11.2, VIS 47



-18077 TOO
for BHA at 0236
hrs on
7/22/2019.
Resumed
drilling at 0443



-18350
-18360
-18370
-18380
-18390
-18400
-18410
-18420
-18430
-18440
-18450
-18460
-18470
-18480
-18490
-18500
-18510
-18520
-18530
-18540
-18550
-18560
-18570
-18580
-18590
-18600



18363
18400
18459
18500
18555

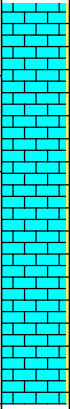
-18363 INC
89.09, AZM
179.39, TVD
8323.6

-18400 WT
10.7, VIS 40

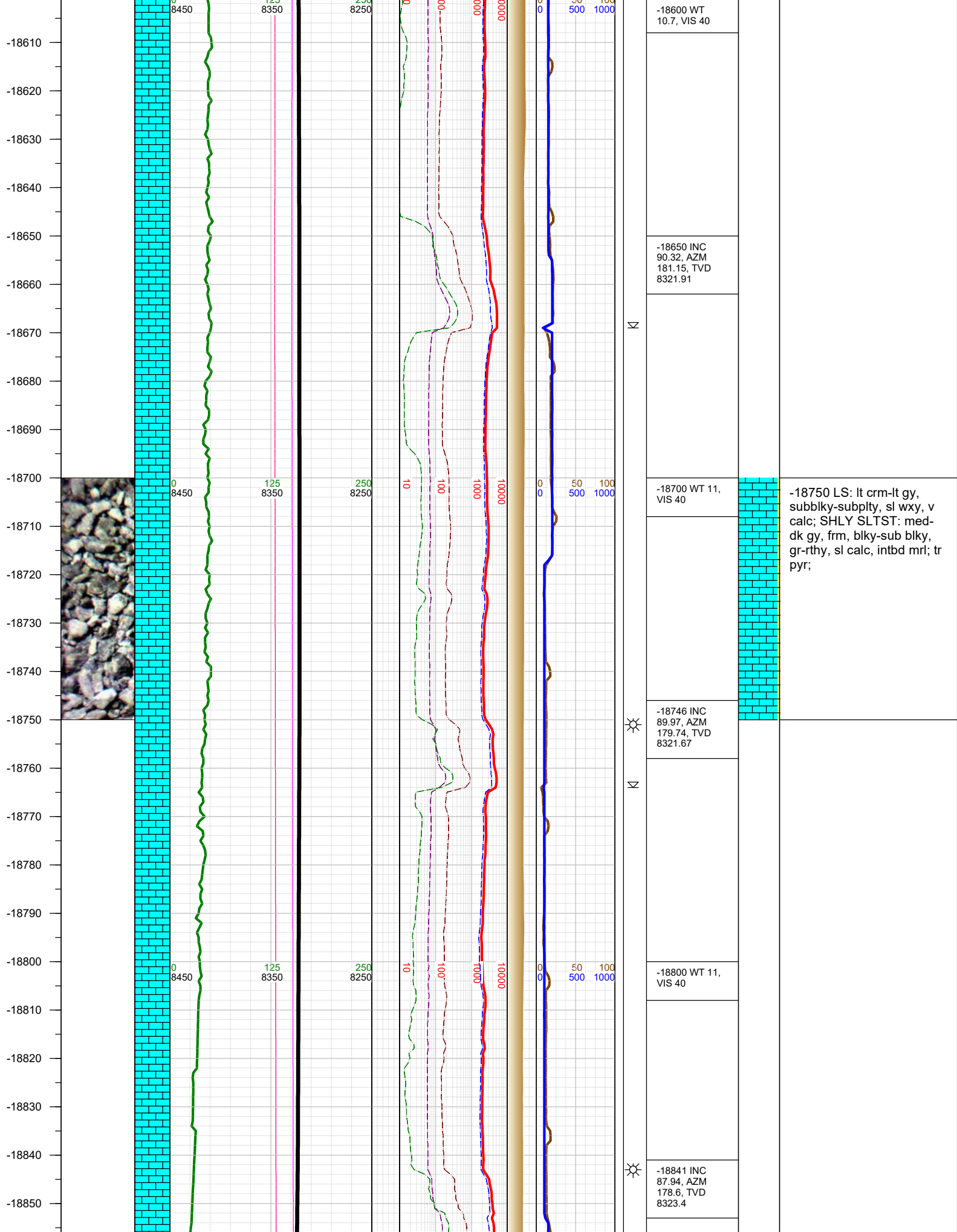
-18459 INC
90.01, AZM
181.55, TVD
8324.35

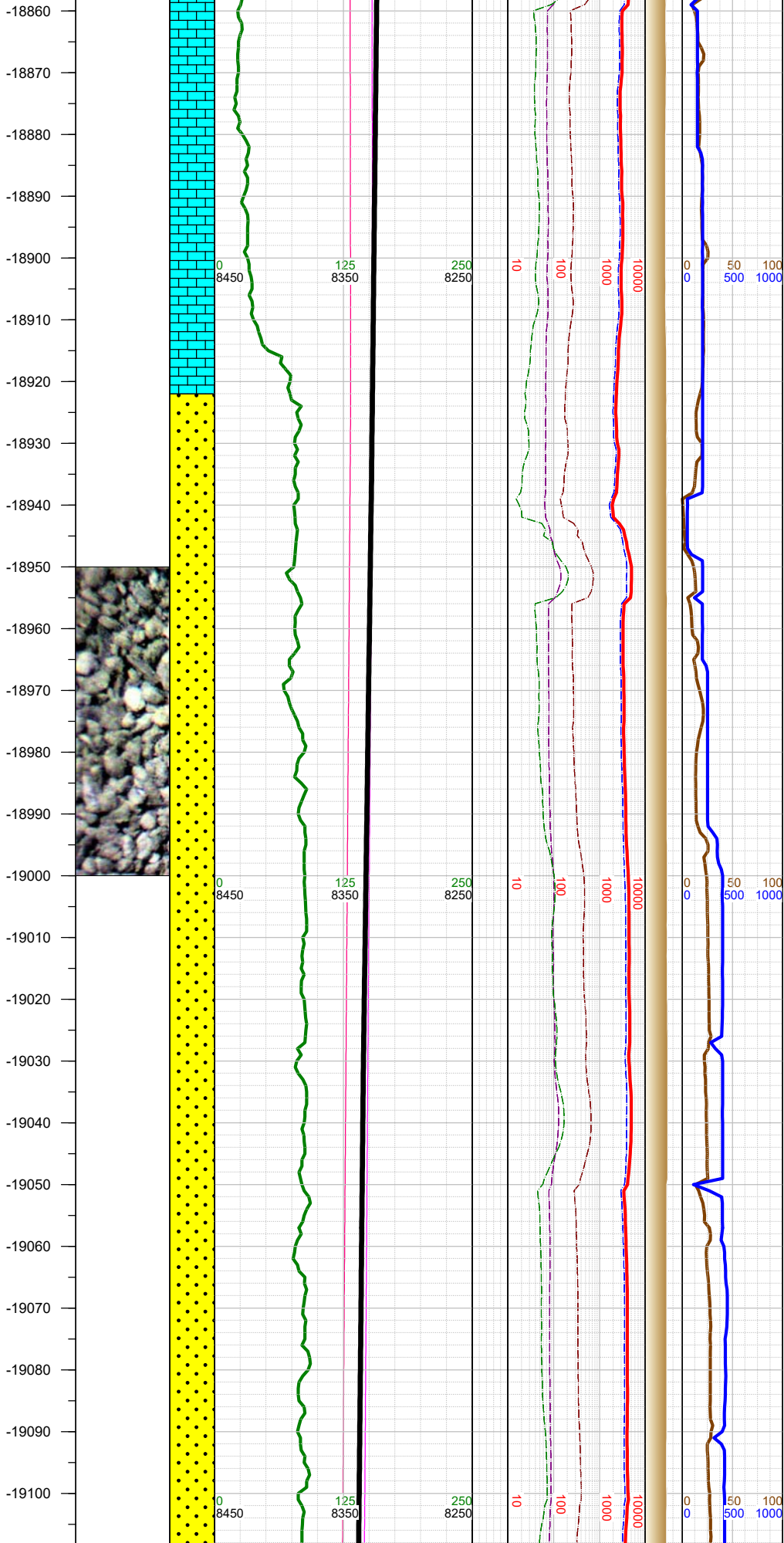
-18500 WT
10.7, VIS 40


-18555 INC
91.3, AZM
181.9, TVD
8323.25



-18500 LS: lt crm-lt gy,
subblk-subplty, sl wxy, v
calc; SHLY SLTST: med-
dk gy, frm, blk-sub blk,
gr-rthy, sl calc, intbd mrl; tr
pyr;



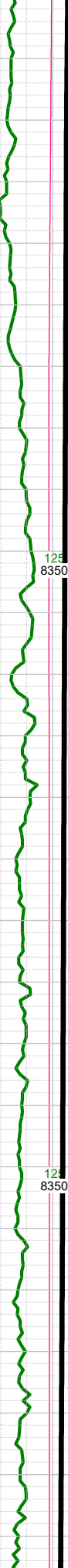


N			
	-18900 WT 11.2, VIS 40		
N			
	-18936 INC 86.13, AZM 177.89, TVD 8328.31		
N			-19000 SHLY SS: med gy-gy, pred v fgr, fri sd agg, arg cmt, slt intbd, mod-p srt, sl calc, tr uncons qtz grs; SHLY SLTST: v dk gy, frm, subblky, gr-rthy, sl calc; LS: lt crm-lt gy, subblky-subplty, sl wxy, v calc;
N	-19000 WT 11.2, VIS 40		
N			
	-19032 INC 86.26, AZM 177.05, TVD 8334.68		
N			
N			
	-19100 WT 11.2, VIS 40		

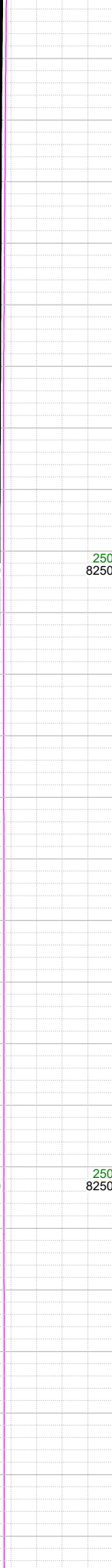
-19120
-19130
-19140
-19150
-19160
-19170
-19180
-19190
-19200
-19210
-19220
-19230
-19240
-19250
-19260
-19270
-19280
-19290
-19300
-19310
-19320
-19330
-19340
-19350
-19360



0
8450



125
8350



250
8250

10

100

1000

10000



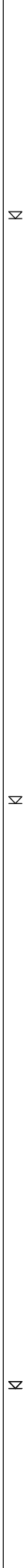
0
0

50

100

500

1000



N

N

N

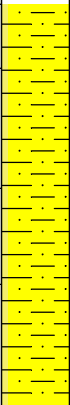
-19128 INC
88.38, AZM
177.94, TVD
8339.17

-19200 WT 11,
VIS 40

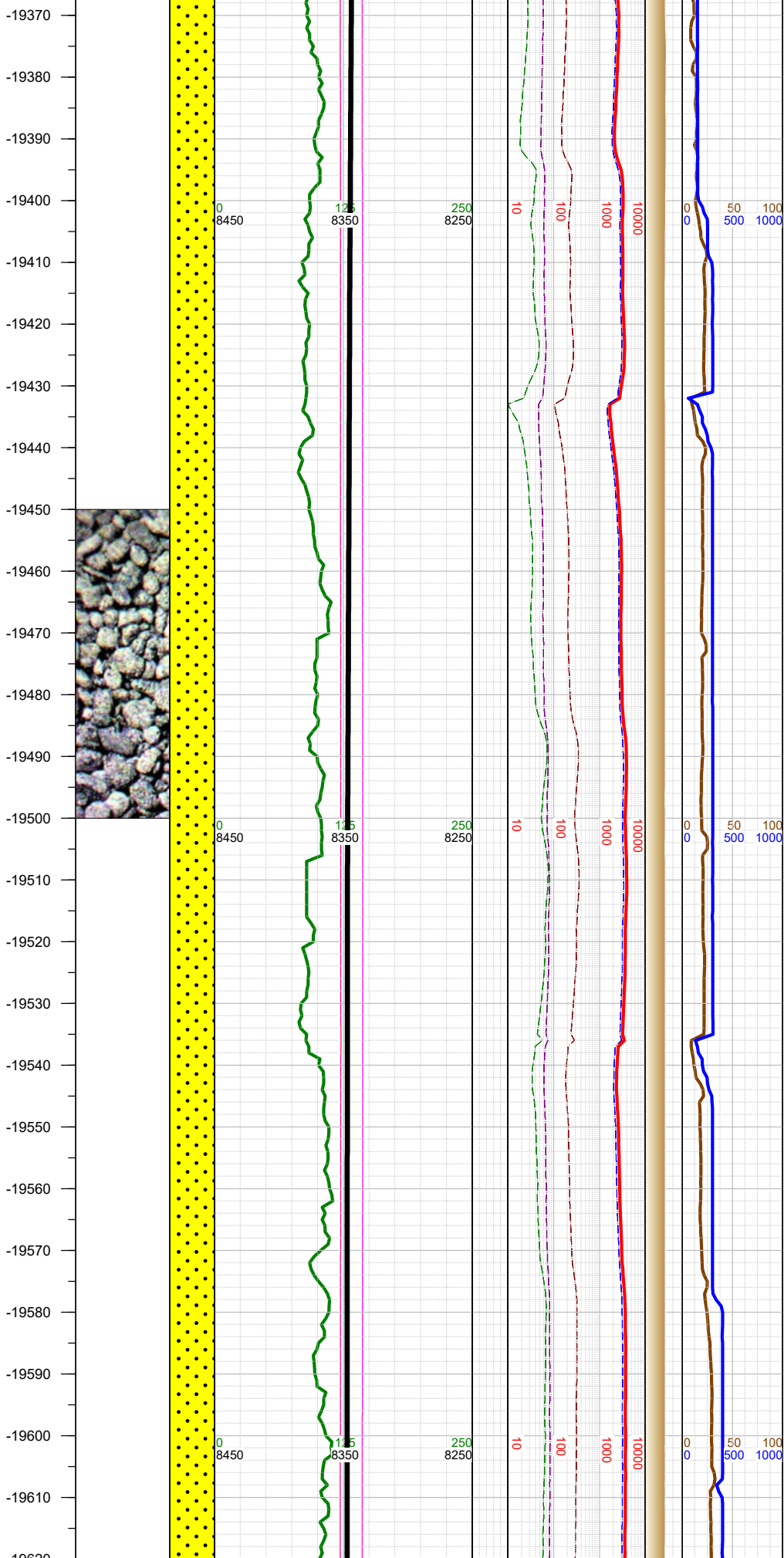
-19223 INC
89.44, AZM
176.31, TVD
8340.98

-19300 WT
11.2, VIS 40

-19319 INC
88.6, AZM
178.51, TVD
8342.62



-19250 SHLY SS: med gy-
gy, pred v fgr, fri sd agg,
arg cmt, slt intbd, mod-p
srt, sl calc, tr uncons qtz
grs; SHLY SLTST: v dk gy,
frm, subblky, gr-rthy, sl
calc;



Σ

Σ

-19400 WT
11.2, VIS 40

-19414 INC
88.33, AZM
181.06, TVD
8345.17

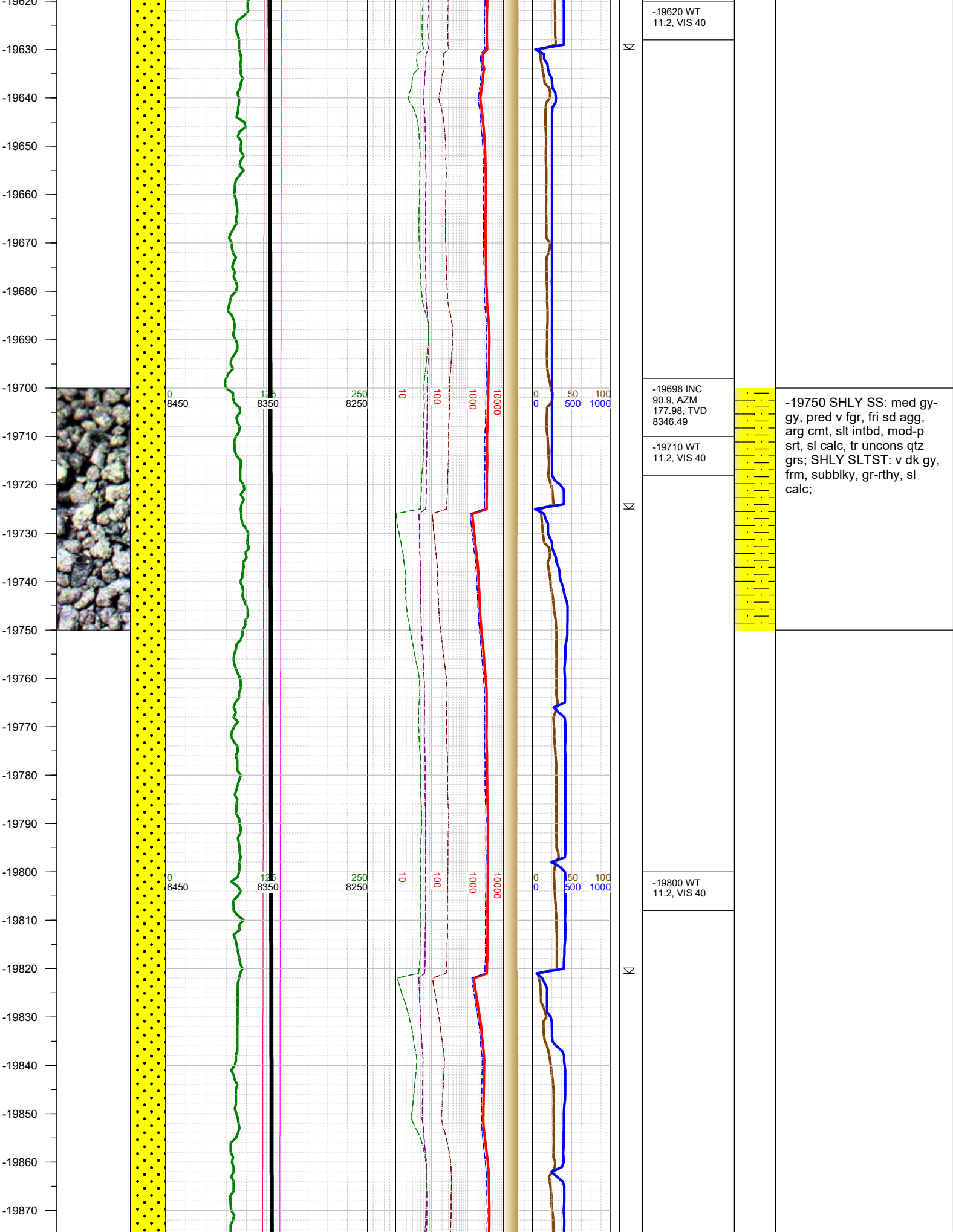
-19500 WT
11.2, VIS 40

-19509 INC
89.53, AZM
181.99, TVD
8346.94

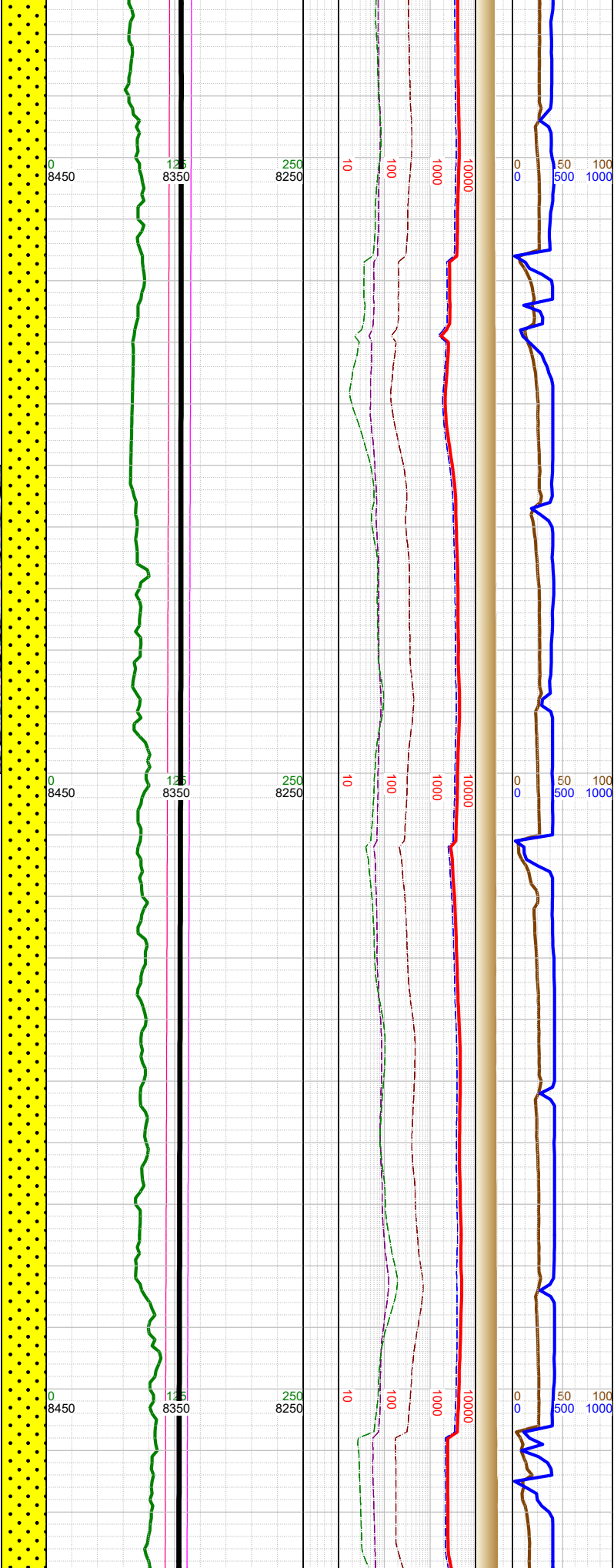
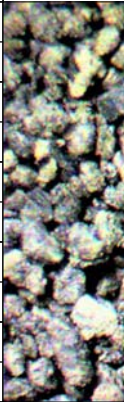
-19604 INC
90.06, AZM
180.18, TVD
8347.28



-19500 SHLY SS: med gy-
gy, pred v fgr, fri sd agg,
arg cmt, slt intbd, mod-p
srt, sl calc, tr uncons qtz
grs; SHLY SLTST: v dk gy,
frm, subblky, gr-rthy, sl
calc;



-19880
-19890
-19900
-19910
-19920
-19930
-19940
-19950
-19960
-19970
-19980
-19990
-20000
-20010
-20020
-20030
-20040
-20050
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-20070
-20080
-20090
-20100
-20110
-20120

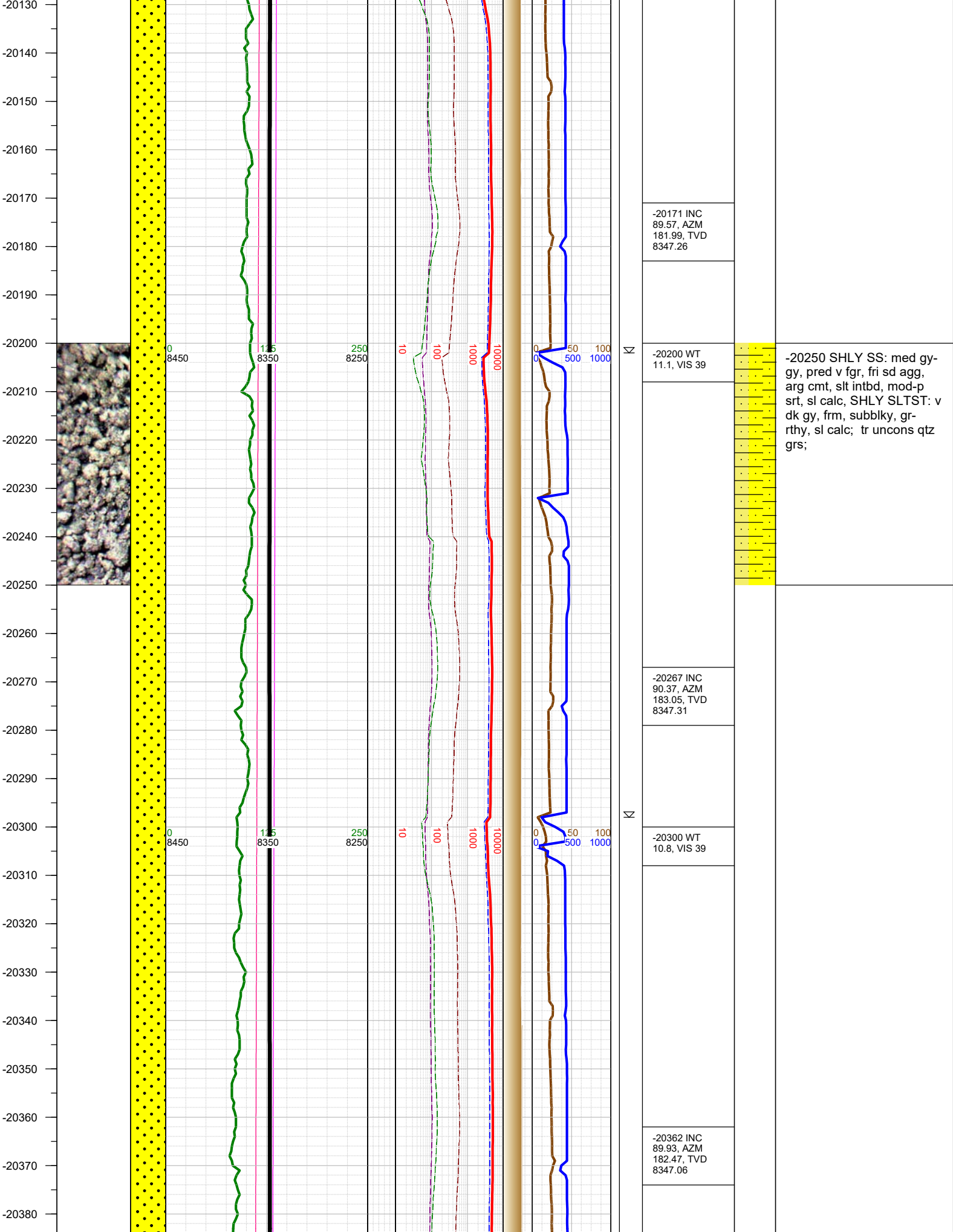


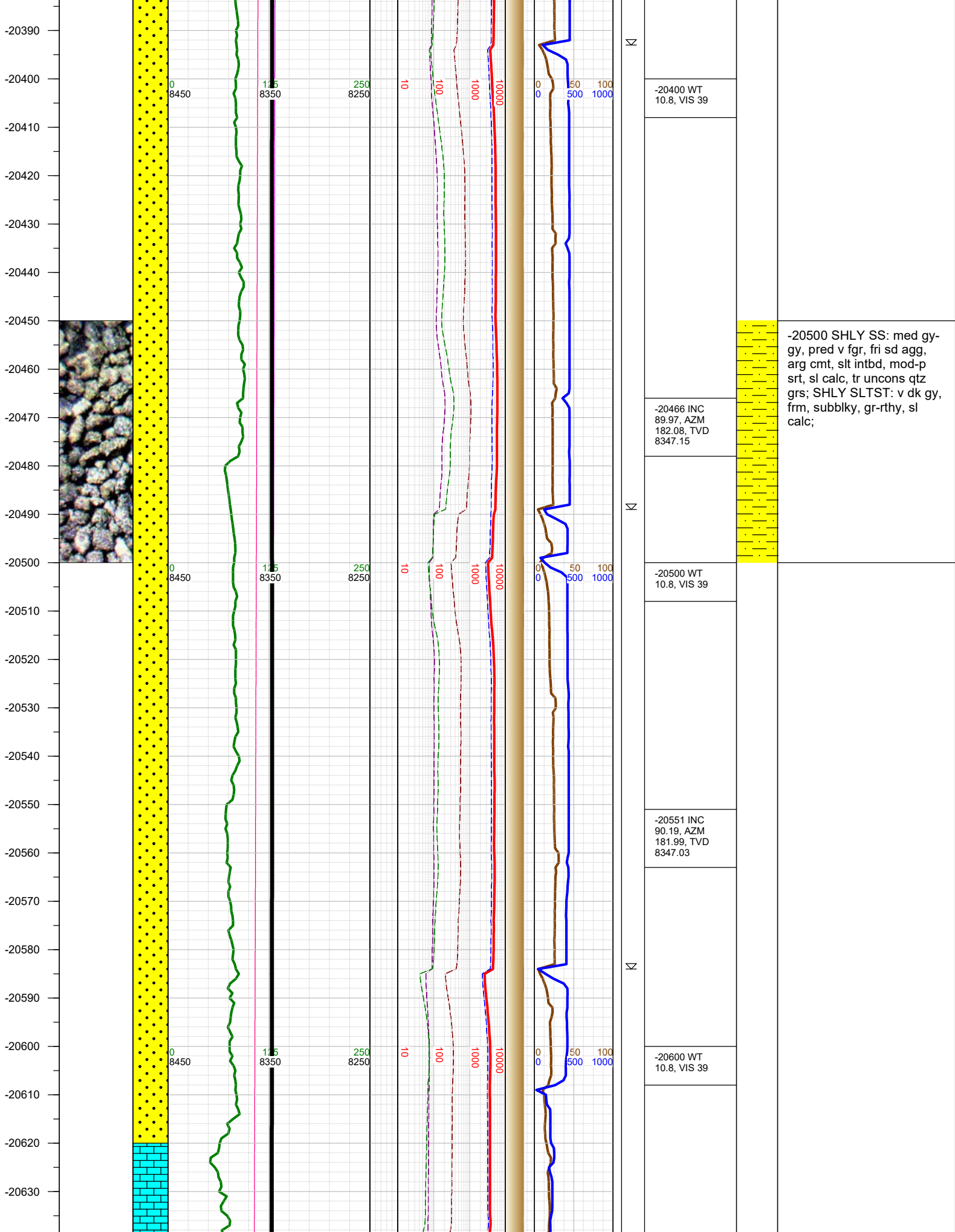
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N
N

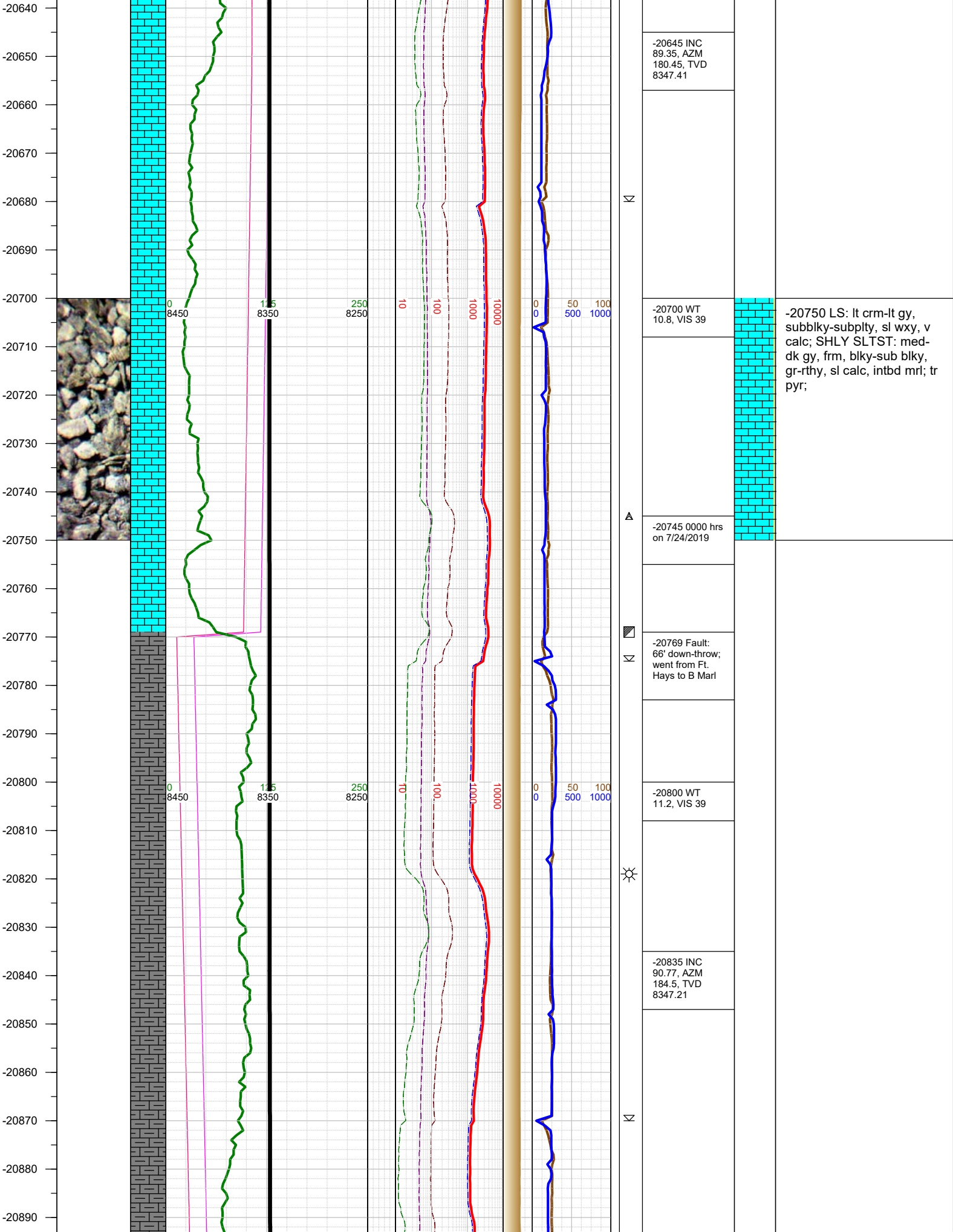
-19888 INC 90.01, AZM 176.53, TVD 8344.98
-19900 WT 11.1, VIS 39
-19982 INC 89.57, AZM 178.07, TVD 8345.33
-20000 WT 11.1, VIS 39
-20077 INC 89.26, AZM 180.8, TVD 8346.3
-20100 WT 11.1, VIS 39

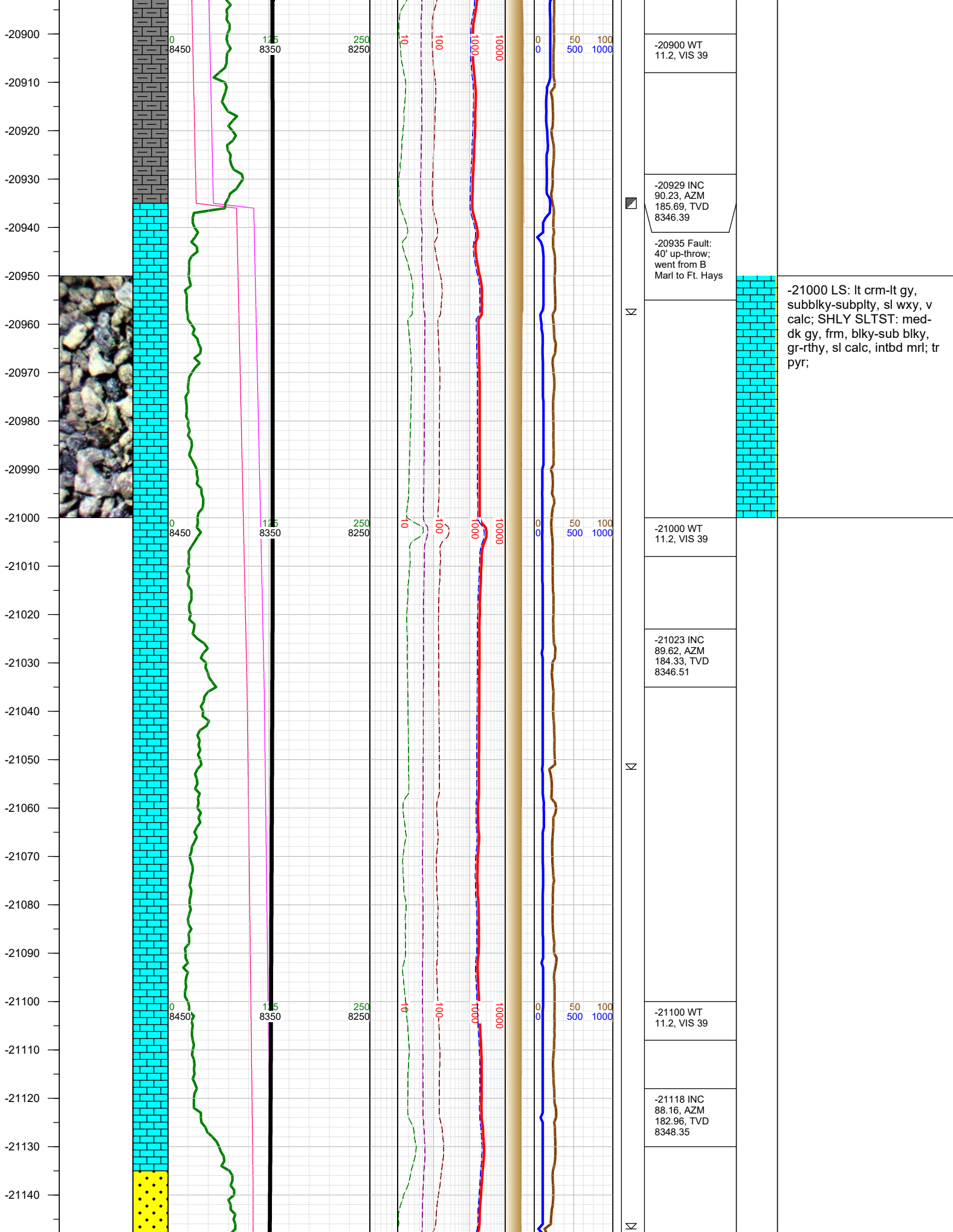


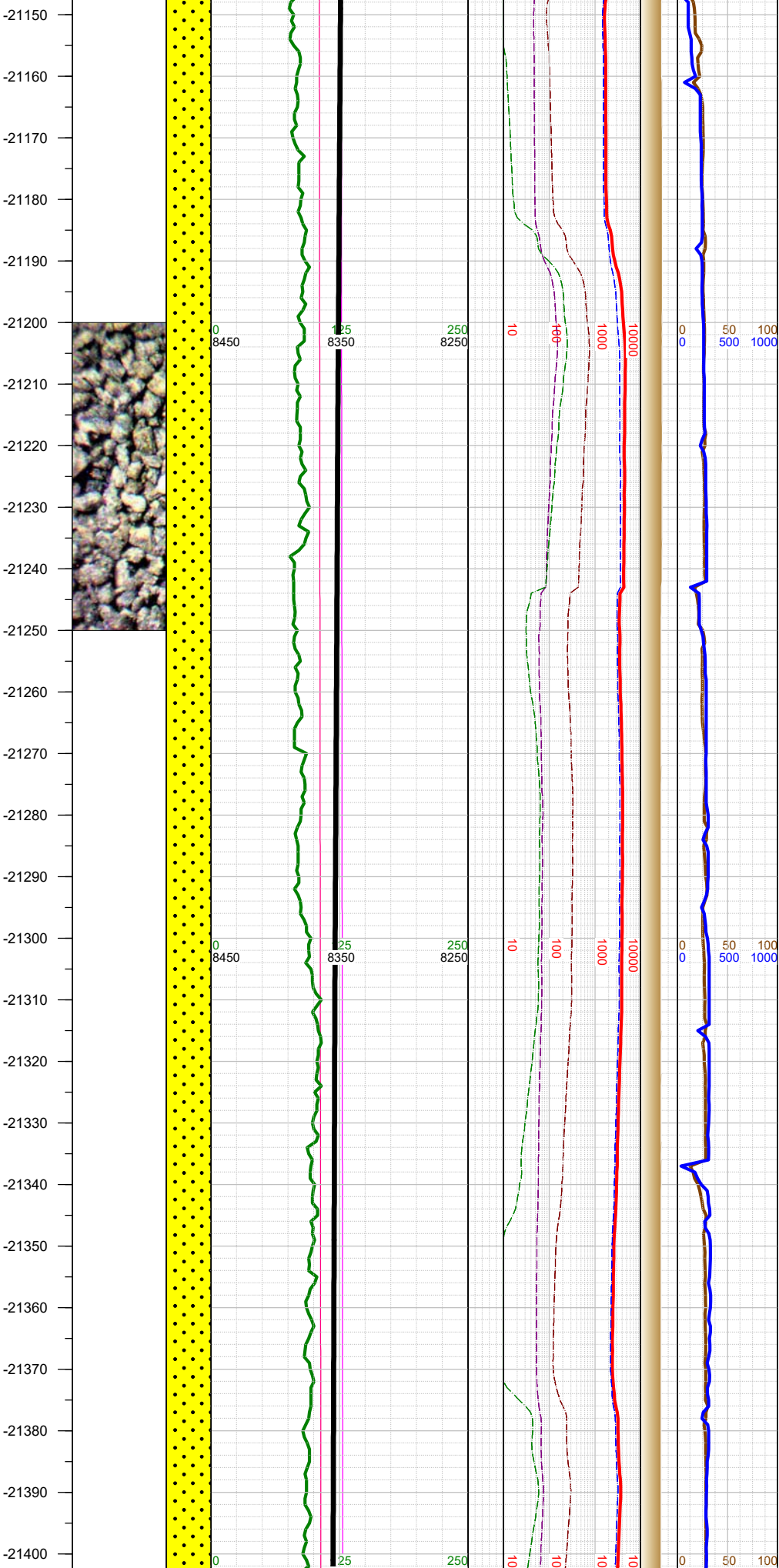
-20000 SHLY SS: med gy-
gy, pred v fgr, fri sd agg,
arg cmt, slt intbd, mod-p
srt, sl calc, tr uncons qtz
grs; SHLY SLTST: v dk gy,
frm, subblky, gr-rthy, sl
calc;









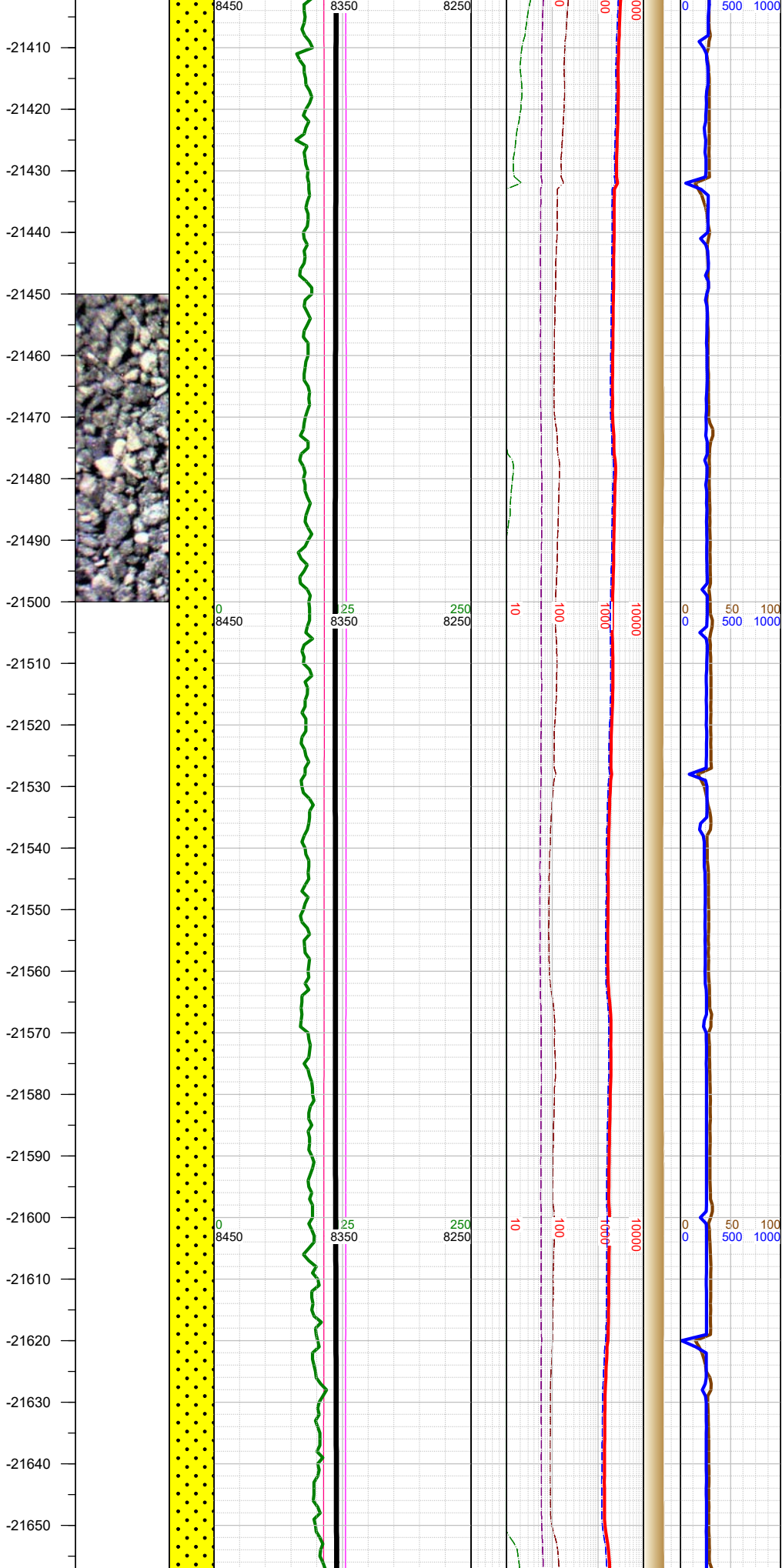




Σ

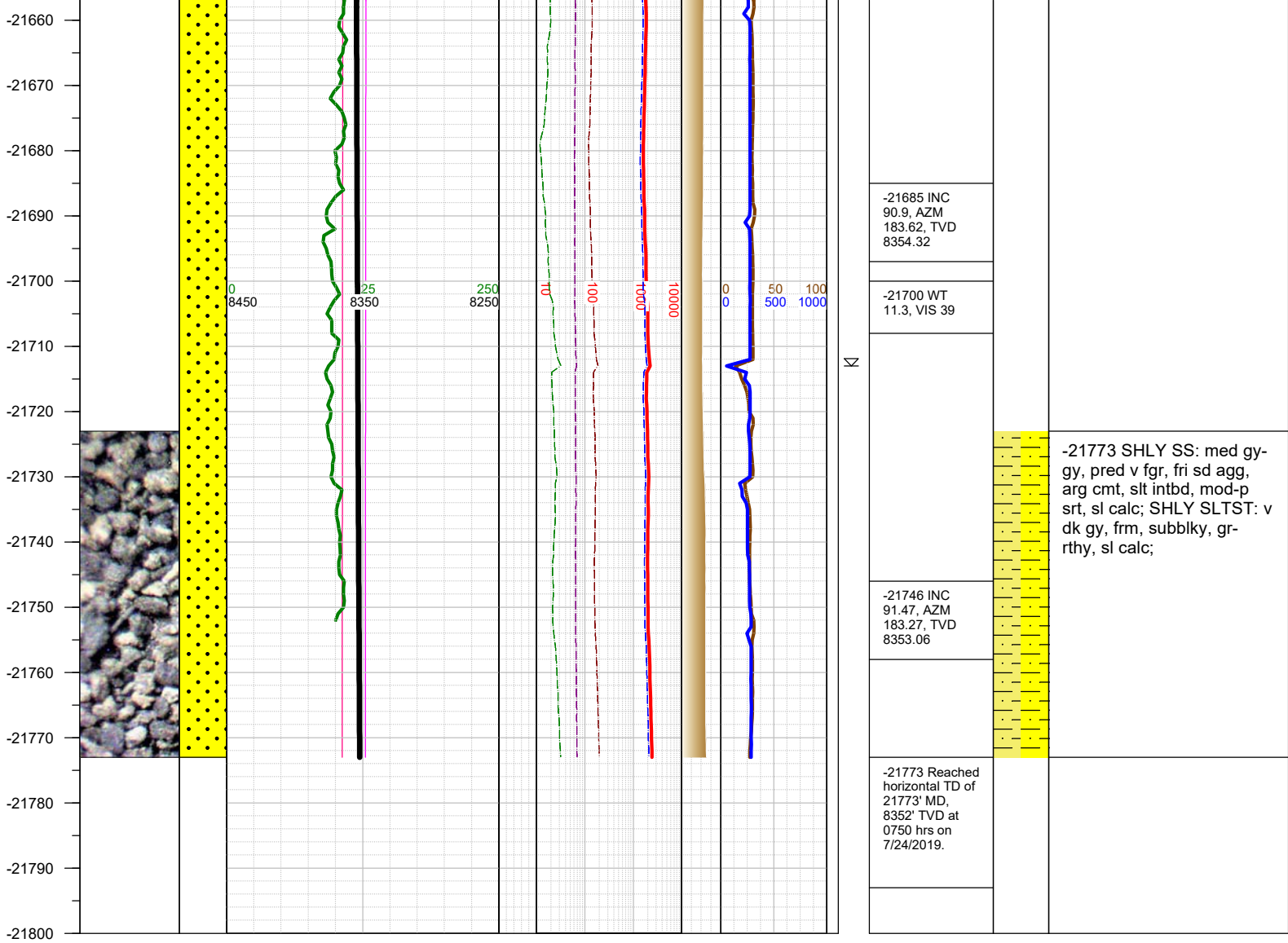
Σ

-21200 WT 11.3, VIS 39		-21250 SHLY SS: med gy-gy-brn, pred v fgr, fri sd agg, arg cmt, slt intbd, mod-p srt, sl calc, tr uncons qtz grs; SHLY SLTST: v dk gy, frm, subblky, gr-rthy, sl calc;
-21213 INC 88.29, AZM 182.21, TVD 8351.3		
-21300 WT 11.3, VIS 39		
-21308 INC 88.86, AZM 182.39, TVD 8353.66		



N	-21402 INC 89.4, AZM 182.78, TVD 8355.09
	-21420 WT 11.3, VIS 39
	-21497 INC 89.7, AZM 182.52, TVD 8355.83
N	-21510 WT 11.3, VIS 39
	-21592 INC 90.63, AZM 183.84, TVD 8355.56
	-21610 WT 11.3, VIS 39

-21500 SHLY SS: med gy-gy, pred v fgr, fri sd agg, arg cmt, slt intbd, mod-p srt, sl calc; SHLY SLTST: v dk gy, frm, subblky, gr-rthy, sl calc;



TOTAL DEPTH = 21773'

Thank you for using Earth Science Agency