

OPERATOR: **Extraction Oil & Gas**

WELL NAME: **Livingston S19-25-5C**

FIELD NAME: DJ Basin - Wattenberg

DRILLING RIG: Patterson 901

API #: 05-014-20755

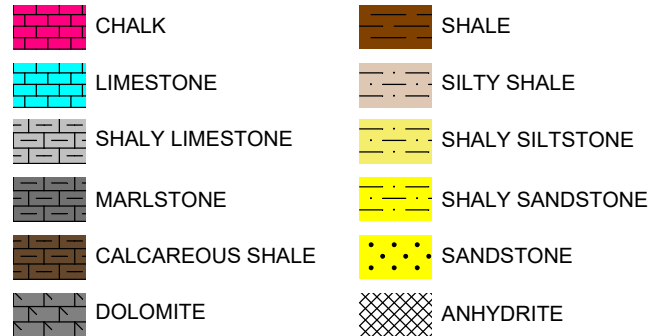
LAT/LONG: 39.978563, -105.039865
SURFACE HOLE: NWSE S7-T1S-R68W, 2332' FSL, 1456' FEL
BOTTOM HOLE: S19-T1S-R68W, 460' FSL, 1631' FWL



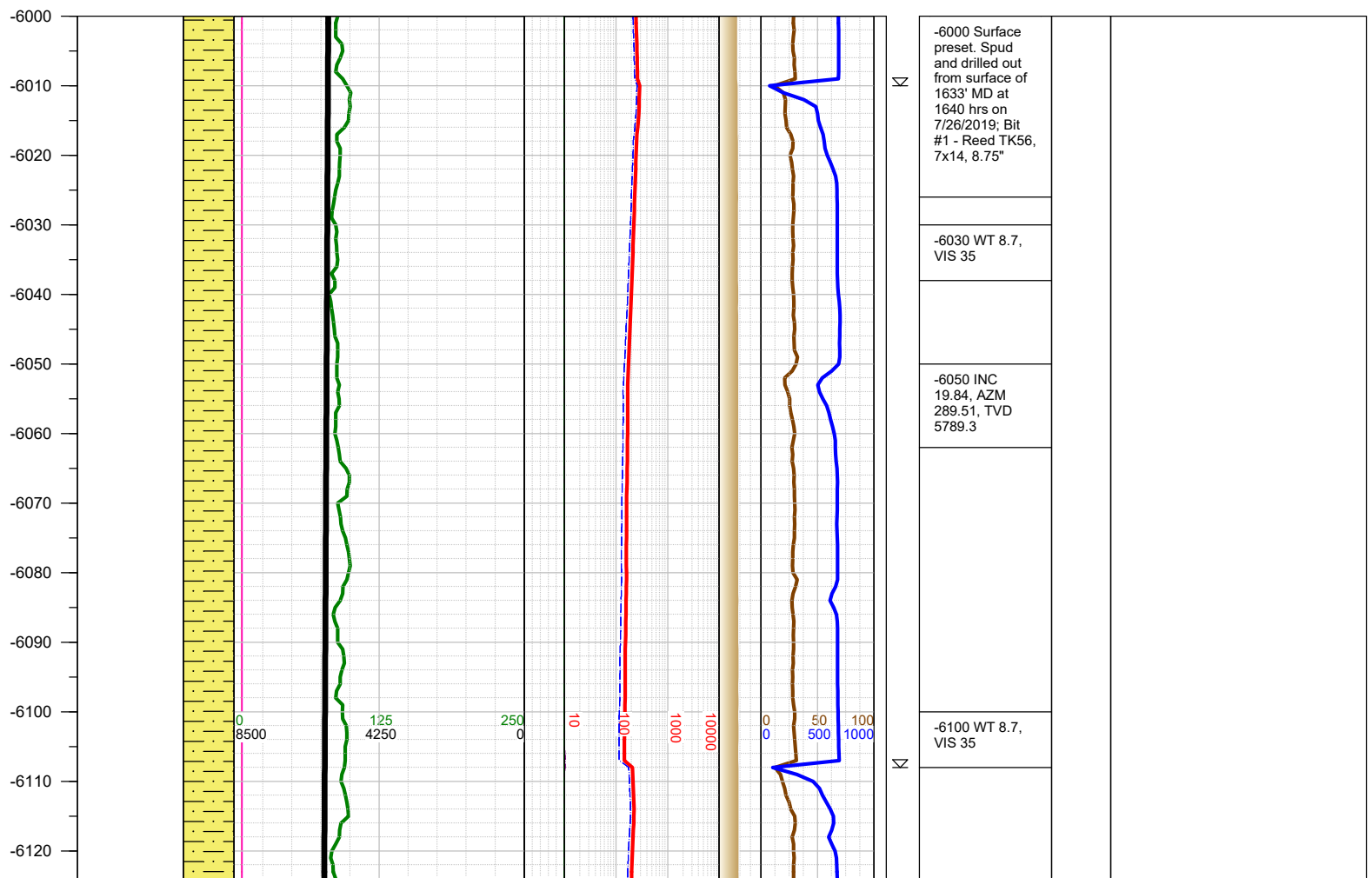
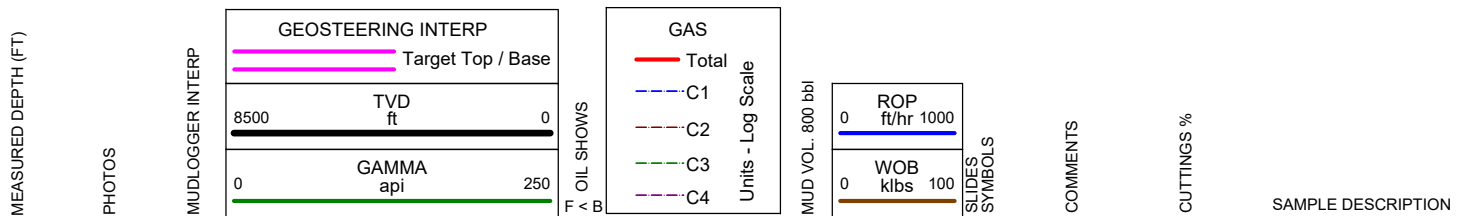
COUNTY: Broomfield
STATE: Colorado
GROUND ELEVATION: 5319'
KELLY BUSHING: 5348'
DRILLING FLUID: OBM
TVD VS. MD: 8364' / 21457'
SPUD DATE: July 26, 2019
TD DATE: August 3, 2019

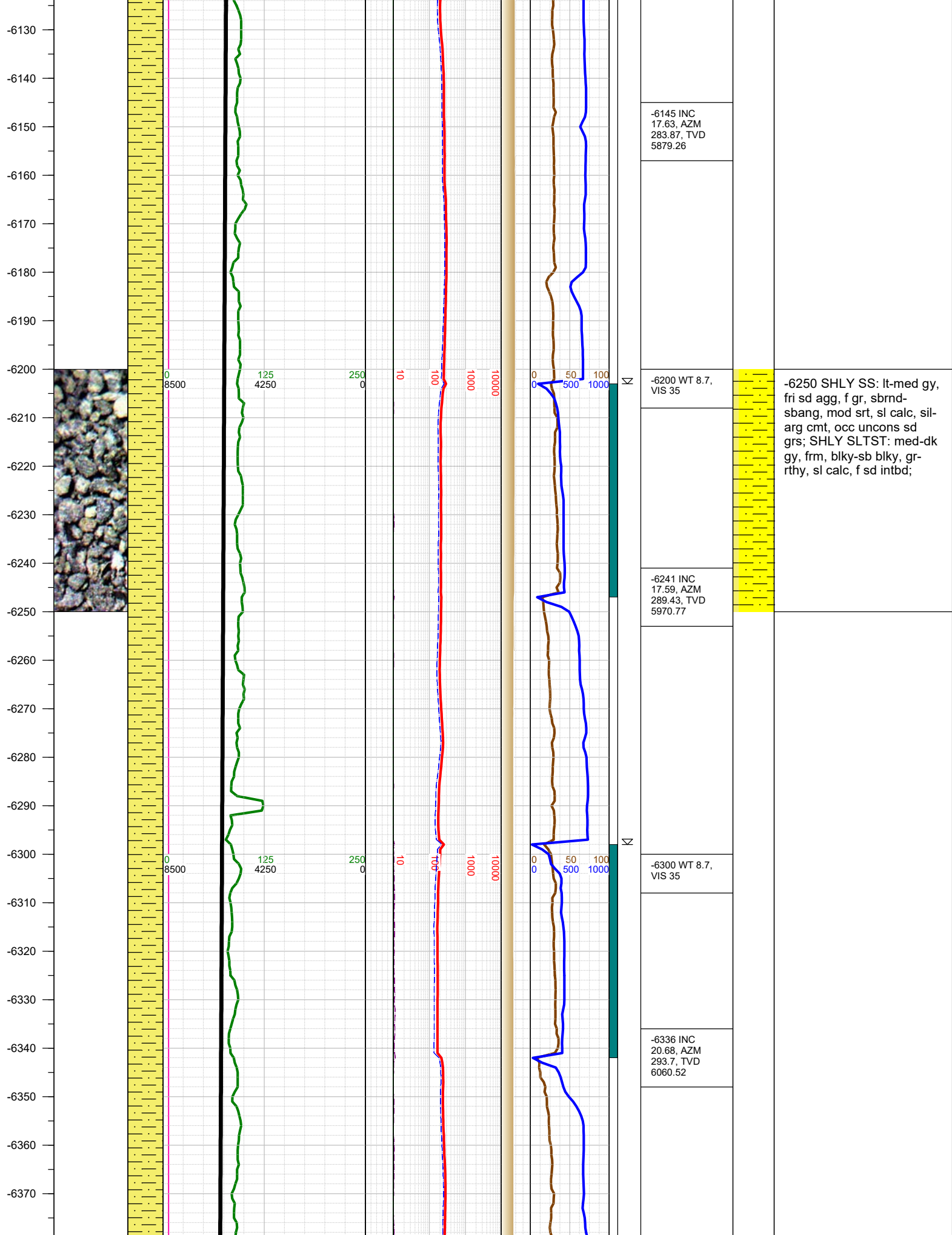
DEPTHS LOGGED: 6000' - 21457'
DATES LOGGED: July 26, 2019 - August 3, 2019
GEOLOGISTS: Dominic Pitre, Madison Miller
SCALE: 5" = 100'

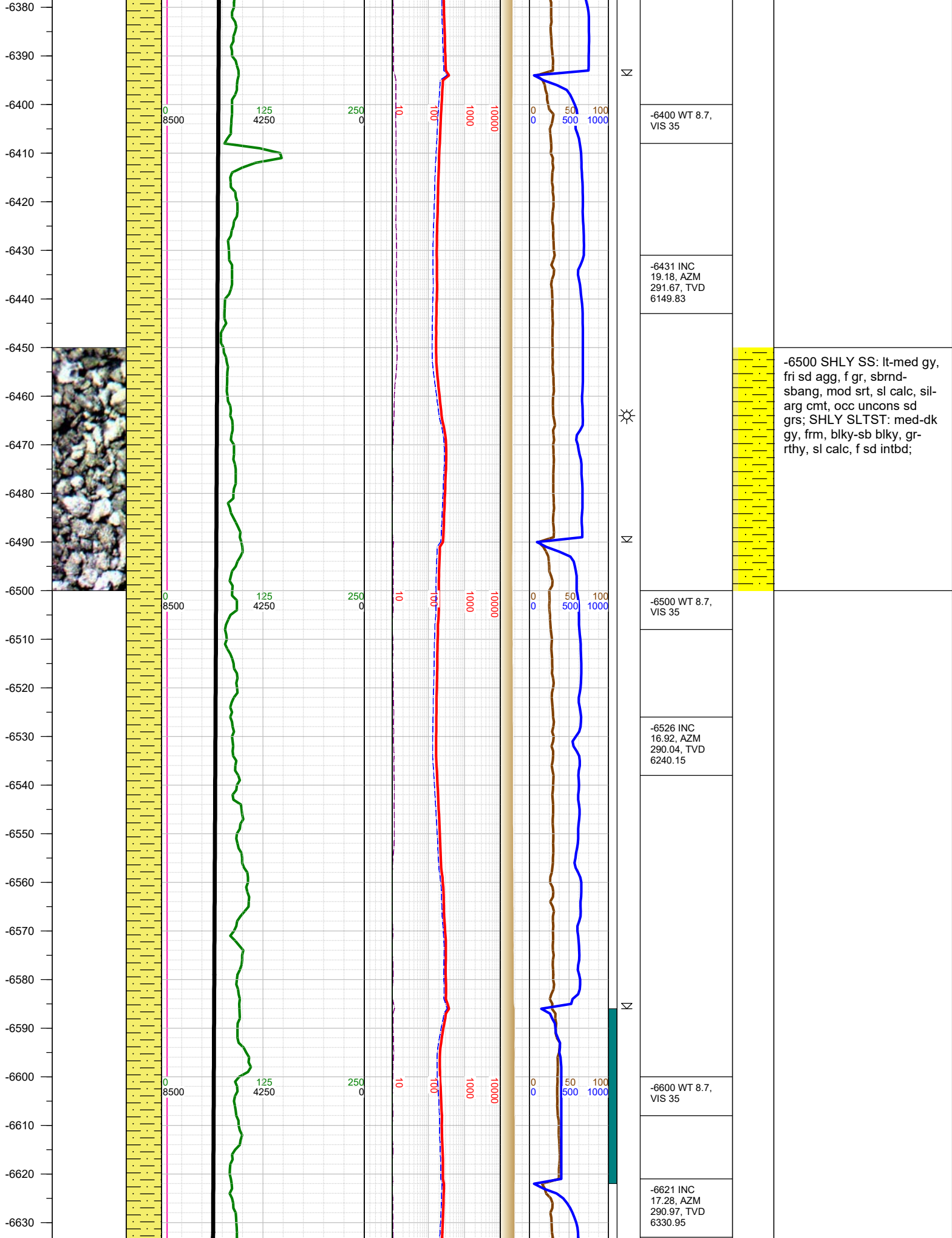
LEGEND

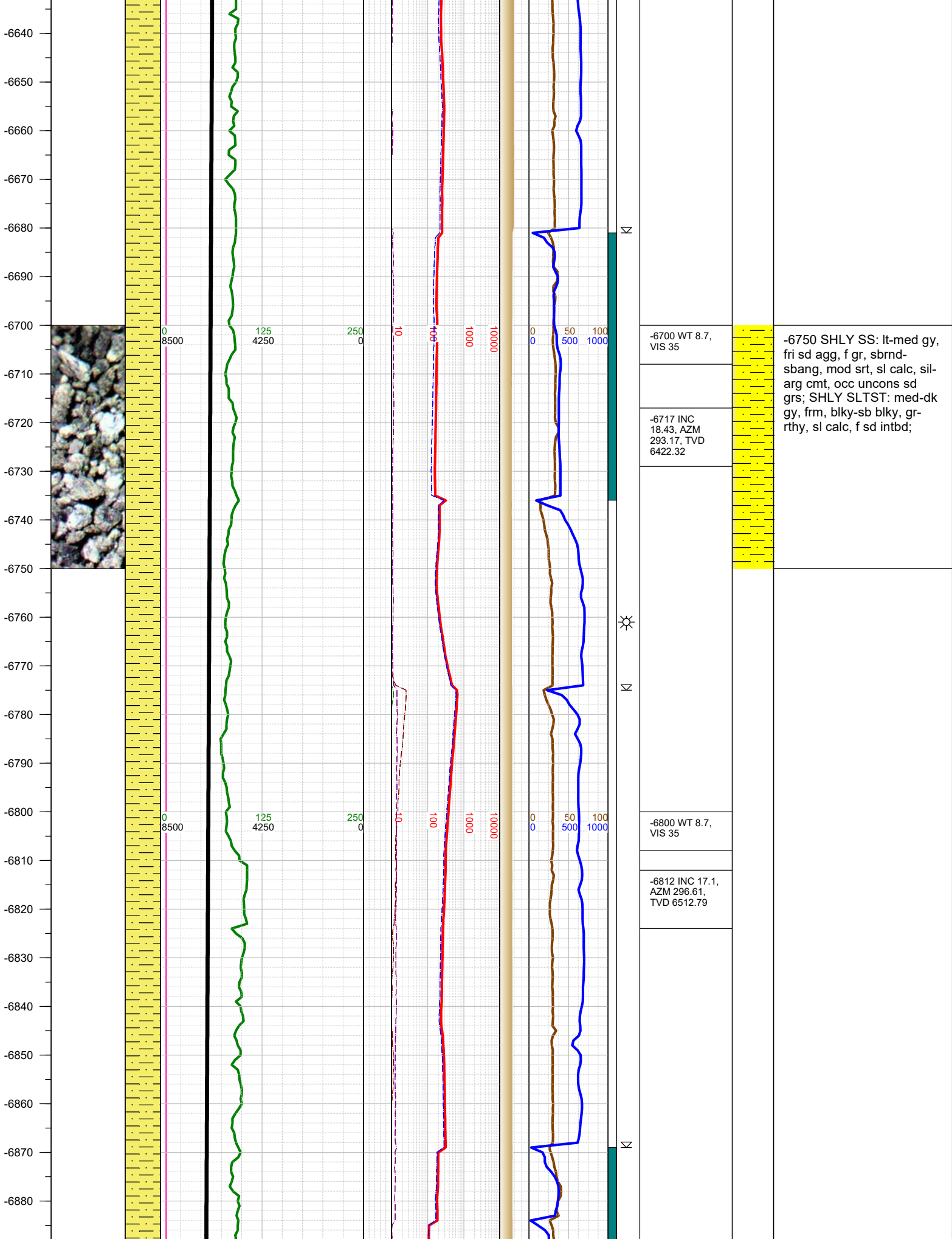


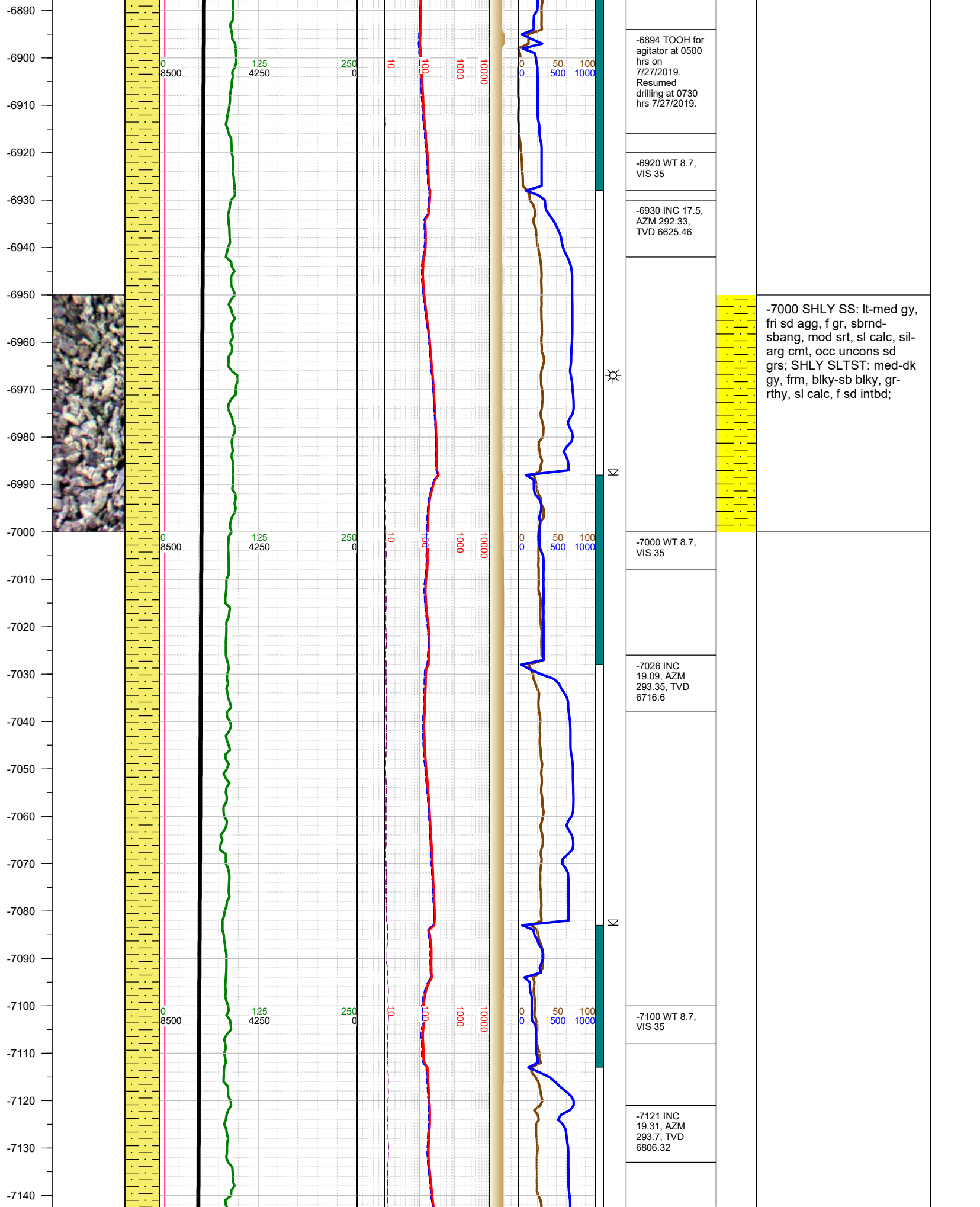
FORMATION CONNECTION MIDNIGHT NEW BIT GAS SHOW FAULT

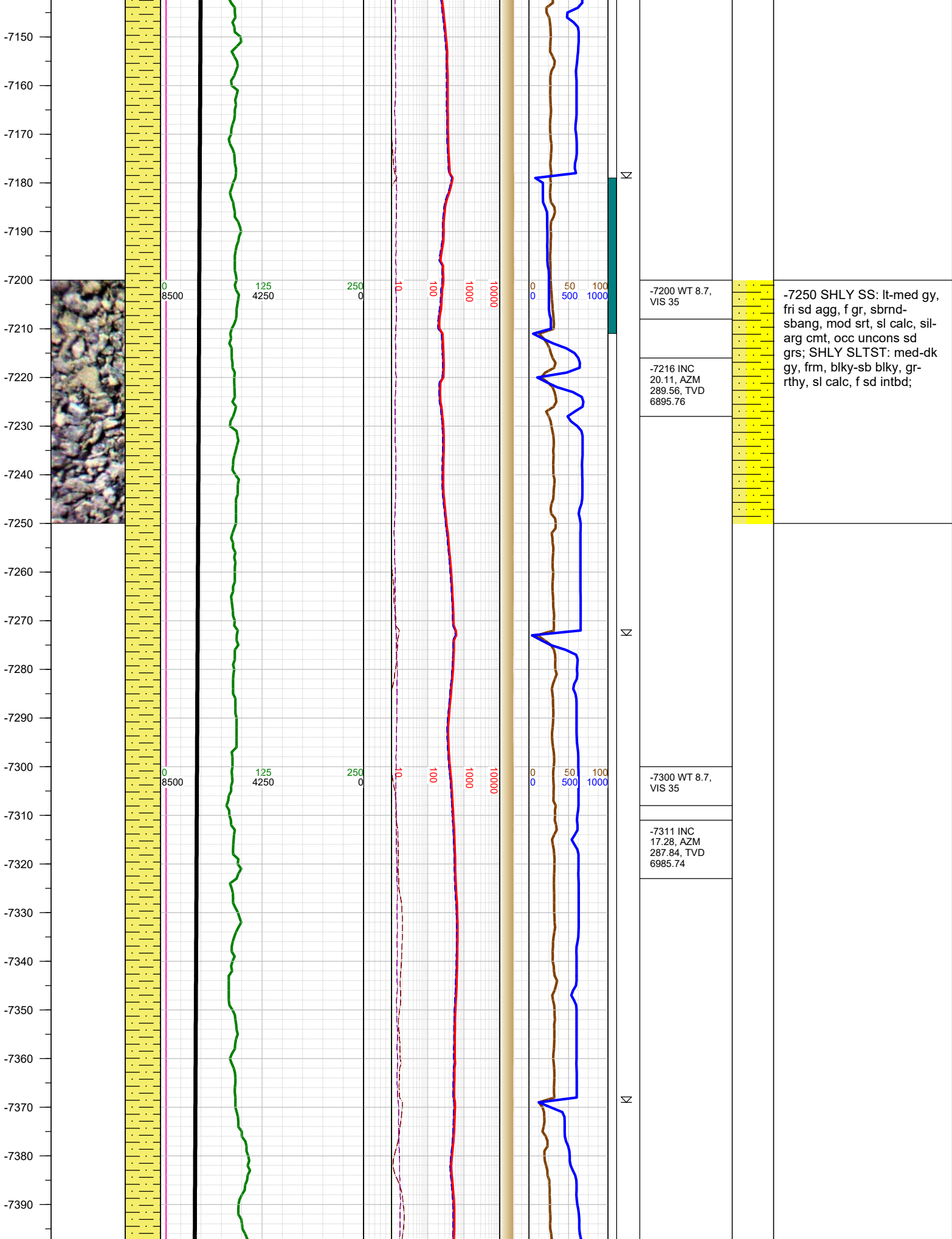


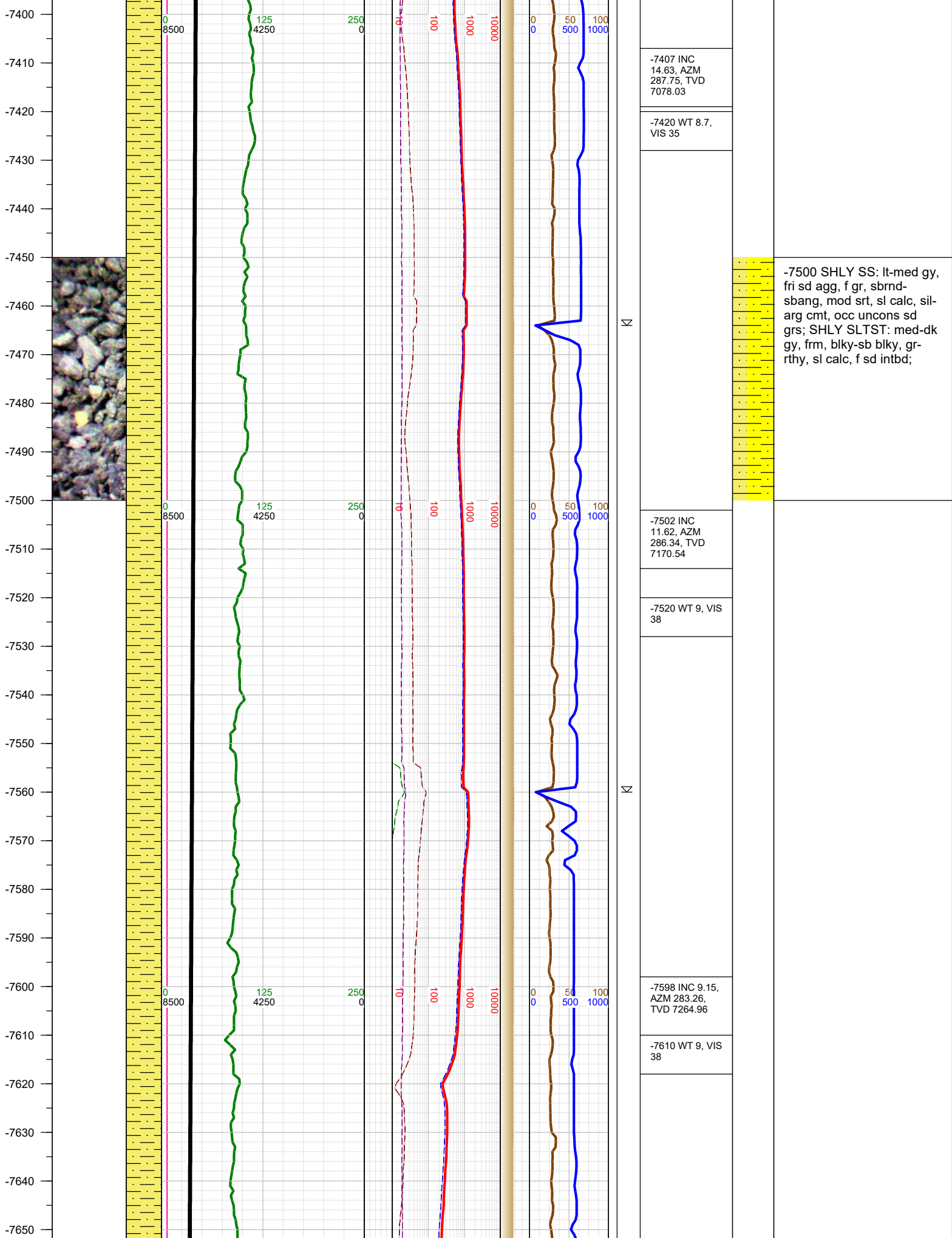


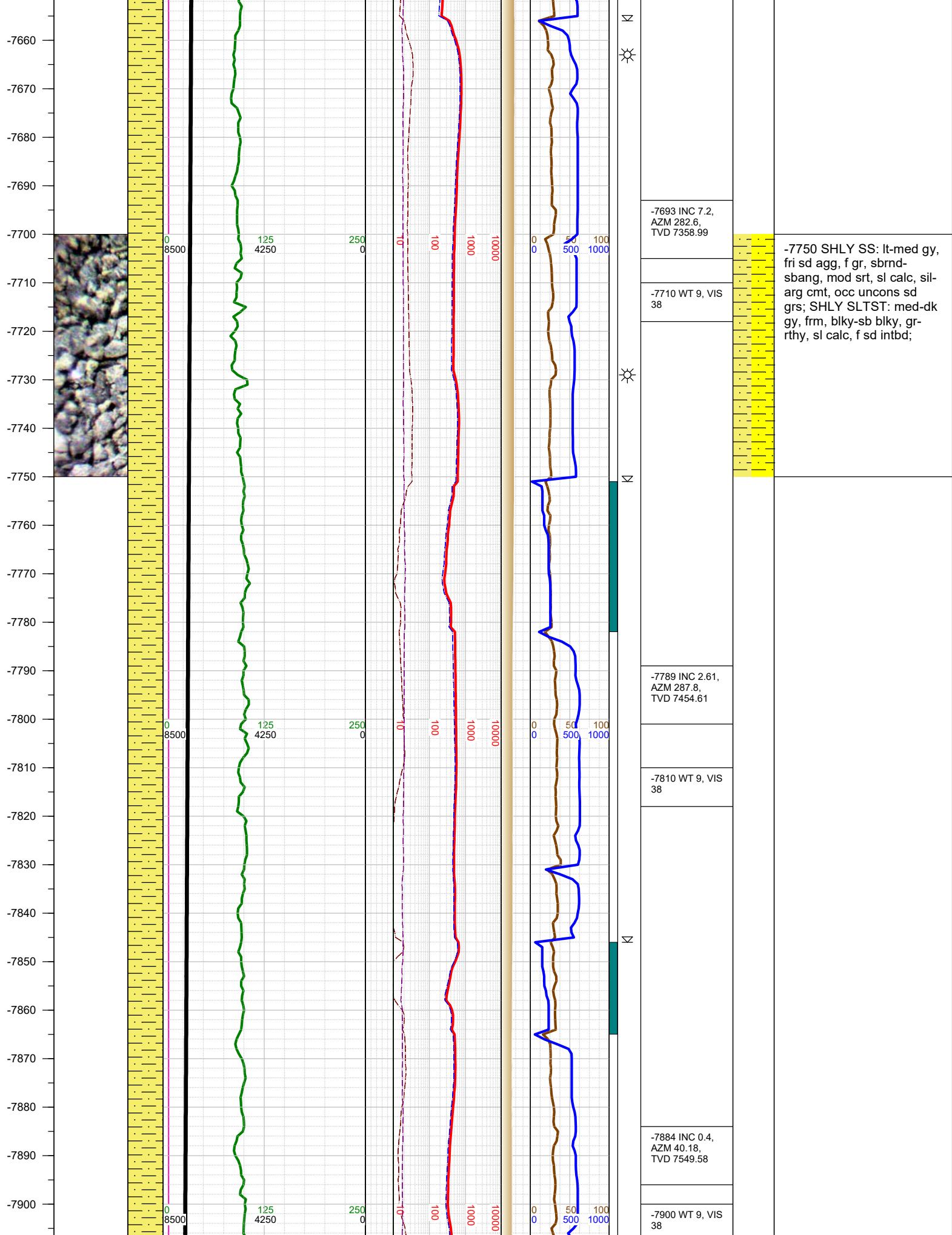


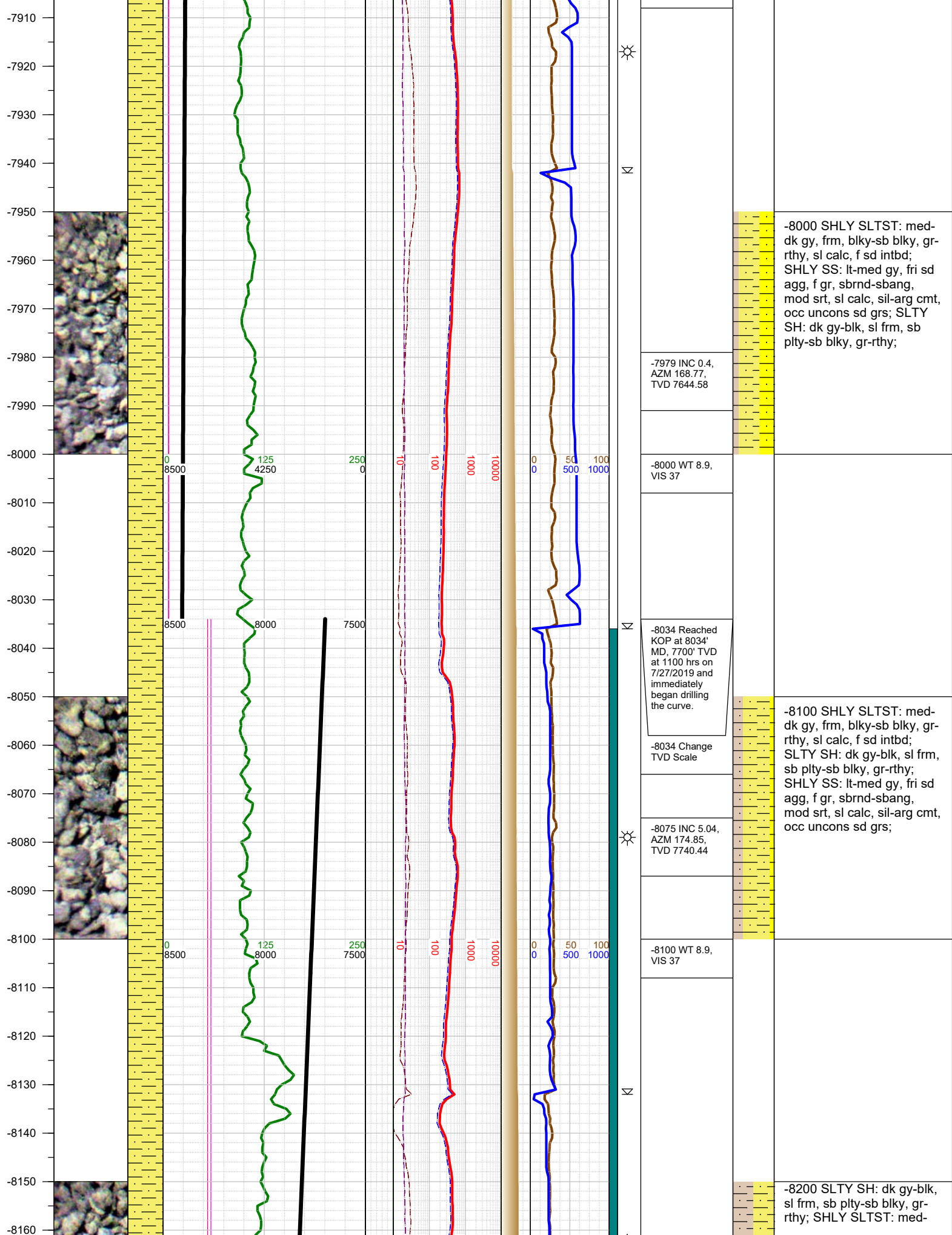


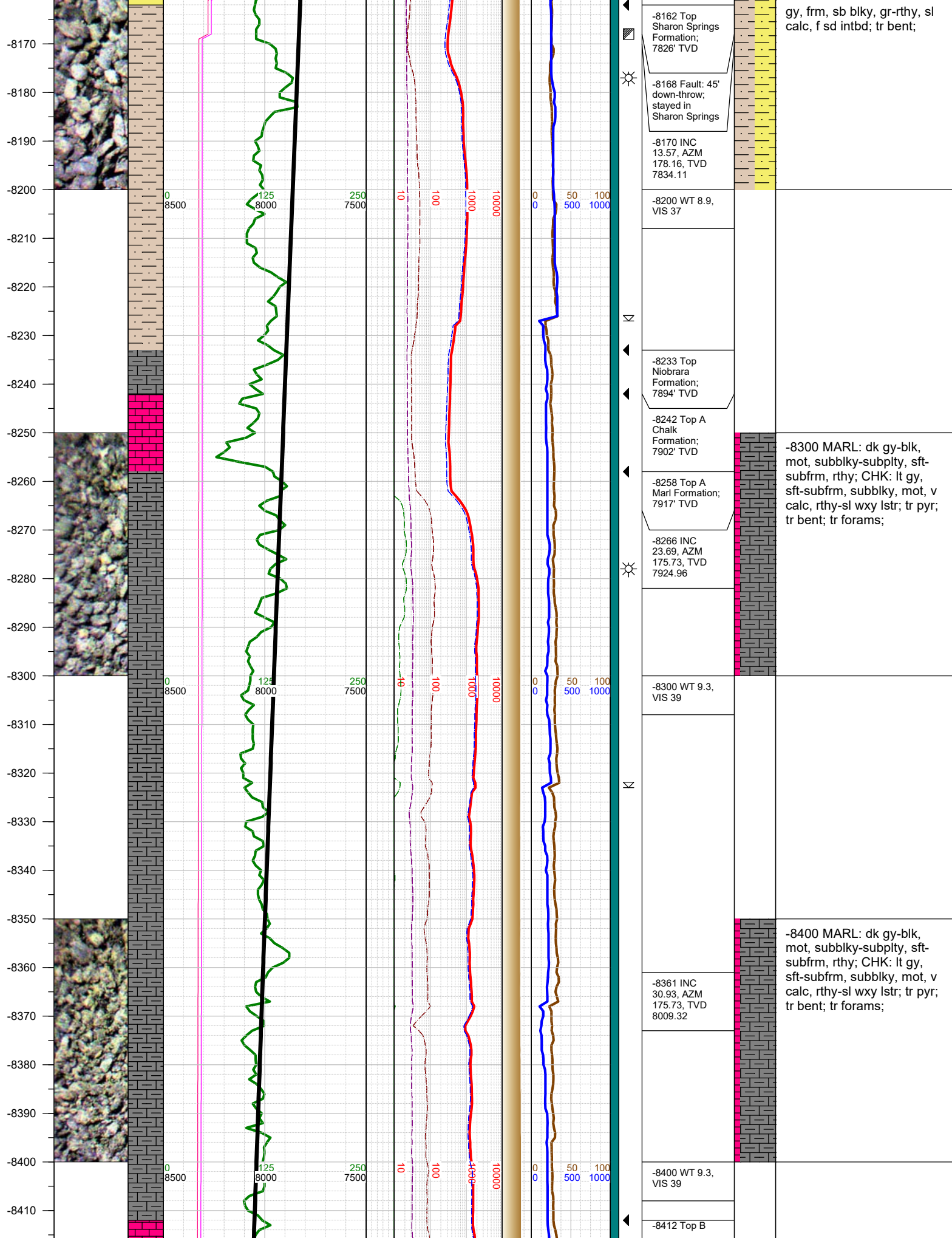


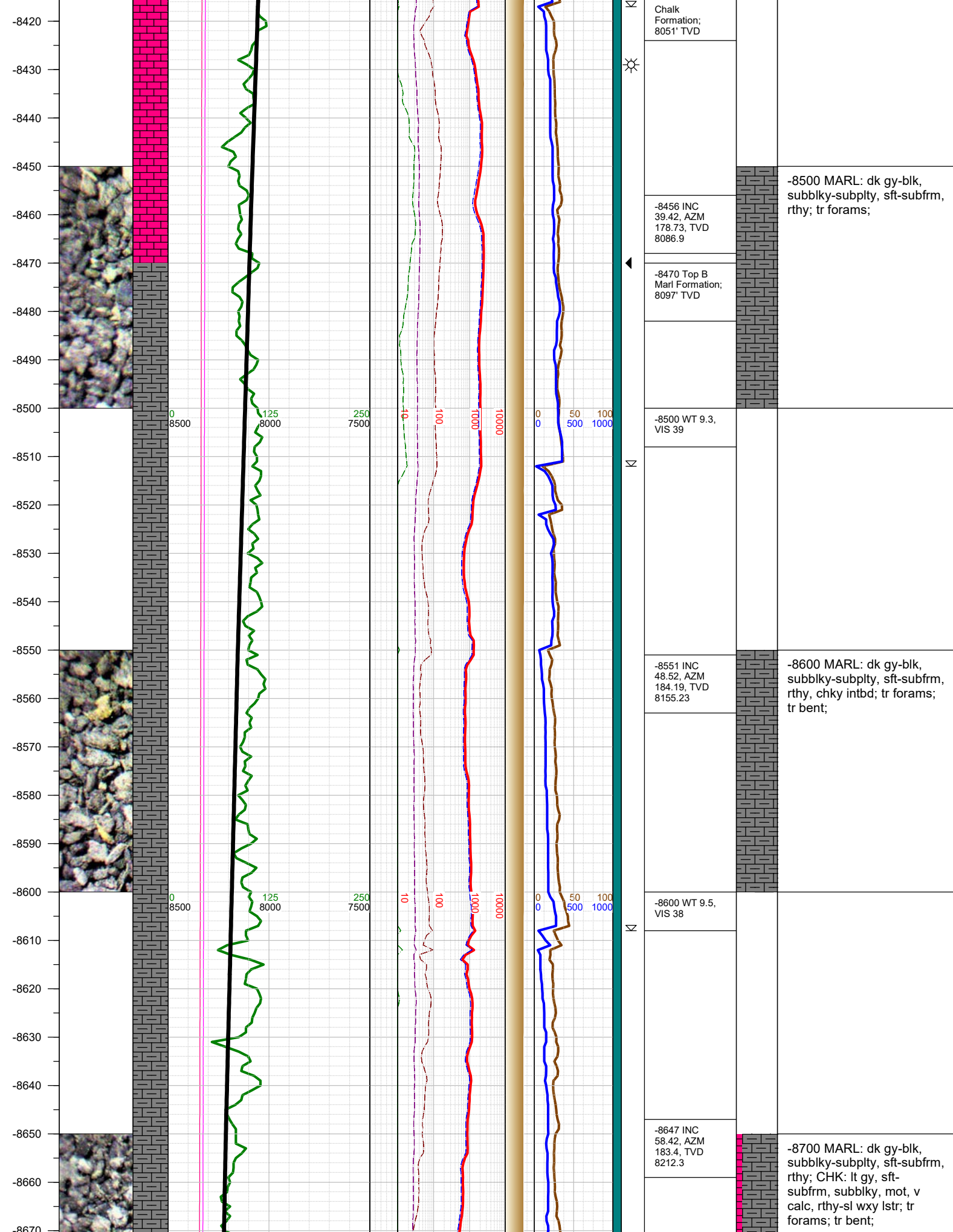


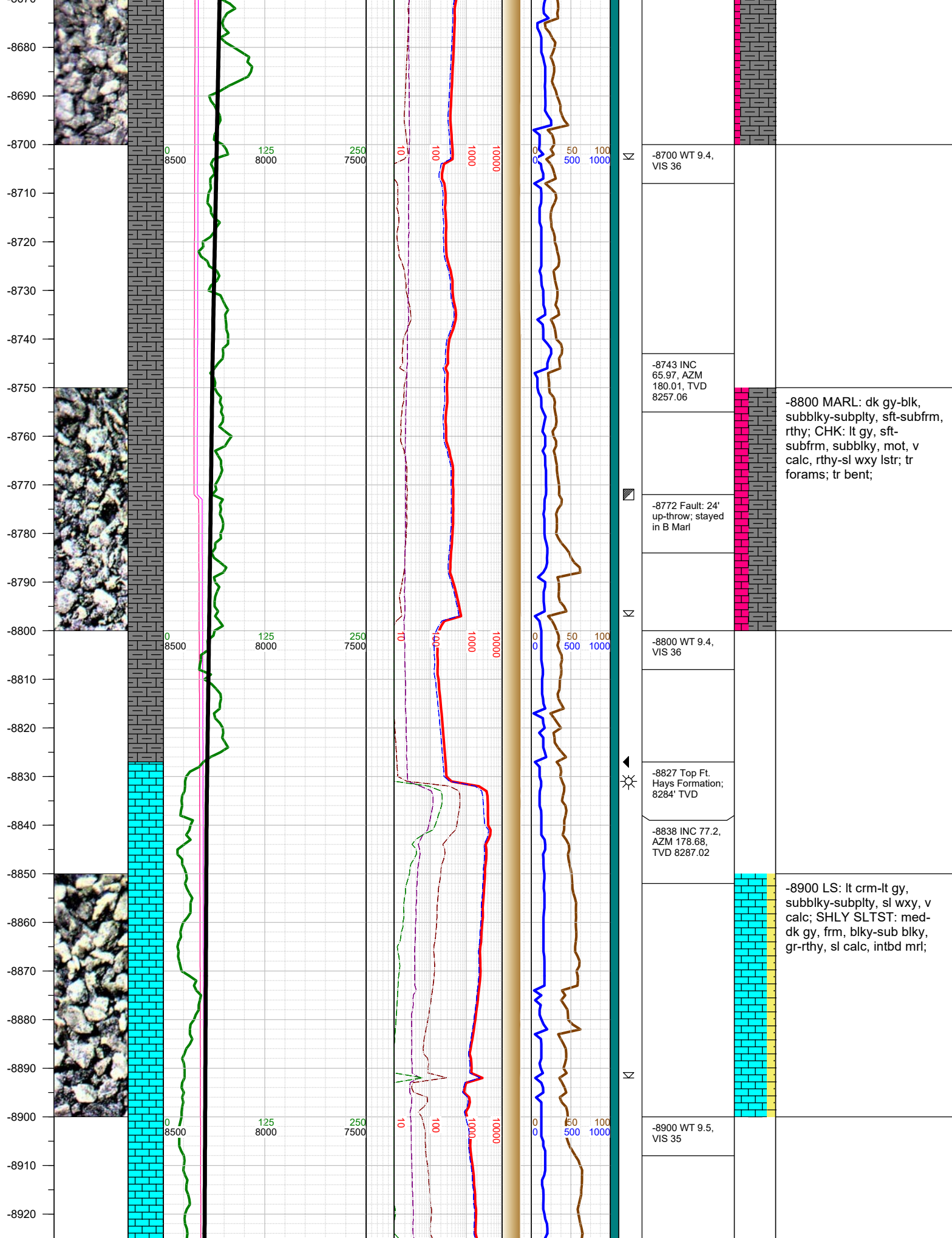


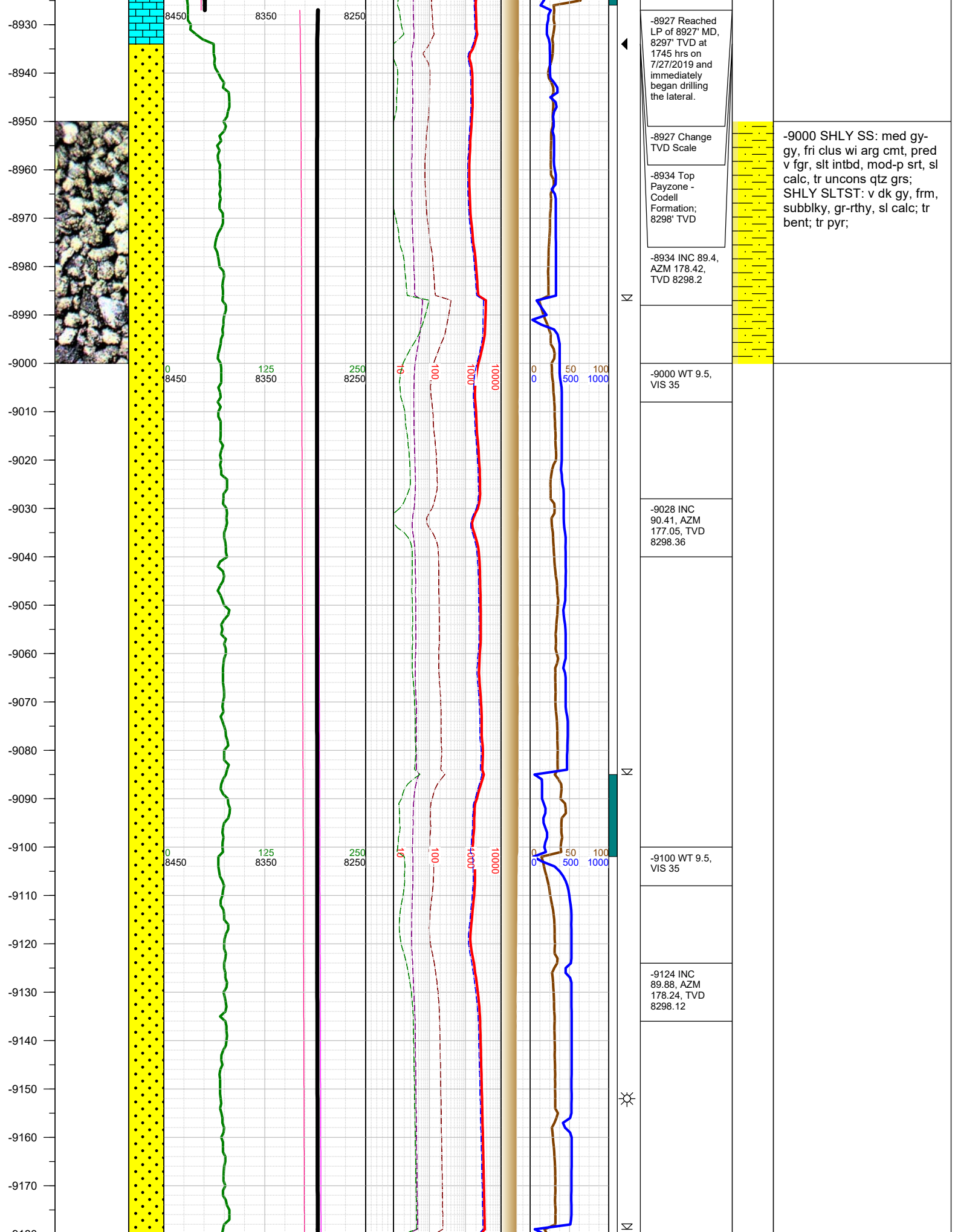


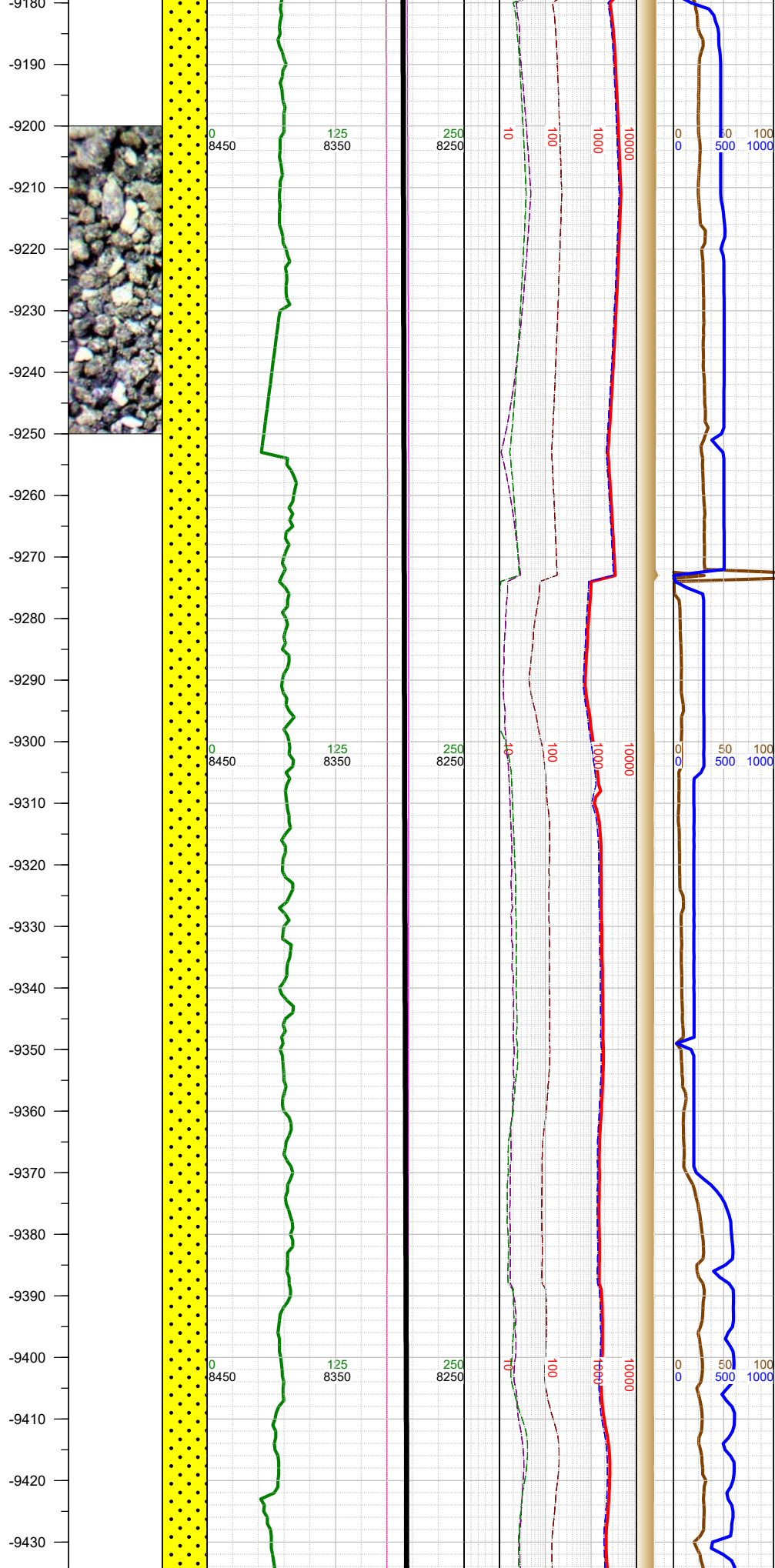




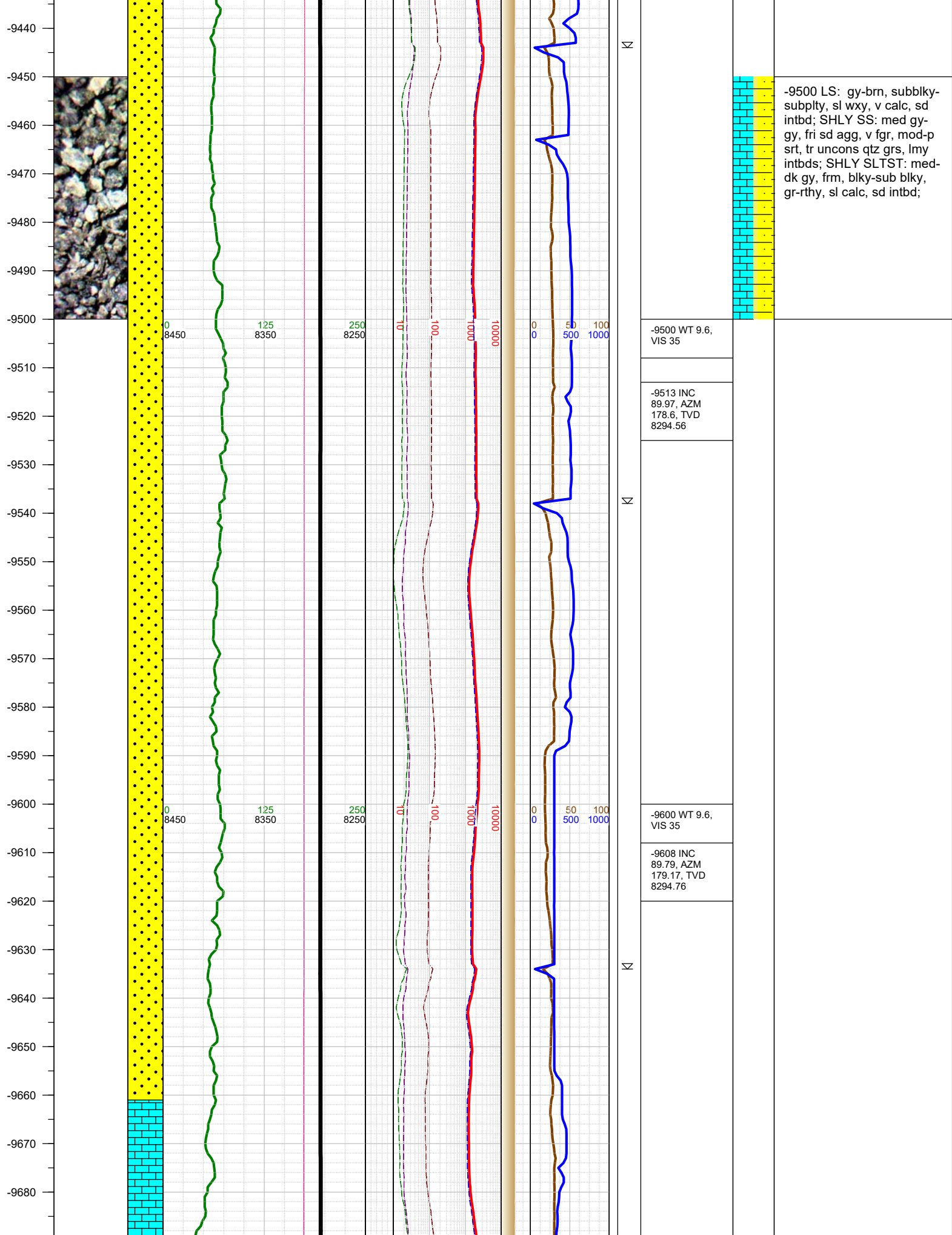


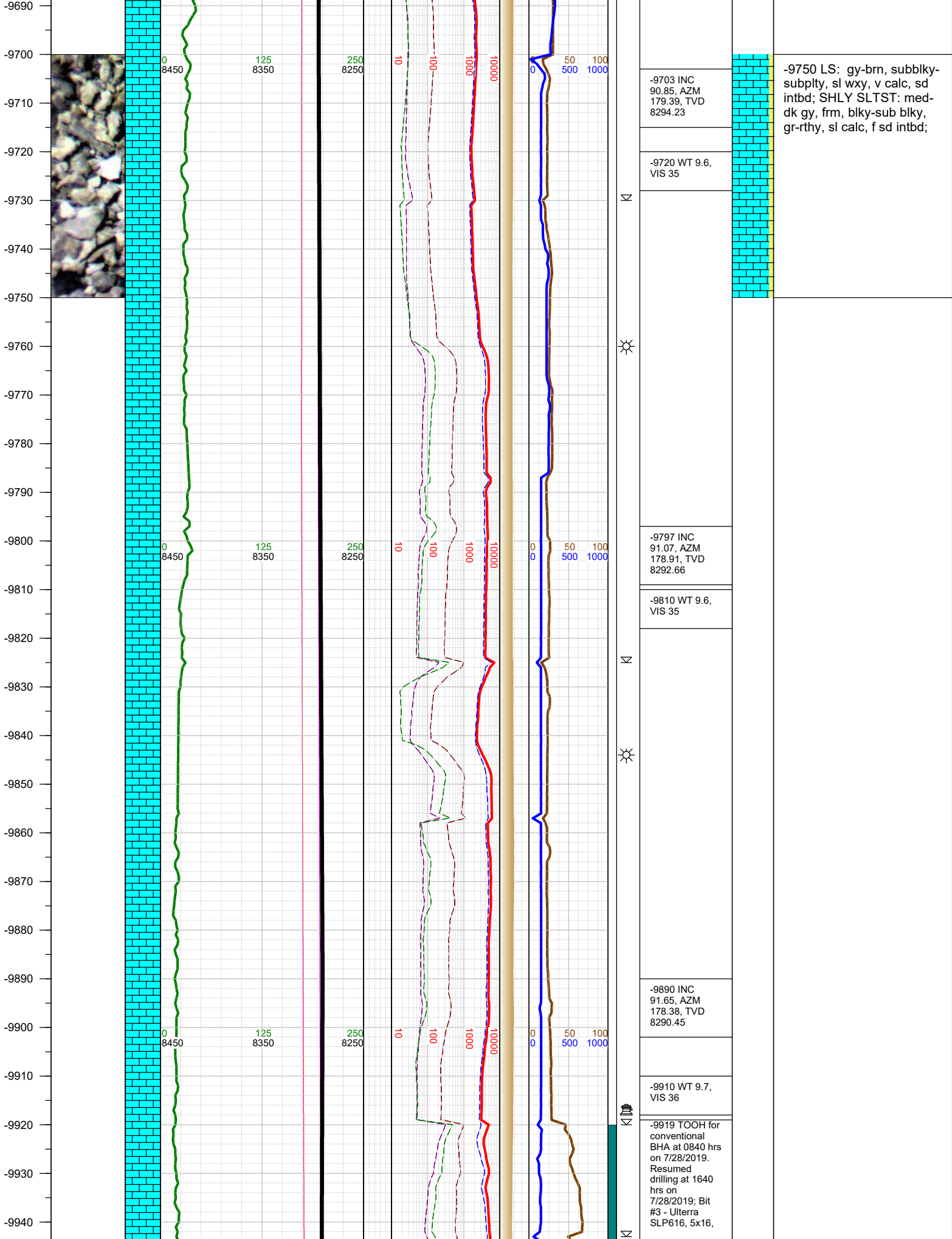


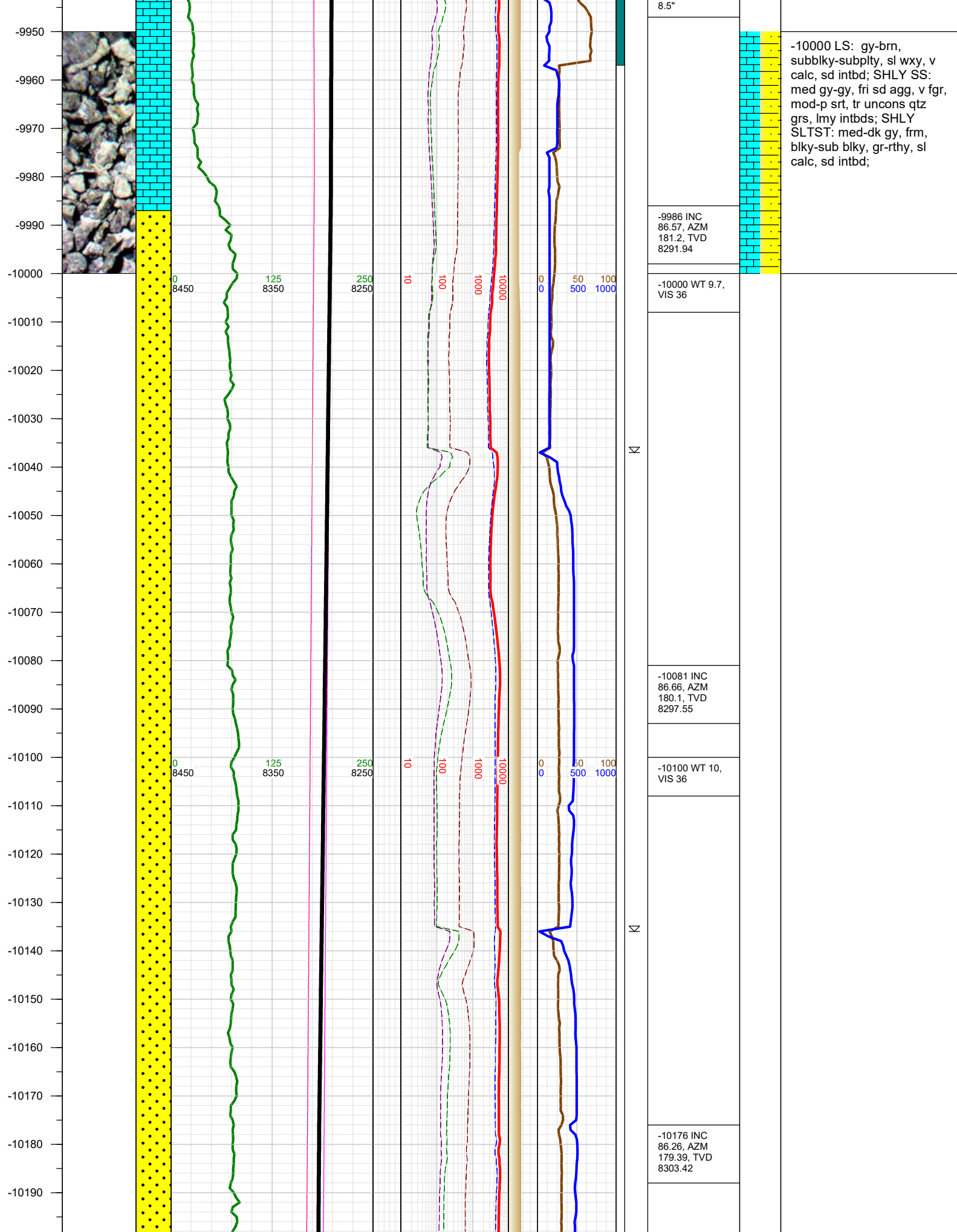


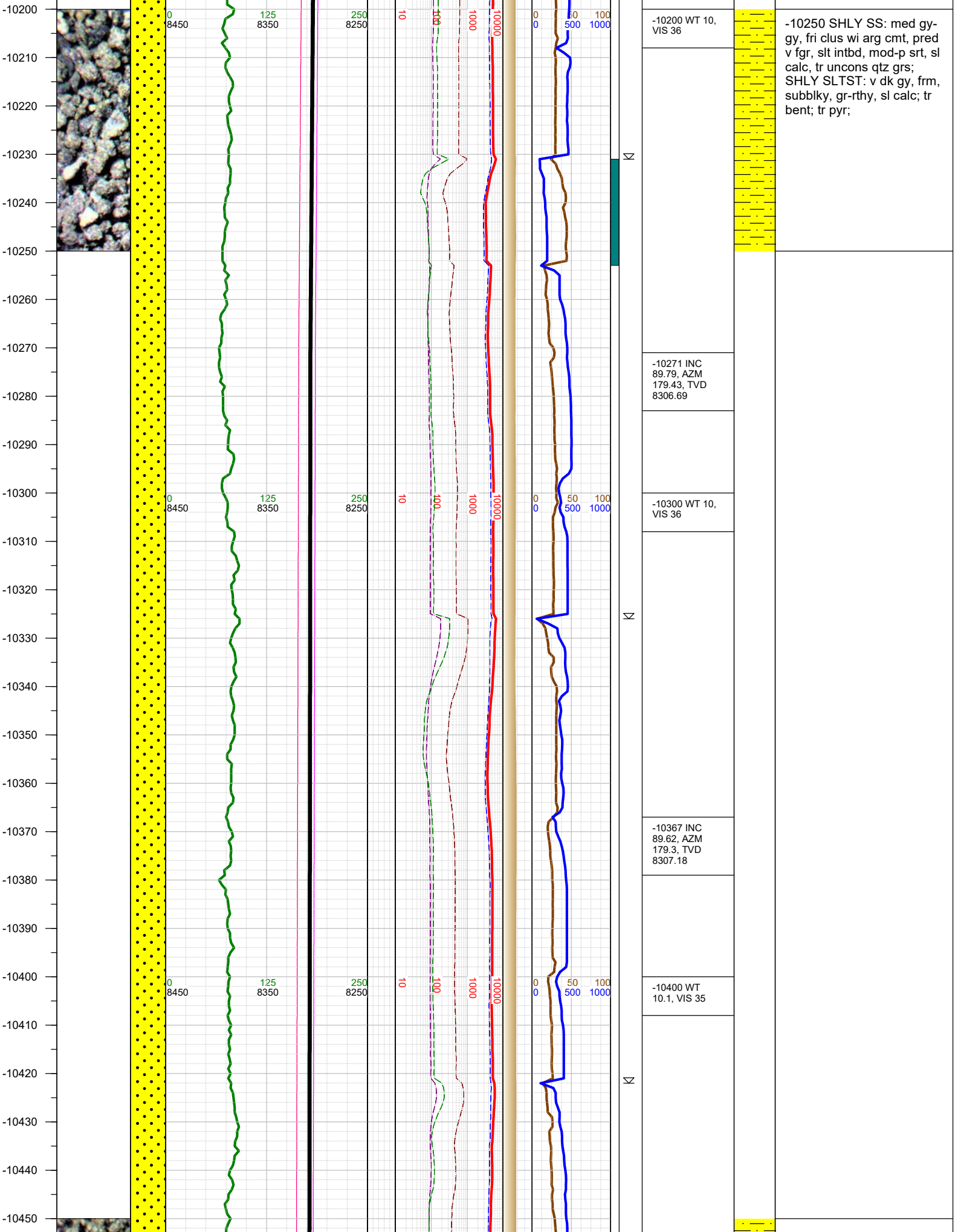


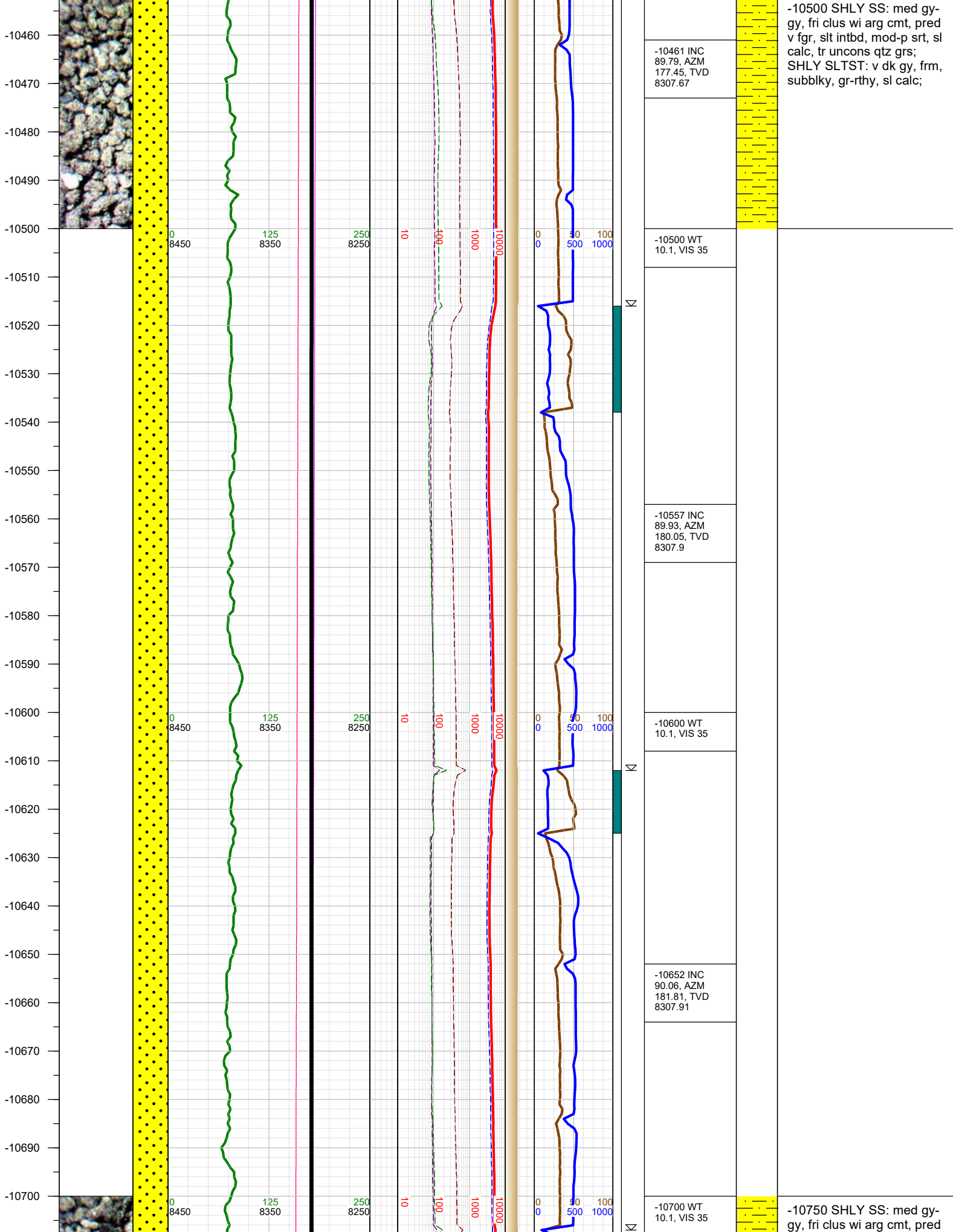
<div>-9200 WT 9.5, VIS 35</div>	<div>-9250 SHLY SS: med gy-gy, fri clus wi arg cmt, pred v fgr, slt intbd, mod-p srt, sl calc, tr unconsl qtz grs; SHLY SLTST: v dk gy, frm, subblky, gr-rthy, sl calc; tr bent; tr pyr;</div>
<div>-9274 TOOH for Orbit RSS at 1855 hrs on 7/27/2019. Resumed drilling at 0359 hrs on 7/28/2019; Bit #2 - Reed TK56G3, 7x14, 8.5"</div>	
<div>-9274 0000 hrs on 7/28/2019</div>	
<div>-9310 Gas buster on</div>	
<div>-9323 INC 91.21, AZM 178.07, TVD 8296.22</div>	
<div>-9340 WT 9.5, VIS 35</div>	
<div>-9400 WT 9.5, VIS 35</div>	
<div>-9418 INC 90.41, AZM 179.3, TVD 8294.88</div>	





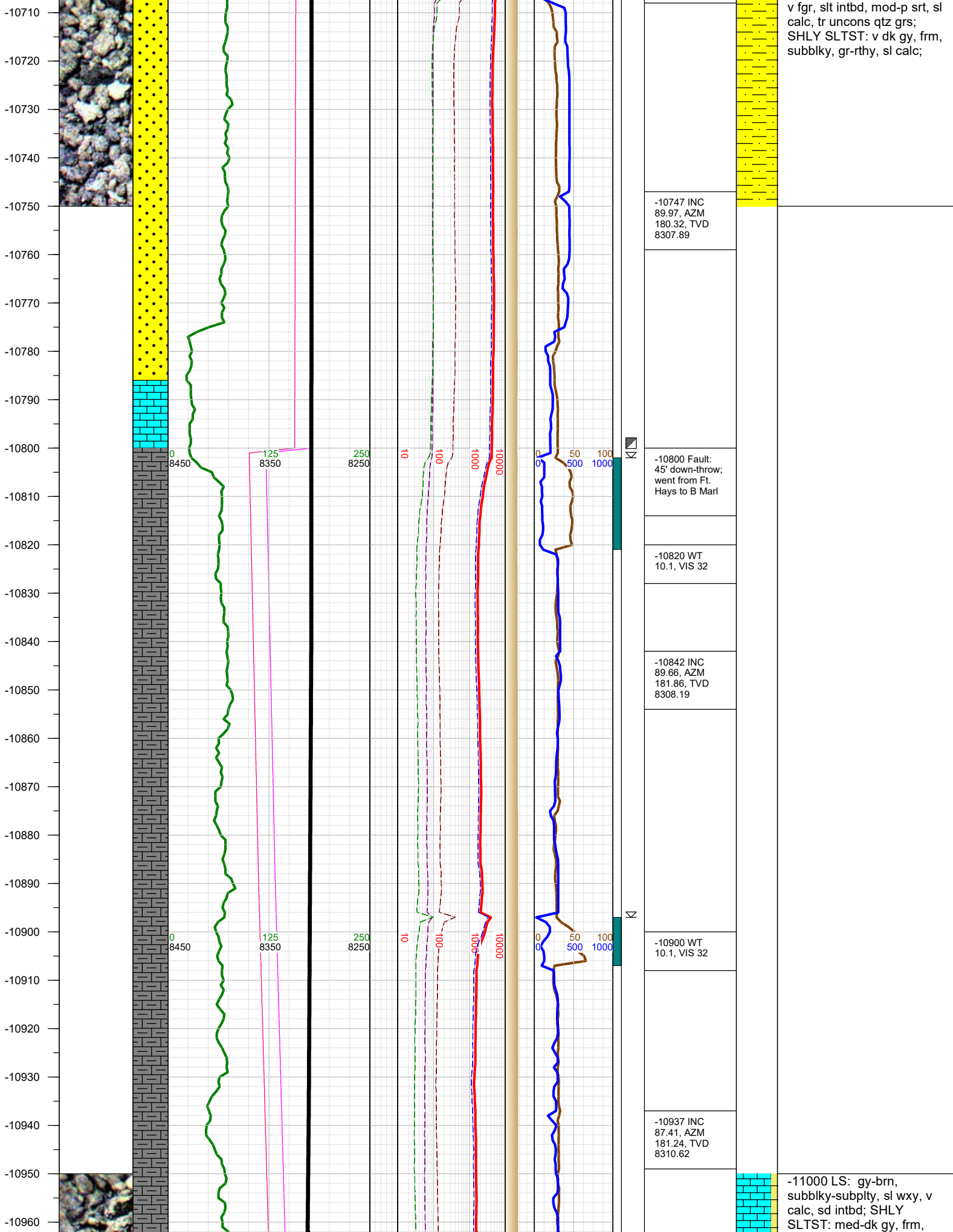






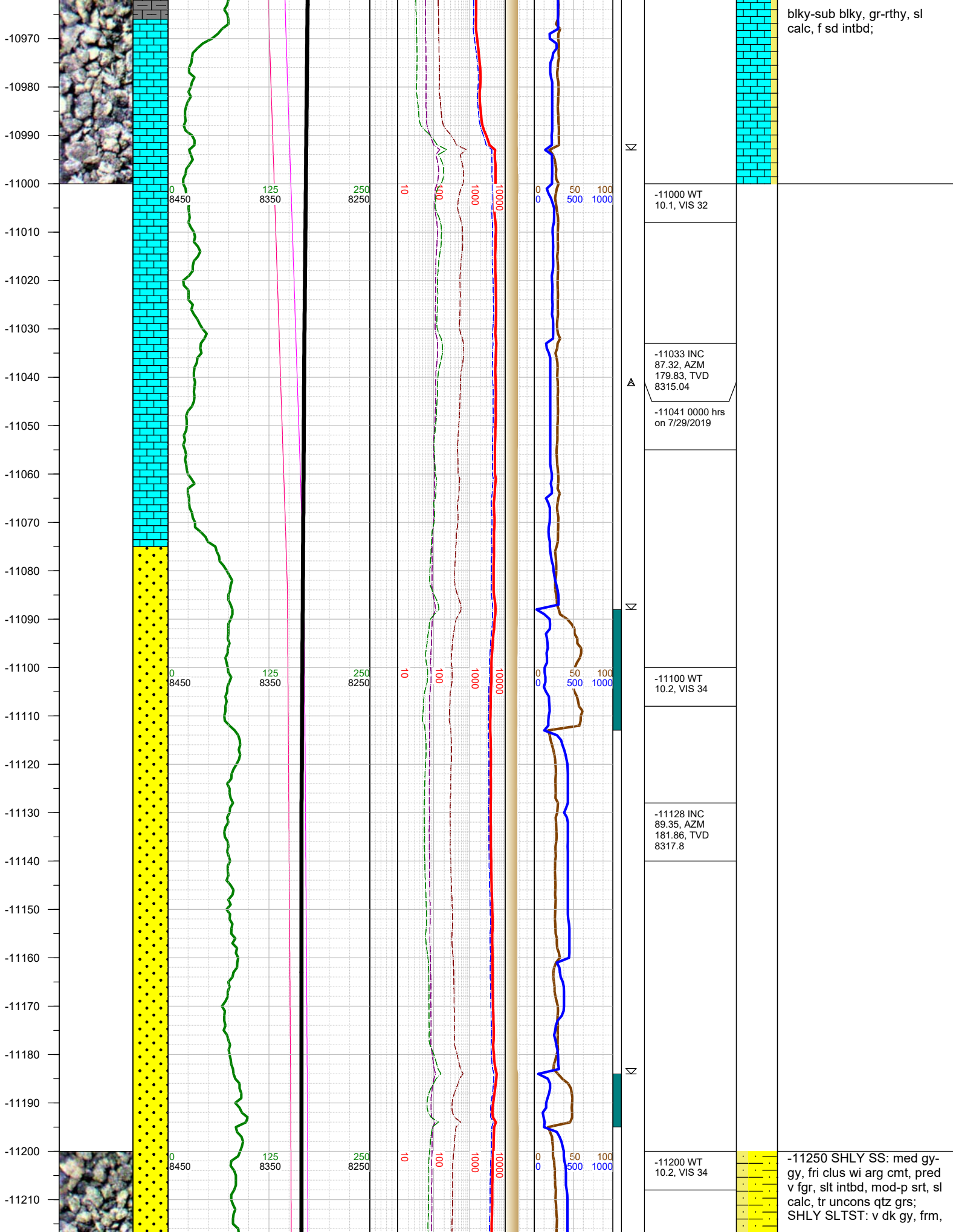
-10500 SHLY SS: med gy-gy, fri clus wi arg cmt, pred v fgr, slt intbd, mod-p srt, sl calc, tr unconsl qtz grs; SHLY SLTST: v dk gy, frm, subblky, gr-rthy, sl calc;

-10750 SHLY SS: med gy-gy, fri clus wi arg cmt, pred



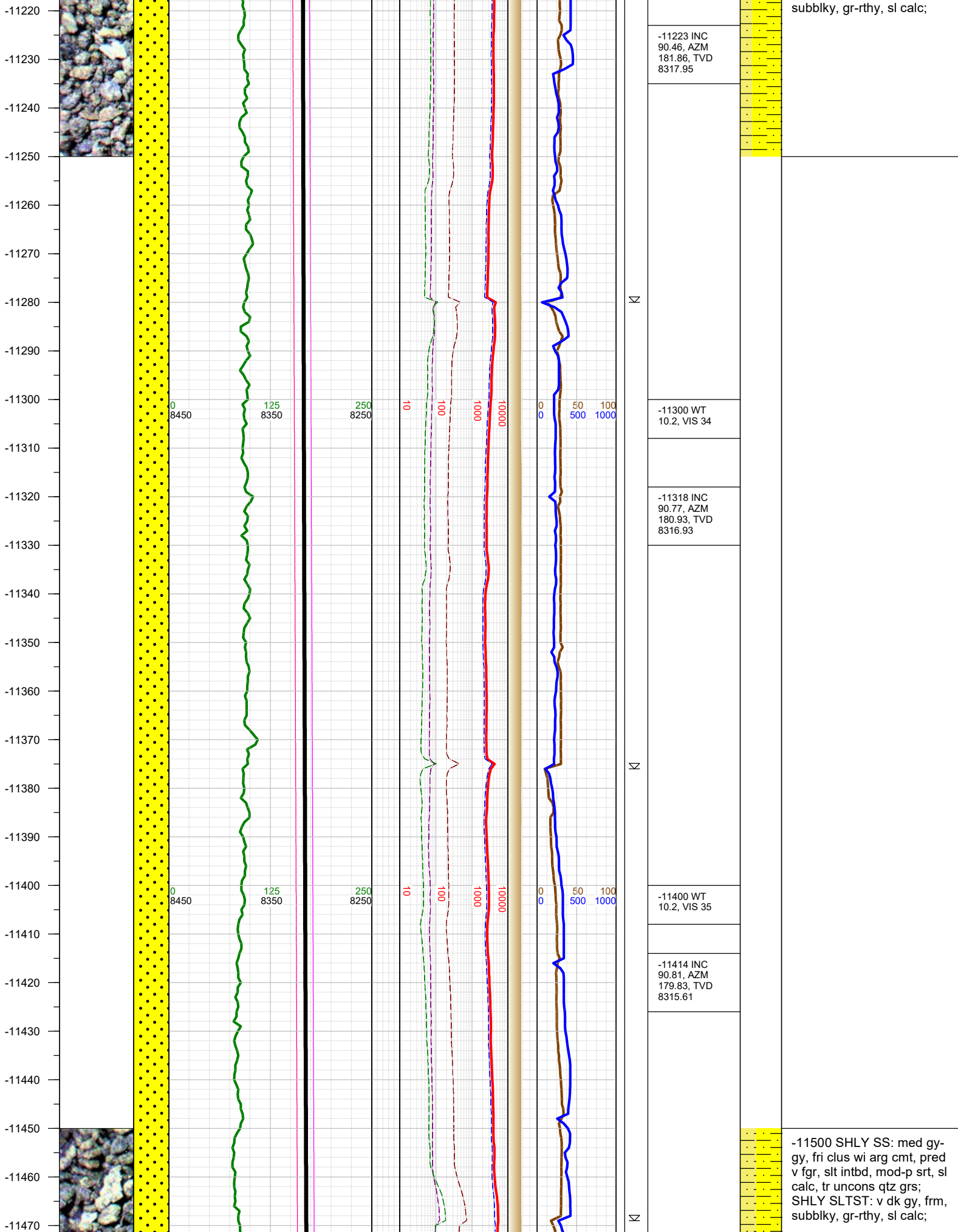
v fgr, slt intbd, mod-p srt, sl
calc, tr unconq grs;
SHLY SLTST: v dk gy, frm,
subblky, gr-rthy, sl calc;

-11000 LS: gy-brn,
subblky-subply, sl wxy, v
calc, sd intbd; SHLY
SLTST: med-dk gy, frm,



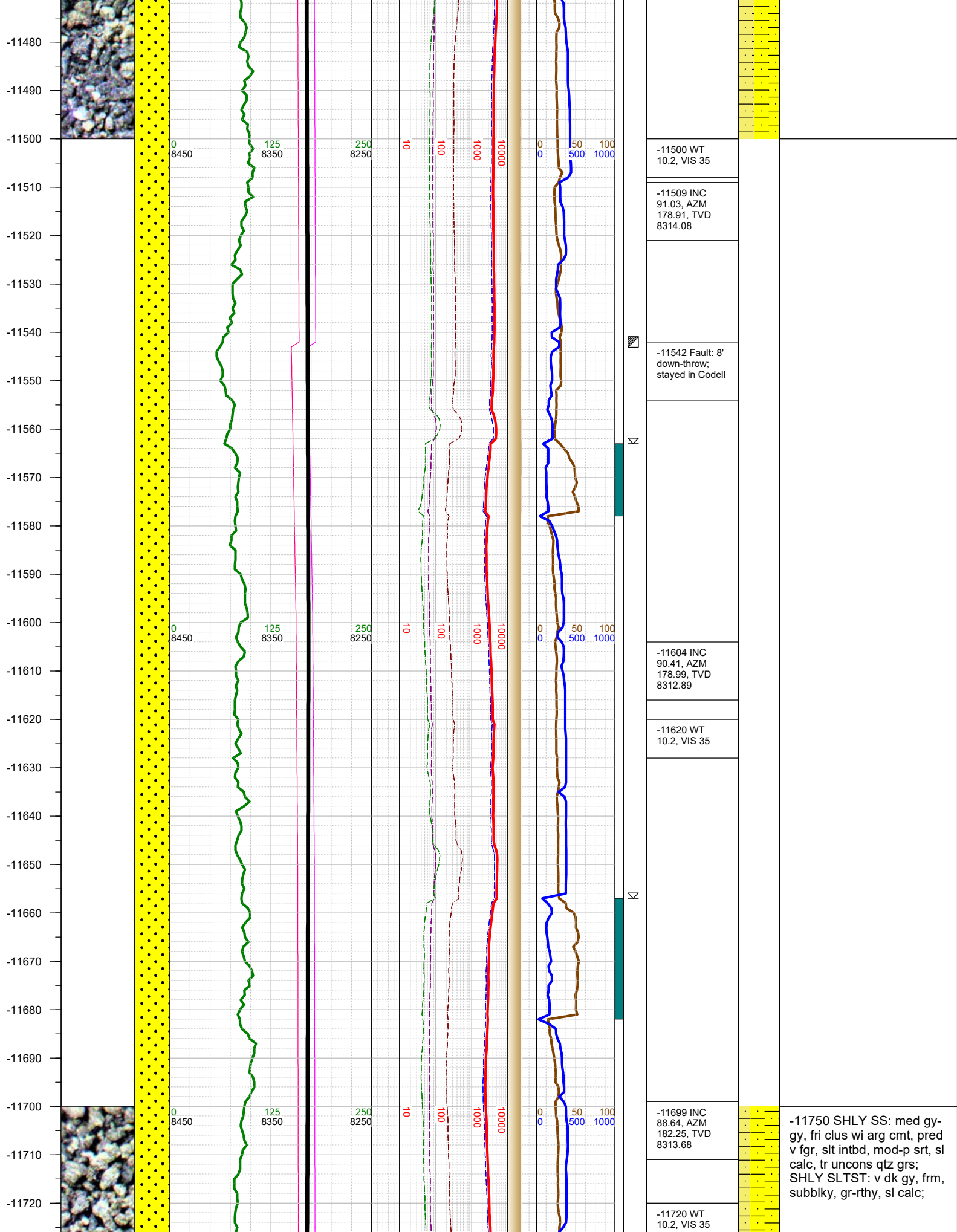
blky-sub blky, gr-rthy, sl
calc, f sd intbd;

-11250 SHLY SS: med gy-
gy, fri clus wi arg cmt, pred
v fgr, slt intbd, mod-p srt, sl
calc, tr uncons qtz grs;
SHLY SLTST: v dk gy, frm,

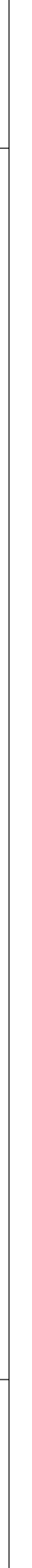
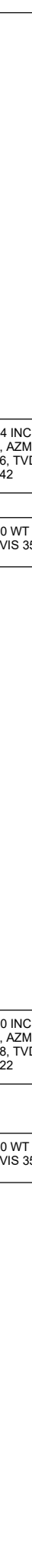
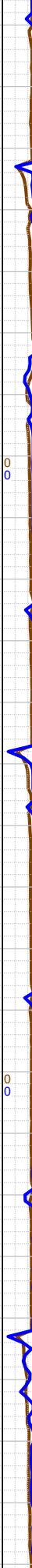
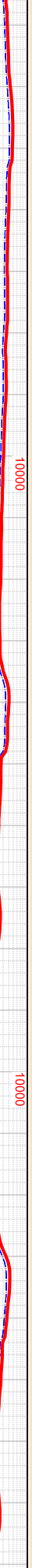
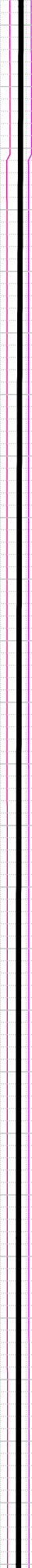
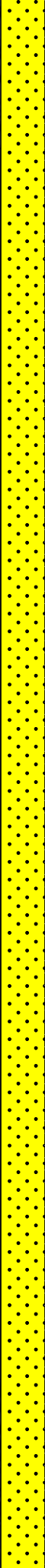
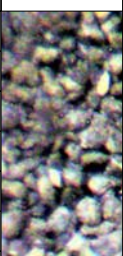


subblky, gr-rthy, sl calc;

-11500 SHLY SS: med gy-gy, fri clus wi arg cmt, pred v fgr, slt intbd, mod-p srt, sl calc, tr uncons qtz grs; SHLY SLTST: v dk gy, frm, subblky, gr-rthy, sl calc;



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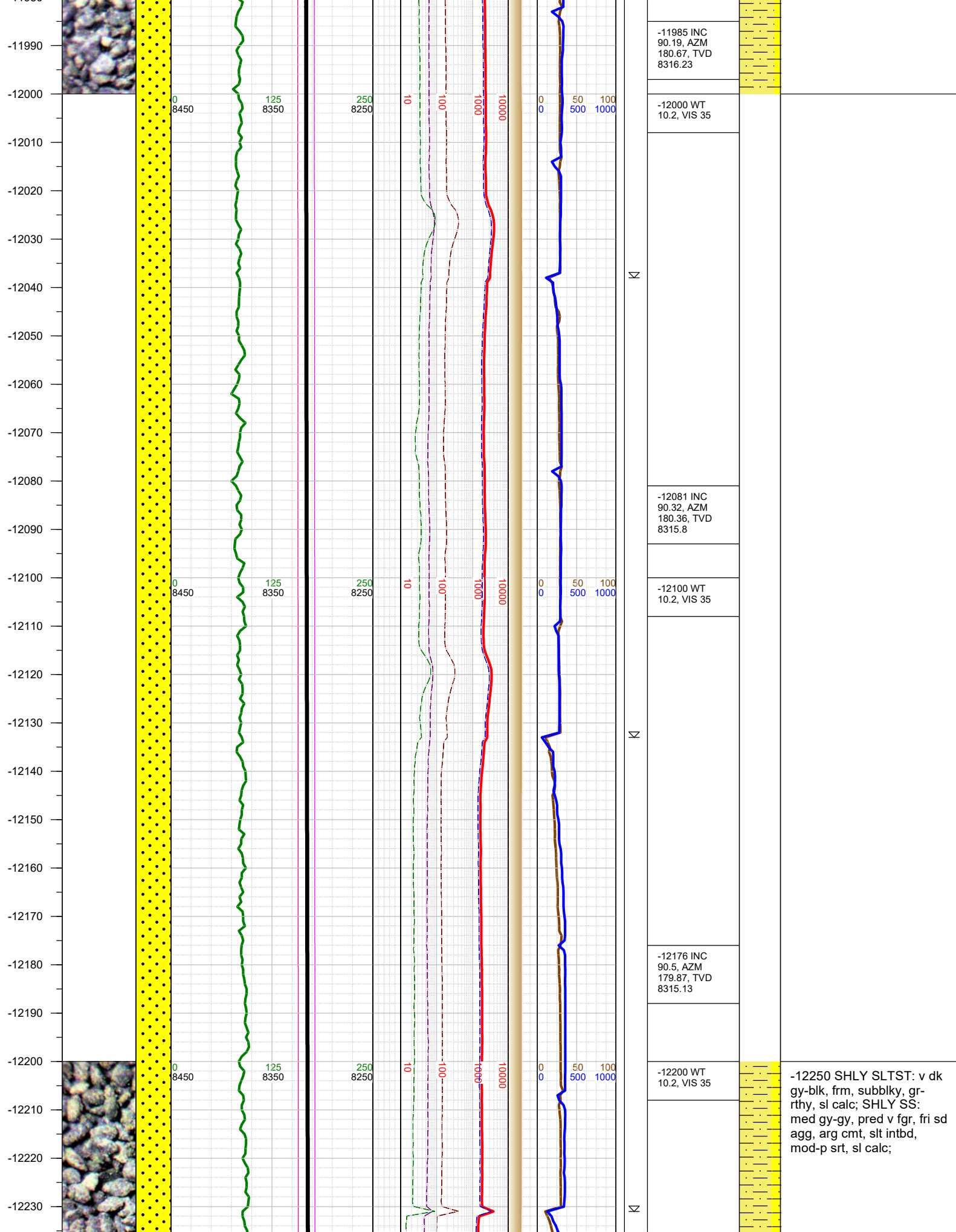
-11794 INC
89.26, AZM
181.86, TVD
8315.42

-11810 WT
10.2, VIS 35

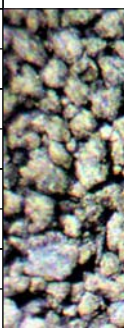
-11890 INC
89.79, AZM
180.98, TVD
8316.22

-11910 WT
10.2, VIS 35

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



-12240
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-12460
-12470
-12480
-12490



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8450

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8350

250
8250

10
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100

1000
1000

10000
10000

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50
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-12272 INC
90.68, AZM
179.04, TVD
8314.14

-12300 WT
10.2, VIS 35

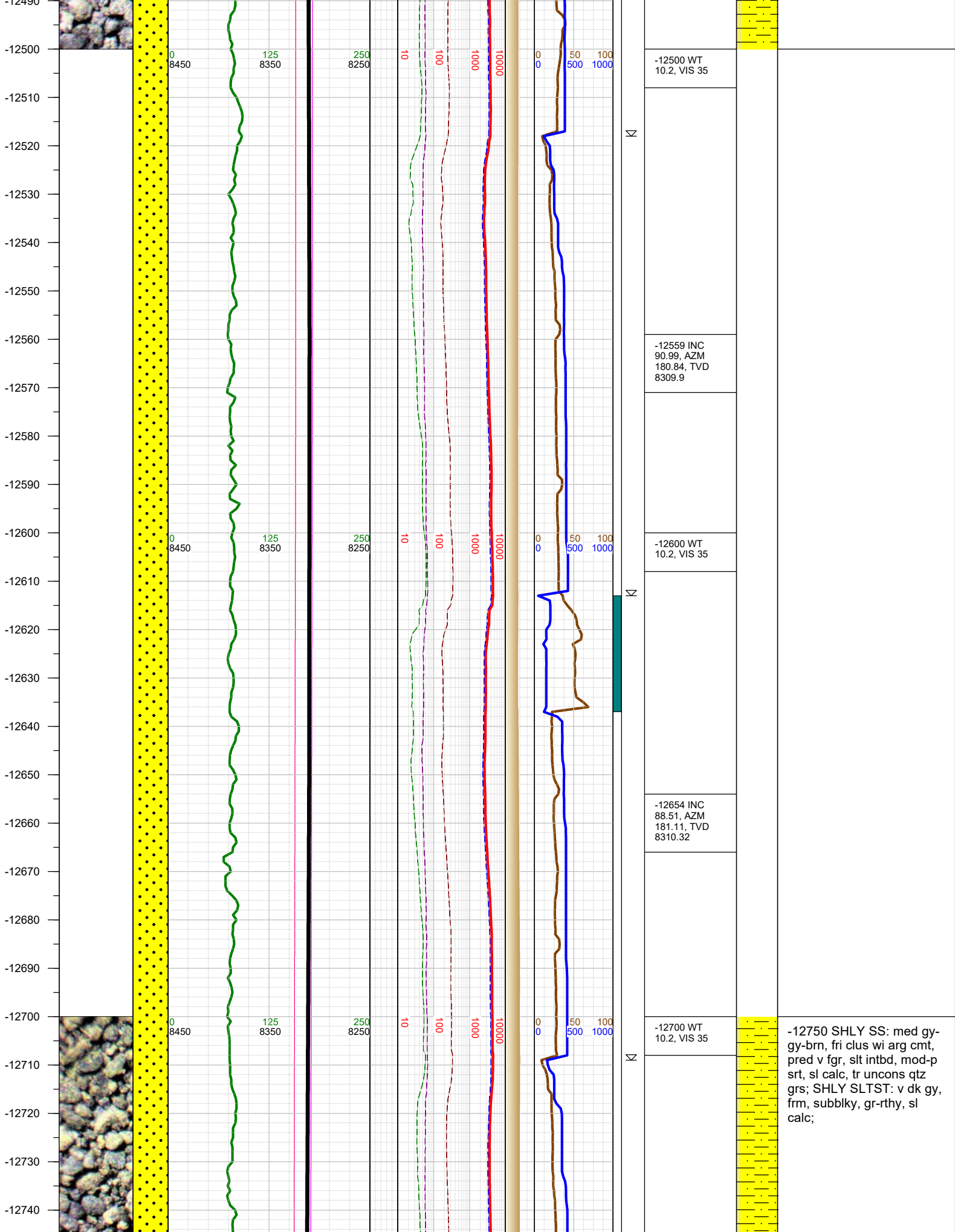
-12367 INC
91.16, AZM
177.63, TVD
8312.61

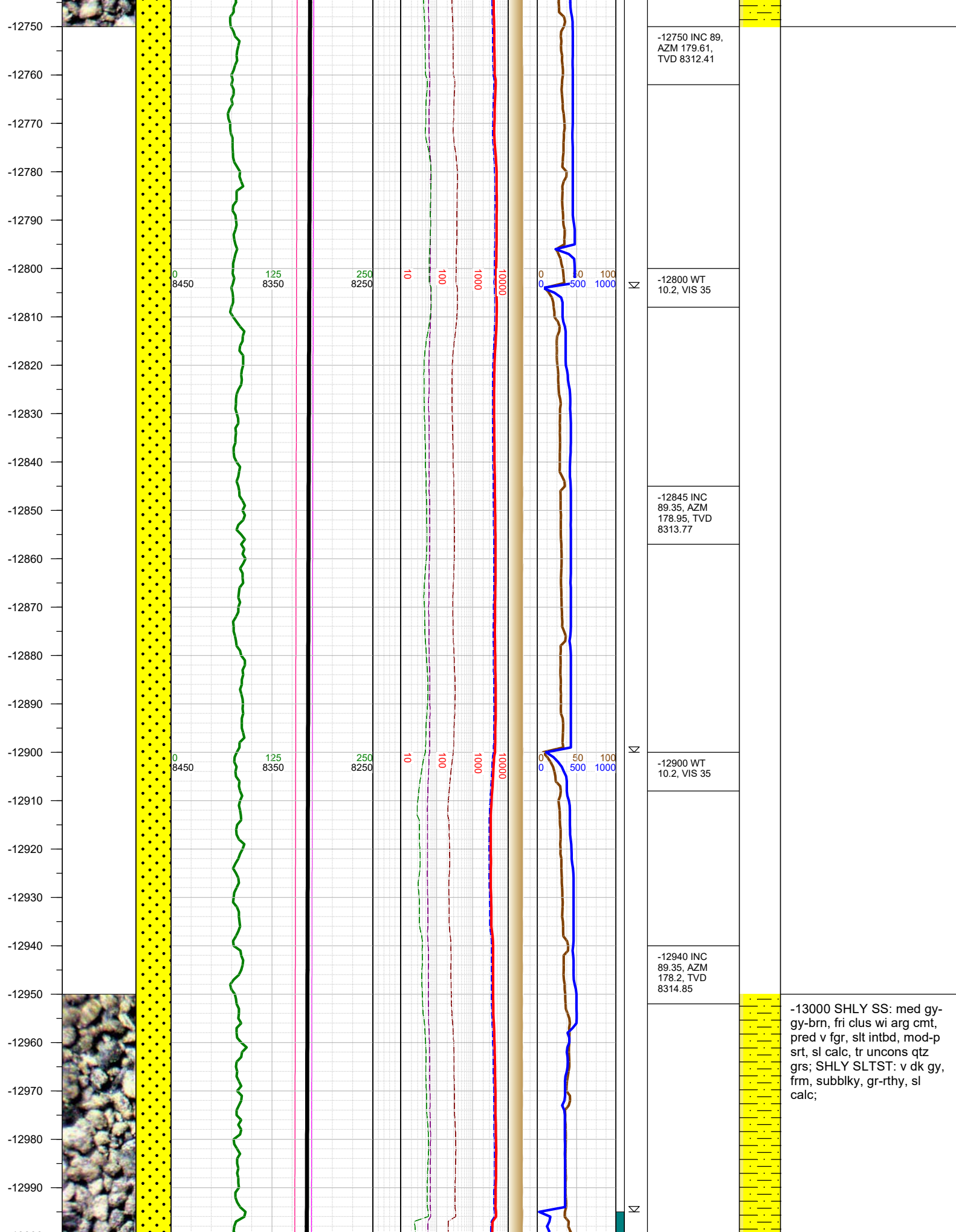
-12400 WT
10.2, VIS 35

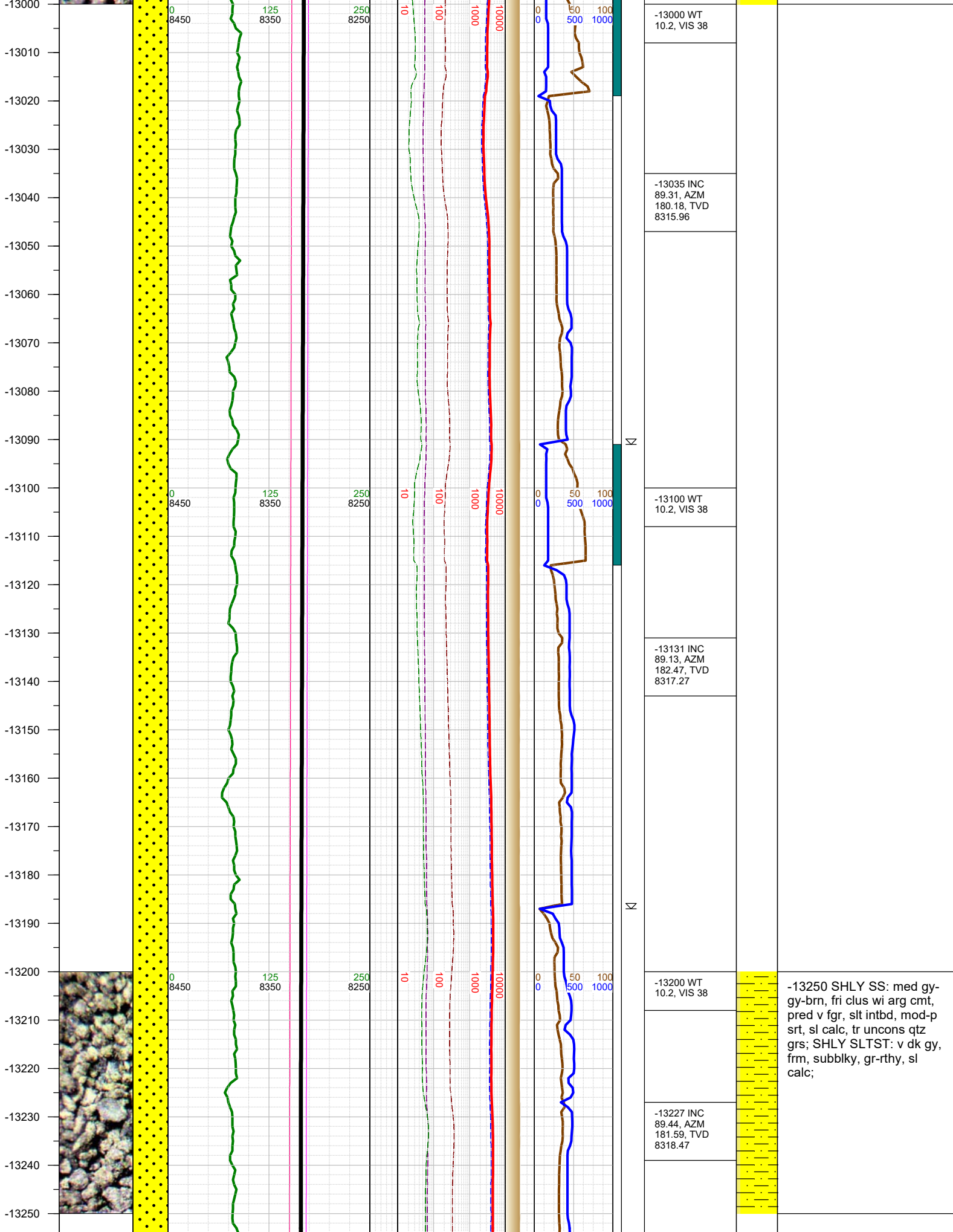
-12463 INC
90.54, AZM
181.37, TVD
8311.19

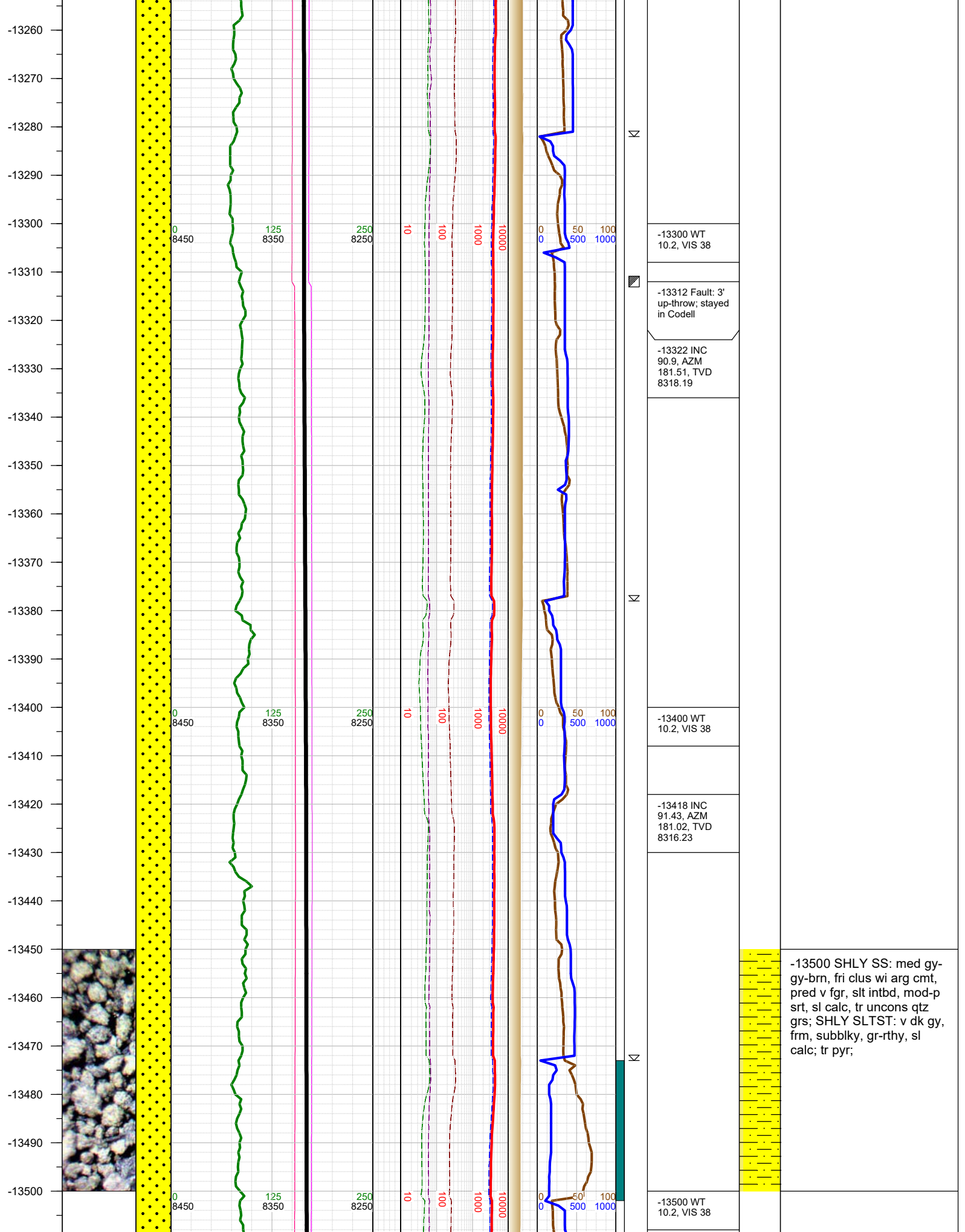


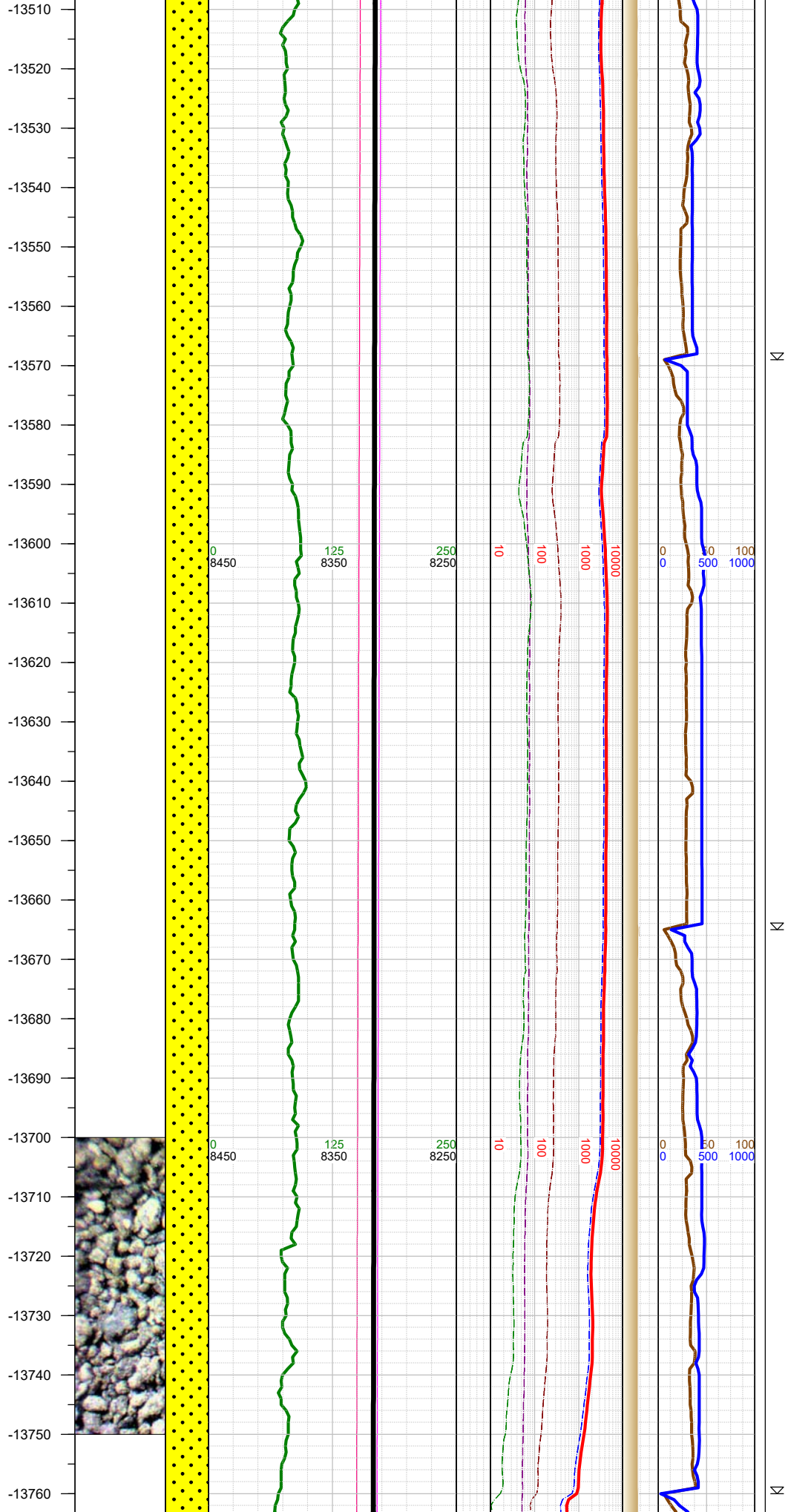
-12500 SHLY SS: med gy-
gy, fri clus wi arg cmt, pred
v fgr, slt intbd, mod-p srt, sl
calc, tr unconsl qtz grs;
SHLY SLTST: v dk gy, frm,
subblky, gr-rthy, sl calc;











-13513 INC
89.31, AZM
182.52, TVD
8315.62

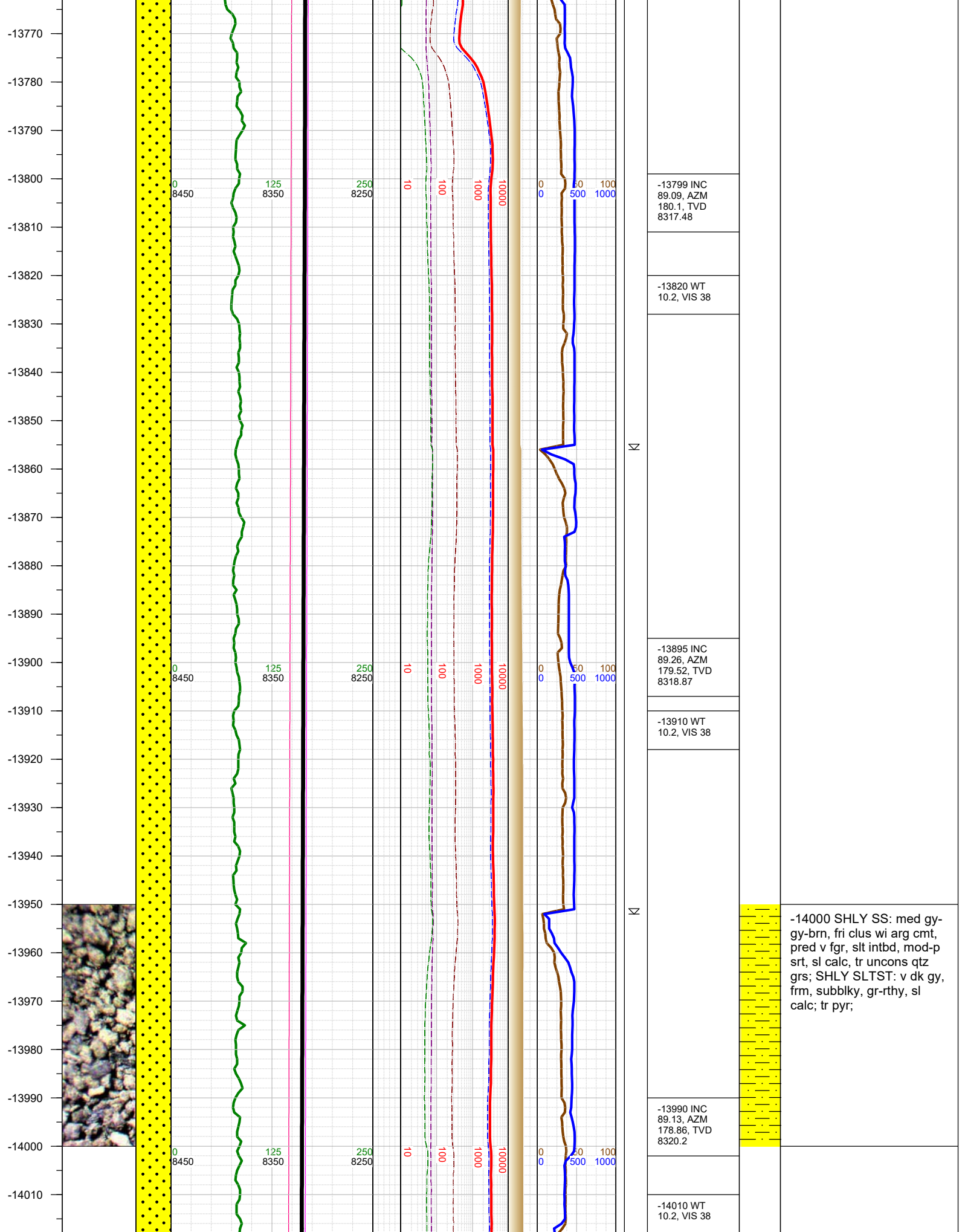
-13600 WT
10.2, VIS 38

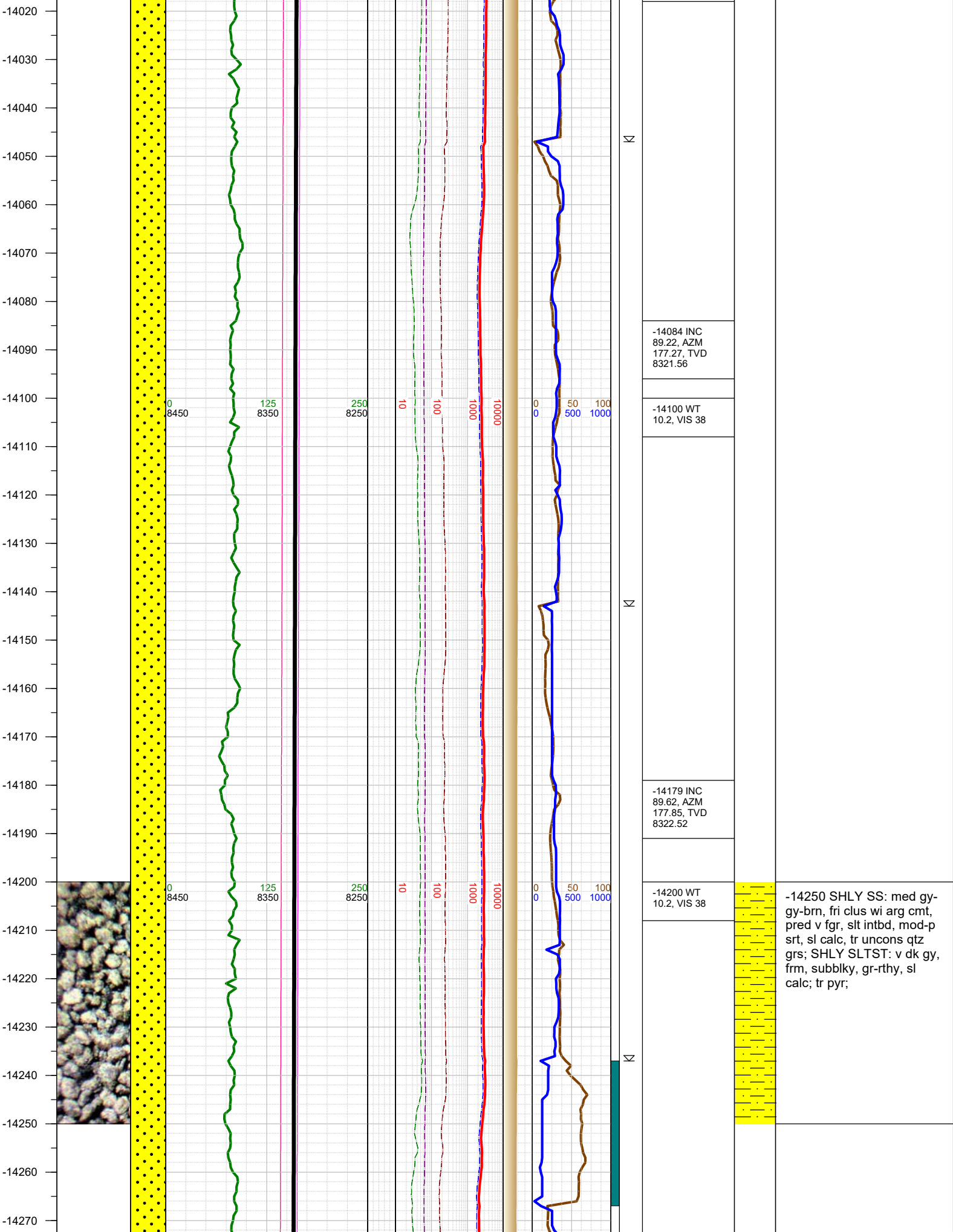
-13609 INC
89.75, AZM
182.47, TVD
8316.41

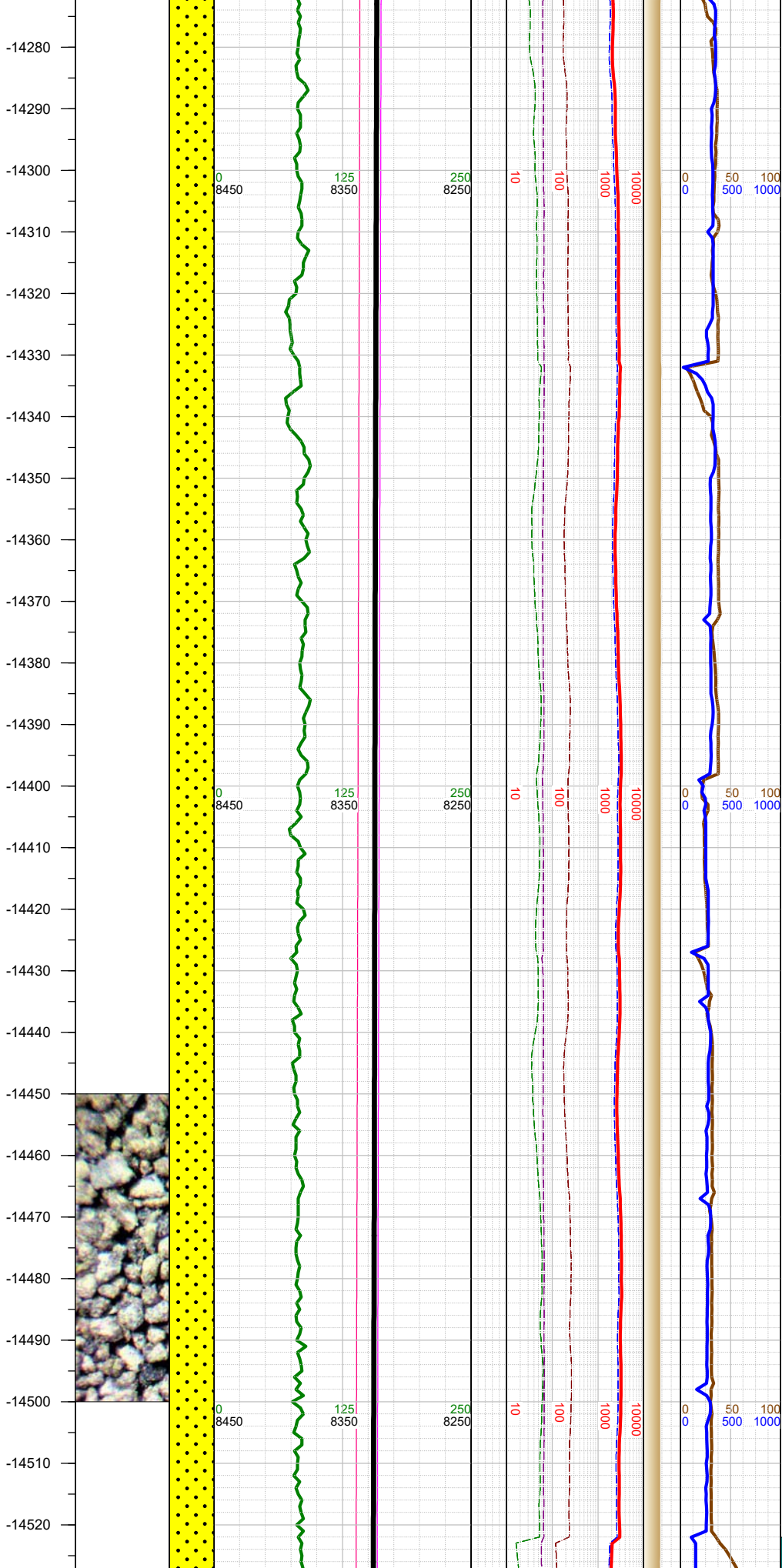
-13704 INC
89.93, AZM
181.68, TVD
8316.67

-13720 WT
10.2, VIS 38

-13750 SHLY SS: med gy-gy-brn, fri clus wi arg cmt, pred v fgr, slt intbd, mod-p srt, sl calc, tr unconcs qtz grs; SHLY SLTST: v dk gy, frm, subblky, gr-rthy, sl calc;







-14275 INC
89.22, AZM
178.95, TVD
8323.49

-14300 WT
10.2, VIS 37

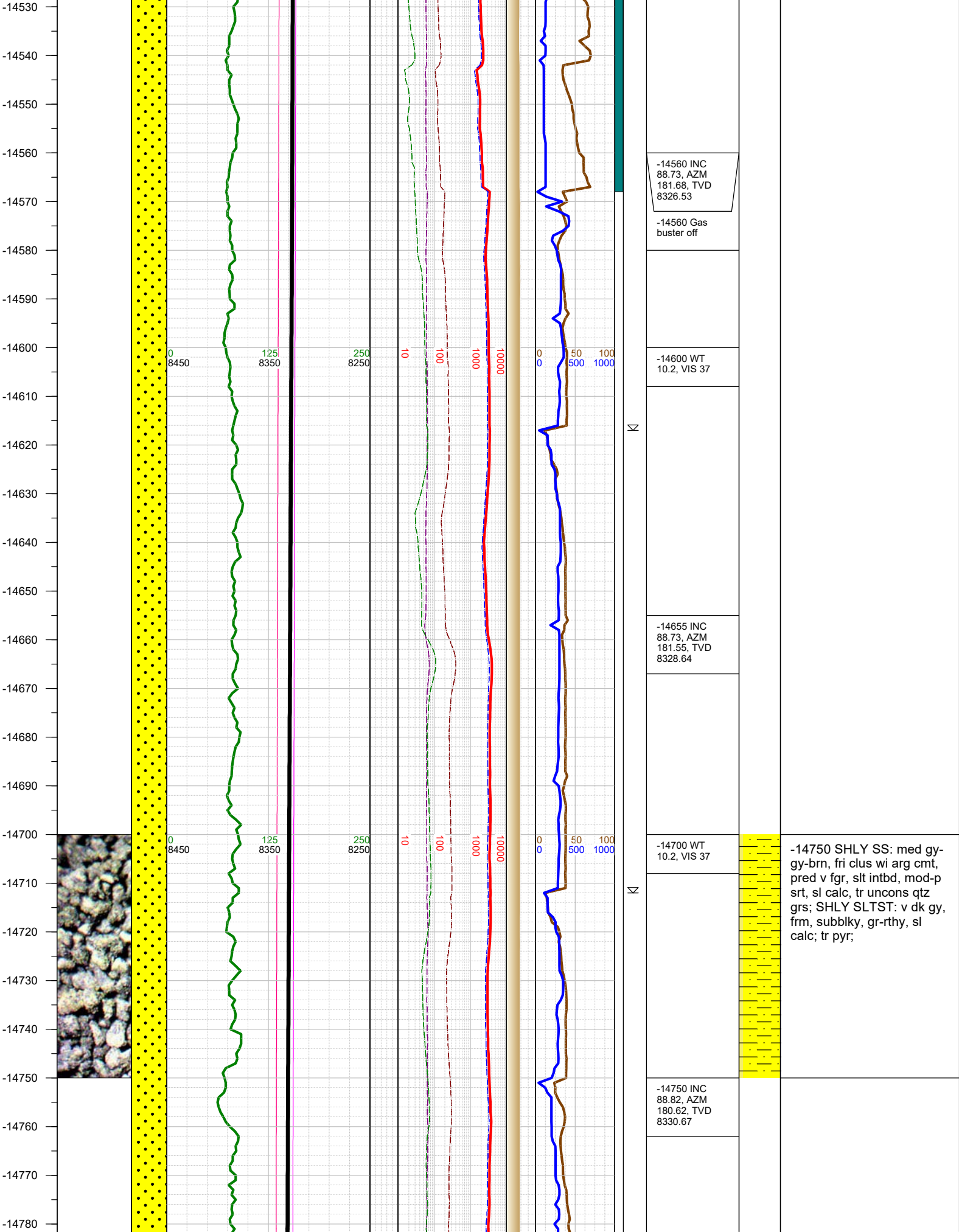
-14370 INC
89.31, AZM
178.33, TVD
8324.71

-14400 WT
10.2, VIS 37

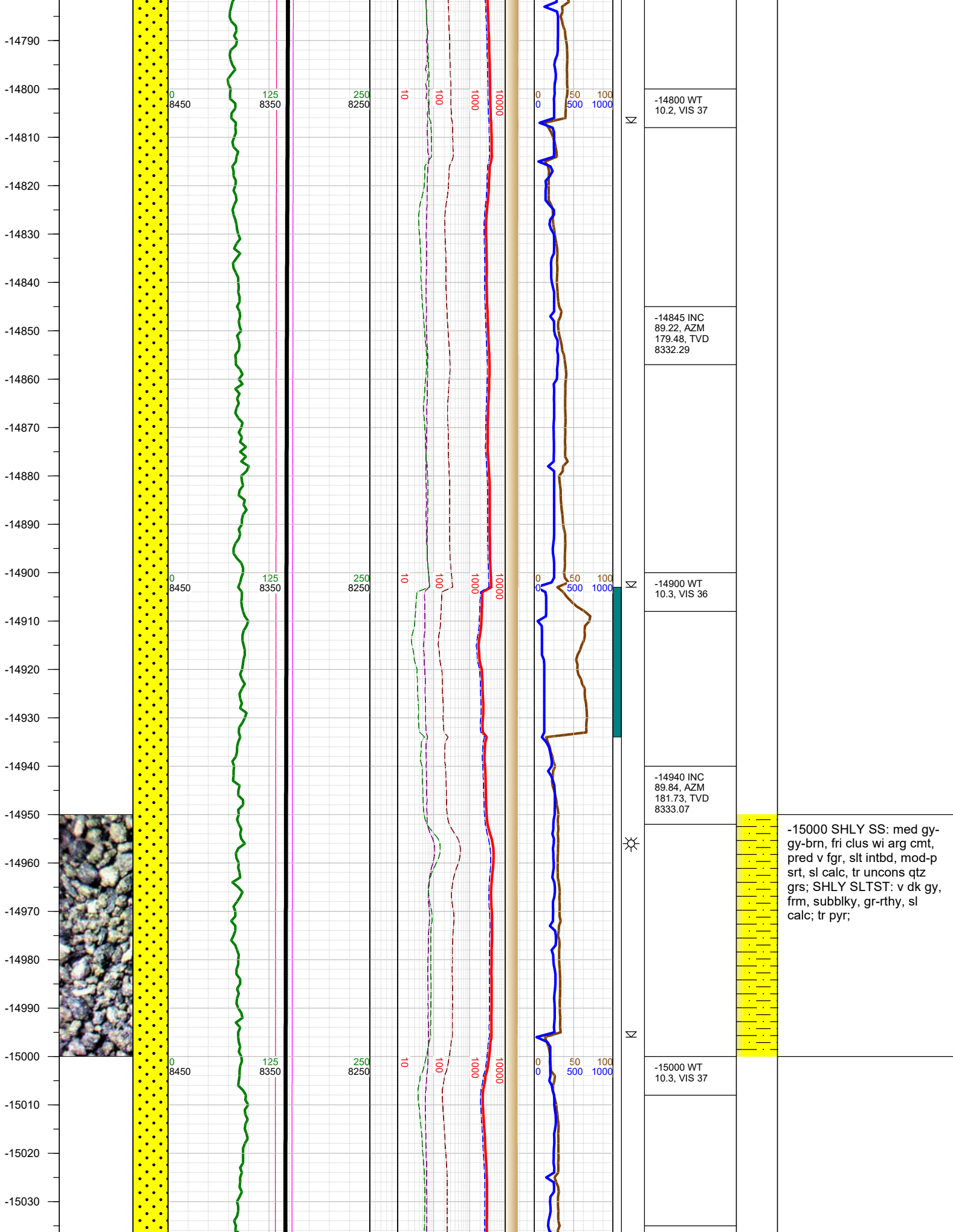
-14465 INC
89.88, AZM
177.5, TVD
8325.38

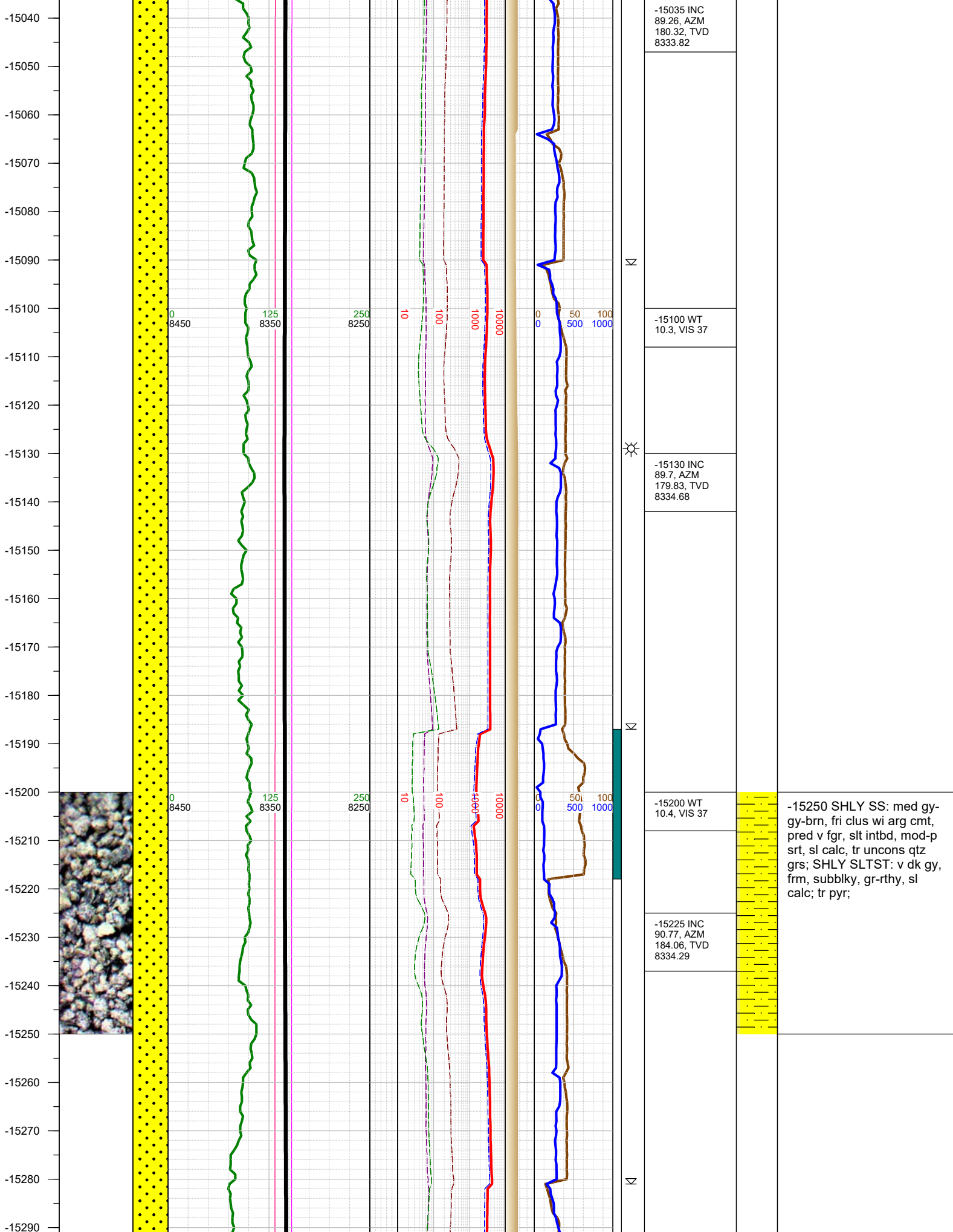
-14500 WT
10.2, VIS 37

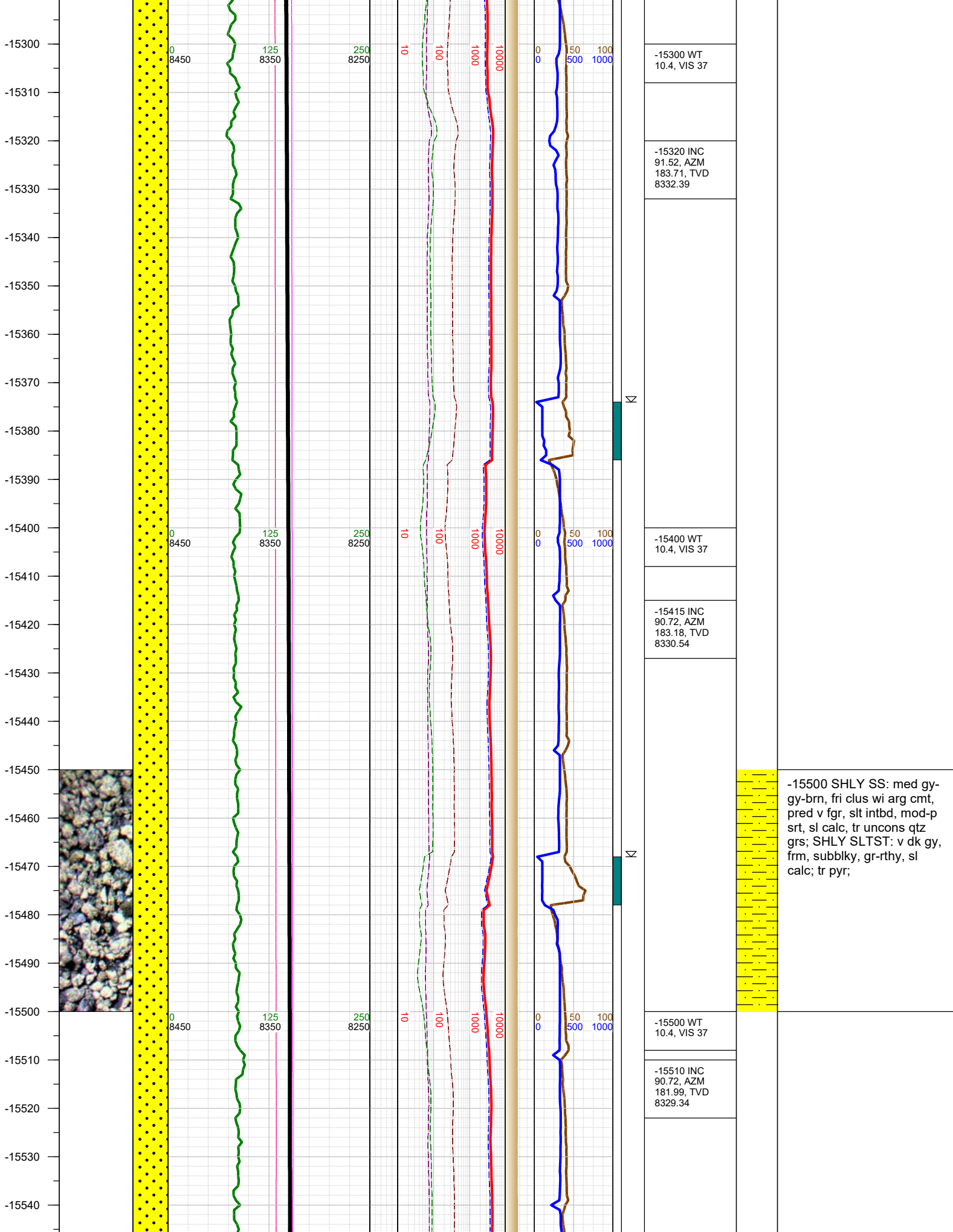
-14500 SHLY SS: med gy-
gy-brn, fri clus wi arg cmt,
pred v fgr, slt intbd, mod-p
srt, sl calc, tr uncons qtz
grs; SHLY SLTST: v dk gy,
frm, subblky, gr-rthy, sl
calc; tr pyr;



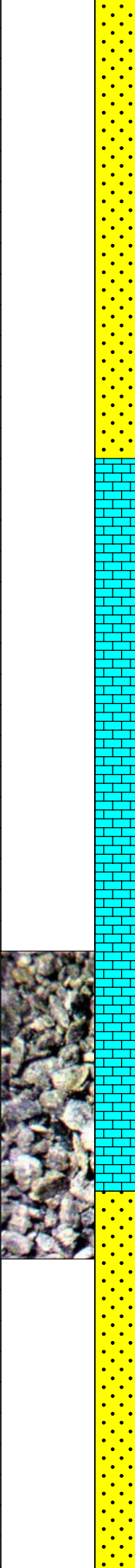
-14750 SHLY SS: med gy-gy-brn, fri clus wi arg cmt, pred v fgr, slt intbd, mod-p srt, sl calc, tr uncons qtz grs; SHLY SLTST: v dk gy, frm, subblky, gr-rthy, sl calc; tr pyr;



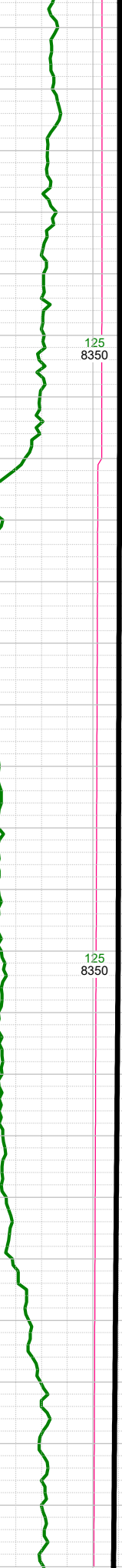




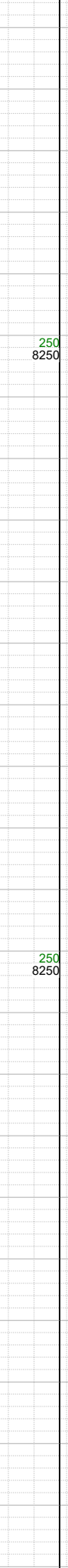
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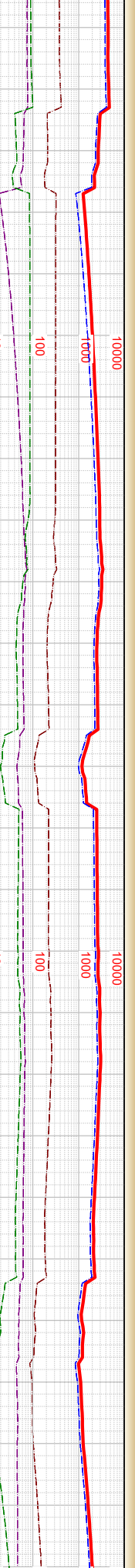
0 8450
125 8350



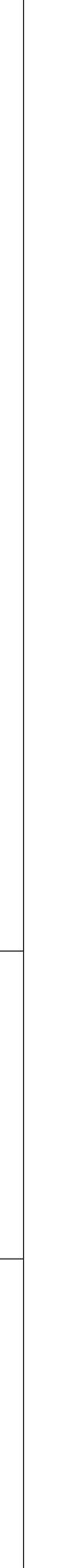
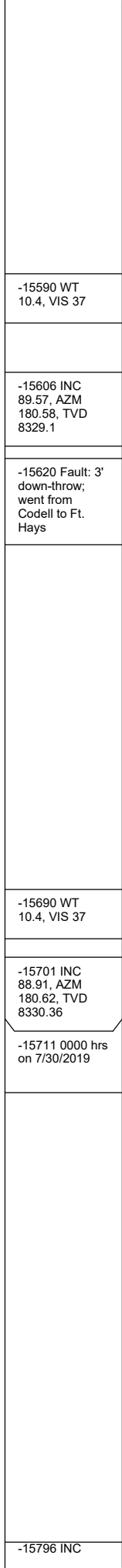
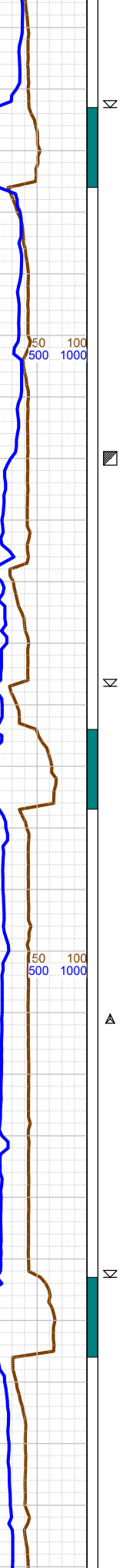
250 8250



10 100 1000 10000



0 0 50 100 500 1000



-15590 WT
10.4, VIS 37

-15606 INC
89.57, AZM
180.58, TVD
8329.1

-15620 Fault: 3'
down-throw;
went from
Codell to Ft.
Hays

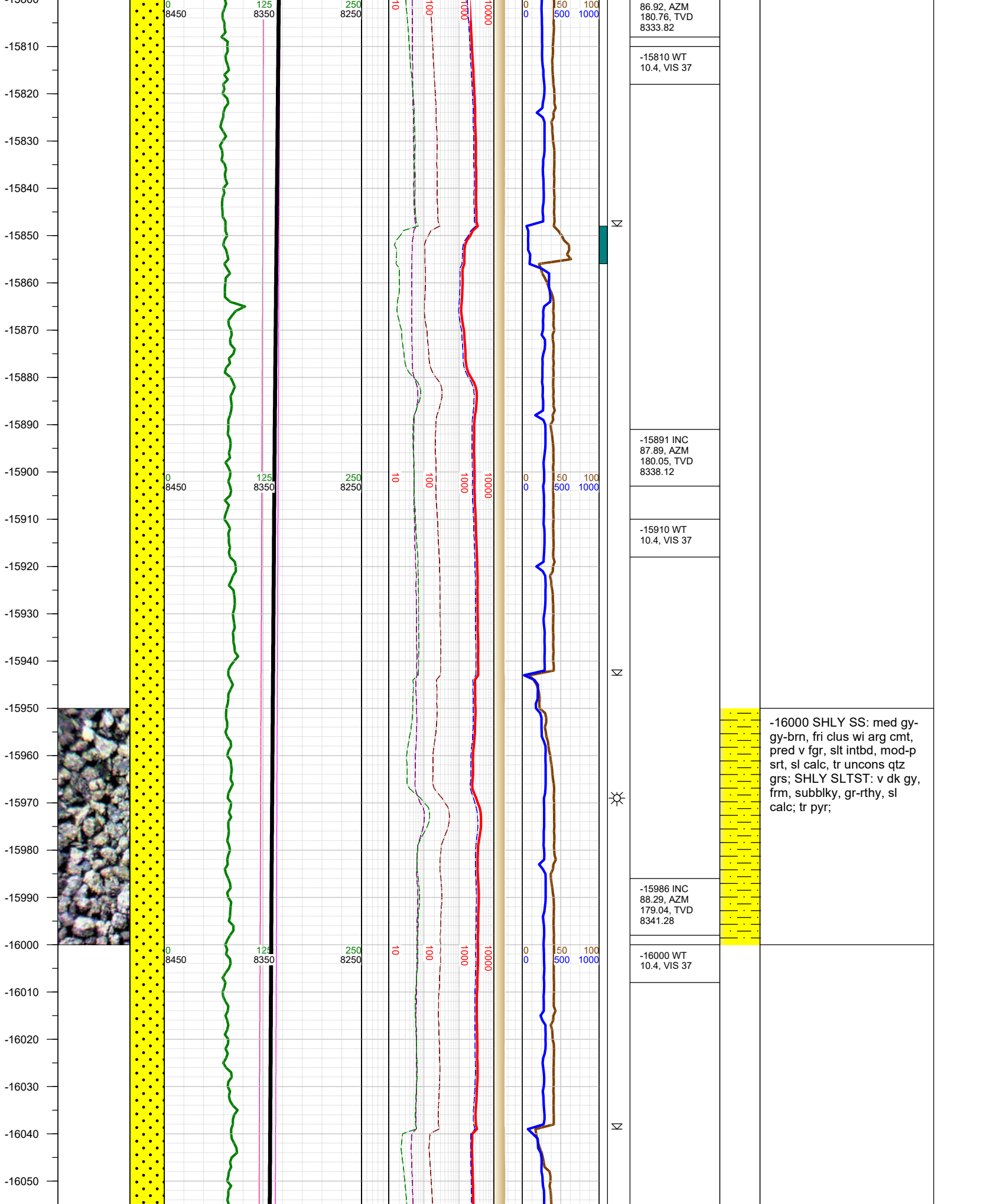
-15690 WT
10.4, VIS 37

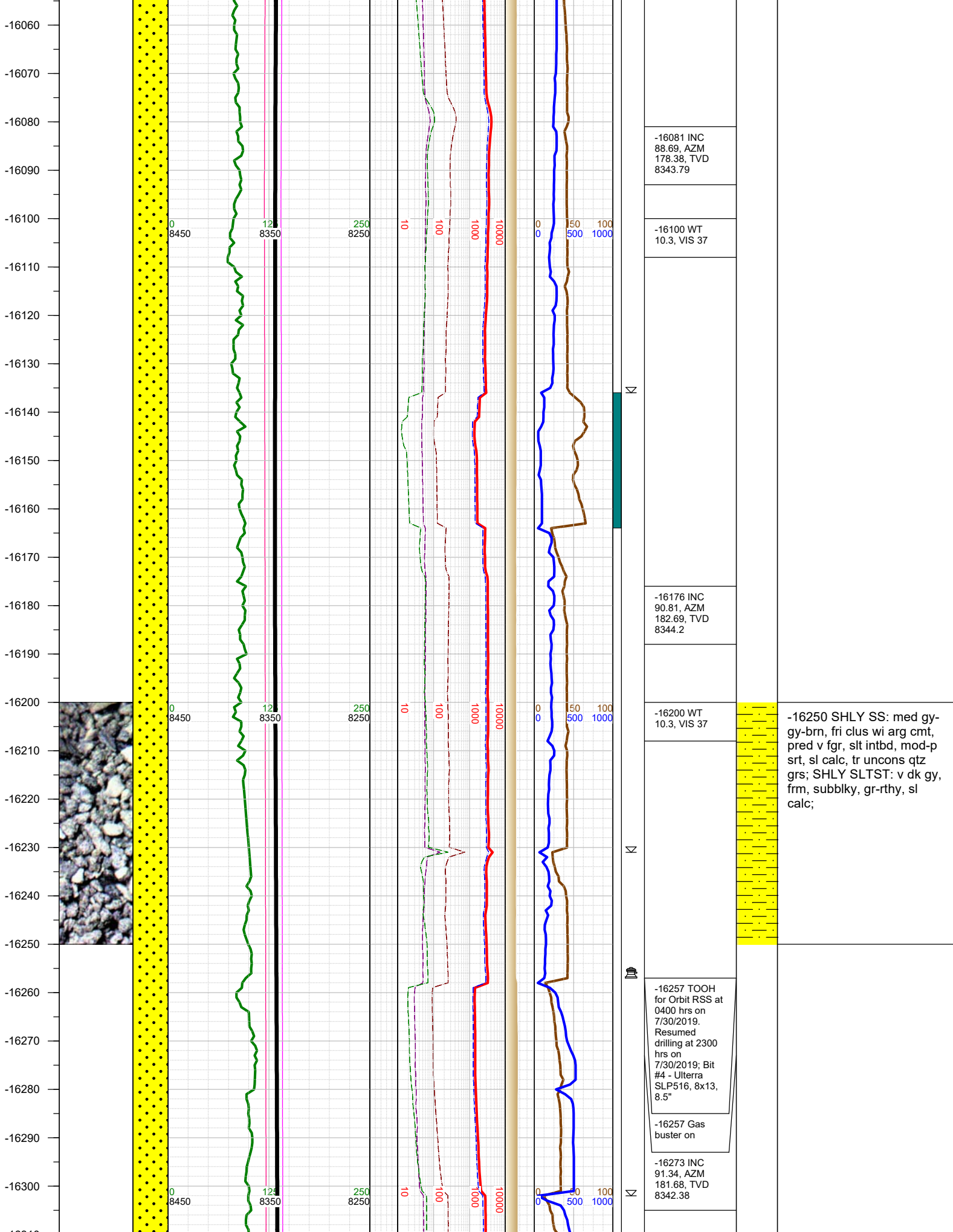
-15701 INC
88.91, AZM
180.62, TVD
8330.36

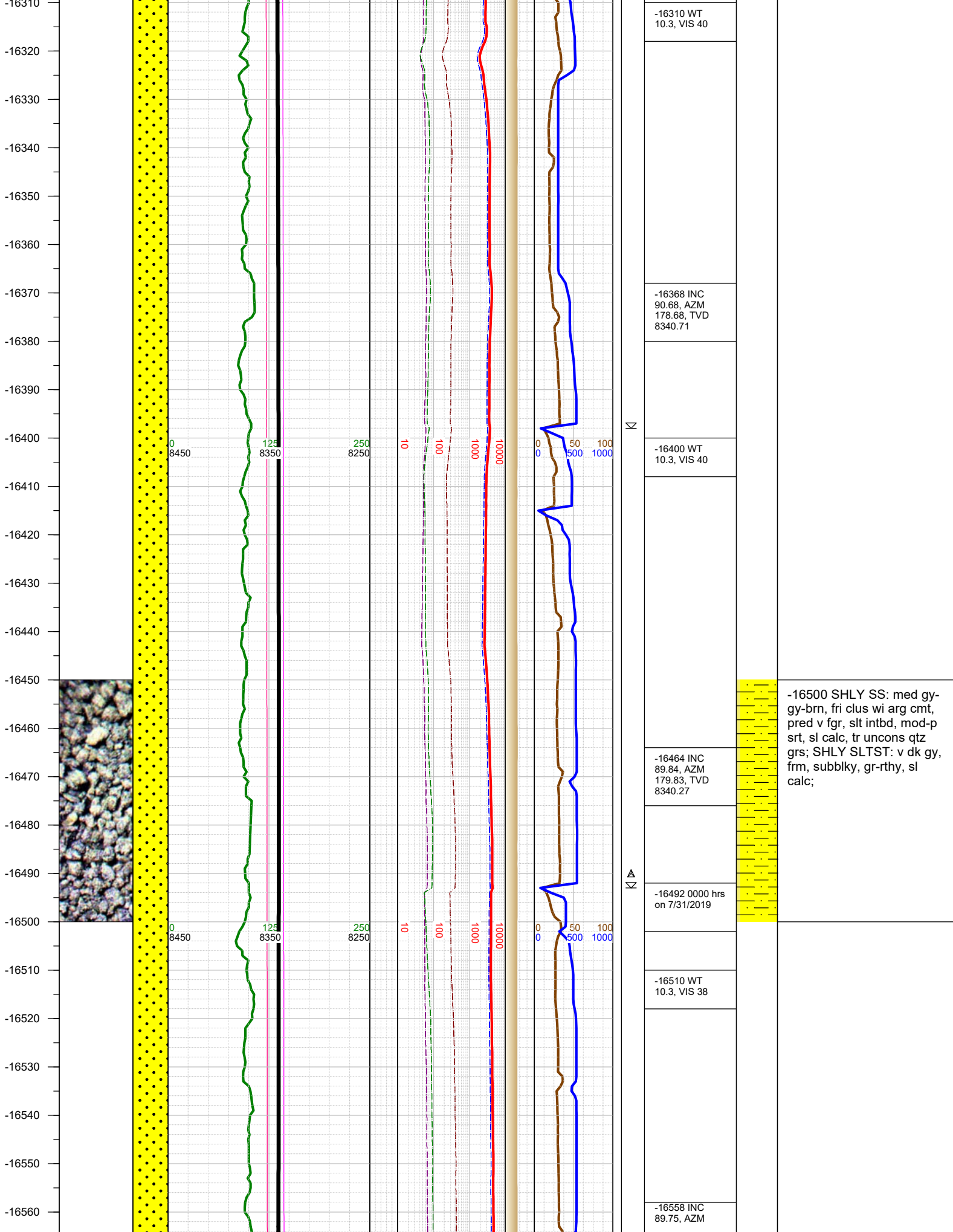
-15711 0000 hrs
on 7/30/2019

-15750 LS: gy-brn,
subblky-subplty, sl wxy, v
calc, sd intbd; SHLY
SLTST: med-dk gy, frm,
blky-sub blky, gr-rthy, sl
calc, f sd intbd;

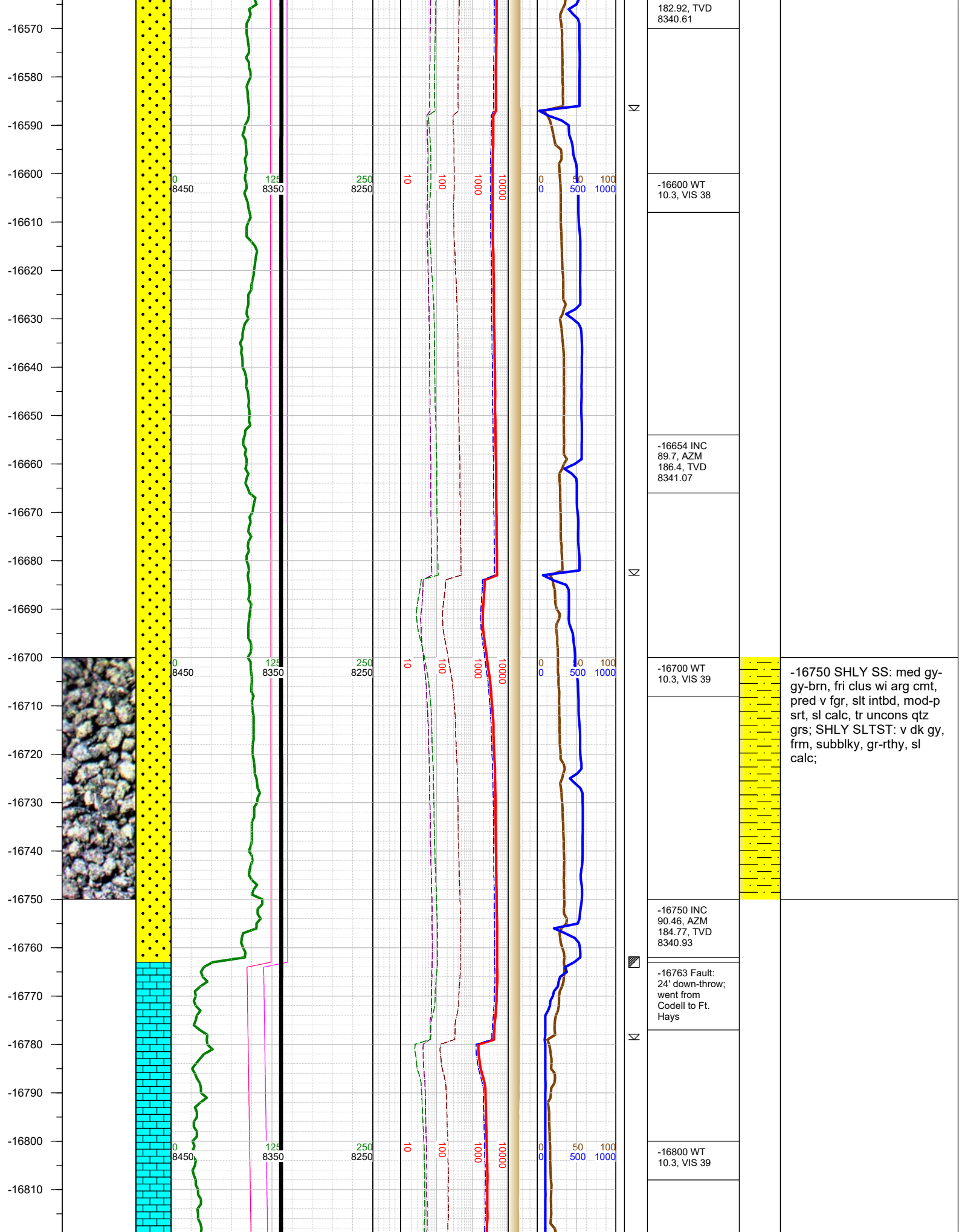
-15796 INC

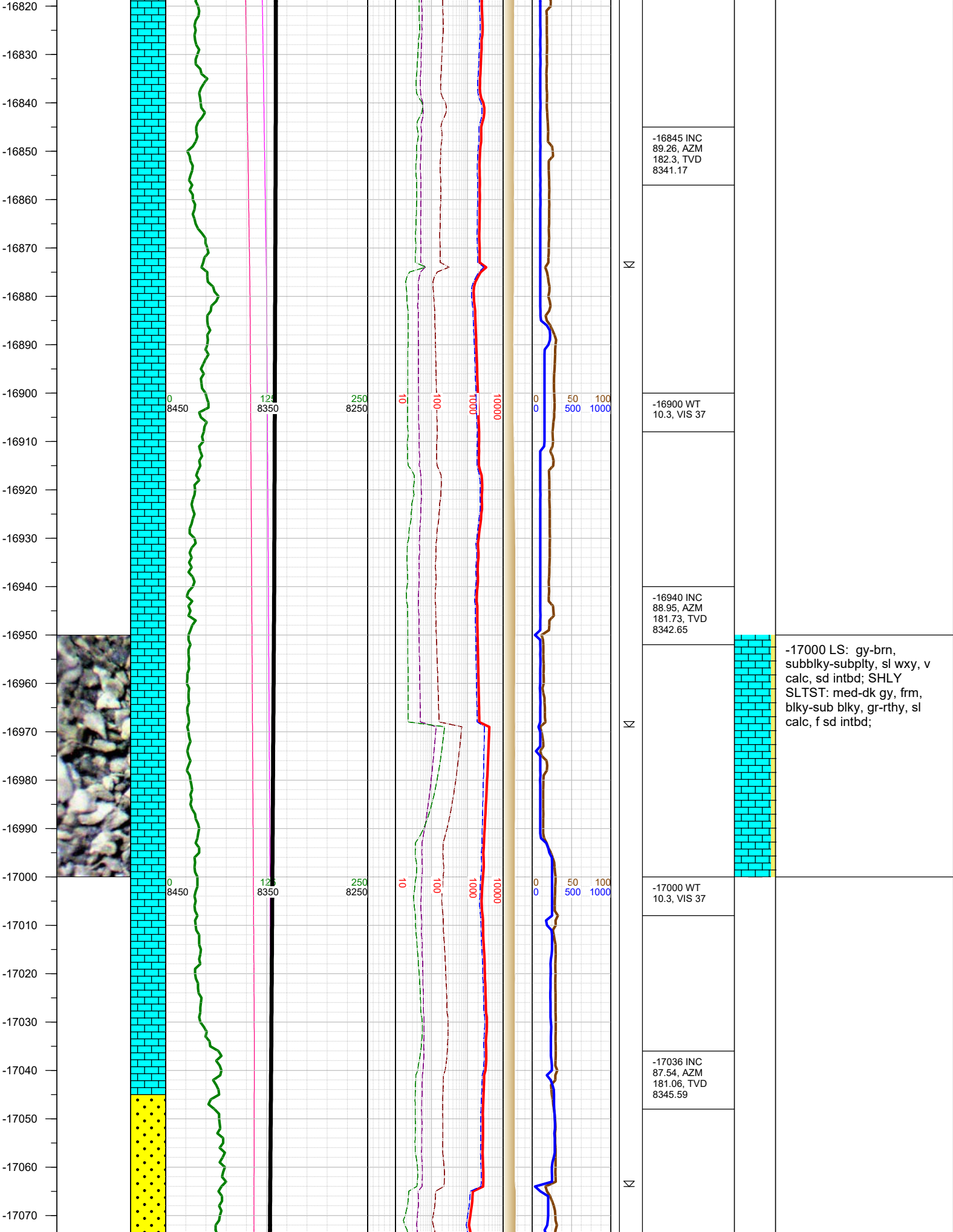




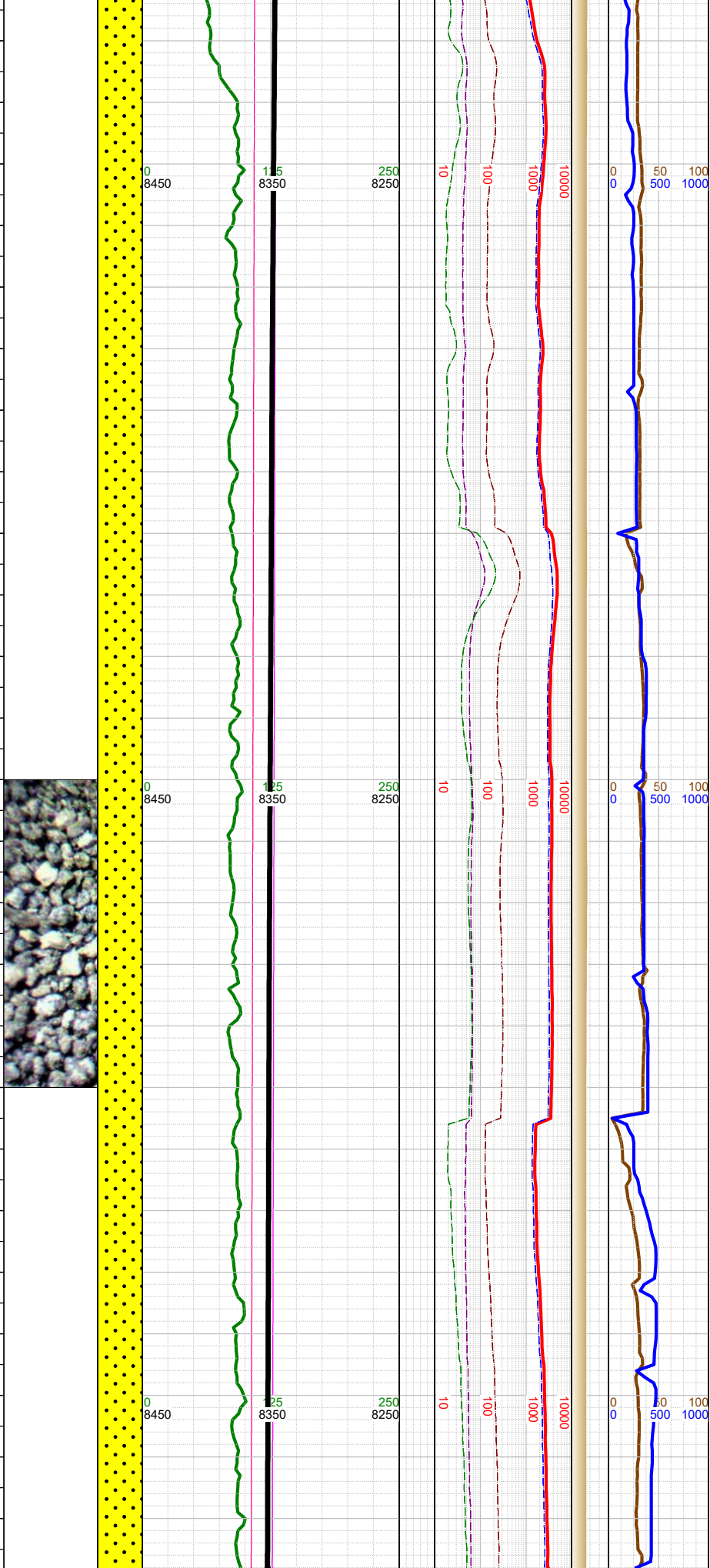


-16500 SHLY SS: med gy-gy-brn, fri clus wi arg cmt, pred v fgr, slt intbd, mod-p srt, sl calc, tr uncons qtz grs; SHLY SLTST: v dk gy, frm, subblky, gr-rthy, sl calc;





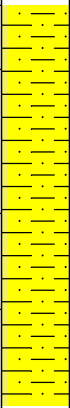
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-17310
-17320



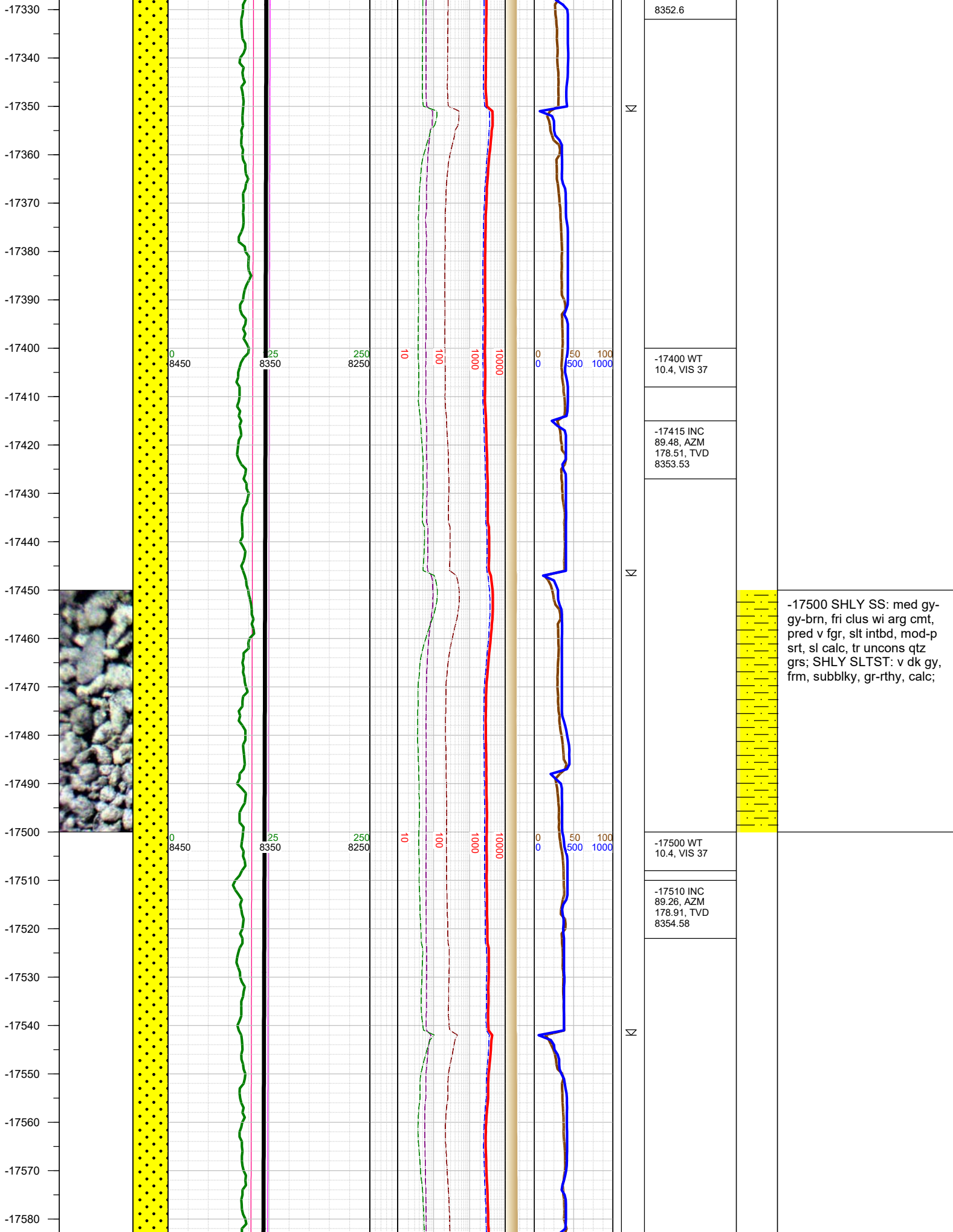
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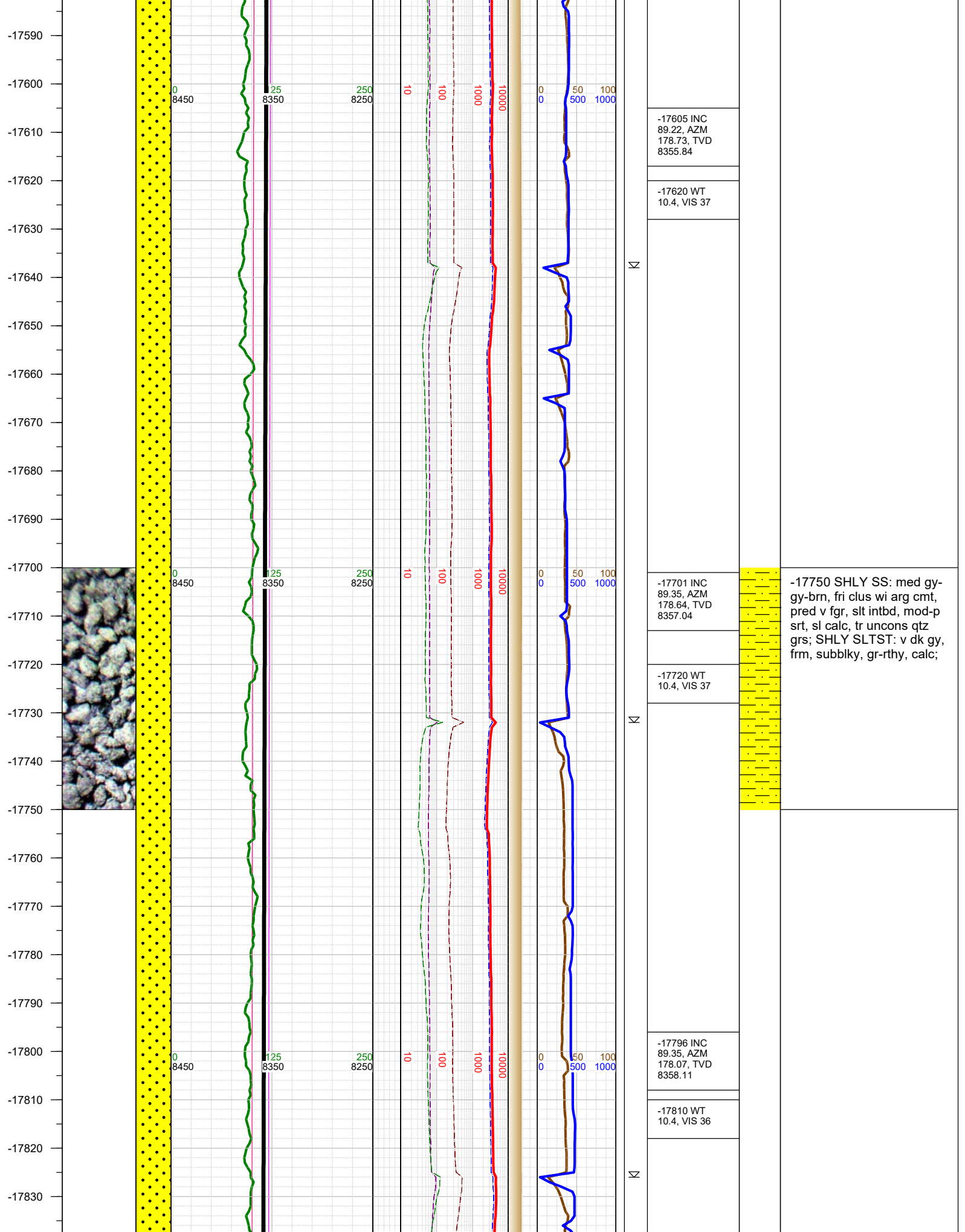
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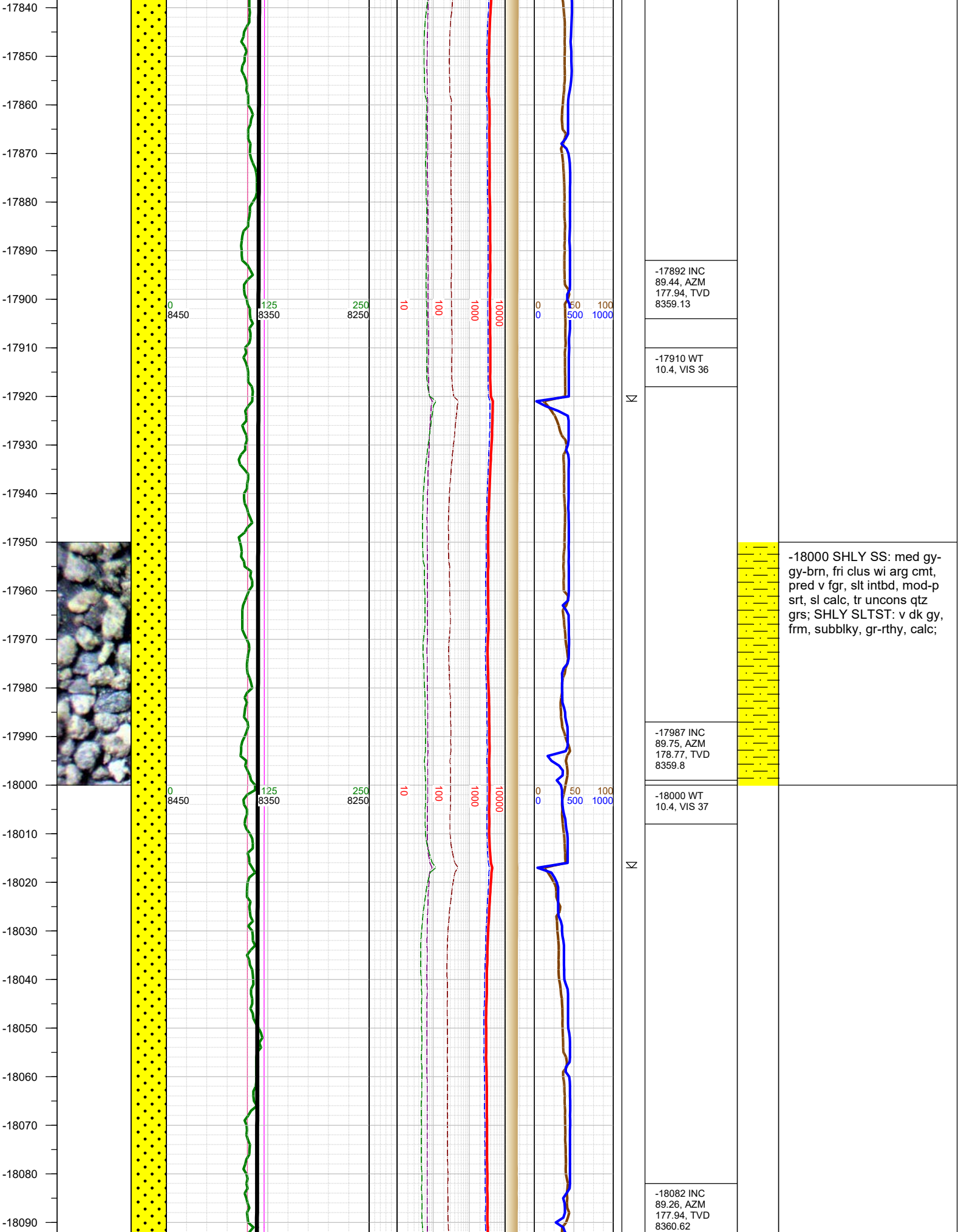
-17100 WT 10.3, VIS 37	
-17131 INC 88.38, AZM 180.01, TVD 8348.97	
-17200 WT 10.3, VIS 37	
-17226 INC 88.91, AZM 178.6, TVD 8351.22	
-17300 WT 10.3, VIS 37	
-17320 INC 89.4, AZM 178.02, TVD	

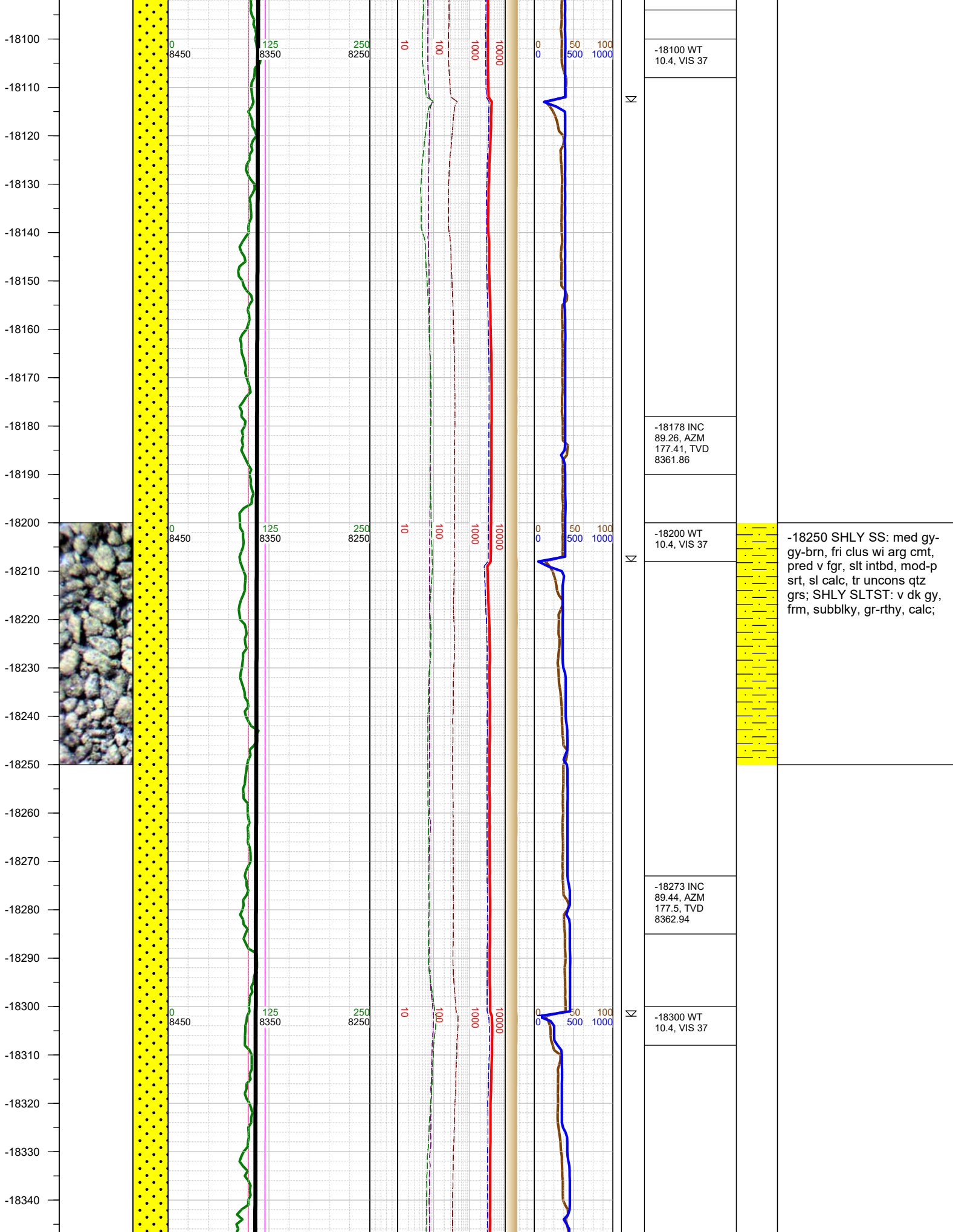


-17250 SHLY SS: med gy-gy-brn, fri clus wi arg cmt, pred v fgr, slt intbd, mod-p srt, sl calc, tr uncons qtz grs; SHLY SLTST: v dk gy, frm, subblky, gr-rthy, calc;



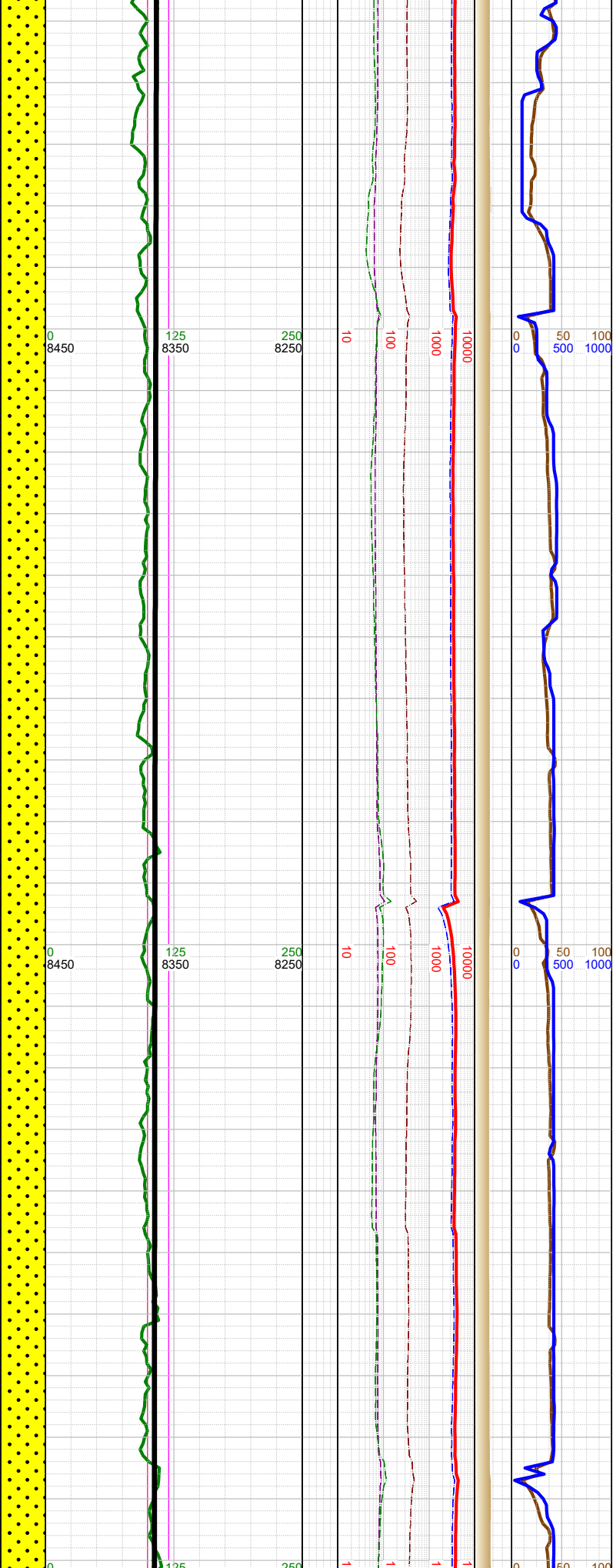
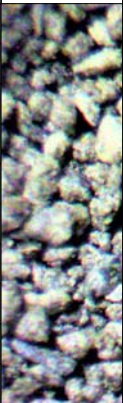






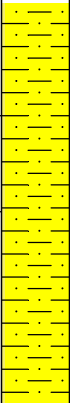
-18250 SHLY SS: med gy-gy-brn, fri clus wi arg cmt, pred v fgr, slt intbd, mod-p srt, sl calc, tr uncons qtz grs; SHLY SLTST: v dk gy, frm, subblky, gr-rthy, calc;

-18350
-18360
-18370
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-18530
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-18590
-18600

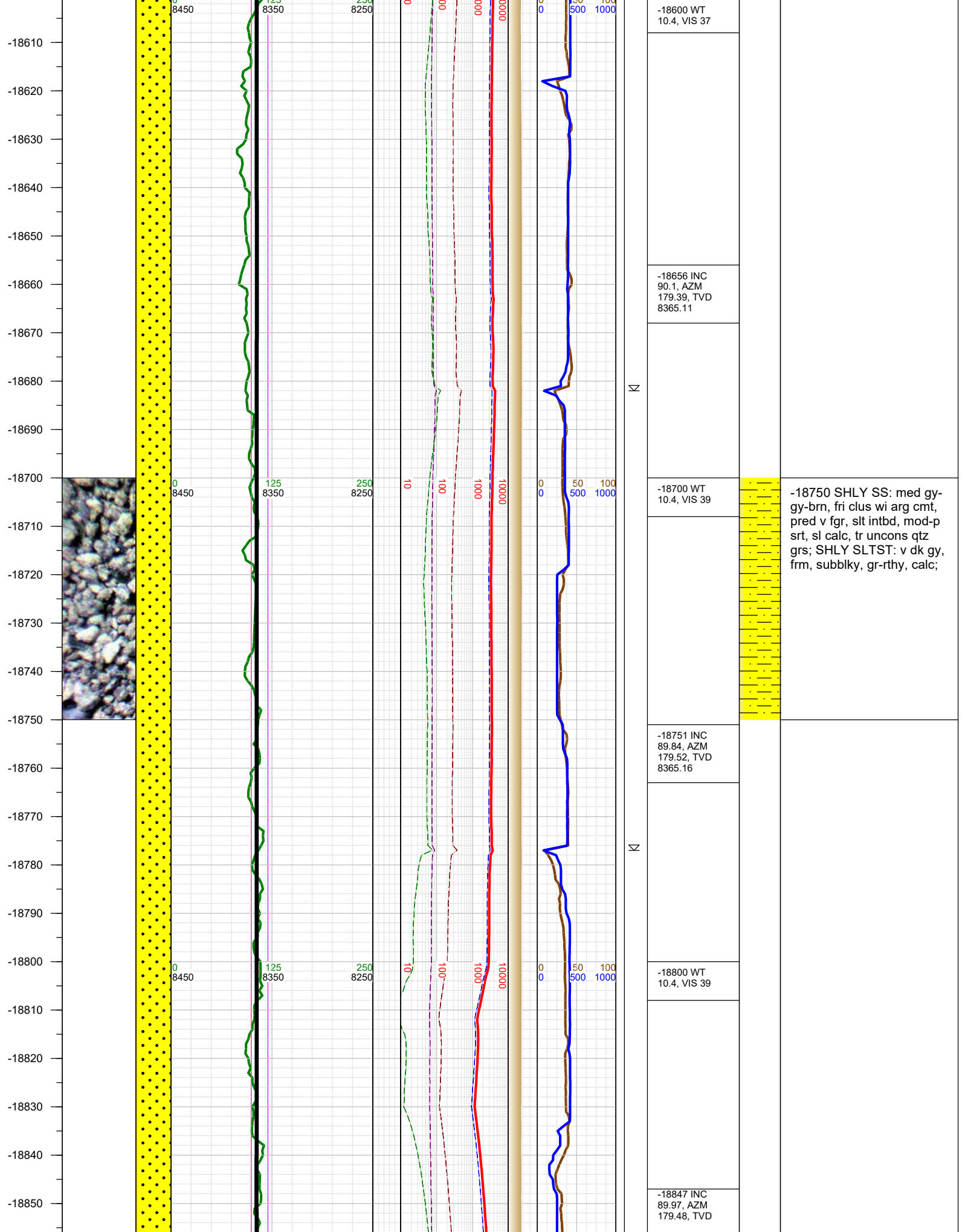


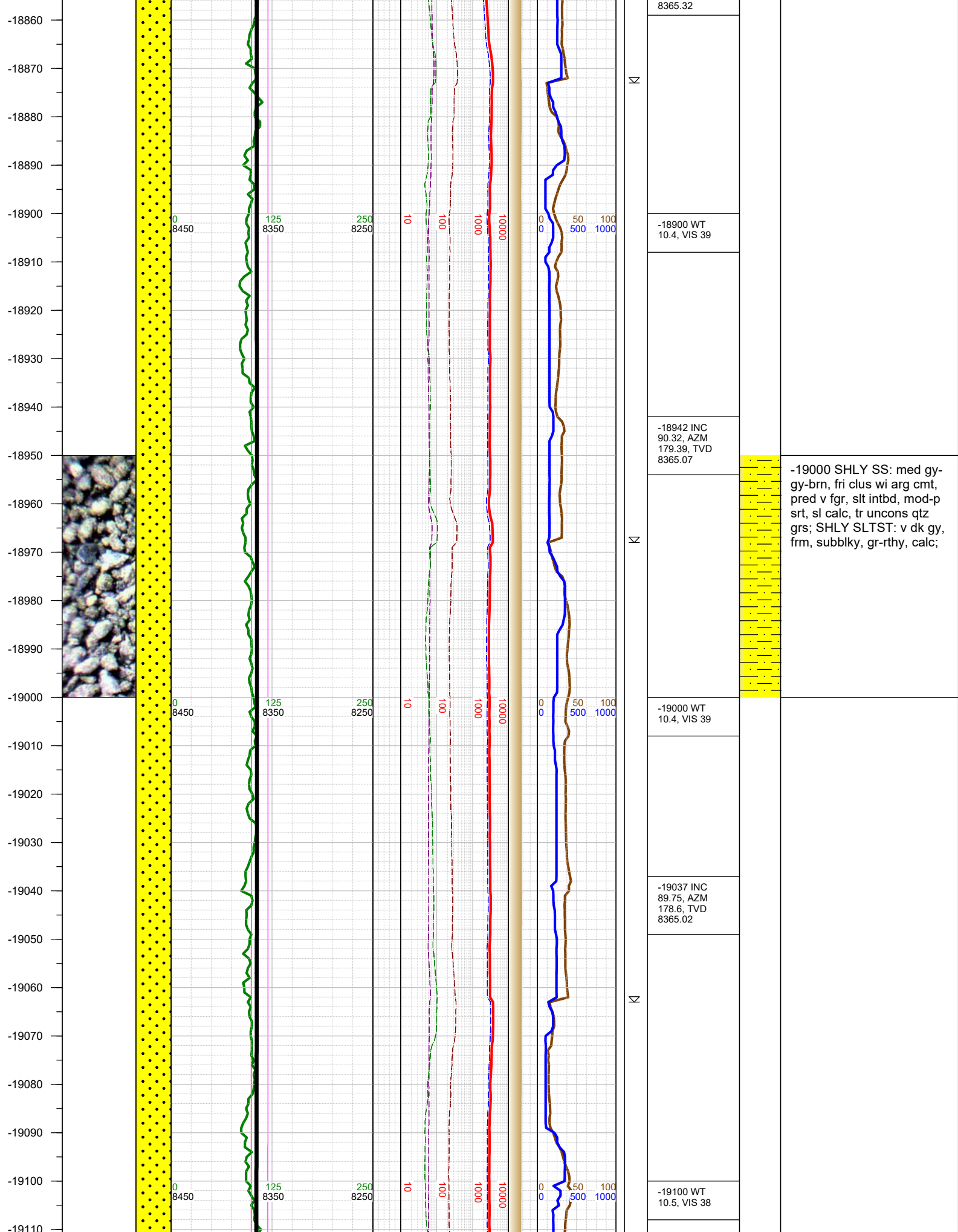
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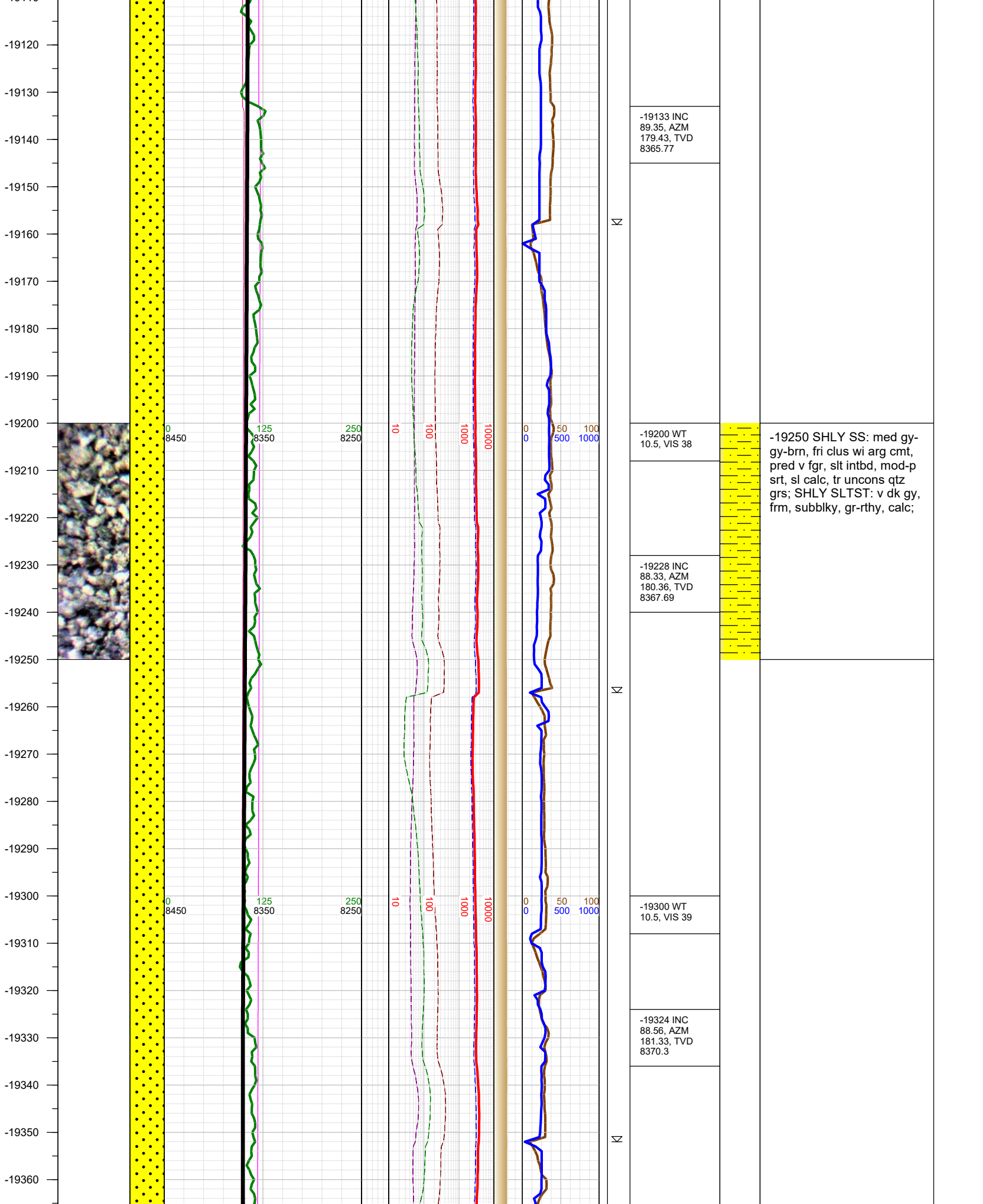
	-18369 INC 89.48, AZM 177.45, TVD 8363.84
	-18400 WT 10.4, VIS 37
	-18464 INC 89.48, AZM 177.63, TVD 8364.7
	-18500 WT 10.4, VIS 37
	-18560 INC 89.97, AZM 178.02, TVD 8365.16

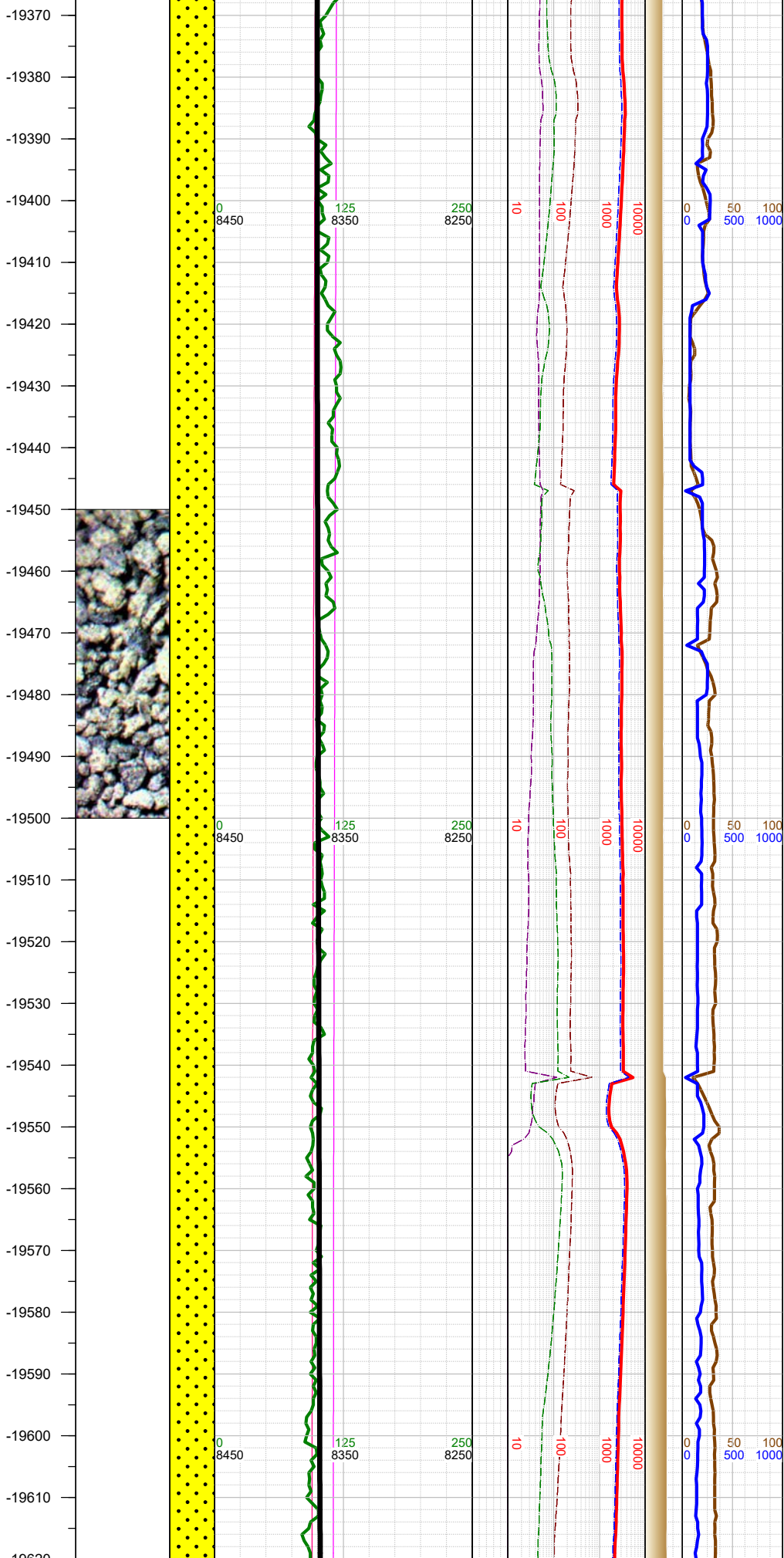


-18500 SHLY SS: med gy-
gy-brn, fri clus wi arg cmt,
pred v fgr, slt intbd, mod-p
srt, sl calc, tr unconsl qtz
grs; SHLY SLTST: v dk gy,
frm, subblky, gr-rthy, calc;









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Σ

-19400 WT
10.5, VIS 39

-19420 INC
91.3, AZM
182.78, TVD
8370.42

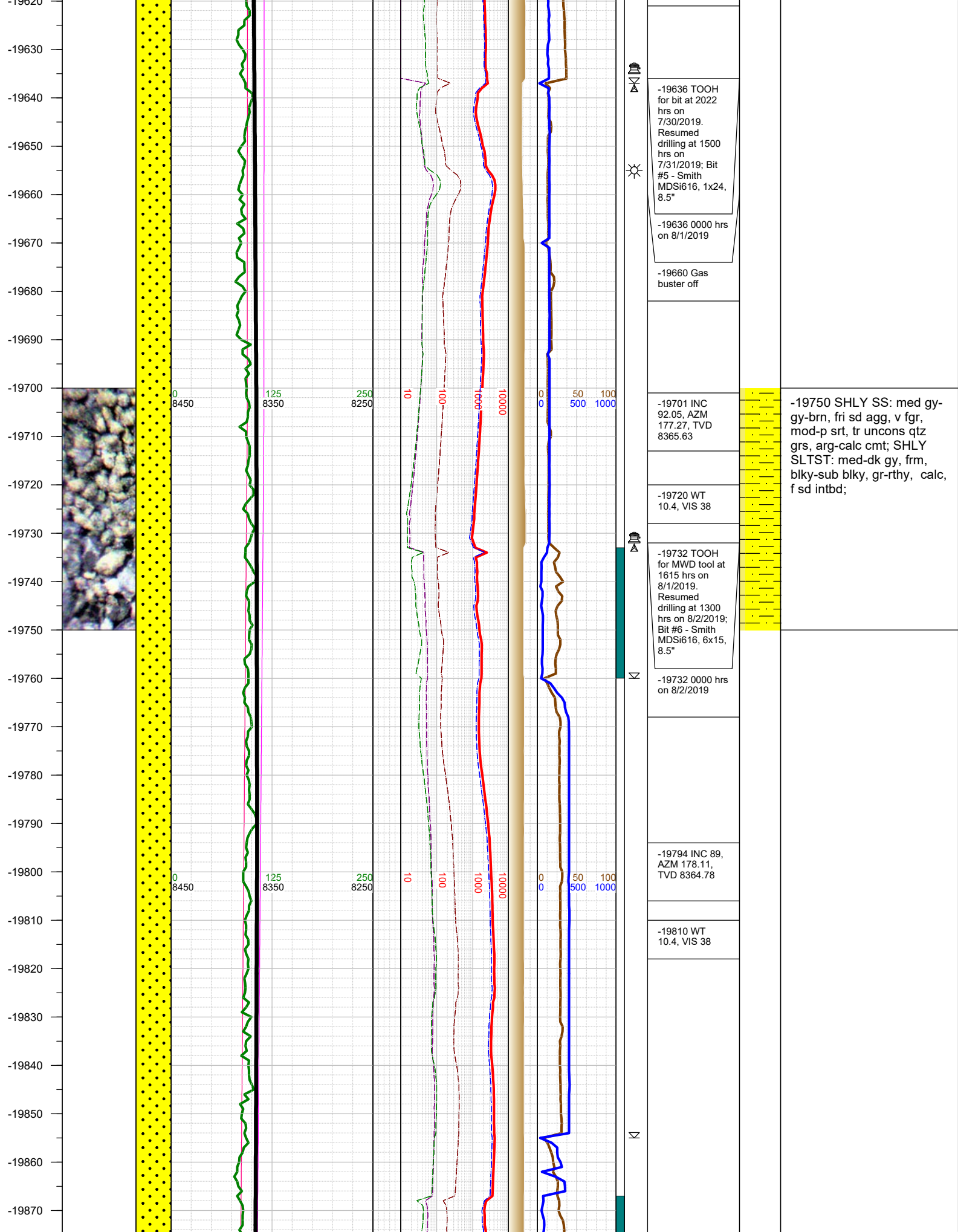
-19500 WT
10.5, VIS 39

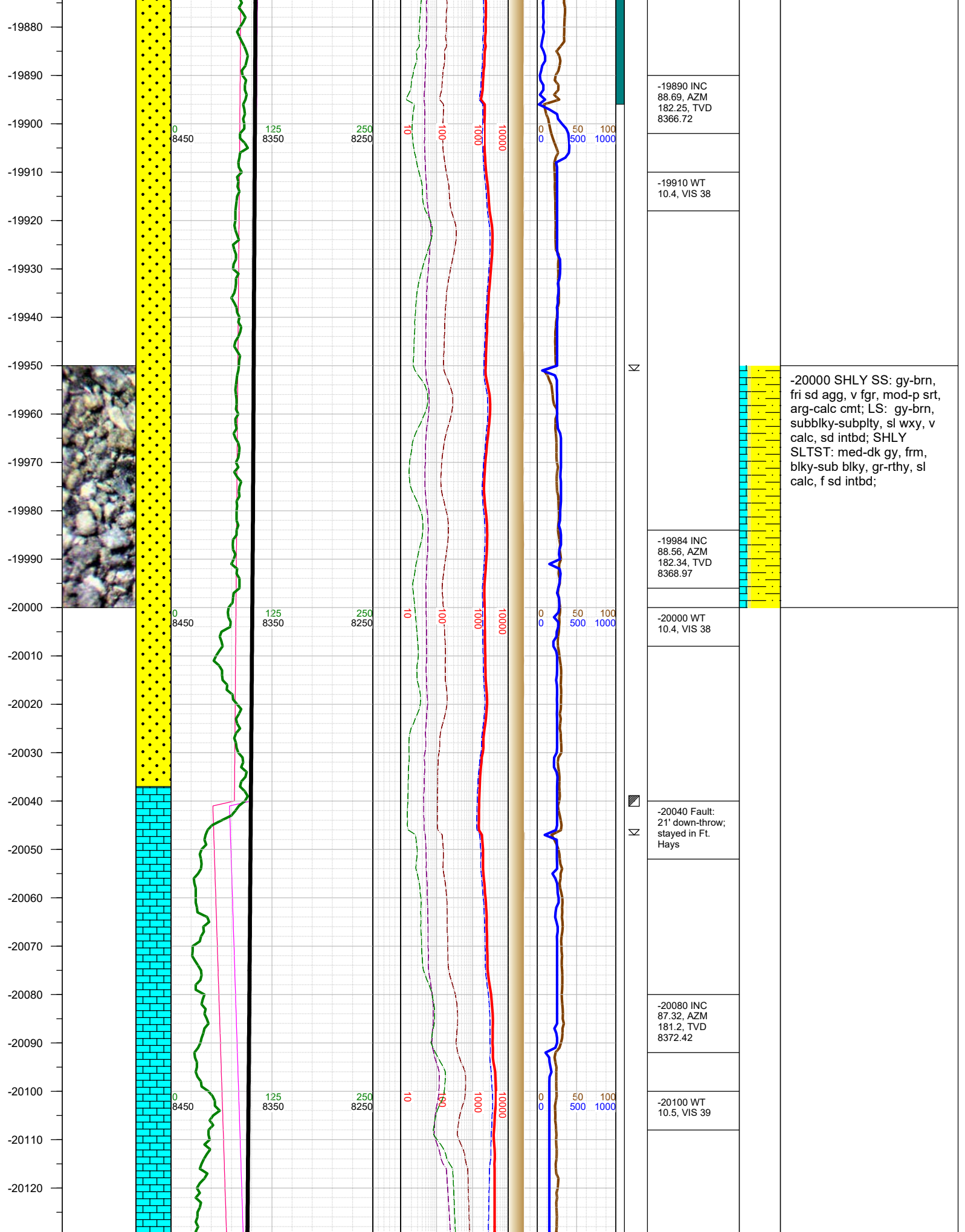
-19515 INC
89.93, AZM
181.68, TVD
8369.4

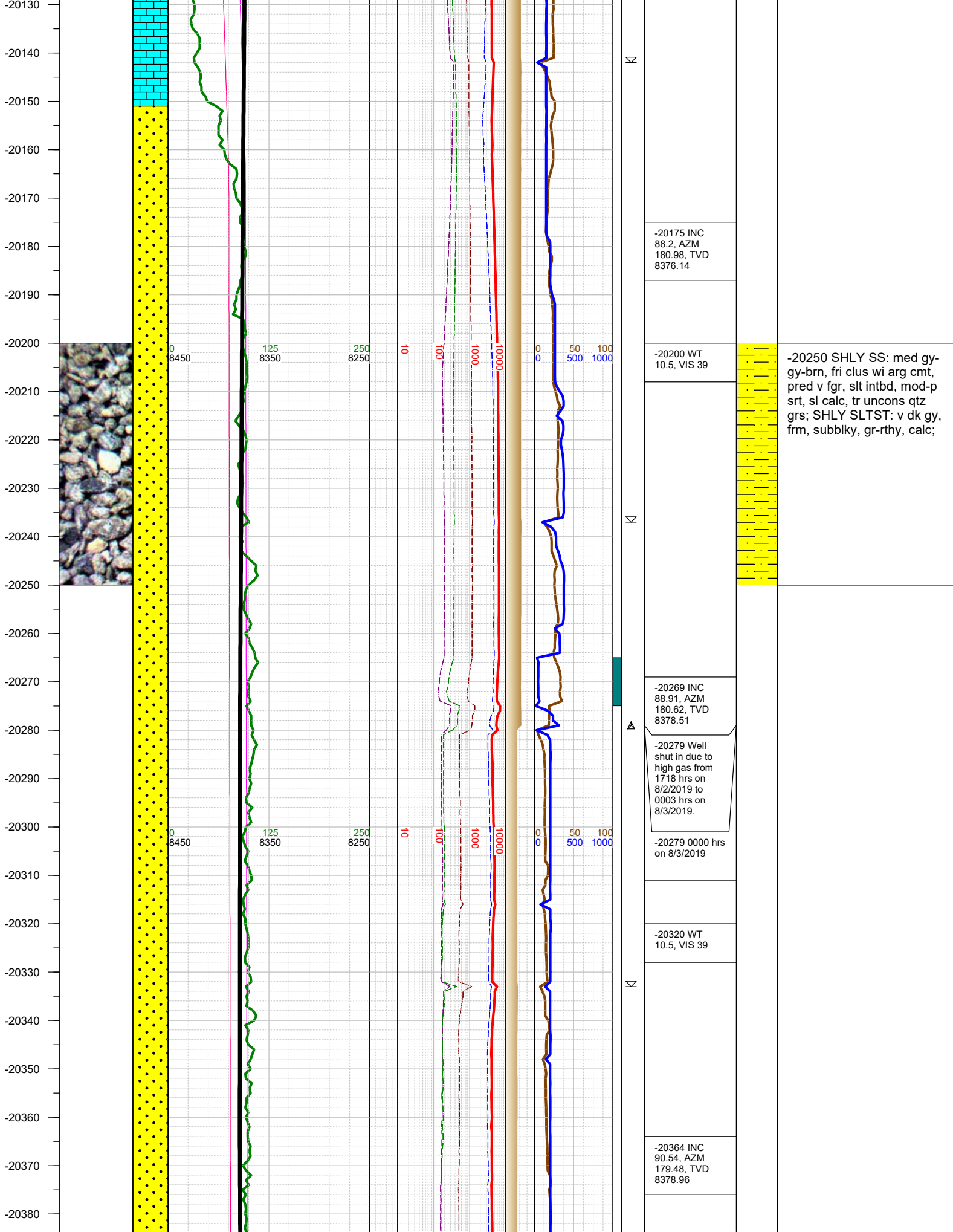
-19600 WT
10.5, VIS 39

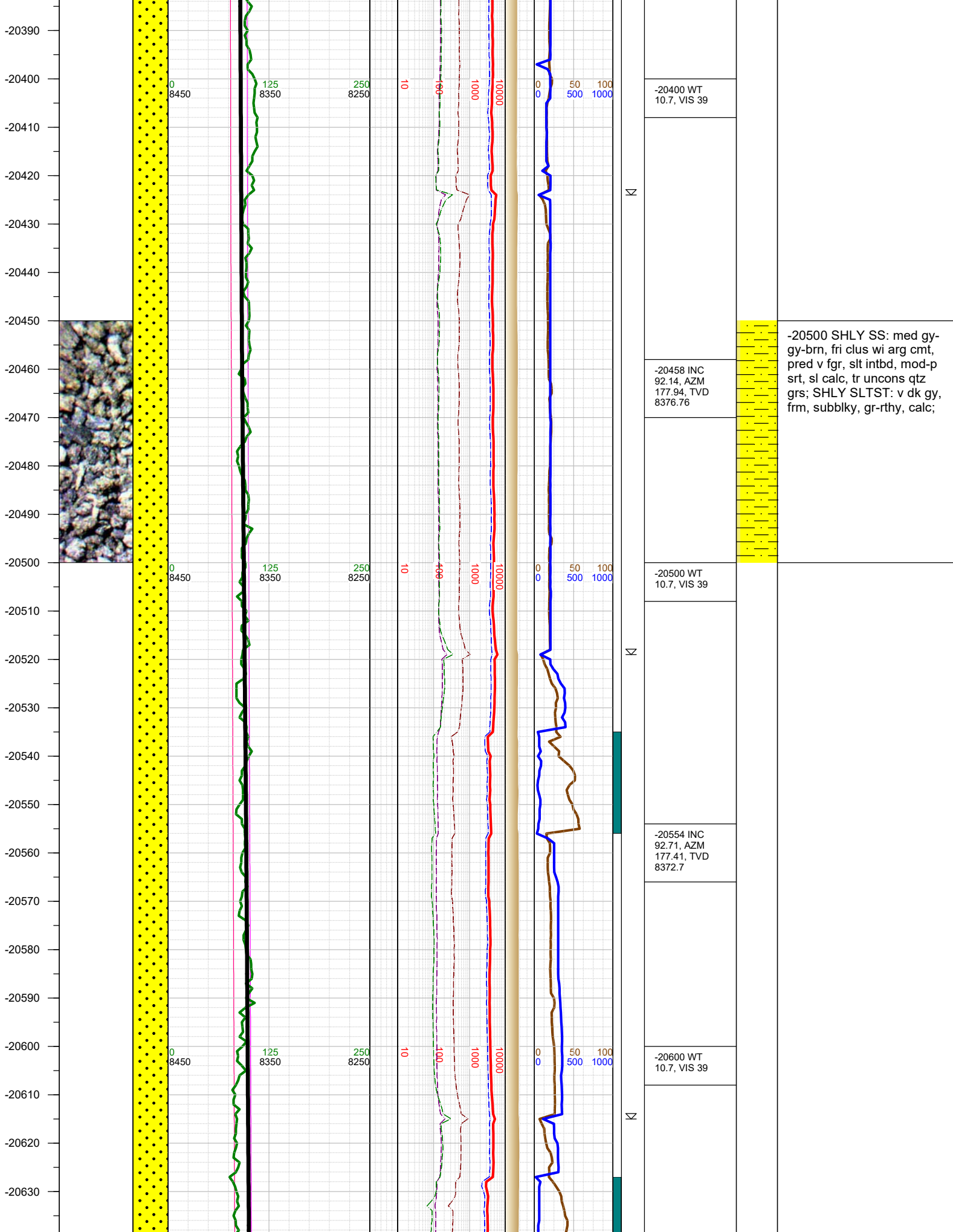
-19609 INC
91.34, AZM
179.08, TVD
8368.35

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

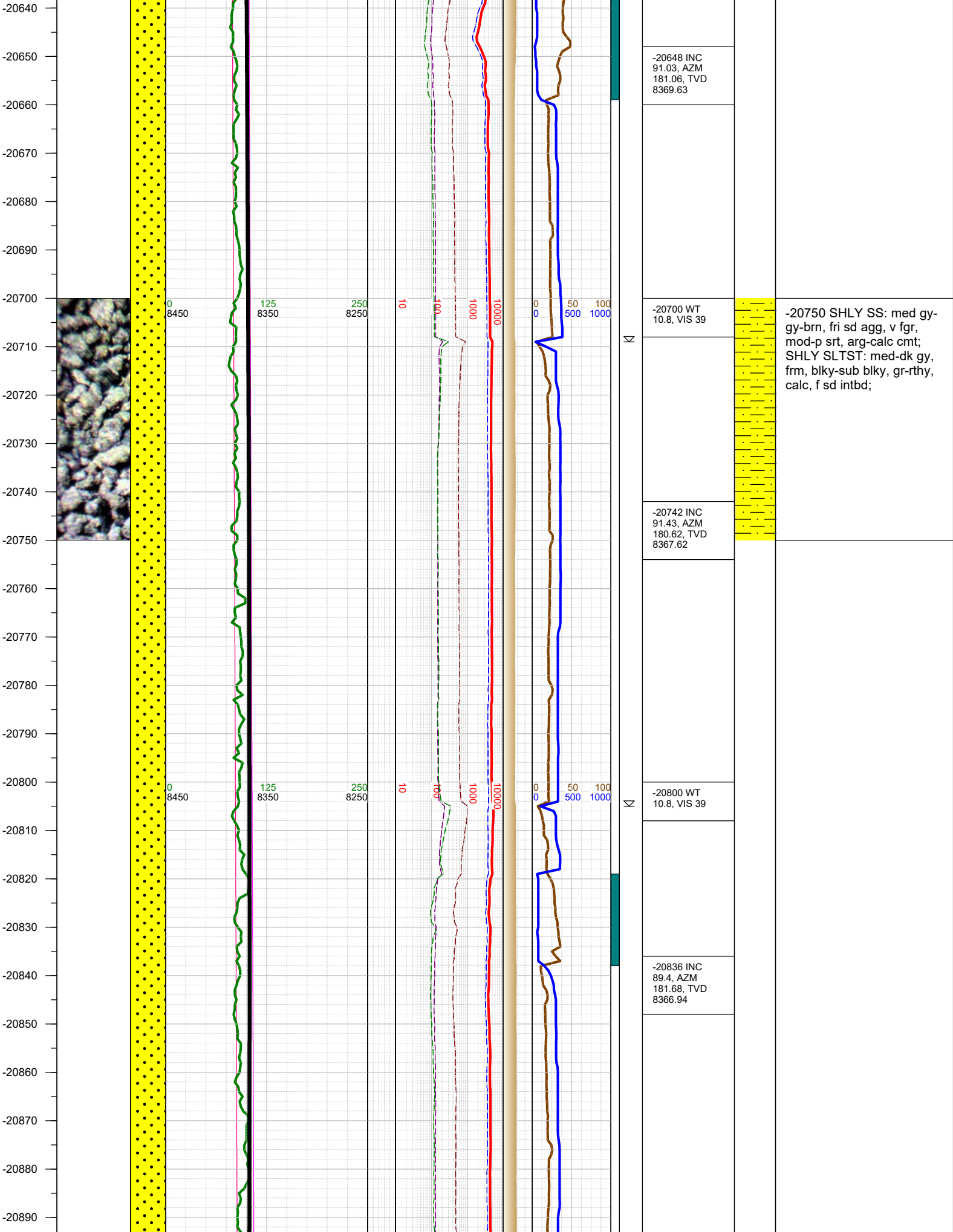


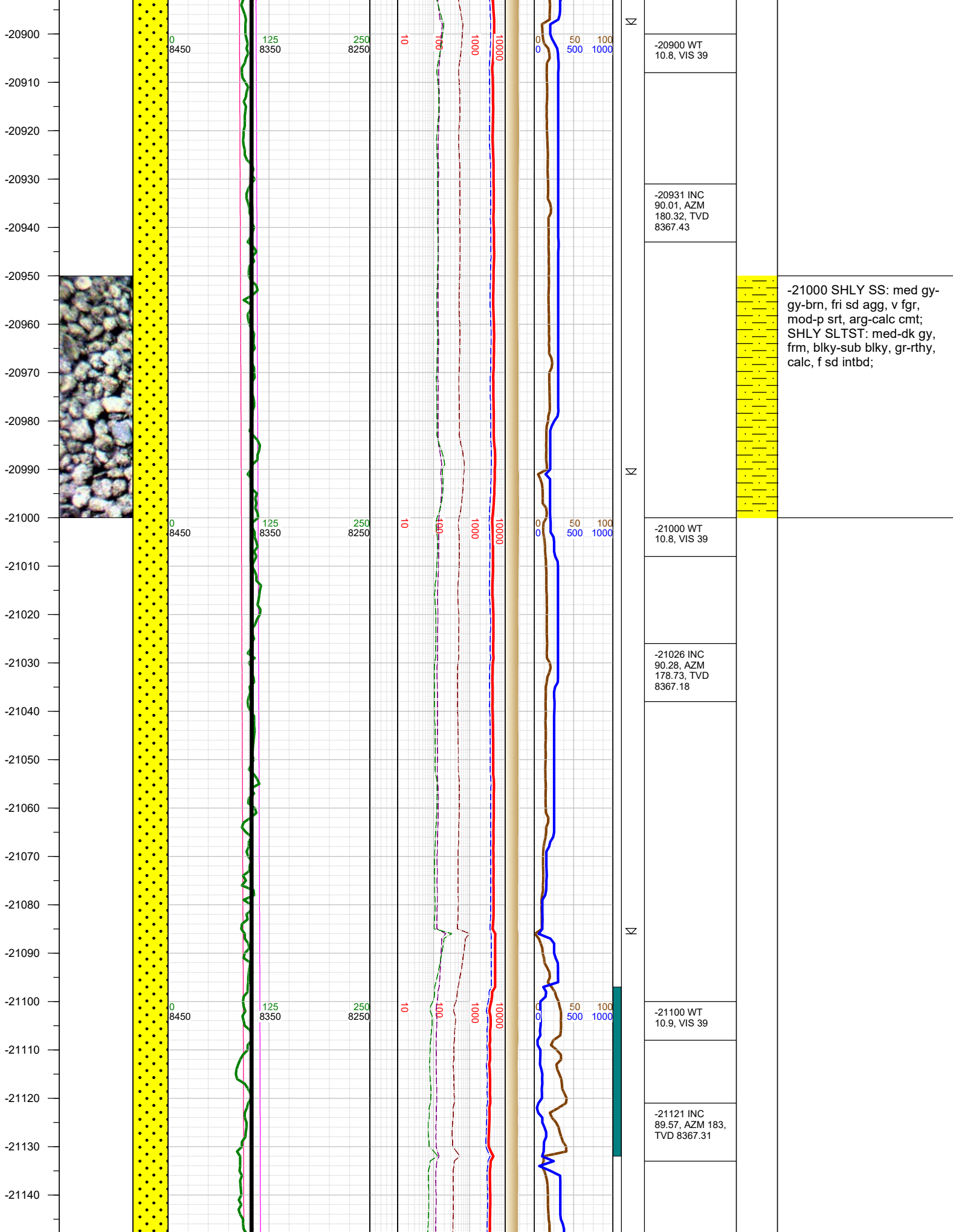


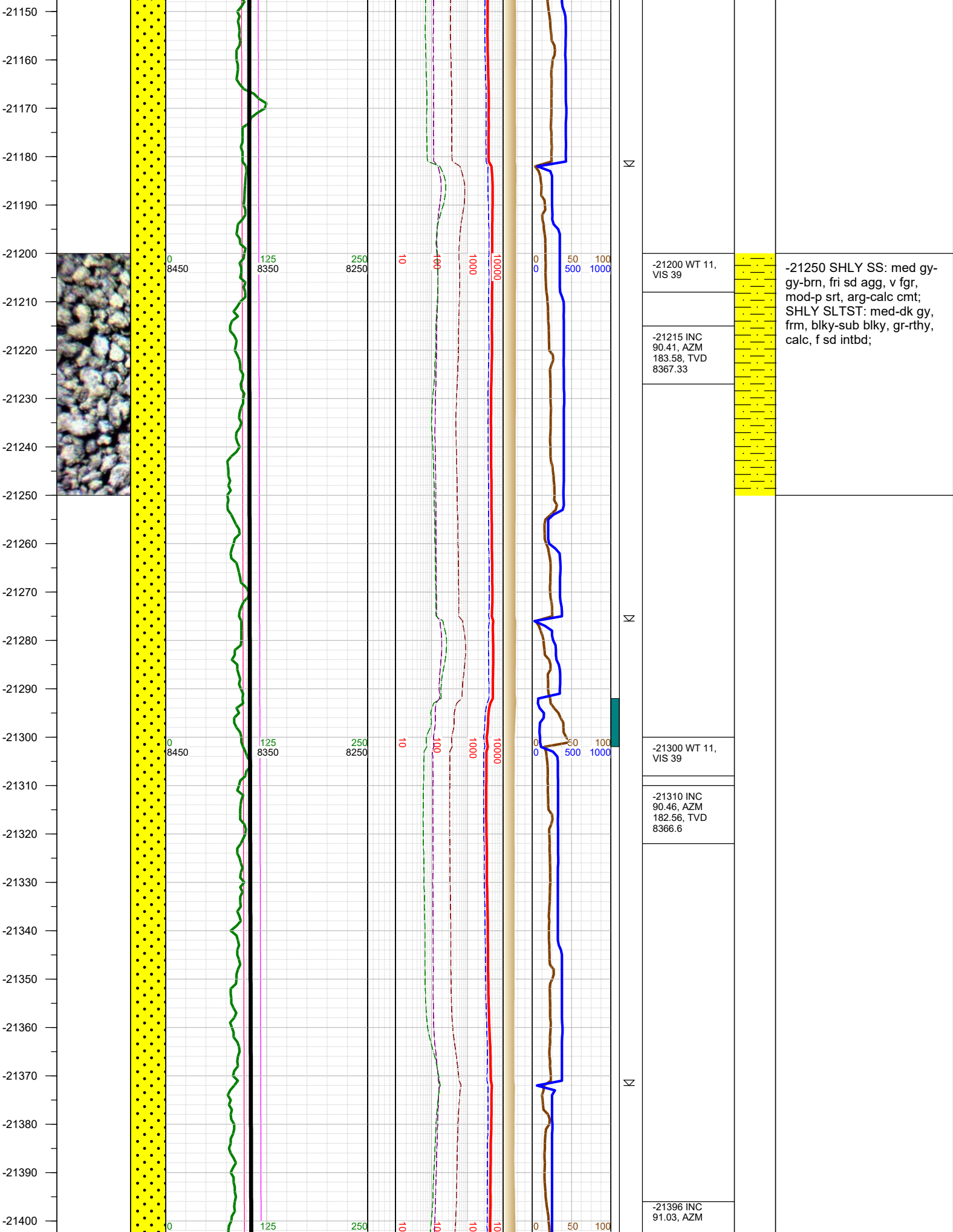


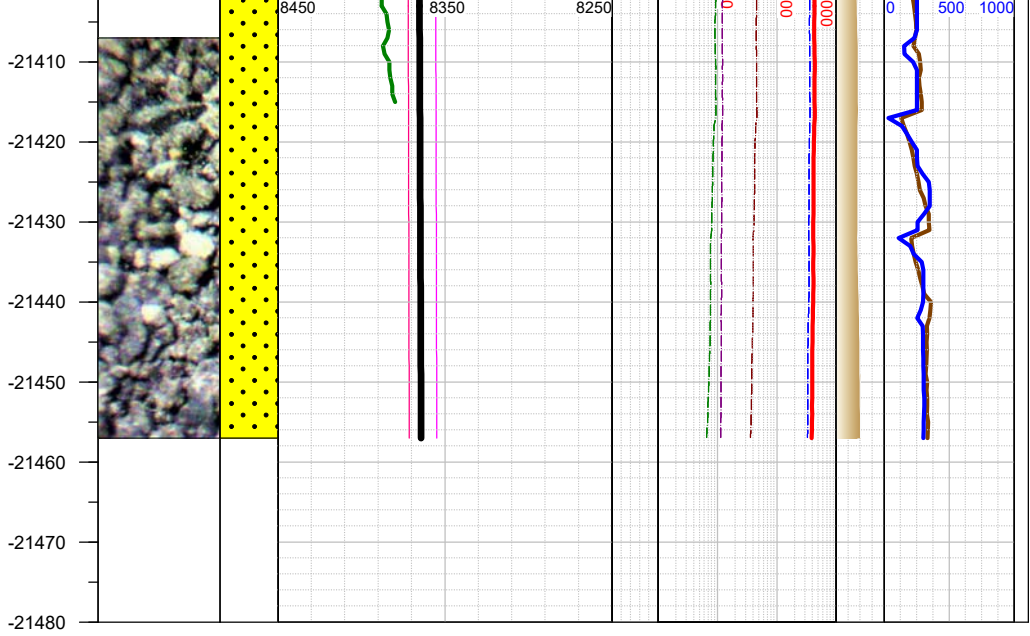


-20500 SHLY SS: med gy-gy-brn, fri clus wi arg cmt, pred v fgr, slt intbd, mod-p srt, sl calc, tr uncons qtz grs; SHLY SLTST: v dk gy, frm, subblky, gr-rthy, calc;









181.55, TVD 8365.49		
-21410 WT 11, VIS 39		-21457 SHLY SS: med gy- gy-brn, fri sd agg, v fgr, mod-p srt, arg-calc cmt; SHLY SLTST: med-dk gy, frm, blk-sub blk, gr-rthy, calc, f sd intbd;
-21457 Reached horizontal TD of 21457' MD, 8364' TVD at 0915 hrs on 8/3/2019.		