

OPERATOR: **Extraction Oil & Gas**

WELL NAME: **Duck Club 12W-20-1C**

FIELD NAME: DJ Basin - Wattenberg

DRILLING RIG: Patterson 901

API #: 05-001-10160

LAT/LONG: 39.97945, -104.73093

SURFACE HOLE: NWSW S12-T1S-R66W, 2603' FSL, 695' FWL

BOTTOM HOLE: S10-T1S-R66W, 460' FNL, 2180' FEL

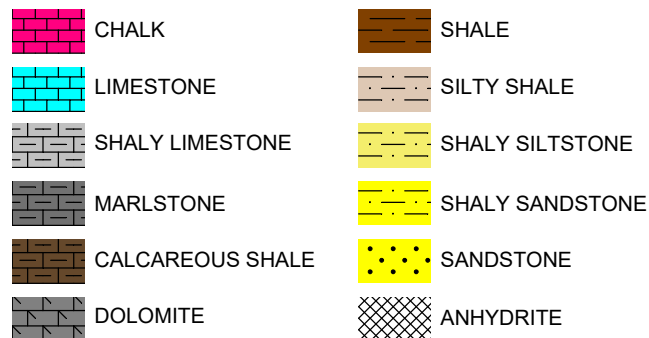


Earth Science Agency, LLC

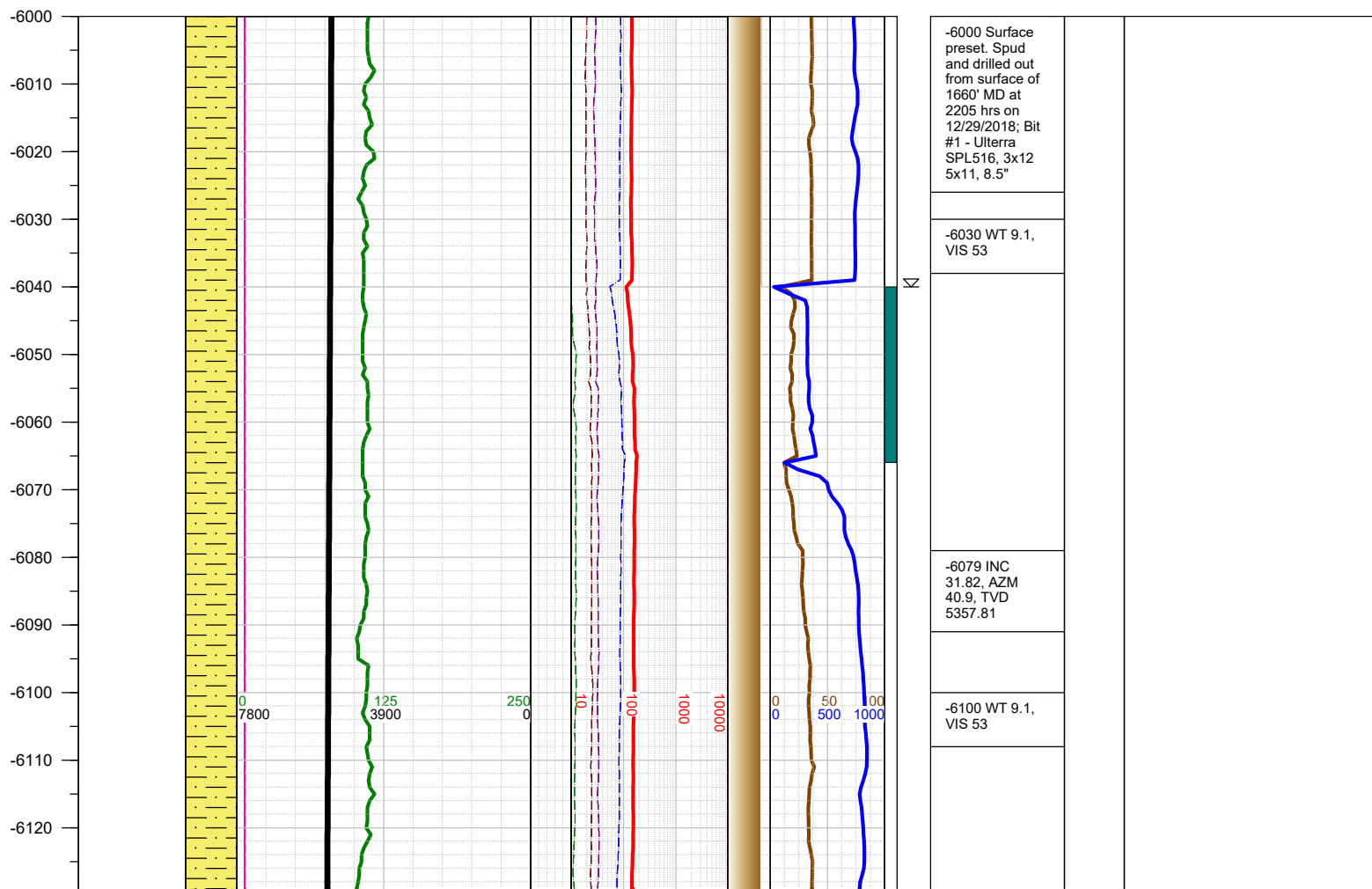
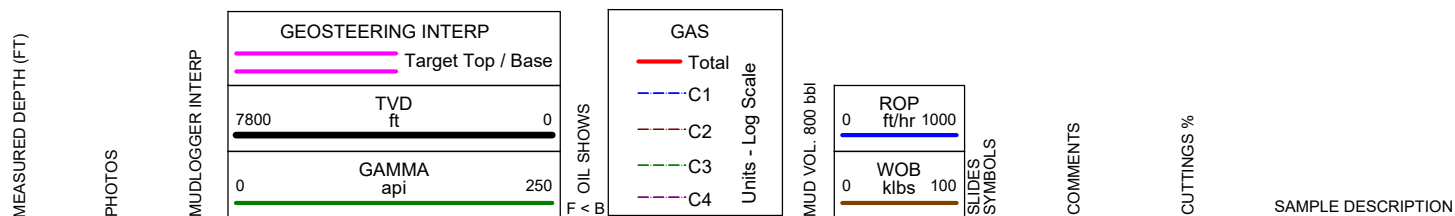
COUNTY: Adams
STATE: Colorado
GROUND ELEVATION: 5037'
KELLY BUSHING: 5066'
DRILLING FLUID: OBM
TVD VS. MD: 7633' / 18247'
SPUD DATE: December 29, 2018
TD DATE: January 1, 2019

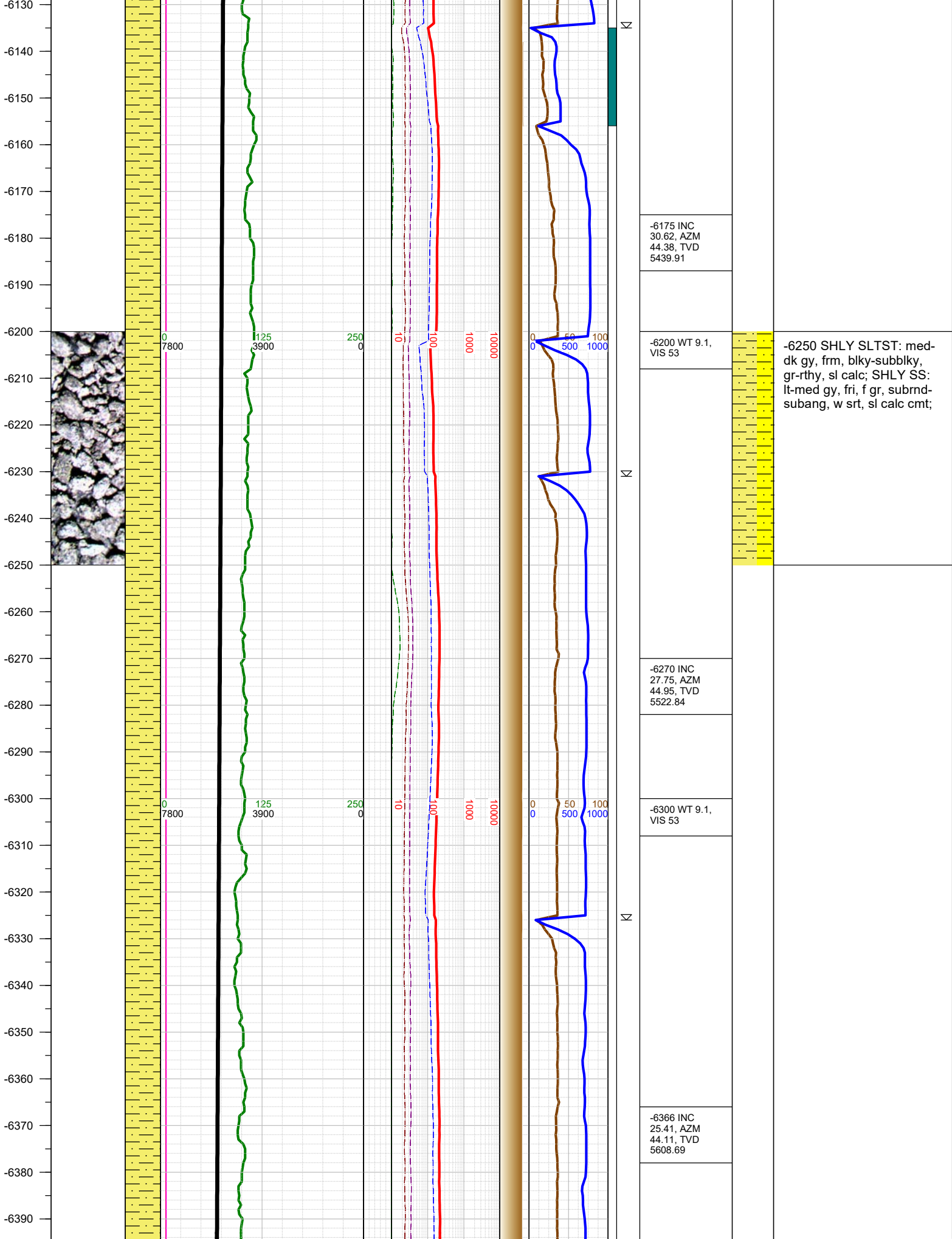
DEPTHS LOGGED: 6000' - 18247'
DATES LOGGED: December 30, 2018 - January 1, 2019
GEOLOGISTS: Dan Jacobs, Blake Eatherton
SCALE: 5" = 100'

LEGEND

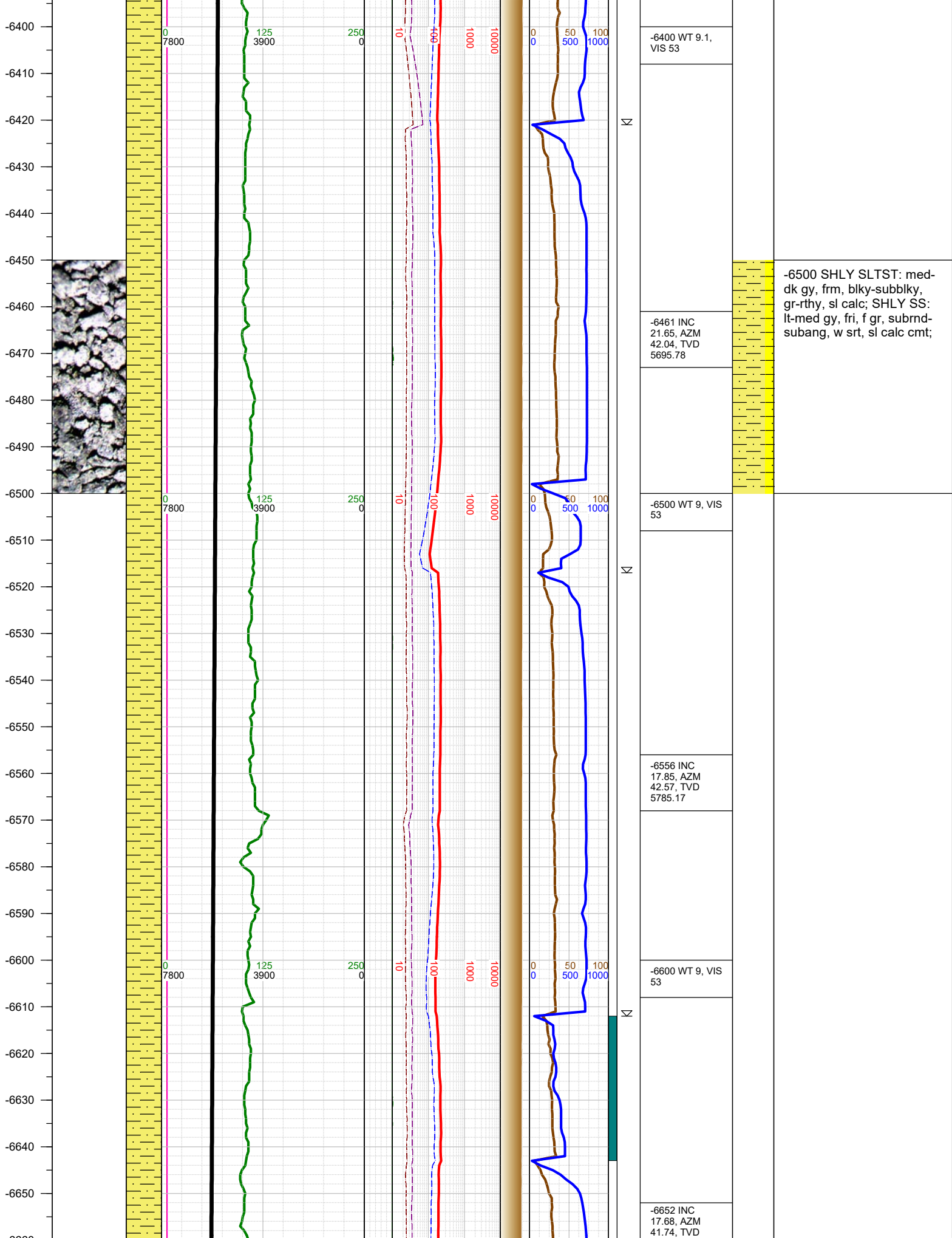


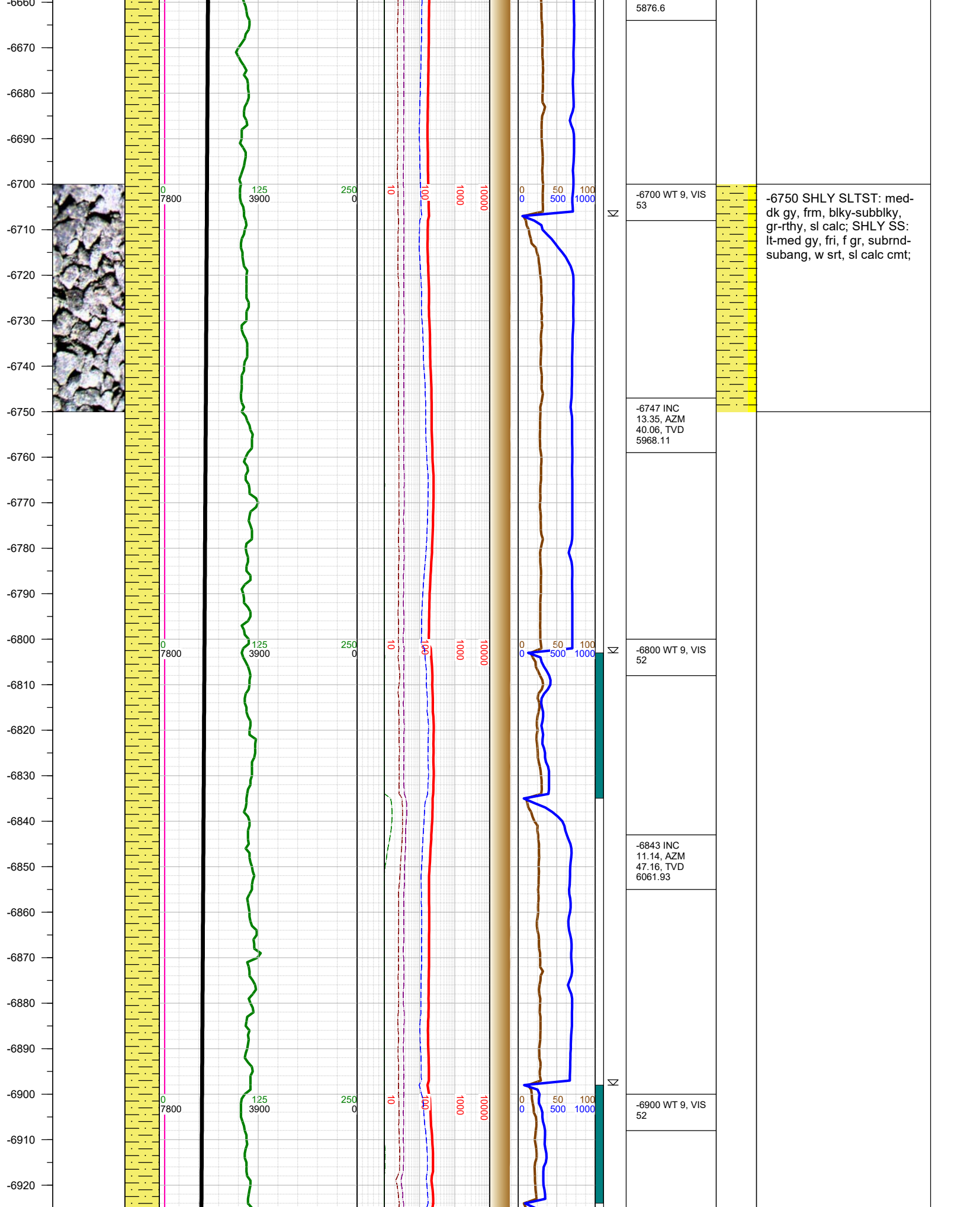
FORMATION CONNECTION MIDNIGHT NEW BIT GAS SHOW FAULT

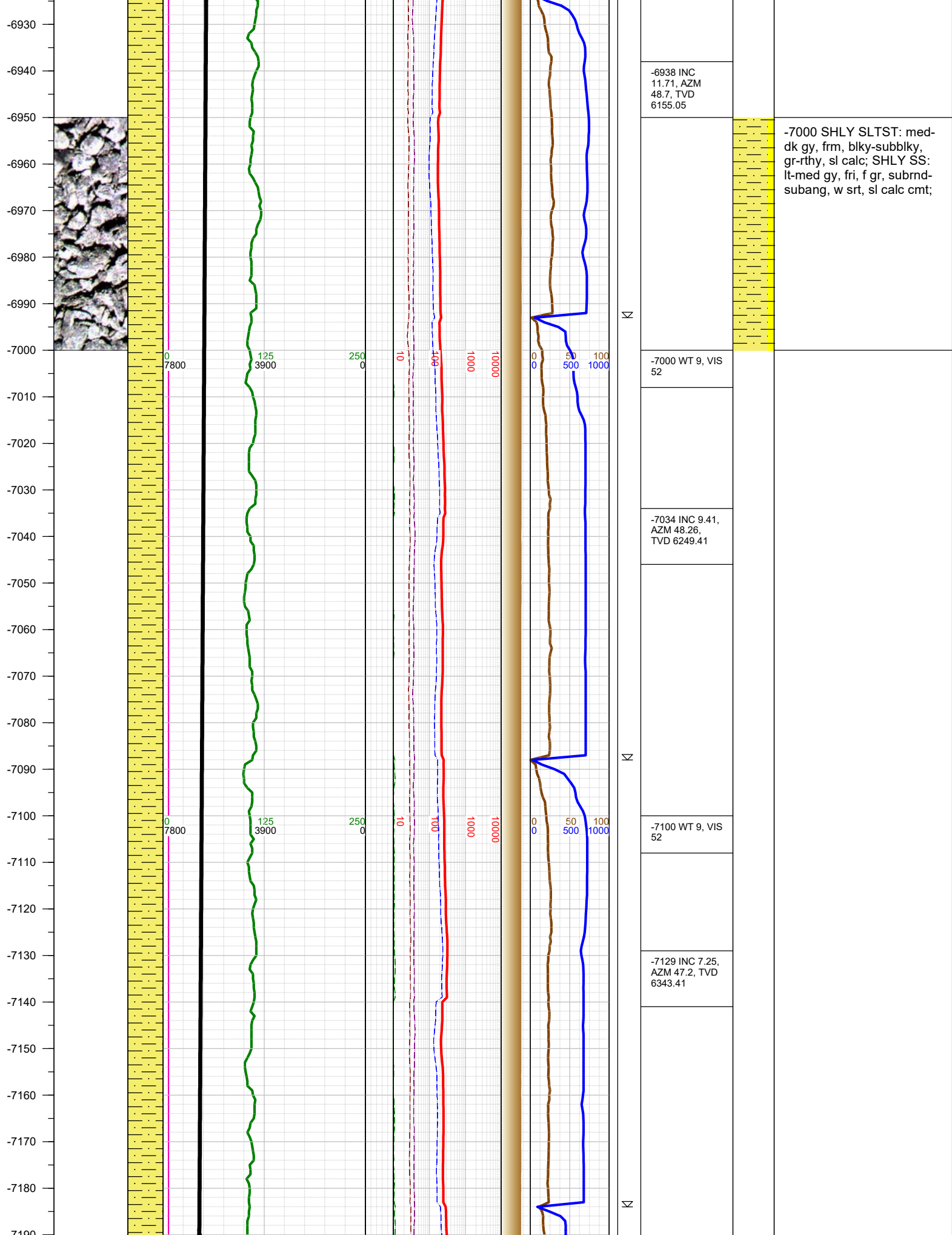


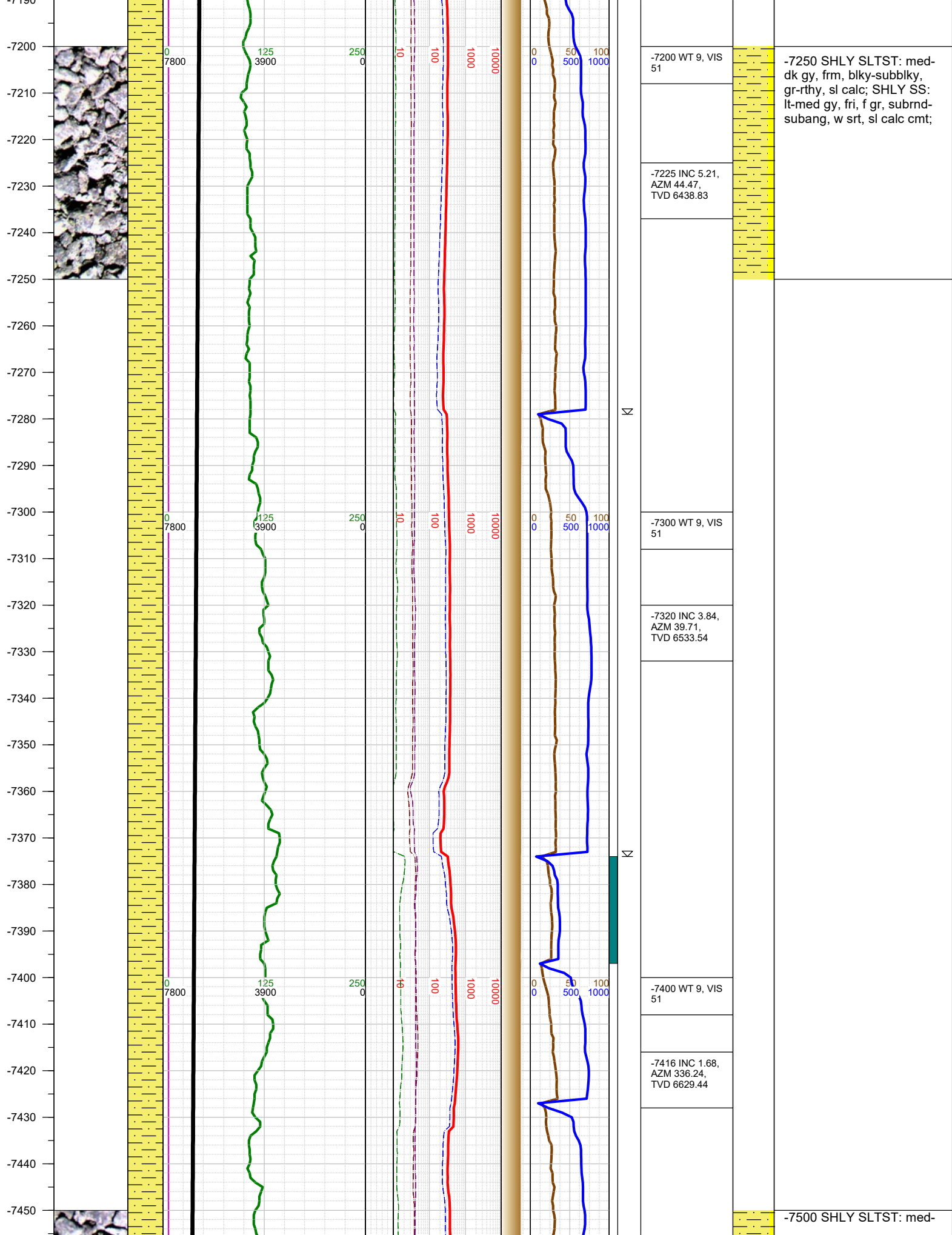


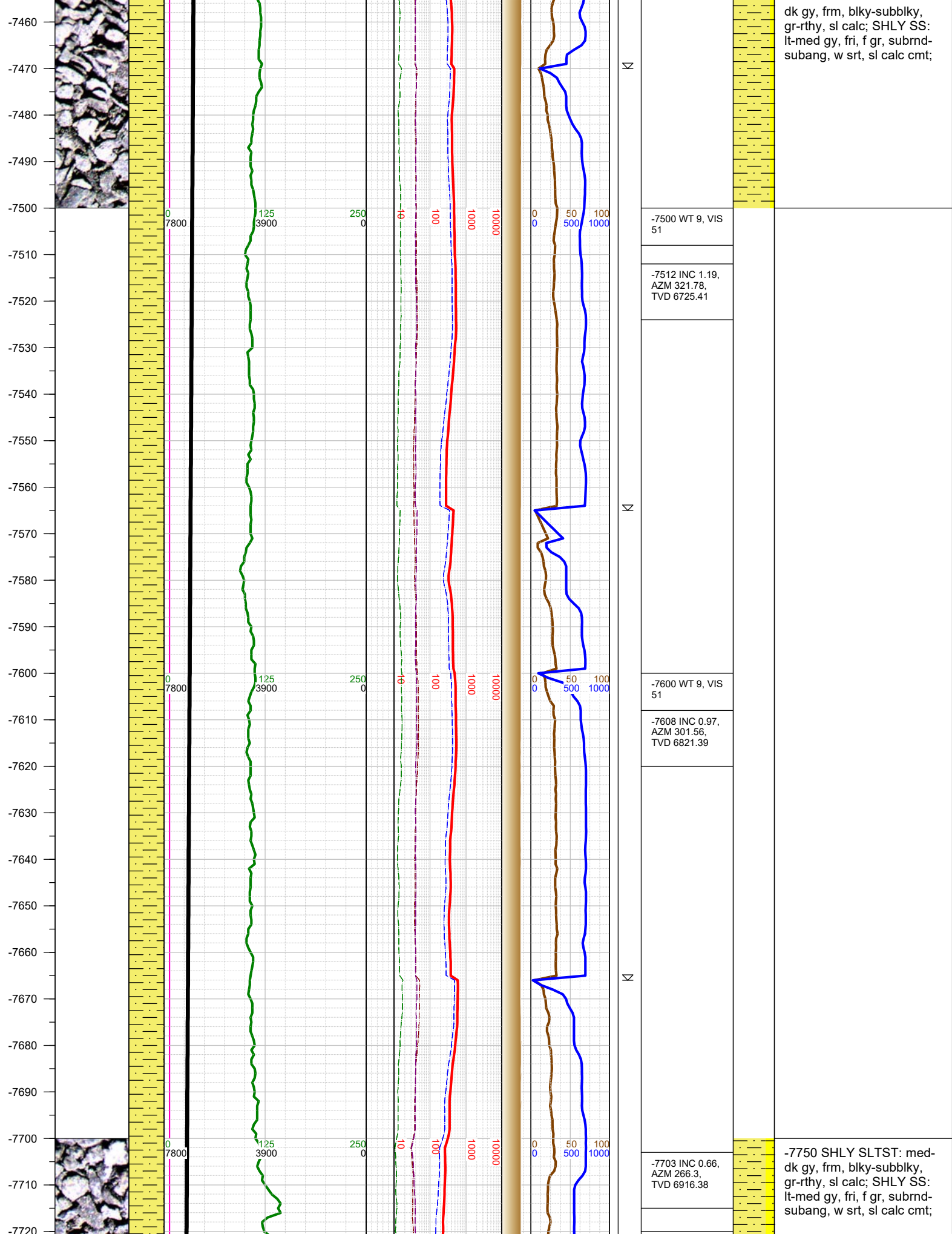
-6250 SHLY SLTST: med-
dk gy, frm, blk-subblky,
gr-rthy, sl calc; SHLY SS:
lt-med gy, fri, f gr, subrnd-
subang, w srt, sl calc cmt;

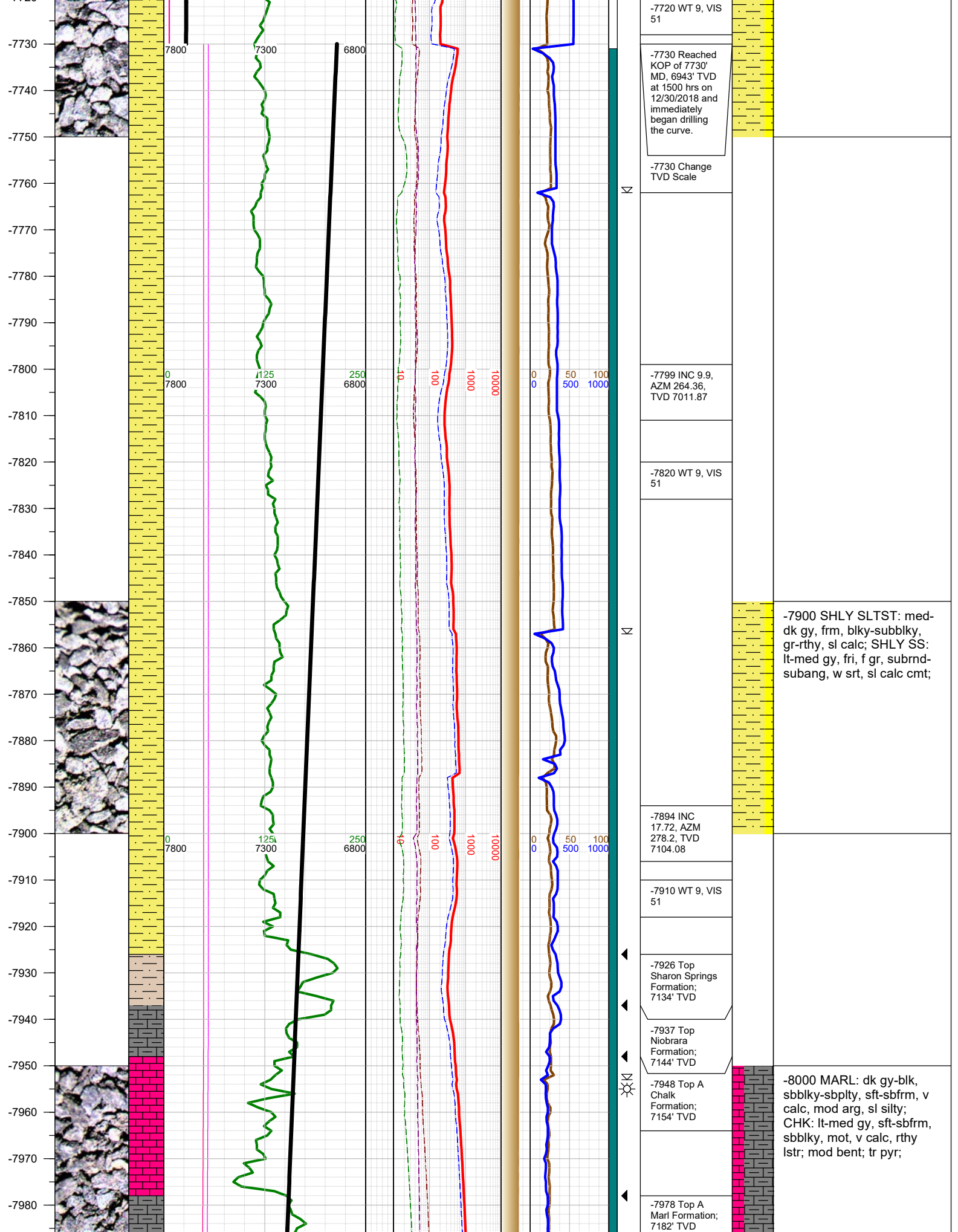


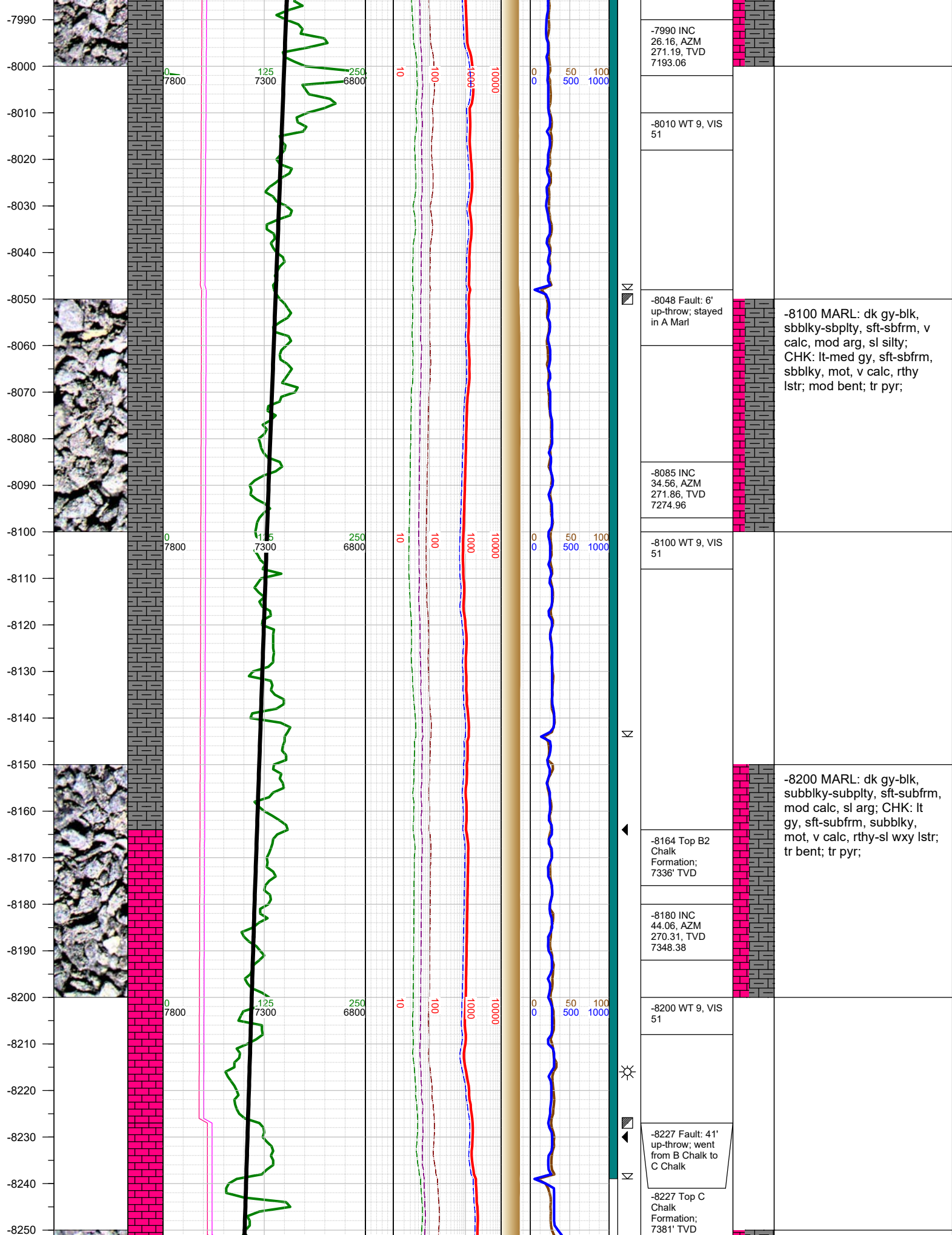


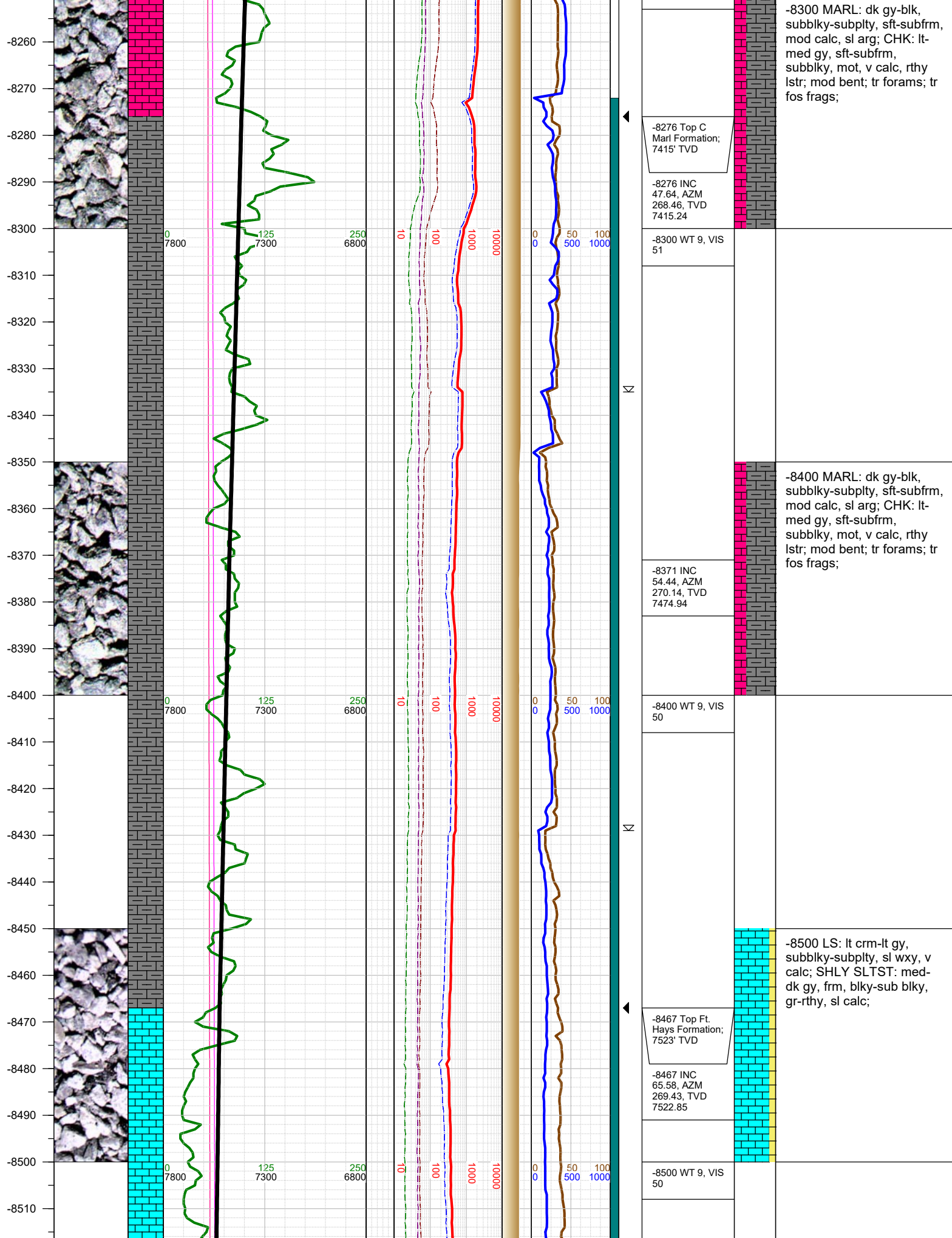


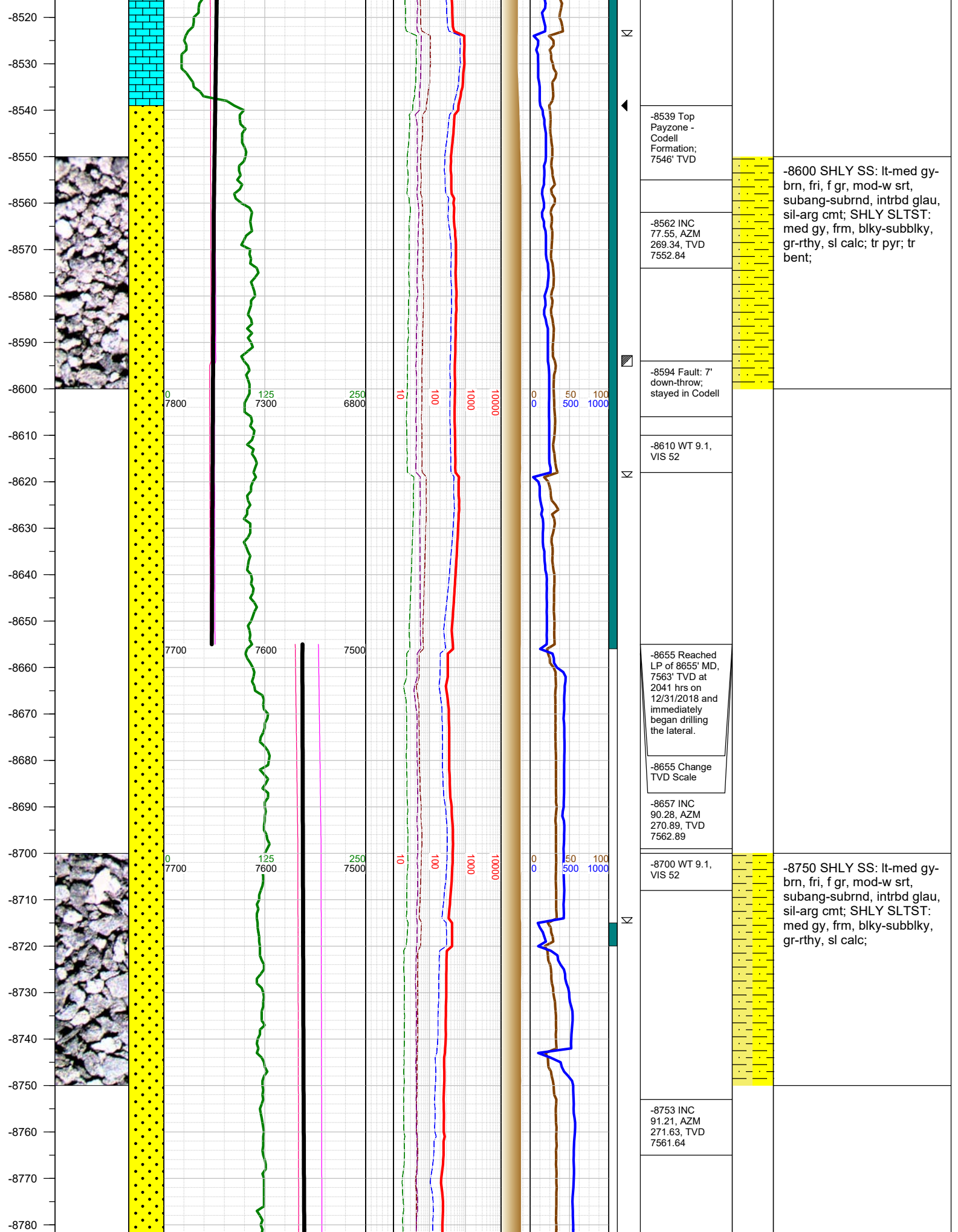


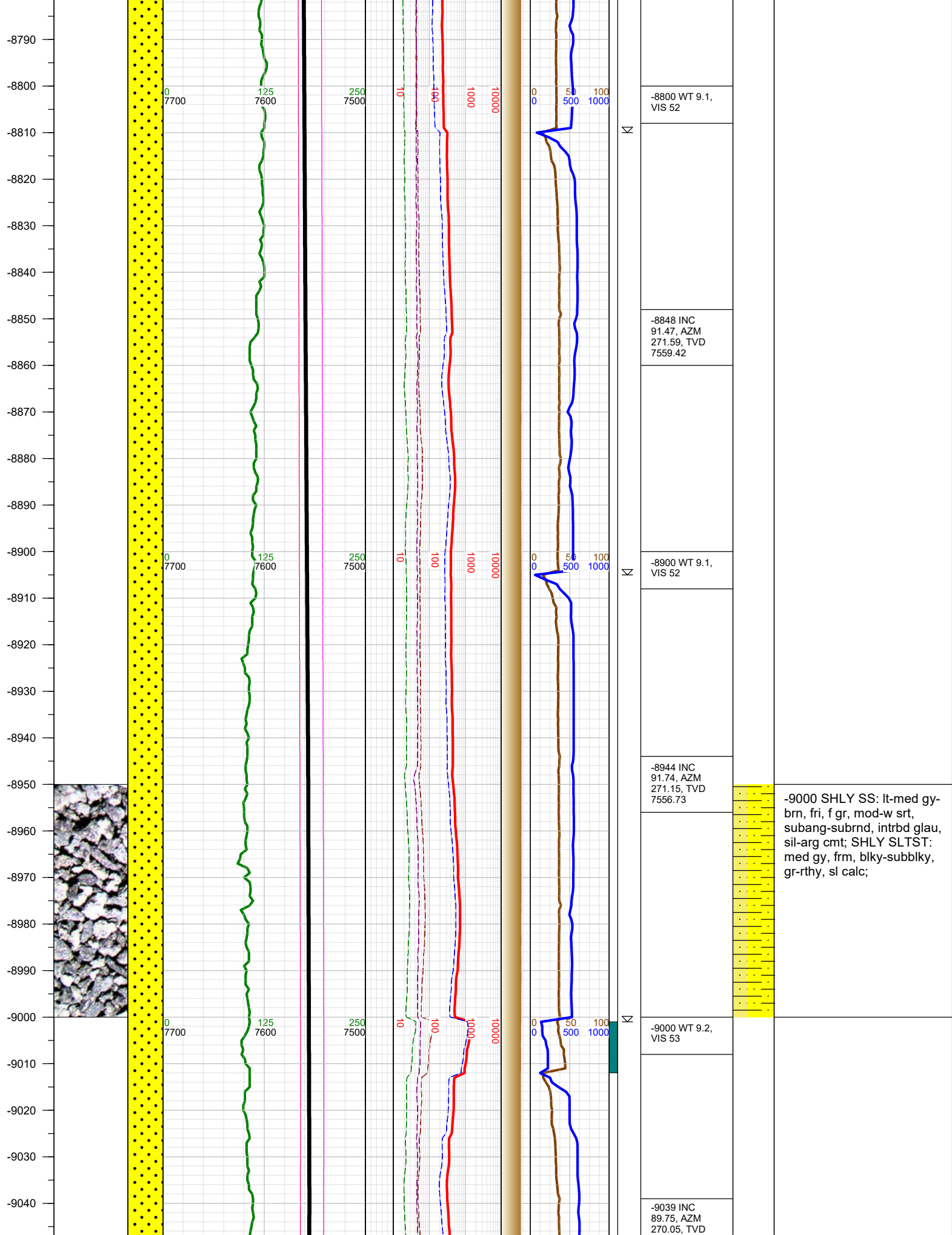


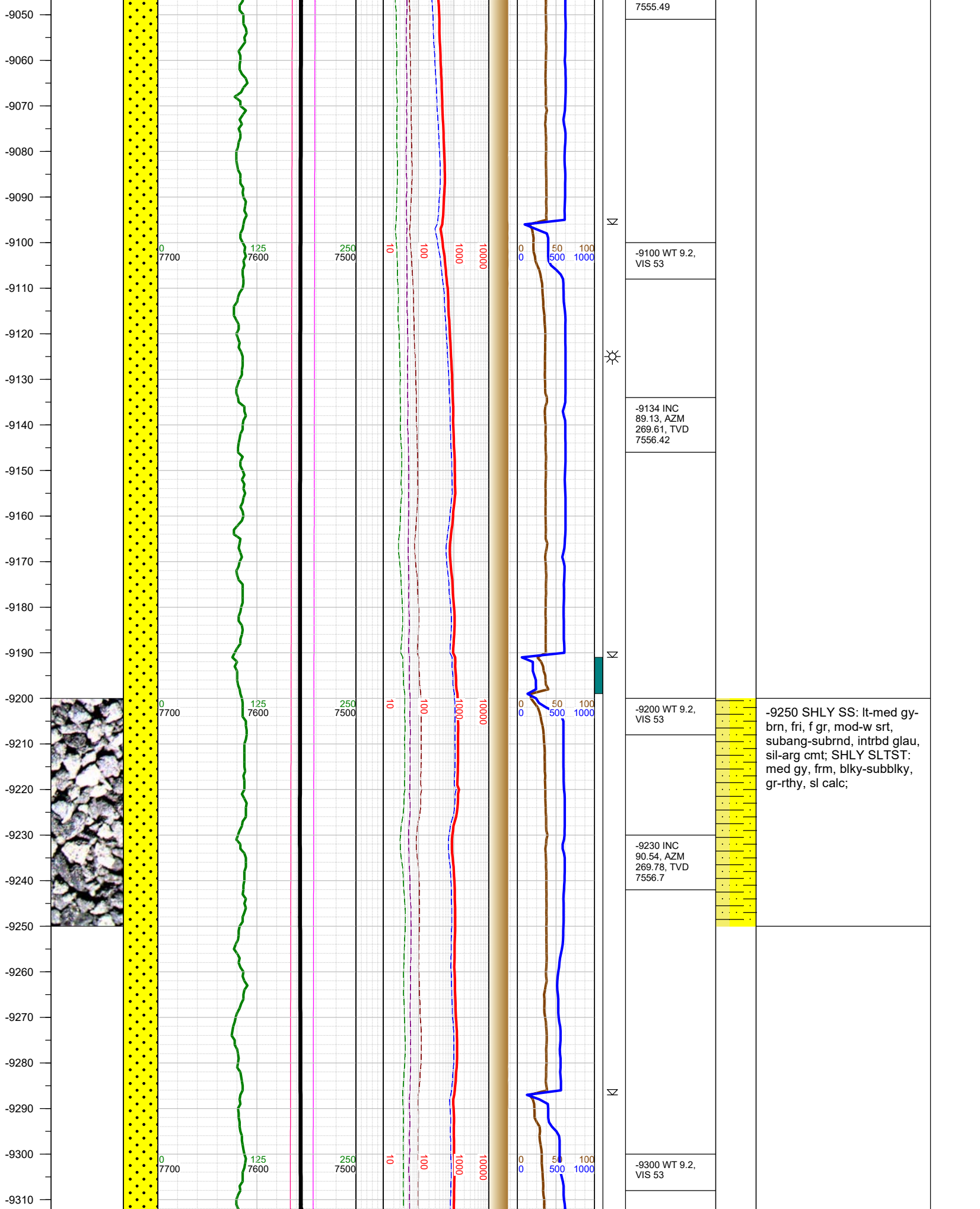


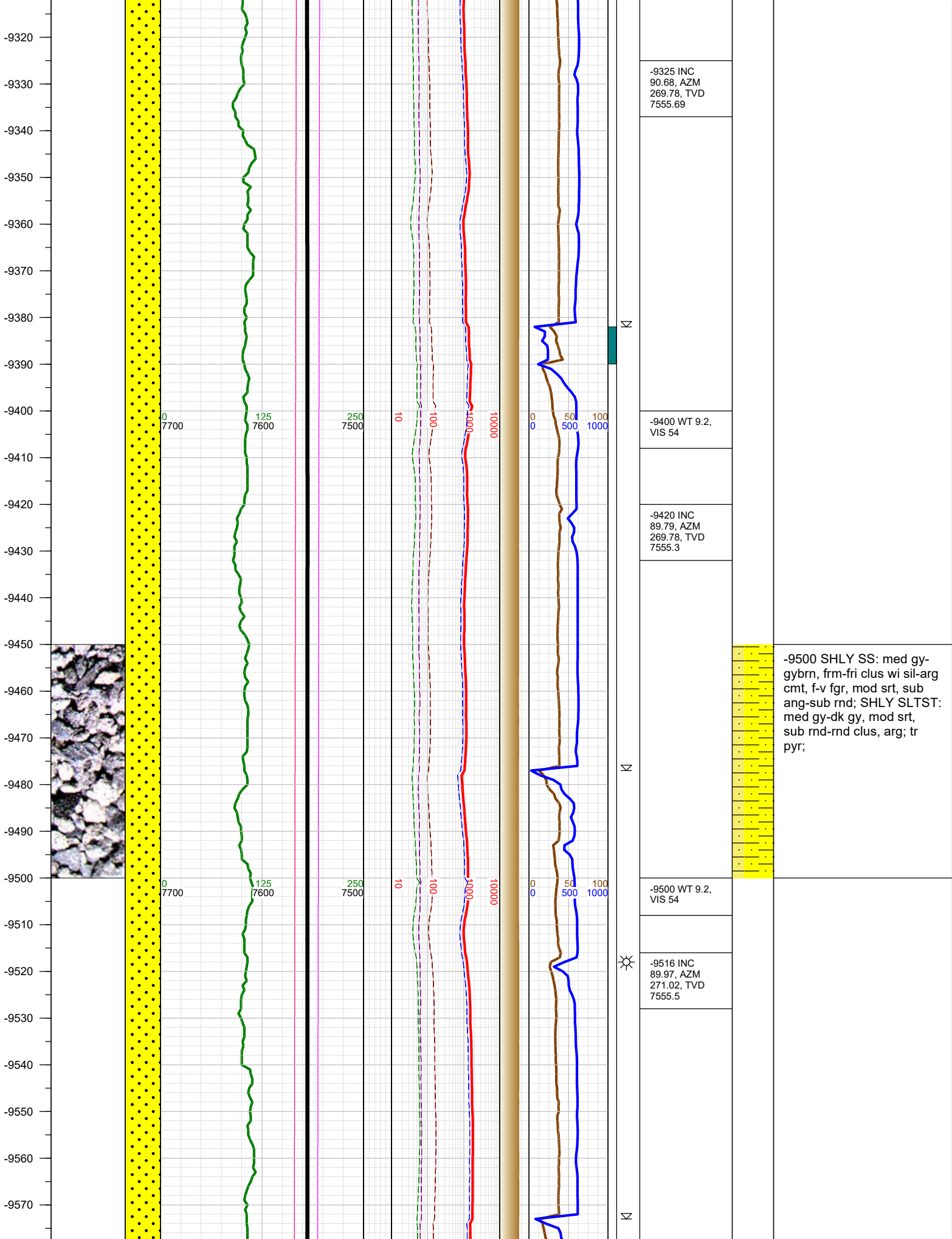


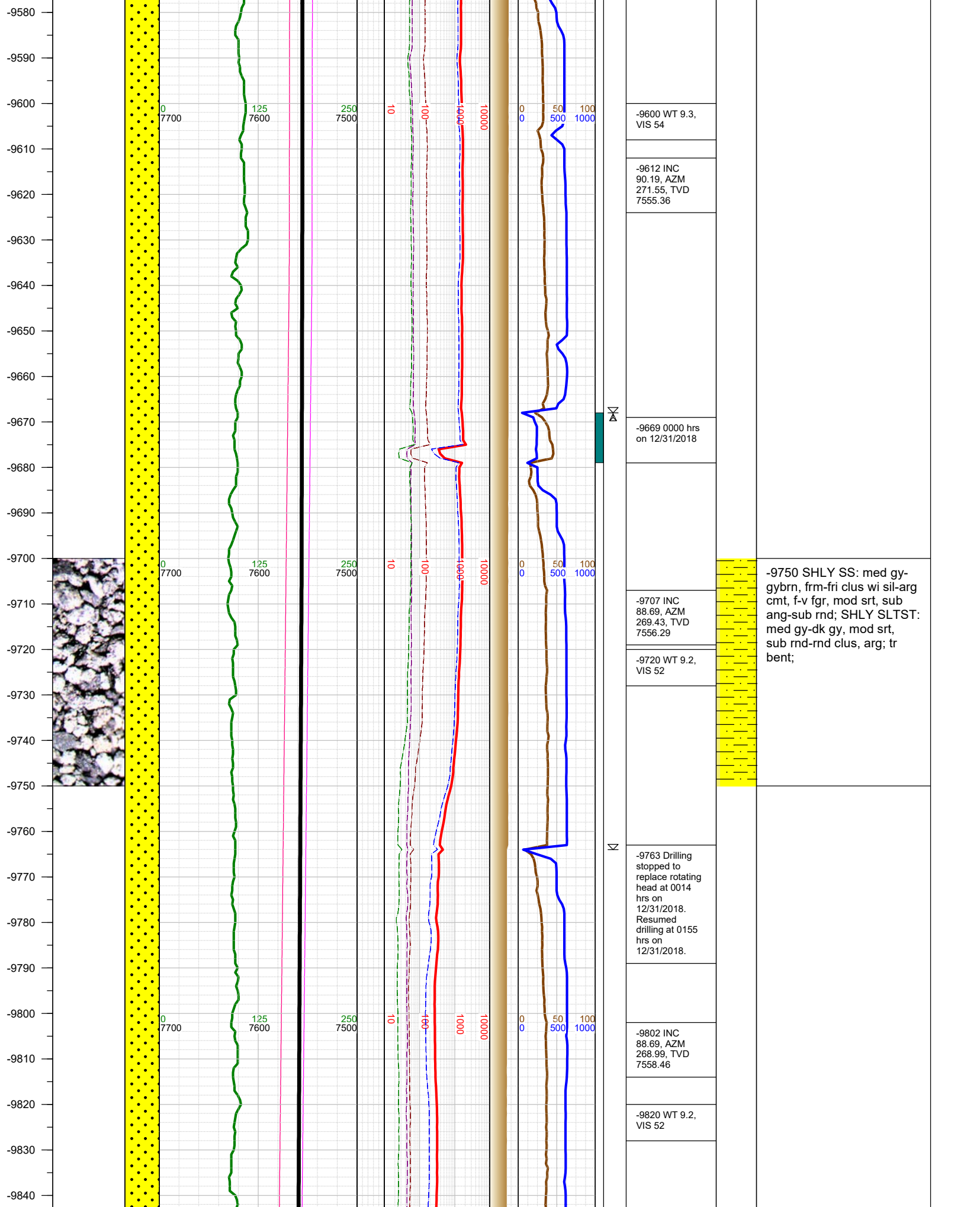


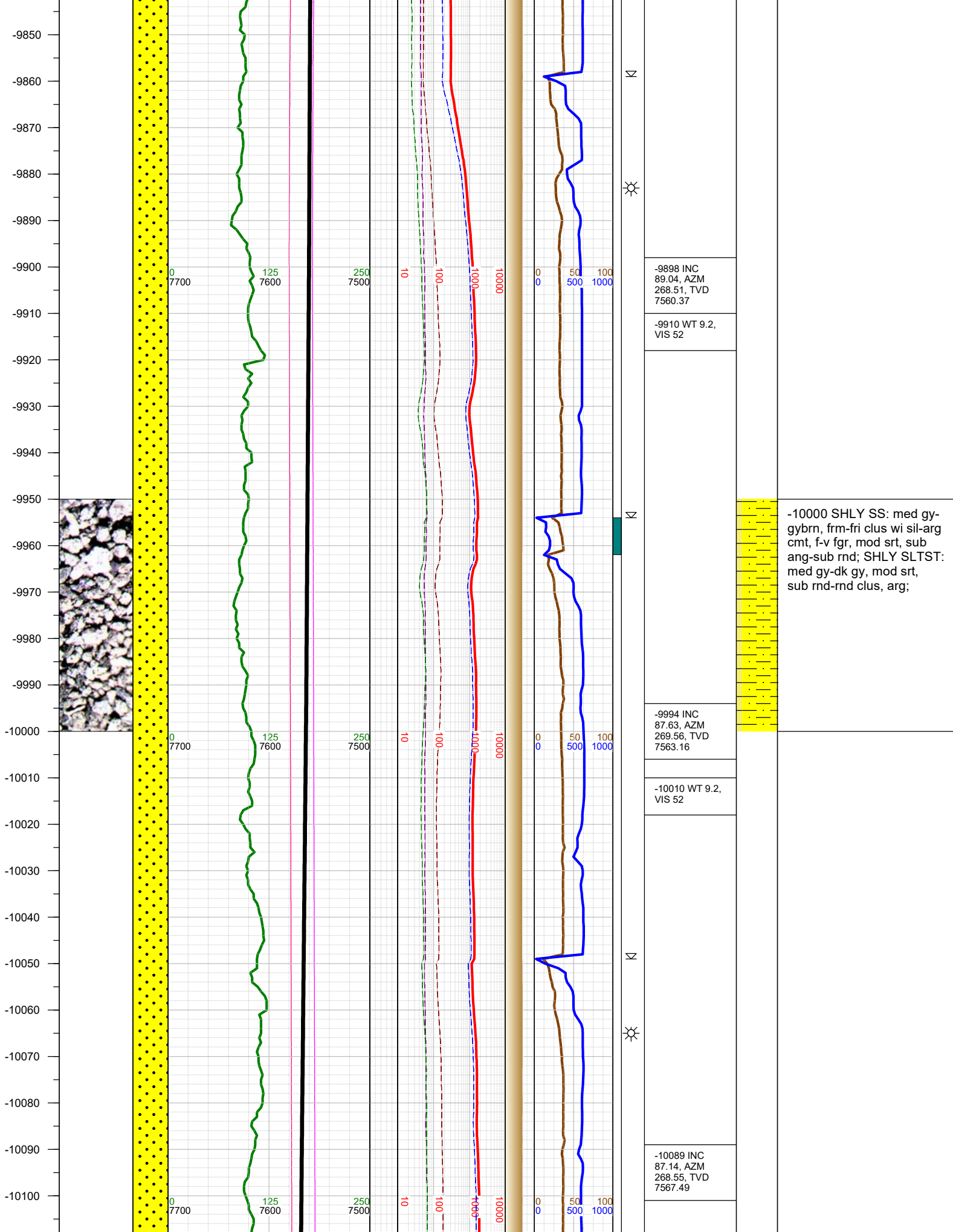












-9898 INC
89.04, AZM
268.51, TVD
7560.37

-9910 WT 9.2,
VIS 52

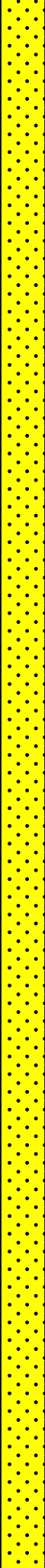
-9994 INC
87.63, AZM
269.56, TVD
7563.16

-10010 WT 9.2,
VIS 52

-10089 INC
87.14, AZM
268.55, TVD
7567.49

-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;

-10110
-10120
-10130
-10140
-10150
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-10190
-10200
-10210
-10220
-10230
-10240
-10250
-10260
-10270
-10280
-10290
-10300
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-10360
-10370



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7700

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7600

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7500

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1000

100
1000

1000
10000

0
0

50
500

100
1000

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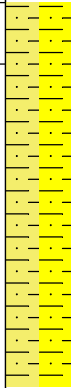
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VIS 52

-10185 INC
88.42, AZM
269.39, TVD
7571.21

-10200 WT 9.2,
VIS 52

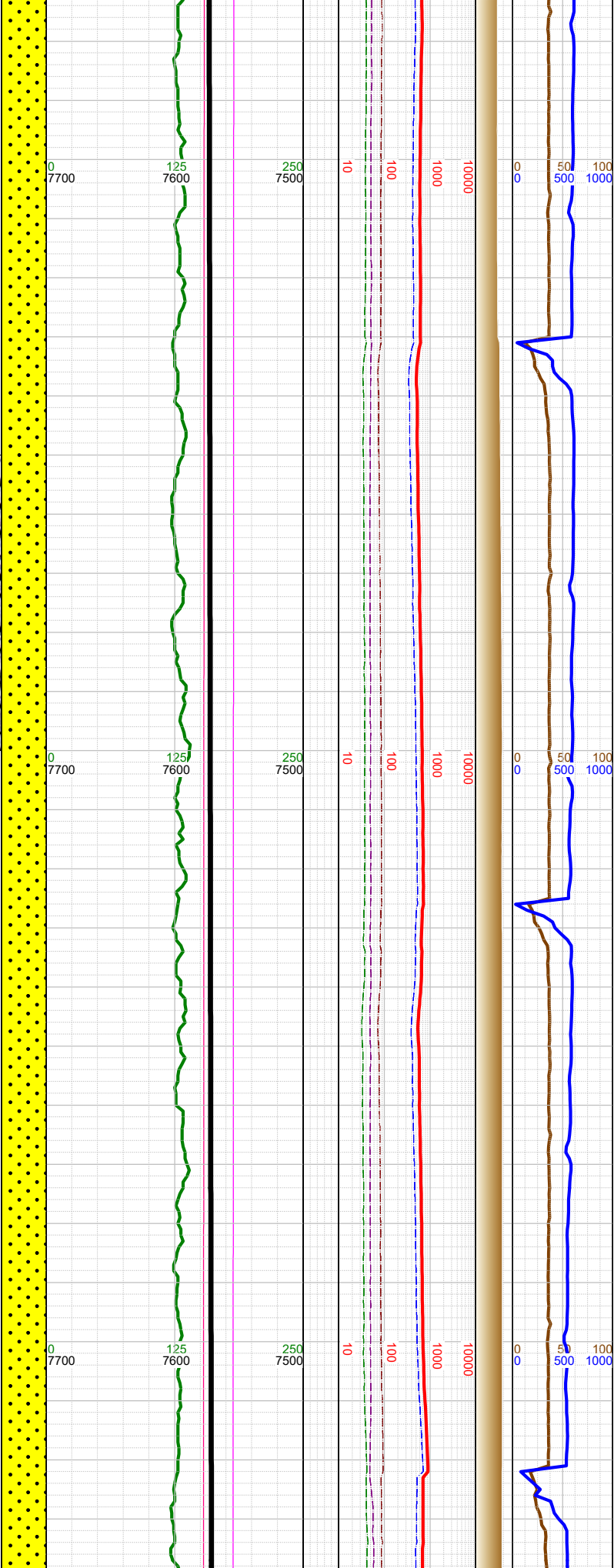
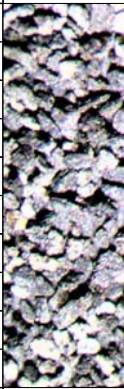
-10280 INC
89.31, AZM
269.17, TVD
7573.09

-10300 WT 9.2,
VIS 52

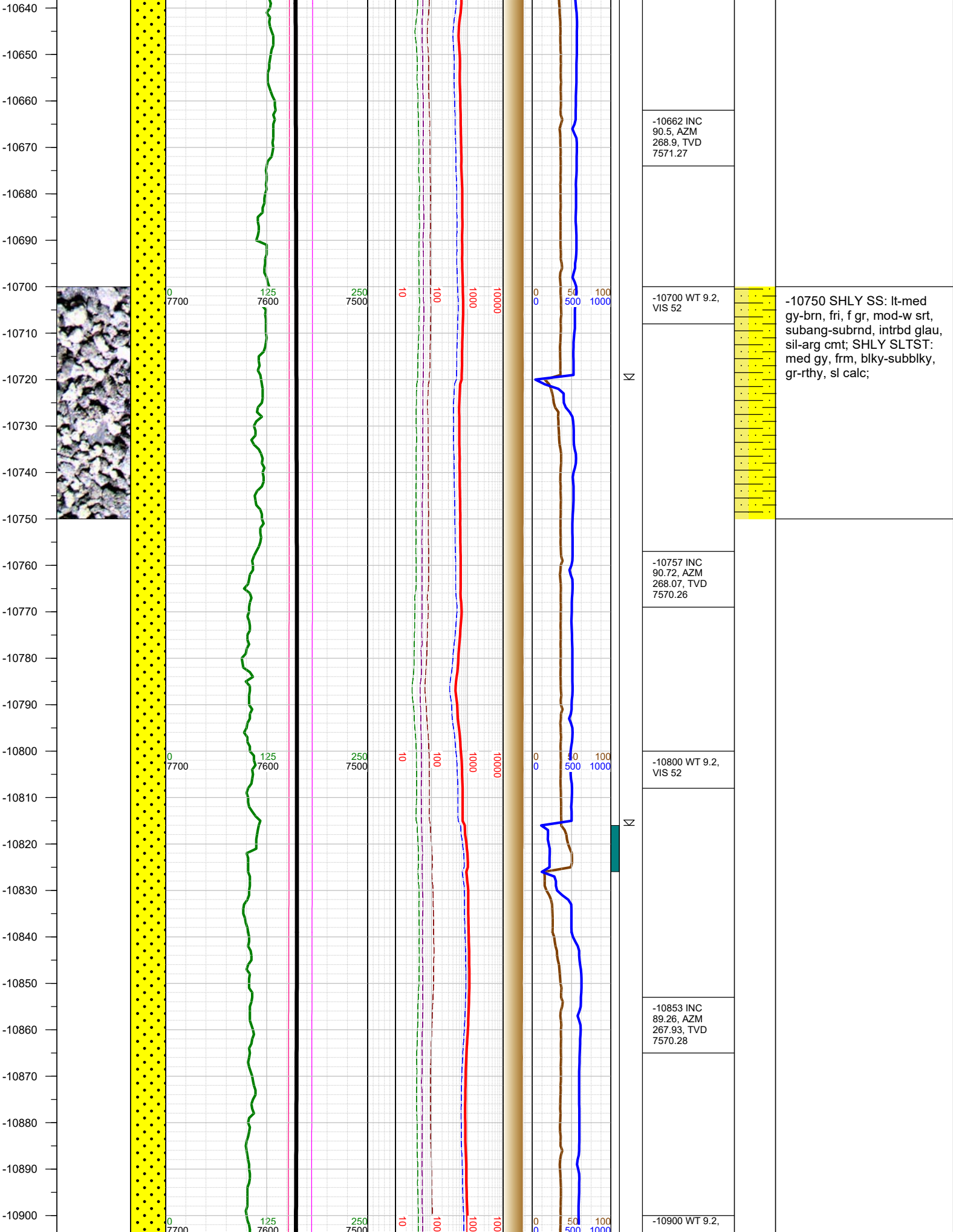


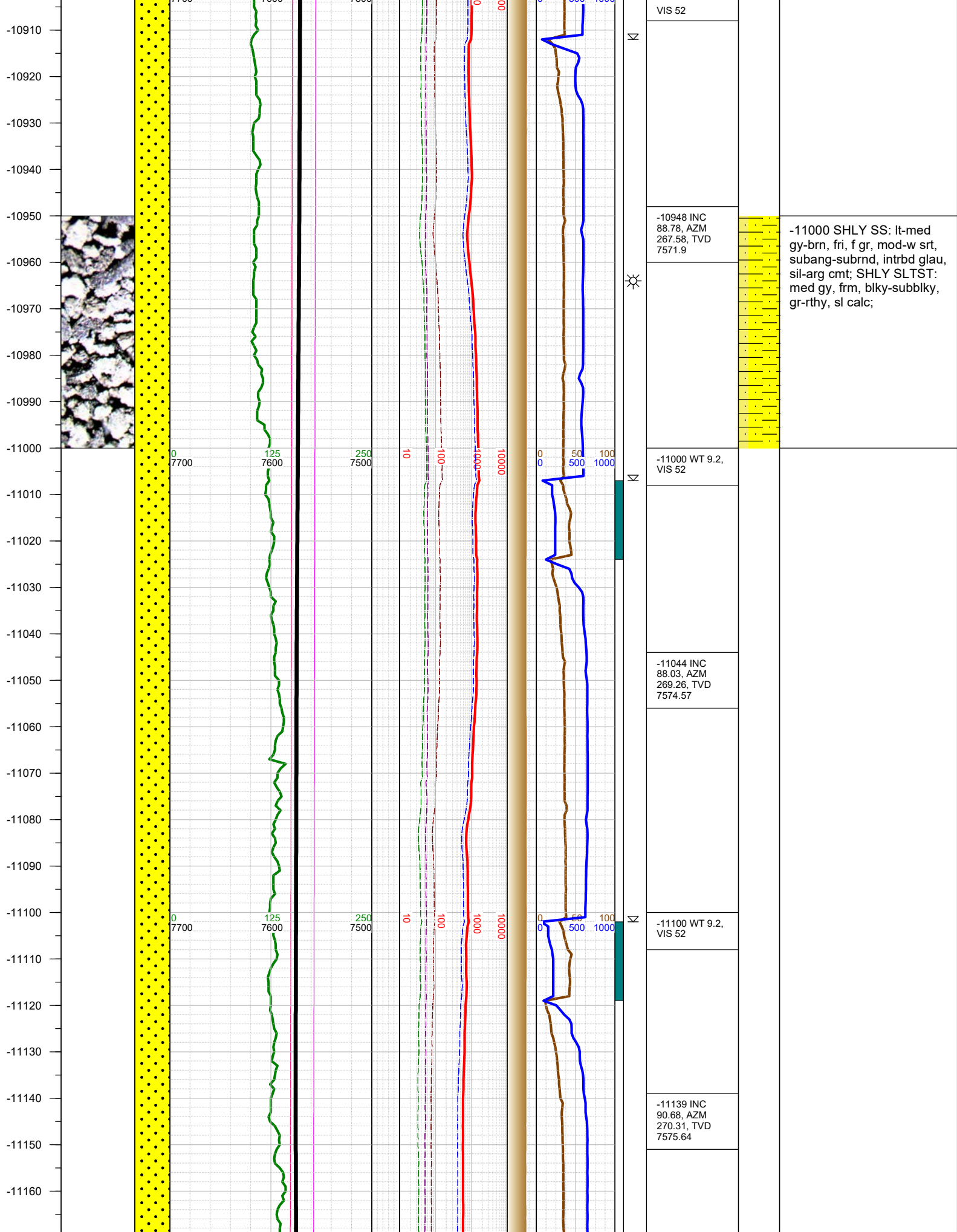
-10250 SHLY SS: lt-med
gy-brn, fri, f gr, mod-w srt,
subang-subrnd, intrbd glau,
sil-arg cmt; SHLY SLTST:
med gy, frm, blkly-subblky,
gr-rthy, sl calc;

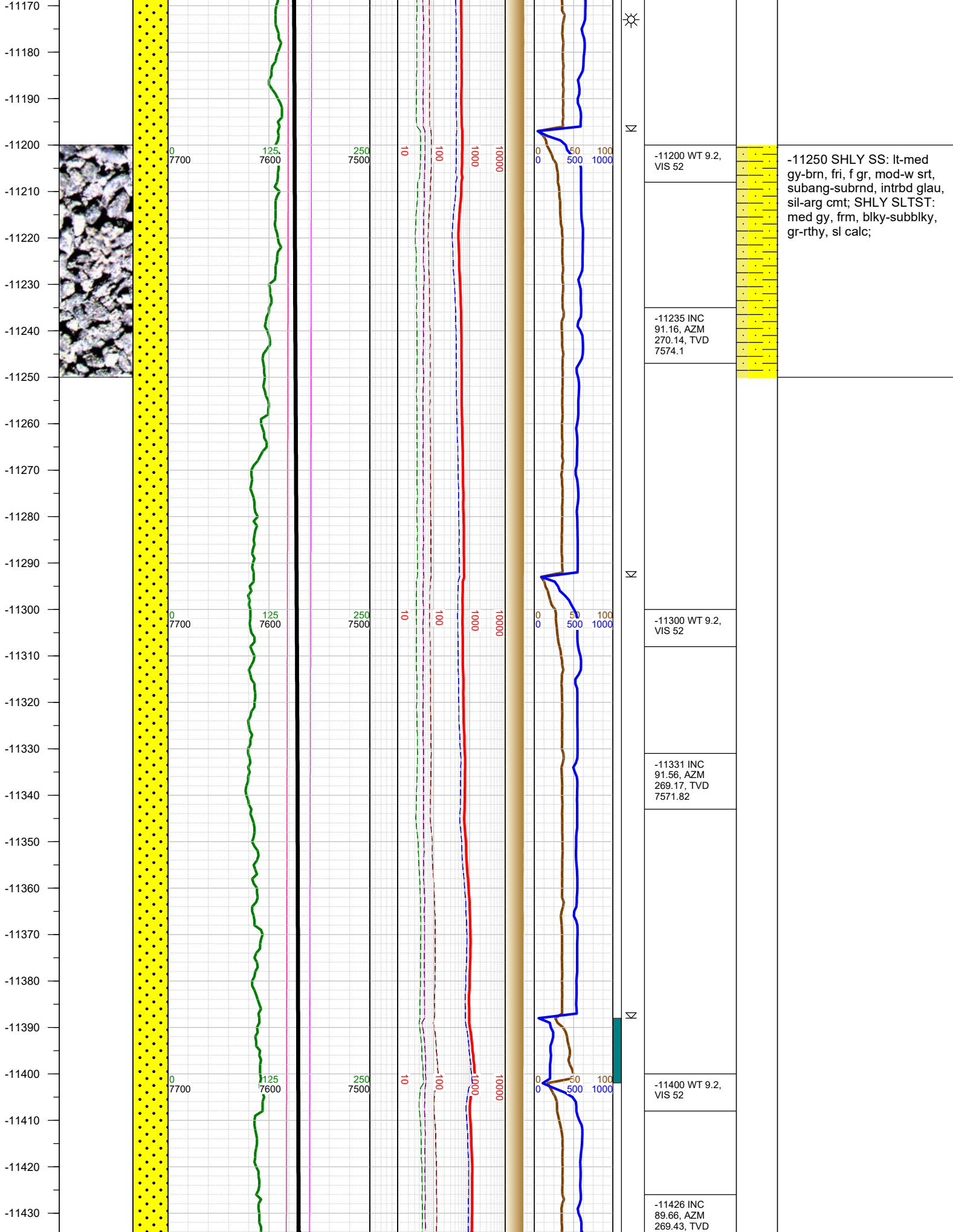
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-10390
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-10600
-10610
-10620
-10630

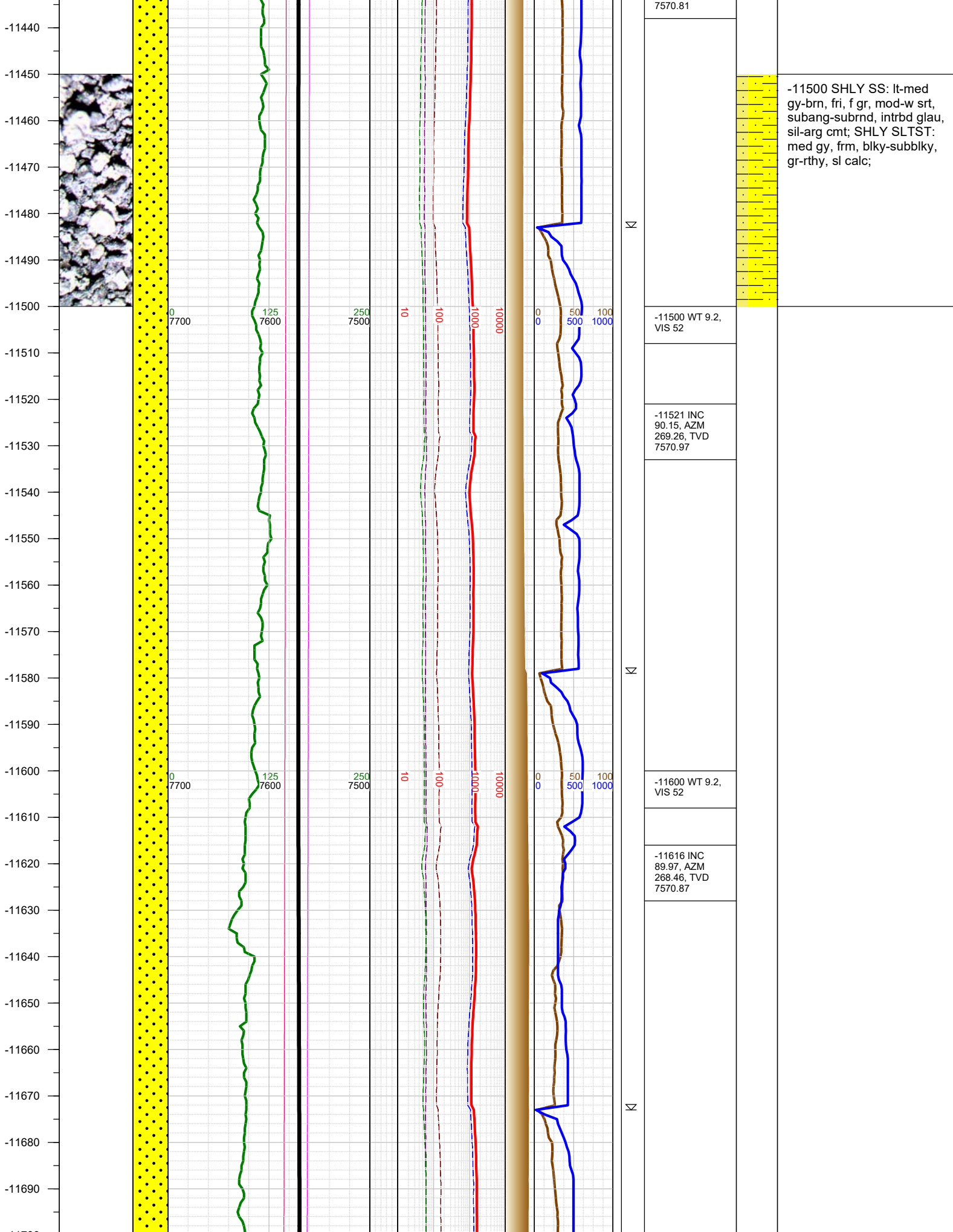


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| | N | -10376 INC 90.54, AZM 269.78, TVD 7573.22 | | | |
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| | | -10400 WT 9.2, VIS 52 | | | |
| | N | -10472 INC 90.19, AZM 269.03, TVD 7572.6 | | | -10500 SHLY SS: lt-med gy-brn, fri, f gr, mod-w srt, subang-subrnd, intrbd glau, sil-arg cmt; SHLY SLTST: med gy, frm, blk-y-subblky, gr-rthy, sl calc; |
| | | | | | |
| | | -10500 WT 9.2, VIS 52 | | | |
| | N | -10567 INC 90.46, AZM 269.17, TVD 7572.07 | | | |
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| | | -10600 WT 9.2, VIS 52 | | | |
| | N | | | | |
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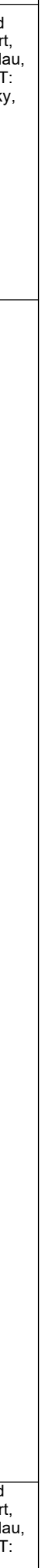
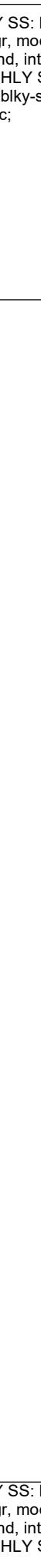
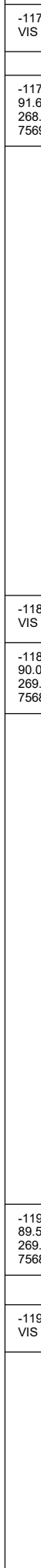
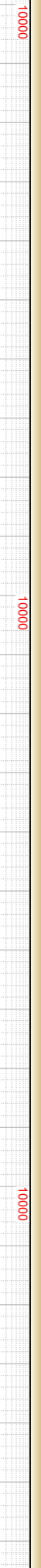
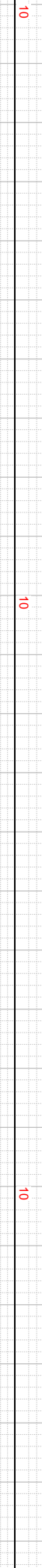
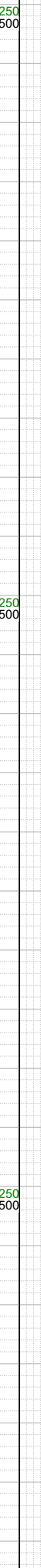
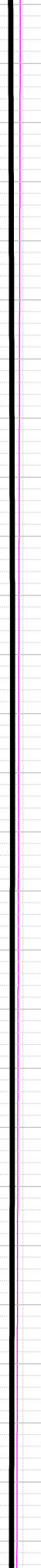
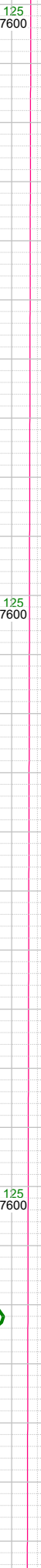
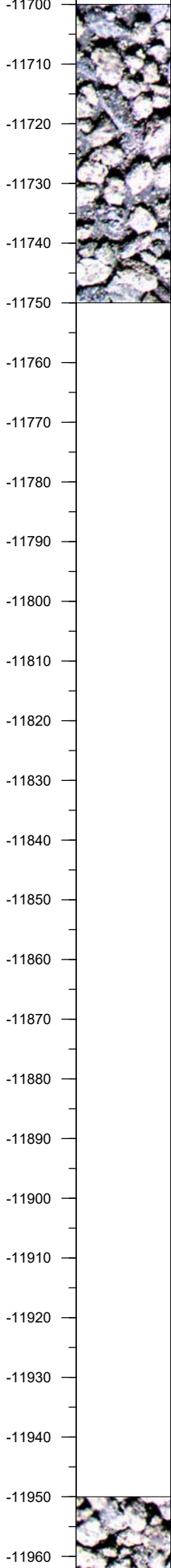
-11500 SHLY SS: lt-med
gy-brn, fri, f gr, mod-w srt,
subang-subrnd, intrbd glau,
sil-arg cmt; SHLY SLTST:
med gy, frm, blk-subblky,
gr-rthy, sl calc;

-11500 WT 9.2,
VIS 52

-11521 INC
90.15, AZM
269.26, TVD
7570.97

-11600 WT 9.2,
VIS 52

-11616 INC
89.97, AZM
268.46, TVD
7570.87

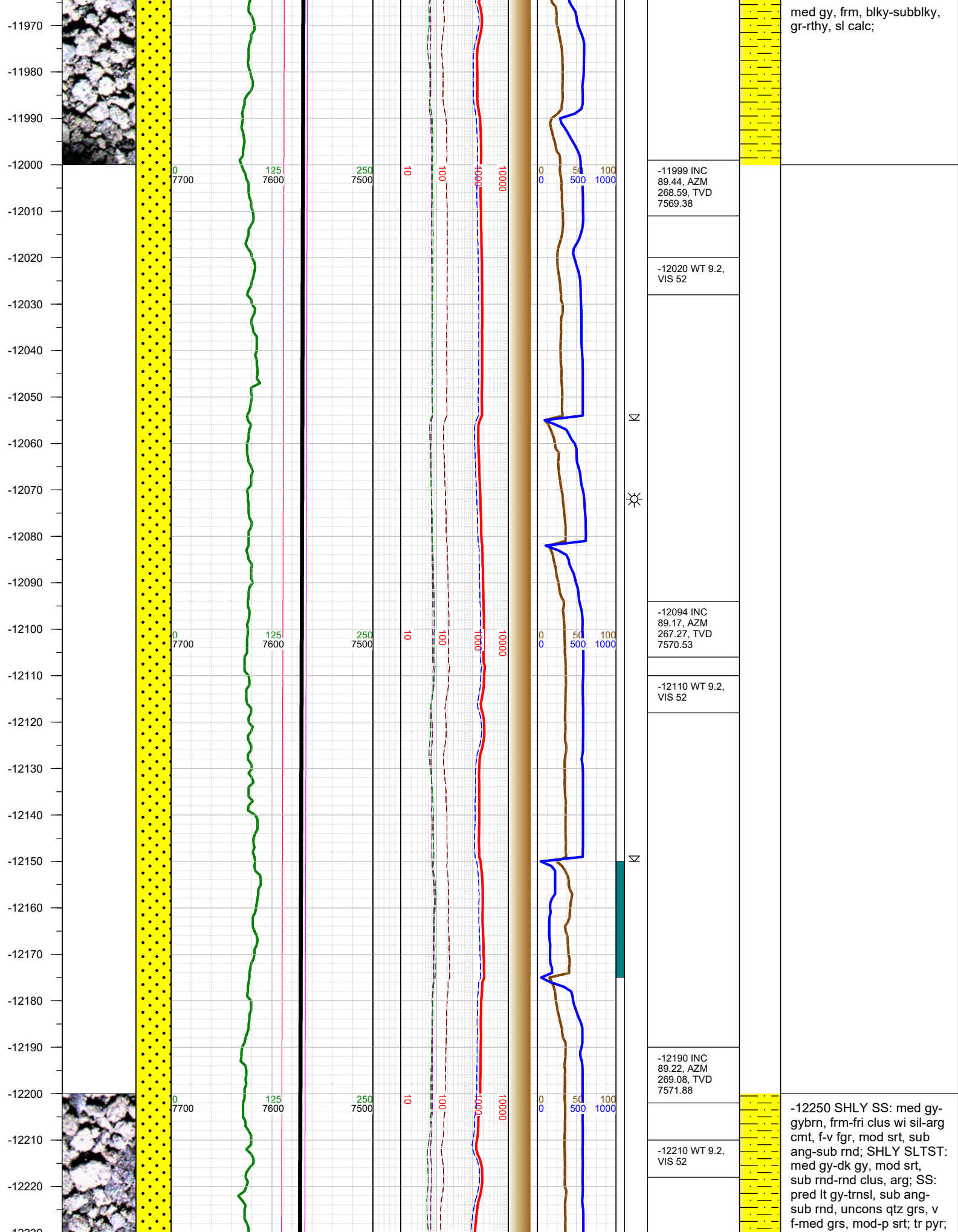


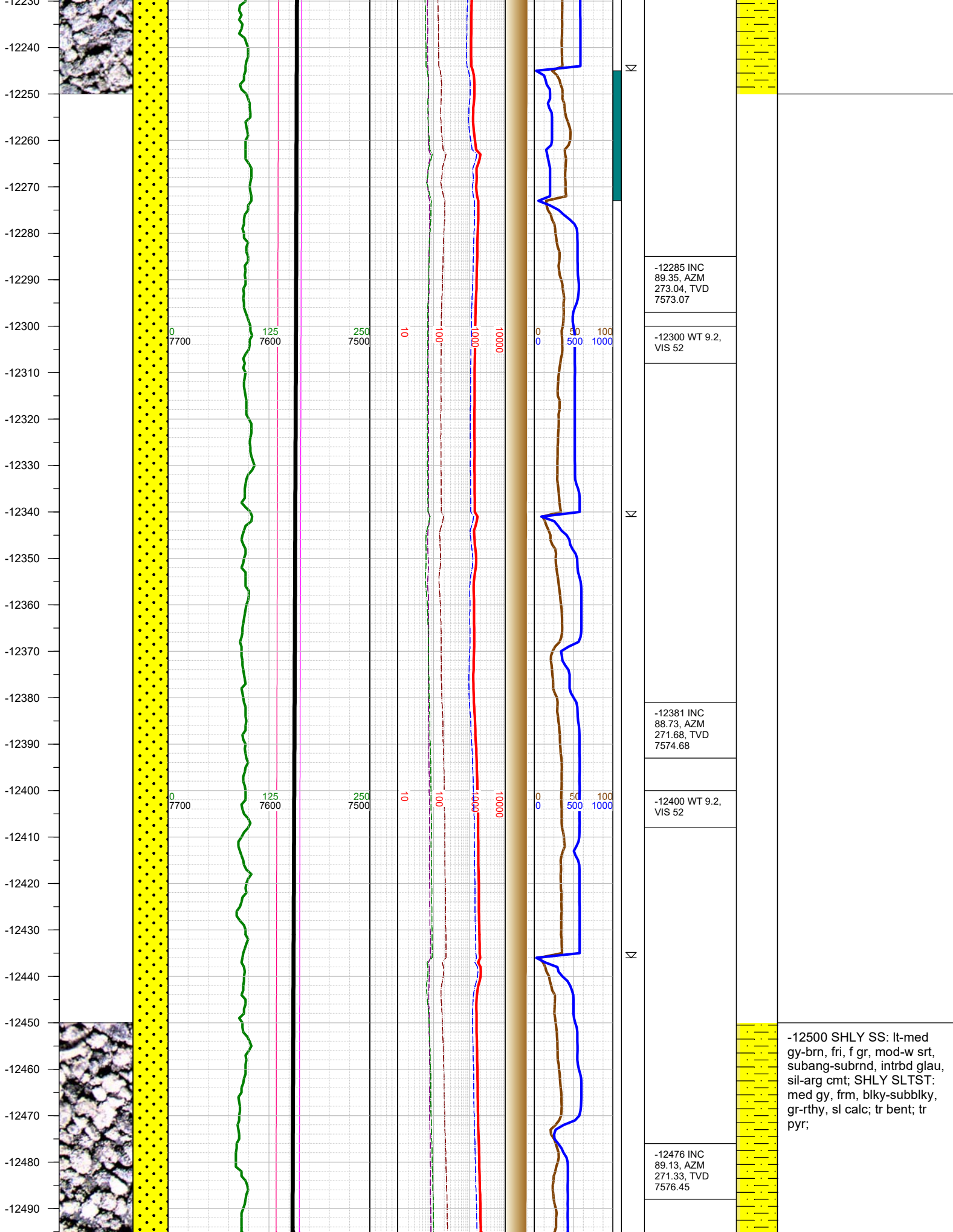
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| -11700 WT 9.2, VIS 52 |
| -11712 INC 91.6, AZM 268.95, TVD 7569.55 |
| -11800 WT 9.2, VIS 52 |
| -11808 INC 90.01, AZM 269.7, TVD 7568.2 |
| -11903 INC 89.57, AZM 269.74, TVD 7568.55 |
| -11920 WT 9.2, VIS 52 |



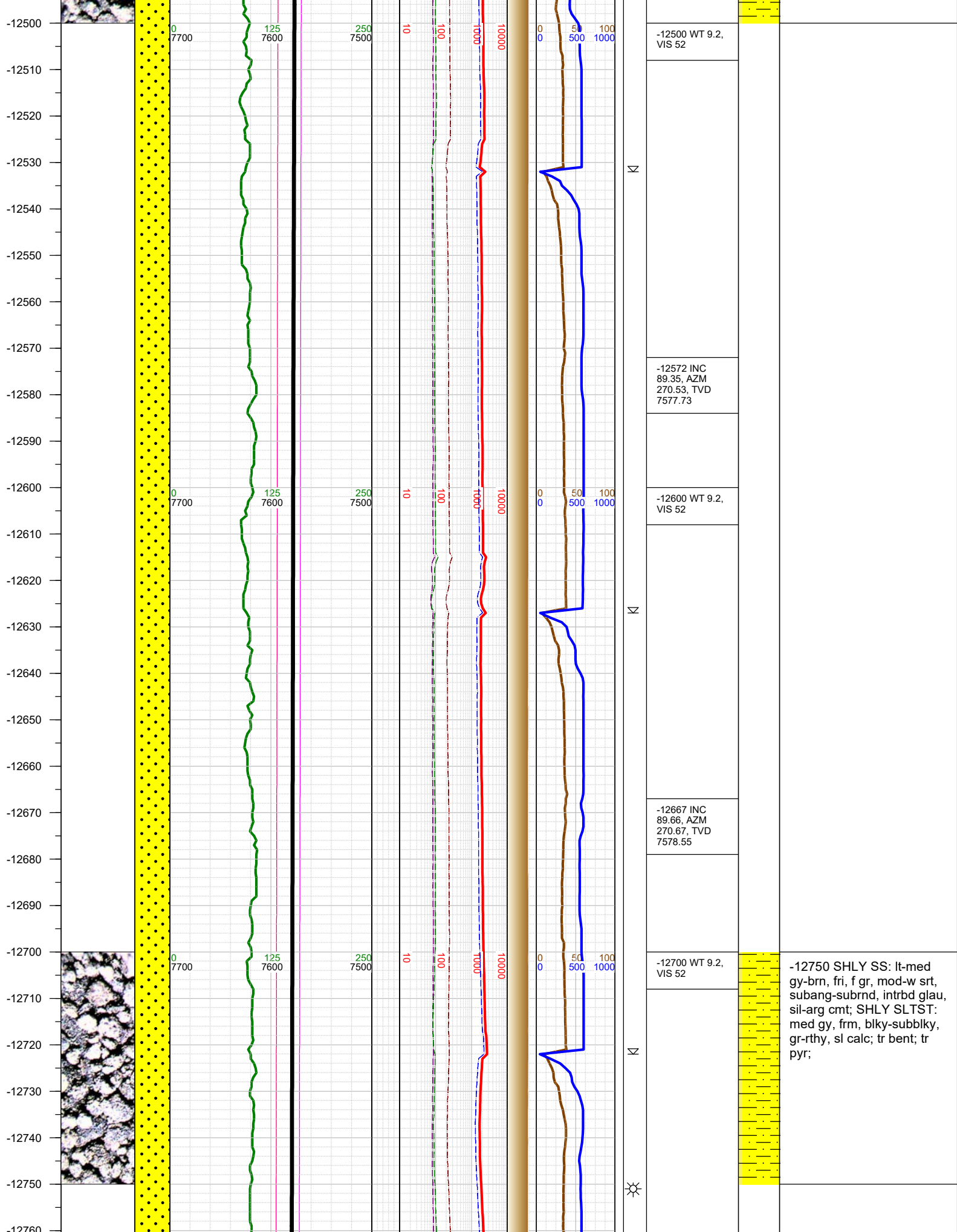
-11750 SHLY SS: lt-med gy-brn, fri, f gr, mod-w srt, subang-subrnd, intrbd glau, sil-arg cmt; SHLY SLTST: med gy, frm, blk-subblky, gr-rthy, sl calc;

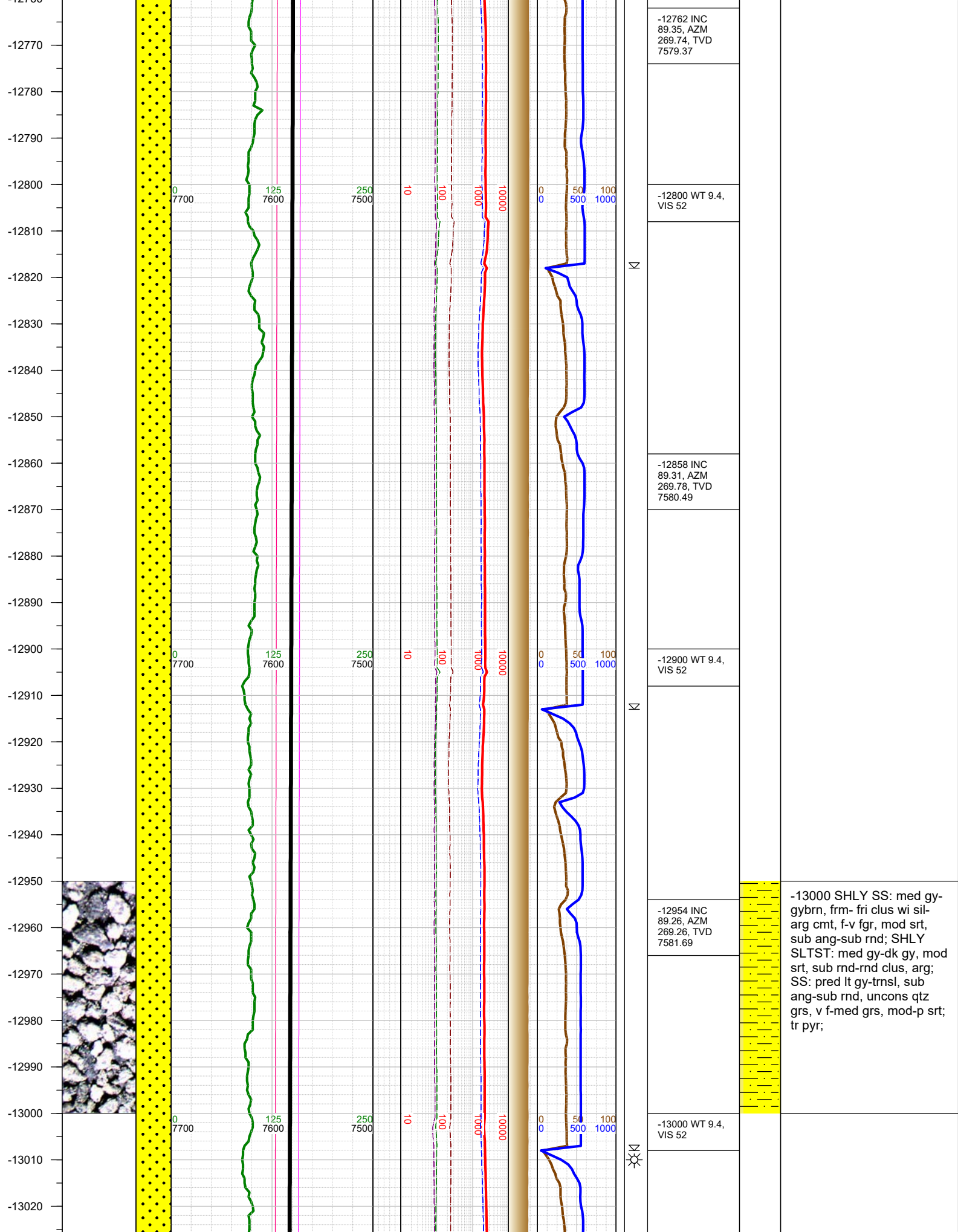
-12000 SHLY SS: lt-med gy-brn, fri, f gr, mod-w srt, subang-subrnd, intrbd glau, sil-arg cmt; SHLY SLTST:

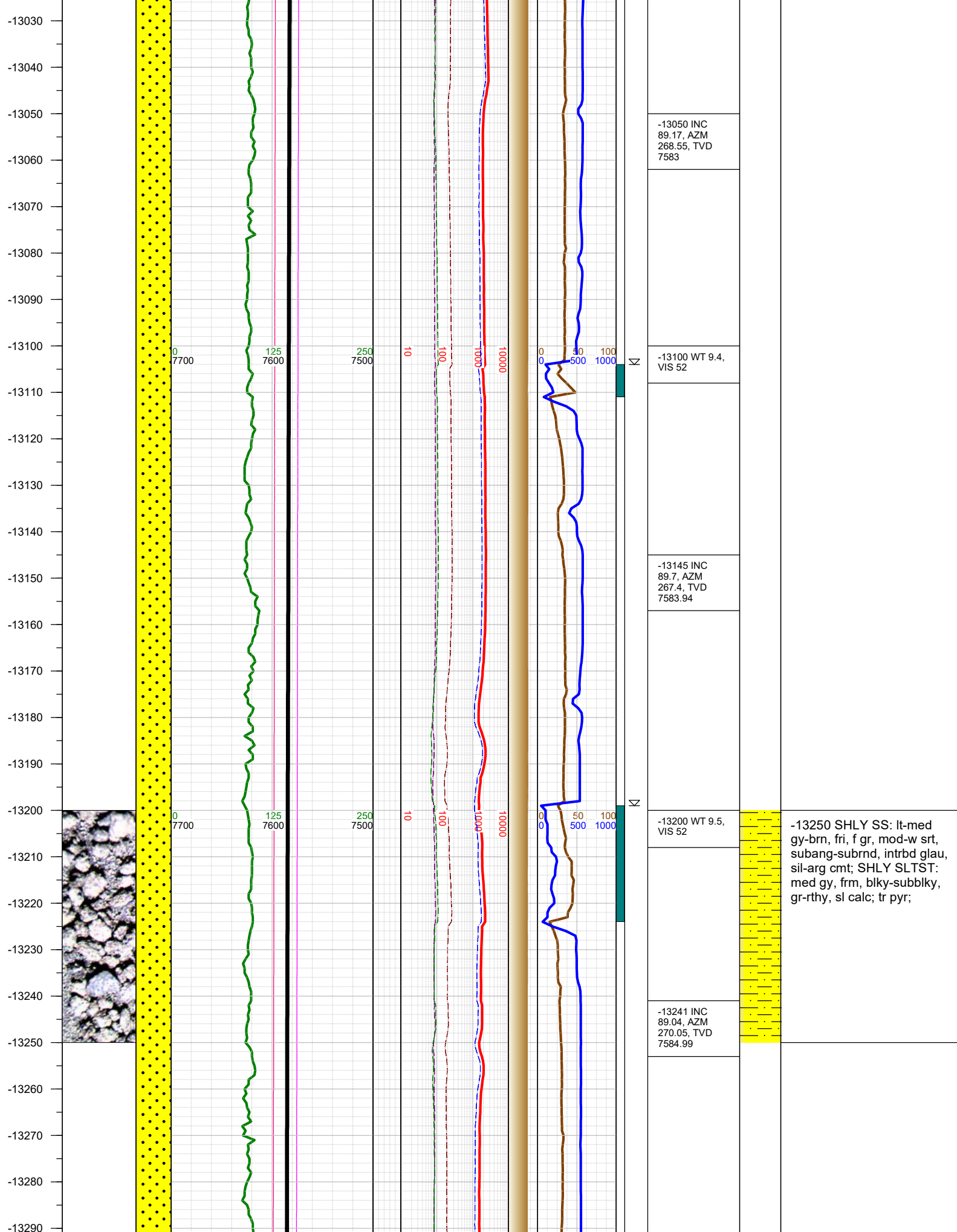


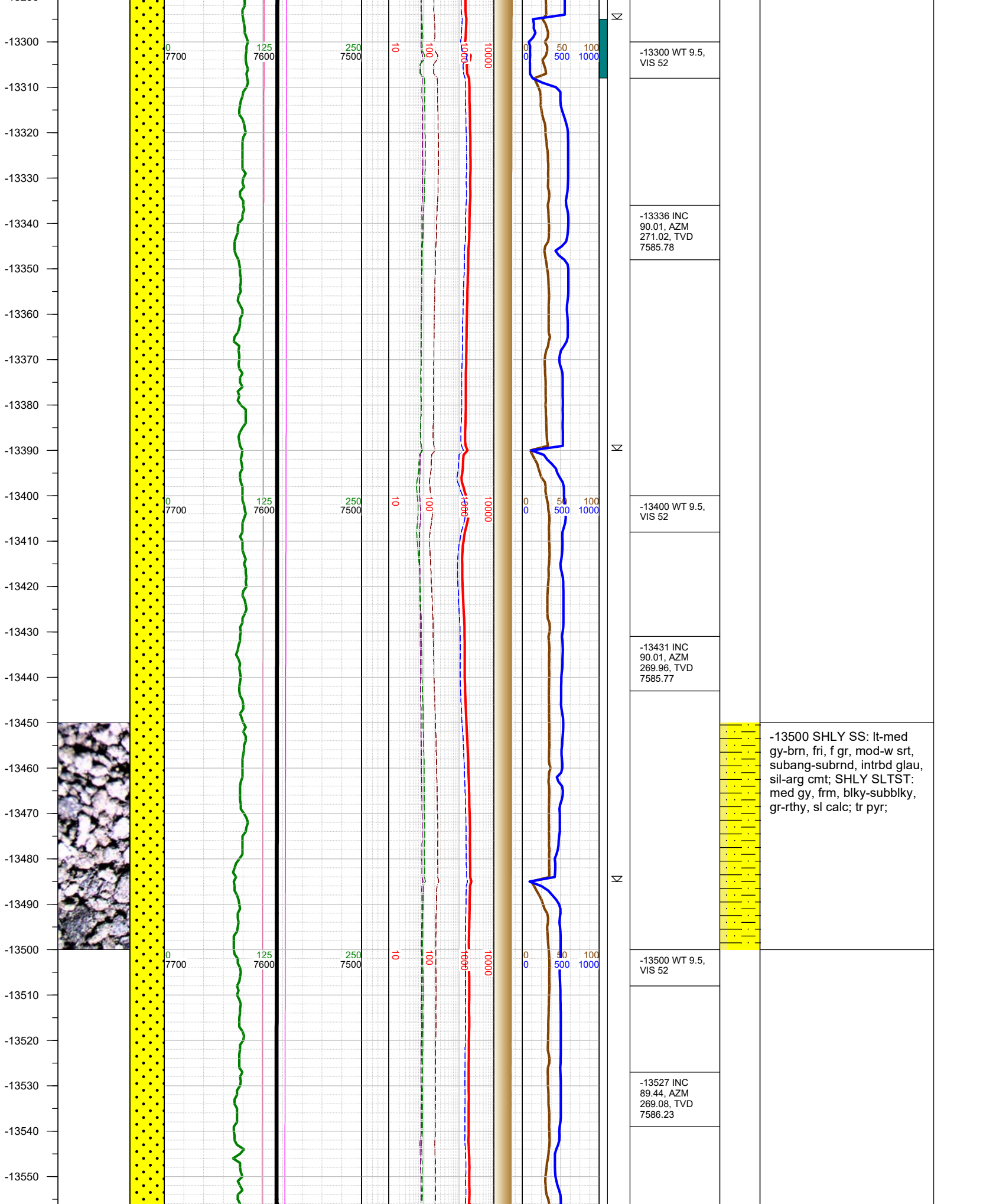


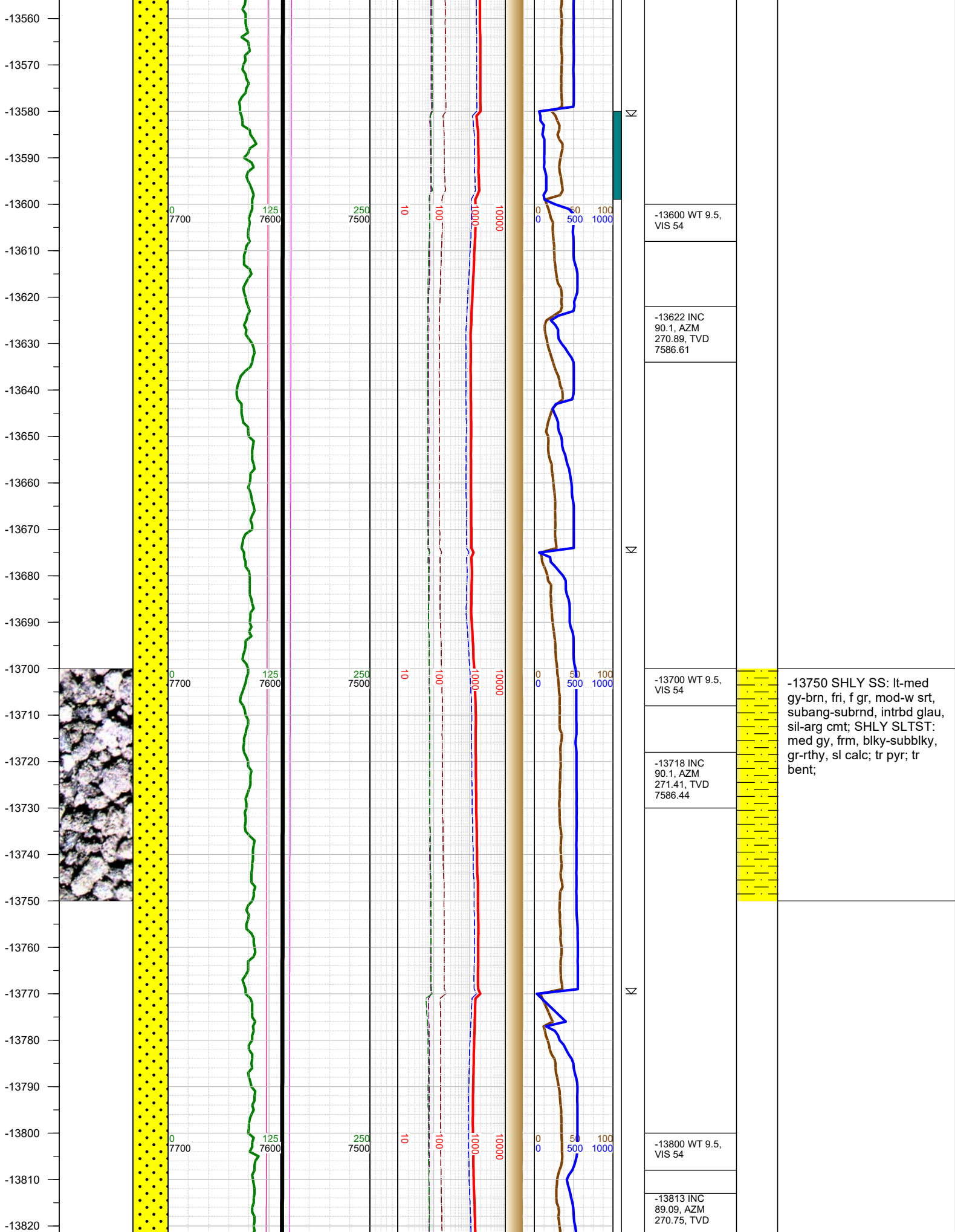
-12500 SHLY SS: lt-med gy-brn, fri, f gr, mod-w srt, subang-subrnd, intrbd glau, sil-arg cmt; SHLY SLTST: med gy, frm, blk-subblky, gr-rthy, sl calc; tr bent; tr pyr;

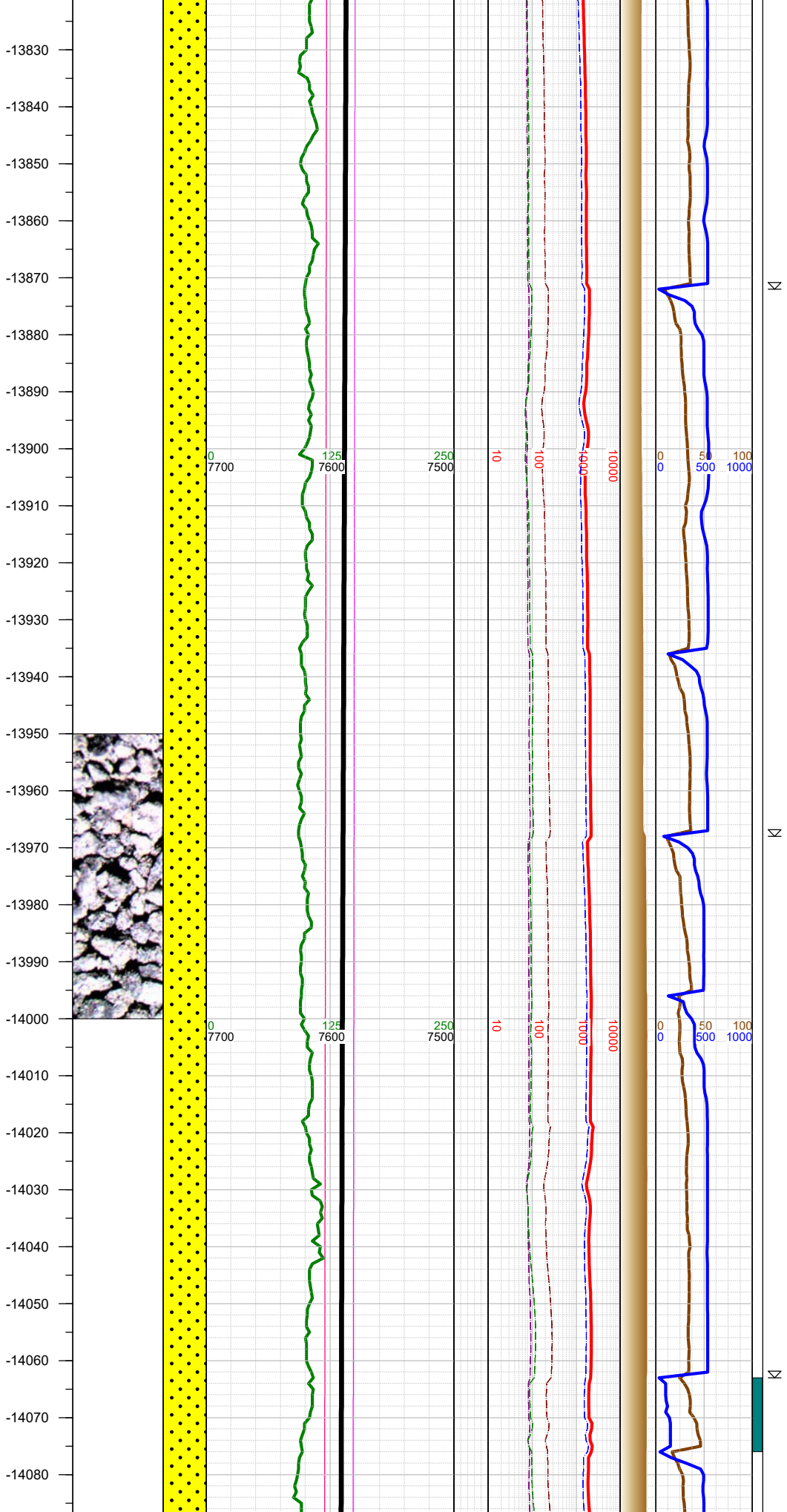










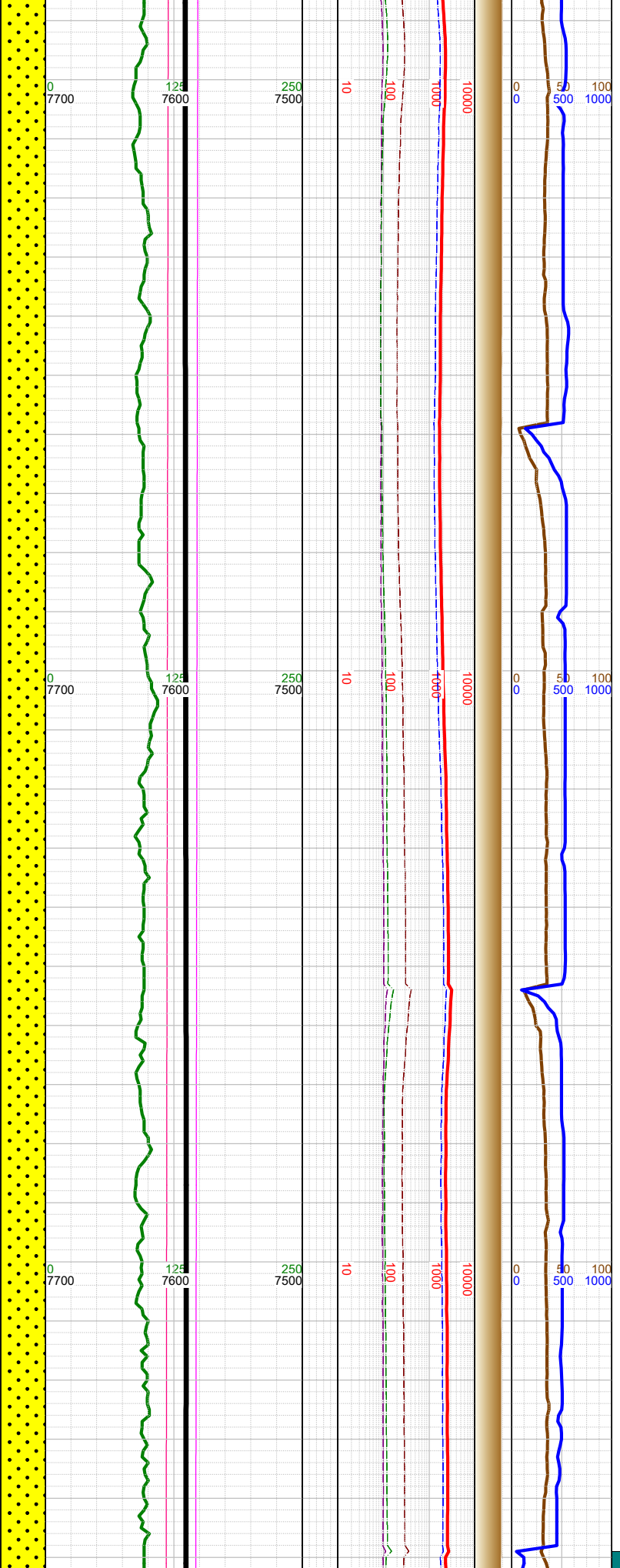
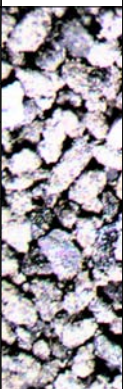


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| 7587.11 |
| -13900 WT 9.5, VIS 54 |
| -13909 INC 89.13, AZM 269.92, TVD 7588.6 |

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| -14004 INC 88.86, AZM 269.21, TVD 7590.27 |
| -14020 WT 9.5, VIS 54 |

-14000 SHLY SS: lt-med
gy-brn, fri, f gr, mod-w srt,
subang-subrnd, intrbd glau,
sil-arg cmt; SHLY SLTST:
med gy, frm, blk-subblky,
gr-rthy, sl calc;

-14090
-14100
-14110
-14120
-14130
-14140
-14150
-14160
-14170
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-14200
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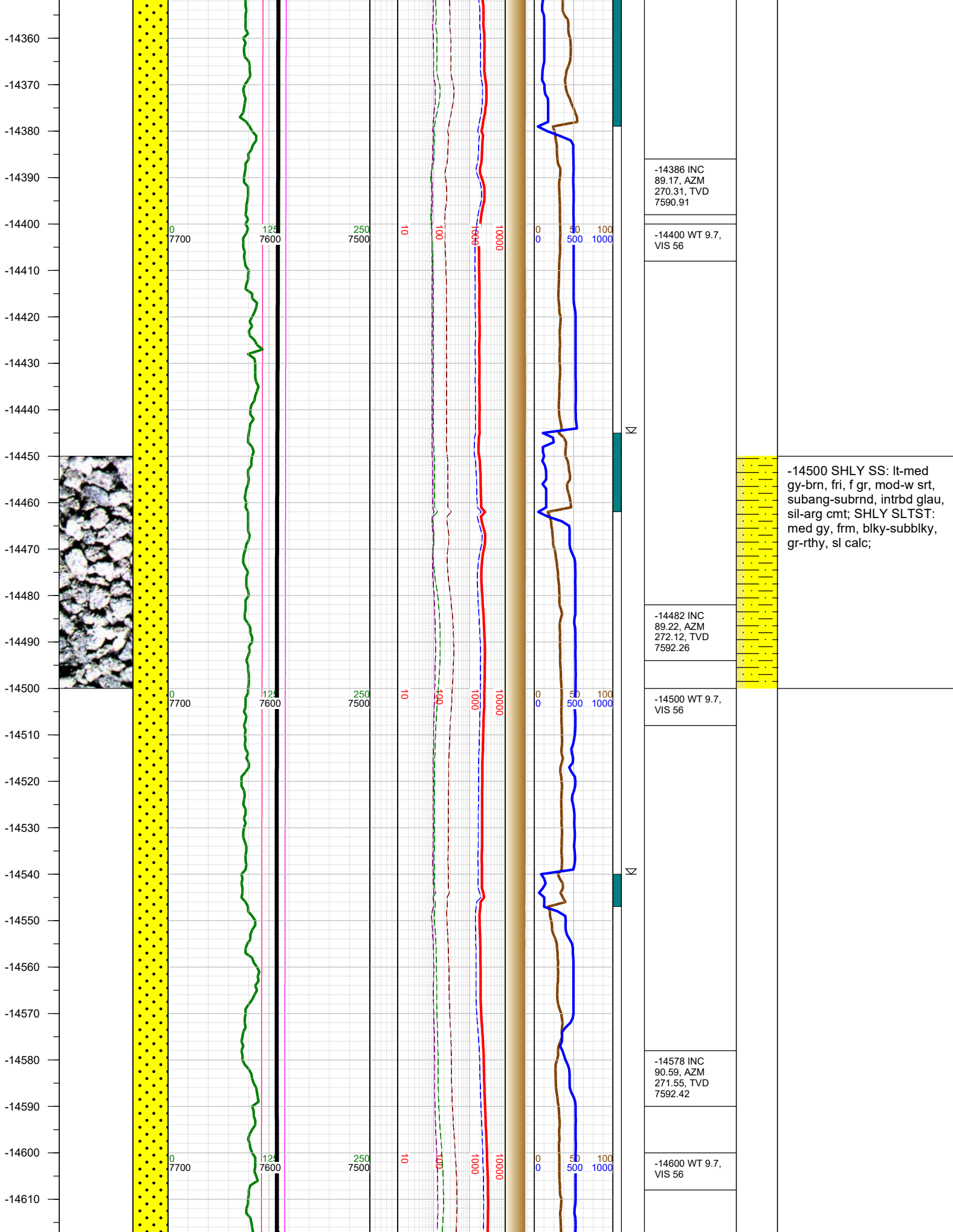
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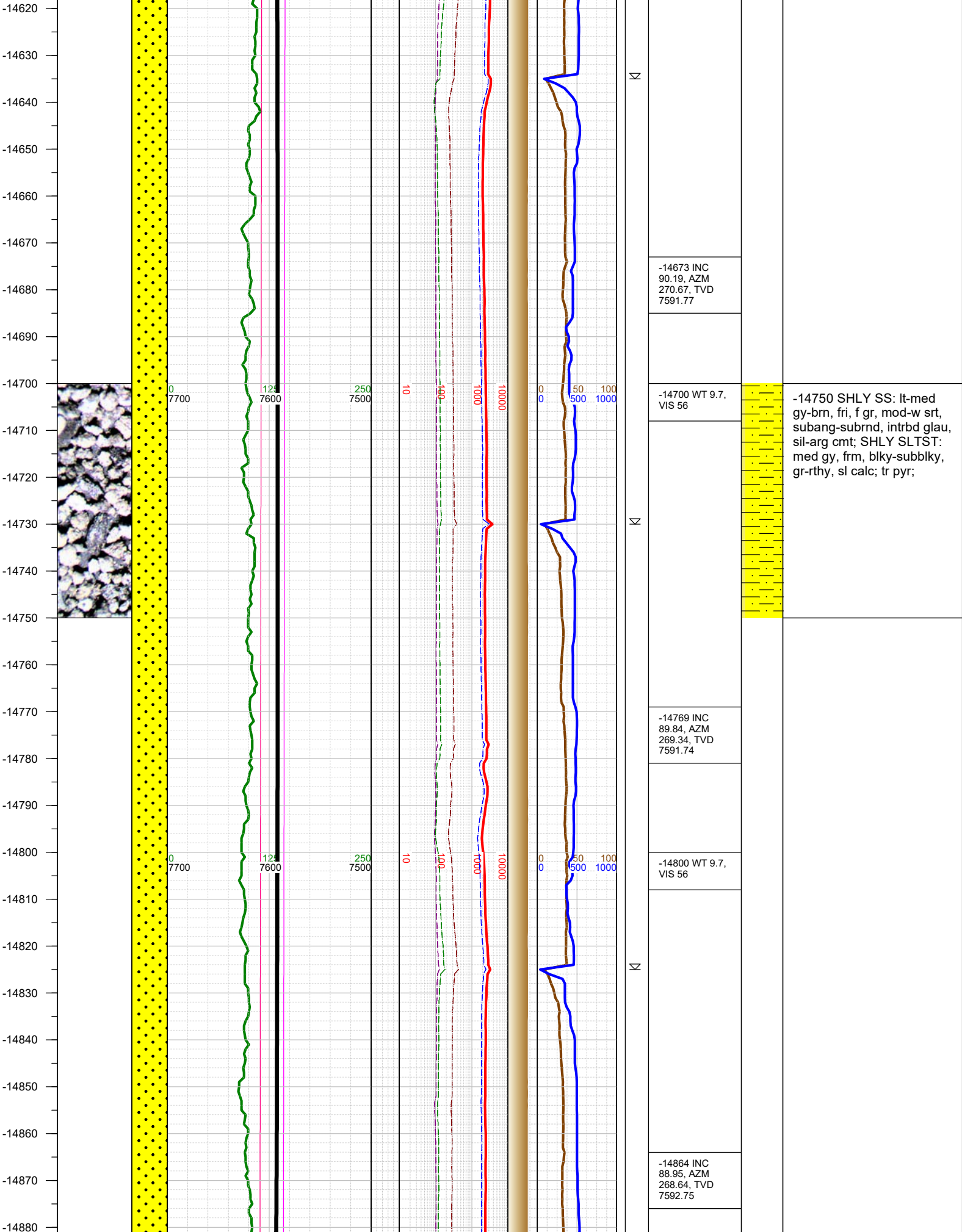
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| -14100 INC 89.88, AZM 268.15, TVD 7591.33 |
| -14120 WT 9.5, VIS 54 |
| -14195 INC 90.5, AZM 267.93, TVD 7591.01 |
| -14210 WT 9.5, VIS 54 |
| -14290 INC 90.23, AZM 266.88, TVD 7590.4 |
| -14310 WT 9.7, VIS 56 |

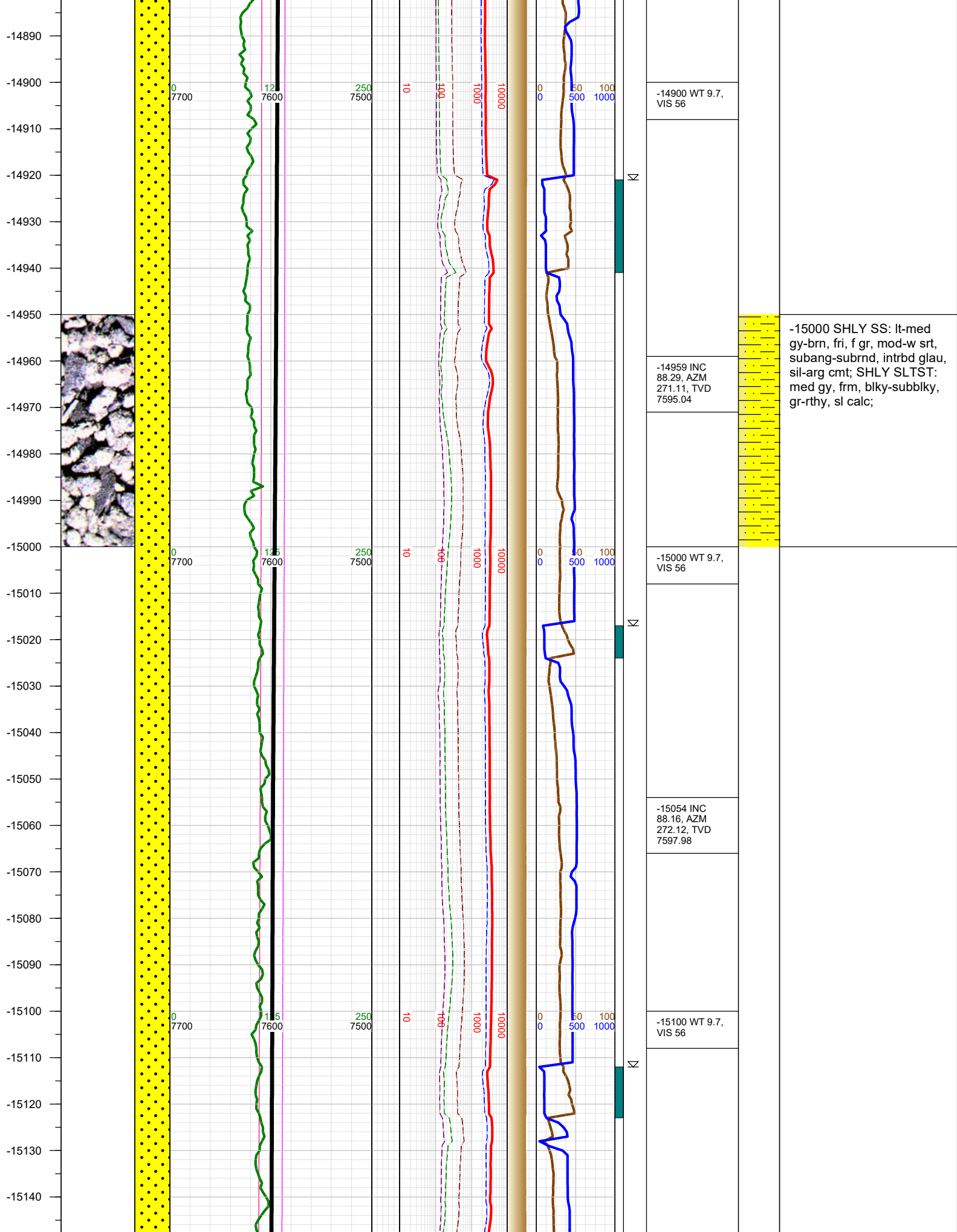


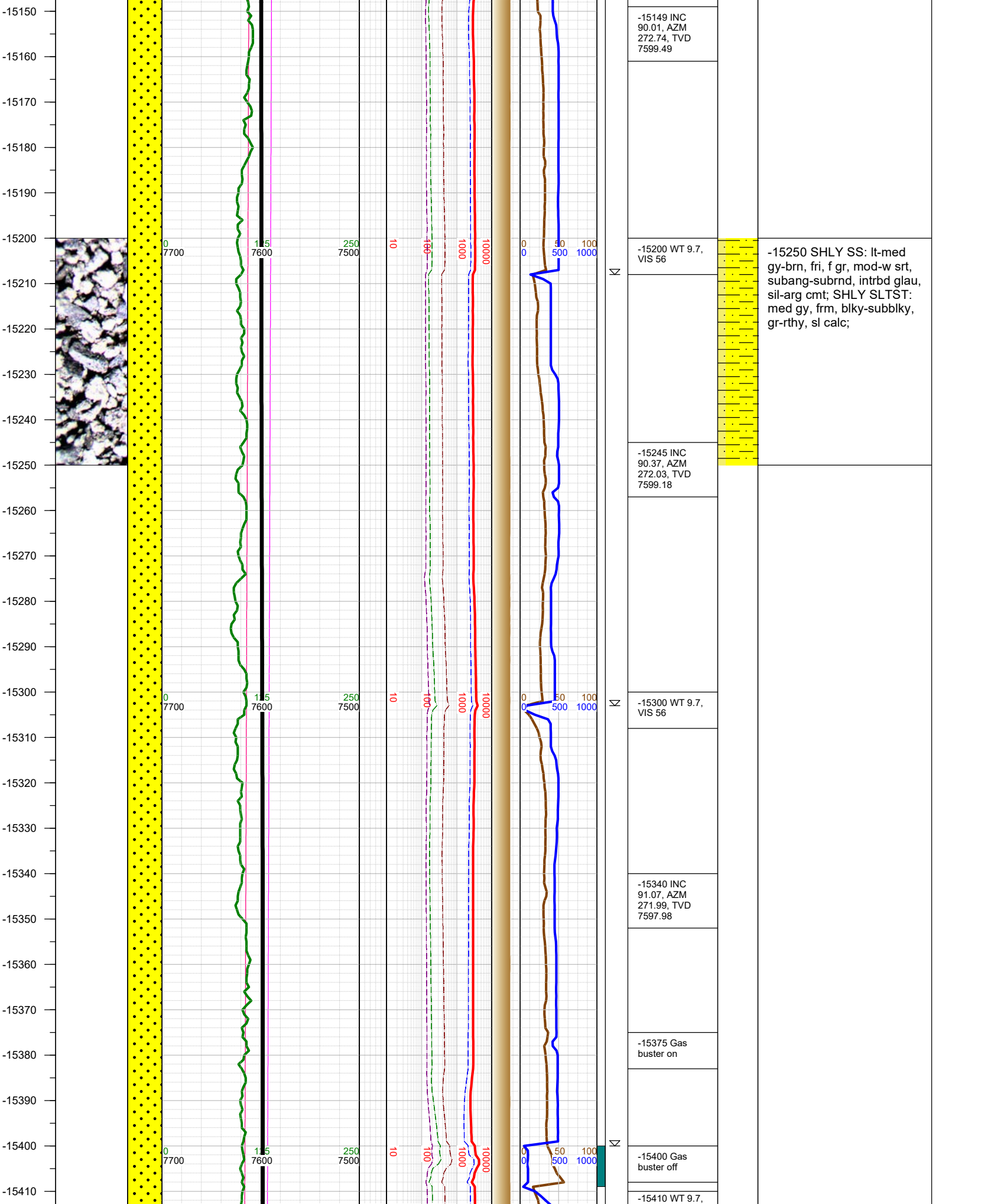
-14250 SHLY SS: lt-med
gy-brn, fri, f gr, mod-w srt,
subang-subrnd, intrbd glau,
sil-arg cmt; SHLY SLTST:
med gy, frm, blk-subblky,
gr-rthy, sl calc;

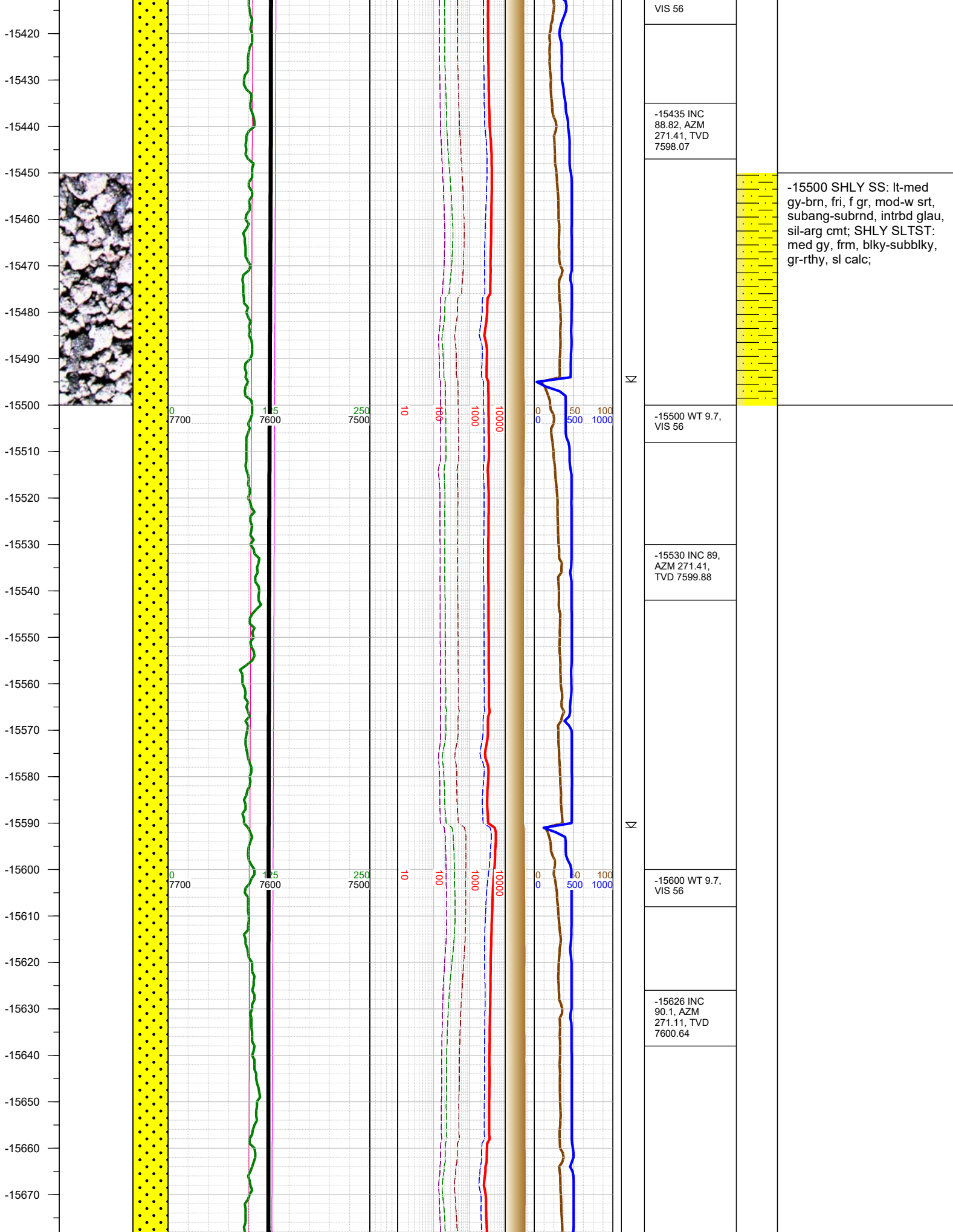


-14500 SHLY SS: lt-med gy-brn, fri, f gr, mod-w srt, subang-subrnd, intrbd glau, sil-arg cmt; SHLY SLTST: med gy, frm, blk-subblky, gr-rthy, sl calc;

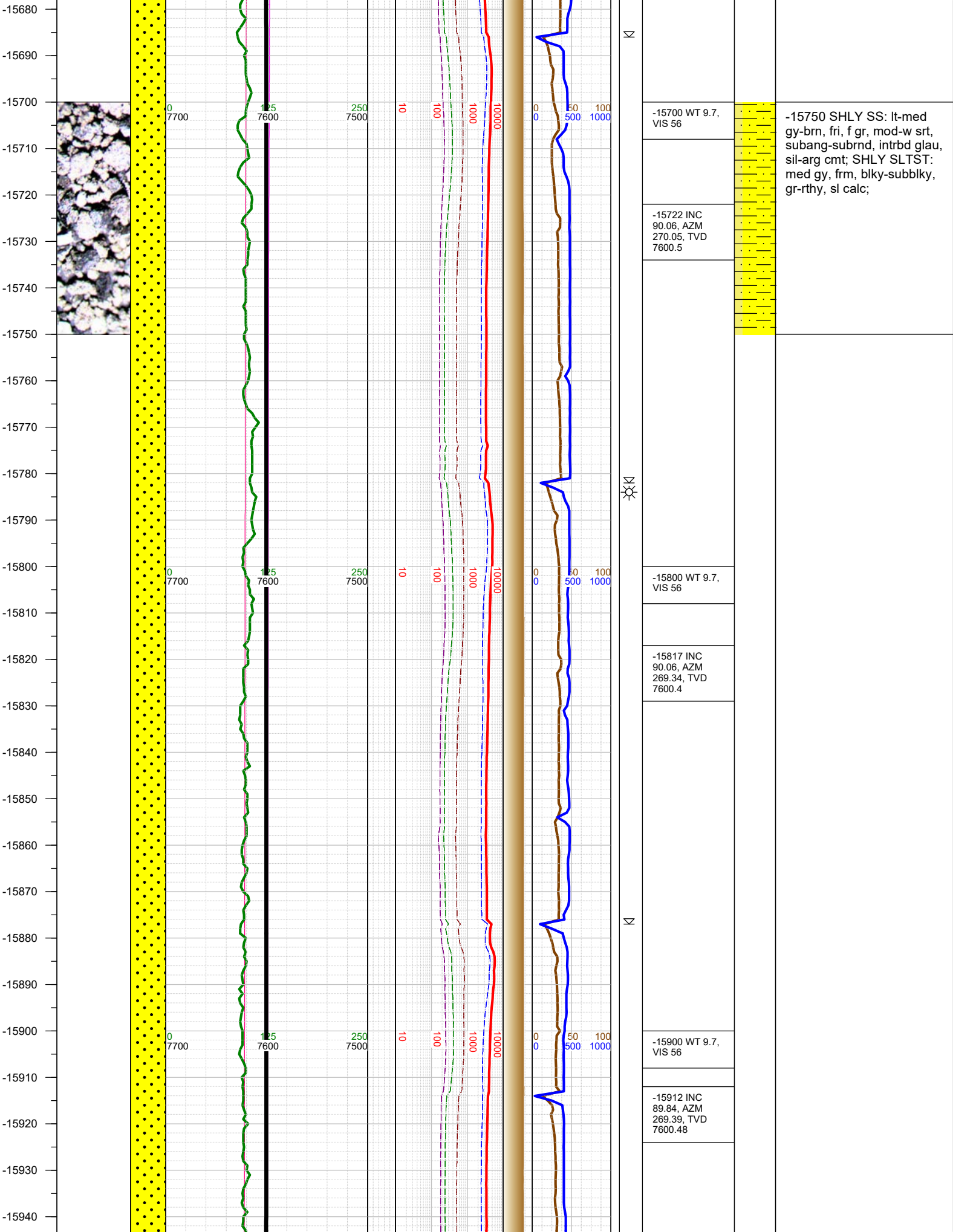




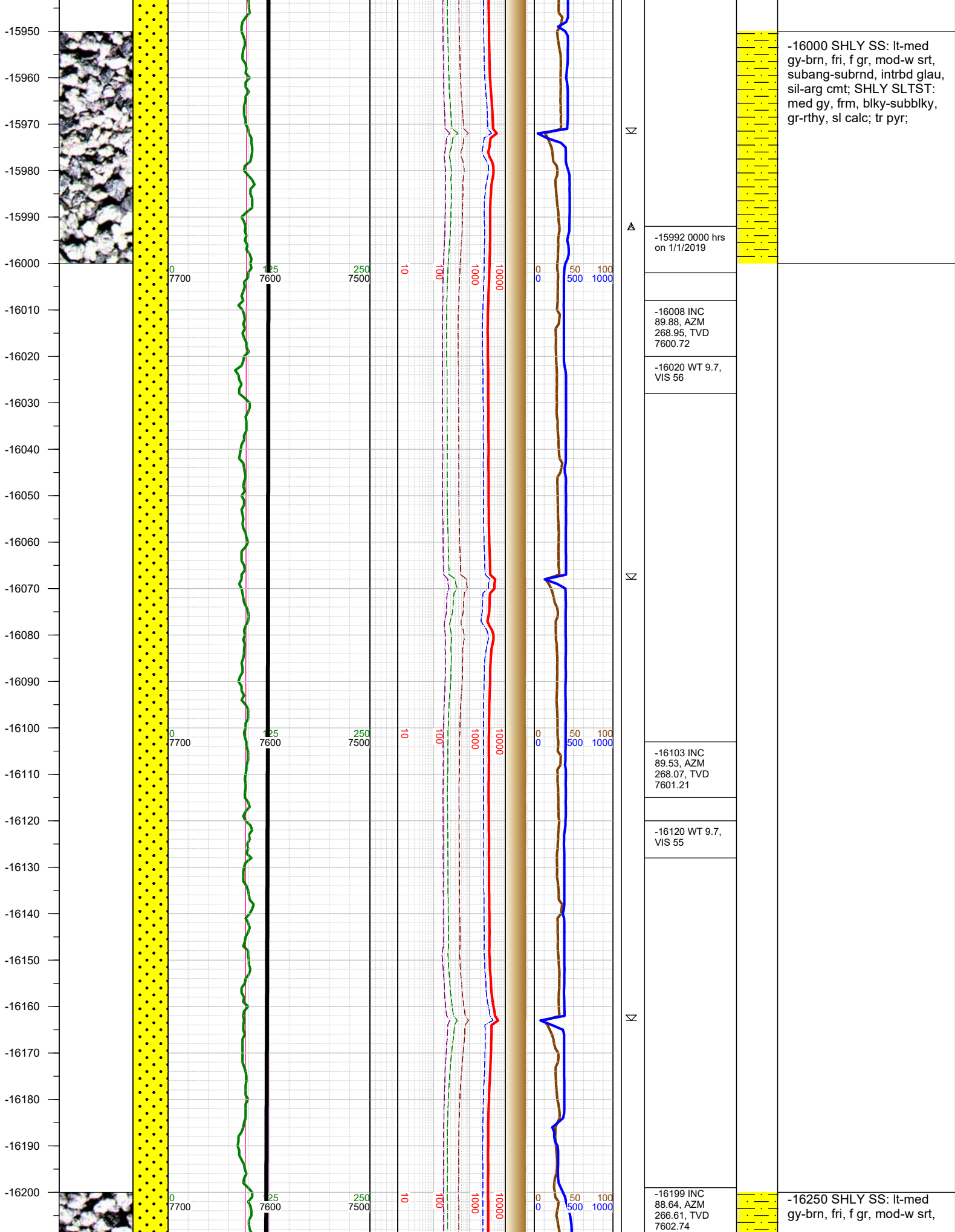


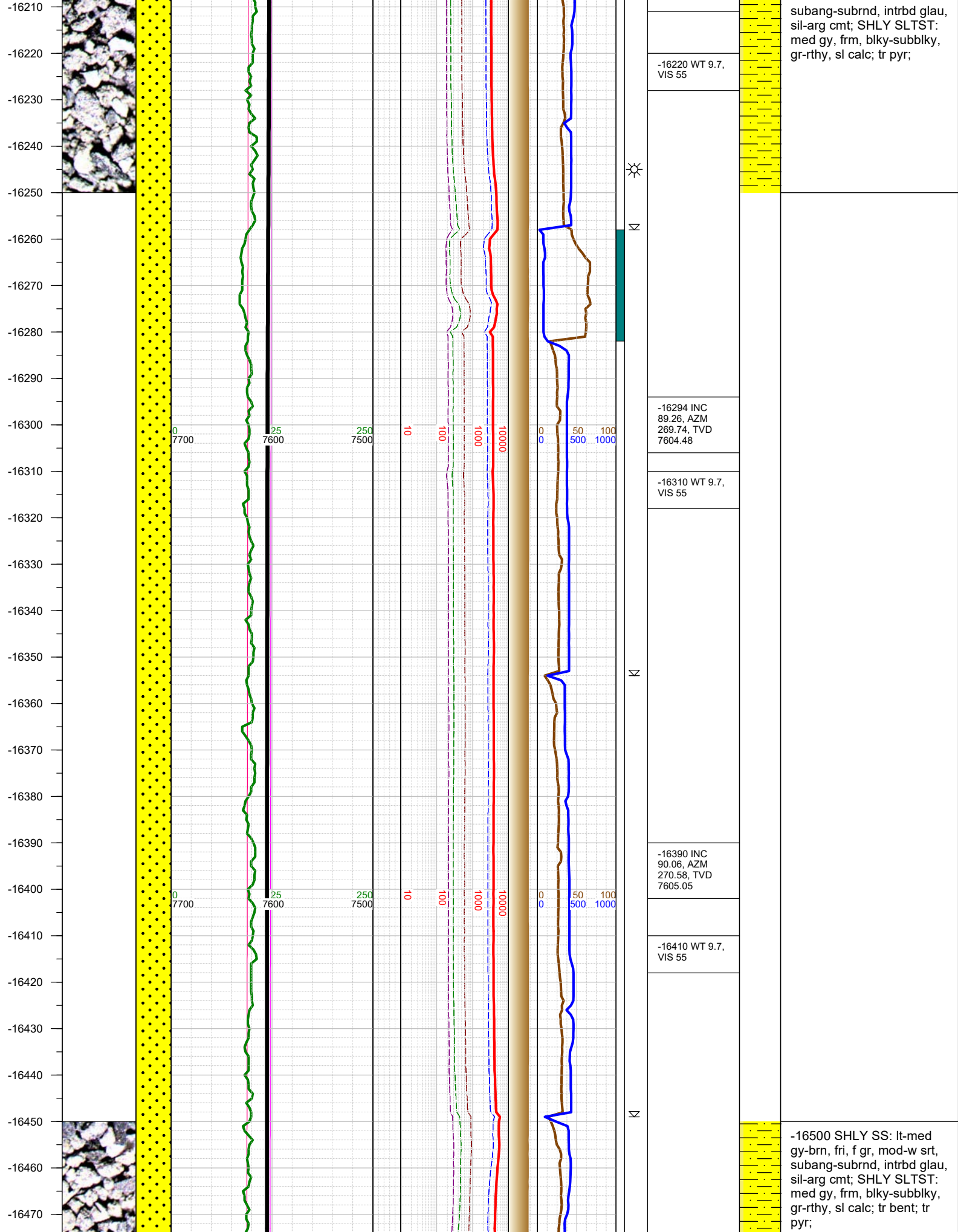


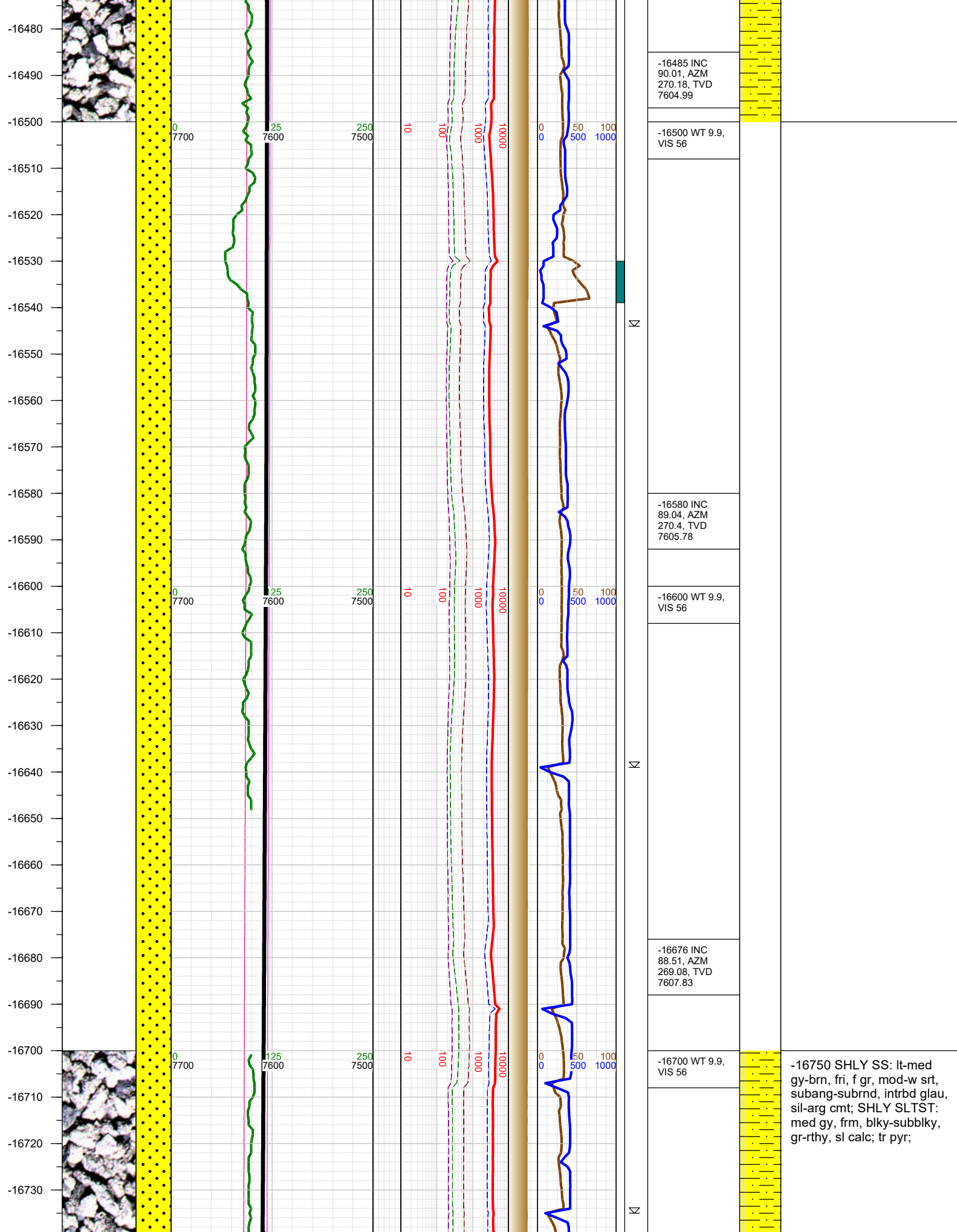
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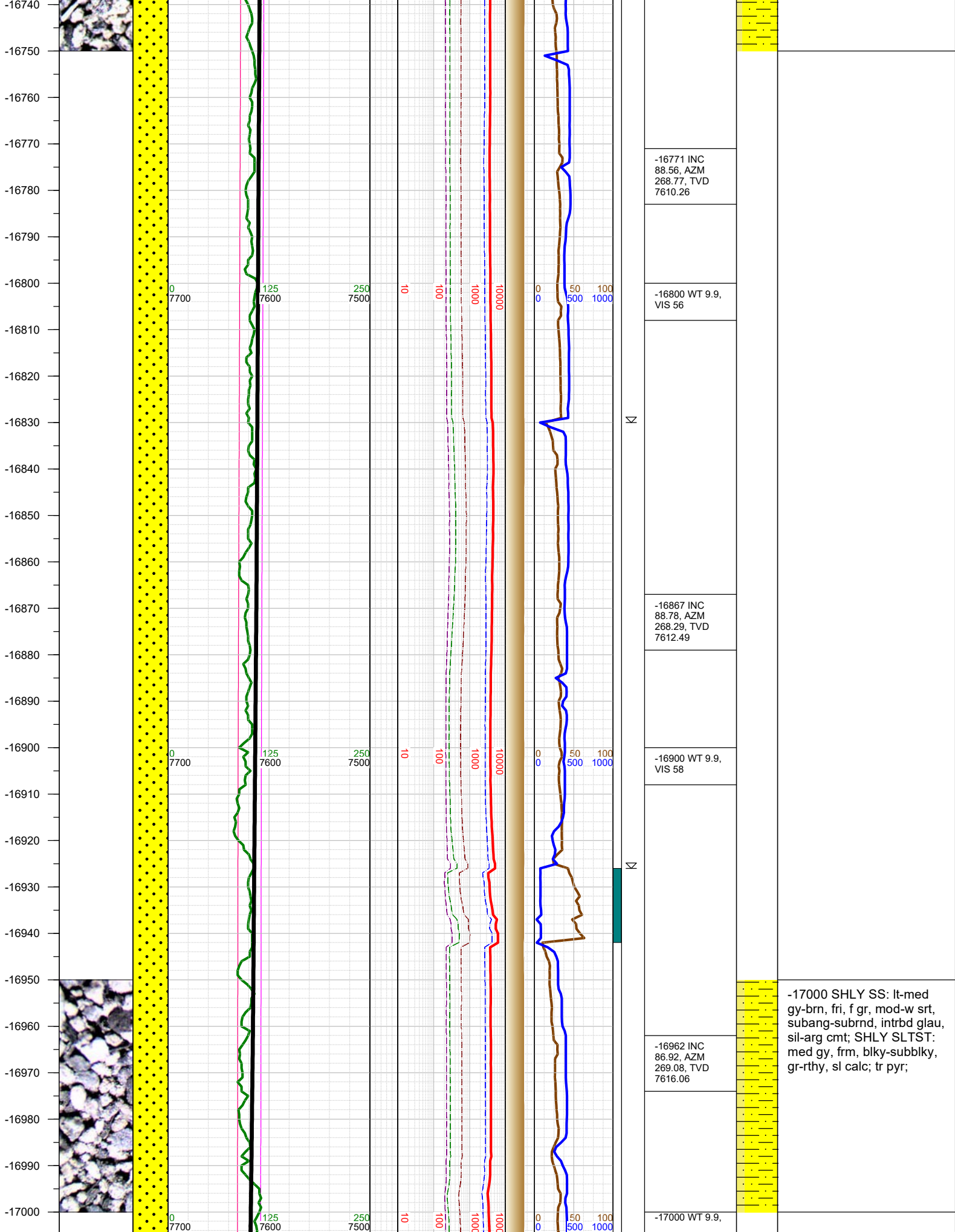


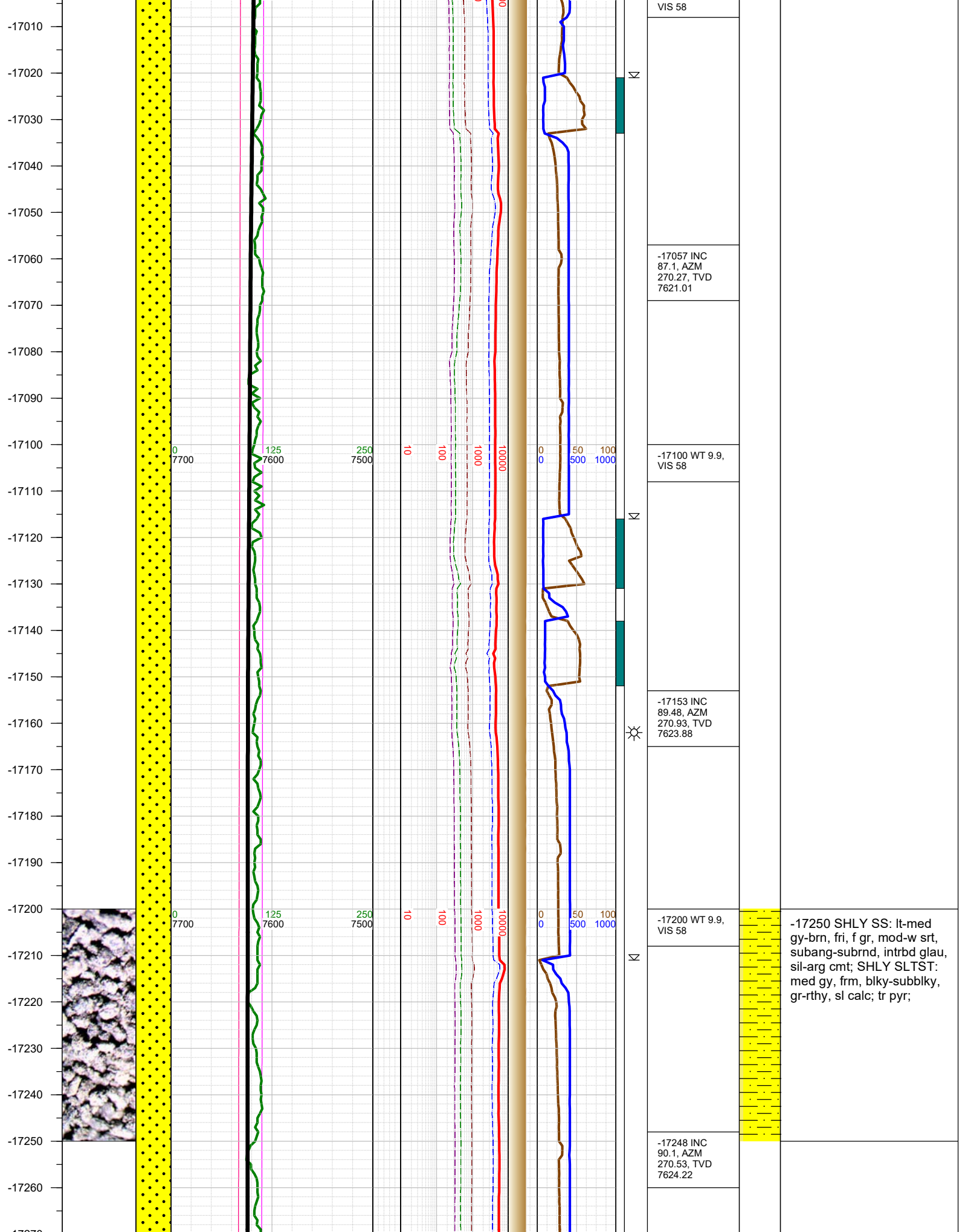
-15750 SHLY SS: lt-med gy-brn, fri, f gr, mod-w srt, subang-subrnd, intrbd glau, sil-arg cmt; SHLY SLTST: med gy, frm, blk-subblky, gr-rthy, sl calc;

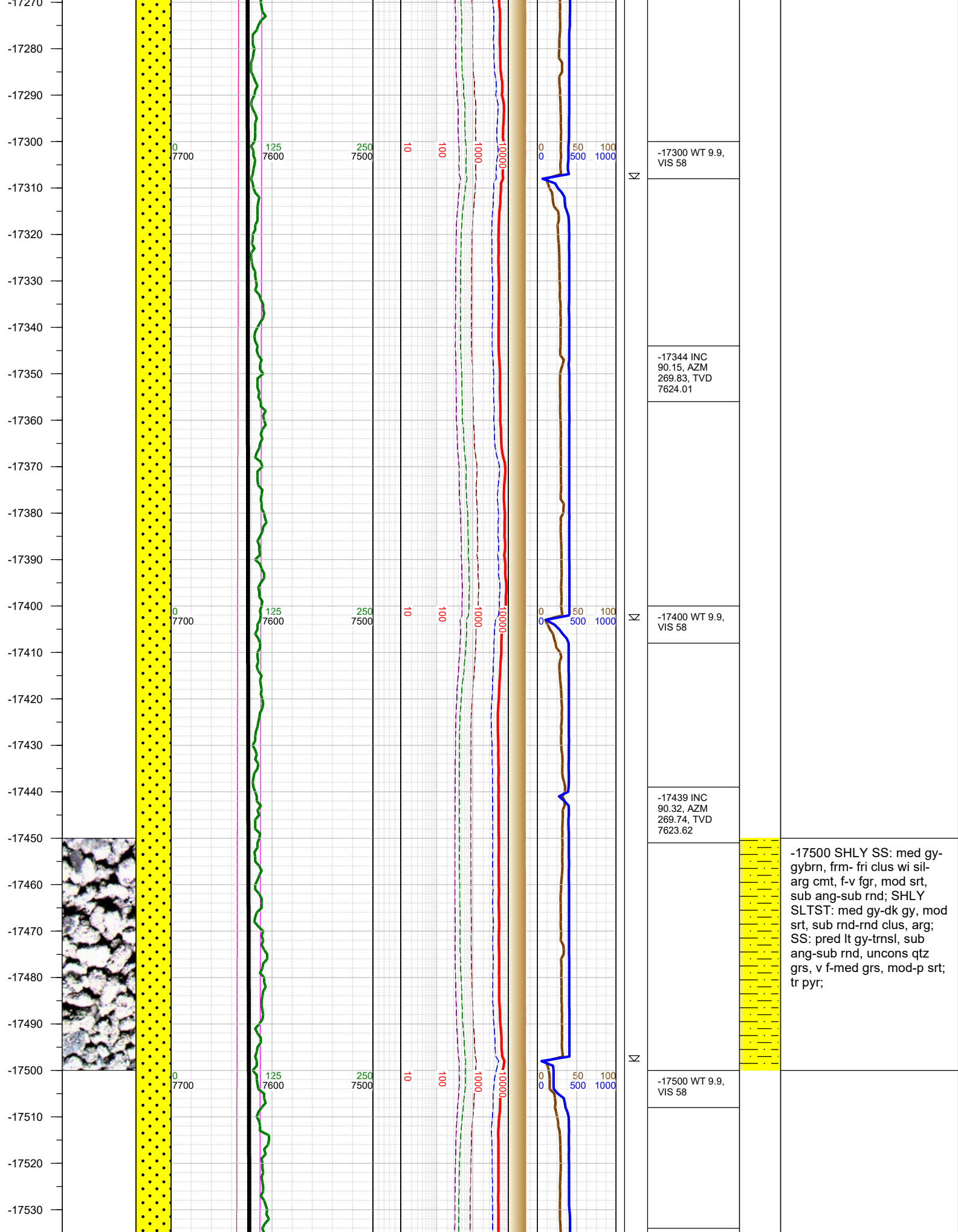


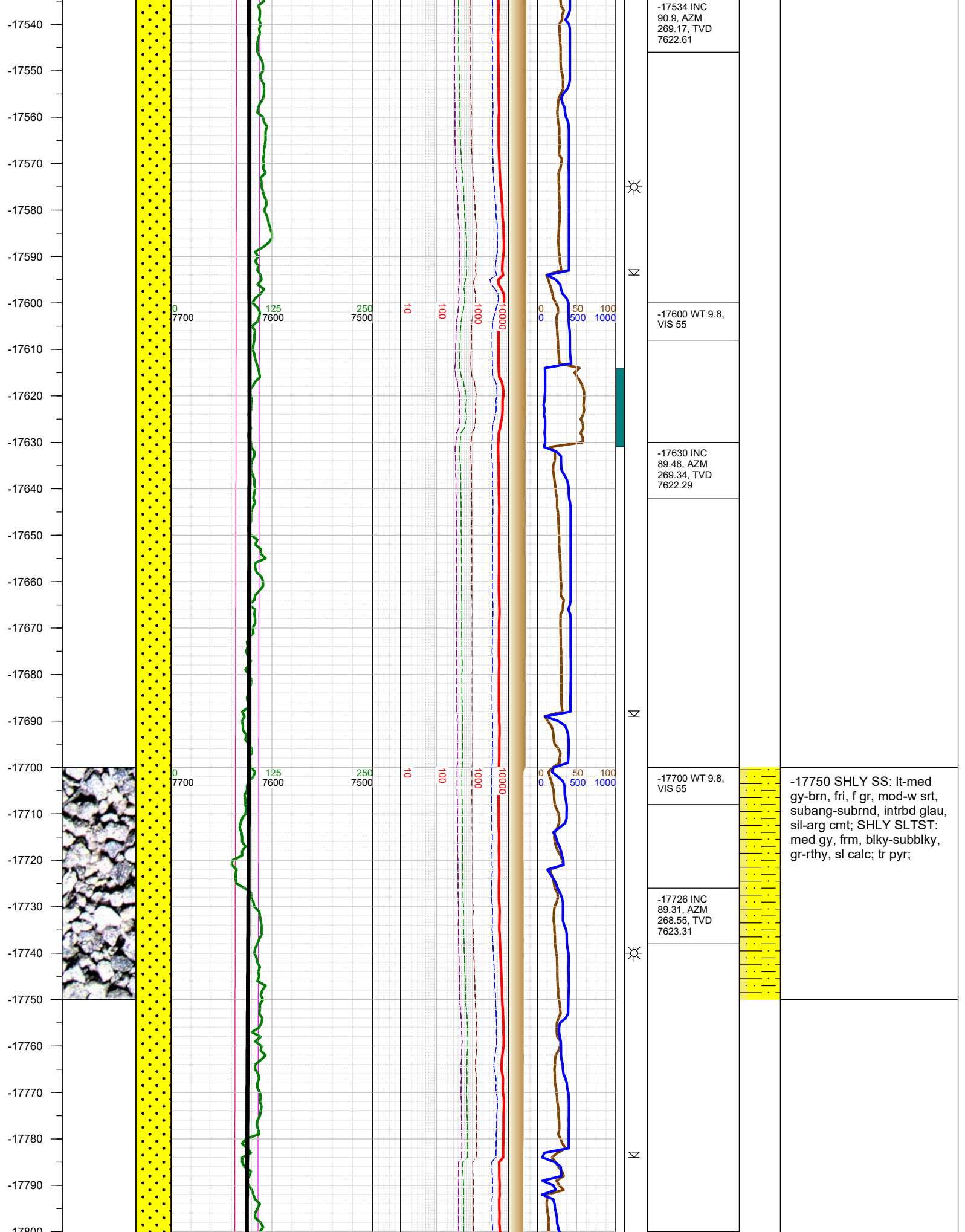


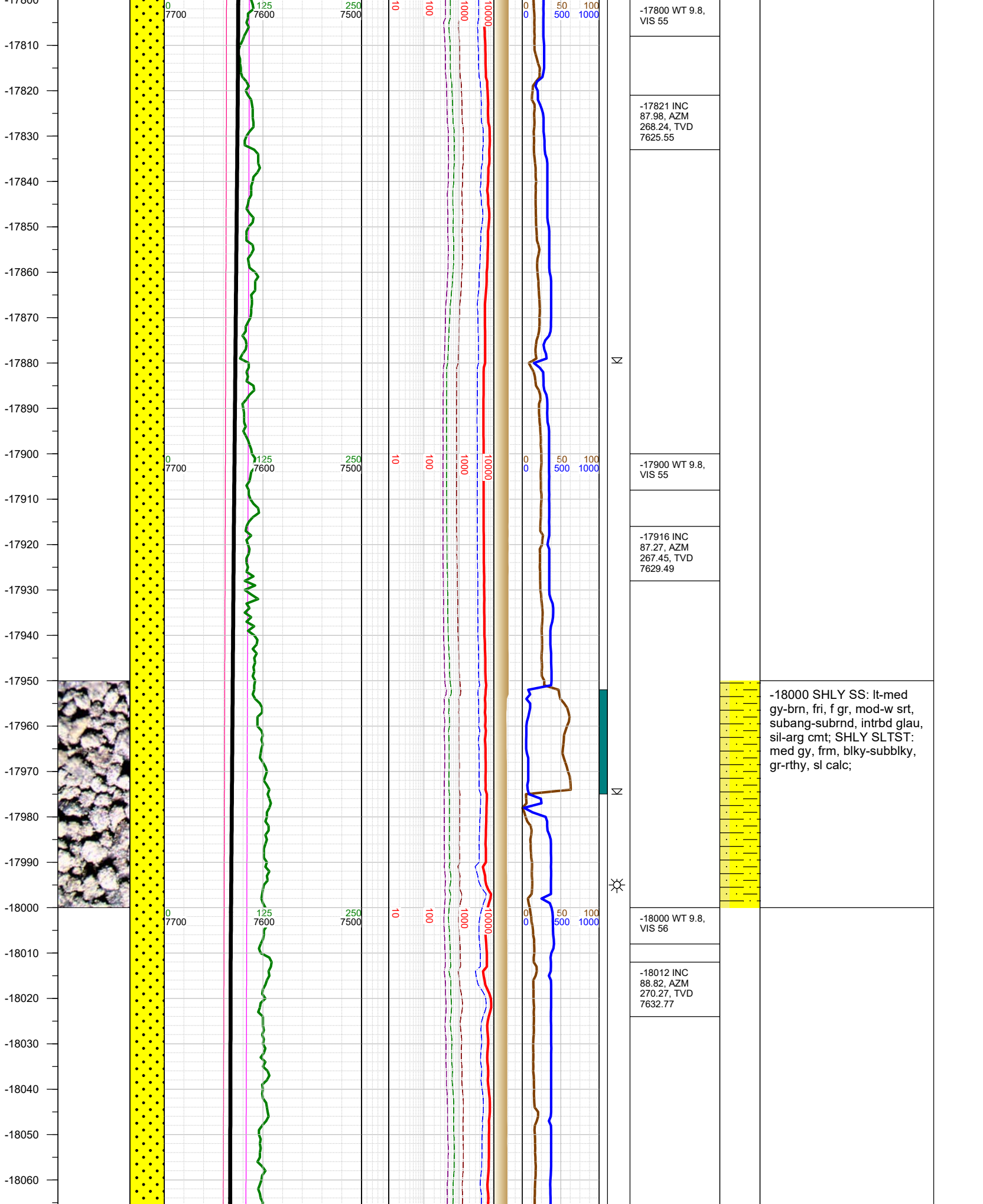




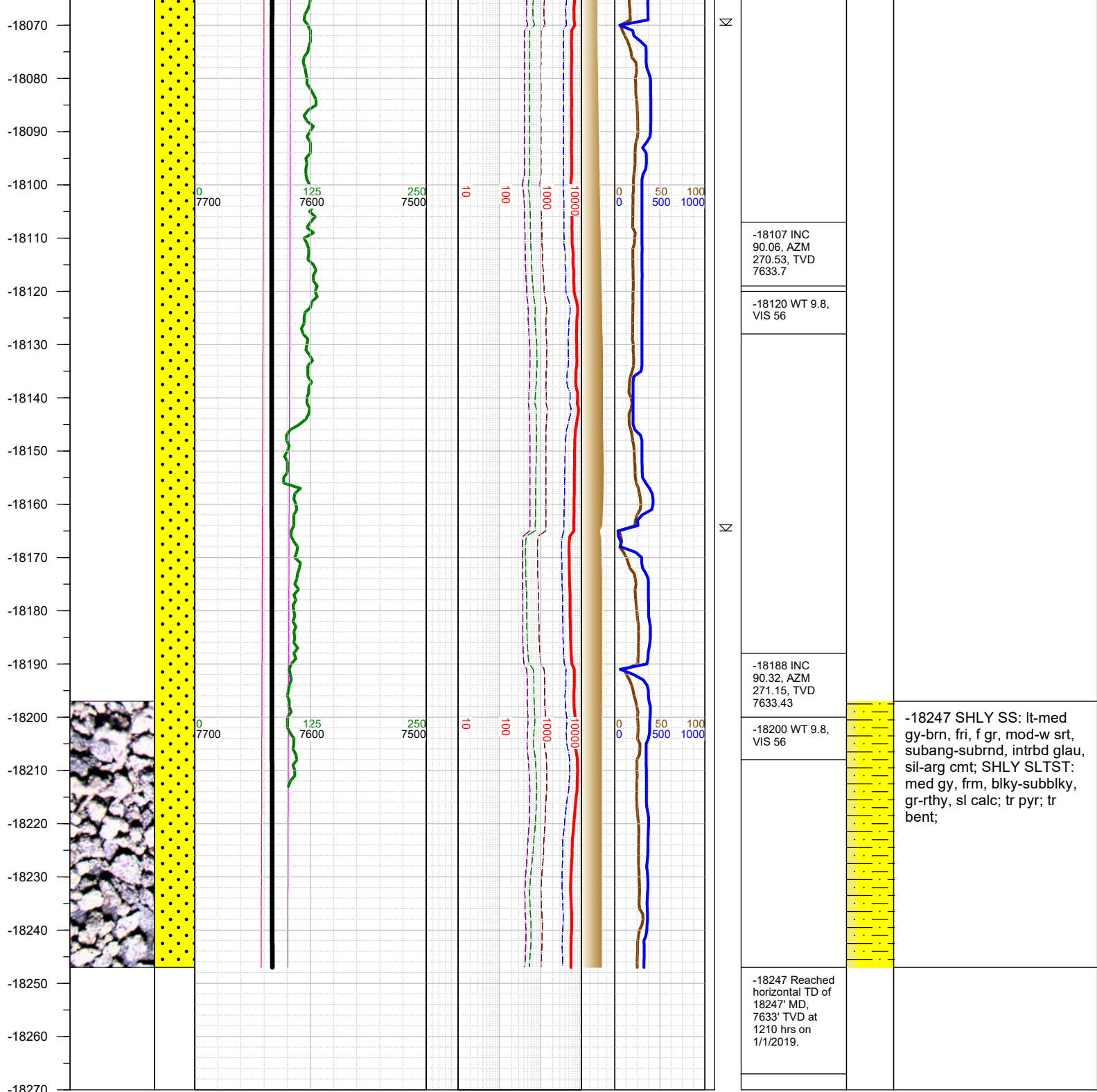








-18000 SHLY SS: lt-med gy-brn, fri, f gr, mod-w srt, subang-subrnd, intrbd glau, sil-arg cmt; SHLY SLTST: med gy, frm, blk-subblky, gr-rthy, sl calc;



TOTAL DEPTH = 18247'

Thank you for using Earth Science Agency