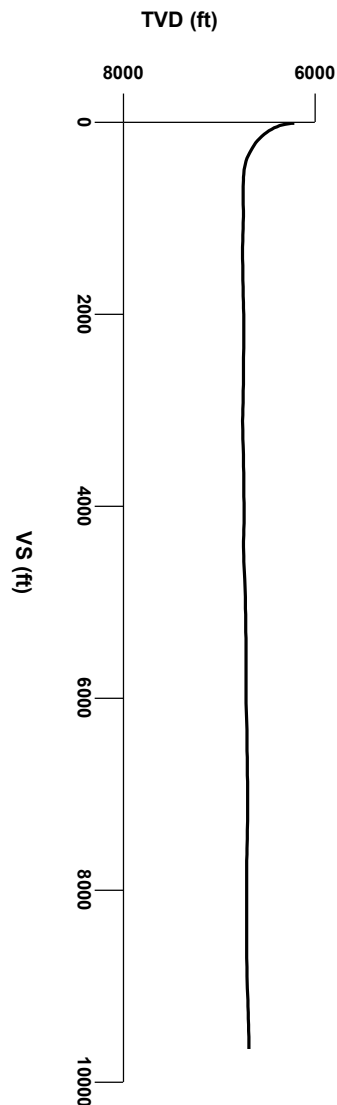




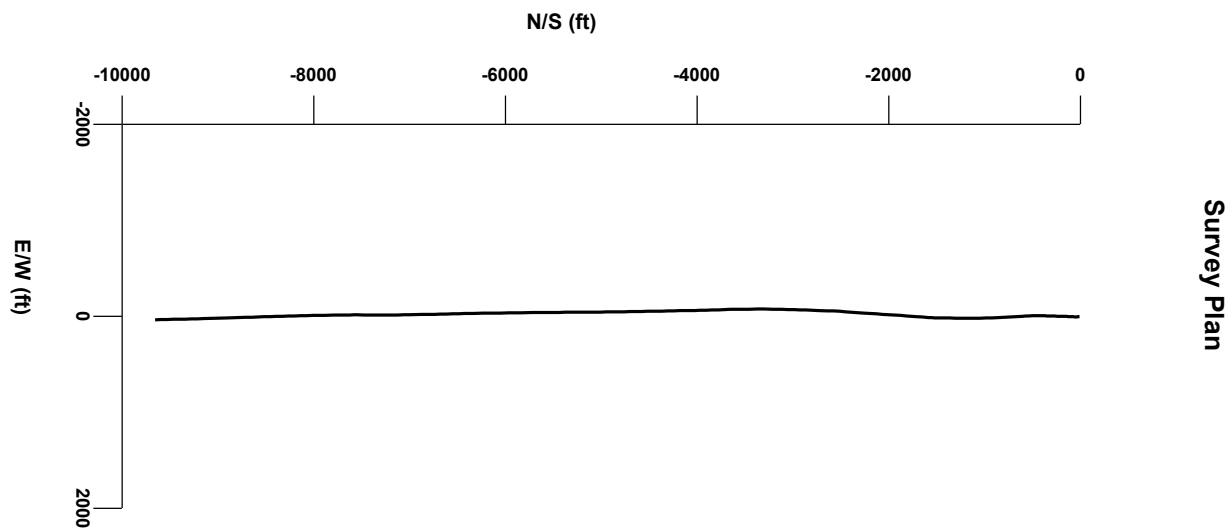
LOG created using LPlot VH Version 3.0, February 06, 2012, Copyright (C) 1999-2009 Pason Systems Corp.

**OPERATOR:** CONTINENTAL RESOURCES  
**WELL:** PLANCK 1-14H  
**PRINT DATE:** 2/6/2012 7:27:13 PM

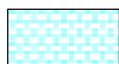
**LOCATION:** SEC 14&23 8N 62W  
**COUNTY:** WELD  
**STATE:** COLORADO



Survey Elevation



### LITHOLOGIES



Chalk



Marl



Sandstone



Shaly Siltstone



Silty Shale

### ENGINEERING SYMBOLS



Connection Gas



Midnight Depth

### BAR SYMBOLS



Rotating



Sliding

SLIDE/ROTATE

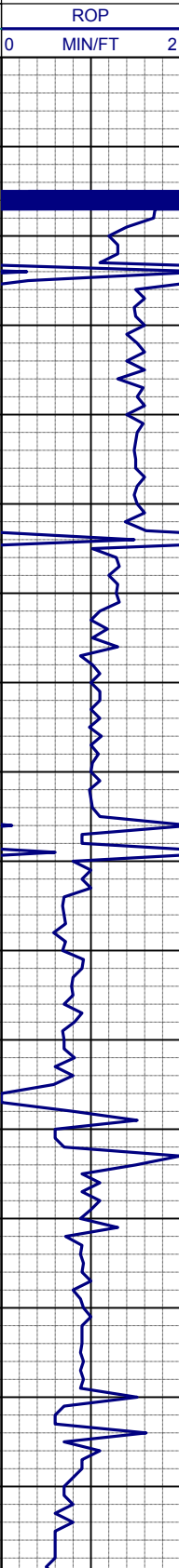
180M

HS

HS

HS

GAS		
0	UNITS	4000
0	C1	400000
0	ppm	400000
0	C2	400000
0	ppm	400000
0	C3	400000
0	ppm	400000
0	C4	400000
0	ppm	400000
0	C5	400000
0	ppm	400000



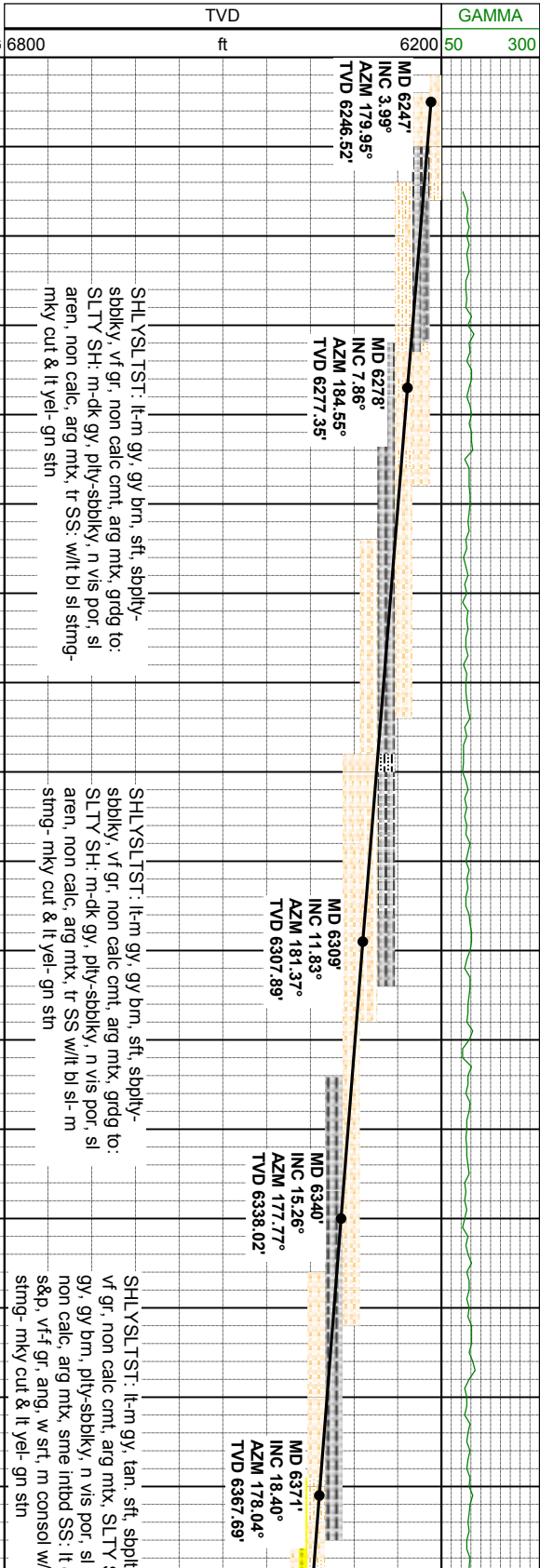
DEPTH (FEET) 0 20 30 40 50 60 70

In 9.4/34 Out 9.4/34

In 9.3/33+ Out 9.3

②

CUTTINGS LITHOLOGY



SHLYSLTST: lt-m gy, gy brn, sft, sbply-sbblky, vf gr, non calc cnt, arg mtx, grdg to: SLTY SH: m-dk gy, pily-sbblky, n vis por, sl aren, non calc, arg mtx, tr SS: w/lt bl sl stmg-mky cut & lt yei- gn stn

SHLYSLTST: lt-m gy, gy brn, sft, sbply-sbblky, vf gr, non calc cnt, arg mtx, grdg to: SLTY SH: m-dk gy, pily-sbblky, n vis por, sl aren, non calc, arg mtx, tr SS w/lt bl sl-m stmg-mky cut & lt yei- gn stn

SHLYSLTST: lt-m gy, tan, sft, sbply-sbblky, vf gr, non calc cnt, arg mtx, SLTY: gy, gy brn, pily-sbblky, n vis por, sl non calc, arg mtx, sme intbd SS: lt, sg&p, vf f gr, ang, w sft, m consol w/ stmg-mky cut & lt yei- gn stn

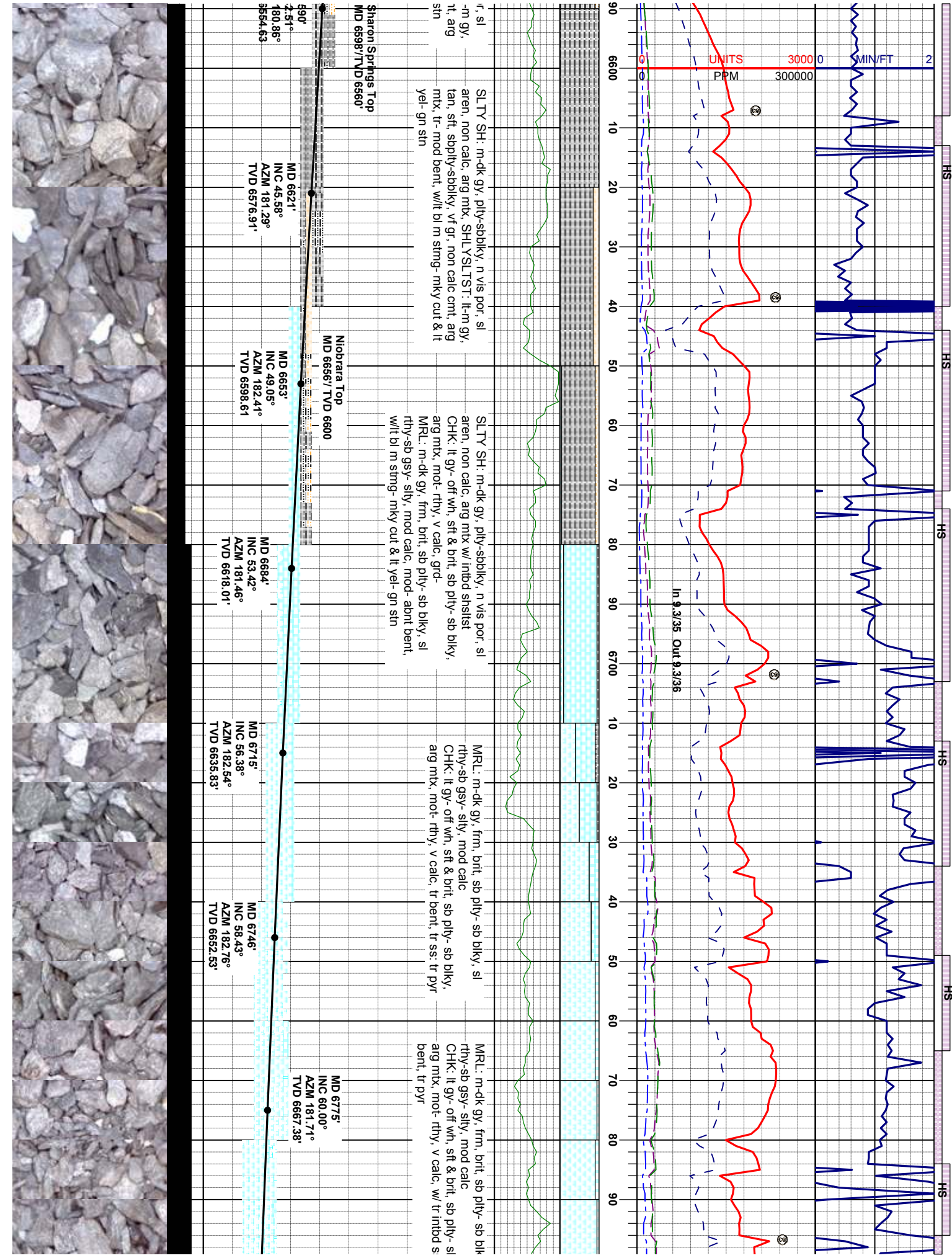
OIL SHOW T F G

SAMPLE PHOTOS



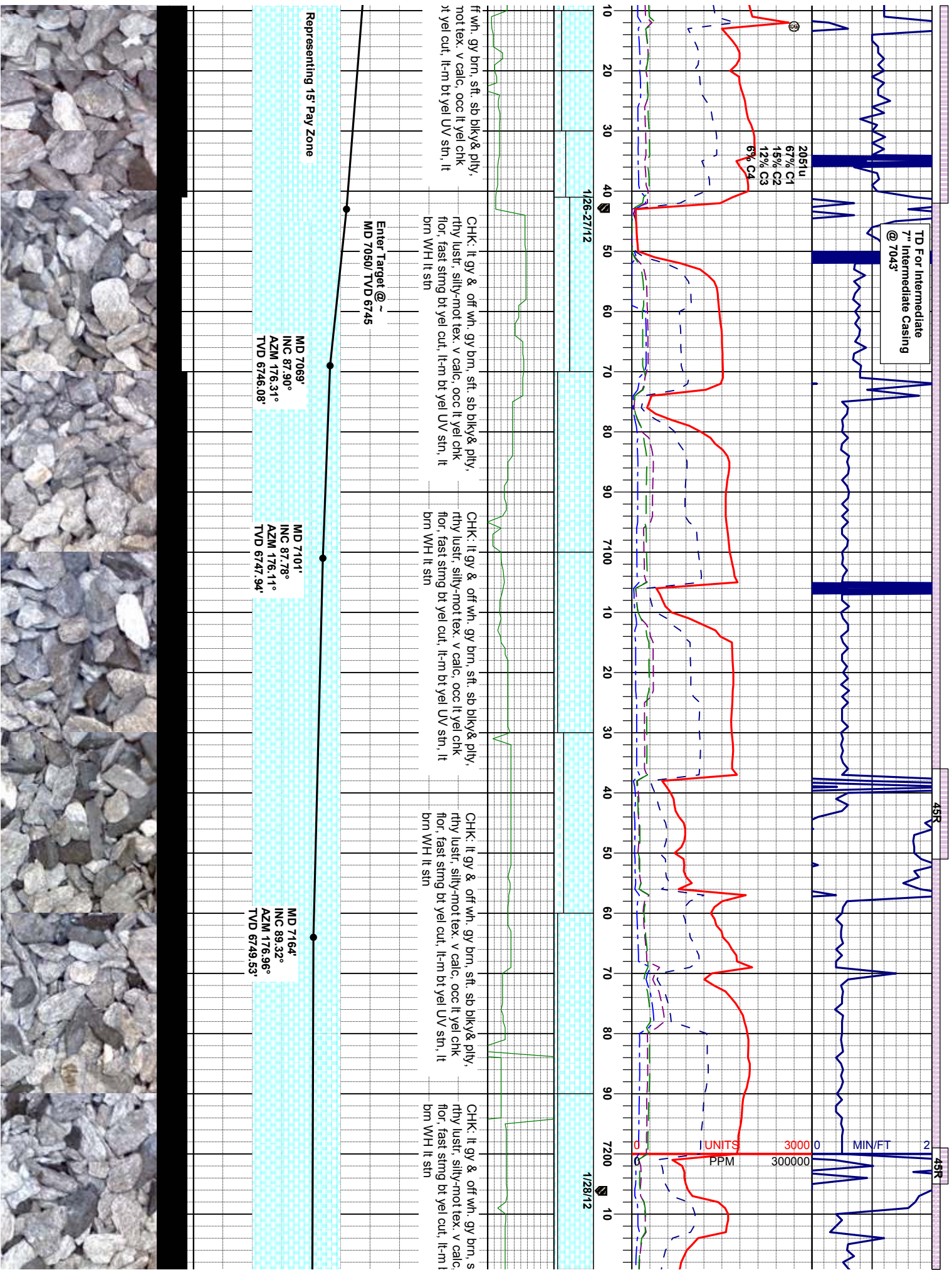


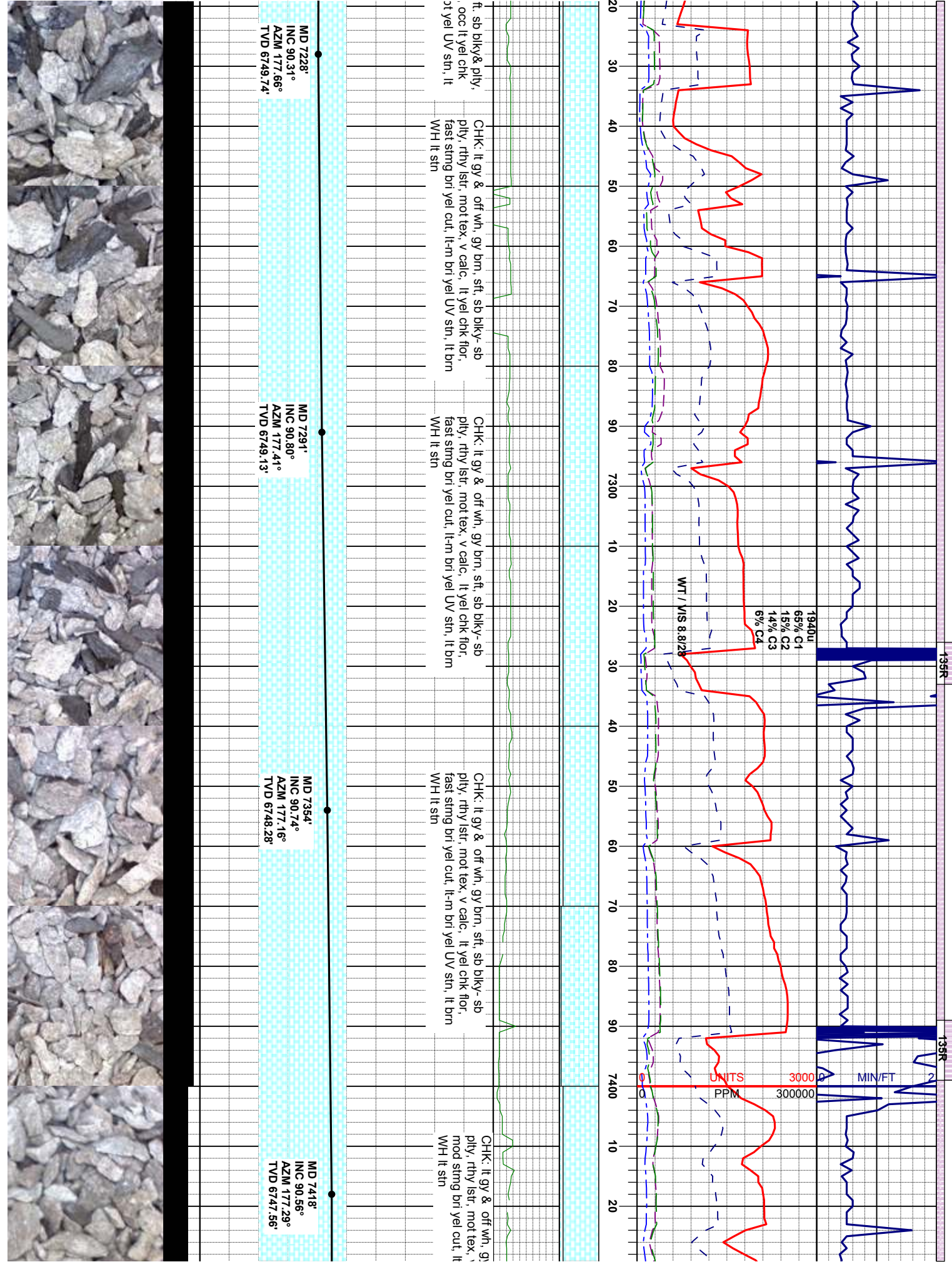




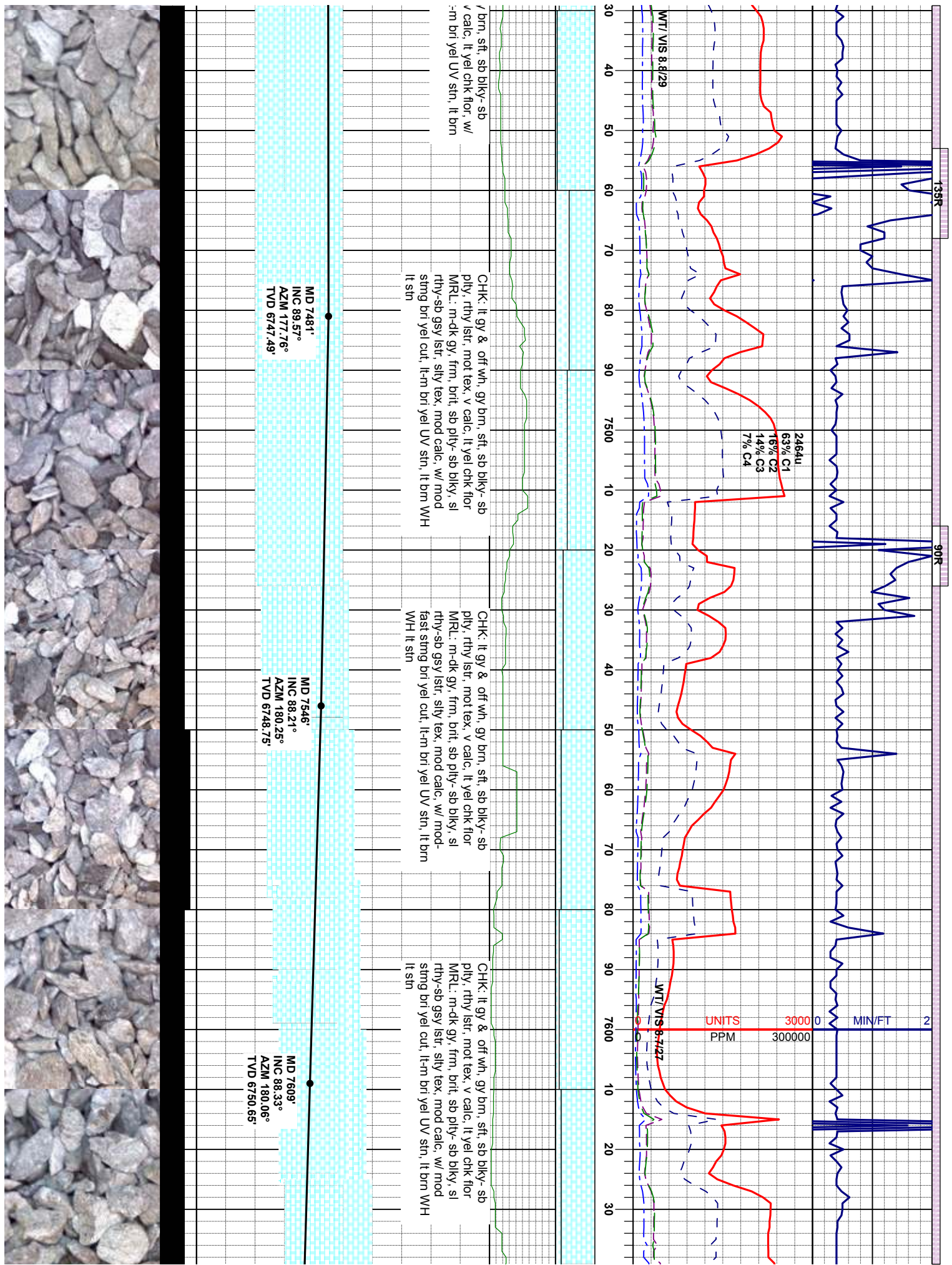


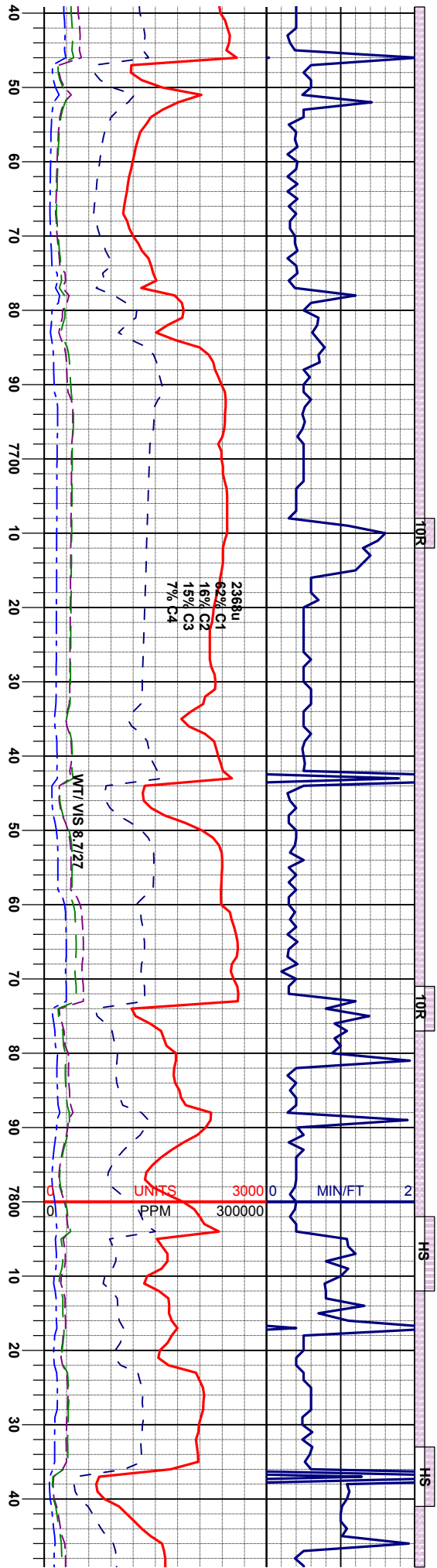












CHK: lt gy & off wh, gy brn, sft, sb blk- sb  
ply, rthy lstr, mot tex, v calc, lt yel chk flr, w/  
mod stmg bri yel cut, lt-m bri yel UV sin, lt brn  
WH lt sin

CHK: lt gy & off wh, gy brn, sft, sb blk- sb  
ply, rthy lstr, mot tex, v calc, lt yel chk flr  
MRL: m-dk gy, frm, brit, sb ply- sb blk, sl  
rthy-sb gsy lstr, silty tex, mod calc, tr sec  
calcite, tr fos, w/ mod stmg bri yel cut, lt-m bri  
yel UV sin, lt brn WH lt sin

CHK: lt-m gy & off wh, gy brn, sft, sb blk-  
sb ply, rthy lstr, mot tex, v calc, lt yel chk flr  
MRL: m-dk gy, frm, brit, sb ply- sb blk, sl  
rthy-sb gsy lstr, silty tex, mod calc, mod fos,  
mod sec calcite, tr pyr, tr bent, w/ slow stmg  
bri yel cut, lt-m bri yel UV sin, lt brn WH lt sin

MRL: m-dk gy, frm, br  
rthy-sb gsy lstr, silty te  
CHK: lt-m gy & off wh  
ply, rthy lstr, mot tex,  
abnt fos, mod sec calc  
slow stmg bri yel cut,  
brn WH lt sin

MD 7673'  
INC 88.27°  
AZM 179.95°  
TVD 6752.55'

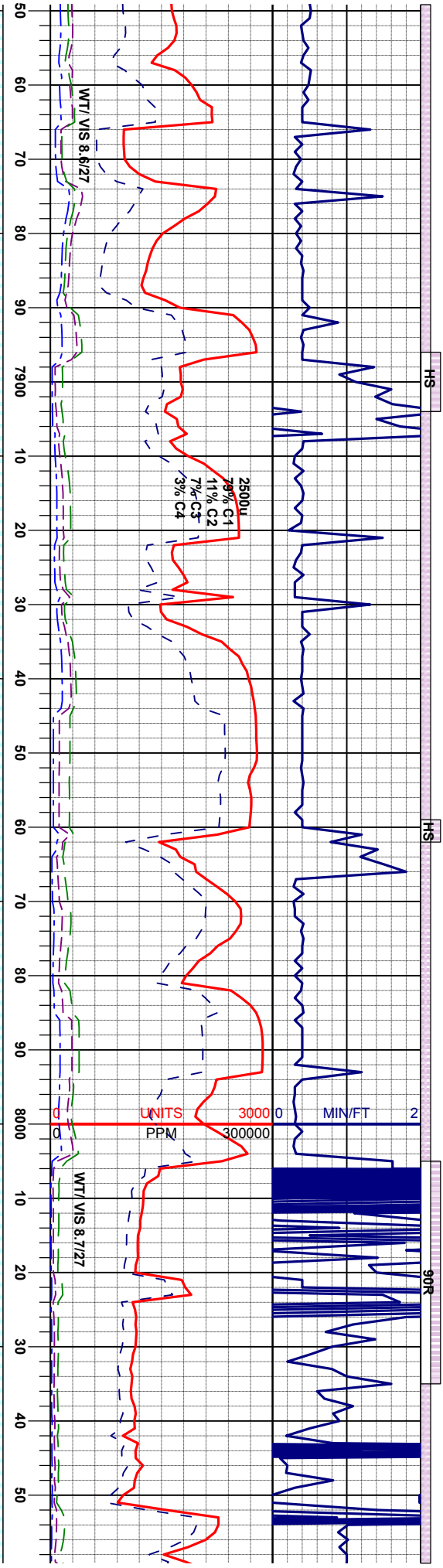
MD 7736'  
INC 88.27°  
AZM 180.12°  
TVD 6754.45'

MD 7798'  
INC 88.40°  
AZM 180.08°  
TVD 6756.25'

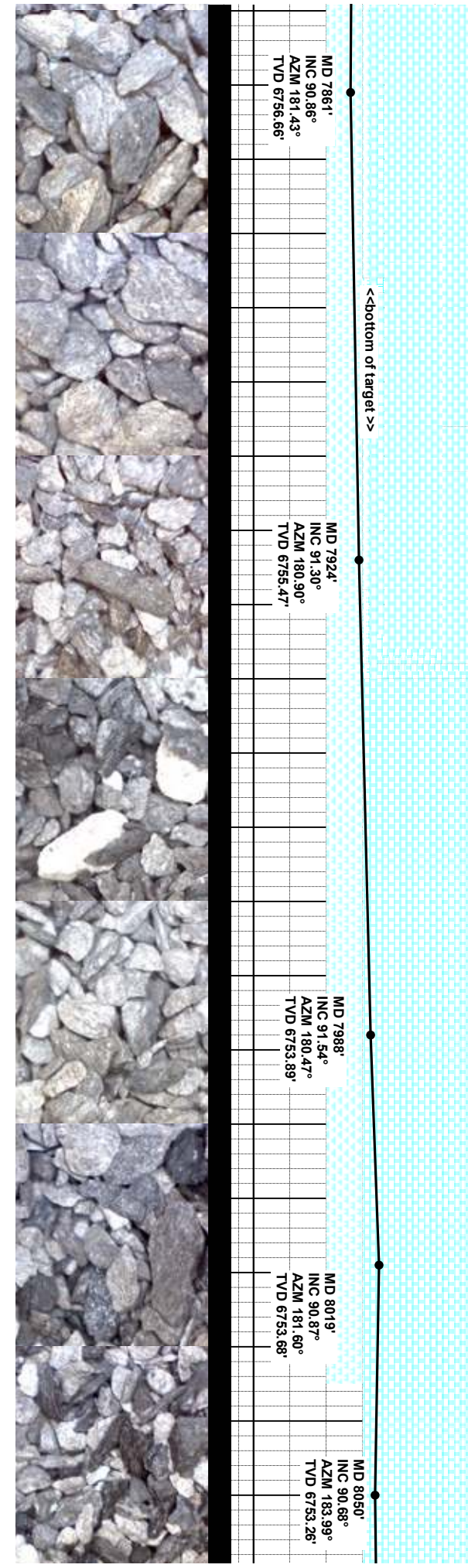
<<bottom of target>>







it, sb ply-sb biky, si x, mod calc. n, gy brn, sft, sb biky-sb v calc, lt yel chk flor, zile, tr pyr, tr bent, w/ lt-m brn yel UV stn, lt brn WH lt sin	MRL: m-dk gy, frm, brnt, sb ply-sb biky, si rthy-sb gsy lstr, silty tex, mod calc, CHK: lt-m gy & off wh, gy brn, sft, sb biky-sb ply, rthy lstr, mot tex, v calc, lt yel chk flor, abnt fos, mod sec calcite, tr pyr, tr bent, w/ slow, sting bri yel cut, lt-m brn yel UV stn, lt brn WH lt sin	MRL: m-dk gy, frm, brnt, sb ply-sb biky, si rthy-sb gsy lstr, silty tex, mod calc, CHK: lt-m gy & off wh, gy brn, sft, sb biky-sb ply, rthy lstr, mot tex, v calc, lt yel chk flor, mod fos, mod sec calcite, tr pyr, tr bent, w/ slow, sting bri yel cut, lt-m brn yel UV stn, lt brn WH lt sin	CHK: lt-m gy & off wh, gy brn, sft, sb biky-sb ply, rthy lstr, mot tex, v calc, MRL: m-dk gy, frm, brnt, sb ply-sb biky, si rthy-sb gsy lstr, silty tex, tr calc, mod fos, mod sec calcite, tr bent, w/ slow, sting bri yel cut, lt-m brn yel UV stn, lt brn WH lt sin	CHK: ply, r frm, lt silty te UV st
---	---	--	---	---



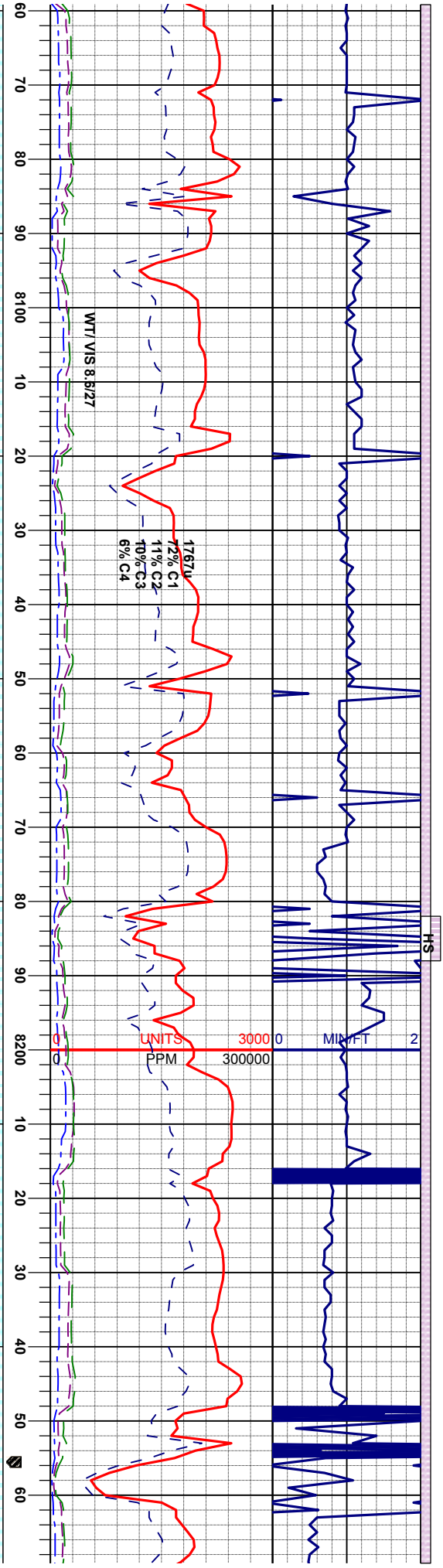
MD 7861' INC 90.86° AZM 181.43° TVD 6756.66'

MD 7924' INC 91.30° AZM 180.90° TVD 6753.47'

MD 7988' INC 91.54° AZM 180.47° TVD 6753.89'

MD 8019' INC 90.87° AZM 181.60° TVD 6753.68'

MD 8050' INC 90.68° AZM 183.99° TVD 6753.26'



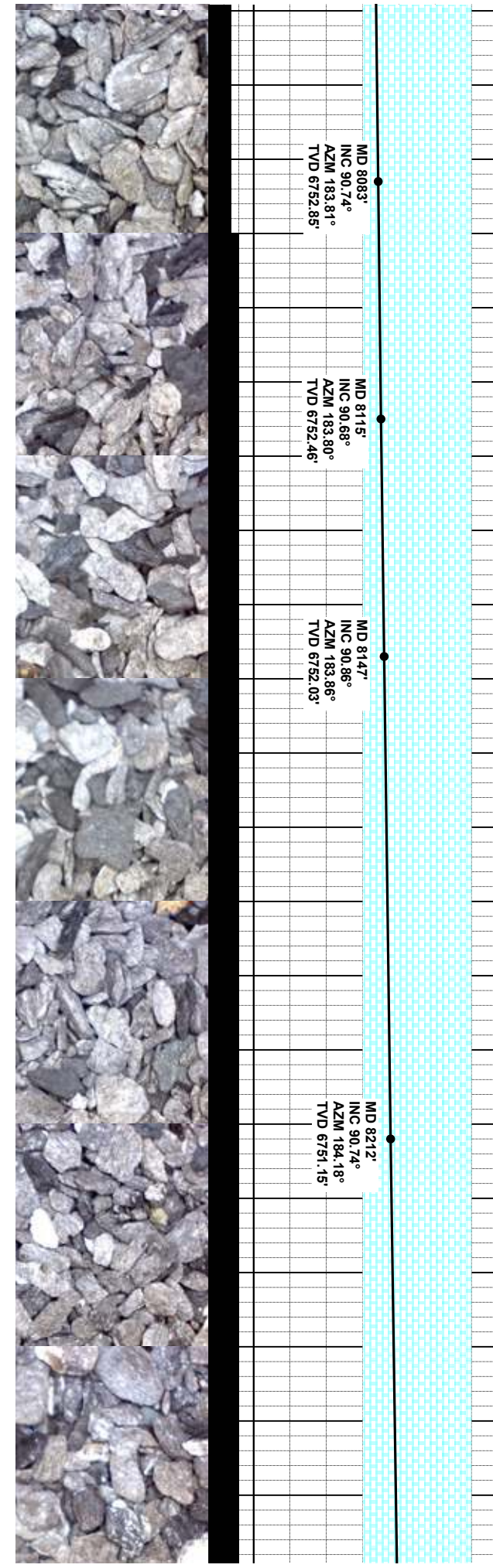
lt-m gy & off wh, gy brn, sft, sb blk- sb  
thy lst, mot tex, v calc, MRL: m-dk gy,  
rft, sb ply- sb blk, sl rthy-sb gsy lst,  
x w/ slow: stmg bri yel cut, lt-m bri yel  
n, lt brn WH lt stn

CHK: lt-m gy & off wh, gy brn, sft, sb blk- sb  
ply, rthy lst, mot tex, v calc, MRL: m-dk gy,  
frm, brit, sb ply- sb blk, sl rthy-sb gsy lst,  
sily tex, tr bent, tr calcite w/ slow: stmg bri  
yel cut, lt-m bri yel UV stn, lt brn WH lt stn

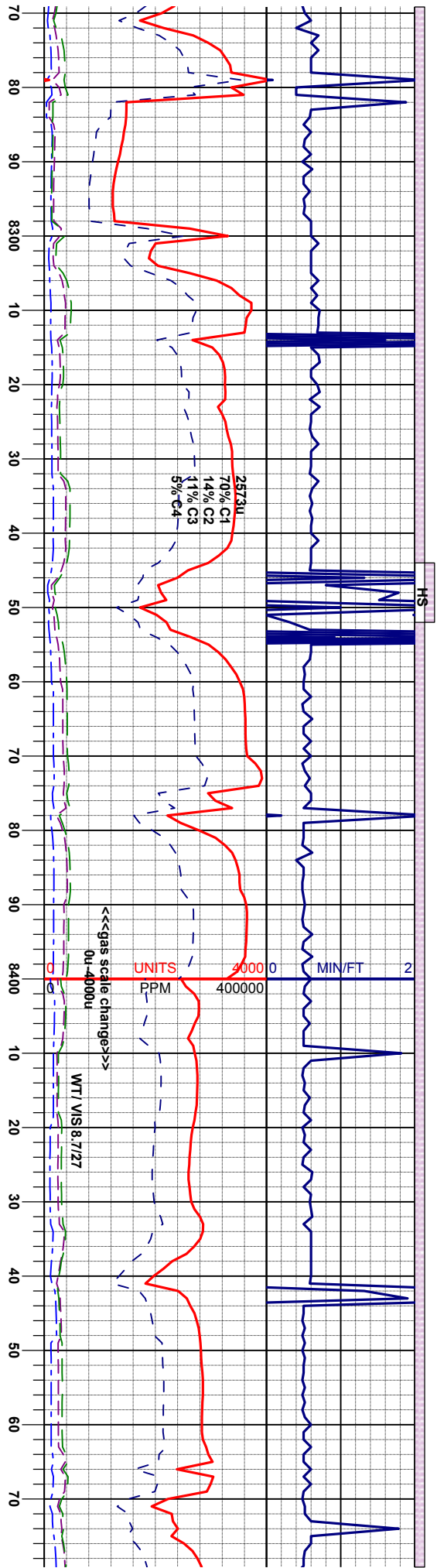
CHK: lt-m gy & off wh, gy brn, sft, sb blk- sb  
ply, rthy lst, mot tex, v calc, MRL: m-dk gy,  
frm, brit, sb ply- sb blk, sl rthy-sb gsy lst,  
sily tex, tr bent, mod calcite w/ slow: stmg bri  
yel cut, lt-m bri yel UV stn, lt brn WH lt stn

CHK: lt-m gy & off wh, gy brn, sft, sb blk- sb  
ply, rthy lst, mot tex, v calc, MRL: m-dk gy,  
frm, brit, sb ply- sb blk, sl rthy-sb gsy lst,  
sily tex, mod calcite w/ slow: stmg bri yel cut, lt  
-m bri yel UV stn, lt brn WH lt stn

CHK: lt-m gy & off wh, gy brn, sft, sb blk- sb  
ply, rthy lst, mot tex, v calc, MRL: m-dk gy,  
frm, brit, sb ply- sb blk, sl rthy-sb gsy lst,  
sily tex, mod calcite w/ slow: stmg bri yel cut, lt  
-m bri yel UV stn, lt brn WH lt stn







f: wh, gy brn, sft, sb blk-  
ot tex, v calc, lt yel chk flor,  
, brnt, sb pily- sb blkly, sl  
v tex, abnt calcite, tr pyr w/  
cut, lt-m bri yel UV stn, lt

CHK: lt-m gy & off: wh, gy brn, sft, sb blkly-  
sb pily, rthy lstr, mot tex, v calc, lt yel chk  
flor, MRL: m-dk gy, frm, brnt, sb pily- sb blkly, sl  
rthy-sb gsy lstr, silty tex, tr calcite, w/ slow-  
mod string bri yel cut, lt-m bri yel UV stn, lt brn  
WH lt stn

CHK: lt-m gy & off: wh, gy brn, sft, sb blkly-  
sb pily, rthy lstr, mot tex, v calc, lt yel chk flor,  
tr- mod fos, w/ mod string bri yel cut, lt-m bri  
yel UV stn, lt brn WH lt stn

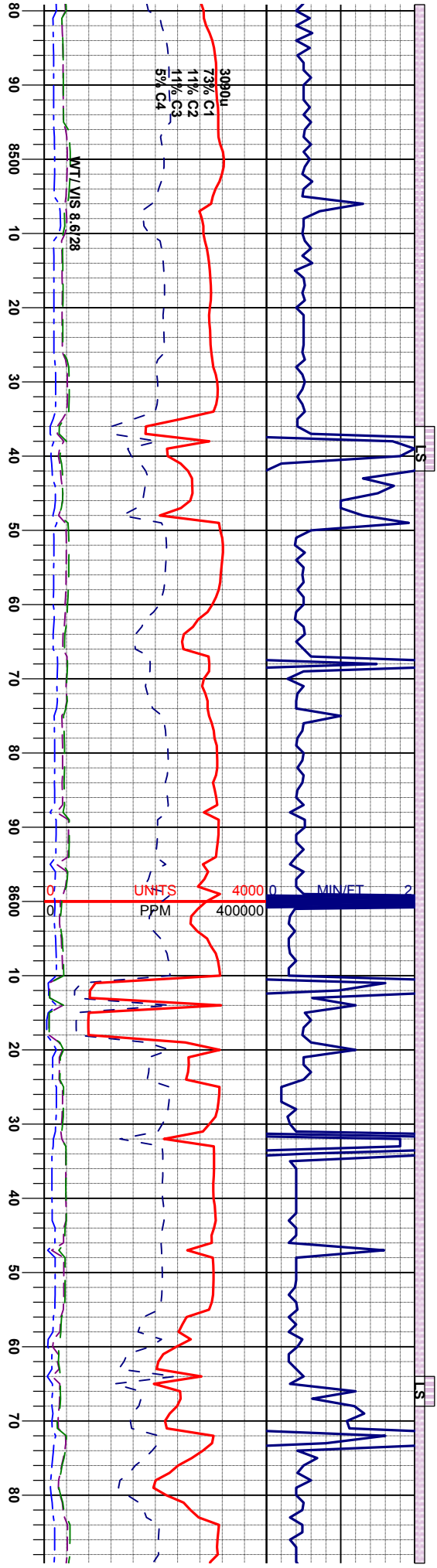
CHK: lt-m gy & off: wh, gy brn, sft, sb blkly-  
sb pily, rthy lstr, mot tex, v calc, lt yel chk flor,  
tr fos, tr calcite, w/ slow- mod string bri yel  
cut, bri yel UV stn, lt brn WH lt stn

MD 8309'  
INC 90.99°  
AZM 183.77°  
TVD 6749.69'

MD 8373'  
INC 91.48°  
AZM 184.08°  
TVD 6748.31'

MD 8437'  
INC 91.11°  
AZM 183.75°  
TVD 6746.86'





CHK: lt- m gy & off. wh, gy brn, sft, sb blk-  
sb pily, rthy lstr, mot tex, v calc, lt yel chk flor,  
lt- mod fos, w/ slow- mod sting bri yel cut, bri  
yel UV str, lt brn WH lt str

CHK: lt- m gy & off. wh, gy brn, sft, sb blk-  
sb pily, rthy lstr, mot tex, v calc, lt yel chk flor,  
tr fos, w/ mod sting bri yel cut, bri yel UV str,  
lt brn WH lt str

CHK: lt- m gy & off. wh, gy brn, sft, sb blk-  
sb pily, rthy lstr, mot tex, v calc, lt yel chk flor,  
tr fos, w/ mod sting bri yel cut, bri yel UV str,  
lt brn WH lt str

MD 8501'  
INC 92.41°  
AZM 183.55°  
TVD 6744.89'

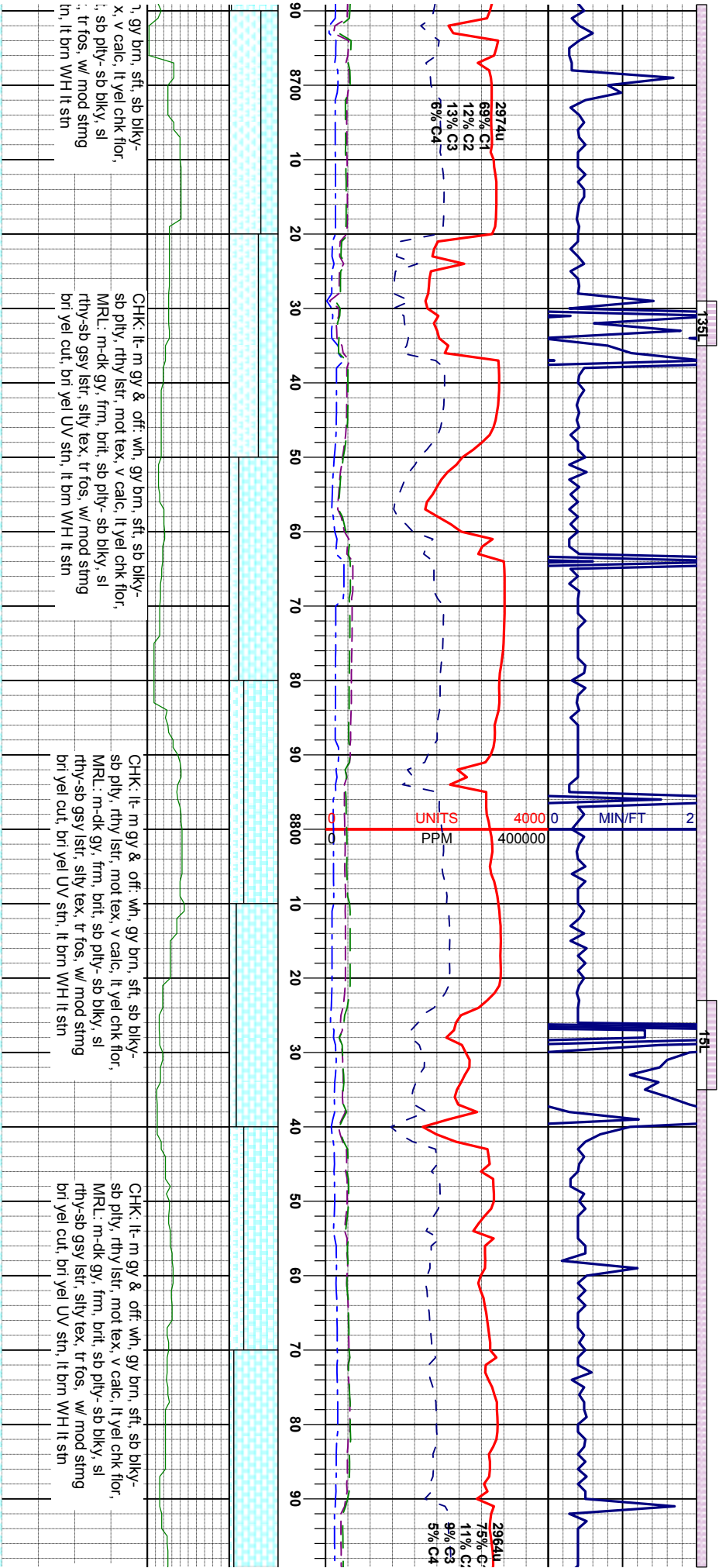
MD 8565'  
INC 90.49°  
AZM 183.75°  
TVD 6743.27'

MD 8629'  
INC 90.68°  
AZM 184.02°  
TVD 6742.62'

<top of target>>







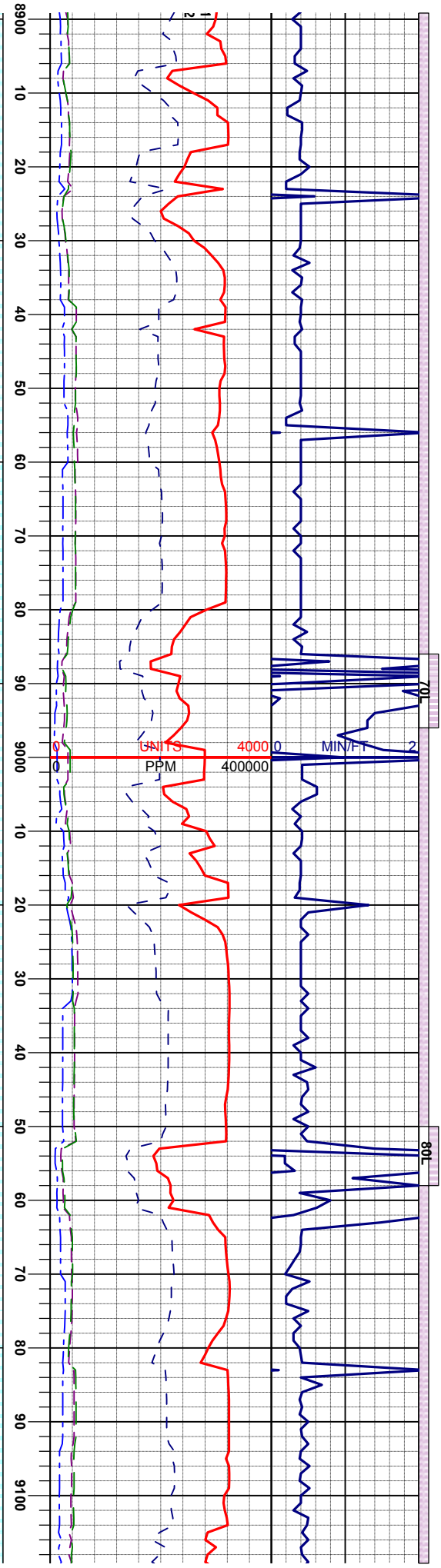
MD 8694°  
INC 90.12°  
AZM 183.71°  
TVD 6742.16'

MD 8758°  
INC 88.70°  
AZM 184.13°  
TVD 6742.82'

MD 8855°  
INC 89.44°  
AZM 183.87°  
TVD 6744.39'







oil on shaker

CHK: lt- m gy & off. wh. gy brn. sft. sb blk-  
sb pily, rthy istr. mot tex. v calc. lt yel chk flor,  
MRL: m-dk gy. frm. brit. sb pily- sb blk, sl  
rthy-sb gsy istr. silty tex. tr fos. w/ mod stmg  
bri yel cut, bri yel UV sin, lt brn WH lt sin

CHK: lt- m gy & off. wh. gy brn. sft. sb blk-  
sb pily, rthy istr. mot tex. v calc. lt yel chk flor,  
MRL: m-dk gy. frm. brit. sb pily- sb blk, sl  
rthy-sb gsy istr. silty tex. tr fos. w/ mod stmg  
bri yel cut, bri yel UV sin, lt brn WH lt sin

CHK: lt- m gy & off. wh. gy brn. sft. sb blk-  
sb pily, rthy istr. mot tex. v calc. lt yel chk flor,  
MRL: m-dk gy. frm. brit. sb pily- sb blk, sl  
rthy-sb gsy istr. silty tex. tr fos. w/ mod stmg  
bri yel cut, bri yel UV sin, lt brn WH lt sin

CHK: lt- m  
sb pily, rthy  
MRL: m-dk  
rthy-sb gsy  
bri yel cut, l

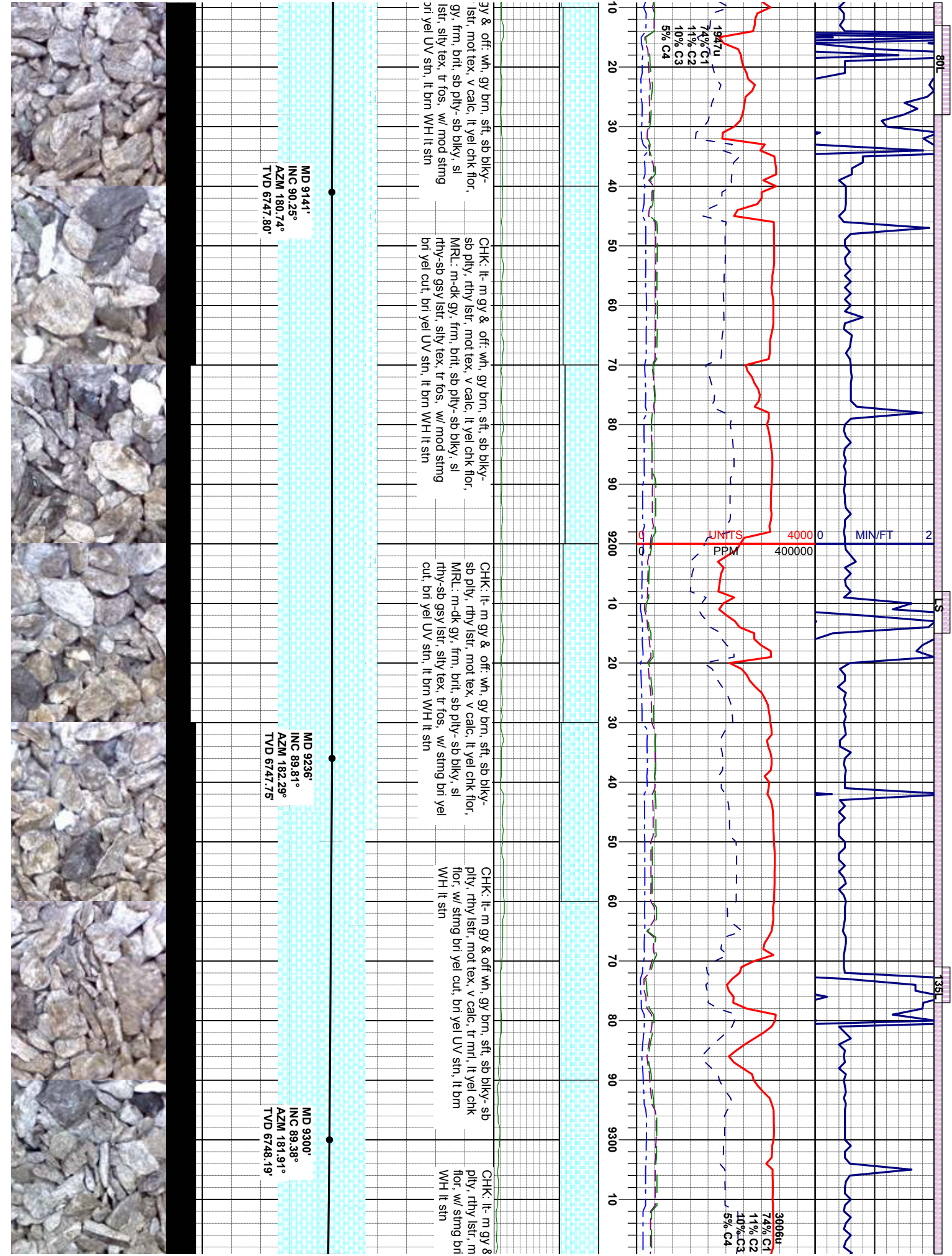
MD 8961'  
INC 89.26°  
AZM 184.09°  
TVD 6745.47'

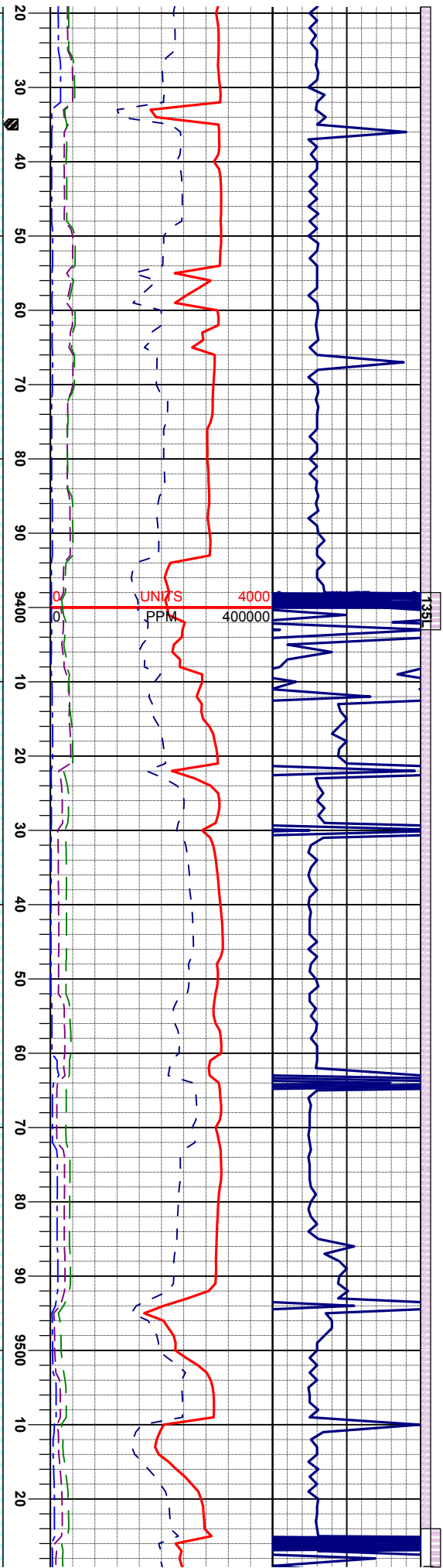
MD 9015'  
INC 89.14°  
AZM 182.96°  
TVD 6746.37'

MD 9078'  
INC 89.01°  
AZM 183.01°  
TVD 6747.39'









1/31/12

off wh, gy brn, sft, sb blk- sb  
of tex, v calc, tr mrl, lt yel chk  
yel cut, bri yel UV str, lt brn

CHK: lt- m gy & off: wh, gy brn, sft, sb blk-  
sb ply, rthy lstr, mot tex, v calc, lt yel chk flr,  
MRL: m-dk gy, frm, brt, sb ply- sb blk, sl  
rthy-sb gsy lstr, silty tex, tr fos, w/ stmg br yel  
cut, bri yel UV str, lt brn WH lt sin

CHK: lt- m gy & off: wh, gy brn, sft, sb blk- sb  
ply, rthy lstr, mot tex, v calc, tr mrl, lt yel chk  
flr, tr fos, w/ stmg bri yel cut, bri yel UV str, lt  
brn WH lt sin

CHK: lt- m gy & off: wh, gy brn, sft, sb blk-  
sb ply, rthy lstr, mot tex, v calc, lt yel chk flr,  
MRL: m-dk gy, frm, brt, sb ply- sb blk, sl  
rthy-sb gsy lstr, silty tex, tr bent, tr sec calcite,  
tr- mod fos, w/slow- - mod stmg bri yel cut, bri  
yel UV str, lt brn WH lt sin

<<< bottom of target >>>

MD 9363'  
INC 89.32°  
AZM 181.95°  
TVD 6748.91'

MD 9426'  
INC 88.27°  
AZM 181.75°  
TVD 6750.23'

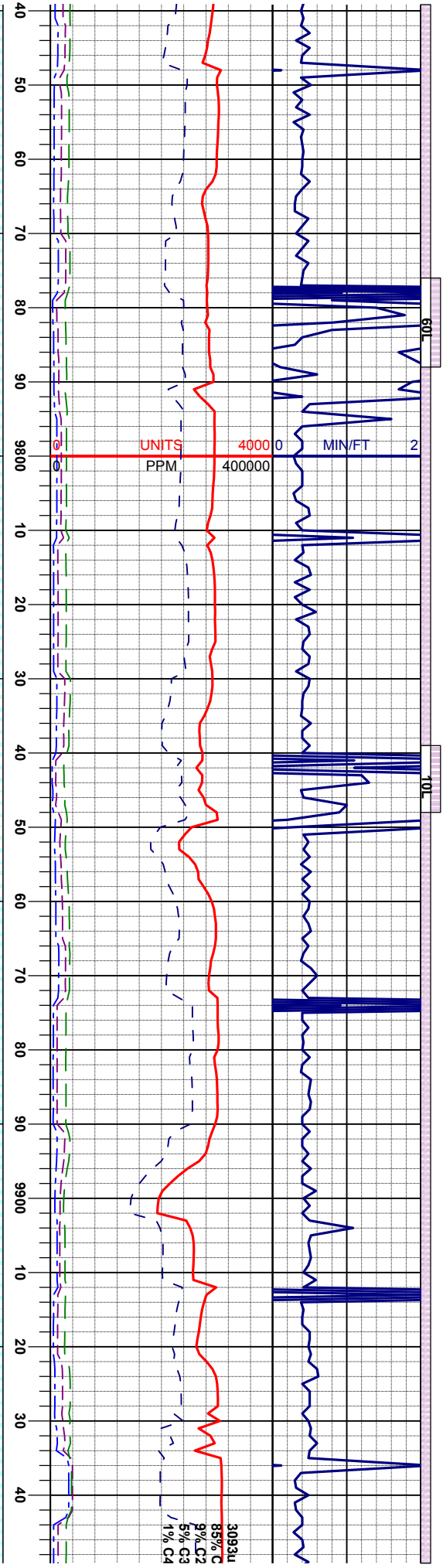
MD 9489'  
INC 87.90°  
AZM 181.46°  
TVD 6752.34'











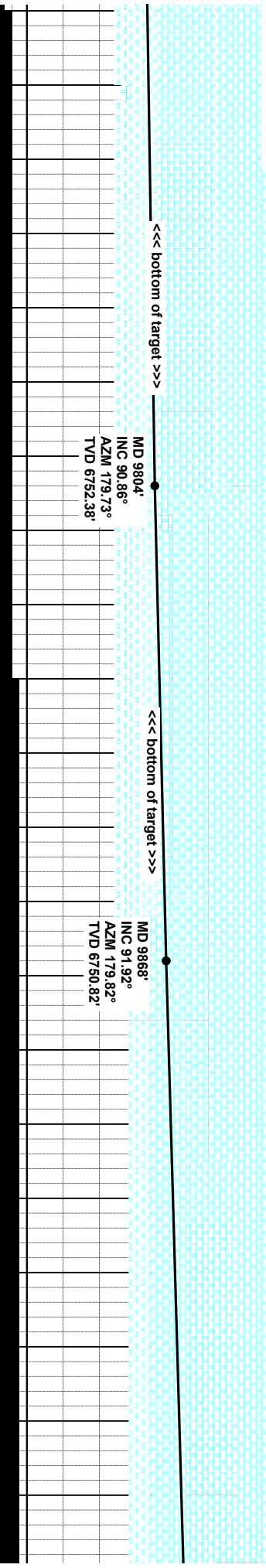
sb pily- sb blkly, sl  
i, gy brn, sft, sb blkly-  
x, v calc, lt yel chk flor,  
ite, mod fos, w/slow, -  
l cut, brn yel UV sn, lt

CHK: lt- m gy & off: wh, gy brn, sft, sb blkly-  
sb pily, rthy lstr, mot tex, v calc, lt yel chk flor,  
MRL: m-dk gy, frm, brit, sb pily- sb blkly, sl  
rthy-sb gsy lstr, silty tex, lt- mod fos, w/mod  
stimg brn yel cut, brn yel UV sn, lt brn WH lt

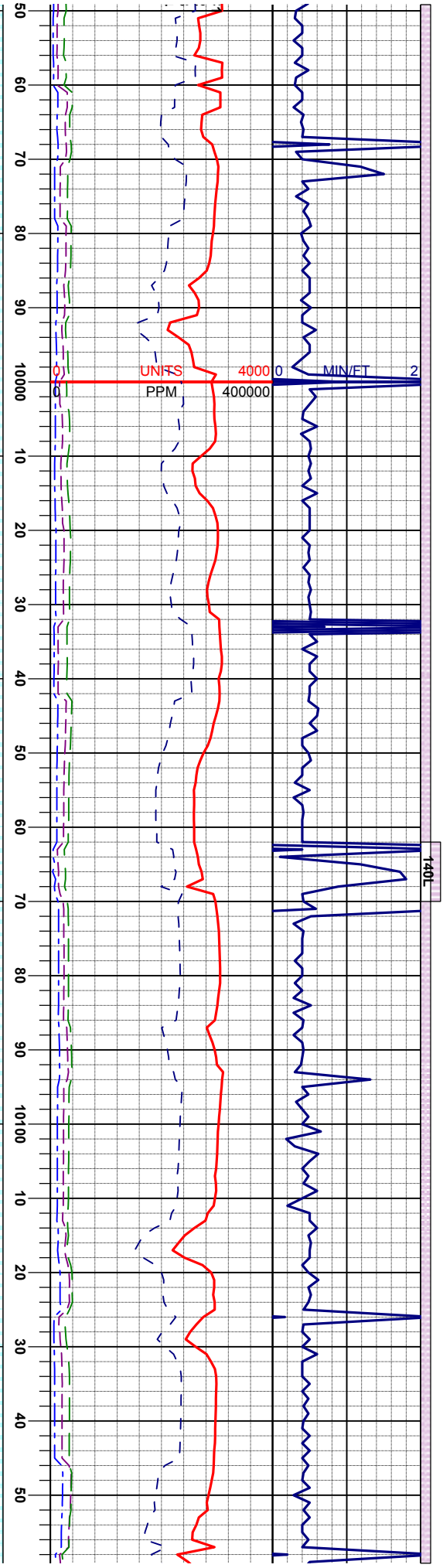
CHK: lt- m gy & off: wh, gy brn, sft, sb blkly-  
sb pily, rthy lstr, mot tex, v calc, lt yel chk flor,  
tr fos, w/mod stimg brn yel cut, brn yel UV sn, lt  
brn WH lt

CHK: lt- m gy & off: wh, gy brn, sft, sb blkly-  
sb pily, rthy lstr, mot tex, v calc, lt yel chk flor,  
MRL: m-dk gy, frm, brit, sb pily- sb blkly, sl  
rthy-sb gsy lstr, silty tex, tr- mod fos, w/mod  
stimg brn yel cut, brn yel UV sn, lt brn WH lt

CHK:  
sb pily  
tr calc  
UV str







It- m gy & off: wh, gy brn, sft, sb blk-  
rthy lstr, mot tex, v calc, lt yel chk flr,  
ite, tr mrl w/mod stmg bri yel cut, bri yel  
r, lt brn WH lt

CHK: lt- m gy & off: wh, gy brn, sft, sb blk-  
sb pily, rthy lstr, mot tex, v calc, lt yel chk flr,  
MRL: m-dk gy, frm, brit, sb pily- sb blk, sl  
rthy-sb gsy lstr, silty tex, tr fos, tr calcite,  
w/mod stmg bri yel cut, bri yel UV stn, lt brn  
WH lt

CHK: lt- m gy & off: wh, gy brn, sft, sb blk-  
sb pily, rthy lstr, mot tex, v calc, lt yel chk flr,  
MRL: m-dk gy, frm, brit, sb pily- sb blk, sl  
rthy-sb gsy lstr, silty tex, tr calcite, w/mod stmg  
bri yel cut, bri yel UV stn, lt brn WH lt

CHK: lt- m gy & off: wh,  
sb pily, rthy lstr, mot tex  
tr calcite, tr mrl w/mod st  
UV stn, lt brn WH lt

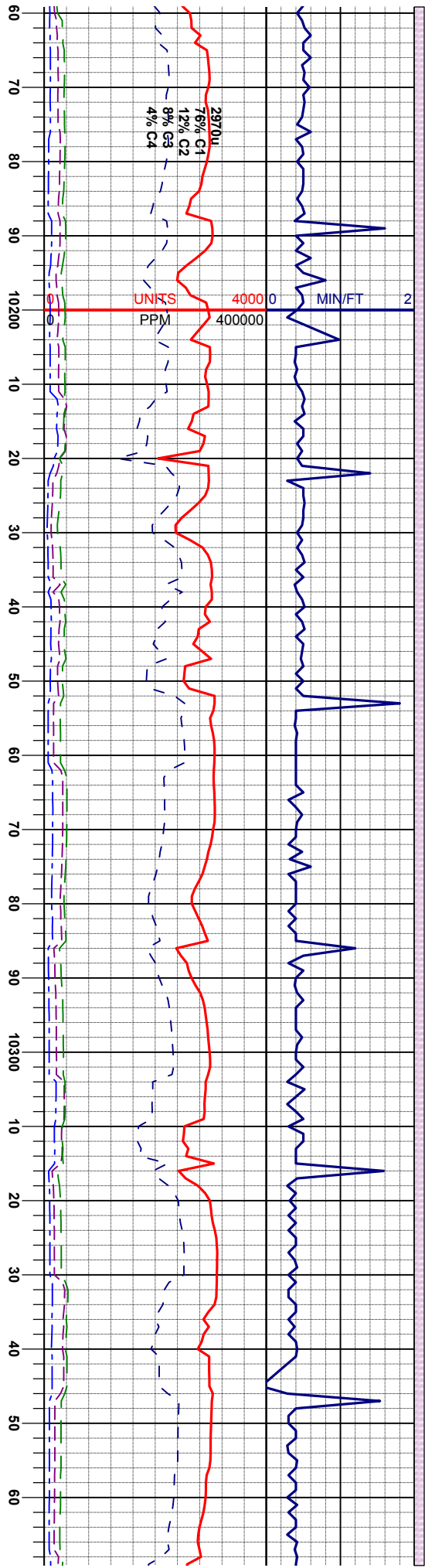
MD 9964'  
INC 91.42°  
AZM 179.17°  
TVD 6748.03°

MD 10027'  
INC 92.10°  
AZM 179.93°  
TVD 6746.09°

MD 10090'  
INC 90.25°  
AZM 178.55°  
TVD 6744.80°

MD 10153'  
INC 90.74°  
AZM 178.77°  
TVD 6744.26°





gy brn, sft, sb blk- v calc. lt yel chk flor, img bri yel cut, bri yel	CHK: lt- m gy & off. wh, gy brn, sft, sb blk- sb pty, rthy lstr, mot tex, v calc. lt yel chk flor, tr calcite, tr mnt w/mod stmg bri yel cut, bri yel UV str, lt brn WH lt	CHK: lt- m gy & off. wh, gy brn, sft, sb blk- sb pty, rthy lstr, mot tex, v calc. lt yel chk flor, MRL: m-dk gy, frm, brit, sb pty- sb blk, sl rthy-sb gsy lstr, silty tex, tr calcite, w/mod stmg bri yel cut, bri yel UV str, lt brn WH lt	MRL: m-dk gy, frm, brit, sb pty- sb blk, sl rthy-sb gsy lstr, silty tex, sl tr fos, CHK: lt- m gy & off. wh, gy brn, sft, sb blk- sb pty, rthy lstr, mot tex, v calc. lt yel chk flor,	CHK: lt- m gy & off. wh, gy brn, sft, sb pty, rthy lstr, mot tex, v calc. lt yel w/mod- fast: stmg bri yel cut, bri yel brn WH lt
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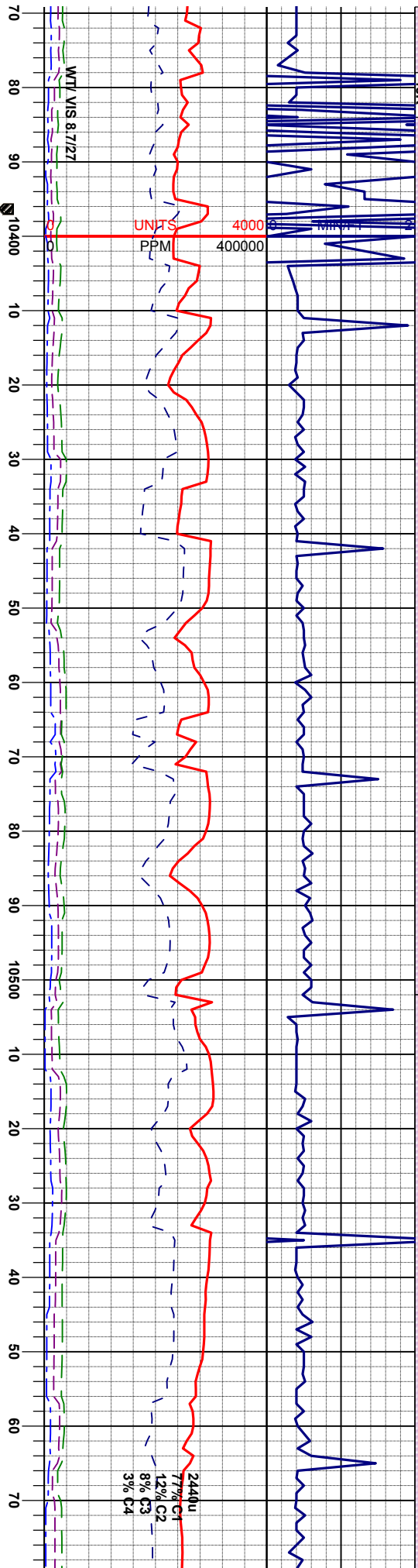
MD 10217'  
INC 90.25°  
AZM 178.37°  
TVD 6743.71'

MD 10280'  
INC 90.56°  
AZM 178.48°  
TVD 6743.26'

MD 10343'  
INC 90.19°  
AZM 178.30°  
TVD 6742.86'







2/1/12

sb biky-  
ai chk flr,  
UV sin, lt

CHK: lt- m gy & off: wh, gy brn, sft, sb biky-  
sb pily, rthy lstr, mot tex, v calc, lt yel chk flr,  
w/mod- fast: sting bri yel cut, bri yel UV sin, lt  
brn WH lt

CHK: lt- m gy & off: wh, gy brn, sft, sb biky-  
sb pily, rthy lstr, mot tex, v calc, lt yel chk flr,  
w/mod- fast: sting bri yel cut, bri yel UV sin, lt  
brn WH lt

CHK: lt- m gy & off: wh, gy brn, sft, sb biky-  
sb pily, rthy lstr, mot tex, v calc, lt yel chk flr,  
w/mod- fast: sting bri yel cut, bri yel UV sin, lt  
brn WH lt

MRL: m-dk gy, frm, br  
rthy-sb gsy lstr, silty te  
CHK: lt- m gy & off: w  
sb pily, rthy lstr, mot t  
w/slow: sting lt- m bri  
brn WH lt

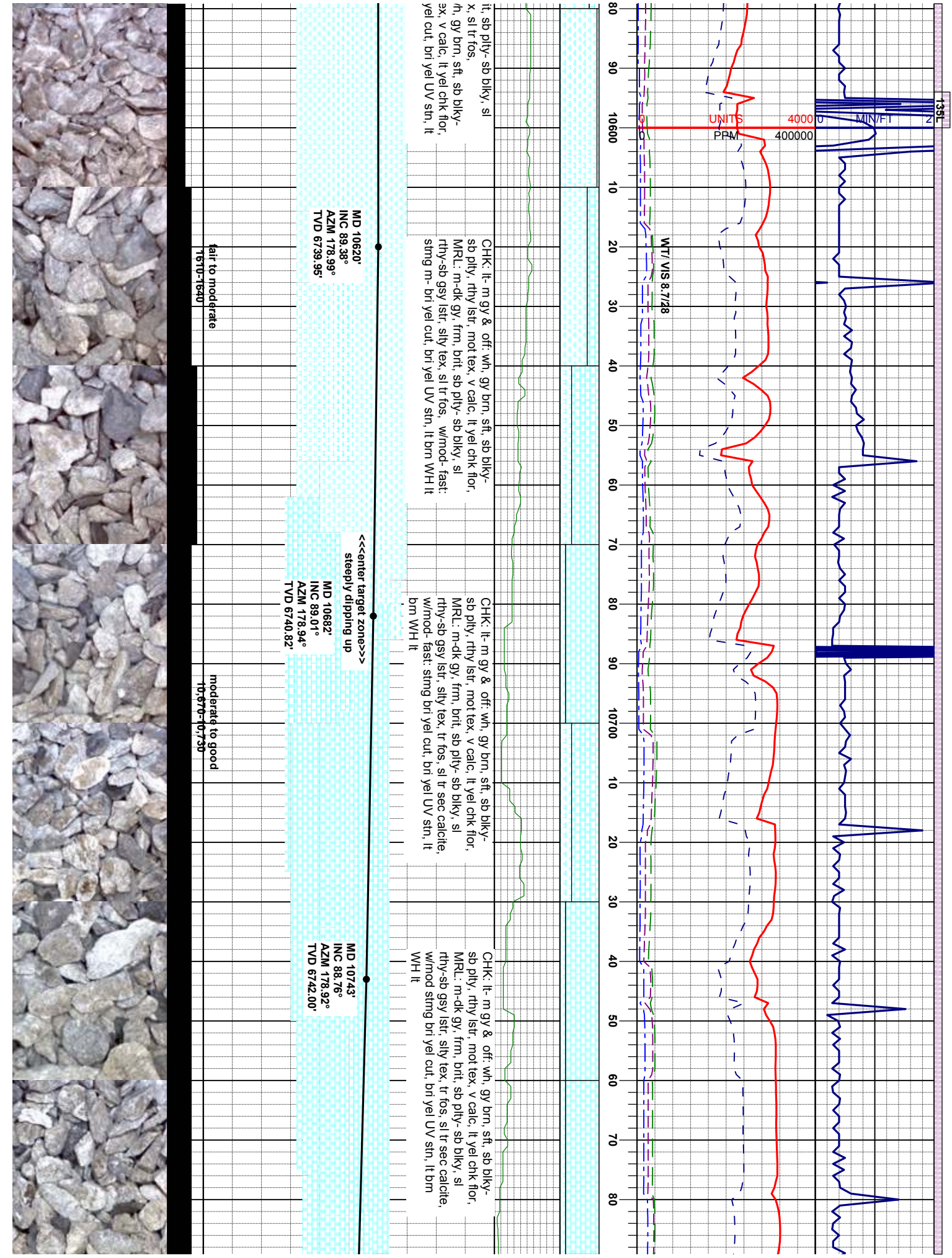
MD 10405'  
INC 90.99°  
AZM 178.78°  
TVD 6742.22'

MD 10467'  
INC 91.24°  
AZM 178.78°  
TVD 6741.02'

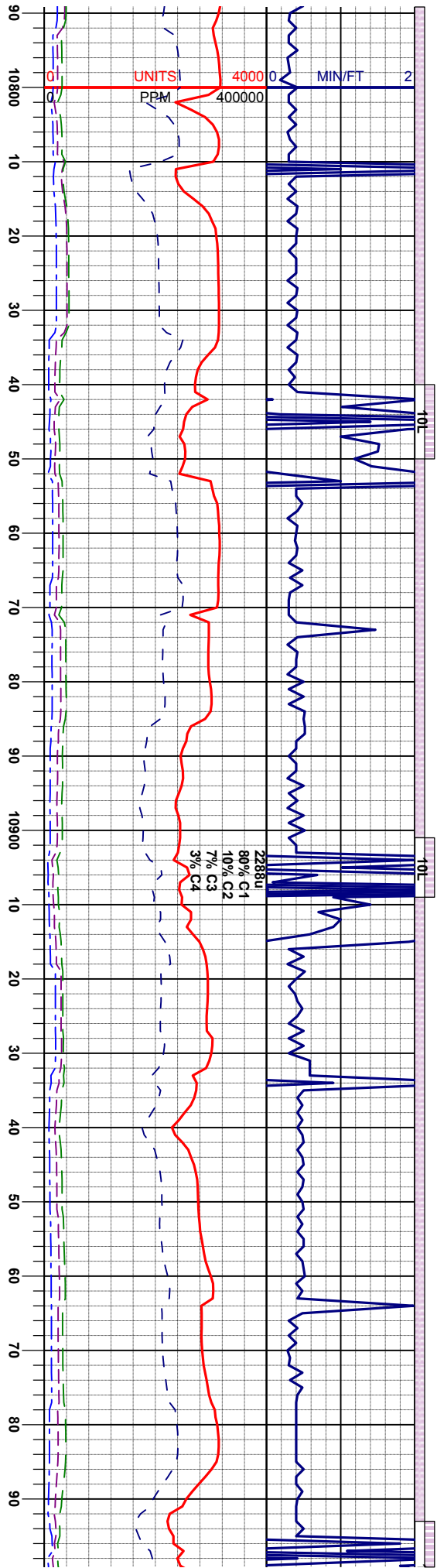
FAULT  
<<< out of target >>>

MD 10528'  
INC 90.68°  
AZM 178.59°  
TVD 6740.00'









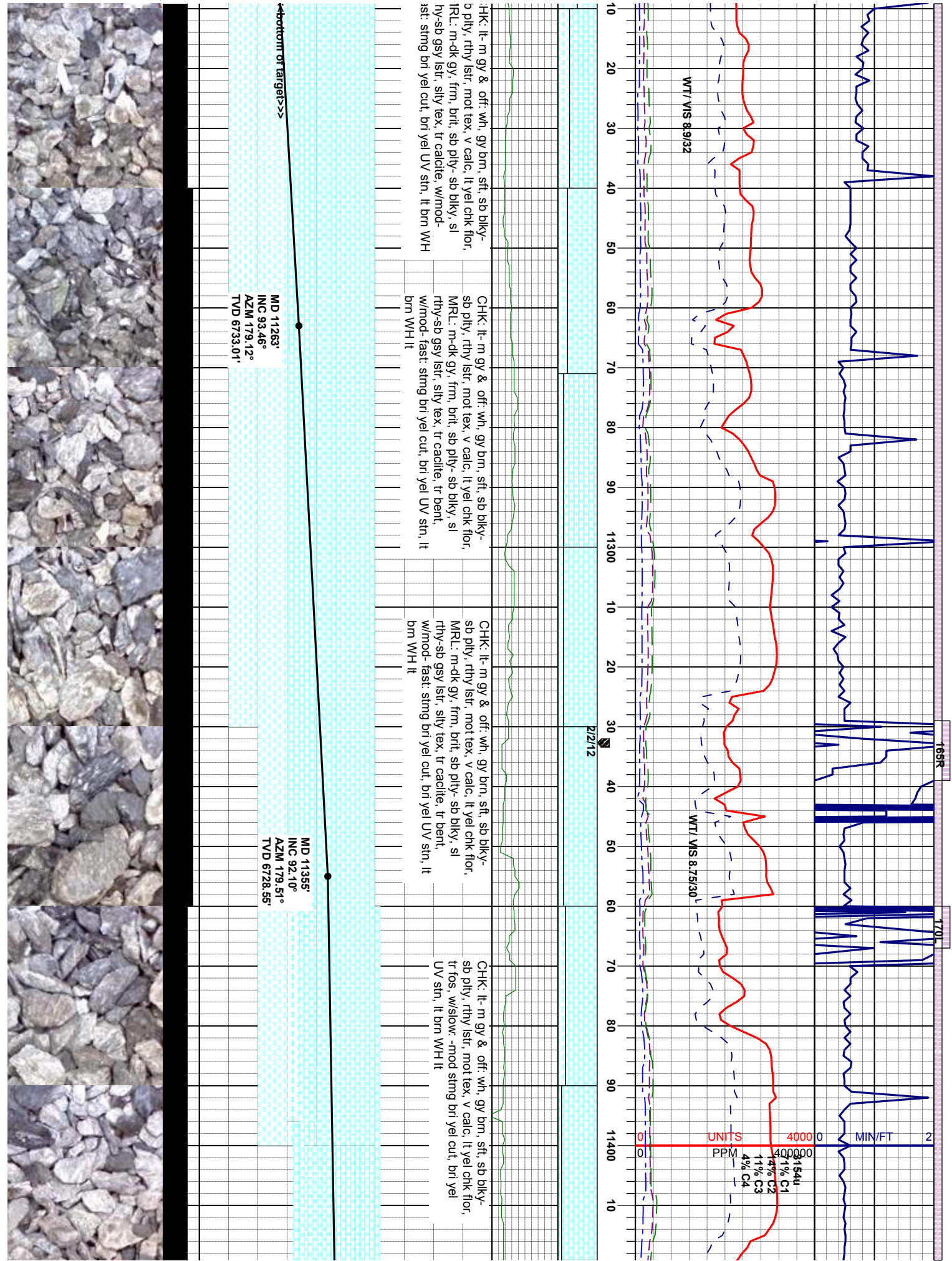
6700	CHK: lt- m gy & off. wh. gy brn. sft. sb blk- sb ply, rthy lstr. mot tex. v calc. lt yel chk flor, MR.L: m-dk gy. frm. brit. sb ply- sb blk- sl rthy- sb gsy lstr. silty tex. tr fos. w/mod- fast: stimg bri yel cut, bri yel UV sn. lt brn WH lt	CHK: lt- m gy & off. wh. gy brn. sft. sb blk- sb ply, rthy lstr. mot tex. v calc. lt yel chk flor, MR.L: m-dk gy. frm. brit. sb ply- sb blk- sl rthy- sb gsy lstr. silty tex. tr bent. tr- mod fos, w/slow- - mod stimg m- bri yel cut, bri yel UV sn. lt brn WH lt	CHK: lt- m gy & off. wh. gy brn. sft. sb blk- sb ply, rthy lstr. mot tex. v calc. lt yel chk flor, MR.L: m-dk gy. frm. brit. sb ply- sb blk- sl rthy- sb gsy lstr. silty tex. tr sec calcite, tr bent, mod fos. w/slow- - mod stimg lt- m bri yel cut, yelbrn UV sn. lt brn WH lt	MR.L: m-dk gy. frm. brit. sb ply- sb blk- sl rthy- sb gsy lstr. silty tex. CHK: lt- m gy & off. wh. gy brn. sft. sb blk- sb ply, rthy lstr. mot tex. v calc. lt yel chk flor. tr bent. tr- mod sec calcite, mod fos. w/slow- - mod stimg lt- m bri yel cut, yelbrn UV sn. lt brn WH
tvd scale change 6710'-6760' TVD				
MD 10805' INC 88.09° AZM 178.82° TVD 6743.71'				
MD 10866' INC 89.07° AZM 178.91° TVD 6745.22'				
<<<bottom of target>>>				
MD 10927' INC 91.17° AZM 178.81° TVD 6745.09'				
<<<bottom of target>>>				
fair to moderate 10880-10940				



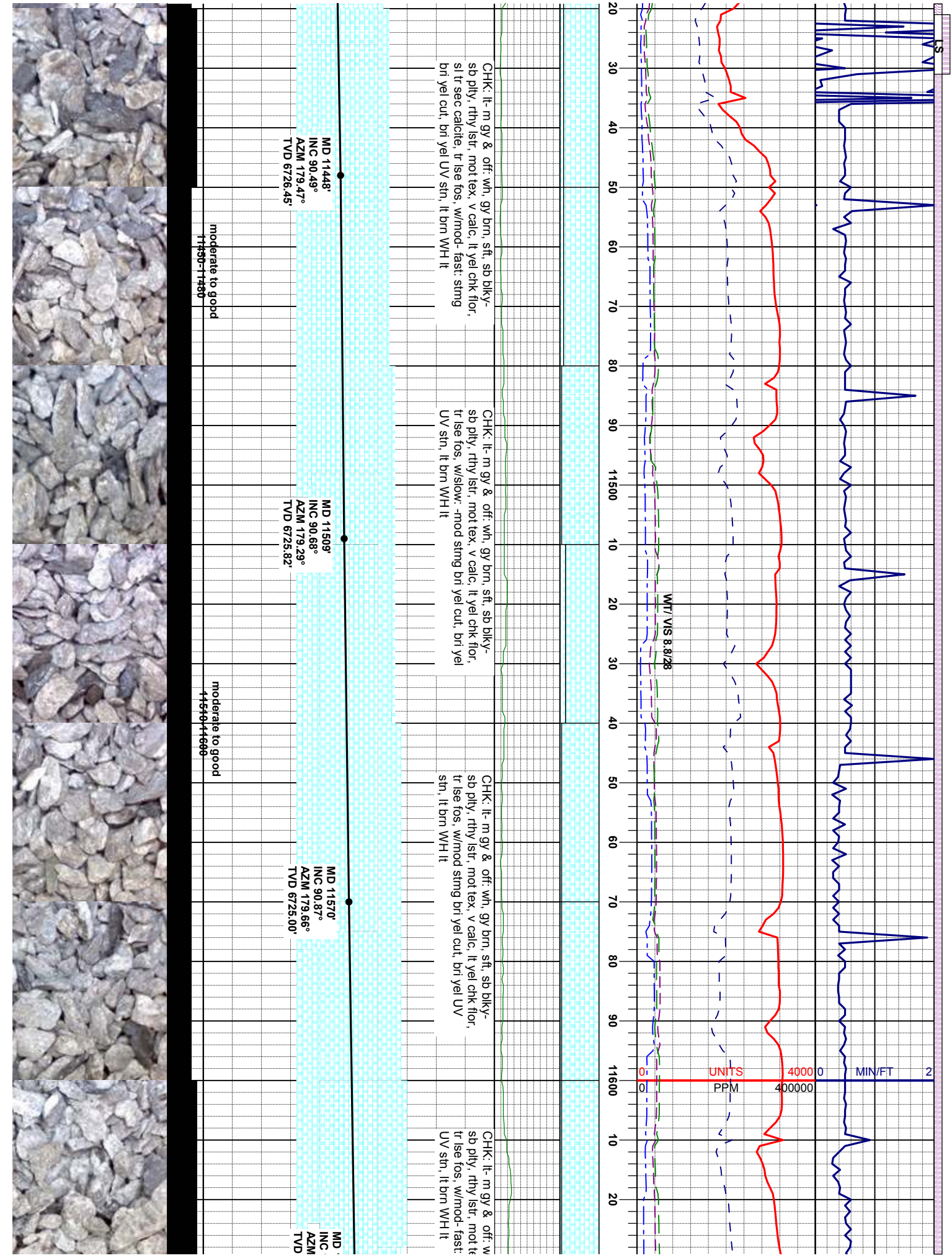




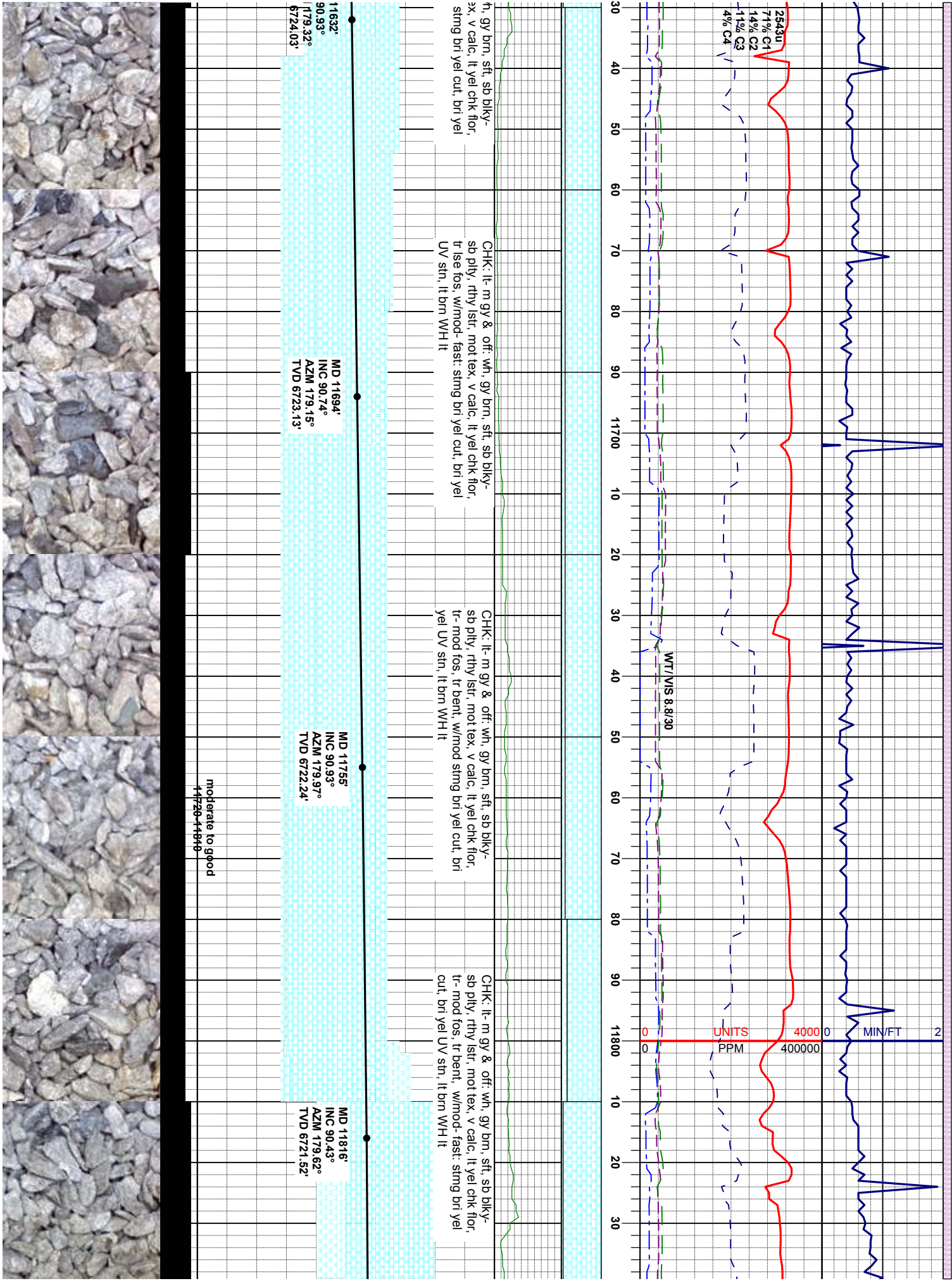


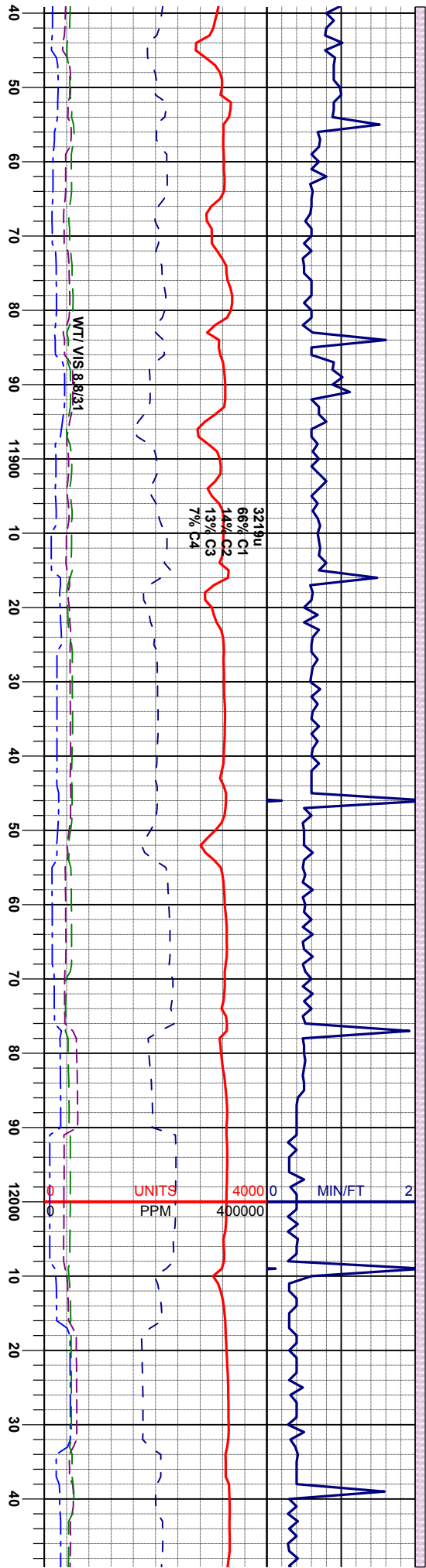












MR: m-dk gy, frm, brit, sb pily-sb blk, sl  
rthy-sb gsy lst, silty tex.  
CHK: lt-m gy & off, wh, gy brn, sft, sb blk-  
sb pily, rthy lst, mot tex, v calc, lt yel chk flr,  
tr-mod fos, w/slow, -mod stmg bri yel cut, bri  
yel UV stn, lt brn WH lt

CHK: lt-m gy & off, wh, gy brn, sft, sb blk-  
sb pily, rthy lst, mot tex, v calc, lt yel chk flr,  
tr fos, w/mod-fast, stmg bri yel cut, bri yel UV  
stn, lt brn WH lt

CHK: lt-m gy & off, wh, gy brn, sft, sb blk-  
sb pily, rthy lst, mot tex, v calc, lt yel chk flr,  
tr fos, w/mod-fast, stmg bri yel cut, bri yel UV  
stn, lt brn WH lt

CHK: lt-m gy & off, w  
sb pily, rthy lst, mot te  
tr lee fos, w/mod-fast  
UV stn, lt brn WH lt

MD 13498'  
INC 90.12°  
AZM 178.53°  
TVD 6702.70'

MD 11878'  
INC 90.37°  
AZM 179.57°  
TVD 6721.08'

MD 11939'  
INC 90.00°  
AZM 179.64°  
TVD 6720.88'

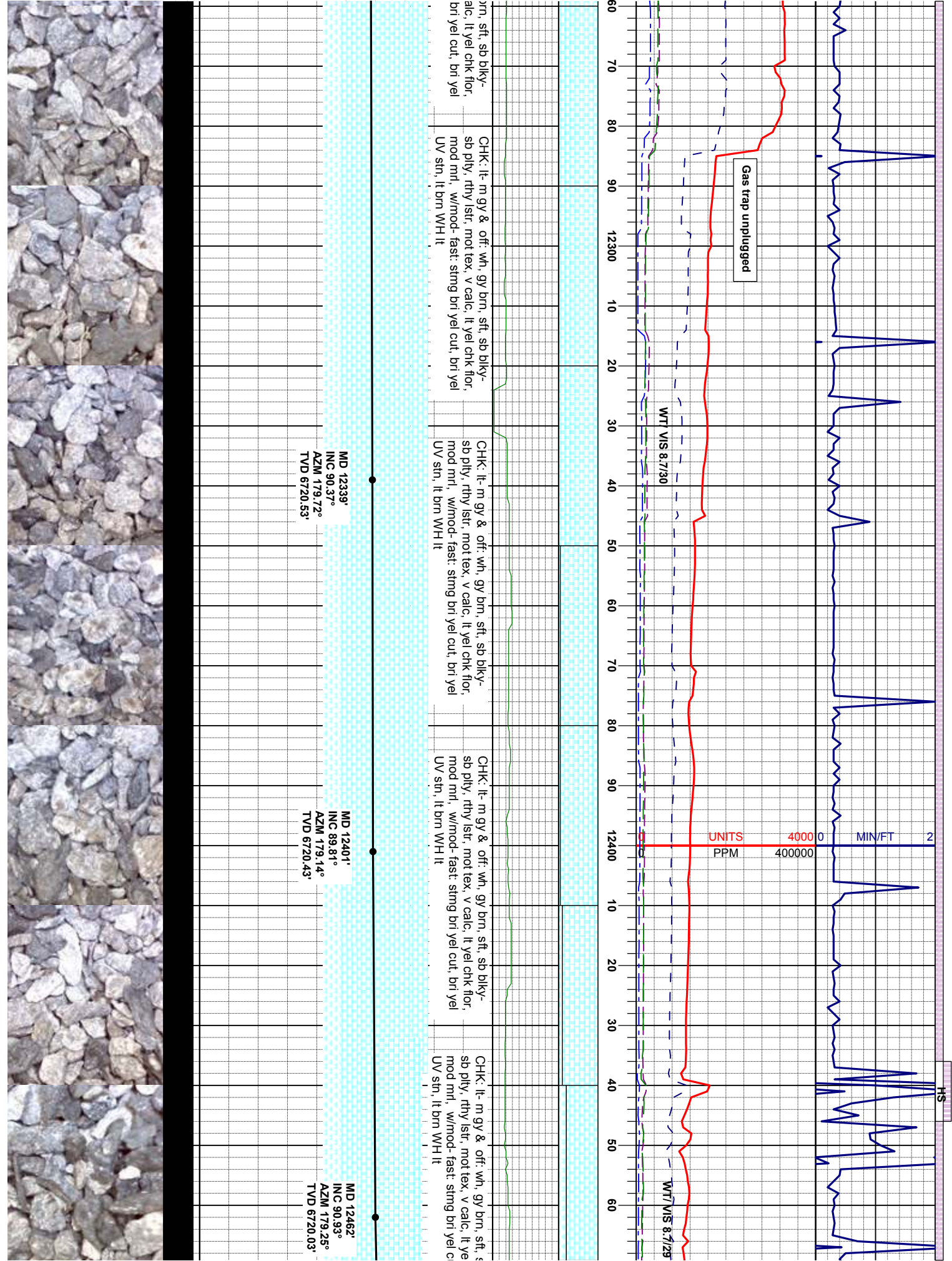
MD 12001'  
INC 89.69°  
AZM 179.36°  
TVD 6721.05'

moderate to good  
11900-12050



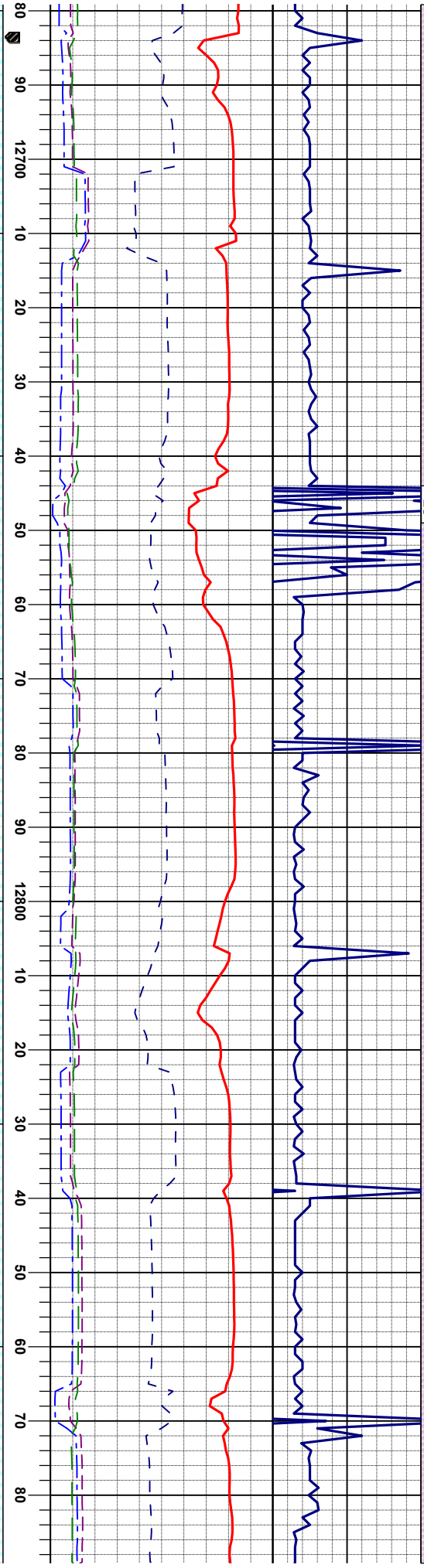












2/3/12

1. gy brn, sft, sb blk-  
x, v calc, lt yel chk flor,  
ting bri yelgrn thk cut,  
1 WH lt

CHK: lt- m gy & off: wh, gy brn, sft, sb blk-  
sb pily, rthy lstr, mot tex, v calc, lt yel chk flor,  
sme md, sl tr fos, w/mod- fast: stmg bri  
yelgrn thkcut, bri yelgrn UV sn, lt brn WH lt

6675

MD 12738°  
INC 91.61°  
AZM 179.20°  
TVD 6712.94°

CHK: lt- m gy & off: wh, gy brn, sft, sb blk-  
sb pily, rthy lstr, mot tex, v calc, lt yel chk flor,  
MRL: m-dk gy, frm, brit, sb pily- sb blk, sl  
rthy-sb gsy lstr, silty tex, sl tr fos, w/fast: stmg  
bri yel cut, bri yel UV sn, lt brn WH lt

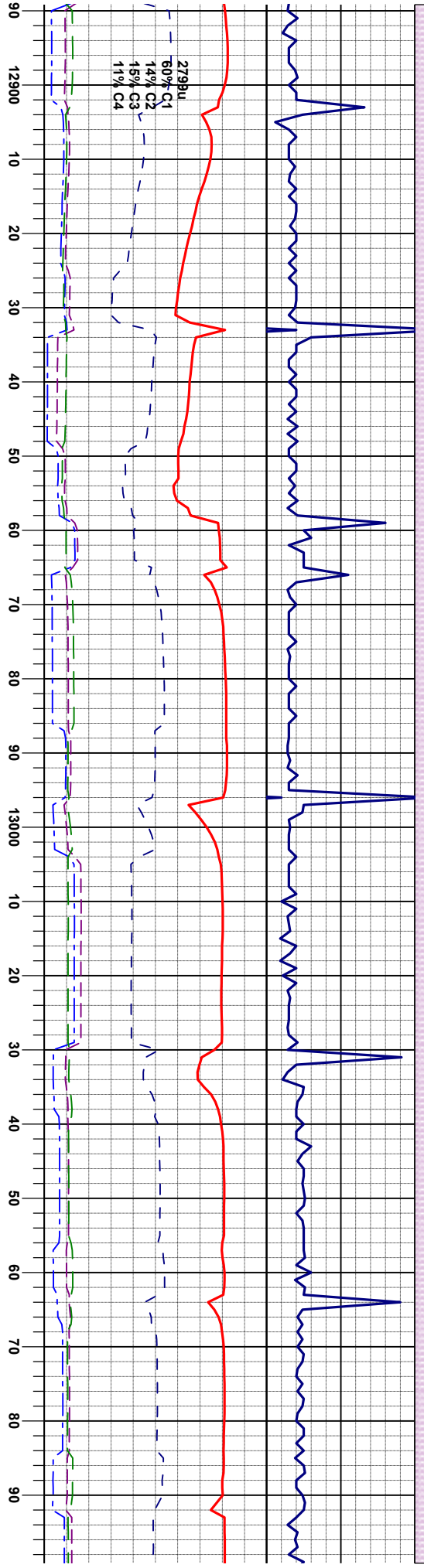
SCALE CHANGE  
6675-6725

moderate to good  
2779-12830

6725







CHK: lt- m gy & off: wh, gy brn, sft, sb blk-  
sb pily, rthy lstr, mot tex, v calc, lt yel chk flor,  
sme mrl, tr fos, w/fast: sting bri yel cut, bri yel  
UV sin, lt brn WH lt

CHK: lt- m gy & off: wh, gy brn, sft, sb blk-  
sb pily, rthy lstr, mot tex, v calc, lt yel chk flor,  
MRL: m-dk gy, frm, brit, sb pily- sb blk-yl, sl  
rthy-sb gsy lstr, silty tex, tr fos, w/mod- fast:  
sting bri yel cut, bri yel UV sin, lt brn WH lt

CHK: lt- m gy & off: wh, gy brn, sft, sb blk-  
sb pily, rthy lstr, mot tex, v calc, lt yel chk flor,  
MRL: m-dk gy, frm, brit, sb pily- sb blk-yl, sl  
rthy-sb gsy lstr, silty tex, tr lse fos, w/mod-  
fast: sting bri yel cut, bri yel UV sin, lt brn WH  
lt

CHK: lt- m gy & off: wh  
sb pily, rthy lstr, mot tex;  
sme mrl, tr fos, w/mod:  
UV sin, lt brn WH lt

MD 12928'  
INC 90.74°  
AZM 178.76°  
TVD 6710.07'

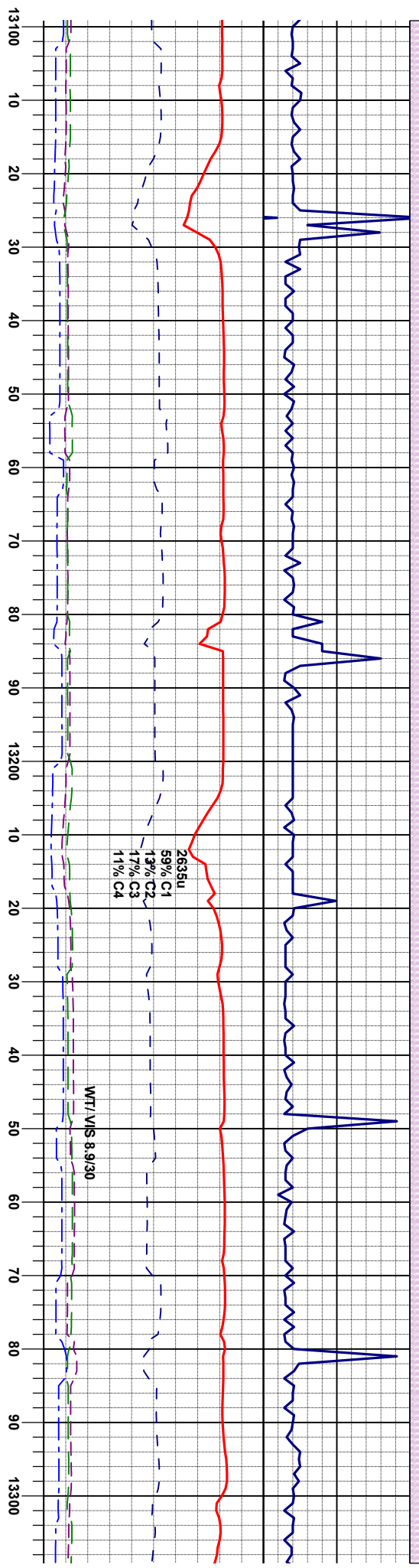
MD 12990'  
INC 90.80°  
AZM 178.58°  
TVD 6709.24'

moderate to good  
12980-13040

MD 13053'  
INC 90.68°  
AZM 178.62°  
TVD 6708.42'

moderate to good  
13040-13100





l, gy brn, sft, sb blk-y-x, v calc, lt yel chk flor, sting bri yel cut, bri yel

CHK: lt- m gy & off: wh, gy brn, sft, sb blk-y-sb pily, rthy lstr, mot tex, v calc, lt yel chk flor, sme mrl, tr fos, w/mod- fast: sting bri yel cut, bri yel UV sin, lt brn WH lt

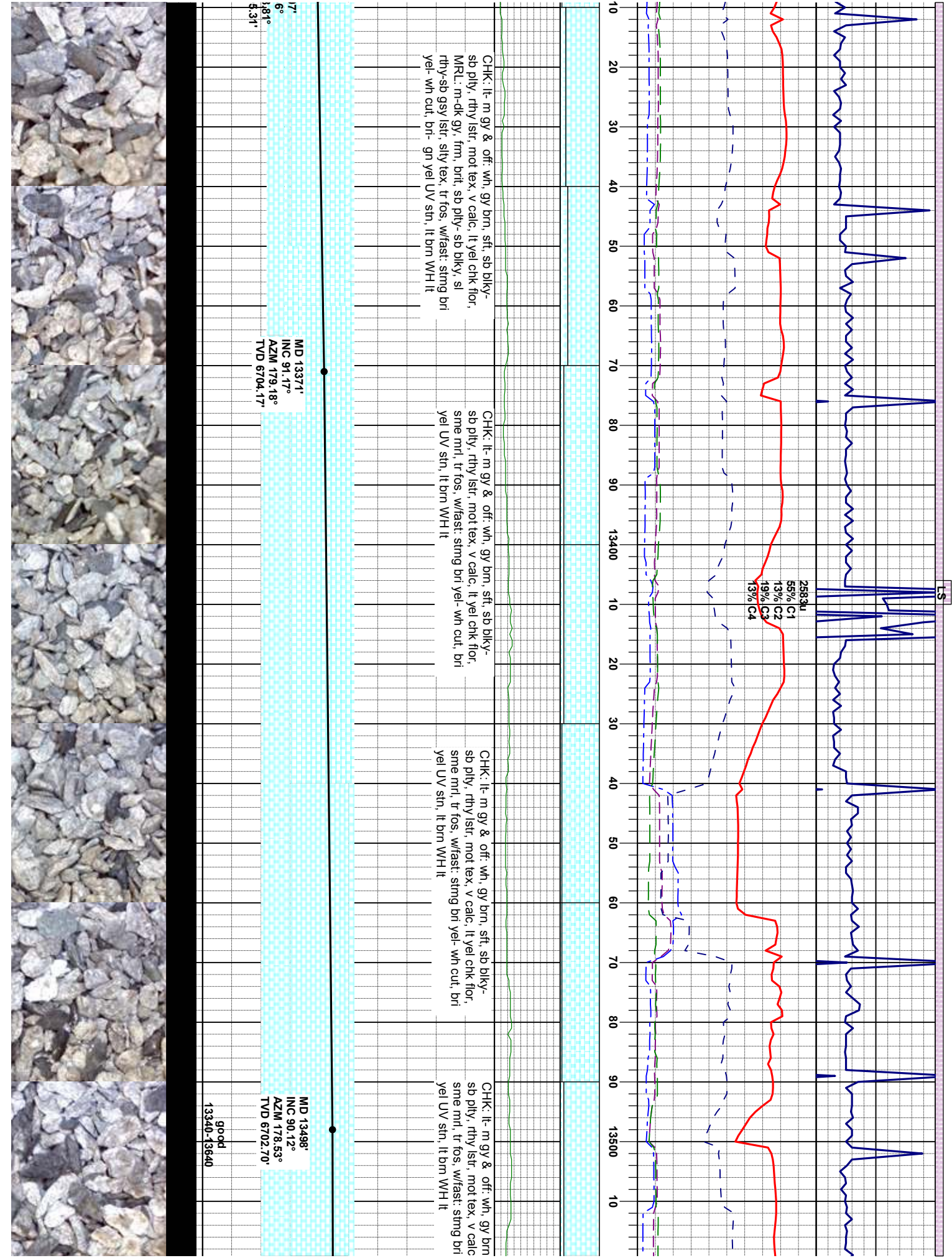
CHK: lt- m gy & off: wh, gy brn, sft, sb blk-y-sb pily, rthy lstr, mot tex, v calc, lt yel chk flor, MRL: m-dk gy, frm, brt, sb pily- sb blk-y, si rthy-sb gsy lstr, sily tex, tr fos, w/fast: sting bri yel- wh cut, bri- gn yel UV sin, lt brn WH lt

CHK: lt- m gy & off: wh, gy brn, sft, sb blk-y-sb pily, rthy lstr, mot tex, v calc, lt yel chk flor, sme mrl, tr fos, w/fast: sting bri yel- wh cut, bri - gn yel UV sin, lt brn WH lt

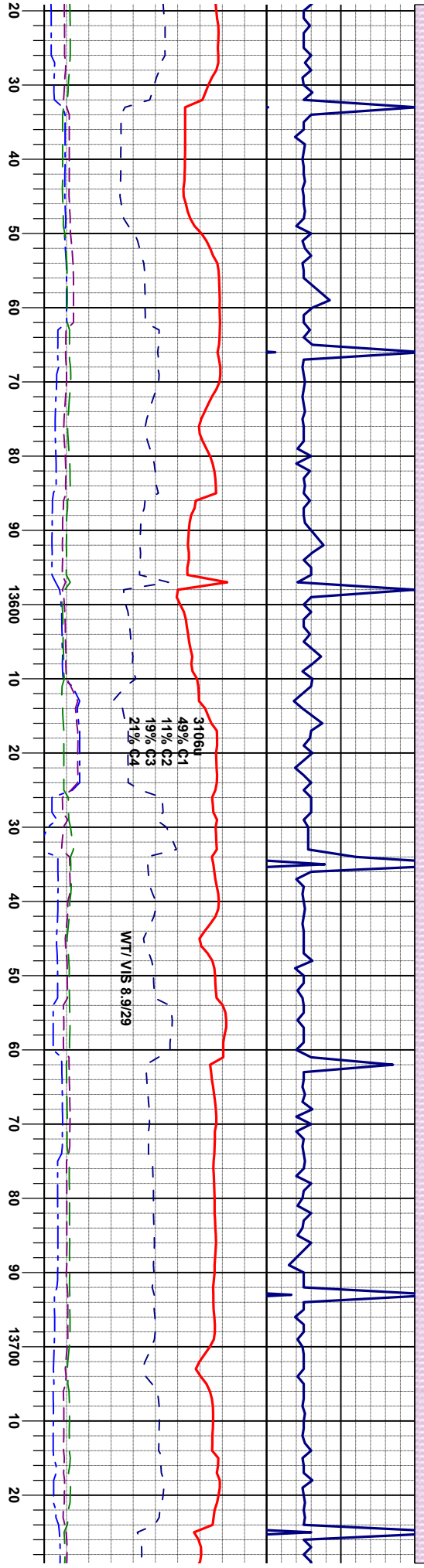
MD 13117' INC 90.74° AZM 178.90° TVD 6707.63'	MD 13180' INC 90.49° AZM 178.63° TVD 6706.95'	MD 13244' INC 90.80° AZM 178.95° TVD 6706.22'	MD 1330' INC 90.8 AZM 178 TVD 670
	moderate to good 13160-13190	good to excellent 13190-13340	











sft. sb blkly-  
 , lt yel chk flor.  
 yel- wh cut, bri

CHK: lt- m gy & off: wh, gy brn, sft, sb blkly-  
 sb plty, rthy lstr, mot tex, v calc. lt yel chk flor.  
 sme mtl, tr ros, w/fast: sting bri yel- wh cut, bri  
 yel UV str, lt brn WH lt

CHK: lt- m gy & off: wh, gy brn, mot, sft, sb  
 blkly- sb plty, rthy lstr, gsy tex, v calc. lt yel chk  
 flor,  
 MRL: m-dk gy, frm, brit, sb plty- sb blkly, sl  
 rthy-sb gsy lstr, silty tex, abnt bent, w/mod-  
 fast: sting bri yel- wh cut, bri yel UV str, lt brn  
 WH lt

CHK: lt- m gy & off: wh, gy brn, mot, sft, sb  
 blkly- sb plty, rthy lstr, gsy tex, v calc. lt yel chk  
 flor,  
 MRL: m-dk gy, frm, brit, sb plty- sb blkly, sl  
 rthy-sb gsy lstr, silty tex, abnt bent, w/mod-  
 fast: sting bri yel- wh cut, bri yel UV str, lt brn  
 WH lt

CHK: lt- m gy & off: wh, gy br  
 blkly- sb plty, rthy lstr, gsy tex,  
 flor, sme mtl, abnt bent, w/fas  
 wh cut, bri yel UV str, lt brn W

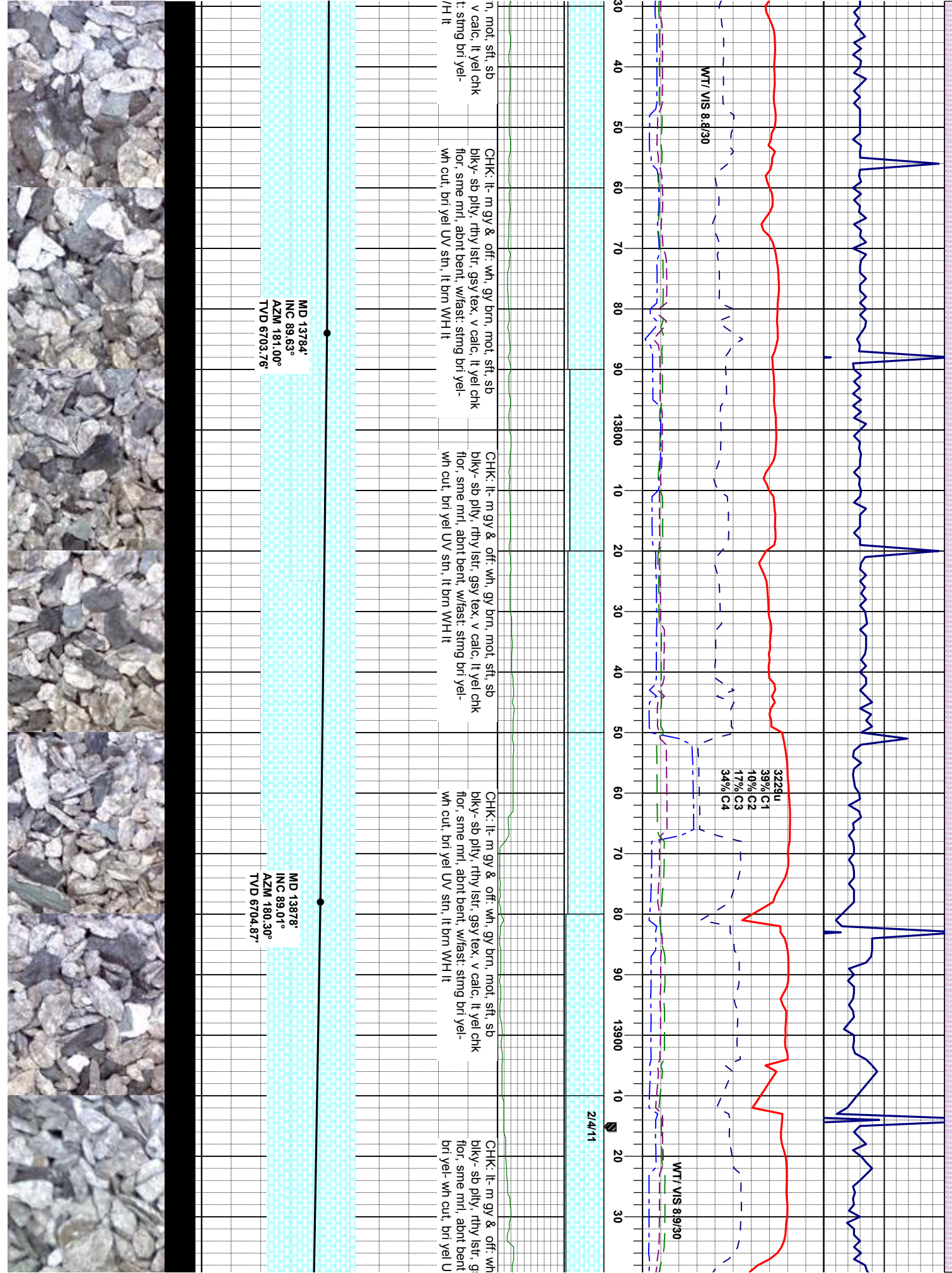
MD 13562'  
INC 90.19°  
AZM 178.96°  
TVD 6702.53'

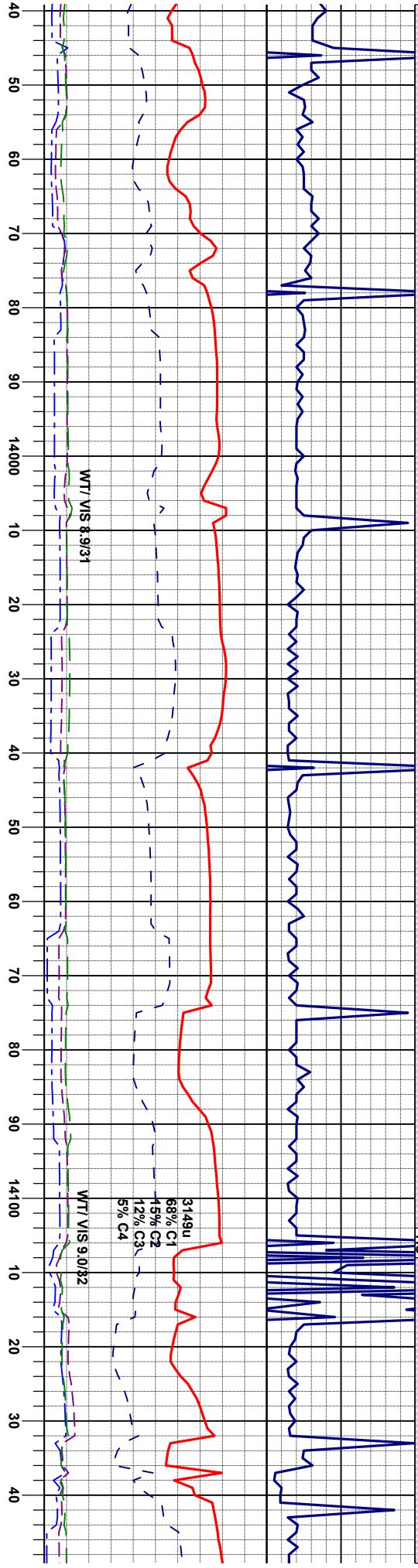
MD 13626'  
INC 89.38°  
AZM 178.01°  
TVD 6702.77'

MD 13689'  
INC 89.75°  
AZM 180.05°  
TVD 6703.25'









gy brn, mot, sft, sd sy tex, v calc, lt yel chk tr calcite, wfast: stmg v sin, lt brn WH lt	CHK: lt- m gy & off: wh, gy brn, mot, sft, sd biky- sb ply, rthy lstr, gsy tex, v calc, lt yel chk flor. MRI: m-dk gy, frm, bnt, sb ply- sb biky, sl rthy- sb gsy lstr, silty tex, abnt bent, tr calcite w/mod- fast: stmg bri yel- wh cut, bri yel UV sin, lt brn WH lt	CHK: lt- m gy & off: wh, gy brn, mot, sft, sd biky- sb ply, rthy lstr, gsy tex, v calc, lt yel chk flor. MRI: m-dk gy, frm, bnt, sb ply- sb biky, sl rthy- sb gsy lstr, silty tex, tr fos, mod bent, w/mod stmg bri yel cut, bri yel UV sin, lt brn WH lt	CHK: lt- m gy & off: wh, gy brn, mot, sft, sd biky- sb ply, rthy lstr, gsy tex, v calc, lt yel chk flor. MRI: m-dk gy, frm, bnt, sb ply- sb biky, sl rthy- sb gsy lstr, silty tex, tr fos, mod bent, w/mod stmg bri yel cut, bri yel UV sin, lt brn WH lt
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MD 13973'  
INC 88.95°  
AZM 180.39°  
TVD 6705.56'

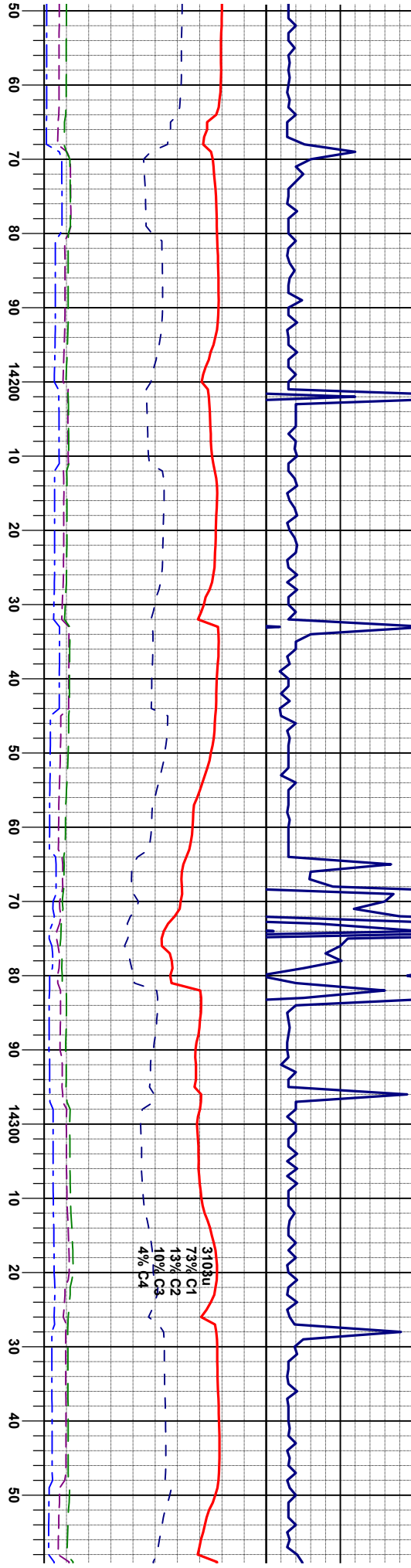
MD 14069'  
INC 88.52°  
AZM 179.84°  
TVD 6708.68'

MD 14132'  
INC 88.83°  
AZM 179.95°  
TVD 6710.14'

moderate to good  
13990-14150







3108u  
73% C1  
13% C2  
10% C3  
4% C4

CHK: lt- m gy & off: wh, gy brn, mot, sft, sb  
biky- sb pily, rthy lstr, gsy tex, v calc, lt yel chk  
flor.  
MRI: m-dk gy, frm, brt, sb pily- sb biky, sl  
rthy- sb gsy lstr, silty tex, tr fos, tr bent, w/slow.  
-mod string bri yel cut, bri yel UV sin, lt brn  
WH lt

CHK: lt- m gy & off: wh, gy brn, mot, sft, sb  
biky- sb pily, rthy lstr, gsy tex, v calc, lt yel chk  
flor.  
MRI: m-dk gy, frm, brt, sb pily- sb biky, sl  
rthy- sb gsy lstr, silty tex, tr fos, tr bent, w/slow.  
-mod string bri yel cut, bri yel UV sin, lt brn  
WH lt

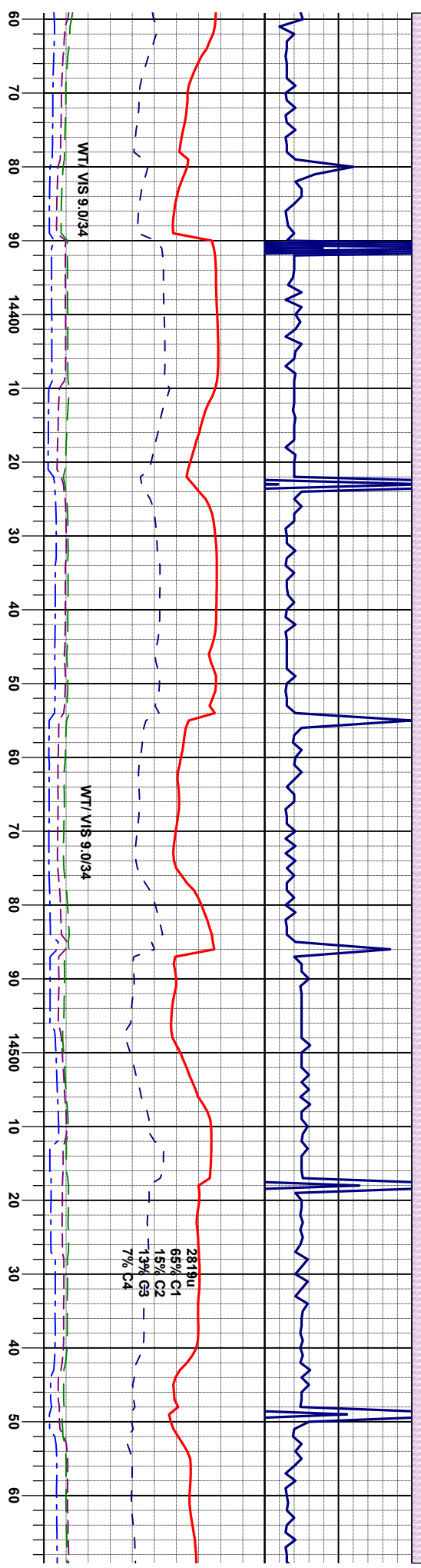
CHK: lt- m gy & off: wh, gy brn, mot, sft, sb  
biky- sb pily, rthy lstr, gsy tex, v calc, lt yel chk  
flor.  
MRI: m-dk gy, frm, brt, sb pily- sb biky, sl  
rthy- sb gsy lstr, silty tex, tr fos, tr bent, w/slow.  
-mod string bri yel cut, bri yel UV sin, lt brn  
WH lt

CHK: lt- m gy & off: w  
biky- sb pily, rthy lstr,  
flor, sme mrl, tr fosw/s  
cut, bri yel UV sin, lt b

MD 14196'  
INC 87.96°  
AZM 179.27°  
TVD 6711.94'

MD 14291'  
INC 89.63°  
AZM 179.19°  
TVD 6713.94'





h, gy brn, mot, sft, sb  
gsy tex, v calc, lt yel chk  
low: -mod string bri yel  
m WH lt

CHK: lt- m gy & off: wh, gy brn, mot, sft, sb  
bkly- sb pily, rthy istr, gsy tex, v calc, lt yel chk  
flor, sme mrl, tr fos w/fast: string bri yel- wh  
cut, bri yel UV stn, lt brn WH lt

CHK: lt- m gy & off: wh, gy brn, mot, sft, sb  
bkly- sb pily, rthy istr, gsy tex, v calc, lt yel chk  
flor, sme mrl, tr fos, tr calcite, w/slow: -mod  
string bri yel cut, bri yel UV stn, lt brn WH lt

CHK: lt- m gy & off: wh, gy brn, mot, sft, sb  
bkly- sb pily, rthy istr, gsy tex, v calc, lt yel chk  
flor,  
MRL: m-dk gy, frm, bri, sb pily- sb bkly, sl  
rthy-sb gsy istr, silty tex, mod fos, tr bentl, tr  
calcite, w/slow: -mod string bri yel cut, bri yel  
UV stn, lt brn WH lt

MD 14387'  
INC 89.94°  
AZM 179.71°  
TVD 6714.30

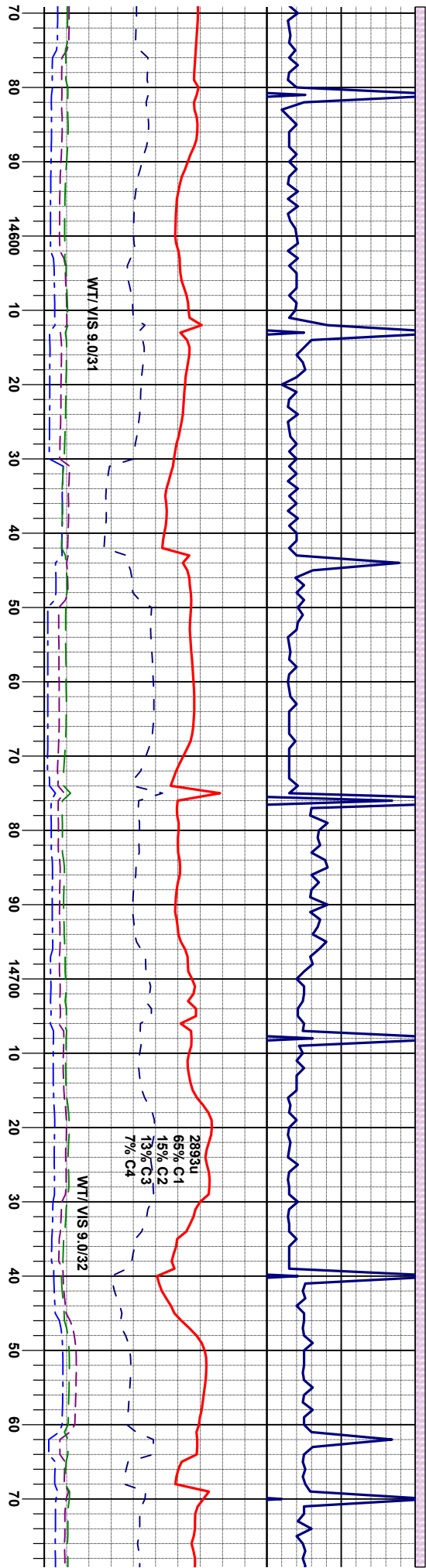
MD 14451'  
INC 90.31°  
AZM 179.03°  
TVD 6714.16'

MD 14513'  
INC 90.00°  
AZM 178.42°  
TVD 6713.99'

moderate  
14450-14420







CHK: lt- m gy & off. wh, gy brn, mot, sft, sb  
biky- sb pily, rthy lstr, gsy tex, v calc, lt yel chk  
flor.  
MRL: m-dk gy, frm, bnt, sb pily- sb biky, sl  
rthy- sb gsy lstr, silty tex, mod fos, tr bent, tr  
calcite, w/slow- mod stmg bri yel cut, bri yel  
UV stn, lt brn WH lt

CHK: lt- m gy & off. wh, gy brn, mot, sft, sb  
biky- sb pily, rthy lstr, gsy tex, v calc, lt yel chk  
flor.  
MRL: m-dk gy, frm, bnt, sb pily- sb biky, sl  
rthy- sb gsy lstr, silty tex, mod fos, tr bent, tr  
calcite, w/slow- mod stmg bri yel cut, bri yel  
UV stn, lt brn WH lt

CHK: lt- m gy & off. wh, gy brn, mot, sft, sb  
biky- sb pily, rthy lstr, gsy tex, v calc, lt yel chk  
flor, sme mnt, tr fos, tr calcite, w/ast: stmg bri  
yel- wh cut, brn yel UV stn, lt brn WH lt

CHK: lt- m gy & off. wh, gy brn, mot, sft, sb  
biky- sb pily, rthy lstr, gsy tex, v calc, lt yel chk  
flor, sme mnt, tr fos, tr calcite, w/ast: stmg bri  
yel- wh cut, brn yel UV stn, lt brn WH lt

MD 14577  
INC 89.63°  
AZM 178.69°  
TVD 6714.20'

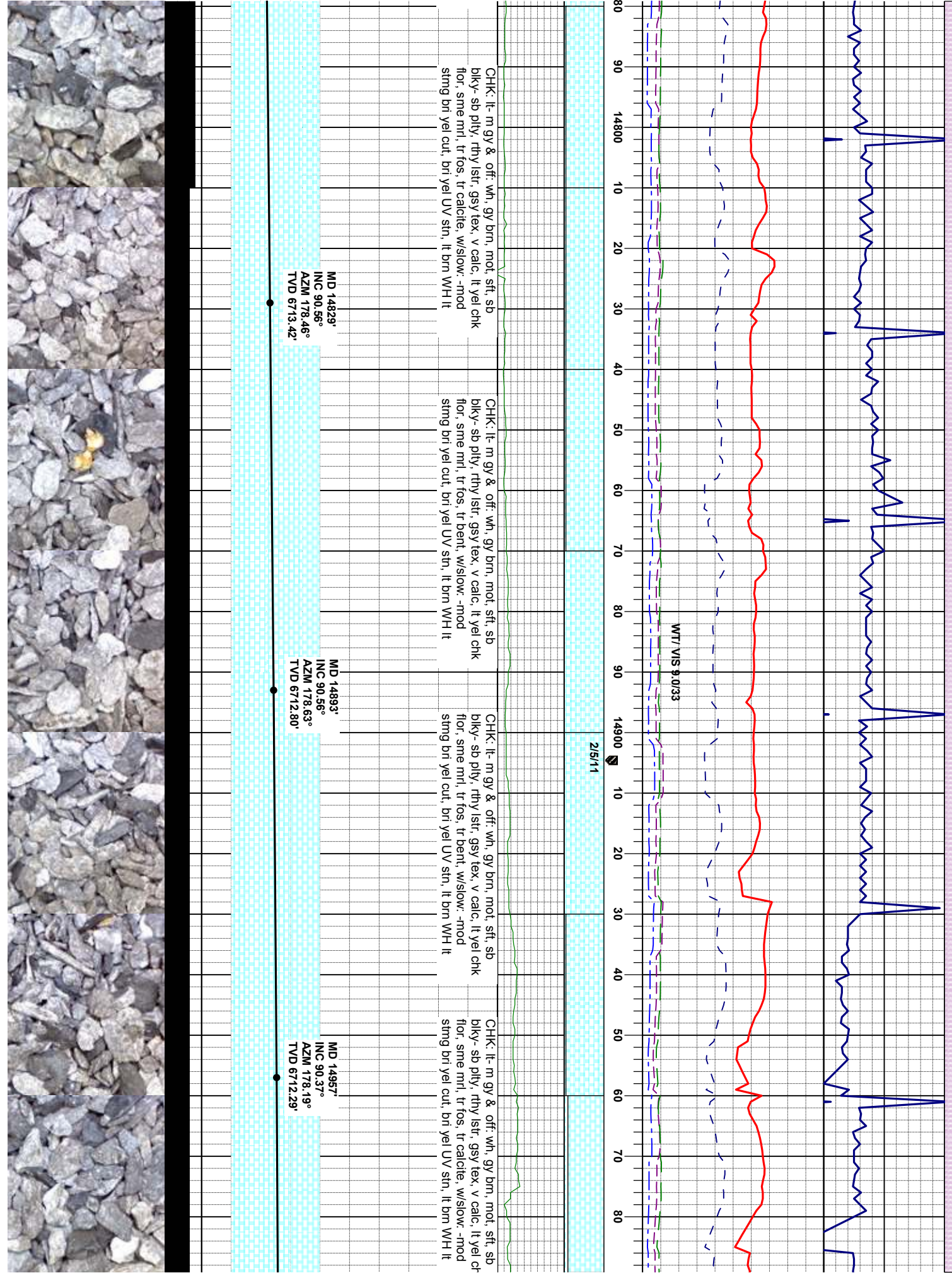
MD 14640'  
INC 89.81°  
AZM 178.60°  
TVD 6714.50'

MD 14704'  
INC 90.19°  
AZM 178.53°  
TVD 6714.50'

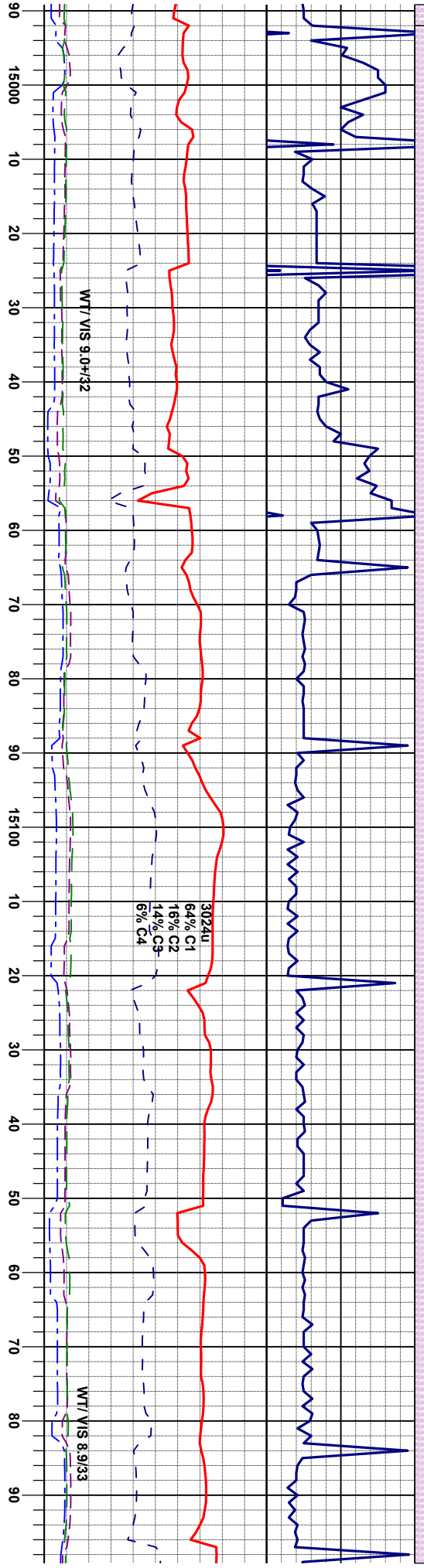
MD 14766'  
INC 90.62°  
AZM 178.15°  
TVD 6714.07'

moderate to good  
14420-14810









CHK: lt- m gy & off: wh, gy brn, mot, sft, sb  
biky- sb pily, rthy lstr, gsy tex, v calc, lt yel chk  
flor, sme mri, tr fos, tr bent, w/slow- -mod string  
brn yel cut, brn yel UV str, lt brn WH lt

CHK: lt- m gy & off: wh, gy brn, mot, sft, sb  
biky- sb pily, rthy lstr, gsy tex, v calc, lt yel chk  
flor,  
MRL: m-dk gy, frm, brit, sb pily- sb biky, sl  
rthy-sb gsy lstr, silty tex, tr fos, tr bent, w/mod  
string brn yel cut, brn yel UV str, lt brn WH lt

CHK: lt- m gy & off: wh, gy brn, mot, sft, sb  
biky- sb pily, rthy lstr, gsy tex, v calc, lt yel chk  
flor,  
MRL: m-dk gy, frm, brit, sb pily- sb biky, sl  
rthy-sb gsy lstr, silty tex, tr fos, tr bent, w/mod-  
fast: string brn yel cut, brn yel UV str, lt brn WH  
lt

CHK: lt- m gy & off: v  
biky- sb pily, rthy lstr,  
flor,  
MRL: m-dk gy, frm, bi  
rthy-sb gsy lstr, silty te  
fast: string brn yel cut,  
lt

MD 15021'  
INC 90.25°  
AZM 178.16°  
TVD 6711.94'

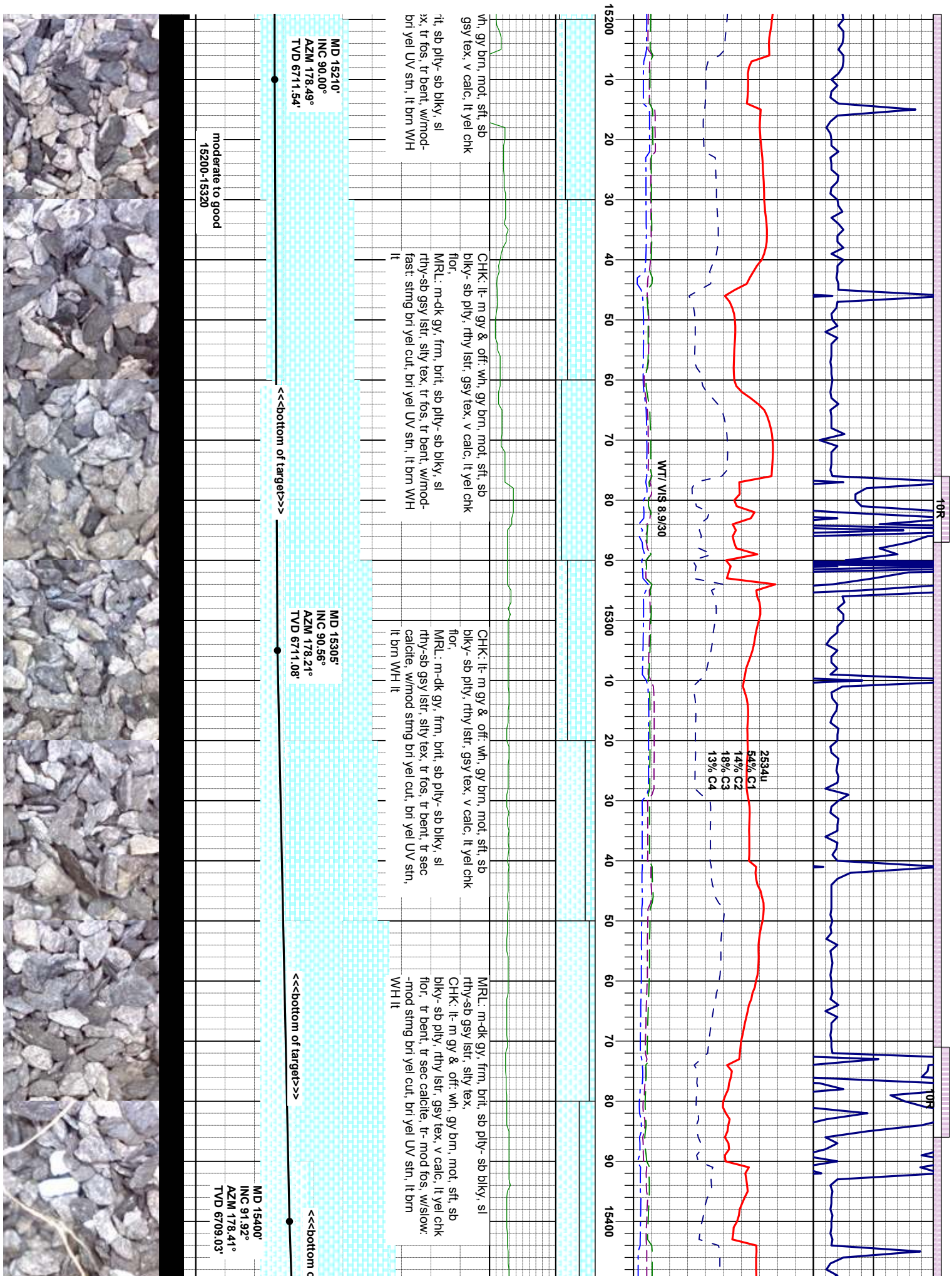
MD 15083'  
INC 90.12°  
AZM 178.33°  
TVD 6711.73'

MD 15147'  
INC 90.12°  
AZM 178.45°  
TVD 6711.60'

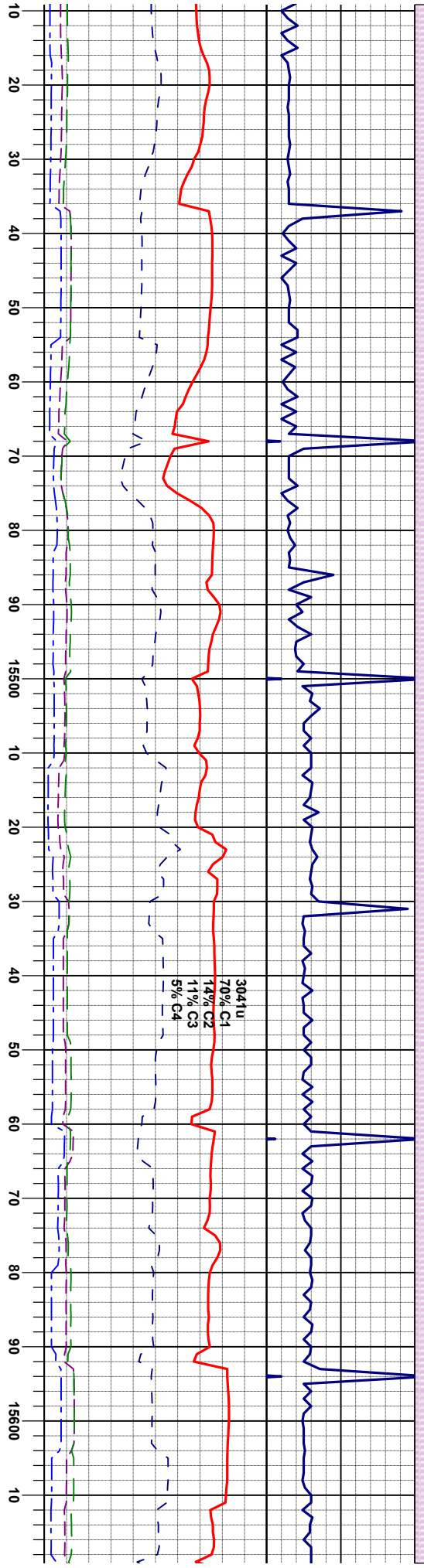
moderate to good  
15050-15170

moderate to good  
15050-15170

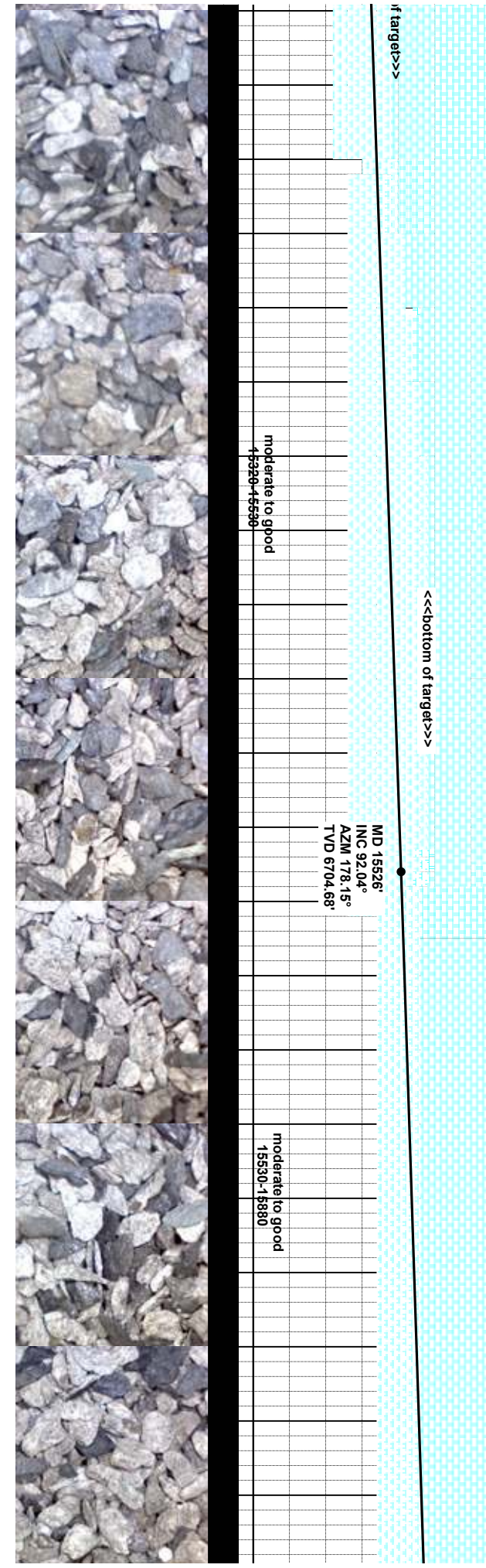




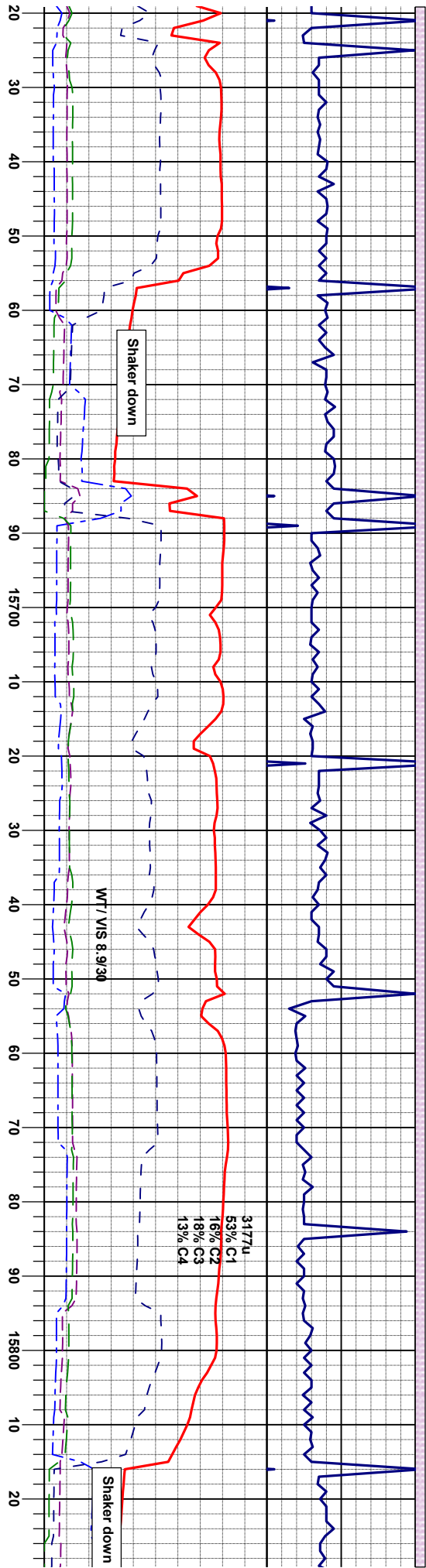




MRL: m-dk gy, frm, brlt, sb pily- sb blkly, sl rthy-sb gsy lsir, silty tex, CHK: lt- m gy & off: wh, gy brn, mot, sft, sb blkly- sb pily, rthy lsir, gsy tex, v calc, lt yel chk flor, tr bent, tr sec calcite, tr- mod fos, w/slow- -mod stimg bri yel cut, bri yel UV stn, lt brn WH lt		MRL: m-dk gy, frm, brlt, sb pily- sb blkly, sl rthy-sb gsy lsir, silty tex, CHK: lt- m gy & off: wh, gy brn, mot, sft, sb blkly- sb pily, rthy lsir, gsy tex, v calc, lt yel chk flor, tr bent, tr sec calcite, tr- mod fos, w/slow- -mod stimg bri yel cut, bri yel UV stn, lt brn WH lt		CHK: lt- m gy & off: wh, gy brn, mot, sft, sb blkly- sb pily, rthy lsir, gsy tex, v calc, lt yel chk flor, MRL: m-dk gy, frm, brlt, sb pily- sb blkly, sl rthy-sb gsy lsir, silty tex, tr fos, tr bent, w/slow- -mod stimg bri yel cut, mod bri yel UV stn, lt brn WH lt		CHK: lt- m gy & off: w blkly- sb pily, rthy lsir, MRL: m-dk gy, frm, br rthy-sb gsy lsir, silty te w/slow- -mod stimg bri stn, lt brn WH lt	
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h, gy brn, mot, sft, sb  
gsy tex, v calc, lt yel chk  
it, sb pily- sb blk, sl  
x, tr fos, mod bent,  
yel cut, mod bri yel UV

CHK: lt- m gy & off: wh, gy brn, mot, sft, sb  
blk- sb pily, rthy lstr, gsy tex, v calc, lt yel chk  
flor,  
MRL: m-dk gy, frm, brit, sb pily- sb blk, sl  
rthy-sb gsy lstr, silty tex, tr fos, tr bent, w/slow:  
-mod stmg bri yel cut, mod bri yel UV stn, lt  
brn WH lt

CHK: lt- m gy & off: wh, gy brn, mot, sft, sb  
blk- sb pily, rthy lstr, gsy tex, v calc, lt yel chk  
flor, MRL: m-dk gy, frm, brit, sb pily- sb blk,  
sl rthy-sb gsy lstr, silty tex, tr fos, tr bent,  
w/slow: -mod stmg bri yel cut, mod bri yel UV  
stn, lt brn WH lt

CHK: lt- m gy & off: wh, gy brn, mot, sft, sb  
blk- sb pily, rthy lstr, gsy tex, v calc, lt yel chk  
flor, MRL: m-dk gy, frm, brit, sb pily- sb blk,  
sl rthy-sb gsy lstr, silty tex, tr fos, tr bent,  
w/slow: -mod stmg bri yel cut, mod bri yel UV  
stn, lt brn WH lt

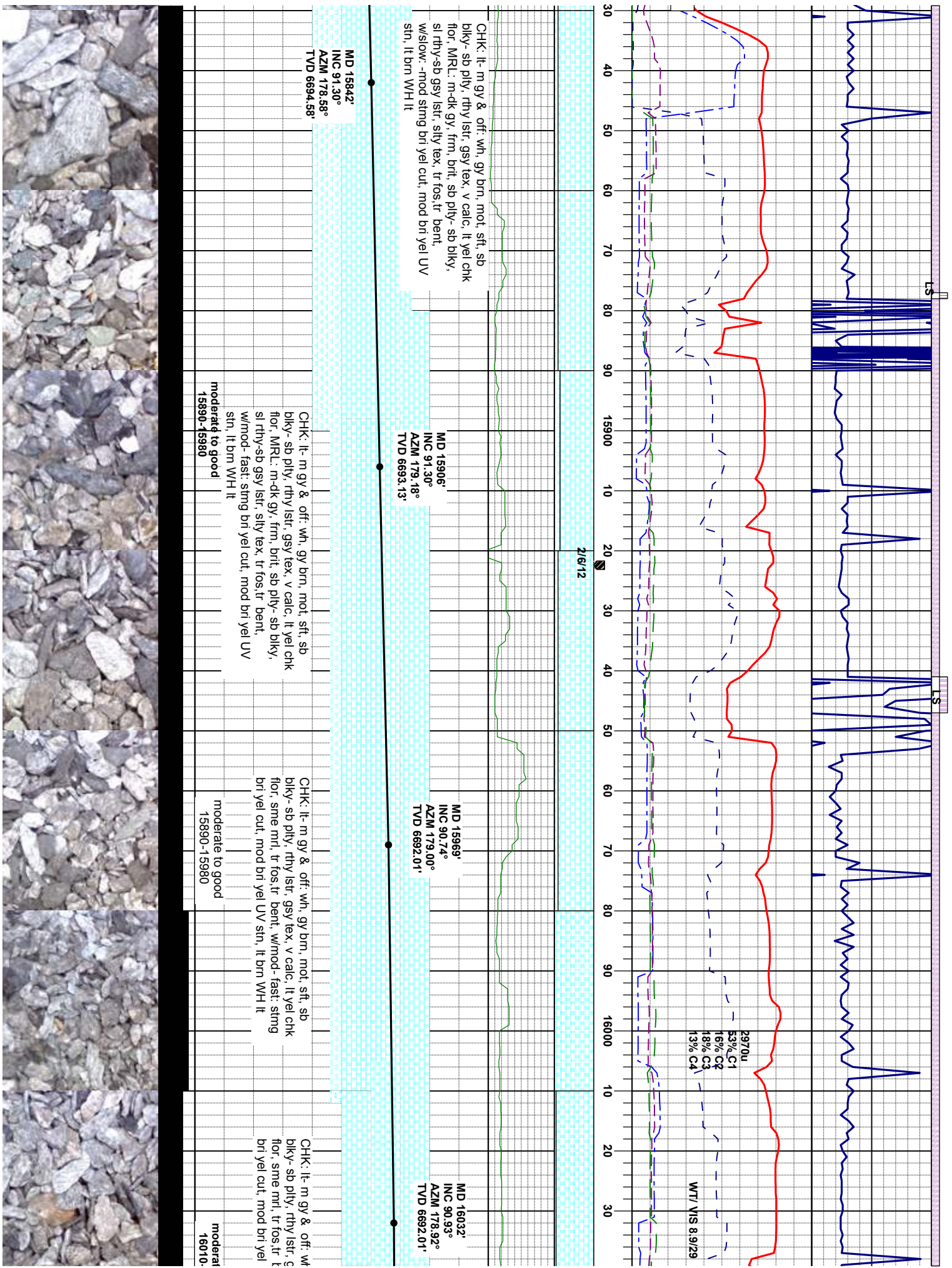
MD 15653'  
INC 91.79°  
AZM 178.23°  
TVD 6700.02'

MD 15716'  
INC 91.73°  
AZM 178.30°  
TVD 6698.09'

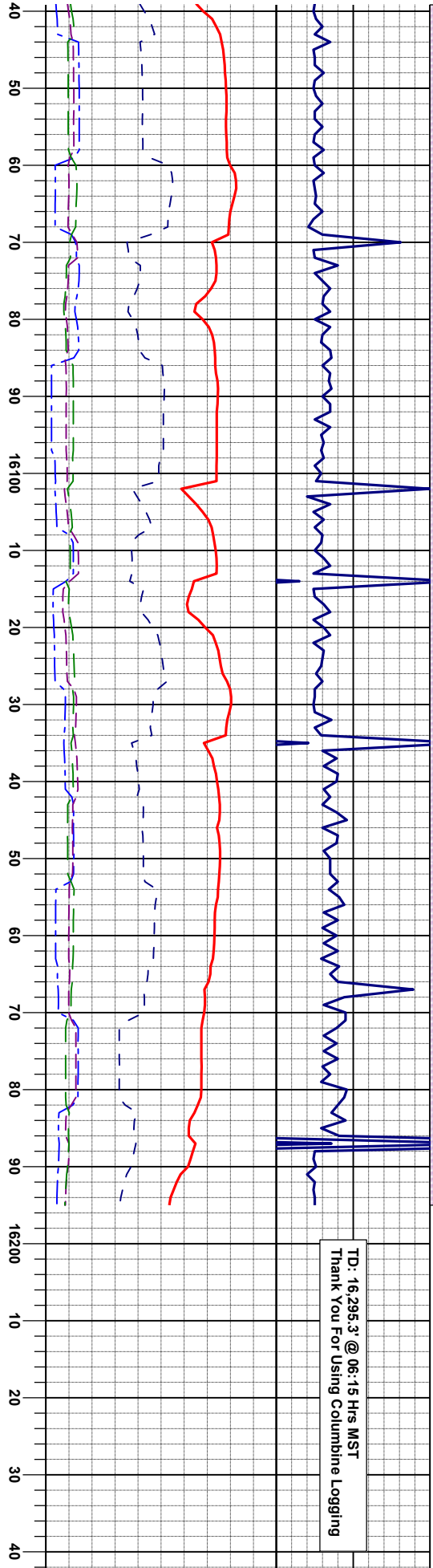
MD 15780'  
INC 91.67°  
AZM 178.54°  
TVD 6696.19'







TD: 16,295.3' @ 06:15 Hrs MST  
Thank You For Using Columbine Logging



MD 16096'  
INC 90.37°  
AZM 178.82°  
TVD 6690.37'

MD 16160'  
INC 90.00°  
AZM 178.64°  
TVD 6690.16'

1. gy brn, mot, sft, sb  
isy tex, v calc, lt yel chk  
ent, w/mod- fast; stmg  
UV sin, lt brn WH lt

CHK: lt- m gy & off; wh, gy brn, mot, sft, sb  
bkly- sb ply, rthy lstr, gsy tex, v calc, lt yel chk  
flor, sme mrl, tr fos, tr bent, w/mod- fast; stmg  
bri yel cut, mod bri yel UV sin, lt brn WH lt

CHK: lt- m gy & off; wh, gy brn, mot, sft, sb  
bkly- sb ply, rthy lstr, gsy tex, v calc, lt yel chk  
flor, sme mrl, tr fos, tr bent, w/mod- fast; stmg  
cut, mod bri yel UV sin, lt brn WH lt

to good  
6070

moderate to good  
16100-16130





