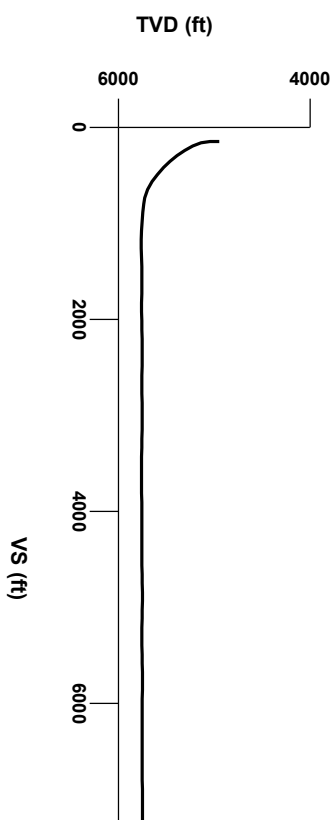


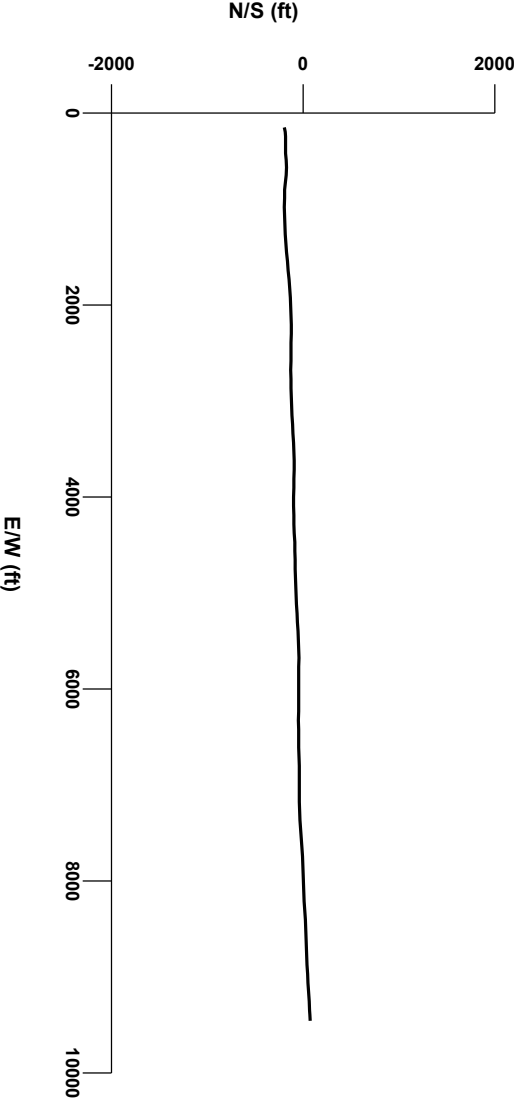
LOG created using LPLOT VH Version 3.0, August 06, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

**OPERATOR:** NOBLE ENERGY INC.  
**WELL:** ROHN STATE LD04-68HN  
**LOCATION:** NWNW SEC 4, T9N, R58W  
**COUNTY:** WELD  
**STATE:** COLORADO  
**SPOT:** 547' FNL, 400' FWL  
**ELEVATION:** GR 4747', KB 4777'  
**FIELD:** WILDCAT  
**SPUD DATE:** 07/27/2013  
**TD DATE:** 08/05/2013  
**DATES LOGGED:** 07/30/2013 - 08/05/2013  
**DEPTHS LOGGED:** 4987' MD - 14739' MD  
**LOGGERS:** ANDREA ZUIDEMA, M. HOPKINS, T. WRIGHT  
**DRILLING FLUID:** LSND  
**DRILLING RIG:** H&P 326  
**API:** 05-123-37465  
**LOG TYPE:** HORIZONTAL  
**SCALE:** 1:240 (5 inches per 100 feet)  
**REMARKS:** WELLSITE GEOLOGICAL SERVICES  
 PROVIDED BY COLUMBINE LOGGING INC.



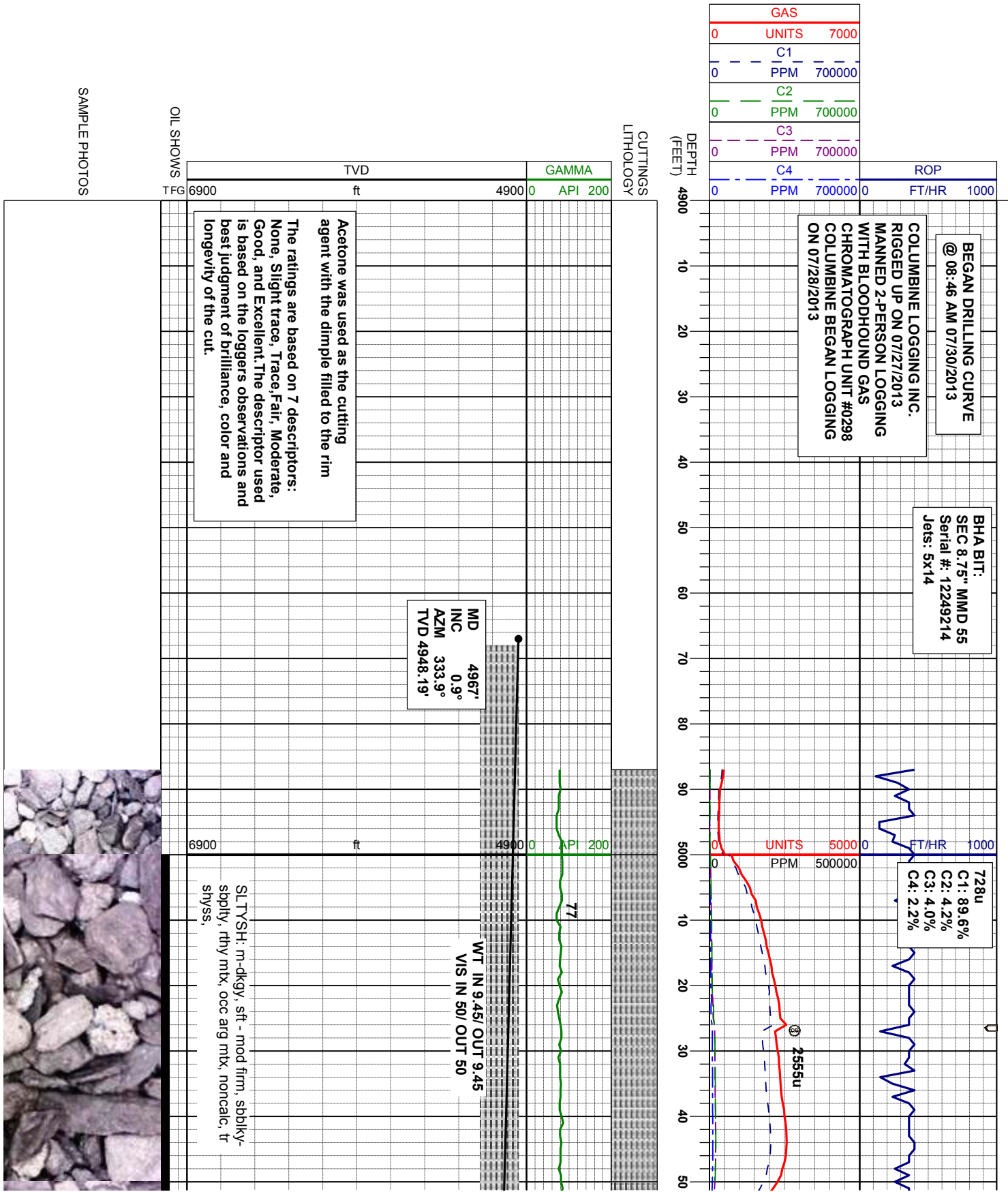
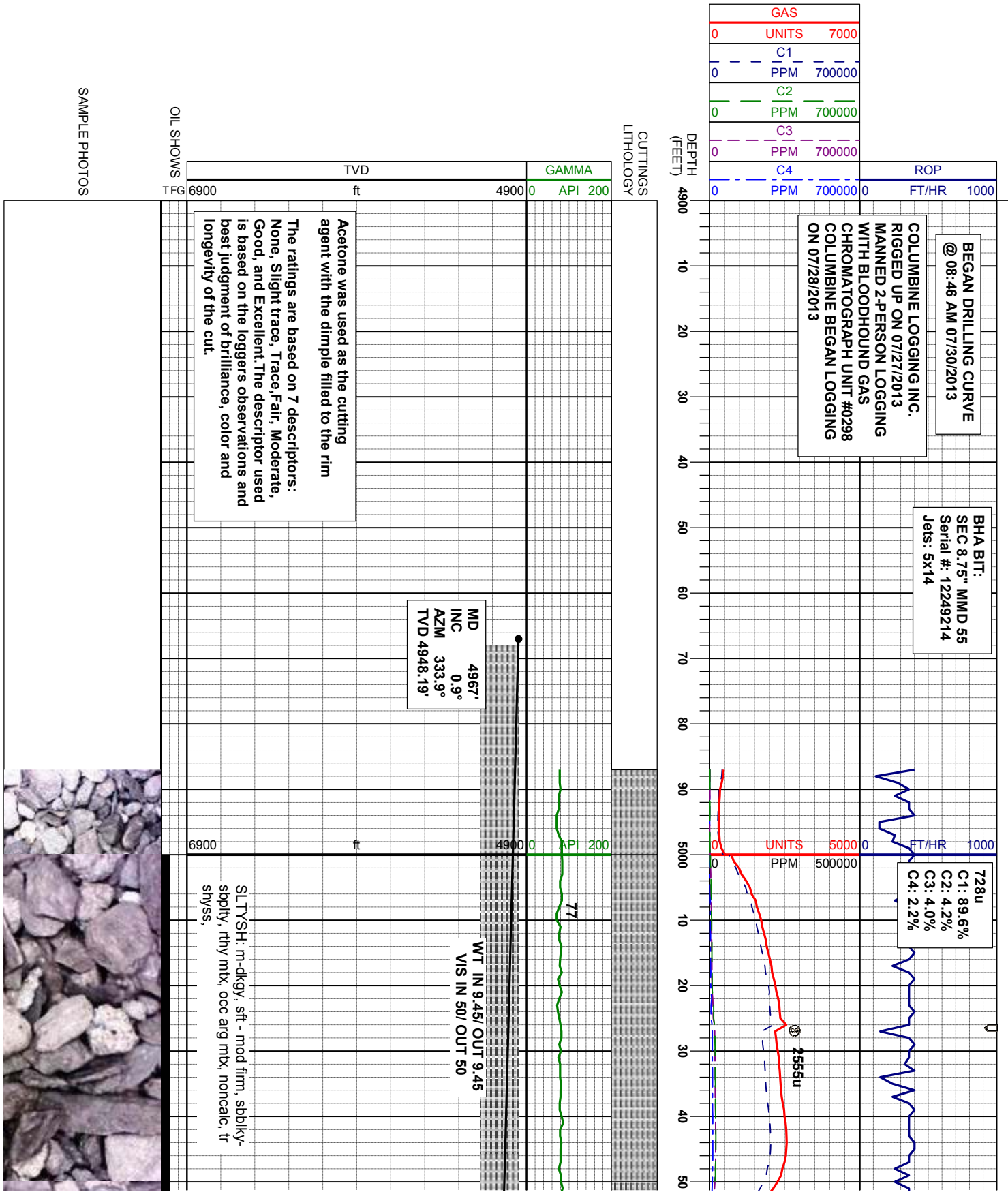
Survey Elevation

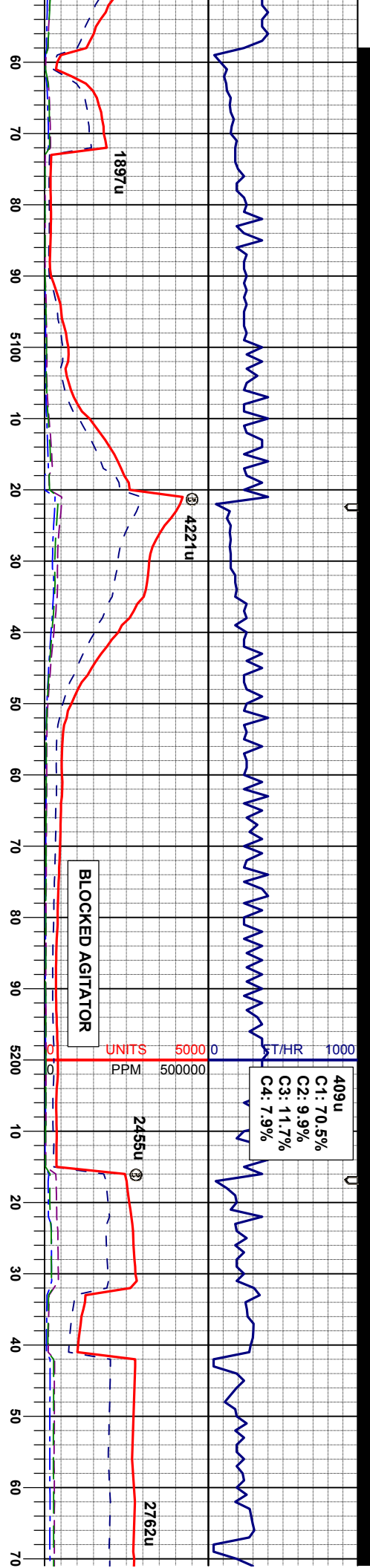
Survey Plan



8000

10000





MD 5062'  
INC 1.5°  
AZM 52.1°  
TVD 5043.18'

SLTYSH: m-dkgy, sft - mod firm, sbblky-sbply, rthy mtz, occ arg mtz, noncalc, tr shys

MD 5157'  
INC 14.3°  
AZM 79.5°  
TVD 5137.09'

SLTYSH: m-dkgy, sft - mod firm, sbblky-sbply, rthy mtz, occ arg mtz, noncalc, tr shys

SLTYSH: m-dkgy, sft - mod firm, sbblky-sbply, rthy mtz, occ arg mtz, noncalc, tr shys

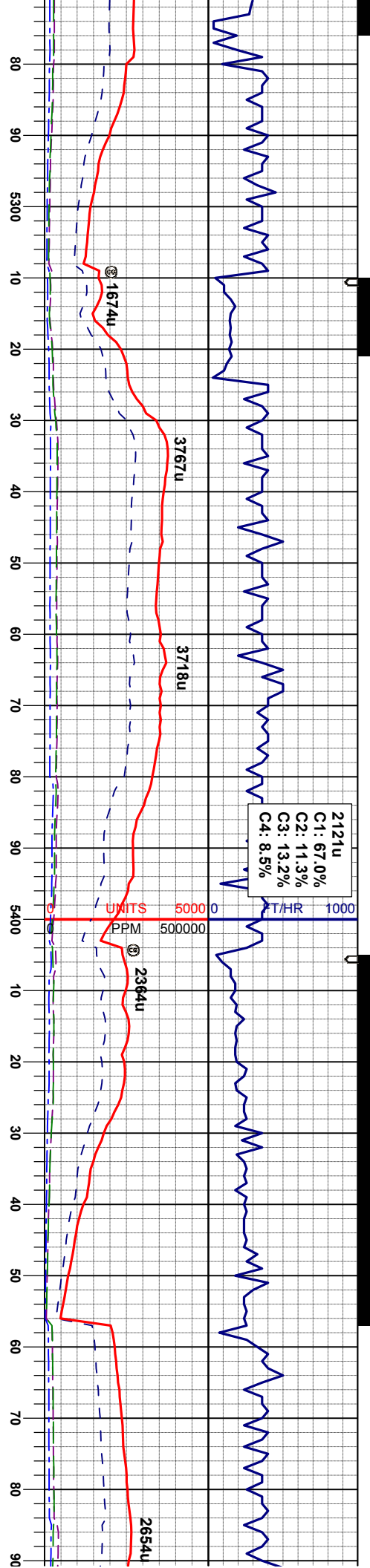
WT IN 9.75/ OUT 9.75  
VIS IN 42/ OUT 42

MD 5251'  
INC 27.5°  
AZM 82.5°  
TVD 5224.71'

SLTYSH: m-dkgy, sft - mod firm, sbblky-sbply, rthy mtz, occ arg mtz, noncalc, tr shys

SLTYSH: m-dkgy, sbply, rthy mtz, oc shys





WT IN 10.05/ OUT 10.05  
VIS IN 42/ OUT 42

MD 5346'  
INC 31.8°  
AZM 87.4°  
TVD 5307.27'

WT IN 10.25/ OUT 10.25  
VIS IN 35/ OUT 35

MD 5441'  
INC 35.7°  
AZM 91.8°  
TVD 5386.25'

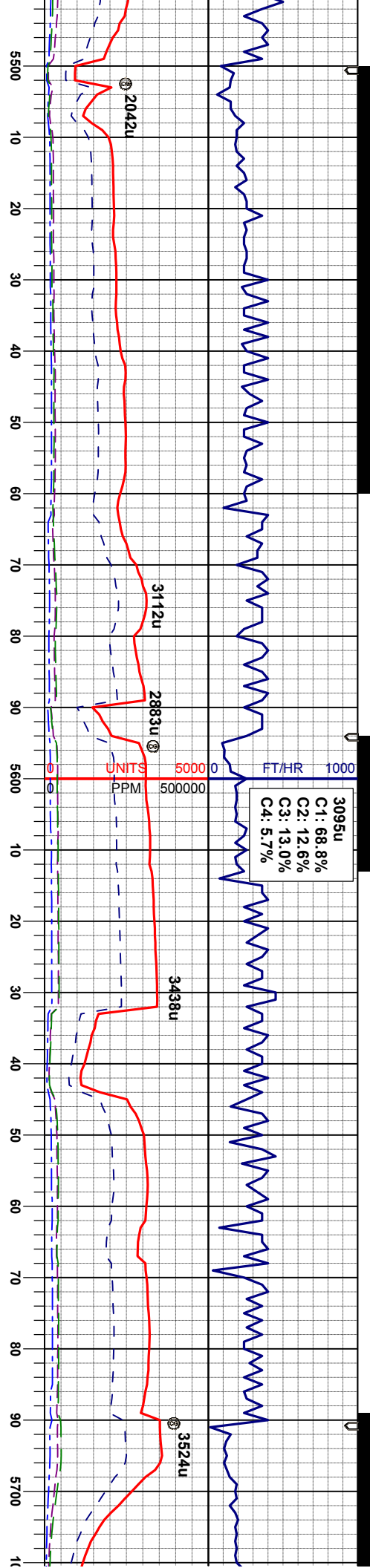
SLTYSH: m-dkgy, sft - mod firm, sbbly-  
sbply, rthy mtz, occ arg mtz, noncalc, tr  
shyss

SLTYSH: m-dkgy, sft - mod firm, sbbly-  
sbply, rthy mtz, occ arg mtz, noncalc, tr  
shyss

SLTYSH: m-dkgy, sft - mod firm, sbbly-  
sbply, rthy mtz, occ arg mtz, noncalc, tr  
shyss

SLTYSH: m-dkgy, sft - mod firm, sbbly-  
sbply, rthy mtz, occ arg mtz, noncalc, tr  
shyss





WT IN 10.35/ OUT 10.35  
VIS IN 36/ OUT 36

MD 5535'  
INC 41.7°  
AZM 88.8°  
TVD 5459.59'

MD 5630'  
INC 46.8°  
AZM 87.4°  
TVD 5527.62'

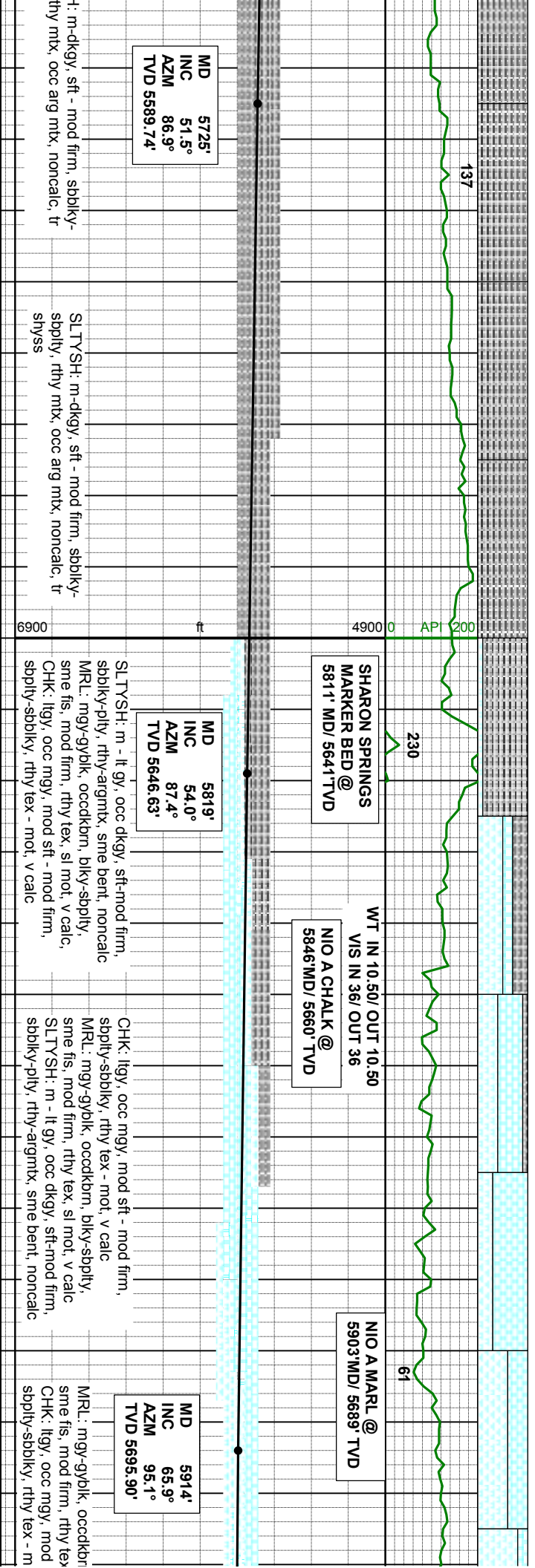
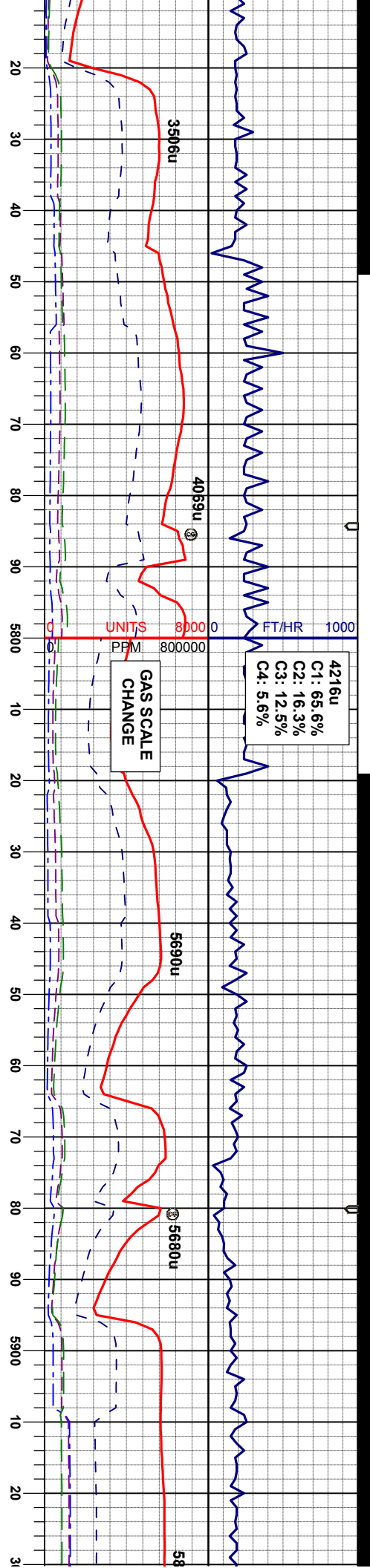
SLTYSH: m-dkgy, sft - mod firm, sbbly-sbply, rthy mtx, occ arg mtx, noncalc, tr shys

SLTYSH: m-dkgy, sft - mod firm, sbbly-sbply, rthy mtx, occ arg mtx, noncalc, tr shys

SLTYSH: m-dkgy, sft - mod firm, sbbly-sbply, rthy mtx, occ arg mtx, noncalc, tr shys

SLTYSH: m-dkgy, sft - mod firm, sbbly-sbply, rthy mtx, occ arg mtx, noncalc, tr shys

SLTYSH: m-dkgy, sft - mod firm, sbbly-sbply, rthy mtx, occ arg mtx, noncalc, tr shys

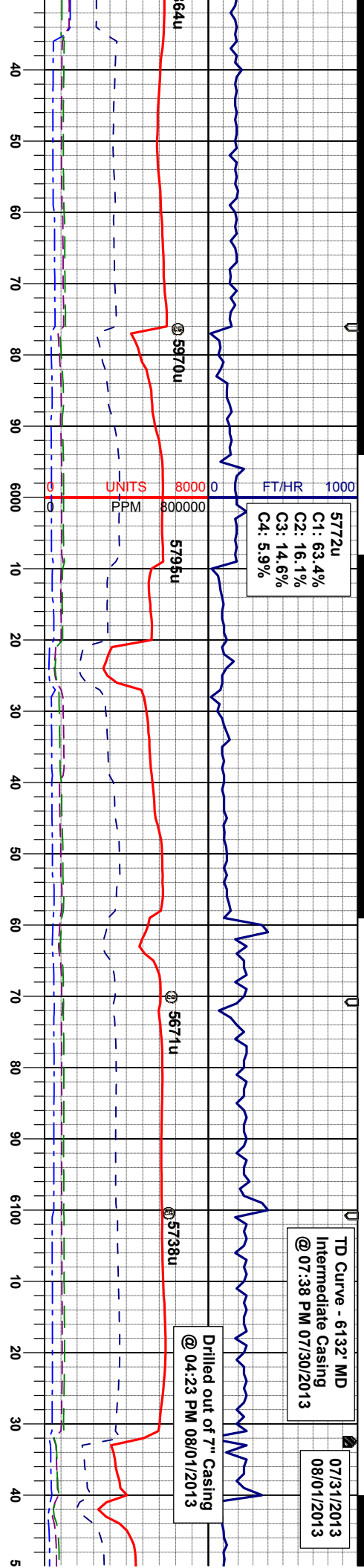


5772u  
C1: 63.4%  
C2: 16.1%  
C3: 14.6%  
C4: 5.9%

TD Curve - 6132' MD  
Intermediate Casing  
@ 07:38 PM 07/30/2013

07/31/2013  
08/01/2013

Drilled out of 7" Casing  
@ 04:23 PM 08/01/2013



WT IN 10.55/ OUT 10.55  
VIS IN 39/ OUT 39

MD 6073'  
INC 83.4°  
AZM 95.1°  
TVD 5734.71'

WT IN 10.25/ OUT 10.25  
VIS IN 32/ OUT 32

MD 6008'  
INC 78.4°  
AZM 98.5°  
TVD 5727.28'

MR: mgy-gyblk, occdkbm, blyk-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc  
CHK: lgy, occ mgy, mod sft - mod firm,  
sbply-sbply, rthy tex - mot, v calc

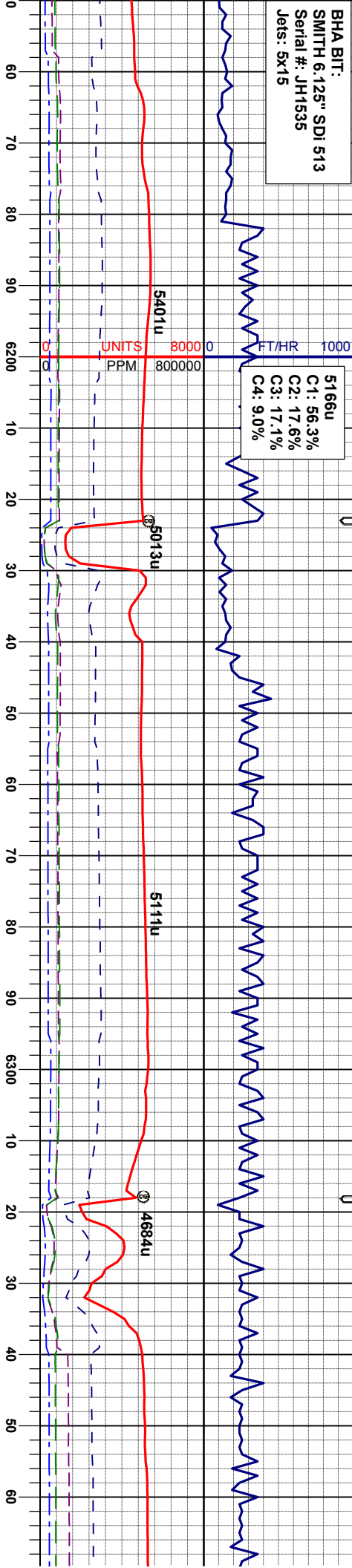
MR: mgy-gyblk, occdkbm, blyk-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc  
CHK: lgy, occ mgy, mod sft - mod firm,  
sbply-sbply, rthy tex - mot, v calc

MR: mgy-gyblk, occdkbm, blyk-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc  
CHK: lgy, occ mgy, mod sft - mod firm,  
sbply-sbply, rthy tex - mot, v calc



BHA BIT:  
SMITH 6.125" SDI 513  
Serial #: JH1535  
Jets: 5x15

5166u  
C1: 56.3%  
C2: 17.6%  
C3: 17.1%  
C4: 9.0%



NIO B CHALK @  
6201' MD/ 5748" TVD

WT IN 10.00/ OUT 10.00  
VIS IN 35/ OUT 35

MD 6254'  
INC 86.1°  
AZM 88.94°  
TVD 5750.77'

MD 6349'  
INC 85.6°  
AZM 88.54°  
TVD 5757.65'

MD 6159'  
INC 85.0°  
AZM 91.60°  
TVD 5743.40'

MR.L: mgy-gyblk, occdkrm, bkly-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc  
CHK: ltgy, occ mgy, mod sft - mod firm,  
sbply-sbply, rthy tex - mot, v calc

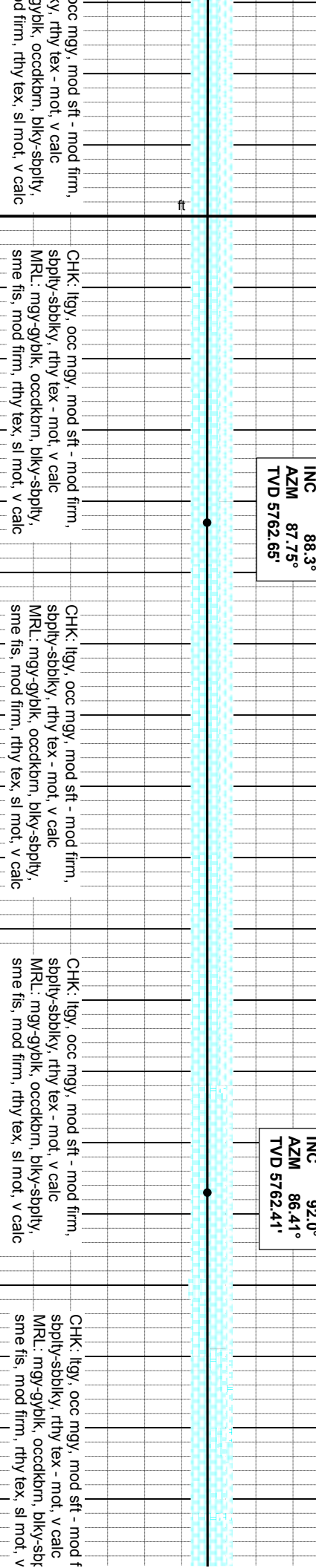
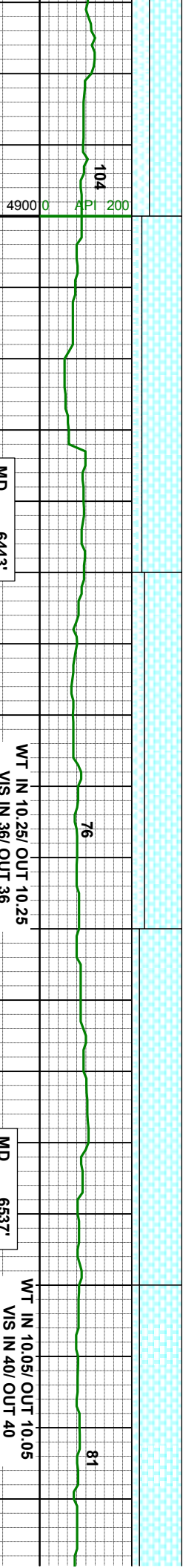
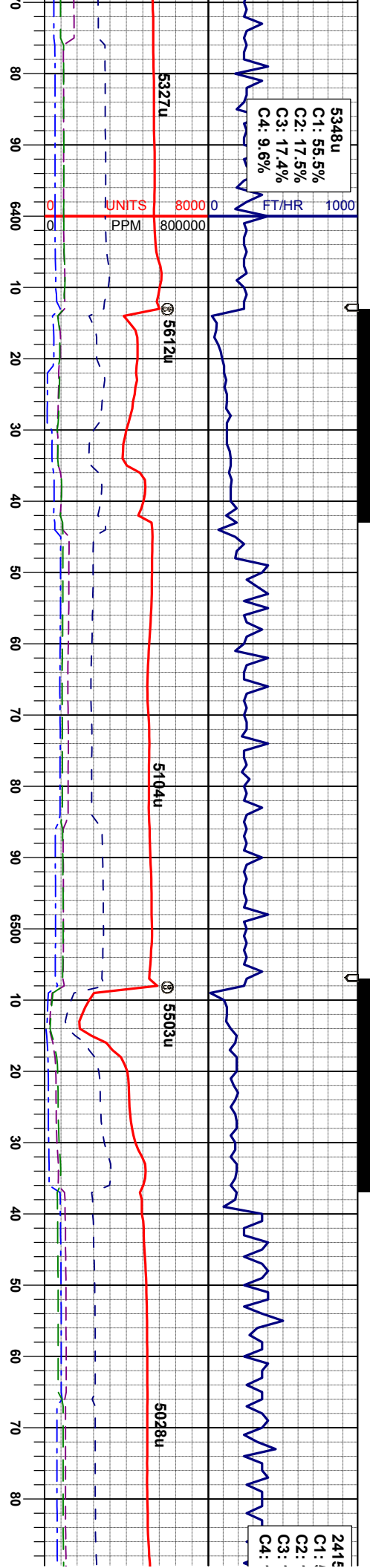
MR.L: mgy-gyblk, occdkrm, bkly-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc  
CHK: ltgy, occ mgy, mod sft - mod firm,  
sbply-sbply, rthy tex - mot, v calc

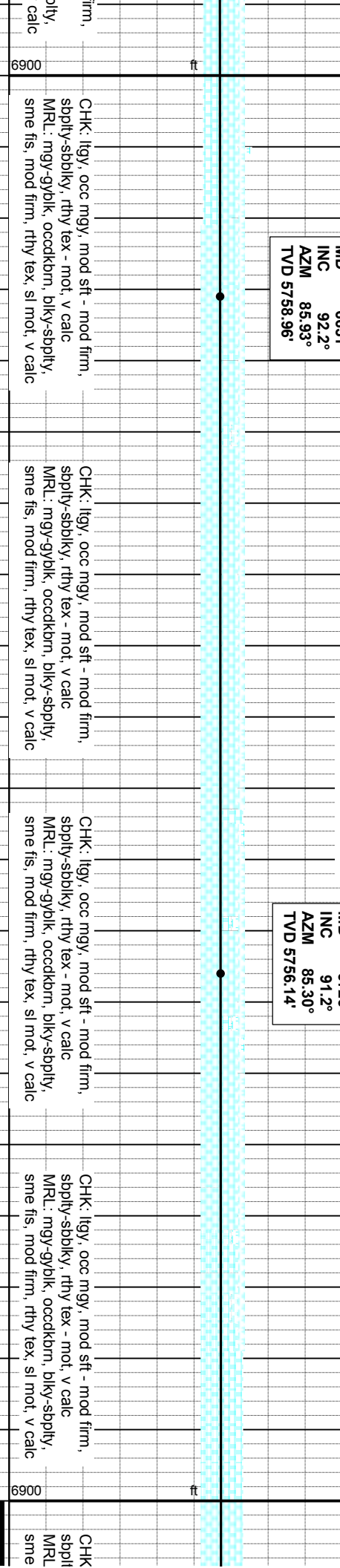
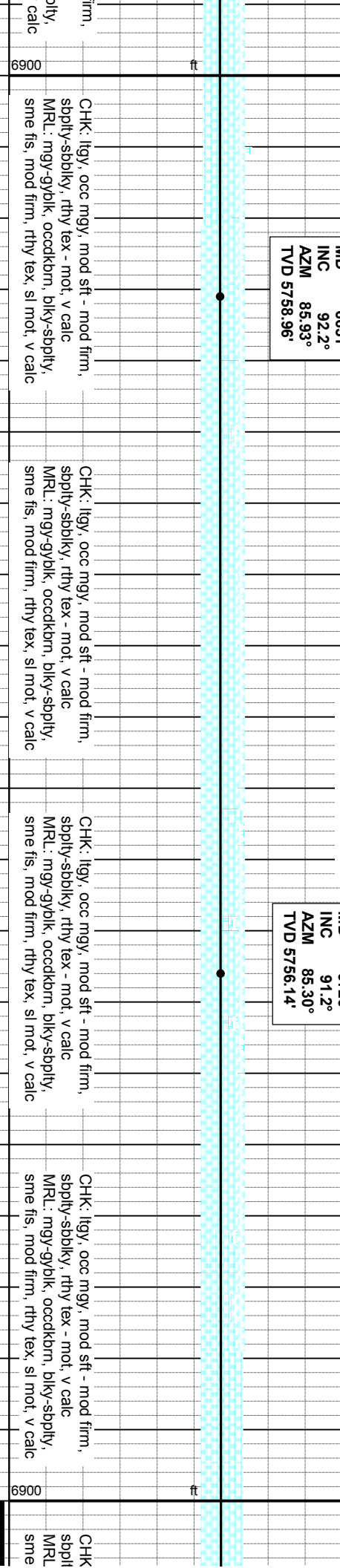
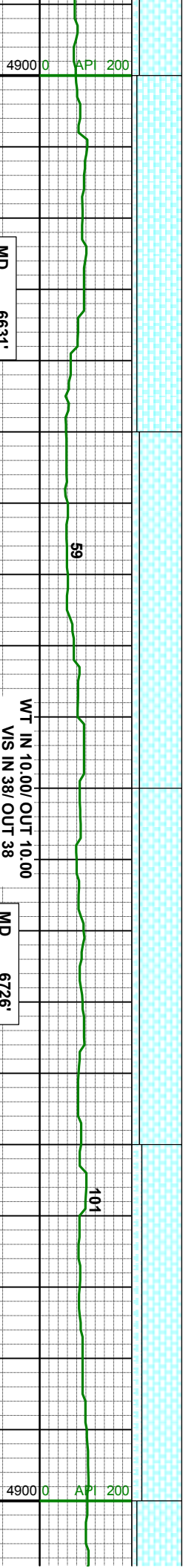
MR.L: mgy-gyblk, occdkrm, bkly-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc  
CHK: ltgy, occ mgy, mod sft - mod firm,  
sbply-sbply, rthy tex - mot, v calc

MR.L: mgy-gyblk, occdkrm, bkly-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc  
CHK: ltgy, occ mgy, mod sft - mod firm,  
sbply-sbply, rthy tex - mot, v calc

MR.L: mgy-gyblk, occdkrm, bkly-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc  
CHK: ltgy, occ mgy, mod sft - mod firm,  
sbply-sbply, rthy tex - mot, v calc



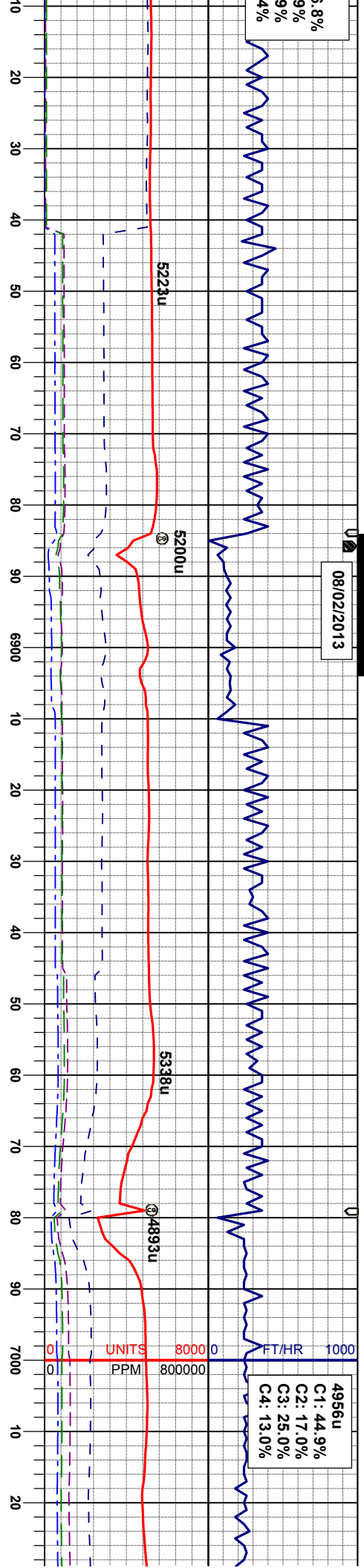




08/02/2013

1.8%  
9%  
9%  
4%

4956u  
C1: 44.9%  
C2: 17.0%  
C3: 25.0%  
C4: 13.0%



MD 6820'  
INC 91.1°  
AZM 85.00°  
TVD 5754.26'

MD 6915'  
INC 88.9°  
AZM 84.90°  
TVD 5754.26'

MD 7010'  
INC 88.8°  
AZM 84.74°  
TVD 5756.16'

WT IN 10.10/ OUT 10.10  
VIS IN 38/ OUT 38

lgy, occ mgy, mod sft - mod firm,  
y-sbply, rthy tex - mot, v calc  
mgy-gyblk, occdkbrn, biky-sbply,  
fis, mod firm, rthy tex, sl mot, v calc

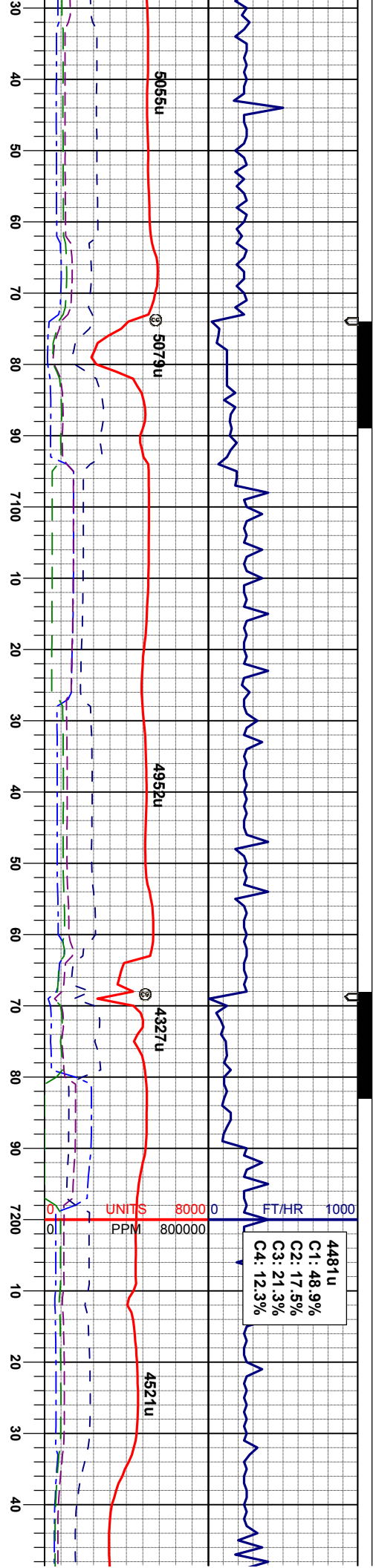
MR.L: mgy-gyblk, occdkbrn, biky-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc  
CHK: lgy, occ mgy, mod sft - mod firm,  
sbply-sbply, rthy tex - mot, v calc

CHK: lgy, occ mgy, mod sft - mod firm,  
sbply-sbply, rthy tex - mot, v calc  
MR.L: mgy-gyblk, occdkbrn, biky-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc,  
occ frac

CHK: lgy, occ mgy, mod sft - mod firm,  
sbply-sbply, rthy tex - mot, v calc  
MR.L: mgy-gyblk, occdkbrn, biky-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc,  
occ frac

CHK: lgy, occ mgy, mod sft - mod firm,  
sbply-sbply, rthy tex - mot, v calc  
MR.L: mgy-gyblk, occdkbrn, biky-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc,  
occ frac





MD 7104'  
INC 90.0°  
AZM 86.25°  
TVD 5757.15'

MD 7199'  
INC 90.9°  
AZM 87.47°  
TVD 5756.40'

WT IN 10.15  
VIS IN 37

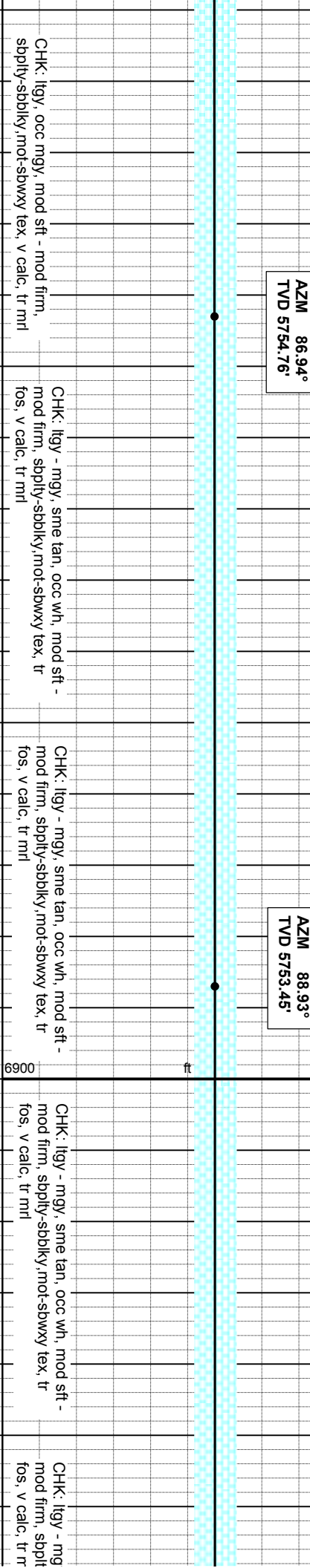
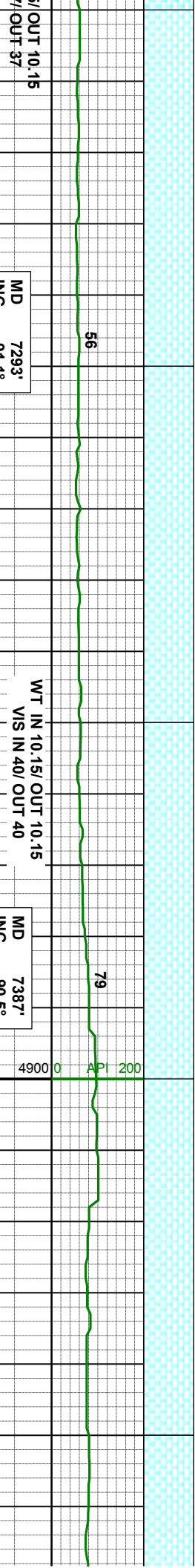
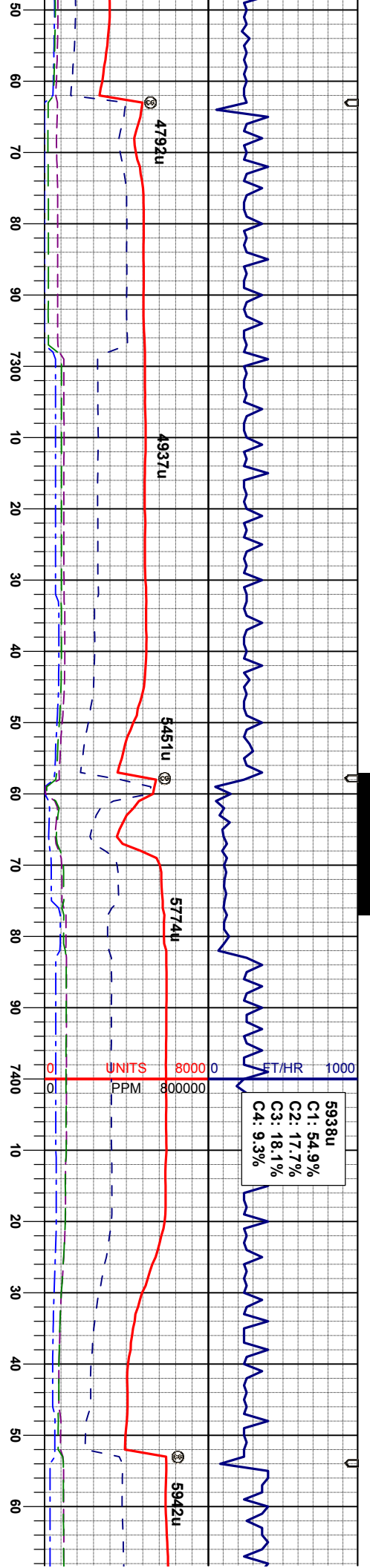
sft - mod firm, not v calc  
sblty-sbblky, rthy tex - mot, v calc  
MRL: mgy-gyblk, occdkbrn, blky-sbply, sme fis, mod firm, rthy tex, sl mot, v calc

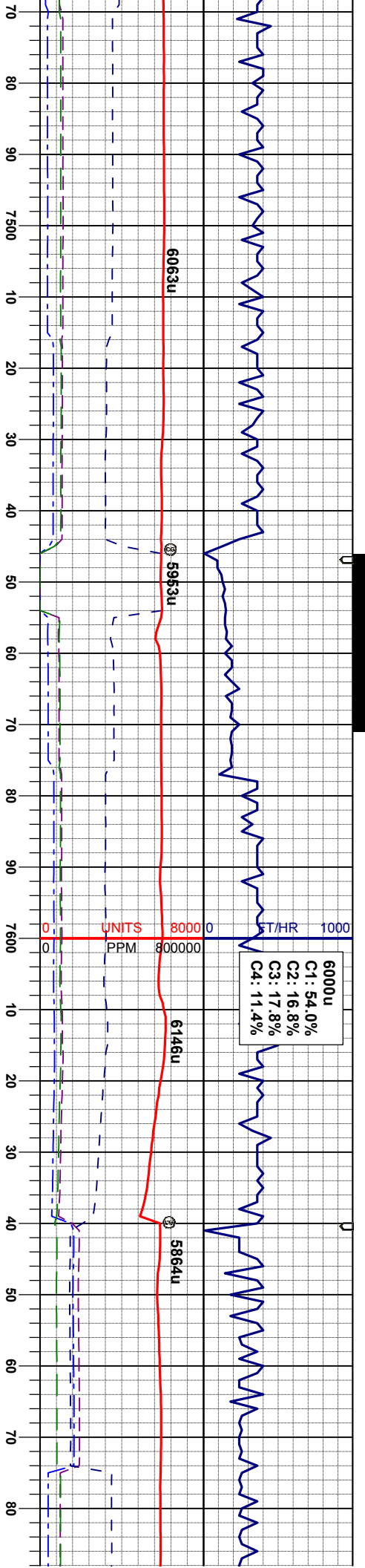
CHK: lgy, occ mgy, mod sft - mod firm, sblty-sbblky, mot-sbwy tex, v calc  
MRL: mgy-gyblk, occdkbrn, blky-sbply, sme fis, mod firm, rthy tex, sl mot, v calc

CHK: lgy, occ mgy, mod sft - mod firm, sblty-sbblky, mot-sbwy tex, v calc  
MRL: mgy-gyblk, occdkbrn, blky-sbply, sme fis, mod firm, rthy tex, sl mot, v calc

CHK: lgy, occ mgy, mod sft - mod firm, sblty-sbblky, mot-sbwy tex, v calc  
MRL: mgy-gyblk, occdkbrn, blky-sbply, sme fis, mod firm, rthy tex, sl mot, v calc







MD 7482'  
INC 91.0°  
AZM 88.16°  
TVD 5752.20'

WT IN 10.10/ OUT 10.10  
VIS IN 38/ OUT 38

MD 7577'  
INC 89.9°  
AZM 91.62°  
TVD 5751.46'

MD 7671'  
INC 89.7°  
AZM 91.26°  
TVD 5751.79'

CHK: lgy - mgy, sme tan, occ wh, mod sft -  
fos, v calc  
MRL: mgy-gyblk, occdkrn, blk-y-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc

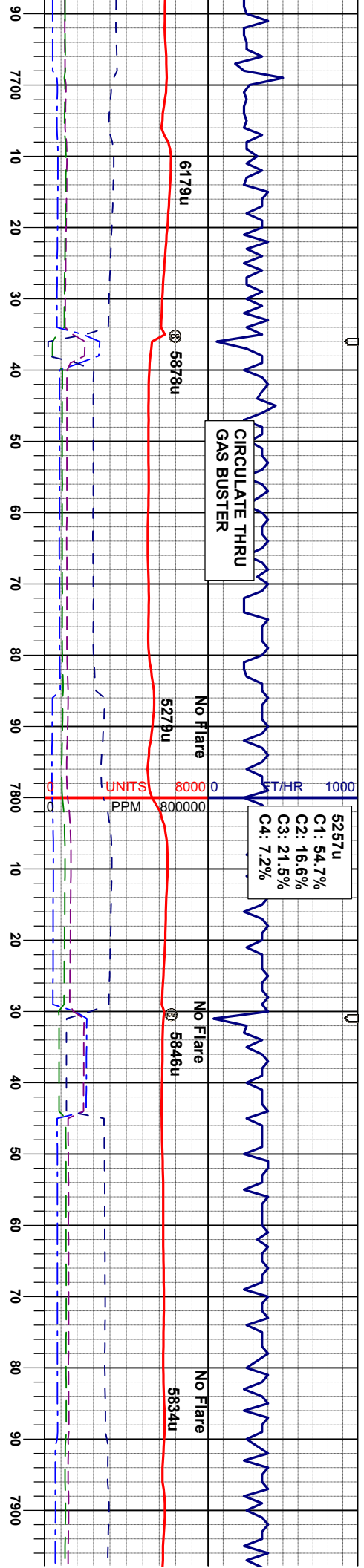
CHK: lgy - mgy, sme tan, occ wh, mod sft -  
fos, v calc  
MRL: mgy-gyblk, occdkrn, blk-y-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc

CHK: lgy - mgy, sme tan, occ wh, mod sft -  
fos, v calc  
MRL: mgy-gyblk, occdkrn, blk-y-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc

CHK: lgy - mgy, sme tan, occ wh, mod sft -  
fos, v calc  
MRL: mgy-gyblk, occdkrn, blk-y-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc

CHK: lgy - mgy, sme tan, occ wh, mod sft -  
fos, v calc  
MRL: mgy-gyblk, occdkrn, blk-y-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc





MD 7766'  
INC 89.5°  
AZM 90.41°  
TVD 5752.45'

WT IN 10.00/ OUT 10.00  
VIS IN 35/ OUT 35

MD 7861'  
INC 89.5°  
AZM 90.20°  
TVD 5753.28'

mod sft -  
fos, tr  
CHK: lly - mgy, sme tan, occ wh, mod sft -  
mod firm, sbply-sbply, mot-sbwy tex, tr  
fos, v calc  
MRL: mgy-gyblk, occdkbrn, bly-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc

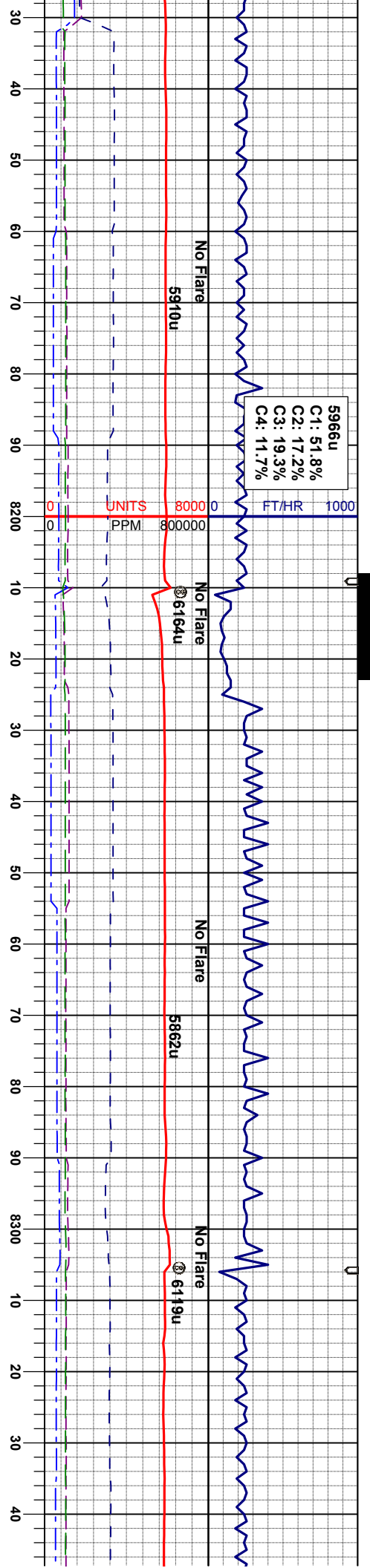
mod sft -  
fos, tr  
CHK: lly - mgy, sme tan, occ wh, mod sft -  
mod firm, sbply-sbply, mot-sbwy tex, tr  
fos, v calc  
MRL: mgy-gyblk, occdkbrn, bly-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc

mod sft -  
fos, tr  
CHK: lly - mgy, sme tan, occ wh, mod sft -  
mod firm, sbply-sbply, mot-sbwy tex, tr  
fos, v calc  
MRL: mgy-gyblk, occdkbrn, bly-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc

mod sft -  
fos, tr  
CHK: lly - mgy, sme tan, occ wh, mod sft -  
mod firm, sbply-sbply, mot-sbwy tex, tr  
fos, v calc  
MRL: mgy-gyblk, occdkbrn, bly-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc







MD 8144'  
INC 90.9°  
AZM 89.17°  
TVD 5752.13'

MD 8238'  
INC 90.2°  
AZM 87.92°  
TVD 5751.22'

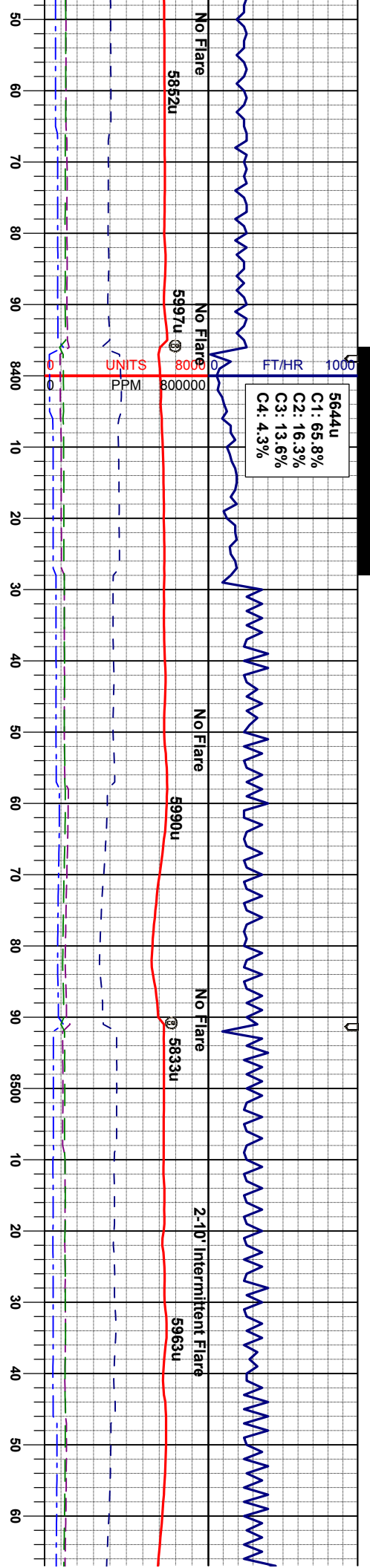
MD 8332'  
INC 90.4°  
AZM 86.56°  
TVD 5750.73'

CHK: lgy - mgy, sme tan, occ wh, mod sft -  
mod firm, sbply-sbblky, mot-sbwwy tex, tr  
fos, v calc

CHK: lgy - mgy, sme tan, occ wh, mod sft -  
mod firm, sbply-sbblky, mot-sbwwy tex, tr  
fos, v calc

CHK: lgy - mgy, sme tan, occ wh, mod sft -  
mod firm, sbply-sbblky, mot-sbwwy tex, tr  
fos, v calc





5644u  
C1: 65.8%  
C2: 16.3%  
C3: 13.6%  
C4: 4.3%

WT IN 10.30/ OUT 10.30  
VIS IN 37/ OUT 37

MD 8427'  
INC 88.7°  
AZM 87.28°  
TVD 5751.48'

MD 8522'  
INC 88.6°  
AZM 87.21°  
TVD 5753.72'

WT IN 10.20/ OUT 10.20  
VIS IN 39/ OUT 39

CHK: llyg - mgy, sme tan, occ wh, mod sft -  
mod firm, sbply-sbblky, mot-sbwny tex, tr  
fos, v calc  
MRL: mgy-gy/bk, occdkbrn, blyk-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc

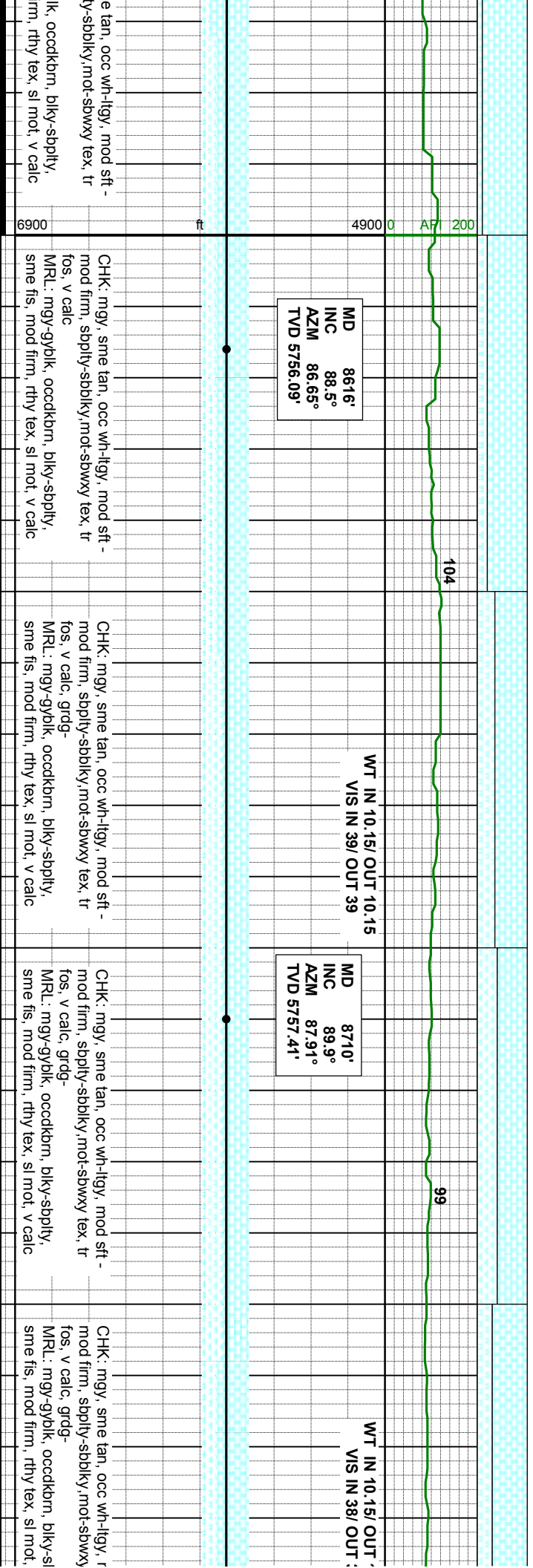
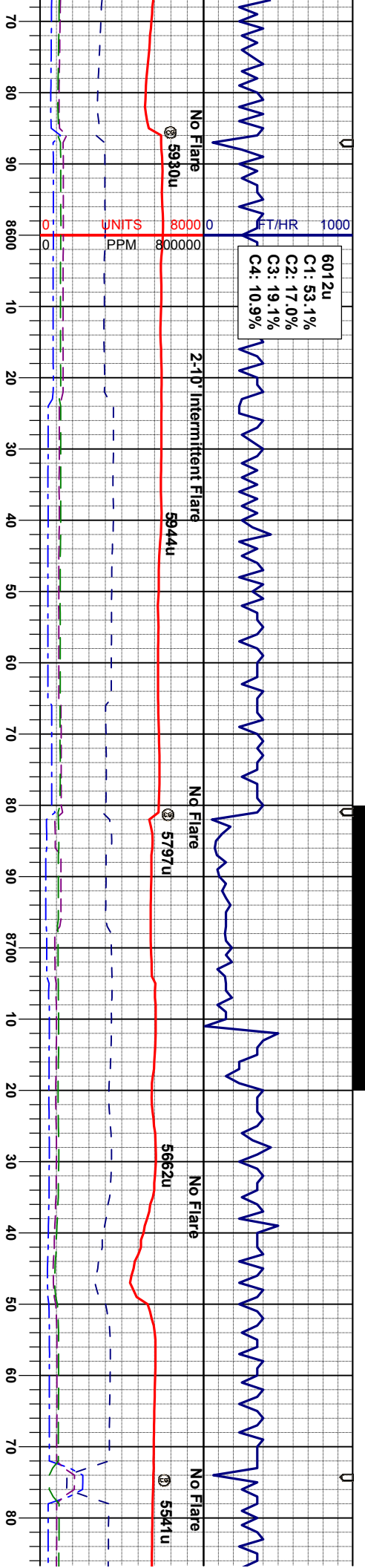
CHK: mgy, sme tan, occ wh-llyg, mod sft -  
mod firm, sbply-sbblky, mot-sbwny tex, tr  
fos, v calc  
MRL: mgy-gy/bk, occdkbrn, blyk-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc

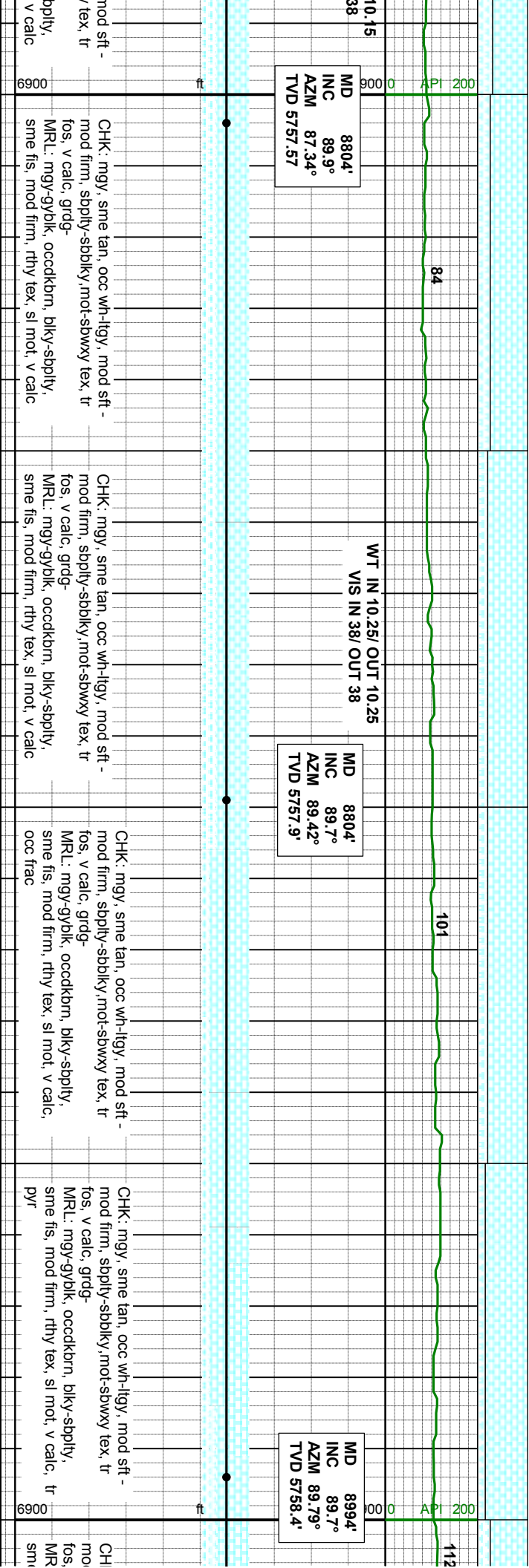
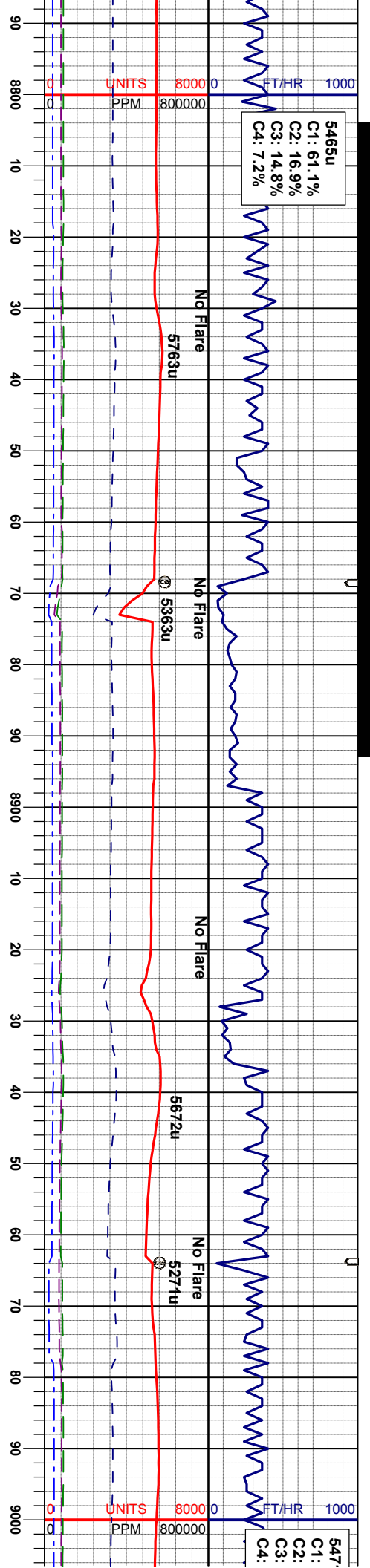
CHK: mgy, sme tan, occ wh-llyg, mod sft -  
mod firm, sbply-sbblky, mot-sbwny tex, tr  
fos, v calc  
MRL: mgy-gy/bk, occdkbrn, blyk-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc

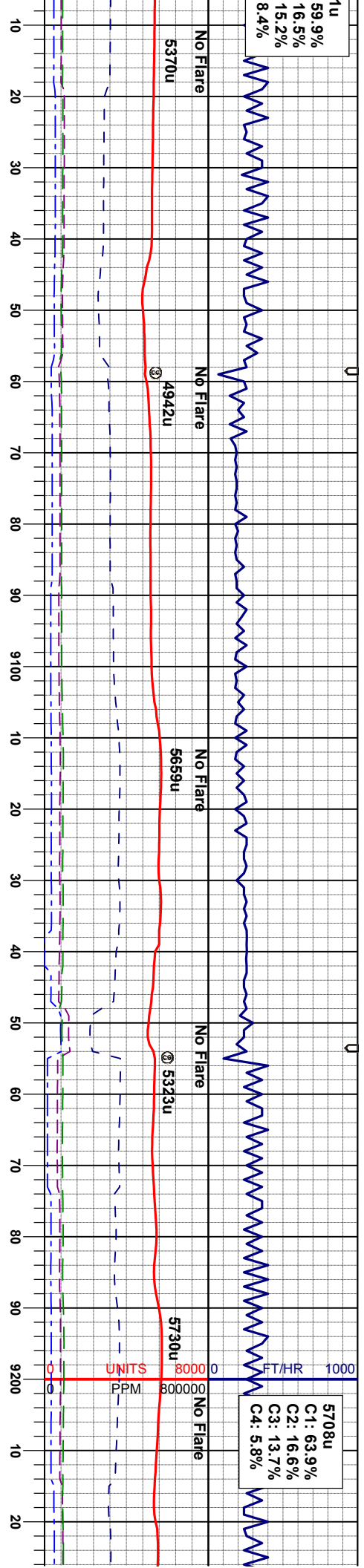
CHK: mgy, sme tan, occ wh-llyg, mod sft -  
mod firm, sbply-sbblky, mot-sbwny tex, tr  
fos, v calc  
MRL: mgy-gy/bk, occdkbrn, blyk-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc

CHK: mgy, sm  
mod firm, sbply  
fos, v calc  
MRL: mgy-gyb  
sme fis, mod fi









WT IN 10.25/ OUT 10.25  
VIS IN 38/ OUT 38

MD 9089'  
INC 91.1°  
AZM 91.86°  
TVD 5757.74

MD 9183'  
INC 90.9°  
AZM 91.05°  
TVD 5756.09'

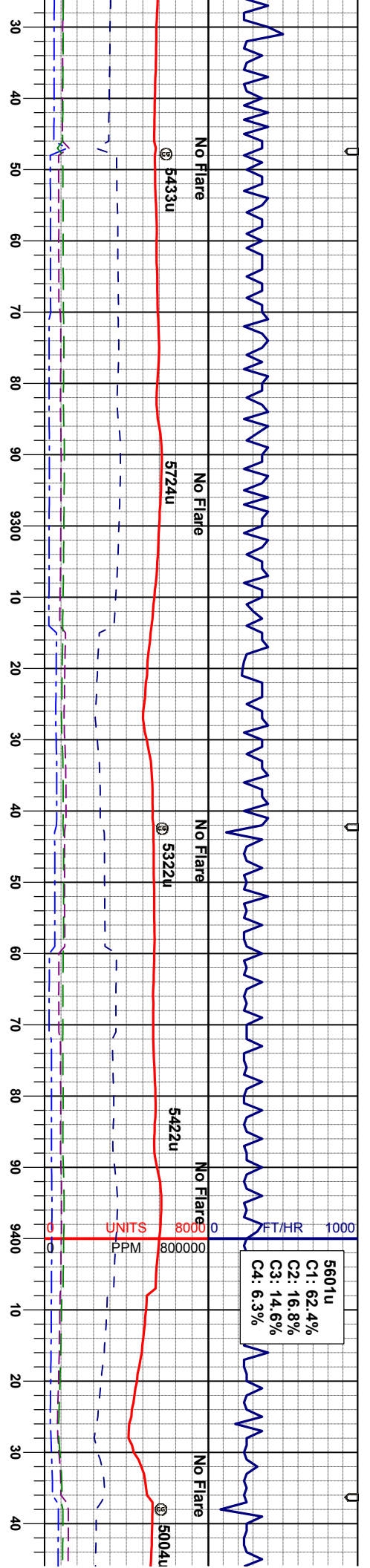
CHK: mgy, sme tan, occ wh-llgy, mod sft -  
mod firm, sbply-sbply, mot-sbwwy tex, tr  
fos, v calc, grdg-  
MRL: mgy-gyblk, occdkbrn, blyk-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc, tr  
pyr

CHK: mgy, sme tan, occ wh-llgy, mod sft -  
mod firm, sbply-sbply, mot-sbwwy tex, tr  
fos, v calc, grdg-  
MRL: mgy-gyblk, occdkbrn, blyk-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc, tr  
pyr

CHK: mgy, sme tan, occ wh-llgy, mod sft -  
mod firm, sbply-sbply, mot-sbwwy tex, tr  
fos, v calc, grdg-  
MRL: mgy-gyblk, occdkbrn, blyk-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc, tr  
pyr, tr frac

CHK: mgy, sme tan, occ wh-llgy, mod sft -  
mod firm, sbply-sbply, mot-sbwwy tex, tr  
fos, v calc, grdg-  
MRL: mgy-gyblk, occdkbrn, blyk-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc, tr  
pyr





WT IN 10.25/ OUT 10.25  
VIS IN 38/ OUT 38

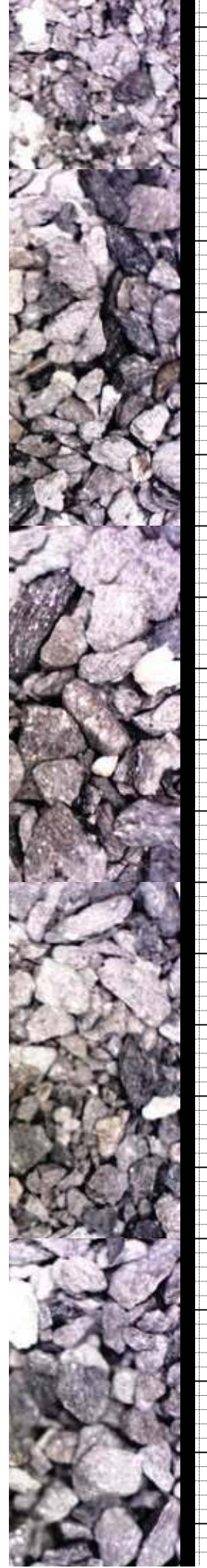
MD 9278'  
INC 90.5°  
AZM 90.4°  
TVD 5754.93'

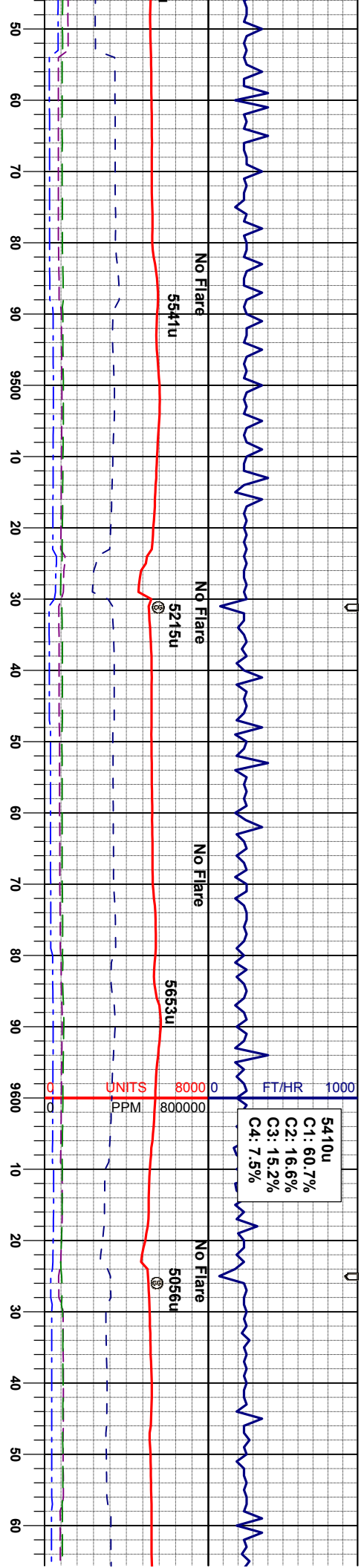
MD 9372'  
INC 90.2°  
AZM 89.91°  
TVD 5754.36'

CHK: mgy, sme tan, occ wh-ilty, mod sft -  
mod firm, sbply-sbdkly, mot-sdwxv tex, tr  
fos, v calc, grdg-  
MRL: mgy-gyblk, occdkbm, blkly-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc, tr  
pyr

CHK: mgy, sme tan, occ wh-ilty, mod sft -  
mod firm, sbply-sbdkly, mot-sdwxv tex, tr  
fos, v calc, grdg-  
MRL: mgy-gyblk, occdkbm, blkly-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc, tr  
frac

CHK: mgy, sme tan, occ wh-ilty, mod sft -  
mod firm, sbply-sbdkly, mot-sdwxv tex, tr  
fos, v calc, grdg-  
MRL: mgy-gyblk, occdkbm, blkly-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc, t  
frac





MD 9467'  
INC 89.7°  
AZM 88.86°  
TVD 5754.44'

WT IN 10.30/ OUT 10.30  
VIS IN 42/ VIS OUT 42

MD 9561'  
INC 89.4°  
AZM 88.16°  
TVD 5755.18'

WT IN 10.35/ OUT 10.35  
VIS IN 38/ OUT 38

MD 9656'  
INC 89.3°  
AZM 87.28°  
TVD 5756.26'

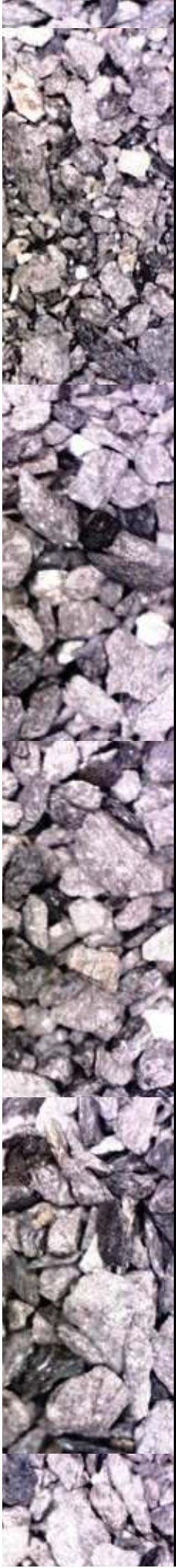
CHK: mgy, sme tan, occ wh-lgy, mod sft -  
mod firm, sbply-sbblky, mot-sbwxy tex, tr  
fos, v calc,  
MRL: mgy-gvblk, occdkbm, blk-y-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc, tr  
frac, tr pyr

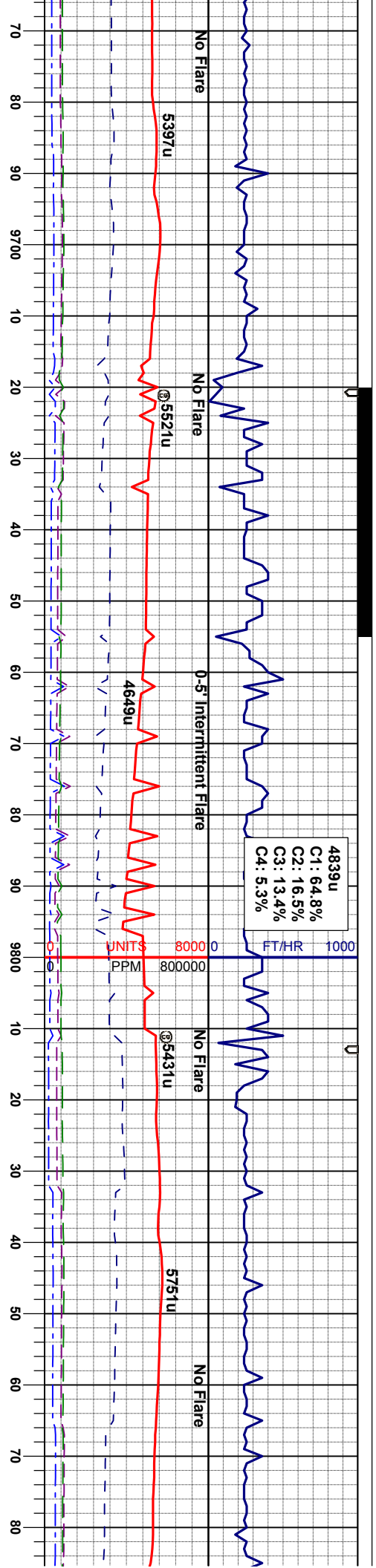
CHK: mgy, sme tan, occ wh-lgy, mod sft -  
mod firm, sbply-sbblky, mot-sbwxy tex, tr  
fos, v calc,  
MRL: mgy-gvblk, occdkbm, blk-y-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc, tr  
frac, tr pyr

CHK: mgy, sme tan, occ wh-lgy, mod sft -  
mod firm, sbply-sbblky, mot-sbwxy tex, tr  
fos, v calc,  
MRL: mgy-gvblk, occdkbm, blk-y-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc, tr  
frac, tr pyr

CHK: mgy, sme tan, occ wh-lgy, mod sft -  
mod firm, sbply-sbblky, mot-sbwxy tex, tr  
fos, v calc,  
MRL: mgy-gvblk, occdkbm, blk-y-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc, tr  
frac, tr pyr

CHK: mgy, sme tan, occ wh-lgy, mod sft -  
mod firm, sbply-sbblky, mot-sbwxy tex, tr  
fos, v calc,  
MRL: mgy-gvblk, occdkbm, blk-y-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc, tr  
frac, tr pyr





WT IN 10.15/ OUT 10.15  
VIS IN 38/ OUT 38

MD 97.48'  
INC 90.9°  
AZM 88.17°  
TVD 5756.09'

APR 200

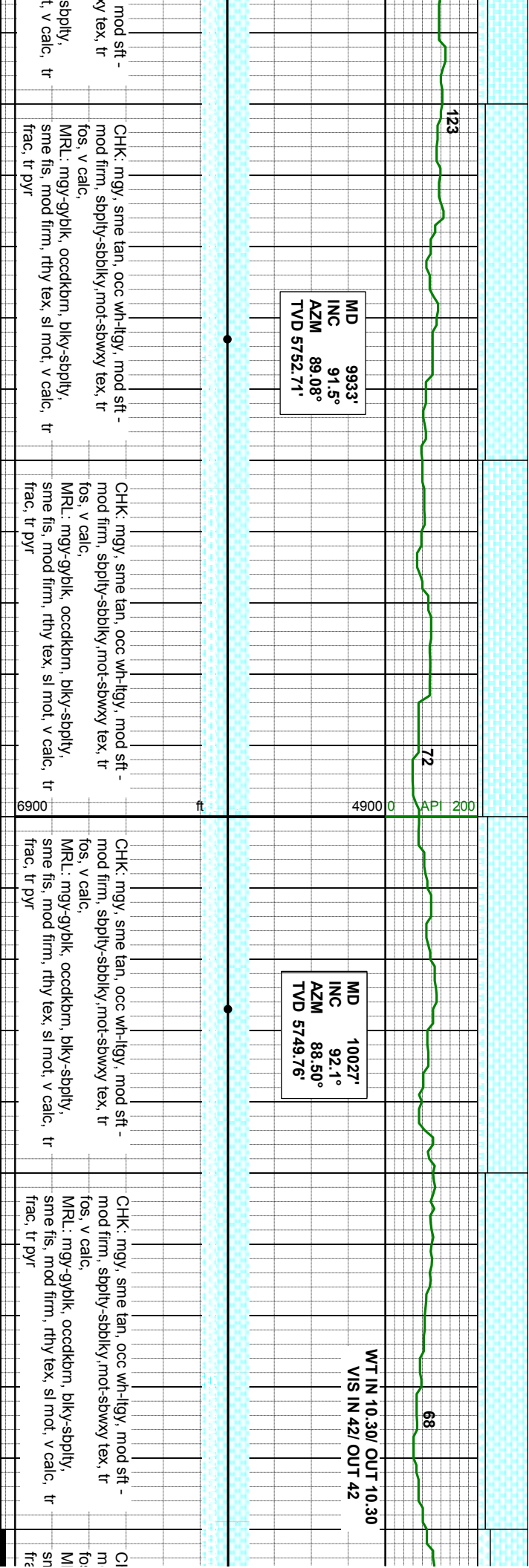
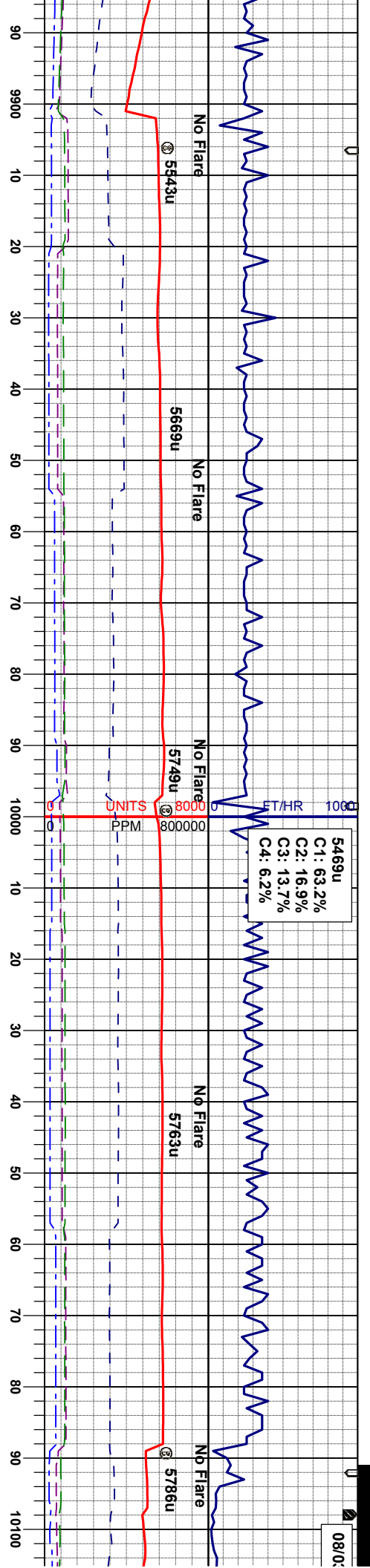
MD 98.42'  
INC 90.9°  
AZM 89.12°  
TVD 5754.62'

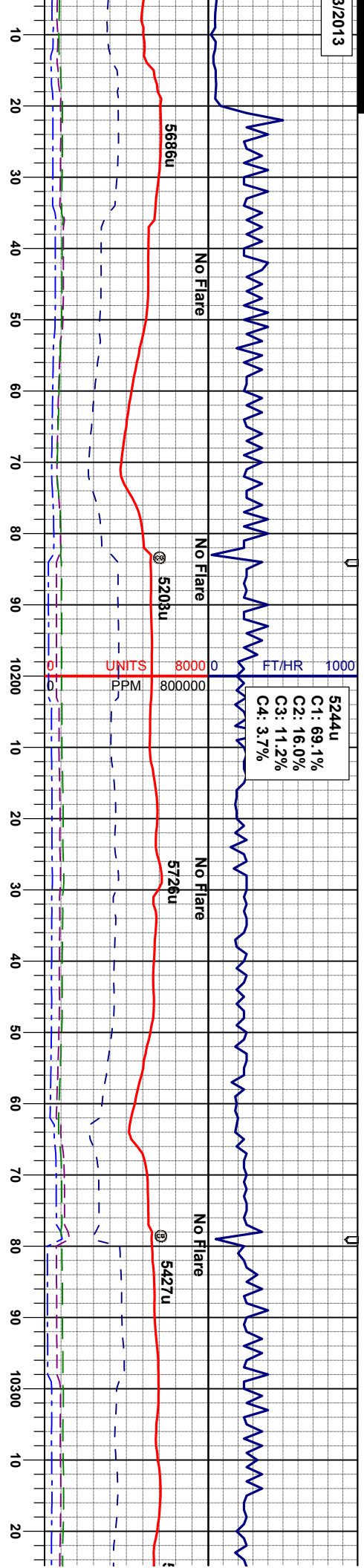
me tan, occ wh-ltgy, mod sft -  
bly-sbblky, mot-sdwwy tex, tr  
CHK: mgy, sme tan, occ wh-ltgy, mod sft -  
mod firm, sbply-sbblky, mot-sdwwy tex, tr  
fos, v calc,  
MRL: mgy-gy/bk, occdkbm, bkly-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc, tr  
frac, tr pyr

CHK: mgy, sme tan, occ wh-ltgy, mod sft -  
mod firm, sbply-sbblky, mot-sdwwy tex, tr  
fos, v calc,  
MRL: mgy-gy/bk, occdkbm, bkly-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc, tr  
frac, tr pyr

CHK: mgy, sme tan, occ wh-ltgy, mod sft -  
mod firm, sbply-sbblky, mot-sdwwy tex, tr  
fos, v calc,  
MRL: mgy-gy/bk, occdkbm, bkly-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc, tr  
frac, tr pyr



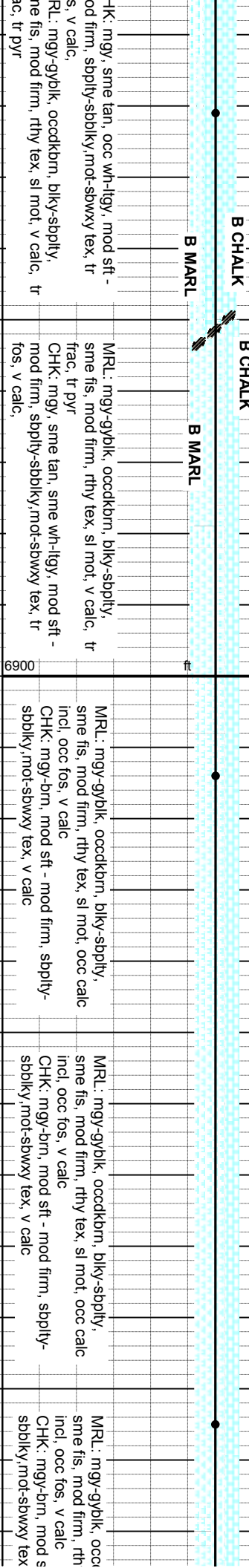


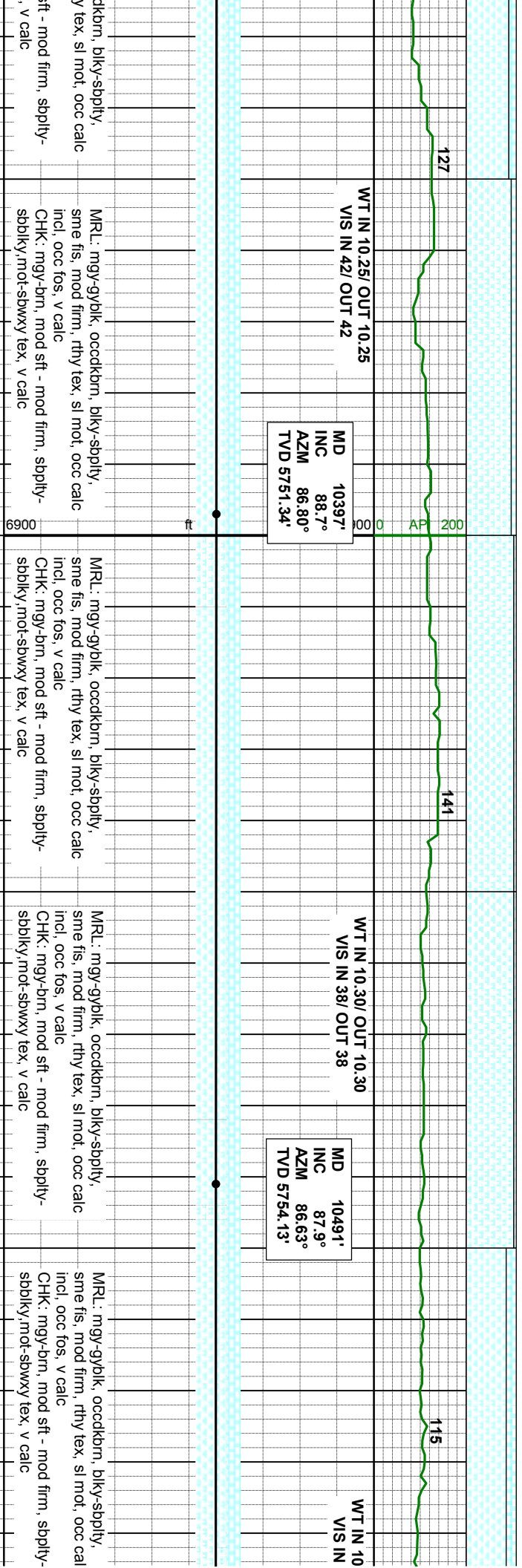
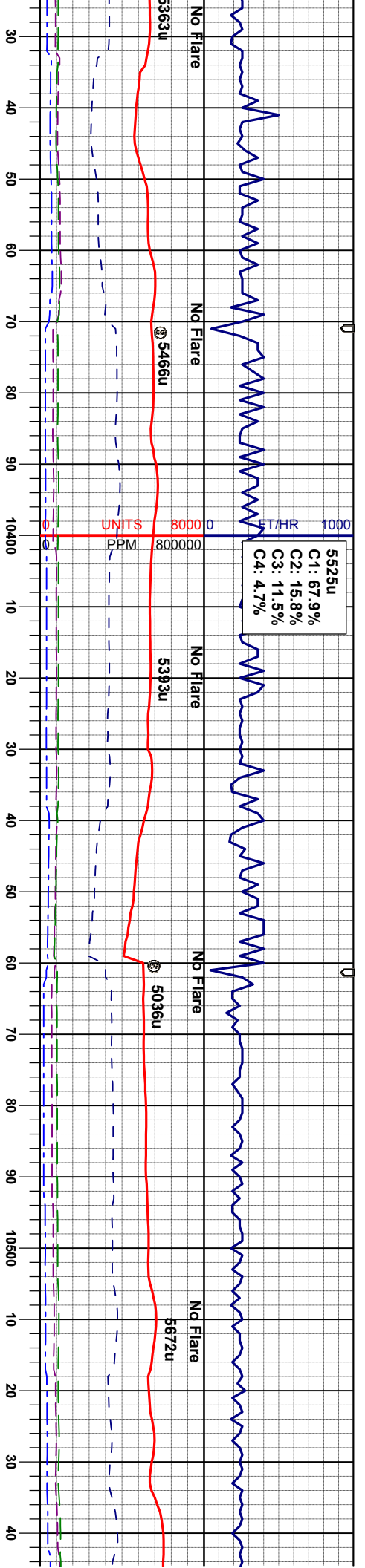


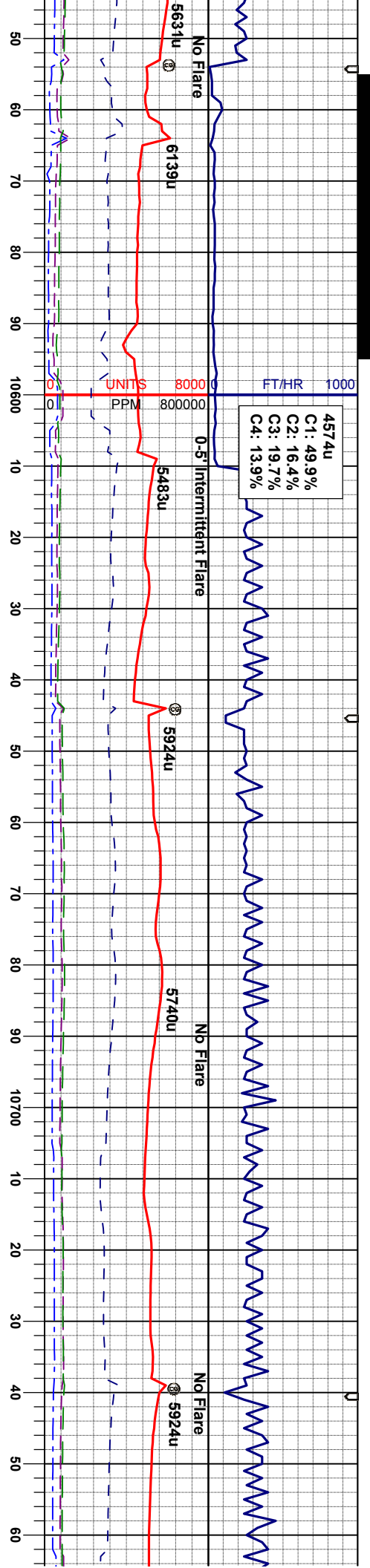
MD 10121'  
INC 89.6°  
AZM 88.30°  
TVD 5748.37'

MD 10214'  
INC 89.5°  
AZM 88.10°  
TVD 5749.10'

MD 10305'  
INC 89.5°  
AZM 87.57°  
TVD 5749.10'







MD 10584'  
INC 90.1°  
AZM 87.22°  
TVD 5755.75'

MD 10676'  
INC 91.5°  
AZM 87.96°  
TVD 5754.47'

MD  
INC  
AZM  
TVD

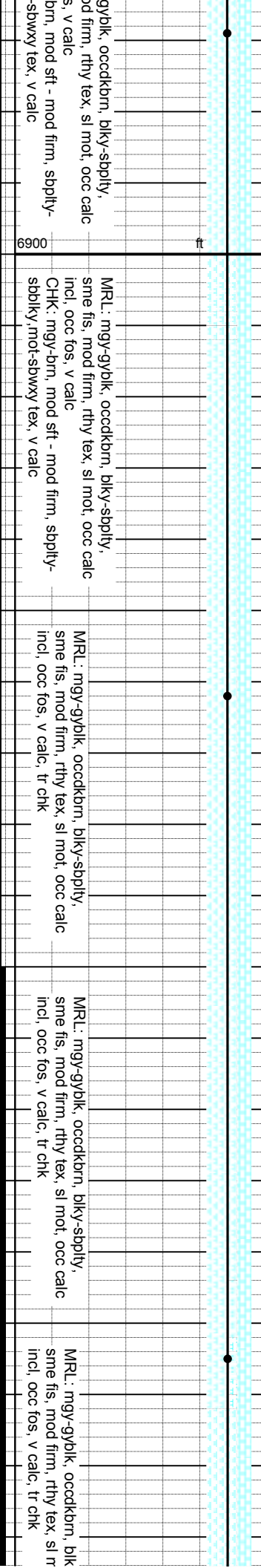
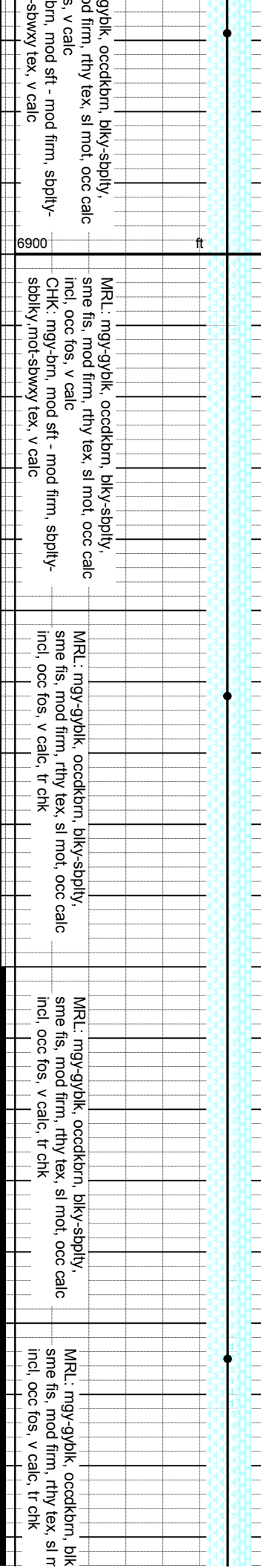
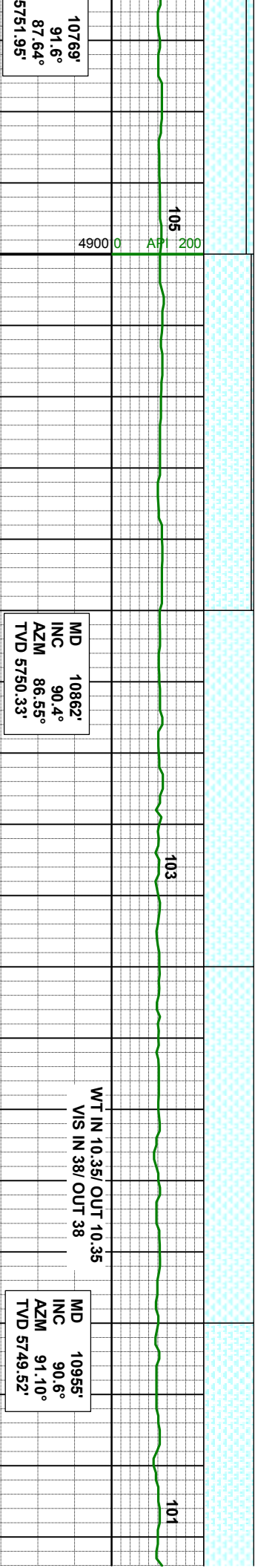
MRU: mgy-gyblk, occckbrn, biky-sbply,  
sme fls, mod firm, rthy tex, sl mot, occ calc  
incl, occ fos, v calc  
CHK: mgy-brn, mod sft - mod firm, sbply-  
sbbiky, mot-sbwxv tex, v calc

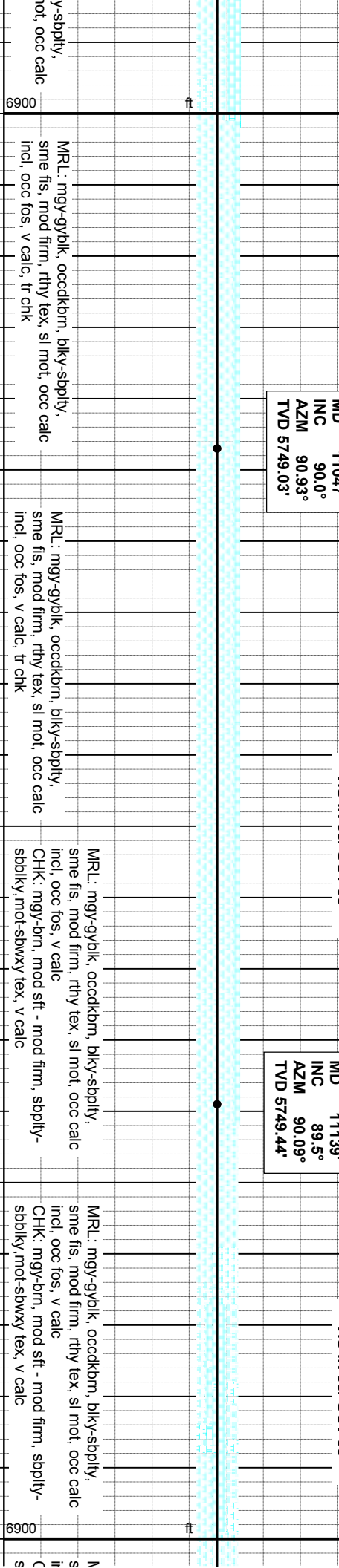
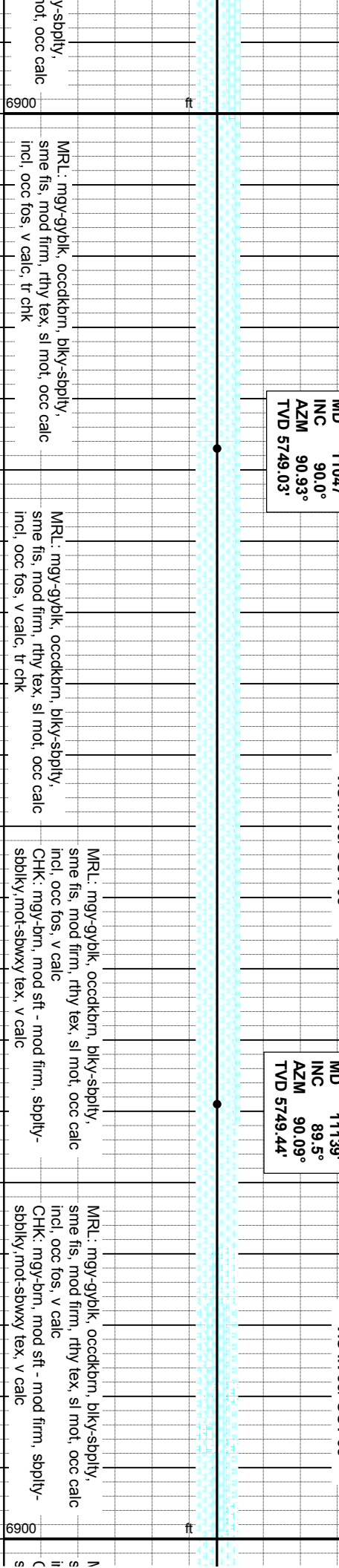
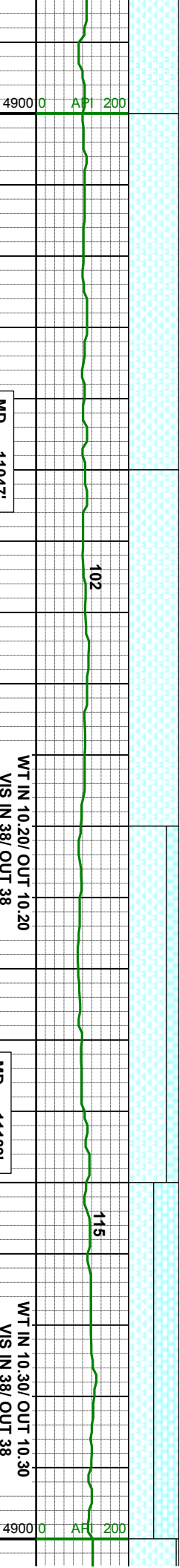
MRU: mgy-gyblk, occckbrn, biky-sbply,  
sme fls, mod firm, rthy tex, sl mot, occ calc  
incl, occ fos, v calc  
CHK: mgy-brn, mod sft - mod firm, sbply-  
sbbiky, mot-sbwxv tex, v calc

MRU: mgy-gyblk, occckbrn, biky-sbply,  
sme fls, mod firm, rthy tex, sl mot, occ calc  
incl, occ fos, v calc  
CHK: mgy-brn, mod sft - mod firm, sbply-  
sbbiky, mot-sbwxv tex, v calc

MRU: mgy-gyblk, occckbrn, biky-sbply,  
sme fls, mod firm, rthy tex, sl mot, occ calc  
incl, occ fos, v calc  
CHK: mgy-brn, mod sft - mod firm, sbply-  
sbbiky, mot-sbwxv tex, v calc

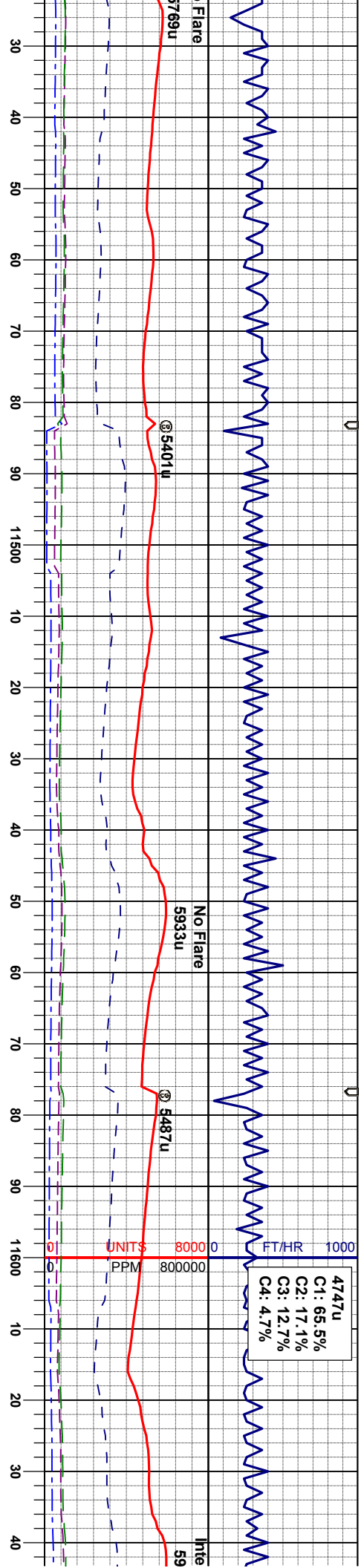
MRU: mgy-  
sme fls, mc  
incl, occ fos  
CHK: mgy-  
sbbiky, mot-





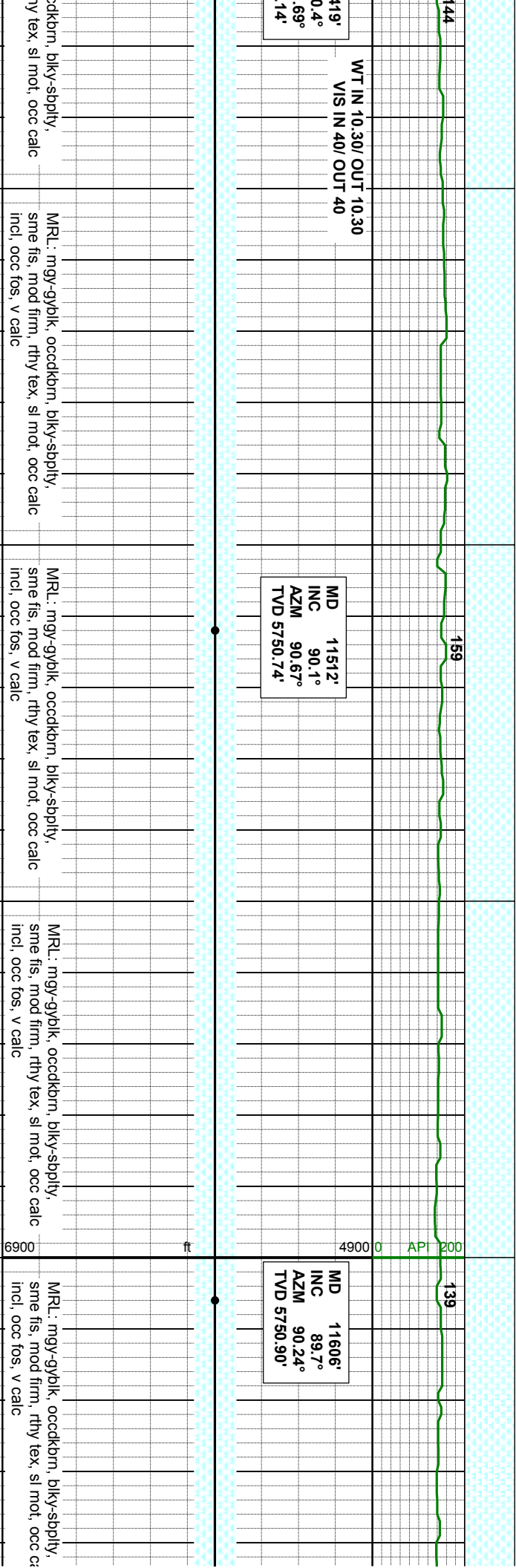


4747u  
C1: 65.5%  
C2: 17.1%  
C3: 12.7%  
C4: 4.7%



MD 11512'  
INC 90.1°  
AZM 90.67°  
TVD 5750.74'

MD 11606'  
INC 89.7°  
AZM 90.24°  
TVD 5750.90'



MR.L: mgy-gyolk, occcdkorn, biky-sbply,  
sme fis, mod firm, rthy tex, sl mot, occ calc  
incl, occ fos, v calc

MR.L: mgy-gyolk, occcdkorn, biky-sbply,  
sme fis, mod firm, rthy tex, sl mot, occ calc  
incl, occ fos, v calc

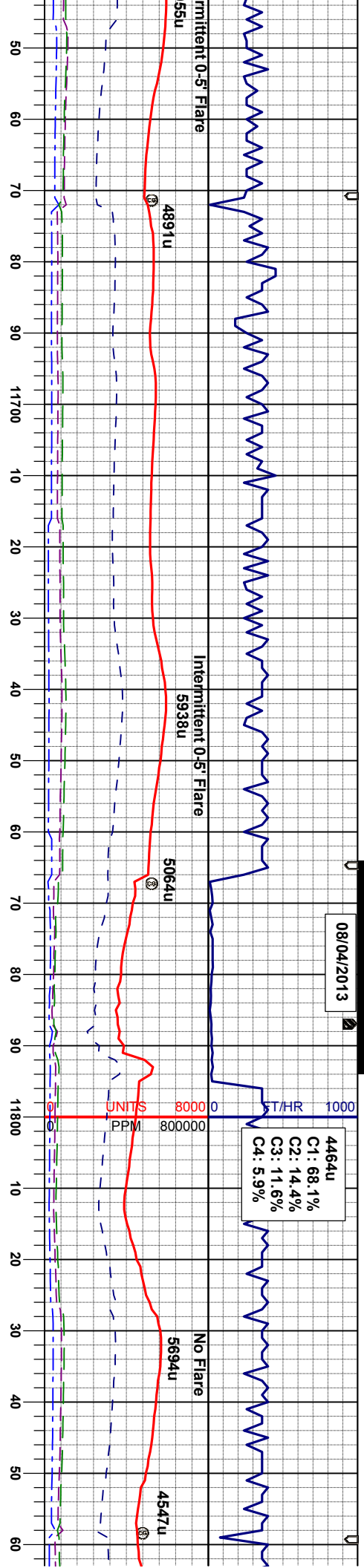
MR.L: mgy-gyolk, occcdkorn, biky-sbply,  
sme fis, mod firm, rthy tex, sl mot, occ calc  
incl, occ fos, v calc

MR.L: mgy-gyolk, occcdkorn, biky-sbply,  
sme fis, mod firm, rthy tex, sl mot, occ calc  
incl, occ fos, v calc



08/04/2013

4464u  
C1: 68.1%  
C2: 14.4%  
C3: 11.6%  
C4: 5.9%



WT IN 10.30/ OUT 10.30  
VIS IN 39/ OUT 39

MD 11700'  
INC 89.0°  
AZM 89.50°  
TVD 5751.97'

WT IN 10.35/ OUT 10.35  
VIS IN 40/ OUT 40

WT IN 10.35/ OUT 10.35  
VIS IN 40/ OUT 40

MD 11795'  
INC 91.2°  
AZM 89.34°  
TVD 5751.80'

WT IN 10.35/ OUT 10.35  
VIS IN 40/ OUT 40

MR.L: mgy-gyblk, occdkbrn, bkly-sbply,  
sme fis, mod firm, rthy tex, sl mot, occ calc  
incl, occ fos, v calc

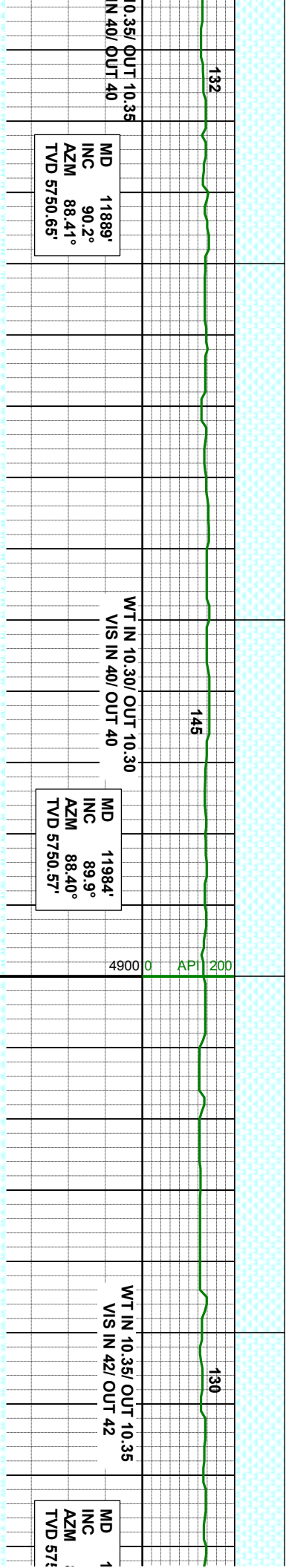
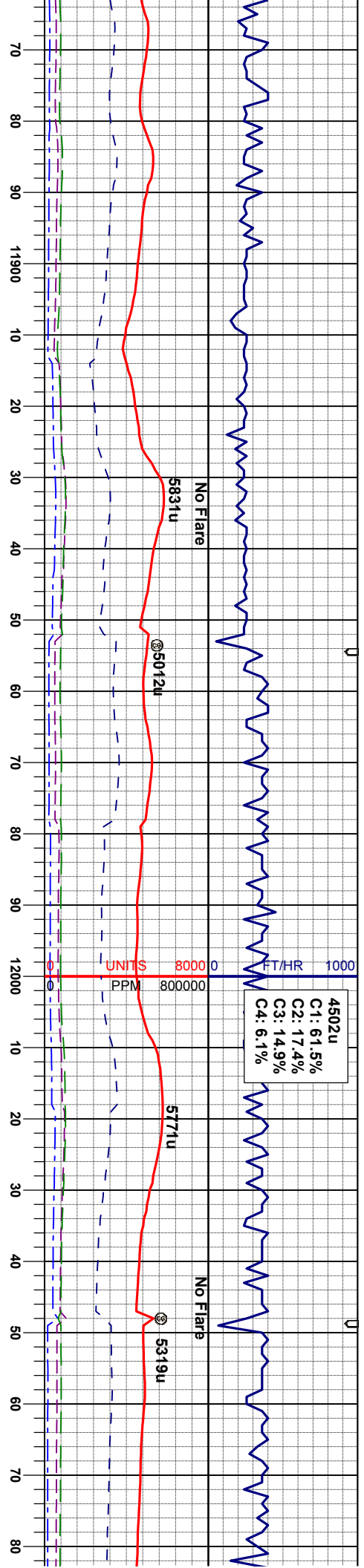
MR.L: mgy-gyblk, occdkbrn, bkly-sbply,  
sme fis, mod firm, rthy tex, sl mot, occ calc  
incl, occ fos, v calc

MR.L: mgy-gyblk, occdkbrn, bkly-sbply,  
sme fis, mod firm, rthy tex, sl mot, occ calc  
incl, tr pyr, occ fos, v calc

MR.L: mgy-gyblk, occdkbrn, bkly-sbply,  
sme fis, mod firm, rthy tex, sl mot, occ calc  
incl, tr pyr, occ fos, v calc

MR.L: mgy-gyblk, occdkbrn, bkly-sbply,  
sme fis, mod firm, rthy tex, sl mot, occ calc  
incl, tr pyr, occ fos, v calc





MR.L. mgy-gyblk, occcdkbrn, biky-sbply,  
sme fis, mod firm, rthy tex, sl mot, occ calc  
incl, tr pyr, occ fos, v calc

MR.L. mgy-gyblk, occcdkbrn, biky-sbply,  
sme fis, mod firm, rthy tex, sl mot, occ calc  
incl, tr pyr, occ fos, v calc

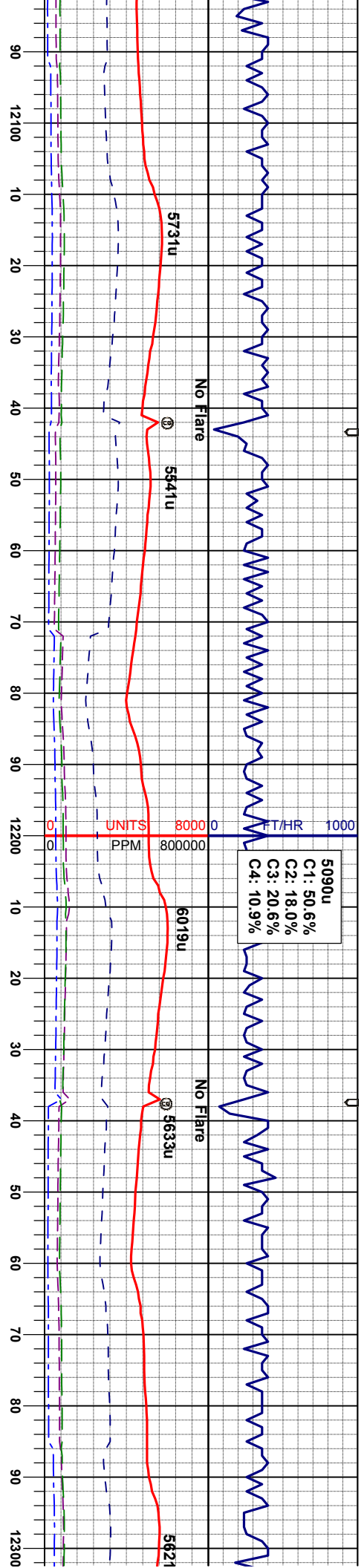
MR.L. mgy-gyblk, occcdkbrn, biky-sbply,  
sme fis, mod firm, rthy tex, sl mot, occ calc  
incl, tr pyr, occ fos, v calc

MR.L. mgy-gyblk, occcdkbrn, biky-sbply,  
sme fis, mod firm, rthy tex, sl mot, occ calc  
incl, tr pyr, occ fos, v calc

MR.L. mgy-gyblk, occcdkbrn, biky-sbply,  
sme fis, mod firm, rthy tex, sl mot, occ calc  
incl, tr pyr, occ fos, v calc

MR.L. mgy-gyblk, occcdkbrn, biky-sbply,  
sme fis, mod firm, rthy tex, sl mot, occ calc  
incl, tr pyr, occ fos, v calc





2079'  
90.7°  
89.95°  
50.08'

MD 12173'  
INC 90.1°  
AZM 89.80°  
TVD 5749.42'

MD 12267'  
INC 90.5°  
AZM 90.28°  
TVD 5748.93'

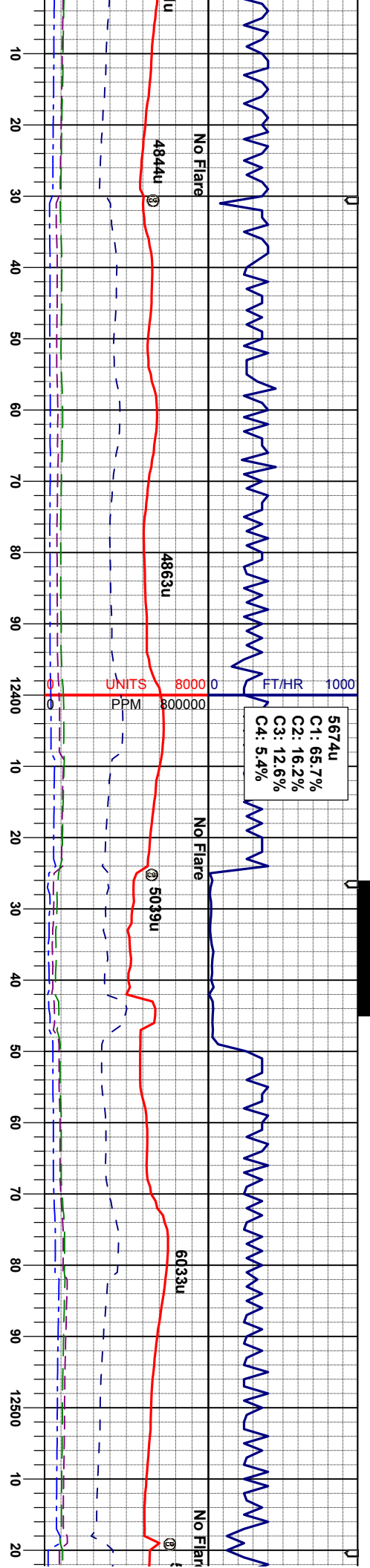
MR.L: mgy-gyblk, oocdkbm, blyk-sbply,  
smefls, mod firm, rthytex, slmot, ttrcalcnci,  
trbent, oocfos, v calc

MR.L: mgy-gyblk, oocdkbm, blyk-sbply,  
smefls, mod firm, rthytex, slmot, ttrcalcnci,  
trbent, oocfos, v calc

MR.L: mgy-gyblk, oocdkbm, blyk-sbply,  
smefls, mod firm, rthytex, slmot, ttrcalcnci,  
trbent, oocfos, v calc

MR.L: mgy-gyblk, oocdkbm, blyk-sbply,  
smefls, mod firm, rthytex, slmot, ttrcalcnci,  
trbent, oocfos, v calc





T 10.40  
T 39

MD 12362'  
INC 90.3°  
AZM 90.48°  
TVD 5748.27'

WT IN 10.25/ OUT 10.25  
VIS IN 38/ OUT 38

MD 12457'  
INC 90.0°  
AZM 87.90°  
TVD 5748.02'

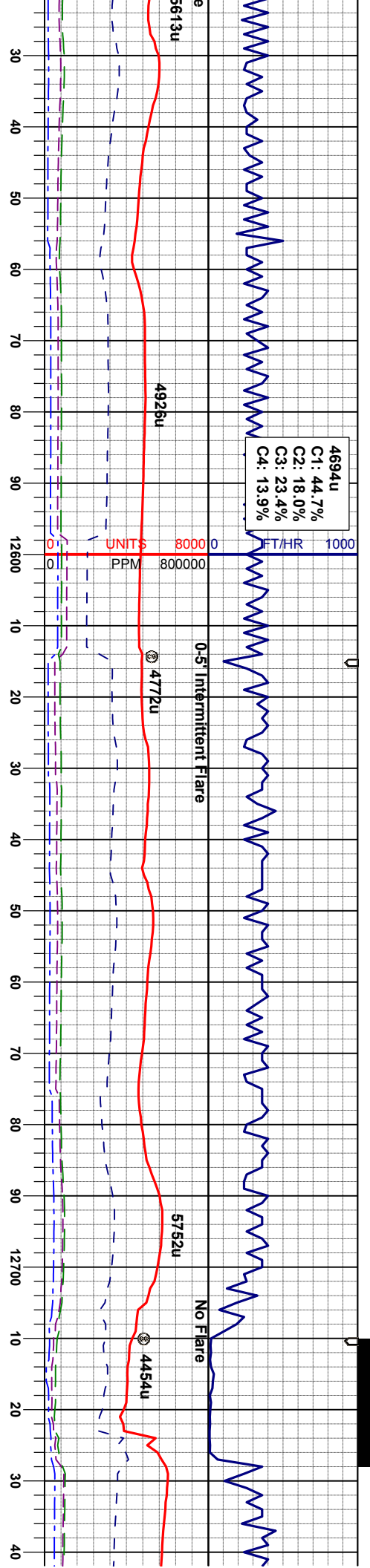
MRL: mgy-gyblk, occdkbm, biky-sbply, smeifs, mod firm, rhytex, simot, tcalcincI, tbent, tfros, v calc

MRL: mgy-gyblk, occdkbm, biky-sbply, smeifs, mod firm, rhytex, simot, tcalcincI, tbent, tfros, v calc

MRL: mgy-gyblk, occdkbm, biky-sbply, smeifs, mod firm, rhytex, simot, tcalcincI, tbent, tfros, v calc

MRL: mgy-gyblk, occdkbm, biky-sbply, smeifs, mod firm, rhytex, simot, tcalcincI, tbent, tfros, v calc

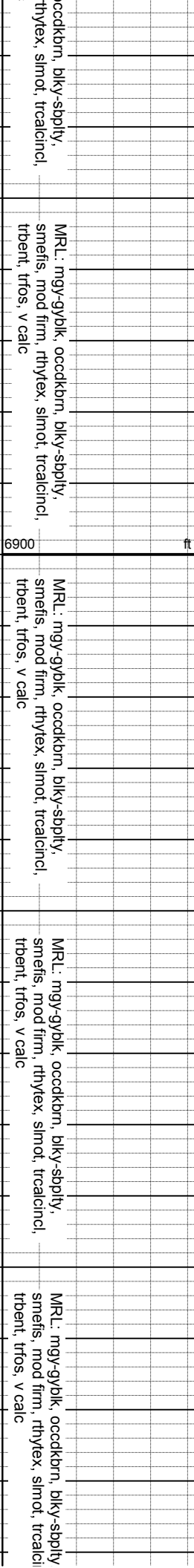


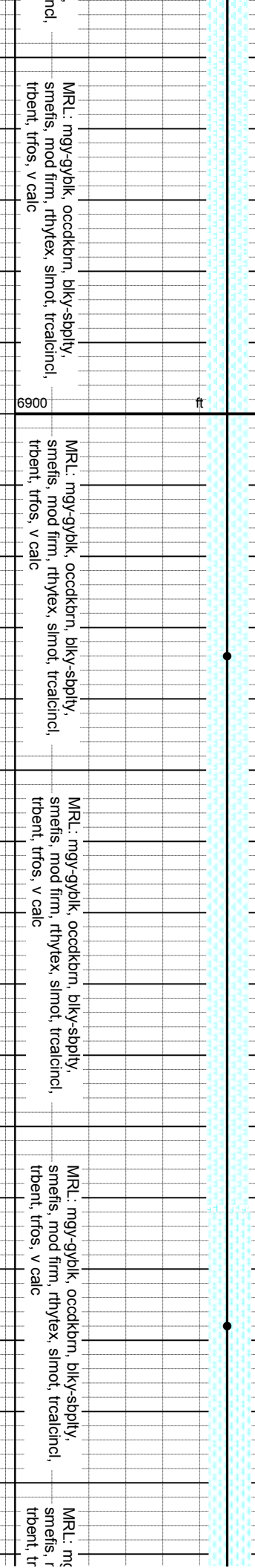
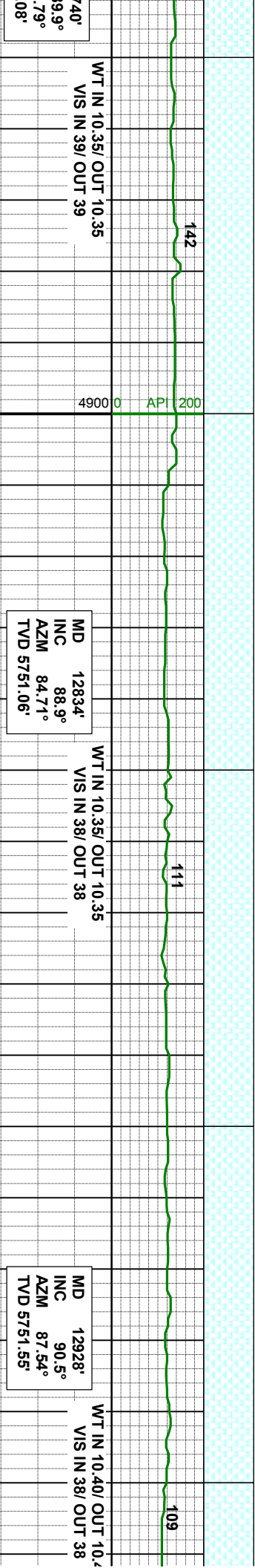
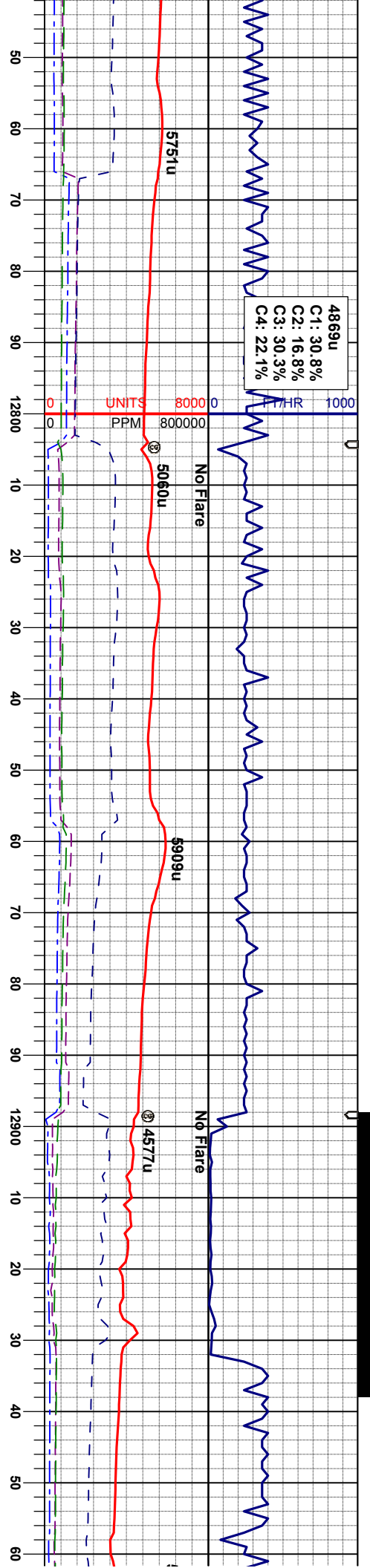


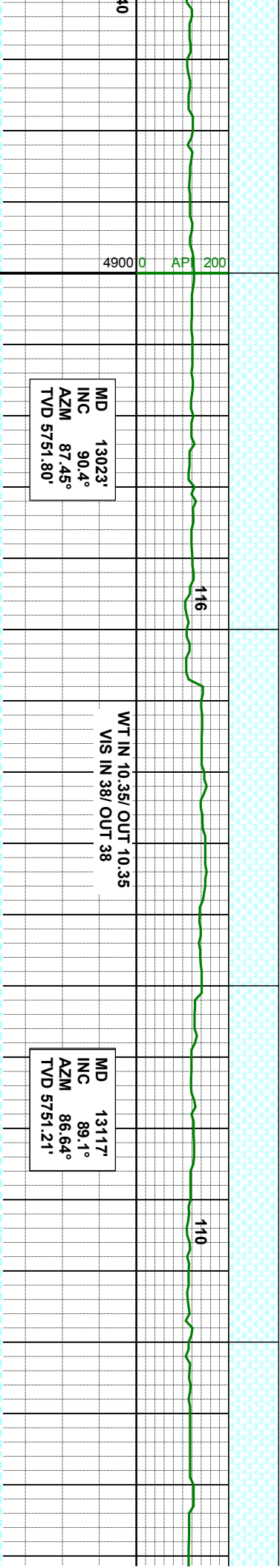
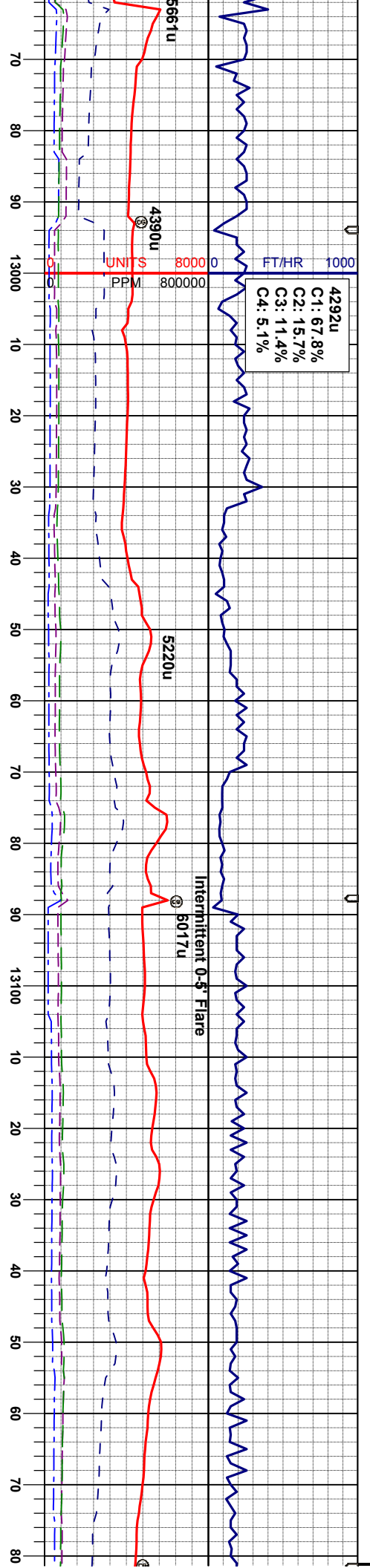
MD 12551'  
INC 89.7°  
AZM 88.06°  
TVD 5748.26'

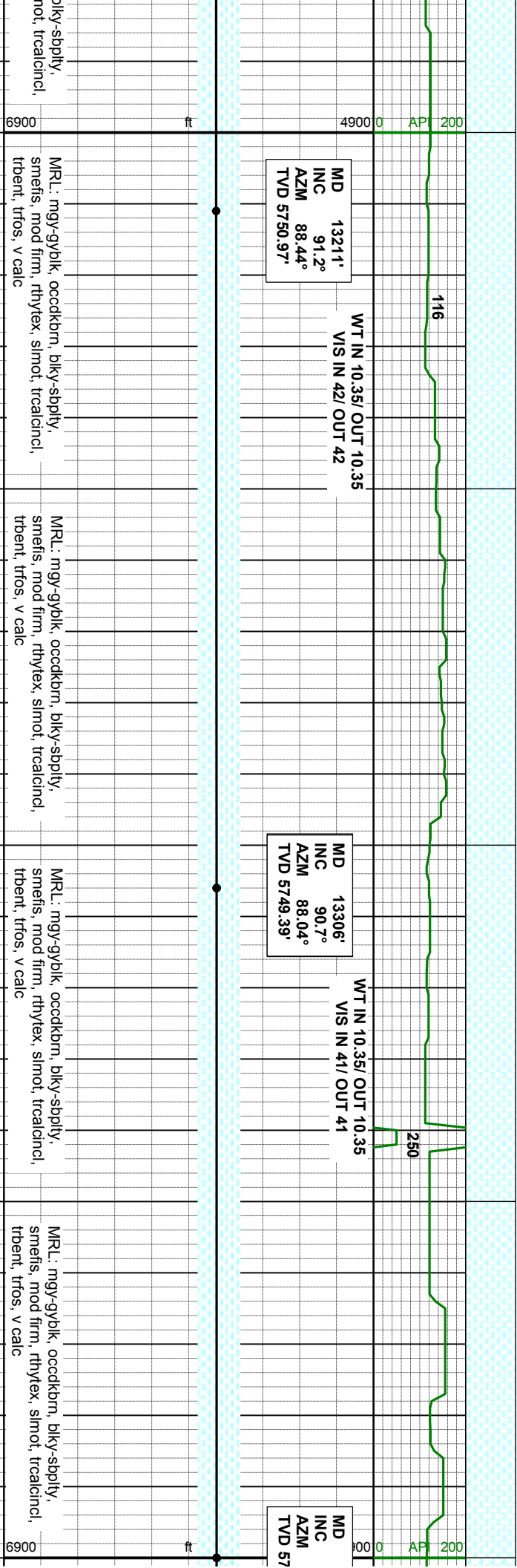
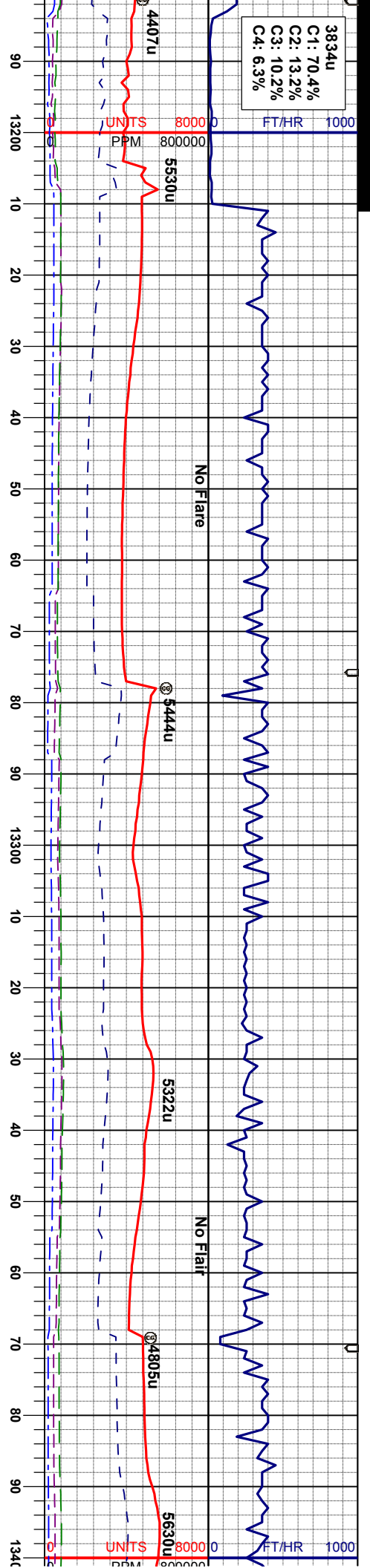
MD 12646'  
INC 89.1°  
AZM 87.55°  
TVD 5749.26'

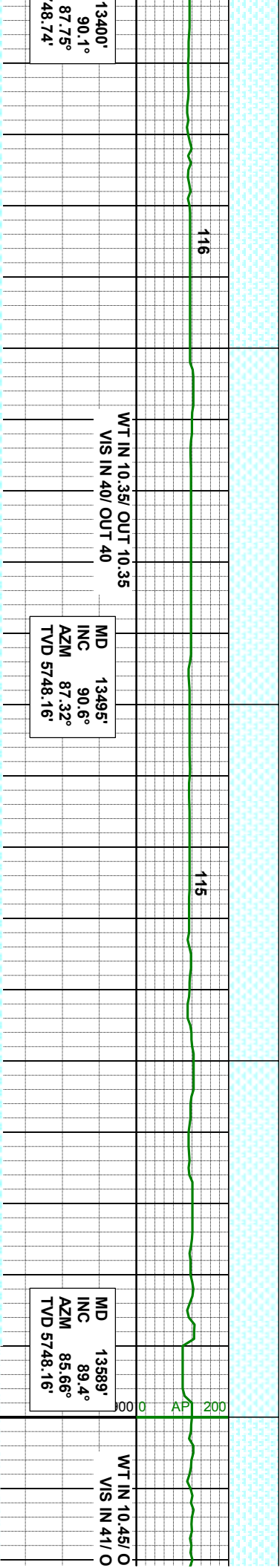
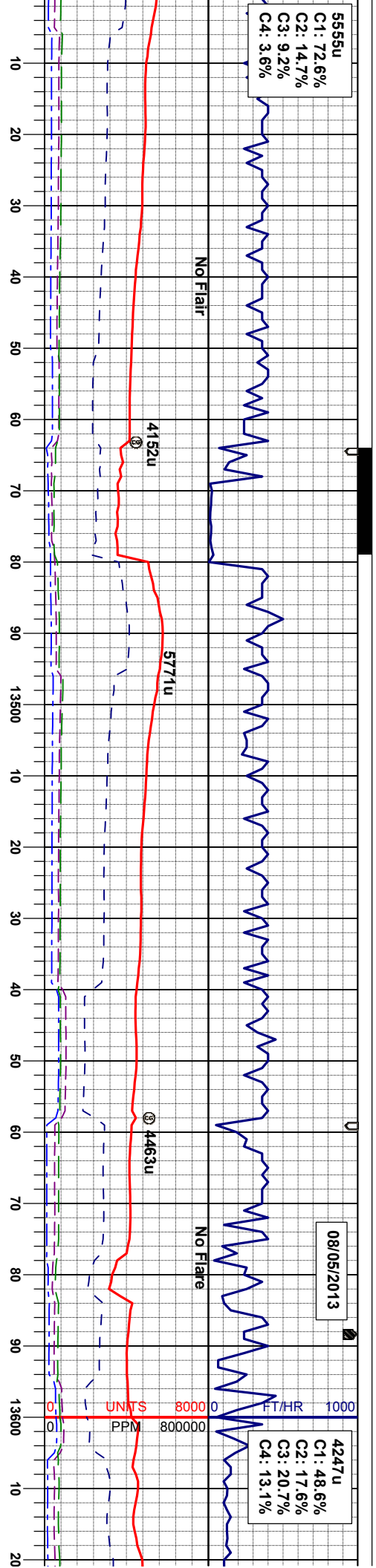
MD 127'  
INC 8°  
AZM 85°  
TVD 5750.











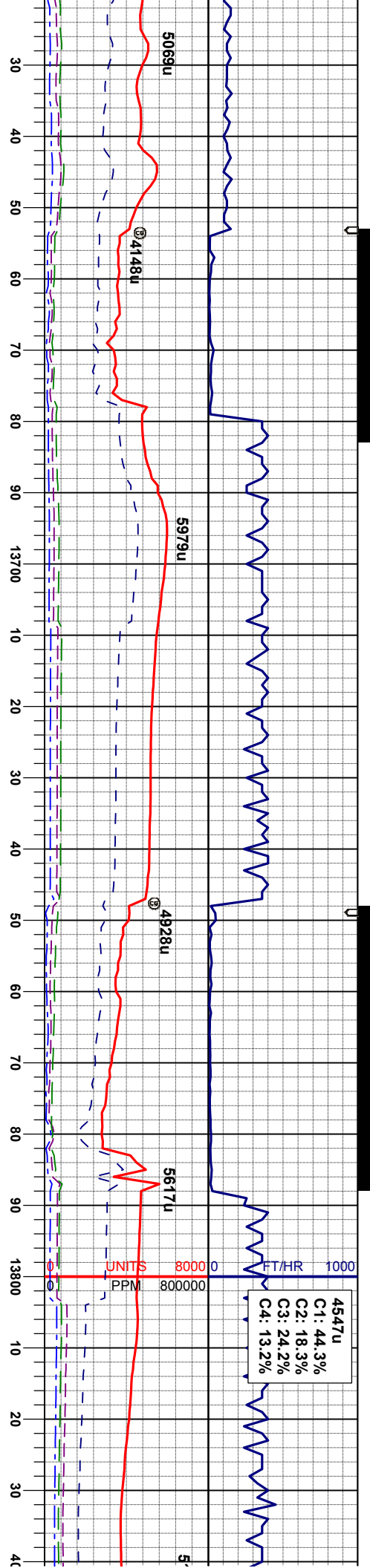
MRL: mgy-gyblk, occckbm, biky-sbply,  
smefts, mod firm, rthytex, slmot, trcalcinci,  
trbent, tfros, v calc

MRL: mgy-gyblk, occckbm, biky-sbply,  
smefts, mod firm, rthytex, slmot, trcalcinci,  
trbent, tfros, v calc

MRL: mgy-gyblk, occckbm, biky-sbply,  
smefts, mod firm, rthytex, slmot, trcalcinci,  
trbent, tfros, v calc

MRL: mgy-gyblk, occckbm, biky-sbply,  
smefts, mod firm, rthytex, slmot, trcalcinci,  
trbent, tfros, v calc





UT 10.45  
UT 41

MD 13684'  
INC 90.2°  
AZM 86.8°  
TVD 5748.49'

WT IN 10.30/ OUT 10.30  
VIS IN 39/ OUT 39

MD 13778'  
INC 92.3°  
AZM 88.16°  
TVD 5746.44'

WT

occckbrn, biky-sbply,  
rhytex, simot, trcalcincl,

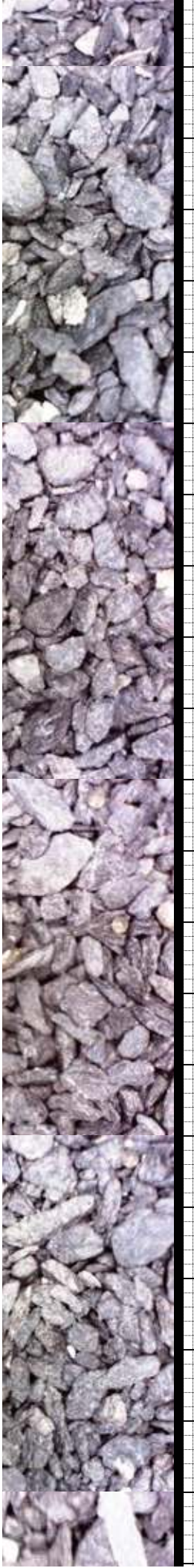
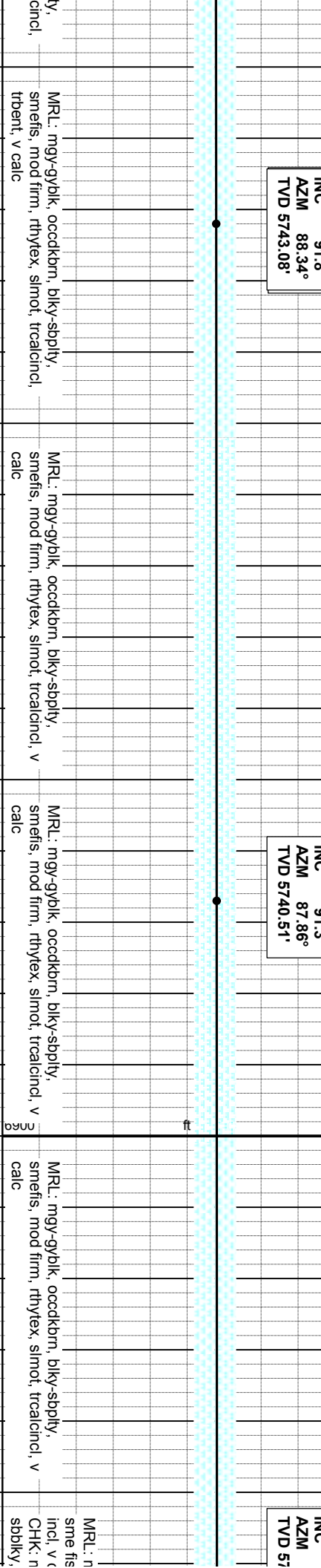
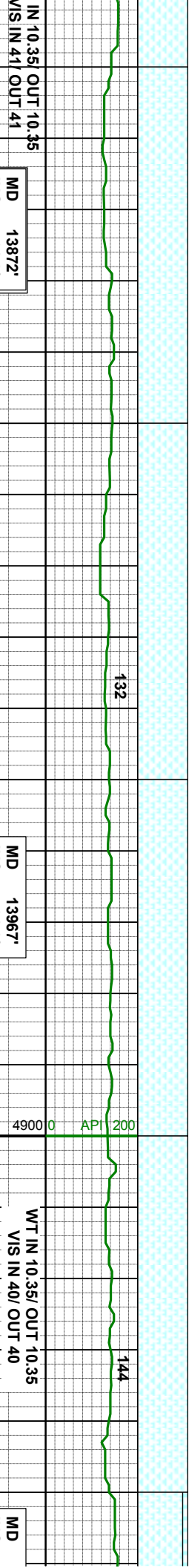
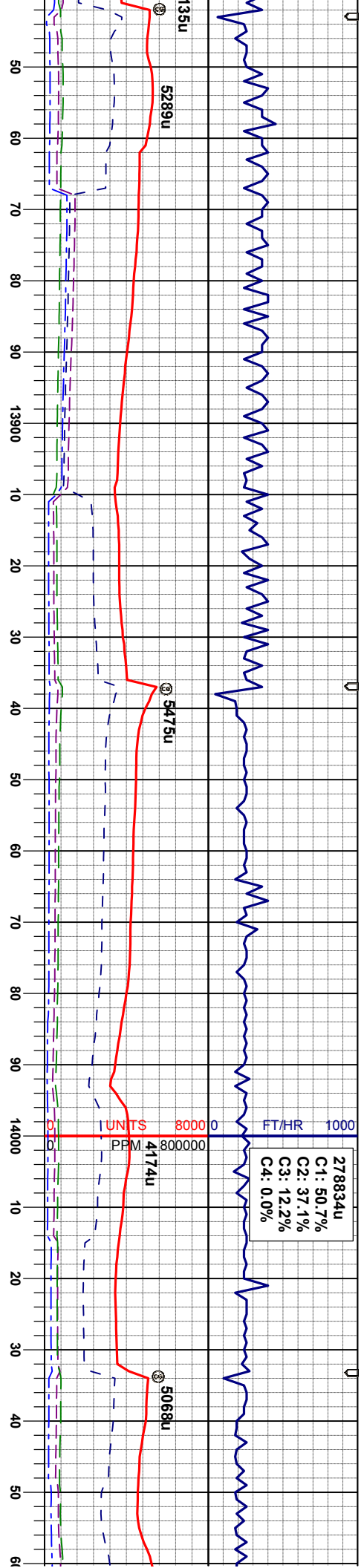
MRL: mgy-gyblk, occckbrn, biky-sbply,  
smefis, mod firm, rhytex, simot,  
occacalcincI, trbent, trfos, v calc

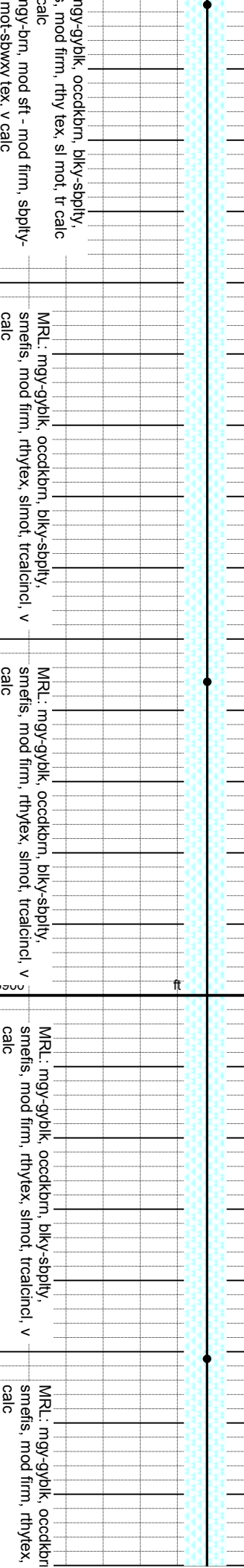
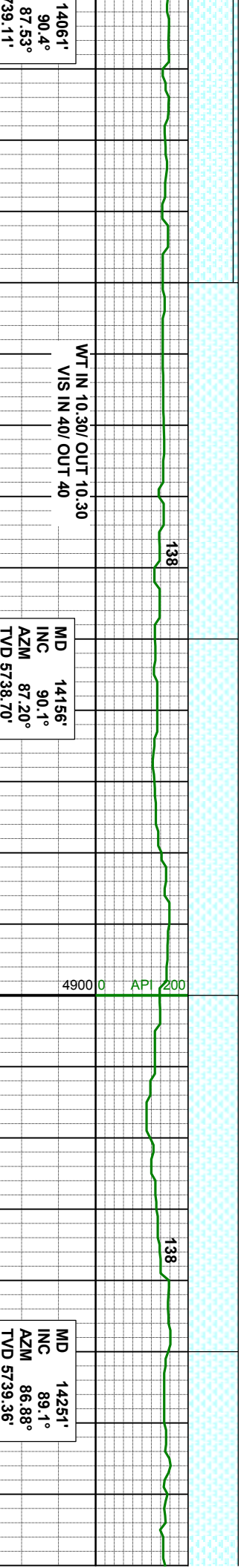
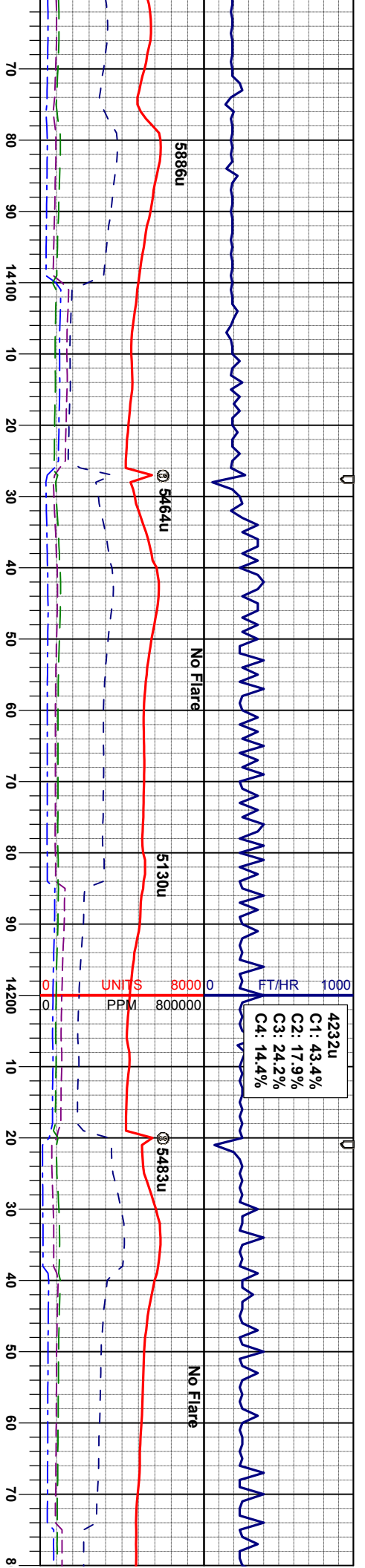
MRL: mgy-gyblk, occckbrn, biky-sbply,  
sme fis, mod firm, rhy tex, sl mot, occ calc  
inci, occ fos, v calc  
CHK: mgy-brn, mod sft - mod firm, sbply-  
sbilky ,mot-sbwy tex, v calc

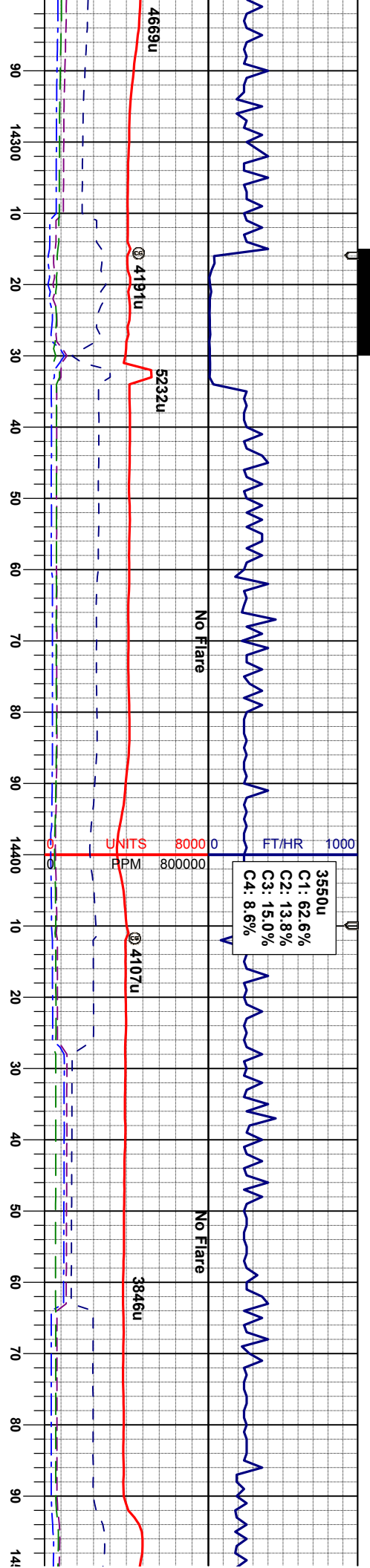
MRL: mgy-gyblk, occckbrn, biky-sbply,  
smefis, mod firm, rhytex, simot,  
occacalcincI, trbent, v calc

MRL: mgy-gyblk, occckbrn, biky-sbply,  
smefis, mod firm, rhytex, simot, trcal  
trbent, v calc









WT IN 10.50/ OUT 10.50  
VIS IN 42/ OUT 42

MD 14345'  
INC 89.8°  
AZM 87.05°  
TVD 5740.27'

WT IN 10.30/ OUT 10.30  
VIS IN 39/ OUT 39

MD 14440'  
INC 88.8°  
AZM 86.86°  
TVD 5741.43'

MR: mgy-gyblk, occdkbrn, blk-y-sbply, sme fis, mod firm, rthy tex, sl mot, v calc, tr fos, v calc

MR: mgy-gyblk, occdkbrn, blk-y-sbply, sme fis, mod firm, rthy tex, slmot, trcalcinci, v calc

MR: mgy-gyblk, occdkbrn, blk-y-sbply, sme fis, mod firm, rthy tex, slmot, trcalcinci, v calc

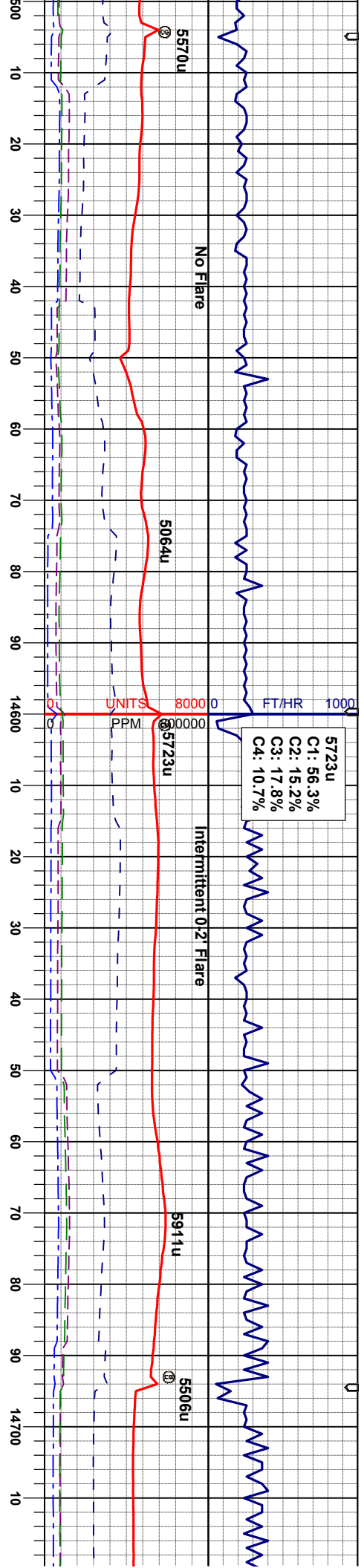
MR: mgy-gyblk, occdkbrn, blk-y-sbply, sme fis, mod firm, rthy tex, sl mot, v calc, tr fos, v calc

MR: mgy-gyblk, occdkbrn, blk-y-sbply, sme fis, mod firm, rthy tex, sl mot, v calc, tr fos, v calc

B MARL

B CH





MD 14535'  
INC 87.6°  
AZM 86.57°  
TVD 5744.41'

MD 14630'  
INC 86.1°  
AZM 86.6°  
TVD 5749.63'

MD 14675'  
INC 85.3°  
AZM 86.44°  
TVD 5753.01'

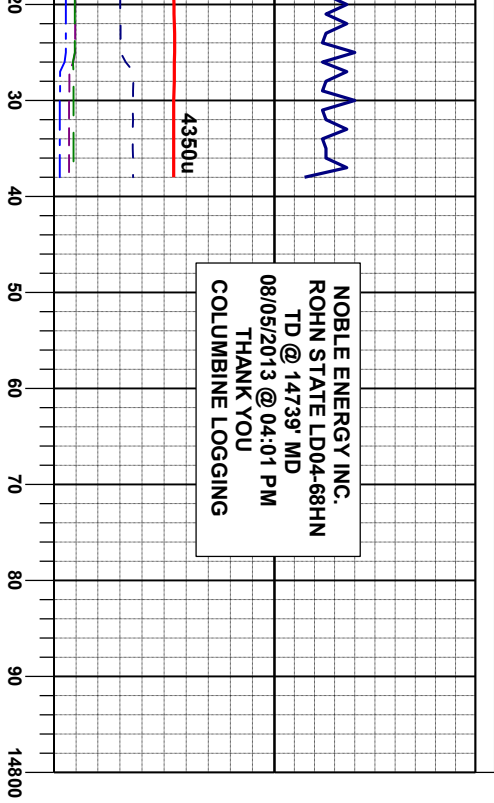
MRL: mgy-gyblk, occckbrn, biky-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc, tr  
pyr  
CHK: mgy, sme tan, occ wh-ilty, mod sft-  
mod firm, sbply-sbply, mot-sbwny tex, tr  
fos, v calc

MRL: mgy-gyblk, occckbrn, biky-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc, tr  
pyr  
CHK: mgy, sme tan, occ wh-ilty, mod sft-  
mod firm, sbply-sbply, mot-sbwny tex, tr  
fos, v calc

MRL: mgy-gyblk, occckbrn, biky-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc, tr  
pyr  
CHK: mgy, sme tan, occ wh-ilty, mod sft-  
mod firm, sbply-sbply, mot-sbwny tex, tr  
fos, v calc

MRL: mgy-gyblk, occckbrn, biky-sbply,  
sme fis, mod firm, rthy tex, sl mot, v calc, tr  
pyr  
CHK: mgy, sme tan, occ wh-ilty, mod sft-  
mod firm, sbply-sbply, mot-sbwny tex, tr  
fos, v calc

MRL: mgy-gyblk,  
sme fis, mod firm  
pyr  
CHK: mgy, sme t  
mod firm, sbply-s  
fos, v calc



MD 14739'  
INC 85.3°  
AZM 86.44°  
TVD 5758.25'

NOBLE ENERGY INC.  
ROHN STATE LD04-68HN  
TD @ 14739' MD  
08/05/2013 @ 04:01 PM

occokbrn, bkly-sbply,  
, rthy tex, sl mot, v calc, tr  
an, occ wh-figy, mod sft -  
sbply, mot-sbwy tex, tr

