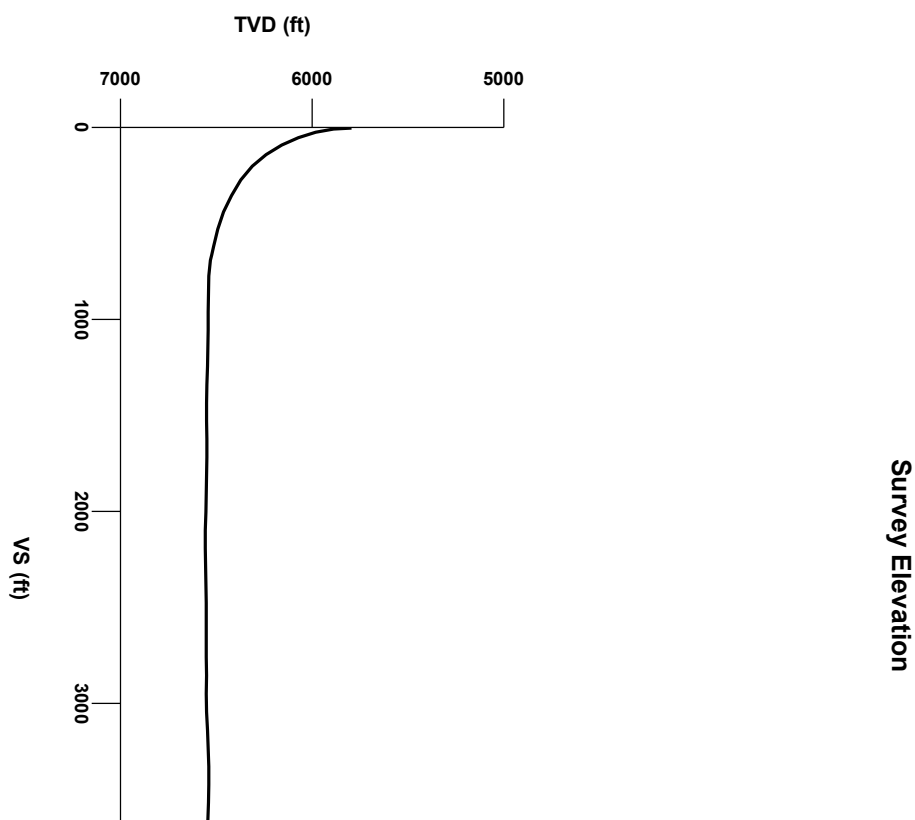
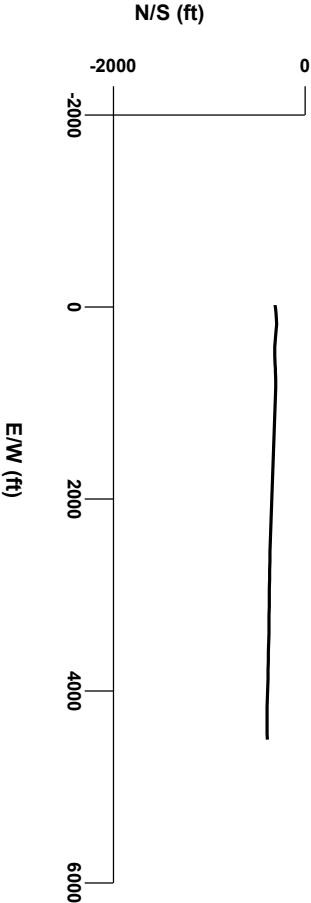
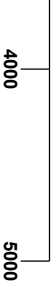


LOG created using L PLOT VH Version 3.0, May 08, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR: NOBLE ENERGY INC.
WELL: SLW RANCH STATE B12-62-1HN
LOCATION: SWSW SEC 12, T5N, R64W
COUNTY: WELD
STATE: COLORADO
SPOT: 648' FSL, 246' FWL
ELEVATION: GR 4,596', KB 4,626'
FIELD: KERSEY
SPUD DATE: 05/02/2013
TD DATE: 05/08/2013
DATES LOGGED: 05/05/2013 - 05/08/2013
DEPTHS LOGGED: 5779' MD - 10779'MD
LOGGERS: ANDREA ZUIDEMA, SHANA SWIRIN
DRILLING FLUID: LSND
DRILLING RIG: H&P 326
API: 05-123-36532
LOG TYPE: HORIZONTAL
SCALE: 1:240 (5 inches per 100 feet)
REMARKS: WELLSITE GEOLOGICAL SERVICES
 PROVIDED BY COLUMBINE LOGGING INC.

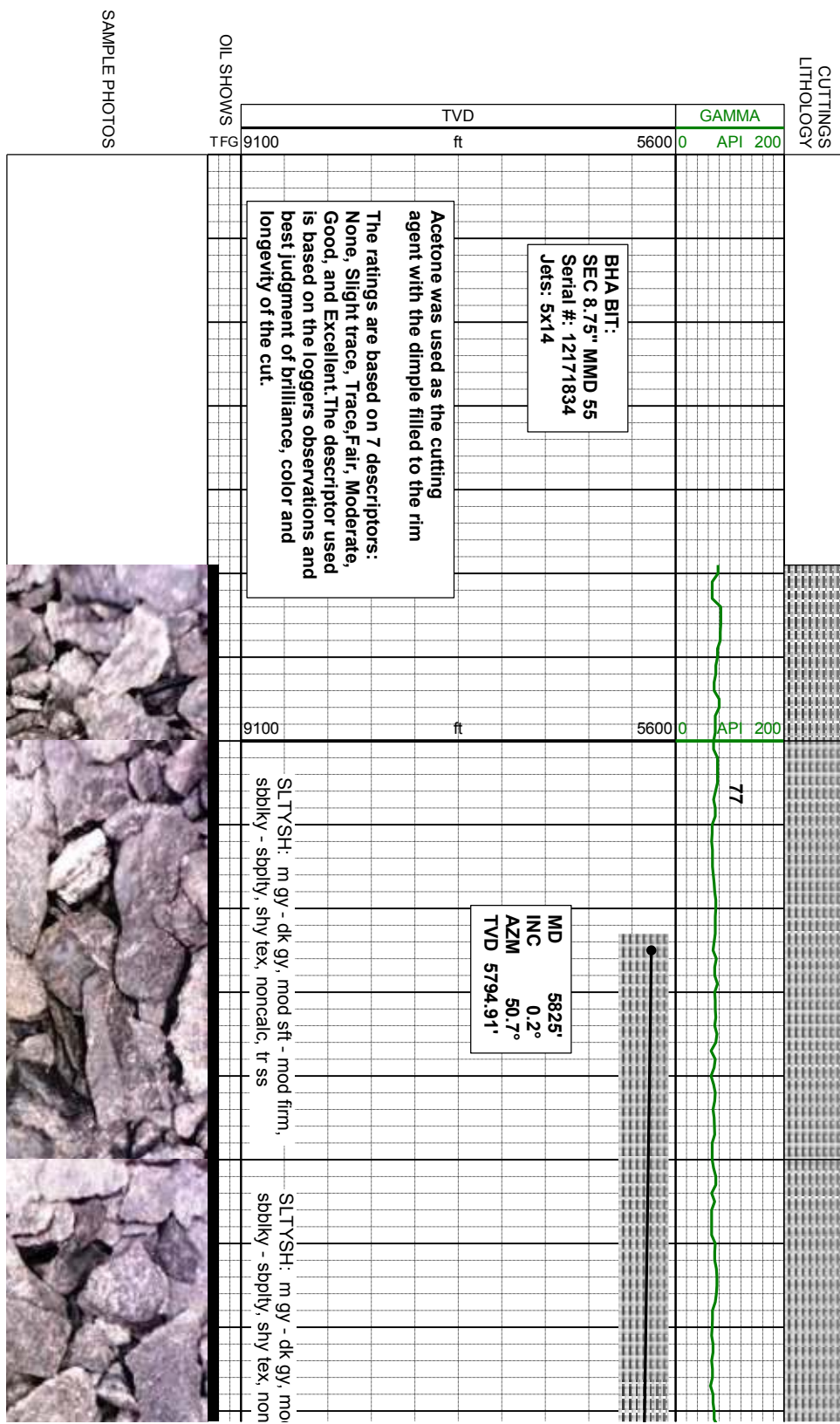
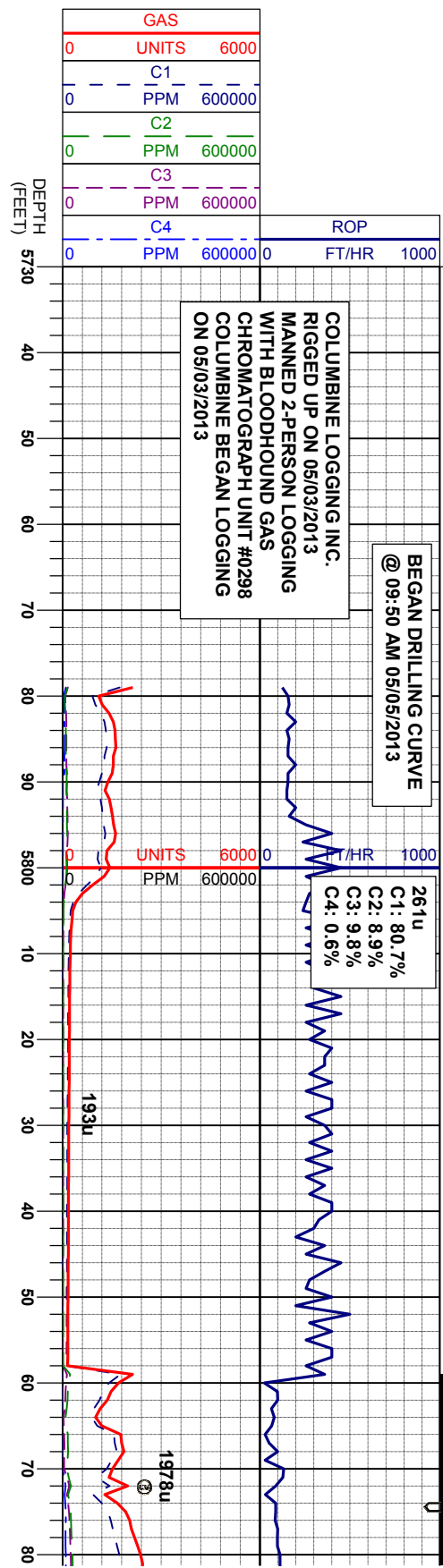
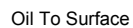
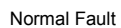
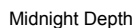


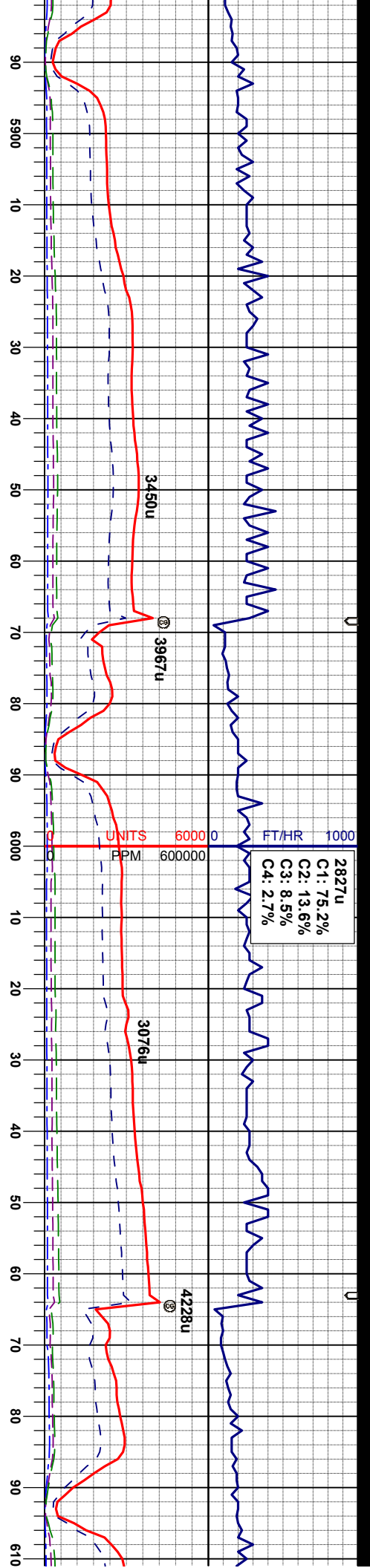
Survey Plan



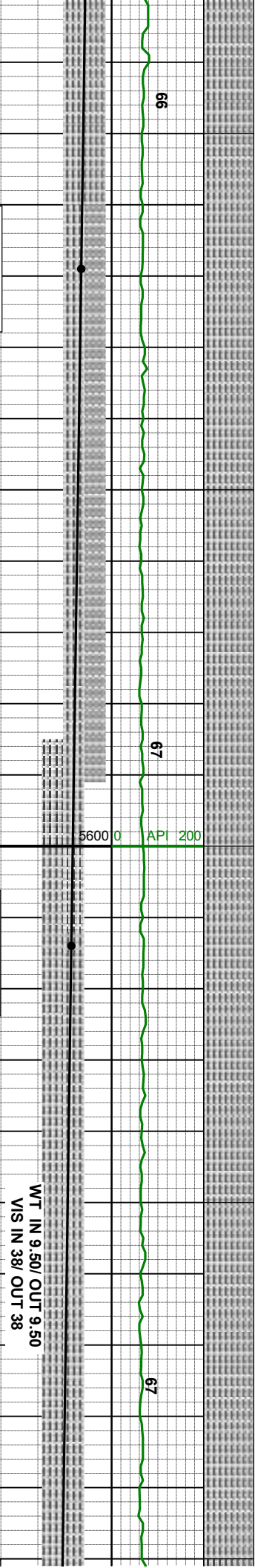


ENGINEERING SYMBOLS





2827u
C1: 75.2%
C2: 13.6%
C3: 8.5%
C4: 2.7%



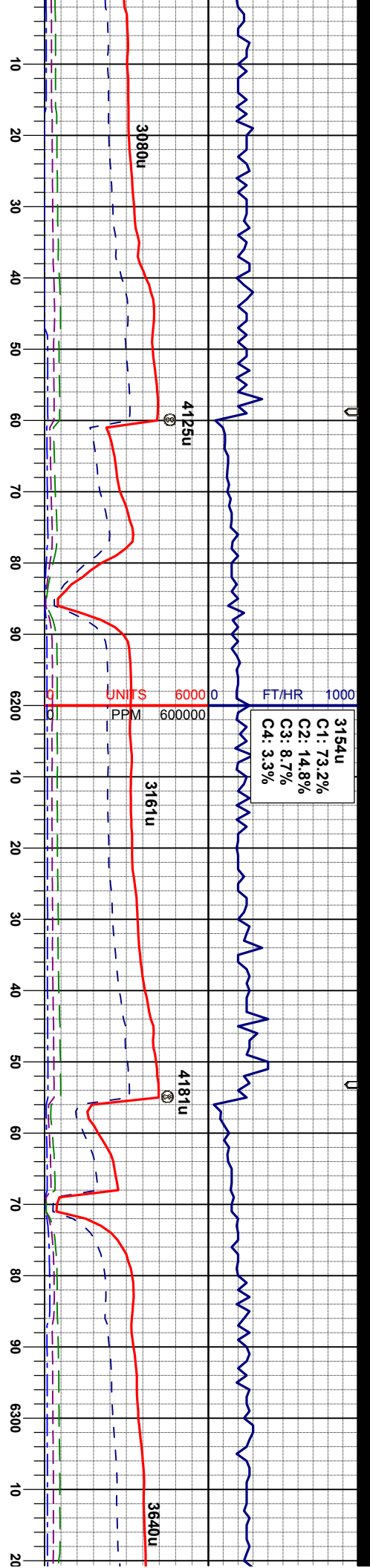
MD 5919'
INC 5.7°
AZM 76.6°
TVD 5888.75'

MD 6014'
INC 15.0°
AZM 77.6°
TVD 5982.10'

WT IN 9.50/ OUT 9.50
VIS IN 38/ OUT 38

SLTYSH: m gy - dk gy, mod sft - mod firm, sbbkly - sbbply, shy tex, noncalc, tr ss





WT IN 9.80/ OUT 9.80
VIS IN 40/ OUT 40

MD 6109'
INC 20.8°
AZM 89.0°
TVD 6072.49'

SLT YSH: m gy - dk gy, mod sft - mod firm,
sblky - sblpy, shy tex, noncalc, tr ss

SLT YSH: m gy - dk gy, mod sft - mod firm,
sblky - sblpy, shy tex, noncalc, tr ss

SLT YSH: m gy - dk gy, mod sft - mod firm,
sblky - sblpy, shy tex, noncalc, tr ss

SLT YSH: m gy - dk gy, mod sft - mod firm,
sblky - sblpy, shy tex, noncalc, tr ss

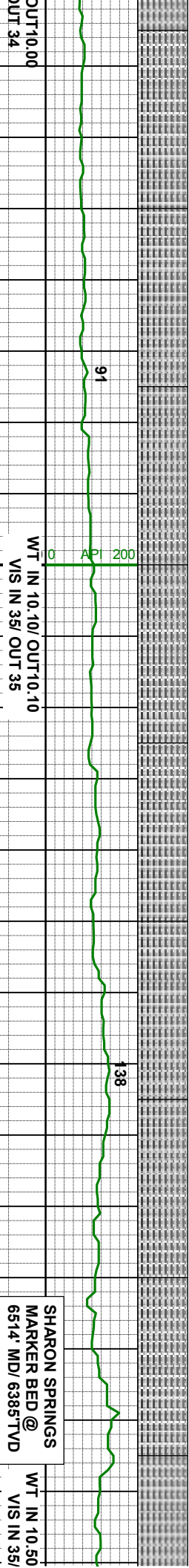
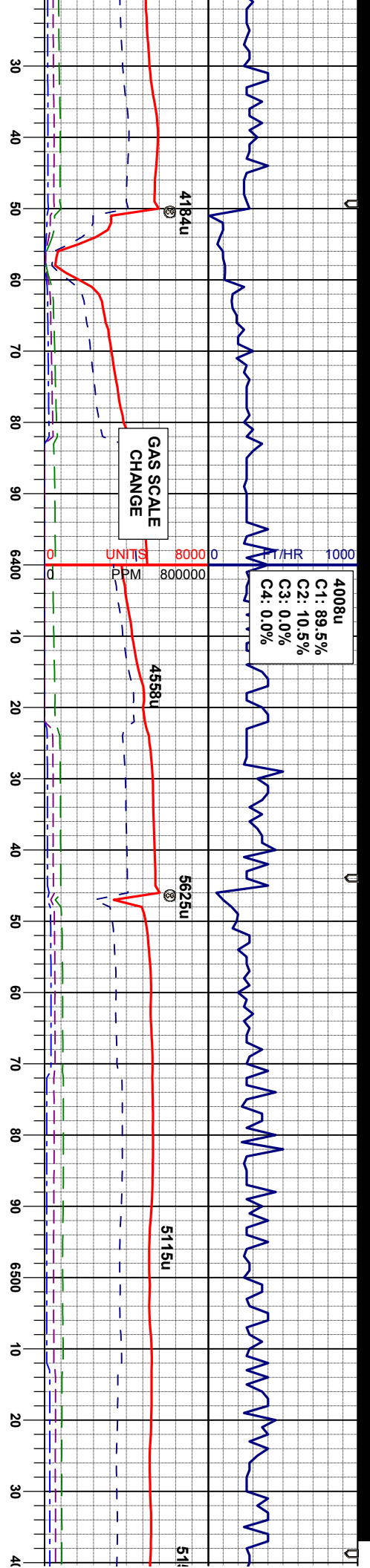
SLT YSH: m gy - dk gy, mod sft - mod firm,
sblky - sblpy, shy tex, noncalc, tr ss

WT IN 9.90/ OUT 9.90
VIS IN 38/ OUT 38

MD 6204'
INC 27.5°
AZM 86.8°
TVD 6169.13'

WT IN 10.00/ OUT 10.00
VIS IN 36/ OUT 36

MD 6299'
INC 35.6°
AZM 84.3°
TVD 6240.02'



MD 6394'
INC 44.8°
AZM 89.4°
TVD 6312.53'

MD 6488'
INC 56.1°
AZM 96.3°
TVD 6372.33'

SHARON SPRINGS
MARKER BED @
6514' MD/ 6385' TVD

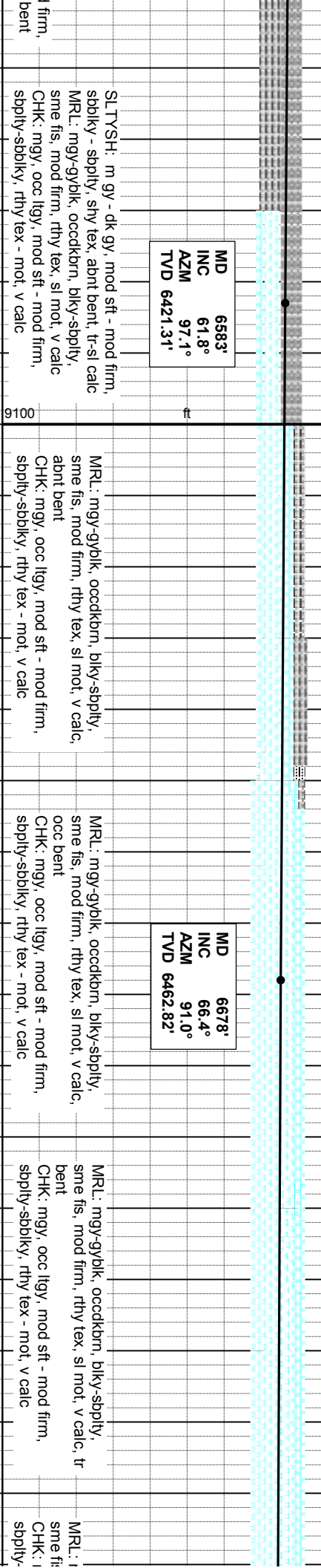
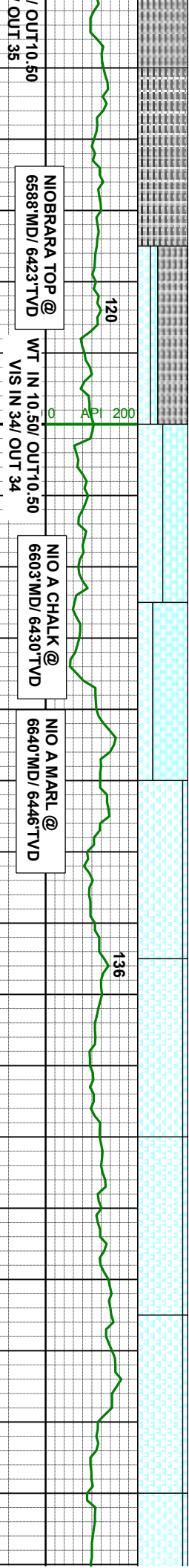
SLTYSH: m gy - dk gy, mod sft - mod firm, sbblky - sbply, shy tex, noncalc, tr ss

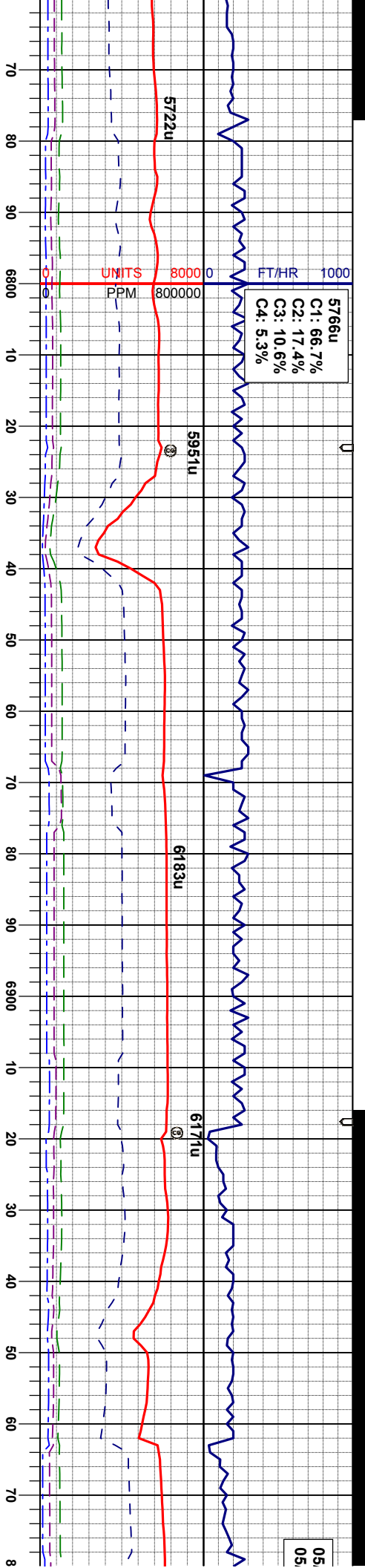
SLTYSH: m gy - dk gy, mod sft - mod firm, sbblky - sbply, shy tex, noncalc, tr ss, tr bent

SLTYSH: m gy - dk gy, mod sft - mod firm, sbblky - sbply, shy tex, noncalc, tr bent

SLTYSH: m gy - dk gy, mod sft - mod firm, sbblky - sbply, shy tex, noncalc, abnt







NIO B CHALK @
6823' MD / 6504' TVD

WT IN 10.50/ OUT 10.50
VIS IN 33/ OUT 33

MD 6773'
INC 76.5°
AZM 87.8°
TVD 6493.01'

mgy-gyblk, occdkbrn, blkly-sbply,
s, mod firm, rthy tex, sl mot, v calc
mgy, occ llygy, mod sft - mod firm,
sbply, rthy tex - mot, v calc

MRL: mgy-gyblk, occdkbrn, blkly-sbply,
sme fis, mod firm, rthy tex, sl mot, v calc
CHK: mgy, occ llygy, mod sft - mod firm,
sbply-sbply, rthy tex - mot, v calc

MD 6867'
INC 76.8°
AZM 86.9°
TVD 6514.72'

CHK: m-dkgy, occ llygy, mod sft - mod firm,
sbply-sbply, rthy tex - mot, v calc
MRL: mgy-gyblk, occdkbrn, blkly-sbply,
sme fis, mod firm, rthy tex, sl mot, v calc

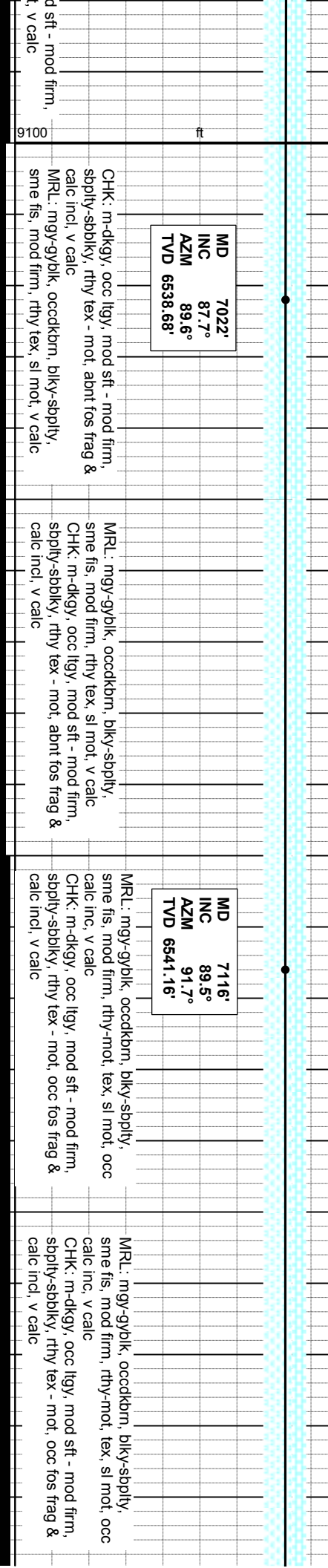
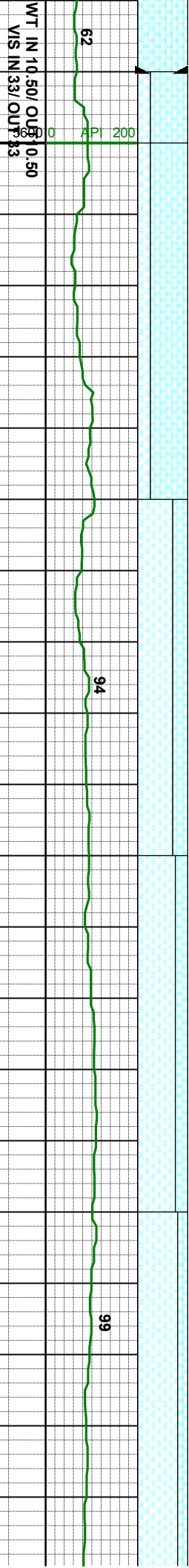
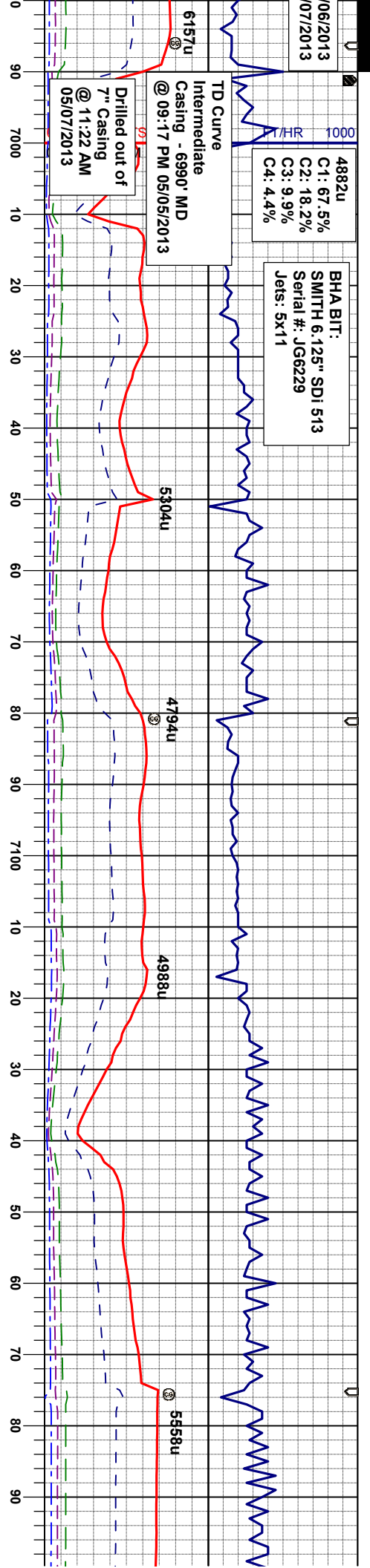
MD 6912'
INC 76.9°
AZM 87.1°
TVD 6524.95'

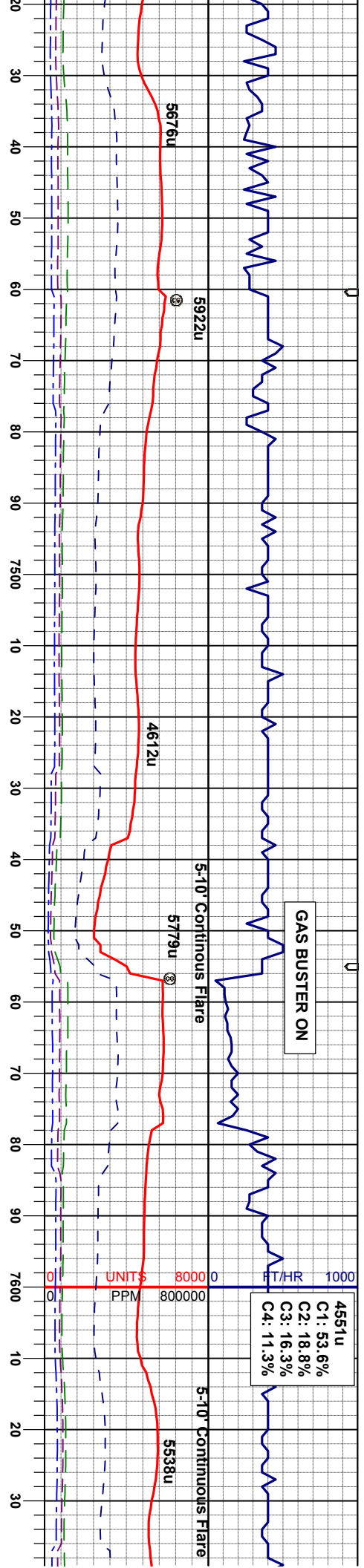
CHK: m-dkgy, occ llygy, mod sft - mod firm,
sbply-sbply, rthy tex - mot, v calc

MD 6941'
INC 80.6°
AZM 88.2°
TVD 6530.61'

CHK: m-dkgy, occ llygy, mod
sbply-sbply, rthy tex - mo







4551u
C1: 53.6%
C2: 18.8%
C3: 16.3%
C4: 11.3%

MD 7496'
INC 88.0°
AZM 91.8°
TVD 6546.72'

MRU: mgy-gyblk, occdkbrn, biky-sbply, sme fis, mod firm, rthy-mot, tex, sl mot, v calc
CHK: m-dkgy, occ llyg, mod sft - mod firm, sbply-sbblky, rthy tex - mot, v calc

MRU: mgy-gyblk, occdkbrn, biky-sbply, sme fis, mod firm, rthy-mot, tex, sl mot, v calc
CHK: m-dkgy, occ llyg, mod sft - mod firm, sbply-sbblky, rthy tex - mot, v calc

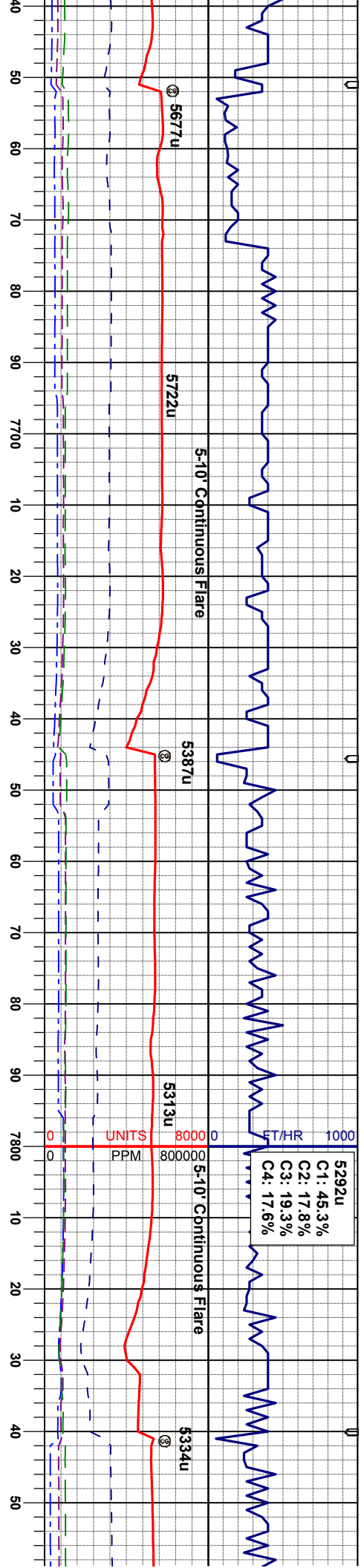
WT IN 10.00/ OUT 10.00
VIS IN 33/ OUT 33

MD 7591'
INC 88.3°
AZM 92.6°
TVD 6549.78'

CHK: lt-mgy, occ dkgy, mod sft - mod firm, sbply-sbblky, rthy tex - mot, v calc
MRU: mgy-gyblk, occdkbrn, biky-sbply, sme fis, mod firm, rthy-mot, tex, sl mot, v calc

CHK: lt-mgy, occ dkgy, mod sft - mod firm, sbply-sbblky, rthy tex - mot, v calc
MRU: mgy-gyblk, occdkbrn, biky-sbply, sme fis, mod firm, rthy-mot, tex, sl mot, v calc





WT IN 10.00/ OUT10.00
VIS IN 34/ OUT 34

MD 7685'
INC 90.4°
AZM 92.0°
TVD 6550.85'

MD 7780'
INC 90.4°
AZM 92.2°
TVD 6550.19'

CHK: m-dkgy, occ lgy, mod sft - mod firm, sbply-sbply, rthy tex - mot, v calc
MRL: mgy-gyblk, occdkbrn, blkysbply, sme fis, mod firm, rthy-mot, tex, sl mot, v calc

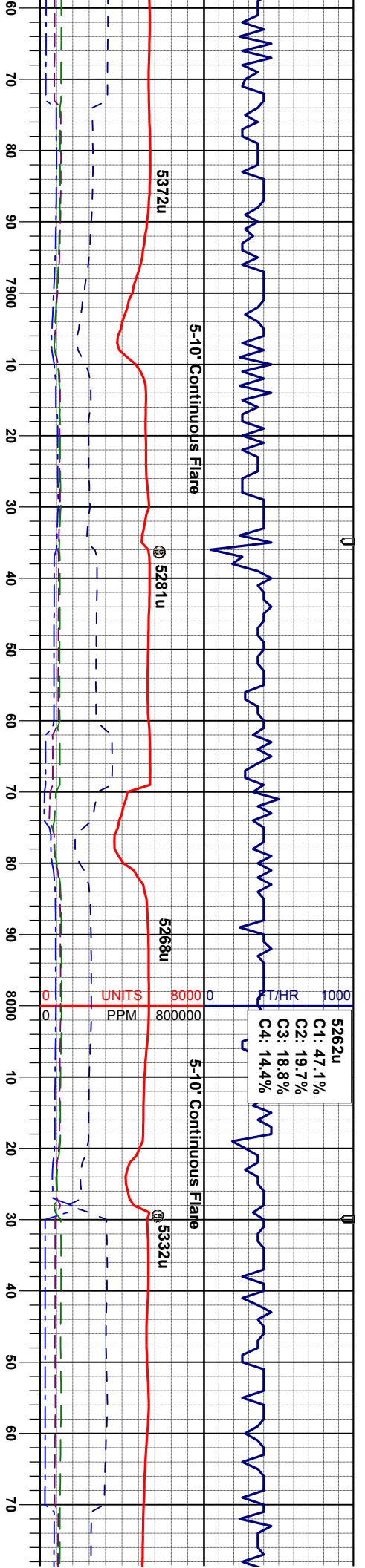
CHK: m-dkgy, occ lgy, mod sft - mod firm, sbply-sbply, rthy tex - mot, v calc
MRL: mgy-gyblk, occdkbrn, blkysbply, sme fis, mod firm, rthy-mot, tex, sl mot, v calc

CHK: m-dkgy, occ lgy, mod sft - mod firm, sbply-sbply, rthy tex - mot, v calc
MRL: mgy-gyblk, occdkbrn, blkysbply, sme fis, mod firm, rthy-mot, tex, sl mot, v calc

CHK: lt-mgy, occ dkgy, mod sft - mod firm, sbply-sbply, rthy tex - mot, v calc
MRL: mgy-gyblk, occdkbrn, blkysbply, sme fis, mod firm, rthy-mot, tex, sl mot, v calc

CHK: sbply
MRL: sme fi
calc





MD 7874'
INC 90.0°
AZM 92.2°
TVD 6549.86'

CHK: It-mgy, occ dkg, mod sft - mod firm, sbply-sbdky, rthy tex - mot, v calc
MRL: mgy-gyblk, occdkbrn, blkysppty, sme fis, mod firm, rthy-mot, tex, sl mot, v calc

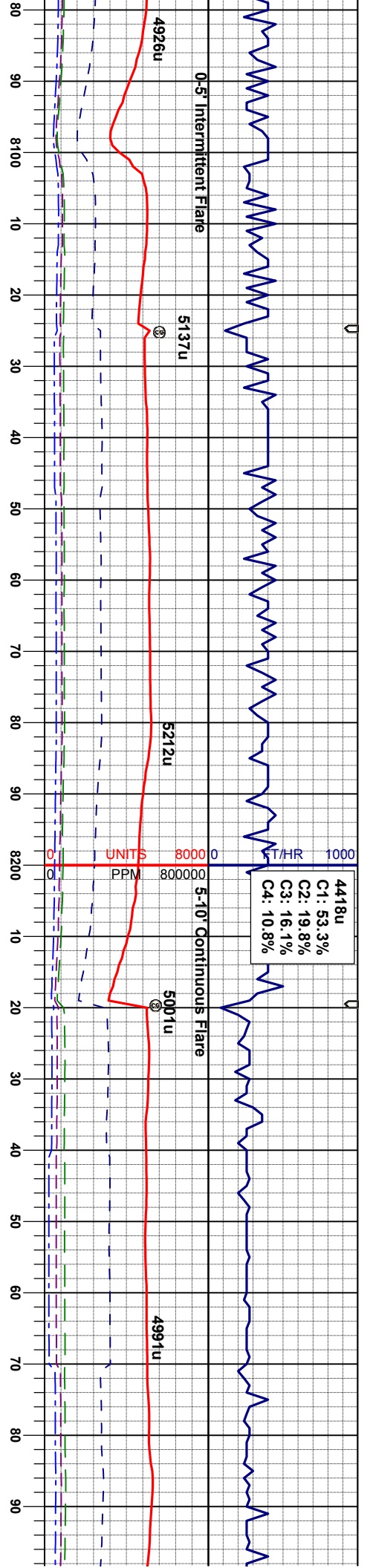
MD 7969'
INC 90.0°
AZM 92.2°
TVD 6549.86'

CHK: It-mgy, occ dkg, mod sft - mod firm, sbply-sbdky, rthy tex - mot, v calc
MRL: mgy-gyblk, occdkbrn, blkysppty, sme fis, mod firm, rthy-mot, tex, sl mot, v calc

MD 8064'
INC 89.4°
AZM 92.0°
TVD 6550.35'

CHK: m-dkg, occ lgy, m sbply-sbdky, rthy tex - m
MRL: mgy-gyblk, occdkbrn, blkysppty, sme fis, mod firm, rthy-mc calc, occ bent





4418u
C1: 53.3%
C2: 19.8%
C3: 16.1%
C4: 10.8%

B MARL

B MARL

A MARL

MD 8159'
INC 88.7°
AZM 91.8°
TVD 6551.93'

MD 8254'
INC 87.6°
AZM 91.8°
TVD 6555.00'

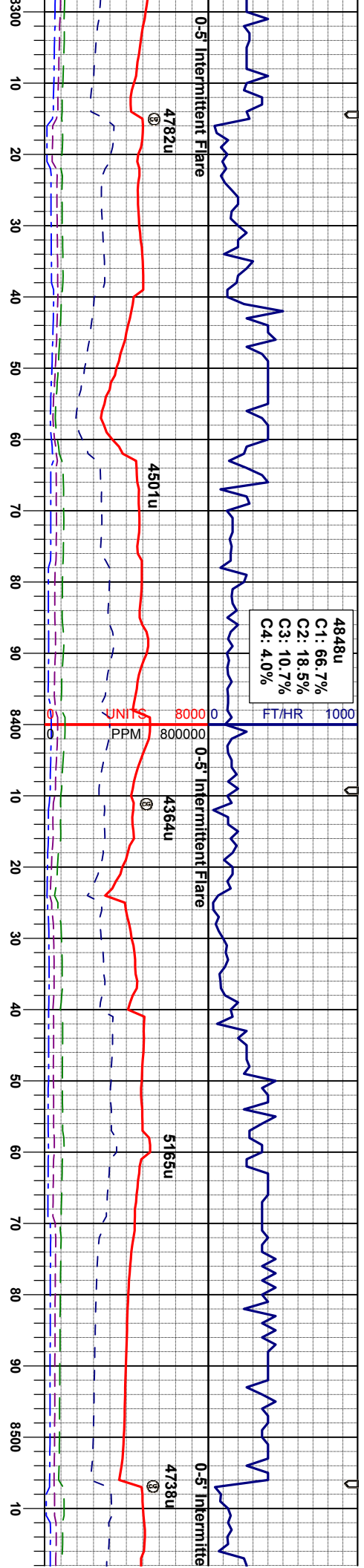
CHK: m-dkgy, occ llyg, mod sft - mod firm, sbply-sbply, rthy tex - mot, v calc
MR: mgy-gyblk, occckbm, blkysbply, sme fis, mod firm, rthy-mot, tex, sl mot, v calc
CHK: m-dkgy, occ llyg, mod sft - mod firm, sbply-sbply, rthy tex - mot, v calc

MR: mgy-gyblk, occckbm, blkysbply, sme fis, mod firm, rthy-mot, tex, sl mot, v calc, tr calc frag, tr fos frag
CHK: m-dkgy, occ llyg, mod sft - mod firm, sbply-sbply, rthy tex - mot, v calc

MR: mgy-gyblk, occckbm, blkysbply, sme fis, mod firm, rthy-mot, tex, sl mot, v calc, tr fos frag, tr bent
CHK: m-dkgy, occ llyg, mod sft - mod firm, sbply-sbply, rthy tex - mot, v calc

WT IN 9.90/ OUT 9.90
VIS IN 32/ OUT 32





4848u
C1: 66.7%
C2: 18.5%
C3: 10.7%
C4: 4.0%

MD 8349'
INC 88.9°
AZM 92.2°
TVD 6557.90'

MRL: mgy-gyblk, occckbm, bkly-sbply,
sme fis, mod firm, rthy-mot, tex, sl mot, v
calc, tr fos frag, occ bent
CHK: m-dkgy, occ ligy, mod sft - mod firm,
sbply-sbply, rthy tex - mot, v calc

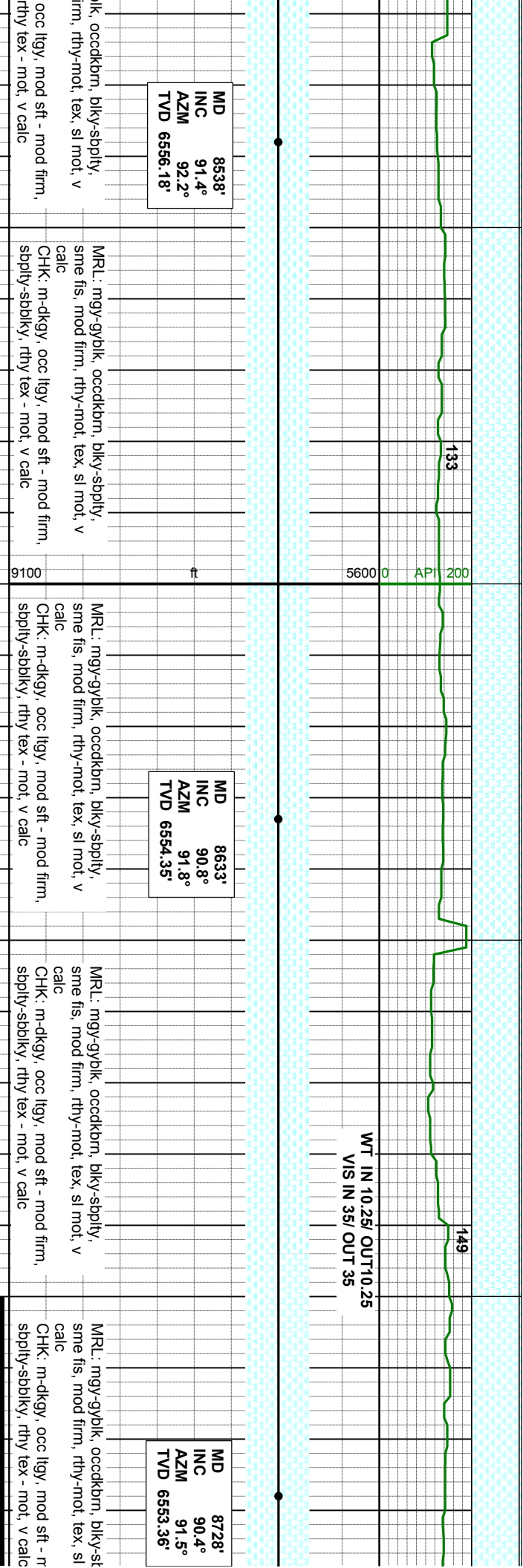
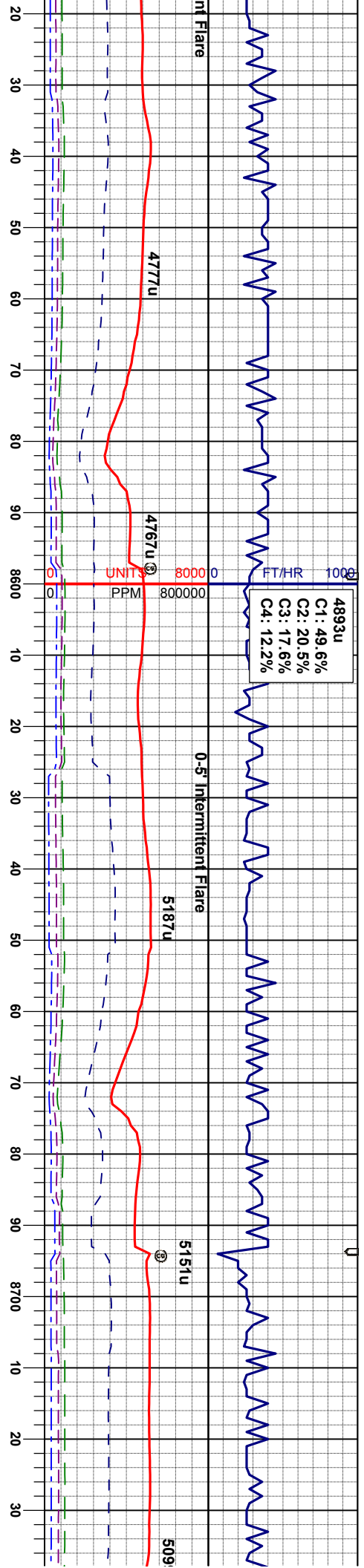
MRL: mgy-gyblk, occckbm, bkly-sbply,
sme fis, mod firm, rthy-mot, tex, sl mot, v
calc, tr fos frag, abnt bent
CHK: m-dkgy, occ ligy, mod sft - mod firm,
sbply-sbply, rthy tex - mot, v calc

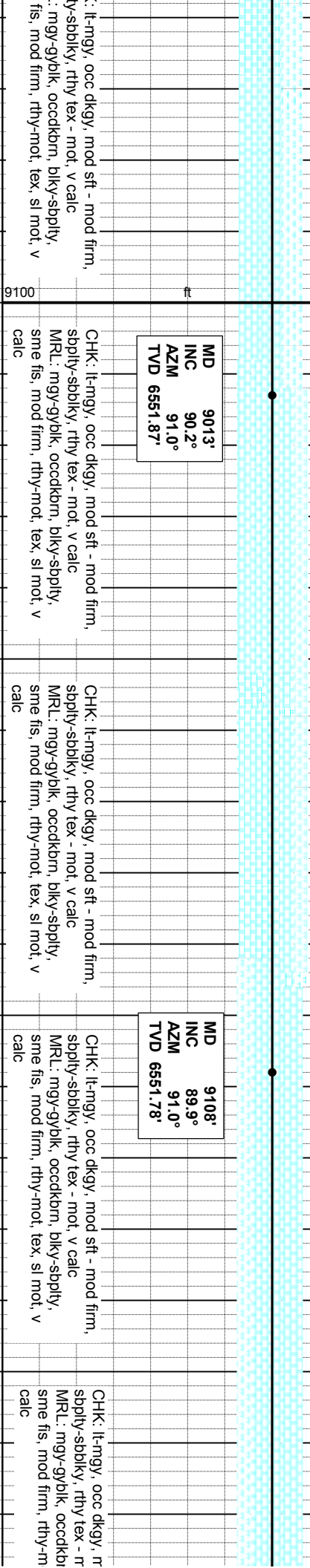
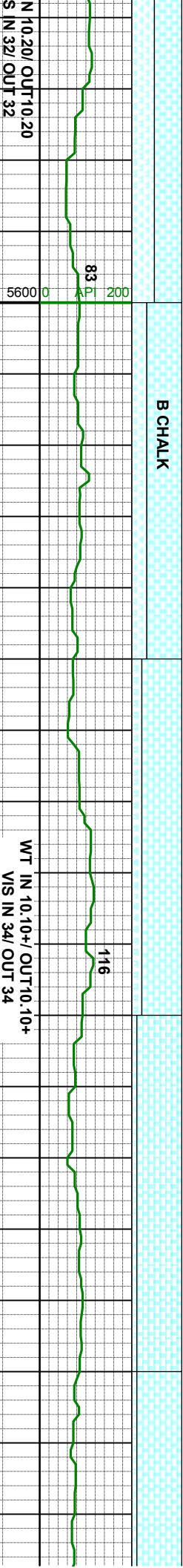
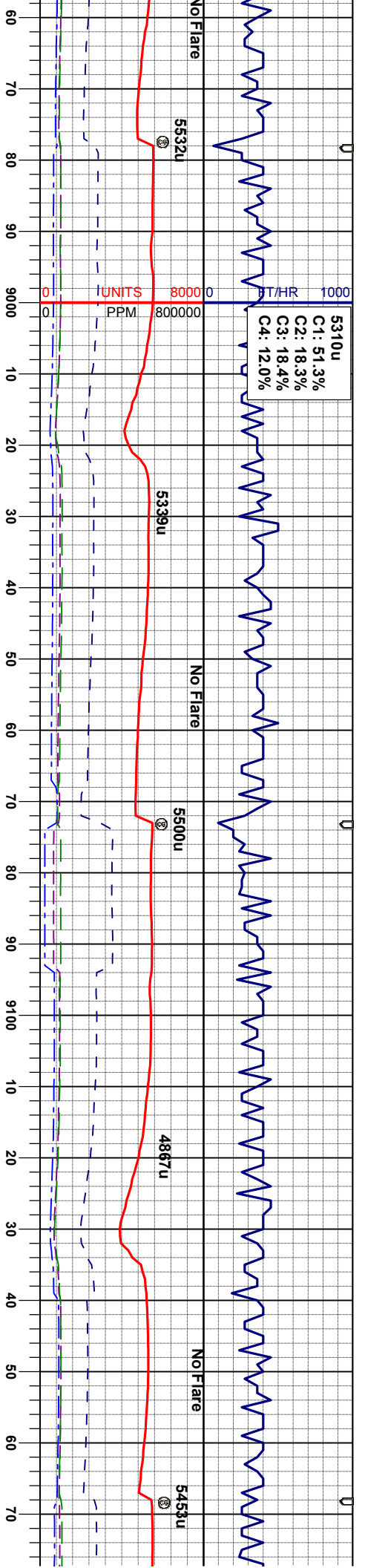
MD 8444'
INC 90.9°
AZM 91.5°
TVD 6558.06'

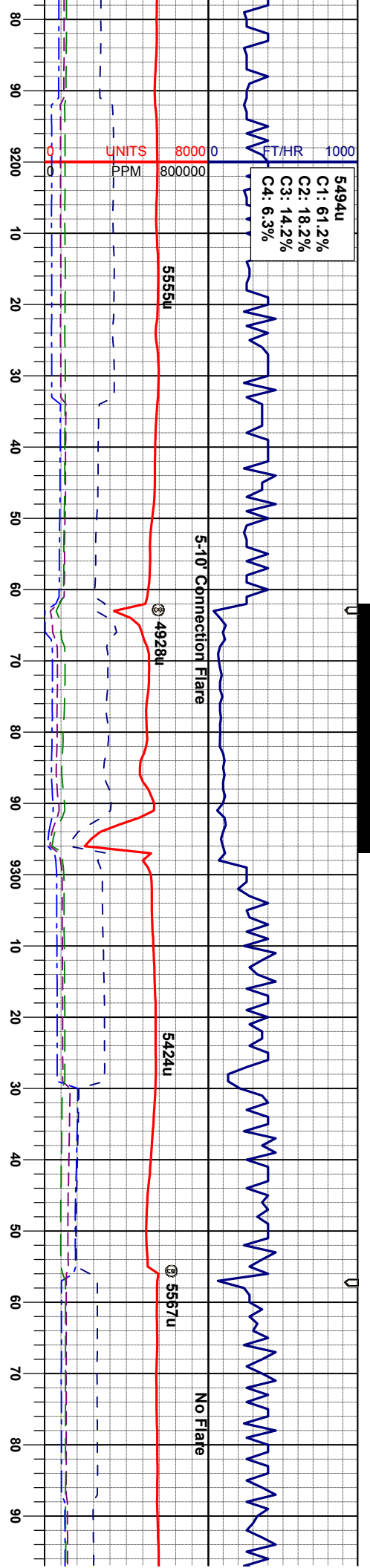
MRL: mgy-gyblk, occckbm, bkly-sbply,
sme fis, mod firm, rthy-mot, tex, sl mot, v
calc, occ bent, tr chk

MRL: mgy-gyblk, occckbm, bkly-sbply,
sme fis, mod firm, rthy-mot, tex, sl mot, v
calc, tr bent, tr chk

MRL: mgy-gyblk, occckbm, bkly-sbply,
sme fis, mod firm, rthy-mot, tex, sl mot, v
calc, tr bent, tr chk







5494u
C1: 61.2%
C2: 18.2%
C3: 14.2%
C4: 6.3%

UNITS 800000 PPM

5555u

5.10' Connection Flare

③ 4928u

5424u

③ 5557u

No Flare

API 200
62
5600

WT IN 10.10/ OUT 10.10+
VIS IN 34/ OUT 34

57

45

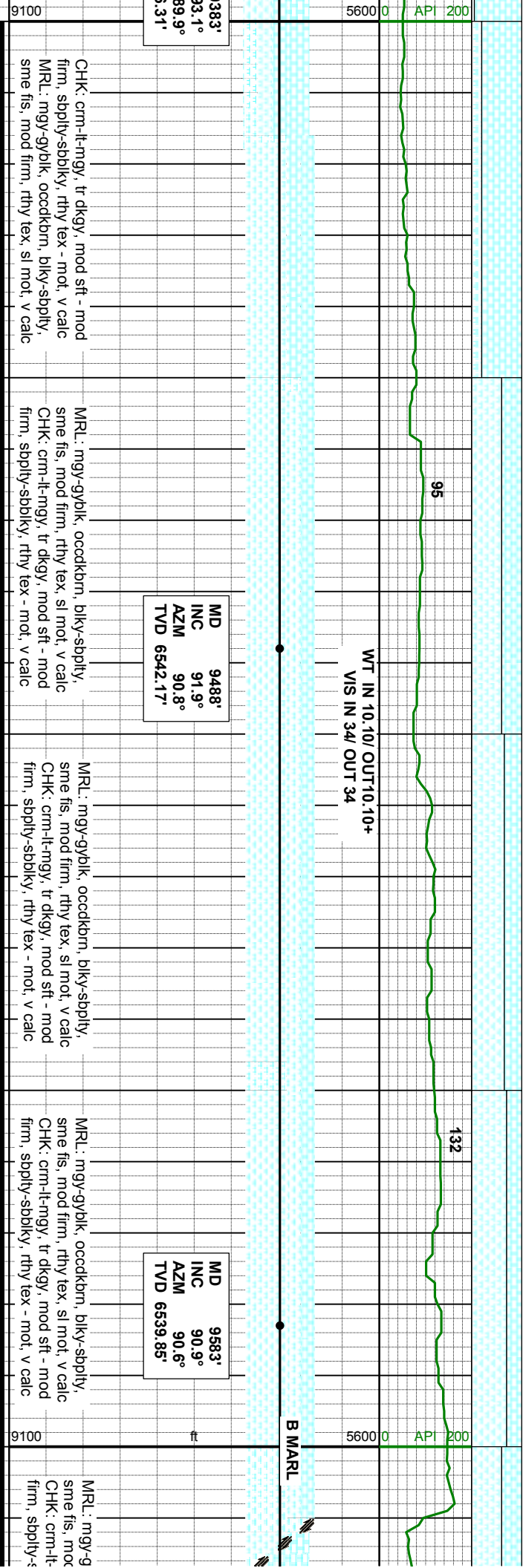
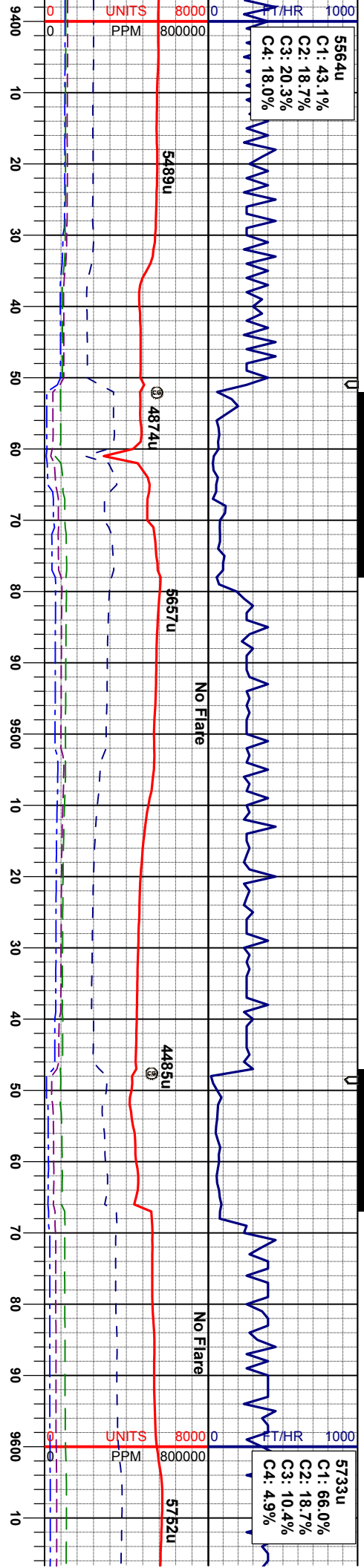
MD 9203'
INC 89.4°
AZM 91.5°
TVD 6562.36'

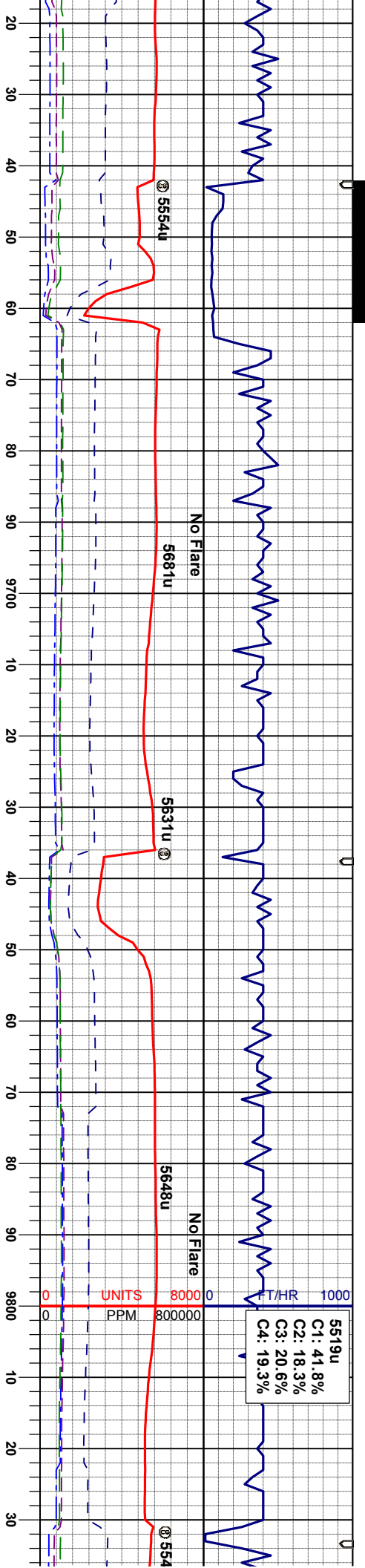
MD 9298'
INC 92.4°
AZM 90.4°
TVD 6560.87'

MD 9303'
INC 92.4°
AZM 90.4°
TVD 6546.87'

mod sft - mod firm,
not, v calc
n, bly-sbply,
ot, tex, sl mot, v
CHK: lt-mgy, occ dkgy, mod sft - mod firm,
sbply-sbply, rthy tex - mot, v calc
MRL: mgy-gyblk, occdkbrn, bly-sbply,
sme fis, mod firm, rthy tex, sl mot, v calc
CHK: lt-mgy, occ dkgy, mod sft - mod firm,
sbply-sbply, rthy tex - mot, v calc
MRL: mgy-gyblk, occdkbrn, bly-sbply,
sme fis, mod firm, rthy tex, sl mot, v calc
CHK: cm-lt-mgy, tr dkgy, mod sft - mod
firm, sbply-sbply, rthy tex - mot, v calc
MRL: mgy-gyblk, occdkbrn, bly-sbply,
sme fis, mod firm, rthy tex, sl mot, v calc







B CHALK

112

62

86

MD 9678'
INC 89.2°
AZM 91.3°
TVD 6539.77'

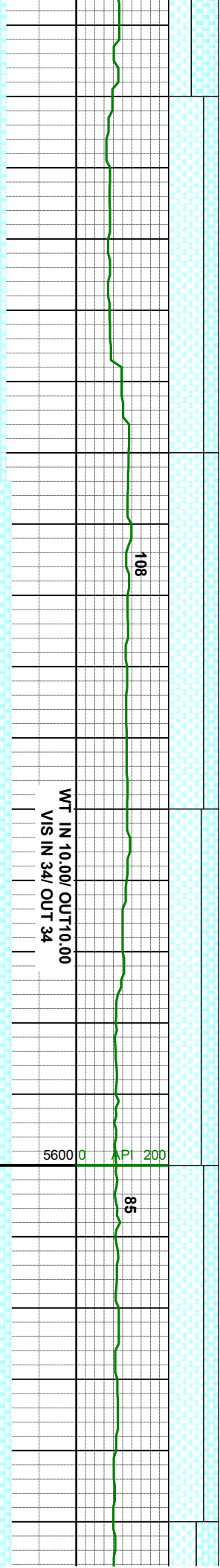
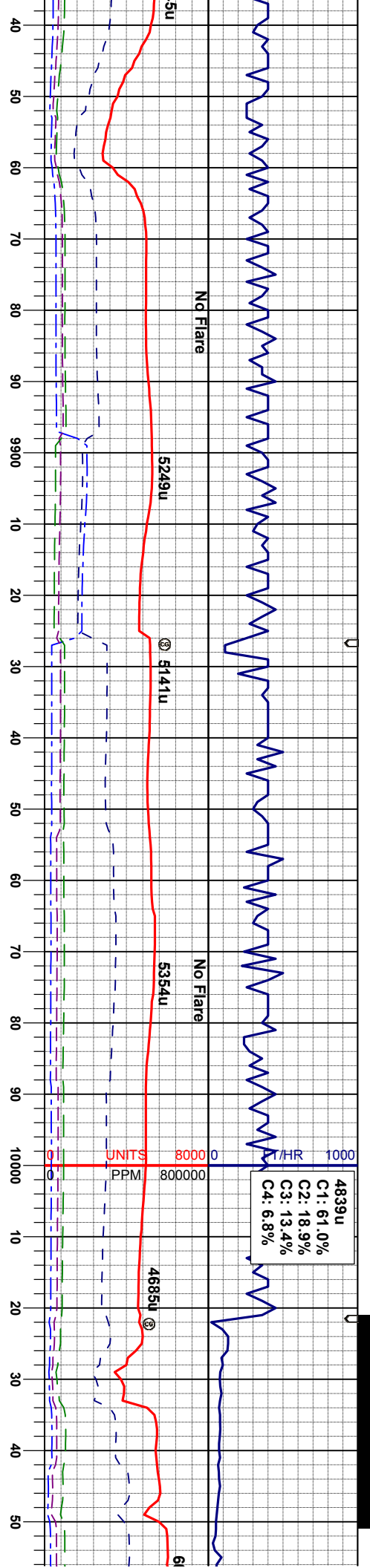
MD 9772'
INC 88.7°
AZM 91.3°
TVD 6541.49'

CHK: crm-lt-mgy, mod sft - mod firm, sbply
-sbply, rthy tex - mot, v calc
MRL: mgy-gyblk, oocdkbrn, biky-sbply,
sme fis, mod firm, rthy tex, sl mot, tr fos
frag, tr calc frag, v calc

CHK: crm-lt-mgy, mod sft - mod firm, sbply
-sbply, rthy tex - mot, v calc
MRL: mgy-gyblk, oocdkbrn, biky-sbply,
sme fis, mod firm, rthy tex, sl mot, tr fos
frag, tr calc frag, v calc

CHK: crm-lt-mgy, mod sft - mod firm, sbply
-sbply, rthy tex - mot, v calc
MRL: mgy-gyblk, oocdkbrn, biky-sbply,
sme fis, mod firm, rthy tex, sl mot, tr fos
frag, tr calc frag, tr pyr, v calc

CHK: crm-lt-mgy, mod sft - mod
-sbply, rthy tex - mot, v calc
MRL: mgy-gyblk, oocdkbrn, biky
sme fis, mod firm, rthy tex, sl mot
frag, tr calc frag, tr pyr, v calc



MD 9856'
INC 88.2°
AZM 90.8°
TVD 6543.76'

MR.L: mgy-gyblk, occdkbrn, blk-y-sbply,
sme fis, mod firm, rthy tex, sl mot, tr fos
frag, tr calc frag, tr bent, v calc
CHK: crn-ll-mgy, mod sft - mod firm, sbply
-sbblky, rthy tex - mot, v calc

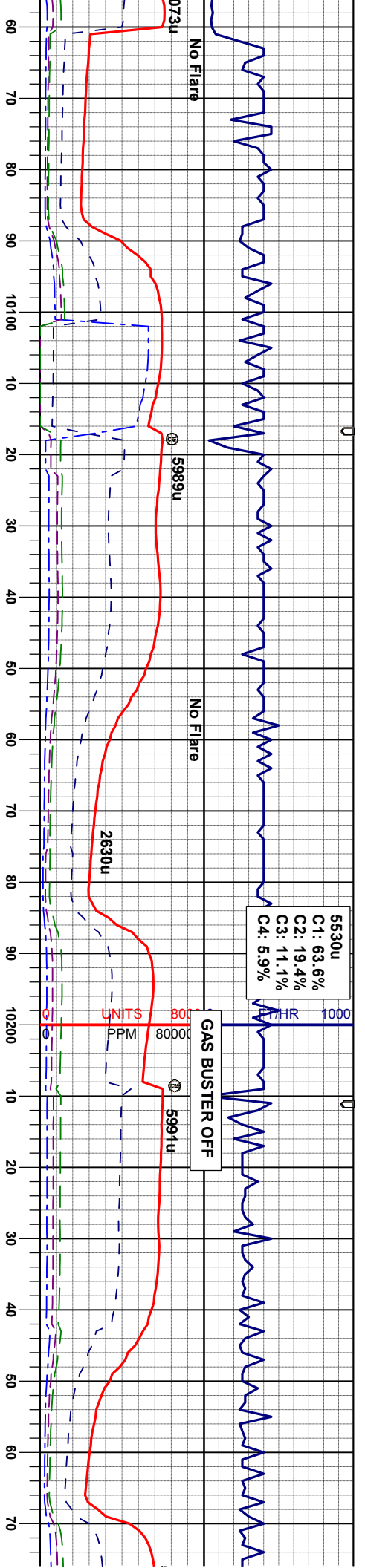
MD 9962'
INC 87.8°
AZM 92.0°
TVD 6547.37'

MR.L: mgy-gyblk, occdkbrn, blk-y-sbply,
sme fis, mod firm, rthy tex, sl mot, tr fos
frag, tr calc frag, tr bent, v calc
CHK: crn-ll-mgy, mod sft - mod firm, sbply
-sbblky, rthy tex - mot, v calc

MD 10000'
INC 88.2°
AZM 90.8°
TVD 6543.76'

MR.L: mgy-gyblk, occdkbrn, blk-y-sbply,
sme fis, mod firm, rthy tex, sl mot, tr fos
frag, tr calc frag, tr bent, v calc
CHK: crn-ll-mgy, mod sft - mod firm, sbply
-sbblky, rthy tex - mot, v calc





MD 1057'
INC 99.3°
AZM 90.3°
TVD 3.78'

MRL: mgy-gyblk, occdkbrn, blkysbply, sme fis, mod firm, rthy tex, sl mot, tr fos frag, tr calc frag, tr bent, v calc CHK: crm-lt-mgy, mod sft - mod firm, sbply -sbblky, rthy tex - mot, v calc

MD 10152'
INC 91.4°
AZM 92.0°
TVD 6549.20'

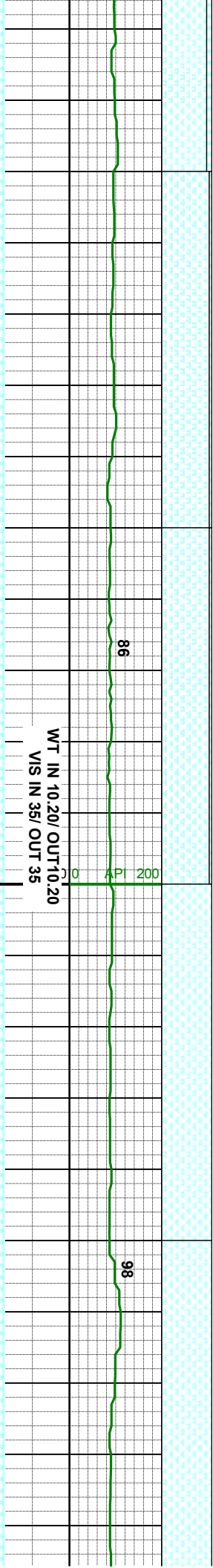
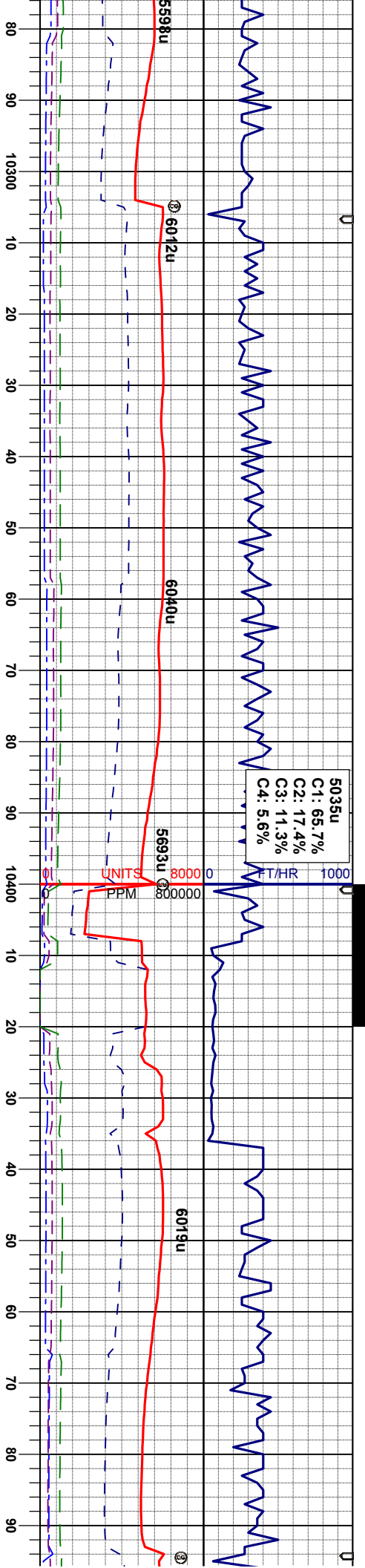
MRL: mgy-gyblk, occdkbrn, blkysbply, sme fis, mod firm, rthy tex, tr mot, tr fos frag, occ calc incl, occ bent, v calc CHK: crm-lt-mgy, mod sft - mod firm, sbply -sbblky, rthy tex - mot, v calc

MD 10247'
INC 89.8°
AZM 91.5°
TVD 6548.20'

MRL: mgy-gyblk, occdkbrn, blkysbply, sme fis, mod firm, rthy tex, tr mot, tr fos frag, occ calc incl, occ bent, v calc CHK: crm-lt-mgy, mod sft - mod firm, sbply -sbblky, rthy tex - mot, v calc

WT IN 10.10/ OUT 10.10
VIS IN 35/ OUT 35



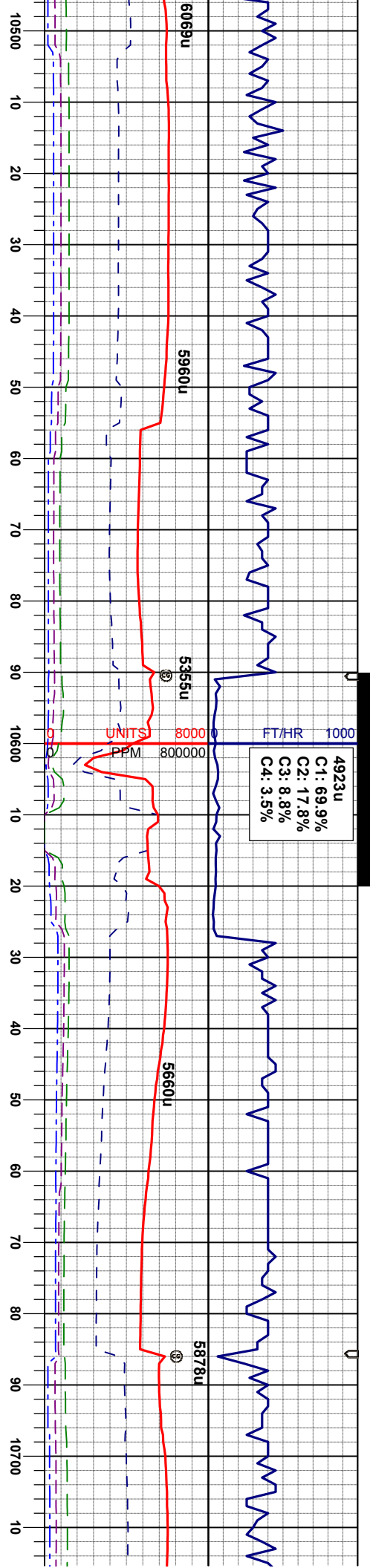


MRU: mgy-gy/bk, occdkbrn, blk-y-sbply,
sme fis, mod firm, rthy tex, tr mot, tr fos
frag, occ calc incl, occ bent, v calc
CHK: crm-lt-mgy, mod sft - mod firm, sbply
-sbply, rthy tex - mot, v calc

MRU: mgy-gy/bk, occdkbrn, blk-y-sbply,
sme fis, mod firm, rthy tex, tr mot, tr fos
frag, occ calc incl, occ bent, v calc
CHK: crm-lt-mgy, mod sft - mod firm, sbply
-sbply, rthy tex - mot, v calc

MRU: mgy-gy/bk, occdkbrn, blk-y-sbply,
sme fis, mod firm, rthy tex, tr mot, tr fos
frag, occ calc incl, occ-abnt bent, v calc
calc





WT IN 10.00/ OUT 10.00
VIS IN 34/ OUT 34

MD 10531'
INC 86.9°
AZM 90.4°
TVD 6551.94'

MRL: mgy-gyblk, occdkbm, bky-sbply,
sme fis, mod firm, rthy tex, tr mot, tr fos
frag, occ calc incl, occ-abnt bent, tr chk, v
calc

WT IN 10.00/ OUT 10.00
VIS IN 34/ OUT 34

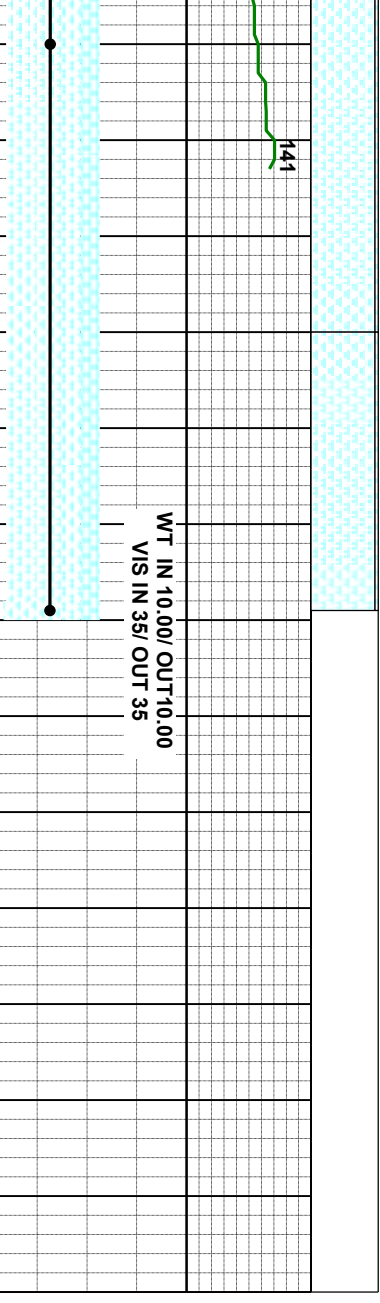
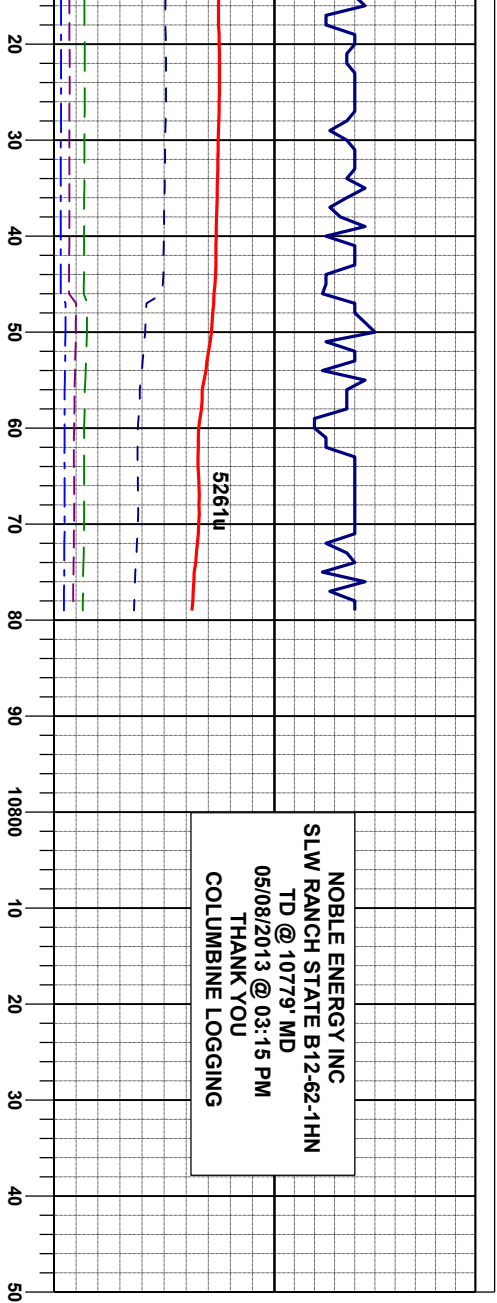
MD 10625'
INC 88.7°
AZM 88.9°
TVD 6555.55'

MRL: mgy-gyblk, occdkbm, bky-sbply,
sme fis, mod firm, rthy tex, tr mot, tr fos
frag, tr chk, v calc

MRL: mgy-gyblk, occdkbm, bky-sbply,
sme fis, mod firm, rthy tex, tr mot, tr fos
frag, tr chk, v calc

MD
INC
AZI
TVI

MRL: mgy
sme fis, m
frag, v calc
CHK: crn-
-sbply, rti



10720'
88.1°
M 89.0°
D 6558.20'

PROJECTION
MD 10779'
INC 87.4°
AZM 89.0°
TVD 6560.46'

NOBLE ENERGY INC
SLW RANCH STATE B12-62-1HN
TD @ 10779' MD

-gybik, occdkbm, biky-sbply,
mod firm, rthy tex, tr mot, tr fos
-lt-rngy, mod sft - mod firm, sbply
rthy tex - mot, v calc

MRL: mgy-gybik, occdkbm, biky-sbply,
sme fis, mod firm, rthy tex, tr mot, v calc
CHK: crm-lt-mgy, mod sft - mod firm, sbply
-sbbiky, rthy tex - mot, v calc

