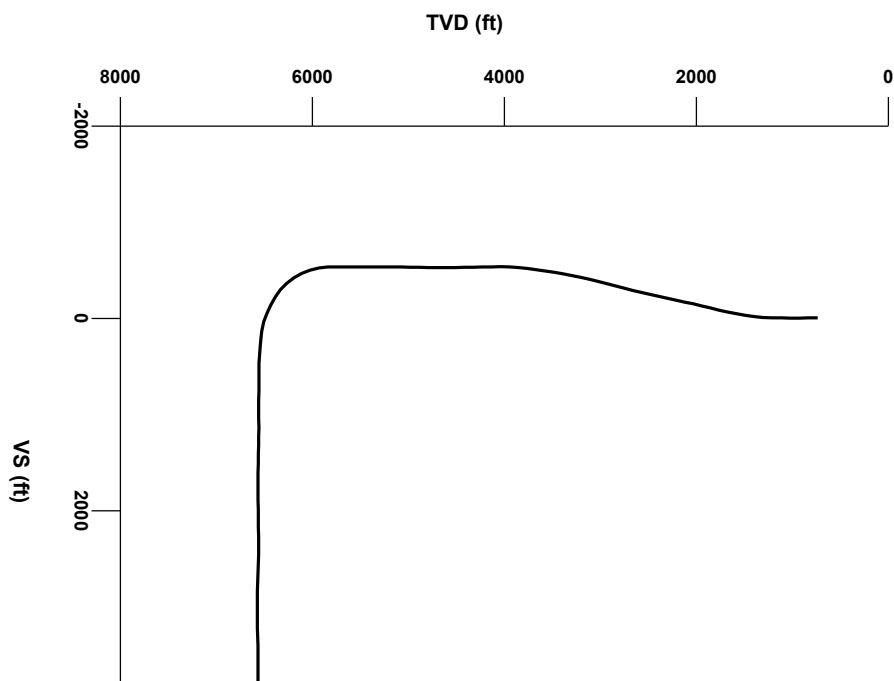


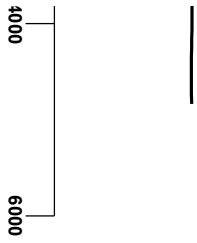
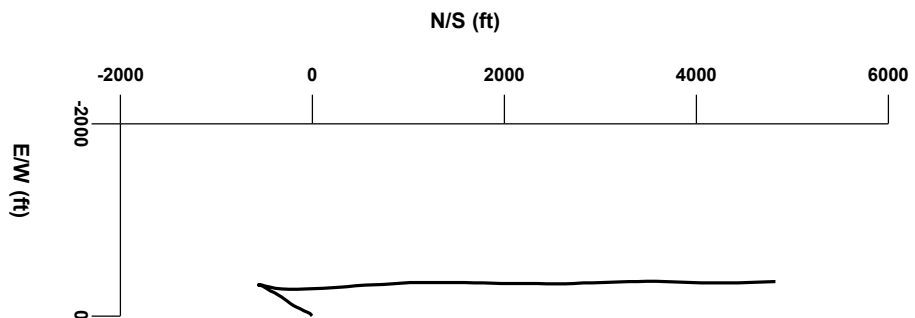
LOG created using LPLOT VH Version 3.0, April 24, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR: NOBLE ENERGY INC.
WELL: SLW RANCH B12-79HN
LOCATION: SESE SEC 12, T5N, R64W
COUNTY: WELD
STATE: COLORADO
SPOT: 603' FSL, 246' FWL
ELEVATION: GR 4,595', KB 4,625'
FIELD: WATTENBERG
SPUD DATE: 04/15/2013
TD DATE: 04/22/2013
DATES LOGGED: 04/18/2013 - 04/22/2013
DEPTHS LOGGED: 5816' MD - 11733' MD
LOGGERS: JOHN READY, SHANA SWIRIN
DRILLING FLUID: LSND
DRILLING RIG: H&P 326
API: 05-123-36505
LOG TYPE: HORIZONTAL
SCALE: 1:240 (5 inches per 100 feet)
REMARKS: WELLSIRE GEOLOGICAL SERVICES
 PROVIDED BY COLUMBINE LOGGING INC.



Survey Elevation

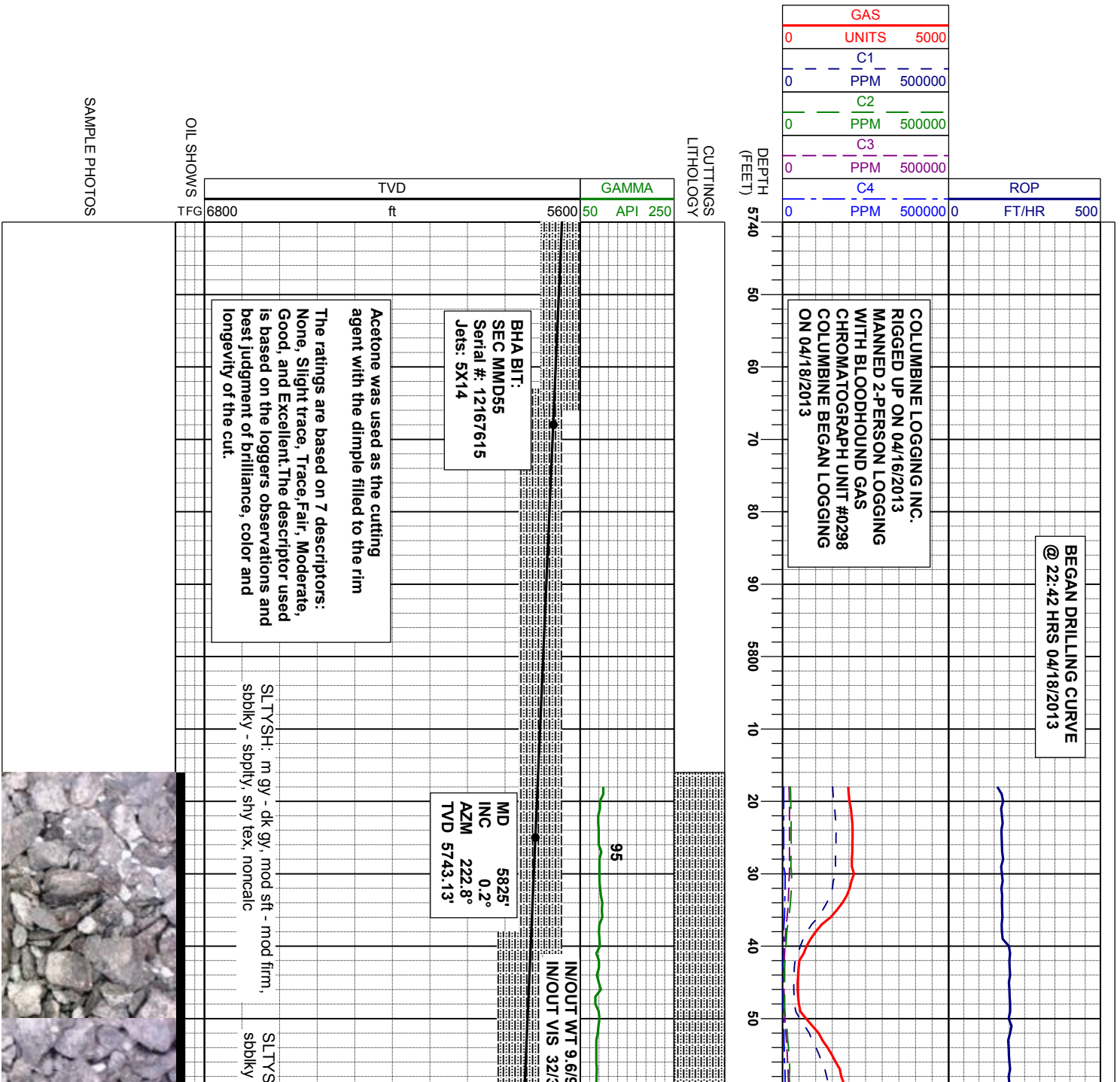
Survey Plan

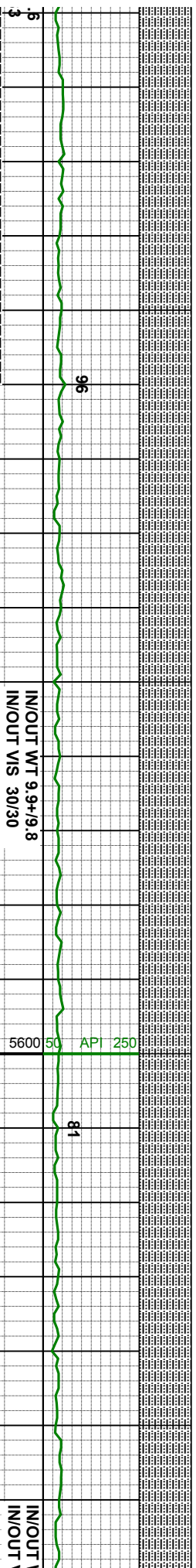
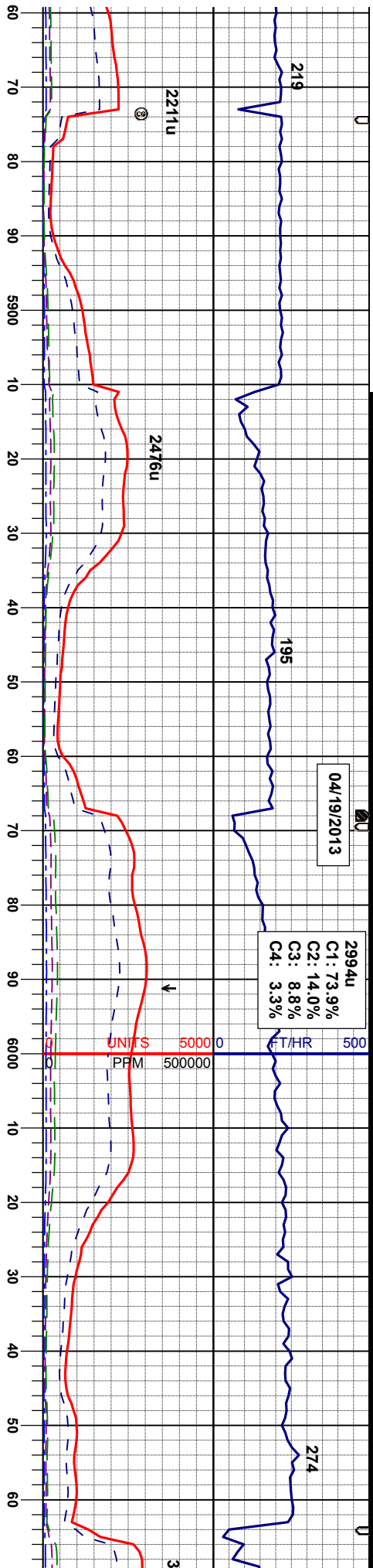


The diagram illustrates five types of sedimentary rocks, each with a representative texture:

- Chalk:** A light blue texture with a regular, grid-like pattern of small squares.
- Marl:** A light blue texture with a regular, grid-like pattern of small squares, similar to Chalk.
- Sandstone:** A yellow texture with a regular, grid-like pattern of small squares.
- Shaly Sandstone:** A yellow texture with a regular, grid-like pattern of small squares, similar to Sandstone.
- Silty Shale:** A dark grey texture with a regular, grid-like pattern of small squares.

	Casing		Casing		Connection
	Connection Gas		Arrow		Midnight Depth



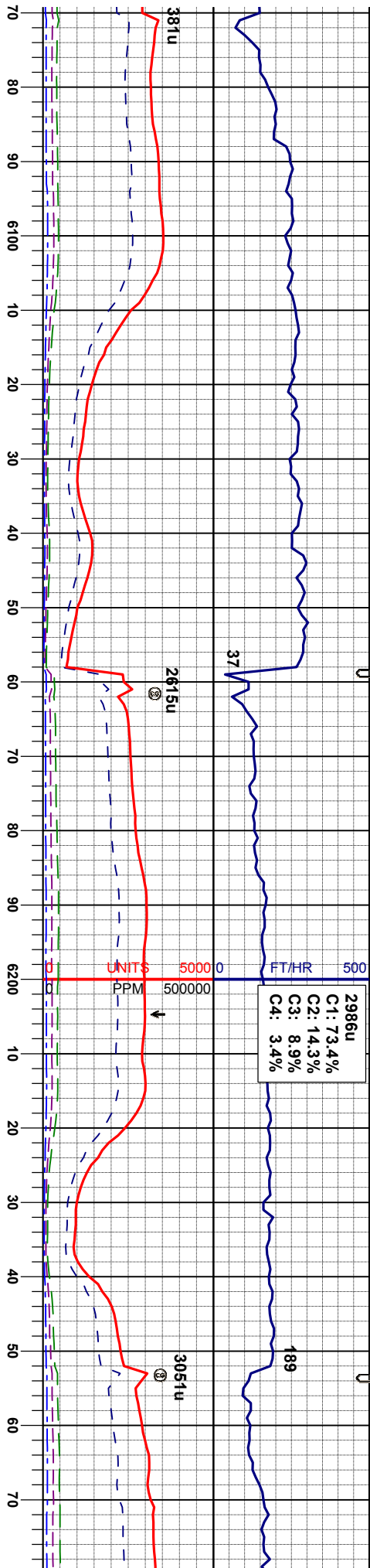


MD 5920'
INC 1.3°
AZM 350.8°
TVD 5838.12'

MD 6015'
INC 11.2°
AZM 13.3°
TVD 5932.45'

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





MT 9.9+/9.9+
VIS 32/30

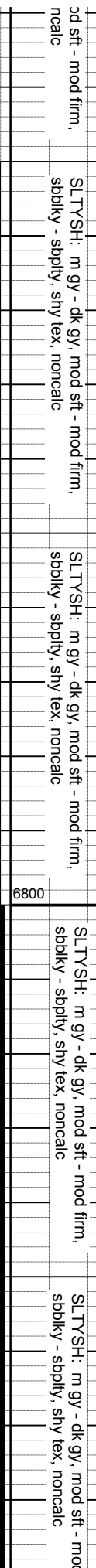
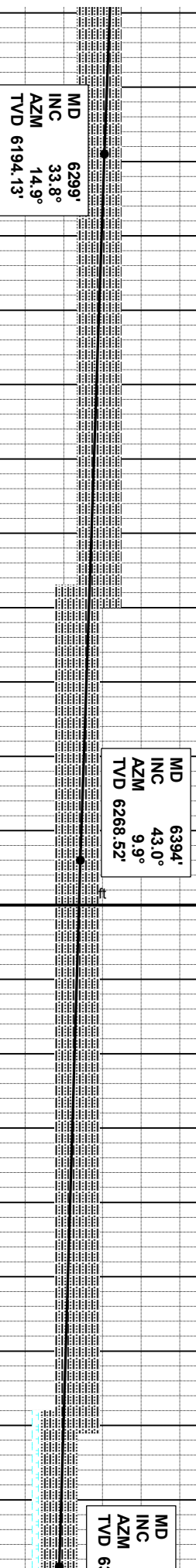
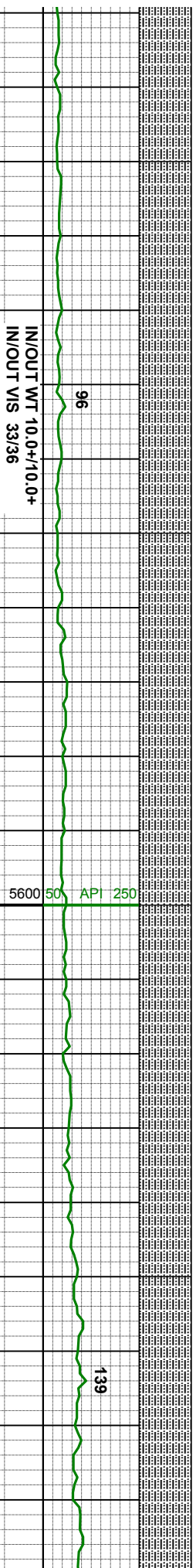
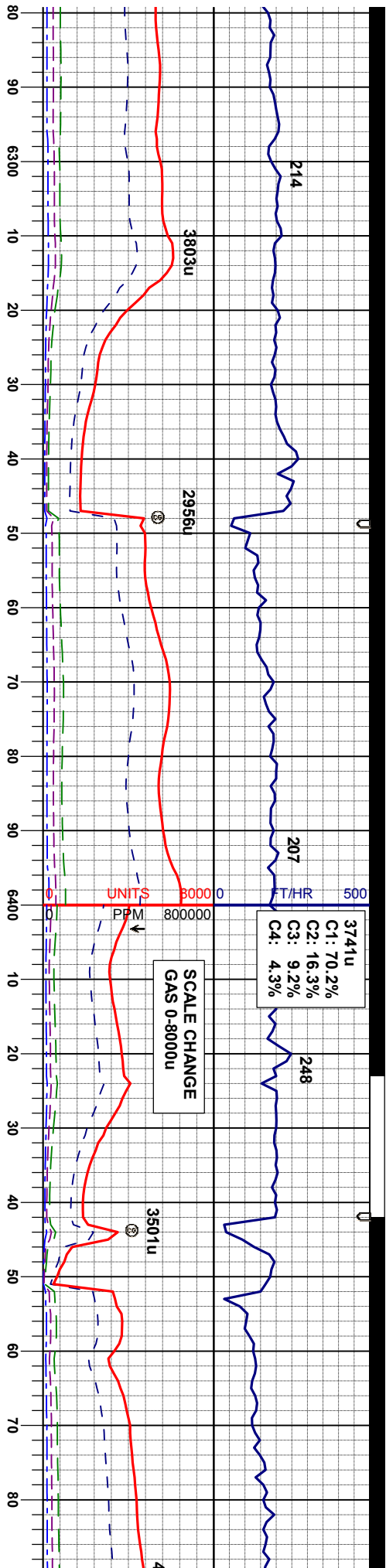
IN/OUT WT 10.0/10.0
IN/OUT VIS 33/35

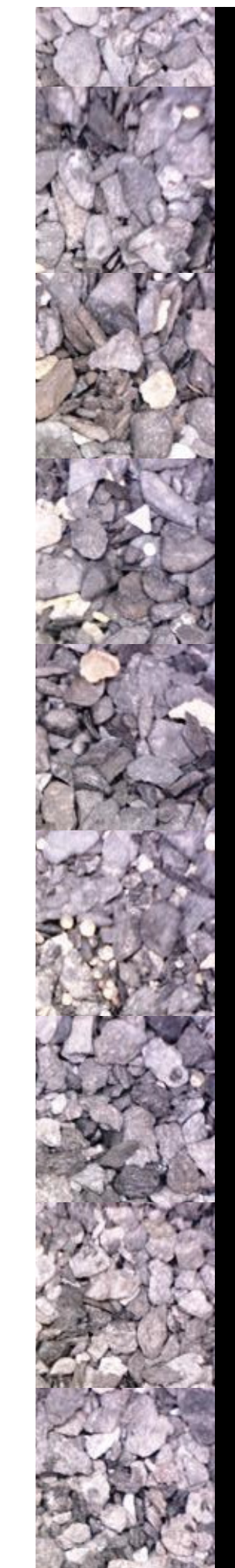
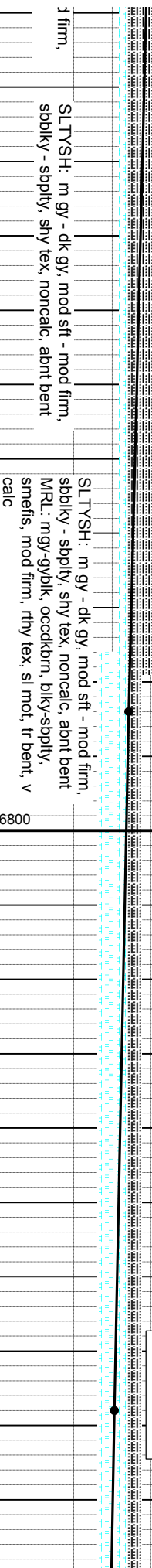
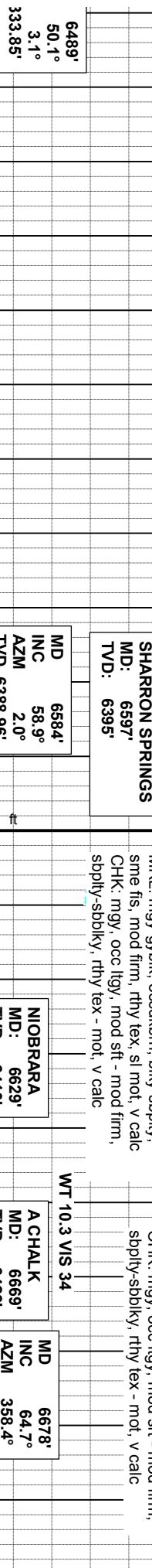
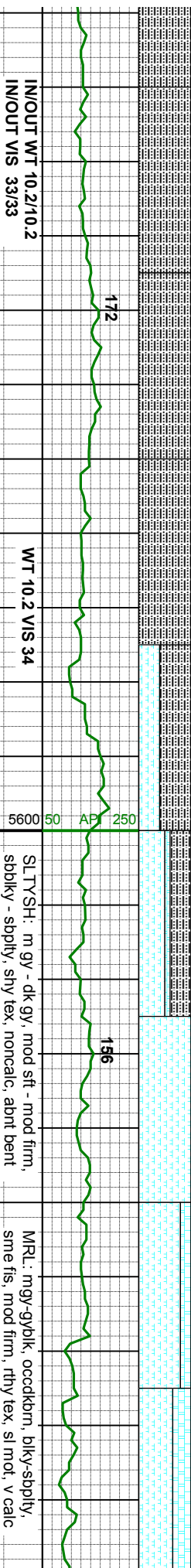
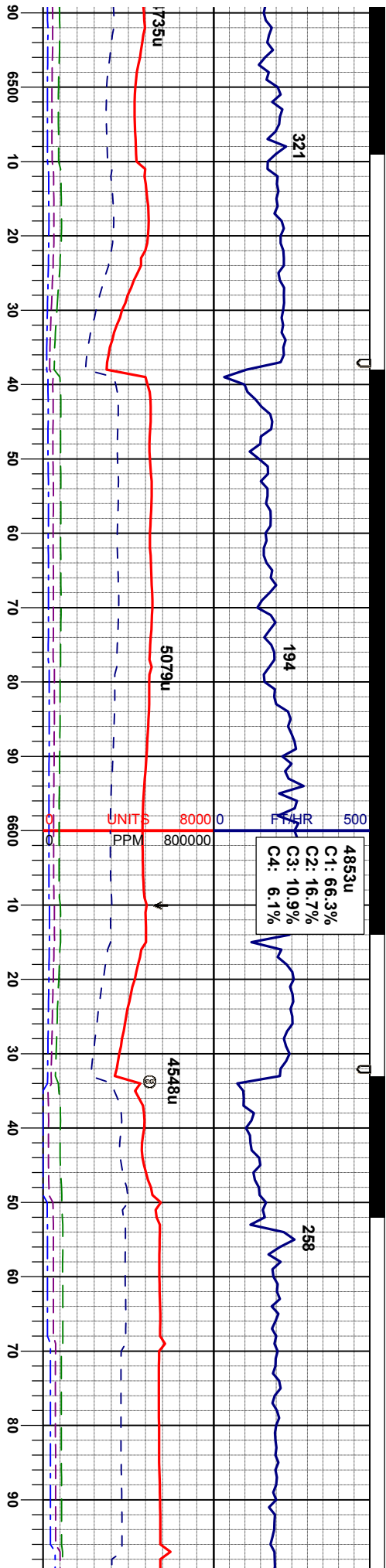
MD 6109'
INC 18.5°
AZM 9.1°
TVD 6023.25'

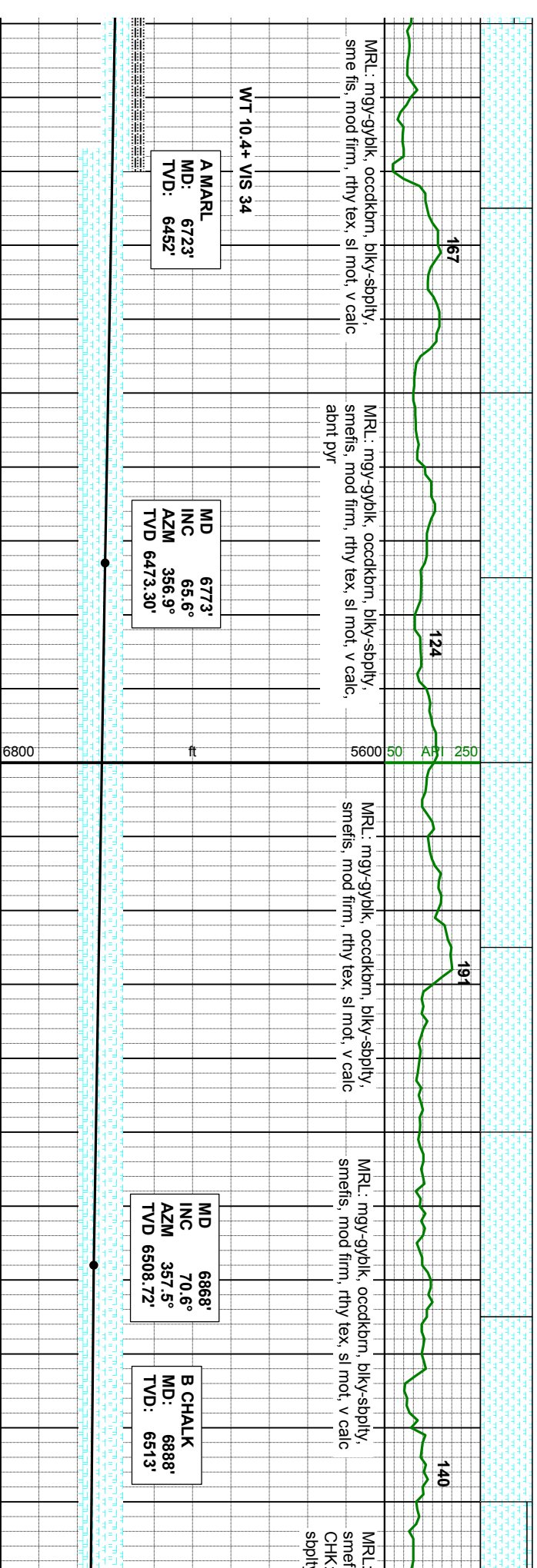
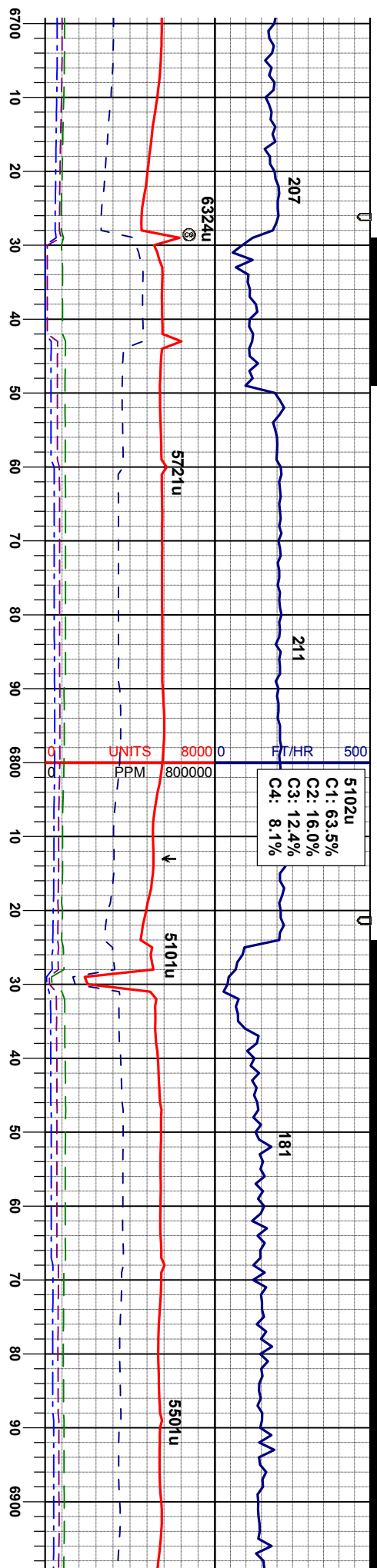
MD 6204'
INC 25.0°
AZM 14.5°
TVD 6111.45'

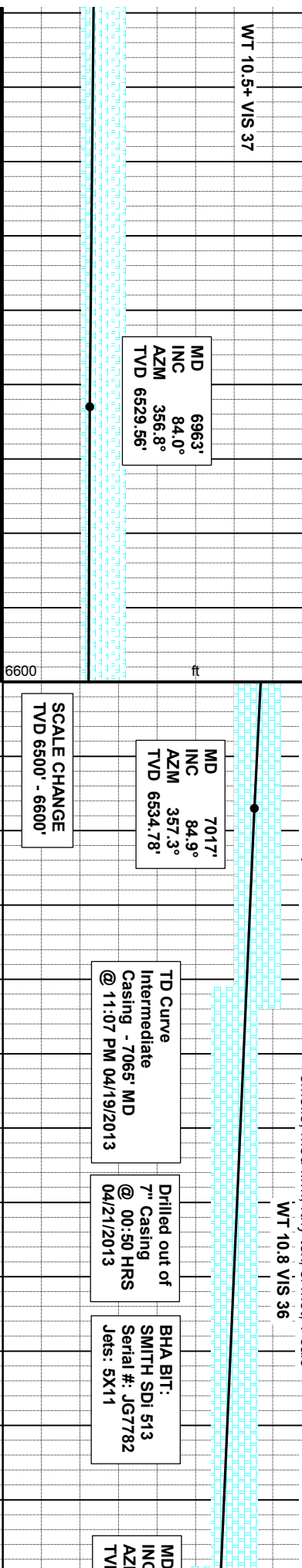
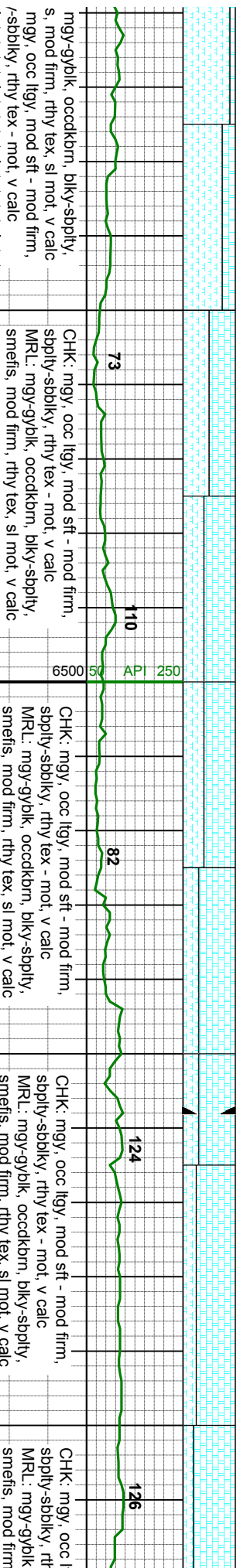
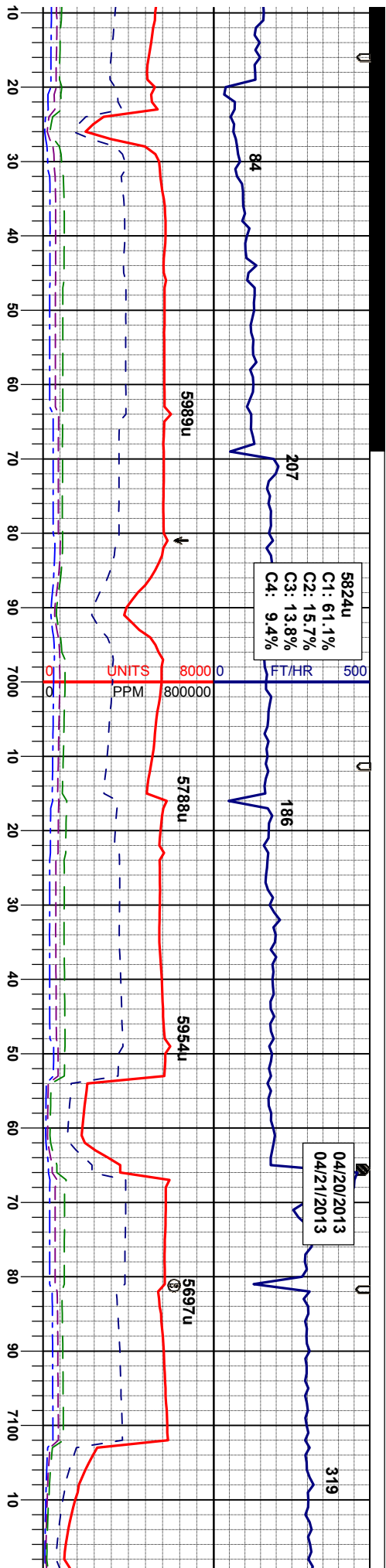
SLTYSH: m gy - dk gy, mod sft - mod firm, sblky - sblpy, shy tex, noncalc
SHYSS: lt gy - gy, f gr, spang - sbmdd, mod srt, mod sft - frm, arg cmt

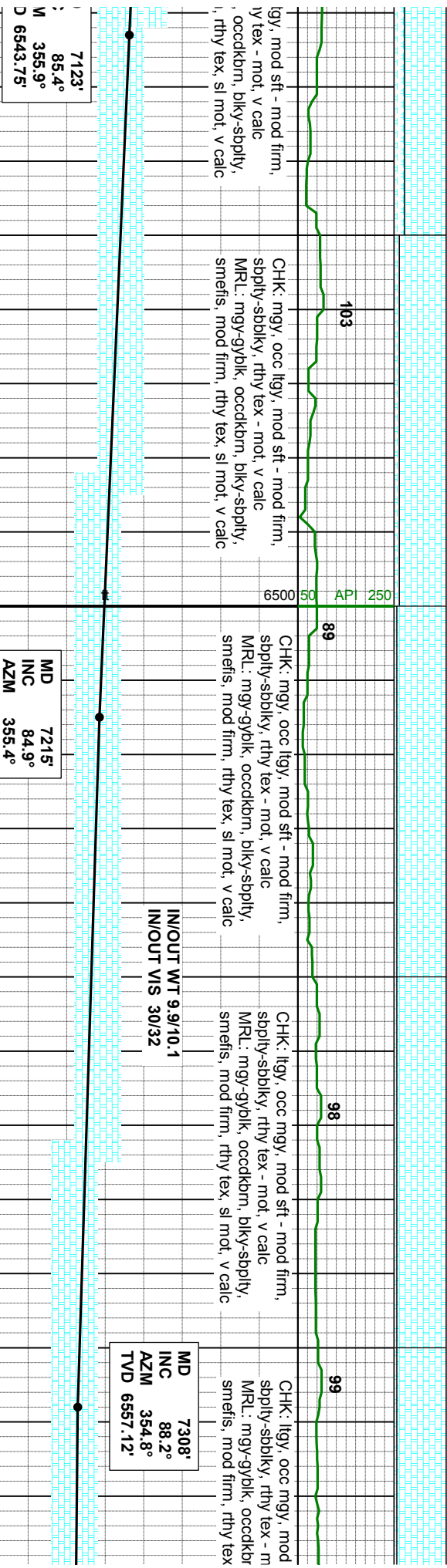
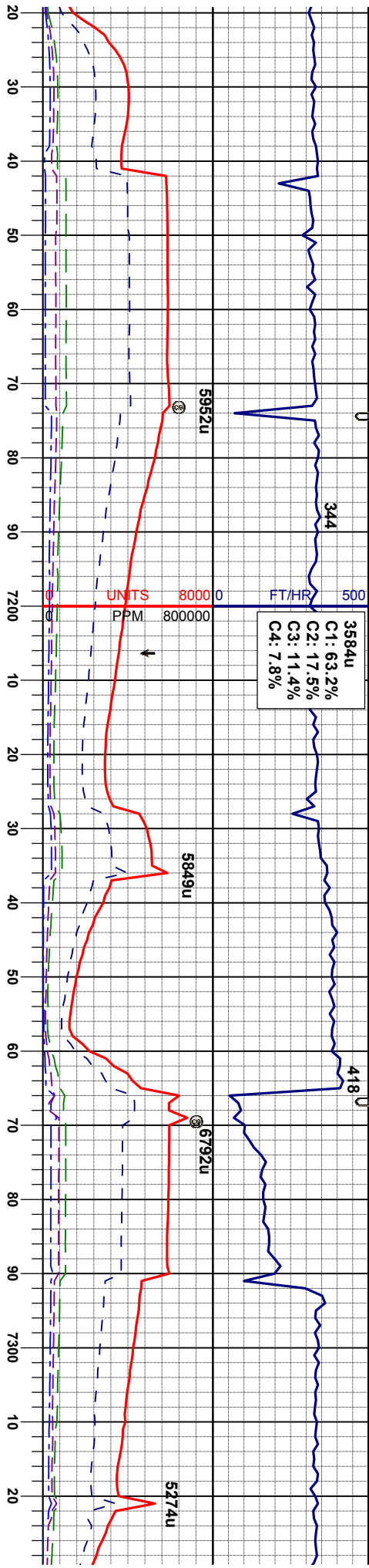


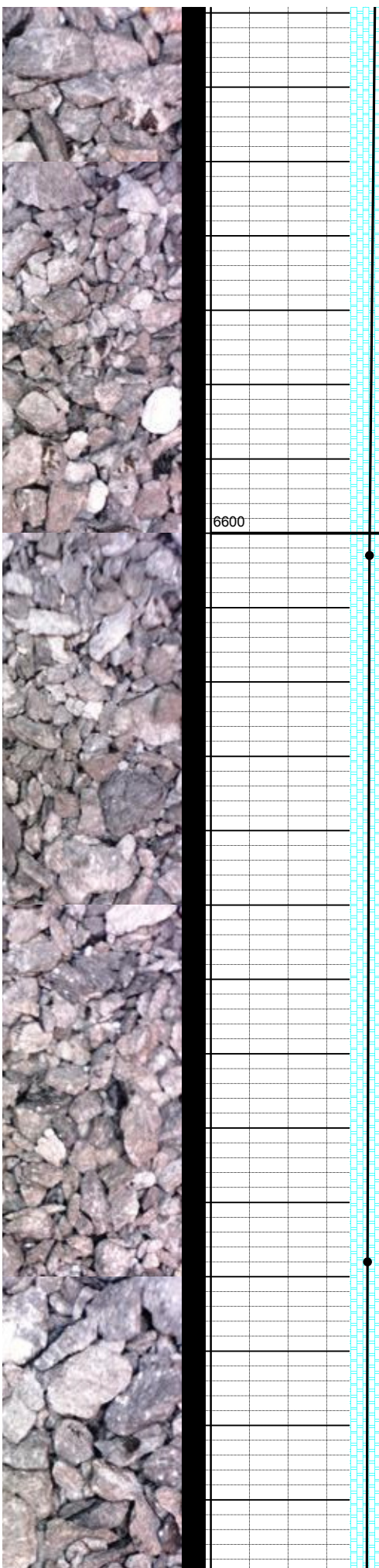
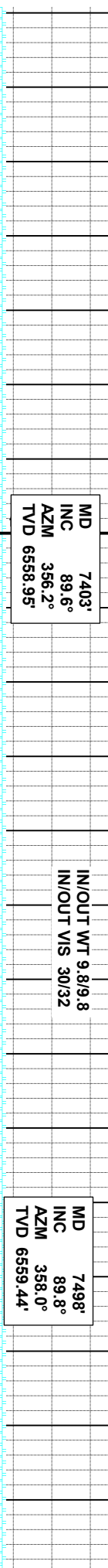
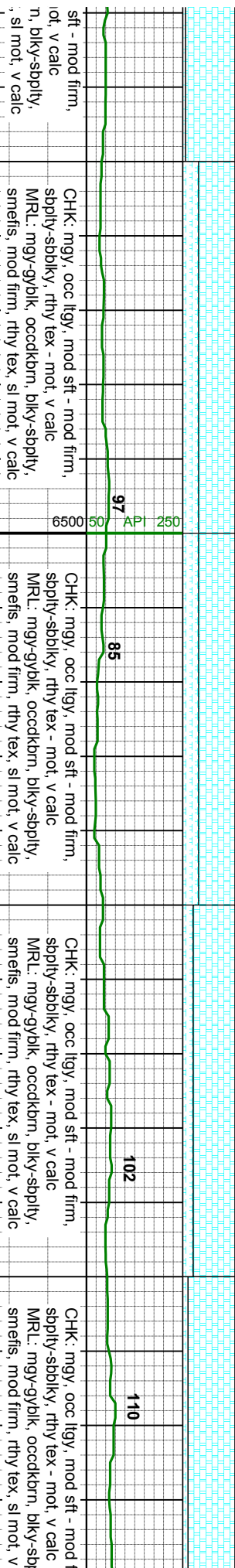
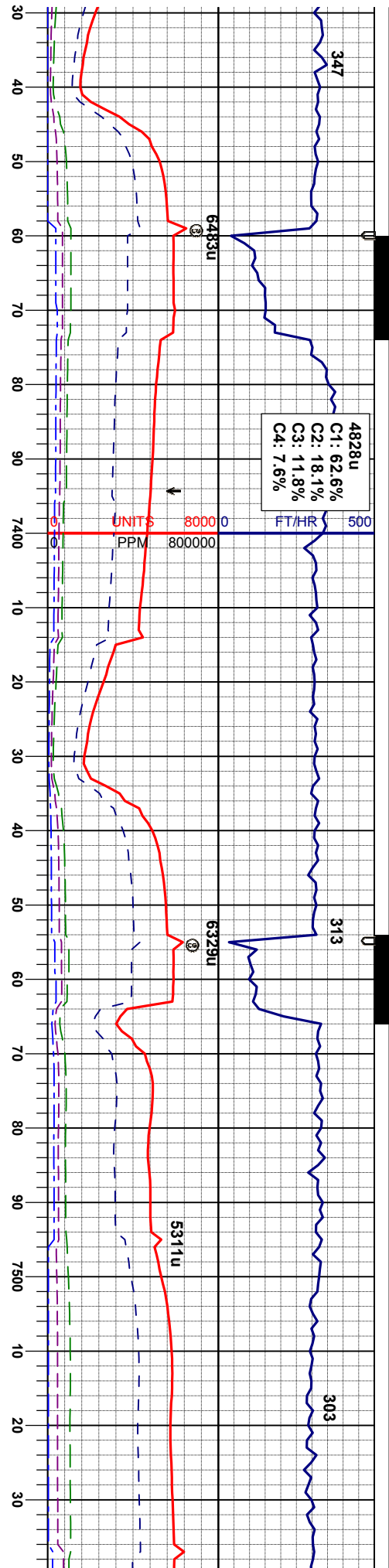


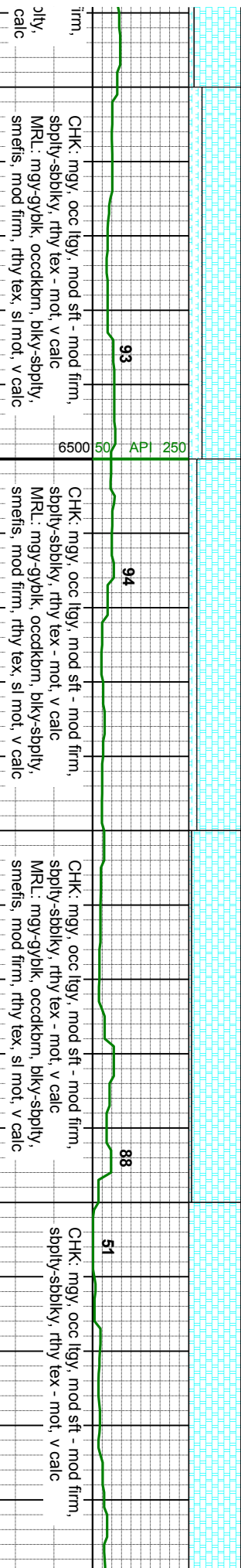
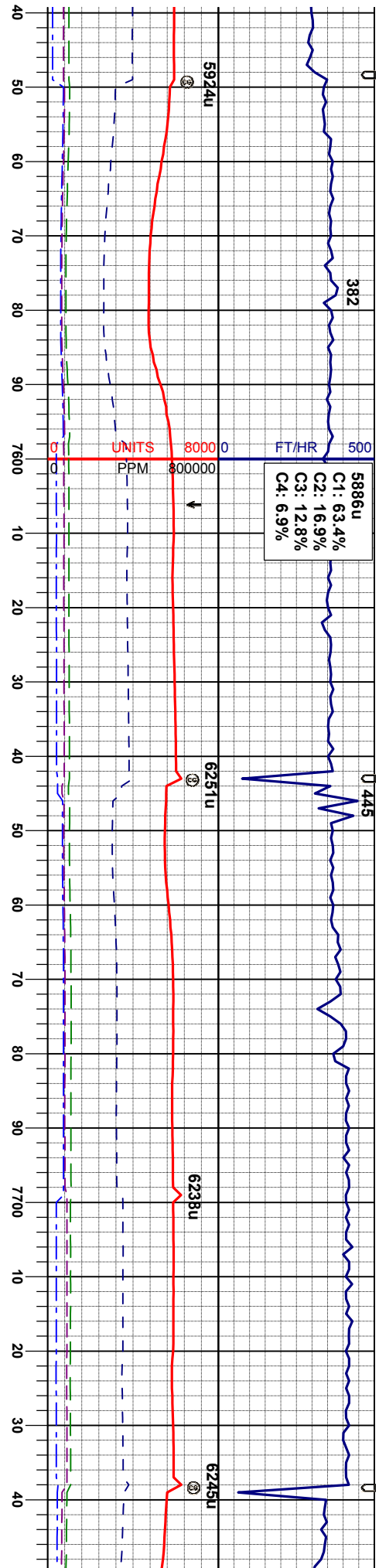










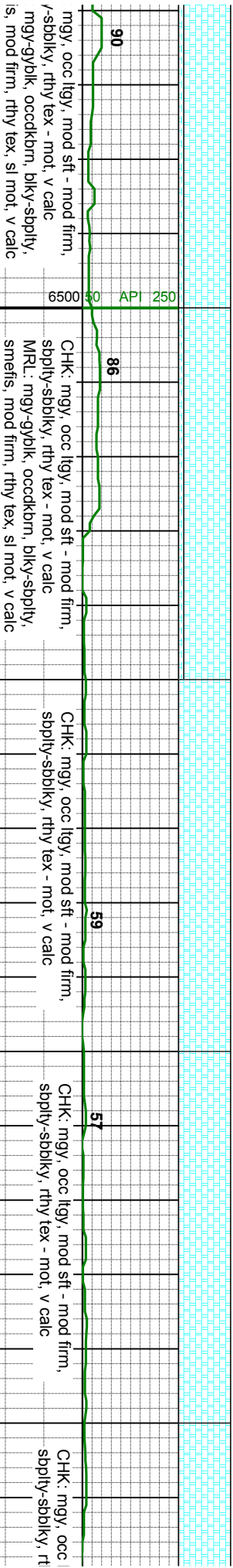
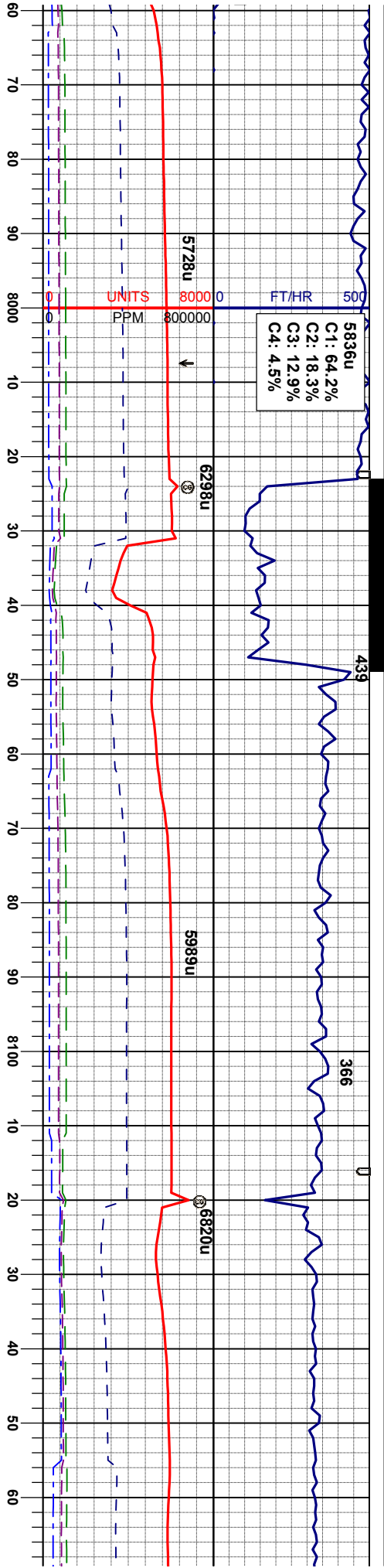


MD 7593'
INC 89.7°
AZM 357.3°
TVD 6559.86'

IN/OUT WT 9.8+/9.9
IN/OUT VIS 34/34

MD 7688'
INC 89.9°
AZM 356.6°
TVD 6560.19'





MD 7972'
INC 89.7°
AZM 358.4°
TVD 6559.52'

WT 9.7 VIS 38

MD 8066'
INC 88.6°
AZM 0.5°
TVD 6560.92'

MD 8161'
INC 89.3°
AZM 1.0°
TVD 6562.66'

ngy, occ lgy, mod sft - mod firm,
/sbbiky, rthy tex - mot, v calc
mgy-gyblk, occckbrn, blkly-sbply,
is, mod firm, rthy tex, sl mot, v calc

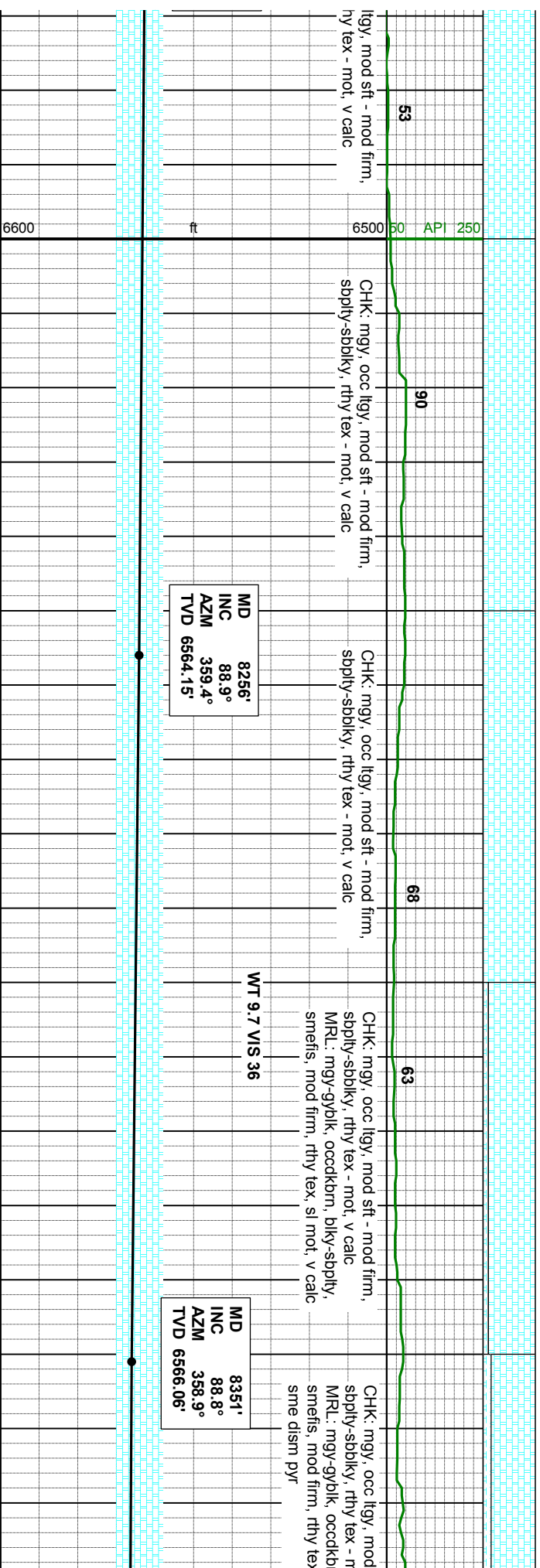
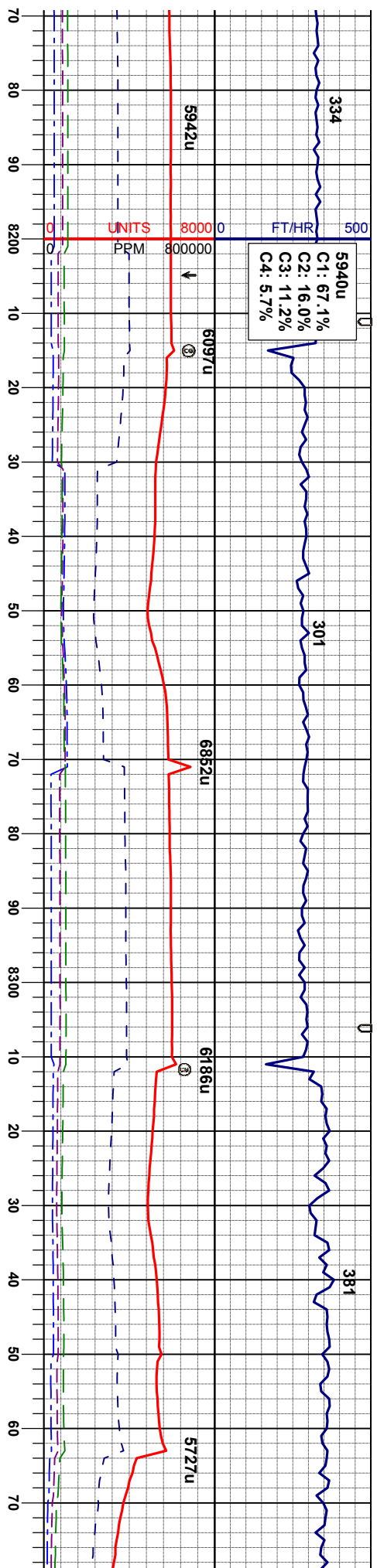
CHK: mgy, occ lgy, mod sft - mod firm,
sbply-sbbiky, rthy tex - mot, v calc
MRL: mgy-gyblk, occckbrn, blkly-sbply,
smefis, mod firm, rthy tex, sl mot, v calc

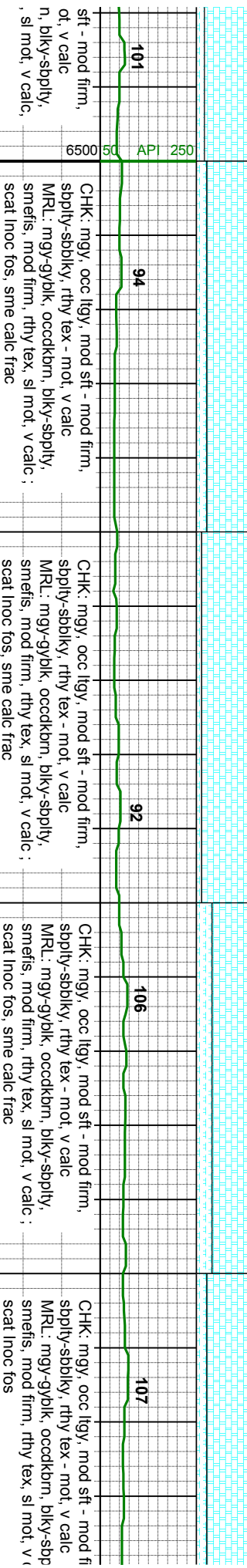
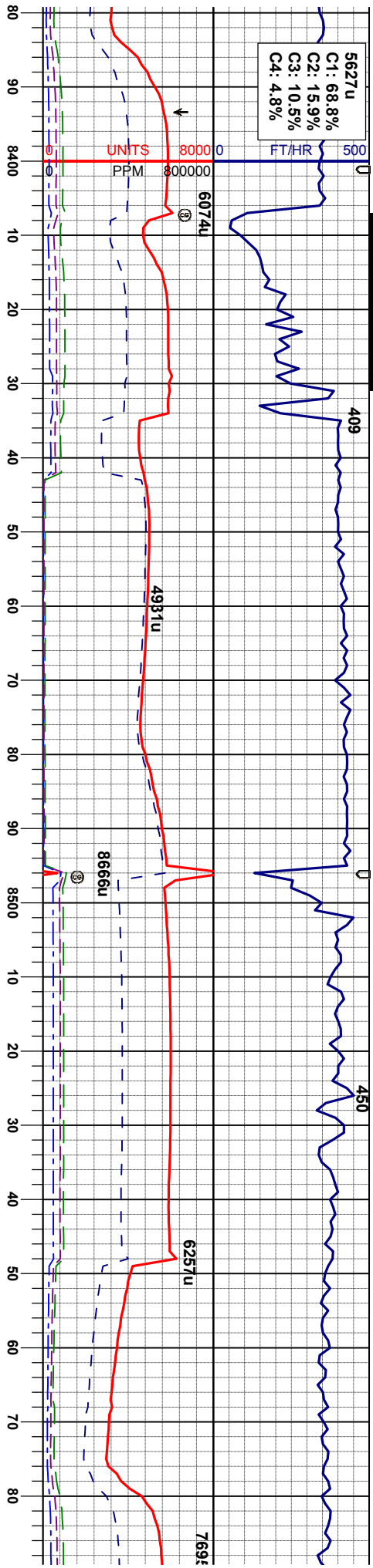
CHK: mgy, occ lgy, mod sft - mod firm,
sbply-sbbiky, rthy tex - mot, v calc

CHK: mgy, occ lgy, mod sft - mod firm,
sbply-sbbiky, rthy tex - mot, v calc

CHK: mgy, occ
sbply-sbbiky, r



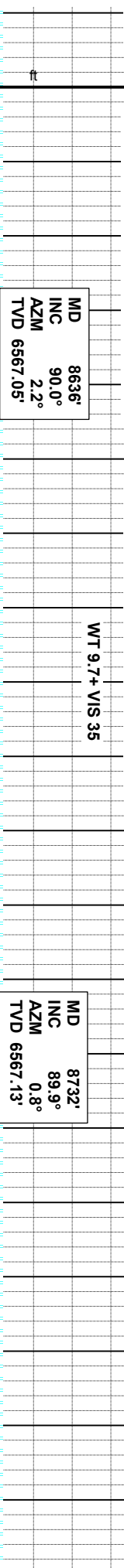
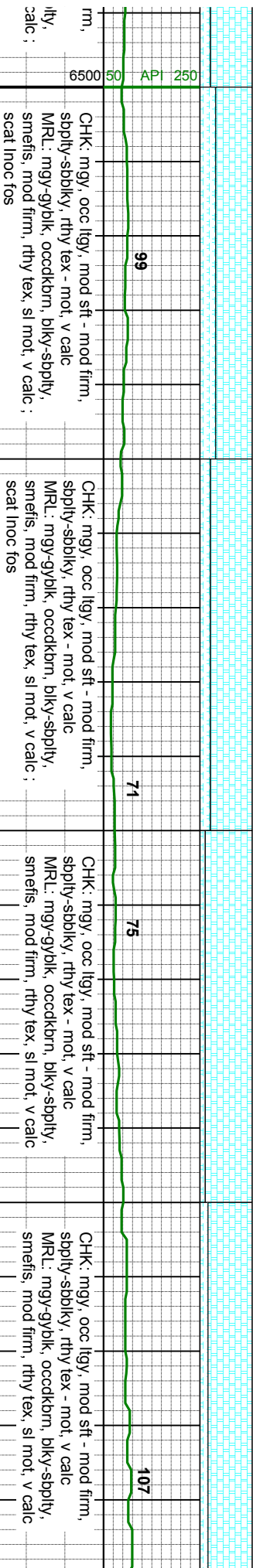
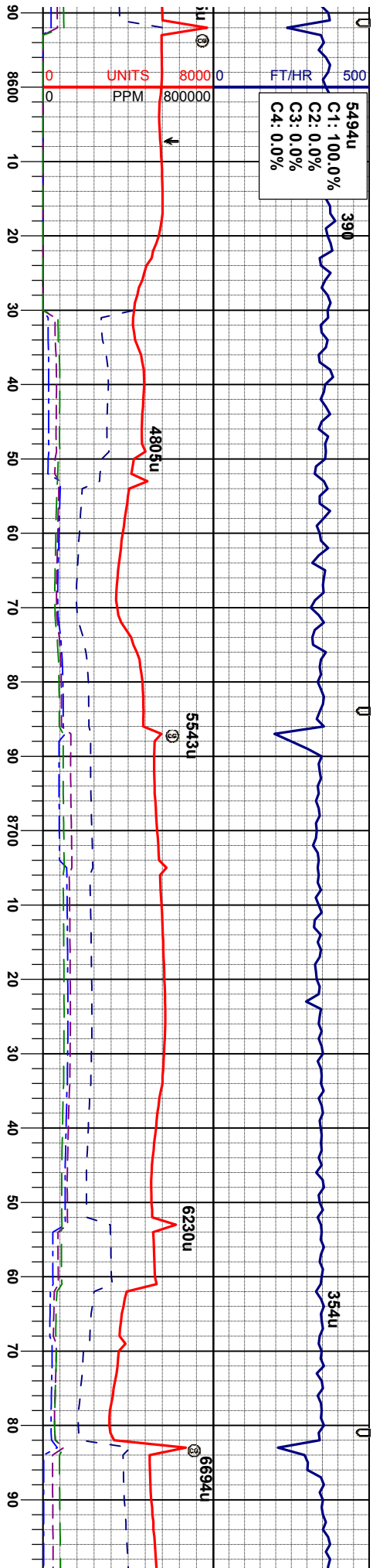


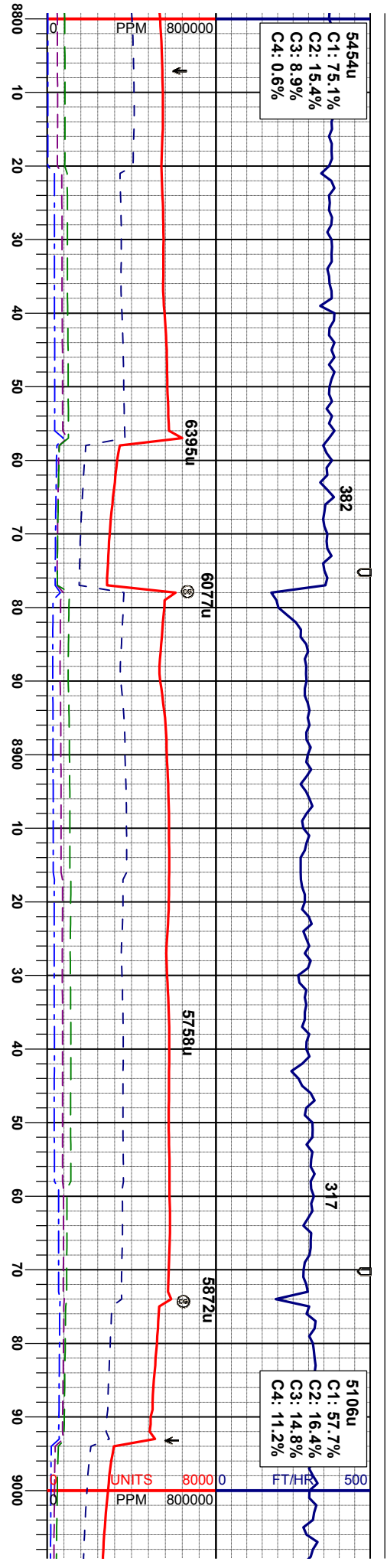


MD 8446'
INC 90.0°
AZM 1.7°
TVD 6567.05'

MD 8541'
INC 90.0°
AZM 1.2°
TVD 6567.05'







CHK: mgy, occ lly, mod sft - mod firm,
sbply-sbply, rthy tex - mot, v calc
MRL: mgy-gyblk, occdkbm, bly-sbply,
smefis, mod firm, rthy tex, sl mot, v calc

CHK: mgy, occ lly, mod sft - mod firm,
sbply-sbply, rthy tex - mot, v calc
MRL: mgy-gyblk, occdkbm, bly-sbply,
smefis, mod firm, rthy tex, sl mot, v calc

CHK: mgy, occ lly, mod sft - mod firm,
sbply-sbply, rthy tex - mot, v calc
MRL: mgy-gyblk, occdkbm, bly-sbply,
smefis, mod firm, rthy tex, sl mot, v calc

CHK: mgy, occ lly, mod sft - mod firm,
sbply-sbply, rthy tex - mot, v calc
MRL: mgy-gyblk, occdkbm, bly-sbply,
smefis, mod firm, rthy tex, sl mot, v calc ;
sme scat fos

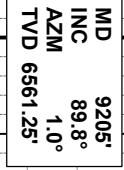
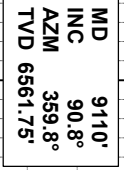
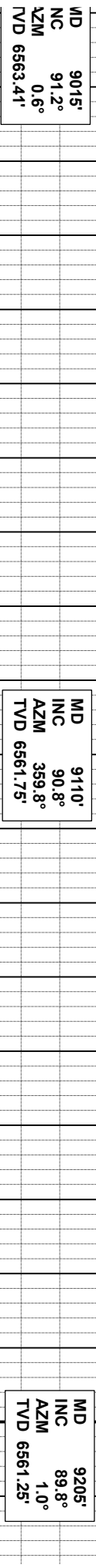
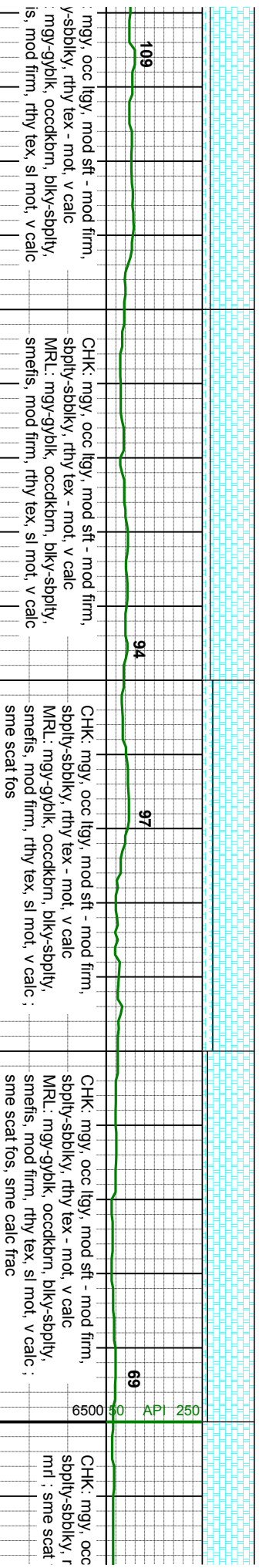
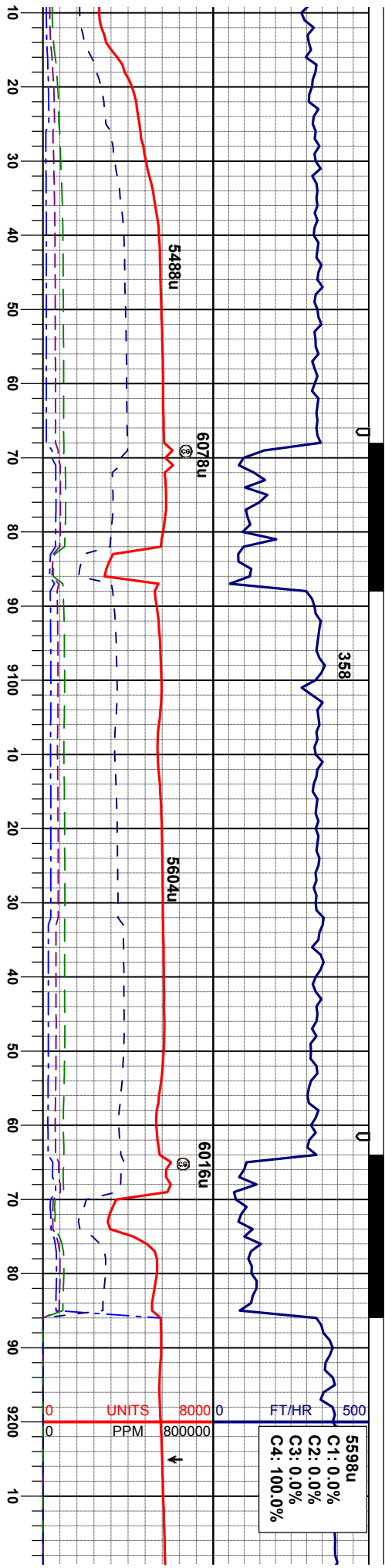
MD 8825'
INC 90.8°
AZM 0.8°
TVD 6566.56'

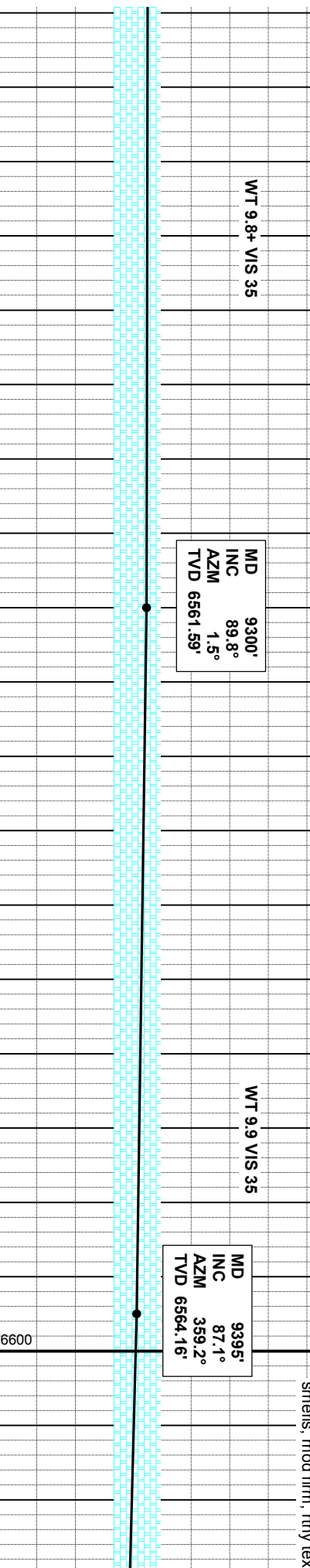
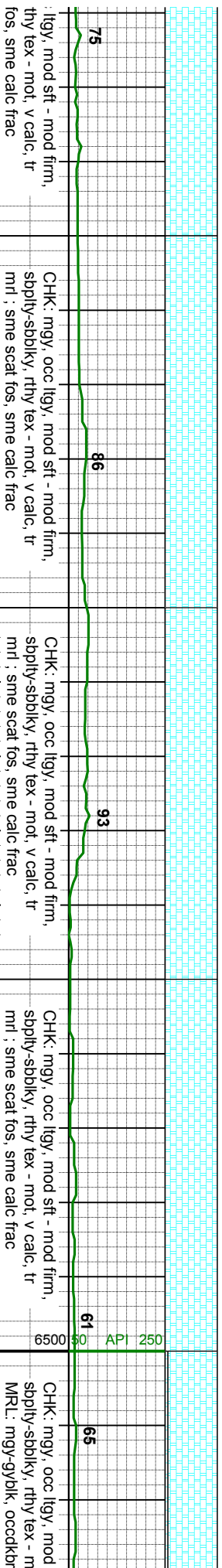
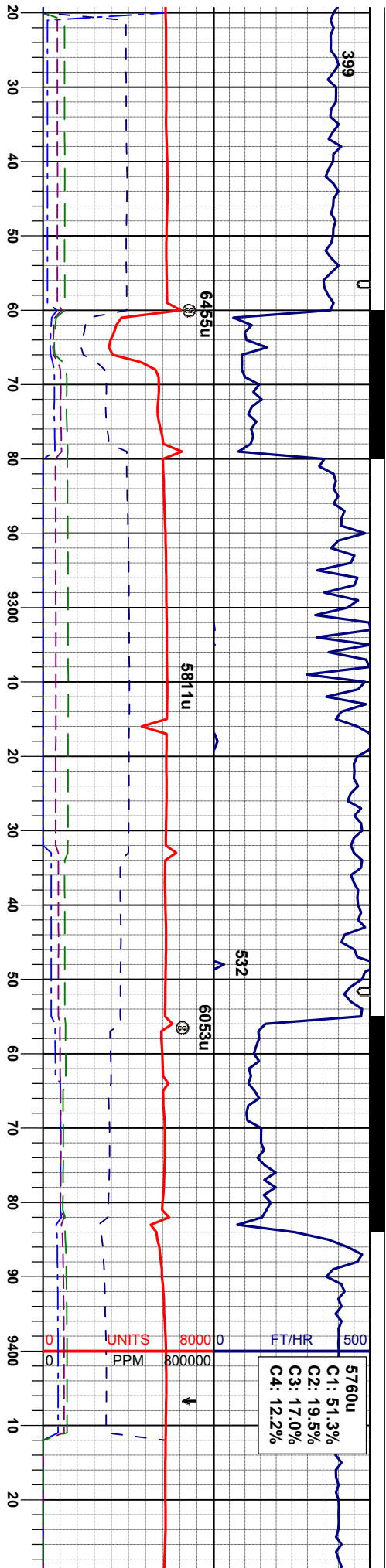
MD 8920'
INC 90.9°
AZM 359.6°
TVD 6565.15'

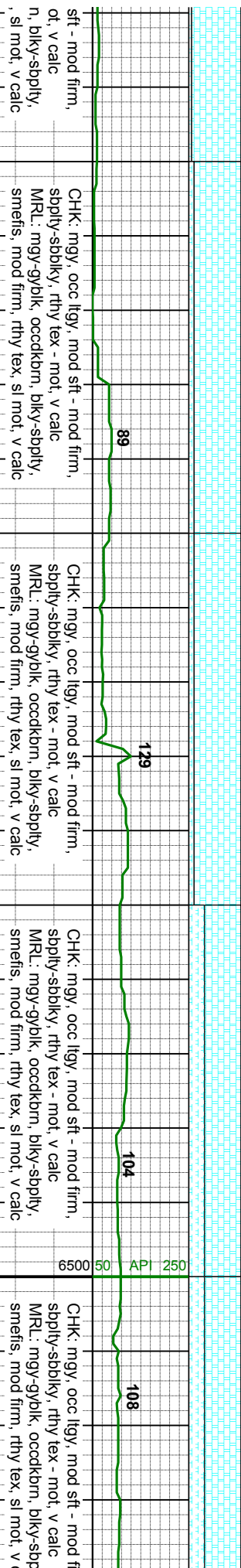
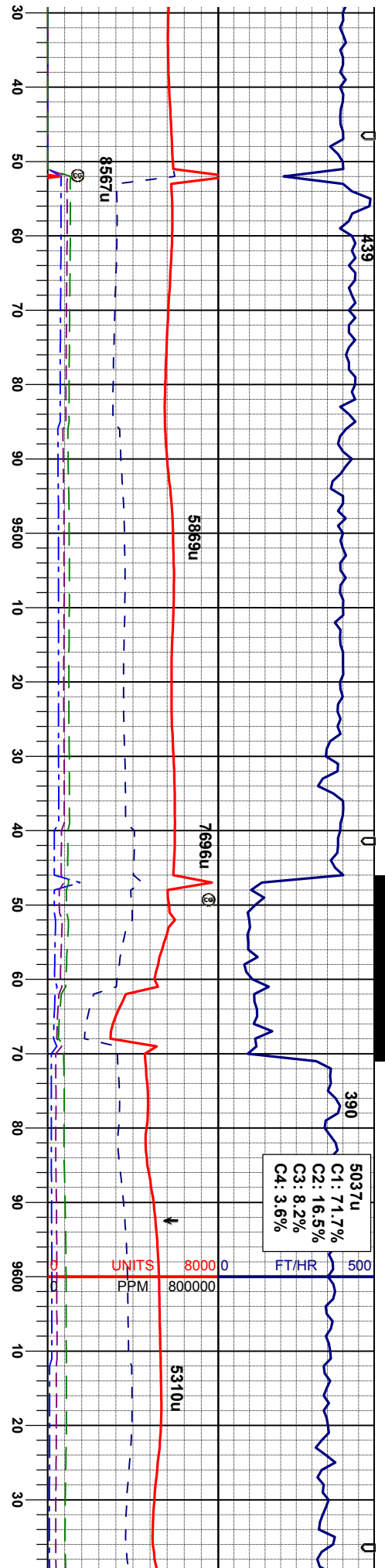
WT 9.8 VIS 34

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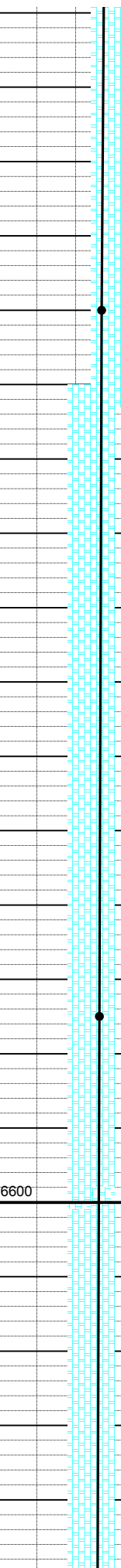
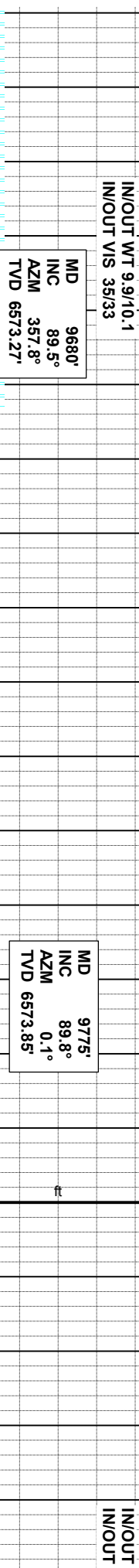
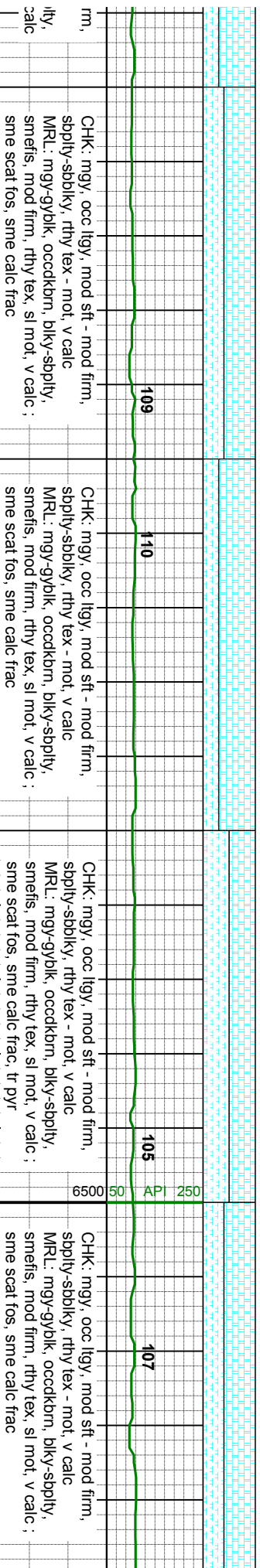
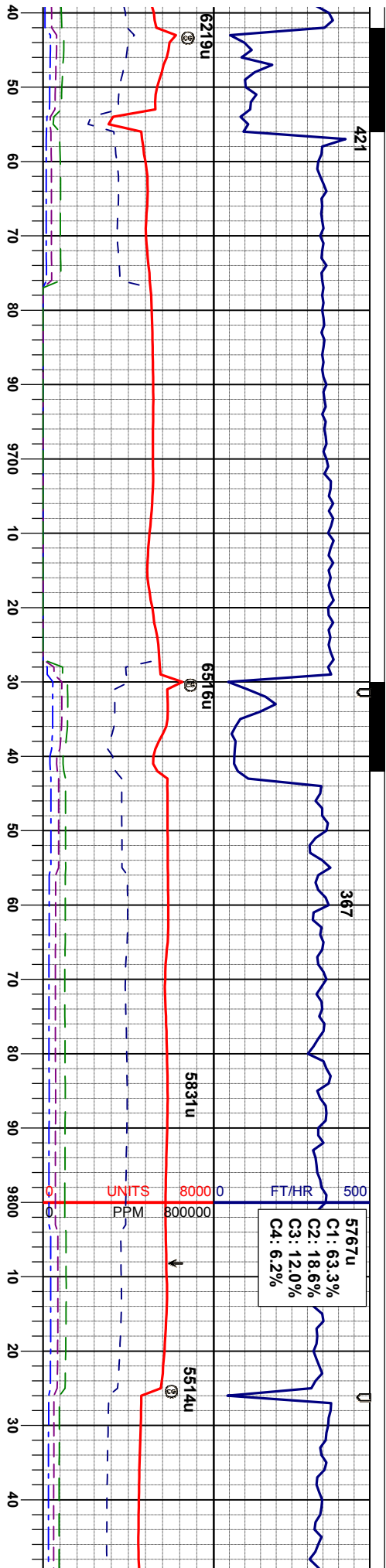
WT 9.9 VIS 34

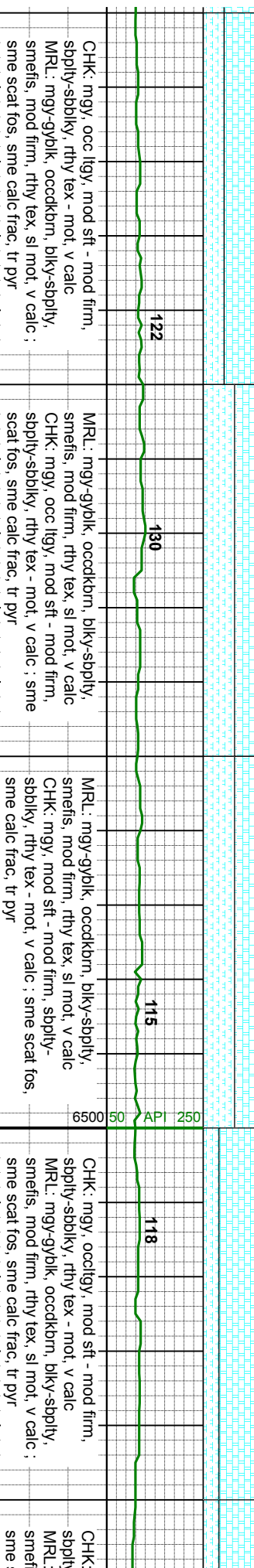
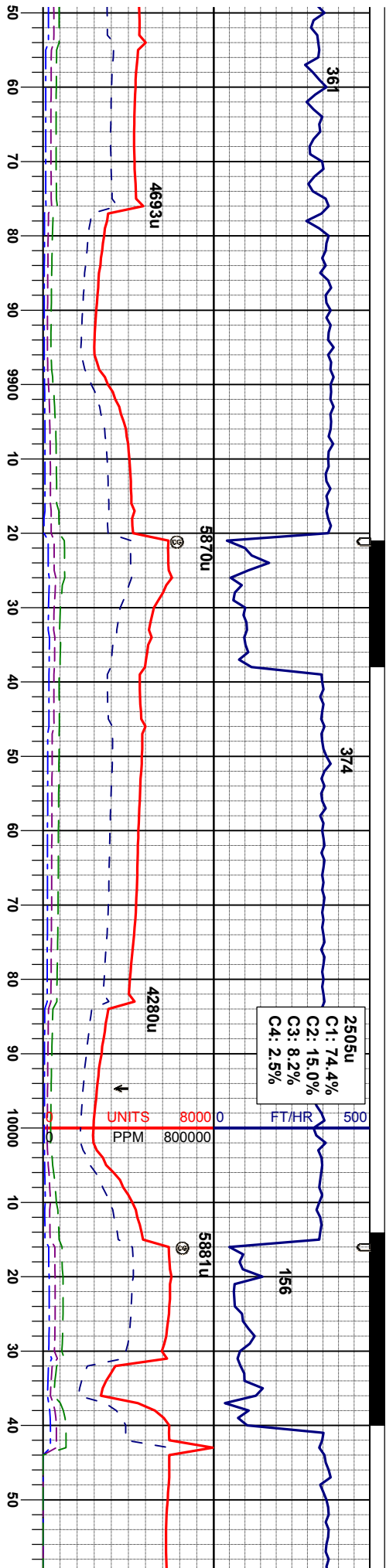
MD	9490'
INC	87.2°
AZM	0.1°
TVD	6568.88'

WT 9.9 VIS 34

MD	9585'
INC	89.0°
AZM	356.4°
TVD	6572.03'







WT 9.9/9.9
VIS 33/32

MD 9870'
INC 89.5°
AZM 358.5°
TVD 6574.43'

MD 9965'
INC 89.3°
AZM 357.1°
TVD 6575.43'

MD
INC
AZM
TVD 66

CHK: mgy, occ litgy, mod sft - mod firm, sbply-sbdky, rthy tex - mot, v calc
MRL: mgy-gyblk, occdkbm, blkly-sbply, smeifs, mod firm, rthy tex, sl mot, v calc
CHK: mgy, occ litgy, mod sft - mod firm, sbply-sbdky, rthy tex, sl mot, v calc : sme scat fos, sme calc frac, tr pyr

MRL: mgy-gyblk, occdkbm, blkly-sbply, smeifs, mod firm, rthy tex, sl mot, v calc
CHK: mgy, occ litgy, mod sft - mod firm, sbply-sbdky, rthy tex - mot, v calc : sme scat fos, sme calc frac, tr pyr

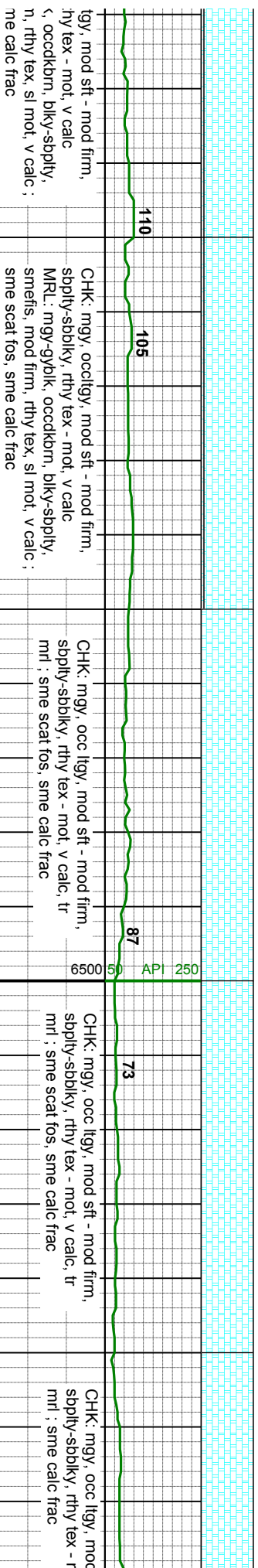
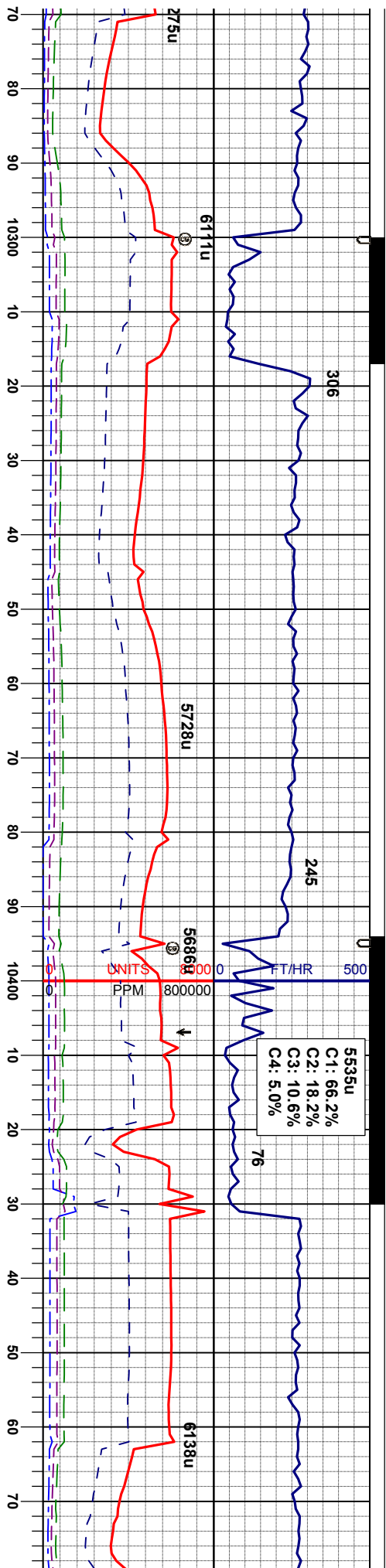
MRL: mgy-gyblk, occdkbm, blkly-sbply, smeifs, mod firm, rthy tex, sl mot, v calc
CHK: mgy, mod sft - mod firm, sbply-sbdky, rthy tex - mot, v calc : sme scat fos, sme calc frac, tr pyr

CHK: mgy, occ litgy, mod sft - mod firm, sbply-sbdky, rthy tex - mot, v calc
MRL: mgy-gyblk, occdkbm, blkly-sbply, smeifs, mod firm, rthy tex, sl mot, v calc : sme scat fos, sme calc frac, tr pyr

IN/OUT WT 9.8+/10
IN/OUT VIS 33/34

IN/OUT WT 9.8+/10+
IN/OUT VIS 34/33





lgy, mod sft - mod firm,
thy tex - mot, v calc
, ocockbm, blyk-sbply,
n, rthy tex, sl mot, v calc ;
me calc frac

CHK: mgy, ooc lty, mod sft - mod firm,
sbply-sbply, rthy tex - mot, v calc
MRL: mgy-gybk, ocockbm, blyk-sbply,
smefis, mod firm, rthy tex, sl mot, v calc ;
sme scat fos, sme calc frac

CHK: mgy, occ lty, mod sft - mod firm,
sbply-sbply, rthy tex - mot, v calc, tr
mrl ; sme scat fos, sme calc frac

CHK: mgy, occ lty, mod sft - mod firm,
sbply-sbply, rthy tex - mot, v calc, tr
mrl ; sme scat fos, sme calc frac

CHK: mgy, occ lty, mod
sbply-sbply, rthy tex - n
mrl ; sme calc frac

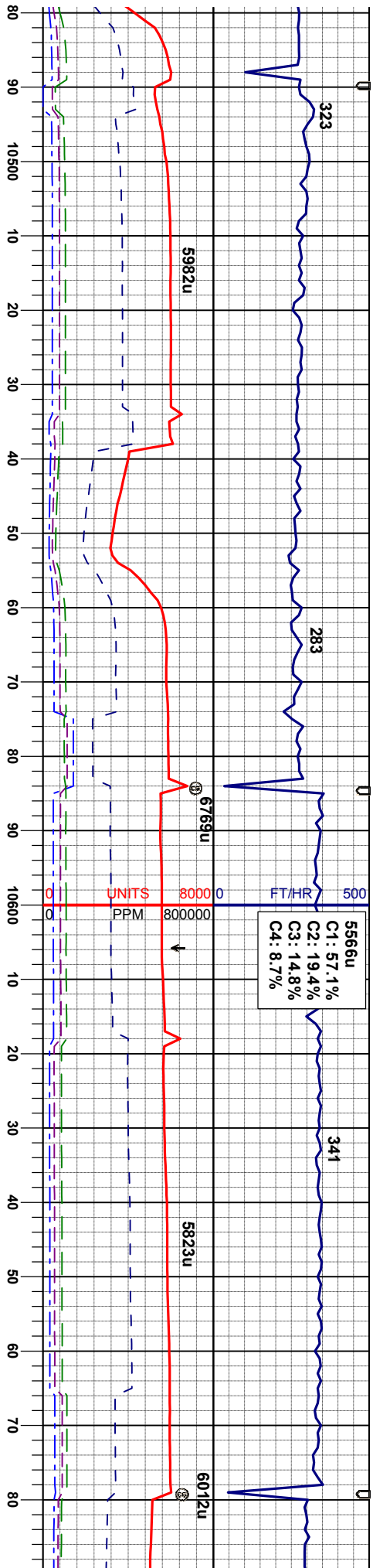
IN/OUT WT 9.9+/10
IN/OUT VIS 36/35

MD 10343'
INC 88.9°
AZM 358.7°
TVD 6569.63'

IN/OUT WT 9.9+/10
IN/OUT VIS 35/35

MD 10438'
INC 91.0°
AZM 1.7°
TVD 6569.72'





sft - mod firm, not, v calc, tr

CHK: mgy, occ lgy, mod sft - mod firm, sbply-sbdky, rthy tex - mot, v calc, tr mrl ; sme calc frac

CHK: mgy, occ lgy, mod sft - mod firm, sbply-sbdky, rthy tex - mot, v calc, tr mrl ; sme calc frac

CHK: mgy, occ lgy, mod sft - mod firm, sbply-sbdky, rthy tex - mot, v calc, tr mrl ; sme calc frac

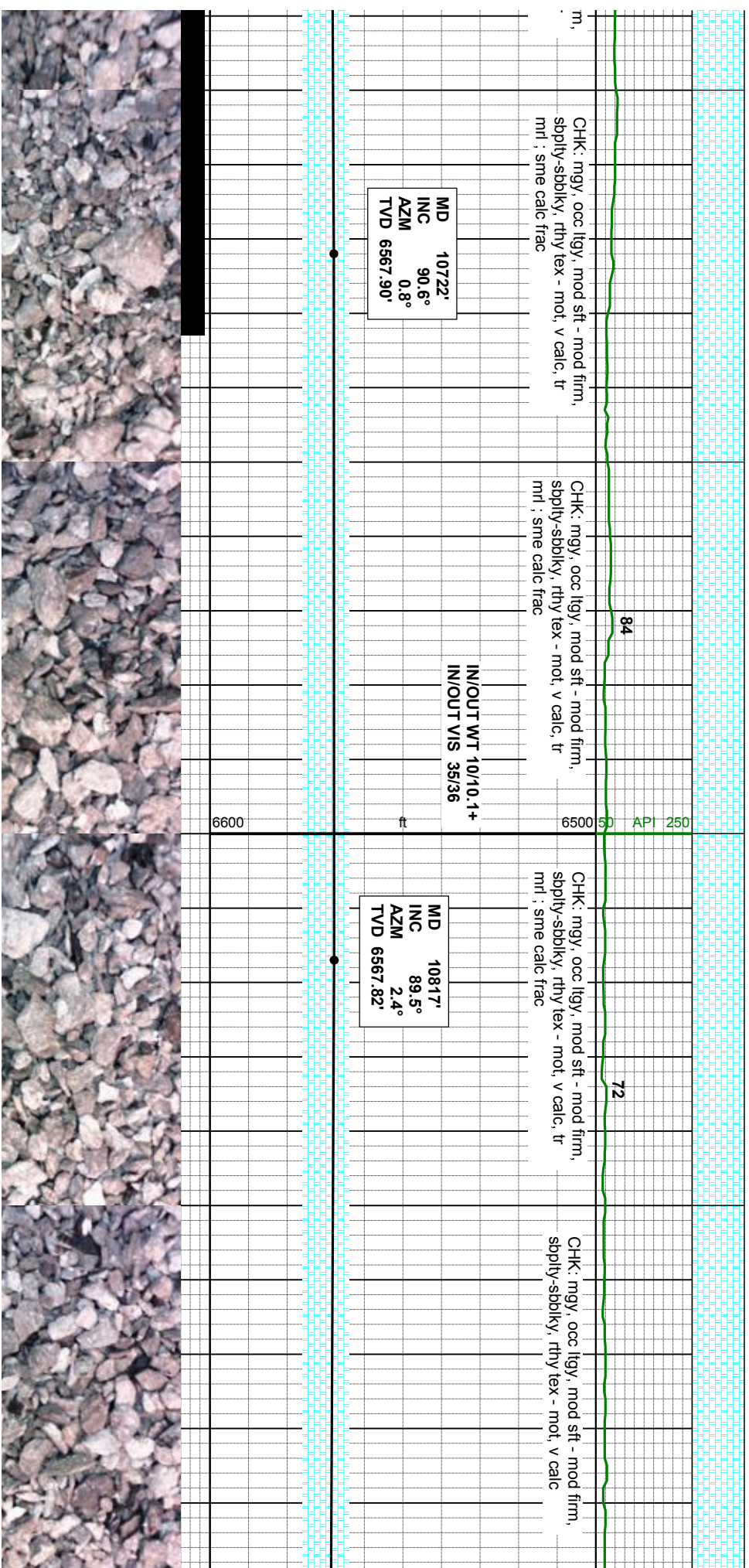
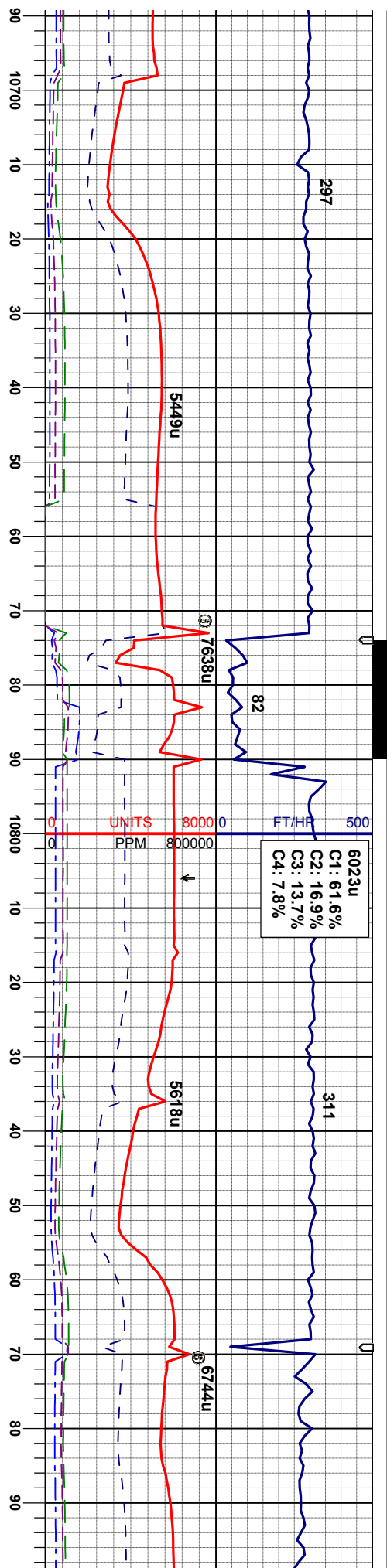
IN/OUT WT 10/10
IN/OUT VIS 36/34

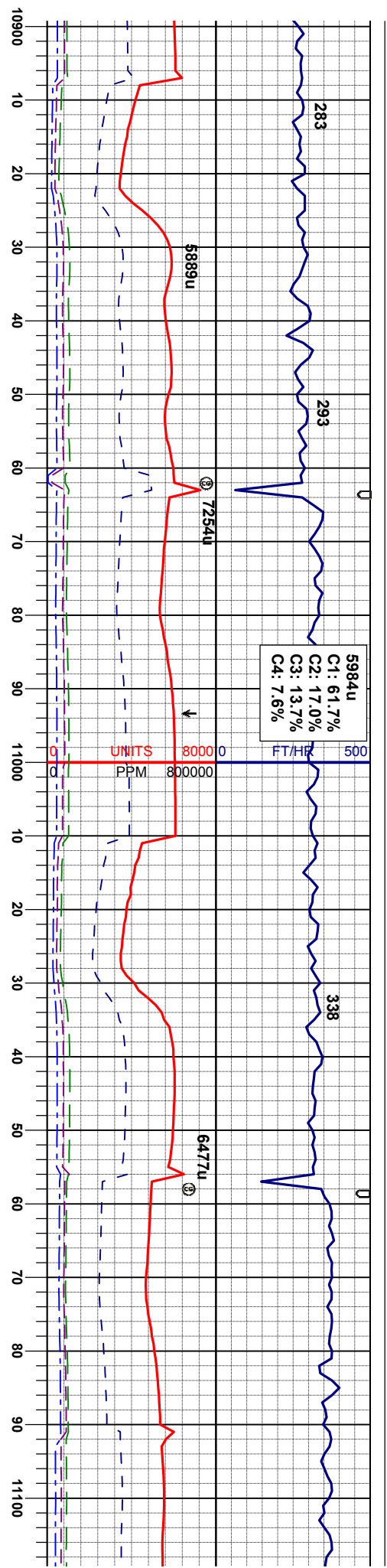
MD 10533'
INC 89.8°
AZM 2.2°
TVD 6569.05'

IN/OUT WT 10+/10.1
IN/OUT VIS 36/34

MD 10628'
INC 90.5°
AZM 1.7°
TVD 6568.80'







CHK: mgy, occ litgy, mod sft - mod firm, spbly-sbbkly, rthy tex - mot, v calc

CHK: mgy, occ litgy, mod sft - mod firm, spbly-sbbkly, rthy tex - mot, v calc

CHK: mgy, occ litgy, mod sft - mod firm, spbly-sbbkly, rthy tex - mot, v calc

CHK: mgy, occ litgy, mod sft - mod firm, spbly-sbbkly, rthy tex - mot, v calc

CHK: mgy, occ litgy, mod sft - mod firm, spbly-sbbkly, rthy tex - mot, v calc

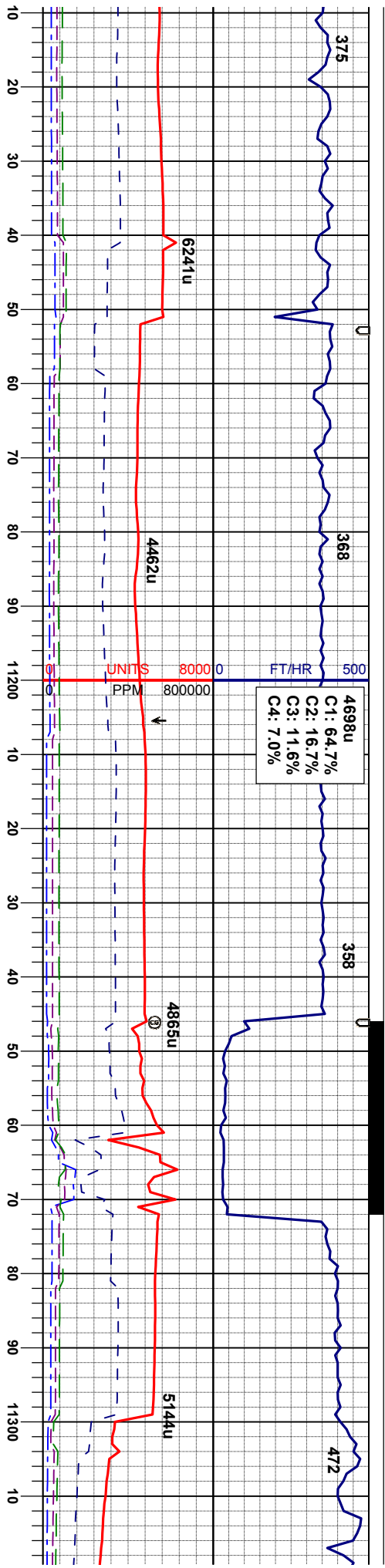
IN/OUT WT 10.1/10.1+
IN/OUT VIS 35/33

MD 10912'
INC 89.4°
AZM 2.2°
TVD 6568.73'

MD 11007'
INC 89.0°
AZM 0.3°
TVD 6570.06'

MD 11101'
INC 88.8°
AZM 359.6°
TVD 6571.86'





gy, occ lly, sme brn, mod sft - mod
chly-sbblky, rthy tex - mot, v calc

CHK: mgy, occ lly, sme brn, mod sft - mod
firm, sbply-sbblky, rthy tex - mot, v calc

CHK: mgy, occ lly, sme brn, mod sft - mod
firm, sbply-sbblky, rthy tex - mot, v calc

CHK: mgy, occ lly, sme brn, mod sft - mod
firm, sbply-sbblky, rthy tex - mot, v calc

CHK: mgy, occ l
firm, sbply-sbbl
MRL: mgy-gy/bk
smeifs, mod firm
scat inoc fos, sn

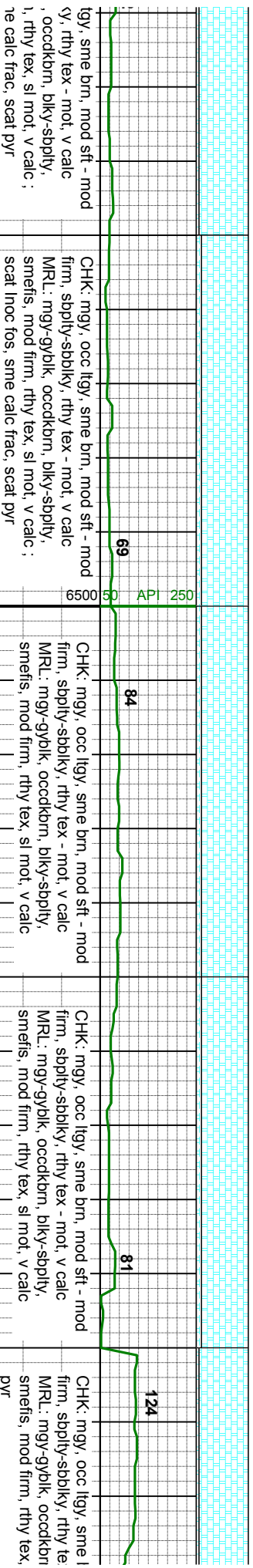
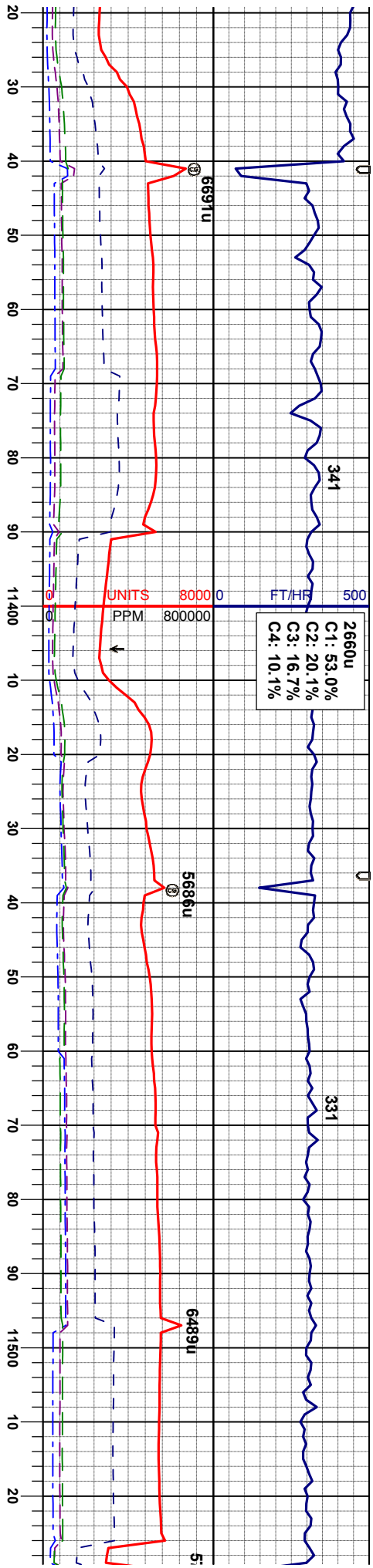
MD 11196'
INC 88.6°
AZM 359.8°
TVD 6574.02'

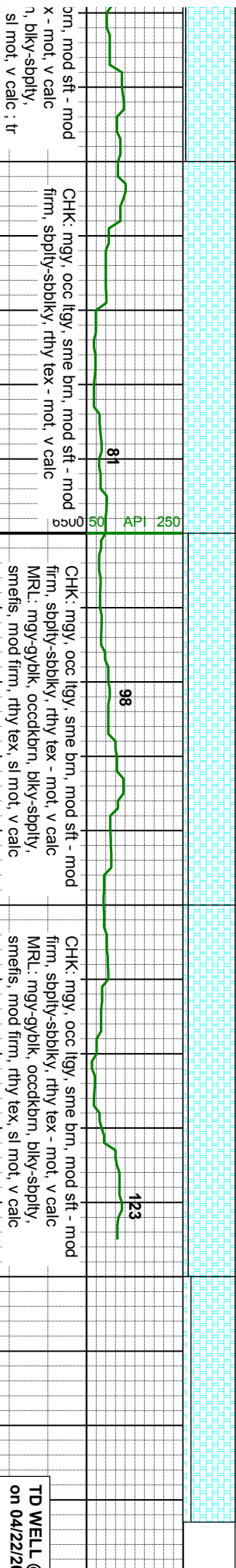
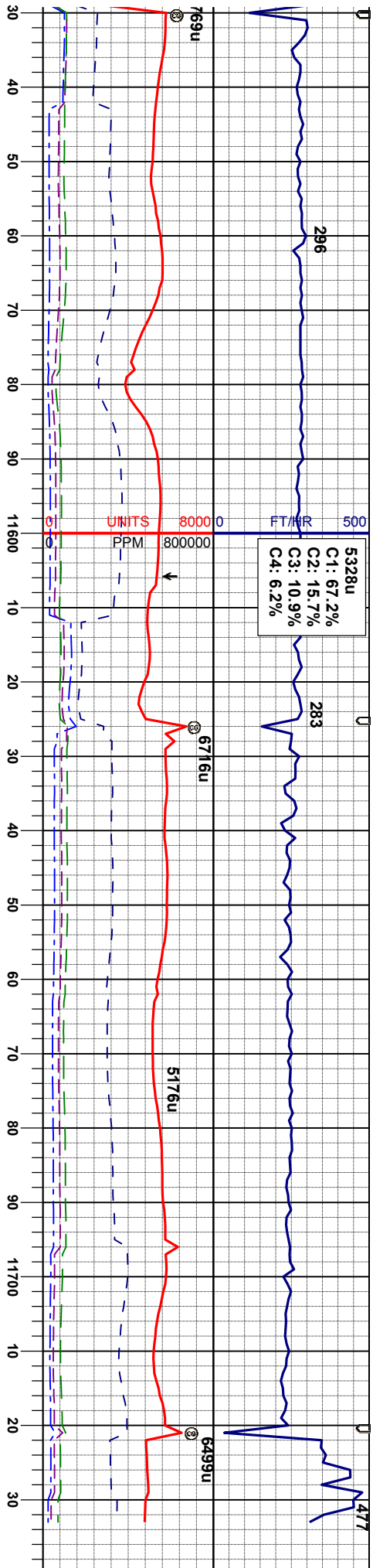
MD 11291'
INC 90.1°
AZM 358.7°
TVD 6575.09'

WT 10.1 VIS 34

6600







MD 11575'
INC 90.8°
AZM 357.5°
TVD 6673.36'

WT 10.1 VIS 34

MD 11670'
INC 91.1°
AZM 357.8°
TVD 6671.78'

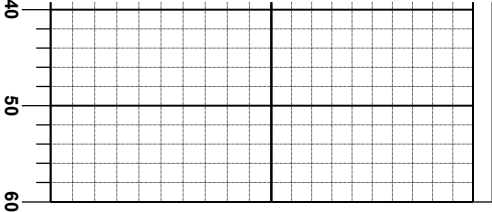
WT 10.1 VIS 33

MD 11683'
INC 91.1°
AZM 356.9°
TVD 6671.53'

TD WELL (on 04/22/21

Thank yk Columbi





@ 11733' MD
013 @ 12:08 hrs

u for choosing
ne Logging Inc.

