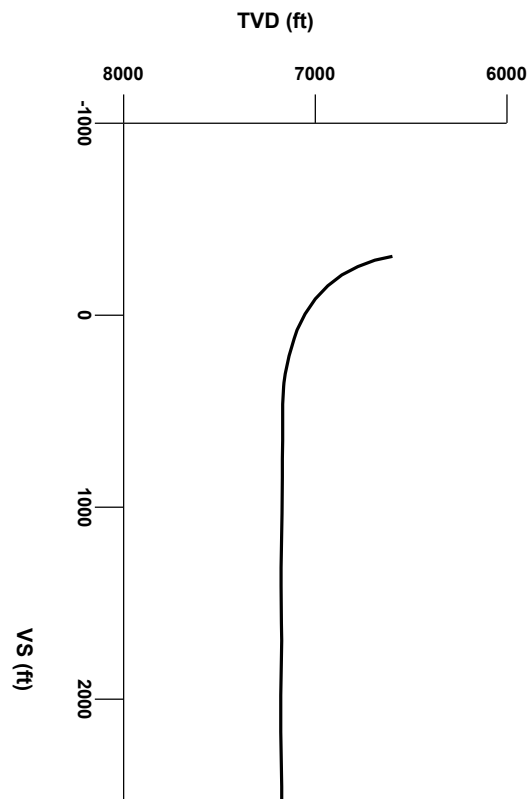




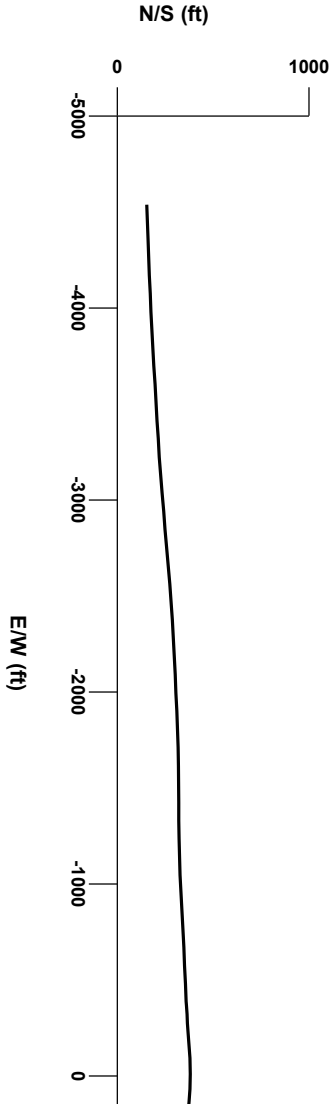
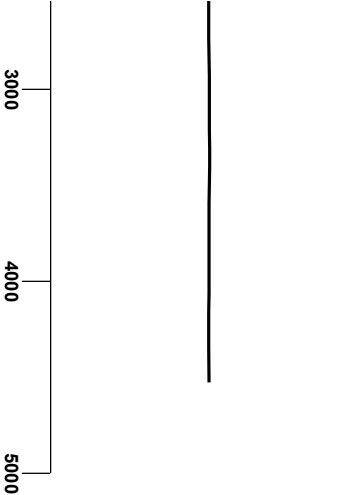
LOG created using LPLOT VH Version 3.0, August 20, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR: ANADARKO PETROLEUM CORPORATION
WELL: BELLA FEDERAL 15N-7HZ
LOCATION: NESW SEC 8, T3N, R66W
COUNTY: WELD
STATE: COLORADO
SPOT: 393' FSL & 2447' FWL
ELEVATION: 4891' GL - 4878' KB
FIELD: WATTENBERG
SPUD DATE: 8/15/2013
TD DATE: 8/20/2013
DATES LOGGED: 8/16/2013 - 8/20/2013
DEPTHS LOGGED: 6700' - 11824'
LOGGERS: ZACH UBER, JEREMY LOFTNESS
DRILLING FLUID: LSND
DRILLING RIG: ENSIGN 138
API: 05-123-37551
LOG TYPE: HORIZONTAL
SCALE: 1:240 (5 inches per 100 feet)
REMARKS: Wellsite Geological Services Provided By Columbine Logging Inc.



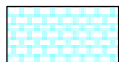
Survey Elevation

Survey Plan

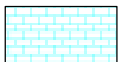


A

LITHOLOGIES



Chalk



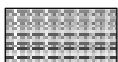
Limestone



Marl



Shaly Sandstone



Silty Shale

ENGINEERING SYMBOLS



Connection



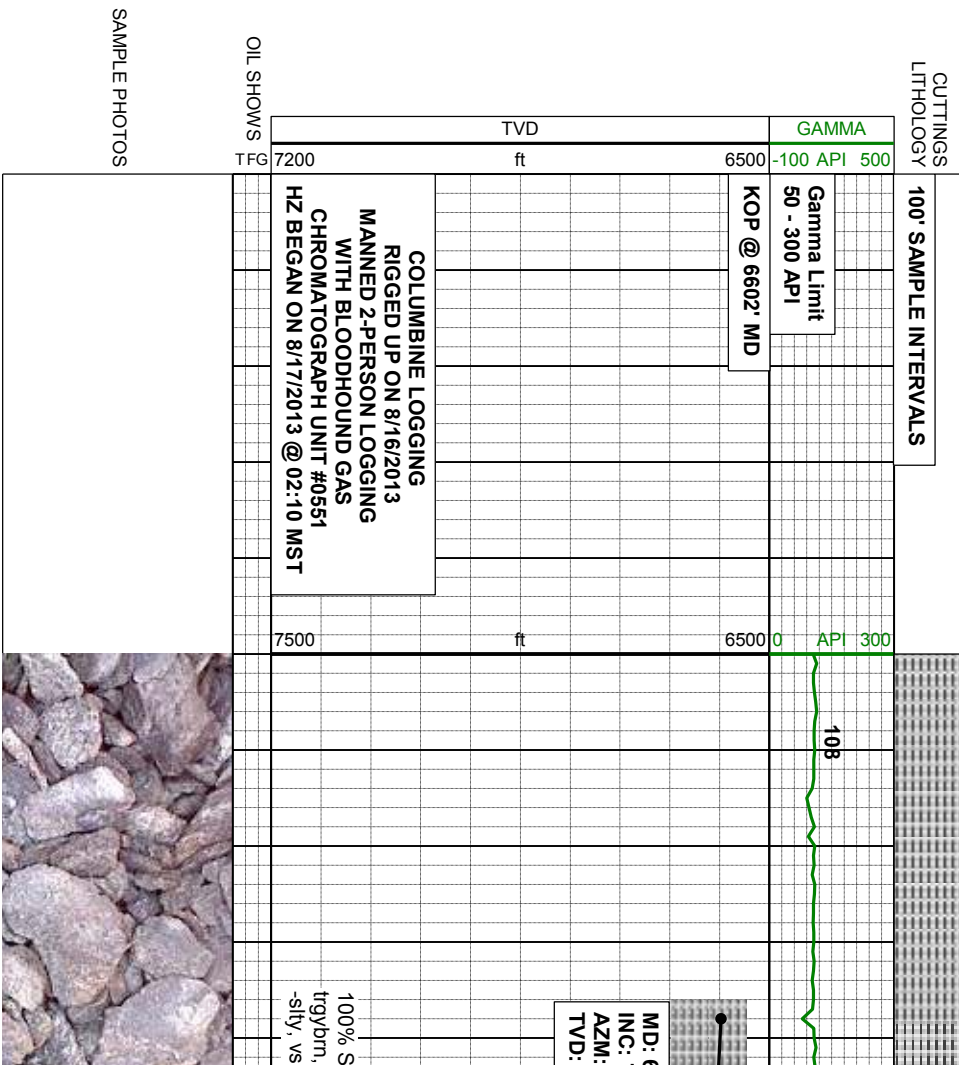
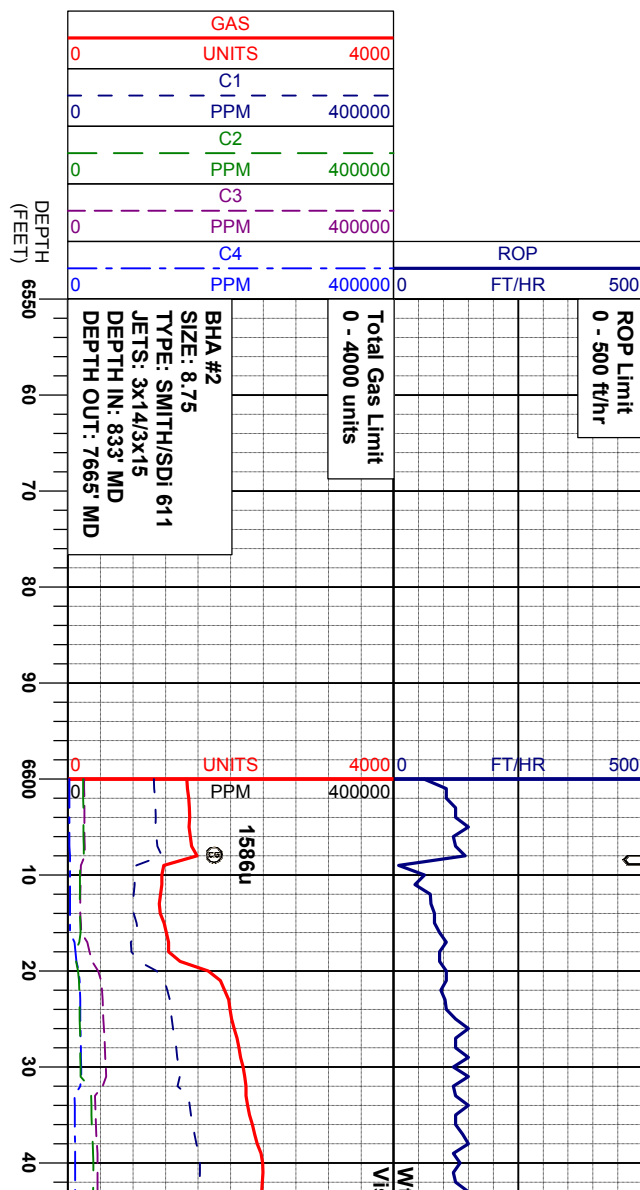
Connection Gas

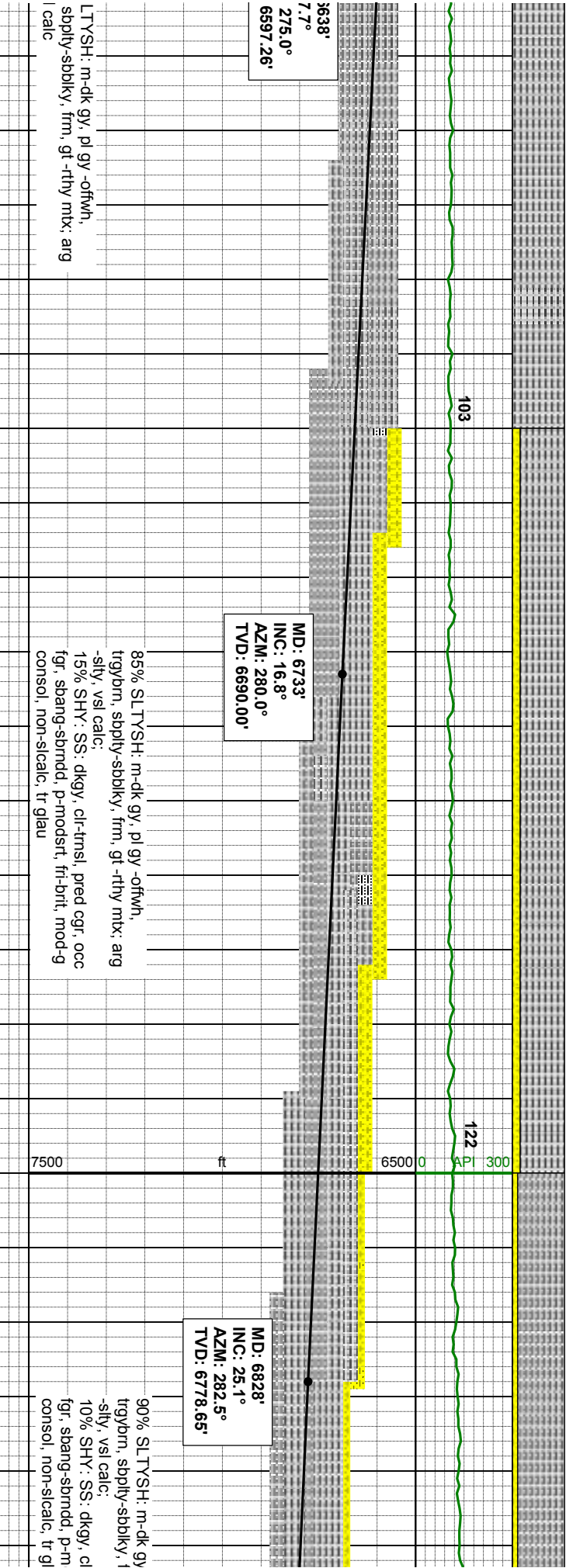


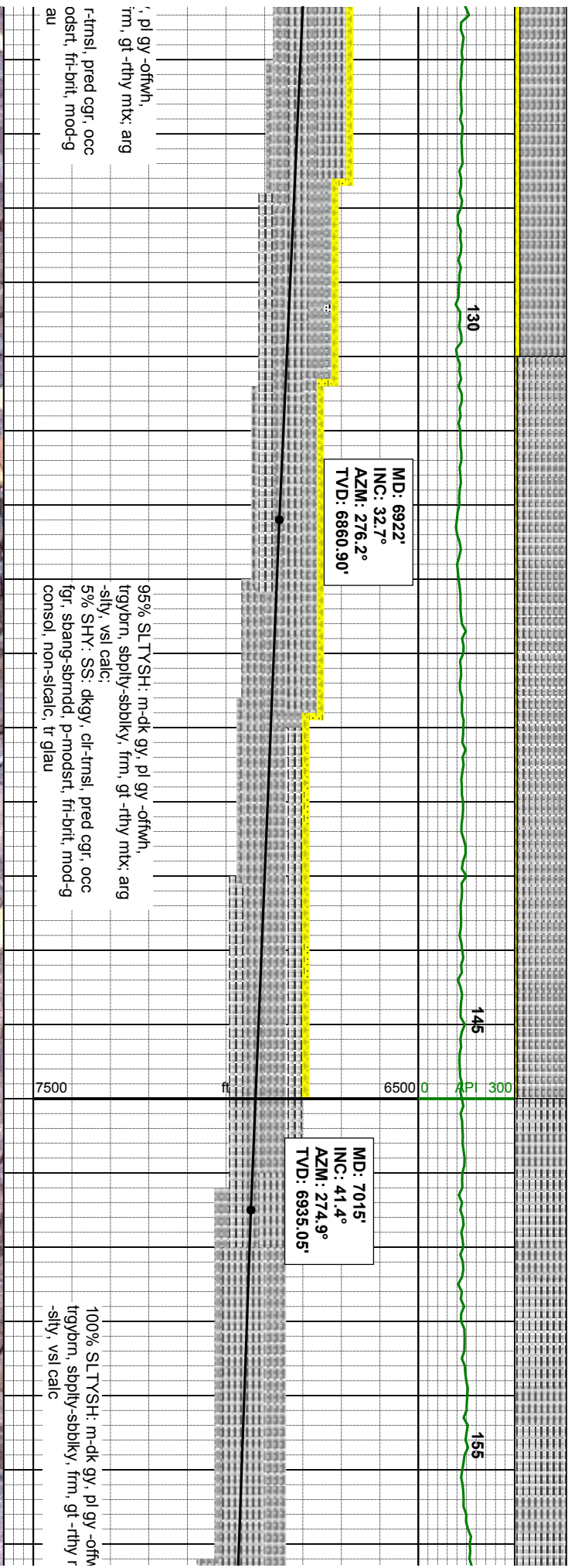
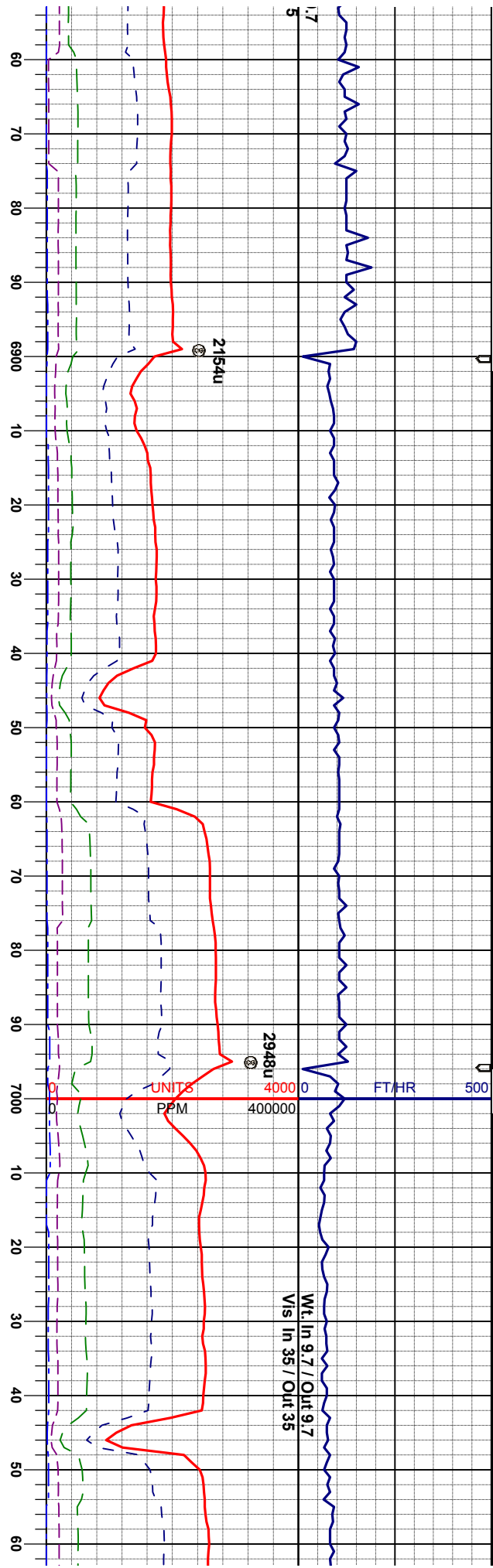
Midnight Depth

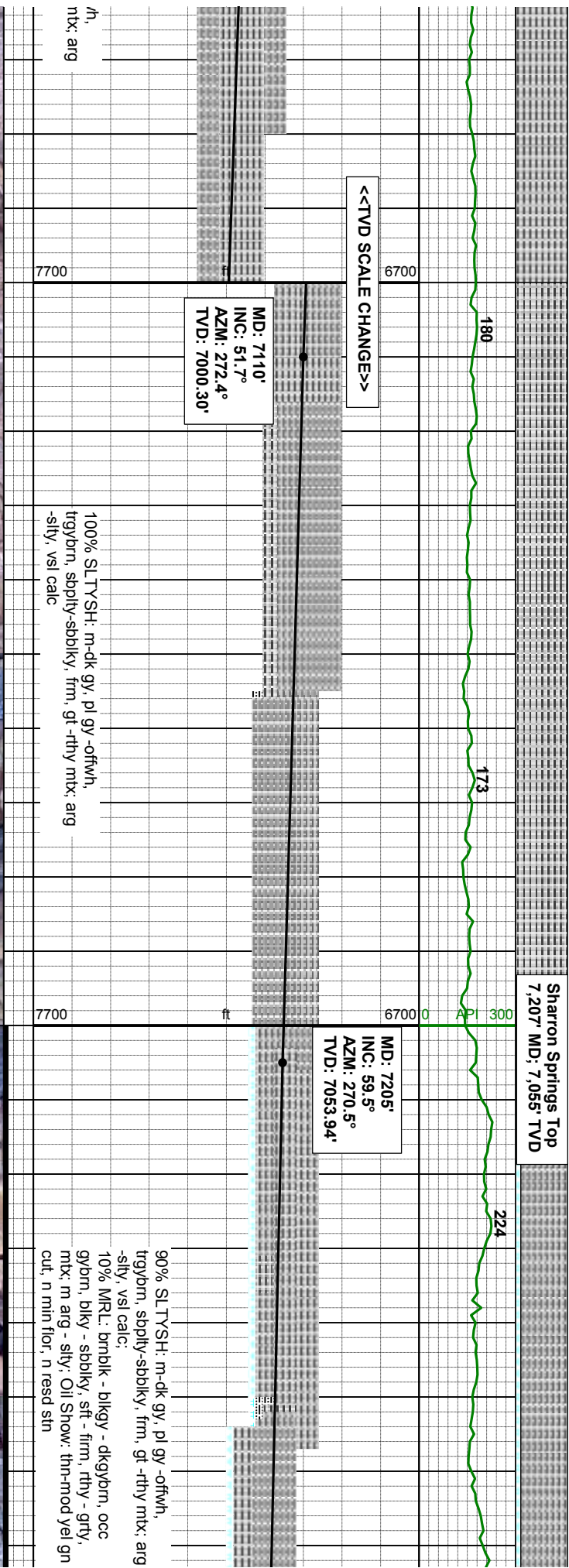
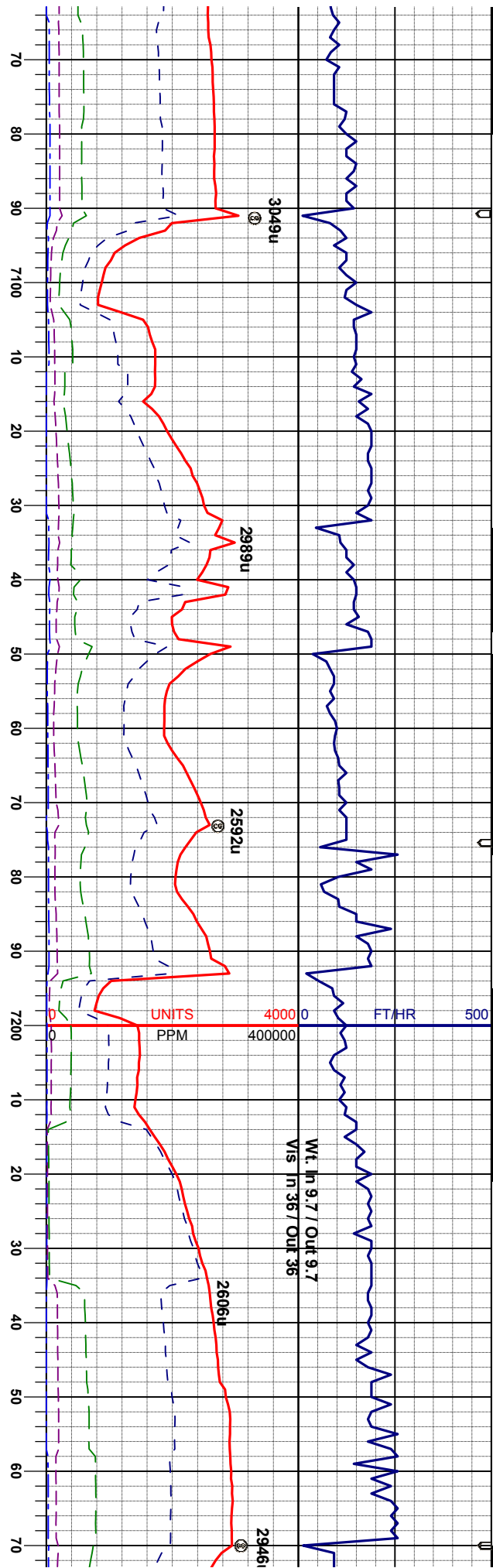


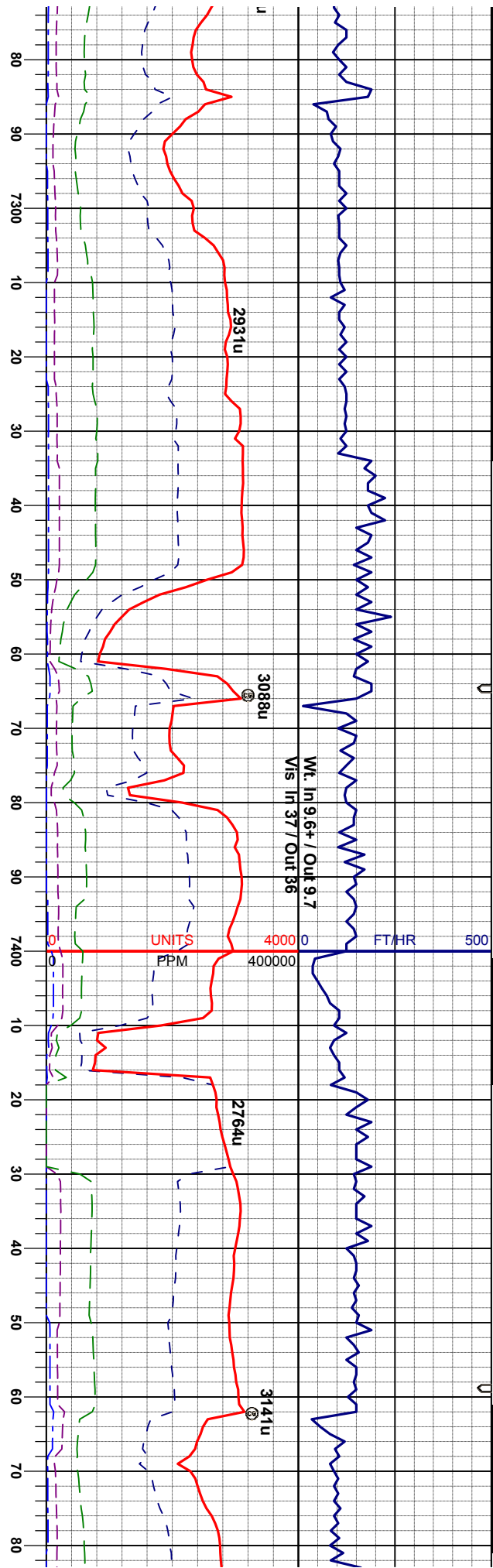
Arrow











Niobrara A Top
7,357' MD; 7,114' TVD

MD: 7299'
INC: 69.1°
AZM: 267.1°
TVD: 7094.66'

MD: 7346'
INC: 72.2°
AZM: 266.1°
TVD: 7110.23'

MD: 7393'
INC: 73.9°
AZM: 266.0°
TVD: 7123.94'

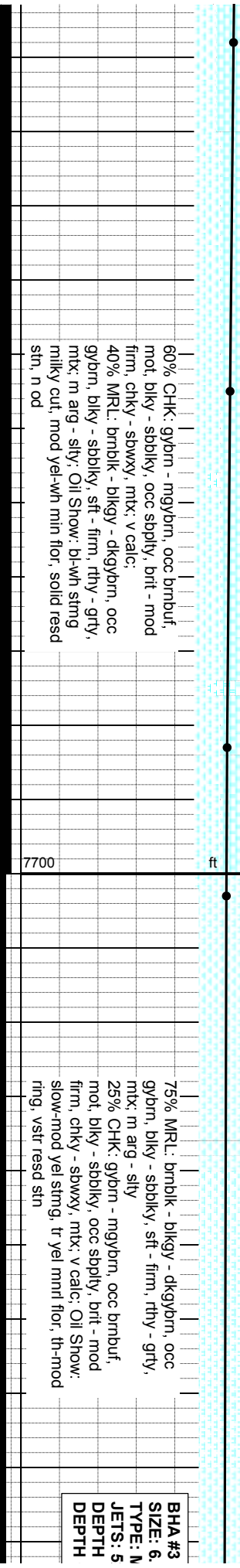
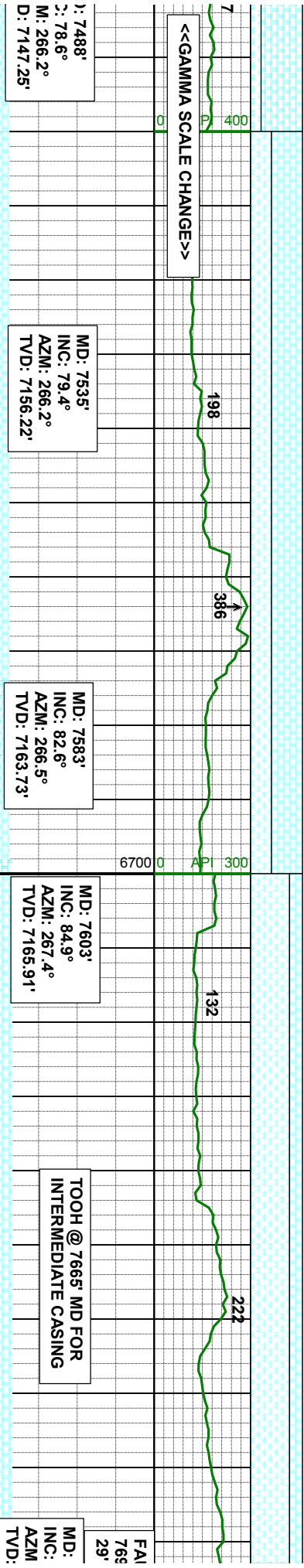
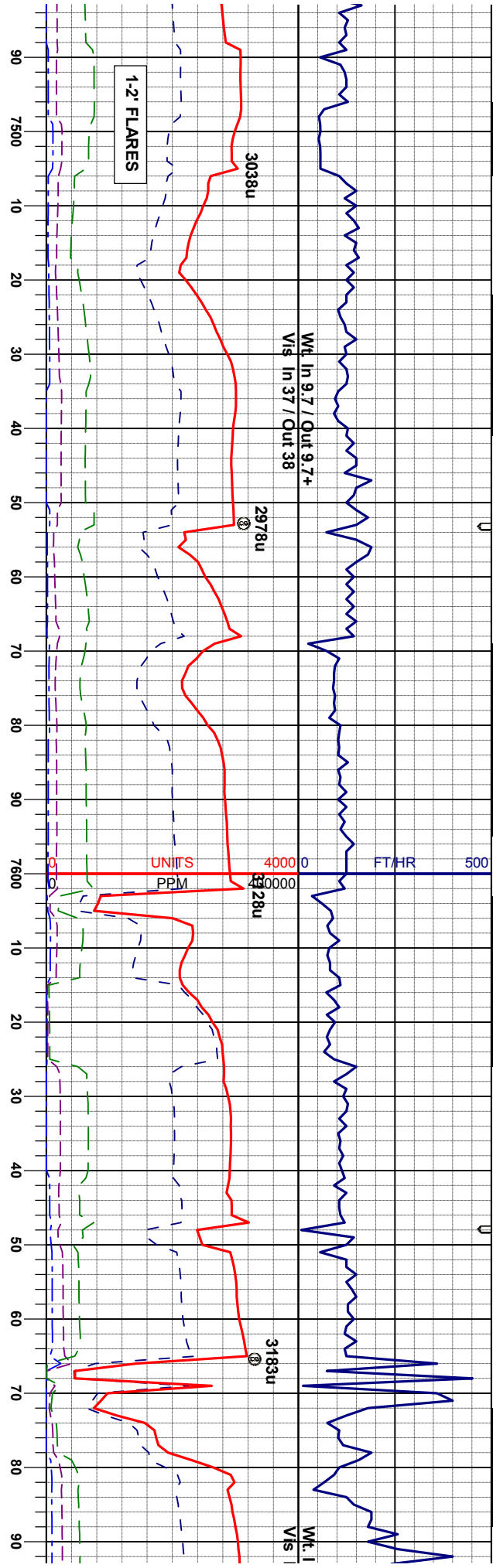
MD: 7440'
INC: 75.3°
AZM: 265.7°
TVD: 7136.4'

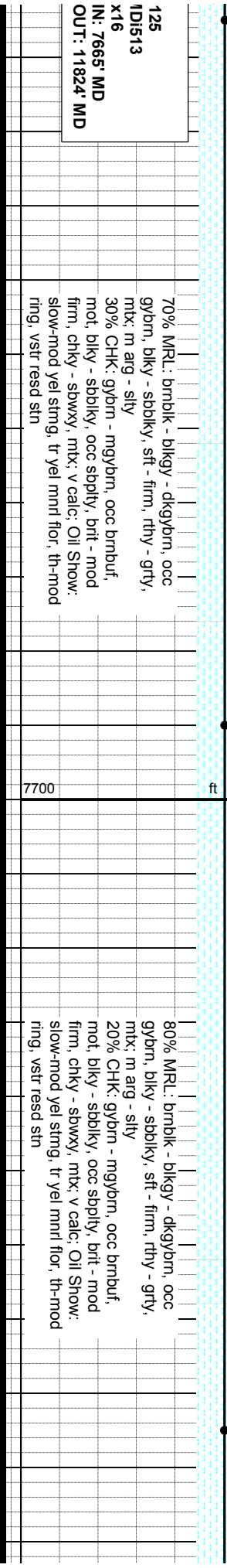
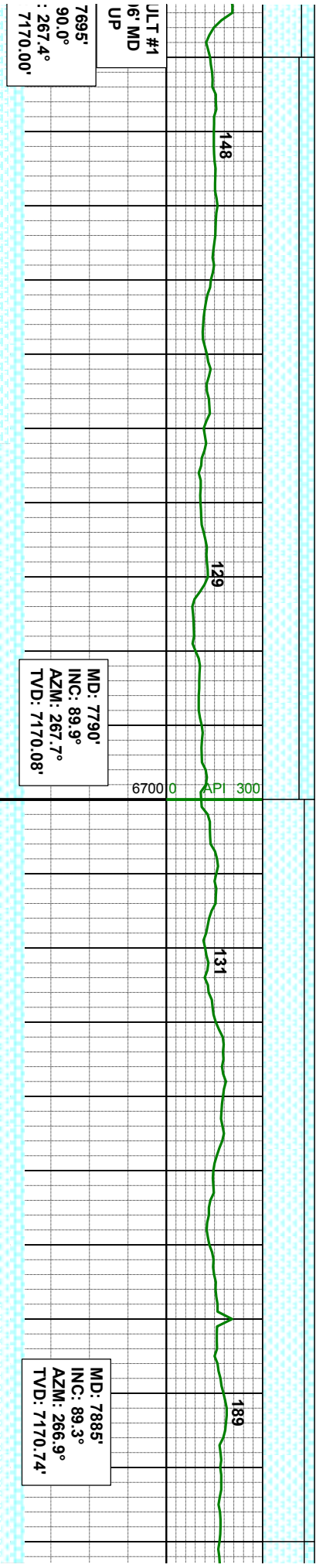
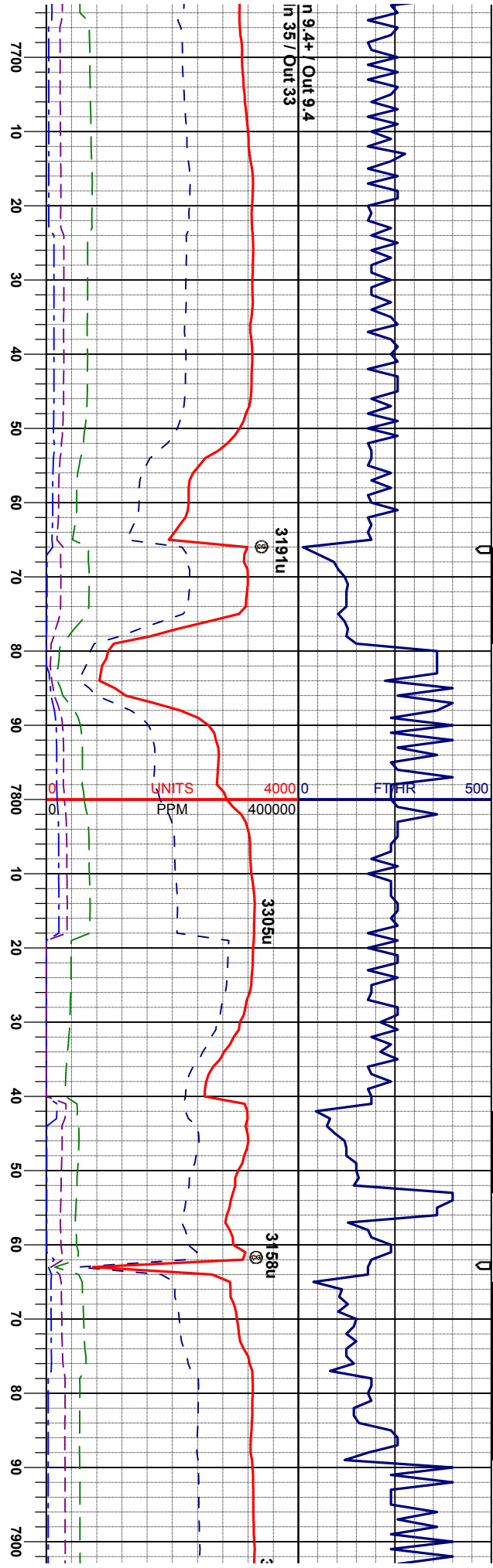
MC
INC
AZ
TV

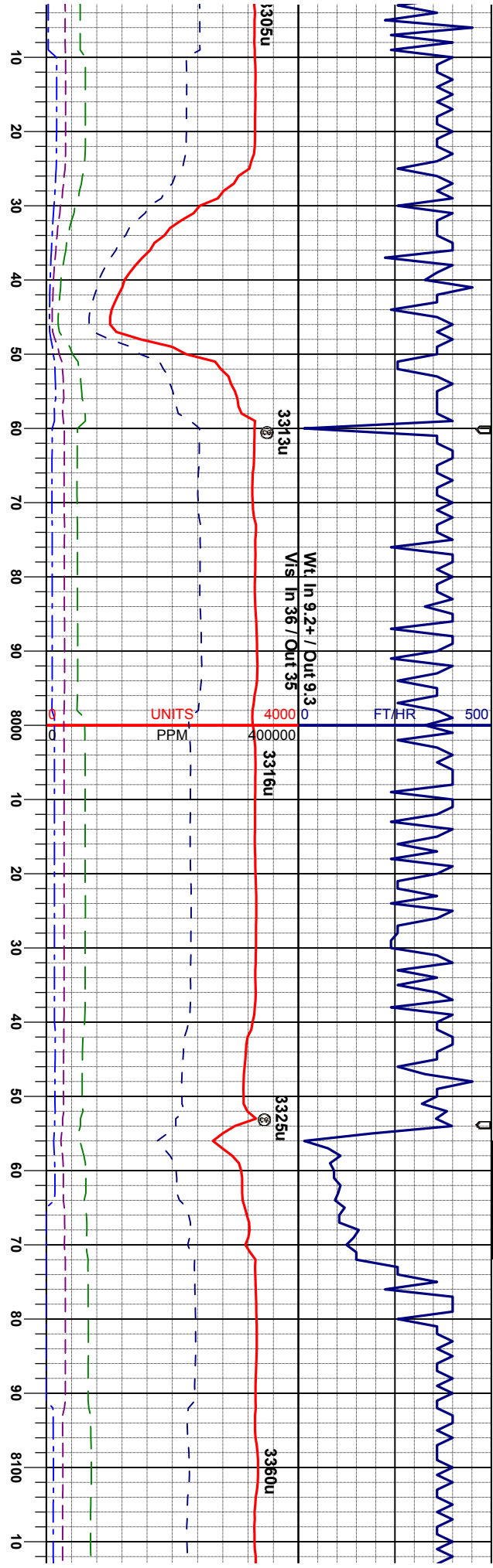
70% CHK: gybm - mgybm, occ brmbuf,
mot, blk - sblky, occ sbply, brt - mod
firm, chky - sbwxy, mt: v calc:
20% MRL: brmbk - blkgy - dkybm, occ
gybm, blk - sblky, sft - firm, rty - grty,
mtx: m arg - sily
10% SLTSH: m-dk gy, pl gy - ofwh,
trybm, sbply-sblky, frm, gt -rty mt: arg
-sily, vsi calc: Oil Show: slow-mod yel string,
yel mnt flr, th-mod ring, n resd sin

80% CHK: gybm - mgybm, occ brmbuf,
mot, blk - sblky, occ sbply, brt - mod
firm, chky - sbwxy, mt: v calc:
20% MRL: brmbk - blkgy - dkybm, occ
gybm, blk - sblky, sft - firm, rty - grty,
mtx: m arg - sily; Oil Show: bl-wh string
milky cut, mod yel-wh min flr, solid resd
sin, n od









MD: 7980'
INC: 90.2°
AZM: 267.4°
TVD: 7171.16'

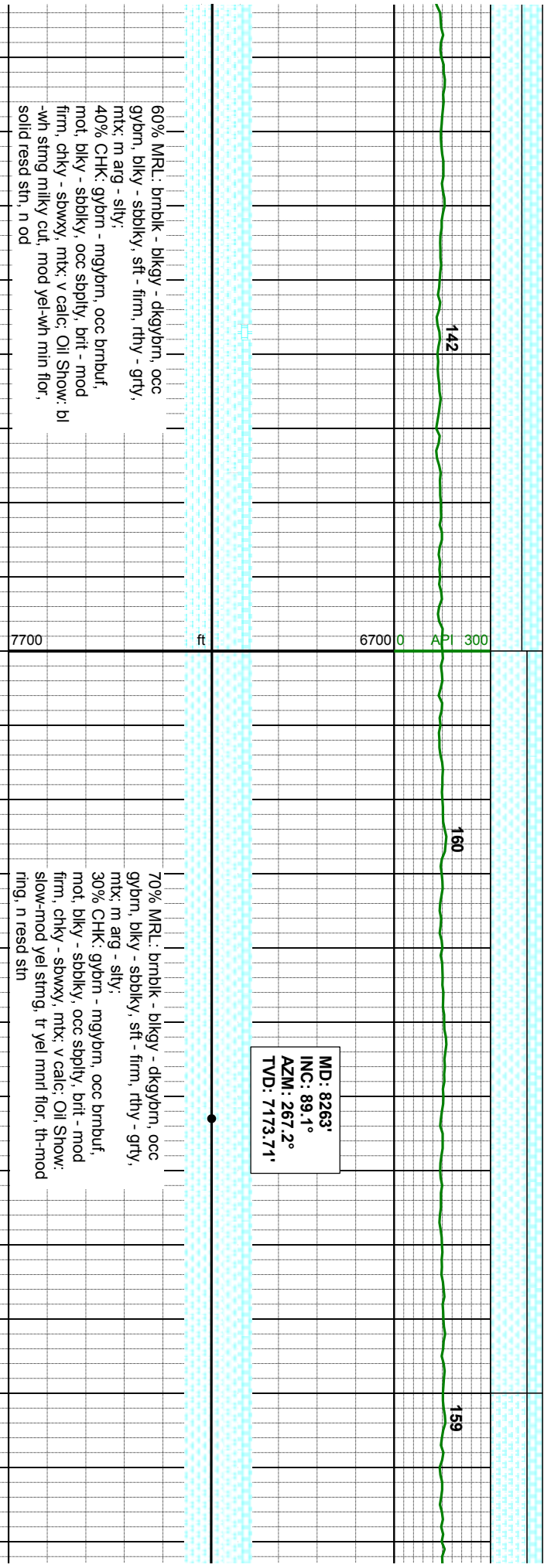
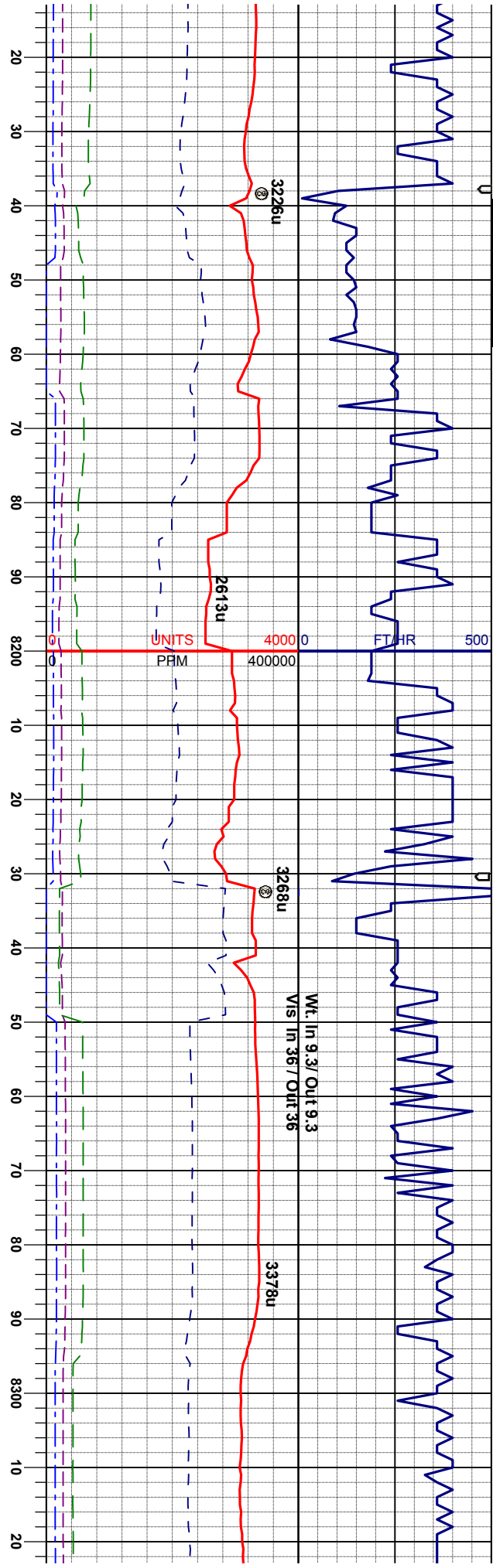
FAULT #2
8031' MD
31' UP

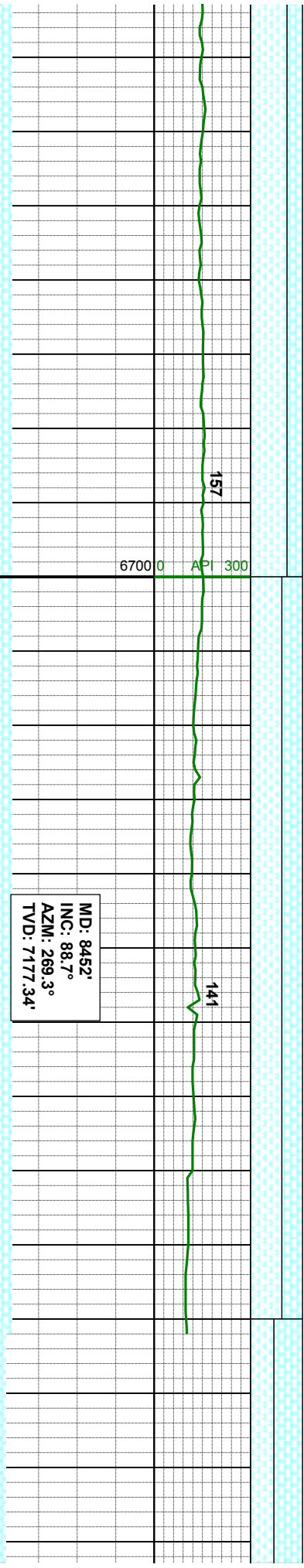
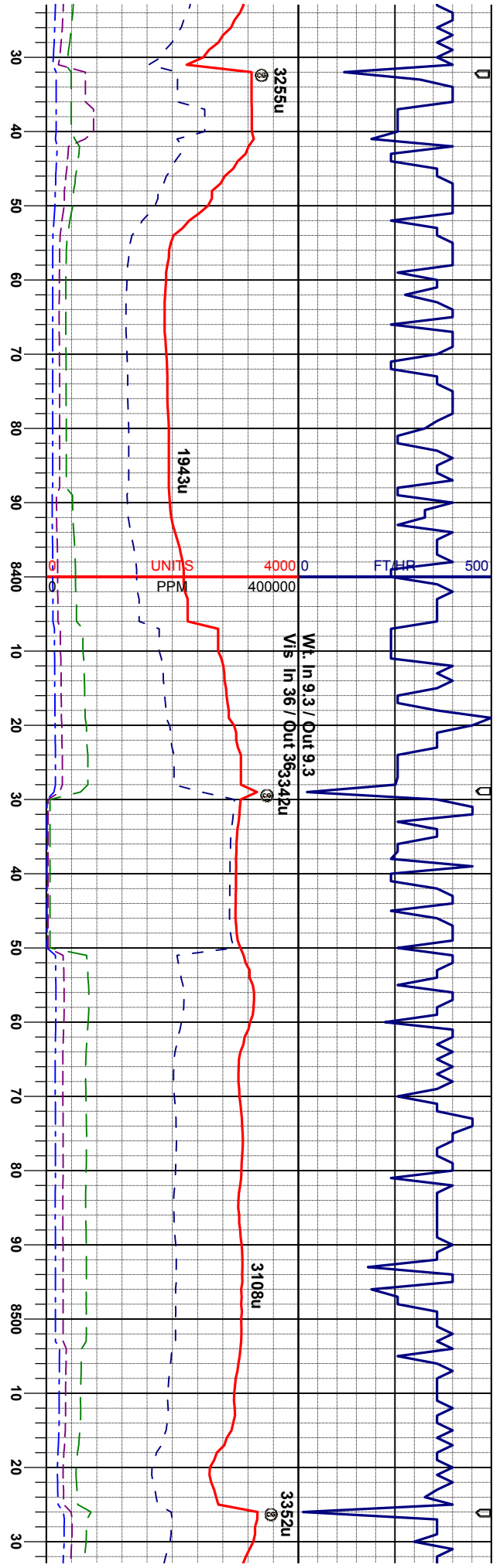
MD: 8074'
INC: 89.5°
AZM: 267.1°
TVD: 7171.41'

80% MRL: brmbk - blkgy - dkgybrn, occ
gybrn, blkgy - sbbkly, sft - firm, rthy - grty,
mtx; m arg - slty
20% CHK: gybrn - mgybrn, occ brmbuf,
mot, blkgy - sbbkly, occ spbly, brit - mod
firm, chky - sbwxy, mtx; v calc; Oil Show:
slow-mod yel string, tr yel mnrl flr, th-mod
ring, n resd stn

55% MRL: brmbk - blkgy - dkgybrn, occ
gybrn, blkgy - sbbkly, sft - firm, rthy - grty,
mtx; m arg - slty;
45% CHK: gybrn - mgybrn, occ brmbuf,
mot, blkgy - sbbkly, occ spbly, brit - mod
firm, chky - sbwxy, mtx; v calc; Oil Show: bl
-wh string milky cut, mod yel-wh min flr,
solid resd stn, n od



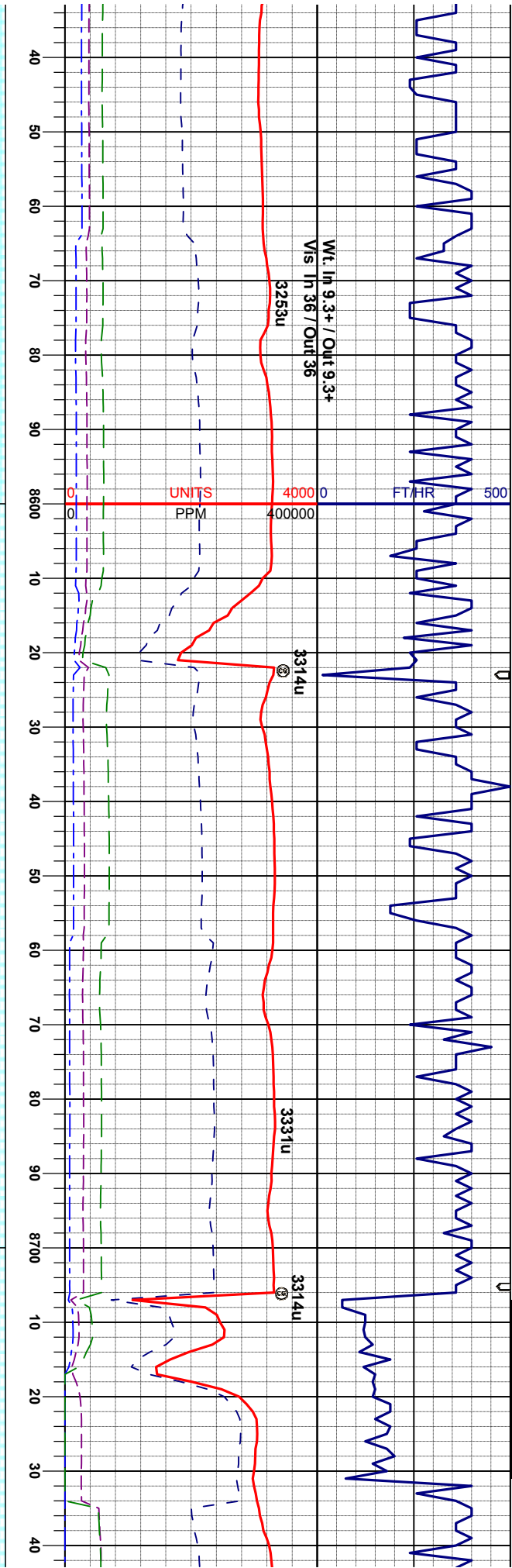
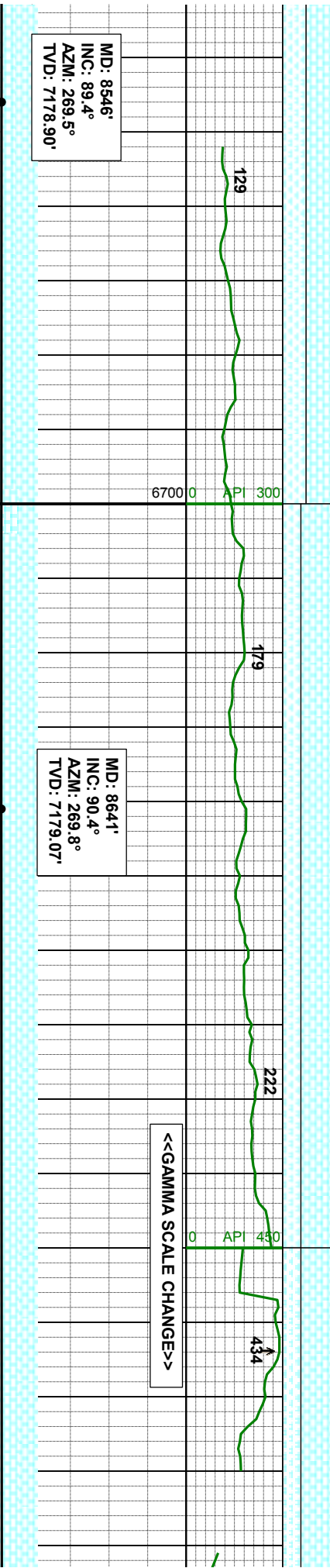
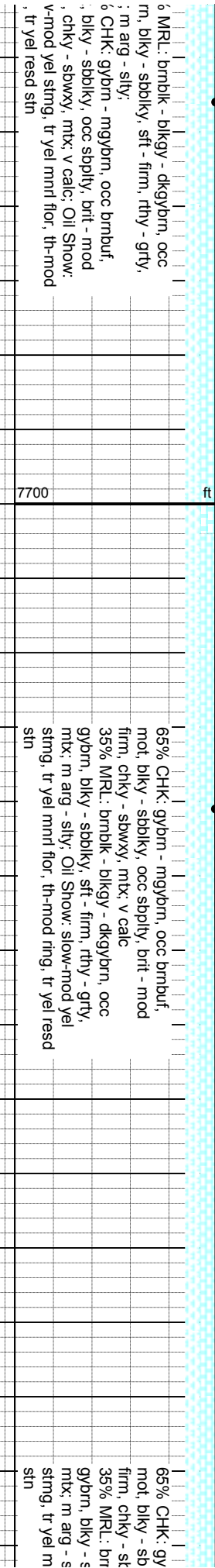


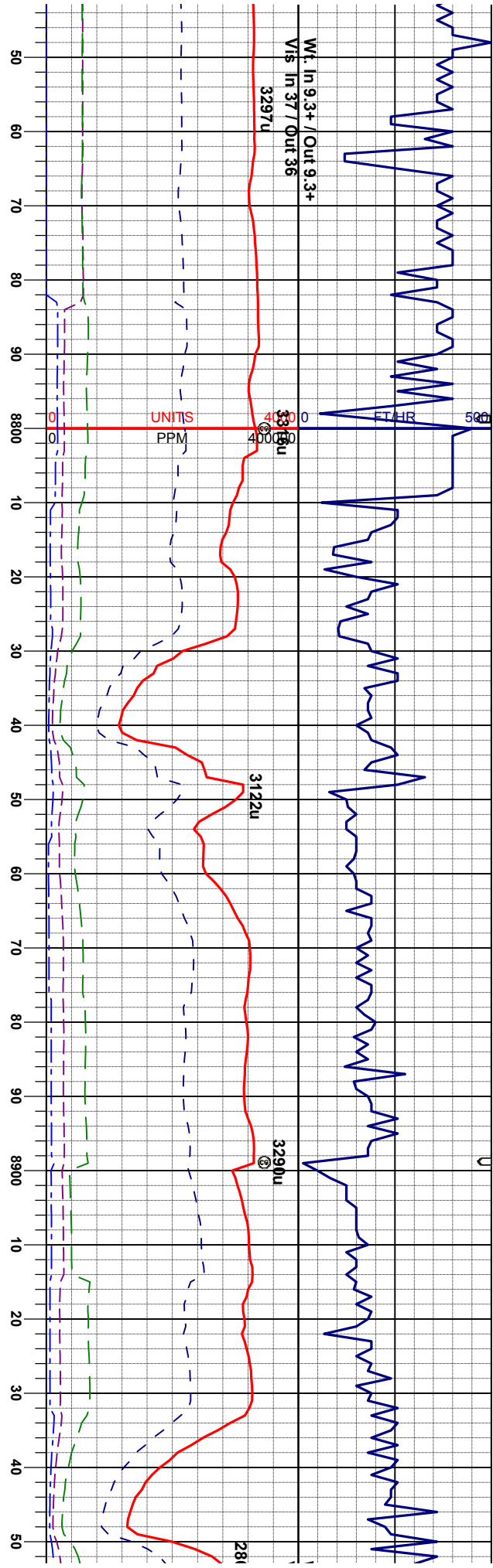


70% MRI: brmbk - blkgy - dkybrn, occ gybrn, blkgy - sbbkly, sft - firm, rthy - grty, mtz; m arg - slty;
30% CHK: gybrn - mgybrn, occ brmbuf, mot, blkgy - sbbkly, occ sbply, brt - mod firm, chky - sbwxy, mtz; v calc; Oil Show; slow-mod yel stmg, tr yel mnrl flr, th-mod ring, n resd stn

60% MRI: brmbk - blkgy - dkybrn, occ gybrn, blkgy - sbbkly, sft - firm, rthy - grty, mtz; m arg - slty;
40% CHK: gybrn - mgybrn, occ brmbuf, mot, blkgy - sbbkly, occ sbply, brt - mod firm, chky - sbwxy, mtz; v calc; Oil Show; slow-mod yel stmg, tr yel mnrl flr, th-mod ring, n resd stn







FAULT #3
8756' MD
57' UP

MD: 8831'
INC: 90.9°
AZM: 269.5°
TVD: 7176.91'

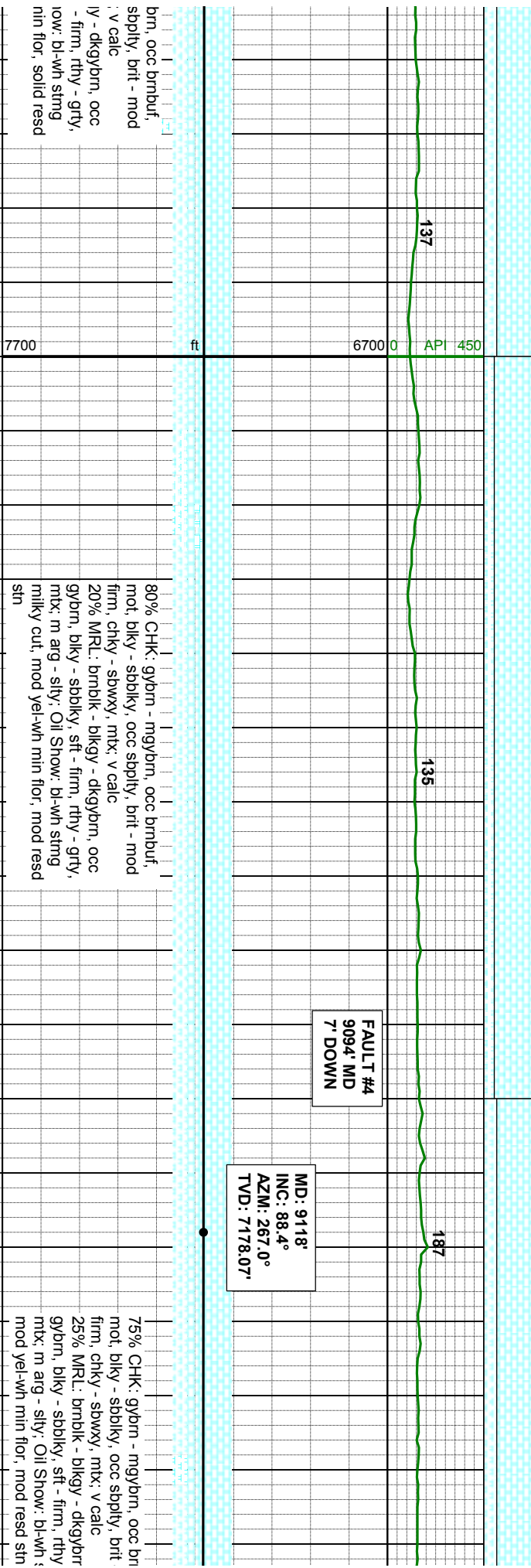
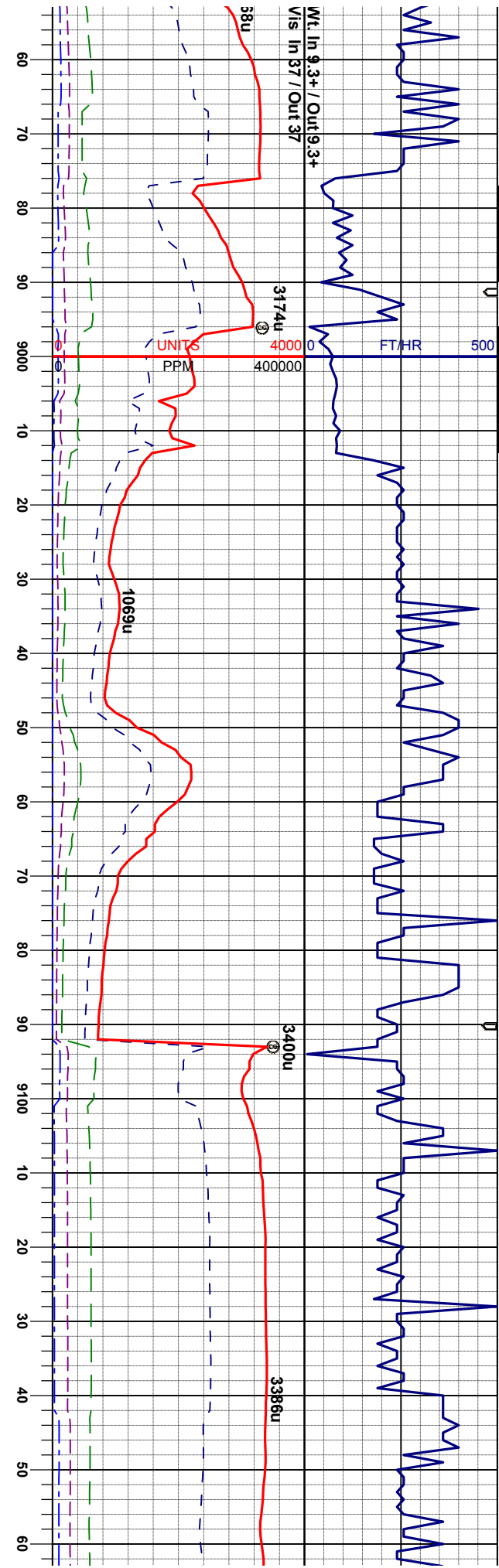
MD: 8927'
INC: 90.3°
AZM: 268.4°
TVD: 7175.91'

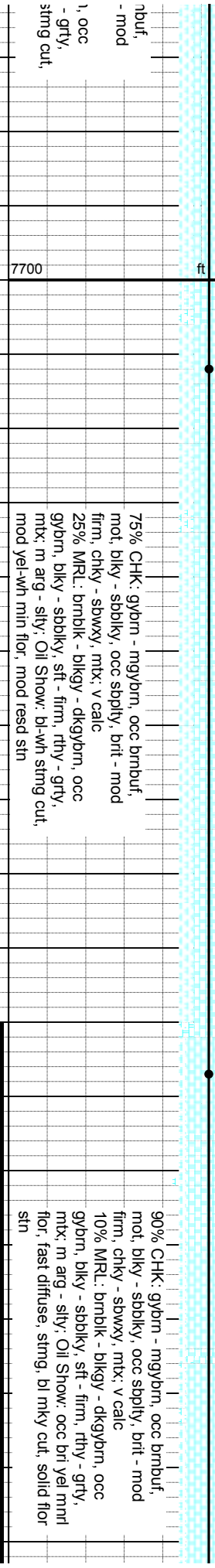
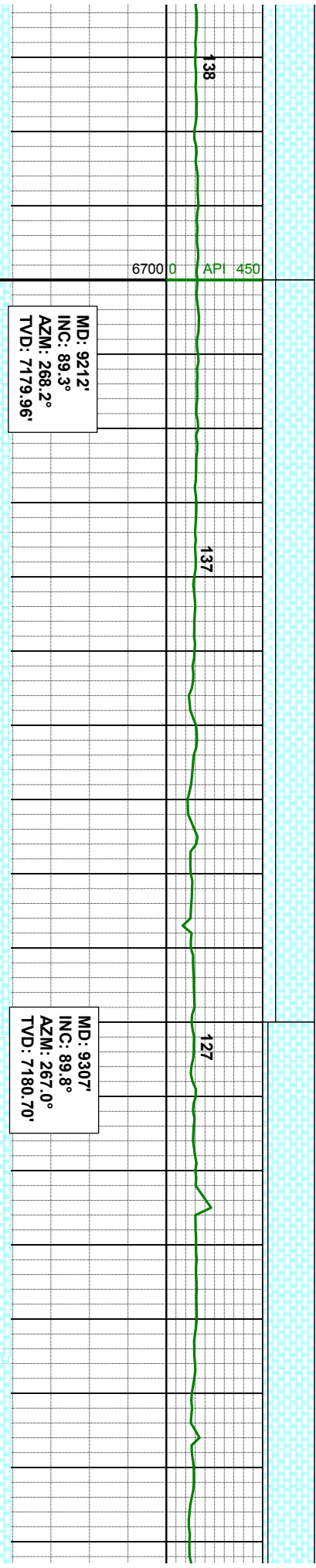
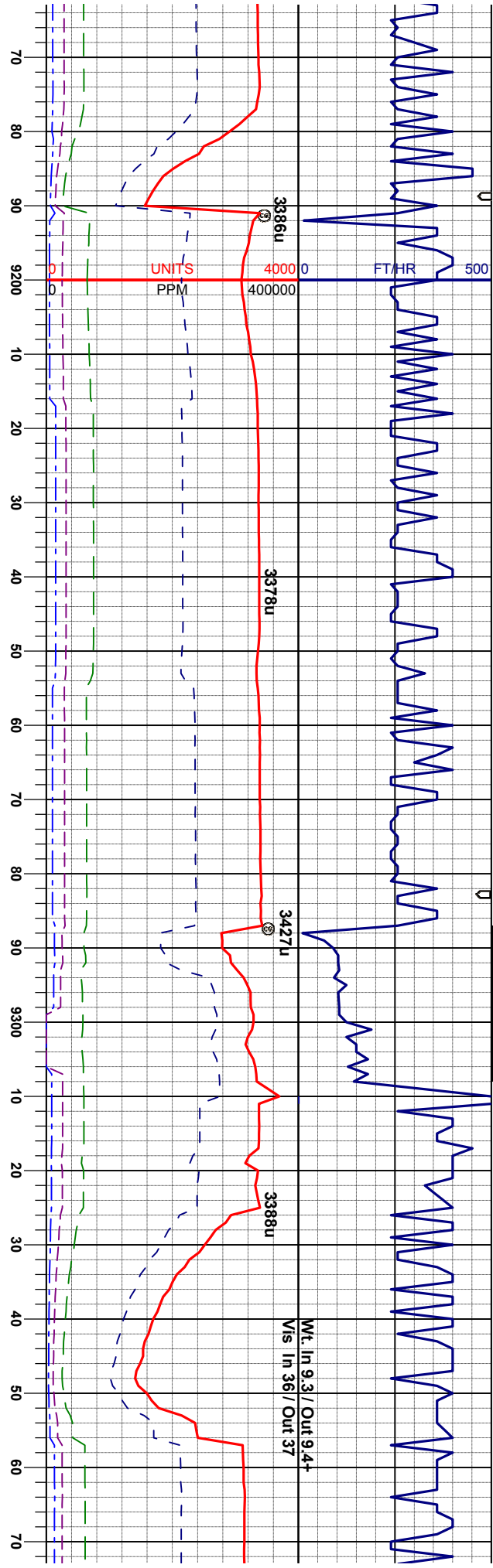
7700 ft 6700 0 API 450 132 135 127

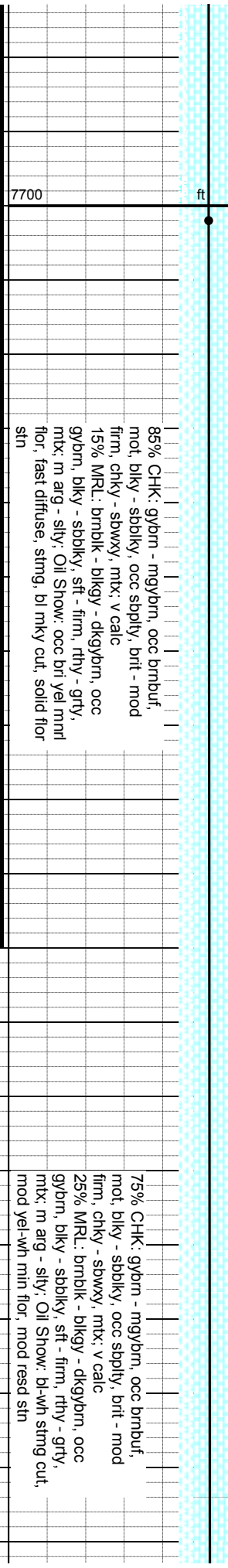
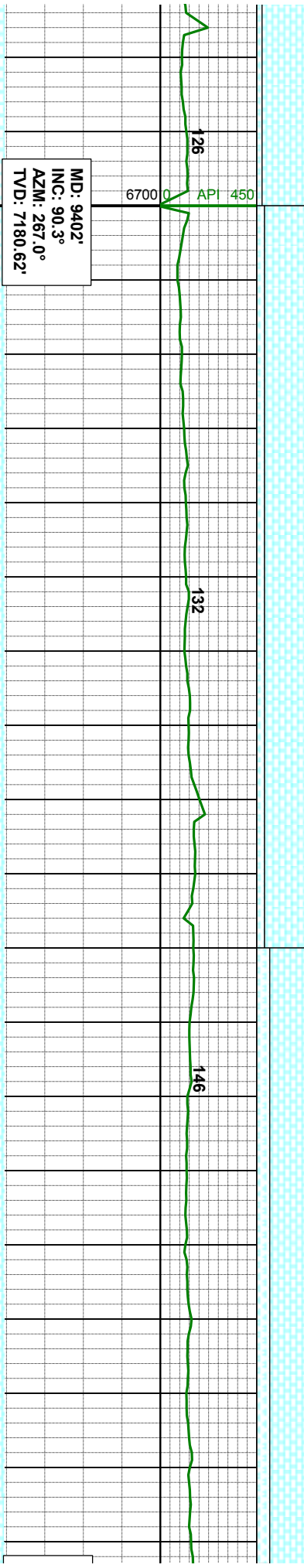
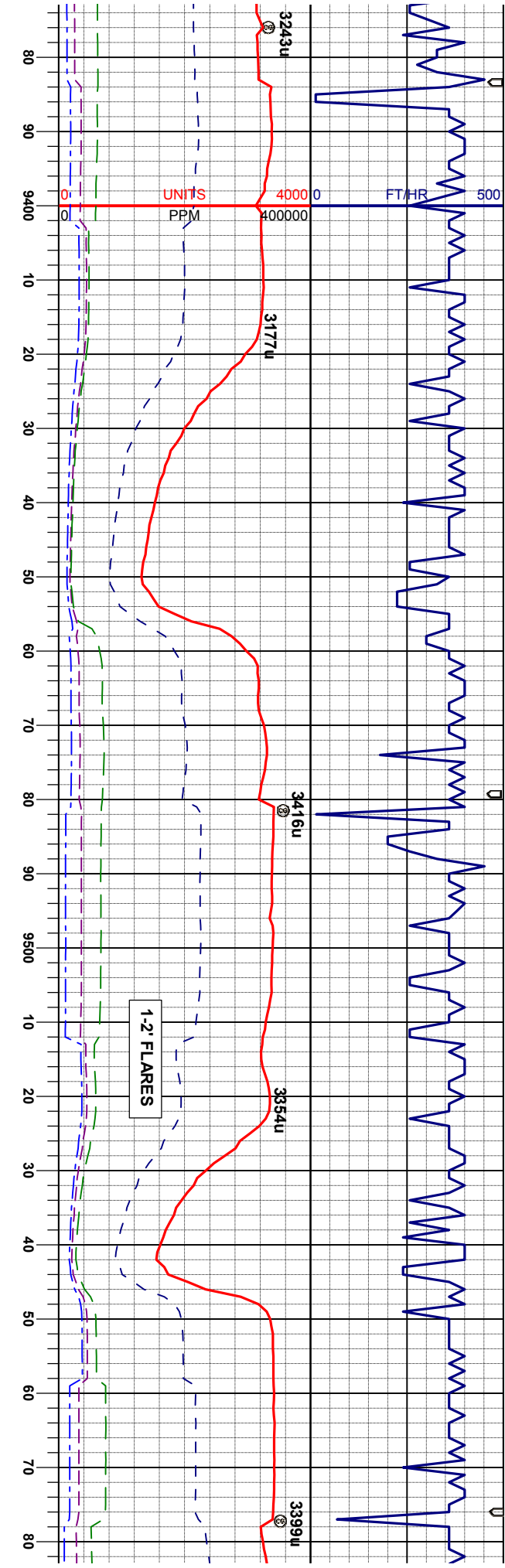
70% CHK: gybm - mgybm, occ bmbuf, mot, biky - sbblky, occ sbply, brt - mod firm, chky - sbwxy, mtz, v calc 30% MRL: bmbik - blkgv - dkgvbm, occ gybm, biky - sbblky, sft - firm, rthy - grty, mtz: m arg - silty; Oil Show: bl-wh string milky cut, mod yel-wh min flor, solid resd strn, n od

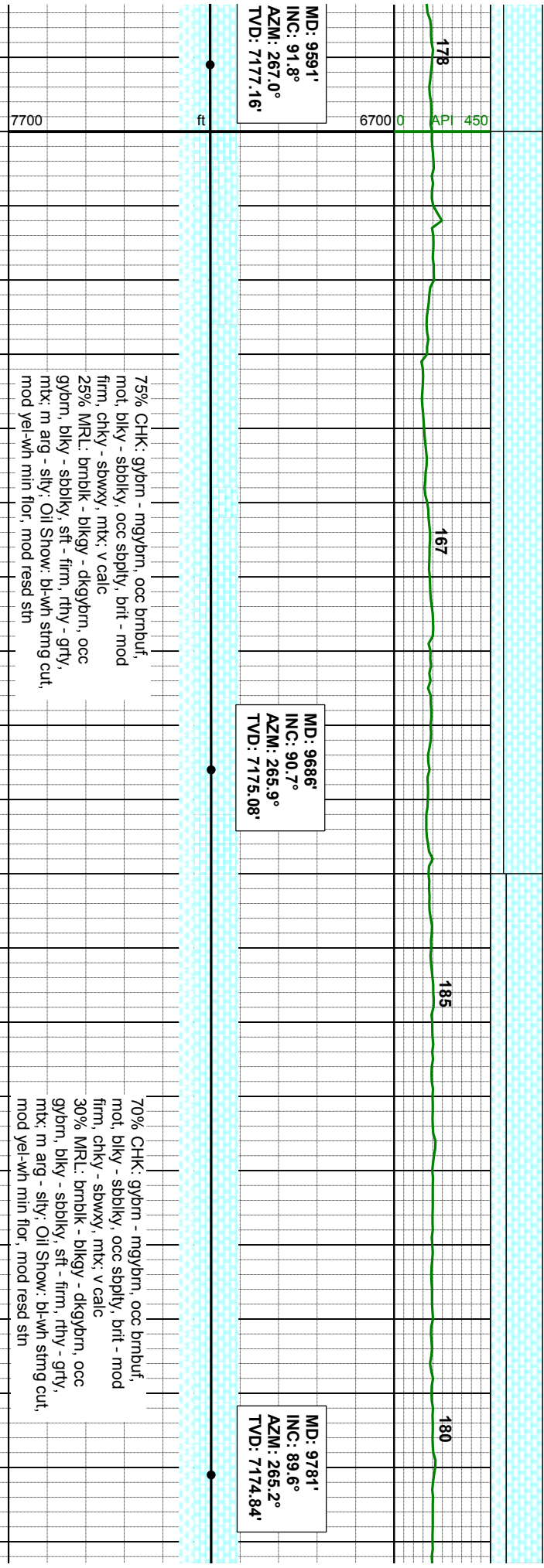
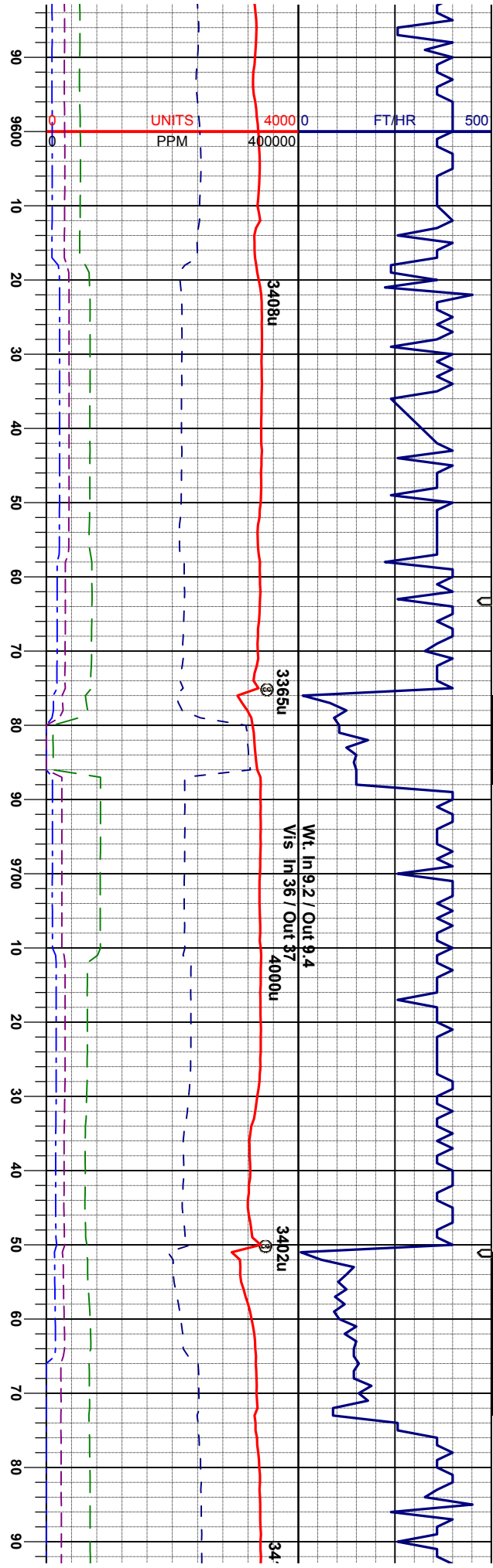
75% CHK: gybm - mgybm, occ bmbuf, mot, biky - sbblky, occ : firm, chky - sbwxy, mtz: 25% MRL: bmbik - blkgvbm, biky - sbblky, sft mtz: m arg - silty; Oil Show: milky cut, mod yel-wh n strn, n od











MD: 9691'
INC: 91.8°
AZM: 267.0°
TVD: 7177.16'

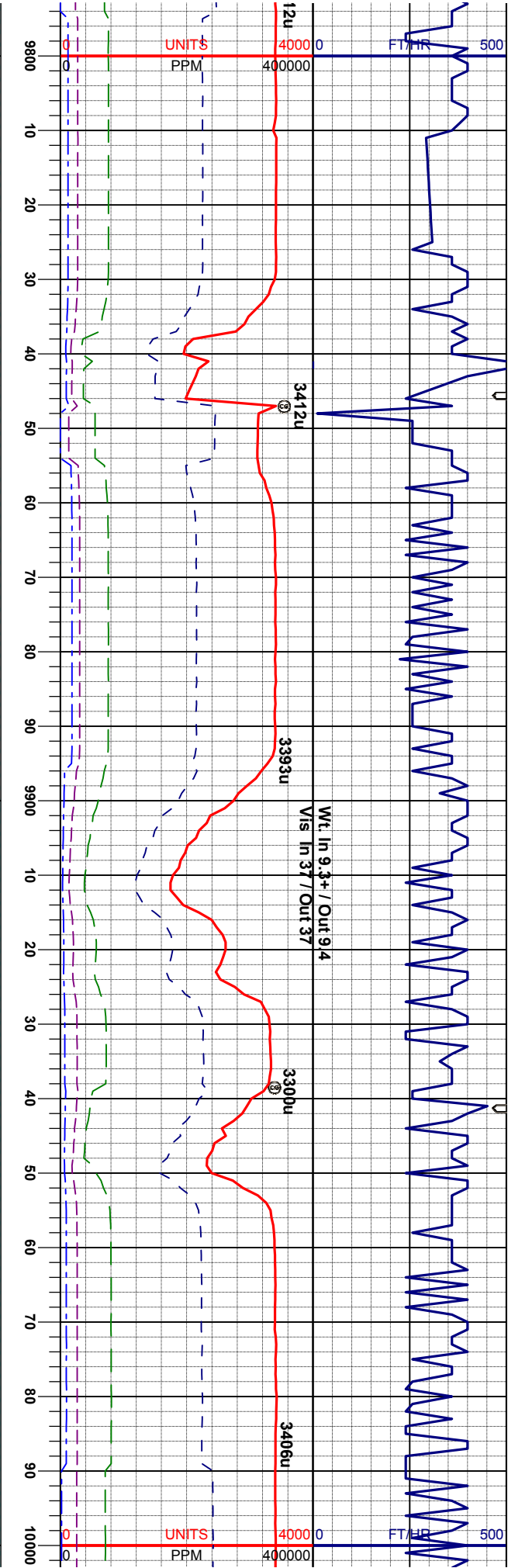
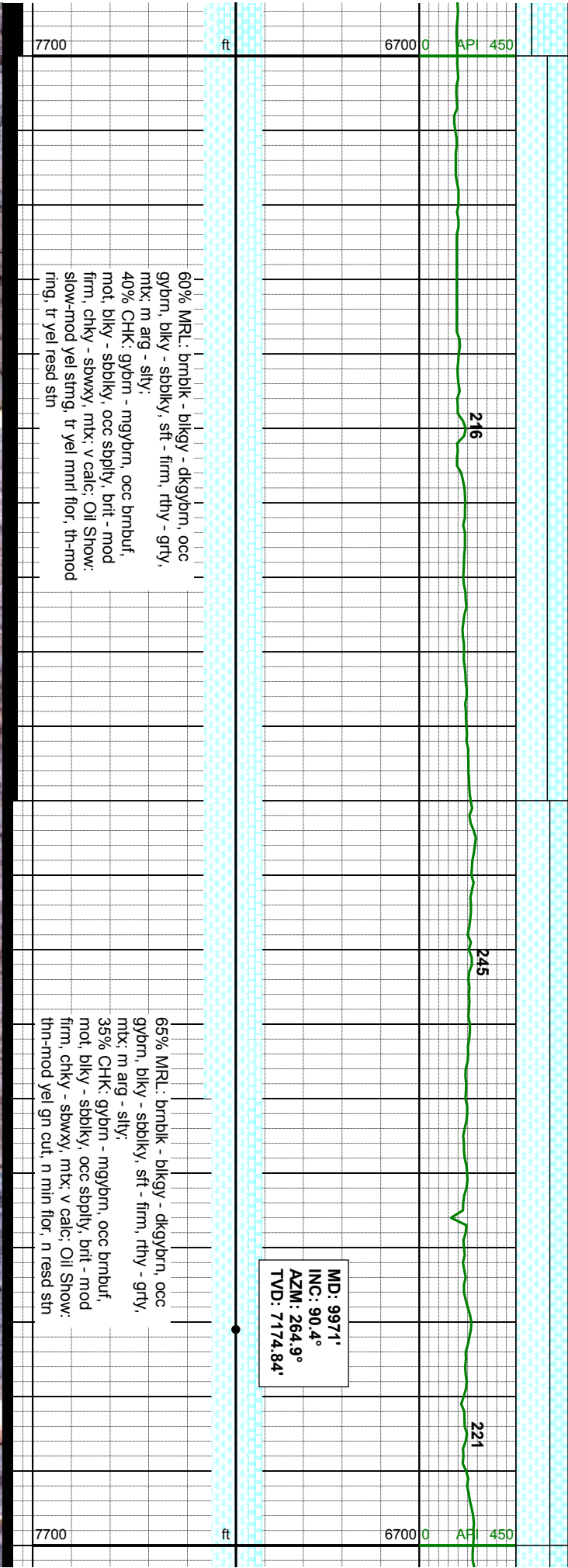
MD: 9686'
INC: 90.7°
AZM: 265.9°
TVD: 7175.08'

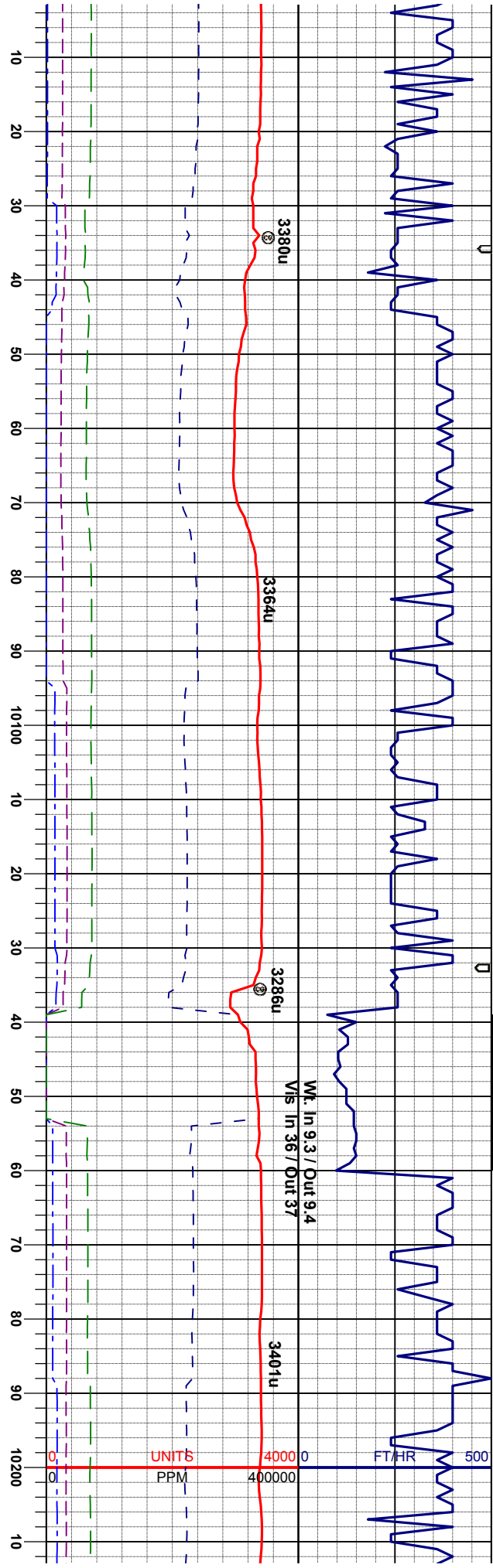
MD: 9781'
INC: 89.6°
AZM: 265.2°
TVD: 7174.84'

75% CHK: gybrn - mgybrn, occ brnbuf,
mot, blk - sbblk, occ sbply, brt - mod
firm, chky - sbwxy, mtz: v calc
25% MRL: brnbk - blkgy - dkgybrn, occ
gybrn, blk - sbblk, sft - firm, rthy - grty,
mtz: m arg - sily, Oil Show: bl-wh string cut,
mod yel-wh min flor, mod resd stn

70% CHK: gybrn - mgybrn, occ brnbuf,
mot, blk - sbblk, occ sbply, brt - mod
firm, chky - sbwxy, mtz: v calc
30% MRL: brnbk - blkgy - dkgybrn, occ
gybrn, blk - sbblk, sft - firm, rthy - grty,
mtz: m arg - sily, Oil Show: bl-wh string cut,
mod yel-wh min flor, mod resd stn







FAULT #5
10037' MD
23' UP

MD: 10065'
INC: 91.0°
AZM: 264.9°
TVD: 7173.69'

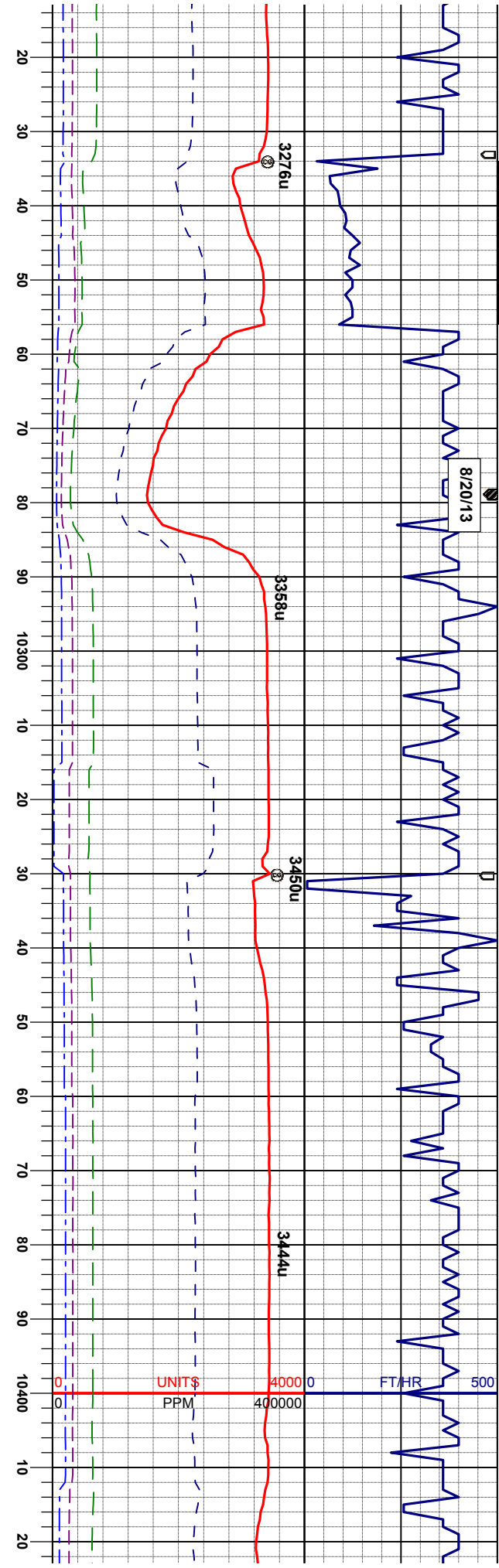
FAULT #6
10179' MD
3' UP

MD: 10160'
INC: 90.7°
AZM: 265.7°
TVD: 7172.28'

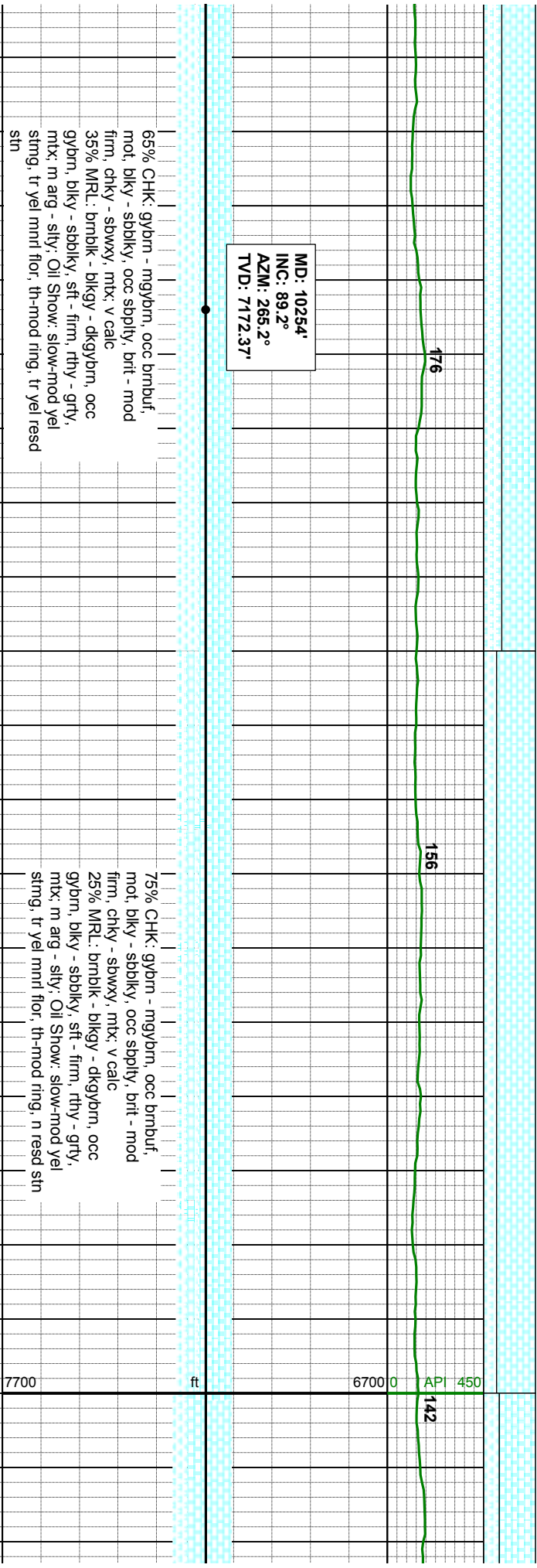
65% MRL: brmbk - blkgy - dkgybrn, occ
gybrn, blkgy - sbblkgy, sft - firm, rthy - grty,
mtx: m arg - slty;
35% CHK: gybrn - mgybrn, occ brnbuf,
mot, blkgy - sbblkgy, occ sbply, brt - mod
firm, chky - sbwxy, mtx: v calc; Oil Show:
thin-mod yel gn cut, n min flr, n read str

60% CHK: gybrn - mgybrn, occ brnbuf,
mot, blkgy - sbblkgy, occ sbply, brt - mod
firm, chky - sbwxy, mtx: v calc
40% MRL: brmbk - blkgy - dkgybrn, occ
gybrn, blkgy - sbblkgy, sft - firm, rthy - grty,
mtx: m arg - slty; Oil Show: slow-mod yel
stng, tr yel mnrl flr, th-mod ring, tr yel read
str





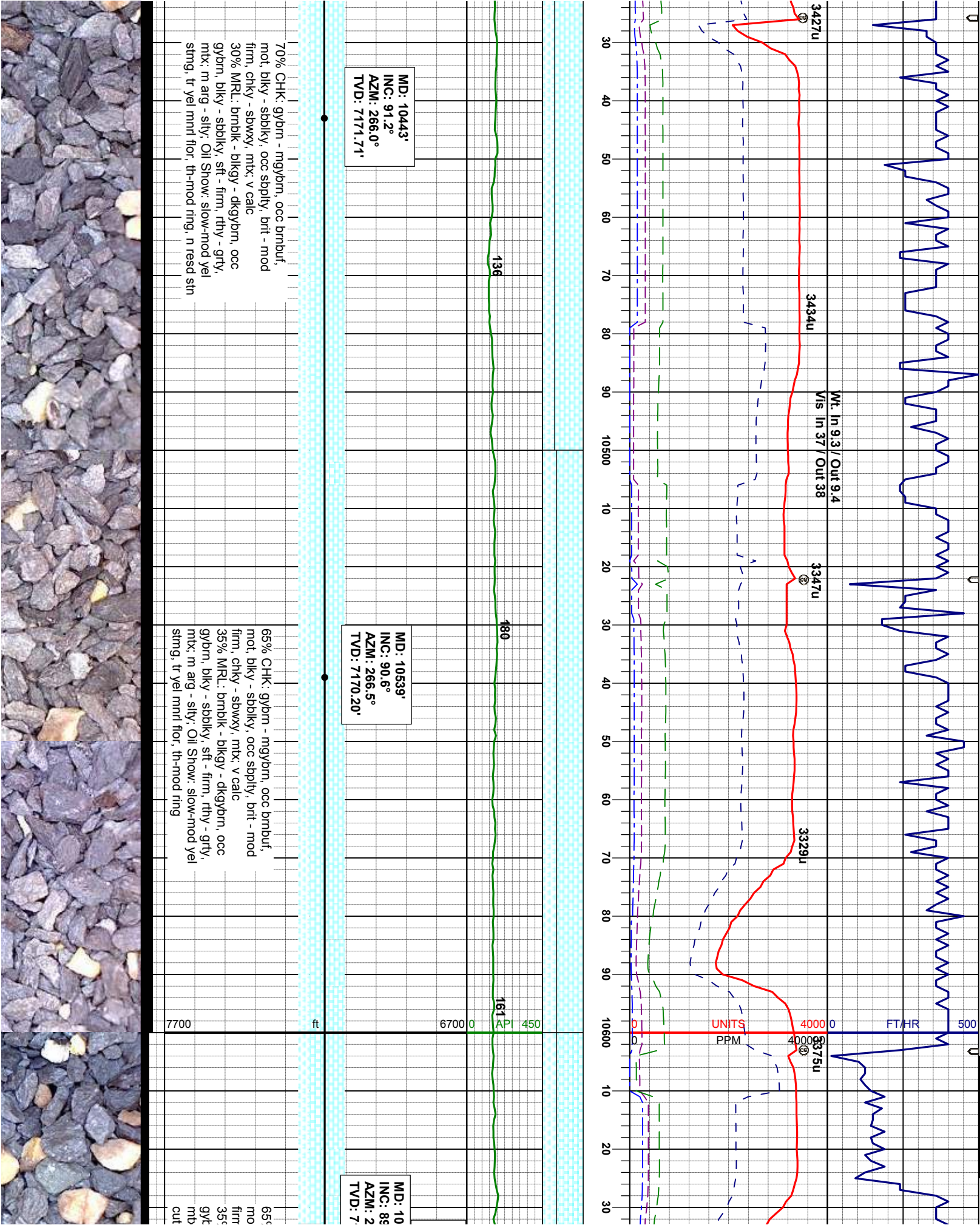
MD: 10254'
INC: 89.2°
AZM: 265.2°
TVD: 7172.37'

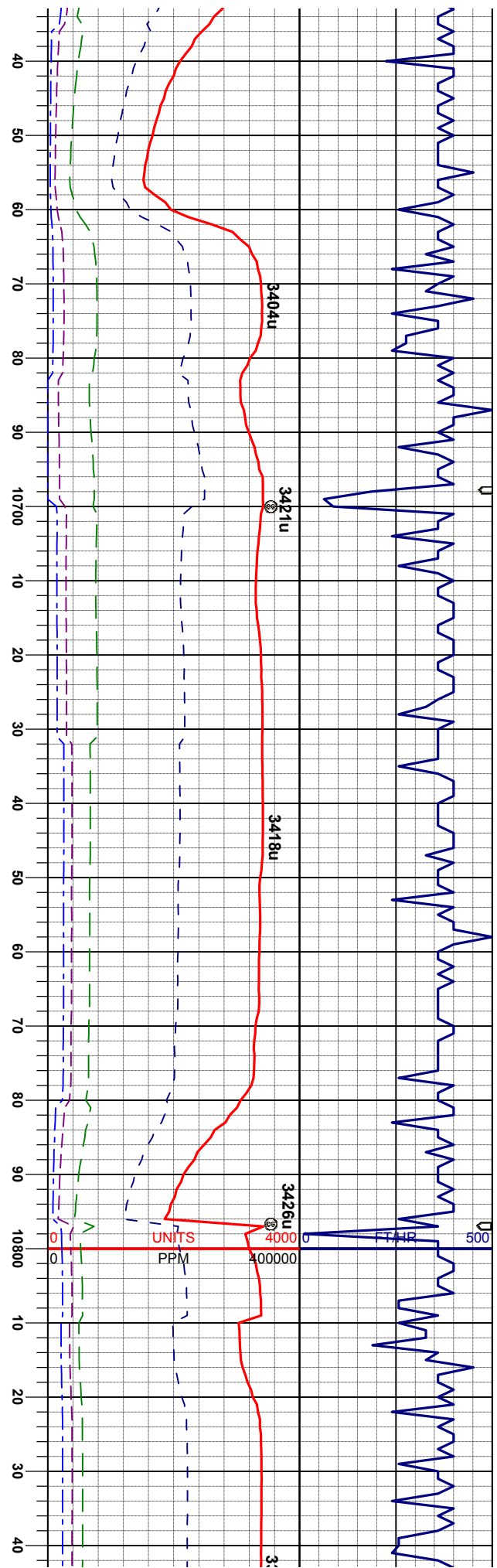


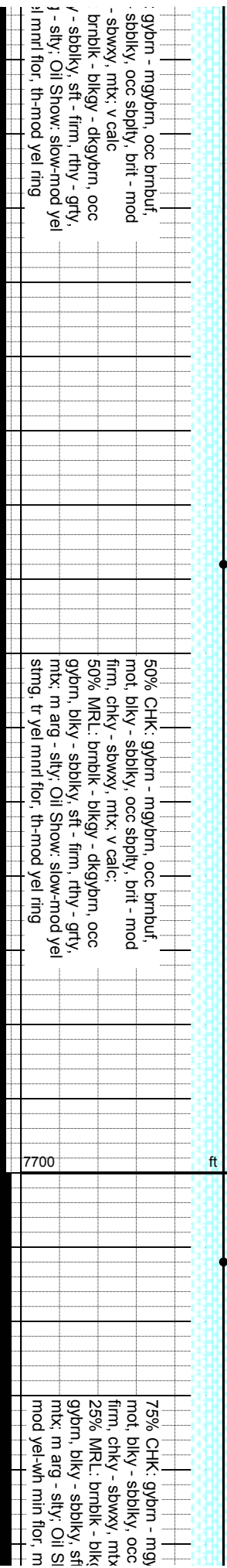
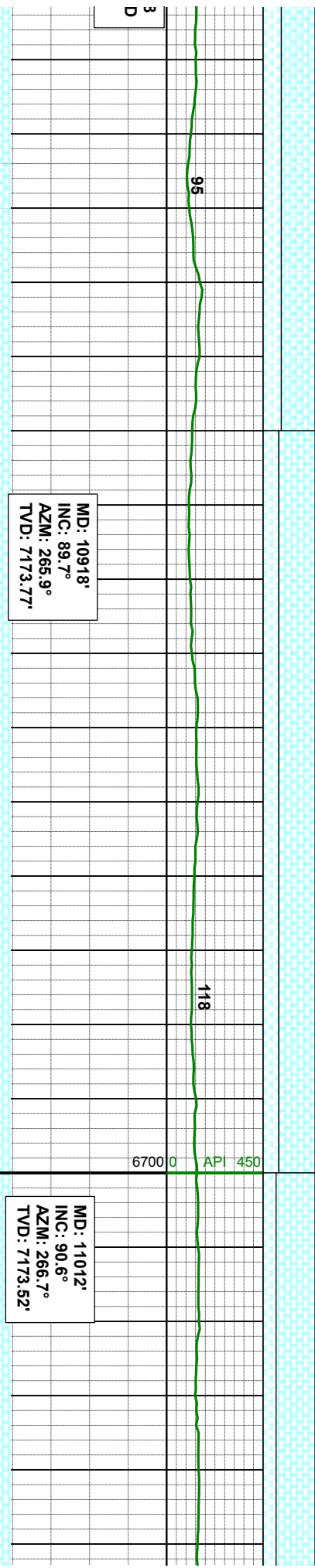
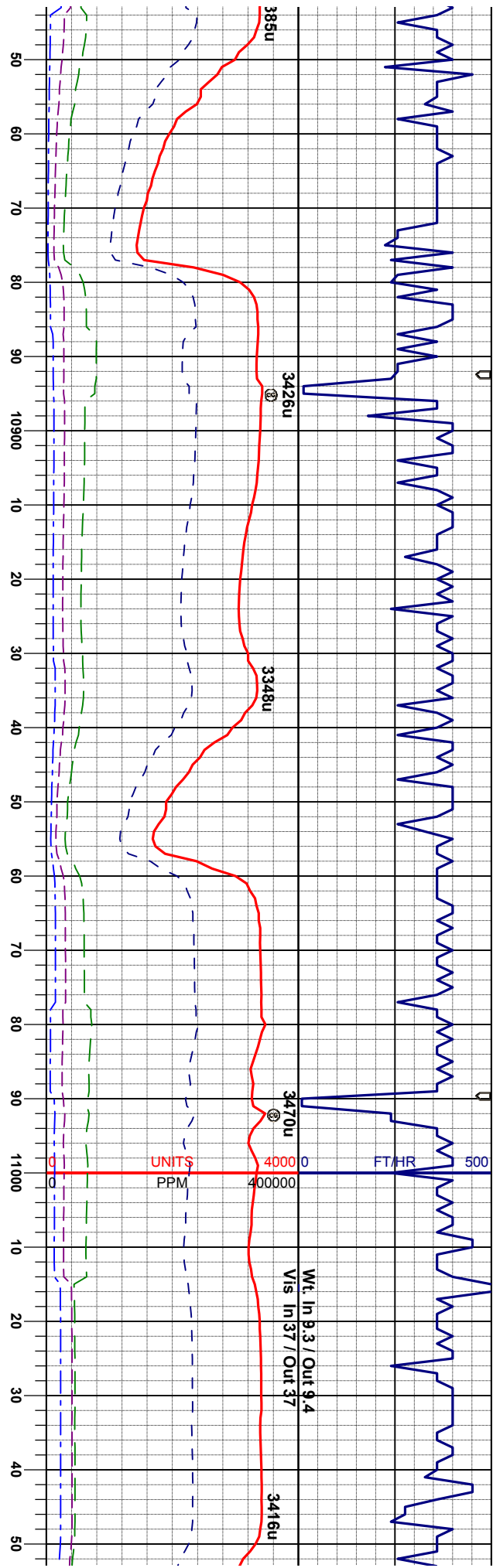
65% CHK: gybm - mgybm, occ brmbuf,
mot, blk - sbbky, occ sbply, brt - mod
firm, chky - slowxy, mtx: v calc
35% MRL: brmbk - blkgy - dkgybm, occ
gybm, blk - sbbky, sft - firm, rthy - grty,
mtx: m arg - slty; Oil Show: slow-mod yel
stimg, tr yel mnrl flr, th-mod ring, tr yel resd
sln

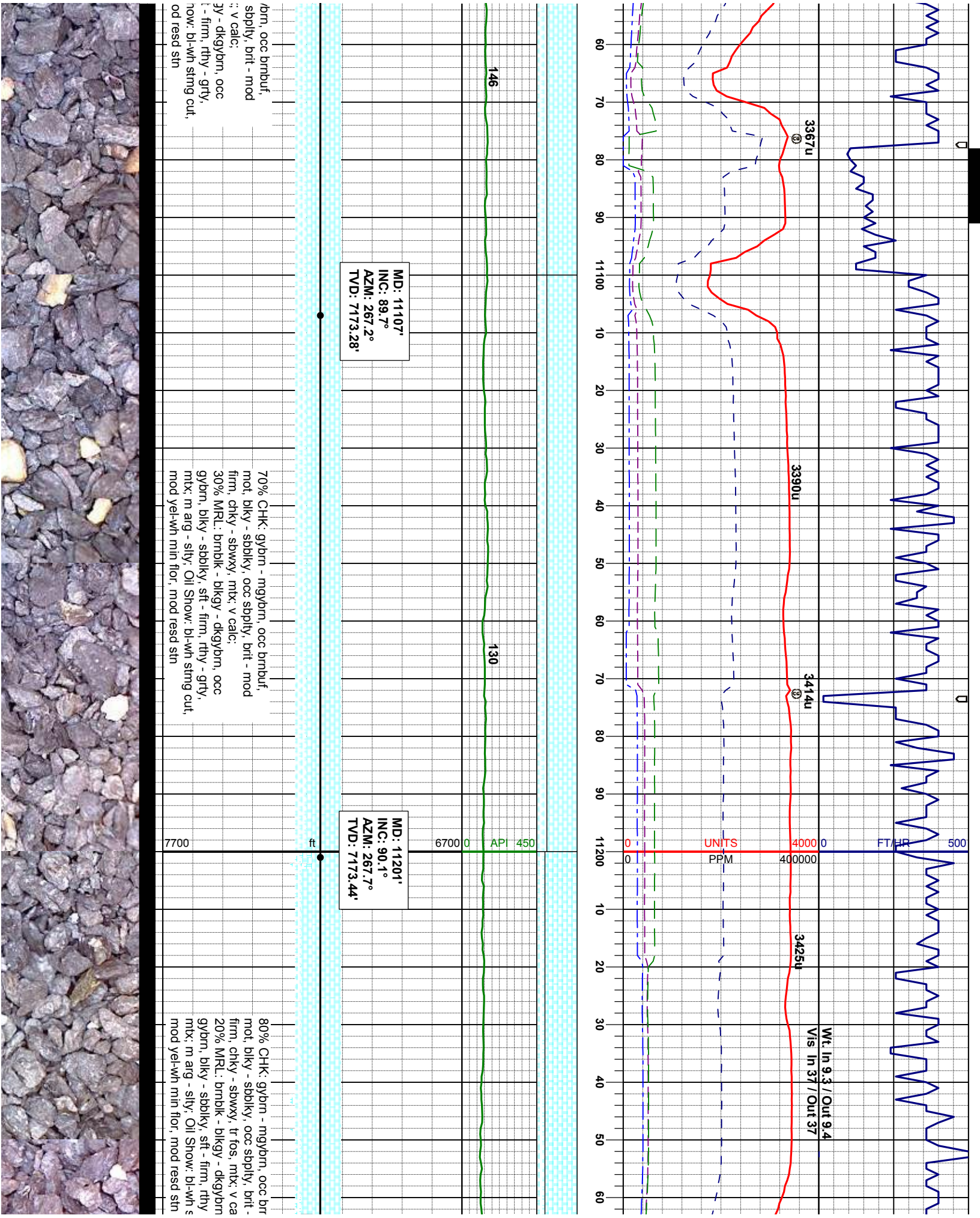
75% CHK: gybm - mgybm, occ brmbuf,
mot, blk - sbbky, occ sbply, brt - mod
firm, chky - slowxy, mtx: v calc
25% MRL: brmbk - blkgy - dkgybm, occ
gybm, blk - sbbky, sft - firm, rthy - grty,
mtx: m arg - slty; Oil Show: slow-mod yel
stimg, tr yel mnrl flr, th-mod ring, n resd
sln

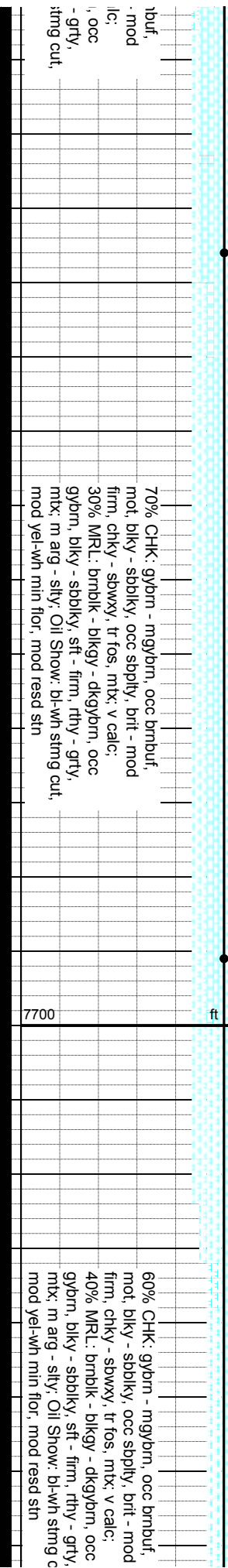
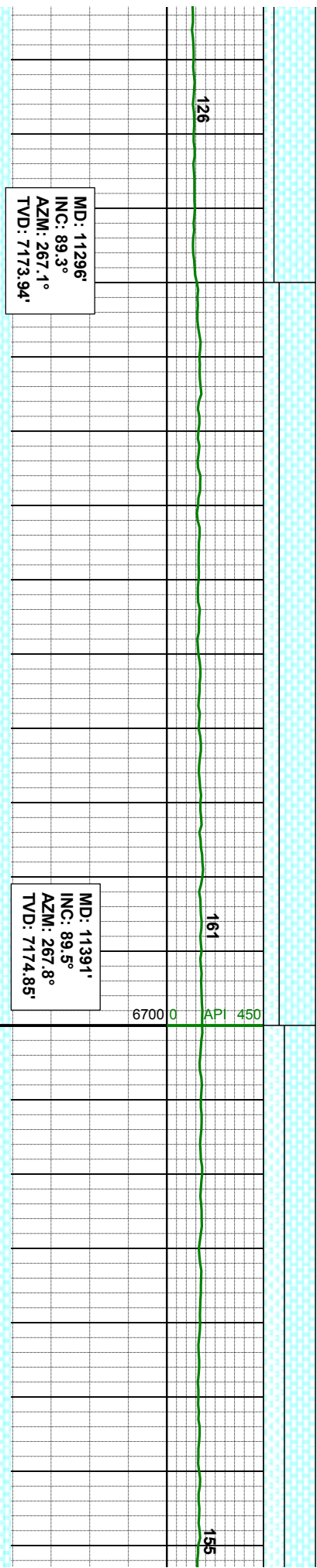
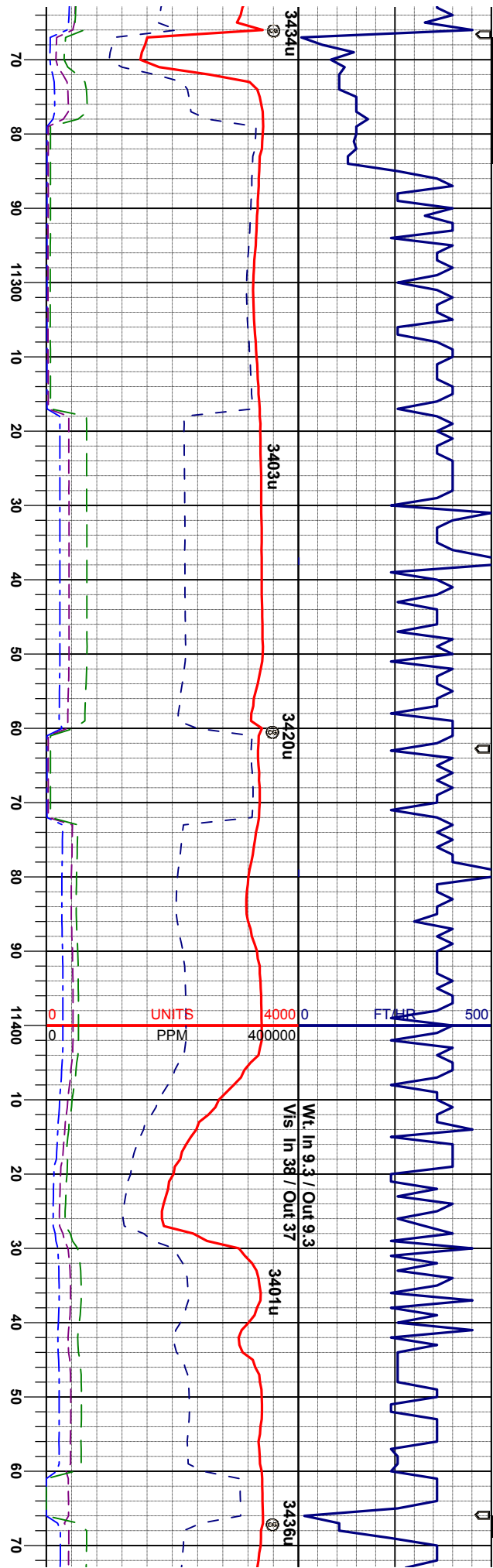


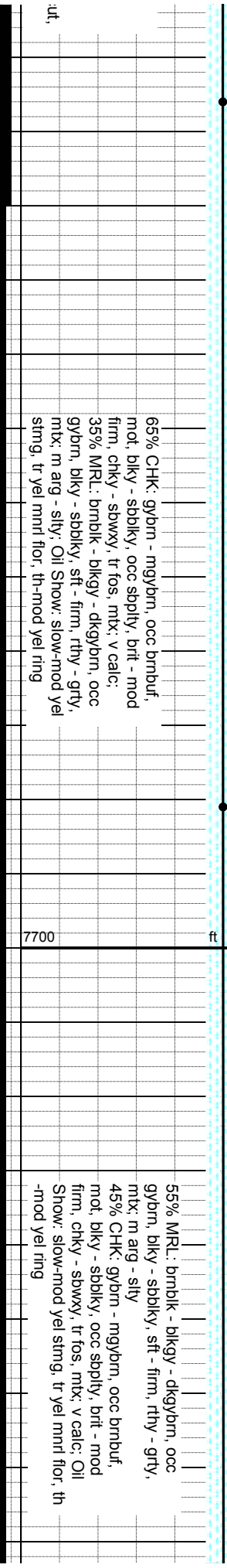
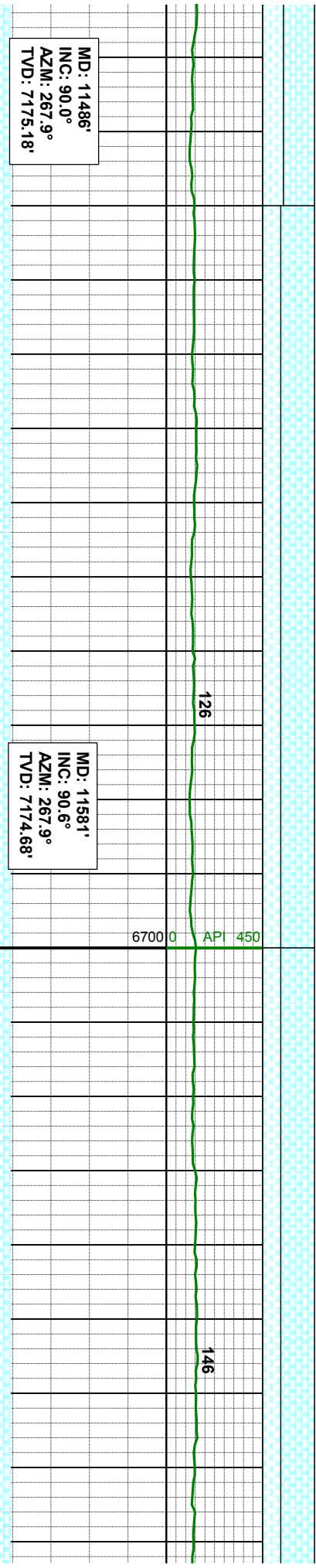
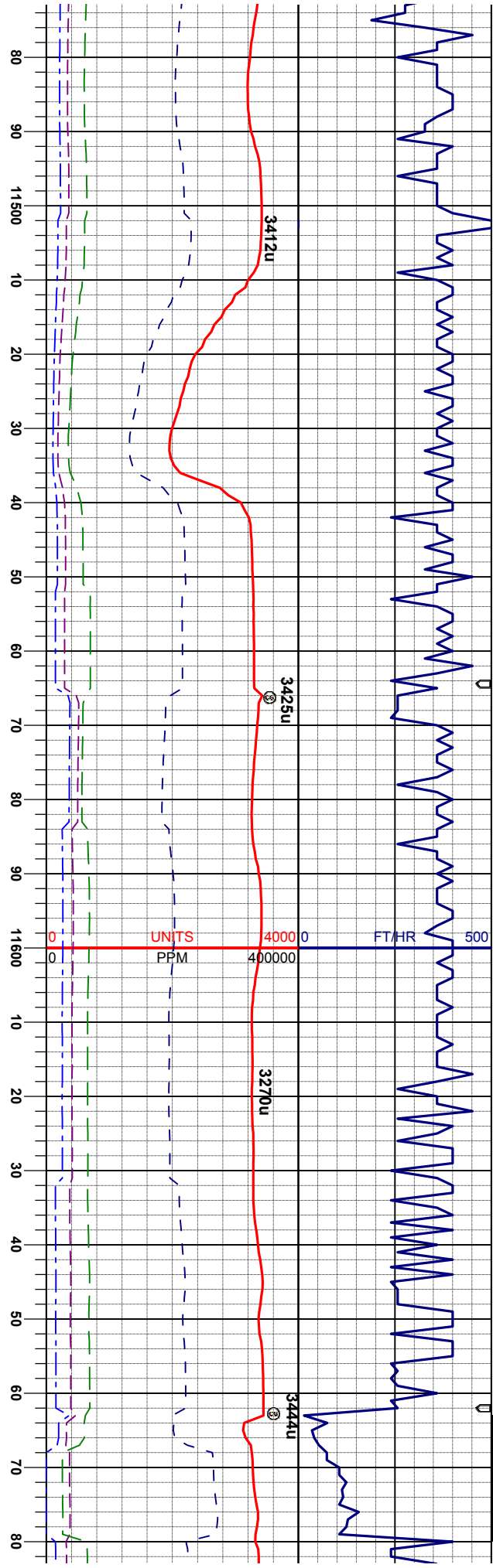


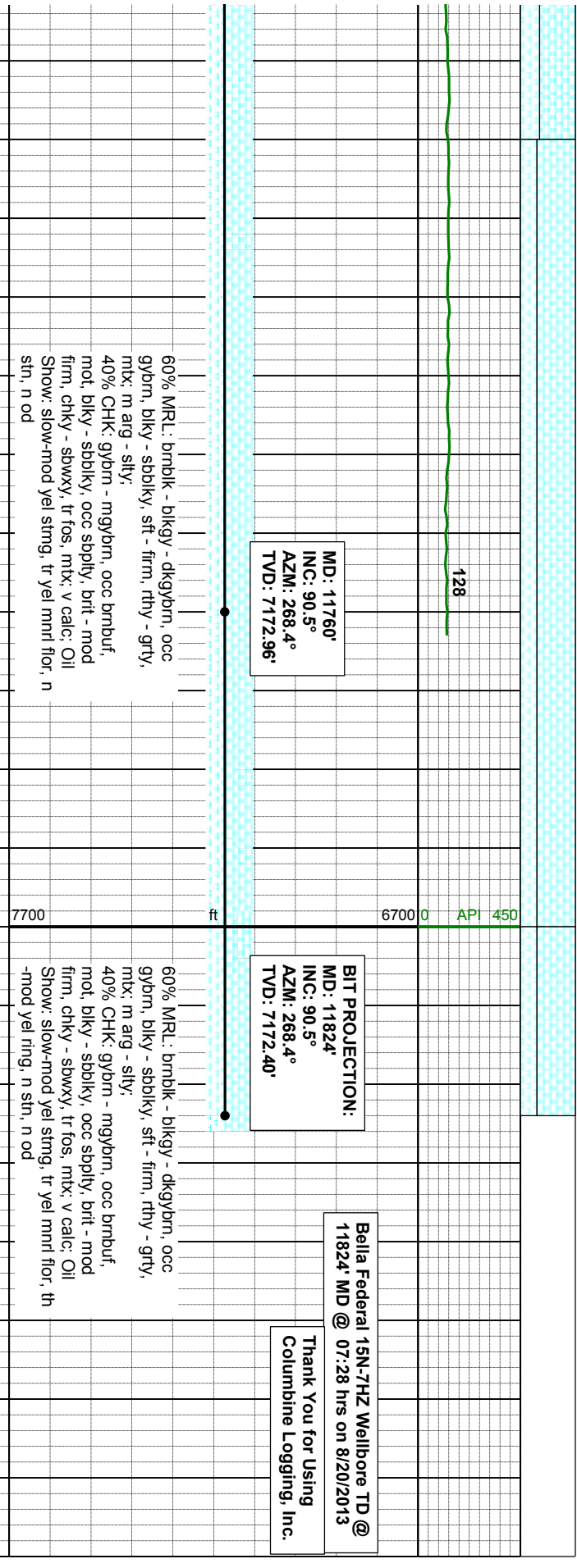
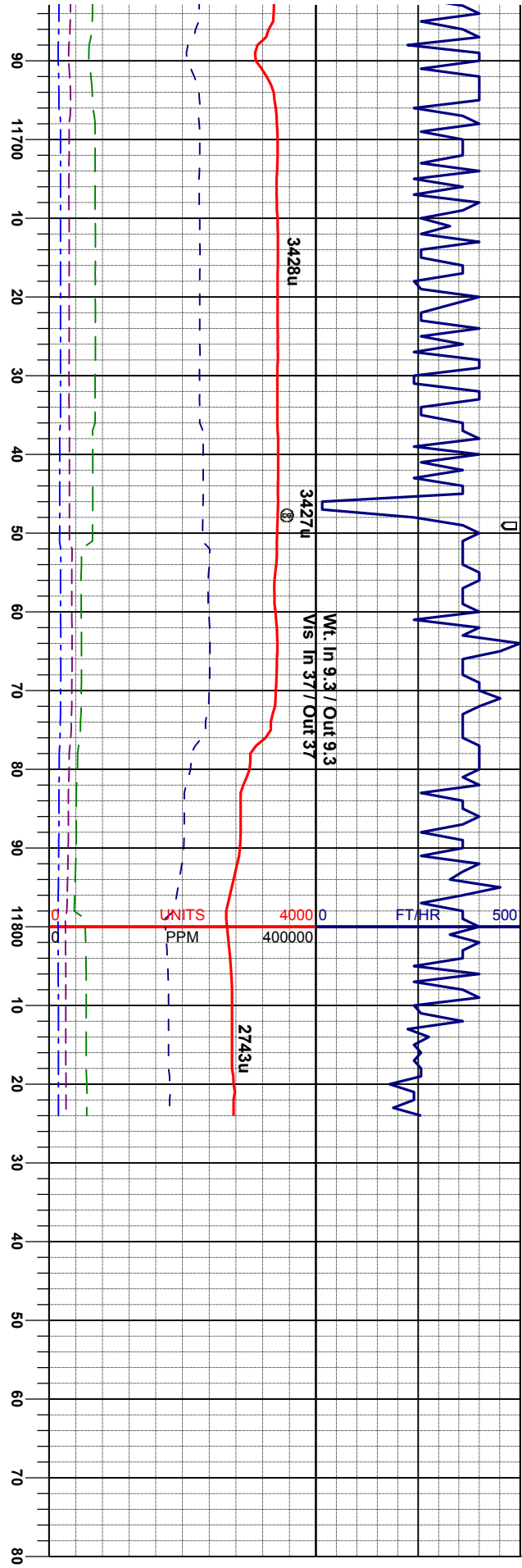












Bella Federal 15N-7HZ Wellbore TD @
11824' MD @ 07:28 hrs on 8/20/2013

Thank You for Using
Columbine Logging, Inc.