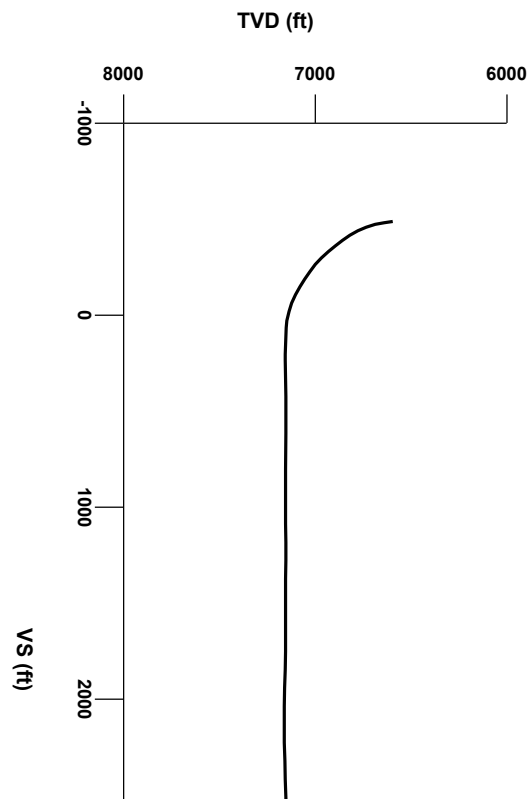




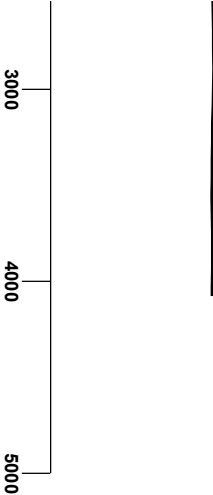
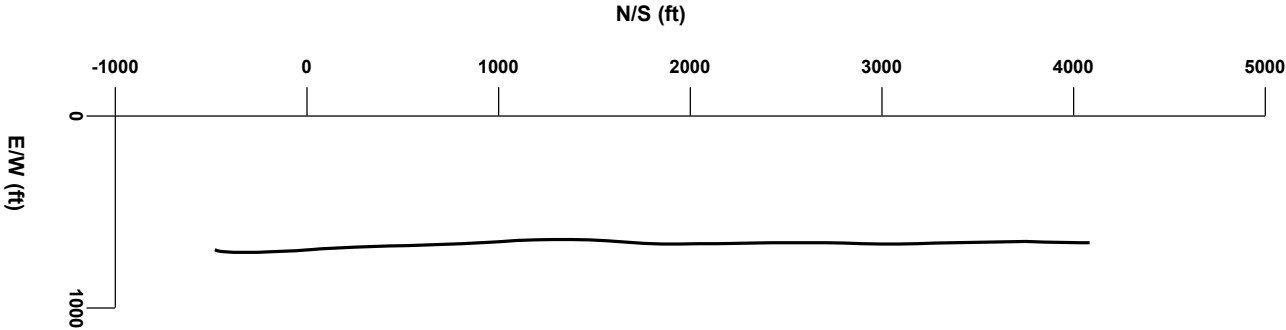
LOG created using LPlot VH Version 3.0, April 24, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

**OPERATOR:** ANADARKO PETROLEUM CORPORATION  
**WELL:** BYDALEK 3N-20HZ  
**LOCATION:** SEC 20, T2N, R65W  
**COUNTY:** WELD  
**STATE:** COLORADO  
**SPOT:** 551' FSL x 1146' FWL  
**ELEVATION:** 4931' GL - 4944' KB  
**FIELD:** WATTENBERG  
**SPUD DATE:** 4/16/2013  
**TD DATE:** 4/22/2013  
**DATES LOGGED:** 4/18/2013 - 4/22/2013  
**DEPTHS LOGGED:** 6700' - 11597'  
**LOGGERS:** ZACH UBER, CHRISTIAN VENTURINO, C. NAKOS  
**DRILLING FLUID:** LSND  
**DRILLING RIG:** ENSIGN 138  
**API:** 05-123-36217  
**LOG TYPE:** HORIZONTAL  
**SCALE:** 1:240 (5 inches per 100 feet)  
**REMARKS:** Wellsite Geological Services Provided By Columbine Logging Inc.



Survey Elevation

Survey Plan



Bentonite

Chalk

Marl

Silty Shale

MODIFIERS

B Bentonite

ENGINEERING SYMBOLS

Casing

Midnight Depth

Casing

Normal Fault

Connection

Arrow

Connection Gas

04/19/2013

ROP Limit  
0 - 450 ft/hr

ROP  
FT/HR

450

1344u

C1: 69.8%

C2: 14.3%

C3: 11.6%

C4: 4.3%

1815u

0

6650

60

70

80

90

6700

10

20

DEPTH (FEET)

GAS

0

UNITS

4500

C1

0

PPM

450000

C2

0

PPM

450000

C3

0

PPM

450000

C4

0

PPM

450000

BHA #2

SIZE: 8.75

TYPE: HDBS/FX55

JETS: 5x16

DEPTH IN: 6639' MD

DEPTH OUT: 7576' MD

Total Gas Limit  
0 - 4500 units

100' SAMPLE INTERVALS

CUTTINGS LITHOLOGY

100' Oil Show Intervals

MD: 6679'

INC: 4.90°

AZM: 9.30°

TVD: 6595.12'

MD: 6726'

INC: 9.00°

AZM: 16.4°

TVD: 664

GAMMA

0

API

200

Gamma Limit  
0 - 200 API

112

TVD

ft

6500

100' Oil Show Intervals

100' Oil Show Intervals

COLUMBINE LOGGING

RIGGED UP ON 4/18/2013

MANNED 2-PERSON LOGGING

WITH BLOODHOUND GAS

CHROMATOGRAPH UNIT #0551

HZ BEGAN ON 4/18/2013 @ 21:37 MST

100' Oil Show Intervals

SAMPLE PHOTOS



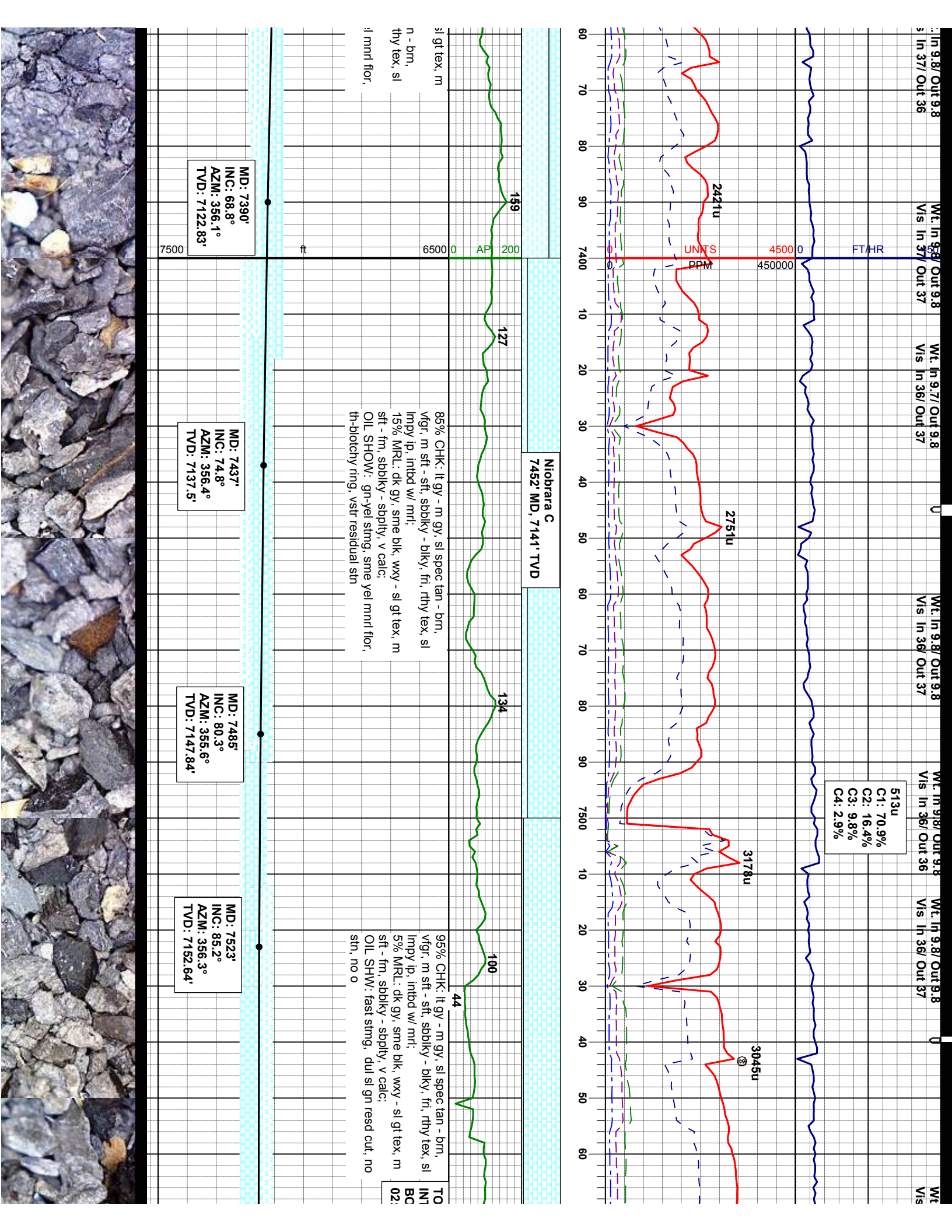


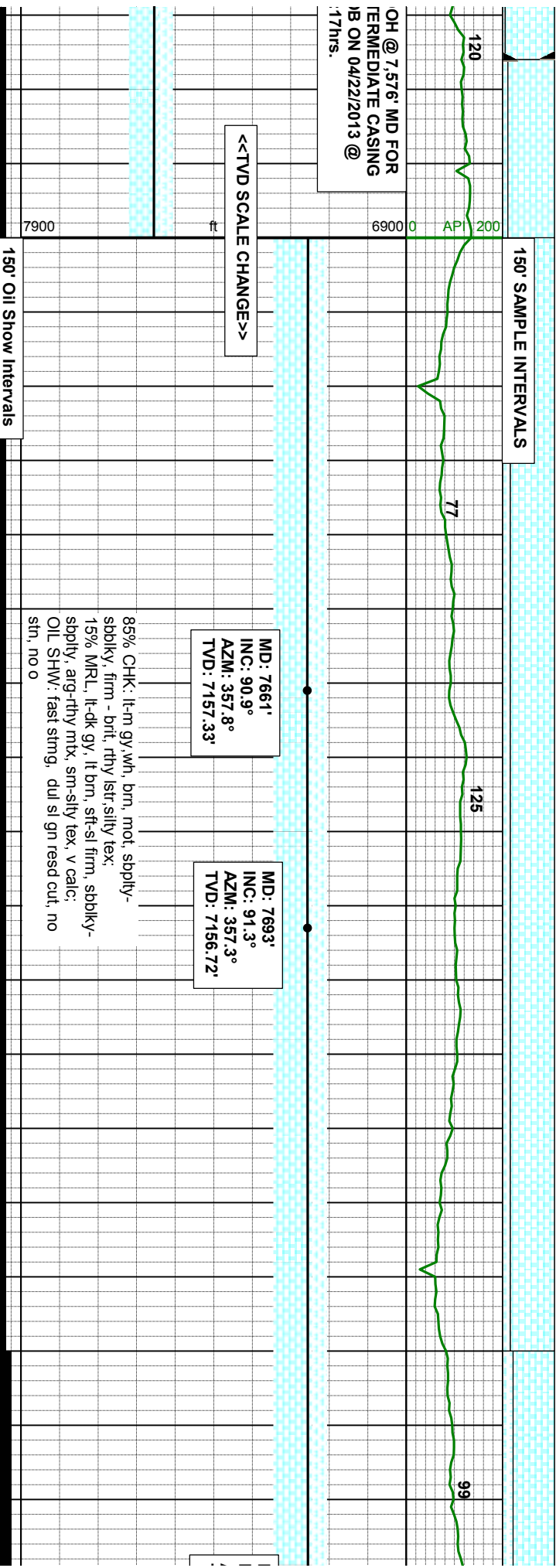
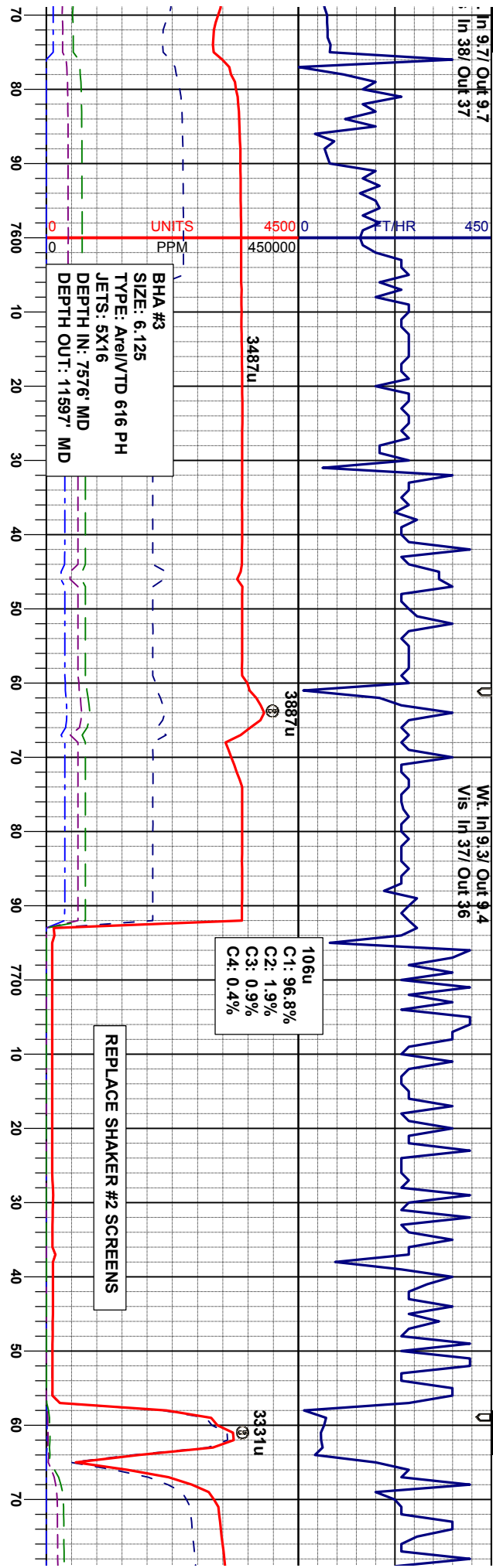




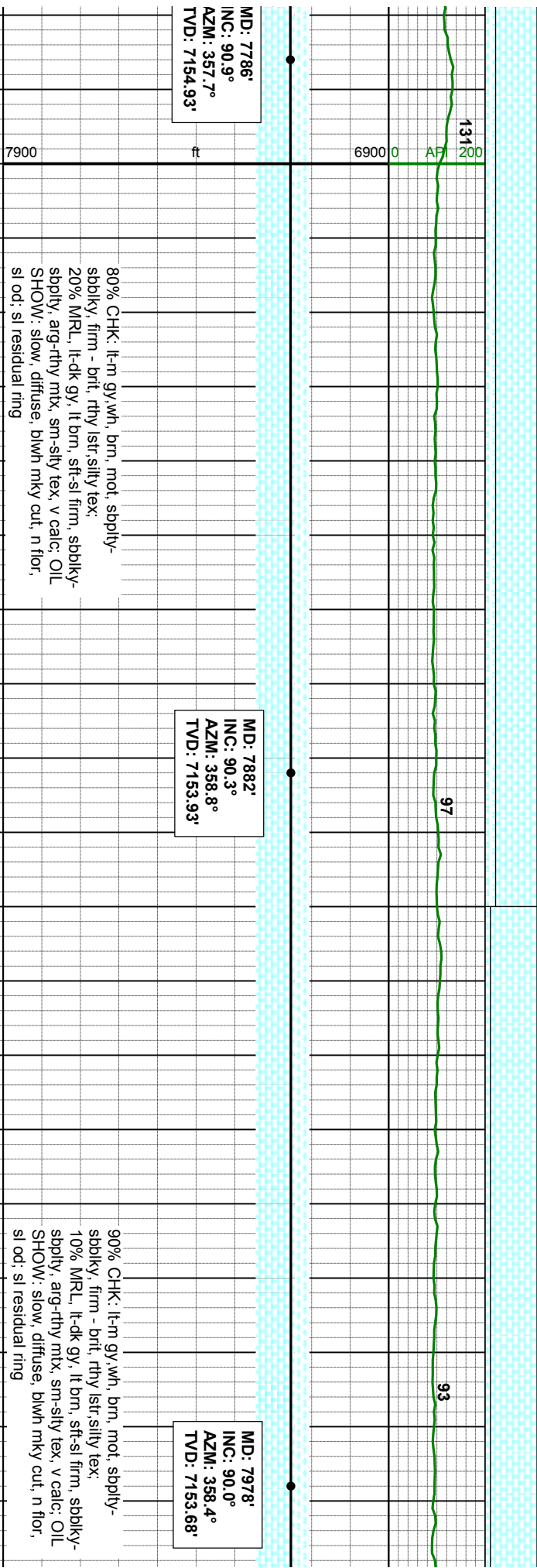
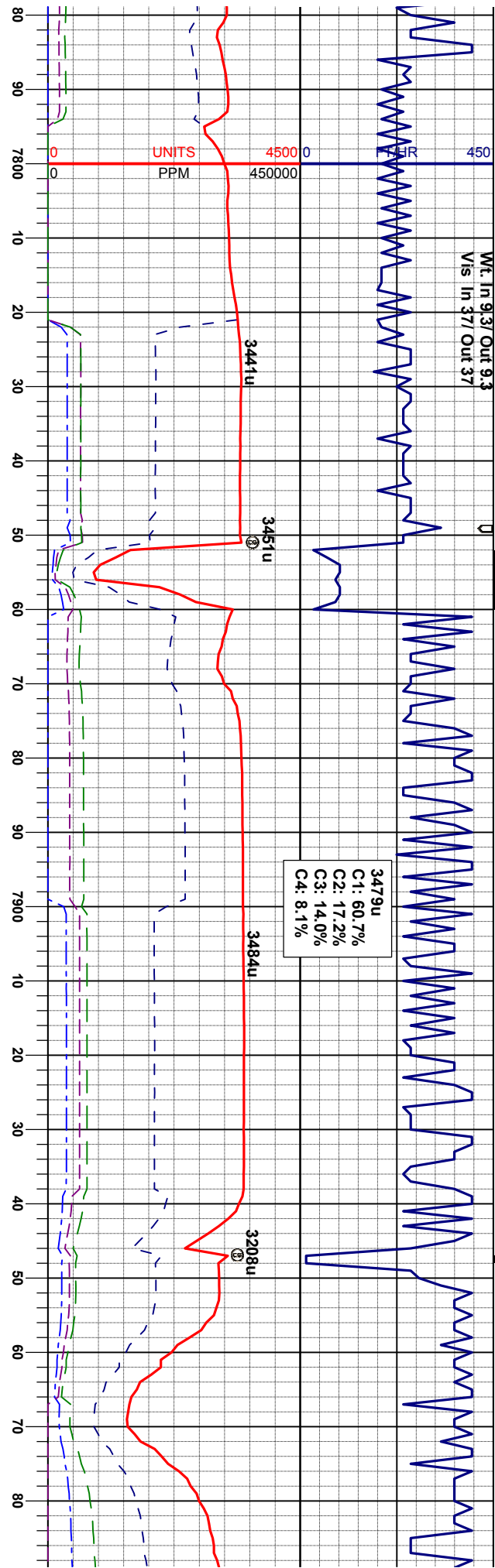




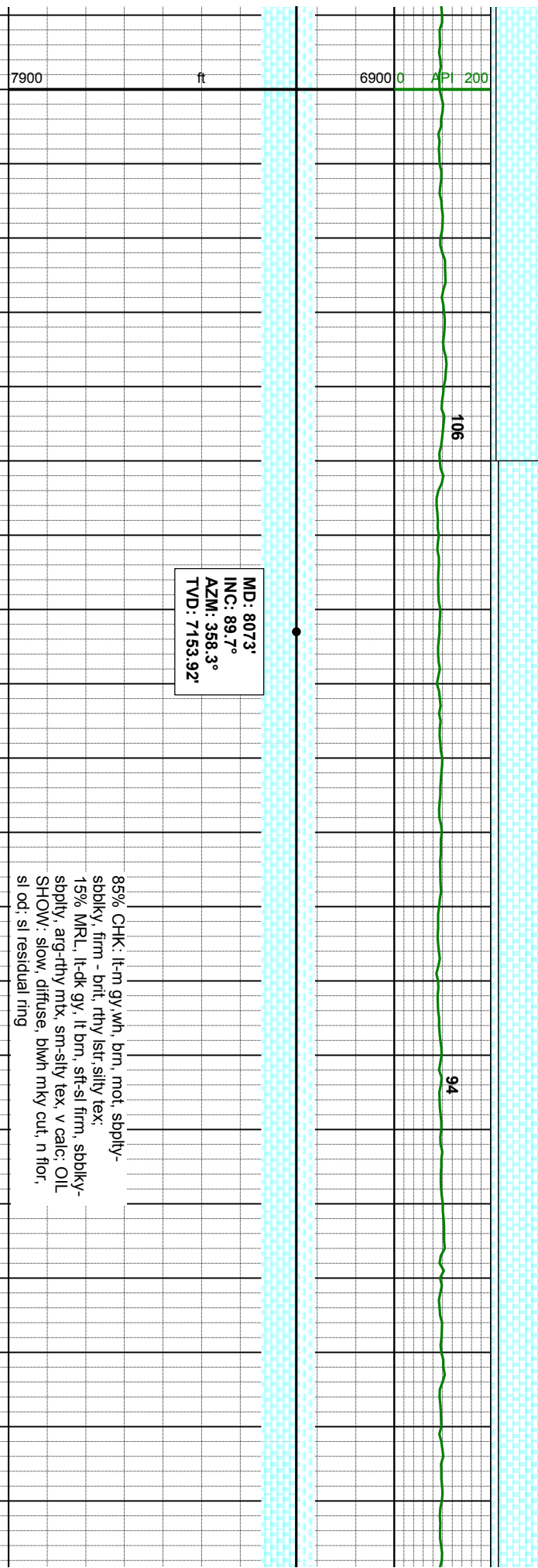
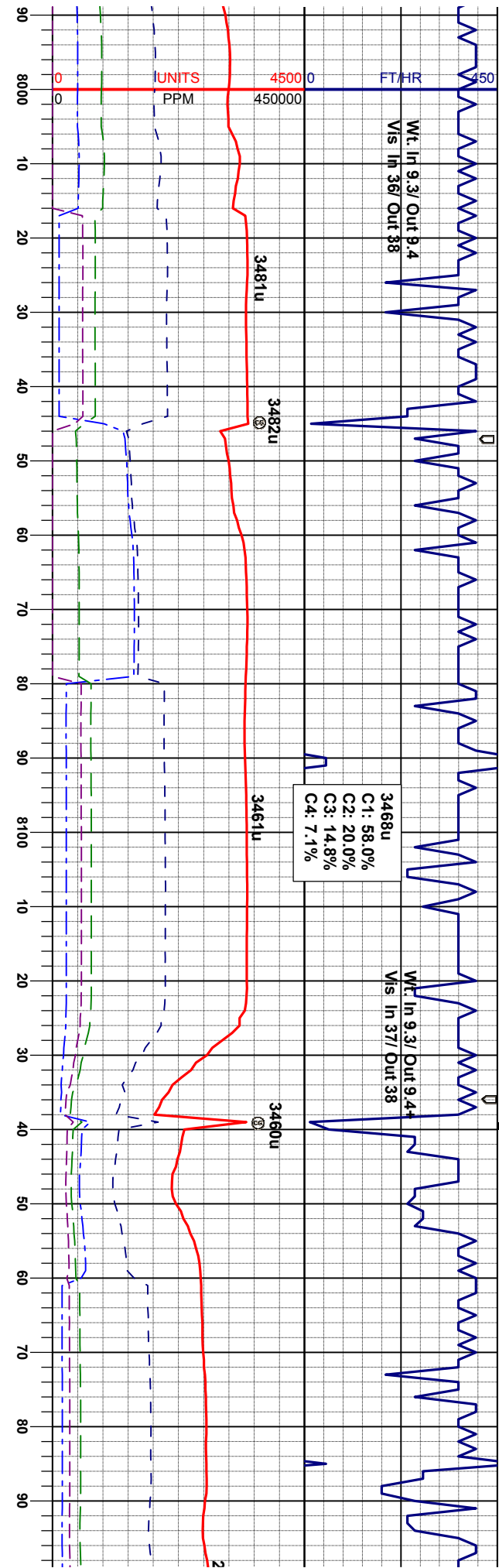






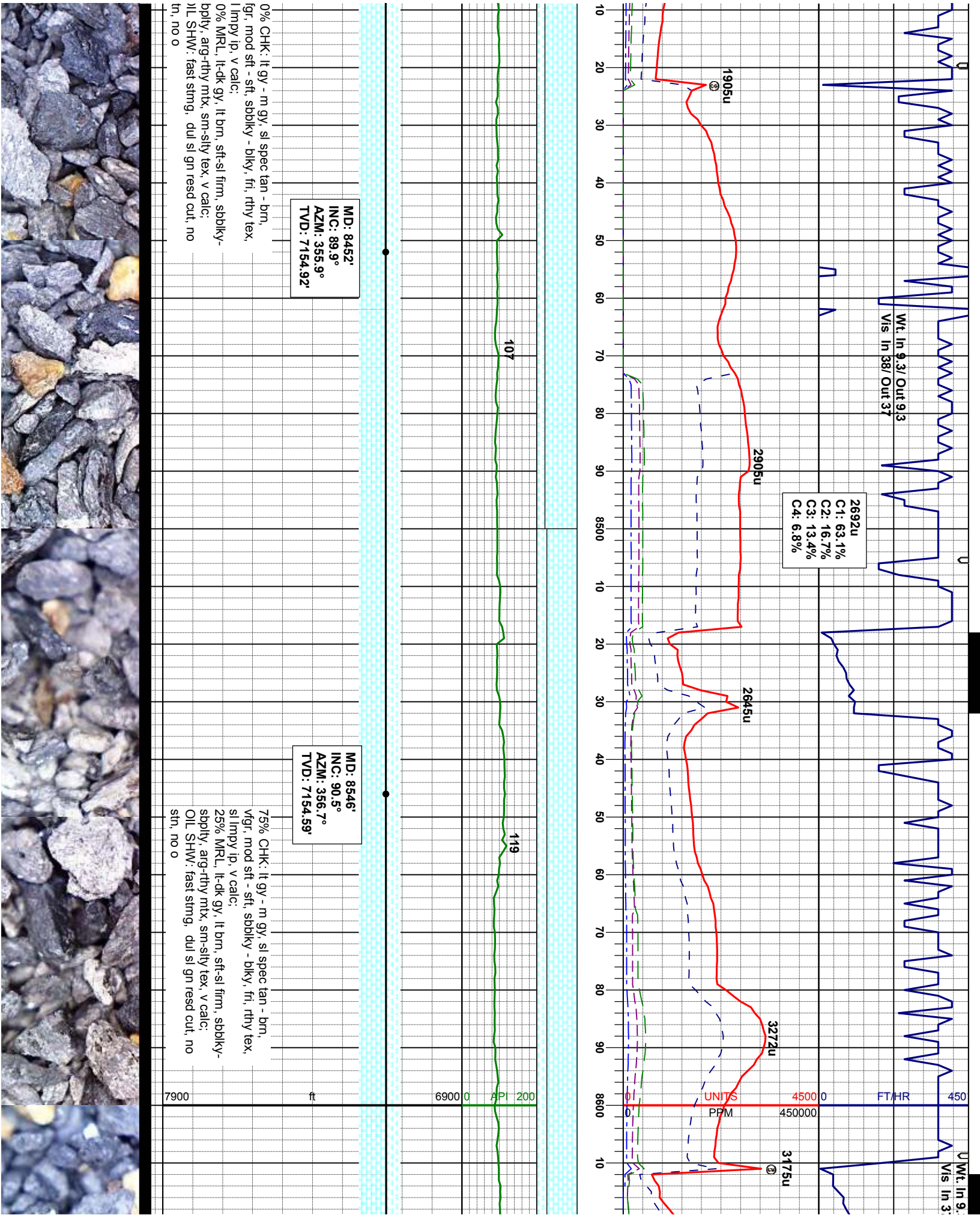


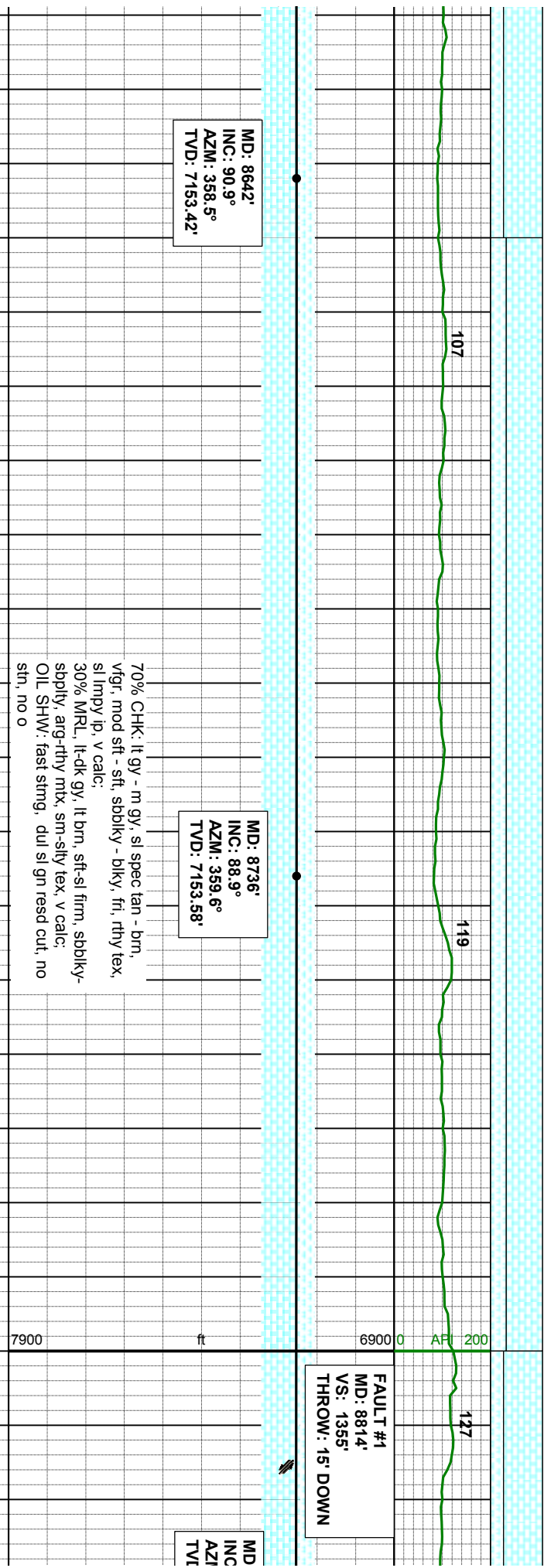
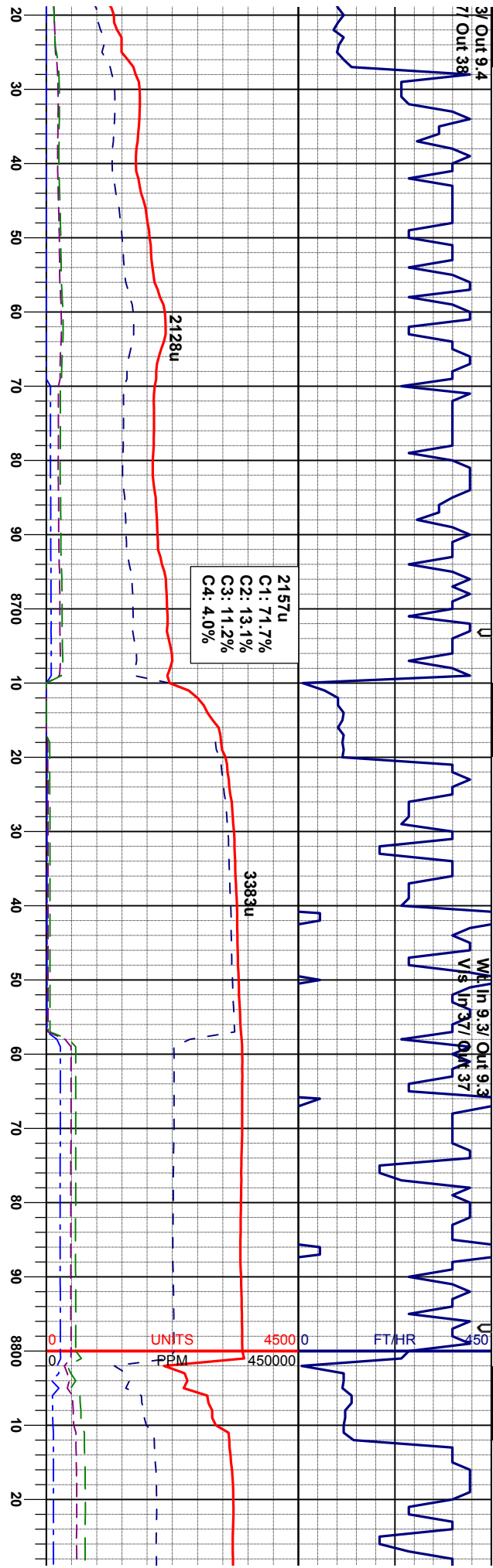




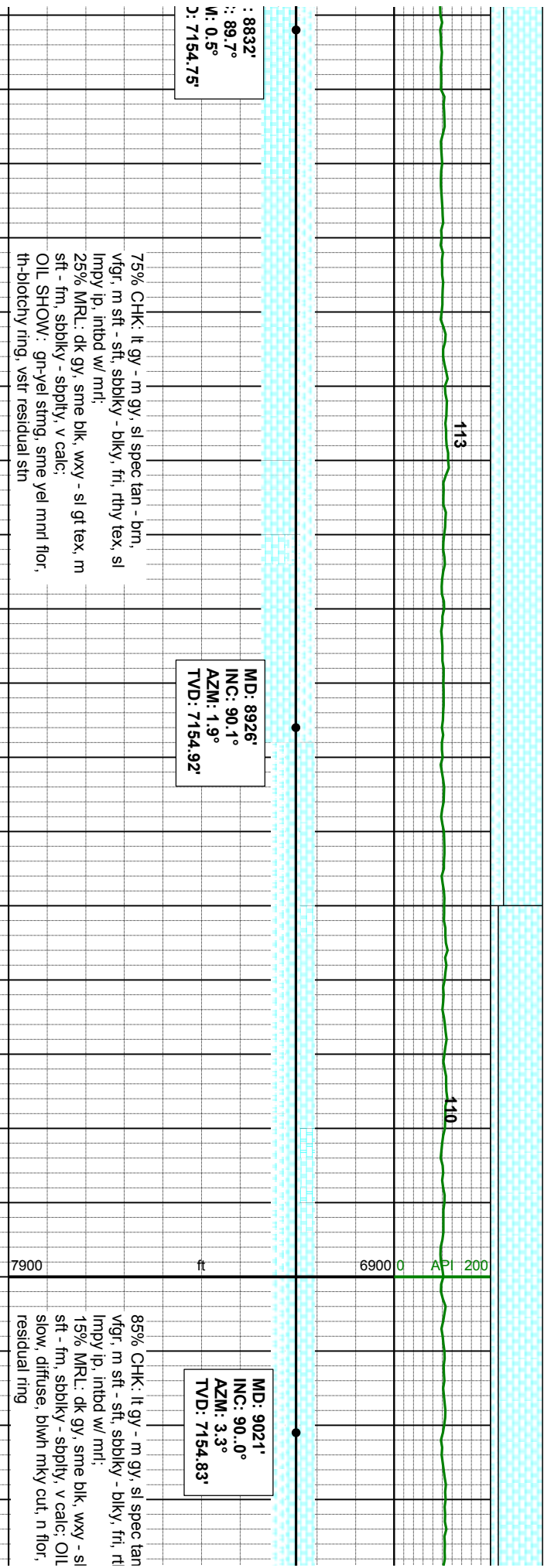
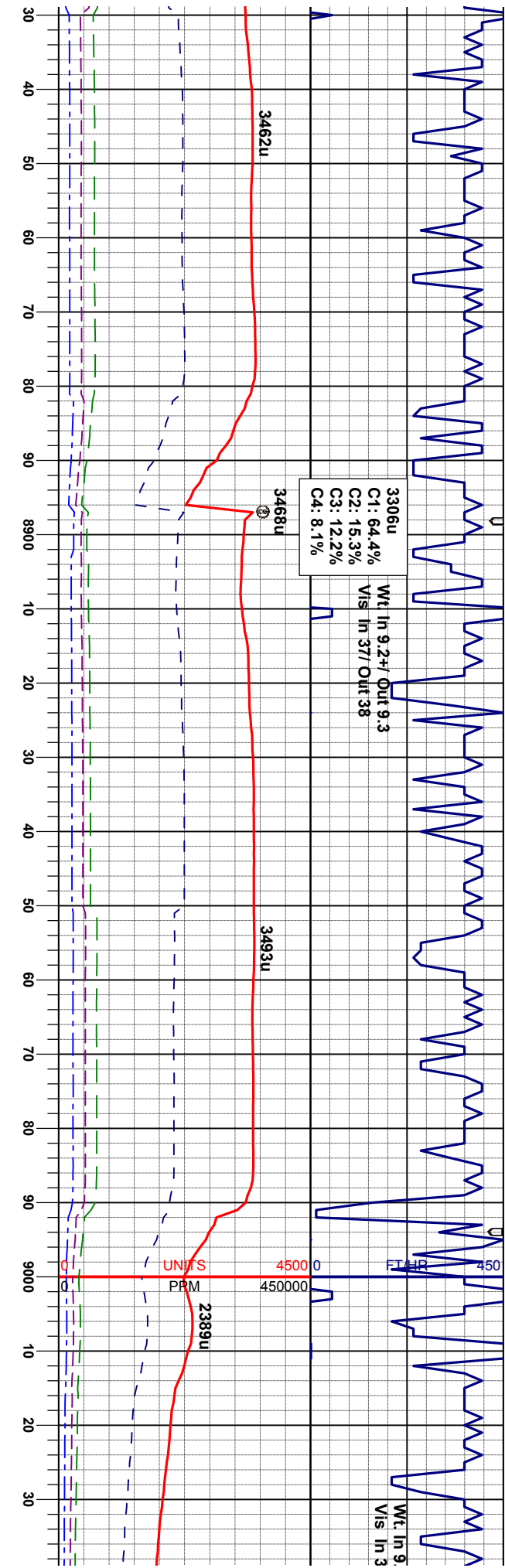




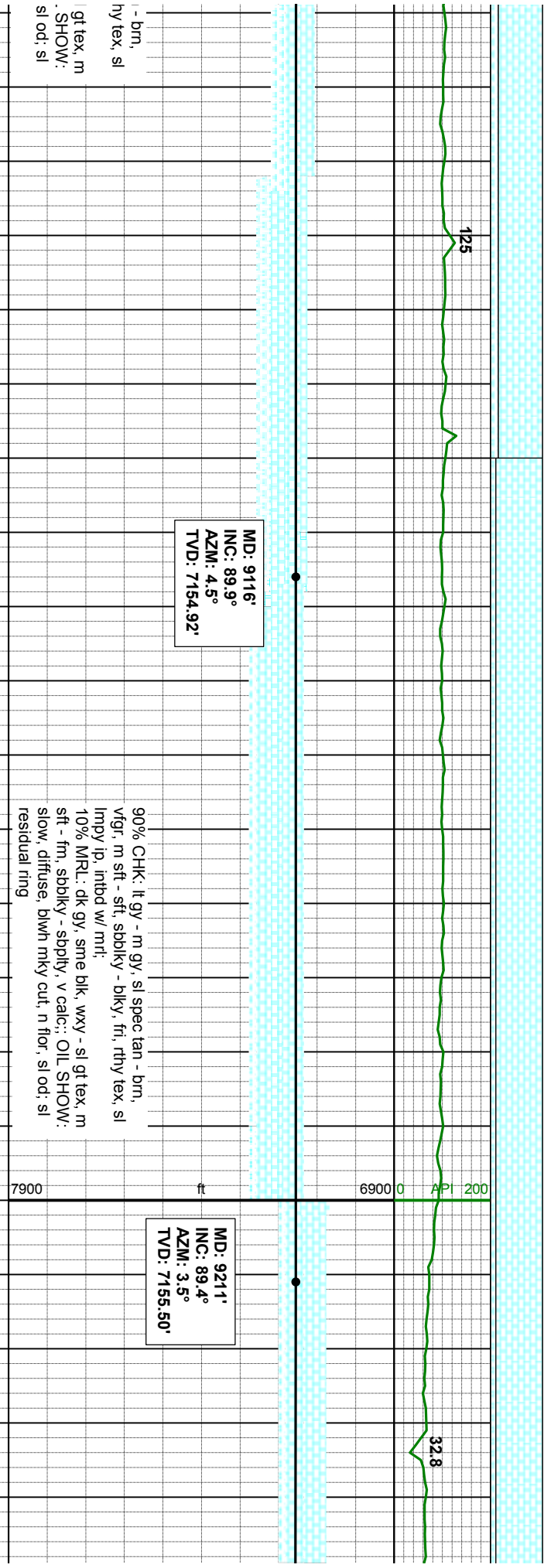
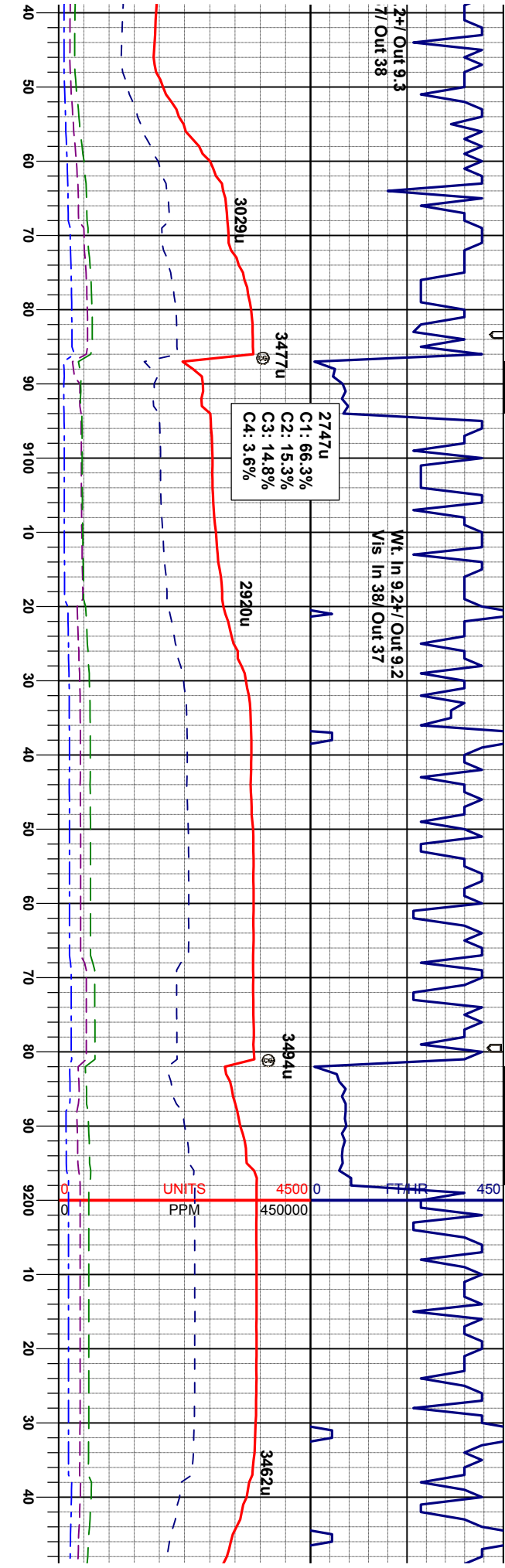


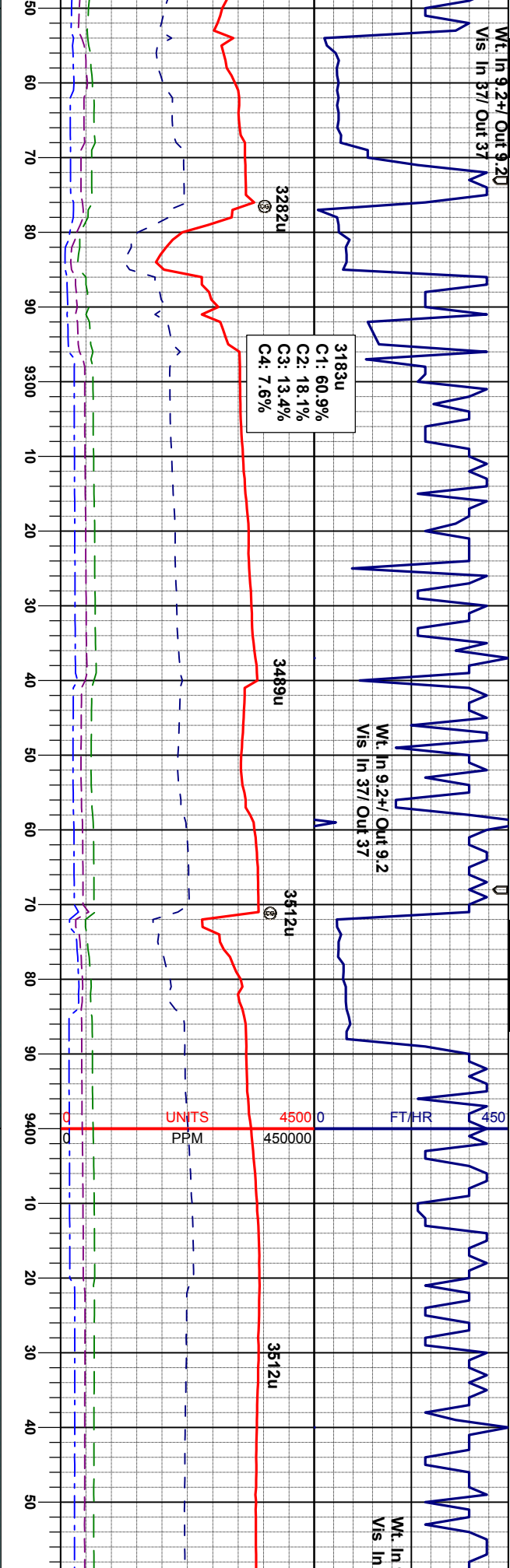
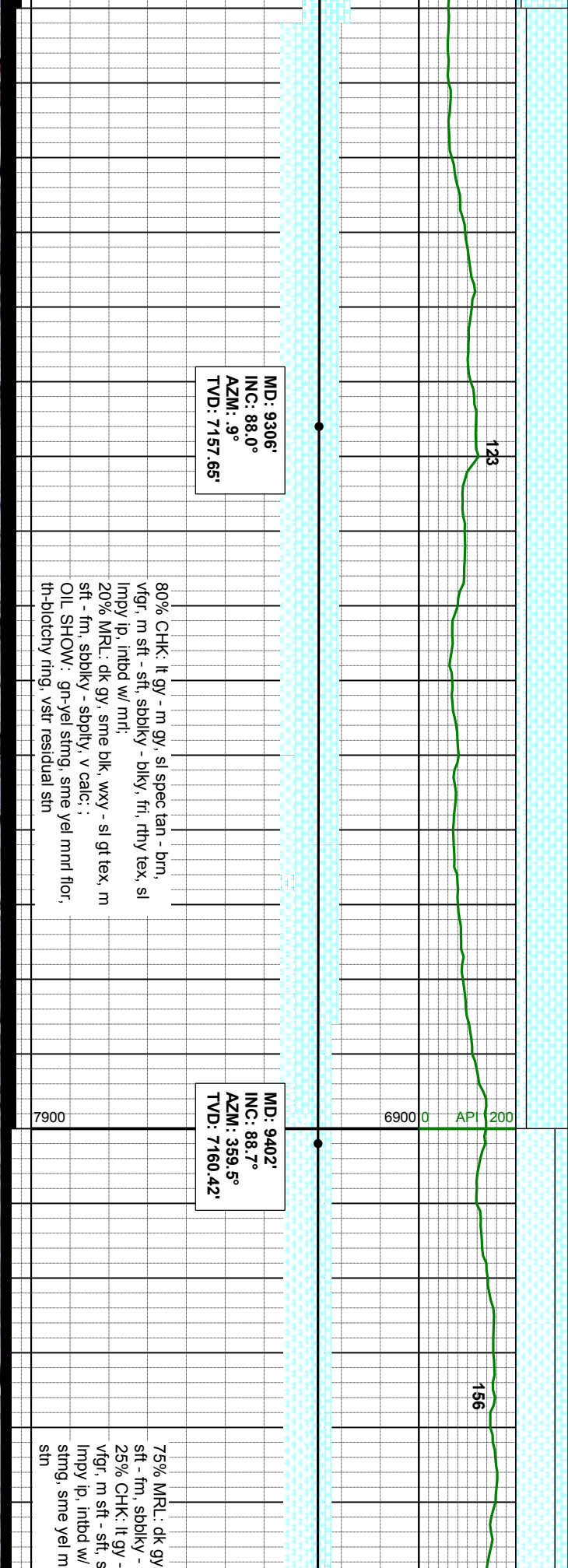




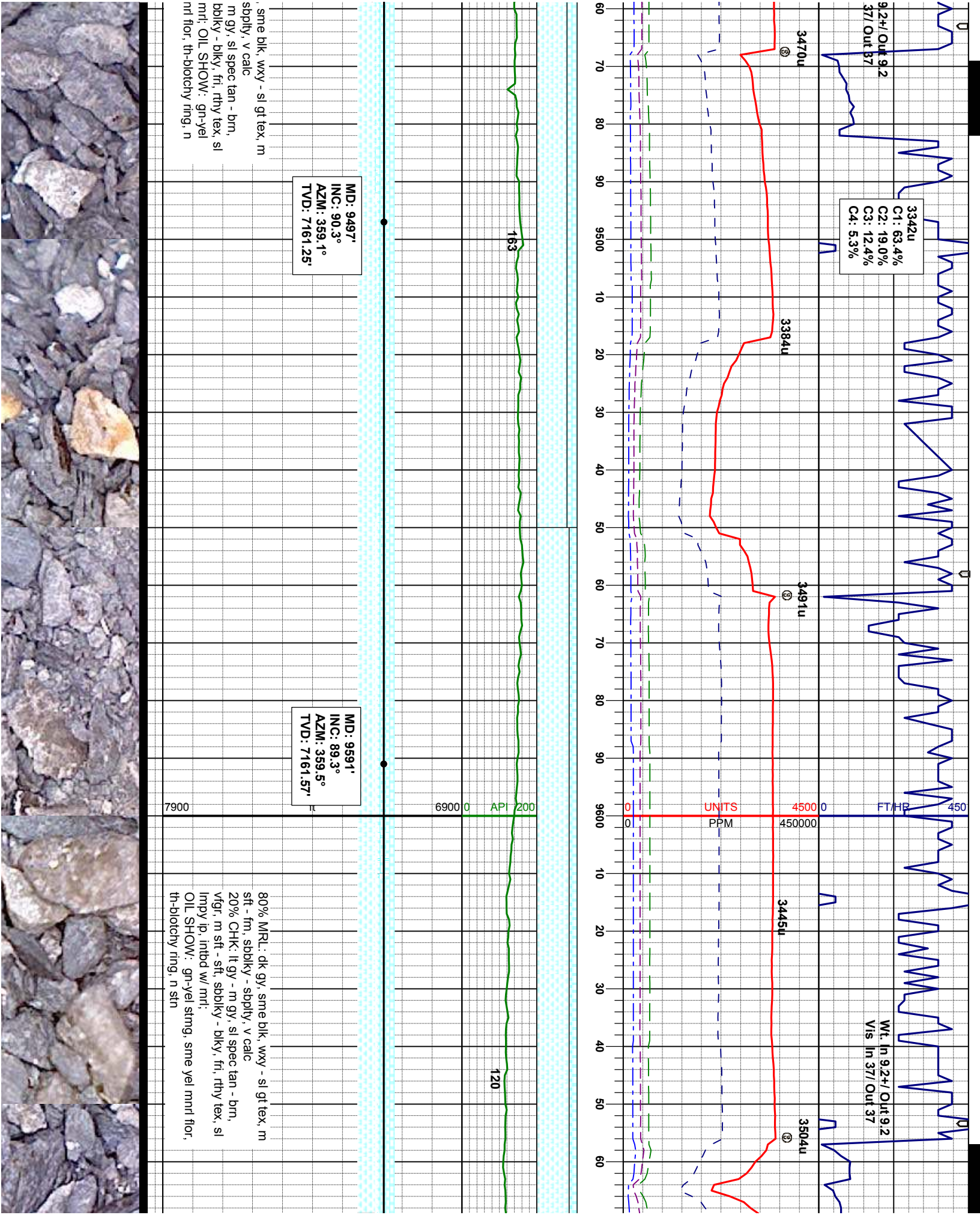


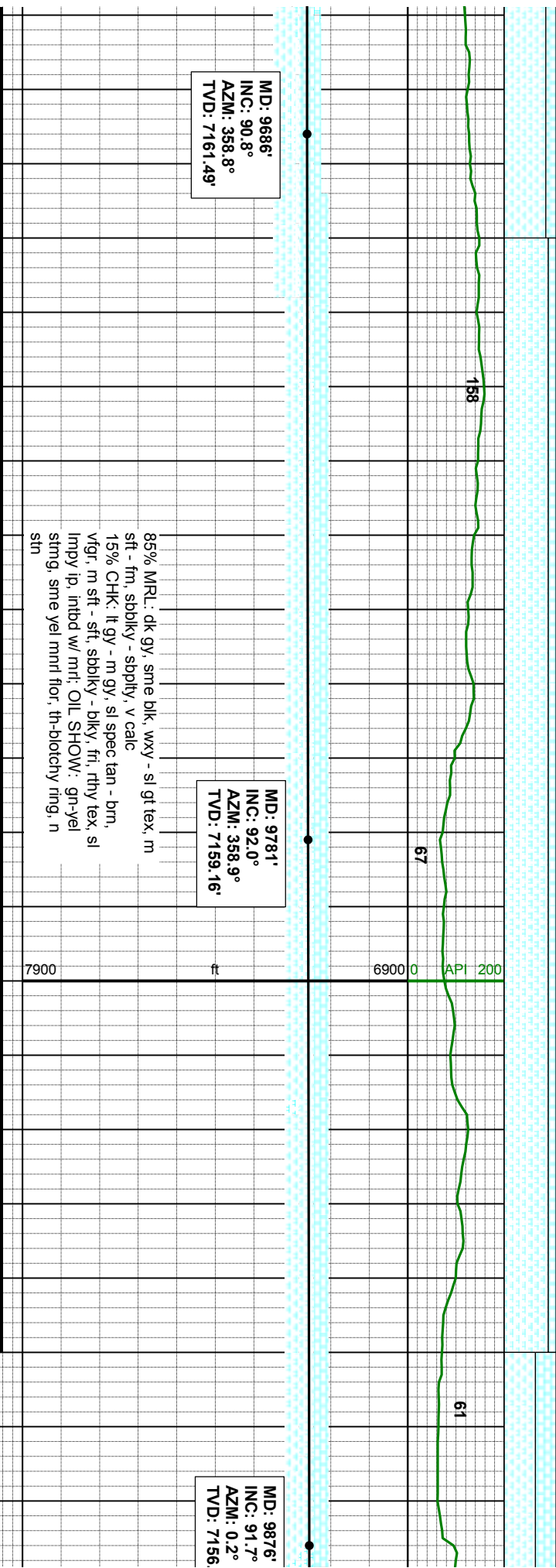
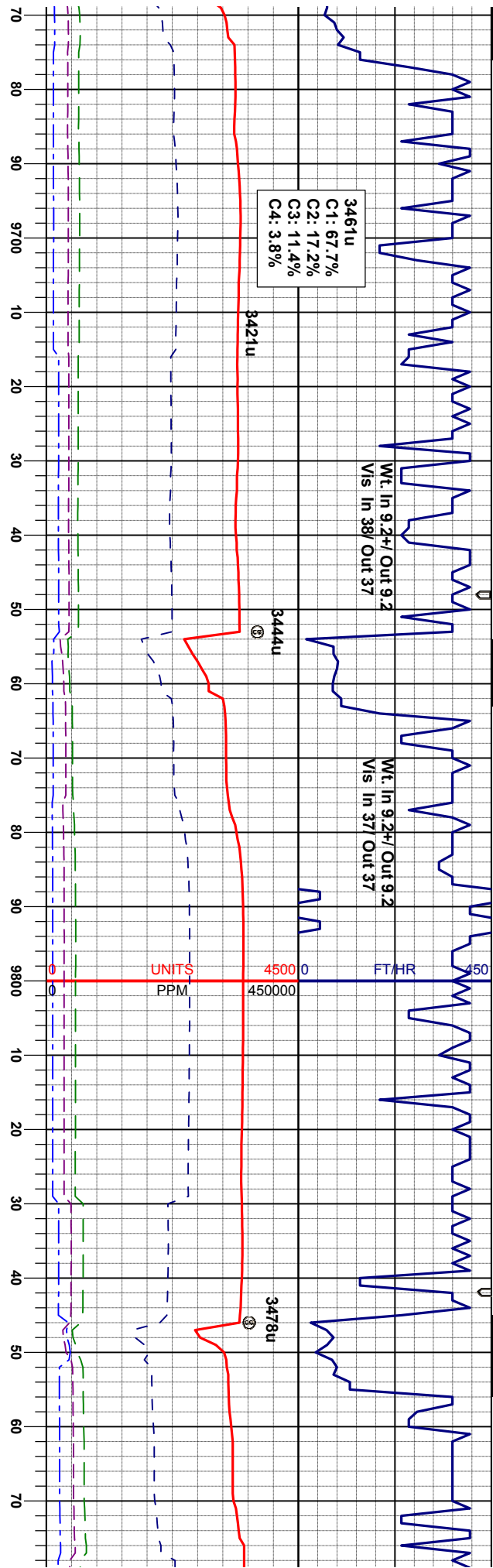












MD: 9686'  
INC: 90.8°  
AZM: 358.8°  
TVD: 7161.49'

MD: 9781'  
INC: 92.0°  
AZM: 358.9°  
TVD: 7159.16'

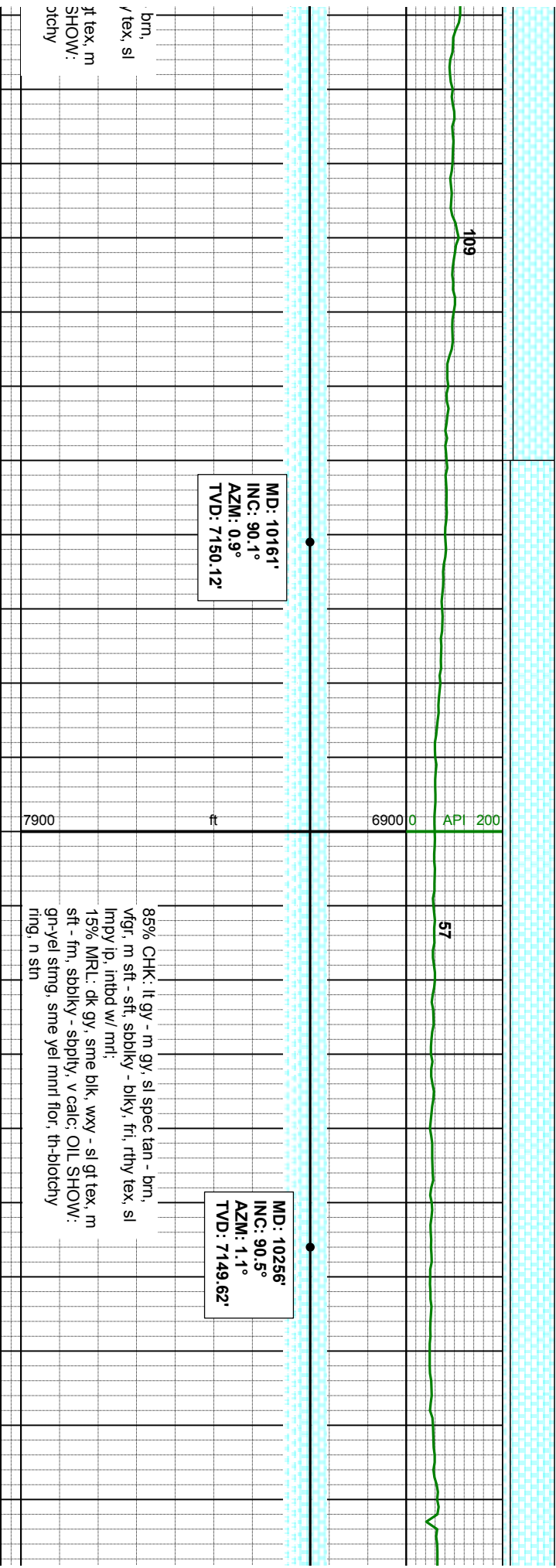
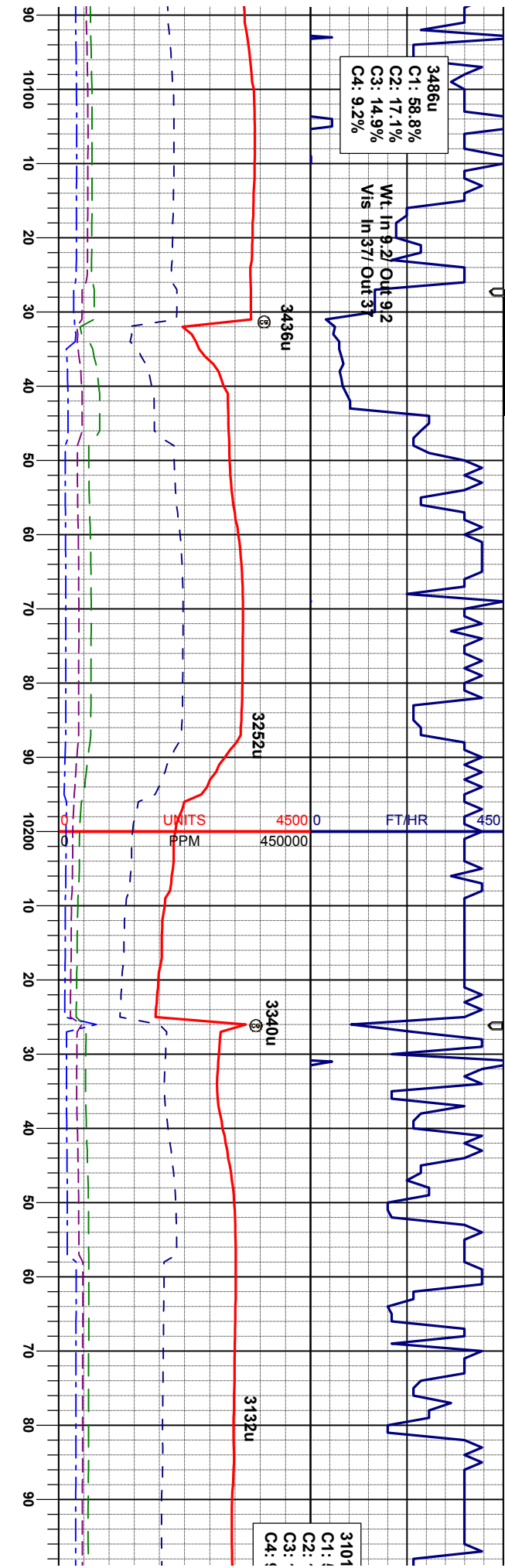
MD: 9876'  
INC: 91.7°  
AZM: 0.2°  
TVD: 7156'

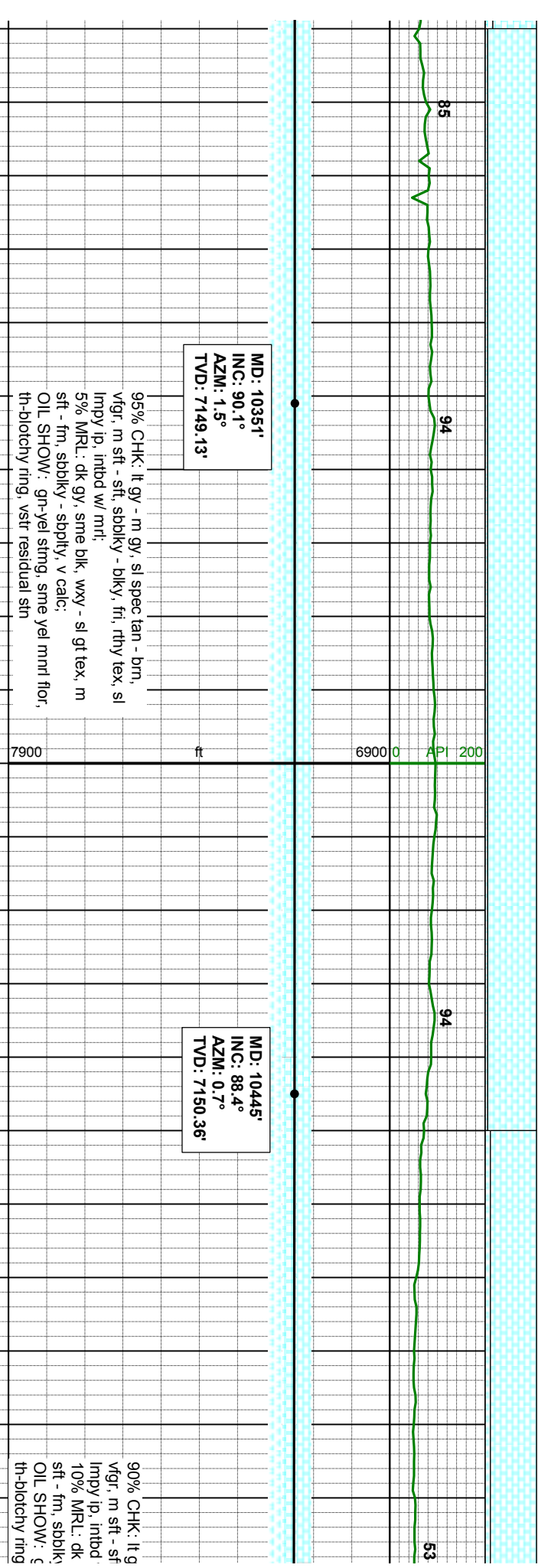
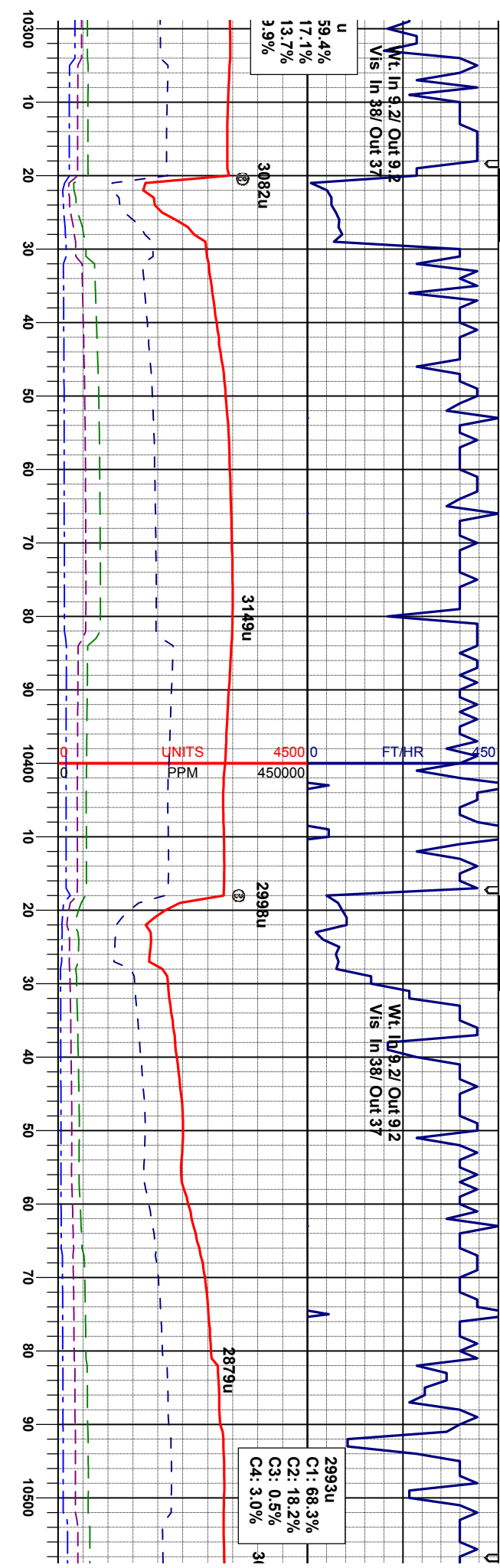
85% MRL: dk gy, sme blk, wxy - sl gt tex, m  
sft - fm, sbdky - sbply, v calc  
15% CHK: lt gy - m gy, sl spec tan - brn,  
vfgf, m sft - sft, sbdky - blk, fm, rthy tex, sl  
lmpy ip, intbd w/ mnt; OIL SHOW: gn-yel  
stng, sme yel mnrl flr, th-blotchy ring, n  
stn



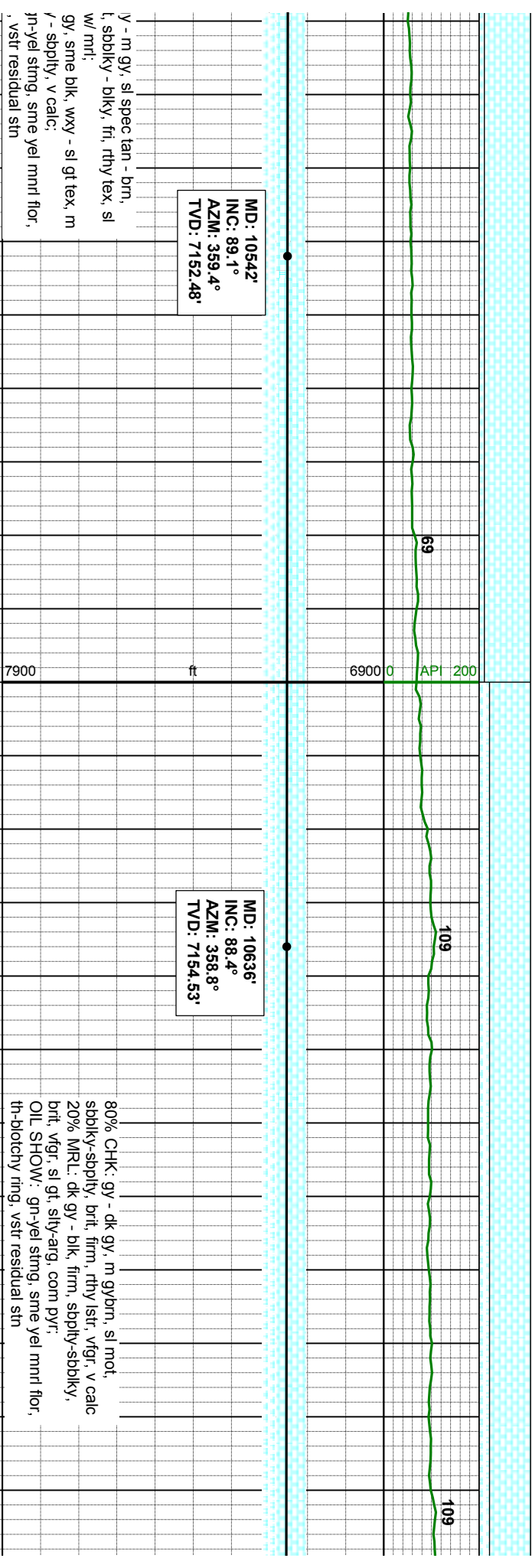
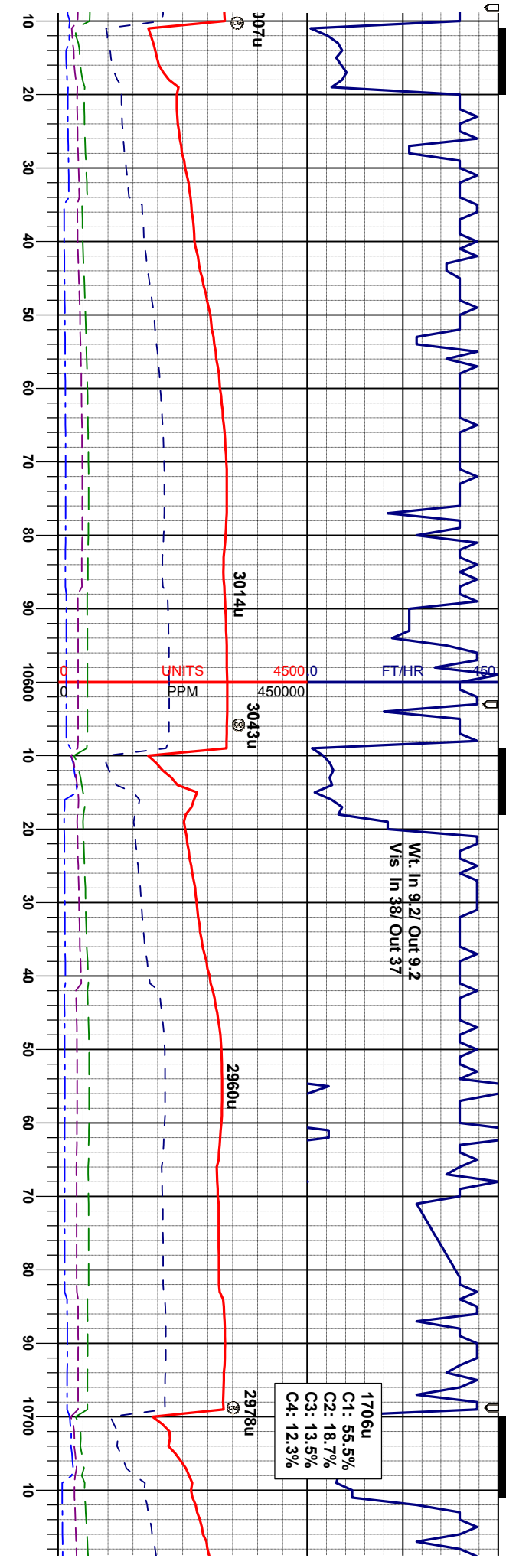




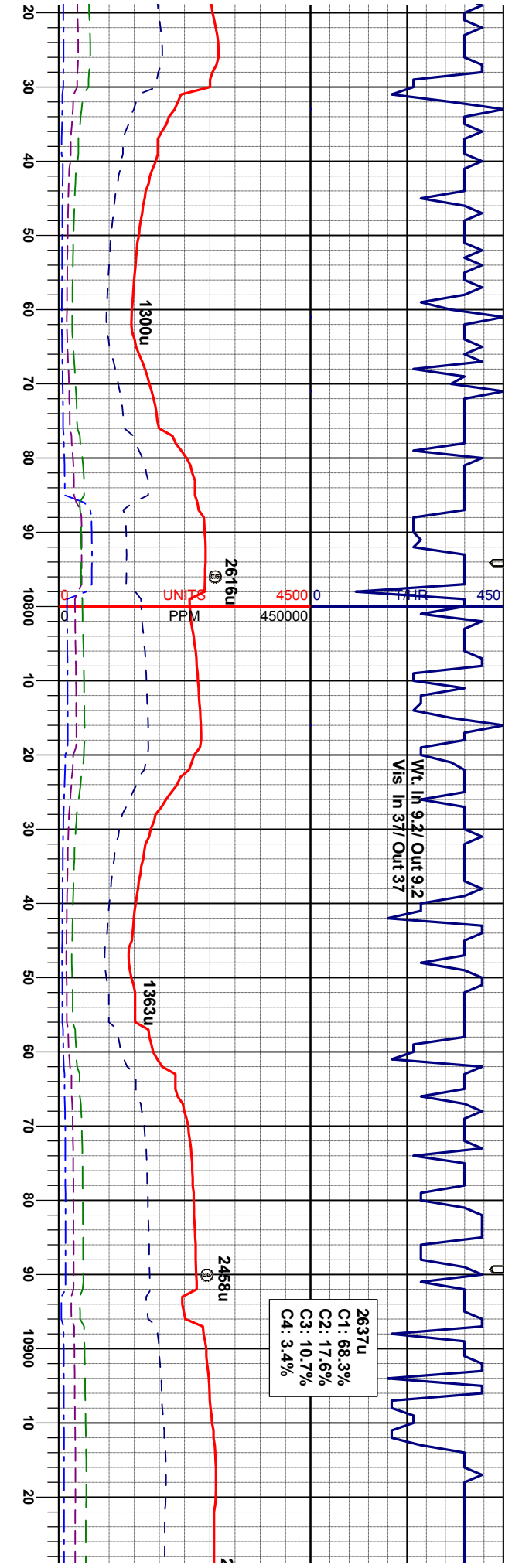










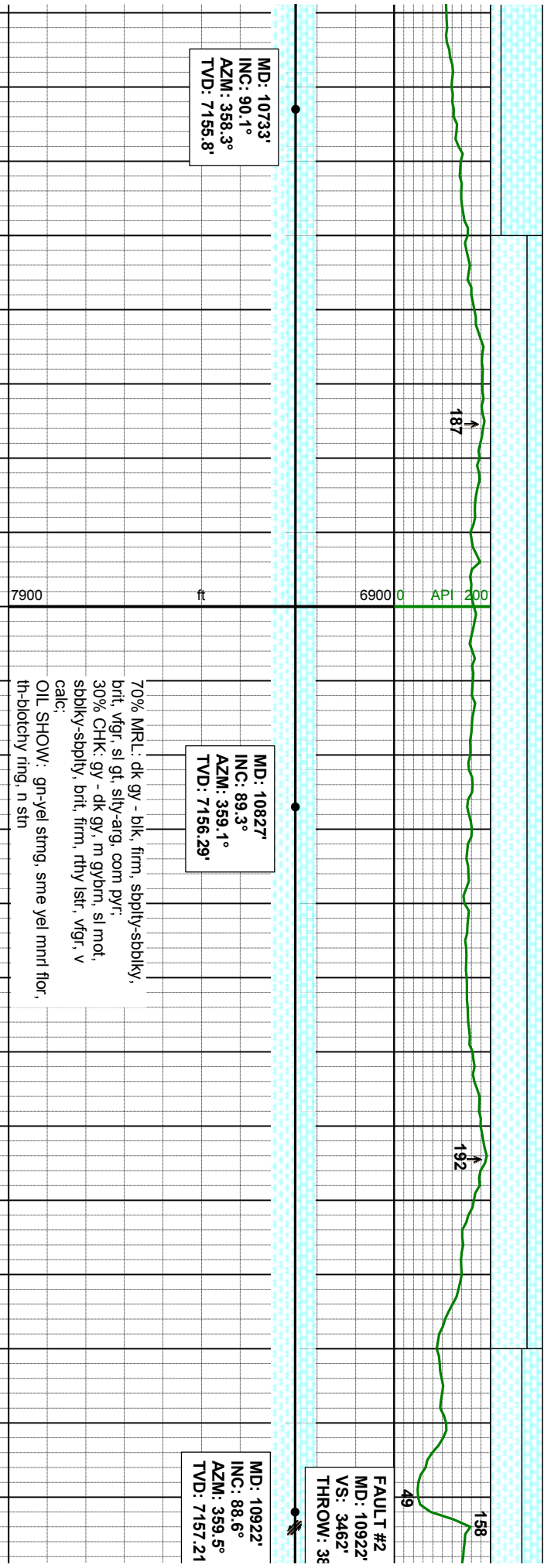


MD: 10733'  
INC: 90.1°  
AZM: 358.3°  
TVD: 7155.8'

MD: 10827'  
INC: 89.3°  
AZM: 359.1°  
TVD: 7156.29'

MD: 10922'  
INC: 88.6°  
AZM: 359.5°  
TVD: 7157.21'

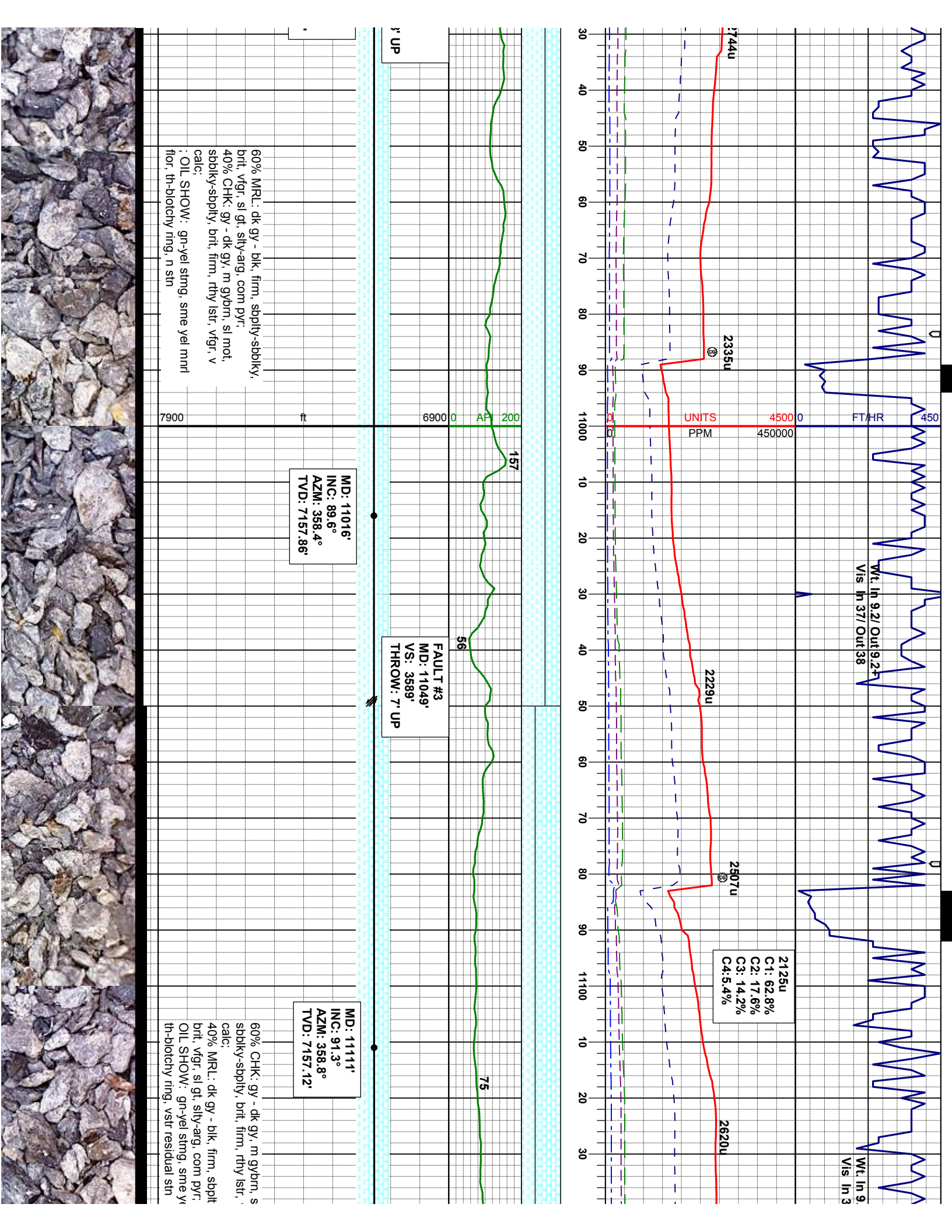
FAULT #2  
MD: 10922'  
VS: 3462'  
THROW: 38'



70% MRL: dk gy - blk, firm, sppty-sbdky,  
brt, vfg, sl gt, silty-arg, com pyr,  
30% CHK: gy - dk gy, m gybm, sl mot,  
sbdky-sbpty, brt, firm, rthy lstr, vfg, v  
calc:  
OIL SHOW: gn-yel string, sme yel mml flr,  
th-blotchy ring, n sin







Wt. In 9.2/ Out 9.2-  
Vis In 37/ Out 38

Wt. In 9.  
Vis In 3

2125u  
C1: 62.8%  
C2: 17.6%  
C3: 14.2%  
C4: 5.4%

FAULT #3  
MD: 11049'  
VS: 3589'  
THROW: 7' UP

MD: 11016'  
INC: 89.6°  
AZM: 358.4°  
TVD: 7157.86'

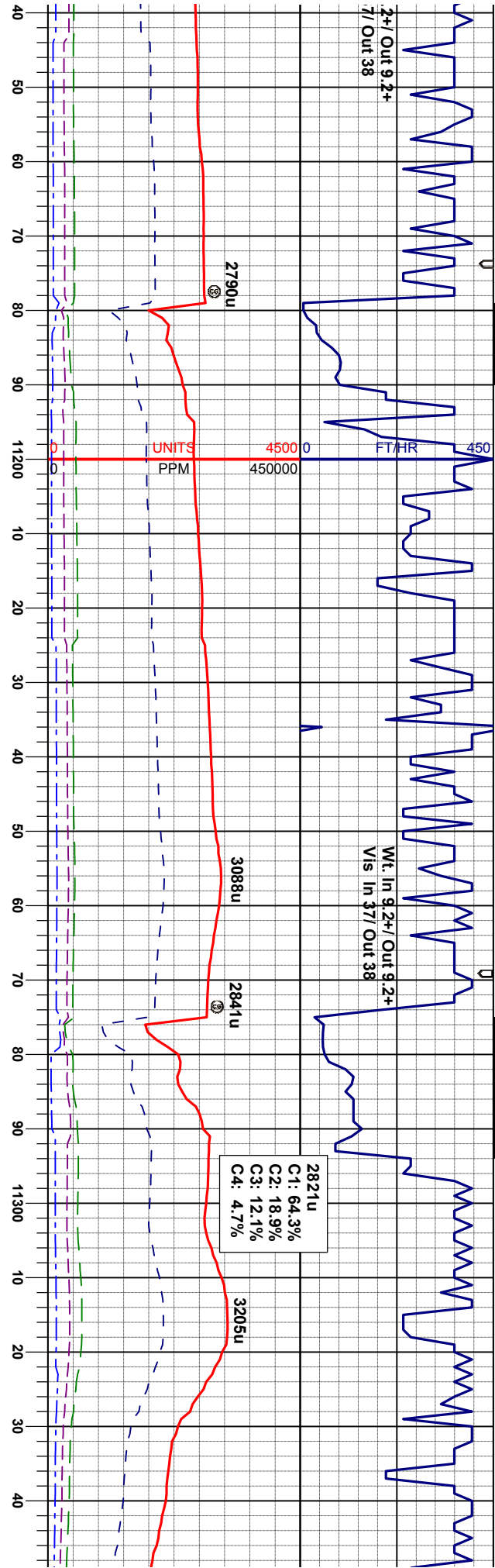
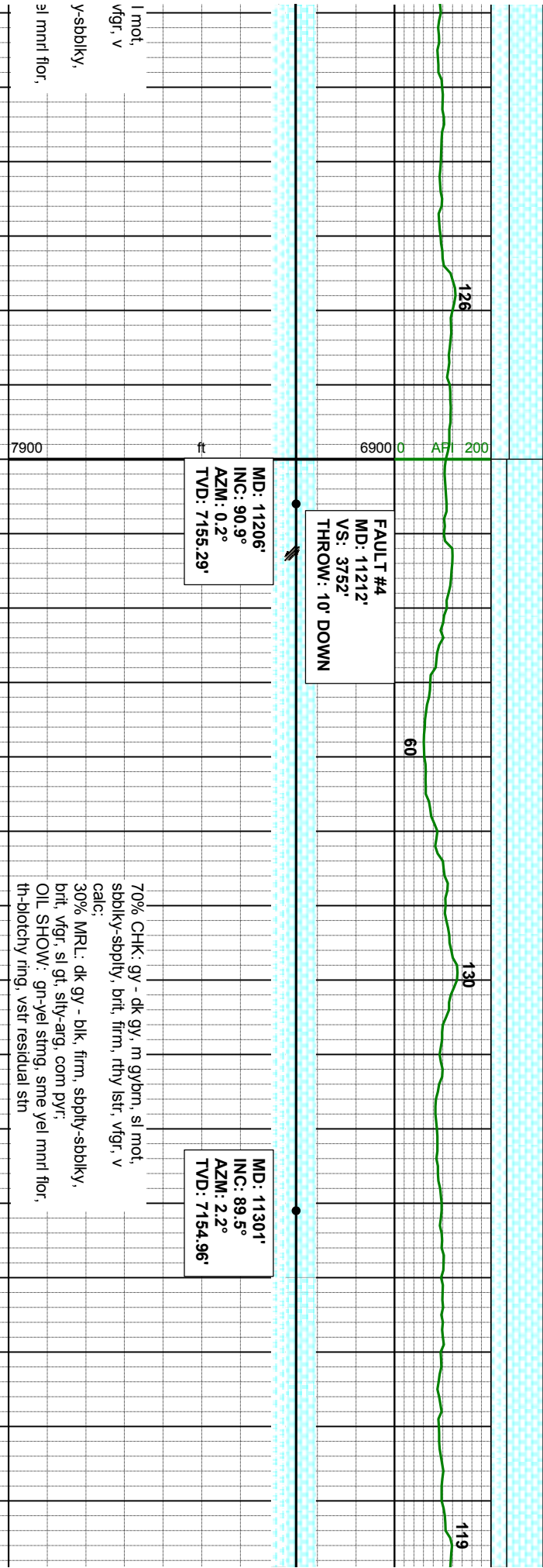
MD: 11111'  
INC: 91.3°  
AZM: 358.8°  
TVD: 7157.12'

60% MRL: dk gy - blk, firm, sbply-sbply, brt, vfg, sl gt, silty-arg, com pyr, 40% CHK: gy - dk gy, m gybm, sl mot, sbply-sbply, brt, firm, rthy lstr, vfg, v calc.  
OIL SHOW: gn-yel strng, sme yel mnd flr, th-blotchy ring, n str

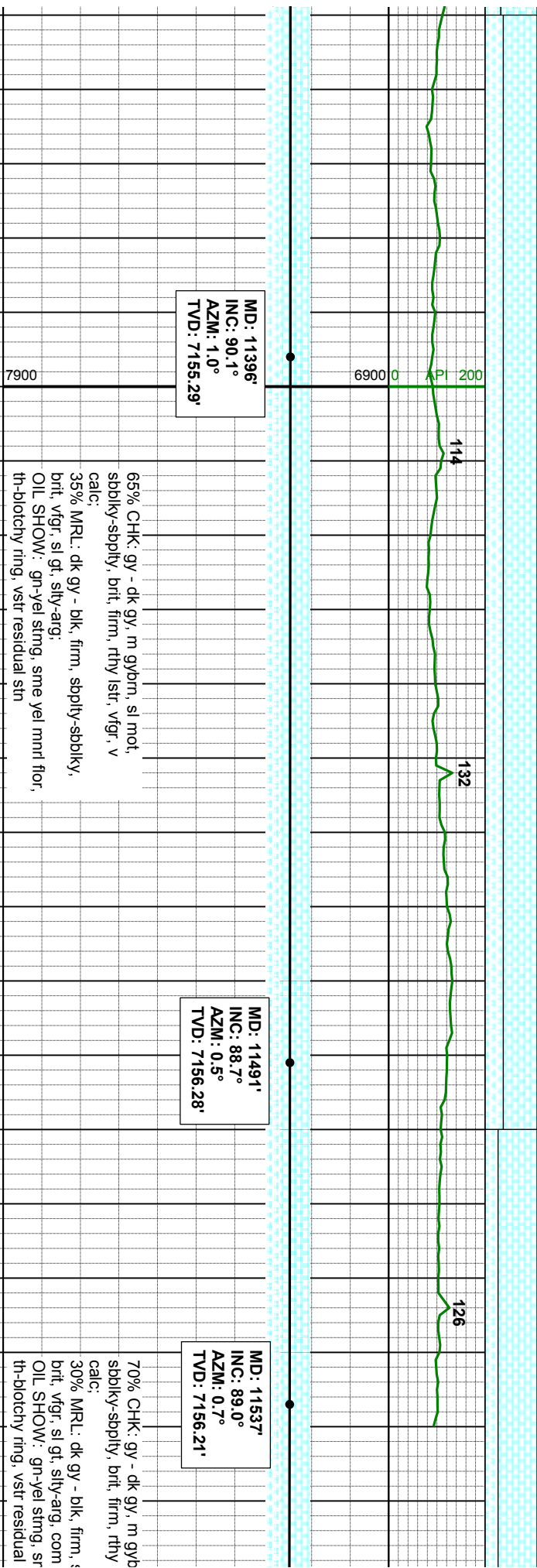
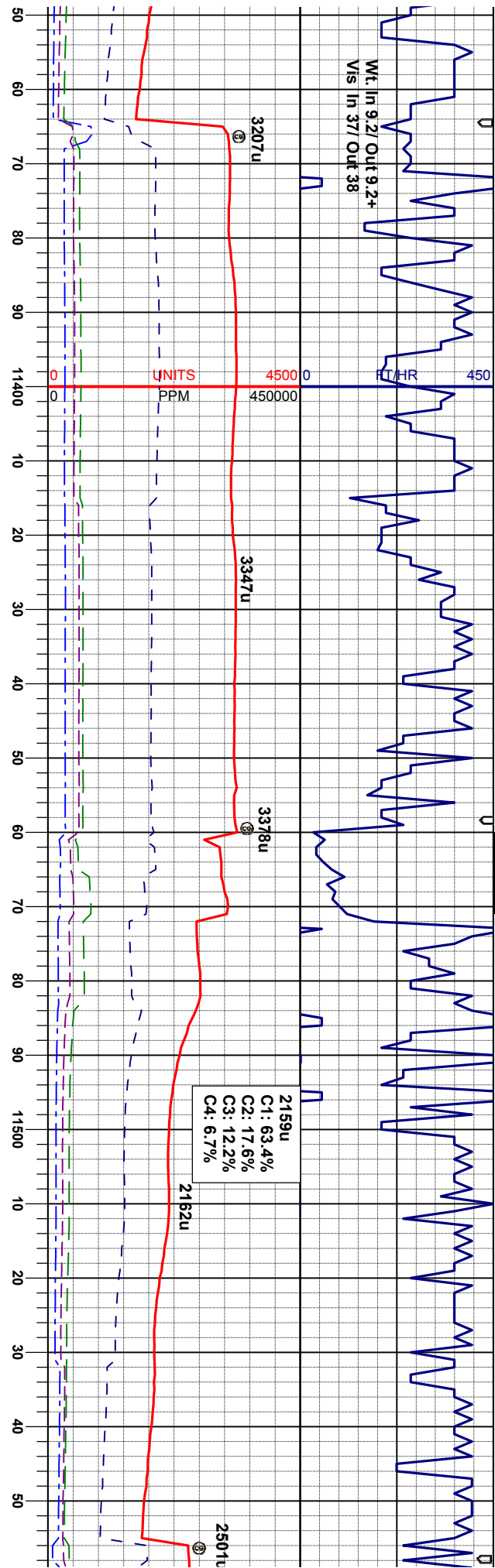
60% CHK: gy - dk gy, m gybm, s sbply-sbply, brt, firm, rthy lstr, calc.  
40% MRL: dk gy - blk, firm, sbply brt, vfg, sl gt, silty-arg, com pyr.  
OIL SHOW: gn-yel strng, sme yel th-blotchy ring, vstr residual str



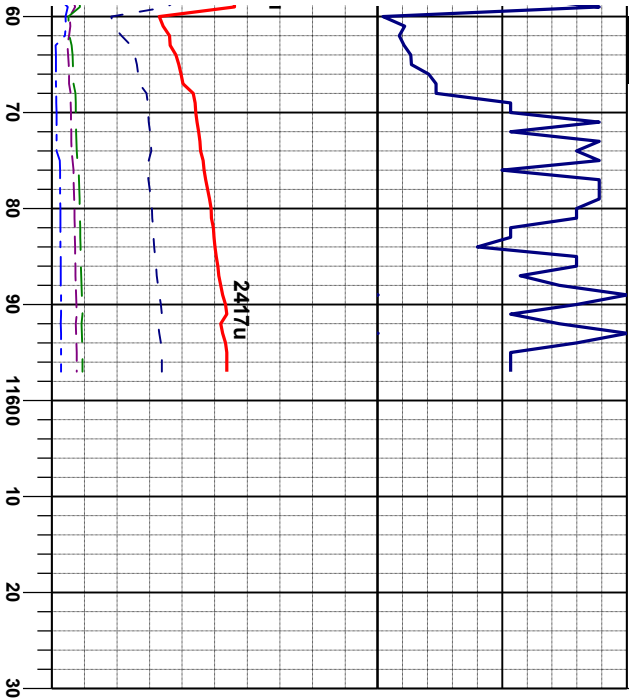












Bydalek 3N-20HZ Wellbore TD @  
11597' MD @ 10:33 hrs on 4/22/13

Thank You for Using  
Columbine Logging, Inc.

Projection to Bit:  
MD: 12597'  
INC: 89.7°  
AZI: 0.5°  
TVD: 7159.3'

rn, sl mot,  
lstr, vfgf, v  
sbply-sbbky,  
pyf,  
ne yel mnr flor,  
stin

