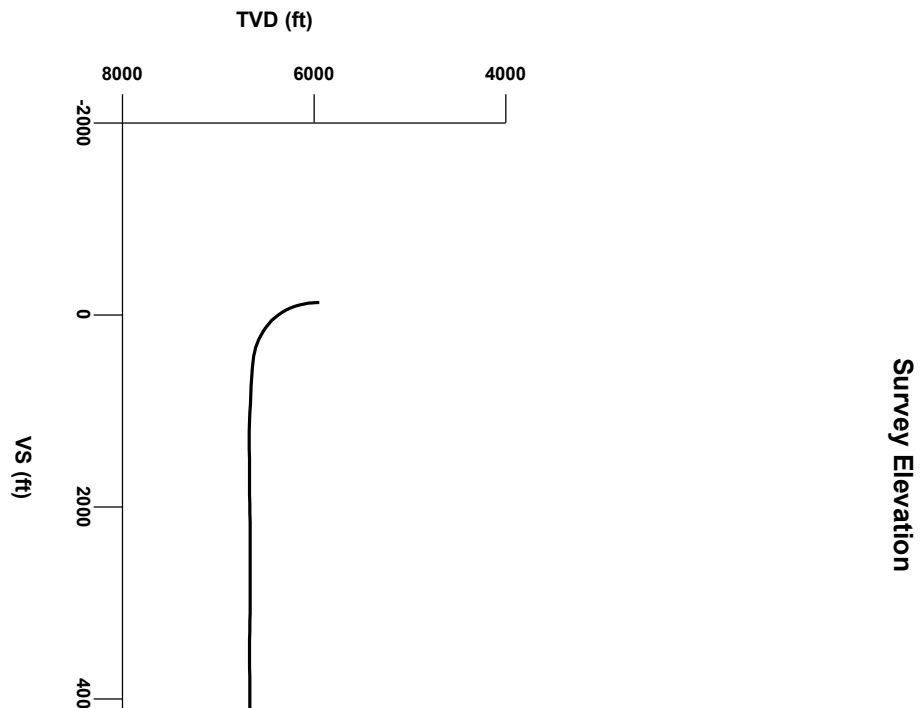


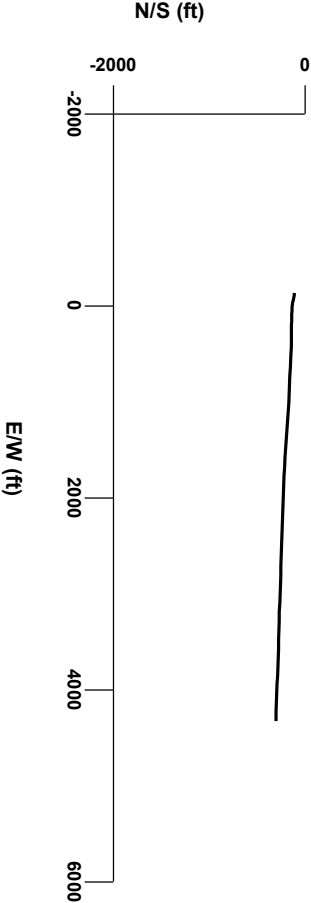
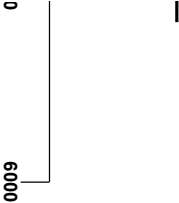


LOG created using LPLOT VH Version 3.0, August 04, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR: NOBLE ENERGY INC.
WELL: WELLS RANCH USX AA27-63-1HN
LOCATION: SEC 27, T6N, R63W
COUNTY: WELD
STATE: COLORADO
SPOT:
ELEVATION:
FIELD: WATTENBURG
SPUD DATE: 07/28/2013
TD DATE:
DATES LOGGED: 07/30/2013 -
DEPTHS LOGGED: 1,000' -
LOGGERS: JOHN READY, MIKE GREENE
DRILLING FLUID: WATER, MUD, POLY
DRILLING RIG: H&P 322
API:
LOG TYPE: HORIZONTAL
SCALE: 1:240 (5 inches per 100 feet)
REMARKS: WELLSITE GEOLOGICAL SERVICES PROVIDED BY COLUMBINE LOGGING INC



Survey Plan



Chalk

Marl

Shaly Sandstone

Silty Shale

ENGINEERING SYMBOLS

Connection

Connection Gas

Arrow

Midnight Depth

Normal Fault

Arrow

0

UNITS

2000

0

C1

PPM

200000

0

C2

PPM

200000

0

C3

PPM

200000

0

C4

PPM

200000

0

FT/HR

2000

0

FT/HR

2000

Log Continued From:

WELLS RANCH USX AA27-63-11H(VERT) Pilot

COLUMBINE LOGGING INC.

RIGGED UP ON 07/29/2013

MANNED 2-PERSON LOGGING

WITH BLOODHOUND GAS

CHROMATOGRAPH UNIT #0315

C1: 99.9%

C2: 0.0%

C3: 0.0%

C4: 0.1%

936u

MUD WT 9.10 VIS 34

94

696u

DEPTH (FEET)

5950

60

70

80

90

6000

10

20

30

40

50

60

70

80

CUTTINGS LITHOLOGY

50

API

250

GAMMA

5900

MD 5960'

INC 1.00°

AZM 98.55°

TVD 5947.35'

MD 5983'

INC 0.77°

AZM 111.98°

TVD 5970.35'

MD 6030'

INC 2.96°

AZM 95.87°

TVD 6017.32'

MD 60

INC 7.1

AZM 91.

TVD 6064.

BHA #2

Bit: 8.750"

Motor: 6.75"

Manufacturer: Schlumberger/Smith

Model: SDI611

Serial Number: JH1144

Nozzles: 6x14

Motor: 6.75"

Manufacturer: Sperry Drilling

Model: SDI611

Serial Number: 675-0157

Bend: 2.00

95% SILTY SH: m gy - occ v dk gy, firm -sft, sbbly -

sbbly, rthy sl silty tex

5% SHYSS: lt gy- sme s&p, v-fgr, sbnd - sbang, mod

srt, rti, p por, arg cml, sme tr blot

100% SILTY SH: m-dk gy occ m brn -tan, firm - sl sft,

rthy - sl silty tex, tr ss

100% SILTY SH: m-dk gy occ n

rthy - sl silty tex, tr ss

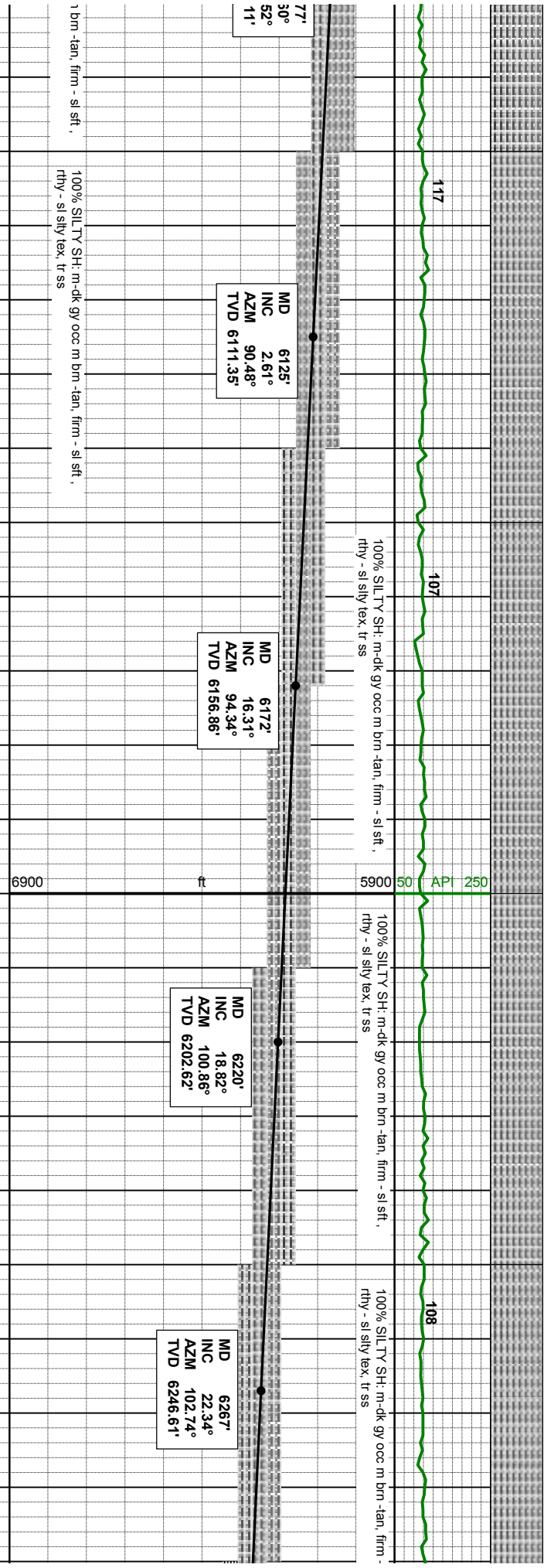
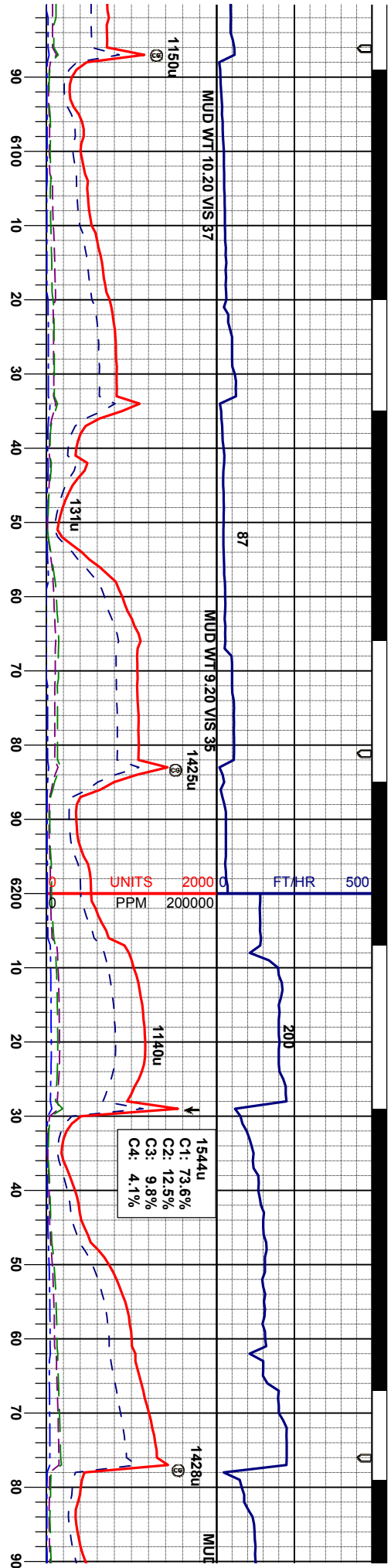
TVF

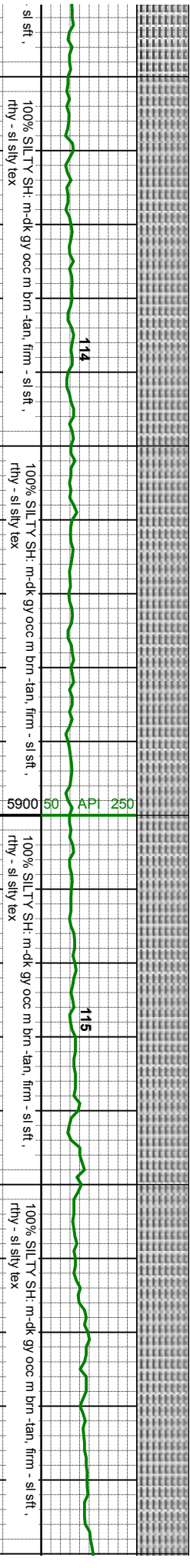
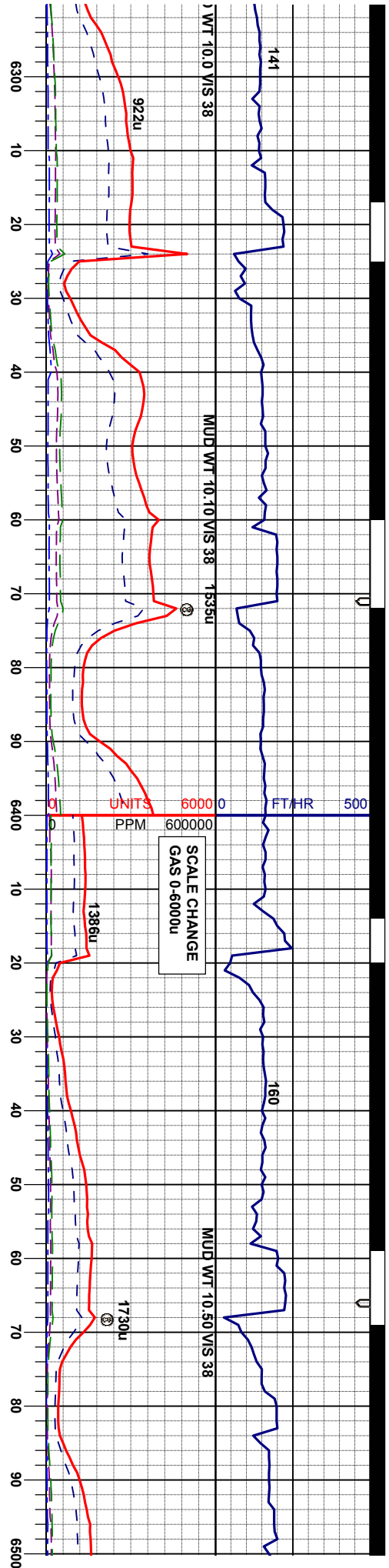
6900

ft

5900

SAMPLE PHOTOS





MD 6315'
INC 26.66°
AZM 102.59°
TVD 6290.28'

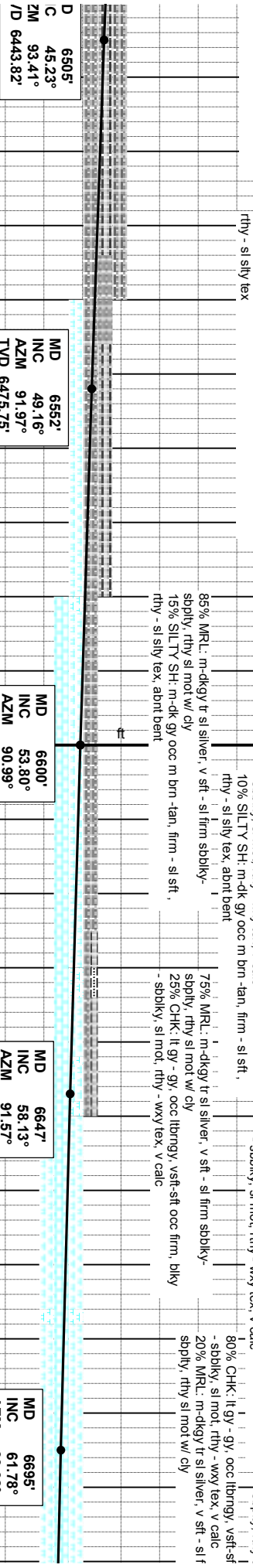
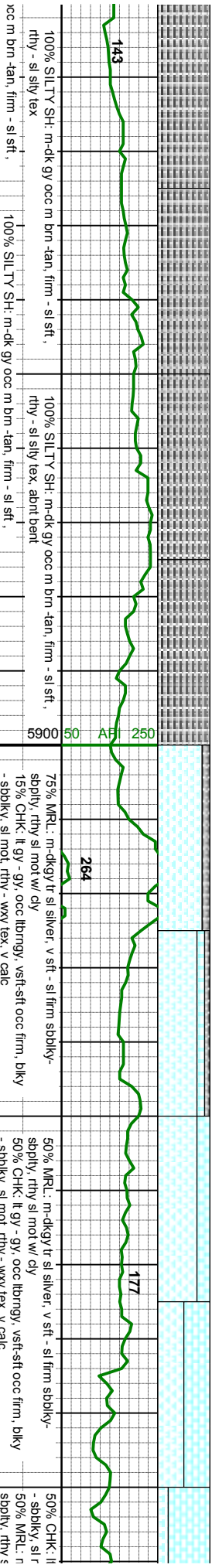
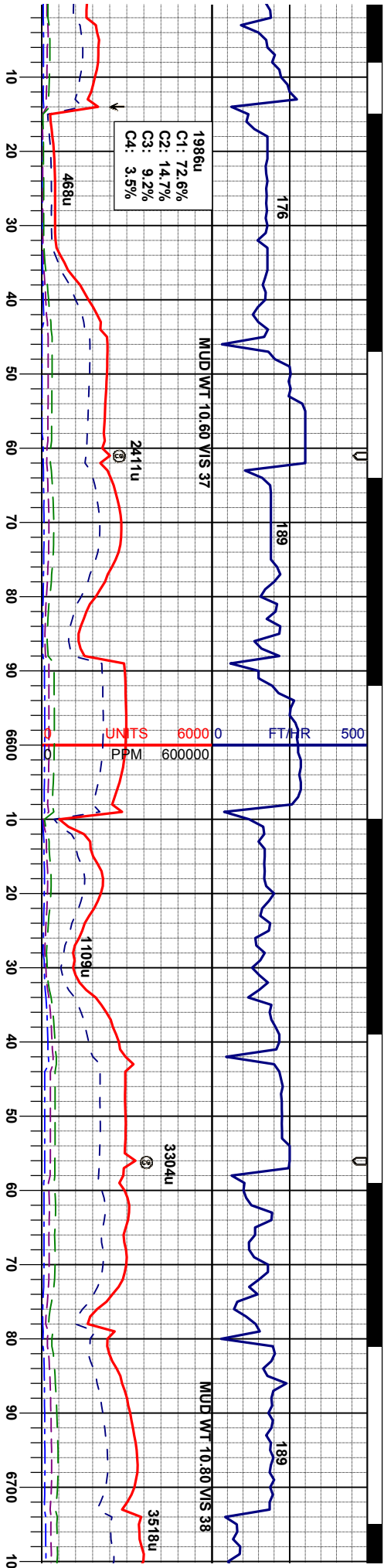
MD 6362'
INC 31.01°
AZM 100.34°
TVD 6331.45'

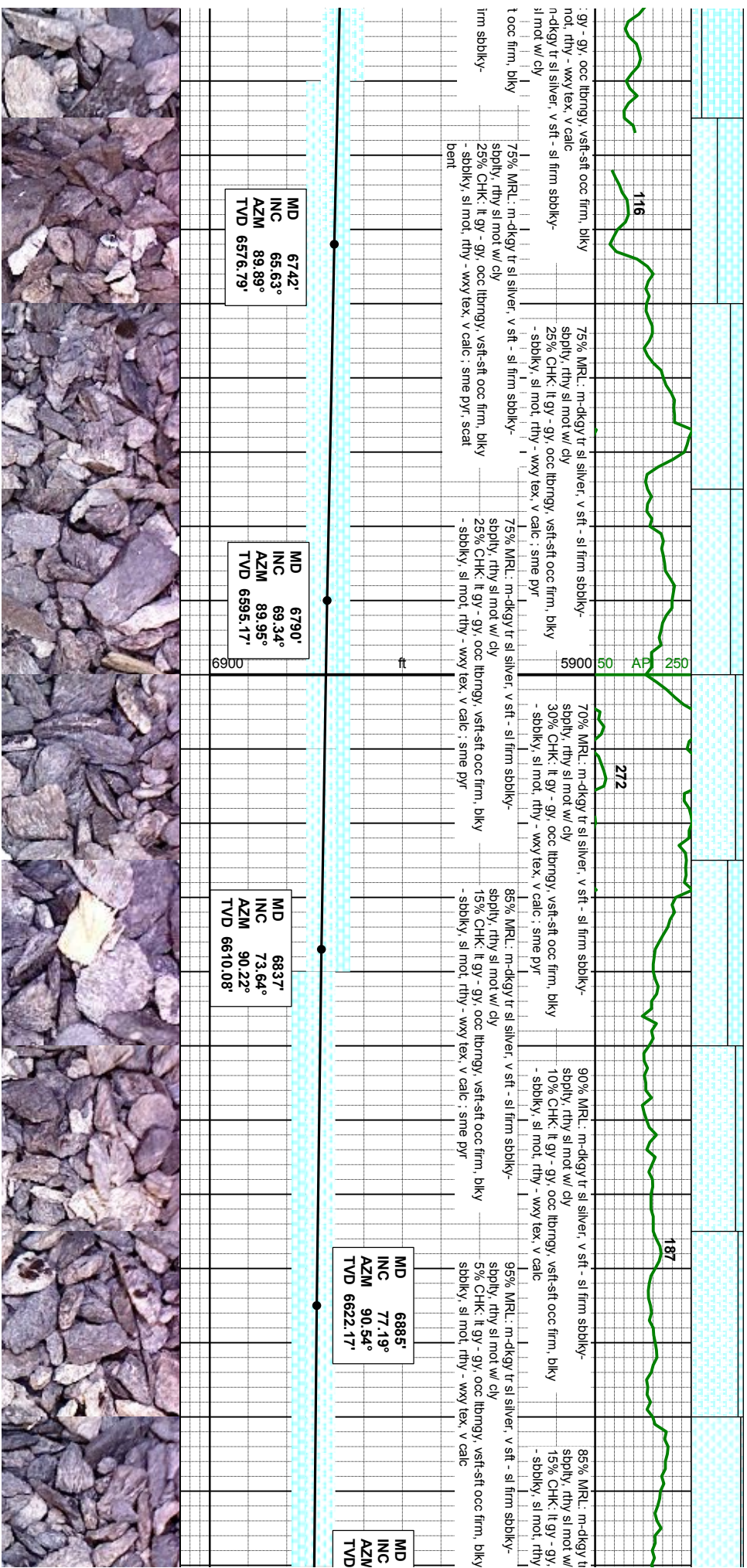
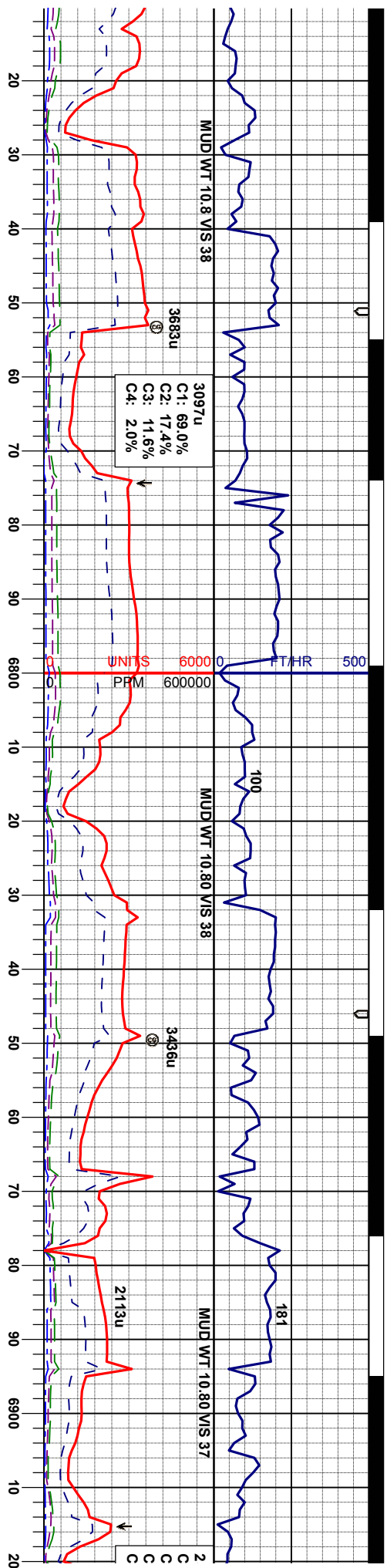
MD 6410'
INC 35.58°
AZM 96.93°
TVD 6371.56'

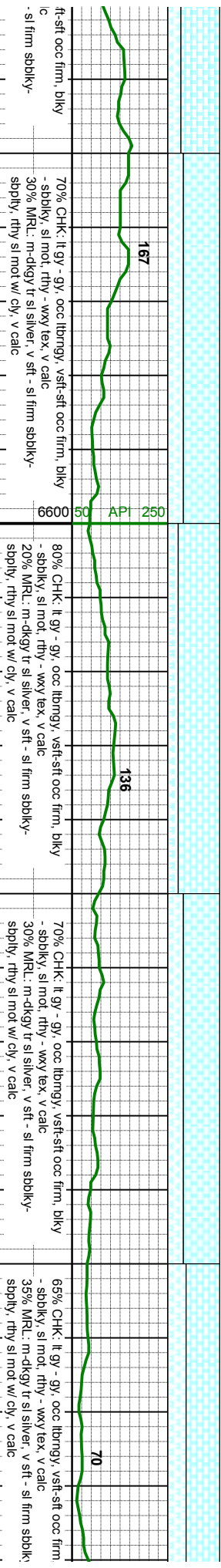
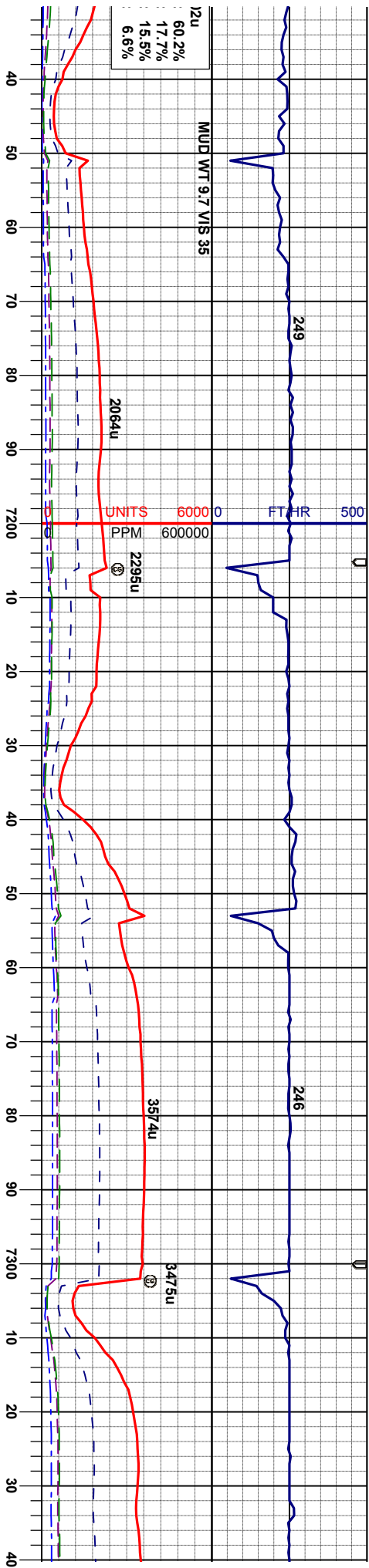
MD 6457'
INC 40.35°
AZM 95.25°
TVD 6408.60'

M IN A: TV







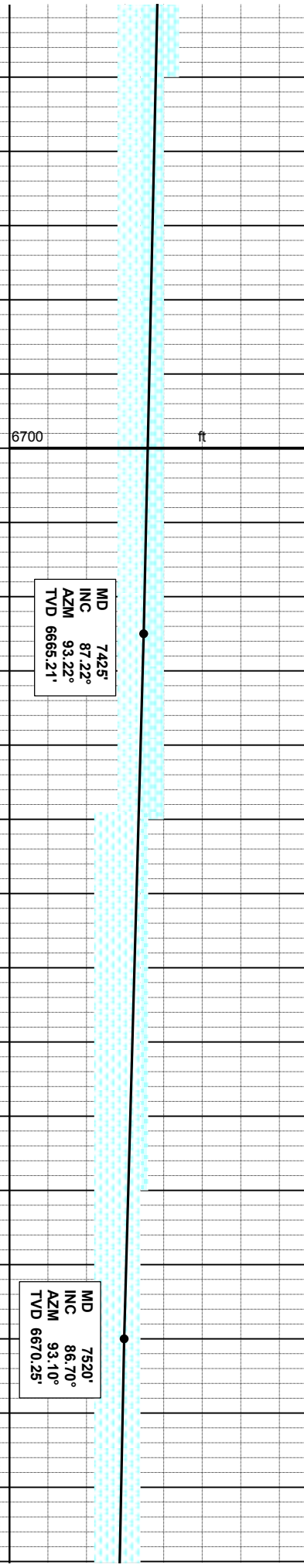
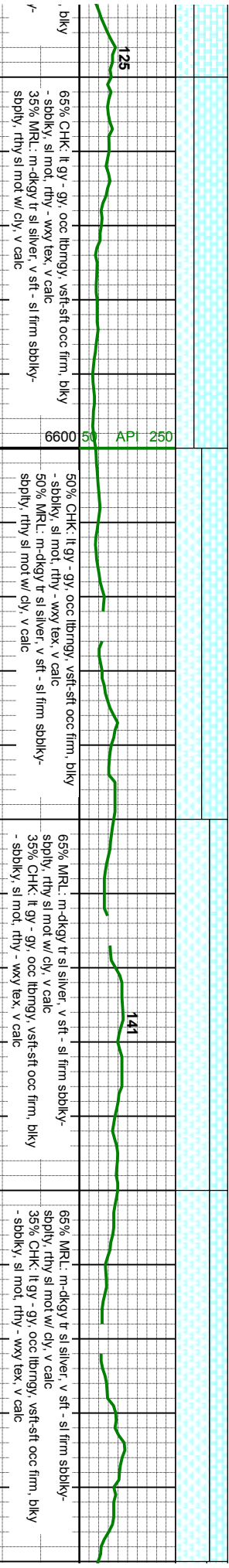
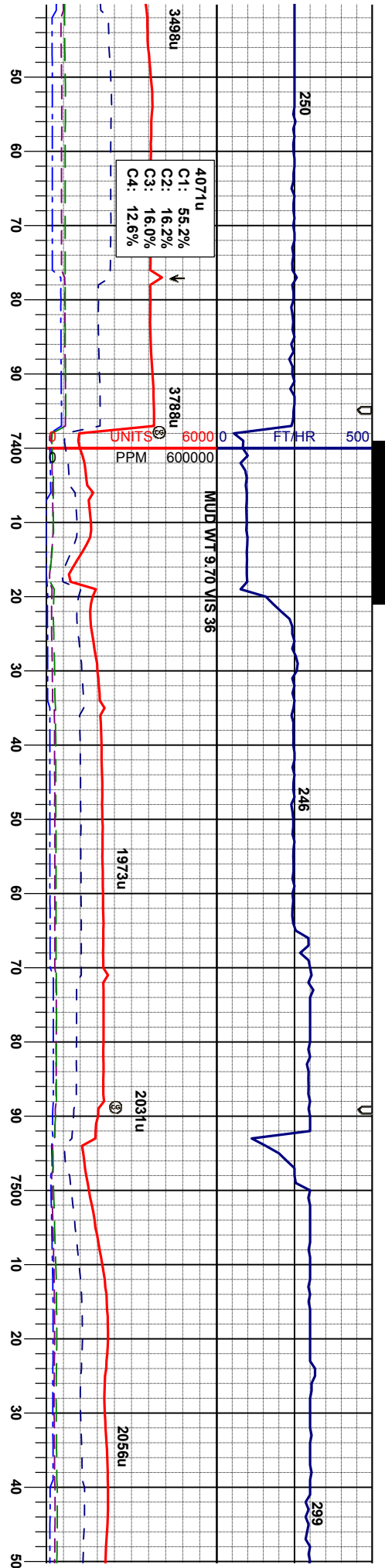


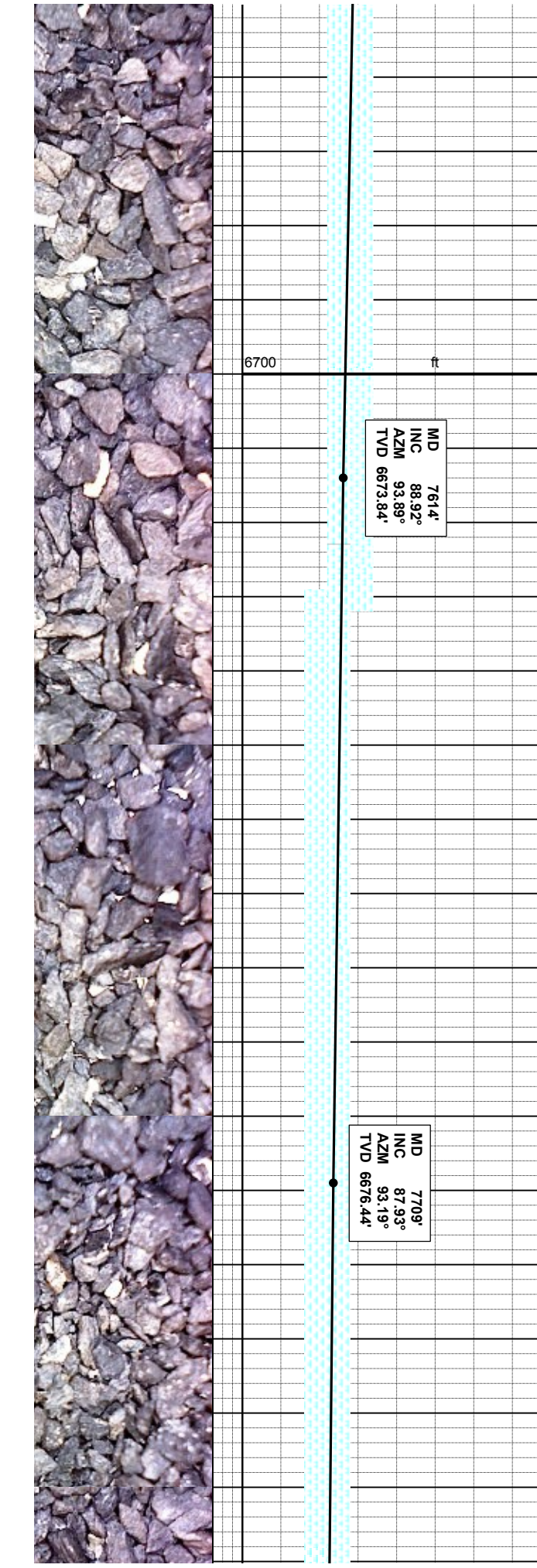
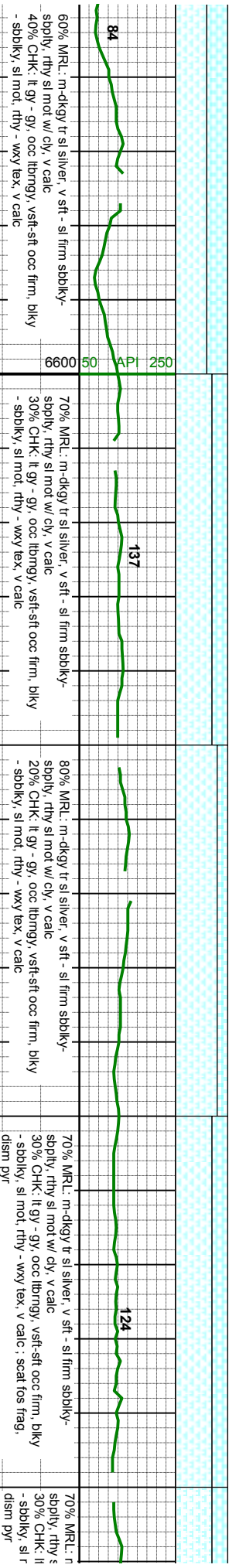
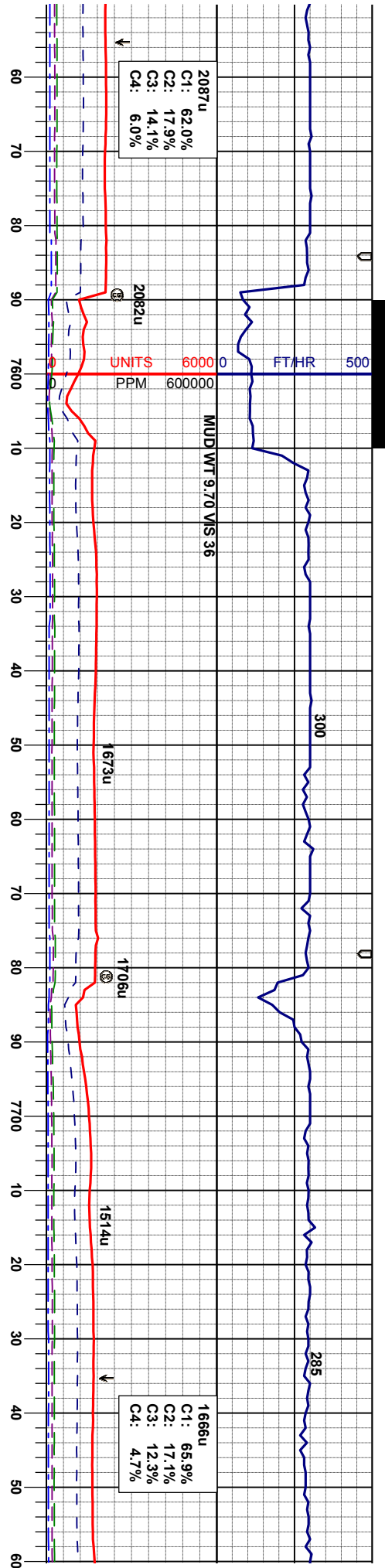
MD 7141'
INC 86.61°
AZM 92.82°
TVD 6652.22'

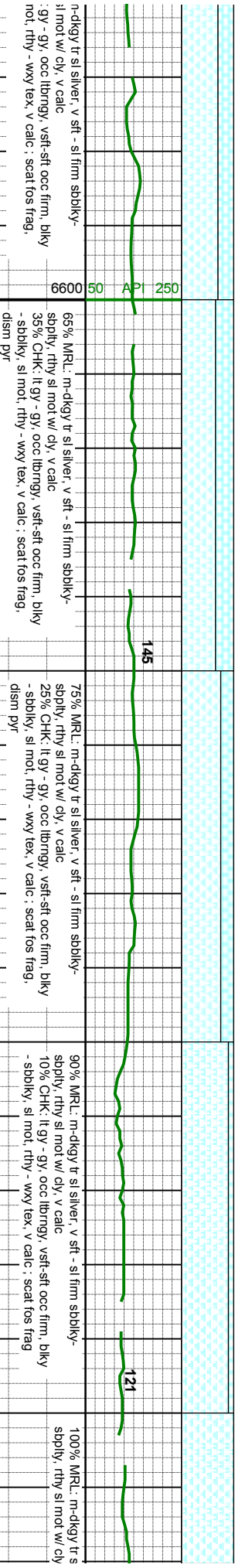
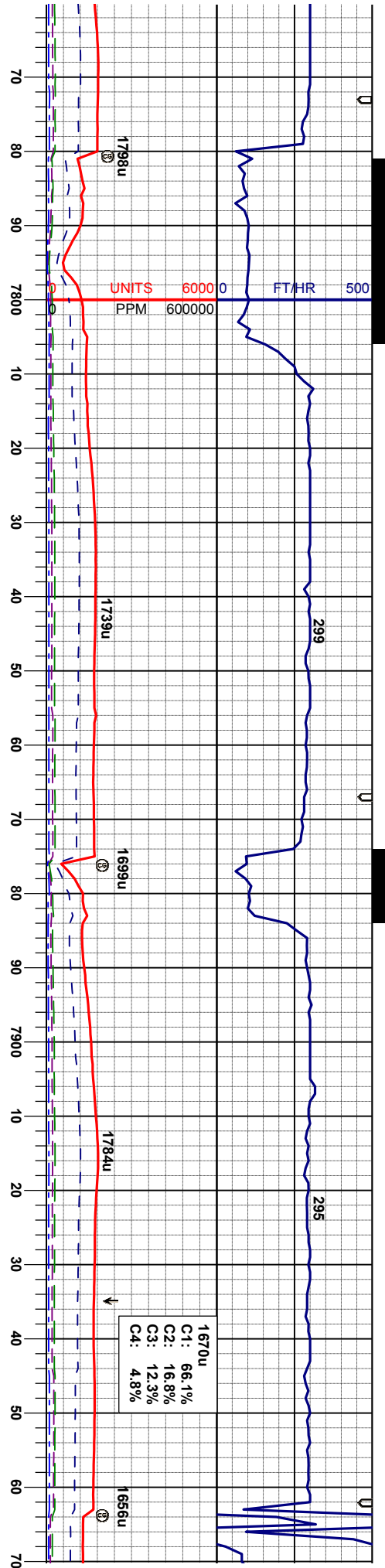
MD 7236'
INC 87.23°
AZM 92.21°
TVD 6657.33'

MD 7331'
INC 87.99°
AZM 91.72°
TVD 6661.29'



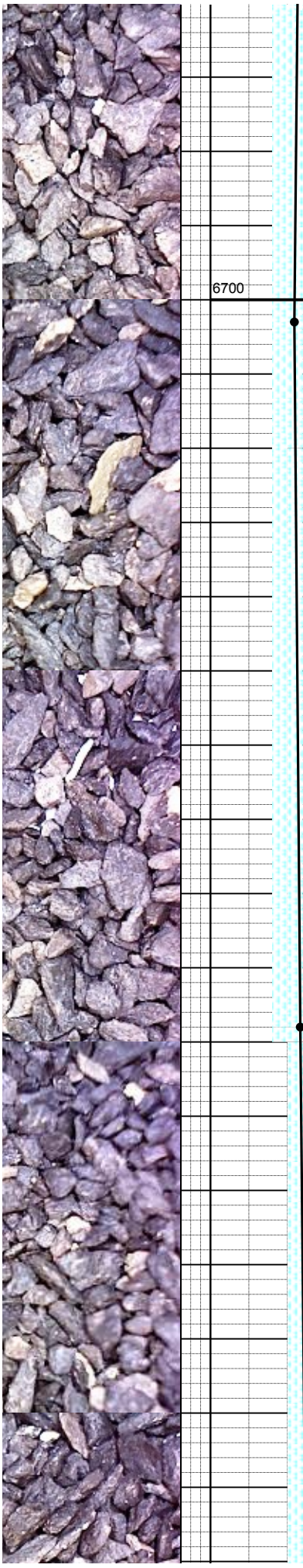


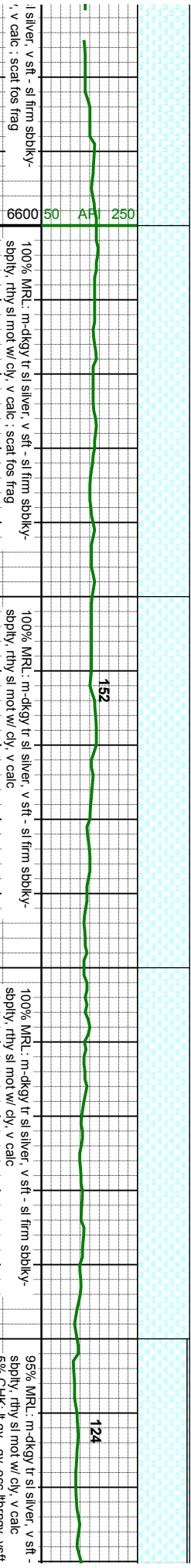
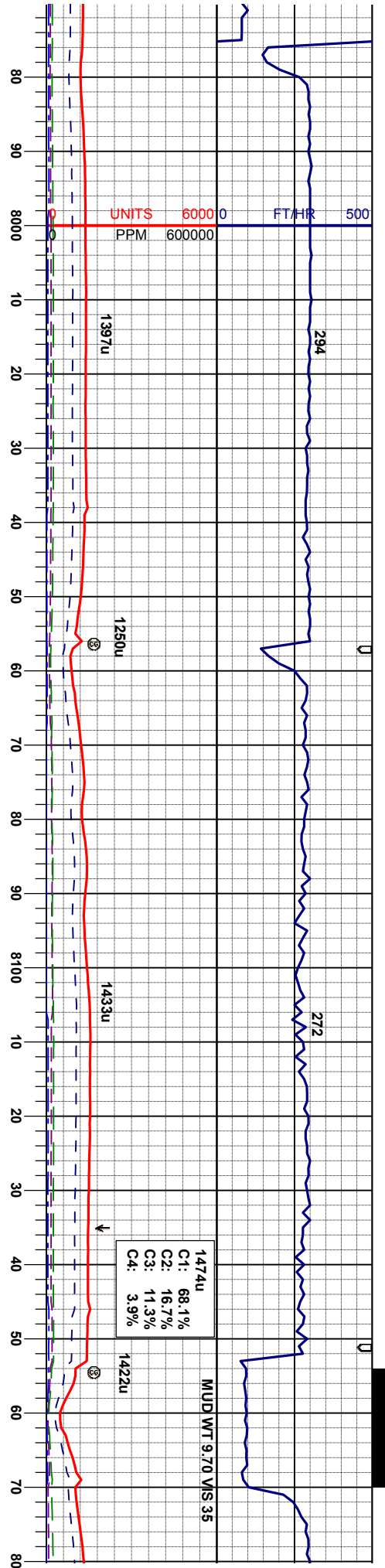




MD 7803'
INC 89.88°
AZM 94.64°
TVD 6678.24'

MD 7898'
INC 92.03°
AZM 94.13°
TVD 6676.65'



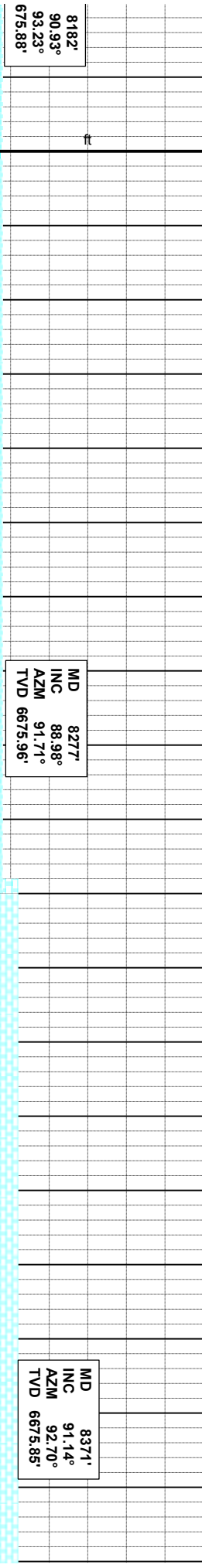
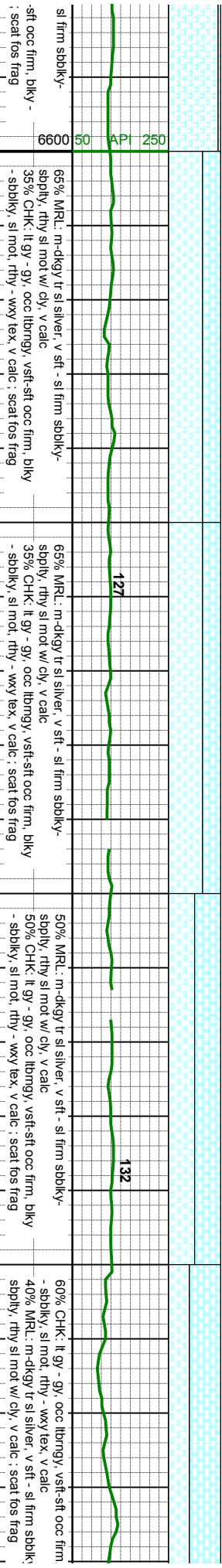
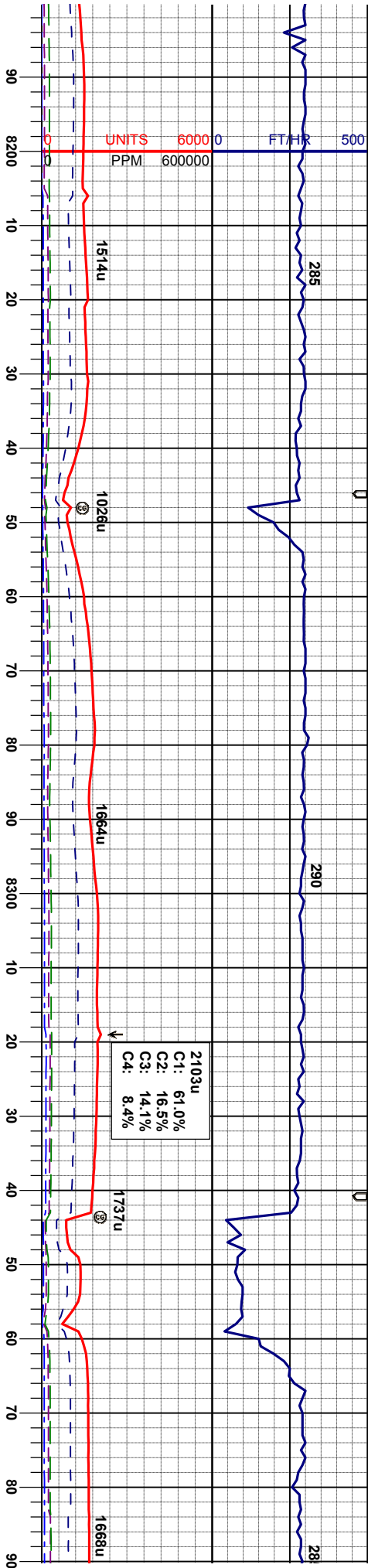


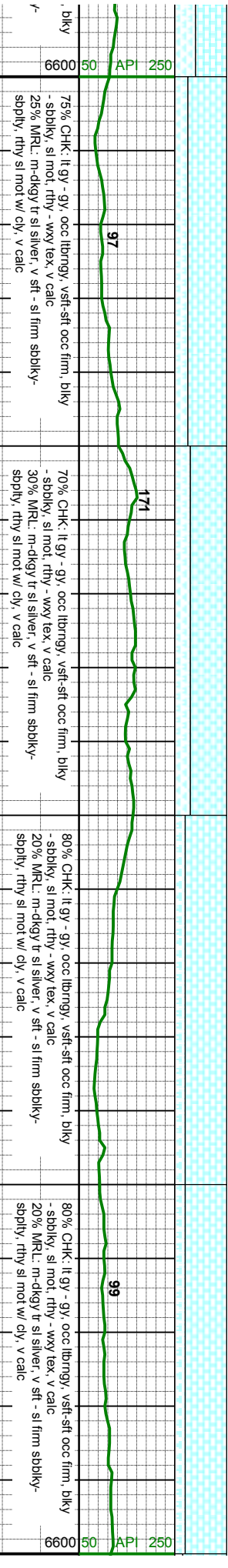
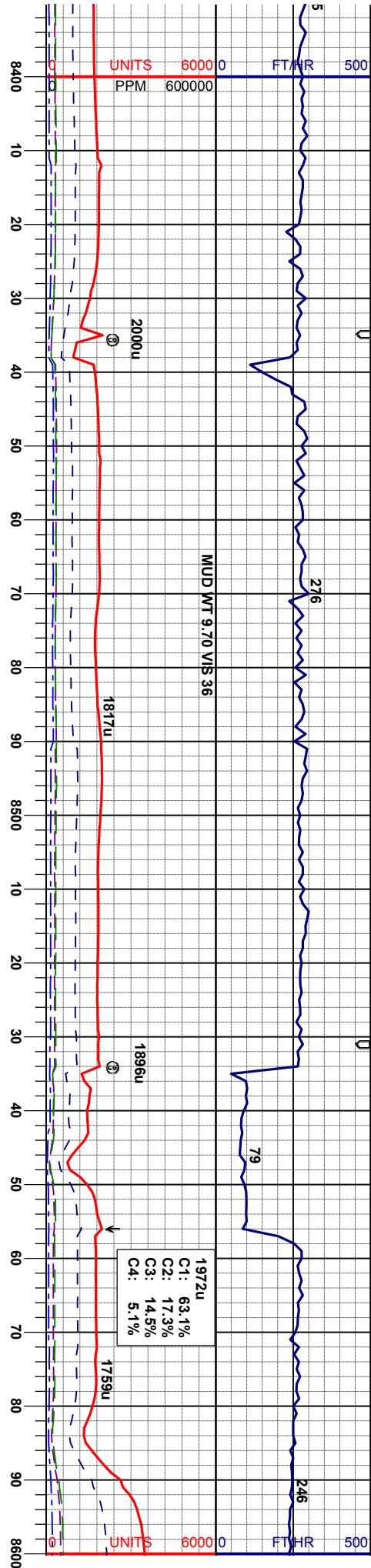
MD 7993'
INC 90.09°
AZM 94.40°
TVD 6674.89'

MD 8087'
INC 88.89°
AZM 93.25°
TVD 6675.73'

MD
INC
AZM
TVD 6



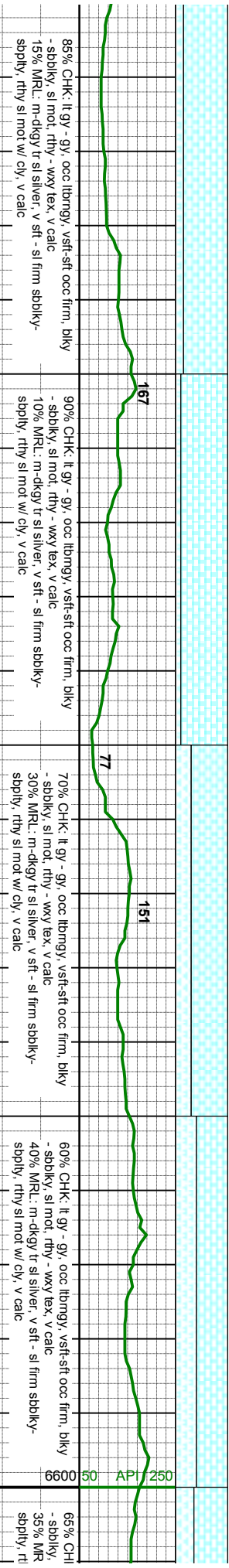
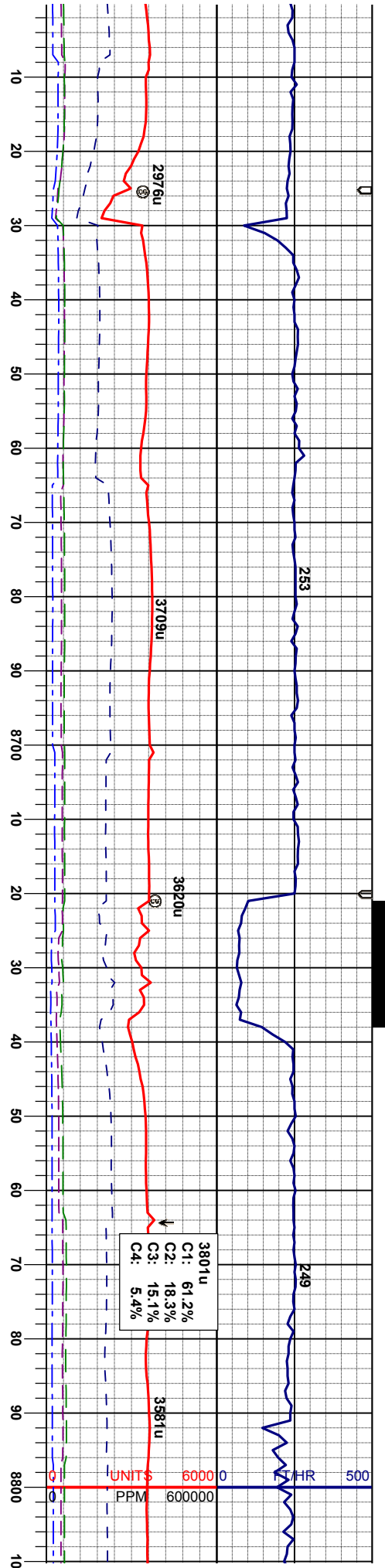




MD 8467'
INC 92.41°
AZM 91.69°
TVD 6672.88'

MD 8561'
INC 90.31°
AZM 92.25°
TVD 6670.65'

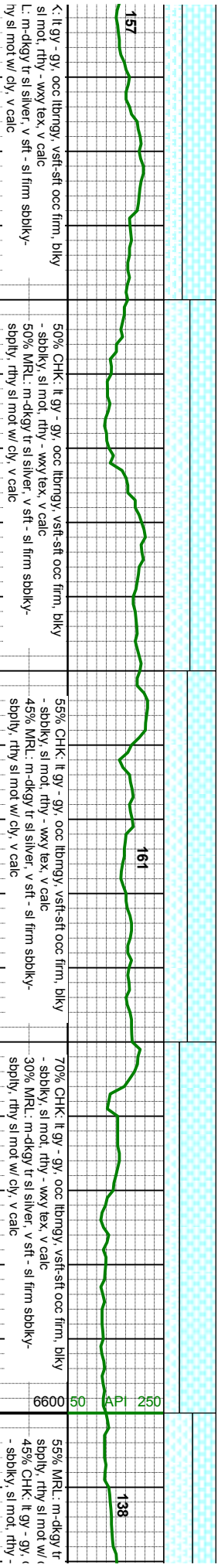
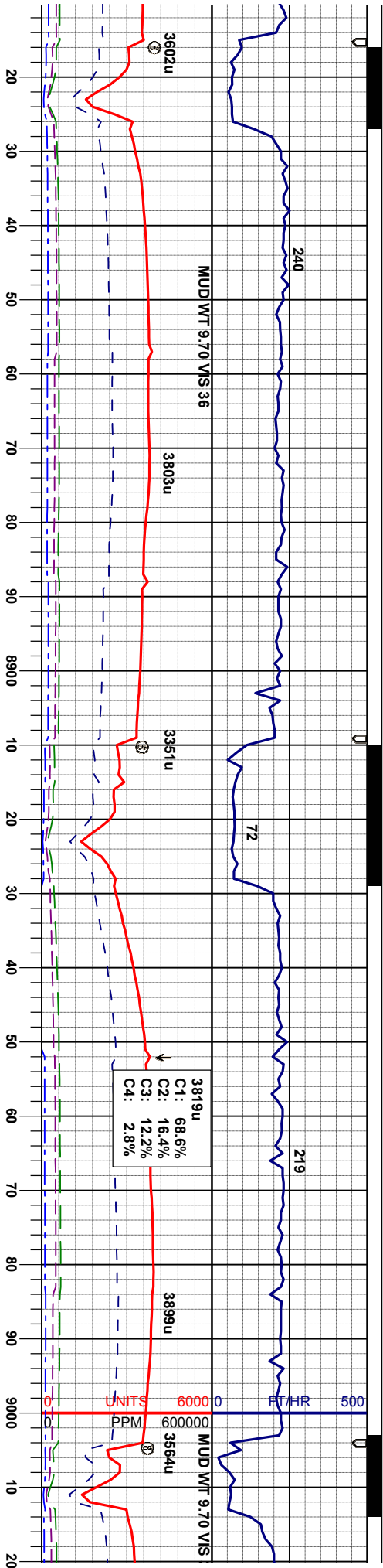




MD 8656'
INC 91.30°
AZM 91.70°
TVD 6669.32'

MD 8751'
INC 90.43°
AZM 91.44°
TVD 6667.89'

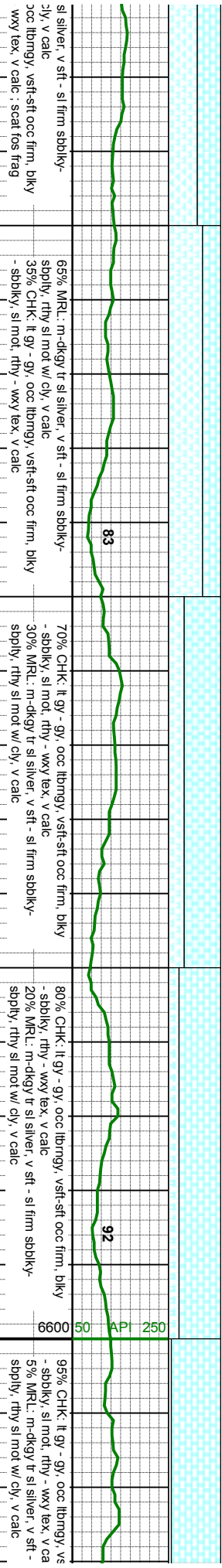
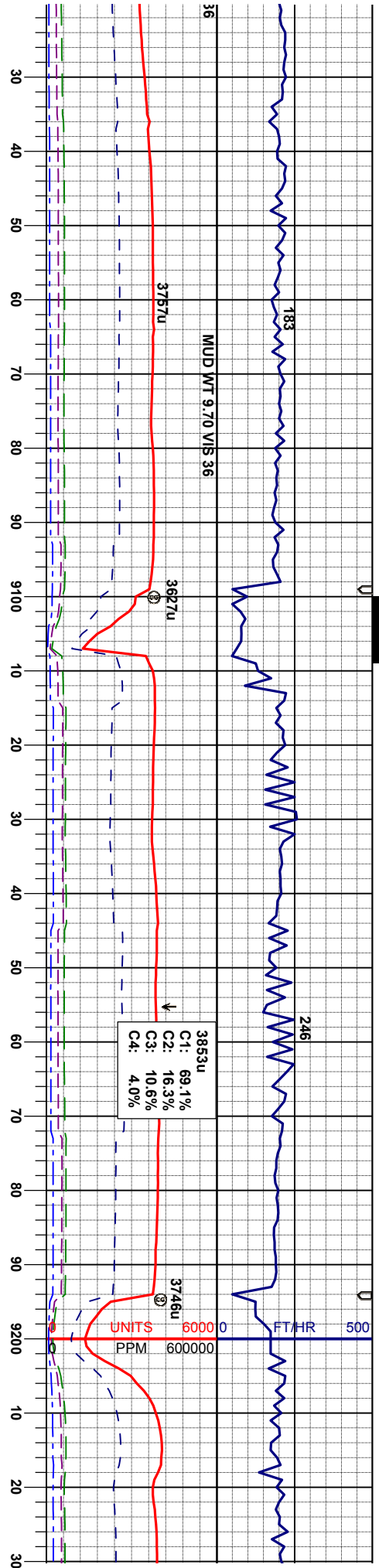




MD 8845'
INC 90.52°
AZM 92.49°
TVD 6667.11'

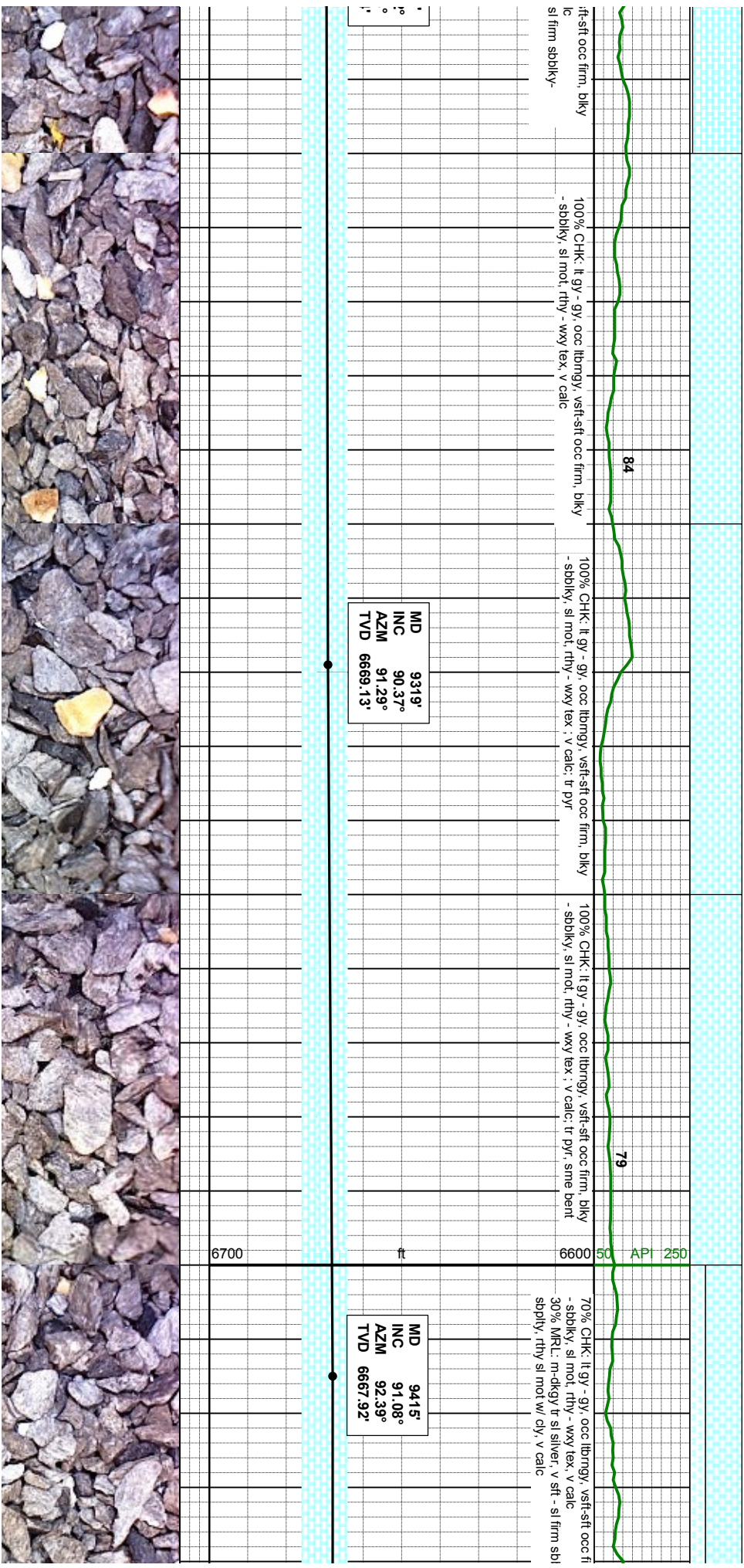
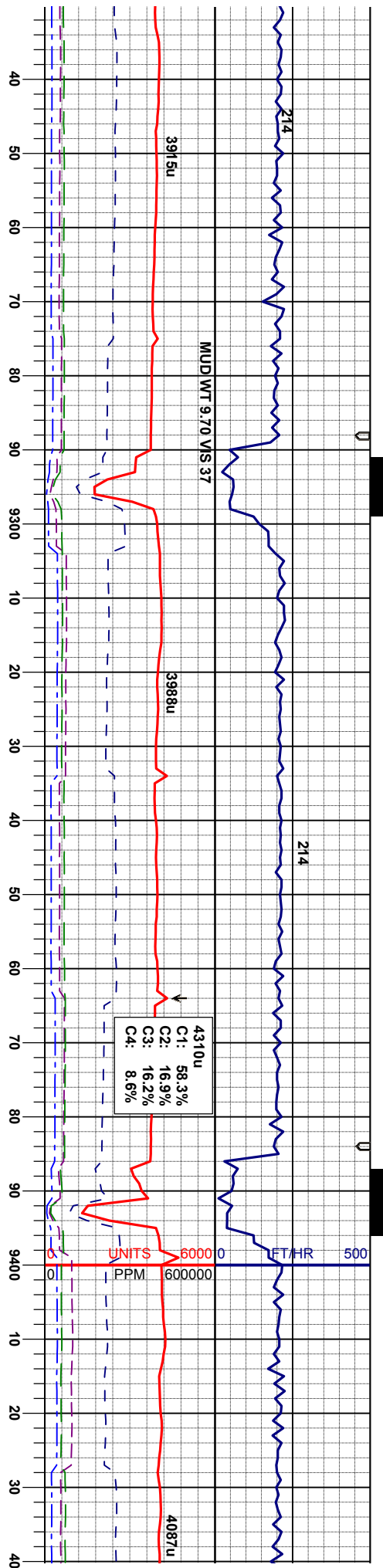
MD 8940'
INC 89.51°
AZM 93.46°
TVD 6667.08'

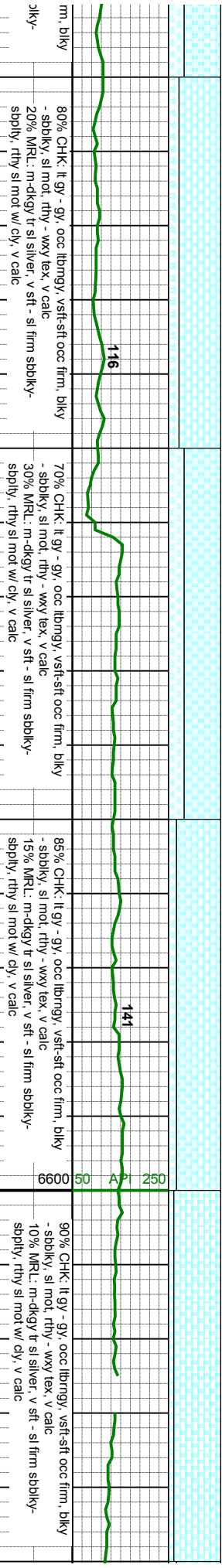
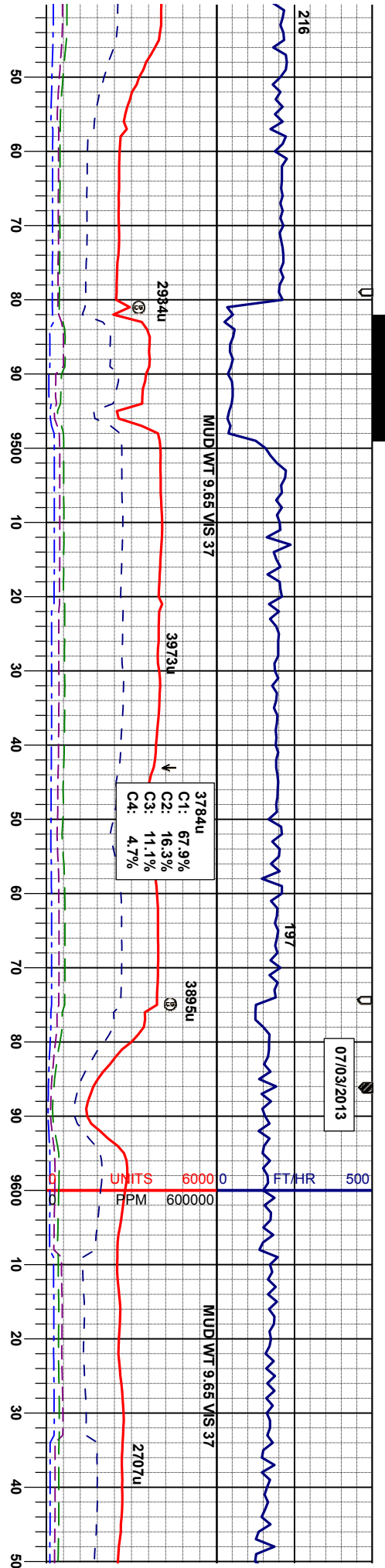




MD 9035'	INC 89.72°	AZM 92.13°	TVD 6667.72'
MD 9130'	INC 88.98°	AZM 91.03°	TVD 6668.80'
MD 9225'	INC 90.12°	AZM 90.64°	TVD 6669.54'



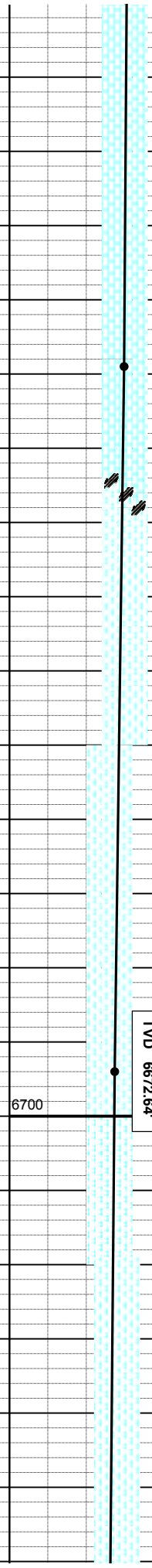
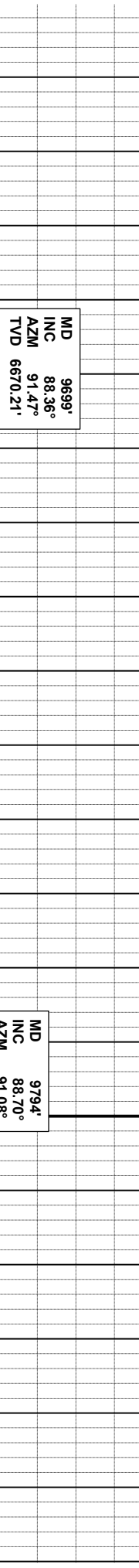
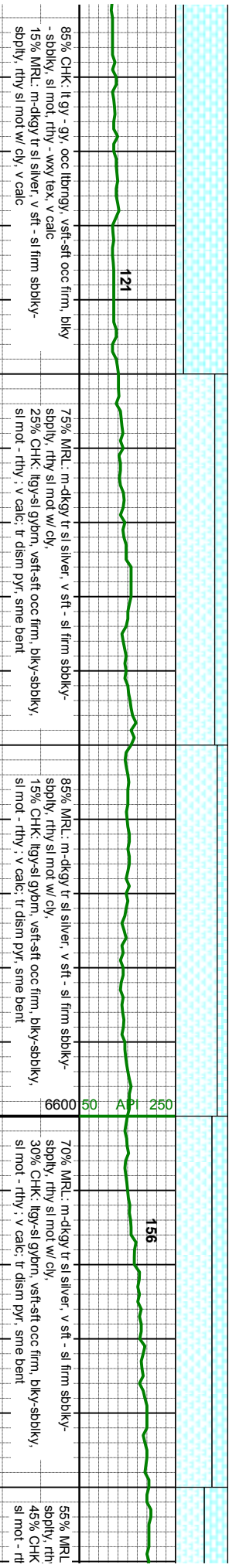
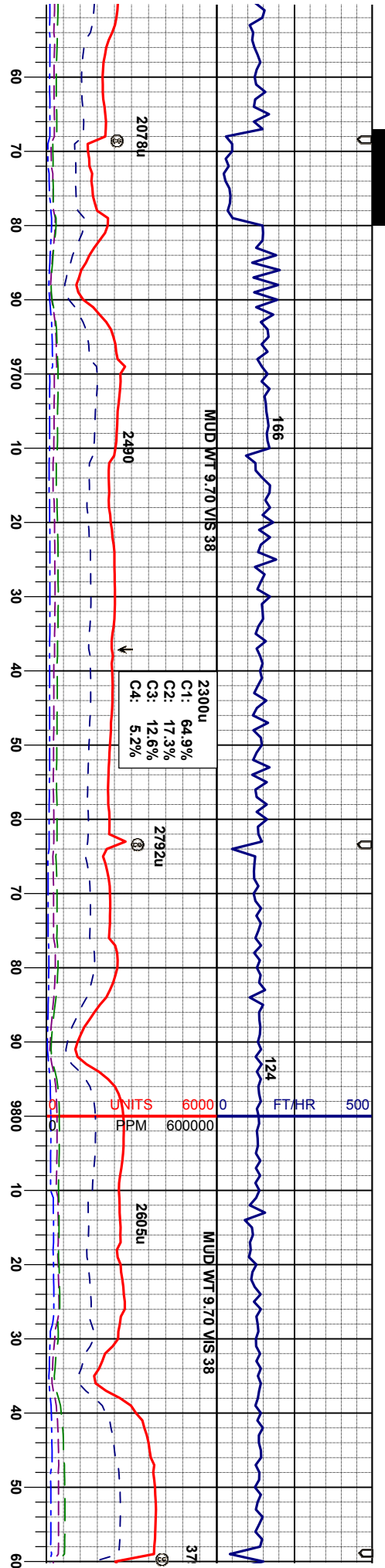


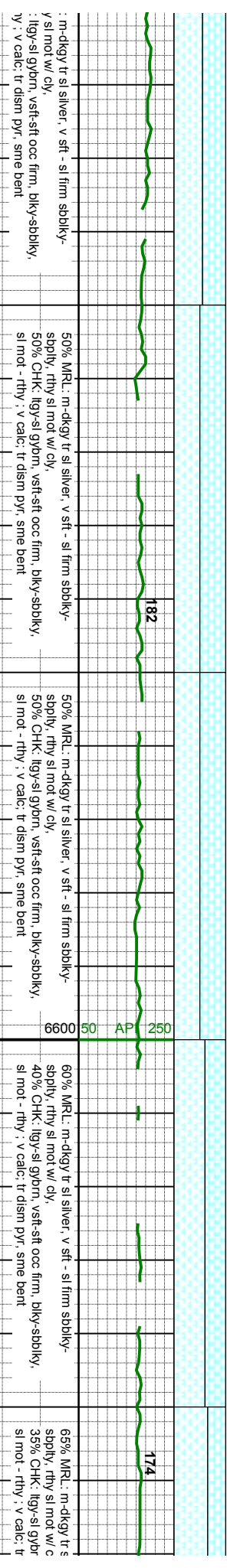
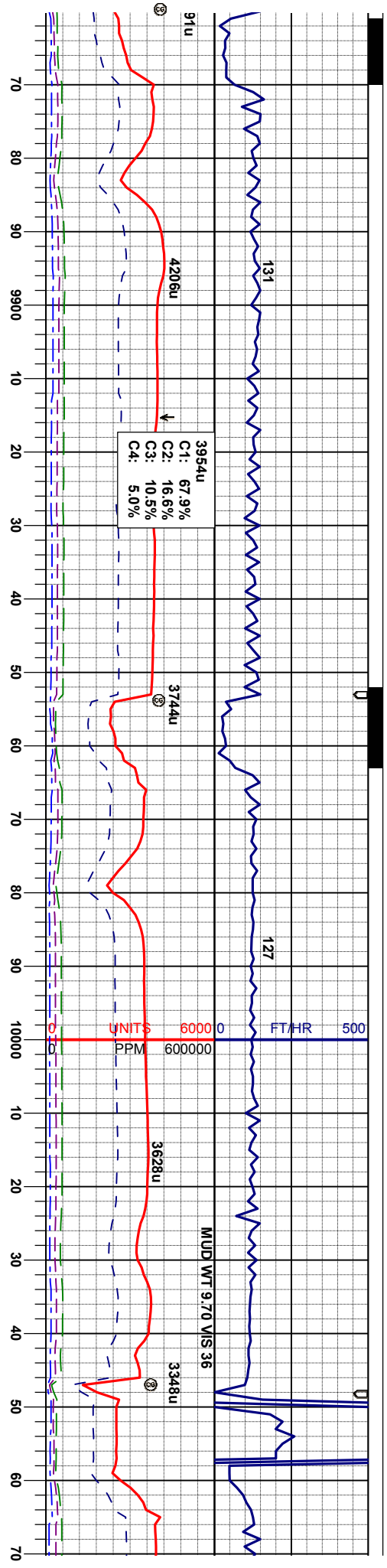


MD 9510'
INC 88.86°
AZM 92.43°
TVD 6667.97'

MD 9604'
INC 90.03°
AZM 92.60°
TVD 6668.88'



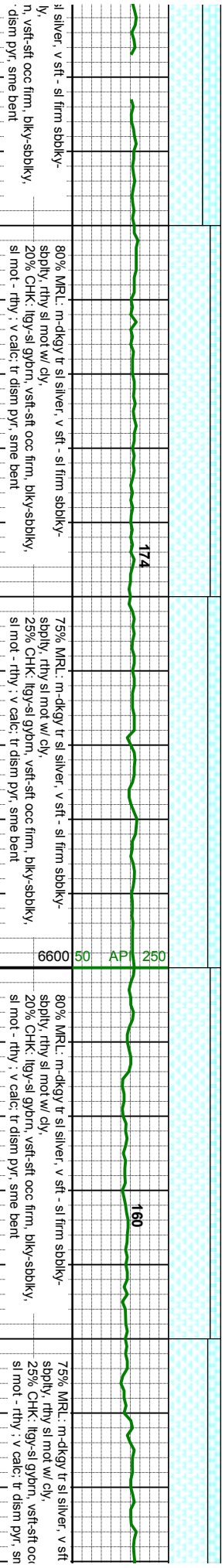
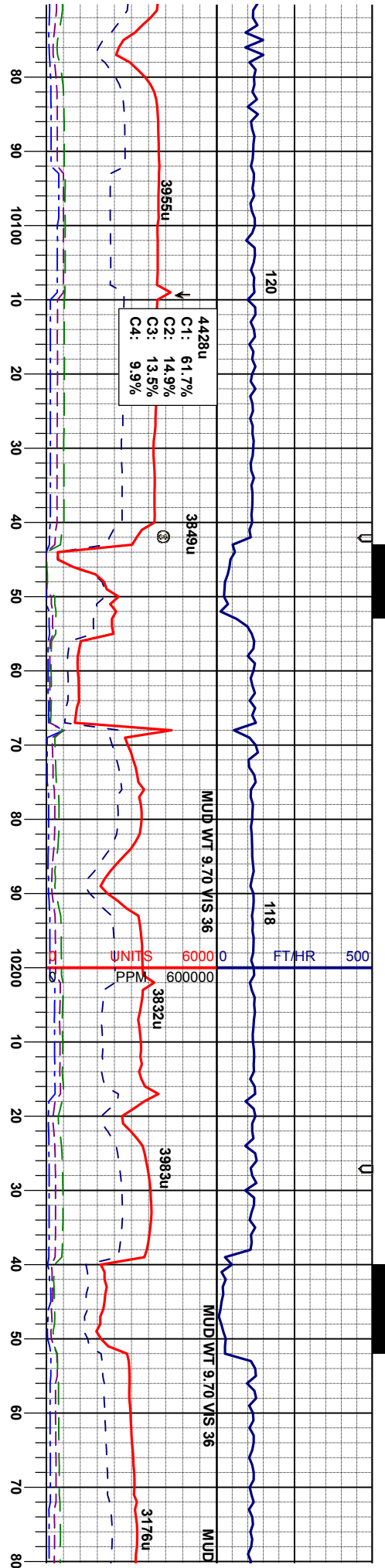




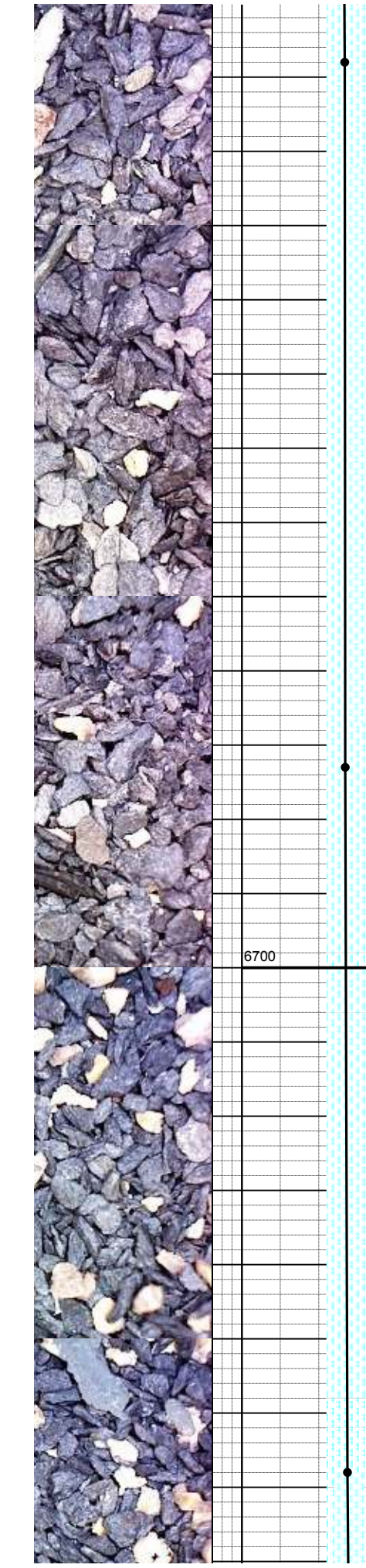
MD 9889'
INC 89.38°
AZM 91.54°
TVD 6674.23'

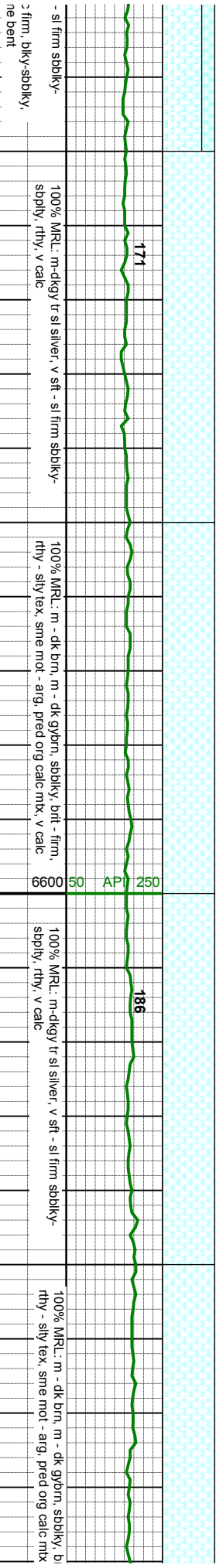
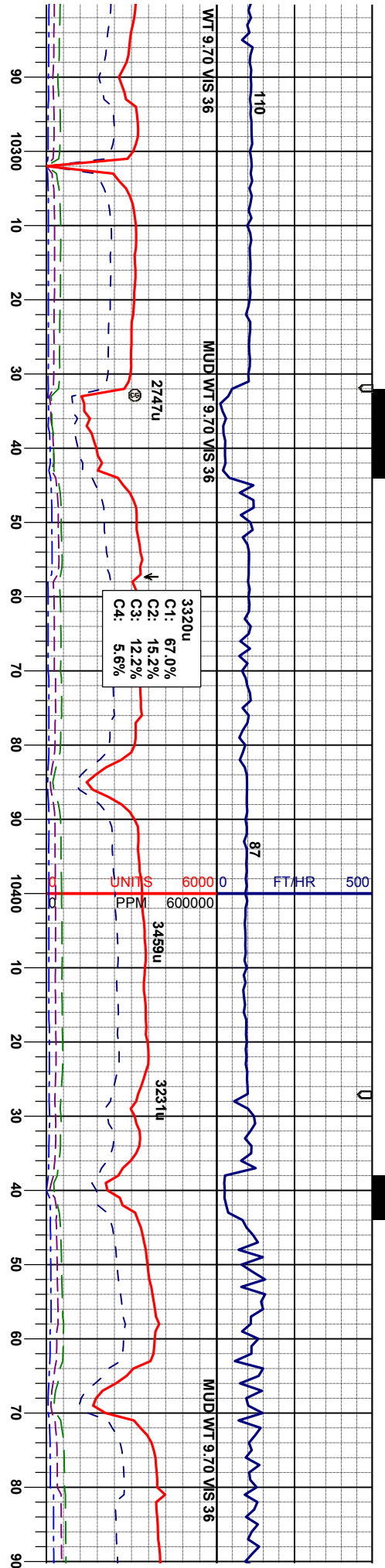
MD 9884'
INC 90.56°
AZM 91.33°
TVD 6674.28'





MD INC 10078° AZM 91.75° TVD 6673.27'	80% MR.L: m-dkgy tr sl silver, v sft - sl firm sbdky-sbply, rthy sl mot w/ clay, 20% CHK: lgy-sl gypm, vsft-sft occ firm, blkys-sbdky, sl mot - rthy, v calc, tr dism pyr, sme bent	174	80% MR.L: m-dkgy tr sl silver, v sft - sl firm sbdky-sbply, rthy sl mot w/ clay, 20% CHK: lgy-sl gypm, vsft-sft occ firm, blkys-sbdky, sl mot - rthy, v calc, tr dism pyr, sme bent	174	80% MR.L: m-dkgy tr sl silver, v sft - sl firm sbdky-sbply, rthy sl mot w/ clay, 20% CHK: lgy-sl gypm, vsft-sft occ firm, blkys-sbdky, sl mot - rthy, v calc, tr dism pyr, sme bent	160	75% MR.L: m-dkgy tr sl silver, v sft - sl firm sbdky-sbply, rthy sl mot w/ clay, 25% CHK: lgy-sl gypm, vsft-sft occ firm, blkys-sbdky, sl mot - rthy, v calc, tr dism pyr, sme bent	10268° INC 91.20° AZM 92.29° TVD 6672.58'

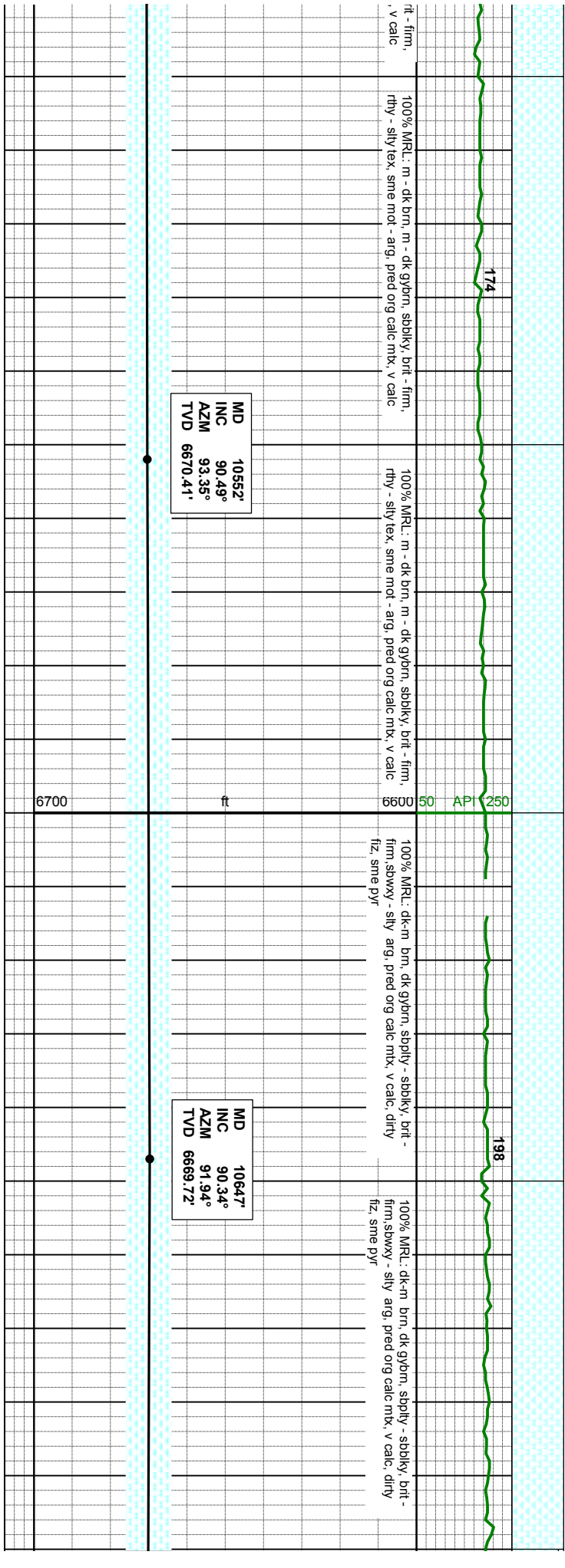
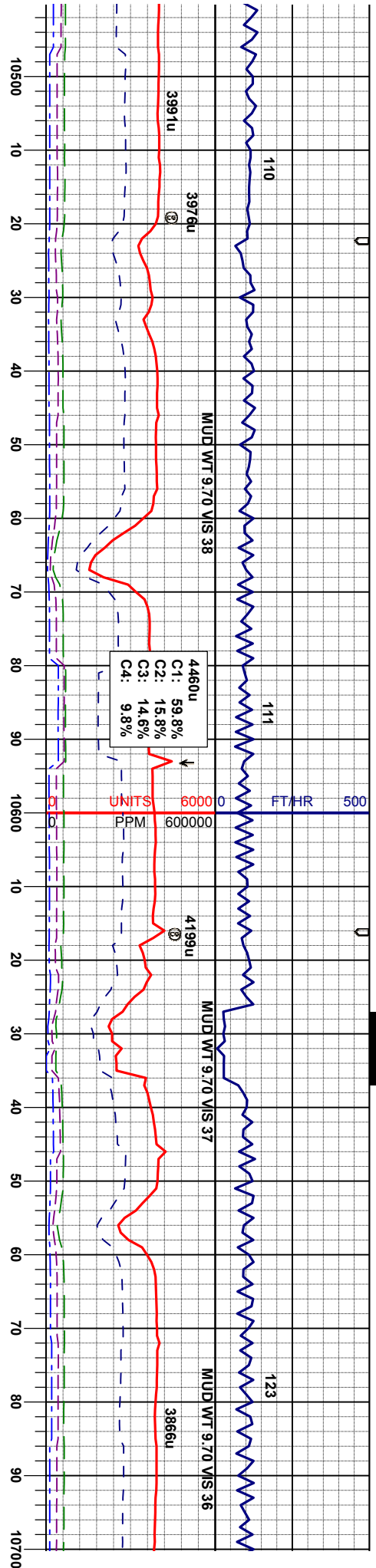




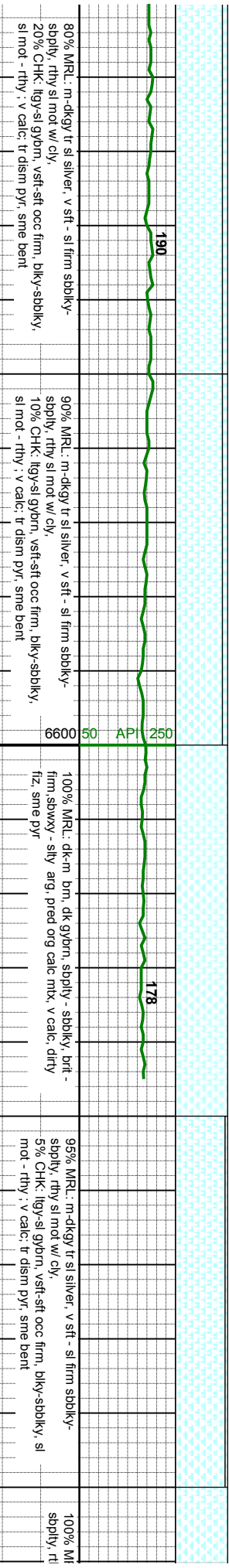
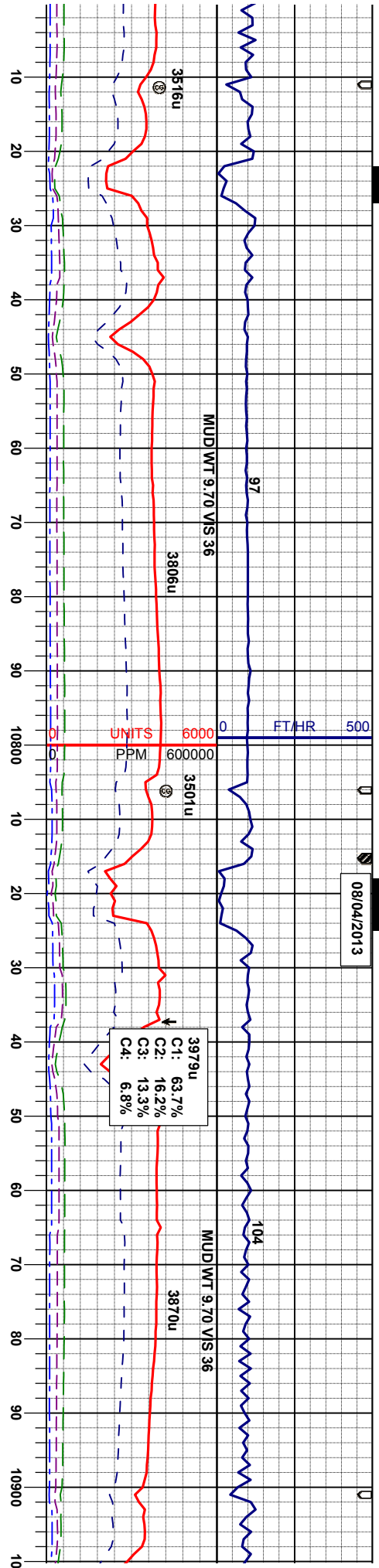
MD 10363'
INC 90.68°
AZM 93.45°
TVD 6671.02'

MD 10457'
INC 89.78°
AZM 92.47°
TVD 6670.64'





08/04/2013



MD 10742'
INC 88.80°
AZM 89.01°
TVD 6670.74'

MD 10837'
INC 90.37°
AZM 90.67°
TVD 6671.13'

