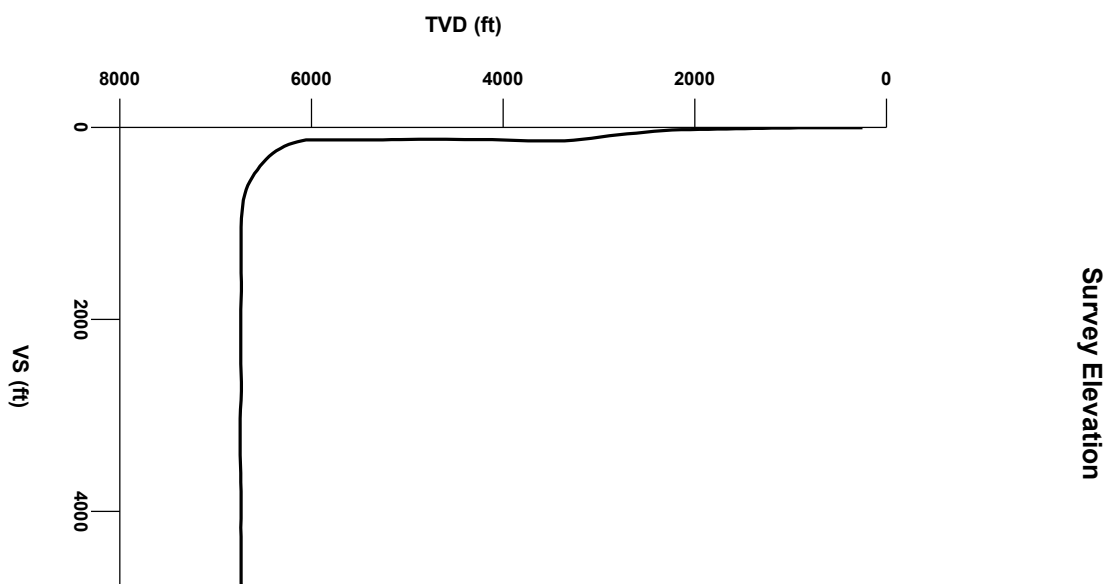
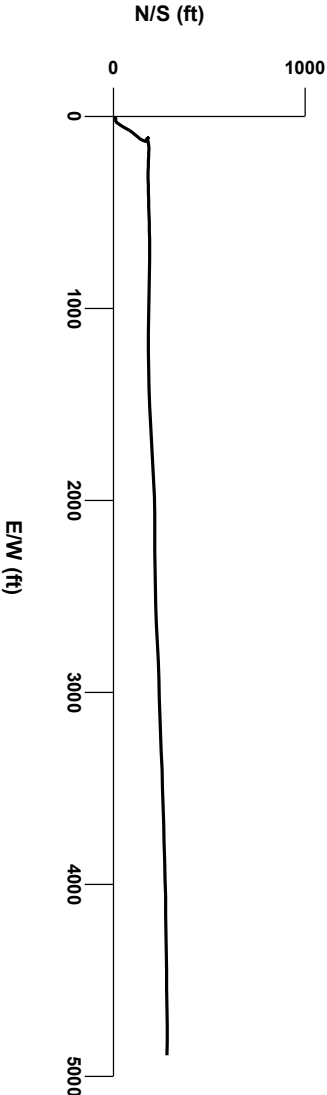


LOG created using LPLLOT VH Version 3.0, June 28, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR: NOBLE ENERGY INC.
WELL: WELLS RANCH USX AE07-63HN
LOCATION: SEC12 T6N R63W
COUNTY: WELD
STATE: COLORADO
SPOT: 1077' FSL; 65' FEL
ELEVATION: GE:4,856' KB:4,880'
FIELD: WATTENBERG
SPUD DATE: 06/21/2013
TD DATE: 06/28/2013
DATES LOGGED: 06/22/2013 - 06/28/2013
DEPTHS LOGGED: 1,000' - 11,118'
LOGGERS: BRAD WILSON, MIKE GREENE, TOM WRIGHT
DRILLING FLUID: WATER, MUD, POLY
DRILLING RIG: H&P 322
API: # 05-123-37082
LOG TYPE: HORIZONTAL
SCALE: 1:240 (5 inches per 100 feet)
REMARKS: WELLSITE GEOLOGICAL SERVICES PROVIDED BY COLUMBINE LOGGING INC.



Survey Plan



6000

Chalk

Shaly Sandstone

Marl

Silty Shale

Sandstone

ENGINEERING SYMBOLS

Bit Change

Connection Gas

Casing

Arrow

Casing

Midnight Depth

Connection

Arrow

06/24/2013

224

ROP

FT/HR

400

0

10

20

30

40

50

60

70

80

90

100

6100

10

DEPTH (FEET)

GAS

0

UNITS

3000

C1

0

PPM

300000

C2

0

PPM

300000

C3

0

PPM

300000

C4

0

PPM

300000

MUD WT 9.4 VIS 30

1198u

C1 78.1%

C2 8.6%

C3 9.5%

C4 3.8%

1819u

CUTTINGS LITHOLOGIES

50

API

250

GAMMA

50

API

250

MD 6026'

INC 1.02°

AZM 25.28°

TVD 6009.20'

MD 6073'

INC 6.64°

AZM 69.09°

TVD 6056.08'

MD INC

AZM

TVD

COLUMBINE LOGGING INC.

RIGGED UP ON 6/22/2013

MANNED 2-PERSON LOGGING

WITH BLOODHOUND GAS

CHROMATOGRAPH UNIT #0315

Log Continued From:

WELLS RANCH USX AE07-63HN(VERT).iplot

BHA #2

Bit: 8.750"

Manufacturer: Security

Model: FXD55M

Serial Number: 12082281

Nozzles: 5x15

Motor: 6.75"

Manufacturer: Sperry Drilling

Model: SperryDrill

Serial Number: 675-1072

Bend: 2.00

100% SILTY SH: m-dk gy occ m brn -tan, firm - sl sft, rthy - sl sily tex, tr ss

100% SILTY SH: m-dk gy occ m brn -tan, firm - sl sft, rthy - sl sily tex, tr ss

95% SILTY SH: m gy sbply, rthy sl sily tex 5% SHYSS: lt gy-sm fri, p por, arg cnt, sm

OIL SHOWS

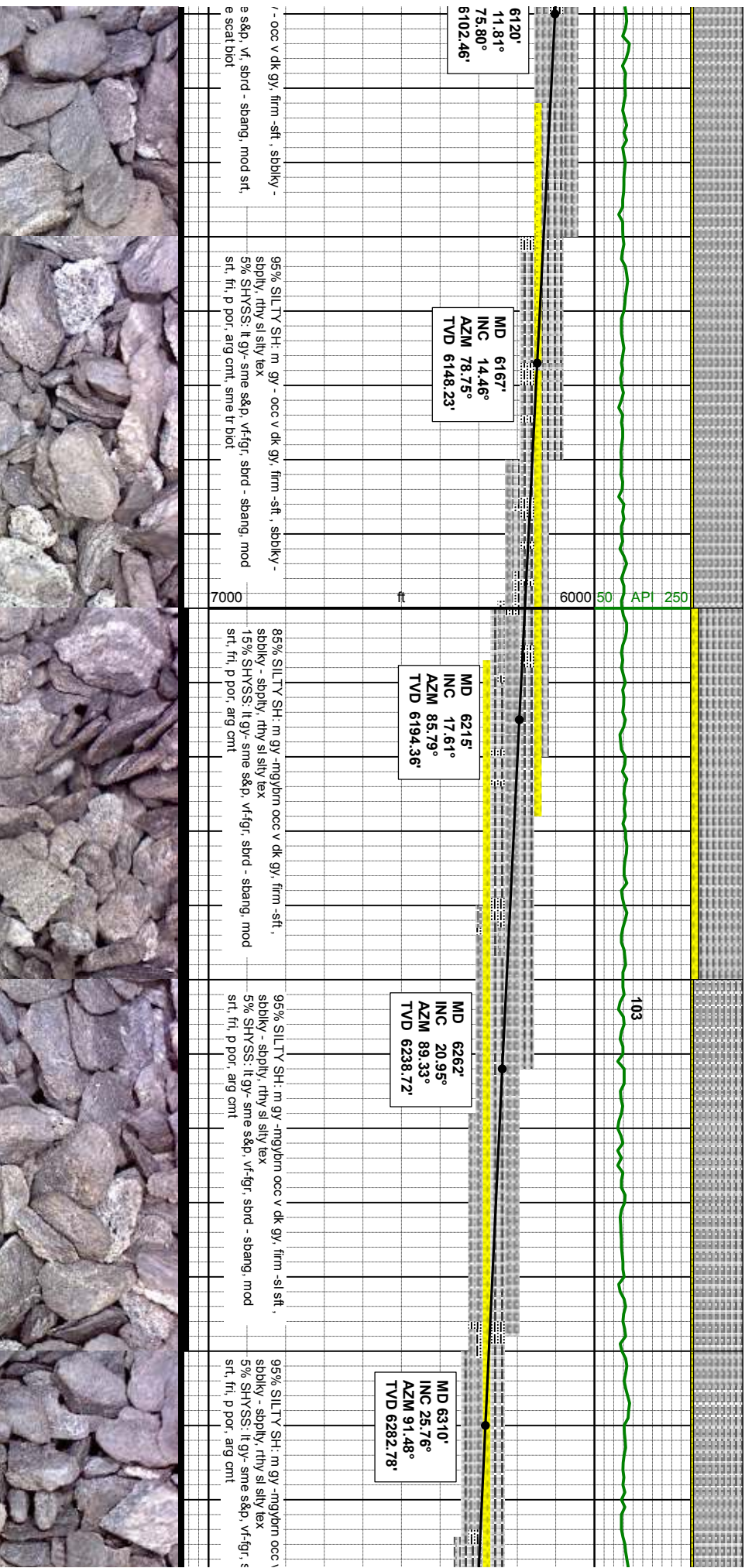
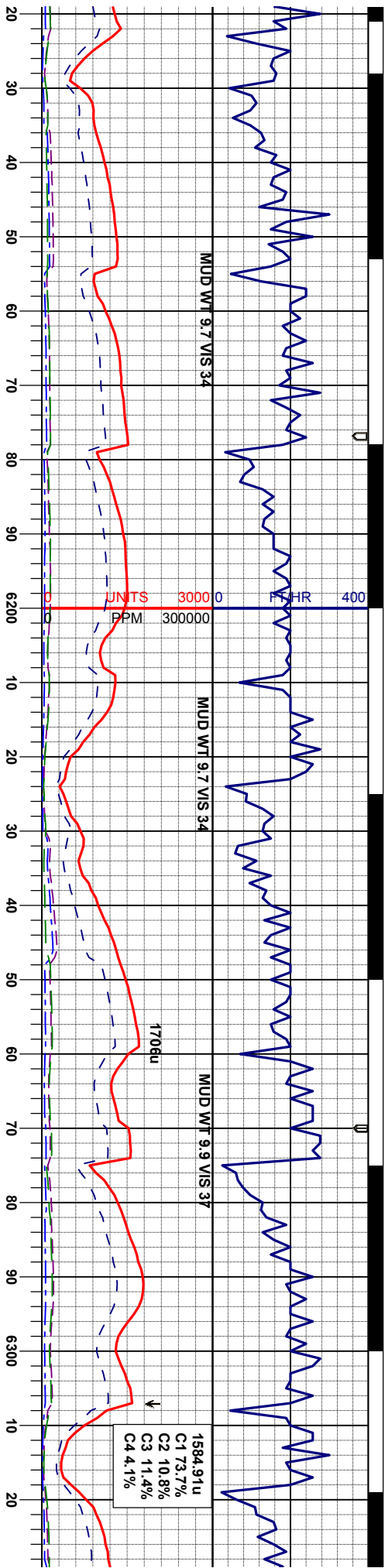
TFG 7000

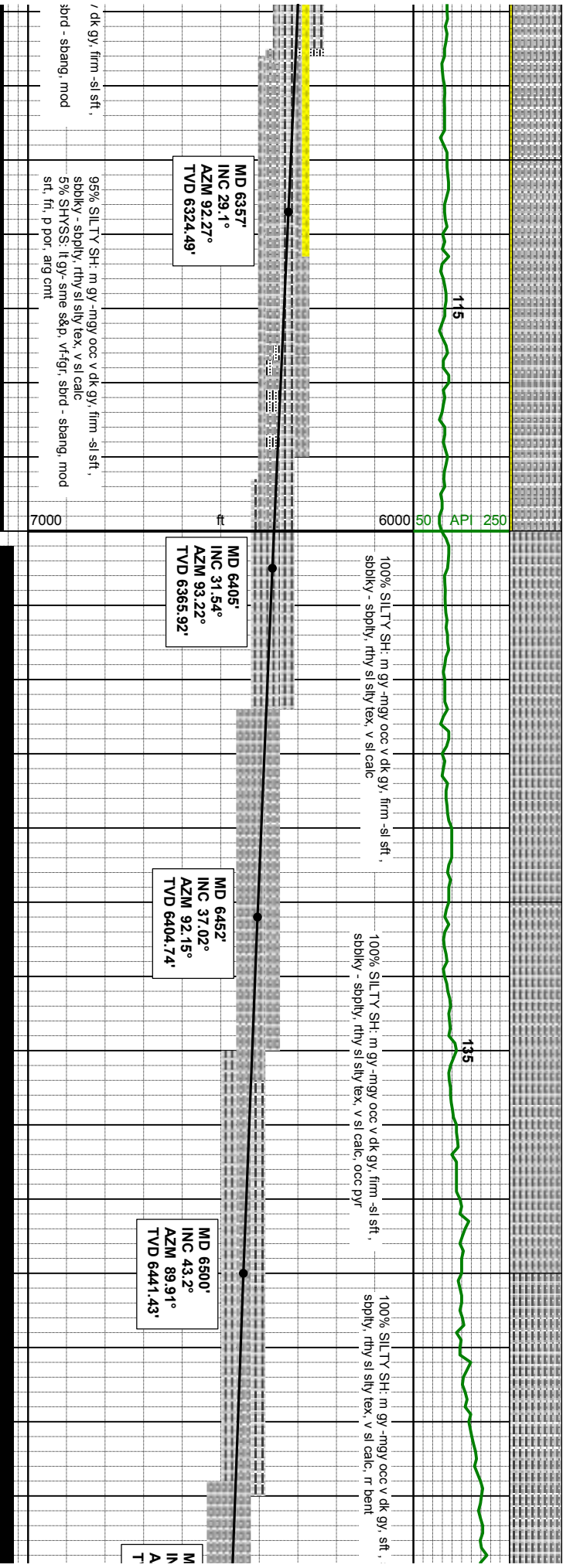
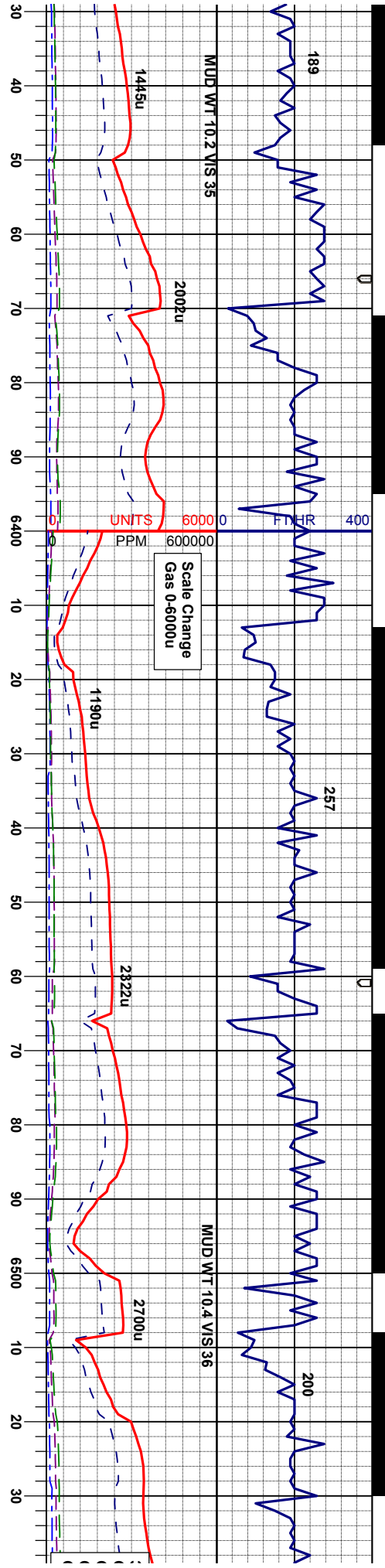
TVD

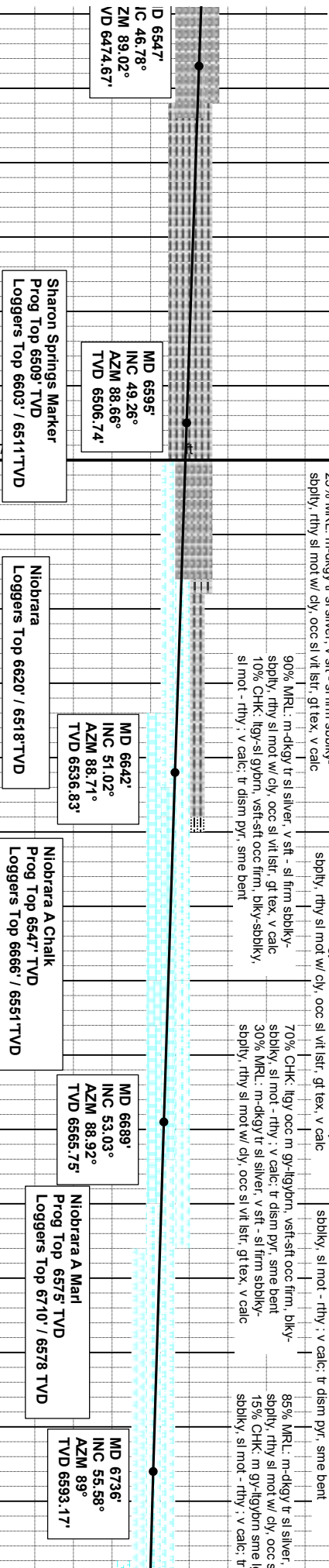
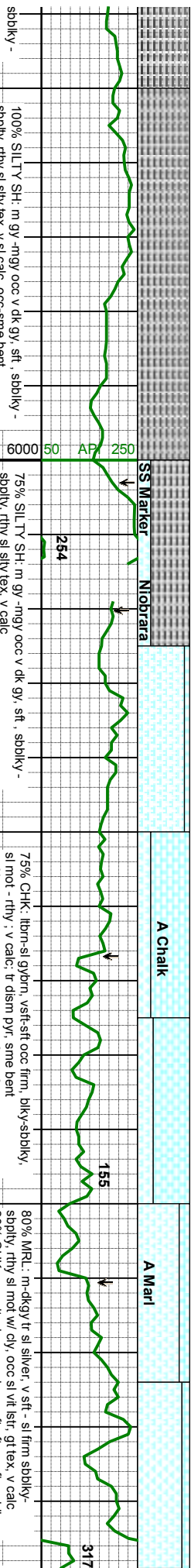
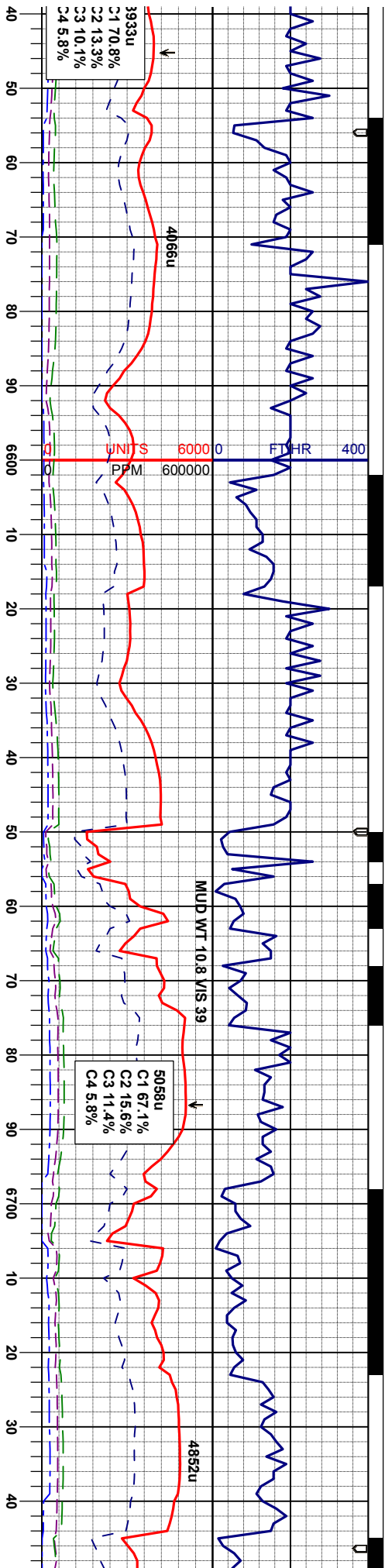
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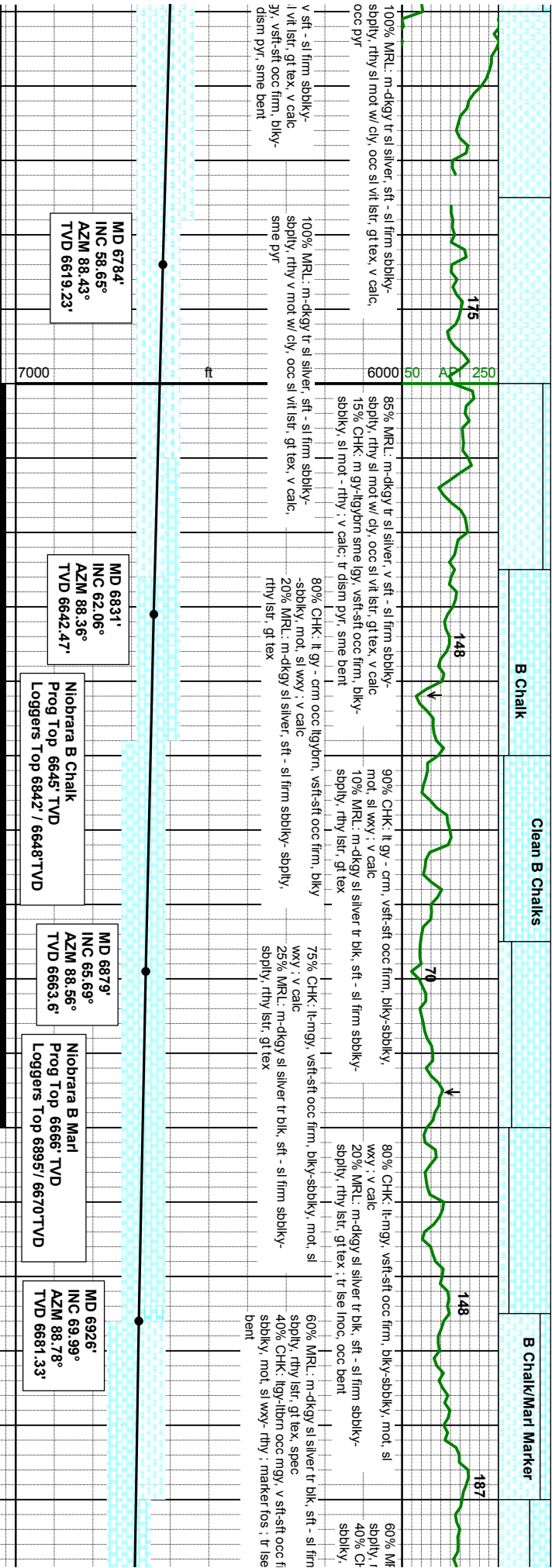
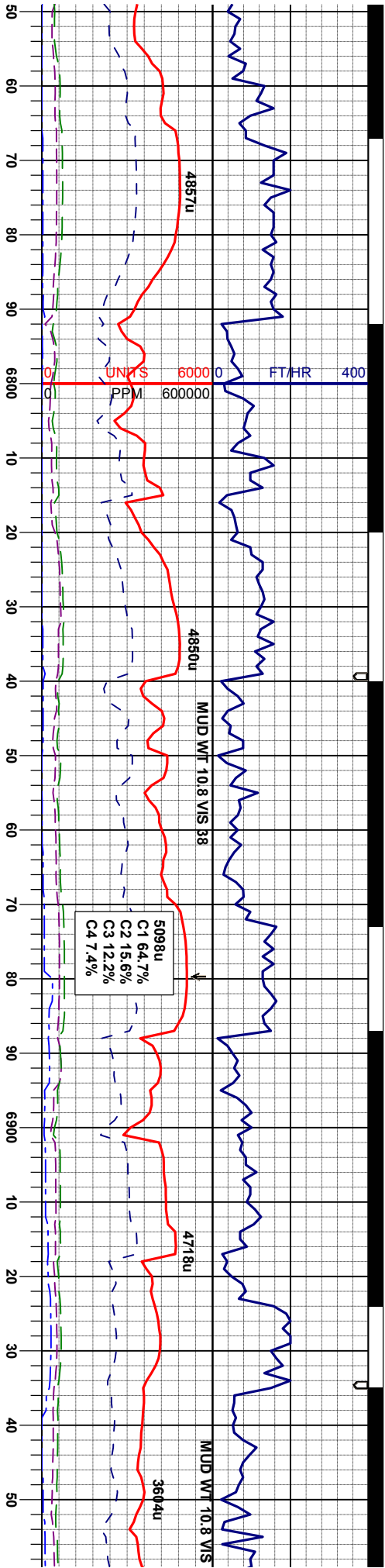
6000

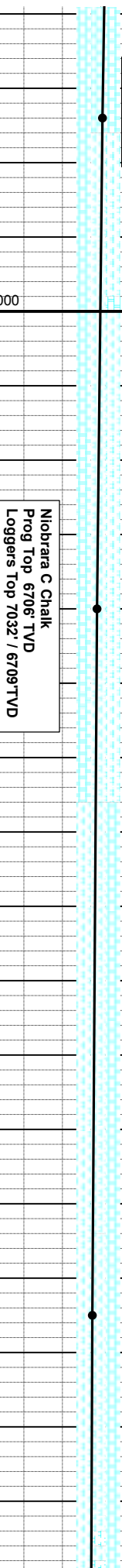
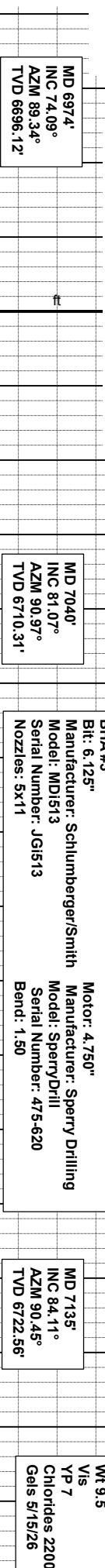
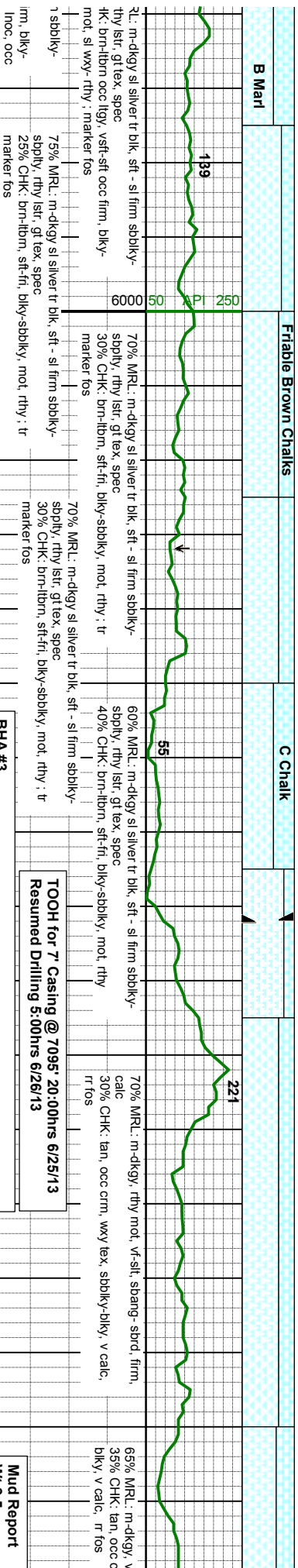
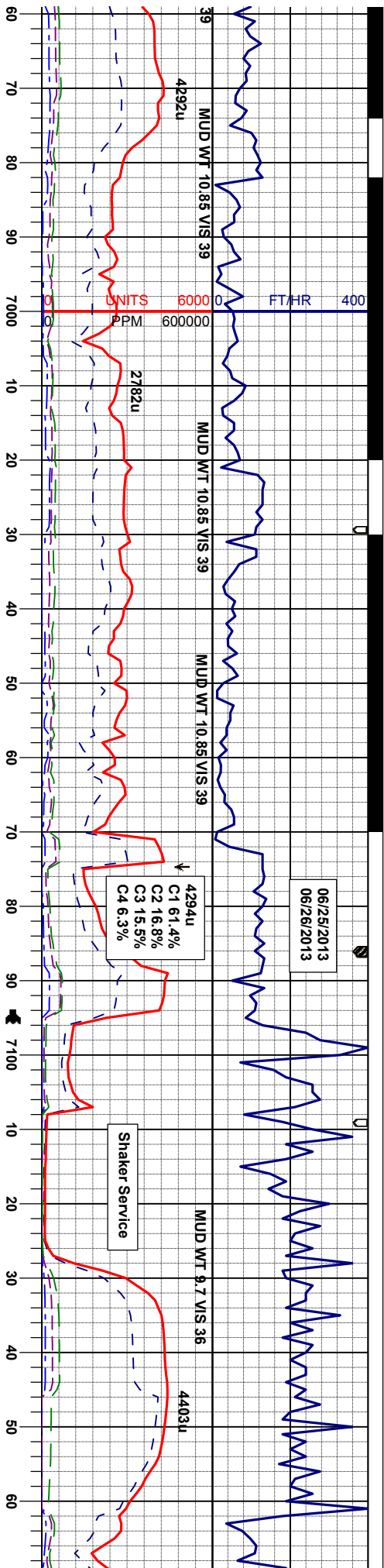
SAMPLE PHOTOS

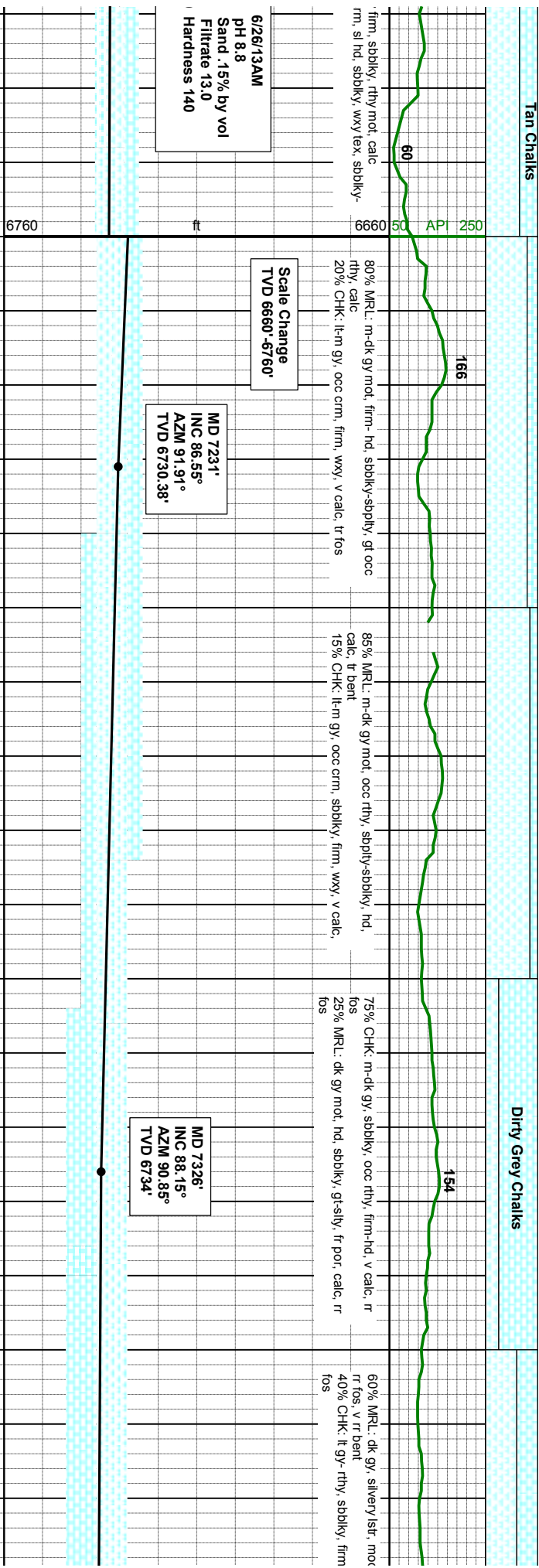
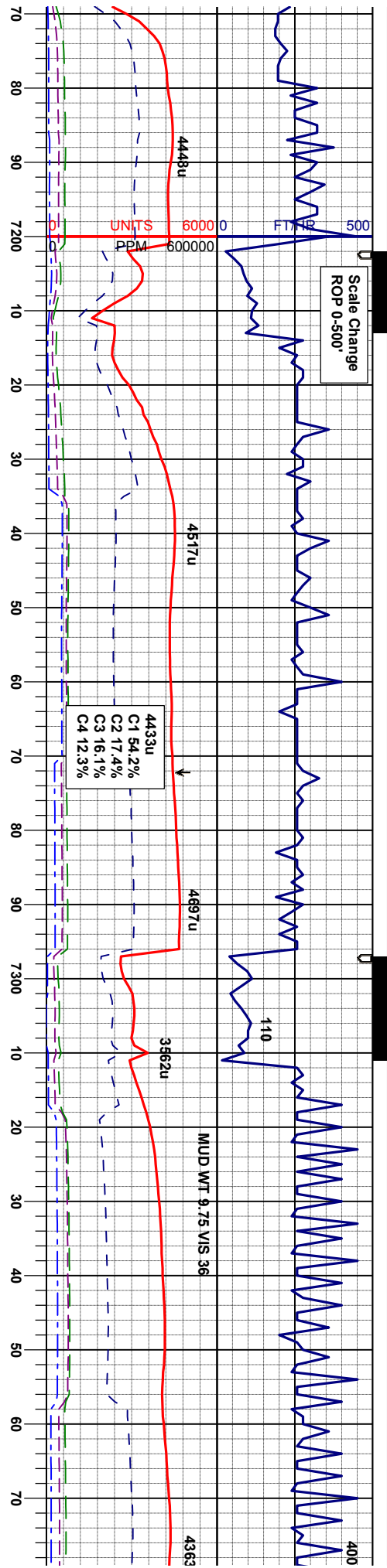


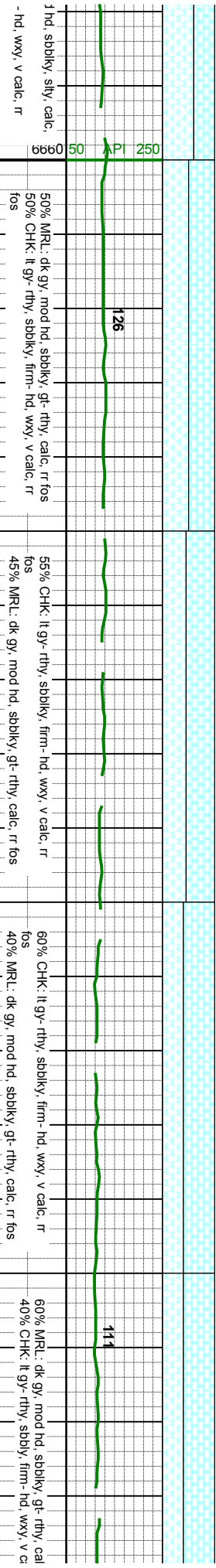
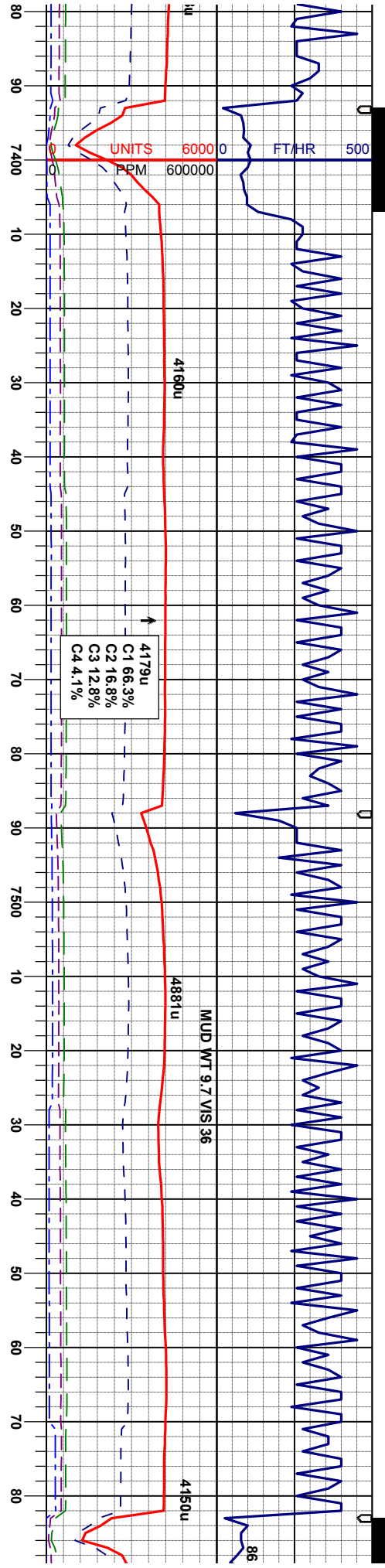








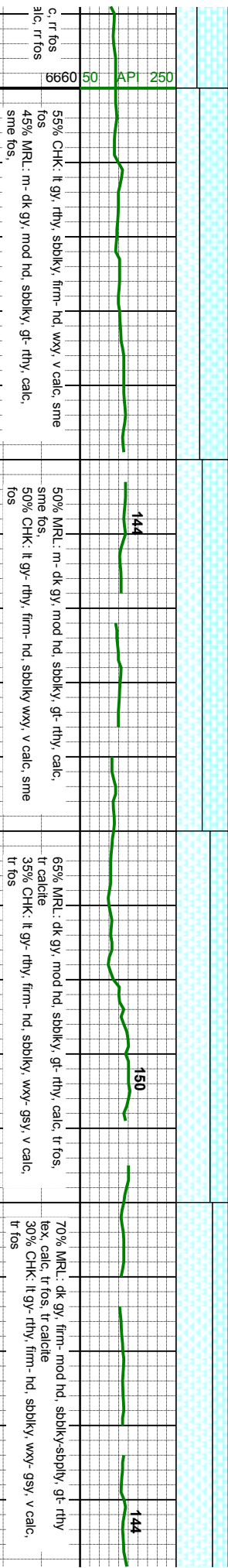
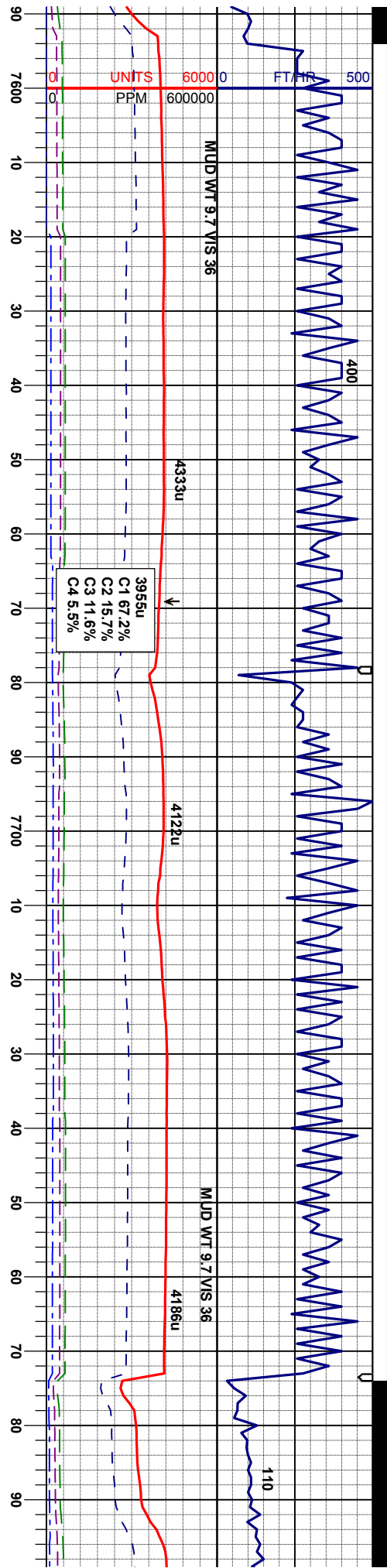




MD 7421'
INC 90.59°
AZM 90.26°
TVD 6735.82'

MD 7516'
INC 90.71°
AZM 89.64°
TVD 6734.75'

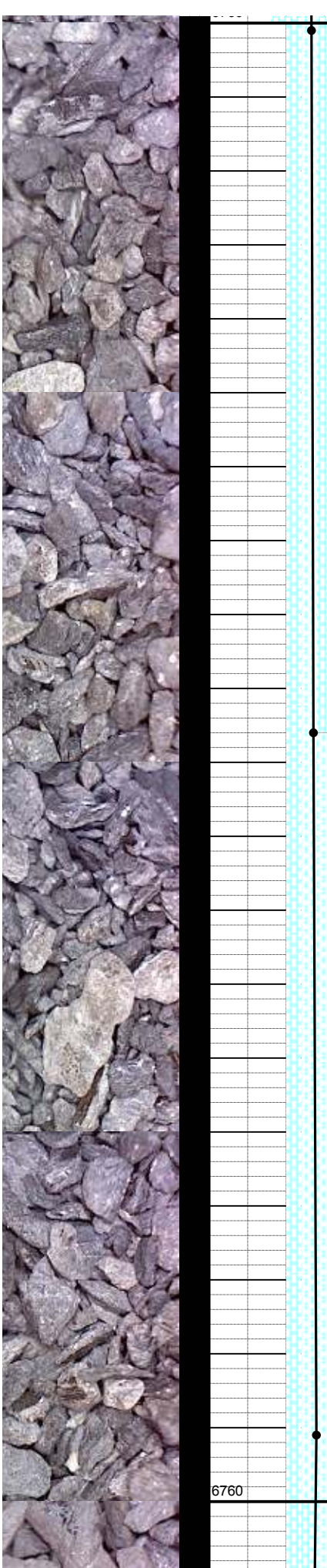
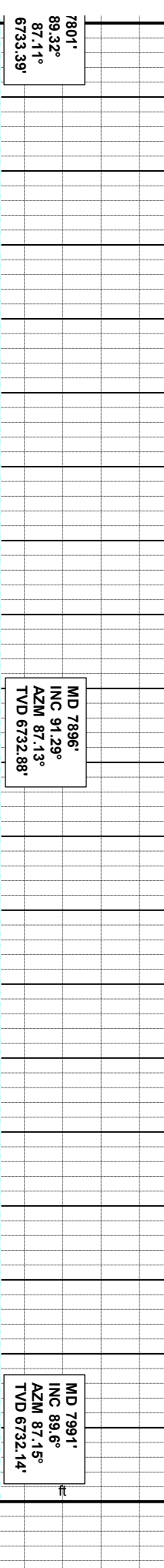
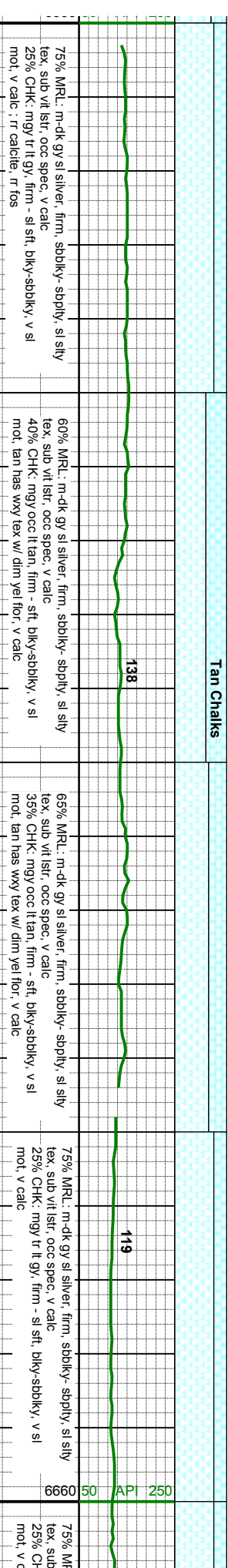
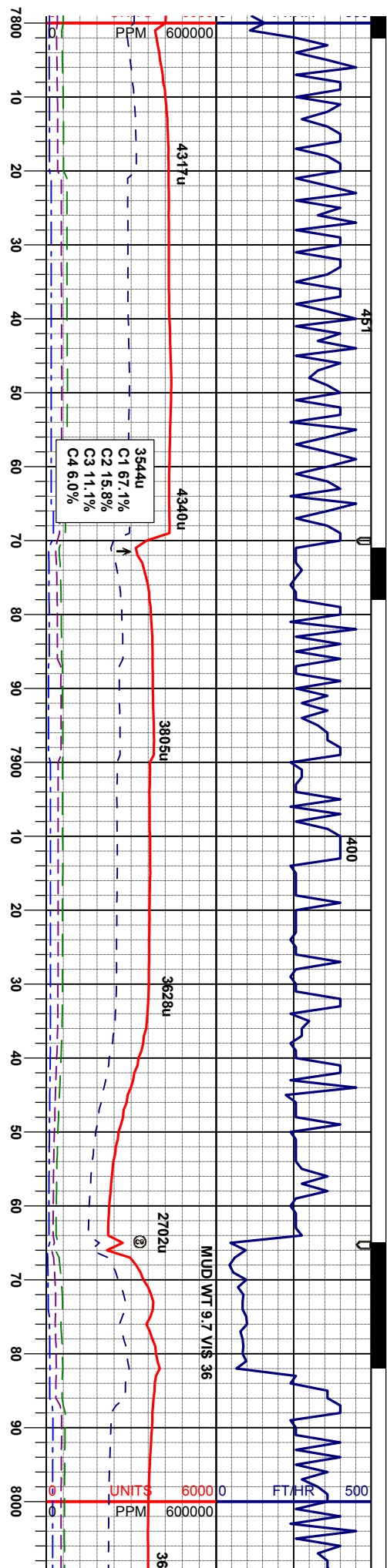


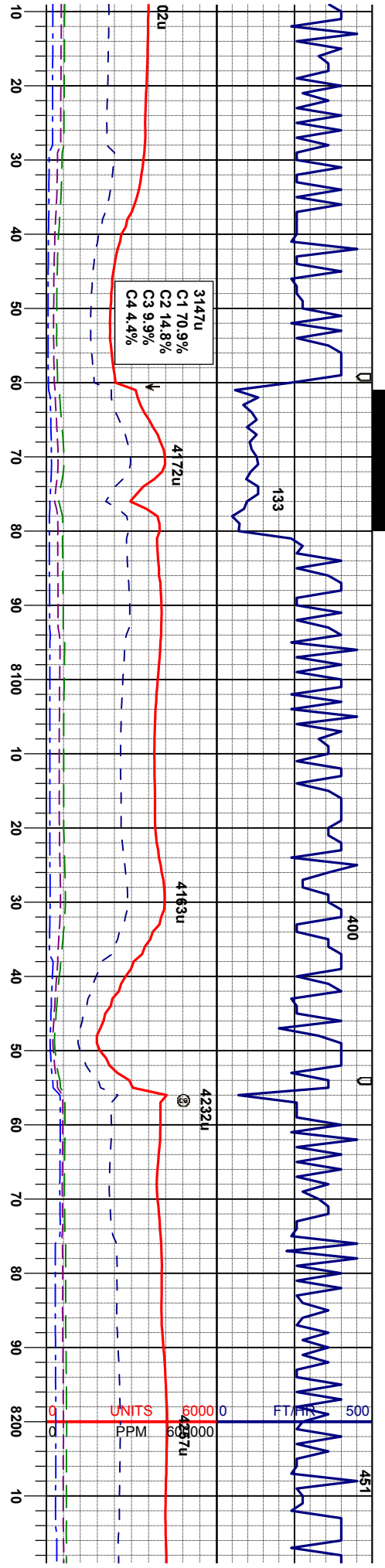


MD 7611'
INC 89.41°
AZM 88.67°
TVD 6734.65'

MD 7706'
INC 91.39°
AZM 88.97°
TVD 6733.98'

MD 7
INC
AZM
TVD





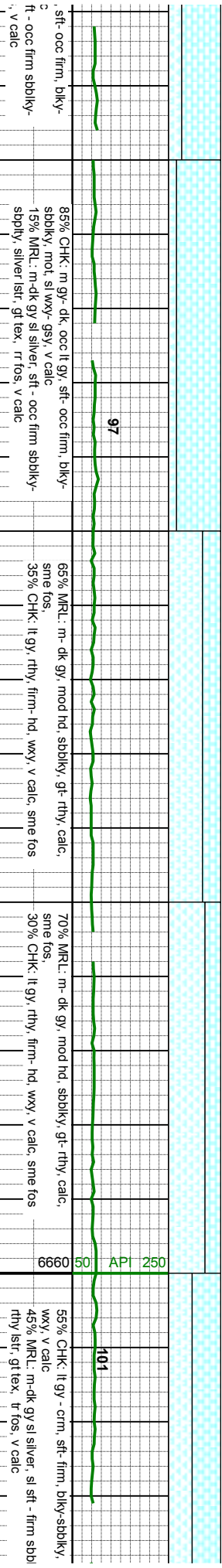
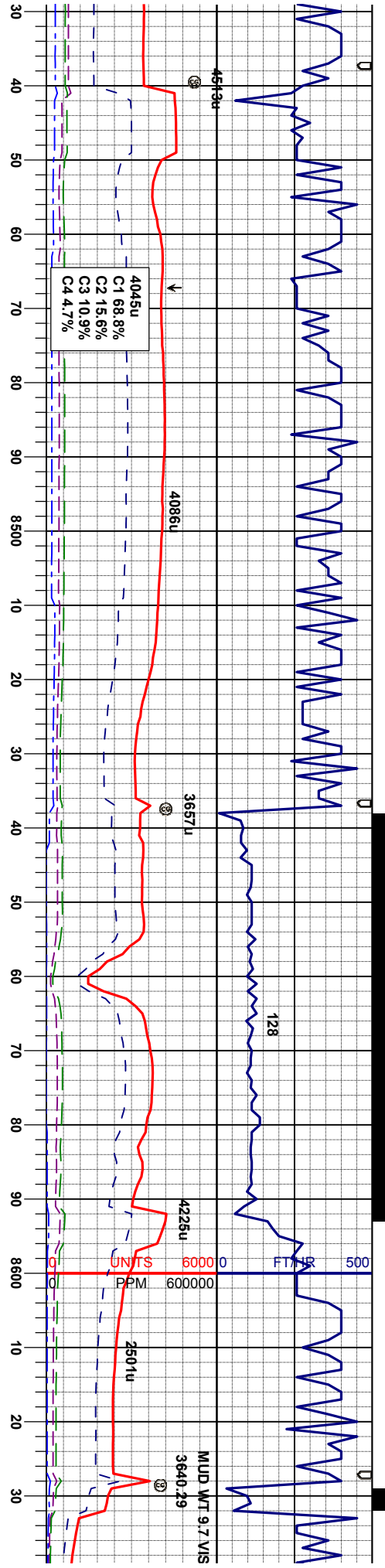
118		108		160		82	
75% CHK: lt gy - crm, sft - firm, bkly-sbdkly, mot, sl wxy, v calc		80% CHK: lt gy - crm, sft - occ firm, bkly-sbdkly, mot, sl wxy, v calc		85% CHK: lt gy - crm- wh, sft - occ firm, bkly-sbdkly, mot, sl wxy, v calc		50% MRU: m-dk gy rthy str, gt tex, tr fos, v calc	
rthy str: lt gy, firm - sl sft, bkly-sbdkly, v sl calc		rthy str: gt tex, tr fos, v calc		rthy str: gt tex, tr fos, v calc		50% MRU: m-dk gy rthy str, gt tex, tr fos, v calc	

MD 8086'
INC 87.96°
AZM 86.87°
TVD 6734.16'

MD 8181'
INC 88.77°
AZM 87.33°
TVD 6736.87'

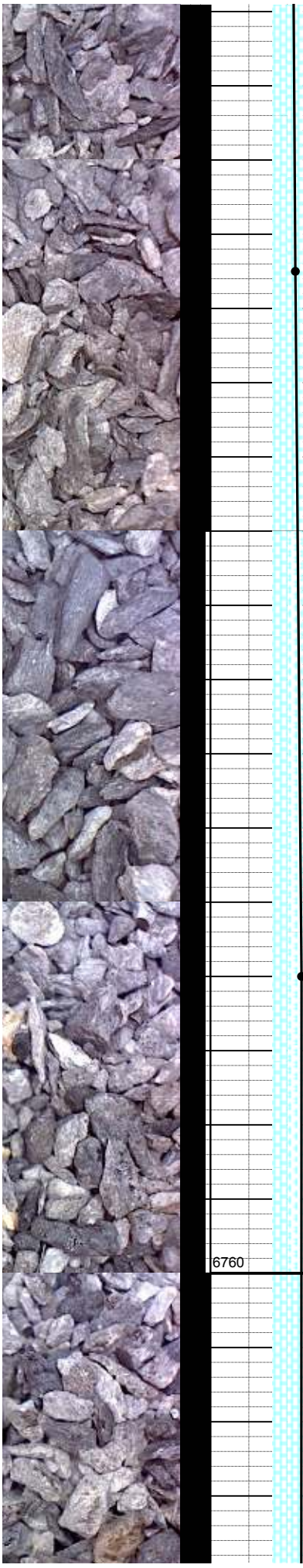
6760 ft 6660 50 API 250

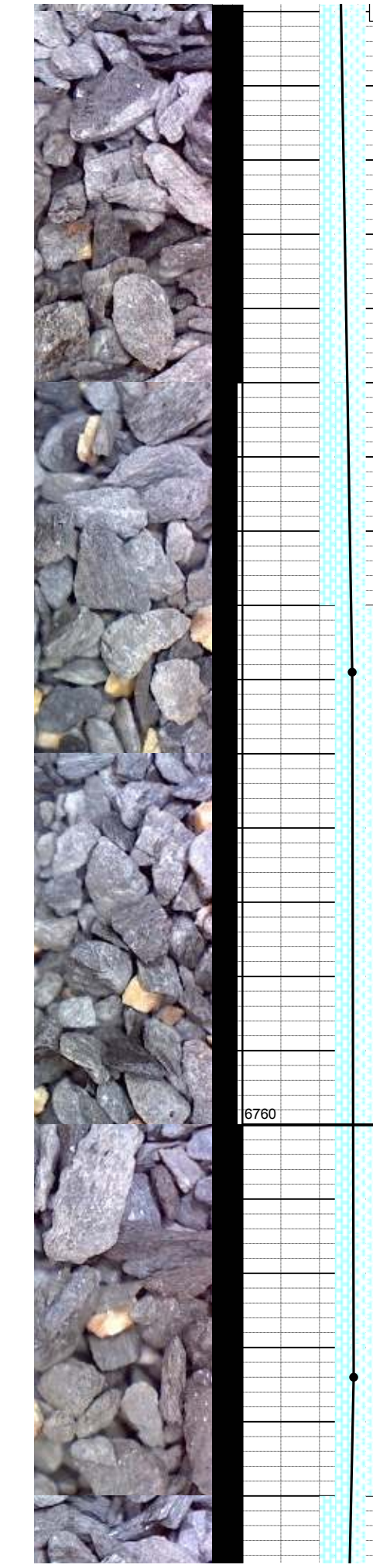
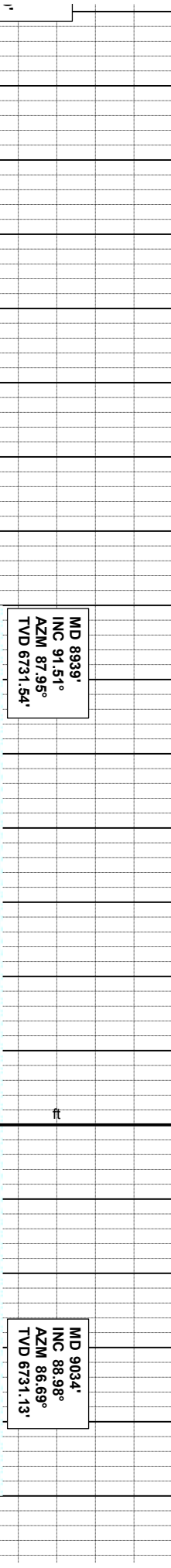
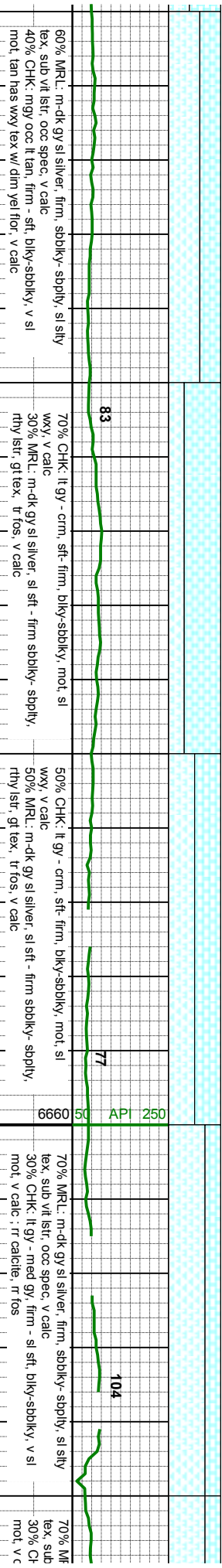
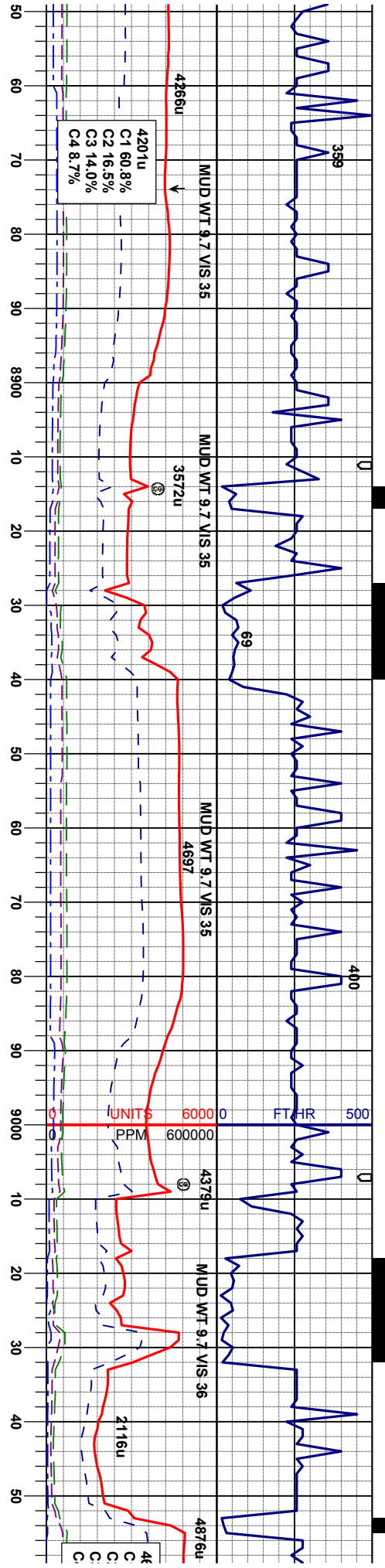


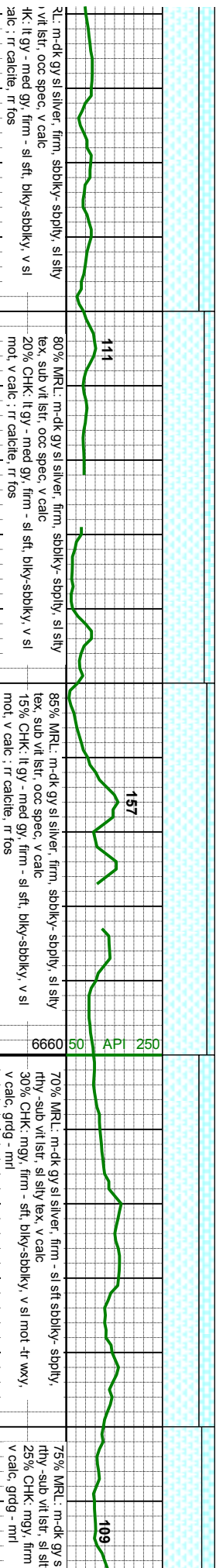
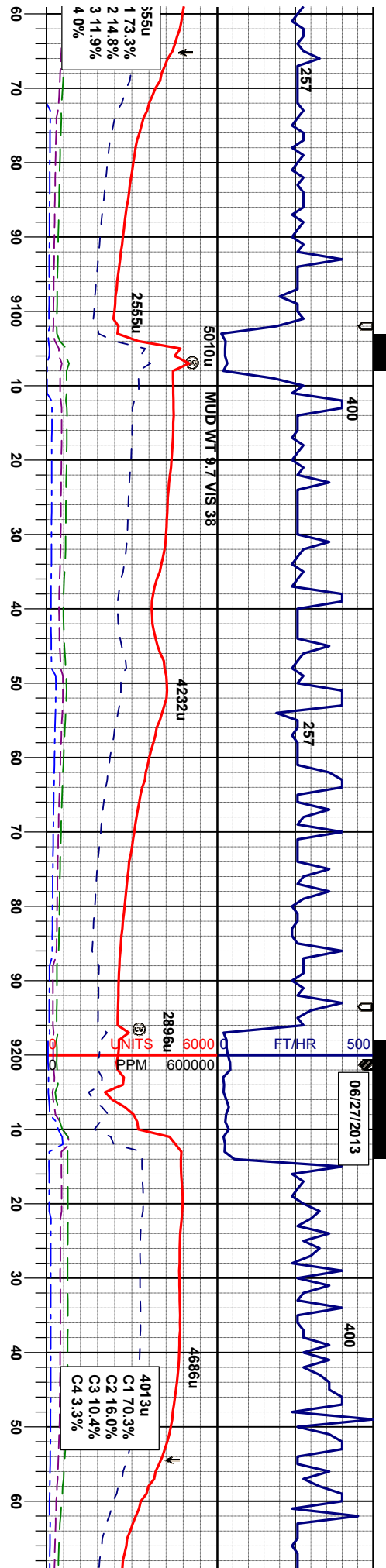


MD 8465'
INC 90.83°
AZM 90.22°
TVD 6737.97'

MD 8560'
INC 91.08°
AZM 89.71°
TVD 6736.38'



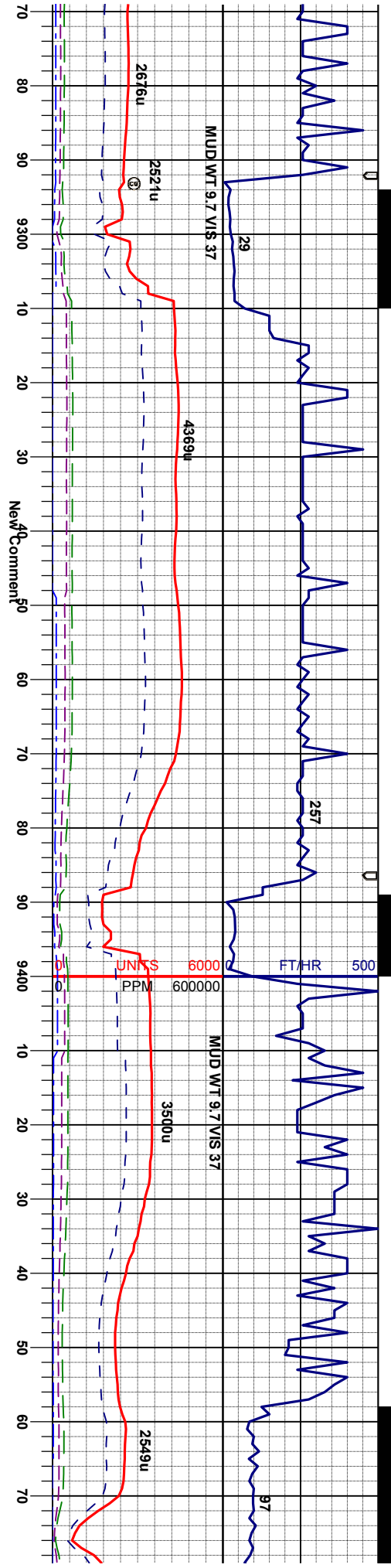




MD 9129'
INC 86.33°
AZM 87.17°
TVD 6735.02'

MD 9224'
INC 87.04°
AZM 88.19°
TVD 6740.51'

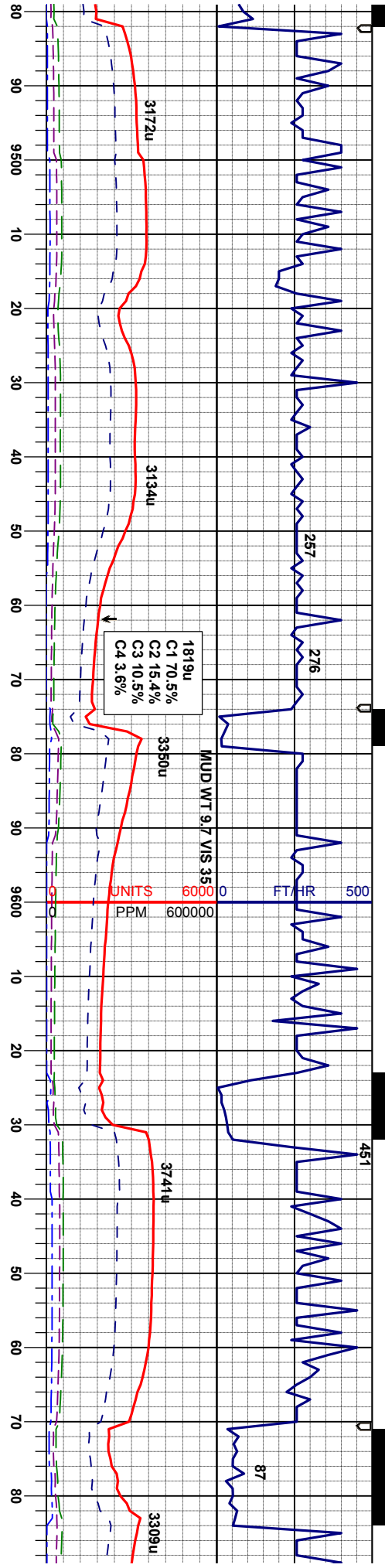




Friable Clay Chalks	
silver, firm - sl sft sbdkly- sbply, y tex, v calc	60% MRL: m-dk gy sl silver, firm - sl sft sbdkly- sbply, rthy- sub vit lstr, sl silty tex, v calc
sft, bkly-sbdkly, v sl mot- tr wxy, v calc, grdg - mrl	55% MRL: m-dk gy sl silver, firm - sl sft sbdkly- sbply, rthy- sub vit lstr, sl silty tex, v calc
	45% CHK: mgy, fri - sft, bkly-sbdkly, v sl mot- tr wxy, v calc, grdg - mrl
	65% MRL: m-dk gy sl silver, firm - sl sft sbdkly- sbply, rthy- sub vit lstr, sl silty tex, v calc
	35% CHK: mgy, fri - sft, bkly-sbdkly, v sl mot- tr wxy, v calc, grdg - mrl, tr lse fos
	75% MRL: m-dk gy sl silver, firm - rthy- sub vit lstr, sl silty tex, v calc
	25% CHK: mgy, fri - sft, bkly-sbdkly, v calc, grdg - mrl

MD 9319'	INC 88.74°	AZM 88.97°	TVD 6744.02'
MD 9414'	INC 90.12°	AZM 88.15°	TVD 6744.97'



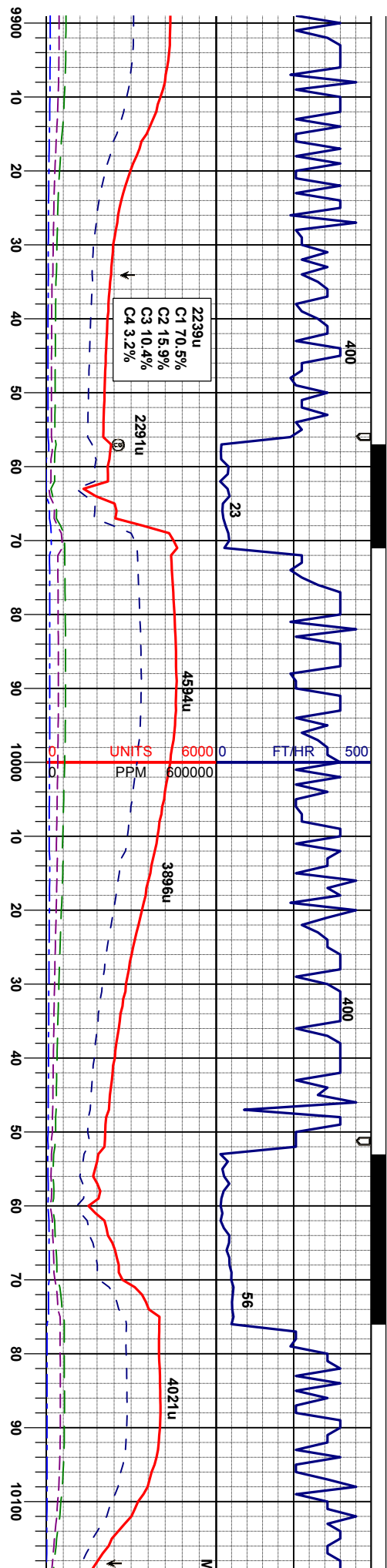


Calcite	
29	80% MRL: m-dk gy sl silver, firm - sl sft sbdky- sbply, rthy- sub vlt lstr, sl silty tex, v calc 20% CHK- mgy, fri - sft, bdky-sbdky, v sl mot -tr wxy, v calc, grdg - nml
135	80% MRL: m-dk gy sl silver, firm - sl sft sbdky- sbply, rthy- sub vlt lstr, sl silty tex, v calc 20% CHK- mgy, fri - sft, bdky-sbdky, v sl mot -tr wxy, v calc, grdg - nml
156	75% MRL: m gy tr silver, firm-hd, sbdky, gt, v calc 25% CHK: lt-m gy, ooc dk gy mot, sft-sme firm, bdky-sbky, wxy-gsy, v calc, tr pos frac, tr calcite
	70% MRL: m gy-dk gy tr silver, firm-hd, sbdky, v calc, tr frac 30% CHK: lt-m gy, sme dk gy mot, sft-sme fil sbky, wxy, v calc, tr frac

MD 9509'
INC 89.63°
AZM 87.88°
TVD 6745.18'

MD 9604'
INC 89.51°
AZM 87.17°
TVD 6745.89'





50% CHK: lt gy - crm, sft-firm, bkly-sbdkly, mot, sl wxy
- ls gsy, v calc
50% MRL: m-dk gy sl silver, sl sft - firm sbdkly- sbply,
rthy istr, gt tex, rr fos, v calc

60% CHK: lt gy - crm, sft-firm, bkly-sbdkly, mot, sl wxy
- ls gsy, v calc
40% MRL: m-dk gy sl silver, sl sft - firm sbdkly- sbply,
rthy istr, gt tex, rr fos, v calc

85% MRL: m- dk gy, sl silver istr, firm- hd, sbdkly, gt
tex, v calc
15% CHK: lt gy, sft- firm, sbdkly wxy, v calc, tr fos

80% MRL: m- dk gy, sl silver istr, firm- hd, sbdkly, gt
tex, v calc, tr fos frag
20% CHK: lt m gy, sft- firm, sbdkly, wxy- gsy, v calc

75% MR
tex, sub
25% CH
mot, v ce

MD 9983'
INC 91.76°
AZM 88.59°
TVD 6736.54'

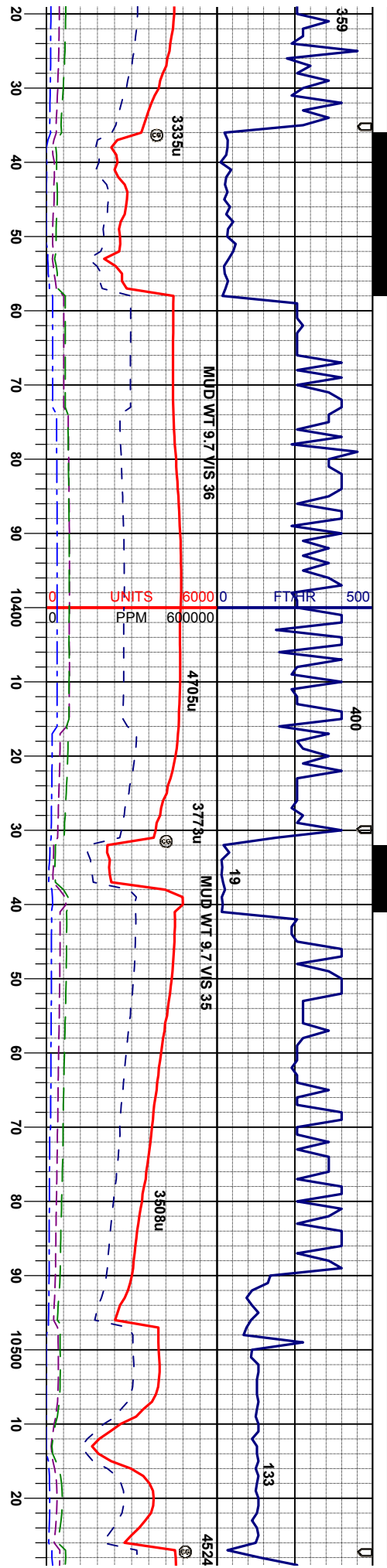
MD 10078'
INC 90.31°
AZM 89.49°
TVD 6734.82'

6760

ft

50 API 250



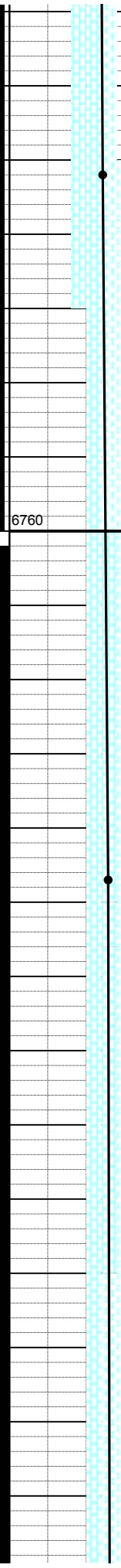
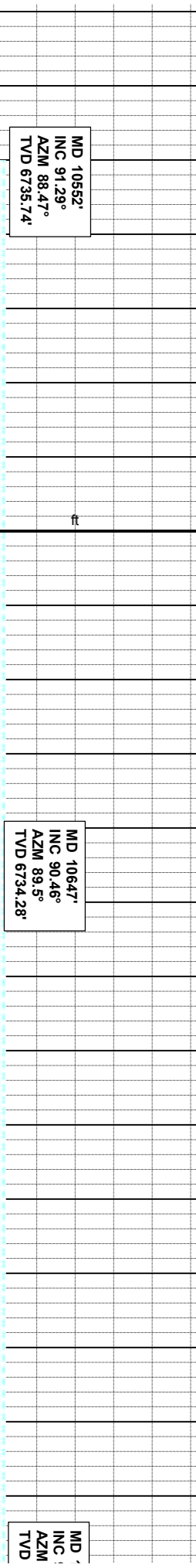
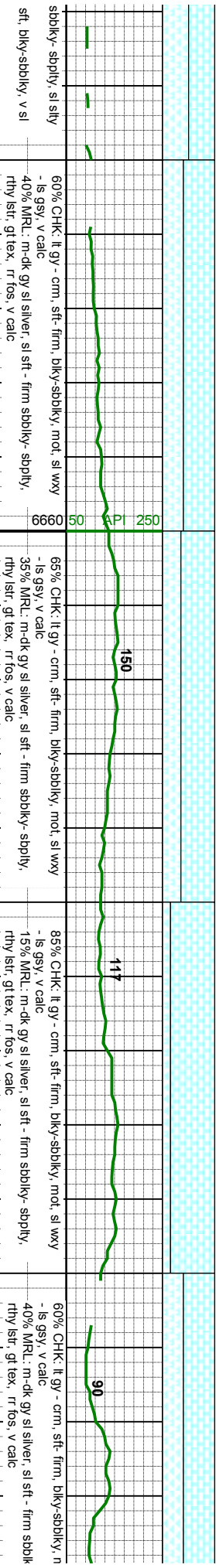
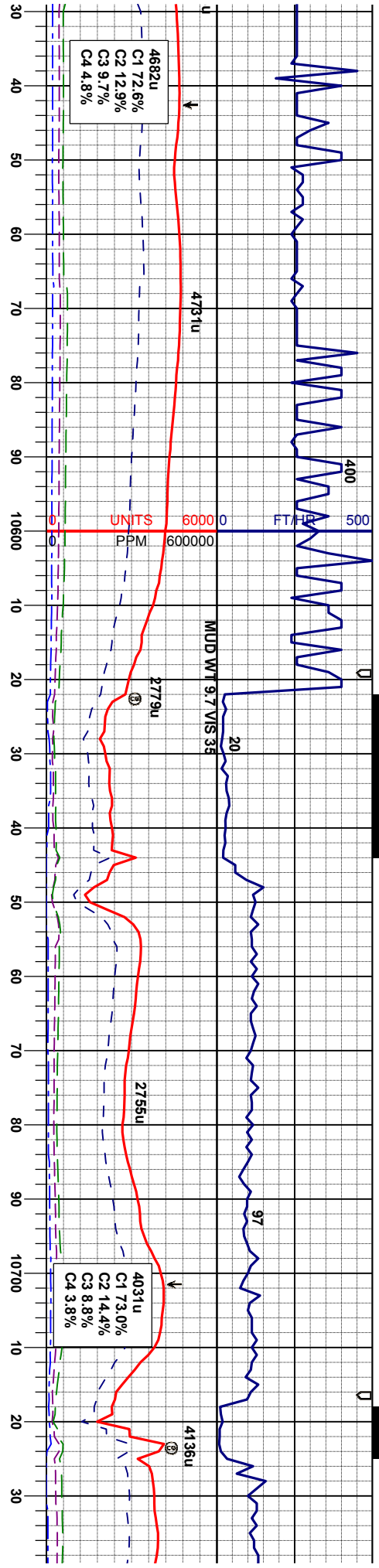


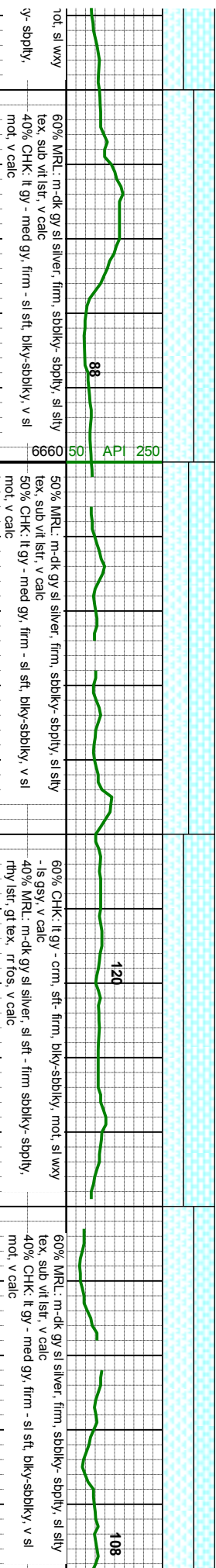
sl silver, firm - sl sft sbbiky- sbbly, rly tex, v calc	95% MRU: m-dk gy sl silver, firm - sl sft sbbiky- sbbly, rly- sub vlt lstr, sl silty tex, v calc	70% MRU: m-dk gy sl silver, firm, sbbiky- sbbly, sl silty tex, sub vlt lstr, v calc	60% MRU: m-dk gy sl silver, firm, sbbiky- sbbly, sl silty tex, sub vlt lstr, v calc	50% MRU: m-dk gy sl silver, firm, tex, sub vlt lstr, v calc
biky-sbbiky, v sl mot- tr wxy, v grdg - mnl	5% CHK: mgy, sft, biky-sbbiky, v sl mot- tr wxy, v calc, grdg - mnl	30% CHK: lt gy - med gy, firm - sl sft, biky-sbbiky, v sl mot, v calc	40% CHK: lt gy - med gy, firm - sl sft, biky-sbbiky, v sl mot, v calc	50% CHK: lt gy - med gy, firm - sl mot, v calc

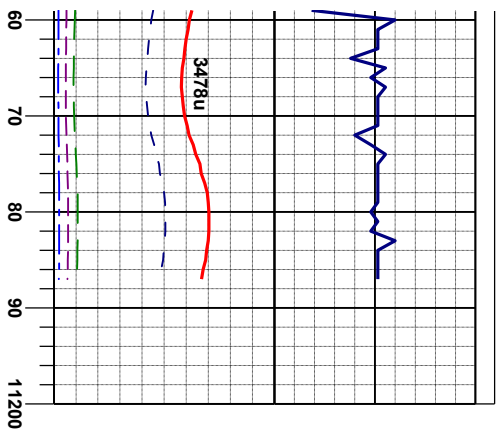
MD 10362'
INC 89.45°
AZM 89.16°
TVD 6736.25'

MD 10457'
INC 89.94°
AZM 89.31°
TVD 6736.76'









-: m-dk gy sl silver, firm, sbdkly-sbply, sl silty
 /it istr, v calc
 k: lt gy - med gy, firm - sl sft, bkly-sbdkly, v sl
 lc

TD Well @ 11187' MD
01:46 hrs 6/28/2013

Projected
MD 11187'
INC 91.54°
AZM 91.3°
TVD 6730.77'

**Thank you for choosing
Columbine Logging Inc.**

