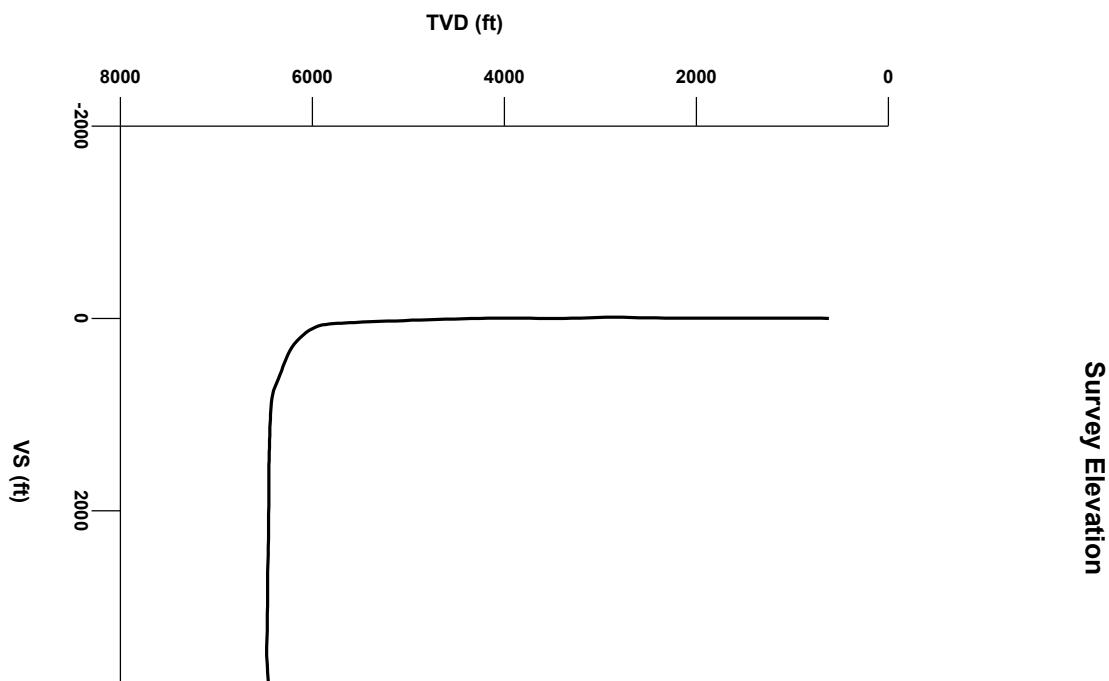
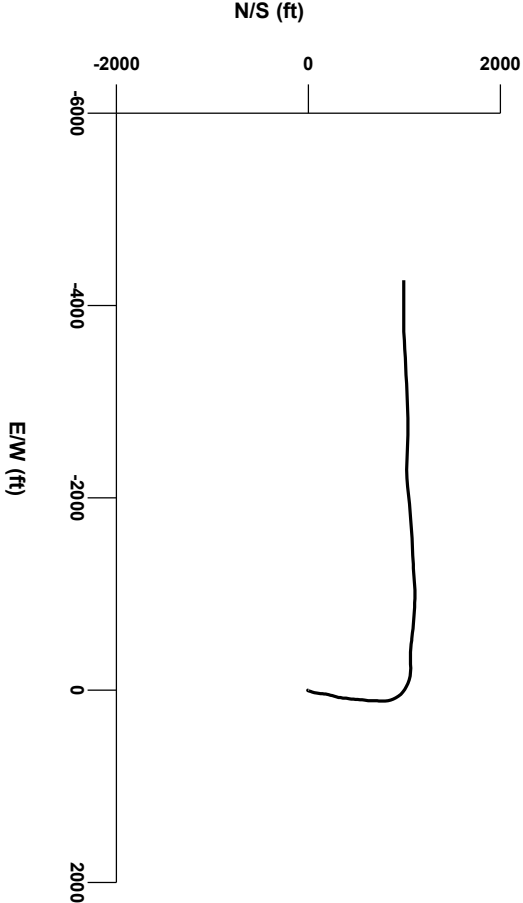


LOG created using L PLOT VH Version 3.0, April 18, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR: NOBLE ENERGY INC.
WELL: HUNT LF18-62HN
LOCATION: SEC 19, T8N, R60W
COUNTY: WELD
STATE: COLORADO
SPOT: 450' FNL, 275' FEL
ELEVATION: GE:4,940' ; KB: 4,956'
FIELD: WILDCAT
SPUD DATE: 04/07/2013
TD DATE: 04/16/2013
DATES LOGGED: 04/08/2013 - 04/17/2013
DEPTHS LOGGED: 1,000' - 10,765'
LOGGERS: BRAD WILSON, SETH CHAMBERLAIN
DRILLING FLUID: WBM, LSND
DRILLING RIG: PRECISION DRILLING 829
API: #05-123-36663
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 Siltstone

Silty Shale

◀

Casing

▶

Casing

◻

Connection

⊗

Connection Gas

↖

Arrow

⬛

Midnight Depth

GAS	
0	1000
UNITS	
0	100000
C1 PPM	
0	100000
C2 PPM	
0	100000
C3 PPM	
0	100000
C4 PPM	

ROP	
0	500
FT HR	
0	500

DEPTH (FEET)

5700

10

20

30

40

50

60

70

80

90

5800

10

20

634u

385u

C1 71.0%

C2 8.7%

C3 13.3%

C4 7.0%

521u

494u

314u

189

5800

CUTTINGS LITHOLOGY

5500

40

CPS

250

5500

40

CPS

250

MD 5736'

INC 15.24°

AZM 1.68°

TVD 5656.60'

MD 5781'

INC 17.34°

AZM 3.41°

TVD 5699.79'

MD 58

INC 2

AZM :

TVD 5

Log Continued from

Hunt LF18-62HN VERT Lplot

70% SILTY SH: m gy-nygm occ dk gy, firm -sft,

sbbly - sbbly occ ply, rthy sl silty tex

30% SHALY SLTST: lt-m gy, sft- firm, sbbly - sbbly,

sily occ gr tex, tr blot

80% SILTY SH: m gy-mgyom occ dk gy, firm -sft,

sbbly - sbbly occ ply, rthy sl silty tex

20% SHALY SLTST: lt-m gy, sft- firm, sbbly - sbbly,

sily occ gr tex, tr blot

100% SILTY SH: m dgy -occ

- sbbly, rthy, sily tex, mcal-v s

Bit: 8.75"

Manufacturer: Sn

Model: SD1611

Serial Number: J1

Nozzles: 3x13, 3x

BHA #3

6300

ft

5500

ft

6300



ft

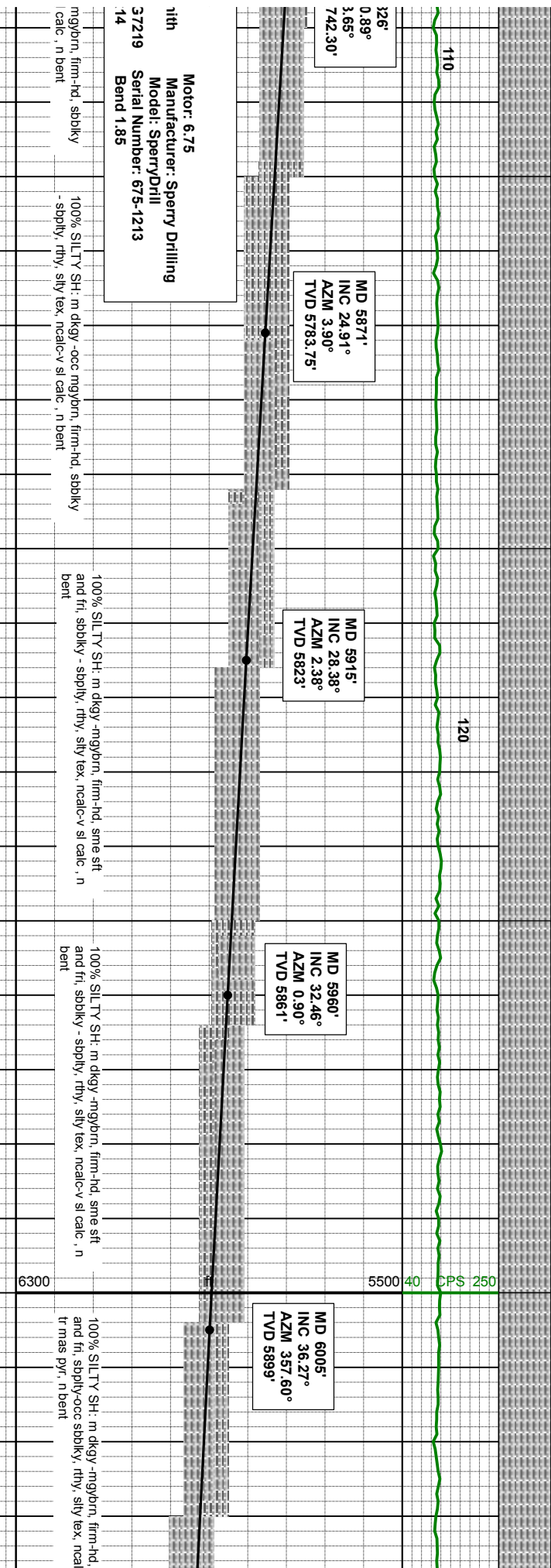
Oil Shows

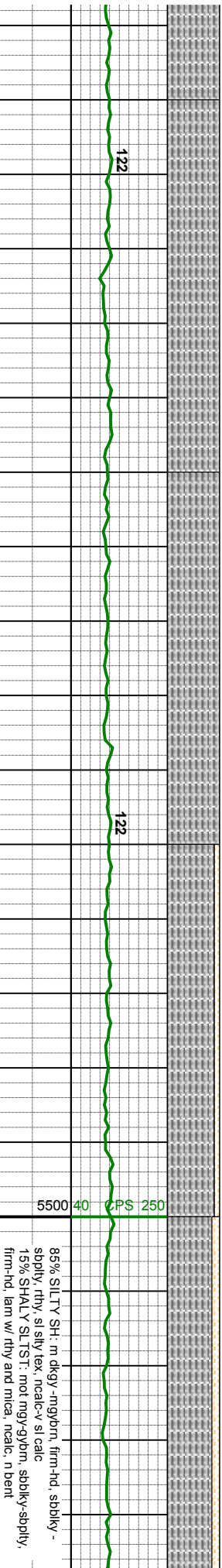
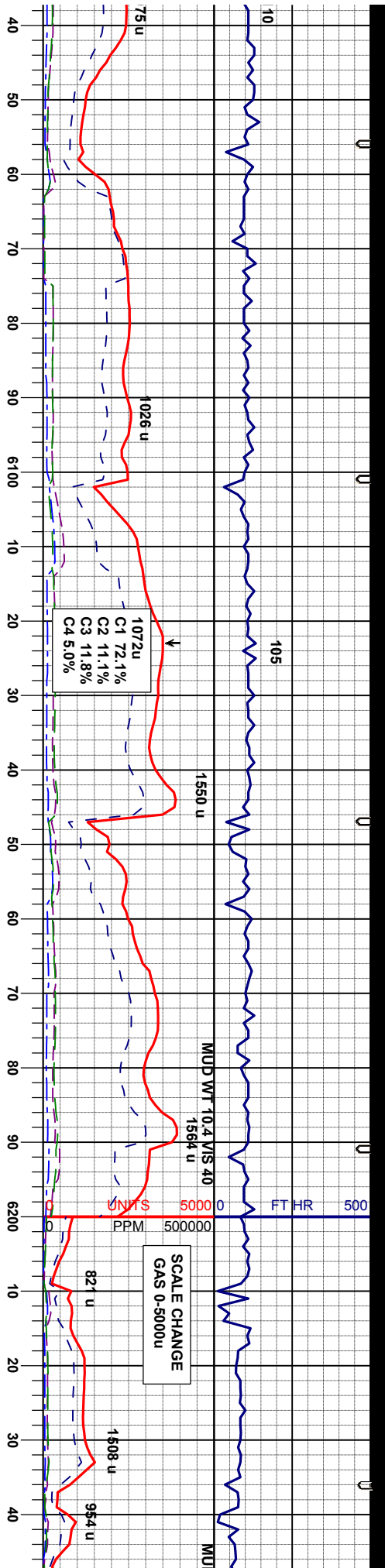
TFG

6300

SAMPLE PHOTOS







MD 6050'
INC 38.50°
AZM 351.70°
TVD 5934'

MD 6095'
INC 39.23°
AZM 343.16°
TVD 5969'

MD 6139'
INC 42.37°
AZM 335.99°
TVD 6003'

MD 6184'
INC 45.03°
AZM 331.03°
TVD 6035'

MD 6229'
INC 45.72°
AZM 324.39°
TVD 6067'

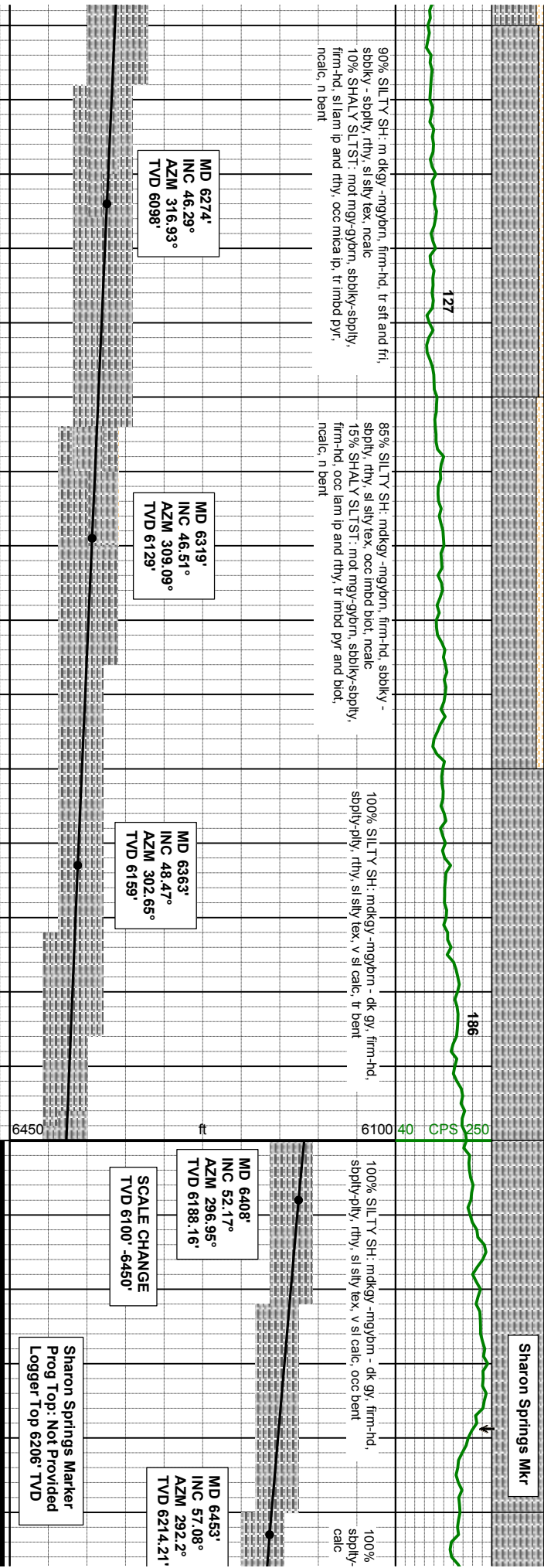
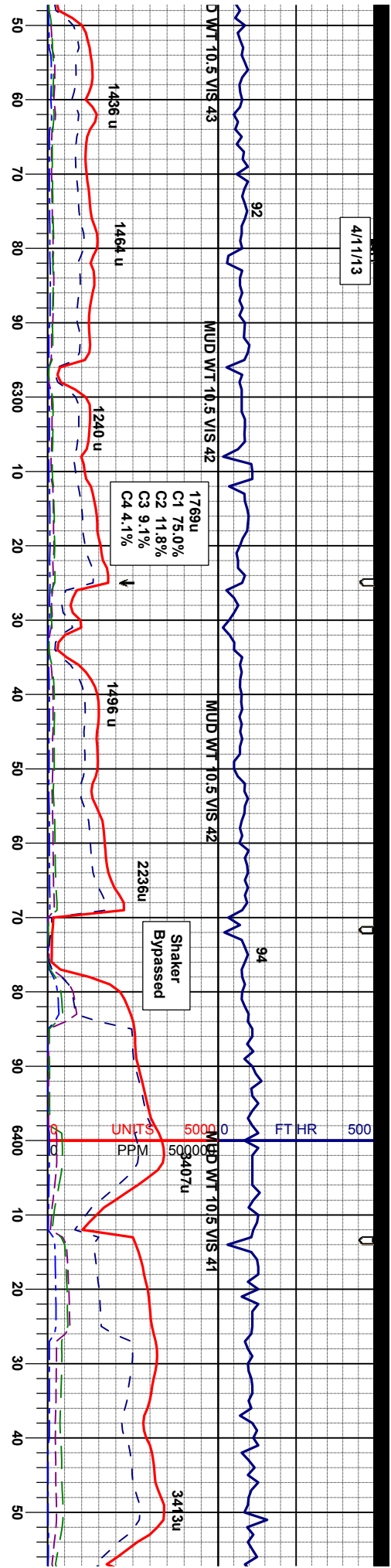
some sft,
c-v sl calc,

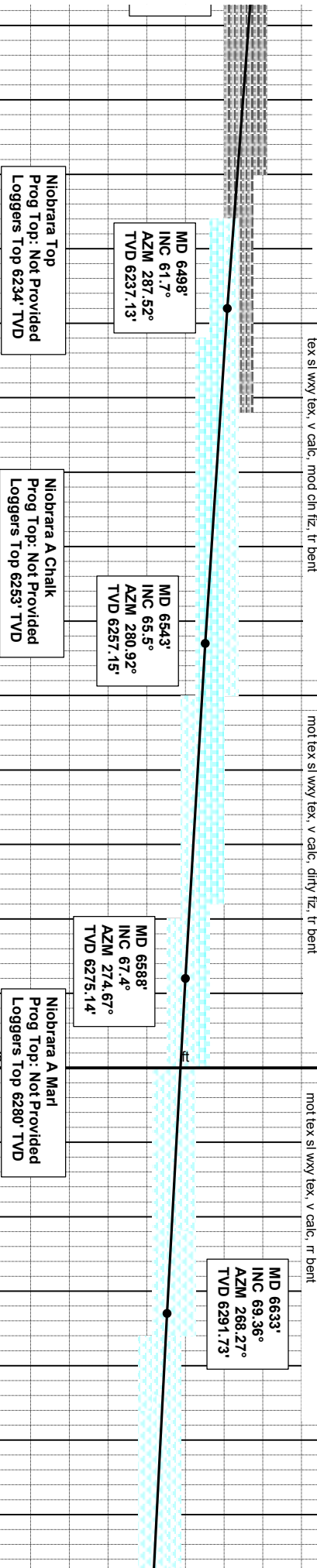
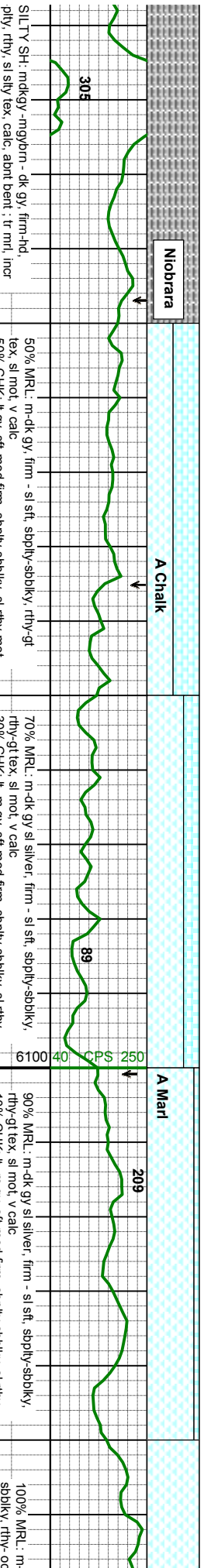
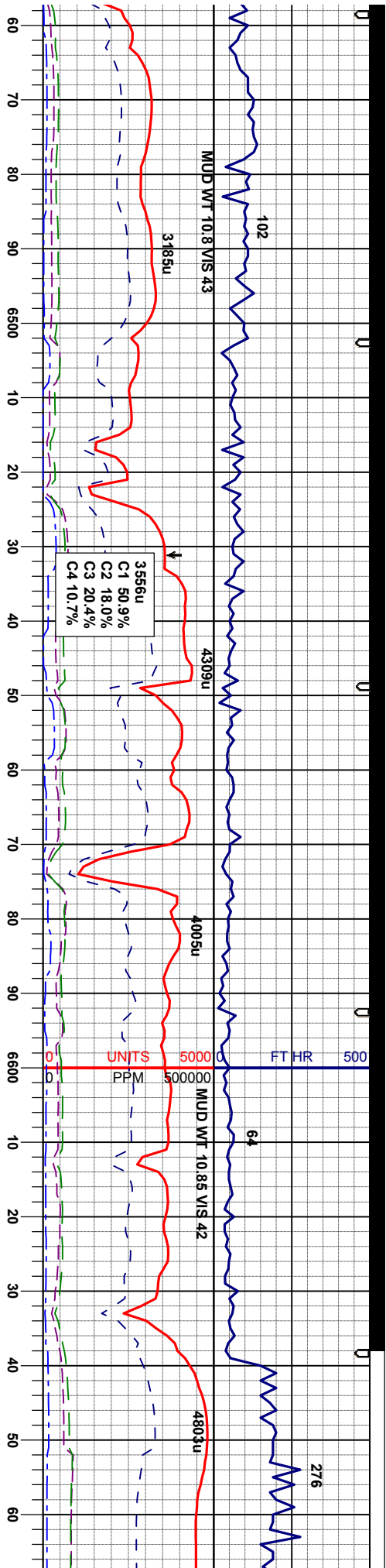
100% SILTY SH: mdkgy -mgybrn, firm-hd, tr sft and fri,
sbdly-sbdly, rthy, sily tex, ncalc-v sl calc, tr pyr incl,
imbd biot, n bent

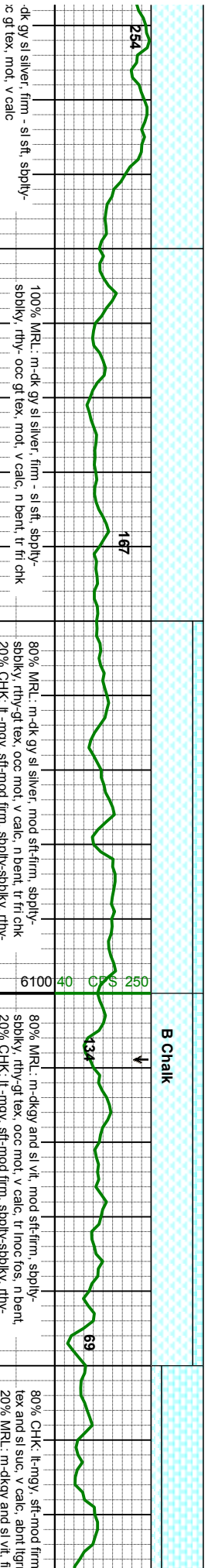
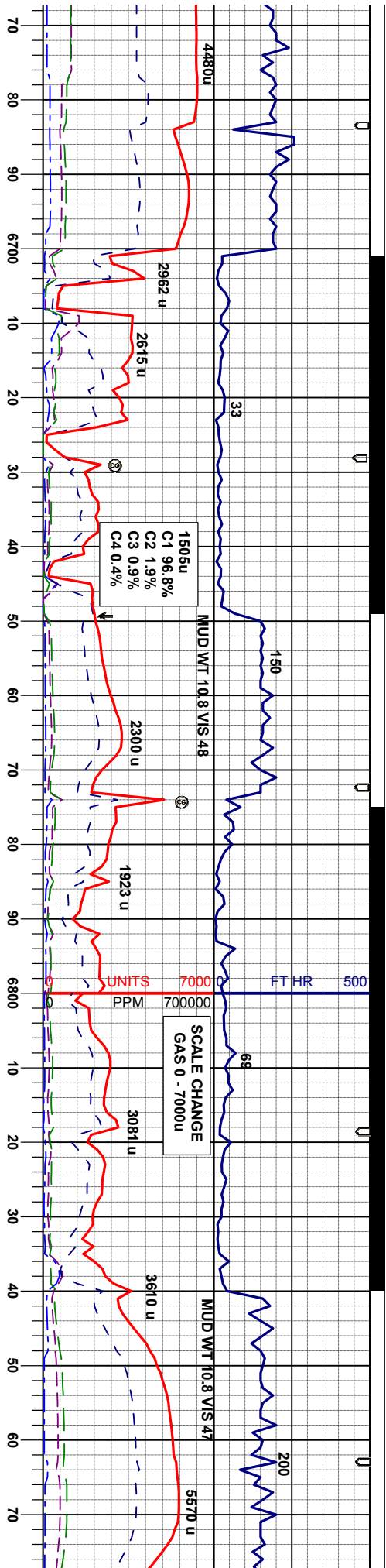
100% SILTY SH: mdkgy -mgybrn, firm-hd, tr sft and fri,
sbdly-sbdly, rthy, sily tex, ncalc-v sl calc, tr pyr incl,
imbd biot, n bent

90% SILTY SH: m dky -mgybrn, firm-hd, sbdky -
sbdly, rthy, sl sily tex, ncalc-v sl calc
10% SHALY SLTST: mot mgy-gybrn, sbdky-sbdly,
firm-hd, lam w/ rthy and mica, n bent









MD 6677
INC 70.28°
AZM 267.38°
TVD 6306.91'

MD 6722
INC 69.73°
AZM 269.74°
TVD 6322.30'

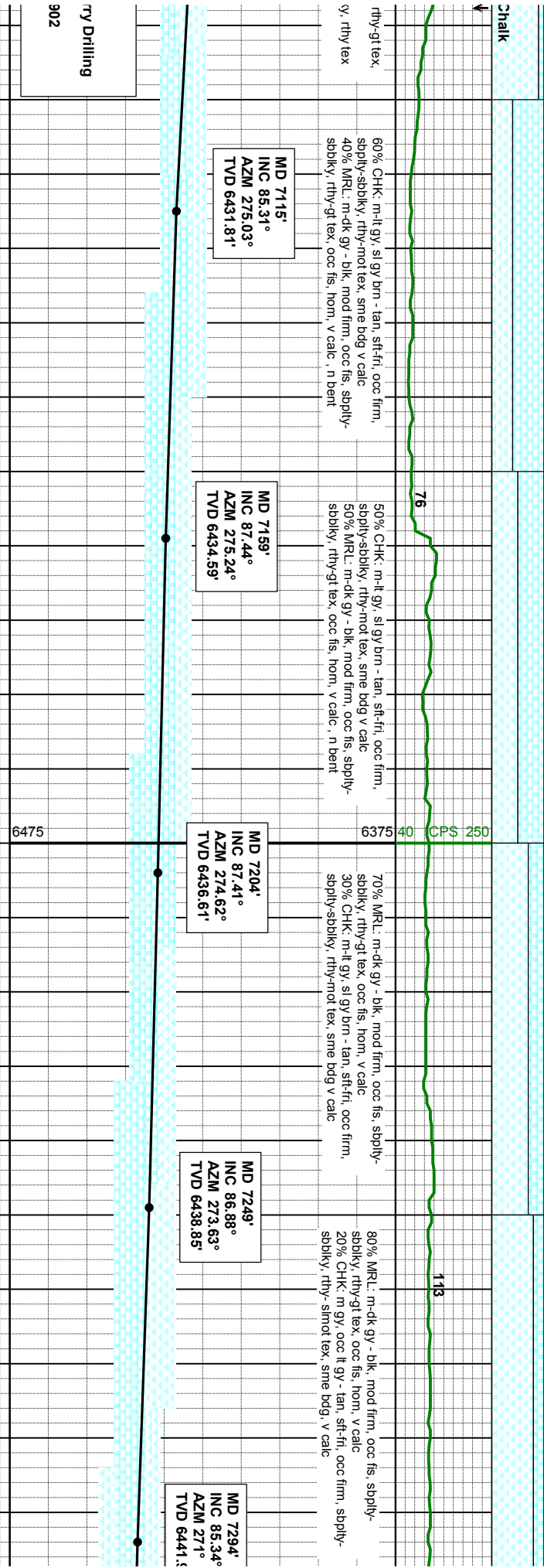
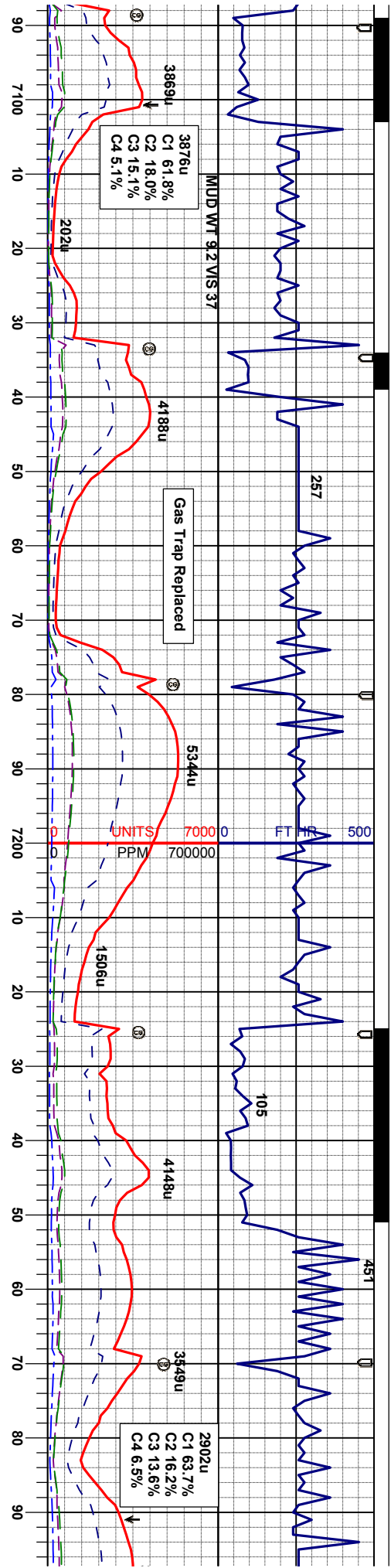
MD 6767
INC 71.34°
AZM 271.18°
TVD 6337'

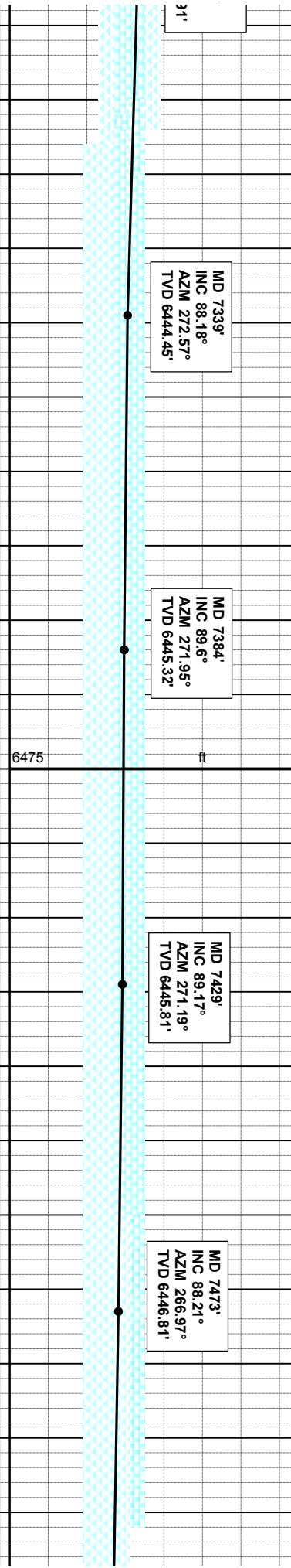
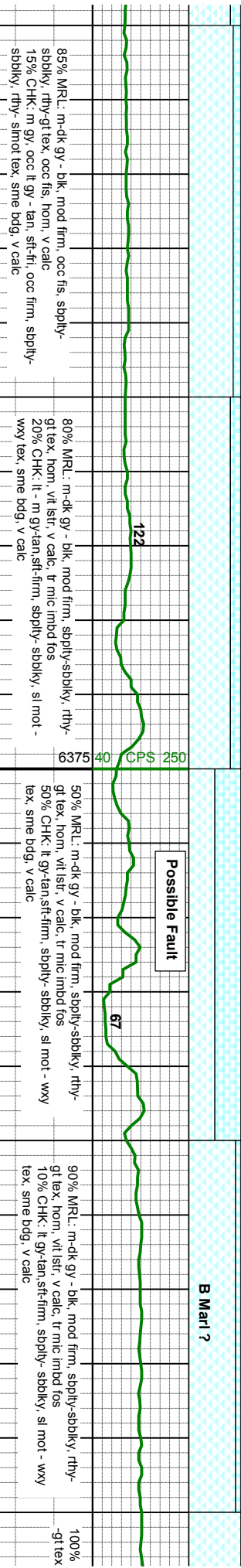
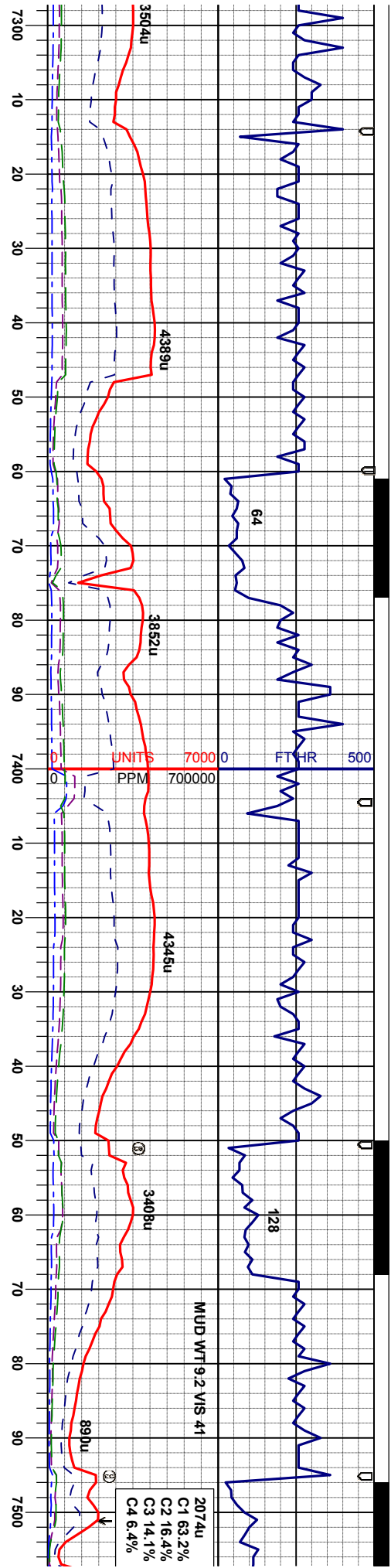
MD 6812
INC 67.15°
AZM 272.69°
TVD 6353'

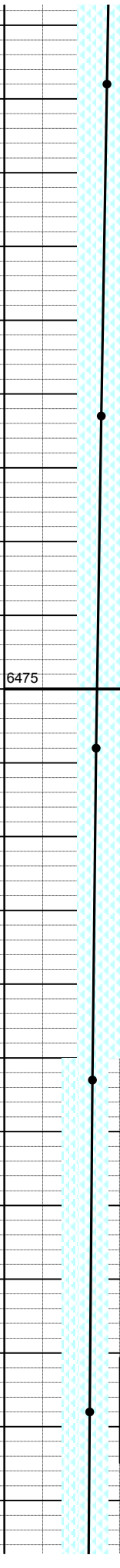
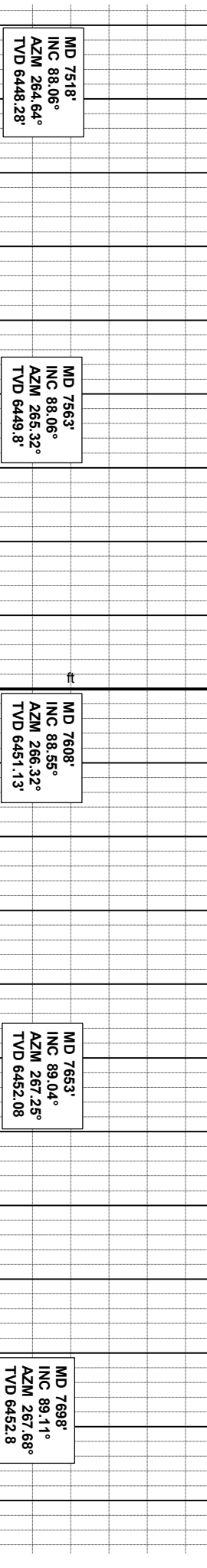
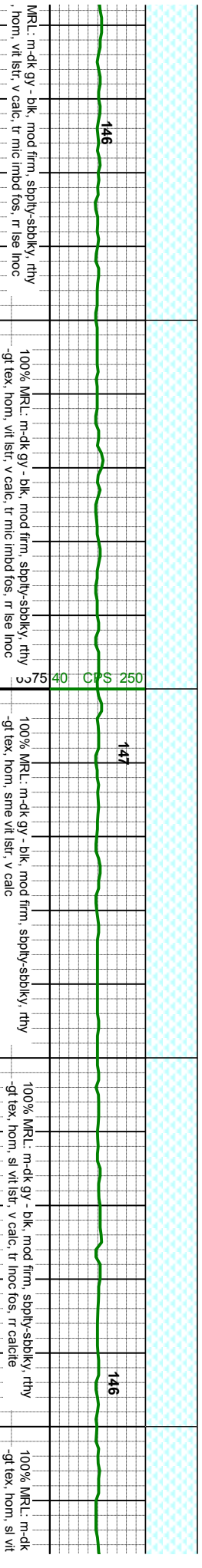
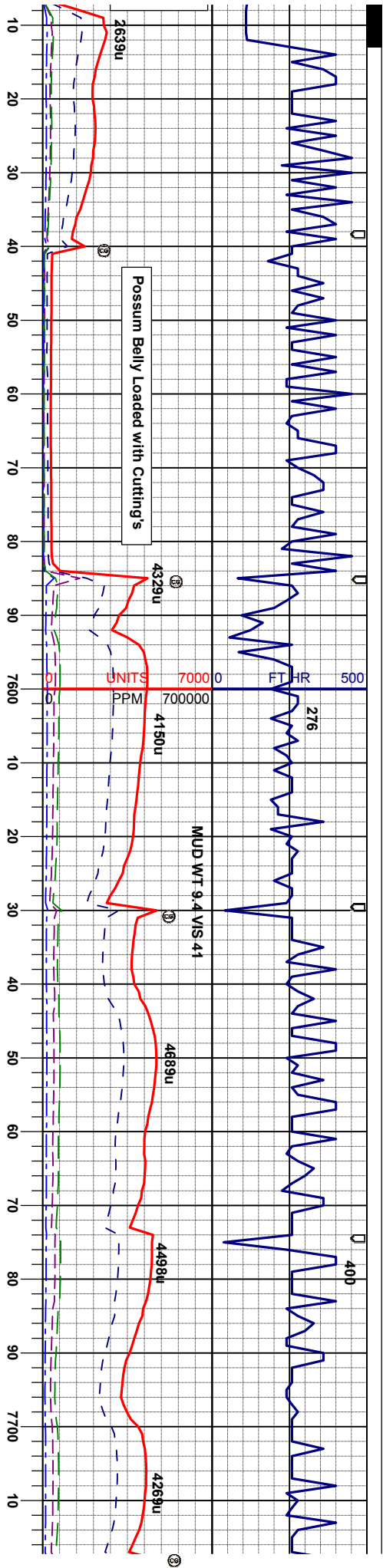
MD 6857
INC 65.49°
AZM 273.68°
TVD 6371'

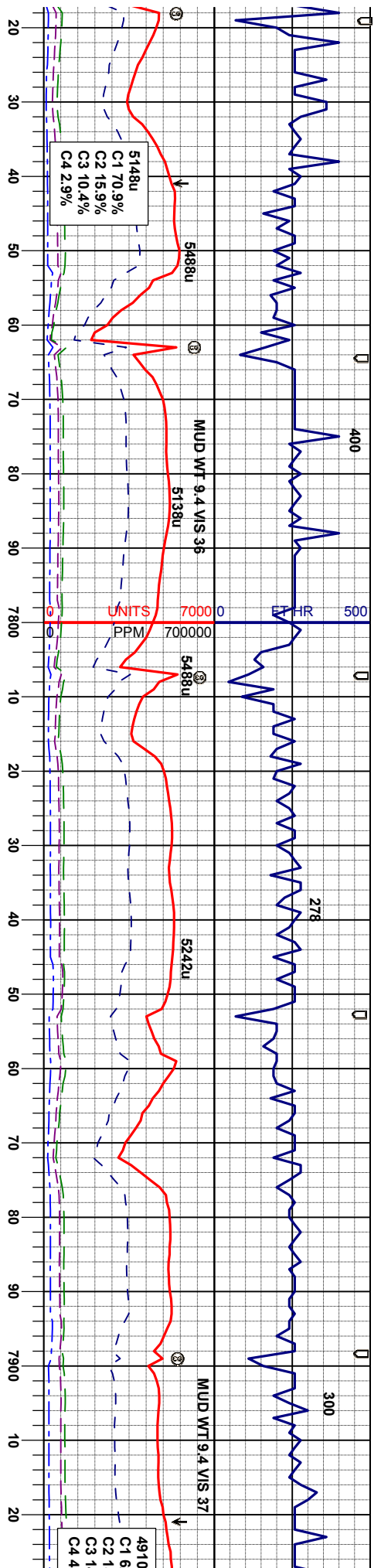
Niobrara B Chalk
Prog Top: Not Provided
Loggers Top 6352' TVD

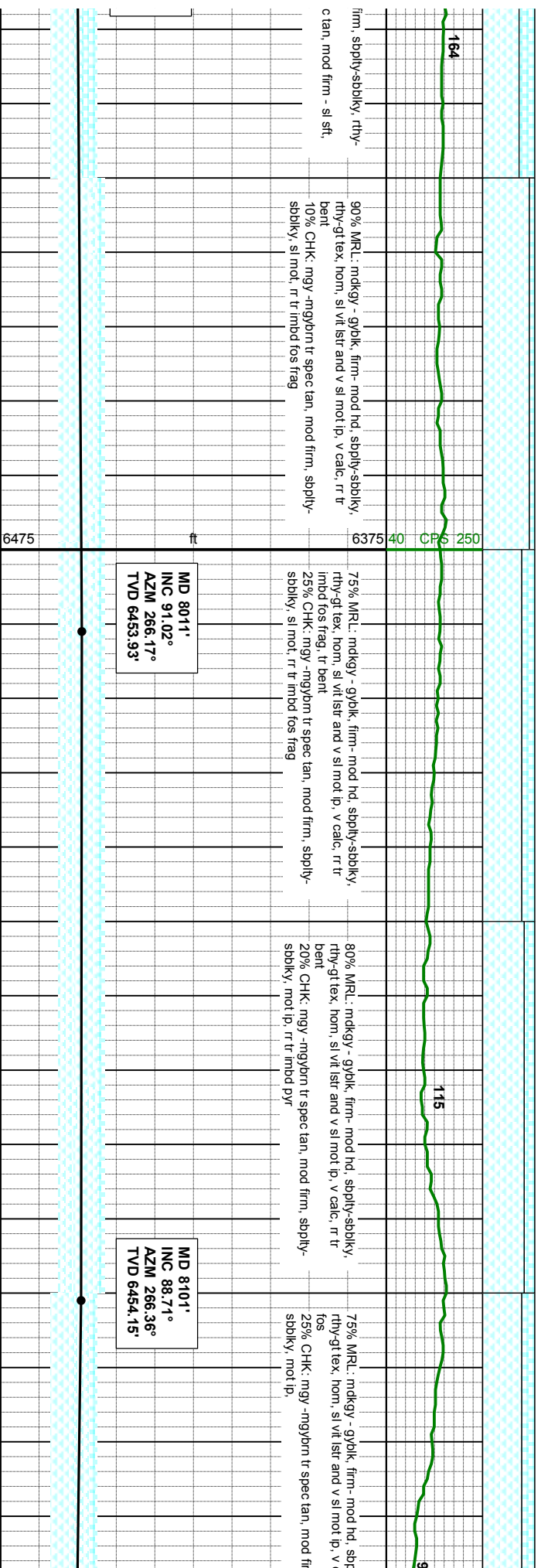
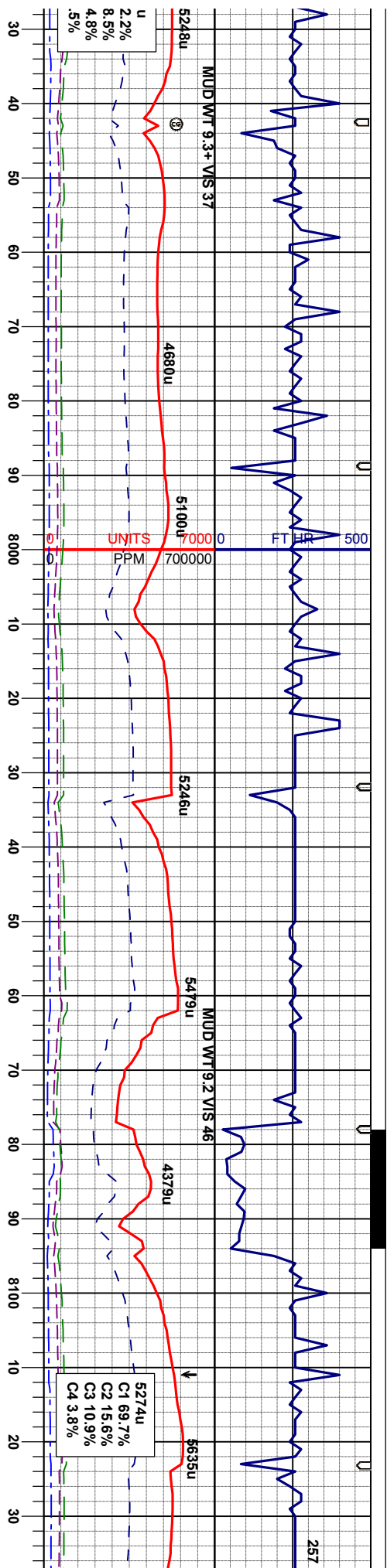


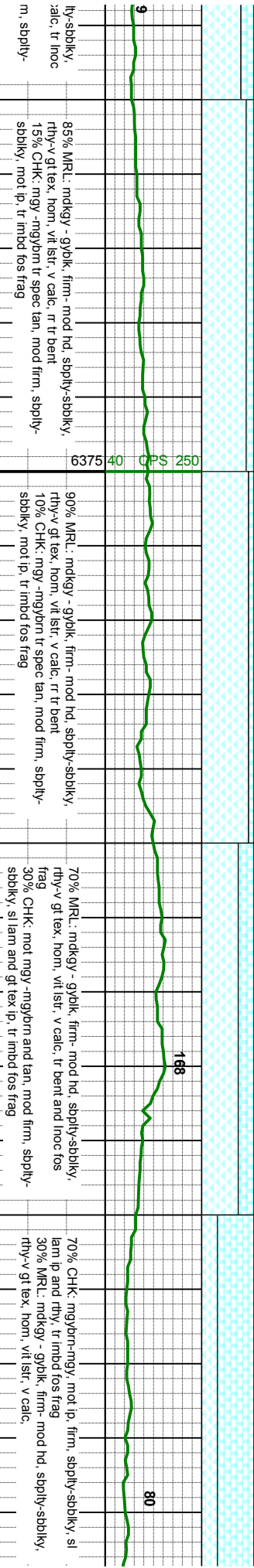
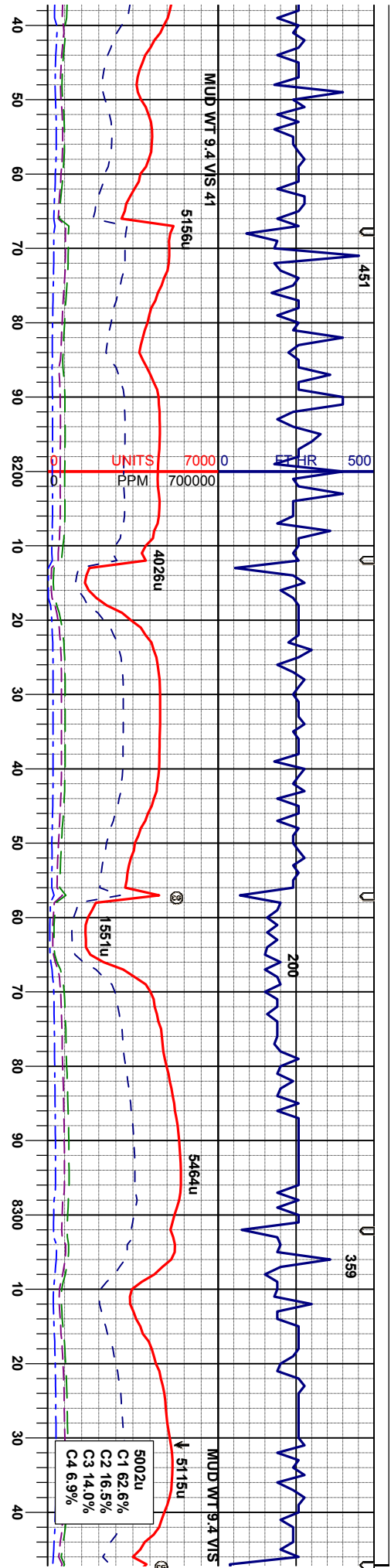








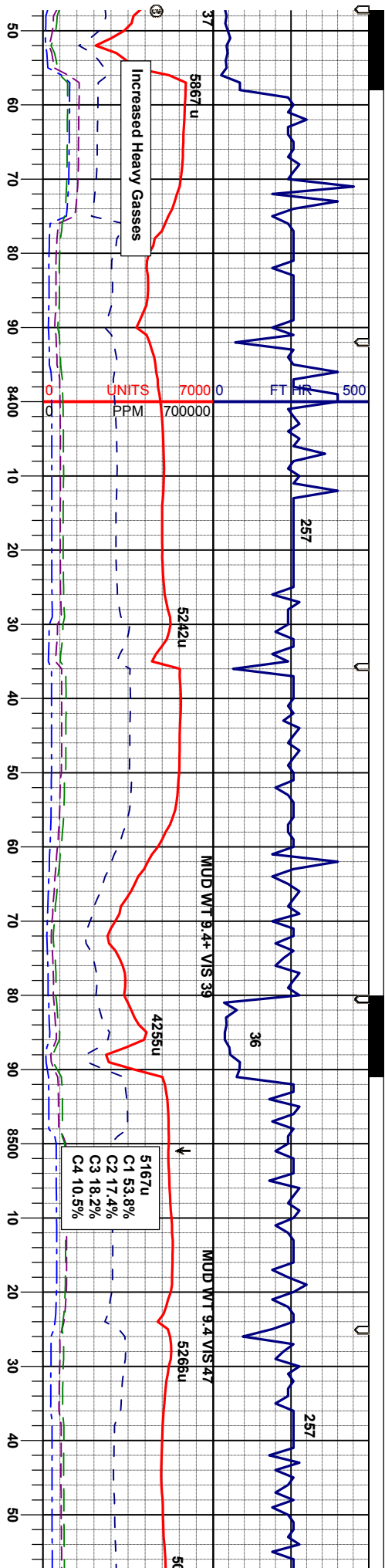




MD 8190'
INC 88.43°
AZM 266.26°
TVD 6456.37'

MD 8280'
INC 88.71°
AZM 264.81°
TVD 6458'





70% MR.L: mdkg - gybk, firm - mod hd, sbply-sbply,
rthy-v gt tex, hom, vit str, v calc, tr inoc fos frag
30% CHK: mot mgy -ngybrn and tan, mod firm, sbply-
sbply, sl lam and rthy tex ip,

70% MR.L: mdkg - gybk, firm - mod hd, sbply-sbply,
rthy-v gt tex, hom, vit str, v calc, tr inoc fos frag
30% CHK: mot mgy -ngybrn and tan, mod firm, sbply-
sbply, sl lam and rthy tex ip, tr imbd fos frag

90% MR.L: mdkg - gybk, firm - mod hd, sbply-sbply,
rthy-v gt tex, hom, vit str, v calc,
10% CHK: mot mgy -ngybrn and tan, mod firm, sbply-
sbply, sl lam and rthy tex ip, tr imbd fos frag

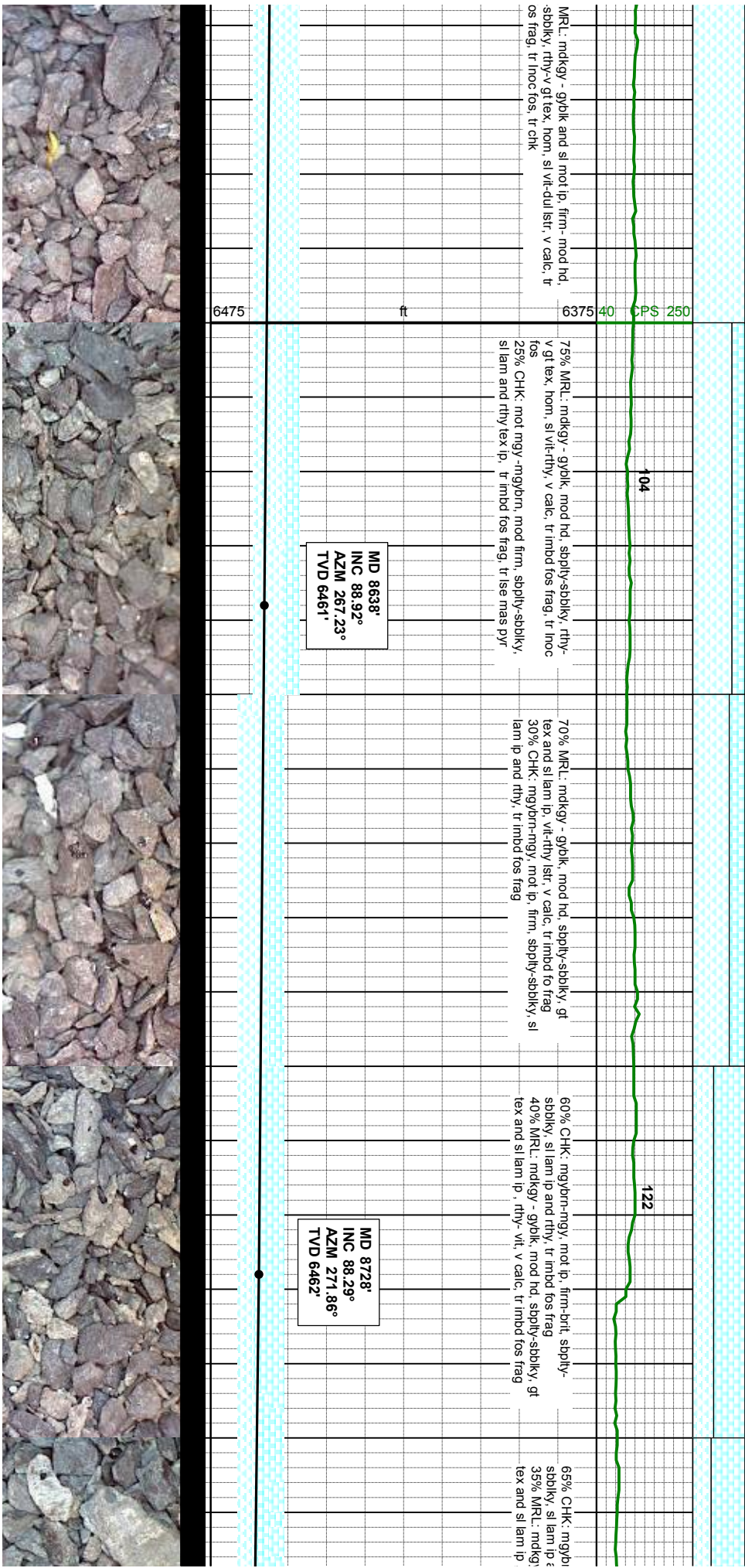
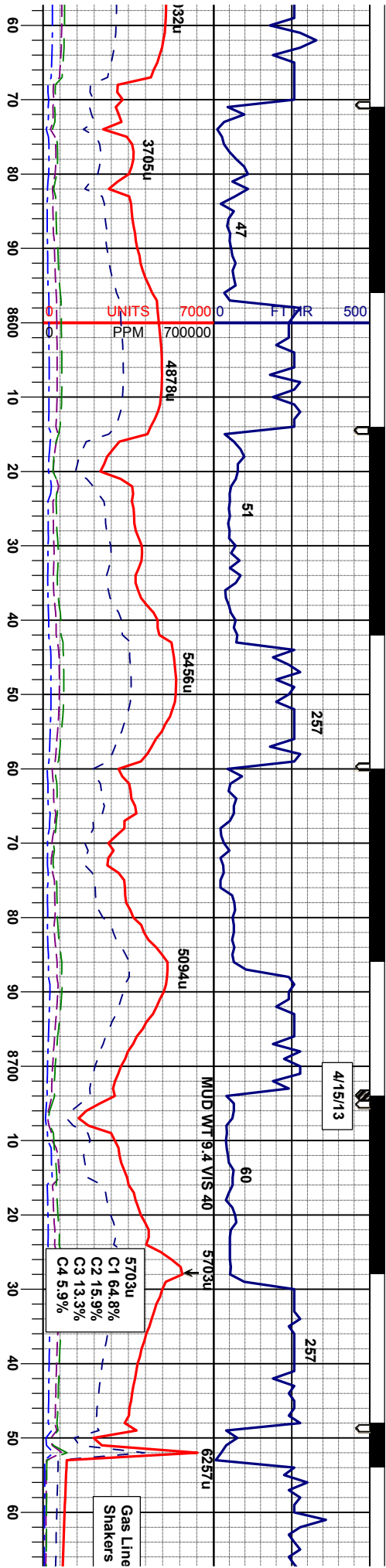
90% MR.L: mdkg - gybk, firm - mod hd, sbply-sbply,
rthy-v gt tex, hom, sl vit-out str, v calc, tr imbd fos frag,
tr inoc fos
10% CHK: mot mgy -ngybrn and tan, mod firm, sbply-
sbply, sl lam and rthy tex ip, tr imbd fos frag

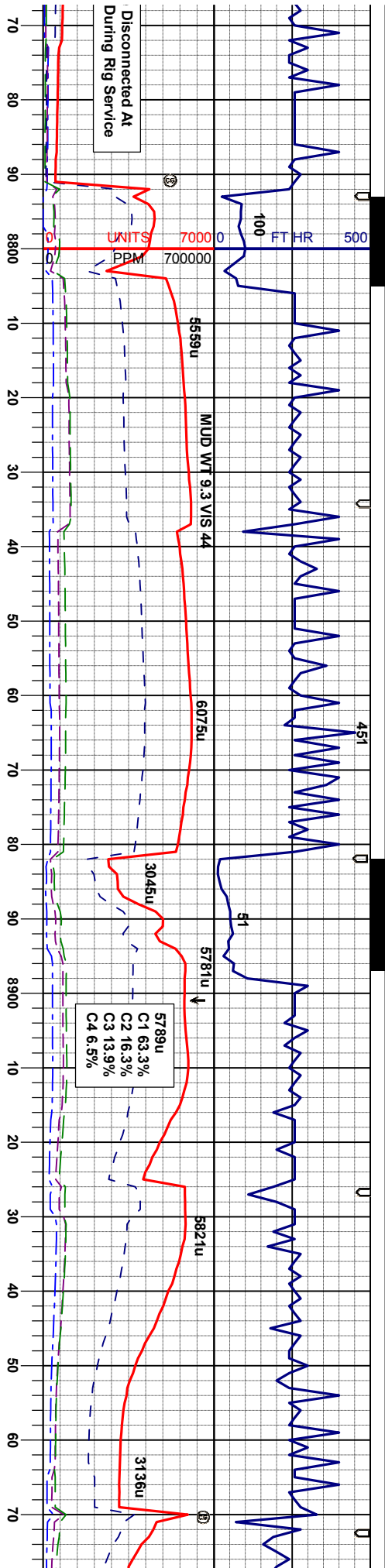
100%
sbply-
imbd f

MD 8370'
INC 89.97°
AZM 264.84°
TVD 6459'

MD 8459'
INC 90.40°
AZM 263.72°
TVD 6459'

MD 8549'
INC 89.23°
AZM 263.14°
TVD 6459'





Disconnected At
During Rig Service

UNITS
PPM

5789u
C1 63.3%
C2 16.3%
C3 13.9%
C4 6.5%

79-80% MRL: mdky - gylk, mod hd, sbply-sbply, gt
tex and sl lam ip, rhy-si vit, v calc, tr imbd fos frag
40% CHK: mgybrn-mgy, mot ip, firm-brt, sbply-
sbply, tr lam ip and rhy, tr imbd fos frag, grdg - mrl

60% MRL: mdky - gylk, mod hd, sbply-sbply, gt
tex and sl lam ip, rhy-si vit, v calc, tr imbd fos frag
40% CHK: mgybrn-mgy, mot ip, firm-brt, sbply-
sbply, tr lam ip and rhy, tr imbd fos frag, grdg - mrl

80% MRL: mdky - gylk, mod hd, sbply-sbply, gt
tex and sl lam ip, rhy-si vit, v calc, tr imbd fos frag
20% CHK: mgybrn-mgy, mot ip, firm-brt, sbply-
sbply, tr lam ip and rhy, tr imbd fos frag, grdg - mrl

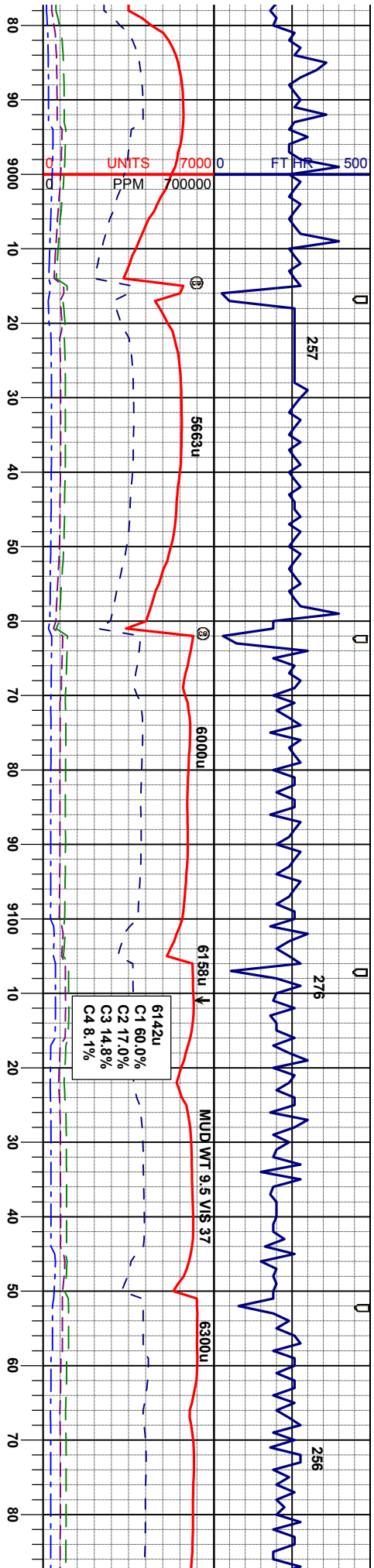
75% MRL: mdky - gylk, mod hd, sbply-sbply, gt
tex and sl lam ip, rhy-si vit, v calc, tr imbd fos frag
25% CHK: mgybrn-mgy, mot ip, firm-brt, sbply-
sbply, tr lam ip and rhy, tr imbd fos frag, grdg - mrl

75% MRL: mdky - gylk, mod hd, sbply-sbply, gt
tex and sl lam ip, rhy-si vit, v calc, tr imbd fos frag
25% CHK: mgybrn-mgy, mot ip, firm-brt, sbply-
sbply, tr lam ip and rhy, tr imbd fos frag, grdg - mrl

MD 8817'
INC 88°
AZM 270.58°
TVD 6464.62'

MD 8907'
INC 89.48°
AZM 272.04°
TVD 6466.6'





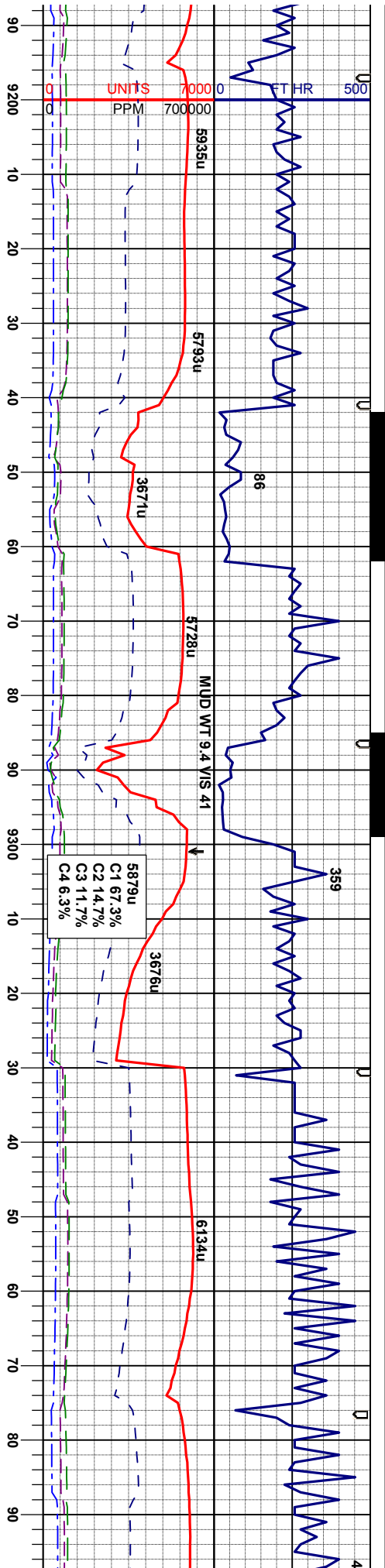
Very Dirty Chalks	
50% CHK: mgybrn-mgy occ brn, firm-brt sm sft, sbply -sbply, occ mot, sl lam, v sl wxy, tr imbd fos frag 50% MRU: mdkgy - gyblk, mod hd, sbply-sbply, gt tex and tr lam, rthy- vit, v calc, tr imbd fos frag	50% CHK: mgybrn-mgy occ brn, firm-brt sm sft, sbply -sbply, occ mot, sl lam, v sl wxy, tr imbd fos frag 50% MRU: mdkgy - gyblk, mod hd, sbply-sbply, gt tex and tr lam, rthy- vit, v calc, tr imbd fos frag
50% CHK: mgybrn-mgy occ brn, firm-brt sm sft, sbply -sbply, occ mot, sl lam, v sl wxy, tr imbd fos frag 50% MRU: mdkgy - gyblk, mod hd, sbply-sbply, gt tex and tr lam, rthy- vit, v calc, tr imbd fos frag	50% CHK: mgybrn-mgy occ brn, firm-brt sm sft, sbply -sbply, occ mot, sl lam, v sl wxy, tr imbd fos frag 50% MRU: mdkgy - gyblk, mod hd, sbply-sbply, gt tex and tr lam, rthy- vit, v calc, tr imbd fos frag
50% CHK: mgybrn-mgy occ brn, firm-brt sm sft, sbply -sbply, occ mot, sl lam, v sl wxy, tr imbd fos frag 50% MRU: mdkgy - gyblk, mod hd, sbply-sbply, gt tex and tr lam, rthy- vit, v calc, tr imbd fos frag	50% CHK: mgybrn-mgy occ brn, firm-brt sm sft, sbply -sbply, occ mot, sl lam, v sl wxy, tr imbd fos frag 50% MRU: mdkgy - gyblk, mod hd, sbply-sbply, gt tex and tr lam, rthy- vit, v calc, tr imbd fos frag

MD 8997'
INC 90.06°
AZM 272.3°
TVD 6466.96'

MD 9086'
INC 90.15°
AZM 272.13°
TVD 6466.8'

MD 9176'
INC 88.8°
AZM 270.5°
TVD 6467.62'

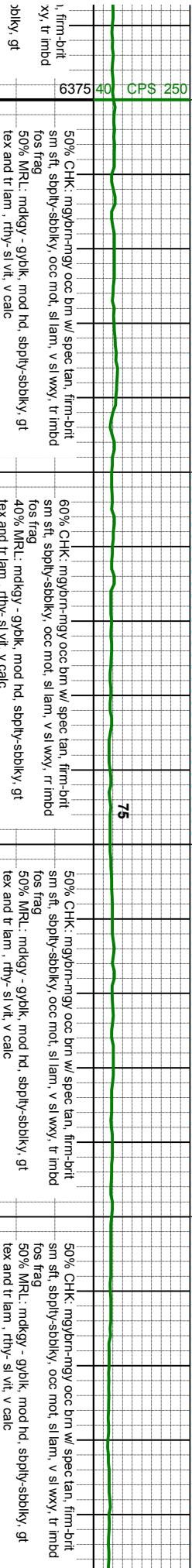




Very Dirty Chalks

Lower C Chalk

Very Dirty Chalks



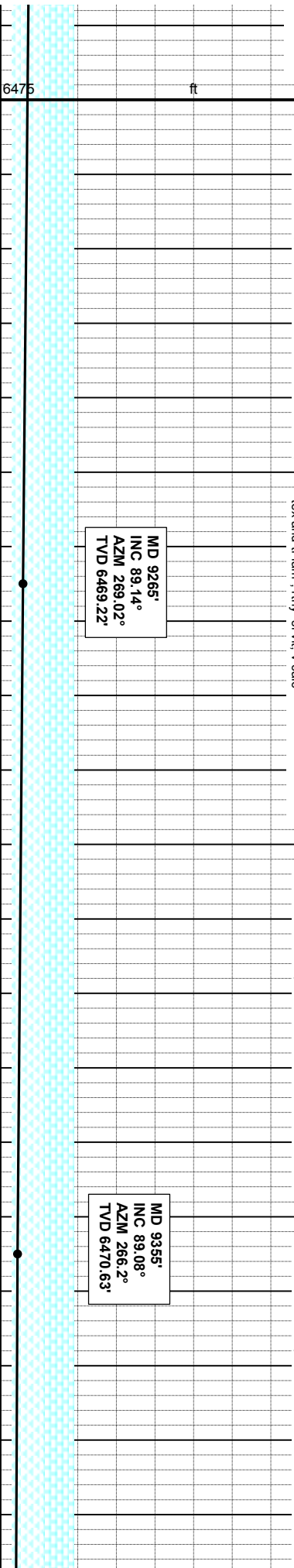
MD 9265'
INC 89.14°
AZM 269.02°
TVD 6469.22'

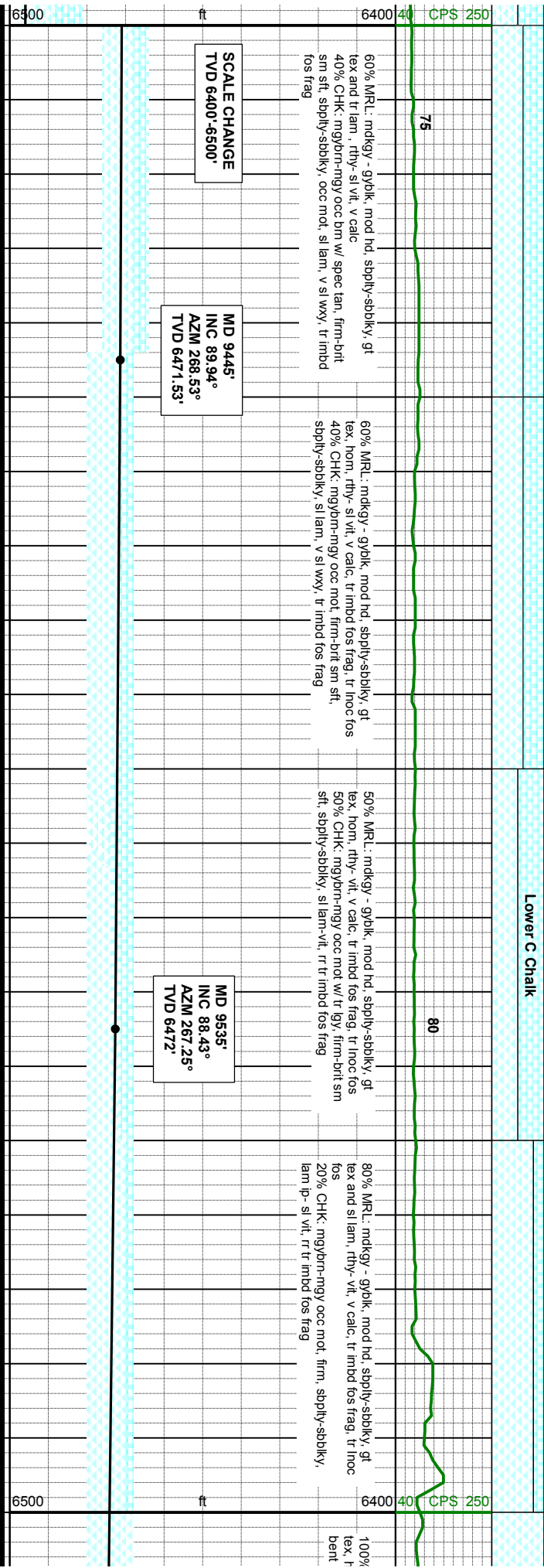
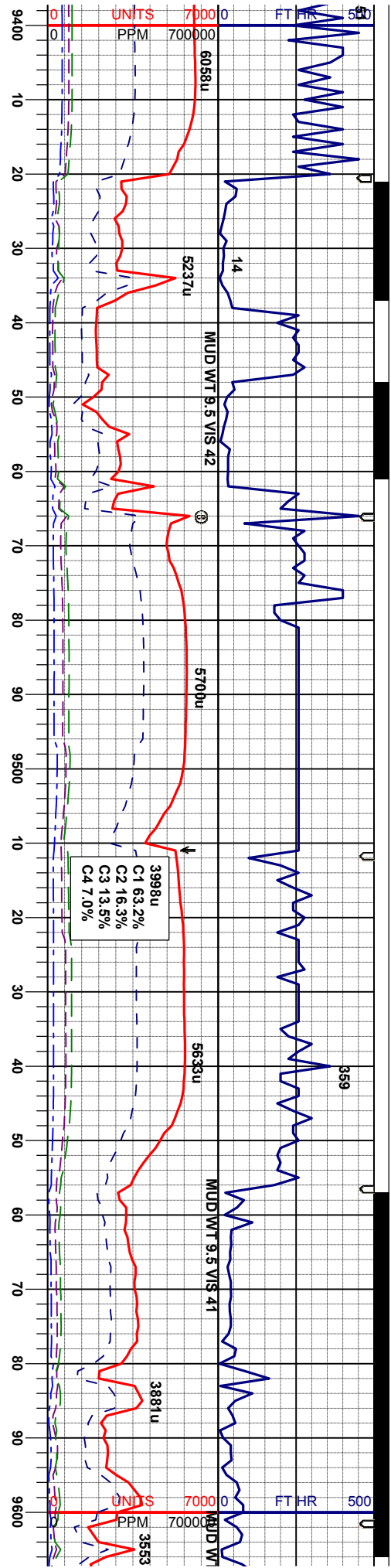
MD 9355'
INC 89.08°
AZM 266.2°
TVD 6470.63'

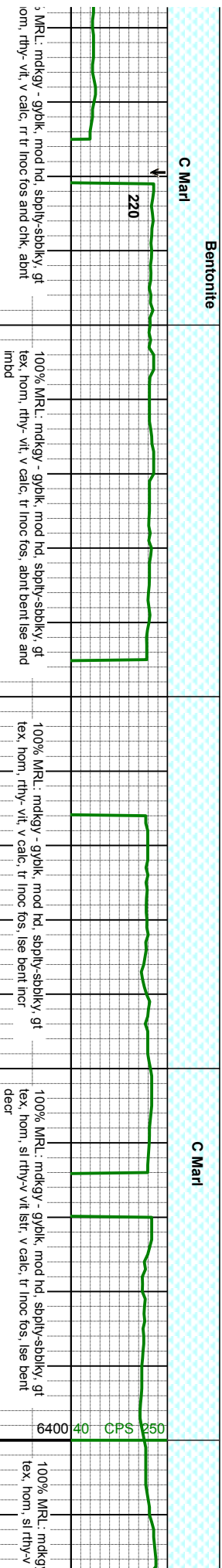
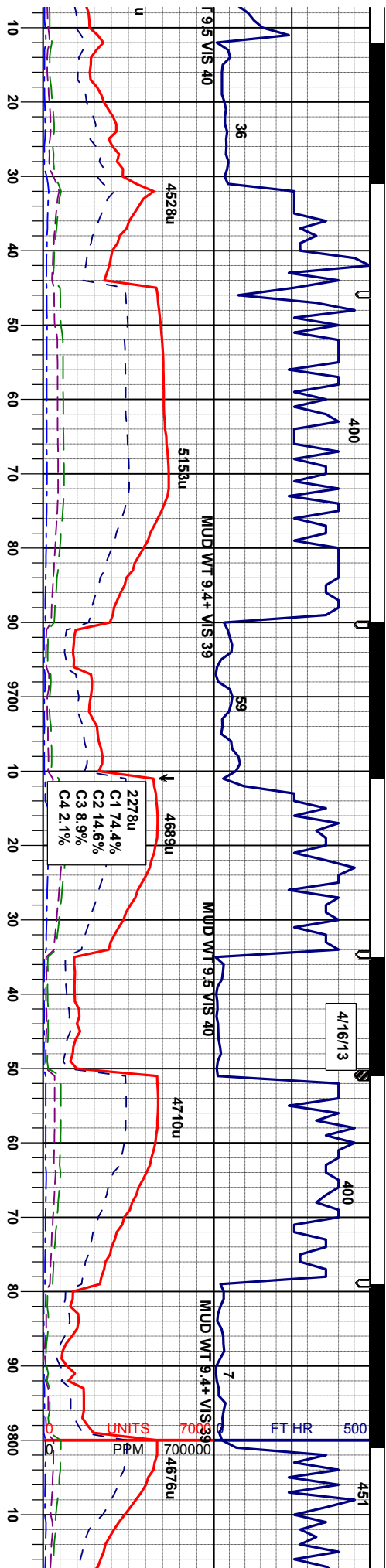
50% CHK: mgybrn-mgy occ brn w/ spec tan, firm-brt
sm sft, sbply-sbply, occ mod, sl lam, v sl wxy, tr imbd
fos frag
50% MRU: mdgy - gpyk, mod hd, sbply-sbply, gt
tex and tr lam, rthy - sl vlt, v calc

50% CHK: mgybrn-mgy occ brn w/ spec tan, firm-brt
sm sft, sbply-sbply, occ mod, sl lam, v sl wxy, tr imbd
fos frag
50% MRU: mdgy - gpyk, mod hd, sbply-sbply, gt
tex and tr lam, rthy - sl vlt, v calc

50% CHK: mgybrn-mgy occ brn w/ spec tan, firm-brt
sm sft, sbply-sbply, occ mod, sl lam, v sl wxy, tr imbd
fos frag
50% MRU: mdgy - gpyk, mod hd, sbply-sbply, gt
tex and tr lam, rthy - sl vlt, v calc







MD 9624'
INC 88.95°
AZM 267.90°
TVD 6474'

MD 9714'
INC 88.18°
AZM 267.15°
TVD 6476'

Mud Report
4/16/2013 PM
Type: LSND
Weight: 9.45
Viscosity: 38
Yield Point: 6
API: 6.6
Solids: 5.6%
pH: 9.5
Chlorides: 1000
Hardness: 60

MD 9803'
INC 91.69°
AZM 267.71°
TVD 6477.07'

Niobrara C Marl
Prog Top: Not Provided
Loggers Top: 6474' TVD



