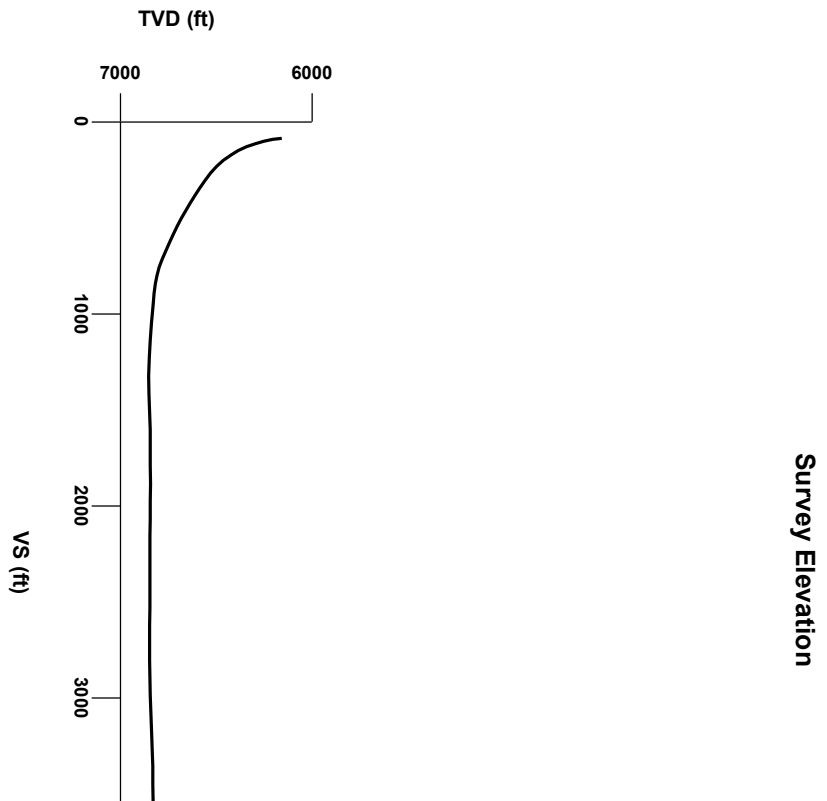
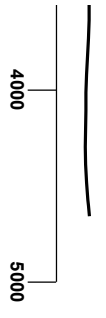
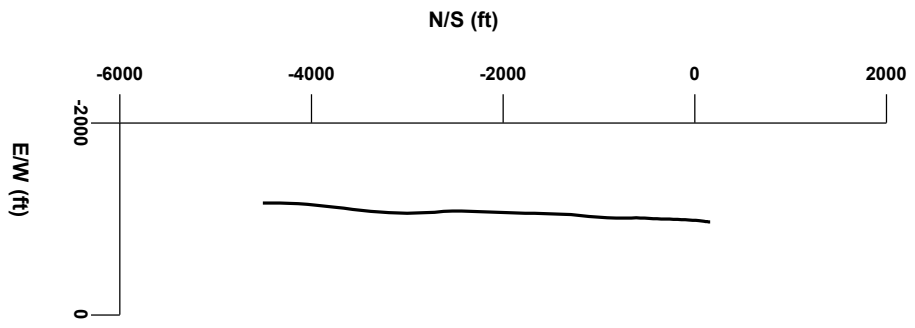


LOG created using LPLOT VH Version 3.0, August 21, 2012, Copyright (C) 1999-2009 Pason Systems Corp.

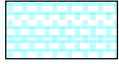
OPERATOR: NOBLE ENERGY INC
WELL: BALL RANCH AC04-72HN
LOCATION: NWNW, SEC 3, T7N, R63W
COUNTY: WELD
STATE: COLORADO
SPOT: 250' FSL, 320' FEL
ELEVATION: GE 4890', KB 4914'
FIELD: WILDCAT
SPUD DATE: AUGUST 10, 2012
TD DATE: AUGUST 21, 2012
DATES LOGGED: 08/14/12 - 08/21/2012
DEPTHS LOGGED: 6330' - 11303'
LOGGERS: MIKE KERSCHEN, LAURA KELLOGG
DRILLING FLUID: LSND
DRILLING RIG: H&P 322
API: 05-123-35248
LOG TYPE: HORIZONTAL
SCALE: 1:240 (5 inches per 100 feet)
REMARKS:



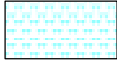
Survey Plan



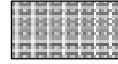
LITHOLOGIES



Chalk



Marl



Silty Shale

ENGINEERING SYMBOLS



Casing



Casing



Connection



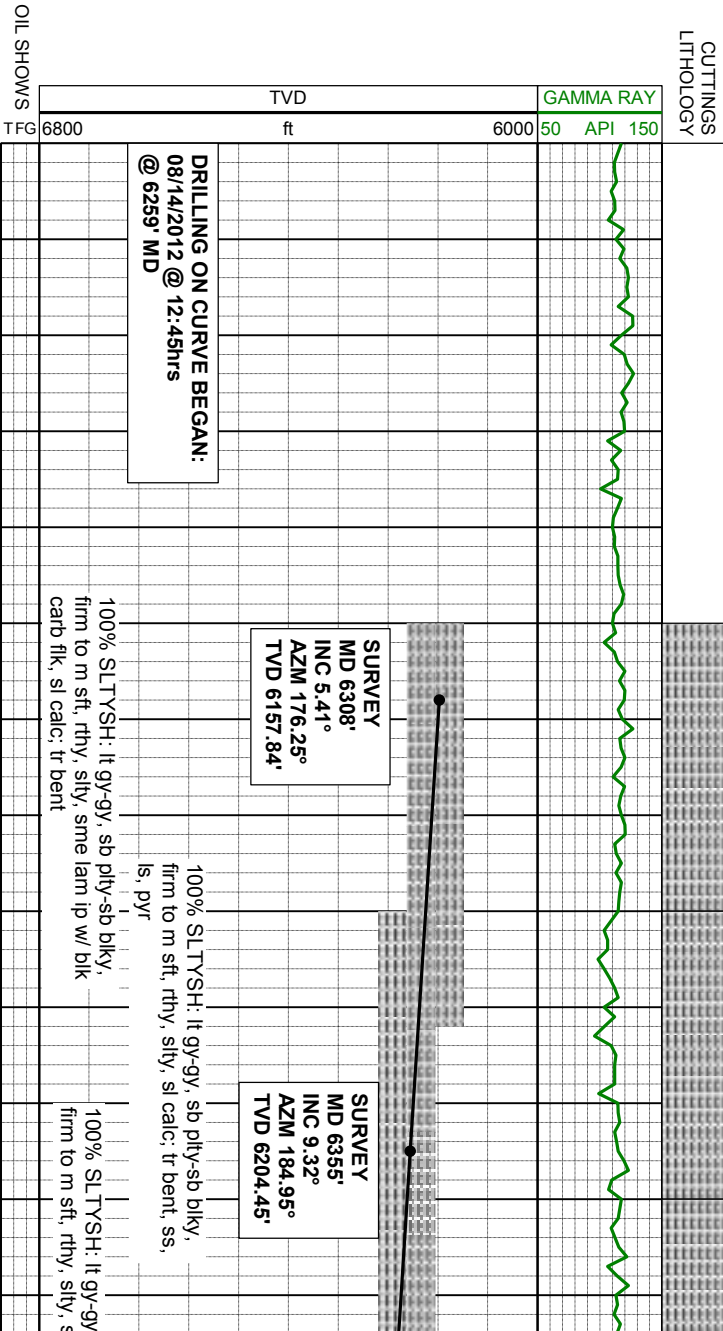
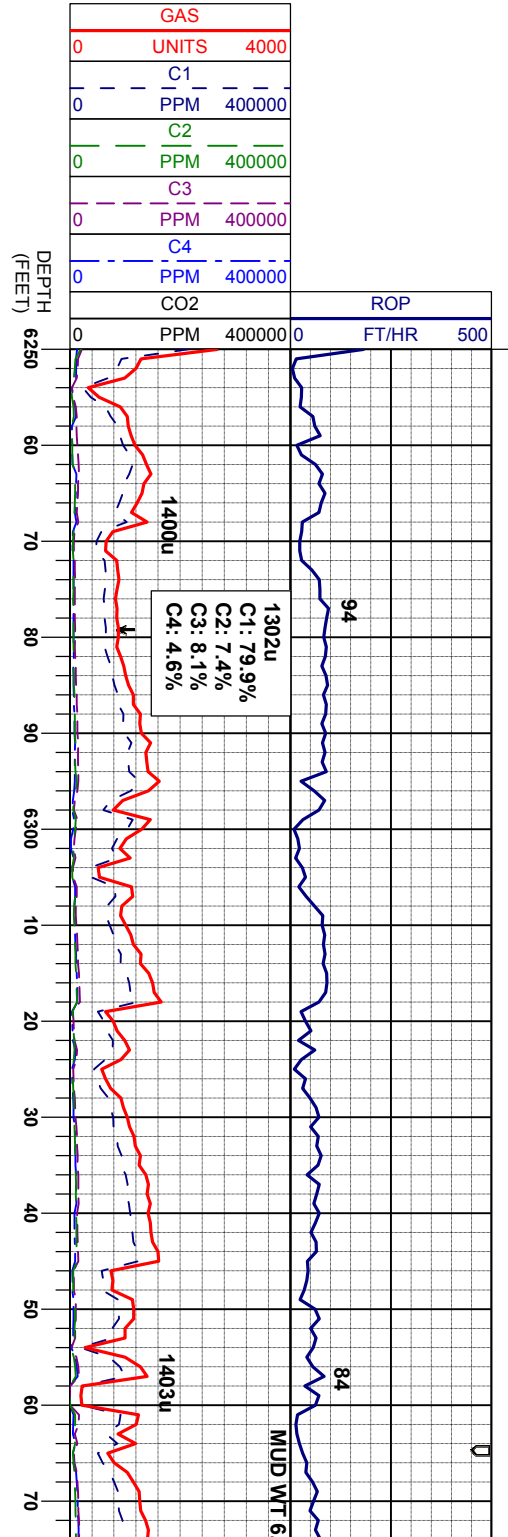
Arrow



Midnight Depth



Arrow



DRILLING ON CURVE BEGAN:
08/14/2012 @ 12:45hrs
@ 6259' MD

100% SLTYSH: lt gy-gy, sb pily-sb blkly, firm to m sft, rthy, silty, sme lam ip w/ blk carb flk, sl calc; tr bent

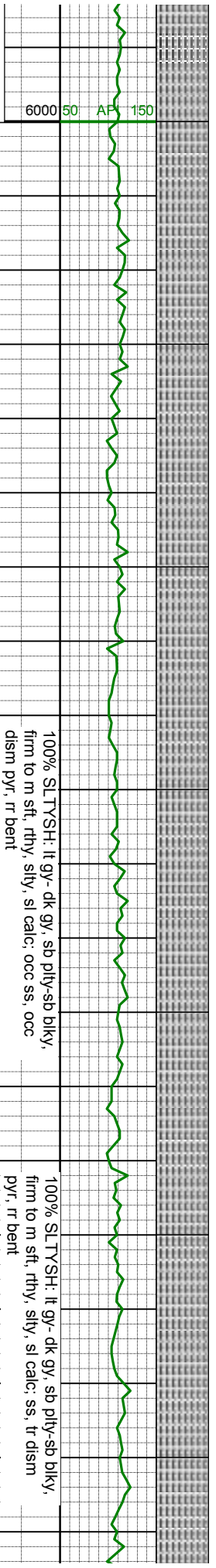
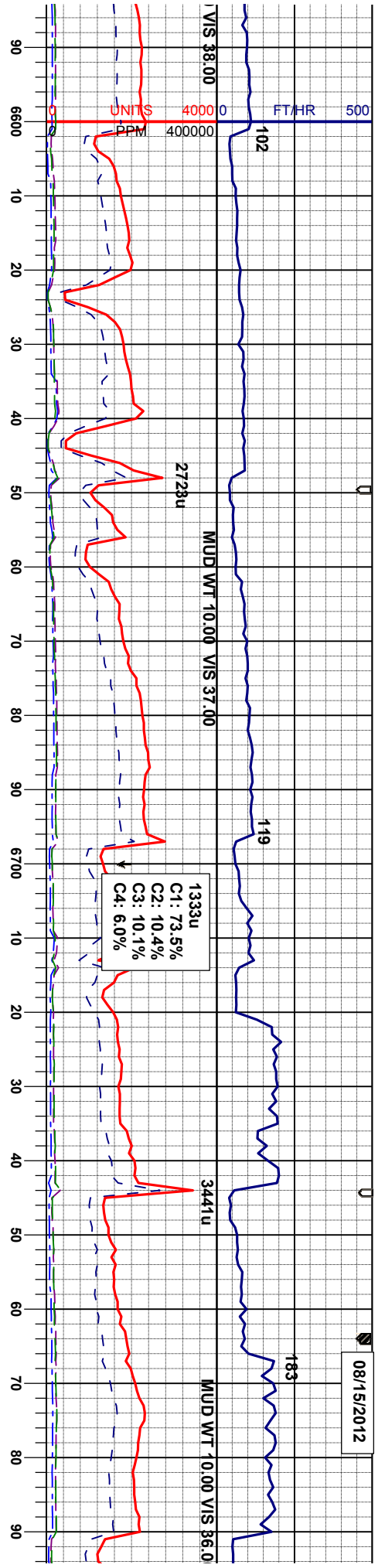
100% SLTYSH: lt gy-gy, sb pily-sb blkly, firm to m sft, rthy, silty, sl calc; tr bent, ss, ls, pyr

100% SLTYSH: lt gy-gy, firm to m sft, rthy, silty, s



SAMPLE PHOTOS

OIL SHOWS



SURVEY
MD 6593.
INC 33.54°
AZM 185.56°
TVD 6425.73'

SURVEY
MD 6640.
INC 39.34°
AZM 184.98°
TVD 6463.53'

SURVEY
MD 6688.
INC 45.60°
AZM 183.99°
TVD 6498.63'

SURVEY
MD 6735.
INC 50.75°
AZM 183.87°
TVD 6529.66'

SURVEY
MD 6783.
INC 54.60°
AZM 183.92°
TVD 6558.75'

100% SLTYSH: It gy- dk gy, sb pily-sb dlky, firm to m sft, rthy, silty, sl calc; ss, tr dism pyr, rr bent

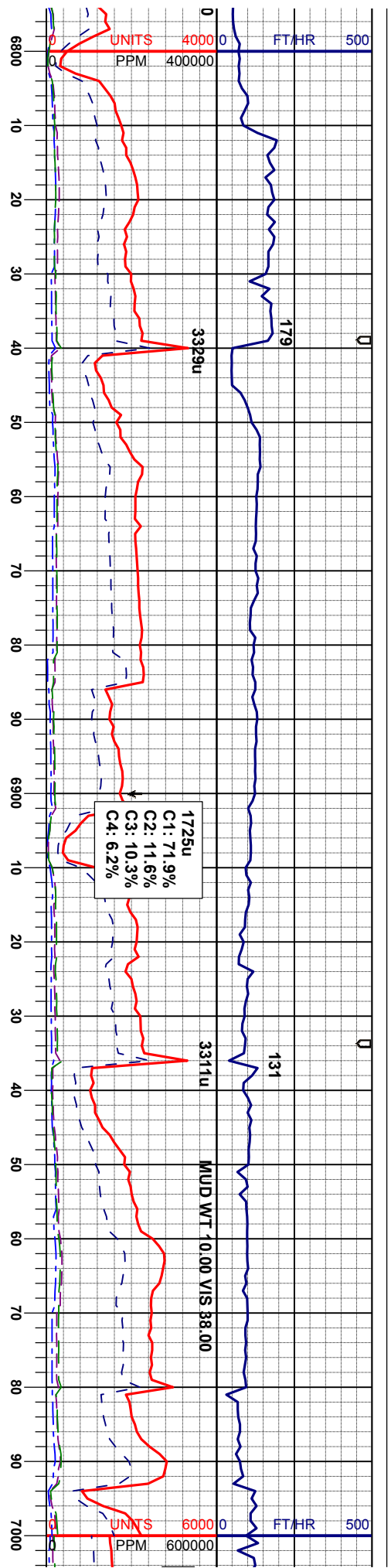
100% SLTYSH: It gy- dk gy, sb pily-sb dlky, firm to m sft, rthy, silty, sl calc; ss, tr dism pyr, rr bent

100% SLTYSH: It gy- dk gy, sb pily-sb dlky, firm to m sft, rthy, silty, sl calc; ss, occ dism pyr, tr bent

100% SLTYSH: It gy- dk gy, sb pily-sb dlky, firm to m sft, rthy, silty, sl calc; ss, tr dism pyr, tr bent

100% SLTYSH: It gy- dk gy, sb pily-sb dlky, firm to m sft, rthy, silty, sl calc; ss, tr dism pyr, tr bent





100% SLTYSH: It gy- dk gy, sb pily-sb blkly, firm to m sft, rthy, silty, sl calc; ss, tr dism pyr

100% SLTYSH: It gy- dk gy, sb pily-sb blkly, firm to m sft, rthy, silty, sl calc; ss, tr dism pyr

100% SLTYSH: It gy- dk gy, sb pily-sb blkly, firm to m sft, rthy, silty, sl calc; ss, tr dism pyr

100% SLTYSH: It gy- dk gy, sb pily-sb blkly, firm to m sft, rthy, silty, sl calc; ss, tr dism pyr

100% SLTYSH: It gy- dk gy, sb pily-sb blkly, firm to m sft, rthy, silty, sl calc; ss, tr dism pyr

100% SLTYSH: It gy- dk gy, sb pily-sb blkly, firm to m sft, rthy, silty, sl calc; ss, tr dism pyr

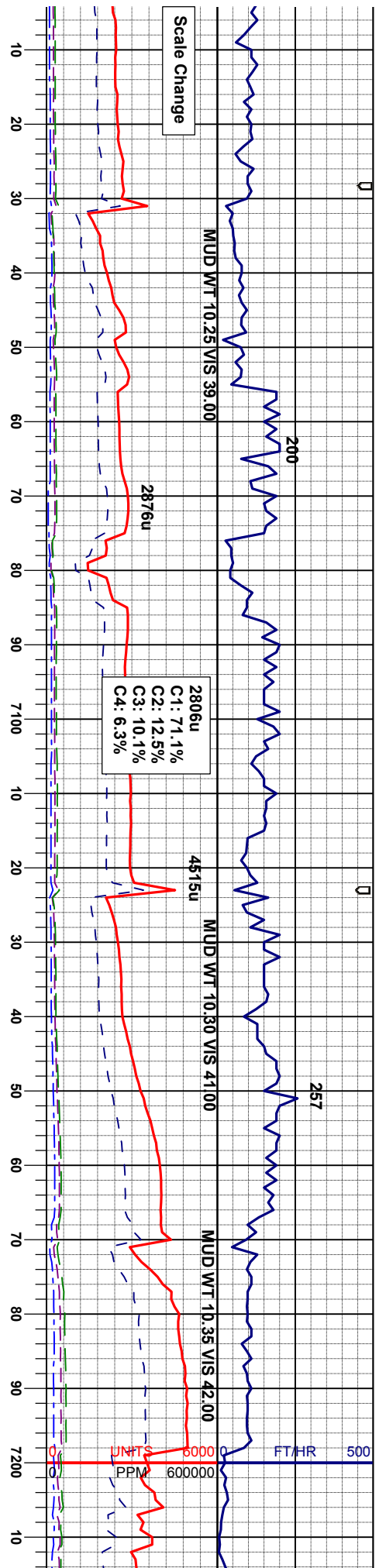
SURVEY
 MD 6830'
 INC 56.79°
 AZM 182.97°
 TVD 6585.24'

SURVEY
 MD 6877'
 INC 58.68°
 AZM 182.65°
 TVD 6610.33'

SURVEY
 MD 6924'
 INC 59.02°
 AZM 182.38°
 TVD 6634.64'

SURVEY
 MD 6972'
 INC 60.26°
 AZM 181.29°
 TVD 6658.90'





Sharon Spr. Mkr Bed
7145' MD

Scale Change

H; lt gy- dk gy, sb pty-sb blk, y, firm to m sft, rthy, silty, hom, v sl calc; tr bent

100% SLTYSH: gy- dk gy, sb pty-sb blk, y, firm to m sft, rthy, silty, hom, v sl calc; tr bent

50% MRL: brmbk - blkgy - dkgybrn, occ gybrn, blk, y - sbblk, sme spply, sft - firm, rthy - grty, mt; m arg - silty, mod calc 50% SLTY: SH: gy- dk gy, sb pty-sb blk, y, firm to m sft, rthy, silty, hom, sl calc 5% CHK; lgy - gybrn, brd lgy, grog to m brn, sbblk-rlky, mot-wxy tex, v calc,

70% MFL lam, firm calc, 30 sbblk-rl

SURVEY
MD 7019'
INC 62.02°
AZM 181.65°
TVD 6681.58'

SURVEY
MD 7067'
INC 64.33°
AZM 181.66°
TVD 6703'

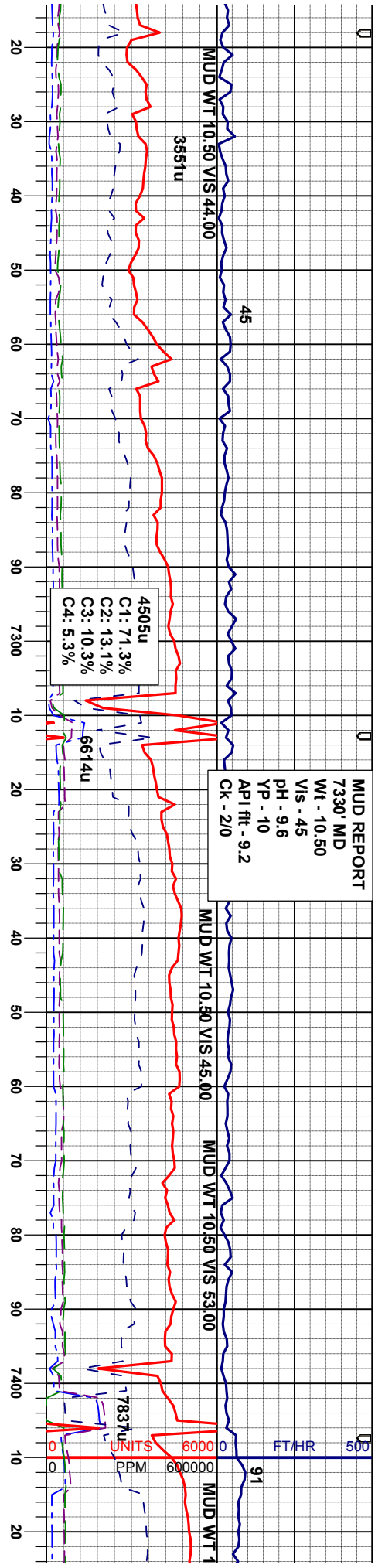
SURVEY
MD 7114'
INC 65.60°
AZM 182.20°
TVD 6723'

SURVEY
MD 7162'
INC 65.45°
AZM 182.09°
TVD 6743'

SURVEY
MD 7209'
INC 66.12°
AZM 182.0°
TVD 6762'

Scale Change





A Chalk

LL: mgy-dkgy, sbbiky-sbply, sme
 l-si brit, occ sft, occ silty, wxy tex, v
 % CHK: ofwh-ity - gybrn, bnd itgy,
 ky, mot-wxy tex, v calc.

70% CHK: ofwh-ity - gybrn, bnd itgy,
 sbbiky-flky, mot-wxy tex, v calc 30% MRL:
 mgy-dkgy, sbbiky-sbply, sme lam, firm- si
 brit, occ sft, occ silty, wxy tex, v calc, occ wh
 frac fill calcite, rr pyr

60% MRL: mgy-dkgy, sbbiky-sbply, sme
 lam, firm- si brit, occ sft, occ silty, wxy tex, v
 calc 40% CHK: ofwh-ity - gybrn, bnd itgy,
 sbbiky-flky, mot-wxy tex, v calc, occ wh frac
 fill calcite, rr pyr

65% CHK: ofwh-ity - gybrn, bnd itgy,
 sbbiky-flky, mot-wxy tex, v calc: rr bent, pyr

75% CHK: ofwh-ity - gybrn, bnd itgy,
 sbbiky-flky, mot-wxy tex, v calc: 25% MRL:
 mgy-dkgy, sbbiky-sbply, sme lam, firm- si
 brit, occ sft, occ silty, wxy tex, v calc

80% CHK: ofwh-ity - gy
 sbbiky-flky, mot-wxy tex, v
 mgy-dkgy, sbbiky-sbply,
 brit, occ sft, occ silty, wxy t

TOO CAS
 22-0
 07/11

50 API 300

ft

7200

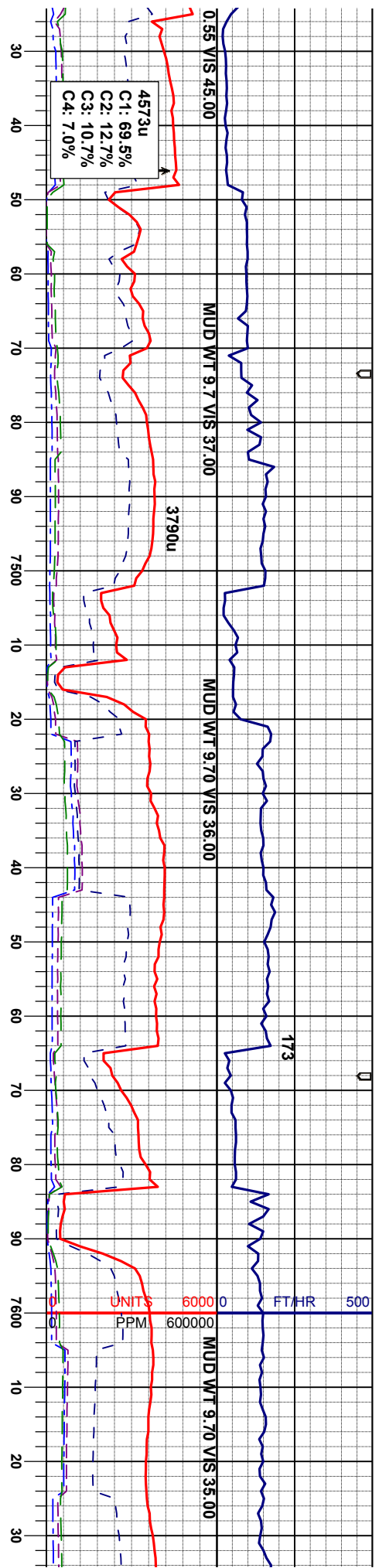
SURVEY
 MD 7256'
 INC 67.82°
 AZM 183.26°
 TVD 6780'

SURVEY
 MD 7303'
 INC 71.76°
 AZM 183.31°
 TVD 6796'

SURVEY
 MD 7351'
 INC 77.60°
 AZM 181.35°
 TVD 68093.59'

SURVEY
 MD 7394'
 INC 81.04°
 AZM 179.48°
 TVD 6817.56'





H FOR INTERMEDIATE
ING @: 7449 MD
1 hrs
5/2012

60% CHK: ofw-h-lyg - gybrn, bnd lgy,
sblky-flky, mot-wxy tex, v calc: 40% MRL:
mgy-dkgy, sblky-sply, sme lam, firm-si
brit, occ sily, wxy tex, v calc

55% MRL: mgy-dkgy, sblky-sply, sme
lam, firm-si brit, occ sily, wxy tex, v calc
45% CHK: ofw-h-lyg, gybrn - dk gybrn, bnd
lgy, sblky-flky, mot-wxy tex, v calc:

75% MRL: mgy-dkgy, sblky-sply, sme
lam, firm-si brit, occ sily, wxy tex, v calc
25% CHK: ofw-h-lyg, dk gybrn, bnd lgy,
sblky-flky, mot-wxy tex, v calc:

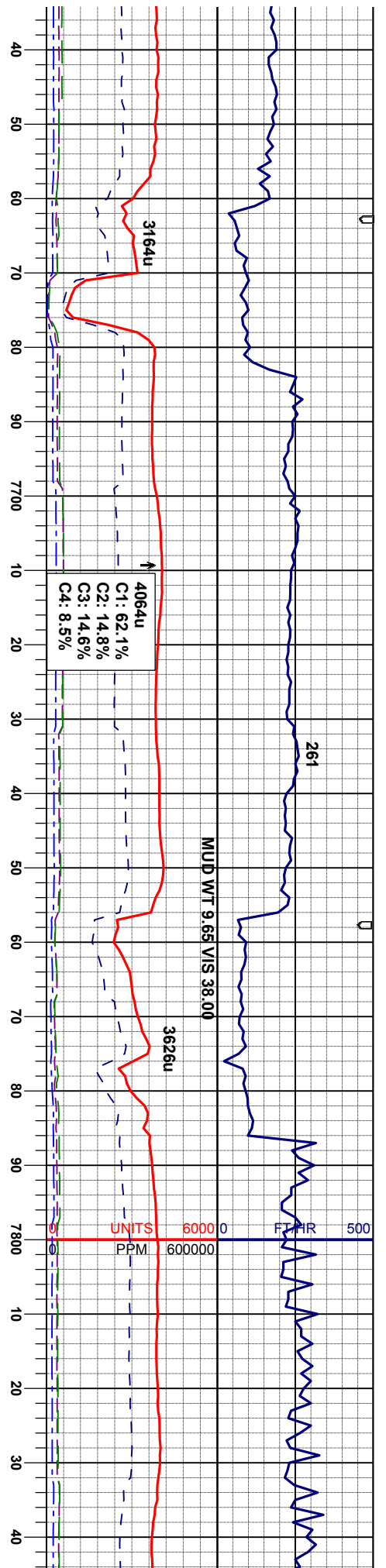
80% MRL: mgy-dkgy, sblky-sb
lam, firm-si brit, occ sily, wxy te
20% CHK: ofw-h-lyg, gybrn - dk
lgy, sblky-flky, mot-wxy tex, v

SURVEY
MD 7446'
INC 84.79°
AZM 178.76°
TVD 6823'

SURVEY
MD 7510'
INC 85.34°
AZM 179.42°
TVD 6829.48'

SURVEY
MD 7604'
INC 85.49°
AZM 181.46°
TVD 6836.99'



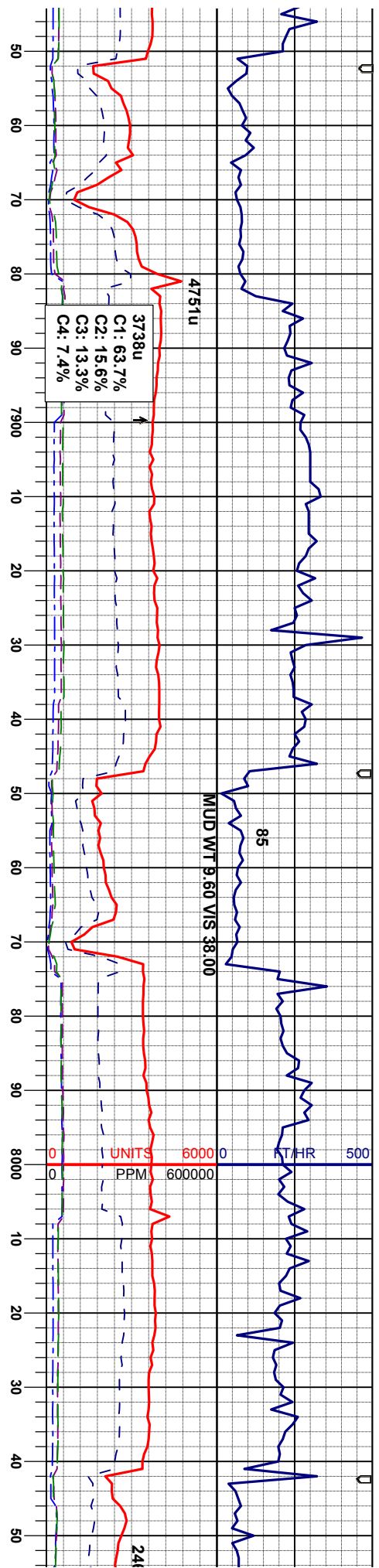


ply, sme k, v calc : gybrn, bnd calc:	90% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm- sl brit, occ silty, wxy tex, v calc 10% CHK: ofwtn- lgy, dk gybrn - dkgy, bnd lgy, sbblky- flky, mot- wxy tex, v calc:	95% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm- sl brit, occ silty, wxy tex, v calc 5% CHK: ofwtn - lgy - dk gy, bnd lgy, sbblky- flky, mot- wxy tex, v calc:	95% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm- sl brit, occ silty, wxy tex, v calc 5% CHK: ofwtn - lgy - dk gy - dk gybrn, bnd lgy, sbblky- flky, mot- wxy tex, v calc:	95% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm- sl brit, occ silty, wxy tex, v calc 5% CHK: ofwtn - lgy - gybrn, bnd lgy, sbblky- flky, mot- wxy tex, v calc:
--	---	--	---	--

SURVEY
MD 7699'
INC 85.77°
AZM 182.91°
TVD 6844.22'

SURVEY
MD 7794'
INC 87.66°
AZM 184.34°
TVD 6849.67'





95% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm-si brit, occ sily,wxy tex, v calc 5% CHK: ofwvh - ltgy - gybrn, bnd ltgy, sbblky-flky, mot-wxy tex, v calc; bri yeign flor	95% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm-si brit, occ sily,wxy tex, v calc 5% CHK: ofwvh - ltgy, bnd ltgy, sbblky-flky, mot-wxy tex, v calc; bri yrign flor	100% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm-si brit, occ sily,wxy tex, v calc; occ chk	100% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm-si brit, m sft, occ sily,wxy tex, v calc; occ chk
--	--	--	---

SURVEY
MD 7889'
INC 89.08°
AZM 185.01°
TVD 6852.37'

SURVEY
MD 7984'
INC 92.13°
AZM 186.12°
TVD 6851.38'

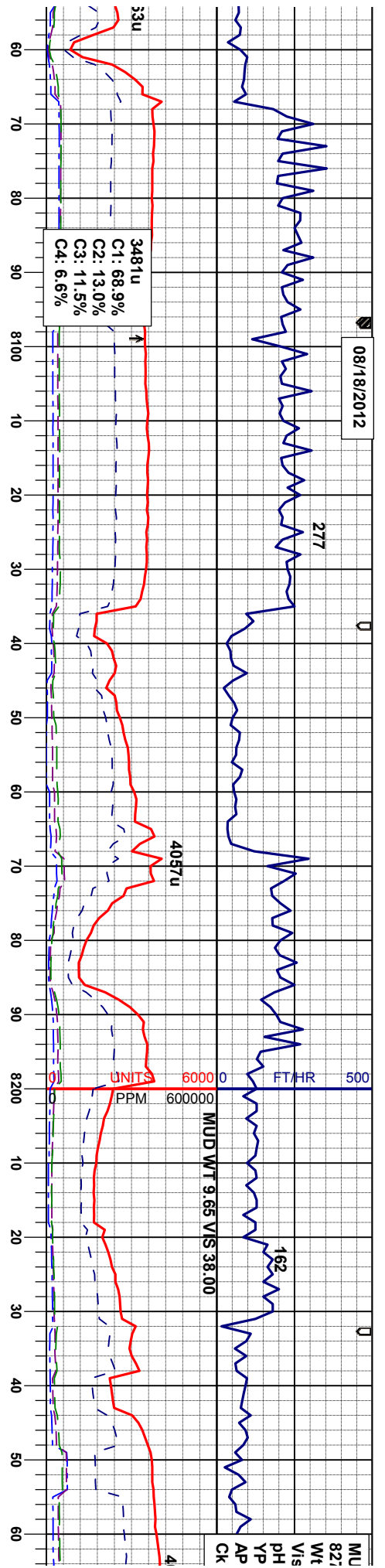
7200

ft

6400 50 APF 300



08/18/2012



0% MRL: mgy-dkgy, sbblky-sbply, sme
n, firm- sl brit, sft, occ silty, wxy tex, v calc:
c chk

100% MRL: mgy-dkgy, sbblky-sbply, sme
lam, firm- sl brit, m sft, occ silty, wxy tex, v
calc: occ chk

100% MRL: mgy-dkgy, sbblky-sbply, sme
lam, firm- sl brit, occ silty, wxy tex, v calc:
occ chk

95% MRL: mgy-dkgy, sbblky-sbply, sme
lam, firm- sl brit, m sft, occ silty, wxy tex, v
calc: occ chk

100% MRL
lam, firm-
occ chk

SURVEY
MD 8079'
INC 92.47°
AZM 184.26°
TVD 6847.57'

SURVEY
MD 8174'
INC 91.69°
AZM 182.82°
TVD 6844.12'

7200

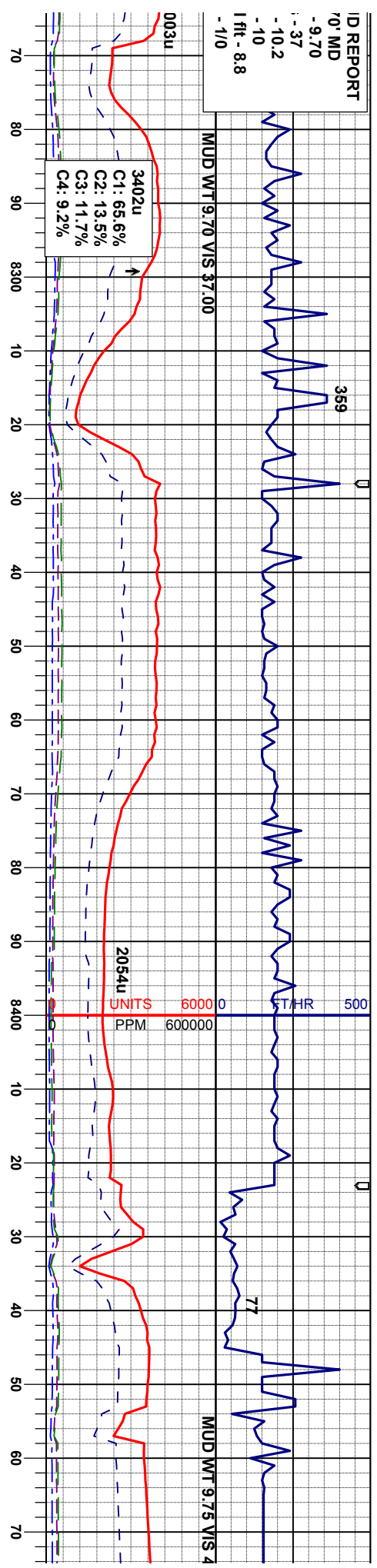
ft

6400 50 API 300



S
N
I
L
7
1

ID REPORT
 70' MD
 -9.70
 -37
 -10.2
 -10
 1 ft - 8.8
 -10



100% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm-si brit, occ silty, wxy tex, v calc, embd w/ mic fos: tr bent

100% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm-si brit, occ silty, wxy tex, v calc, embd w/ mic fos: tr bent

100% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm-si brit, occ silty, wxy tex, v calc, embd w/ mic fos: tr bent, Inoc frag

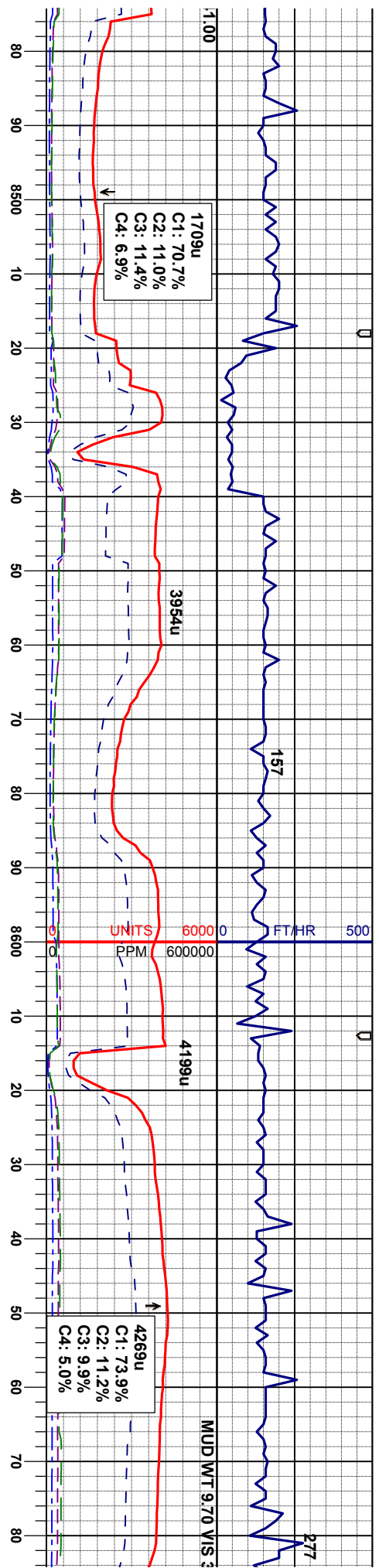
95% MRL: mgy-dkgy, lam, firm-si brit, m sf spid w/ mic fos, v calc lgy, bnd lgy, sbblky-calc: occ bent

SURVEY
 AD 8270'
 NC 89.38°
 AZM 180.77°
 TVD 6843.21'

SURVEY
 MD 8365'
 INC 90.43°
 AZM 181.34°
 TVD 6843.37'

SURVEY
 MD 8460'
 INC 90.25°
 AZM 181.25°
 TVD 6842.81'





100% MRL: mgy-dkgy, sbbiky-sbply, sme lam, firm-si brit, occ sily, wxy tex, v calc, embd w/ mic fos: tr bent, inoc frag, spar calcite

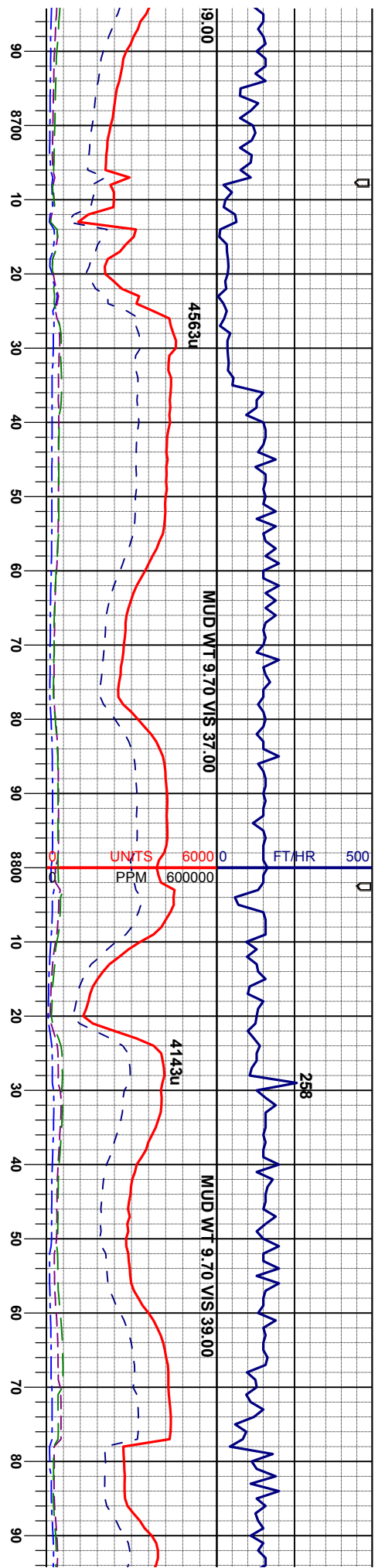
100% MRL: mgy-dkgy, sbbiky-sbply, sme lam, firm-si brit, occ sily, wxy tex, v calc, embd w/ mic fos: tr bent, inoc frag, spar calcite

100% MRL: mgy-dkgy, sbbiky-sbply, sme lam, firm-si brit, occ sily, wxy tex, v calc, embd w/ mic fos: tr bent, inoc frag, spar calcite

SURVEY
MD 8555'
INC 88.88°
AZM 181.13°
TVD 6843'

SURVEY
MD 8649'
INC 89.97°
AZM 182.14°
TVD 6844'





100% MRL: mgy-dkgy, sbblky-sbply, firm-sil brt, occ silty, wxy tex, v calc, embd w/ mic fos: abnt bent, tr inoc frag, chk

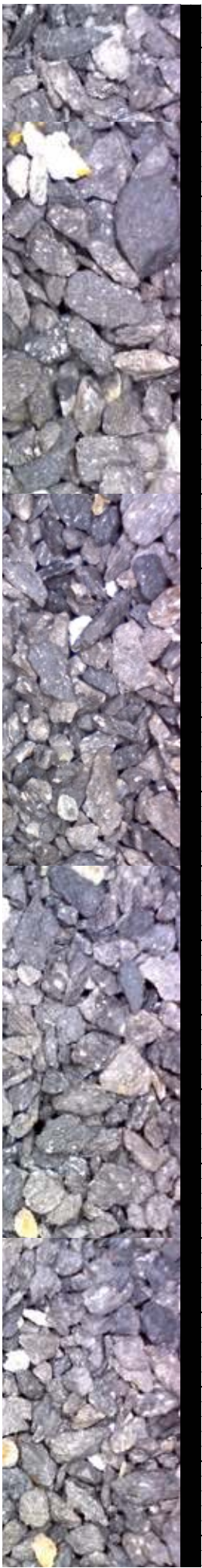
100% MRL: mgy-dkgy, sbblky-sbply, firm-sil brt, occ silty, wxy tex, v calc, embd w/ mic fos: abnt bent, tr inoc frag, chk

100% MRL: mgy-dkgy, sbblky-sbply, firm-sil brt, occ silty, wxy tex, v calc, embd w/ mic fos: com bent, tr chk

100% MRL: mgy-dkgy, sbblky-sbply, firm-sil brt, occ silty, wxy tex, v calc, embd w/ mic fos: com bent, tr chk

SURVEY
MD 8744'
INC 89.08°
AZM 181.72°
TVD 6845'

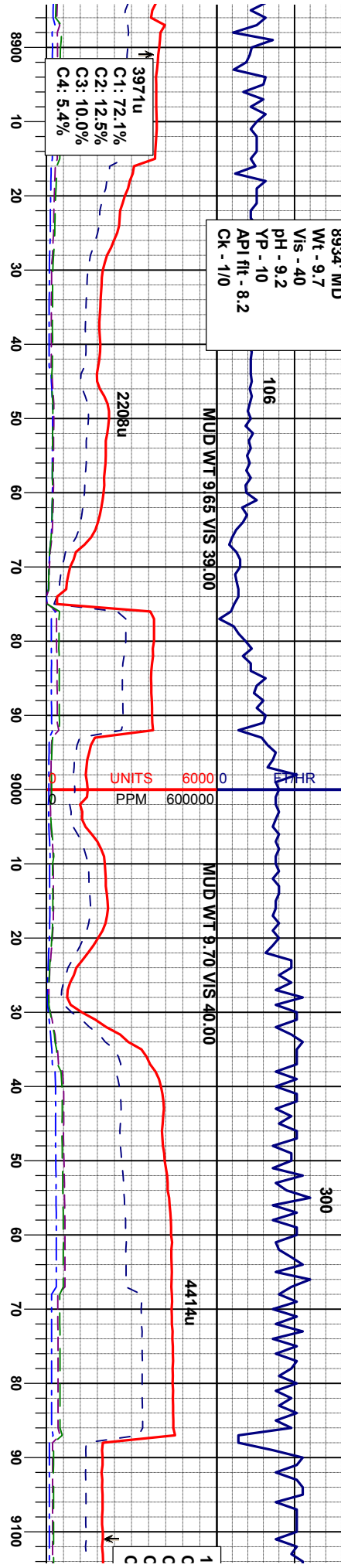
SURVEY
MD 8839'
INC 89.85°
AZM 182.42°
TVD 6846'



MUD REPORT

8934' MD
 Wt - 9.7
 Vis - 40
 pH - 9.2
 YP - 10
 API flt - 8.2
 Ck - 1/10

08/19/2012



100% MRL: mgy-dkgy, sbblky-sbply, firm-sl brit, occ silty, wxy tex, v calc, embd w/ mic fos : abnt bent, tr chk, Inoc frag

100% MRL: mgy-dkgy, sbblky-sbply, firm-sl brit, occ silty, wxy tex, v calc, embd w/ mic fos : tr bent, tr chk, Inoc frag

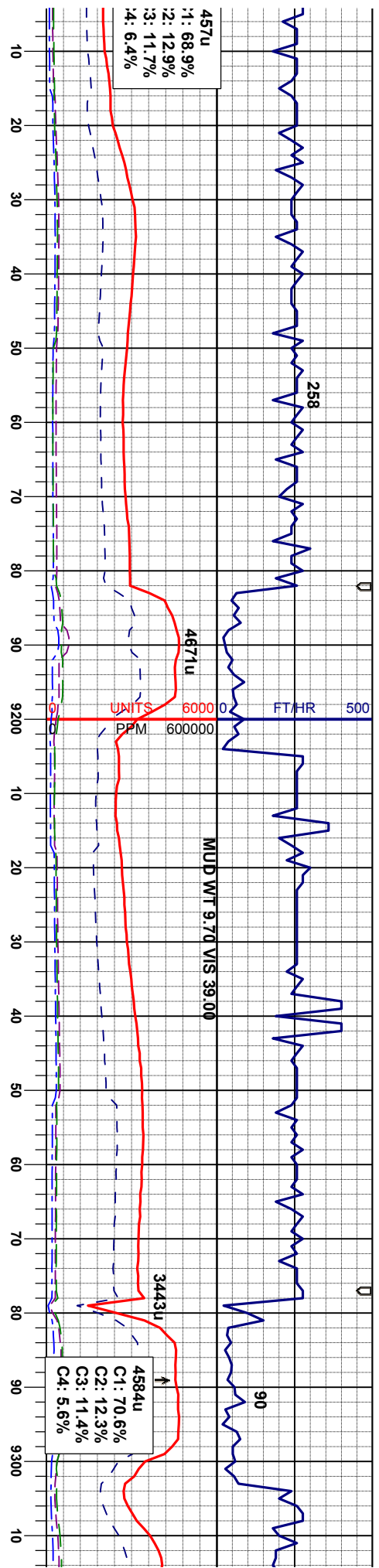
100% MRL: mgy-dkgy, sbblky-sbply, firm-sl brit, m sft, occ silty, wxy tex, v calc, embd w/ mic fos : abnt bent, tr chk, Inoc frag

100% MRL: mgy-dkgy, sbblky-sbply, firm-sl brit, m sft, occ silty, wxy tex, v calc, embd w/ mic fos : abnt bent, tr chk, Inoc frag

SURVEY
 MD 8934'
 INC 90.09°
 AZM 181.82°
 TVD 6845.91'

SURVEY
 MD 9029'
 INC 90.31°
 AZM 182.28°
 TVD 6846'





100% MRL: mgy-dkgy, sbblky-sbply, firm-sl brt, m sft, occ silty, wxy tex, v calc, embd w/ mic fos : abnt bent, tr chk, Inoc frag

100% MRL: mgy-dkgy, sbblky-sbply, firm-sl brt, m sft, occ silty, wxy tex, v calc, embd w/ mic fos : abnt bent, tr chk, Inoc frag, pyr

100% MRL: mgy-dkgy, sbblky-sbply, firm-sl brt, m sft, occ silty, wxy tex, v calc, embd w/ mic fos : abnt bent, tr chk, Inoc frag, pyr

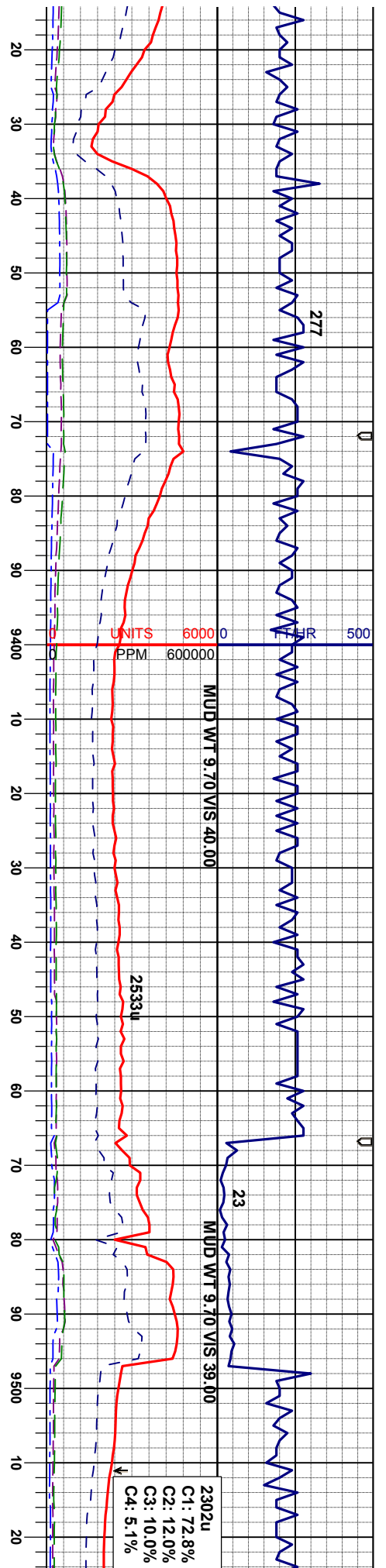
95% MRL: lam, firm-spld w/ ml llyg, brnd lt calc: abnt

SURVEY
 MD 9124'
 INC 89.54°
 AZM 181.99°
 TVD 6846'

SURVEY
 MD 9219'
 INC 89.38°
 AZM 180.66°
 TVD 6847'

SURVEY
 MD 931
 INC 90.1
 AZM 17
 TVD 6847'

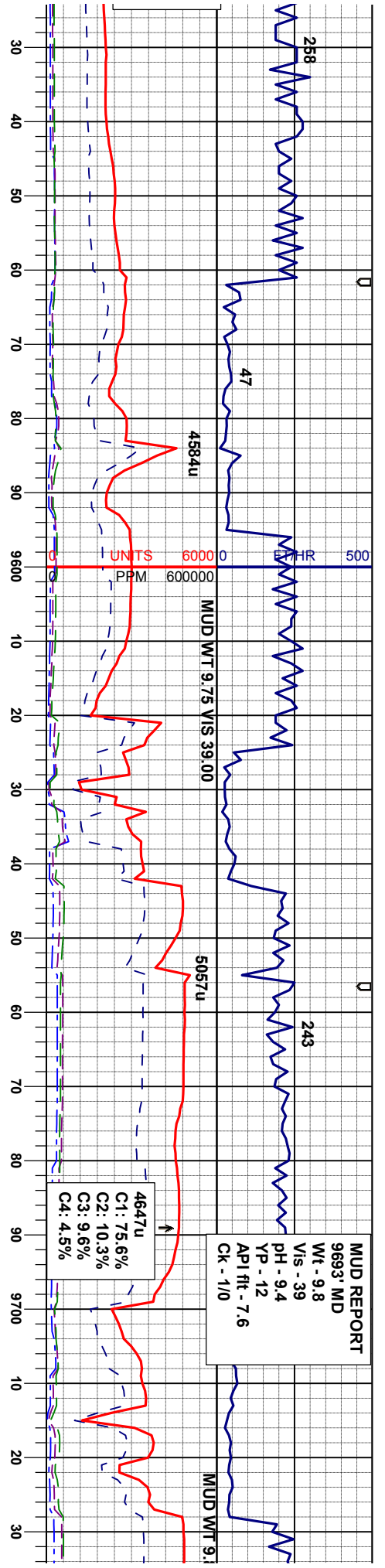




100% MRL: mgy-dkgy, sbblky-sbply, firm-sil brit, m sft, occ silty, wxy tex, v calc, embed w/ mic fos : abnt bent, tr chk, inoc frag, pyr
 100% MRL: mgy-dkgy, sbblky-sbply, firm-sil brit, m sft, occ silty, wxy tex, v calc, embed w/ mic fos : abnt bent, tr chk, inoc frag, pyr
 95% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm-sil brit, m sft, occ silty, wxy tex, spnd w/ mic fos, v calc, 5% CHK: ofmwh - lgy, bnd lgy, sbblky-flky, mot-wxy tex, v calc: abnt bent
 95% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm-sil brit, m sft, occ silty, wxy tex, spnd w/ mic fos, v calc, 5% CHK: ofmwh - lgy, bnd lgy, sbblky-flky, mot-wxy tex, v calc: abnt bent

SURVEY
 MD 9408'
 INC 89.81°
 AZM 176.12°
 TVD 6846.78'
 SURVEY
 MD 9503'
 INC 90.59°
 AZM 175.36°
 TVD 6846.44'





100% MRL: mgy-dkgy, sbblky-sbply, firm-si brit, m sft, occ slty,wxy tex, v calc, embd w/ mic fos : abnt bent, tr chk, Inoc frag, pyr

100% MRL: mgy-dkgy, sbblky-sbply, firm-si brit, m sft, occ slty,wxy tex, v calc, embd w/ mic fos : occ bent, tr chk, Inoc frag, pyr

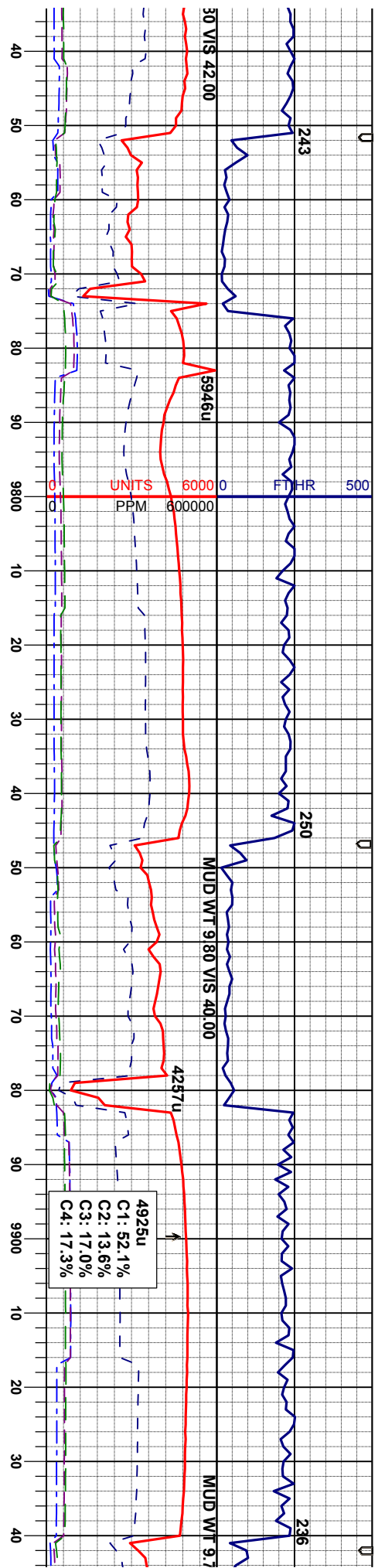
95% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm-si brt, m sft, occ slty,wxy tex, spdt w/ mic fos, v calc, 5% CHK: ofwh-llgy, bnd llgy, sbblky-flky, mol-wxy tex, v calc: occ bent

95% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm-si brit, m sft, occ slty, spdt w/ mic fos, v calc, 5% CHK: llgy, bnd llgy, sbblky-flky, mol-wxy tex, v calc: occ bent

SURVEY
 MD 9598'
 INC 91.60°
 AZM 177.27°
 TVD 6844.62'

SURVEY
 MD 9693'
 INC 92.28°
 AZM 178.50°
 TVD 6841.40'





95% MR.L: mgy-dkgy, sbblky-sbply, sme lam, firm-si brt, m sft, occ silty, wxy tex, sptd w/ mic fos, v calc; 5% CHK; offwh - lgy, bnd lgy, sbblky-flky, mot-wxy tex, v calc; tr bent

90% MR.L: mgy-dkgy, sbblky-sbply, sme lam, firm-si brt, m sft, occ silty, wxy tex, sptd w/ mic fos, v calc; 10% CHK; offwh - lgy, bnd lgy, sbblky-flky, mot-wxy tex, m sft - sft, v calc; tr bent

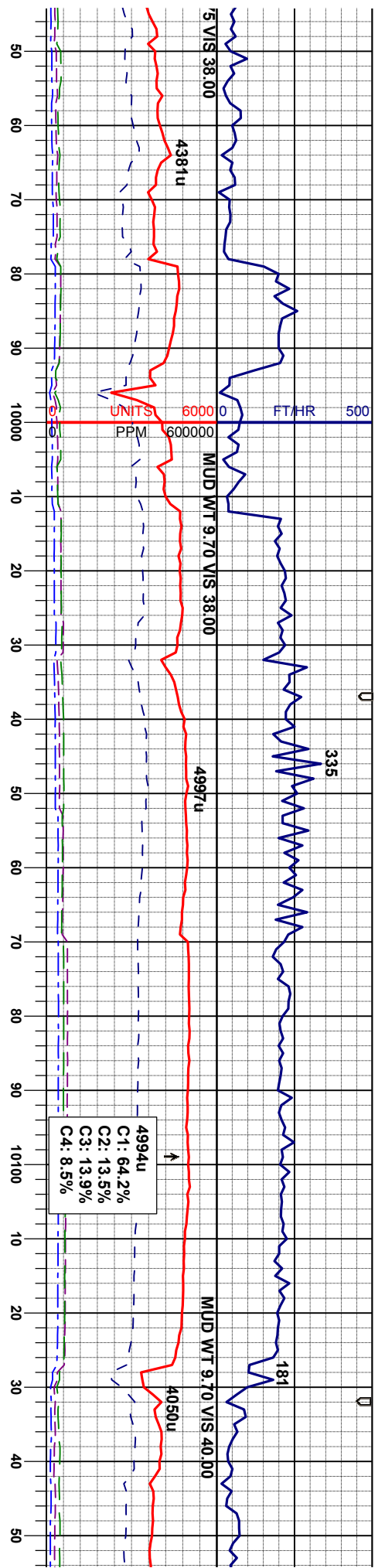
55% MR.L: mgy-dkgy, sbblky-sbply, sme lam, firm-si brt, occ silty, wxy tex, v calc; 45% CHK; offwh-lgy, gybrn - dk gybrn, bnd lgy, sbblky-flky, mot-wxy tex, v calc;

60% CHK: offwh-lgy, gybrn - dk gybrn, br lgy, sbblky-flky, mot-wxy tex, v calc; 40% MR.L: mgy-dkgy, sbblky-sbply, sme lam, firm-si brt, occ silty, wxy tex, v calc

SURVEY
MD 9788'
INC 92.62°
AZM 181.34°
TVD 6837.34'

SURVEY
MD 9884'
INC 92.04°
AZM 182.14°
TVD 6833.44'



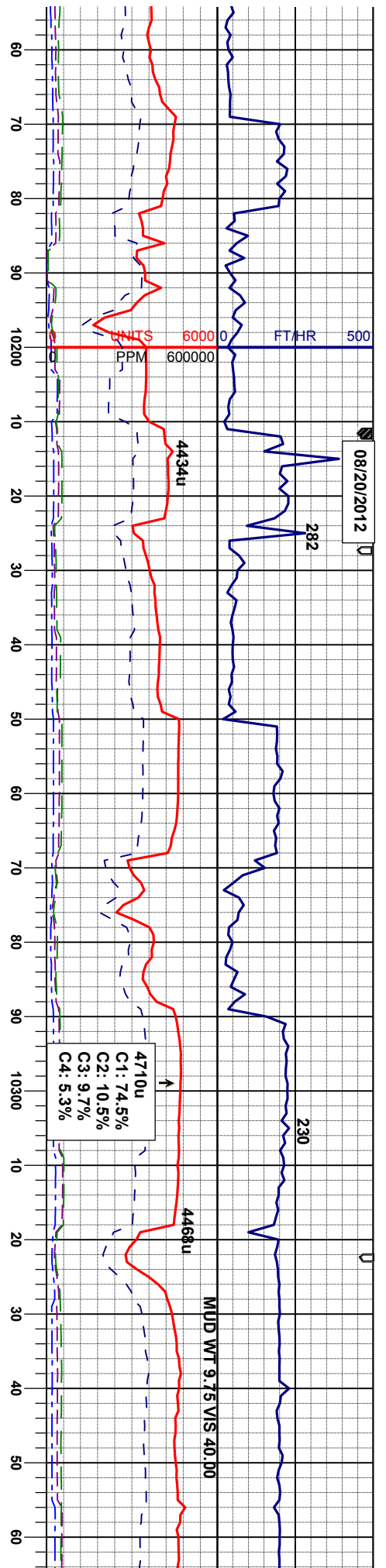


65% CHK: ofw-h-lgy, gybrn - dk gybrn, bnd lgy, sbblky-flky, m sft, mot-wxy tex, v calc; 35% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm- sl brit, occ silty, wxy tex, v calc	65% CHK: ofw-h-lgy, gybrn - dk gybrn, bnd lgy, sbblky-flky, m sft - sft, mot-wxy tex, v calc; 35% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm- sl brit, occ silty, wxy tex, v calc	35% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm- sl brit, occ silty, wxy tex, v calc; 65% CHK: ofw-h-lgy, gybrn - dk gybrn, bnd lgy, sbblky-flky, m sft, mot-wxy tex, v calc;	90% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm- sl brit, occ silty, wxy tex, v calc; 10% CHK: ofw-h-lgy, gybrn - dk gybrn, bnd lgy, sbblky-flky, sft, mot-wxy tex, v calc;
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SURVEY
MD 9979°
INC 90.56°
AZM 182.43°
TVD 6831'

SURVEY
MD 10074°
INC 90.92°
AZM 183.82°
TVD 6830'





95% MRL: mgy-dkgy, sbbiky-sbply, sme lam, firm- sl brit, occ silty, wxy tex, v calc 5%
 CHK: ofwh- lgy, gybrn - dk gybrn, bnd lgy, sbbiky- flky, mot- wxy tex, v calc:

95% MRL: mgy-dkgy, sbbiky-sbply, sme lam, firm- sl brit, occ silty, wxy tex, v calc 5%
 CHK: ofwh- lgy, gybrn - dk gybrn, bnd lgy, sbbiky- flky, m sft, mot- wxy tex, v calc:

90% MRL: mgy-dkgy, sbbiky-sbply, sme lam, m sft - firm- sl brit, occ silty, wxy tex, v calc 10%
 CHK: ofwh- lgy, gybrn - dk gybrn, bnd lgy, m sft - sft, sbbiky- flky, mot- wxy tex, v calc:

90% MRL: mgy-dkgy, sbbiky-sbply, sme lam, firm- sl brit, occ silty, wxy tex, v calc 10%
 CHK: ofwh- lgy, gybrn - dk gybrn, bnd lgy, sft, sbbiky- flky, mot- wxy tex, v calc:

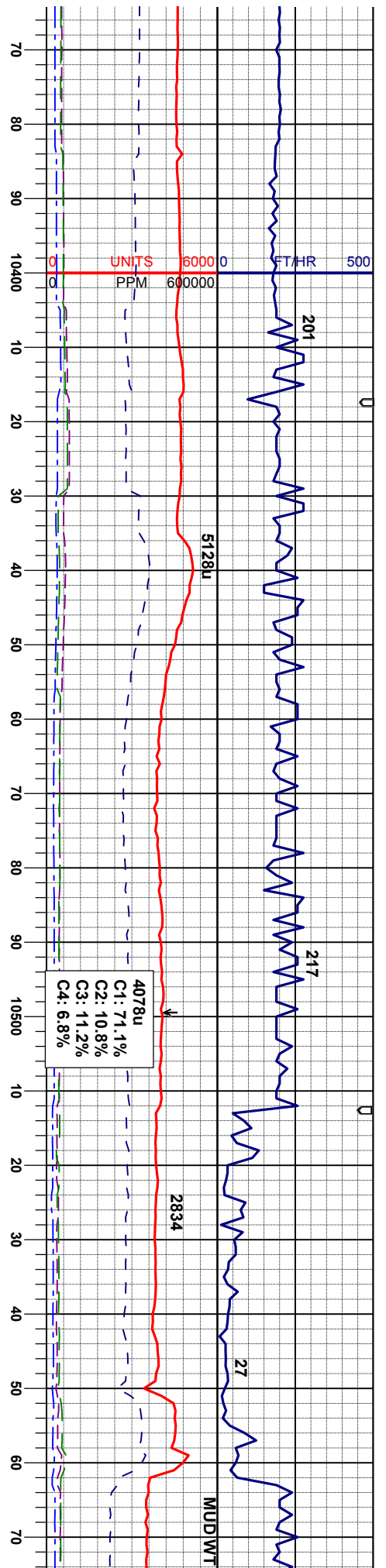
100% MRL: lam, firm- sl fos frag, v c

SURVEY
 MD 10169'
 INC 91.42°
 AZM 184.83°
 TVD 6828'

SURVEY
 MD 10264'
 INC 88.15°
 AZM 186.36°
 TVD 6828'

SURVEY
 MD 10359'
 INC 86.73°
 AZM 186.9°
 TVD 6832'





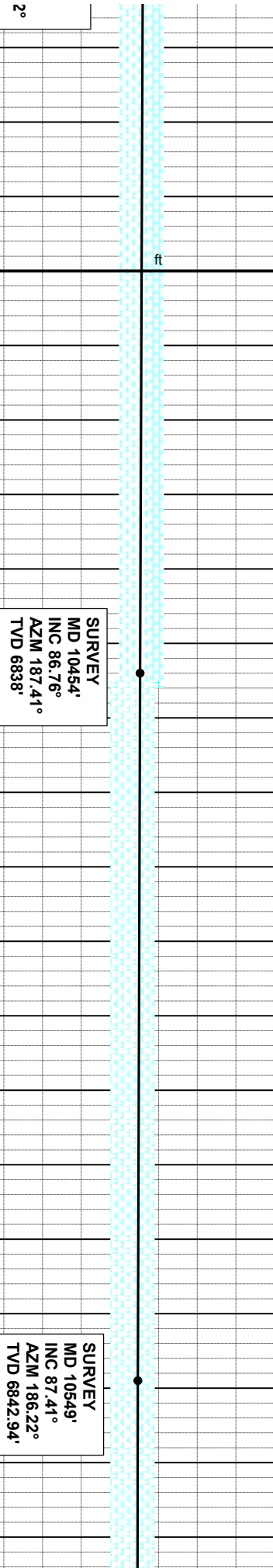
mgly-dkgy, sbblky-sbply, sme
brt, occ silty, wxy tex, occ Inoc
alc; occ chk

100% MRL: mgly-dkgy, sbblky-sbply, sme
lam, firm- sl brt, occ silty, wxy tex, occ Inoc
fos frag, v calc; occ chk

100% MRL: mgly-dkgy, sbblky-sbply, sme
lam, firm- sl brt, occ silty, wxy tex, occ Inoc
fos frag, v calc; occ chk

100% MRL: mgly-dkgy, sbblky-sbply, sme
lam, firm- sl brt, occ silty, wxy tex, occ Inoc
fos frag, v calc; occ chk

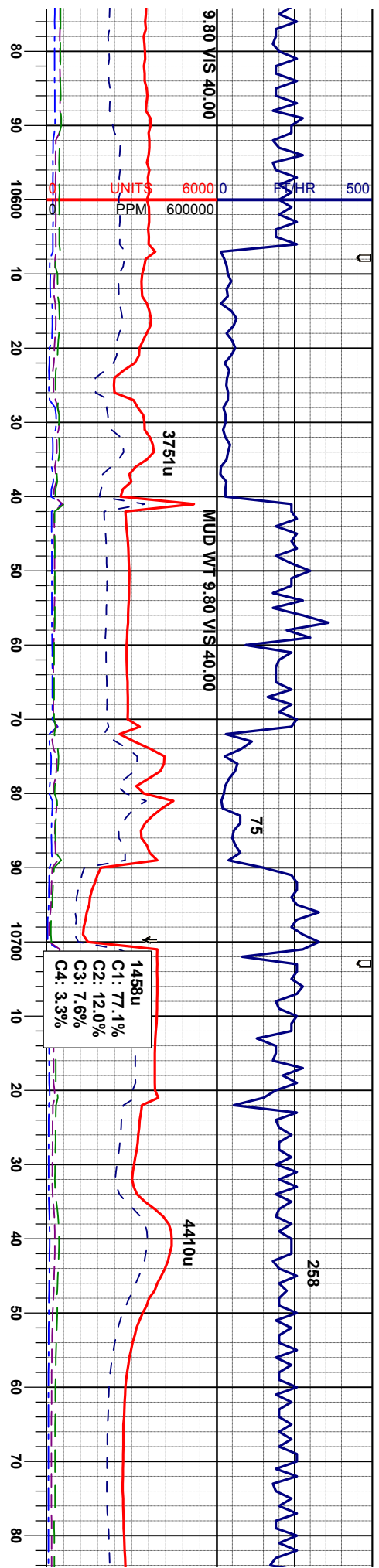
100% MRL: mgly-dkgy, sbblky-sbply, sme
lam, firm- sl brt, occ silty, wxy tex, occ Inoc
fos frag, v calc; occ chk



SURVEY
MD 10454'
INC 86.76°
AZM 187.41°
TVD 6838'

SURVEY
MD 10549'
INC 87.41°
AZM 186.22°
TVD 6842.94'





50 API 300

6400

100% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm-si brit, occ silty wvy tex, occ Inoc fos frag, v calc, occ chk, tr bent

100% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm-si brit, occ silty wvy tex, occ Inoc fos frag, v calc, occ chk, com bent

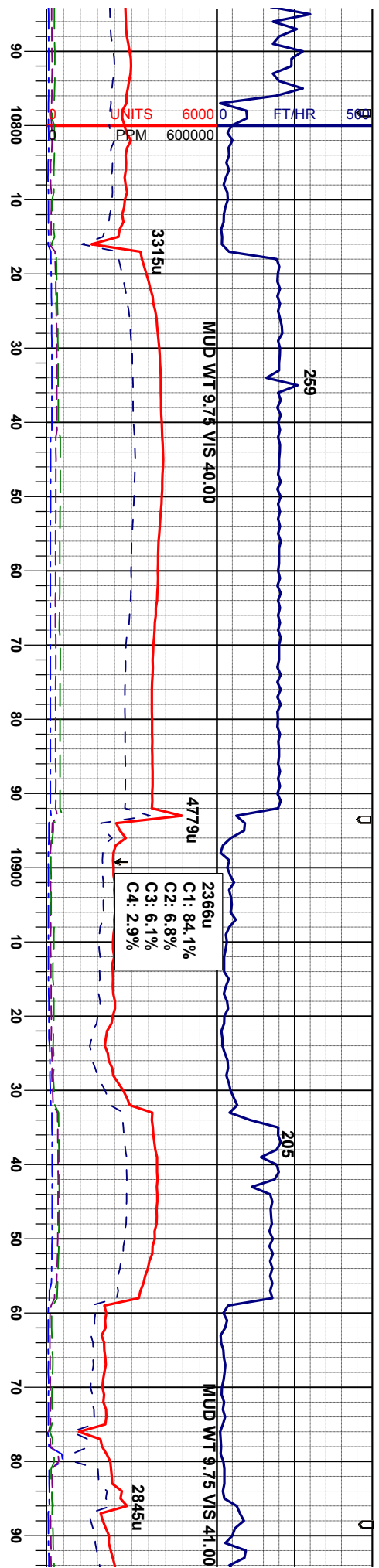
100% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm-si brit, occ silty wvy tex, occ Inoc fos frag, v calc, abnt bent, tr chk,

100% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm-si brit, occ silty wvy tex, occ Inoc fos frag, v calc, abnt bent, tr chk

SURVEY
MD 10644'
INC 89.78°
AZM 185.47°
TVD 6845.26'

SURVEY
MD 10740'
INC 89.91°
AZM 187.35°
TVD 6845.52'





100% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm- sl brt, occ silty, wxy tex, tr inoc fos frag, v calc, abnt bent, tr chk,

100% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm- sl brt, occ silty, wxy tex, tr inoc fos frag, v calc, abnt bent, tr chk,

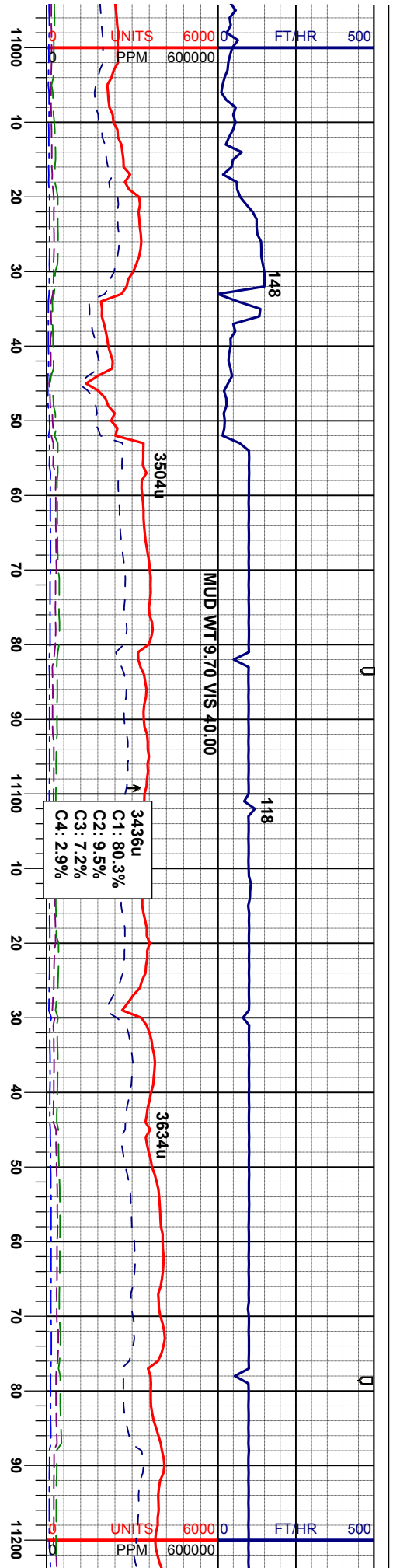
100% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm- sl brt, occ silty, wxy tex, tr inoc fos frag, v calc, abnt bent, tr chk

100% MRL: mgy-dkgy, sbblky-sbply, sme lam, m sft - firm- sl brt, occ silty, wxy tex, tr inoc fos frag, v calc, abnt bent, tr chk

SURVEY
MD 10835'
INC 88.83°
AZM 184.68°
TVD 6846.57'

SURVEY
MD 10930'
INC 89.17°
AZM 182.83°
TVD 6848.23'





100% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm-si brit, occ silty, wxy tex, tr inoc fos frag, v calc, occ bent, tr chk

100% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm-si brit, occ silty, wxy tex, tr inoc fos frag, v calc, tr bent, occ chk

95% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm-si brit, occ silty, wxy tex, v calc 5% CHK: offwh-lgy, gybrn - dk gybrn, bnd lgy, sft, sbblky-flky, mot-wxy tex, v calc;

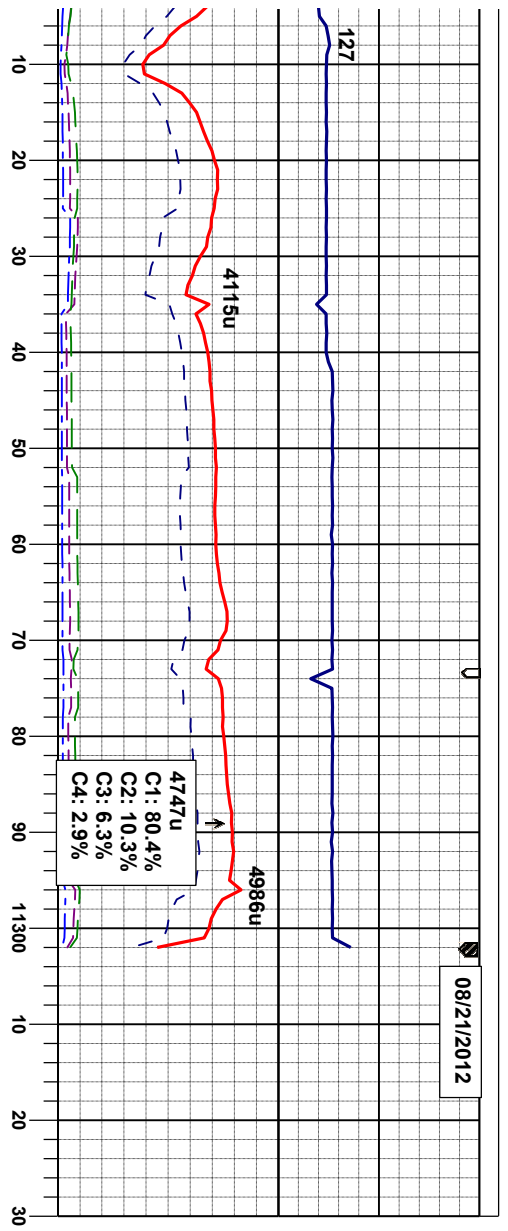
95% MRL: mgy-dkgy, sbblky-sbply, sme lam, firm-si brit, occ silty, wxy tex, v calc 5% CHK: offwh-lgy, gybrn, bnd lgy, sft, sbblky -flky, mot-wxy tex, v calc

SURVEY
MD 11025'
INC 92.06°
AZM 181.12°
TVD 6847'

SURVEY
MD 11120'
INC 94.13°
AZM 180.66°
TVD 6842'



08/21/2012



00% MRL: mgy-dkgy, sbblky-sbpily, sme
 im, firm-si brit, occ silty, wxy tex, occ bent,
 calc; occ chk

100% MRL: mgy-dkgy, sbblky-sbpily, sme
 lam, firm-si brit, occ silty, wxy tex, tr inoc
 fos frag; v calc, tr bent, occ chk

THANKS FOR USING
 COLUMBINE LOGGING

TD LATERAL @:
 11303 MD
 00:01 hrs
 08/21/2012

SURVEY
 MD 11215'
 INC 94.60°
 AZM 180.12°
 TVD 6834'

SURVEY
 MD 11246'
 INC 94.85°
 AZM 180.04°
 TVD 6832'

PROJECTED
 SURVEY
 MD 11303'
 INC 94.85°
 AZM 180.04°
 TVD 6827'

