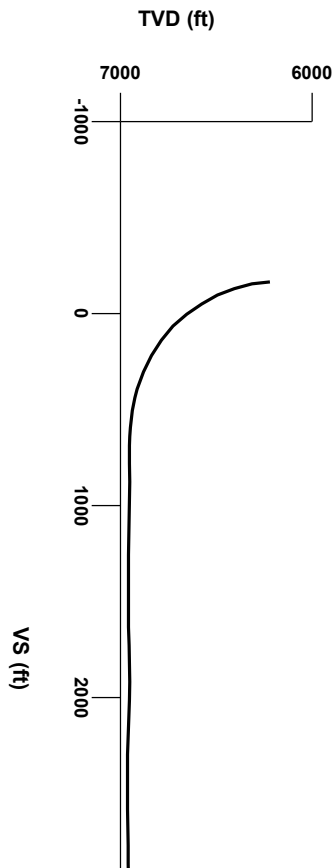


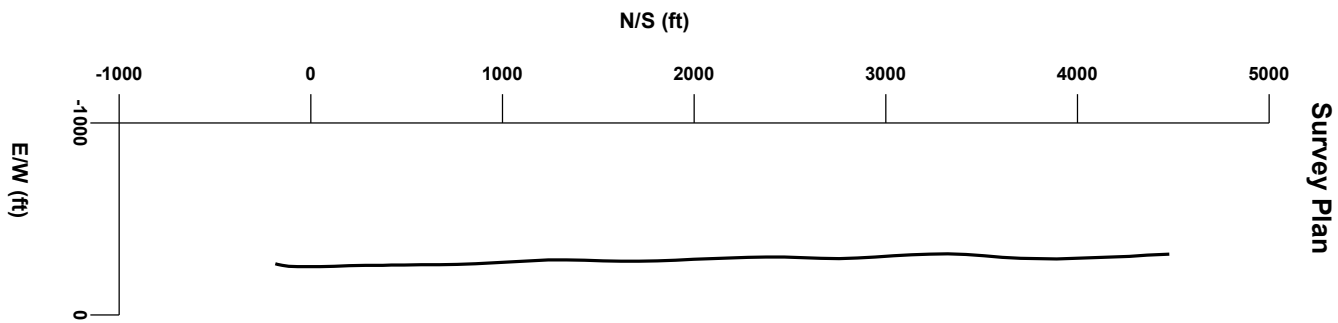
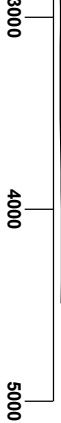


LOG created using Lplot VH Version 3.0, March 30, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR: NOBLE ENERGY INC.
WELL: SAUER F33-77HN
LOCATION: SESW SEC 33 T5N R65W
COUNTY: WELD
STATE: COLORADO
SPOT: 238' FSL, 1,587' FWL
ELEVATION: 4,671' GL, 4,683' KB
FIELD: WATTENBERG
SPUD DATE: 03/21/2013
TD DATE: 03/29/2013
DATES LOGGED: 03/23/2013 - 03/29/2013
DEPTHS LOGGED: 626' - 11,354'
LOGGERS: KYLE KNIGHT, RYAN SHILLING
DRILLING FLUID: FW, LSND
DRILLING RIG: ENSIGN 121
API: 05-123-36442
LOG TYPE: HORIZONTAL
SCALE: 1:240 (5 inches per 100 feet)
REMARKS: Wellsite Geological Services Provided By Columbine Logging Inc.
LAT, LONG: 40.34913/-104.67216



Survey Elevation



Chalk

Shaly Sandstone

Marl

Silty Shale

No Sample

ENGINEERING SYMBOLS

Casing

Connection Gas

Casing

Midnight Depth

Connection

SLIDE/ROTATE

0

COLUMBINE LOGGING INC

RIGGED UP ON 03/22/2013

MANNED 2-PERSON LOGGING

WITH BLOODHOUND GAS

CHROMATOGRAPH UNIT #0570

BEGAN ON 03/23/2013

ROP

FT/HR

500

0

BHA #1 INFORMATION

BIT: 8.75" SMITH MD1516

NOZ. OR TFA: 5X13

BIT SERIAL NUMBER: JG2063

MOTOR: 7/8, 5.0 STG .28 RPG

MWD: PONY FLEX MONEL

LOG CONTINUES ON L PLOT

SAUER F33-77HN HORIZONTAL

GAS

UNITS

5000

0

C1

PPM

500000

0

C2

PPM

500000

0

C3

PPM

500000

0

C4

PPM

500000

0

DEPTH (FEET)

6180

90

6200

10

20

30

40

50

60

70

80

90

6300

3264u

8

CUTTINGS LITHOLOGY

105

105

105

GAMM

40AP200

6150

TVD

ft

7025

6150

SAMPLE INTERVAL 50'

SAMPLE DESCRIPTION INTERVAL 100'

BEGIN BUILDING CURVE

OILSHOWS BEGIN

SURVEY

MD 6237"

INC 1.6°

AZI 7.5°

TVD 6219.70'

MUD WT: 9.8 VIS: 28 IN

MUD WT: 9.8 VIS: 29 OUT

OIL SHOW

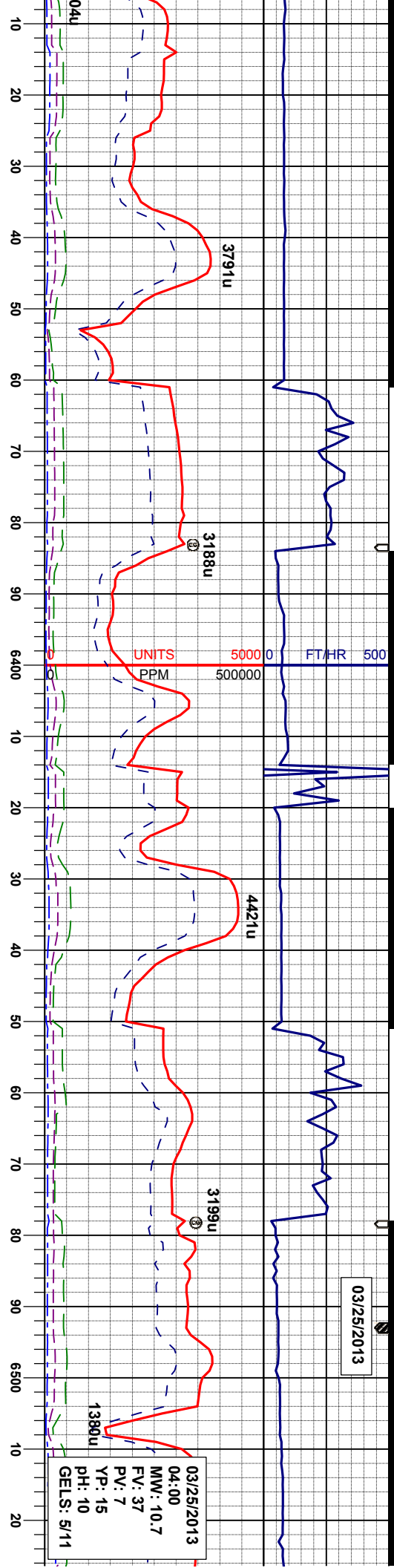
T F G

7025

SAMPLE PHOTOS

SLTYSH: lt - mgy, dk gy, occ tan, v f gr, fri-
brlt, sbply-sbblky, sl calc, occ pyr cld
SHYSS: lt-mgy, f-mngr, sbtd-sbang, mod-
psrl, ppor, argcmf, trss

03/25/2013



MUD WT: 10.1+ VIS: 34 IN
MUD WT: 10.0+ VIS: 32 OUT

SURVEY
MD 6332'
INC 12.1°
AZI 13.0°
TVD 6313.89'

SLTYSH: lt - mgy, dk gy, occ tan, v f gr, fri-
brt, sbply-sbbiky, sl calc, occ pyr cld, occ
inbtd ss,
SHYSS: lt-mgy, f-mggr, sbtd-sbang, mod-
psrt, ppor, argcm, trss

MUD WT: 10.5+ VIS: 35 IN
MUD WT: 10.5 VIS: 34 OUT

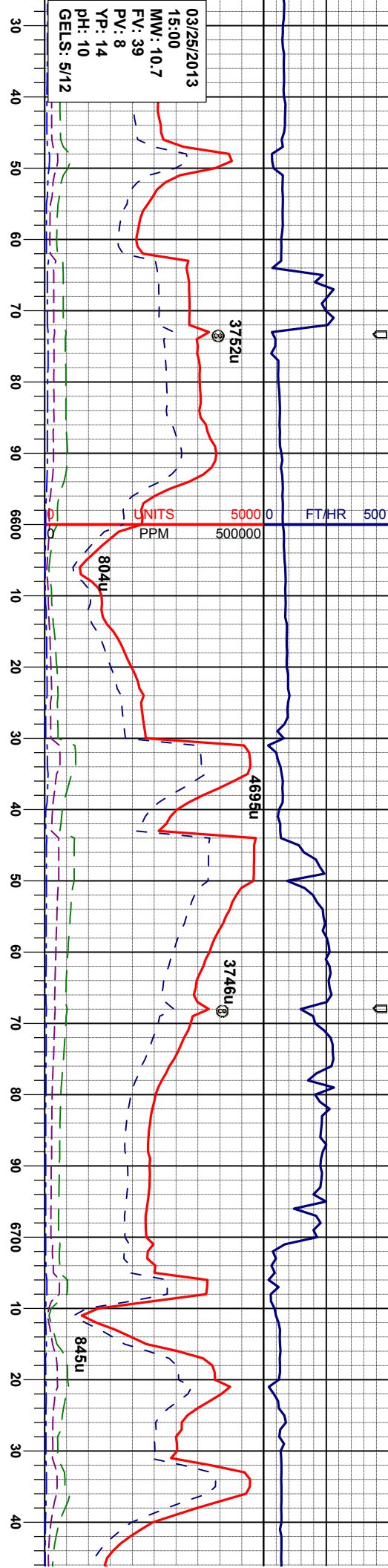
SURVEY
MD 6427'
INC 18.4°
AZI 12.8°
TVD 6405.50'

SLTYSH: lt - mgy, dk gy, occ tan, v f gr, fri-
brt, sbply-sbbiky, sl calc, occ pyr cld, occ
inbtd ss,
SHYSS: lt-mgy, f-mggr, sbtd-sbang, mod-
psrt, ppor, argcm, trss

SURVEY
MD 6522'
INC 25.2°
AZI 5.1°
TVD 6493.6'

7025 ft 6150 40 AP200 100





MUD WT: 10.5+ VIS: 35 IN
MUD WT: 10.5 VIS: 34 OUT

SURVEY
MD 6616'
INC 34.0°
AZI 359.3°
TVD 6575.34'

MUD WT: 10.5+ VIS: 36 IN
MUD WT: 10.5 VIS: 35 OUT

BEGIN 25' SAMPLE INTERVAL
AND 50' SAMPLE DESCRIPT

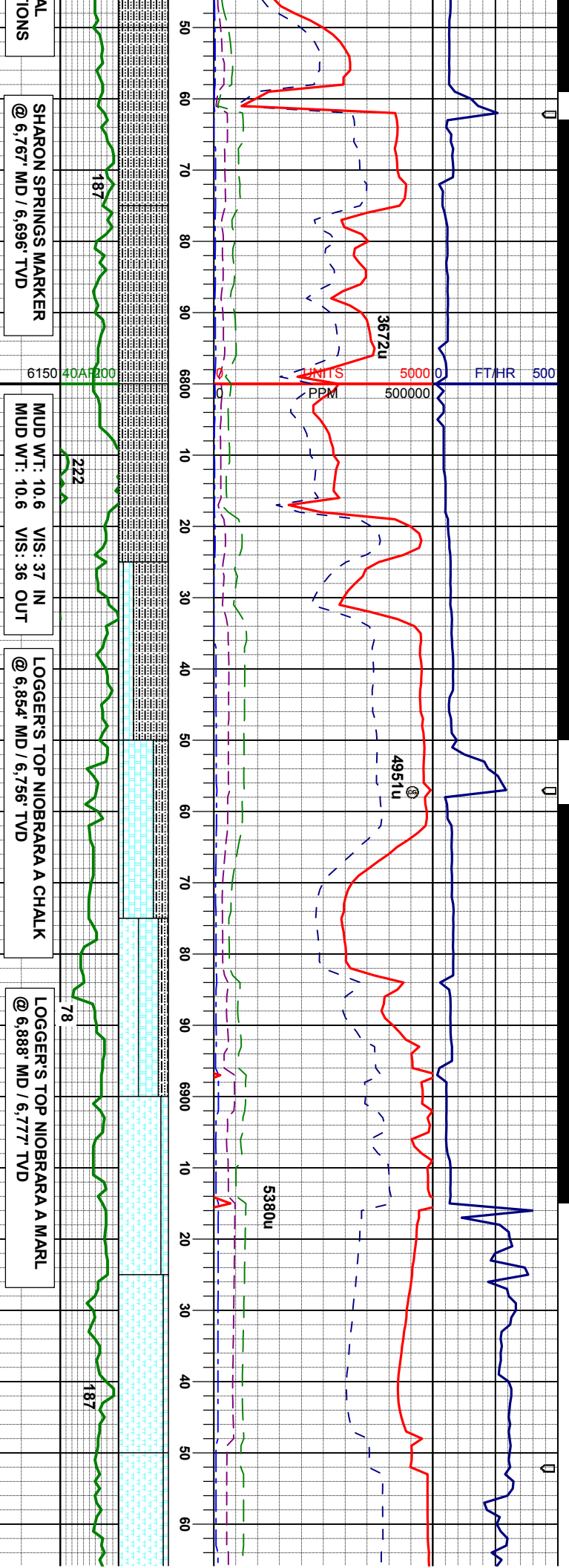
SURVEY
MD 6711'
INC 35.3°
AZI 359.3°
TVD 6653.49'

SLTYSH: lt - mgy, dk gy, occ tan, v f gr, fri-
brlt, sbply-sbdkly, sl calc, occ pyr ctd
SHYSS: lt-mgy, f-mgr, sbnd-sbang, mod-
psrt, ppor, argmnt, tss

SLTYSH: lt - mgy, dk gy, occ tan, v f gr, fri-
brlt, sbply-sbdkly, sl calc, occ pyr ctd
SHYSS: lt-mgy, f-mgr, sbnd-sbang, mod-
psrt, ppor, argmnt, tss

SLTYSH: m-dky, sme lt gy, occ tan, v f gr,
fri-brlt, sbply-sbdkly, slty rthy tex, sme sl
calc, occ pyr ctd, vtr bent w/ dism pyr





SHARON SPRINGS MARKER
@ 6,767' MD / 6,696' TVD

MUD WT: 10.6 VIS: 37 IN
MUD WT: 10.6 VIS: 36 OUT

LOGGER'S TOP NIOBRARA A CHALK
@ 6,854' MD / 6,756' TVD

LOGGER'S TOP NIOBRARA A MARL
@ 6,888' MD / 6,777' TVD

CHK: lt-m gy, occ whgy-crm, sft-sl firm,
sbply-sbbky, mot-rthy, vcalc
MR: m gy- gyolk, sbbky - sbply, smefis,
sl firm - modst, slty-slmot, calc
SLTYSH: m-dkgy, sme lt gy, occ tan, v f gr,
fri-brit, sbply-sbbky, slty rthy tex, mod calc,
sme pyr ctd, abnt bent

CHK: lt-m gy, occ whgy-crm, sft-sl firm,
sbply-sbbky, mot-rthy, vcalc
MR: m gy- gyolk, sbbky - sbply, smefis,
sl firm - modst, slty-slmot, calc
SLTYSH: m-dkgy, sme lt gy, occ tan, v f gr,
fri-brit, sbply-sbbky, slty rthy tex, mod calc,
sme pyr ctd, tr bent

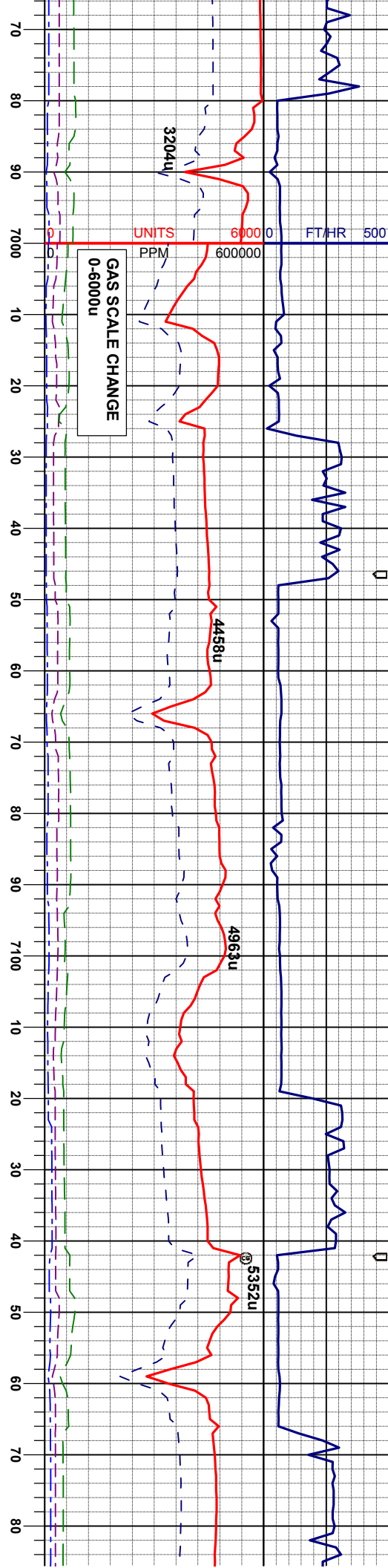
SURVEY
MD 6901'
INC 56.0°
AZI 357.5°
TVD 6765.42'

MR: m gy-
sl firm - mod
CHK: lt-m gy
sbply-sbbky
dism pyr

SLTYSH: m-dkgy, sme lt gy, occ tan, v f gr,
fri-brit, sbply-sbbky, slty rthy tex, sme sl
calc, occ pyr ctd, abnt bent w/ dism pyr

SURVEY
MD 6806'
INC 45.8°
AZI 0.3°
TVD 6725.58'





MUD WT: 10.6 VIS: 38 IN
MUD WT: 10.6 VIS: 37 OUT

SURVEY
MD 6996'
INC 58.7°
AZI 358.0°
TVD 6836.67'

LOGGER'S TOP NIOBRARA B CHALK
@ 7,062' MD / 6,867' TVD

SURVEY
MD 7091'
INC 67.4°
AZI 0.3°
TVD 6879.69'

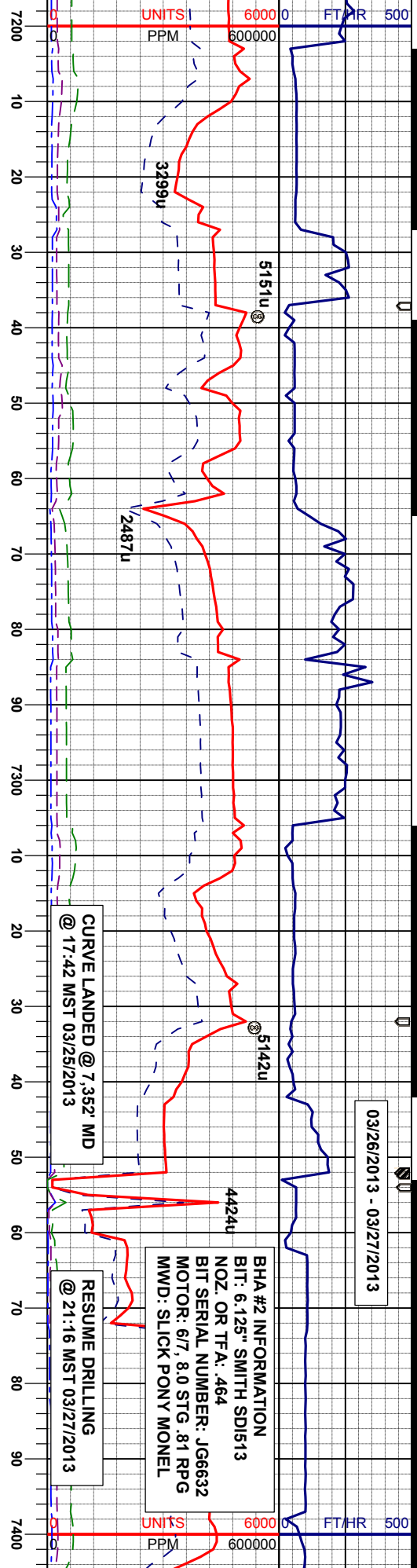
LOGGER'S TOP NIOBRARA B MARL
@ 7,126' MD / 6,891' TVD

SURVEY
MD 7110'
INC 73°
AZI 35°
TVD 6879.69'



03/26/2013 - 03/27/2013

BHA #2 INFORMATION
BIT: 6.125" SMITH SD1513
NOZ. OR TFA: 464
BIT SERIAL NUMBER: JG6632
MOTOR: 6/7, 8.0 STG .81 RPPG
MWD: SLICK PONY MONEL



MUD WT: 10.7 VIS: 39 IN
MUD WT: 10.6 VIS: 38 OUT

LOGGERS TOP NIOBRARA C CHALK
@ 7,307' MD / 6,937' TVD

MUD WT: 9.4 VIS: 29 IN
MUD WT: 9.5 VIS: 29 OUT

MRL: m gy- gyblk, sbblky - sbply, smefis,
sl firm - modstf, slty-slmot, calc,
CHK: lt-m gy, occ whgy-crm, sft-sl firm,
sbply-sbblky, mot-rthy, vcalc, occ calc fl
frac, sme bent, sme inoc & ise fos, tr sec
calcite

MRL: m gy- gyblk, sbblky - sbply, smefis,
sl firm - modstf, slty-slmot, calc,
CHK: lt-m gy, occ whgy-crm, sft-sl firm,
sbply-sbblky, mot-rthy, vcalc, abnt bent,
occ calc fl frac, sme inoc & ise fos

MRL: m gy- gyblk, sbblky - sbply, smefis,
sl firm - modstf, slty-slmot, calc,
CHK: lt-m gy, occ whgy-crm, sft-sl firm,
sbply-sbblky, mot-rthy, vcalc, mod bent,
occ calc fl frac, tr inoc

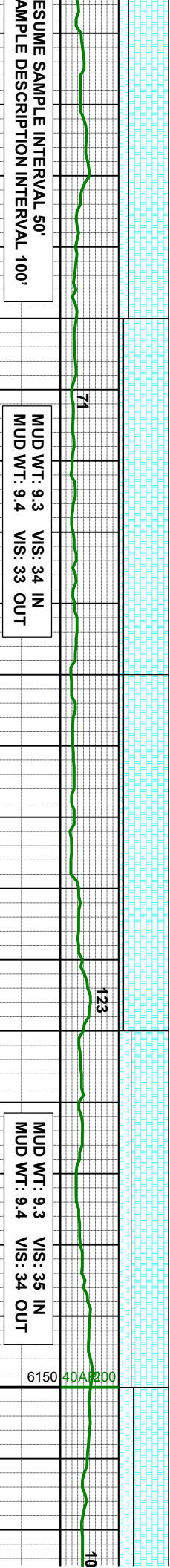
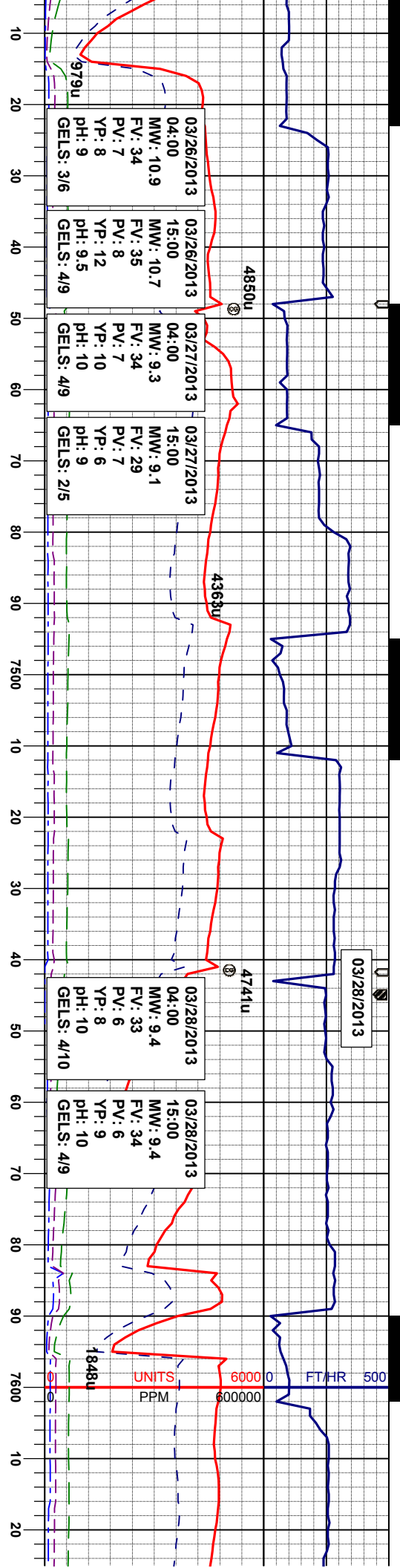
CHK: lt-m gy, occ whgy-crm, sft-sl firm,
sbply-sbblky, mot-rthy, vcalc,
MRL: m gy- gyblk, sbblky - sbply, smefis,
sl firm - modstf, slty-slmot, calc, occ calc fl
frac, tr inoc, tr bent

SURVEY
MD 7233'
INC 76.9°
AZI 358.9°
TVD 6923.70'

SURVEY
MD 7302'
INC 81.0°
AZI 359.1°
TVD 6936.92'

SURVEY
MD 7390'
INC 84.9°
AZI 360.0°
TVD 6947.72'





CHK: lt-m gy, crm, sft-sl firm, sbply-sbdky,
mot-rthy, vcalc,
MRL: m gy- gybdk, sbdky - sbply, smefis,
sl firm - modstf, slty-slmot, calc, sme inoc,
occ calc fl frac

CHK: lt-m gy, crm, sft-sl firm, sbply-sbdky,
mot-rthy, vcalc,
MRL: m gy- gybdk, sbdky - sbply, smefis,
sl firm - modstf, slty-slmot, calc, sme inoc,
occ calc fl frac

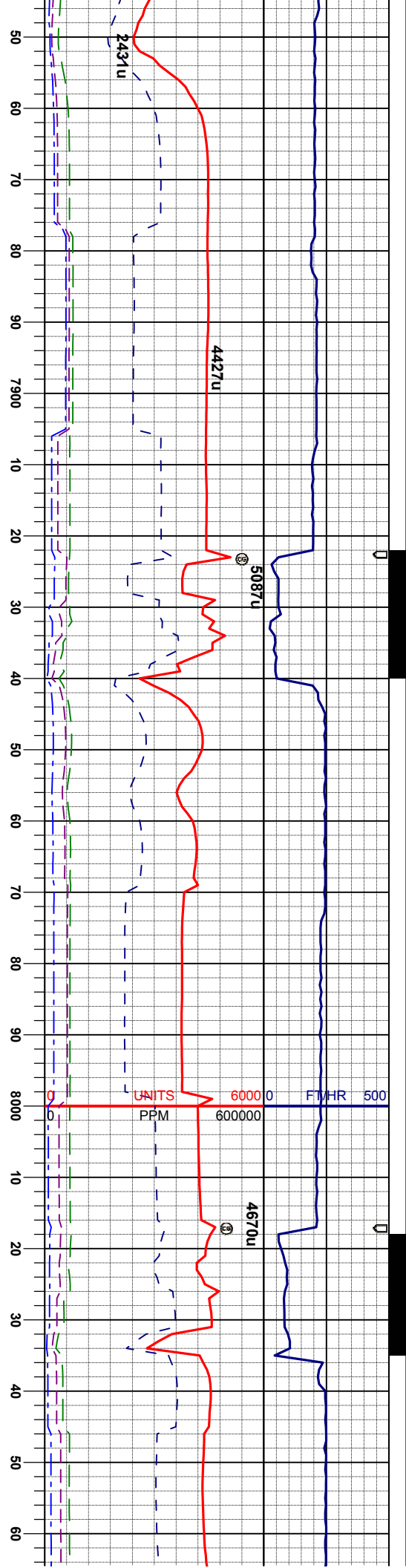
SURVEY
MD 7437'
INC 87.1°
AZI 0.3°
TVD 6951.00'

SURVEY
MD 7485'
INC 89.2°
AZI 359.4°
TVD 6952.55'

SURVEY
MD 7580'
INC 91.5°
AZI 359.3°
TVD 6951.97'

MUD WT: 9.3 VIS: 34 IN
MUD WT: 9.4 VIS: 33 OUT

MUD WT: 9.3 VIS: 35 IN
MUD WT: 9.4 VIS: 34 OUT



MUD WT: 9.3 VIS: 34 IN
MUD WT: 9.4 VIS: 33 OUT

SURVEY
MD 7864'
INC 89.2°
AZI 356.1°
TVD 6954.88'

CHK: lt-m gy, crm, sft-sl firm, sbply-sbply,
mot-rthy, vcalc
MRL: m gy- gyblk, sbply- sbply, smeifs,
sl firm - modstf, slty-slmot, mod calc, tr
Inoc, sme pyr ctd, occ calc fl frac

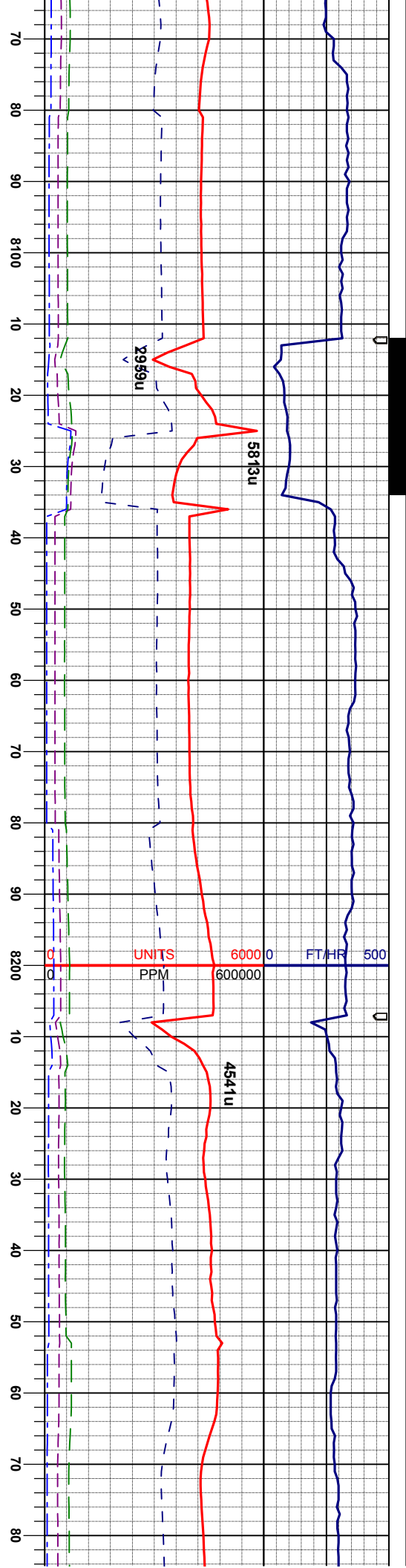
SURVEY
MD 7959'
INC 89.0°
AZI 357.7°
TVD 6956.37'

MUD WT: 9.3 VIS: 34 IN
MUD WT: 9.3 VIS: 34 OUT

SURVEY
MD 8054'
INC 89.5°
AZI 358.0°
TVD 6957.61'

CHK: lt-m gy, crm, sft-sl firm, sbply-sbply,
mot-rthy, vcalc
MRL: m gy- gyblk, sbply- sbply, smeifs,
sl firm - modstf, slty-slmot, mod calc, tr
Inoc, sme pyr ctd, occ calc fl frac





73

96

96

MUD WT: 9.2 VIS: 34 IN
MUD WT: 9.3 VIS: 34 OUT

CHK: lt-m gy, crm, st-si firm, sbply-sbply,
mot-rthy, vcalc
MRL: m gy- gyblk, sbply - sbply, smeifs,
si firm - modstf, silty-slmot, mod calc, tr
Inoc, sme pyr ctd, occ calc fl frac

SURVEY
MD 8149'
INC 89.8°
AZI 0.5°
TVD 6958.20'

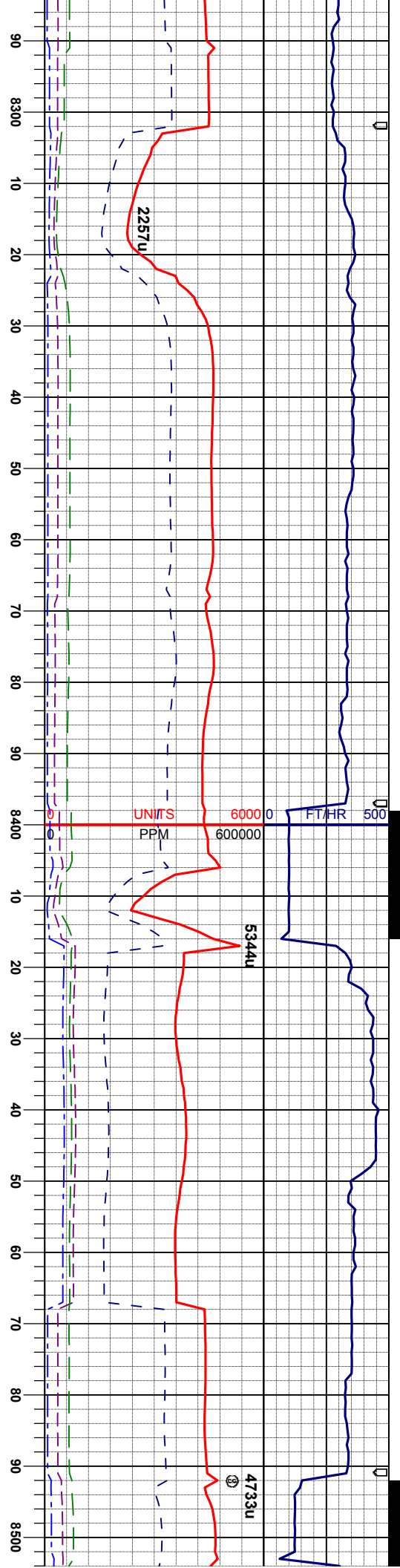
6150 40 AP200

CHK: lt-m gy, crm, st-si firm, sbply-sbply,
mot-rthy, vcalc
MRL: m gy- gyblk, sbply - sbply, smeifs,
si firm - modstf, silty-slmot, mod calc, tr
Inoc, sme pyr ctd, occ calc fl frac

SURVEY
MD 8244'
INC 90.1°
AZI 1.2°
TVD 6958.28'

7025





MUD WT: 9.3 VIS: 34 IN
MUD WT: 9.3 VIS: 34 OUT

SURVEY
MD 8339'
INC 90.1°
AZI 2.8°
TVD 6958.11'

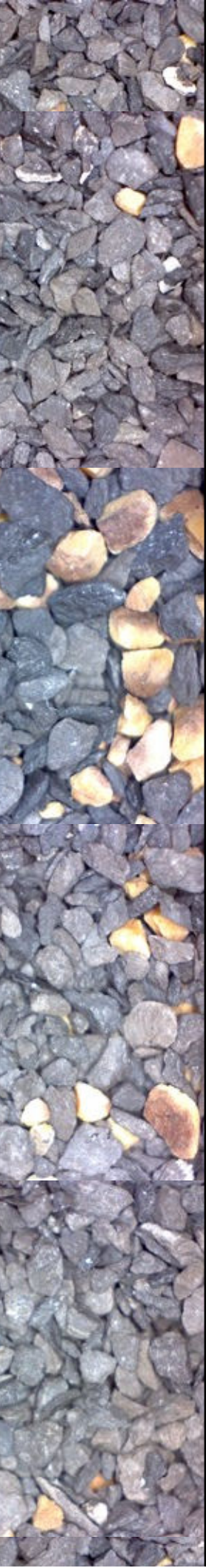
CHK: lt-m gy, crm, sft-sl firm, sbply-sbply,
mot-rthy, vcalc
MRL: m gy- gyblk, sbply - sbply, smeifs,
sl firm - modstf, silty-slmot, mod calc, tr
Inoc, sme pyr cld, occ calc fl frac

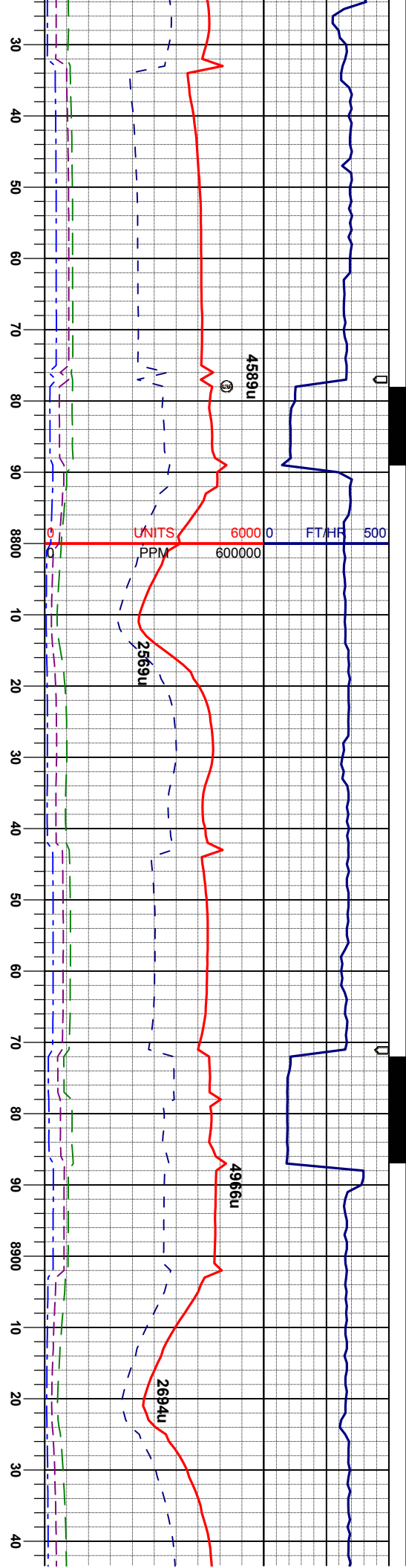
6150 4733u 6000 600000 7029 ft

MUD WT: 9.3 VIS:
MUD WT: 9.3 VIS:

SURVEY
MD 8433'
INC 91.1°
AZI 0.7°
TVD 6957.12'

MRL: m gy- gyblk, sbply - sbply, smeifs,
sl firm - modstf, silty-slmot, mod calc, sme
pyr cld
CHK: lt-m gy, occ whgy-crm, sft-sl firm,
sbply-sbply, mot-rthy, vcalc, vtr bent, occ
calc fl frac, tr Inoc





MRL: m gy- gyblk, sbbky - sbply, smets,
sl firm - modstf, silty-slmot, mod calc, sme
pyr cld
CHK: lt-m gy, occ whgy-crm, sft-sl firm,
sbply-sbbky, mot-rthy, vcalc, vtr bent, occ
calc fl frac, tr inoc

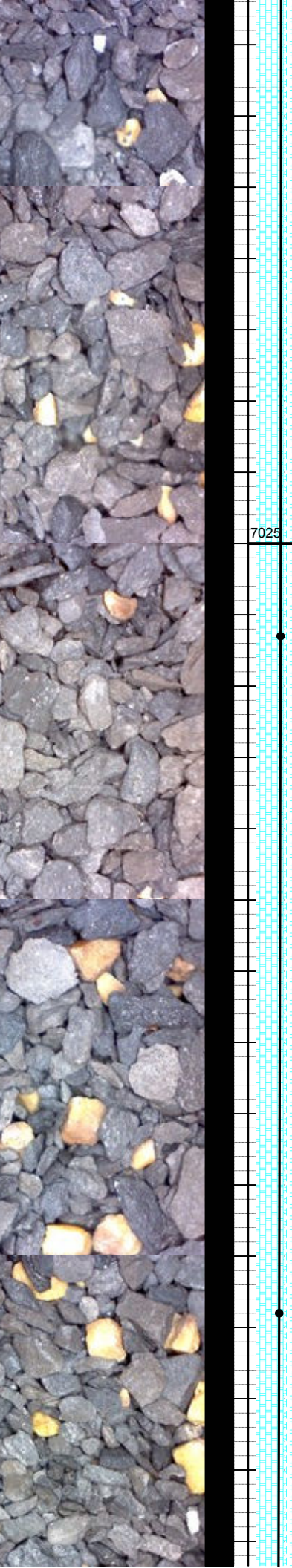
SURVEY
MD 8813'
INC 88.6°
AZI 356.8°
TVD 6952.24'

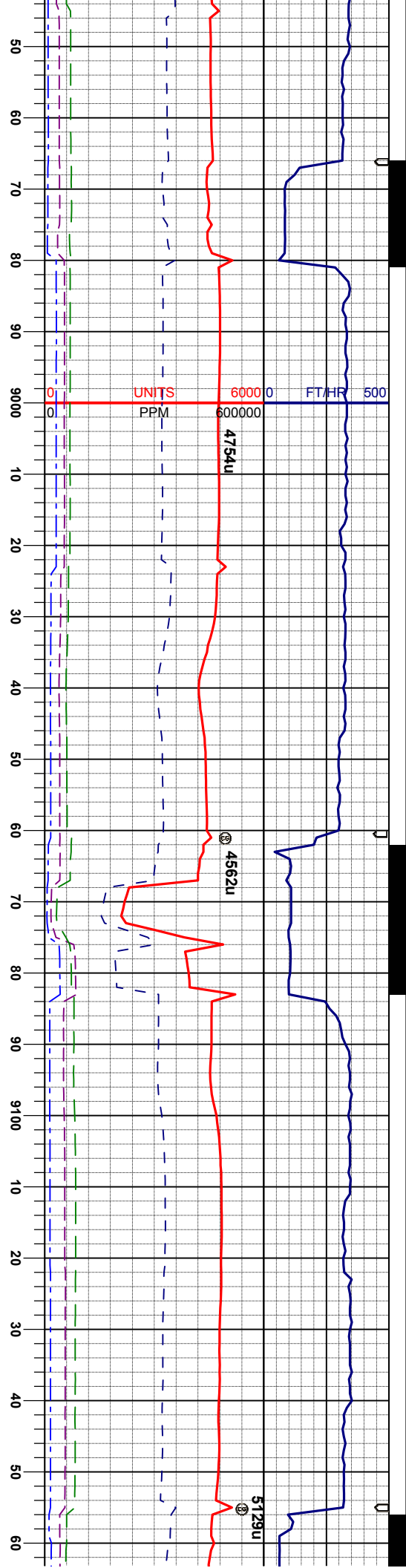
MUD WT: 9.4 VIS: 35 IN
MUD WT: 9.4 VIS: 35 OUT

MRL: m gy- gyblk, sbbky - sbply, smets,
sl firm - modstf, silty-slmot, mod calc, sme
pyr cld
CHK: lt-m gy, occ whgy-crm, sft-sl firm,
sbply-sbbky, mot-rthy, vcalc, vtr bent, occ
calc fl frac, tr inoc

SURVEY
MD 8908'
INC 87.6°
AZI 358.0°
TVD 6955.39'

MRL: m gy- gy
sl firm - modstf,
pyr cld
CHK: lt-m gy, o
sbply-sbbky, n
calc fl frac, tr in





MUD WT: 9.4 VIS: 35 IN
MUD WT: 9.4 VIS: 34 OUT

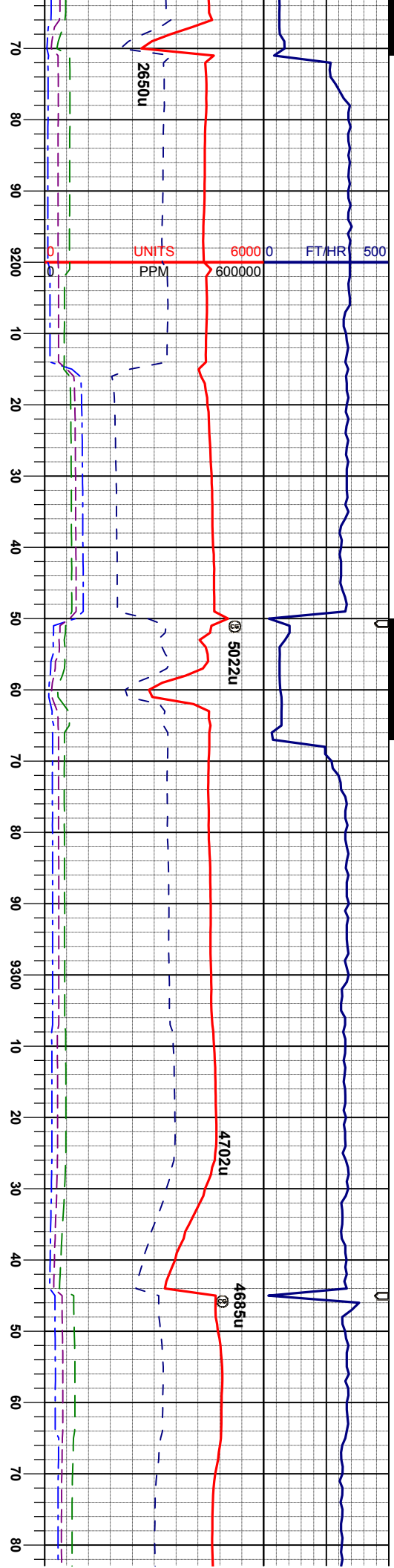
CHK: lt-m gy, crm, sft-sl firm, sbply-sbply,
mot-rthy, vcalc
MRL: m gy- gyblk, sbply - sbply, smefts,
sl firm - modstf, sily-slmot, mod calc, tr
Inoc, sme pyr cid, occ calc fl frac

SURVEY
MD 9002'
INC 87.8°
AZI 358.4°
TVD 6959.16'

SURVEY
MD 9097'
INC 89.0°
AZI 358.6°
TVD 6961.81'

CHK: lt-m gy, crm, sft-sl firm, sbply
mot-rthy, vcalc
MRL: m gy- gyblk, sbply - sbply, s
sl firm - modstf, sily-slmot, mod calc
Inoc, sme pyr cid, occ calc fl frac





MUD WT: 9.4 VIS: 35 IN
MUD WT: 9.4 VIS: 35 OUT

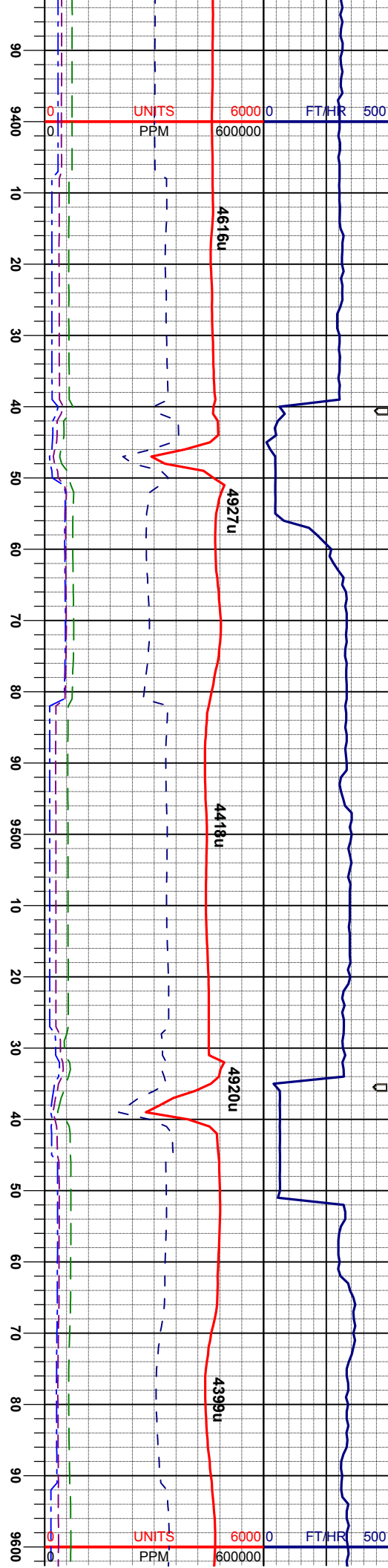
CHK: lt-m gy, crm, sft-sl firm, sbply-sbply,
mot-rthy, vcalc
MRL: m gy- gy/bk, sbply - sbply, smefs,
sl firm - modstf, slty-slmot, mod calc, tr
Inoc, sme pyr cid, occ calc fl frac

SURVEY
MD 9192'
INC 89.4°
AZI 359.4°
TVD 6963.14'

SURVEY
MD 9287'
INC 90.5°
AZI 0.5°
TVD 6963.22'

SURVEY
MD 938'
INC 90.1°
AZI 2.6°
TVD 6963.22'





MUD WT: 9.4 VIS: 34 IN
MUD WT: 9.3 VIS: 34 OUT

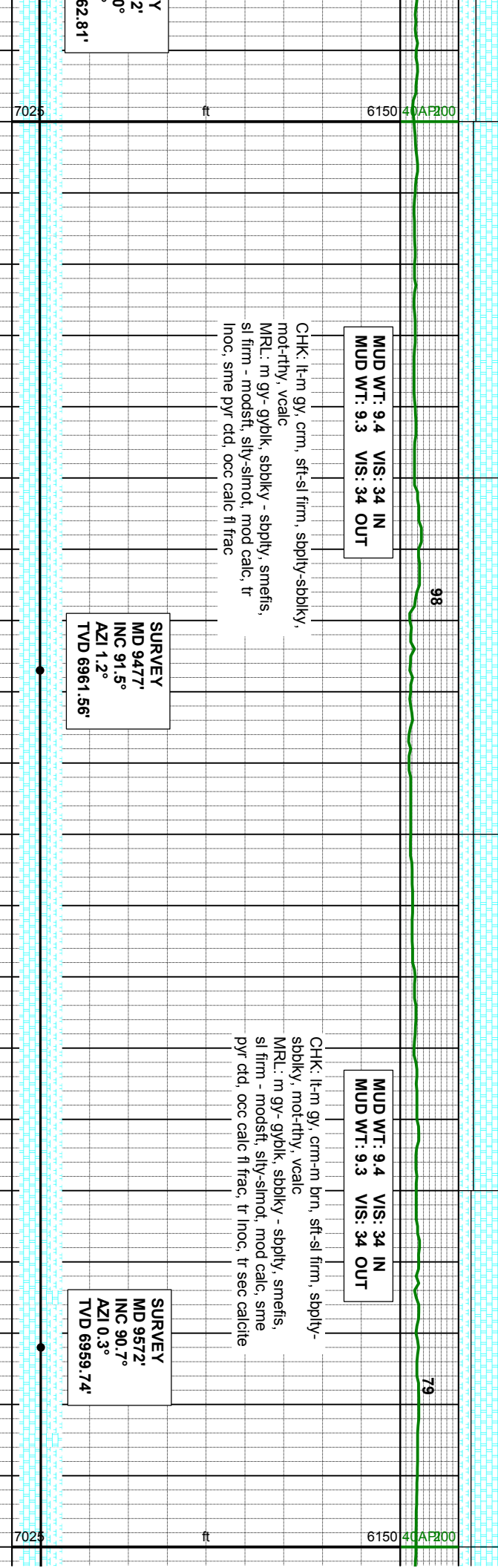
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mot-rthy, vcalc
MRL: m gy- gyblk, sbply - sbply, smeifs,
sl firm - modstf, sily-slmot, mod calc, tr
Inoc, sme pyr ctd, occ calc fl frac

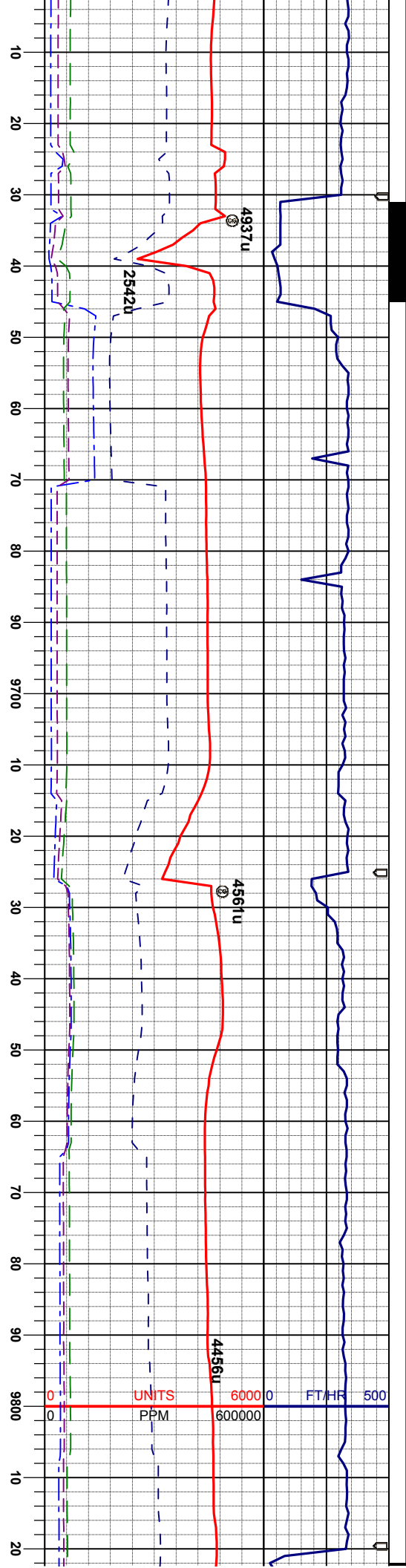
SURVEY
MD 9477'
INC 91.5°
AZI 1.2°
TVD 6961.56'

MUD WT: 9.4 VIS: 34 IN
MUD WT: 9.3 VIS: 34 OUT

CHK: lt-m gy, crm-m brn, sft-sl firm, sbply-
sbply, mot-rthy, vcalc
MRL: m gy- gyblk, sbply - sbply, smeifs,
sl firm - modstf, sily-slmot, mod calc, sme
pyr ctd, occ calc fl frac, tr inoc, tr sec calcite

SURVEY
MD 9572'
INC 90.7°
AZI 0.3°
TVD 6959.74'





MUD WT: 9.4 VIS: 34 IN
MUD WT: 9.4 VIS: 34 OUT

CHK: lt-m gy, crm-m brn, sft-sl firm, sbply-
sblky, mot-rthy, vcalc
MRL: m gy- gyblk, sblky - sbply, smefts,
sl firm - modstf, slty-slmot, mod calc, sme
pyr ctd, occ calc fl frac, tr inoc, tr sec calcite

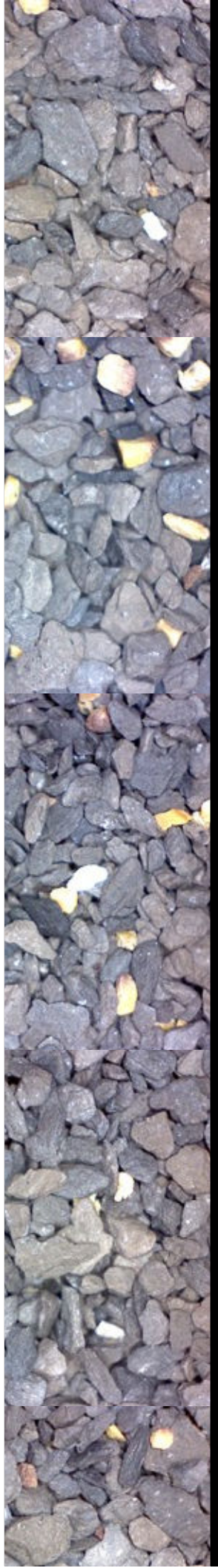
SURVEY
MD 9667'
INC 90.0°
AZI 357.5°
TVD 6959.16'

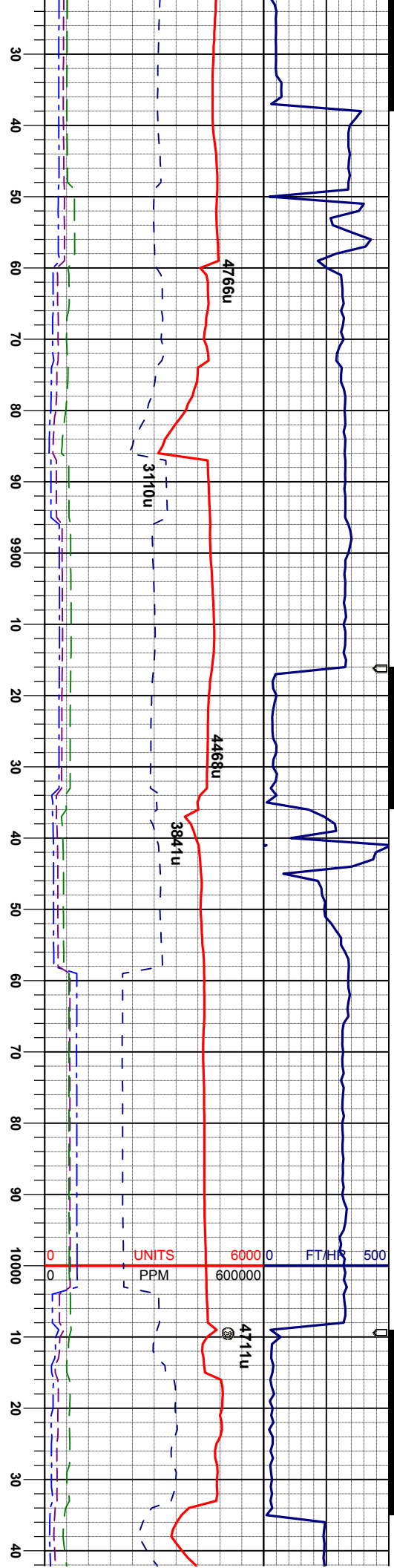
MUD WT: 9.4 VIS: 34 IN
MUD WT: 9.5 VIS: 34 OUT

CHK: lt-m gy, crm-m brn, sft-sl firm, sbply-
sblky, mot-rthy, vcalc
MRL: m gy- gyblk, sblky - sbply, smefts,
sl firm - modstf, slty-slmot, mod calc, sme
pyr ctd, occ calc fl frac, tr inoc, tr sec calcite

SURVEY
MD 9761'
INC 91.2°
AZI 355.9°
TVD 6958.17'

7025 ft 6150 40AP200





MUD WT: 9.4 VIS: 34 IN
MUD WT: 9.5 VIS: 33 OUT

CHK: lt-n gy, crm-m brn, sft-sl firm, sbply-
sbbkly, mot-rthy, vcalc
MRL: m gy- gyblk, sbbkly - sbply, smefts,
sl firm - modstf, slty-slmot, mod calc, sme
pyr ctd, occ calc fl frac, vtr lnoc, vtr sec
calcite

SURVEY
MD 9856'
INC 89.6°
AZI 356.4°
TVD 6957.51'

MUD WT: 9.4 VIS: 33 IN
MUD WT: 9.4 VIS: 32 OUT

CHK: lt-n gy, crm-m brn, sft-sl firm, sbply-
sbbkly, mot-rthy, vcalc
MRL: m gy- gyblk, sbbkly - sbply, smefts,
sl firm - modstf, slty-slmot, mod calc, occ
pyr ctd, tr calc fl frac, vtr lnoc

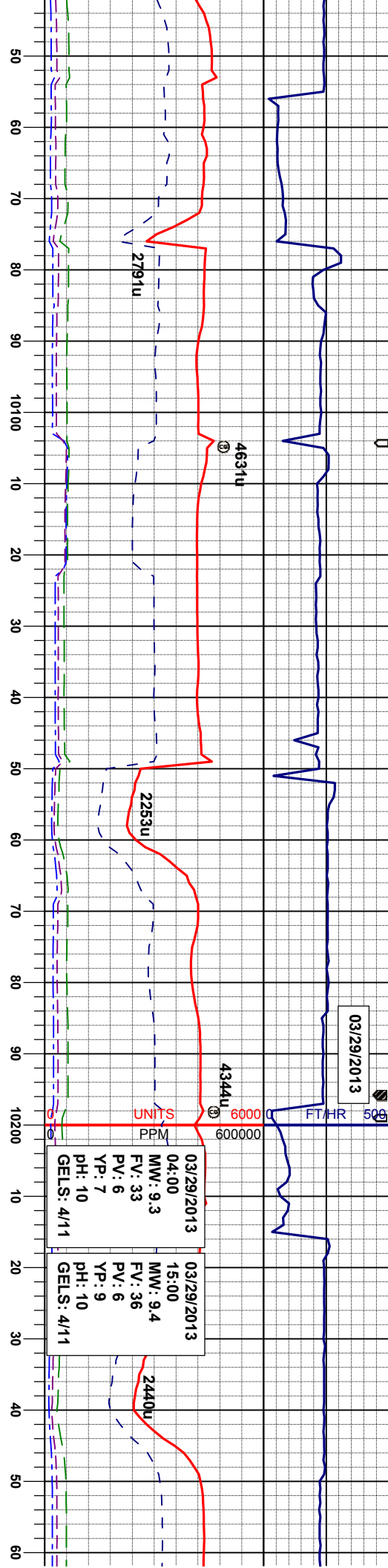
SURVEY
MD 9951'
INC 89.2°
AZI 356.8°
TVD 6958.51'

6150 40AP200 7025 ft

SL
MI
IN
AZ
TV

CHK: lt-n gy,
sbbkly, mot-rt
MRL: m gy- g
sl firm - mods
pyr ctd, tr calc





MUD WT: 9.4 VIS: 33 IN
MUD WT: 9.4 VIS: 32 OUT

MUD WT: 9.4 VIS: 33 IN
MUD WT: 9.4 VIS: 32 OUT

MUD WT: 9.4 VIS: 33 IN
MUD WT: 9.4 VIS: 32 OUT

cm-m brn, sft-sl firm, sbply-
hy, vcalc
yolk, sbply - sbply, smefis,
sft, silty-slmot, mod calc, occ
pyr ctd, tr calc fl frac, vtr Inoc

CHK: lt-m gy, cm-m brn, sft-sl firm, sbply-
sbply, mot-rthy, vcalc
MRL: m gy- gyolk, sbply - sbply, smefis,
sl firm - modstf, silty-slmot, mod calc, occ
pyr ctd, tr calc fl frac, vtr Inoc

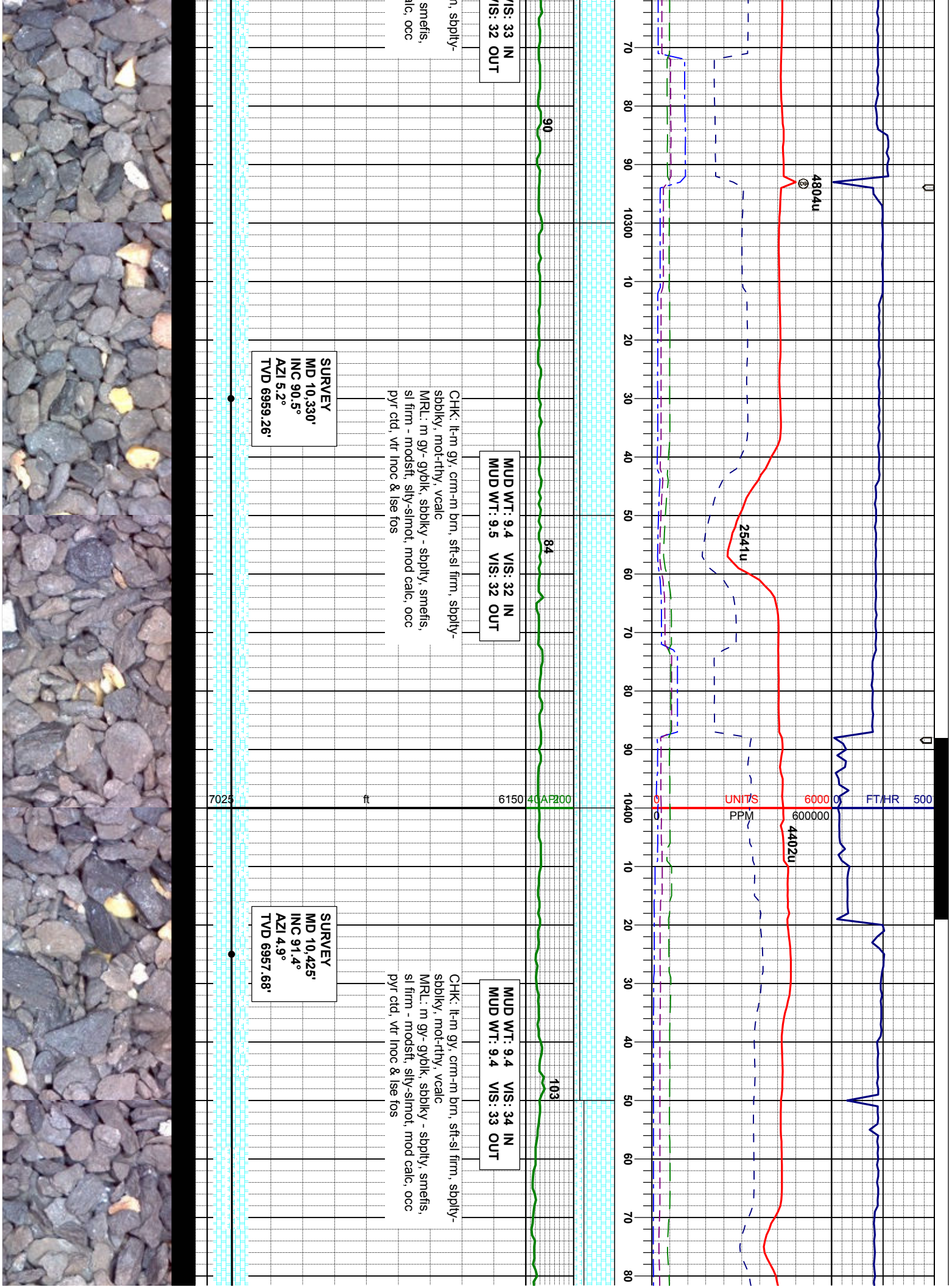
CHK: lt-m gy, cm-m brn, sft-sl firm
sbply, mot-rthy, vcalc
MRL: m gy- gyolk, sbply - sbply,
sl firm - modstf, silty-slmot, mod ce
pyr ctd, vtr Inoc

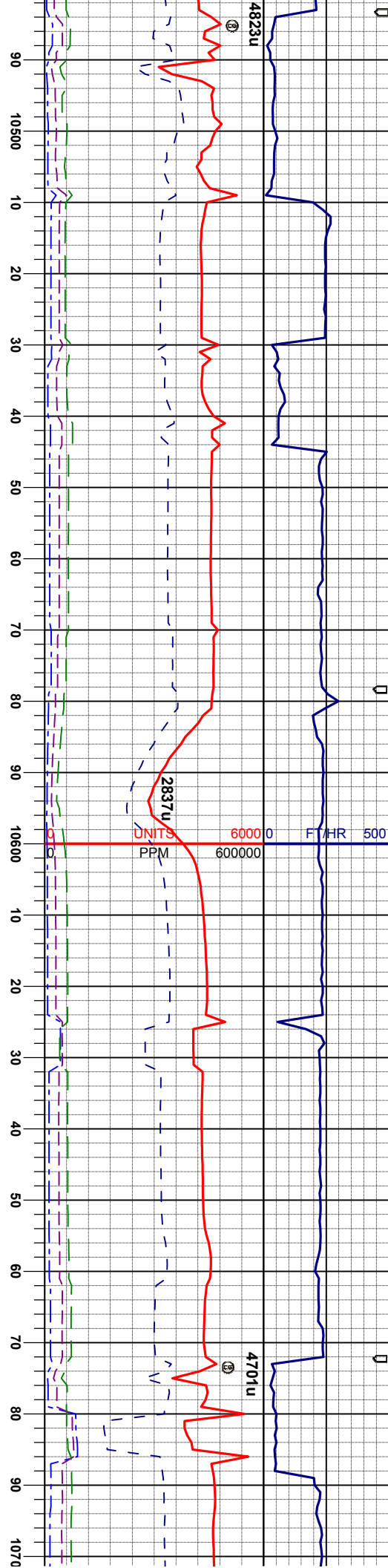
SURVEY
MD 10,046'
INC 89.6°
AZI 358.7°
TVD 6959.50'

SURVEY
MD 10,141'
INC 90.1°
AZI 0.8°
TVD 6959.75'

SURVEY
MD 10,236'
INC 90.0°
AZI 2.1°
TVD 6959.67'







SURVEY
MD 10.520'
INC 91.1°
AZI 2.1°
TVD 6955.60'

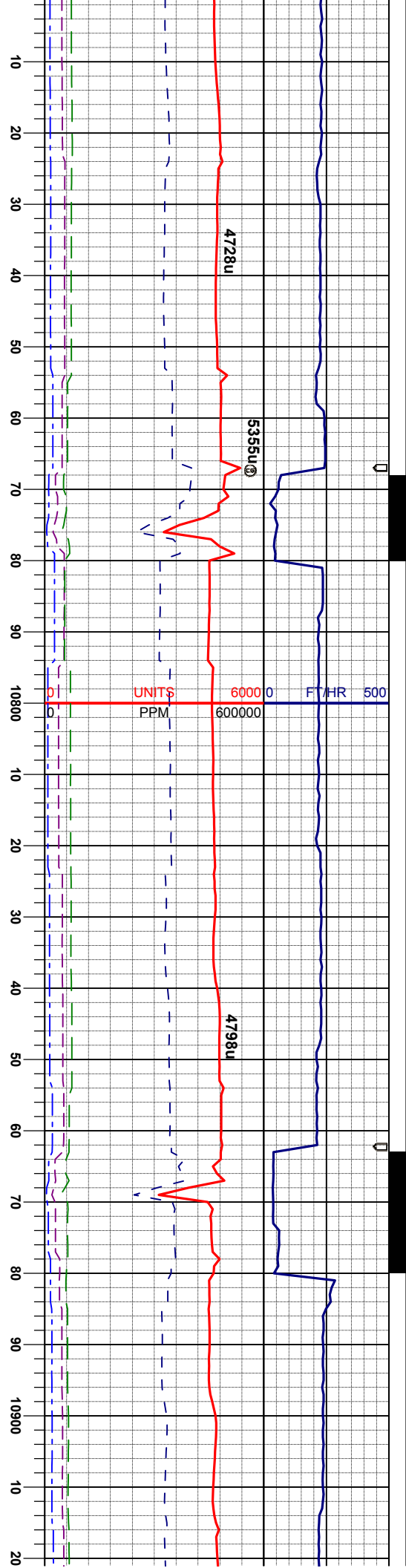
CHK: lt-m gy, crm-m brn, sft-si firm, sbply-
sbply, mol-rhy, vcalc
MRL: m gy- gyblk, sbply - sbply, smefis,
si firm - modstf, slty-simot, mod calc, occ
pyr cld, vt inoc & lse fos

SURVEY
MD 10.614'
INC 90.2°
AZI 0.8°
TVD 6954.54'

MUD WT: 9.4 VIS: 35 IN
MUD WT: 9.4 VIS: 34 OUT

CHK: lt-m gy, crm-m brn, sft-si firm, sbply-
sbply, mol-rhy, vcalc
MRL: m gy- gyblk, sbply - sbply, smefis,
si firm - modstf, slty-simot, mod calc, occ
pyr cld, vt inoc & lse fos





MUD WT: 9.4 VIS: 35 IN
MUD WT: 9.4 VIS: 35 OUT

MUD WT: 9.4 VIS: 35
MUD WT: 9.4 VIS: 36

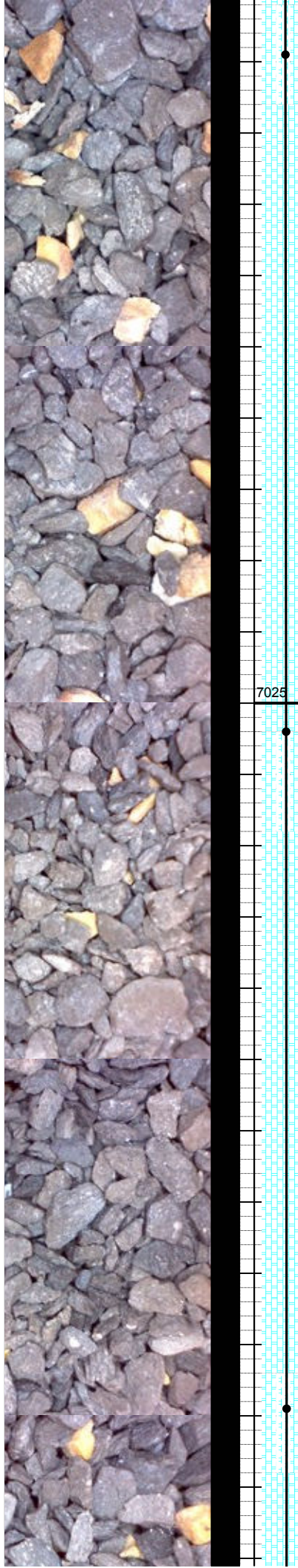
CHK: lt-m gy, crn-m brn, sft-sl firm, sbply-
sbply, mot-rthy, vcalc
MRL: m gy- gyblk, sbply - sbply, smeifs,
sl firm - modst, silty-slmot, mod calc, occ
pyr ctd, vtr lnc & lse fos

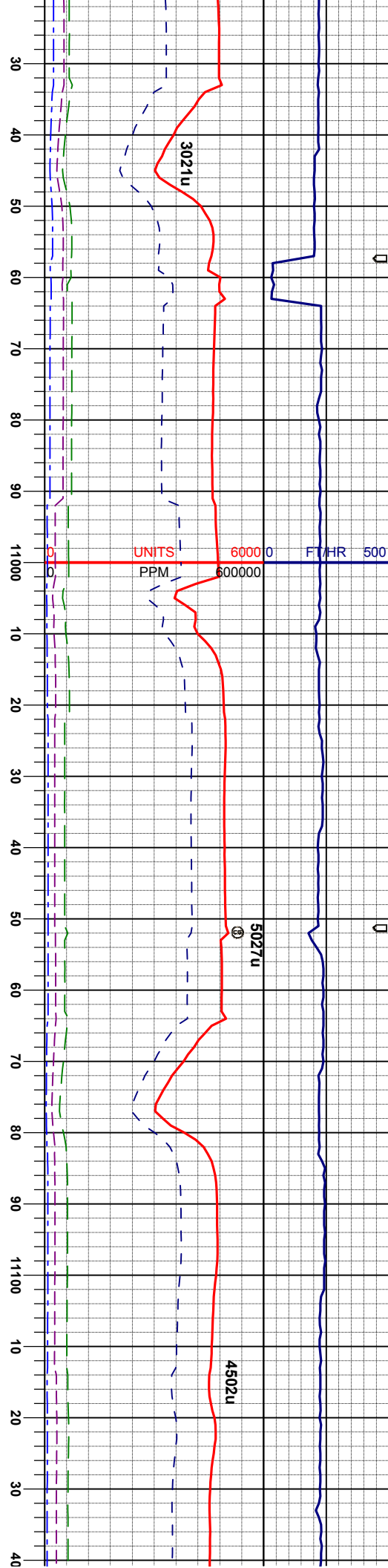
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sbply, mot-rthy, vcalc
MRL: m gy- gyblk, sbply - sbply, smeifs,
sl firm - modst, silty-slmot, mod calc, occ
pyr ctd, vtr lnc & lse fos

SURVEY
MD 10,709'
INC 89.9°
AZI 359.6°
TVD 6954.46'

SURVEY
MD 10,804'
INC 91.7°
AZI 357.7°
TVD 6953.13'

SURVEY
MD 10,899'
INC 89.7°
AZI 358.4°
TVD 6951.97'





IN
OUT

CHK: lt-m gy, crm-m brn, sft-sl firm, sbply-
sbply, mot-rthy, vcalc
MRL: m gy- gyblk, sbply - sbply, smefts,
sl firm - modstf, silty-slmot, mod calc, occ
pyr ctd, vtr inoc & lse fos

SURVEY
MD 10,993'
INC 89.4°
AZI 357.7°
TVD 6952.71'

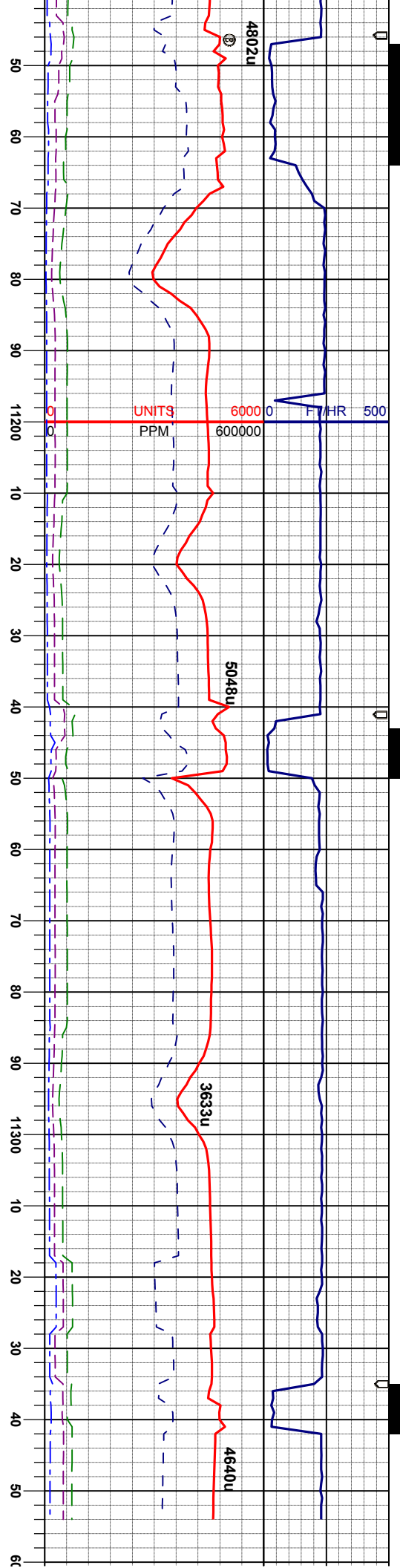
MUD WT: 9.4 VIS: 35 IN
MUD WT: 9.4 VIS: 36 OUT

CHK: lt-m gy, crm-m brn, sft-sl firm, sbply-
sbply, mot-rthy, vcalc
MRL: m gy- gyblk, sbply - sbply, smefts,
sl firm - modstf, silty-slmot, mod calc, occ
pyr ctd, vtr inoc & lse fos

SURVEY
MD 11,088'
INC 90.4°
AZI 356.4°
TVD 6952.87'

CHK: lt-m gy
sbply, mot-r
MRL: m gy-
sl firm - mod
pyr ctd, vtr in





MUD WT: 9.4 VIS: 35 IN
MUD WT: 9.5 VIS: 35 OUT

SURVEY
MD 11,183'
INC 89.1°
AZI 356.6°
TVD 6953.29'

, crm-m brn, sft-sl firm, sbply-
thy, vcalc
gyblk, sbply - sbply, smefts,
sft, sily-slmot, mod calc, occ
loc & lse fos

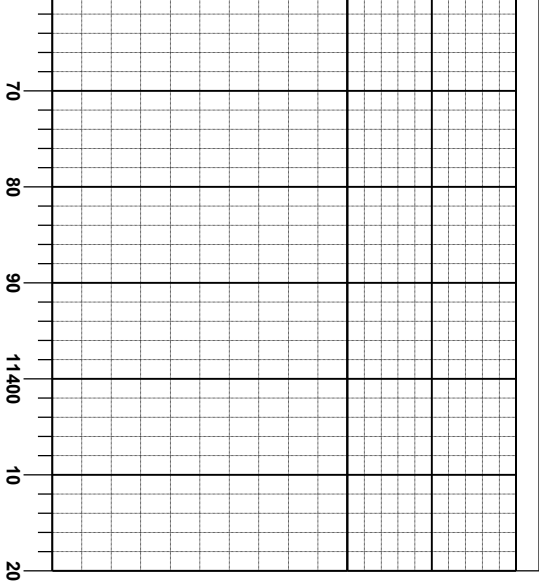
CHK: lt-m gy, crm-m brn, sft-sl firm, sbply-
sbply, mot-rthy, vcalc
MRL: m gy-gyblk, sbply - sbply, smefts,
sl firm - modstf, sily-slmot, mod calc, occ
pyr ctd, vtr inoc & lse fos

MUD WT: 9.4 VIS: 34 IN
MUD WT: 9.3 VIS: 35 OUT

SURVEY
MD 11,297'
INC 89.8°
AZI 358.0°
TVD 6954.38'

SURVEY
MD 11,354'
INC 89.8°
AZI 358.0°
TVD 6954.58'





TD REACHED 11,354' MD
@ 15:27 MST 03/29/2013

THANK YOU FOR USING
COLUMBINE LOGGING INC.