



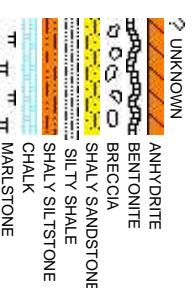
Scale: 5" / 100'
Measured Depth Log

Well Name	Castor Federal LD15-74HN_HORZ		
Location	NWNE SEC 15, T9N, R58W		
State	COLORADO	County	WELD
Country	USA	Rig Number	H&P 326
API Number	05-123-37486	AFE #	139532
Region	DJ BASIN	Field	SABINE PASS
Spud Date	12/29/2013	Drilling Completed	1/4/2014
Surface Coordinates	NWNE SEC15, T9N, R58W 556' FNL, 2210' FEL 40.75713 -103.84876		
Bottom Hole Coordinates	SWSE SEC15, T9N, R58W 1980' FEL, 660'FSL		
Ground Elevation	4,707'	K.B. Elevation	4,737'
Logged Interval	1,300'	Total Depth	8,678'
Formation	B Chalk		
Type of Drilling Fluid	LSND		

Company Noble Energy Inc
Address 1625 Broadway
Denver, CO 80202

Name EVAN HOWELL
Company NOBLE ENERGY
Address 1625 Broadway
Denver, CO 80202

JACK WEINERTH
MICHAEL ROOKS



Operator

10

Suite 2200

202

Geologist

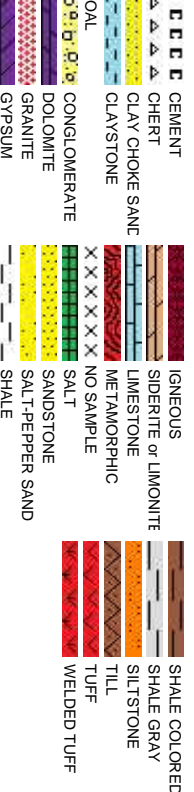
SY INC.

Suite 2200

202

Other

Rock Types



Accessories

Fossils



Other Symbols

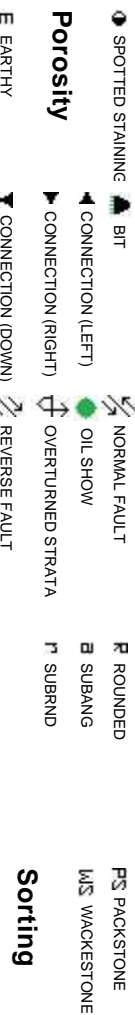
Oil Show



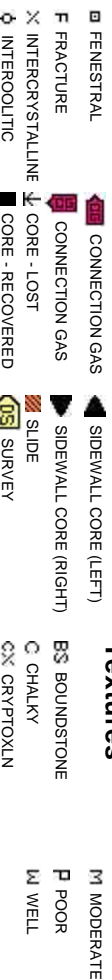
Engineering



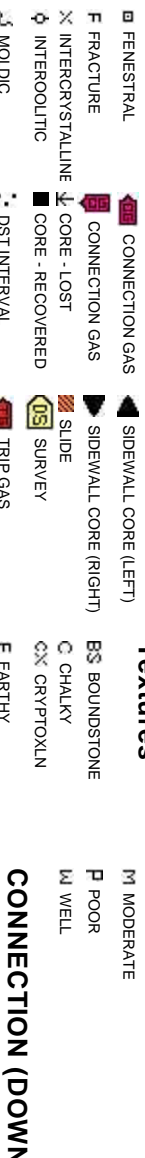
Porosity



Textures



Sorting



Slide/Rotate

ROP
ROF

Gamma
GAMMA

Total Gas & Chromatograph

GAS
C1
C2
C3
C4

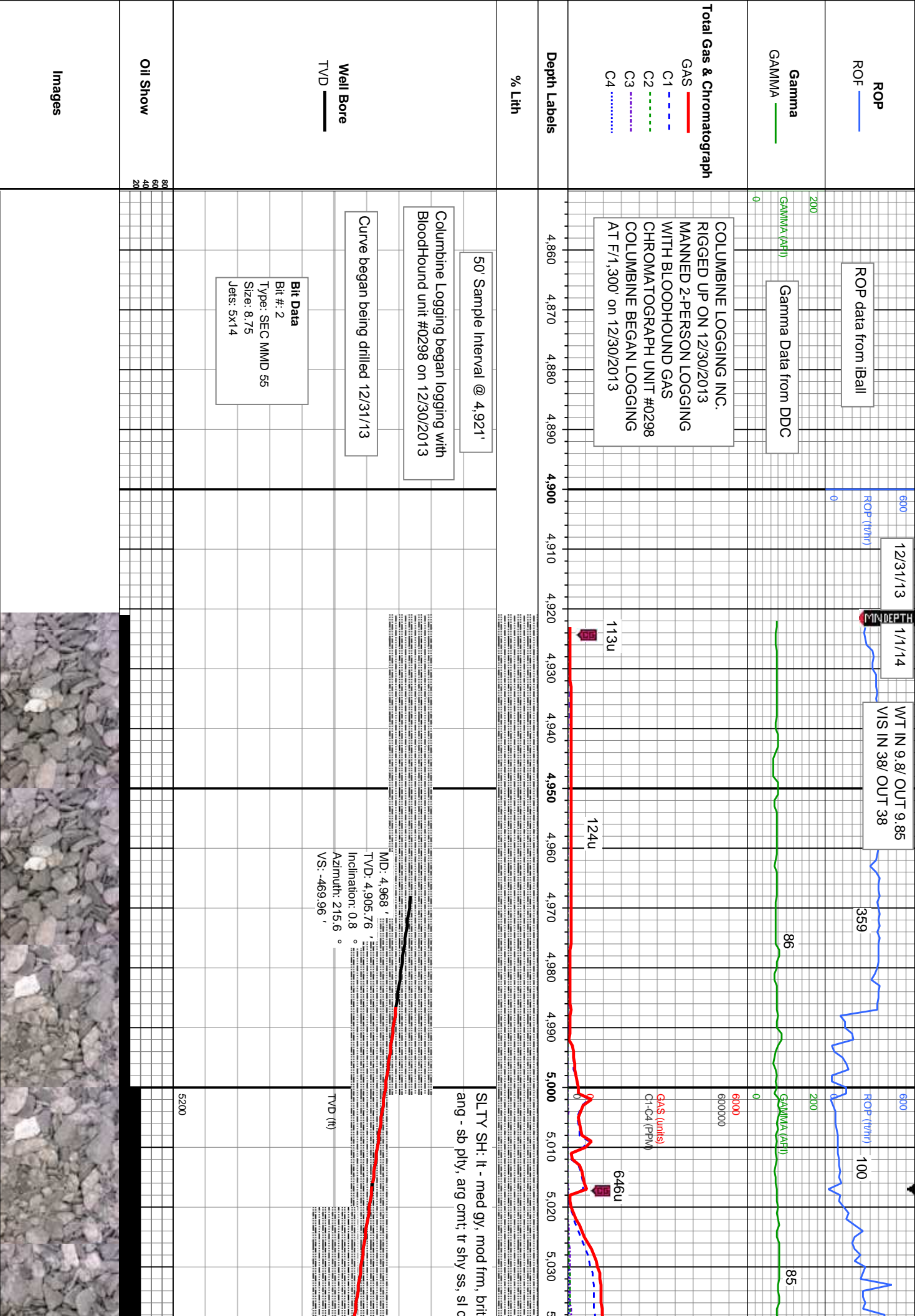
Depth Labels

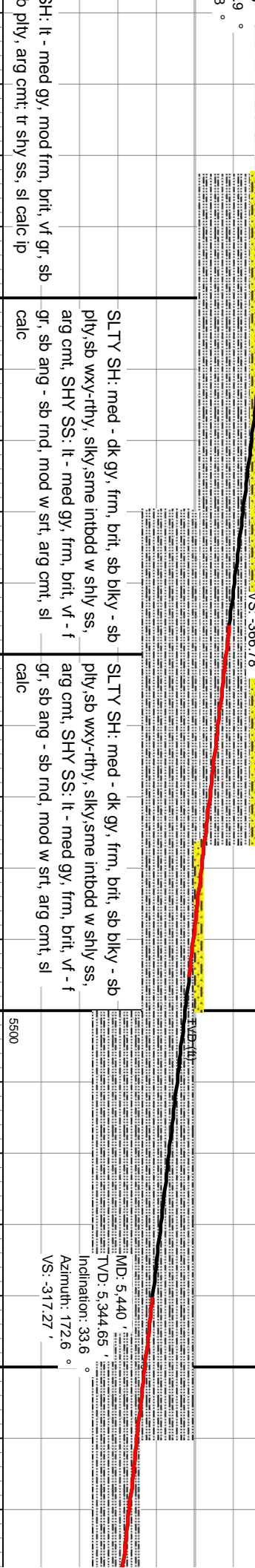
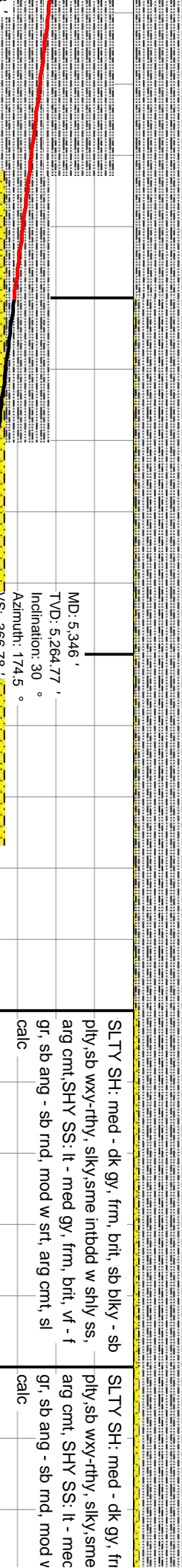
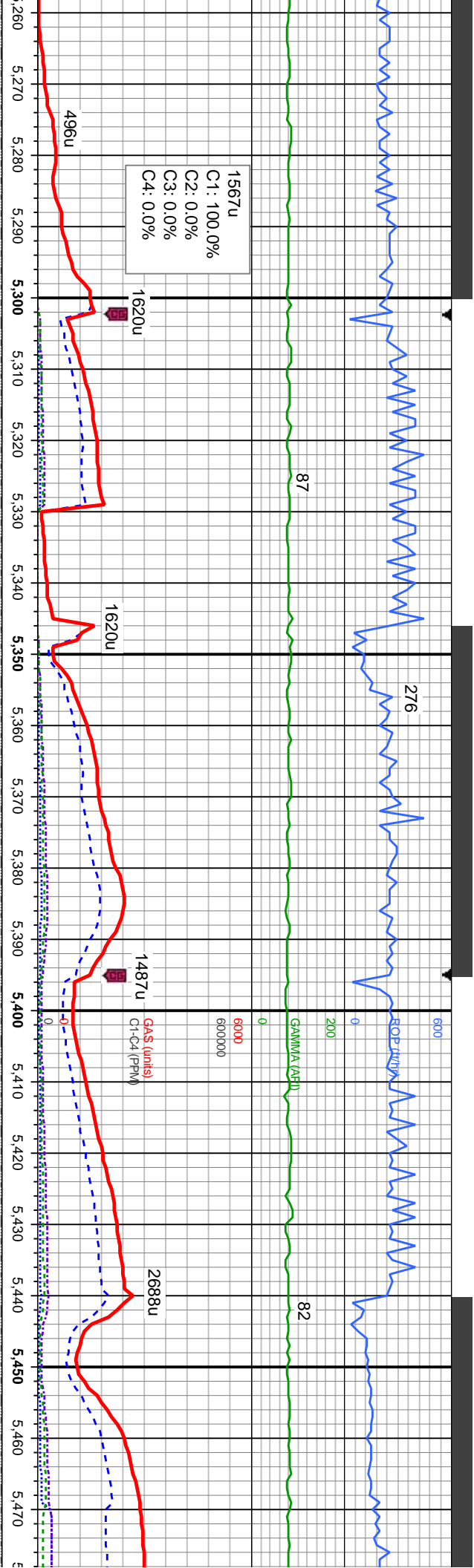
% Lith

Well Bore
TVD

Oil Show

Images







MUD WT: 10.50 VIS: 46

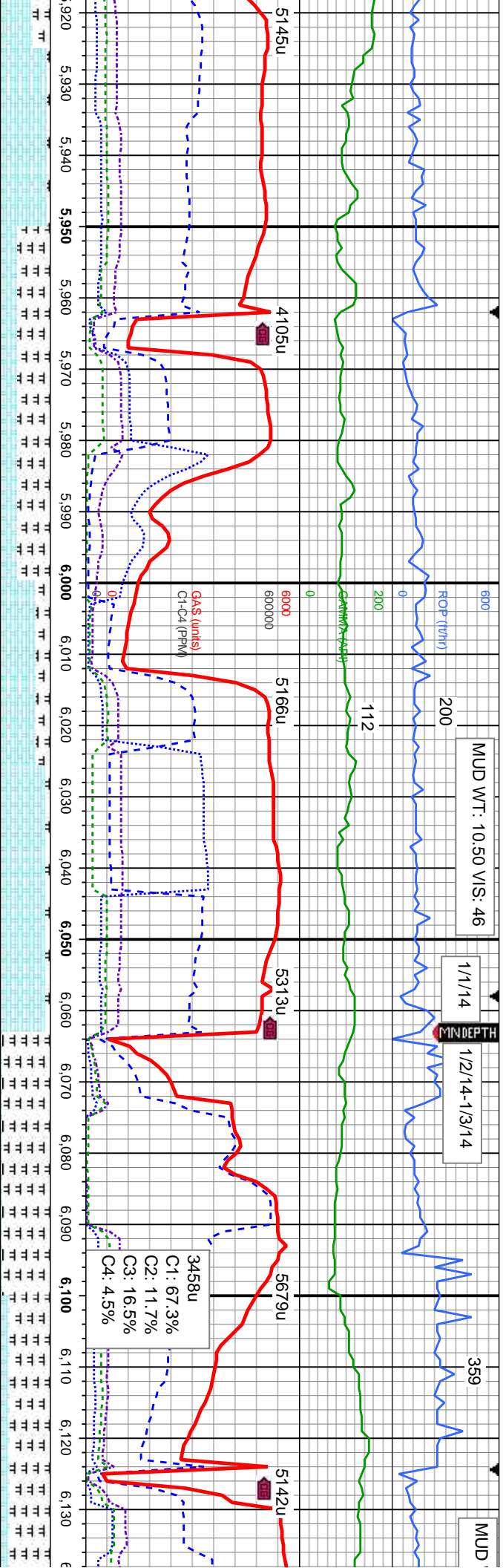
1/1/14

MINDEPTH

1/2/14-1/3/14

359

MUD



wh crm, sme mot gy brn, sft -
t, sb pily - sb blk, sb wxy -
ic,
brn, blk, - sb pily, sb fis,
/ tex, occ yel gn mnfl flr

MRLST: medgy brn, blk, - sb pily, sb fis,
sft-mod frm, rthy tex, occ yel gn mnfl flr
CHK: lt gy - off wh crm, sme mot gy brn, sft -
mod frm, fri - brit, sb pily - sb blk, sb wxy -
sb rthy tex, v calc, sme bent

CHK: lt gy - off wh crm, sme mot gy brn, sft -
mod frm, fri - brit, sb pily - sb blk, sb wxy -
sb rthy tex, v calc,
MRLST: medgy brn, blk, - sb pily, sb fis,
sft-mod frm, rthy tex, occ yel gn mnfl flr
sme bent

CHK: lt gy - off wh crm, sme mot gy brn, sft -
mod frm, fri - brit, sb pily - sb blk, sb wxy -
sb rthy tex, v calc,
MRLST: medgy brn, blk, - sb pily, sb fis,
sft-mod frm, rthy tex, occ yel gn mnfl flr
sme bent

MRLST: medgy brn, blk, - sb pily, s
frm-hd, rthy tex, CHK: lt gy - off wh
mot gy brn, sft - mod frm, fri - brit, s
blk, sb wxy - sb rthy tex, v calc, r t
frag

Bit Data
Bit #: 3
Type: Smith SDI 513
Size: 8.75
Jets: 5x11

PTB

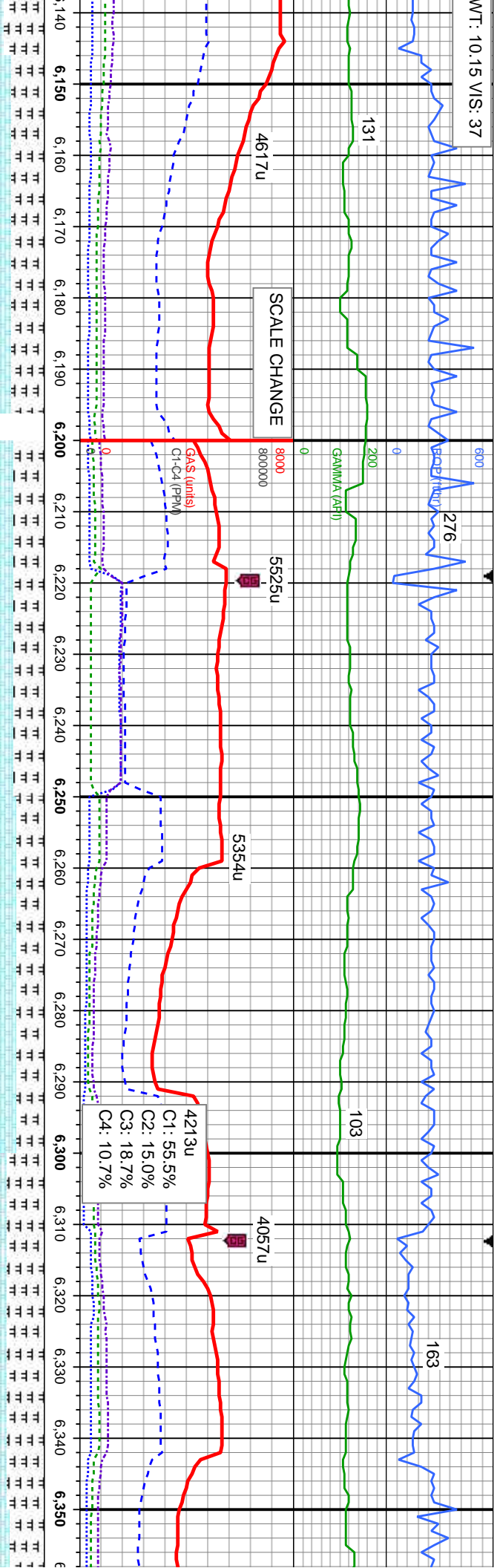
TVD (ft)

MD: 6,007 '
TVD: 5,644.52 '
Inclination: 84.9 °
Azimuth: 176.4 °
VS: 147.61 '
5800

MD: 6,056 '
TVD: 5,646.49 '
Inclination: 90.5 °
Azimuth: 176.4 °
VS: 196.53 '
5800



WT: 10.15 VIS: 37



mod frm-hd, rthy tex, CHK: It gy - off wh crm, sme mot gy brn, sft - mod frm, fri - brit, sb ply - sb blkly, sb wxy - sb rthy tex, v calc,rr bent, no fos frag

mod frm-hd, rthy tex, CHK: It gy - off wh crm, sme mot gy brn, sft - mod frm, fri - brit, sb ply - sb blkly, sb wxy - sb rthy tex, v calc,rr bent, no fos frag

mod frm-hd, rthy tex, CHK: It gy - off wh crm, sme mot gy brn, sft - mod frm, fri - brit, sb ply - sb blkly, sb wxy - sb rthy tex, v calc,rr bent, no fos frag

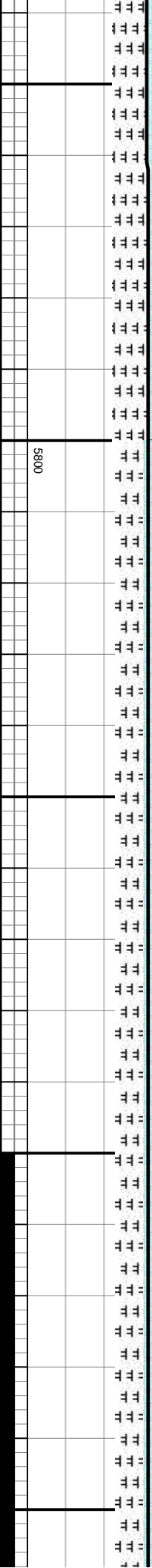
mod frm-hd, rthy tex, CHK: It gy - off wh crm, sme mot gy brn, sft - mod frm, fri - brit, sb ply - sb blkly, sb wxy - sb rthy tex, v calc,rr bent, no fos frag

MD: 6,165 '
TVD: 5,644.38 '
Inclination: 90 °
Azimuth: 178.5 °
VS: 305.31 '

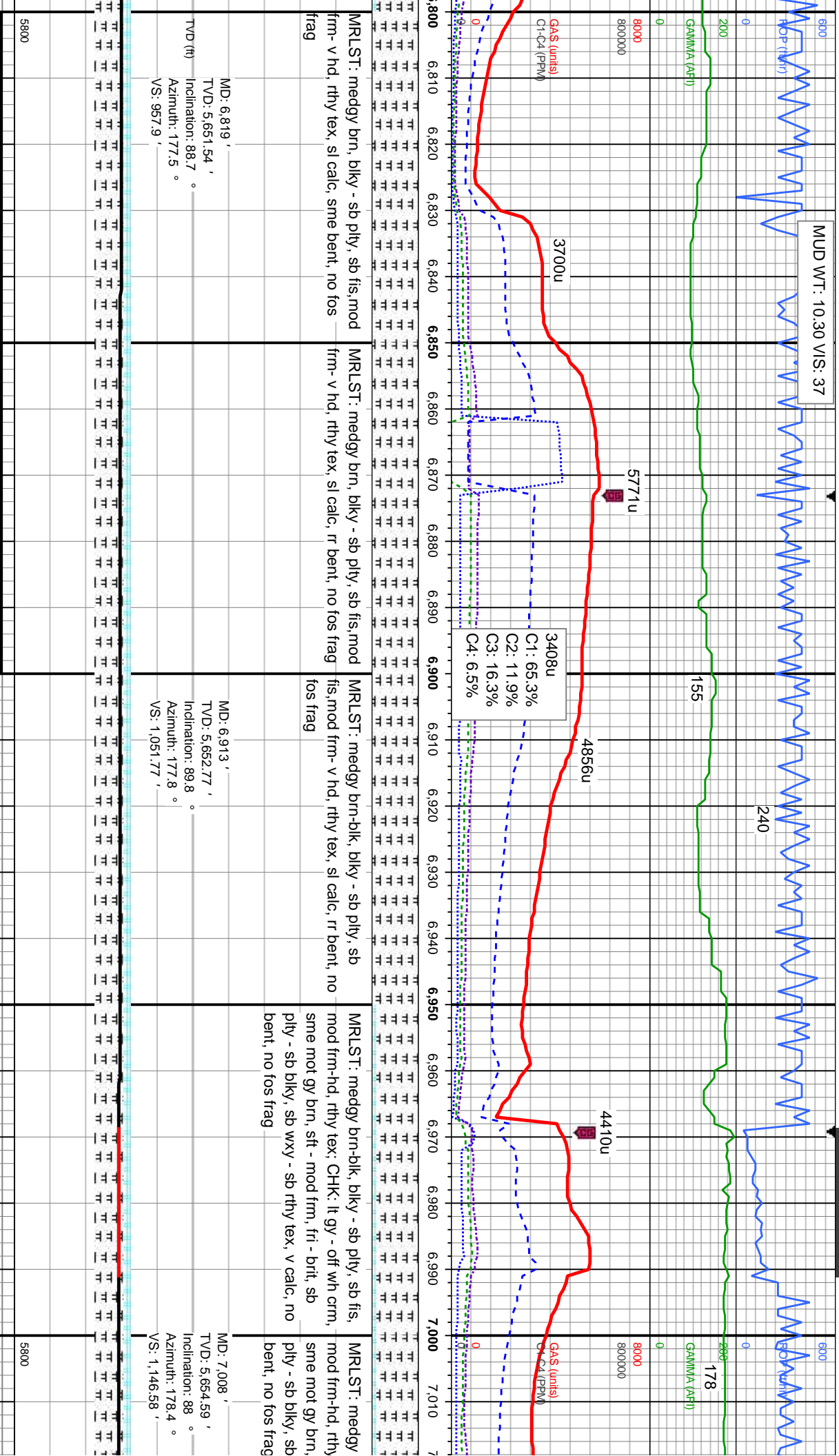
TVD (ft)

MD: 6,258 '
TVD: 5,643.73 '
Inclination: 90.8 °
Azimuth: 178.2 °
VS: 398.12 '

MD: 6,350 '
TVD: 5,643.81 '
Inclination: 89.1 °
Azimuth: 178.7 °
VS: 489.92 '



MUD WT: 10.30 V/S: 37



MRLST: medgy brn, blk - sb pty, sb fis, mod
frm- v hd, rthy tex, sl calc, sme bent, no fos
frag

MRLST: medgy brn, blk - sb pty, sb fis, mod
frm- v hd, rthy tex, sl calc, rr bent, no fos frag

MRLST: medgy brn-blk, blk - sb pty, sb
fis, mod frm- v hd, rthy tex, sl calc, rr bent, no
fos frag

MRLST: medgy brn-blk, blk - sb pty, sb fis,
mod frm-hd, rthy tex; CHK: lt gy - off wh crm,
sme mot gy brn, sft - mod frm, fri - brit, sb
pty - sb blk, sb wxy - sb rthy tex, v calc, no
bent, no fos frag

MRLST: medgy
mod frm-hd, rthy
sme mot gy brn,
pty - sb blk, sb
bent, no fos frag

MD: 6.819 '
TVD: 5.651.54 '
Inclination: 88.7 °
Azimuth: 177.5 °
VS: 957.9 '

MD: 6.913 '
TVD: 5.652.77 '
Inclination: 89.8 °
Azimuth: 177.8 °
VS: 1,051.77 '

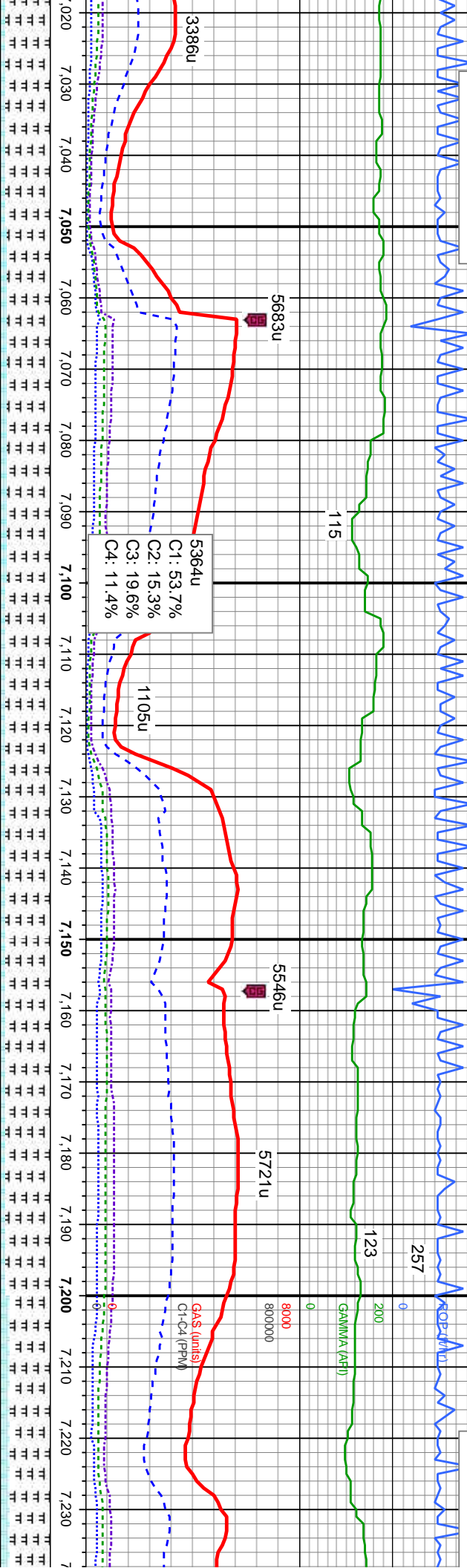
MD: 7.008 '
TVD: 5.654.59 '
Inclination: 88 °
Azimuth: 178.4 °
VS: 1,146.58 '



MUD WT: 10.30 VIS: 37

400

MUD WT: 10.20



brn-blk, blkly - sb pily, sb fis, mod frm-hd, rthy tex; CHK: lt gy - off wh crm, sft - mod frm, fri - brit, sb pily - sb blkly, sb wxy - sb rthy tex, v calc, no bent, no fos frag

MRLST: medgy brn-blk, blkly - sb pily, sb fis, mod frm-hd, rthy tex; CHK: lt gy - off wh crm, sme mot gy brn, sft - mod frm, fri - brit, sb pily - sb blkly, sb wxy - sb rthy tex, v calc, sme bent, no fos frag

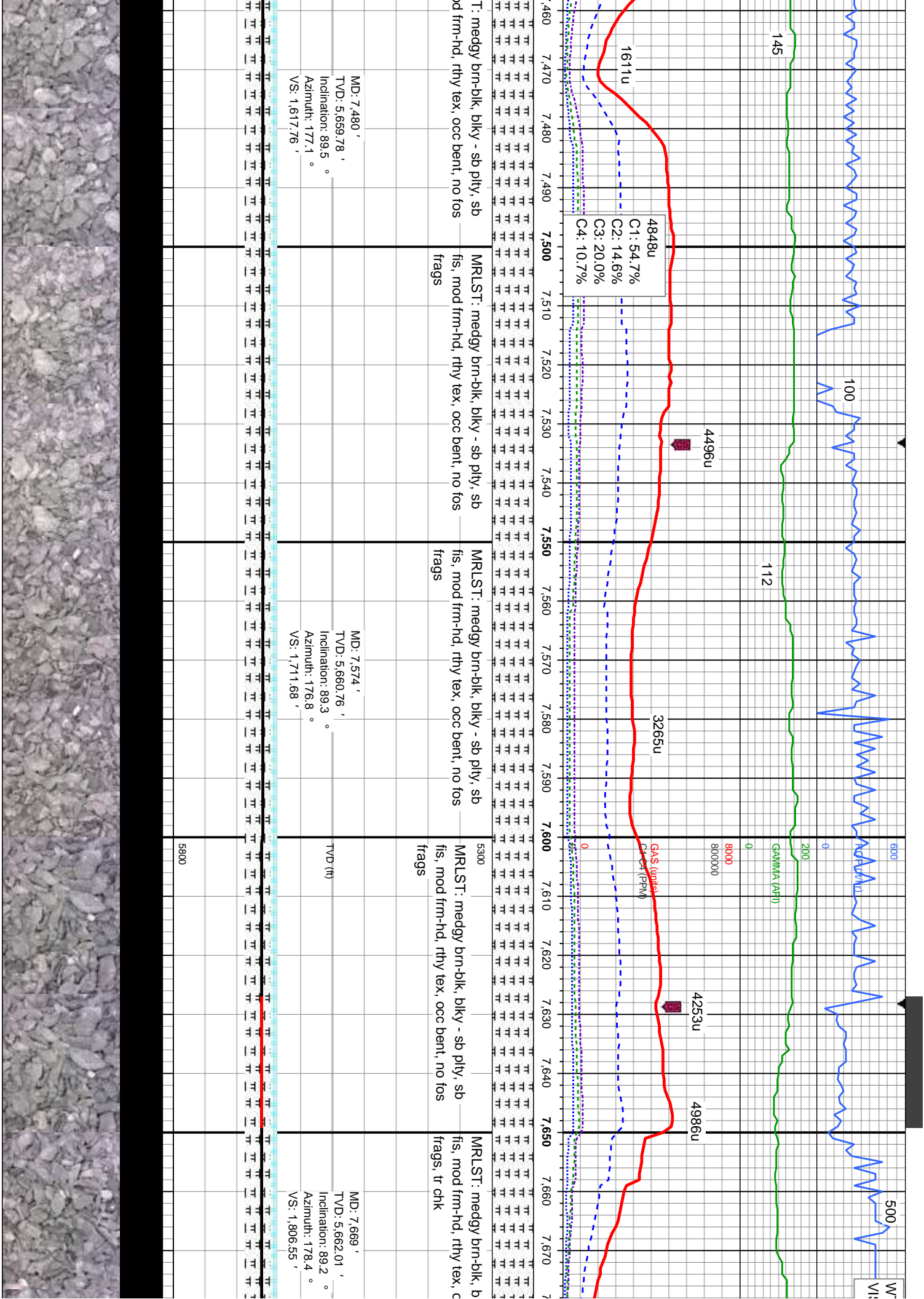
MRLST: medgy brn-blk, blkly - sb pily, sb fis, mod frm-hd, rthy tex; CHK: lt gy - off wh crm, sme mot gy brn, sft - mod frm, fri - brit, sb pily - sb blkly, sb wxy - sb rthy tex, v calc, sme bent, no fos frag

MRLST: medgy brn-blk, blkly - sb pily, sb fis, mod frm-hd, rthy tex; CHK: lt gy - off wh crm, sme mot gy brn, sft - mod frm, fri - brit, sb pily - sb blkly, sb wxy - sb rthy tex, v calc, sme bent, rr fos frag

MD: 7,102 '
TV/D: 5,656.89 '
Inclination: 89.2 °
Azimuth: 178.4 °
VS: 1,240.35 '

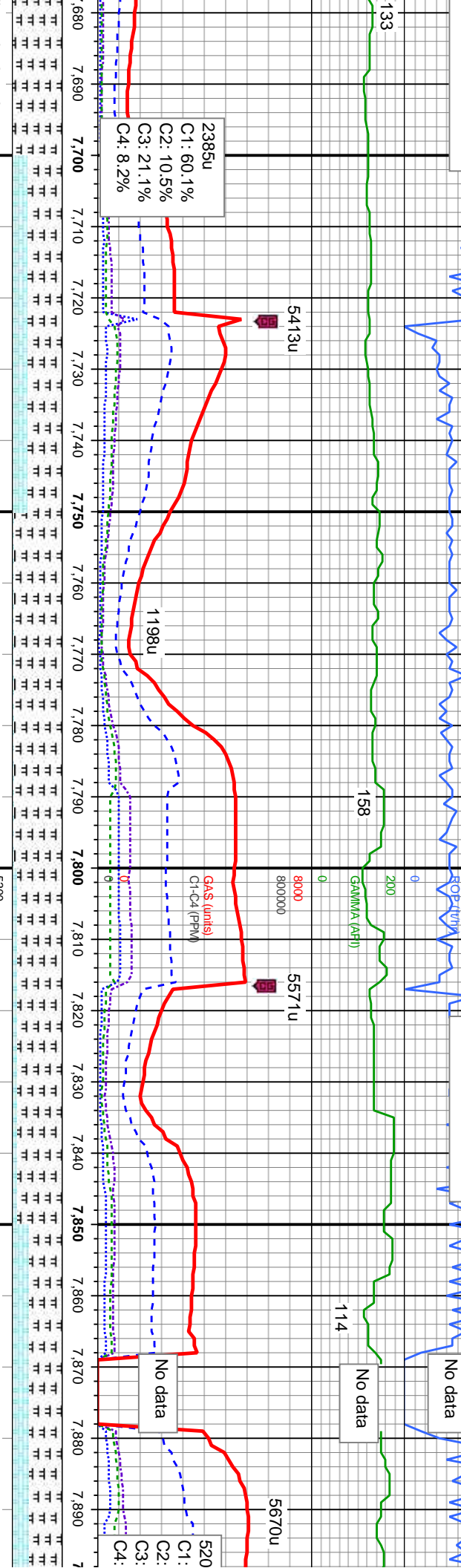
MD: 7,197 '
TV/D: 5,657.97 '
Inclination: 89.5 ° (ft)
Azimuth: 178.2 °
VS: 1,335.15 '

5800



IN 10.2/ OUT 10.05
S IN 41/ OUT 39

WT IN 10.1/ OUT 10.1
VIS IN 39/ OUT 42



ky - sb ply, sb
occ bent, tr fos

MRLST: medgy brn-blk, blkly - sb ply, sb
fis, mod frm-hd, rthy tex; CHK: lt gy - off wh
crm, sme mot gy brn, sft - mod frm, fri -
brit, sb ply - sb blkly, sb wxy - sb rthy tex, v
calc, tr bent, no fos frag

MRLST: medgy brn-blk, blkly - sb ply, sb
fis, mod frm-hd, rthy tex; CHK: lt gy - off wh
crm, sme mot gy brn, sft - mod frm, fri -
brit, sb ply - sb blkly, sb wxy - sb rthy tex, v
calc, occ bent, tr fos frag

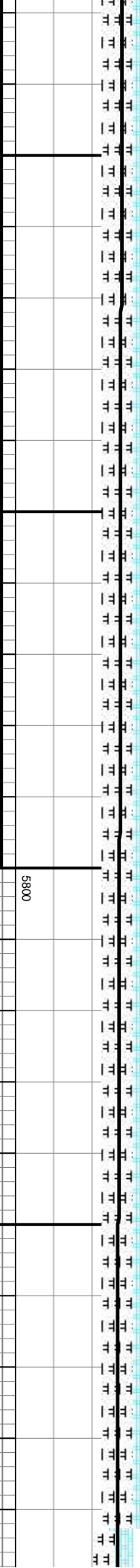
MRLST: medgy brn-blk, blkly - sb ply, sb
fis, mod frm-hd, rthy tex; CHK: lt gy - off wh
crm, sme mot gy brn, sft - mod frm, fri -
brit, sb ply - sb blkly, sb wxy - sb rthy tex, v
calc, tr bent, no fos frag

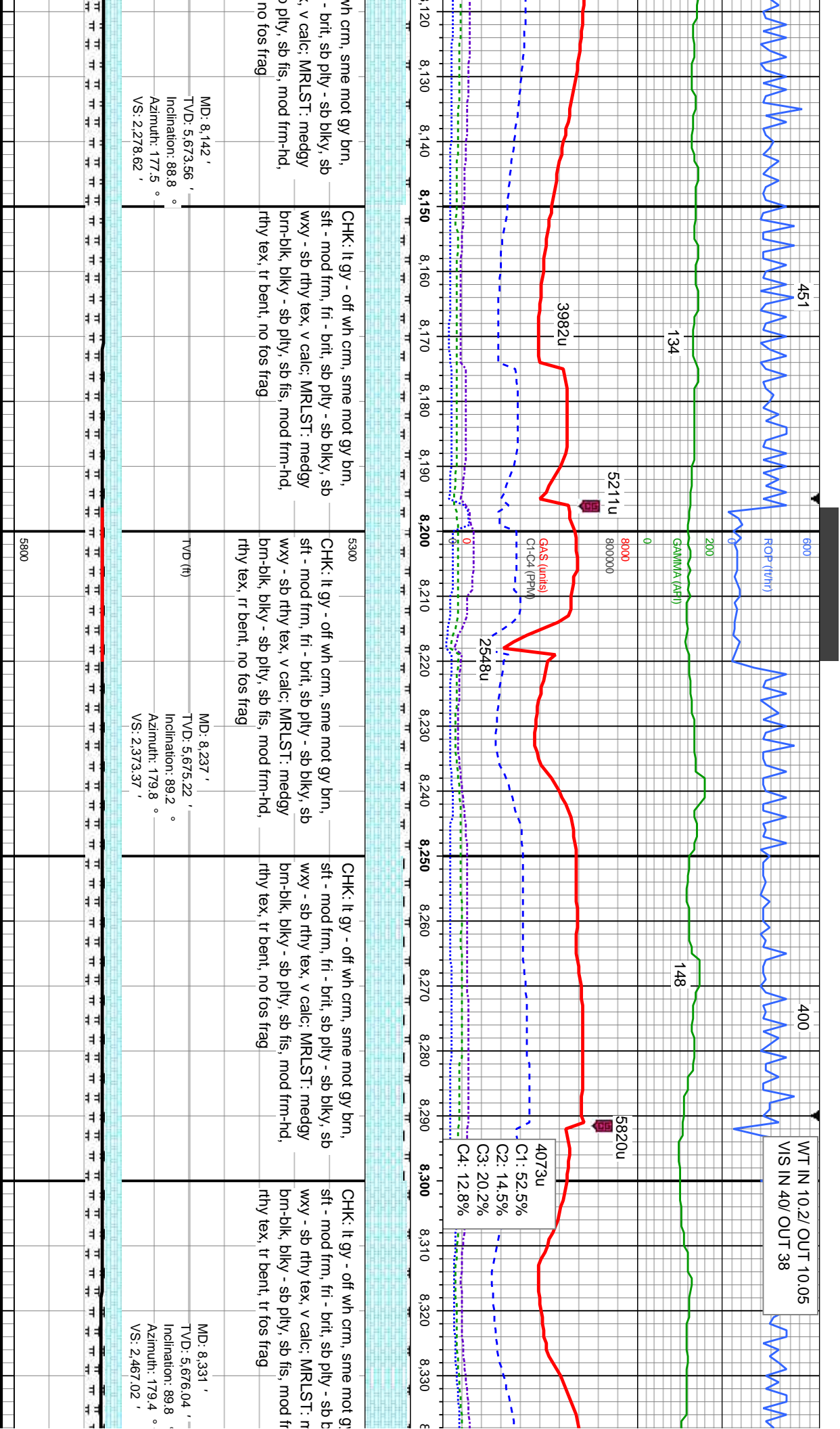
MRLST: medgy brn-blk, blkly - sb ply, sb
fis, mod frm-hd, rthy tex; CHK: lt gy - off wh
crm, sme mot gy brn, sft - mod frm, fri -
brit, sb ply - sb blkly, sb wxy - sb rthy tex, v
calc, tr bent, no fos frag

MD: 7,764 '
TVD: 5,663.75 '
Inclination: 88.7 °
Azimuth: 178.4 °
VS: 1,901.33 '

MD: 7,859 '
TVD: 5,666.98 '
Inclination: 87.4 °
Azimuth: 178 °
VS: 1,996.1 '

TVD (ft)





br cm, sme mot gy brn,
- brit, sb ply - sb blk, sb
, v calc: MRLST: medgy
ply, sb fis, mod frm-hd,
no fos frag

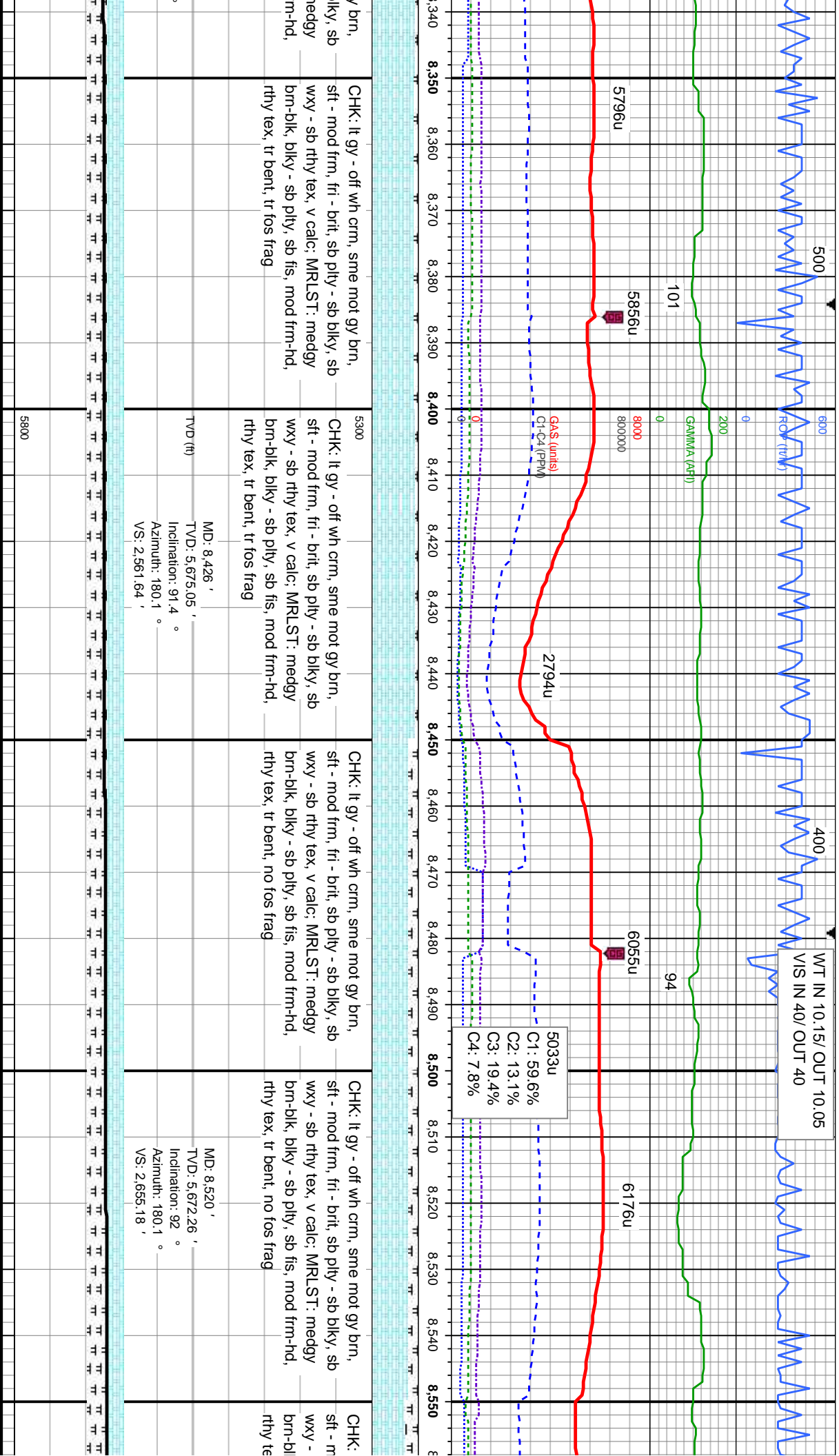
CHK: lt gy - off wh crm, sme mot gy brn,
sft - mod frm, fri - brit, sb ply - sb blk, sb
wxy - sb rthy tex, v calc: MRLST: medgy
brn-blk, blk - sb ply, sb fis, mod frm-hd,
rthy tex, tr bent, no fos frag

5300
CHK: lt gy - off wh crm, sme mot gy brn,
sft - mod frm, fri - brit, sb ply - sb blk, sb
wxy - sb rthy tex, v calc: MRLST: medgy
brn-blk, blk - sb ply, sb fis, mod frm-hd,
rthy tex, tr bent, no fos frag

CHK: lt gy - off wh crm, sme mot gy brn,
sft - mod frm, fri - brit, sb ply - sb blk, sb
wxy - sb rthy tex, v calc: MRLST: medgy
brn-blk, blk - sb ply, sb fis, mod frm-hd,
rthy tex, tr bent, no fos frag

CHK: lt gy - off wh crm, sme mot gy brn,
sft - mod frm, fri - brit, sb ply - sb blk, sb
wxy - sb rthy tex, v calc: MRLST: medgy
brn-blk, blk - sb ply, sb fis, mod frm-hd,
rthy tex, tr bent, no fos frag





v brn,
bly, sb
medgy
m-hd,

CHK: lt gy - off wh crm, sme mot gy brn,
sft - mod frm, fri - brit, sb ply - sb bly, sb
wxy - sb rthy tex, v calc: MRLST: medgy
brn-blk, bly - sb ply, sb fis, mod frm-hd,
rthy tex, tr bent, tr fos frag

CHK: lt gy - off wh crm, sme mot gy brn,
sft - mod frm, fri - brit, sb ply - sb bly, sb
wxy - sb rthy tex, v calc: MRLST: medgy
brn-blk, bly - sb ply, sb fis, mod frm-hd,
rthy tex, tr bent, tr fos frag

CHK: lt gy - off wh crm, sme mot gy brn,
sft - mod frm, fri - brit, sb ply - sb bly, sb
wxy - sb rthy tex, v calc: MRLST: medgy
brn-blk, bly - sb ply, sb fis, mod frm-hd,
rthy tex, tr bent, no fos frag

CHK: lt gy - off wh crm, sme mot gy brn,
sft - mod frm, fri - brit, sb ply - sb bly, sb
wxy - sb rthy tex, v calc: MRLST: medgy
brn-blk, bly - sb ply, sb fis, mod frm-hd,
rthy tex, tr bent, no fos frag

CHK:
sft - m
wxy -
brn-bl
rthy te



1/3/2014
1/4/2014

MIN DEPTH

80

WT IN 10.20/ OUT 10.0
VIS IN 40/ OUT 40

359

WT IN 11
VIS IN 3

152

200

96

184

GAMMA (API)

4866u

5621u

5967u

6064u

800000

3531u

C1: 45.4%
C2: 15.0%
C3: 26.0%
C4: 13.6%

GA\$ (units)
C1-C4 (PPM)

6016u

8560

8570

8580

8590

8600

8610

8620

8630

8640

8650

8660

8670

8680

8690

8700

8710

8720

8730

8740

8750

8760

8770

It gy - off wh crm, sme mot gy brn,
sft - mod frm, fri - brit, sb ply - sb blk, sb
wxy - sb rthy tex, v calc; MRLST: medgy
brn-blk, blk - sb ply, sb fis, mod frm-hd,
rthy tex, tr bent, no fos frag

CHK: It gy - off wh crm, sme mot gy brn,
sft - mod frm, fri - brit, sb ply - sb blk, sb
wxy - sb rthy tex, v calc; MRLST: medgy
brn-blk, blk - sb ply, sb fis, mod frm-hd,
rthy tex, tr bent, no fos frag

CHK: It gy - off wh crm, sme mot gy brn,
sft - mod frm, fri - brit, sb ply - sb blk, sb
wxy - sb rthy tex, v calc; MRLST: medgy
brn-blk, blk - sb ply, sb fis, mod frm-hd,
rthy tex, tr bent, no fos frag

CHK: It gy - off wh crm, sme mot gy brn,
sft - mod frm, fri - brit, sb ply - sb blk, sb
wxy - sb rthy tex, v calc; MRLST: medgy
brn-blk, blk - sb ply, sb fis, mod frm-hd,
rthy tex, tr bent, no fos frag

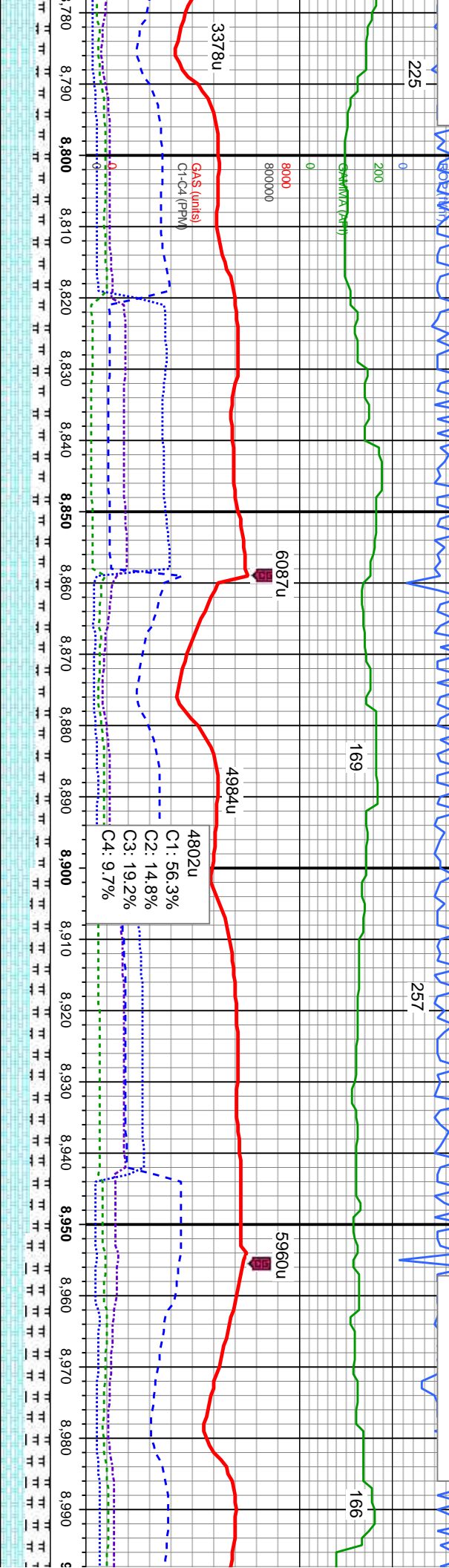
CHK: It gy - off wh crm, sme mot gy brn,
sft - mod frm, fri - brit, sb ply - sb blk, sb
wxy - sb rthy tex, v calc; MRLST: medgy
brn-blk, blk - sb ply, sb fis, mod frm-hd,
rthy tex, tr bent, no fos frag

MD: 8.615 '
TVD: 5,669.85 '
Inclination: 90.9 °
Azimuth: 181.4 °
VS: 2,749.61 '

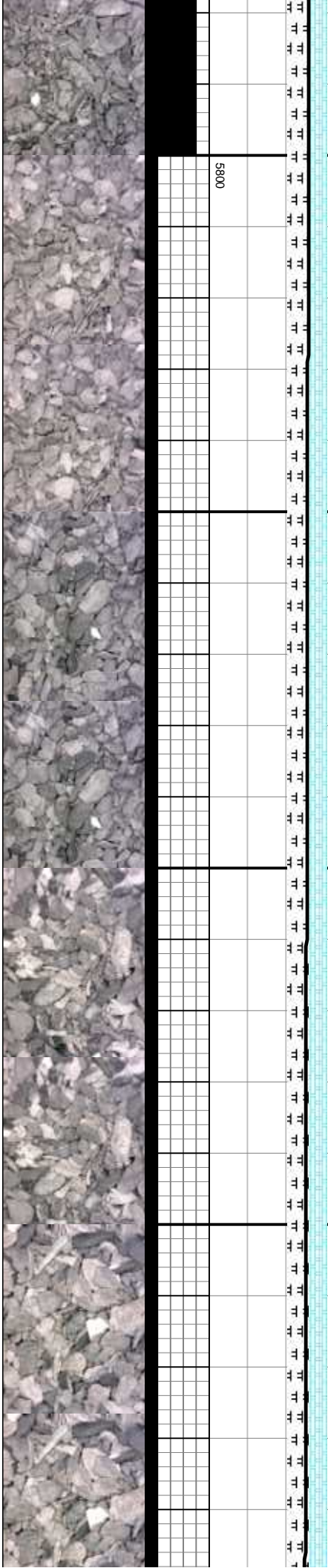
MD: 8.710 '
TVD: 5,669.85 '
Inclination: 89.1 °
Azimuth: 180.3 °
VS: 2,844.06 '

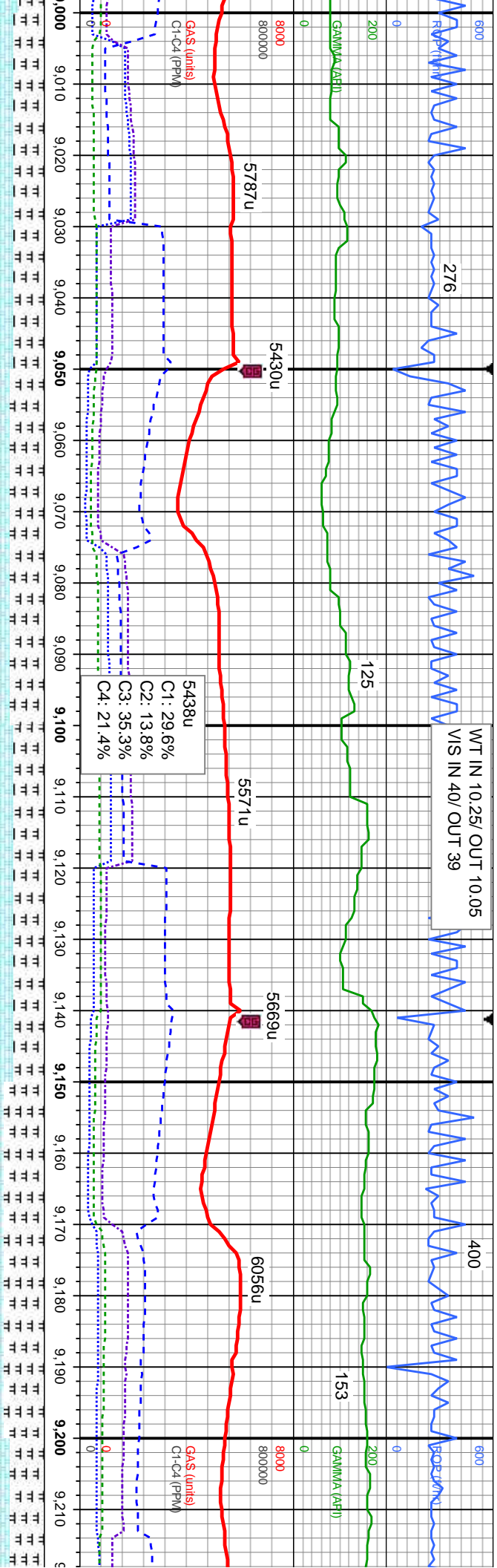
5800





me mot gy brn, pty - sb blk, sb MRLST: medgy fis, mod frm-hd, ag	5CHK: It gy - off wh crm, sme mot gy brn, sft - mod frm, fri - brit, sb pty - sb blk, sb wxy - sb rthy tex, v calc: MRLST: medgy brn-blk, blk - sb pty, sb fis, mod frm-hd, rthy tex, no fos frag	CHK: It gy - off wh crm, sme mot gy brn, sft - mod frm, fri - brit, sb pty - sb blk, sb wxy - sb rthy tex, v calc: MRLST: medgy brn-blk, blk - sb pty, sb fis, mod frm-hd, rthy tex, tr bent, no fos frag	CHK: It gy - off wh crm, sme mot gy brn, sft - mod frm, fri - brit, sb pty - sb blk, sb wxy - sb rthy tex, v calc: MRLST: medgy brn-blk, blk - sb pty, sb fis, mod frm-hd, rthy tex, rr bent, no fos frag	CHK: It gy - off wh crm, sme mot gy brn, sft - mod frm, fri - brit, sb pty - sb blk, sb wxy - sb rthy tex, v calc: MRLST: medgy brn-blk, blk - sb pty, sb fis, mod frm-hd, rthy tex, rr bent, no fos frag
MD: 8.804 ' TVD: 5.671.66 ' Inclination: 88.7 ° Azimuth: 180.1 ° VS: 2.937.6 '		MD: 8.899 ' TVD: 5.673.81 ' Inclination: 88.7 ° Azimuth: 179.6 ° VS: 3.032.19 '		MD: 8.993 ' TVD: 5.675.86 ' Inclination: 88.8 ° Azimuth: 178.5 ° VS: 3.125.9 '





CHK: lt gy - off wh crm, sme mot gy brn, sft -
mod frm, fri - brit, sb pty - sb blk, sb wxy -
sb rthy tex, v calc; MRLST: medgy brn-blk,
biky - sb pty, sb fis, mod frm-hd, rthy tex, rr
bent, no fos frag

CHK: lt gy - off wh crm, sme mot gy brn, sft
- mod frm, fri - brit, sb pty - sb blk, sb wxy
- sb rthy tex, v calc; MRLST: medgy brn-blk,
biky - sb pty, sb fis, mod frm-hd, rthy tex, rr
bent, rr fos frag

MRLST: medgy brn-blk, biky - sb pty, sb fis,
mod frm-hd, rthy tex; CHK: lt gy - off wh crm,
sme mot gy brn, sft - mod frm, fri - brit, sb
pty - sb blk, sb wxy - sb rthy tex, v calc, no
bent, no fos frag

MRLST: medgy brn-blk, biky - sb pty, sb fis,
mod frm-hd, rthy tex; CHK: lt gy - off wh crm,
sme mot gy brn, sft - mod frm, fri - brit, sb
pty - sb blk, sb wxy - sb rthy tex, v calc, no
bent, no fos frag

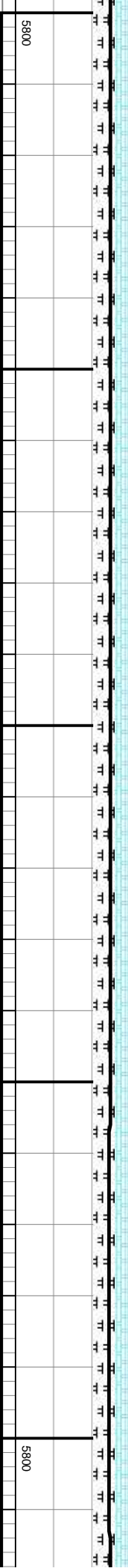
!MRLST: medgy
fis, mod frm-hd,
crm, sme mot gy
sb pty - sb blk
no bent, no fos

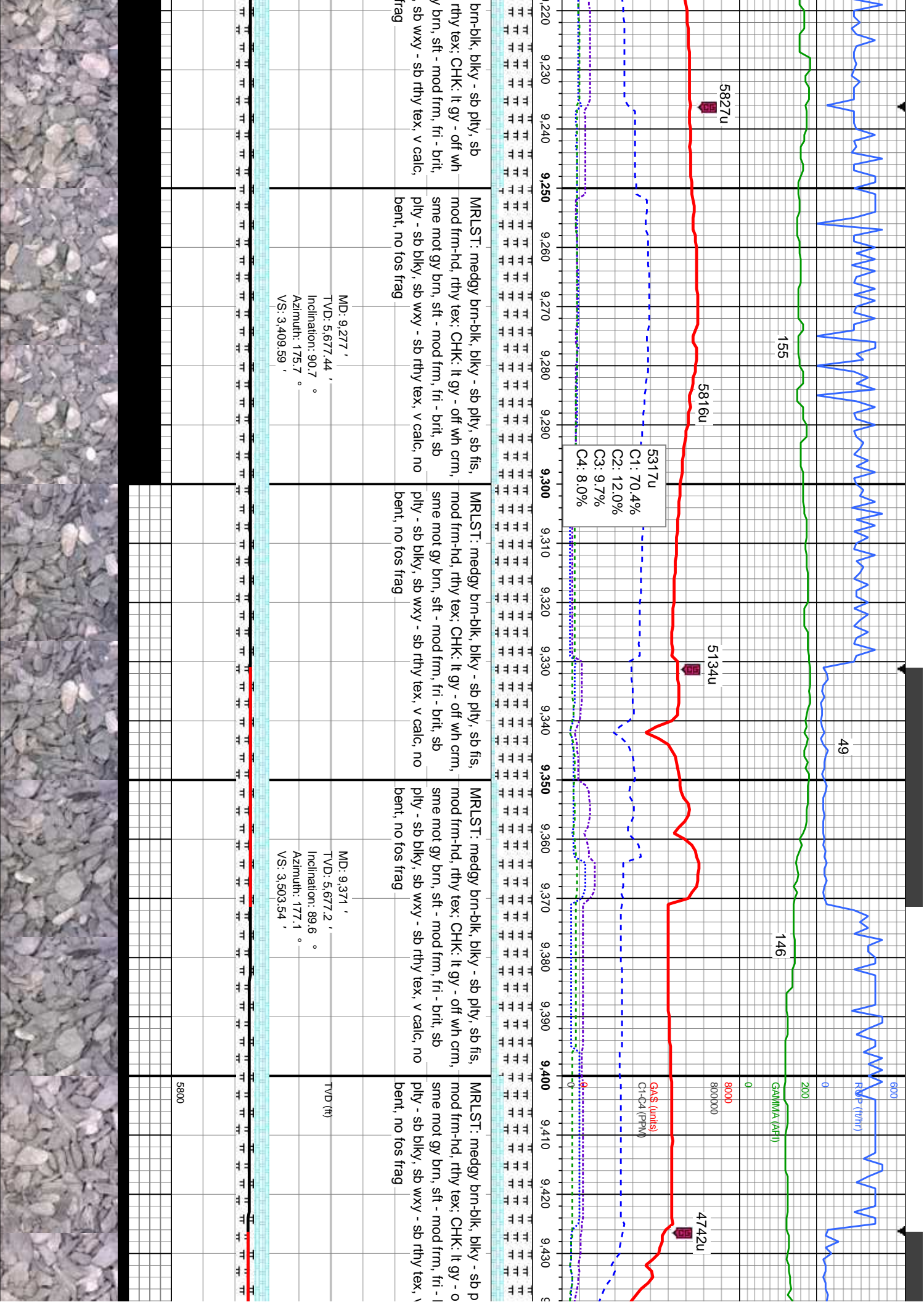
TVD (ft)

MD: 9.088 '
TVD: 5.677.36 '
Inclination: 89.4 °
Azimuth: 177.7 °
VS: 3.220.71 '

MD: 9.183 '
TVD: 5.677.94 '
Inclination: 89.9 °
Azimuth: 176.6 °
VS: 3.315.62 '

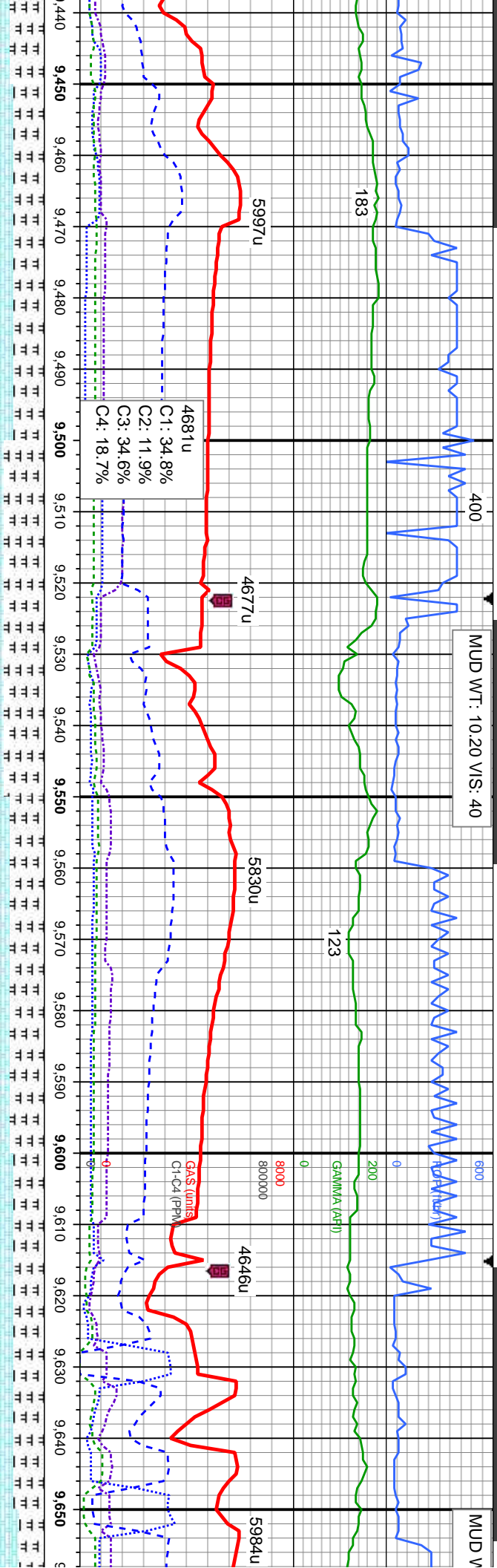
TVD (ft)





MUD WT: 10.20 V/S: 40

MUD V



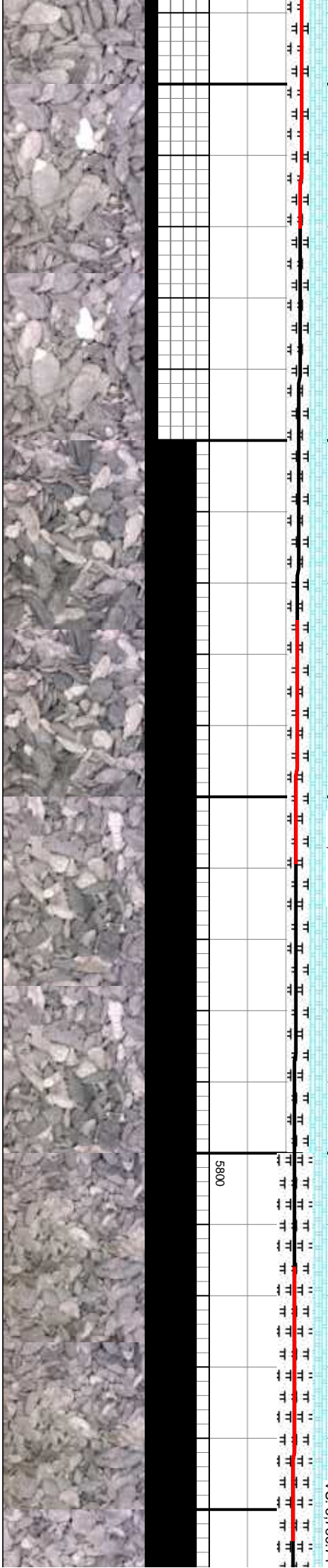
ty, sb fis, ff wh crm, pit, sb calc, r	MRLST: medgy brn-blk, blkly - sb pty, sb fis, mod frm-hd, rthy tex; CHK: lt gy - off wh crm, sme mot gy brn, sft - mod frm, fri - brit, sb pty - sb blkly, sb wxy - sb rthy tex, v calc, r bent, no fos frag	MRLST: medgy brn-blk, blkly - sb pty, sb fis, mod frm-hd, rthy tex; CHK: lt gy - off wh crm, sme mot gy brn, sft - mod frm, fri - brit, sb pty - sb blkly, sb wxy - sb rthy tex, v calc, sme bent, no fos frag	MRLST: medgy brn-blk, blkly - sb pty, sb fis, mod frm-hd, rthy tex; CHK: lt gy - off wh crm, sme mot gy brn, sft - mod frm, fri - brit, sb pty - sb blkly, sb wxy - sb rthy tex, v calc, sme bent, no fos frag	MRLST: medgy brn-blk, blkly - sb pty, sb fis, mod frm-hd, rthy tex; CHK: lt gy - off wh crm, sme mot gy brn, sft - mod frm, fri - brit, sb pty - sb blkly, sb wxy - sb rthy tex, v calc, r bent, no fos frag	MRLS
---	--	--	--	--	------

MD: 9.466 '
TVD: 5.681.59 '
Inclination: 85.1 °
Azimuth: 177.8 °
VS: 3.598.31 '

MD: 9.561 '
TVD: 5.688.05 '
Inclination: 87.1 °
Azimuth: 178.2 °
VS: 3.692.92 '

TVD (ft)

MD: 9.655 '
TVD: 5.691.1 '
Inclination: 89
Azimuth: 177
VS: 3.786.74

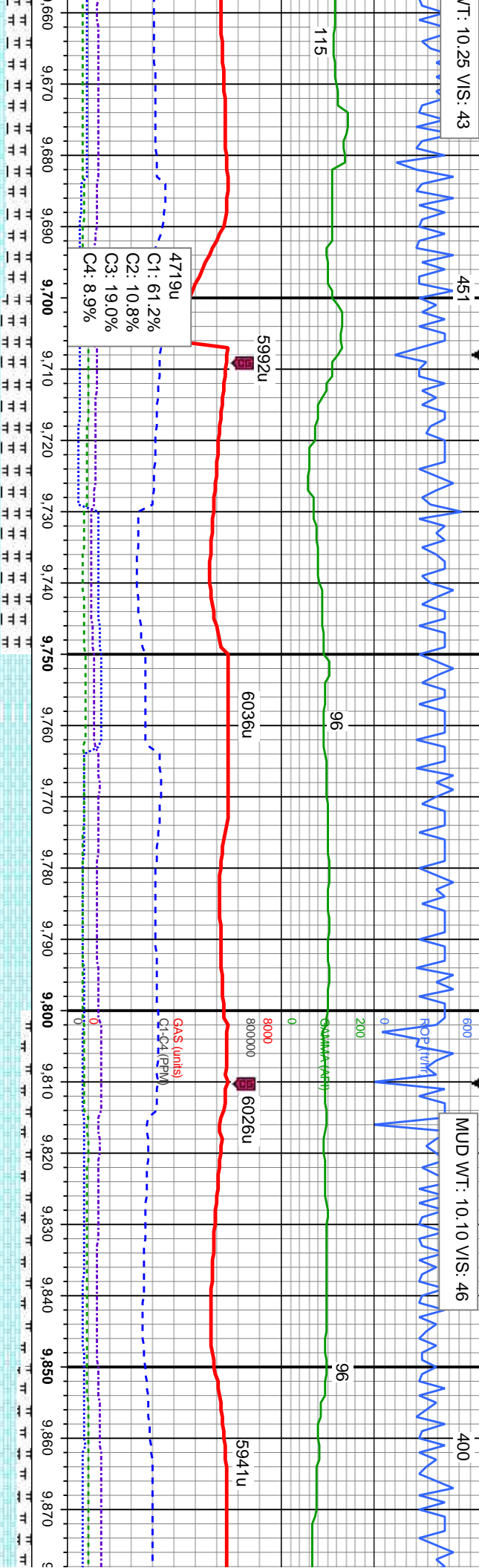


LT: 10.25 VIS: 43

451

MUD WT: 10.10 VIS: 46

400



medgy brn-blk, blkly - sb pty, sb
mod frm-hd, rthy tex; CHK: lt gy - off wh
sme mot gy brn, sft - mod frm, fri - brit,
ply - sb blkly, sb wxy - sb rthy tex, v calc,
bent, no fos frag

MRLST: medgy brn-blk, blkly - sb pty, sb fis,
mod frm-hd, rthy tex; CHK: lt gy - off wh crm,
sme mot gy brn, sft - mod frm, fri - brit, sb
ply - sb blkly, sb wxy - sb rthy tex, v calc, no
bent, no fos frag

CHK: lt gy - off wh crm, sme mot gy brn, sft
- mod frm, fri - brit, sb pty - sb blkly, sb wxy -
sb rthy tex, v calc, no bent, no fos frag

CHK: lt gy - off wh crm, sme mot gy brn, sft
- mod frm, fri - brit, sb pty - sb blkly, sb wxy -
sb rthy tex, v calc; MRLST: medgy brn-blk,
blkly - sb pty, sb fis, mod frm-hd, rthy tex, rr
bent, no fos frag

CHK: lt gy - off wh crm, sft
mod frm, fri - brit, sb pty -
sb rthy tex, v calc; MRLST:
blkly - sb pty, sb fis, mod
bent, no fos frag

MD: 9,750 '
TVD: 5,692.33 '
Inclination: 89.5 °
Azimuth: 177.3 °
VS: 3,881.65 '

MD: 9,844 '
TVD: 5,692.57 '
Inclination: 90.2 °
Azimuth: 177.1 °
VS: 3,975.55 '

