

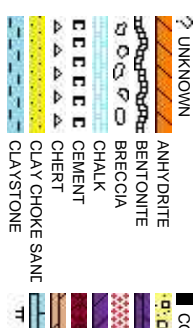


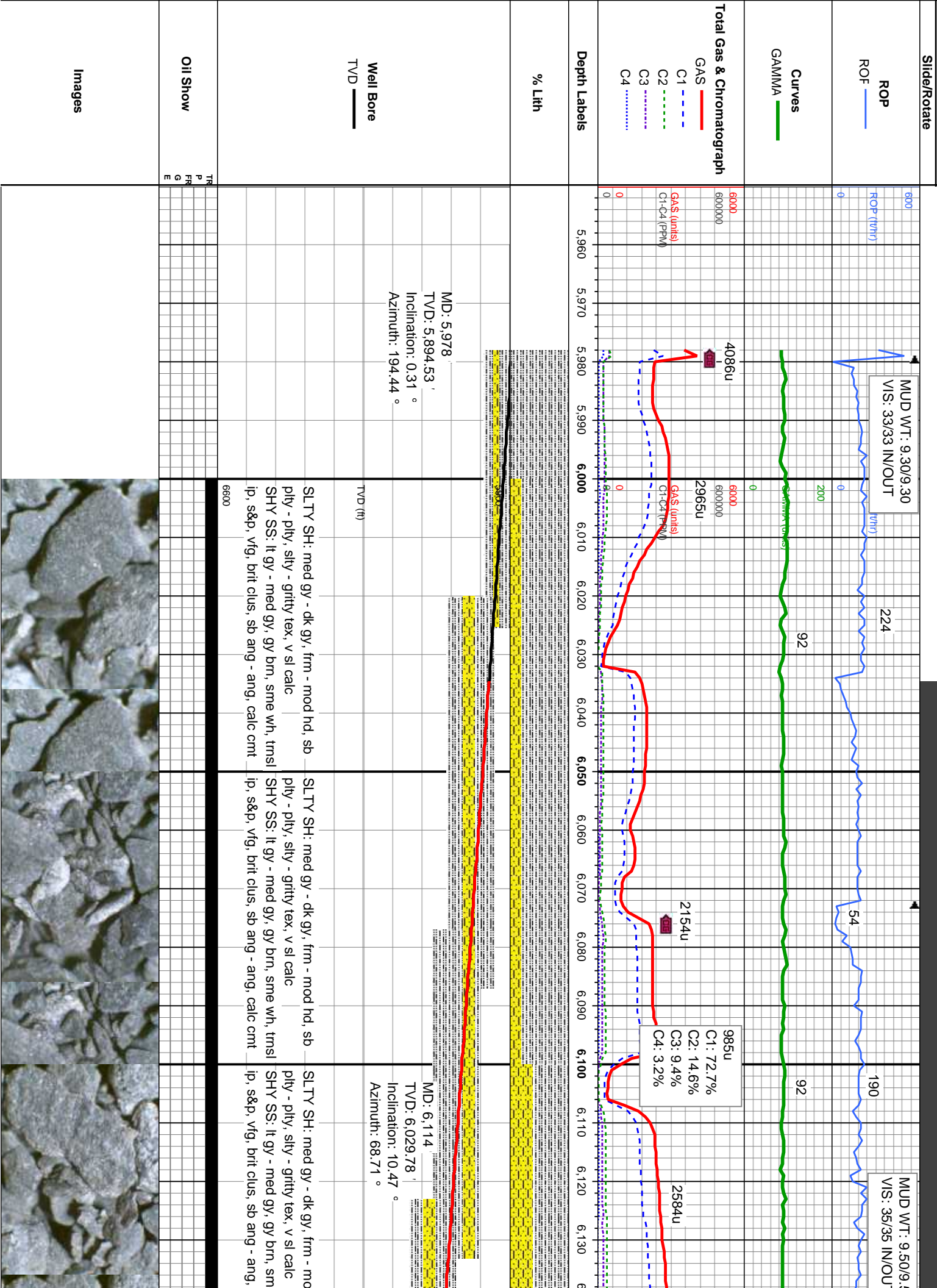
Scale: 5" / 100'
Measured Depth Log

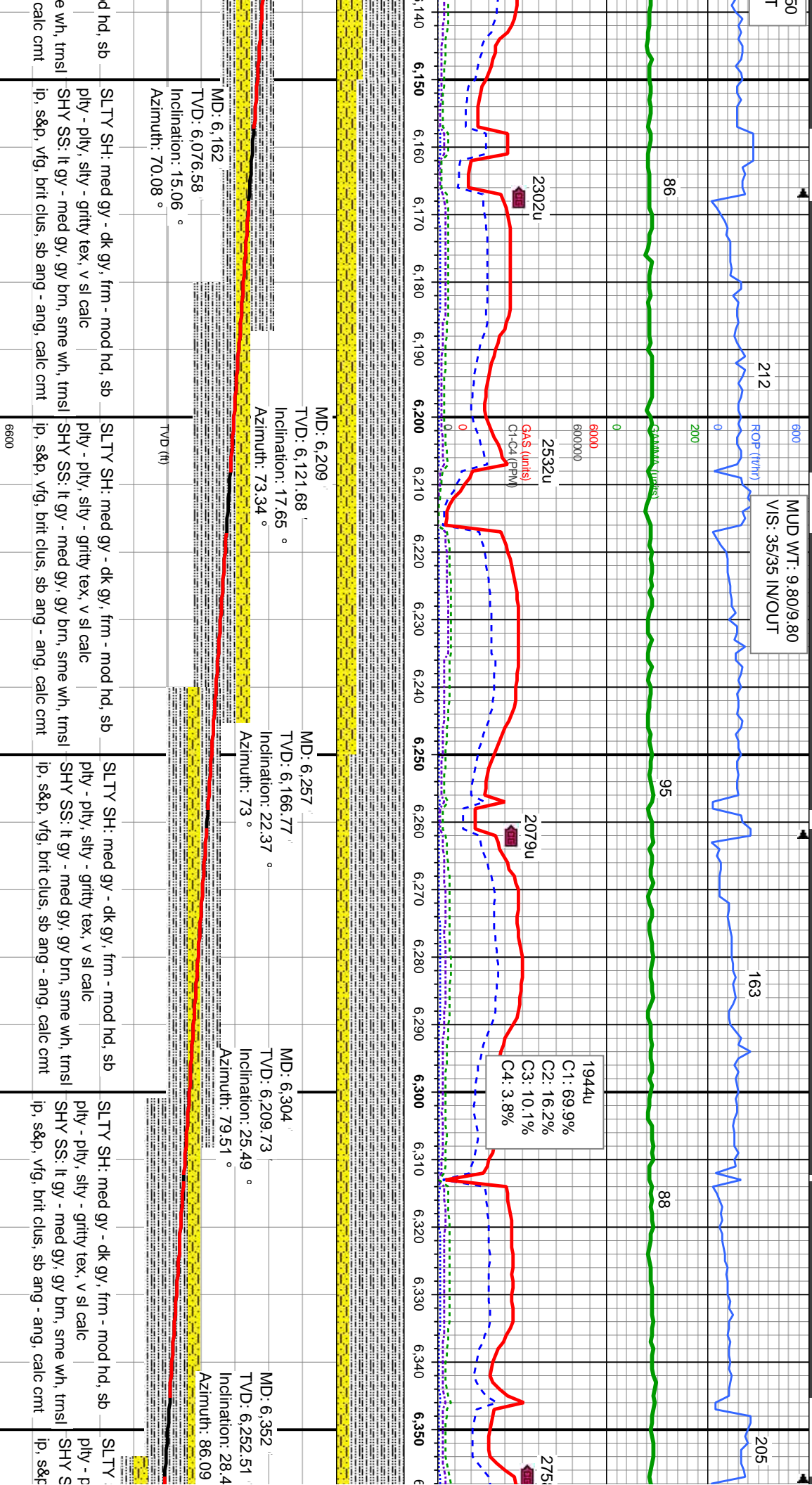
| | | | |
|-------------------------|---|--------------------|------------|
| Well Name | Trebtor B11-66-1HN | | |
| Location | SEC 11 T5N R64W | | |
| State | COLORADO | County | WELD |
| Country | USA | | |
| API Number | 05-123-36304 | Rig Number | H&P 315 |
| Region | DJ BASIN | AFE # | 136855 |
| Spud Date | 6/27/2013 | Field | WATTENBERG |
| | | Drilling Completed | 7/3/2013 |
| Surface Coordinates | LAT/LON 40.415290/-104.524240 | | |
| | SEC 11 T5N R64W 2,112' FNL; 783' FWL | | |
| Bottom Hole Coordinates | SEC 11 T5N R64W 535' FEL; 2,310' FNL | | |
| Ground Elevation | 4601' | K.B. Elevation | 4625' |
| Logged Interval | 2000' | To | 11040' |
| | | Total Depth | 11040' |
| Formation | NIOBRARA B CHALK | | |
| Type of Drilling Fluid | LSND | | |

Company Noble Energy Inc
Address 1625 Broadway
Denver, CO 80202

Name CHRIS SCAHE
Company COLUMBINE LOGGING
Address 2385 S Lipan St
Denver, CO 80202





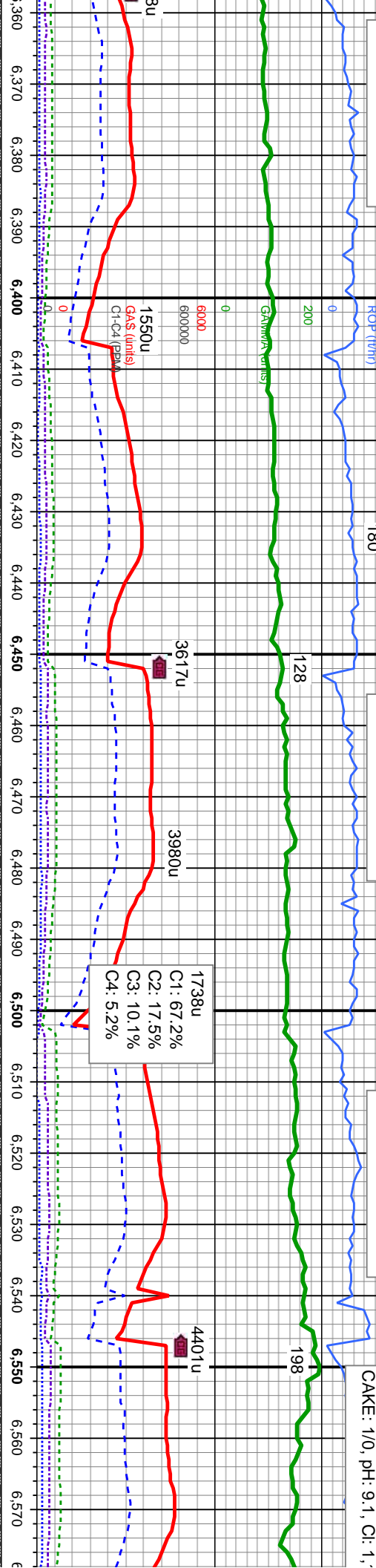


MUD WT: 10.10/10.10
VIS: 35/35 IN/OUT

MUD WT: 10.20/10.20
VIS: 35/35 IN/OUT

MUD WT: 10.55/10.55
VIS: 35/35 IN/OUT

06/29/2013, Mud Wt: 10.4
PVIS: 11, YP: 9, GELS: 4/
CAKE: 1/0, pH: 9.1, CI: 1,

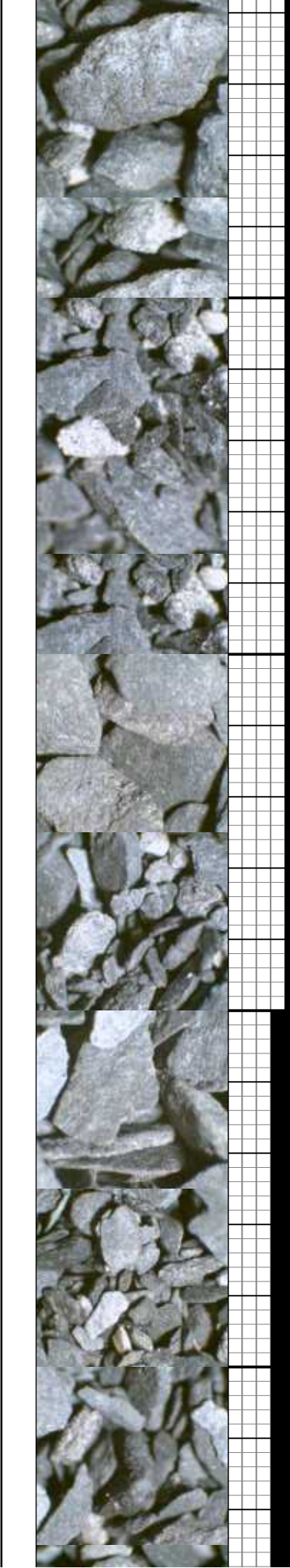


<<TVD SCALE CHANGE>>

25 SAMPLE INTERVAL

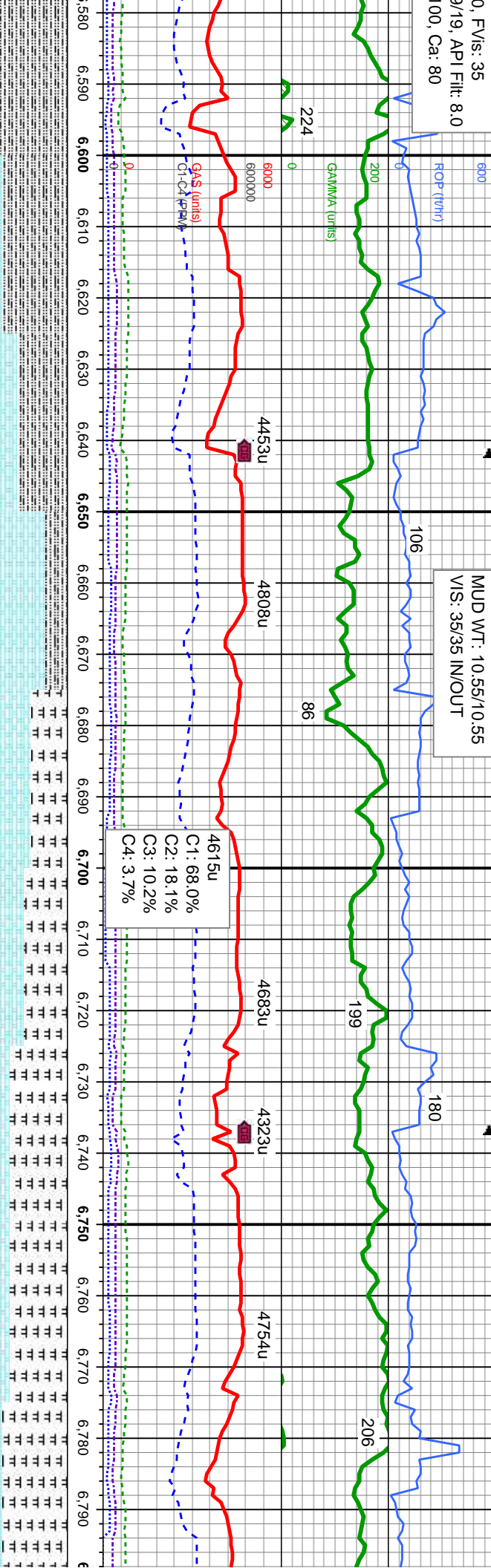
Sharon
@ 6.58

| | | | |
|--|--|--|--|
| MD: 6,399 TVD: 6,292.94 Inclination: 32.8 ° Azimuth: 89.75 ° TVD (ft) | MD: 6,447 TVD: 6,332.02 Inclination: 38.15 ° Azimuth: 89.32 ° TVD (ft) | MD: 6,494 TVD: 6,367.58 Inclination: 43.44 ° Azimuth: 88.39 ° TVD (ft) | MD: 6,542 TVD: 6,401.2 Inclination: 47.64 ° Azimuth: 92.41 ° TVD (ft) |
| SLTY SH: med gy - dk gy, frm - mod hd, sb ply - pily, silty - gritty tex, v sl calc SHY SS: lt gy - med gy, gy brn, sme wh, trmsl ip, s&p, vfg, brit clus, sb ang - ang, calc cmt | SLTY SH: med gy - dk gy, frm - mod hd, sb ply - pily, silty - gritty tex, v sl calc SHY SS: lt gy - med gy, gy brn, sme wh, trmsl ip, s&p, vfg, brit clus, sb ang - ang, calc cmt | SLTY SH: med gy - dk gy, frm - mod hd, sb ply - pily, silty - gritty tex, v sl calc SHY SS: lt gy - med gy, gy brn, sme wh, trmsl ip, s&p, vfg, brit clus, sb ang - ang, calc cmt | SLTY SH: med gy - dk gy, frm - mod hd, sb ply - pily, silty - gritty tex, v sl calc SHY SS: lt gy - med gy, gy brn, sme wh, trmsl ip, s&p, vfg, brit clus, sb ang - ang, calc cmt |



0. FVIs: 35
9/19, API Filtr: 8.0
100, Ca: 80

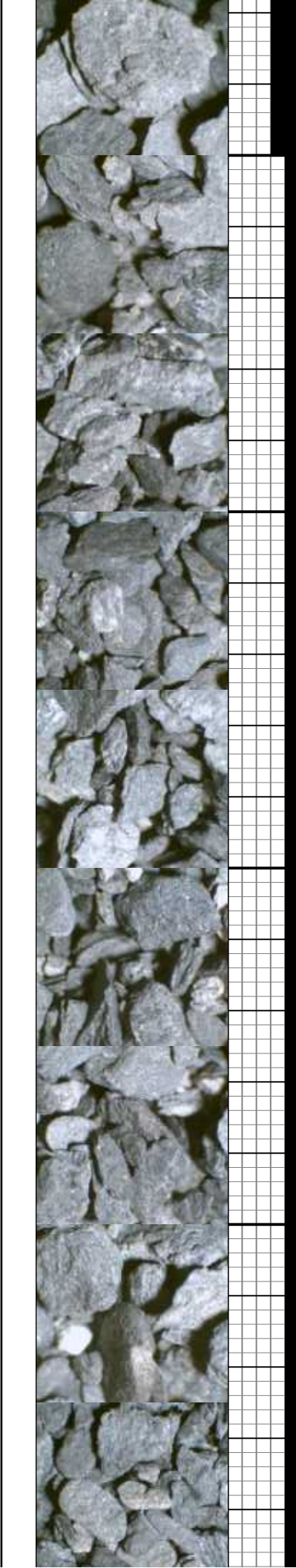
MUD WT: 10.55/10.55
VIS: 35/35 IN/OUT

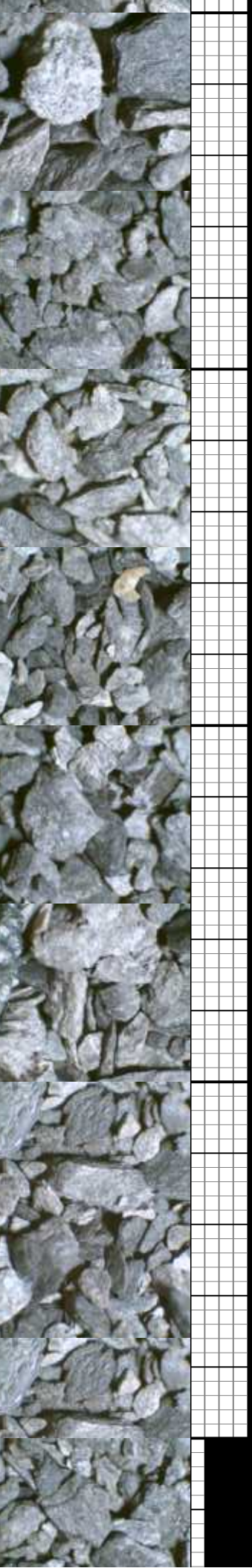
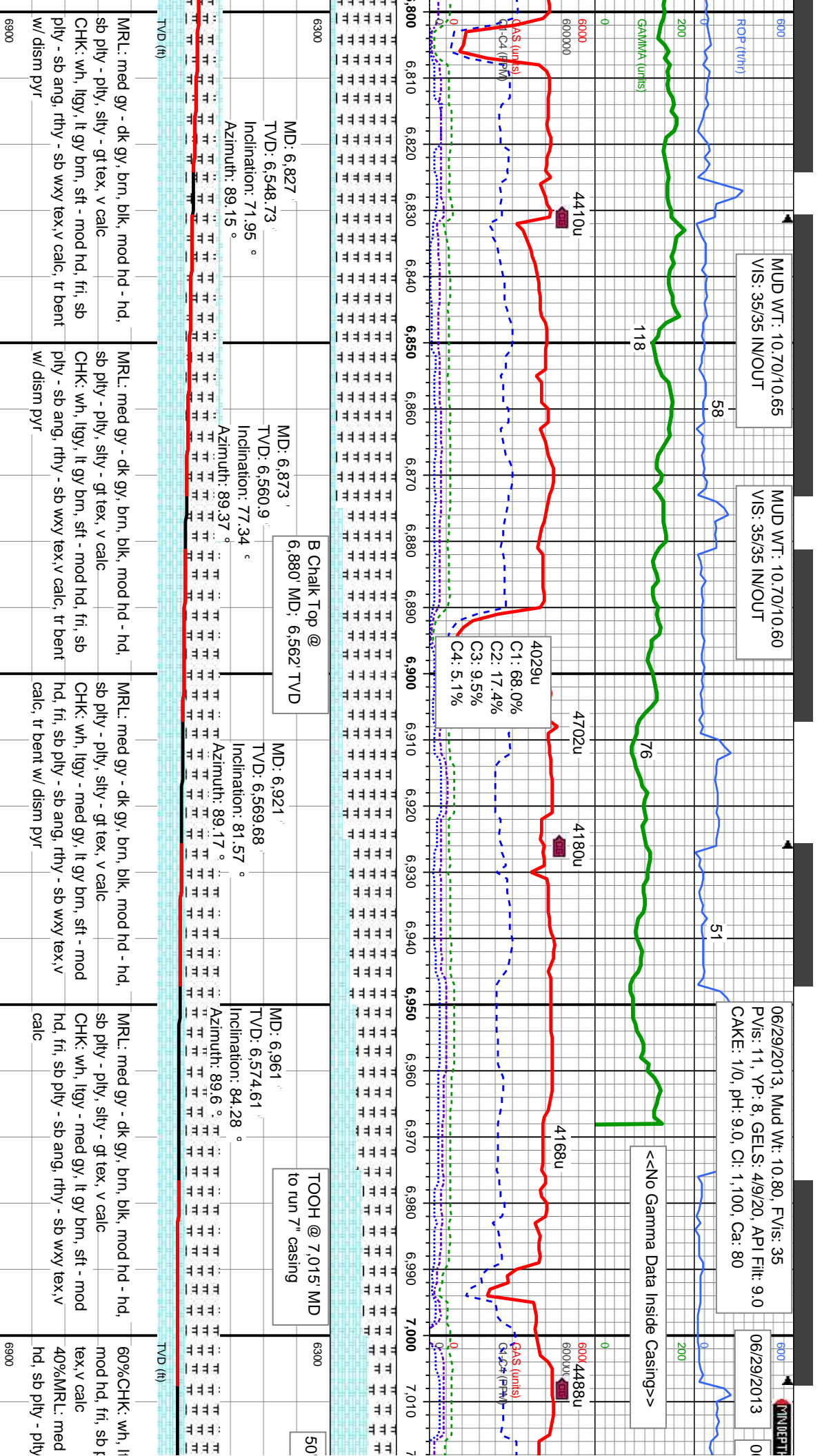


Spring Marker
5 MD: 6,429' TVD

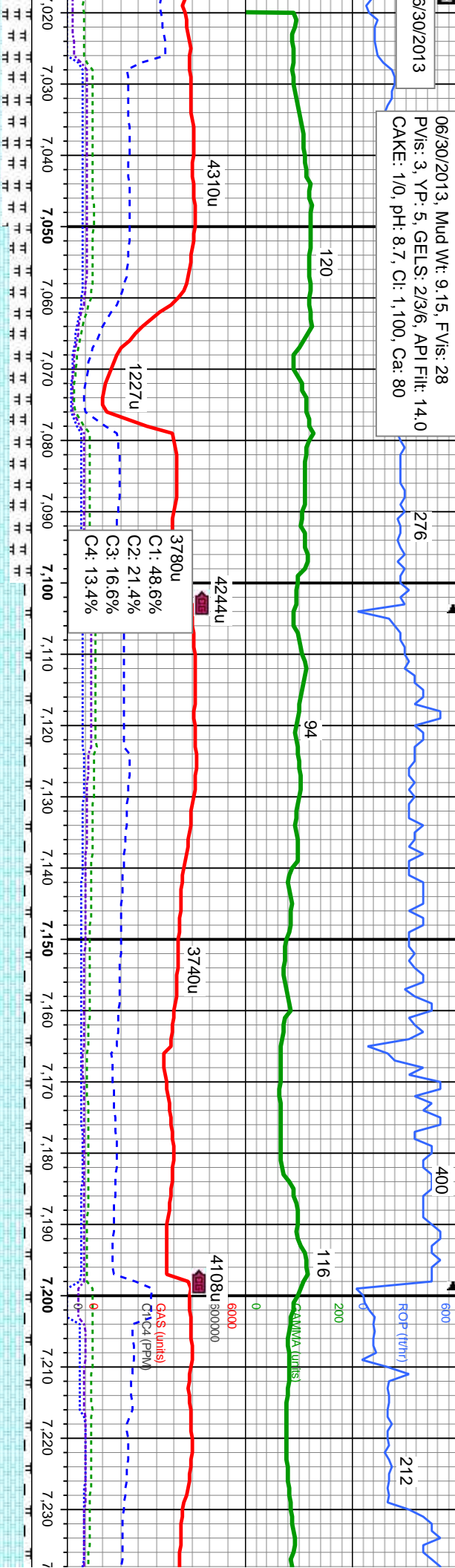
SCALE CHANGE>

| | | | | | |
|--|--|--|--|---|---|
| 6300 | Niobrara Top @ 6,616 MD: 6,448' TVD | A Chalk Top @ 6,645 MD: 6,465' TVD | A Marl Top @ 6,684 MD: 6,487' TVD | MD: 6,732' TVD: 6,511.26' Inclination: 62 ° Azimuth: 90.64 ° | MD: 6,779' TVD: 6,531.69' Inclination: 66.46 ° Azimuth: 89.61 ° |
| MD: 6,589' TVD: 6,431.6' Inclination: 51.78 ° Azimuth: 95.74 ° | MD: 6,637' TVD: 6,460.51' Inclination: 54.13 ° Azimuth: 93.87 ° | MD: 6,684' TVD: 6,487' Inclination: 57.26 ° Azimuth: 90.6 ° | MD: 6,732' TVD: 6,511.26' Inclination: 62 ° Azimuth: 90.64 ° | MD: 6,779' TVD: 6,531.69' Inclination: 66.46 ° Azimuth: 89.61 ° | MD: 6,779' TVD: 6,531.69' Inclination: 66.46 ° Azimuth: 89.61 ° |
| SLTY SH: med gy - dk gy, blk, frm - mod hd, sb pty - pty, slty - gt tex, incrg calc CHK: ltgy med gy, gy brn, v sft, v fri, sb pty, rthy tex, v calc, scat bent w/ dism pyr and yel orm mntl flr | SLTY SH: med gy - dk gy, blk, frm - mod hd, sb pty - pty, slty - gt tex, incrg calc CHK: ltgy med gy, gy brn, v sft, v fri, sb pty, rthy tex, v calc, scat bent w/ dism pyr and yel orm mntl flr | CHK: wh, ltgy, lt gy brn, sft, fri, sb pty, rthy - sb wxy tex, v calc SLTY SH: dk gy, blk, mod hd, pty, gt tex, sl calc MRL: med gy - dk gy, dk gy brn, sft - mod hd, sb pty - pty, slty - gt tex, v calc, scat bent w/ dism pyr | MRL: med gy - dk gy, brn, blk, mod hd, sb pty - pty, slty - gt tex, v calc CHK: wh, ltgy, lt gy brn, sft, fri, sb pty, rthy - sb wxy tex, v calc, tr bent w/ dism pyr | MRL: med gy - dk gy, brn, blk, mod hd, sb pty - pty, slty - gt tex, v calc CHK: wh, ltgy, lt gy brn, sft, fri, sb pty - sb ang, rthy - sb wxy tex, v calc, tr bent w/ dism pyr | MRL: med gy - dk gy, brn, blk, mod hd, sb pty - pty, slty - gt tex, v calc CHK: wh, ltgy, lt gy brn, sft, fri, sb pty - sb ang, rthy - sb wxy tex, v calc, tr bent w/ dism pyr |





06/30/2013, Mud Wt: 9.15, FVIs: 28
PVs: 3, YP: 5, GELS: 23/6, API Filtr: 14.0
CAKE: 1/0, pH: 8.7, CI: 1,100, Ca: 80



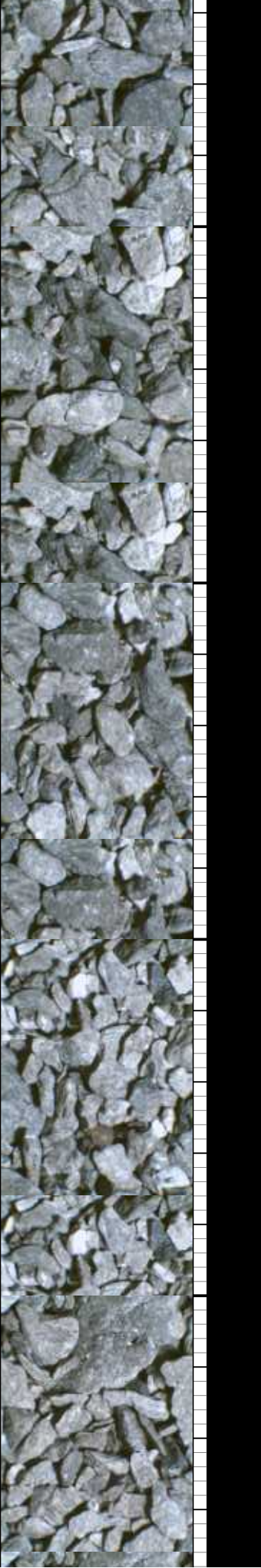
Sample Interval@ 7,000' MD

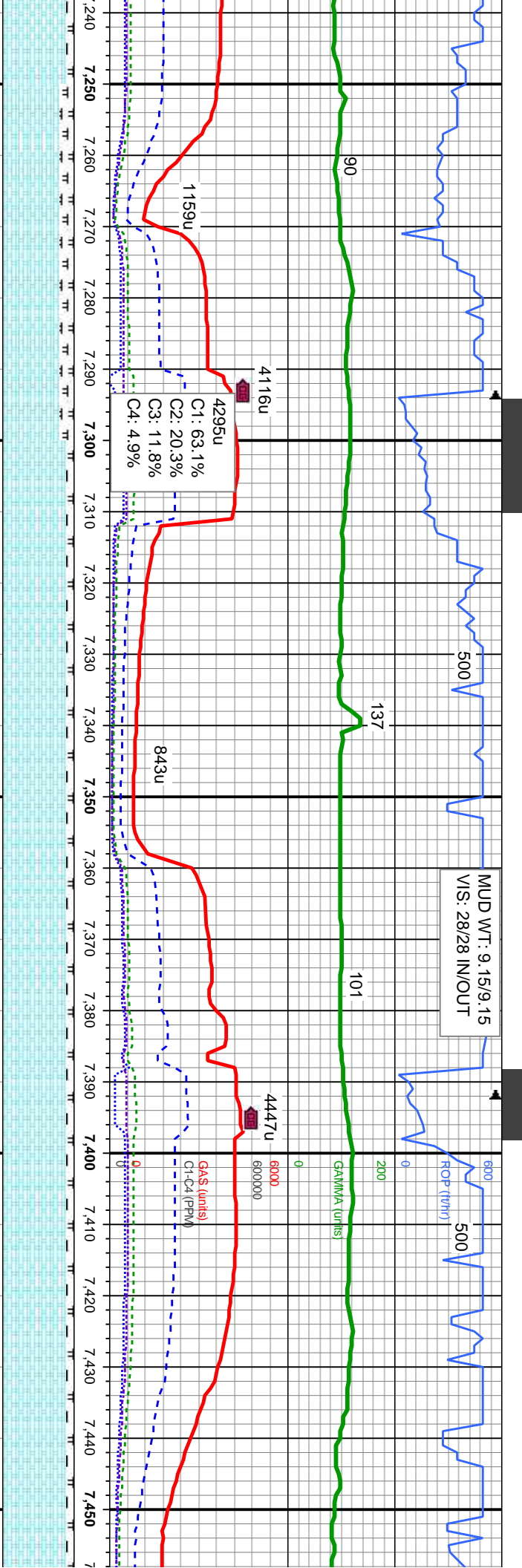
MD: 7,039'
TVD: 6,579.68'
Inclination: 88.27 °

MD: 7,134'
TVD: 6,583.44'
Inclination: 87.19 °

MD: 7,229'
TVD: 6,587.41'
Inclination: 88.02 °

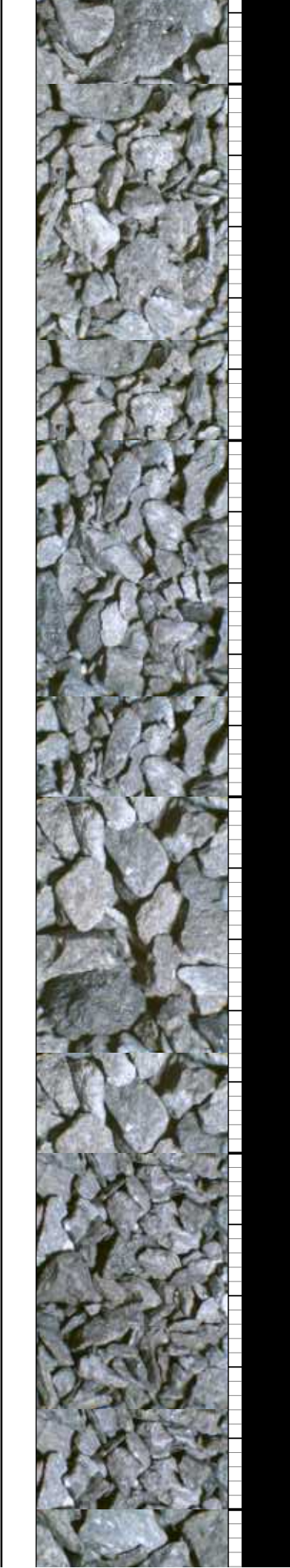
| | | | | |
|--|---|---|---|---|
| gy - med gy, lt gy brn, sft - pty - sb ang, rthy - sb wxy | 70%CHK: wh, ltgy - med gy, lt gy brn, sft - mod hd, fri, sb pty - sb ang, rthy - sb wxy tex, v calc | 90%CHK: wh, ltgy - med gy, lt gy brn, sft - mod hd, fri, sb pty - sb ang, rthy - sb wxy tex, v calc | 90%CHK: wh, ltgy - med gy, lt gy brn, sft - mod hd, fri, sb pty - sb ang, rthy - sb wxy tex, v calc | 90%CHK: wh, ltgy - med gy, lt gy brn, sft - mod hd, fri, sb pty - sb ang, rthy - sb wxy tex, v calc |
| gy - dk gy, brn, blk, mod hd - sily - gt tex, v calc | 30%MR: med gy - dk gy, brn, blk, mod hd - hd, sb pty - pty, sily - gt tex, v calc | 10%MR: med gy - dk gy, brn, blk, mod hd - hd, sb pty - pty, sily - gt tex, v calc | 10%MR: med gy - dk gy, brn, blk, mod hd - hd, sb pty - pty, sily - gt tex, v calc | 10%MR: med gy - dk gy, brn, blk, mod hd - hd, sb pty - pty, sily - gt tex, v calc |

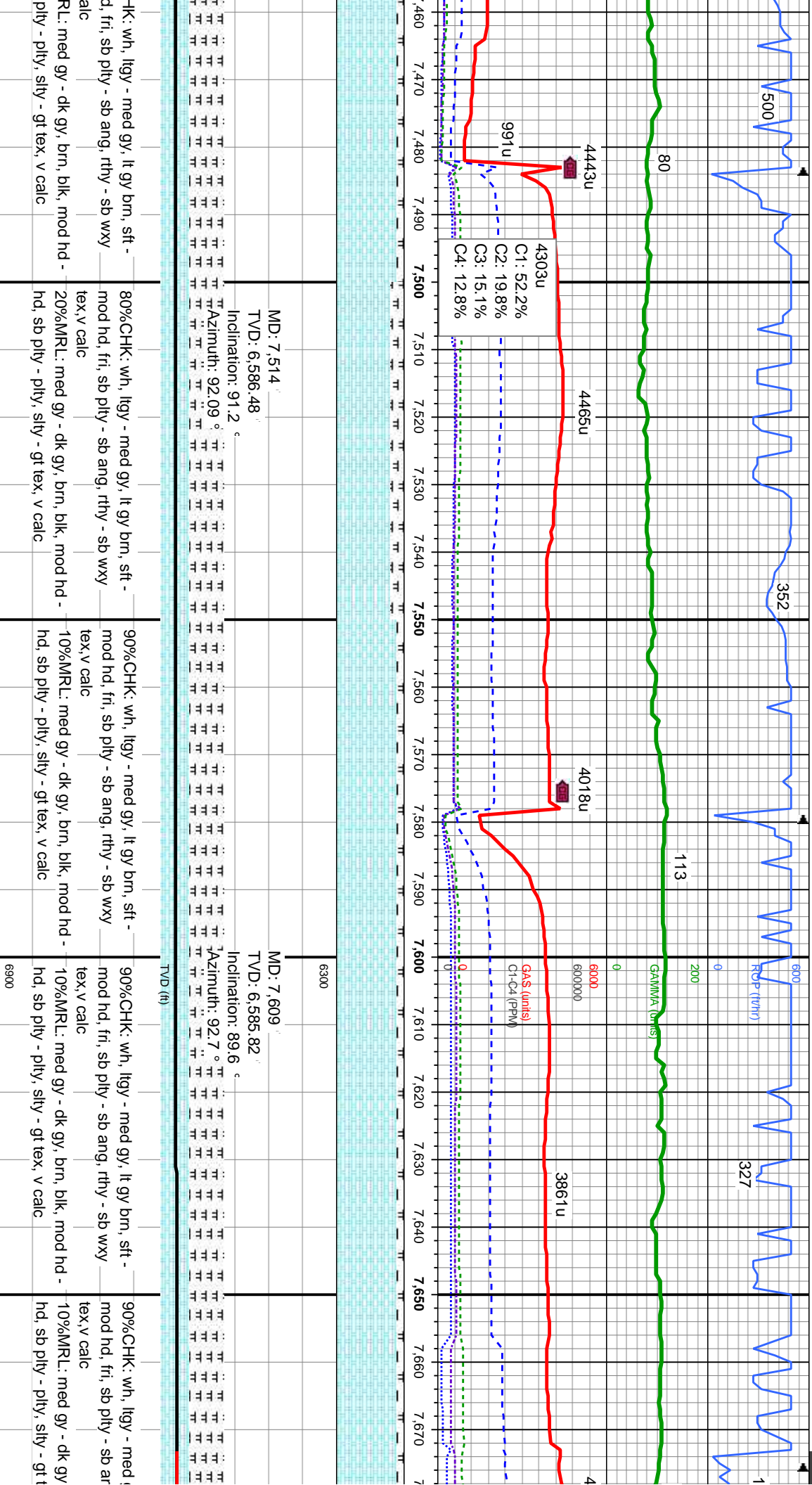


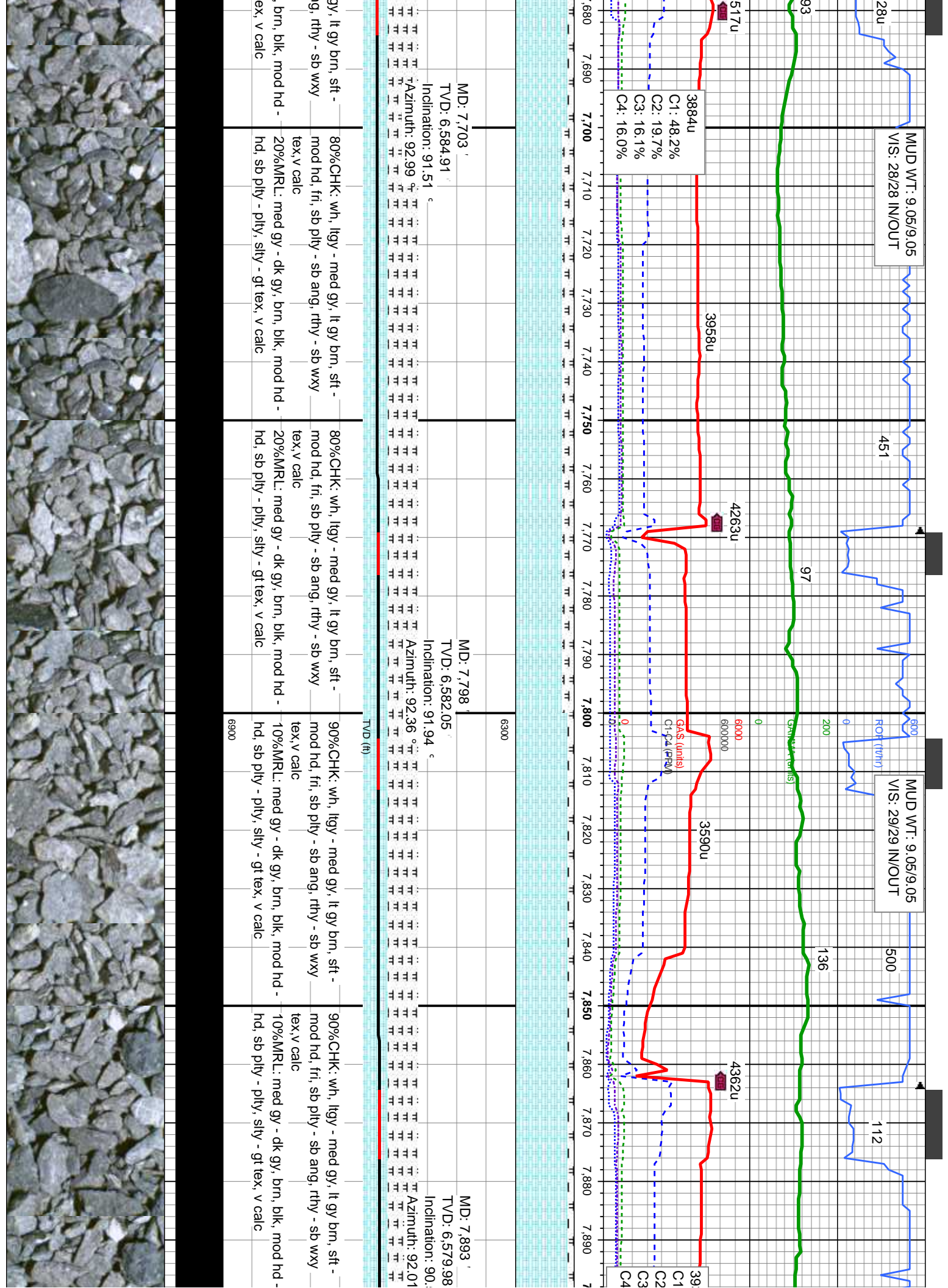


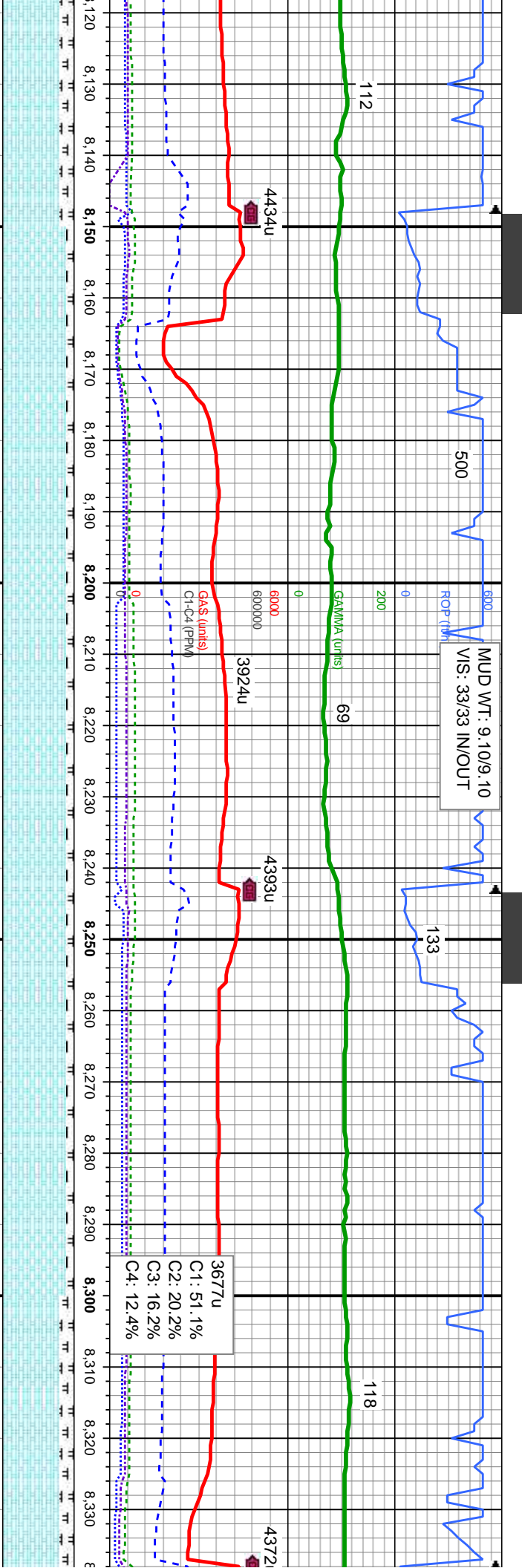
| | | | |
|--|--|--|--|
| MD: 7.324 TVD: 6,589.36 Inclination: 89.63 ° | | MD: 7.419 TVD: 6,588.57 Inclination: 91.32 ° | |
| Azimuth: 90.07 ° | | Azimuth: 91.24 ° | |

| | | | | |
|-------------------|--|--|--|--|
| m, sft - b wxy | 80%CHK: wh, ltgy - med gy, lt gy brn, sft - mod hd, fri, sb pily - sb ang, rthy - sb wxy tex, v calc | 90%CHK: wh, ltgy - med gy, lt gy brn, sft - mod hd, fri, sb pily - sb ang, rthy - sb wxy tex, v calc | 90%CHK: wh, ltgy - med gy, lt gy brn, sft - mod hd, fri, sb pily - sb ang, rthy - sb wxy tex, v calc | 90%CHK: wh, ltgy - med gy, lt gy brn, sft - mod h, fri, sb pily - sb ang, rthy - sb wxy tex, v c |
| mod hd - | 20%MR.L: med gy - dk gy, brn, blk, mod hd - hd, sb pily - pily, silty - gt tex, v calc | 10%MR.L: med gy - dk gy, brn, blk, mod hd - hd, sb pily - pily, silty - gt tex, v calc | 10%MR.L: med gy - dk gy, brn, blk, mod hd - hd, sb pily - pily, silty - gt tex, v calc | 10%M |





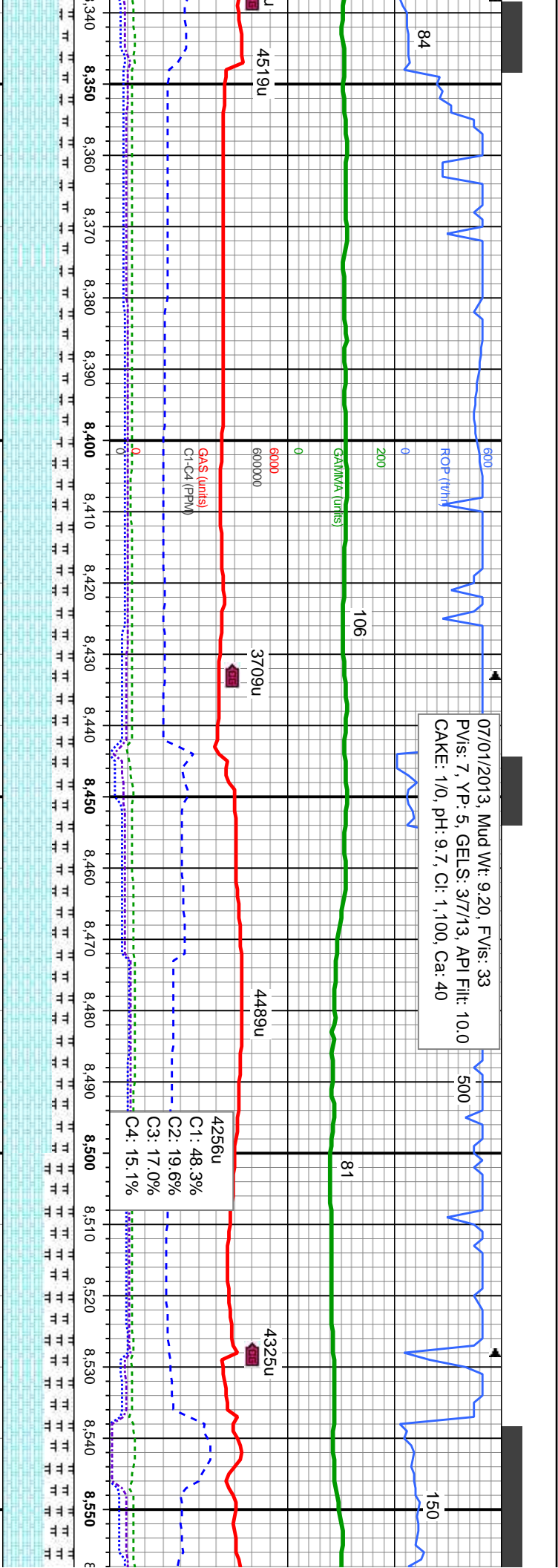




| | | | | | |
|--|--|------|--|--|--|
| MD: 8,178 ' TVD: 6,582.15 ' Inclination: 88.98 ° Azimuth: 86.36 ° | | 6300 | MD: 8,273 ' TVD: 6,582.46 ' Inclination: 90.65 ° Azimuth: 85.99 ° | | |
|--|--|------|--|--|--|

| | | | | |
|---|--|--|--|---|
| gy - med gy, lt gy brn, sft - sb ang, rthy - sb wxy gy - dk gy, brn, blk, mod hd - sily - gt tex, v calc | 90%CHK: wh, ltgy - med gy, lt gy brn, sft - mod hd, fri, sb pily - sb ang, rthy - sb wxy tex, v calc 10%MR.L: med gy - dk gy, brn, blk, mod hd - hd, sb pily - pily, sily - gt tex, v calc | 90%CHK: wh, ltgy - med gy, lt gy brn, sft - mod hd, fri, sb pily - sb ang, rthy - sb wxy tex, v calc 10%MR.L: med gy - dk gy, brn, blk, mod hd - hd, sb pily - pily, sily - gt tex, v calc | 90%CHK: wh, ltgy - med gy, lt gy brn, sft - mod hd, fri, sb pily - sb ang, rthy - sb wxy tex, v calc 10%MR.L: med gy - dk gy, brn, blk, mod hd - hd, sb pily - pily, sily - gt tex, v calc | 80%CHK: wh, ltgy, lt gy brn, sft - sb pily - sb ang, rthy - sb wxy tex, v 20%MR.L: med gy - dk gy, brn, blk, hd, sb pily - pily, sily - gt tex, v calc frag |
|---|--|--|--|---|





MD: 8,368 '
TVD: 6,580.97 '
Inclination: 91.14 °
Azimuth: 89.45 °

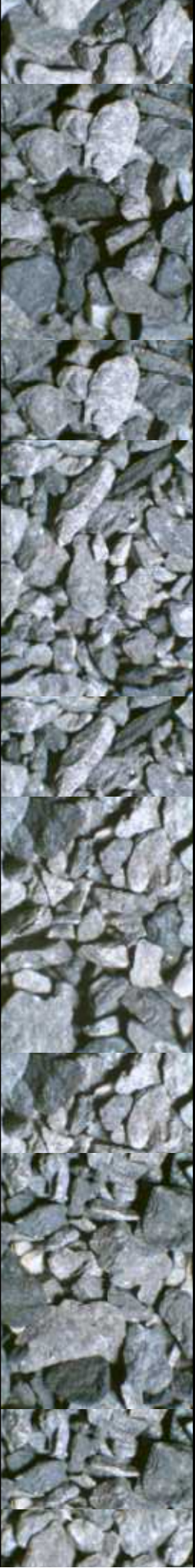
6300

MD: 8,463 '
TVD: 6,580.26 '
Inclination: 89.72 °
Azimuth: 91.09 °

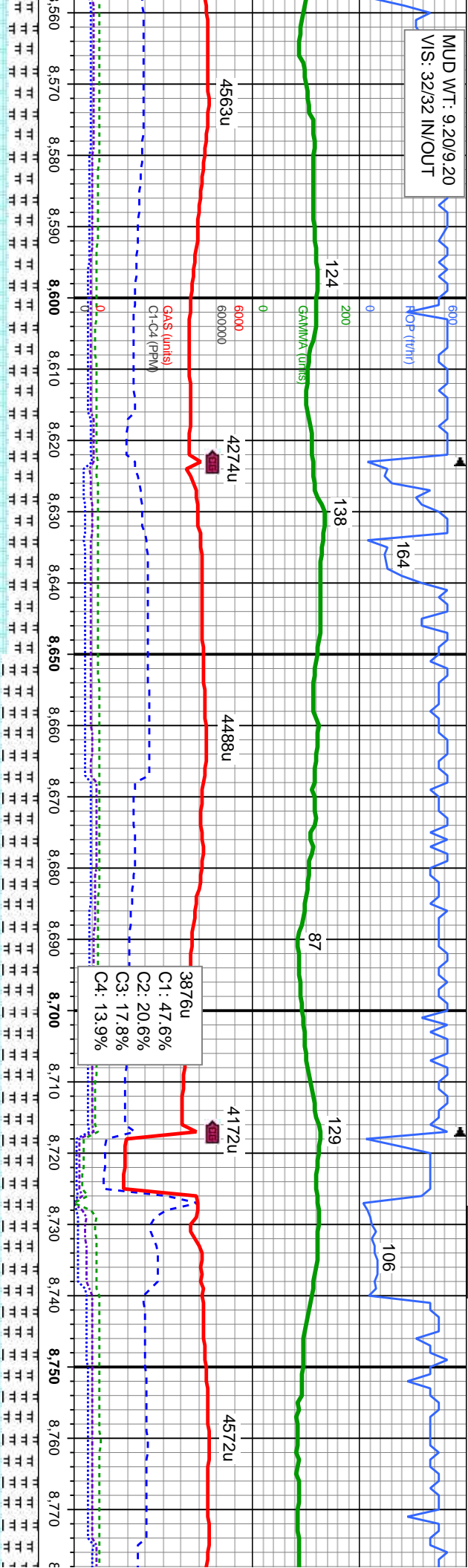
| | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|---|
| mod hd, fri, | 80%CHK: wh, ltgy, lt gy brn, sft - mod hd, fri, | 70%CHK: ltgy, lt gy brn, crm & off wh, sft - | mod hd, fri, sb pty - sb ang, rthy - sb wxy tex | 70%CHK: ltgy, lt gy brn, crm & off wh, sft - | mod hd, fri, sb pty - sb ang, rthy - sb wxy tex | 60%CHK: ltgy, lt gy brn, crm & off wh, sft - | mod hd, fri, sb pty - sb ang, rthy - sb wxy tex | 40%CHK: ltgy, lt gy brn, crm & off wh, sft - | mod hd, fri, sb pty - sb ang, rthy - sb wxy tex |
| calc | sb pty - sb ang, rthy - sb wxy tex | mod hd, fri, sb pty - sb ang, rthy - sb wxy tex | 30%MR.L: med gy - dk gy, brn, blk, mod hd - | mod hd, fri, sb pty - sb ang, rthy - sb wxy tex | 30%MR.L: med gy - dk gy, brn, blk, mod hd - | mod hd, fri, sb pty - sb ang, rthy - sb wxy tex | 40%MR.L: med gy - dk gy, brn, blk, mod hd - | mod hd, fri, sb pty - sb ang, rthy - sb wxy tex | 40%MR.L: med gy - dk gy, brn, blk, mod hd - |
| mod hd - | 20%MR.L: med gy - dk gy, brn, blk, mod hd - | hd, sb pty - pty, silty - gt tex, v calc thru, scat | hd, sb pty - pty, silty - gt tex, v calc thru, scat | hd, sb pty - pty, silty - gt tex, v calc thru, scat | hd, sb pty - pty, silty - gt tex, v calc thru, scat | hd, sb pty - pty, silty - gt tex, v calc thru, scat | hd, sb pty - pty, silty - gt tex, v calc thru, scat | hd, sb pty - pty, silty - gt tex, v calc thru, scat | hd, sb pty - pty, silty - gt tex, v calc thru, scat |
| , scat fos | fos frag | fos frag | fos frag | fos frag | fos frag | fos frag | fos frag | fos frag | fos frag |

6900

MD: 8,556 '
TVD: 6,58
Inclination:
Azimuth: 8



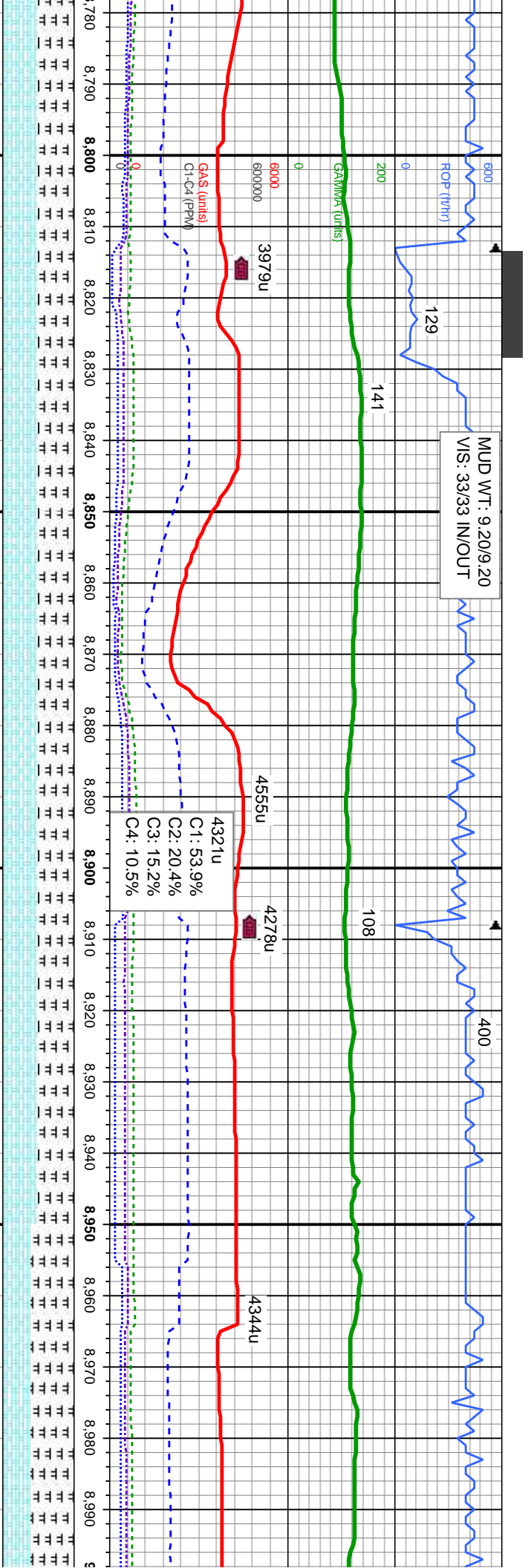
MUD WT: 9.20/9.20
VIS: 32/32 IN/OUT



| | | |
|------|---|--|
| 6300 | MD: 8.653 ° TVD: 6.582.97 ° Inclination: 88.49 ° Azimuth: 88.3 ° | MD: 8.748 ° TVD: 6.584.48 ° Inclination: 89.69 ° Azimuth: 86.97 ° |
|------|---|--|

| | | | |
|------|--|--|--|
| 6300 | 60%CHK: lgy, lt gy brn, off wh, sft - mod hd, bnt - fri, sb pty - sb ang, rthy - sb wxy tex 40%MR.L: med gy - dk gy, brn, blk, mod hd - hd, sb pty - pty, slty - gt tex, v calc thru, v abnt scat fos frag | 50%CHK: lgy, lt gy brn, off wh, sft - mod hd, bnt - fri, sb pty - sb ang, rthy - sb wxy tex 50%MR.L: med gy - dk gy, brn, blk, mod hd - hd, bnt - fis sb pty - pty, slty - gt tex, v calc thru, v abnt scat fos frag | 50%CHK: lgy, lt gy brn, off wh, sft - mod hd, bnt - fri, sb pty - sb ang, rthy - sb wxy tex 50%MR.L: med gy - dk gy, brn, blk, mod hd - hd, bnt - fis sb pty - pty, slty - gt tex, v calc thru, v abnt scat fos frag |
|------|--|--|--|



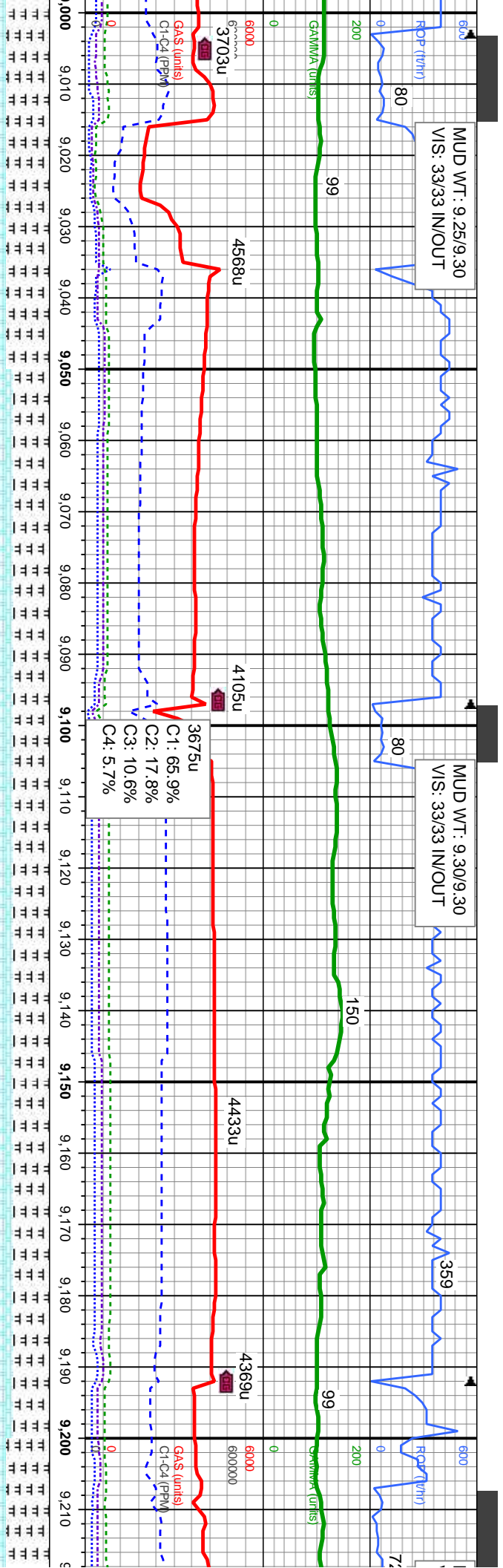


MD: 8,843'
TVD: 6,584.25'
Inclination: 90.59°
Azimuth: 89.24°

MD: 8,938'
TVD: 6,583.63'
Inclination: 90.15°
Azimuth: 86.1°

| | | | |
|--|---|---|---|
| 50%CHK: lgy, lt gy brn, oft wh, sft - mod hd, brit - fri, sb ply - sb ang, rthy - sb wxy tex | 50%CHK: lgy, lt gy brn, oft wh, sft - mod hd, brit - fri, sb ply - sb ang, rthy - sb wxy tex | 50%CHK: lgy - lt gy brn, oft wh, sft - mod hd, brit - fri, sb ply - sb ang, rthy - sb wxy tex | 40%CHK: lgy - lt gy brn, oft wh, sft - mod hd, brit - fri, sb ply - sb ang, rthy - sb wxy te |
| 50%MR.L: med gy - dk gy, brn, blk, mod hd - hd, brit - fis sb ply - ply, slty - gt tex, v abnt scat fos frag | 50%MR.L: dk gy, brn, blk, mod hd - hd, brit - fis sb ply - ply, slty - gt tex, v abnt scat fos frag | 50%MR.L: dk gy, brn, blk, mod hd - hd, brit - fis sb ply - ply - thn lam, slty - gt tex, v abnt scat fos frag | 60%MR.L: dk gy, brn, blk, mod hd - hd, brit - fis sb ply - ply - thn lam, slty - gt tex, v abnt scat fos frag |
| 6300 | | | |
| 6900 | | | |





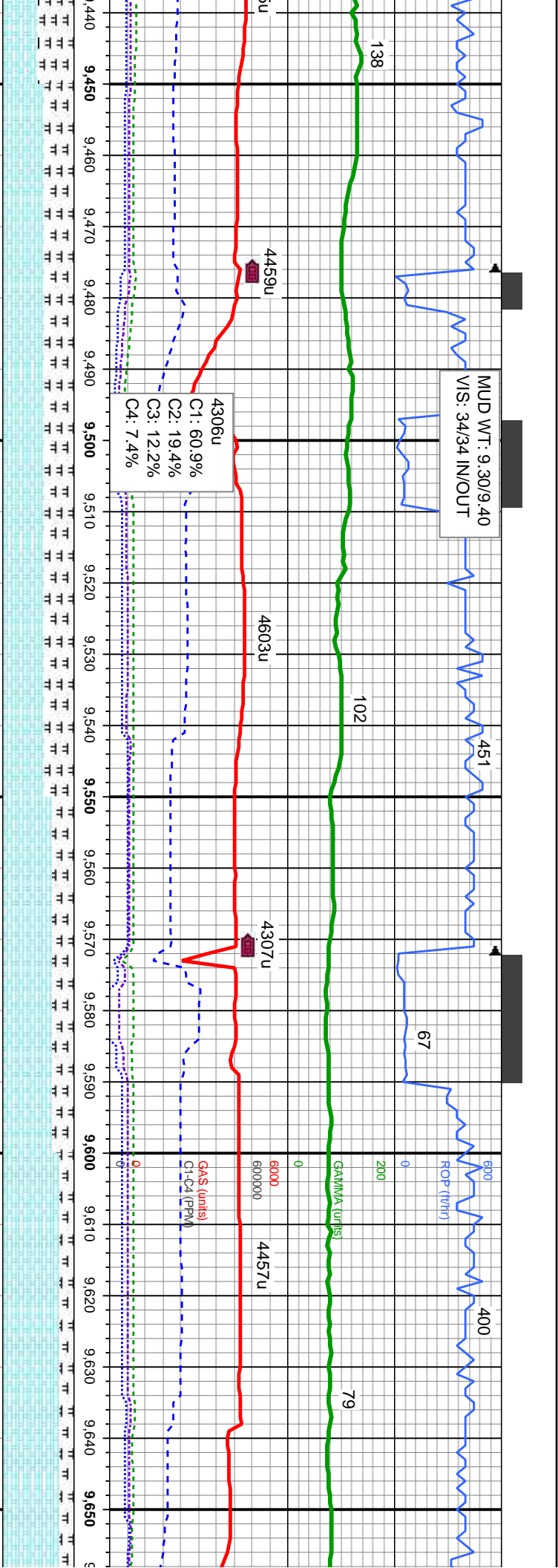
MD: 9.033 '
TVD: 6,582.75 '
Inclination: 90.92 °
Azimuth: 88.85 °

MD: 9.128 '
TVD: 6,582.19 '
Inclination: 89.75 °
Azimuth: 87.84 °

MD:
TVD:
Inclir:
Azim:

| | | | |
|--|---|---|---|
| 40%CHK: lgy - lt gy brn, off wh, sft - mod hd, brit - fri, sb pily - sb ang, rthy - sb wxy tex 60%MR.L: dk gy, brn, blk, mod hd - hd,brit - fis sb pily - pily - thn lam, silty - gt tex, v abnt scat fos frag | 50%CHK: lgy - med gy, wh, sft - mod hd, brit - fri, sb pily - sb ang, rthy - sb wxy tex 50%MR.L: dk gy, brn, blk, mod hd - hd,brit - fis sb pily - pily - thn lam, silty - gt tex, v abnt scat fos frag | 50%CHK: lgy - med gy, wh, sft - mod hd, brit - fri, sb pily - sb ang, gt - sb wxy tex 50%MR.L: dk gy, brn, blk, mod hd - hd,brit - fis sb pily - pily - thn lam, silty - gt tex, v abnt scat fos frag | 50%CHK: lgy - med gy, wh, sft - mod hd, brit - fri, sb pily - sb ang, gt - sb wxy tex 50%MR.L: dk gy, brn, blk, mod hd - hd,brit - fis sb pily - pily - thn lam, silty - gt tex, v abnt scat fos frag |
|--|---|---|---|



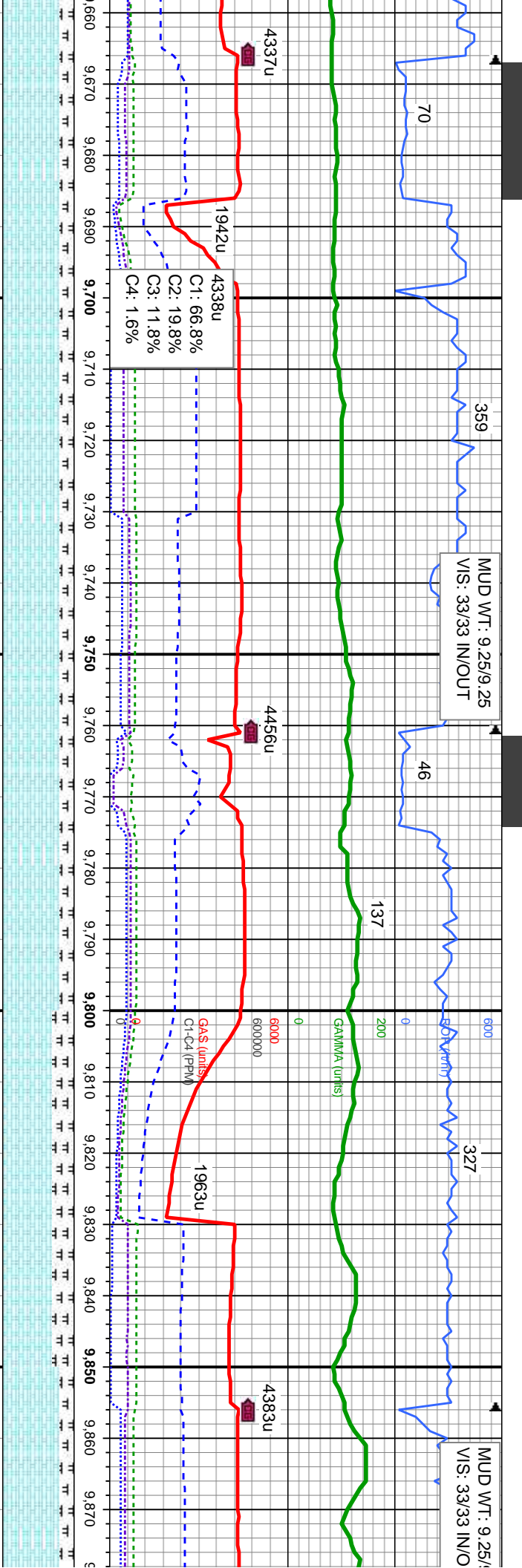


MD: 9.507
TVD: 6,570.21
Inclination: 92.5 °
Azimuth: 90.96 °

MD: 9.602
TVD: 6,567.6
Inclination: 90.65 °
Azimuth: 93.31 °

| | | | | |
|--|--|---|---|--|
| 60%CHK: ltgy, bnnd wi crm & off wh, v sft - mod hd, brit - fri, sb pty - sb ang, gt - wxy tex 40%MRL: dk gy, brn, blk, mod hd - hd,brit - fis sb pty - pty - thn lam, silty - gt, abnt scat fos frag | 60%CHK: ltgy, bnnd wi crm & off wh, v sft - mod hd, brit - fri, sb pty - sb ang, gt - wxy tex 40%MRL: dk gy, brn, blk, mod hd - hd,brit - fis sb pty - pty - thn lam, silty - gt, abnt scat fos frag | 70%CHK: ltgy, bnnd wi crm & off wh, v sft - mod hd, brit - fri, sb pty - sb ang, gt - wxy tex 30%MRL: dk gy, blk, mod hd - hd,brit - fis sb pty - pty - thn lam, silty - gt, abnt scat fos frag | 80%CHK: ltgy, bnnd wi crm & off wh, v sft - mod hd, brit - fri, sb pty - sb ang, gt - wxy tex 20%MRL: dk gy, blk, mod hd - hd,brit - fis sb pty - pty - thn lam, silty - gt, scat fos frag | 80%CHK: ltgy, bnnd wi crm & off wh, v sft - mod h 20%M |
|--|--|---|---|--|

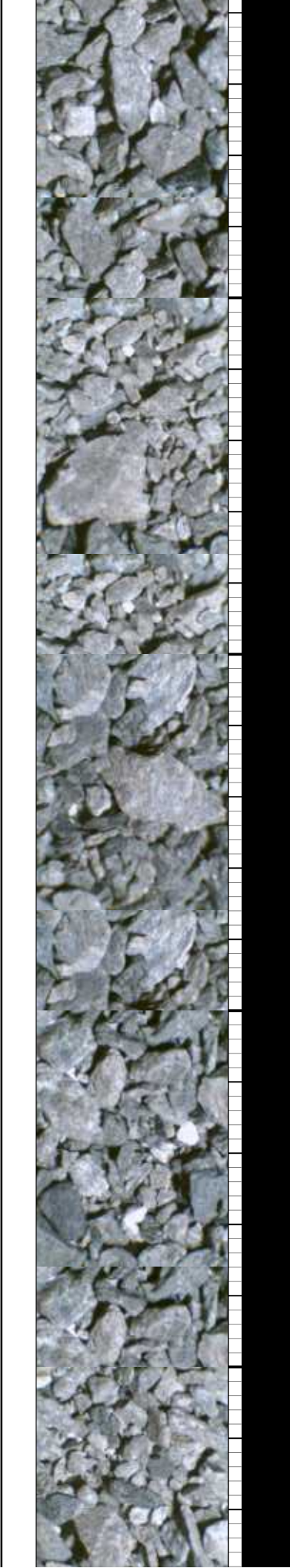


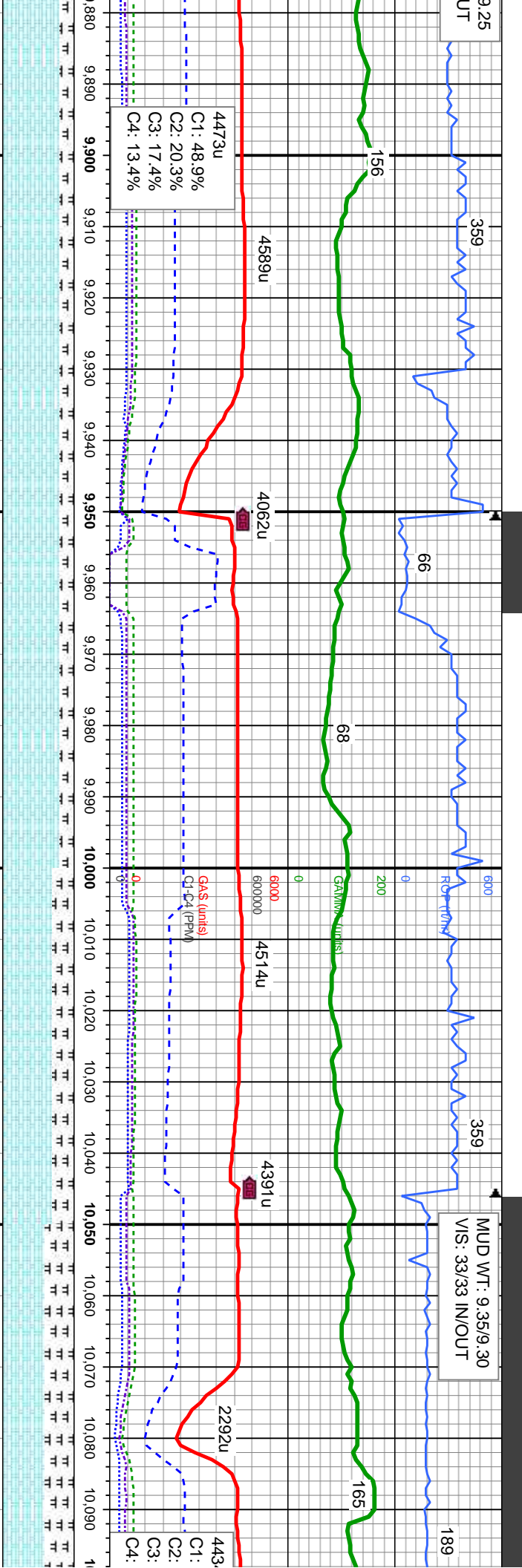


MD: 9.697
TVD: 6,567.32
Inclination: 89.69 °
Azimuth: 91.37 °

MD: 9.792
TVD: 6,568.16
Inclination: 89.29 °
Azimuth: 89.87 °

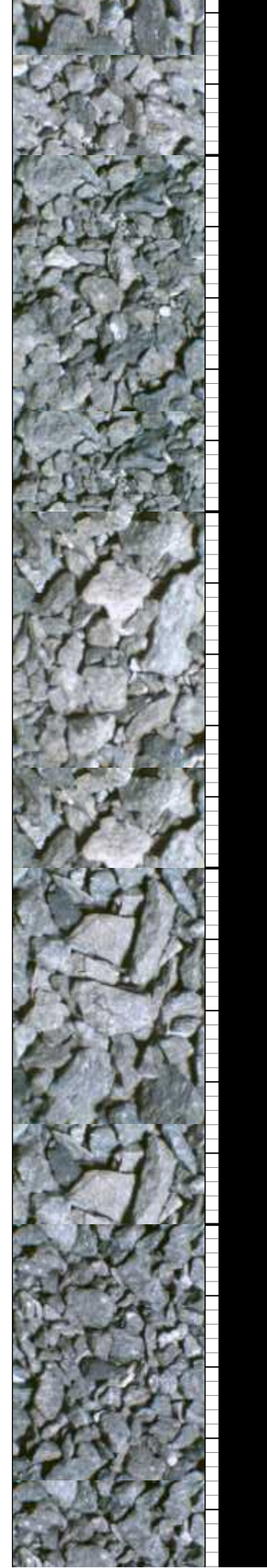
| | | | | |
|--|---|---|---|---|
| HK: Itgy, brndd wi crm & off wh, v sft - d, brit - fri, sb ply - sb ang, gt - wxy tex | 80%CHK: Itgy, brndd wi crm & off wh, v sft - mod hd, brit - fri, sb ply - sb ang, gt - wxy tex | 80%CHK: Itgy, brndd wi crm & off wh, v sft - mod hd, brit - fri, sb ply - sb ang, gt - wxy tex | 70%CHK: Itgy, brndd wi crm & off wh, v sft - mod hd, brit - fri, sb ply - sb ang, gt - wxy tex | 80%CHK: Itgy, brndd wi crm & off wh, v sft - mod hd, brit - fri, sb ply - sb ang, gt - wxy tex |
| RL: dk gy, blk, mod hd - hd,brit - fis | 20%MR: dk gy, blk, mod hd - hd,brit - fis | 20%MR: dk gy, blk, mod hd - hd,brit - fis | 30%MR: dk gy, blk, mod hd - hd,brit - fis | 20%MR: dk gy, blk, mod hd - hd,brit - fis |
| - ply - thn lam, slty - gt, scat fos frag | sb ply - ply - thn lam, slty - gt, scat fos frag | sb ply - ply - thn lam, slty - gt, scat fos frag | sb ply - ply - thn lam, slty - gt, scat fos frag | sb ply - ply - thn lam, slty - gt, scat fos frag |

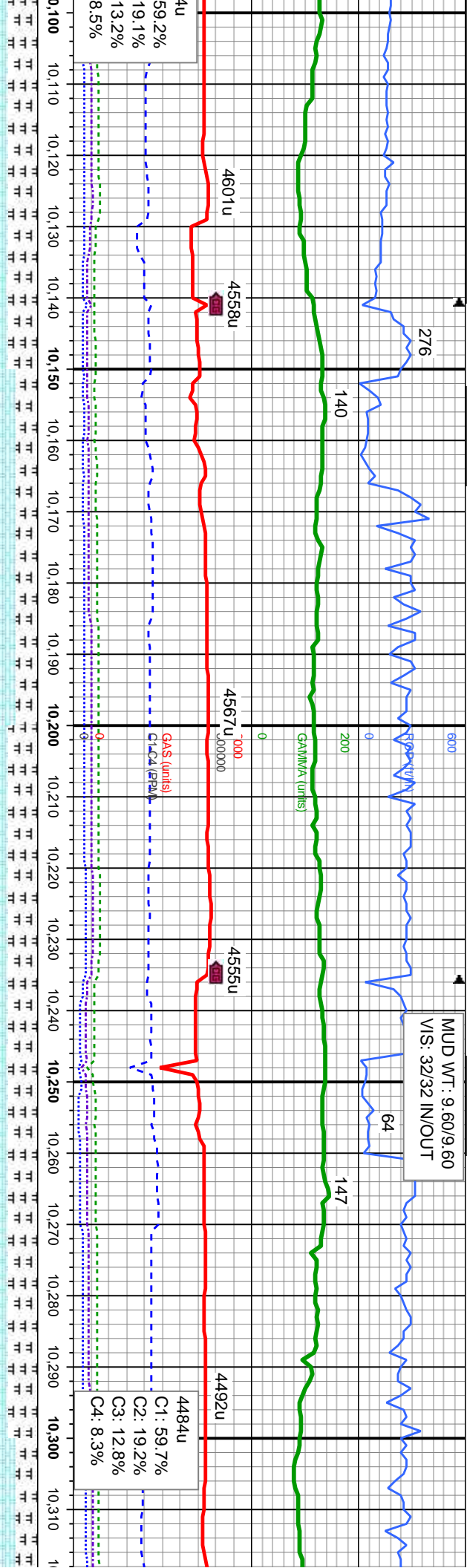




| | | |
|----------------------|----------------------|----------------------|
| D: 9.887 ° | MD: 9.982 ° | MD: 10.077 ° |
| VD: 6.569.95 ° | TVD: 6.571.44 ° | TVD: 6.572.57 ° |
| Inclination: 88.55 ° | Inclination: 89.66 ° | Inclination: 88.98 ° |
| azimuth: 89.46 ° | Azimuth: 89.29 ° | Azimuth: 90 ° |

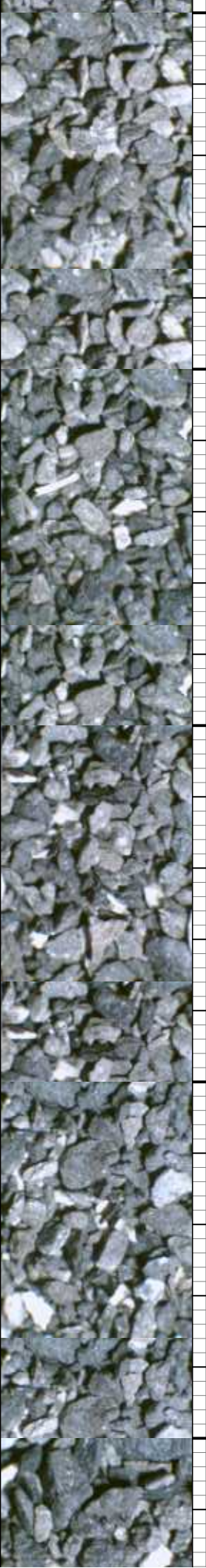
| | | | | |
|---|--|--|--|--|
| m & off wh, v sft - sb ang, gt - wxy tex | 80%CHK: ltgy, bnnd wi crm & off wh, v sft - mod hd, brit - fri, sb ply - sb ang, gt - wxy tex | 80%CHK: ltgy, bnnd wi crm & off wh, v sft - mod hd, brit - fri, sb ply - sb ang, gt - wxy tex | 70%CHK: ltgy, bnnd wi crm & off wh, v sft - mod hd, brit - fri, sb ply - sb ang, gt - wxy tex | 60%CHK: ltgy, bnnd wi crm & off wh, v sft - mod hd, brit - fri, sb ply - sb ang, gt - wxy tex |
| hd - hd, brit - fis | 20%MR.L: dk gy, blk, mod hd - hd, brit - fis | 20%MR.L: dk gy, blk, mod hd - hd, brit - fis | 30%MR.L: dk gy, blk, mod hd - hd, brit - fis | 40%MR.L: dk gy, blk, mod hd - hd, brit - fis |
| y - gt, scat fos frag | sb ply - ply - thn lam, silty - gt, scat fos frag | sb ply - ply - thn lam, silty - gt, scat fos frag | sb ply - ply - thn lam, silty - gt, scat fos frag | sb ply - ply - thn lam, silty - gt, scat fos frag |





| | | | |
|------|--|------|---|
| 6300 | MD: 10,172' TVD: 6,572.8' Inclination: 90.74 ° Azimuth: 90.32 ° | 6300 | MD: 10,267' TVD: 6,571.36' Inclination: 90.99 ° Azimuth: 92.31 ° |
|------|--|------|---|

| | | | | |
|---|---|---|---|---|
| 60%CHK: ltgy, bnnd wi crm & off wh, v sft - mod hd, brit - fri, sb ply - sb ang, gt - wxy tex 40%MR.L: dk gy, blk, mod hd - hd,brit - fis sb ply - ply - thn lam, slty - gt, scat fos frag | 70%CHK: ltgy, bnnd wi crm & off wh, v sft - mod hd, brit - fri, sb ply - sb ang, gt - wxy tex 30%MR.L: dk gy, blk, mod hd - hd,brit - fis sb ply - ply - thn lam, slty - gt, scat fos frag | 60%CHK: ltgy, bnnd wi crm & off wh, v sft - mod hd, brit - fri, sb ply - sb ang, gt - wxy tex 40%MR.L: dk gy, blk, mod hd - hd,brit - fis sb ply - ply - thn lam, slty - gt, scat fos frag | 60%CHK: ltgy, bnnd wi crm & off wh, v sft - mod hd, brit - fri, sb ply - sb ang, gt - wxy tex 40%MR.L: dk gy, blk, mod hd - hd,brit - fis sb ply - ply - thn lam, slty - gt, scat fos frag | 70%CHK: ltgy, bnnd wi crm & off wh, v sft - mod hd, brit - fri, sb ply - sb ang, gt - wxy tex 30%MR.L: dk gy, blk, mod hd - hd,brit - fis sb ply - ply - thn lam, slty - gt, scat fos frag |
|---|---|---|---|---|



MUD WT: 9.50/9.50
VIS: 32/32 IN/OUT

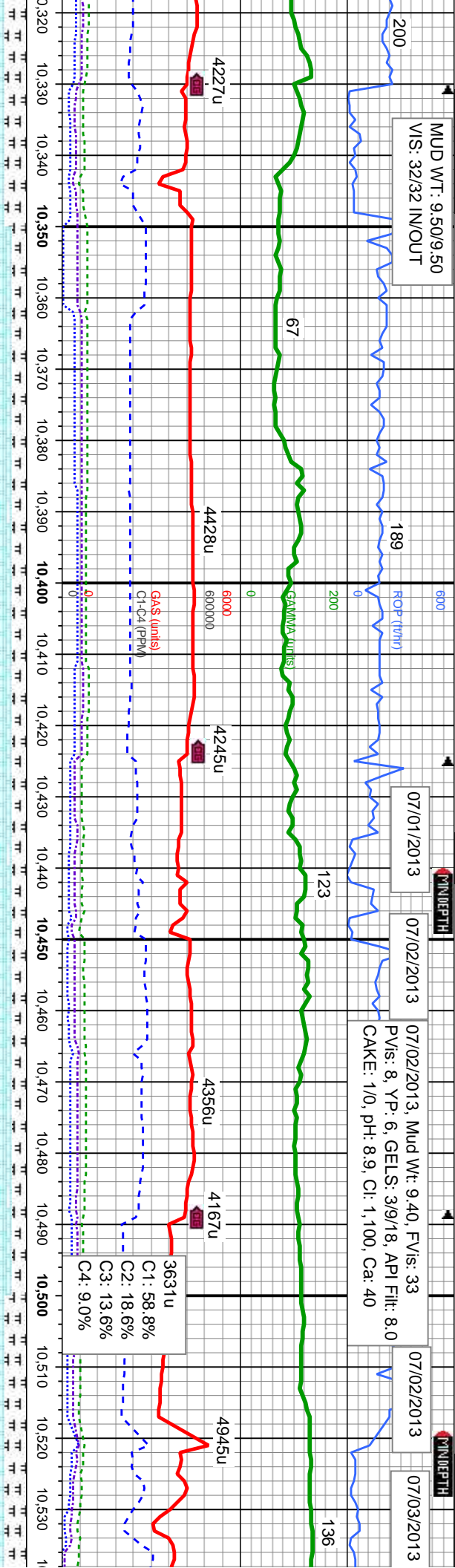
07/01/2013

07/02/2013

07/02/2013, Mud Wt: 9.40, F.Vis: 33
PVIS: 8, YP: 6, GELS: 3/9/18, API Filtr: 8.0
CAKE: 1/0, pH: 8.9, Cl: 1,100, Ca: 40

07/02/2013

07/03/2013



MD: 10,362'
TVD: 6,570.09'
Inclination: 90.55°
Azimuth: 90.53°

MD: 10,435'
TVD: 6,569.87'
Inclination: 90.03°
Azimuth: 90.83°

TOOH at 10519' to
change MWD tools

MD: 10,530'
TVD: 6,570.12'
Inclination: 89.66°
Azimuth: 90.99°

80%CHK: Itgy, bnnd wi crm & off wh, v sft -
mod hd, brit - fri, sb ply - sb ang, gt - wxy tex
20%MR.L: dk gy, blk, mod hd - hd,brit - fis
sb ply - ply - thn lam, slty - gt, scat fos frag

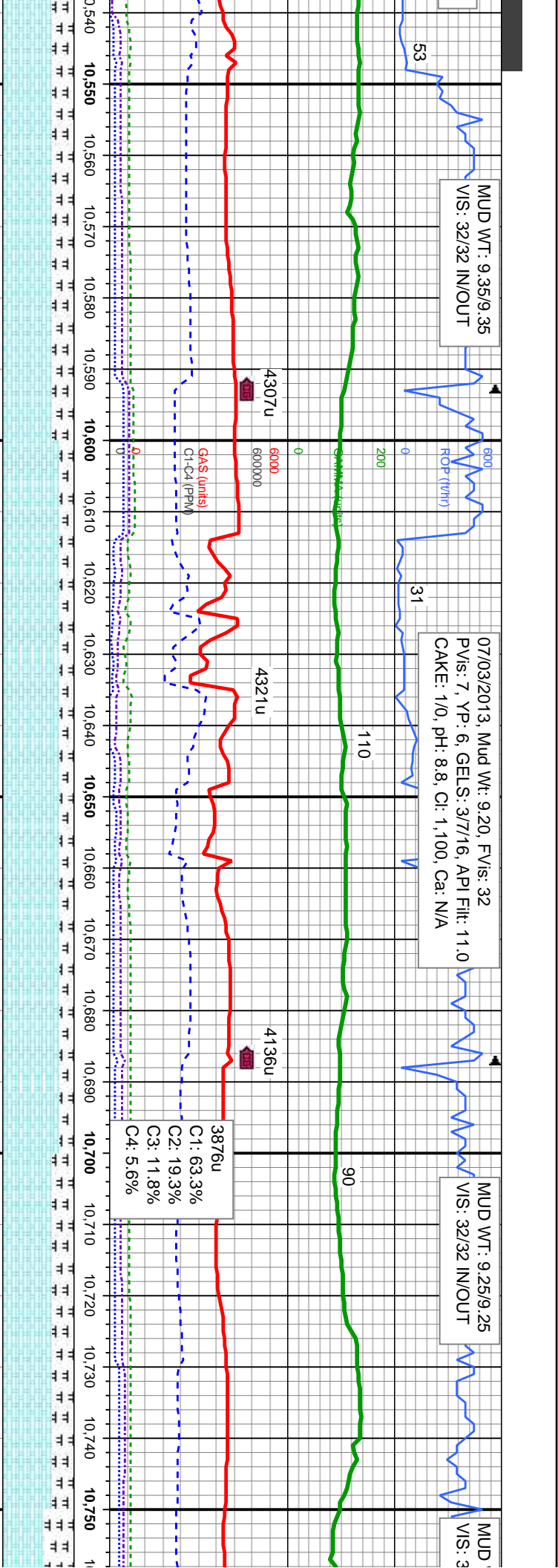
80%CHK: Itgy, bnnd wi crm & off wh, v sft -
mod hd, brit - fri, sb ply - sb ang, gt - wxy tex
20%MR.L: dk gy, blk, mod hd - hd,brit - fis
sb ply - ply - thn lam, slty - gt, scat fos frag

80%CHK: Itgy, bnnd wi crm & off wh, v sft -
mod hd, brit - fri, sb ply - sb ang, gt - wxy tex
20%MR.L: dk gy, blk, mod hd - hd,brit - fis
sb ply - ply - thn lam, slty - gt, scat fos frag

80%CHK: Itgy, bnnd wi crm & off wh, v sft -
mod hd, brit - fri, sb ply - sb ang, gt - wxy tex
20%MR.L: dk gy, blk, mod hd - hd,brit - fis
sb ply - ply - thn lam, slty - gt, scat fos frag

70%CHK: Itgy, bnnd wi crm & off wh, v sft -
mod hd, brit - fri, sb ply - sb ang, gt - wxy tex
30%MR.L: dk gy, blk, mod hd - hd,brit - fis
sb ply - ply - thn lam, slty - gt, scat fos frag



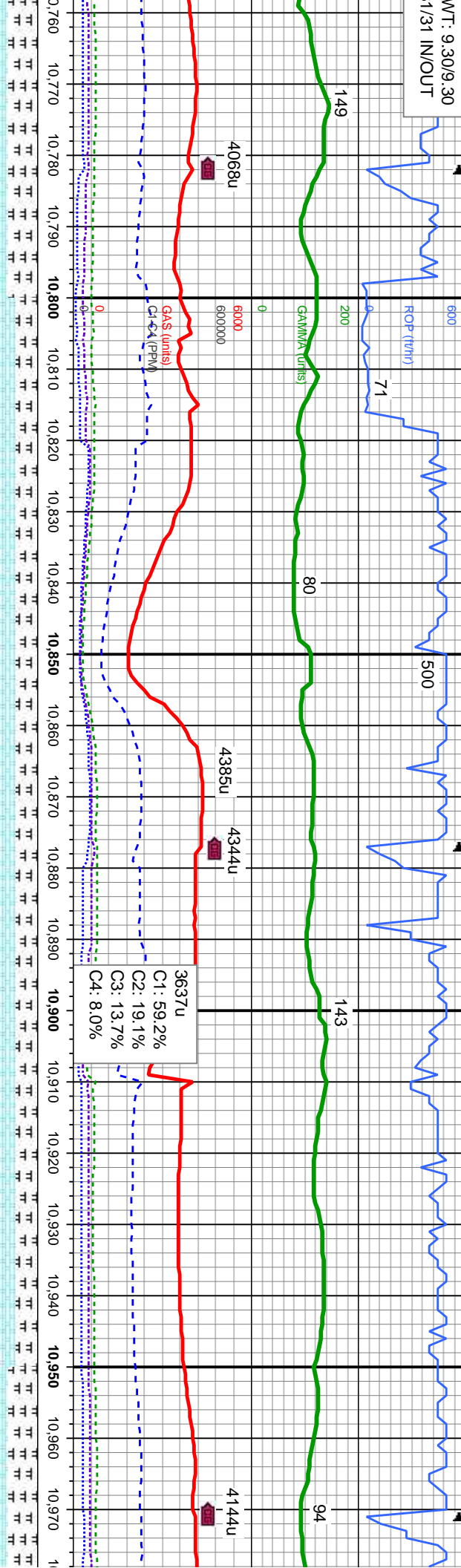


| | | | | |
|--|------|--|--|---|
| | 6300 | MD: 10.625 TVD: 6,570.71 Inclination: 89.63 ° Azimuth: 88.2 ° | | MD: 10.720 TVD: 6,570.99 Inclination: 90.03 ° Azimuth: 86.36 ° |
|--|------|--|--|---|

| | | | | | |
|-------------|---|---|---|---|---|
| h, v sft - | 70%CHK: llyg, bnnd wi crm & off wh, v sft - | 80%CHK: llyg, bnnd wi crm & off wh, v sft - | 80%CHK: llyg, bnnd wi crm & off wh, v sft - | 70%CHK: llyg, bnnd wi crm & off wh, v sft - | 60%CHK: llyg, bnnd wi crm & off wh, v sft - |
| t - wxy tex | mod hd, brit - fri, sb ply - sb ang, gt - wxy tex | mod hd, brit - fri, sb ply - sb ang, gt - wxy tex | mod hd, brit - fri, sb ply - sb ang, gt - wxy tex | mod hd, brit - fri, sb ply - sb ang, gt - wxy tex | mod h |
| t - fis | 30%MR.L: dk gy, blk, mod hd - hd,brit - fis | 20%MR.L: dk gy, blk, mod hd - hd,brit - fis | 20%MR.L: dk gy, blk, mod hd - hd,brit - fis | 30%MR.L: dk gy, blk, mod hd - hd,brit - fis | 40%MR.L: dk gy, blk, mod hd - hd,brit - fis |
| t fos frag | sb ply - ply - thn lam, slty - gt, scat fos frag | sb ply - ply - thn lam, slty - gt, scat fos frag | sb ply - ply - thn lam, slty - gt, scat fos frag | sb ply - ply - thn lam, slty - gt, abnt fos frag | scat b |



WT: 9.30/9.30
1/31 IN/OUT



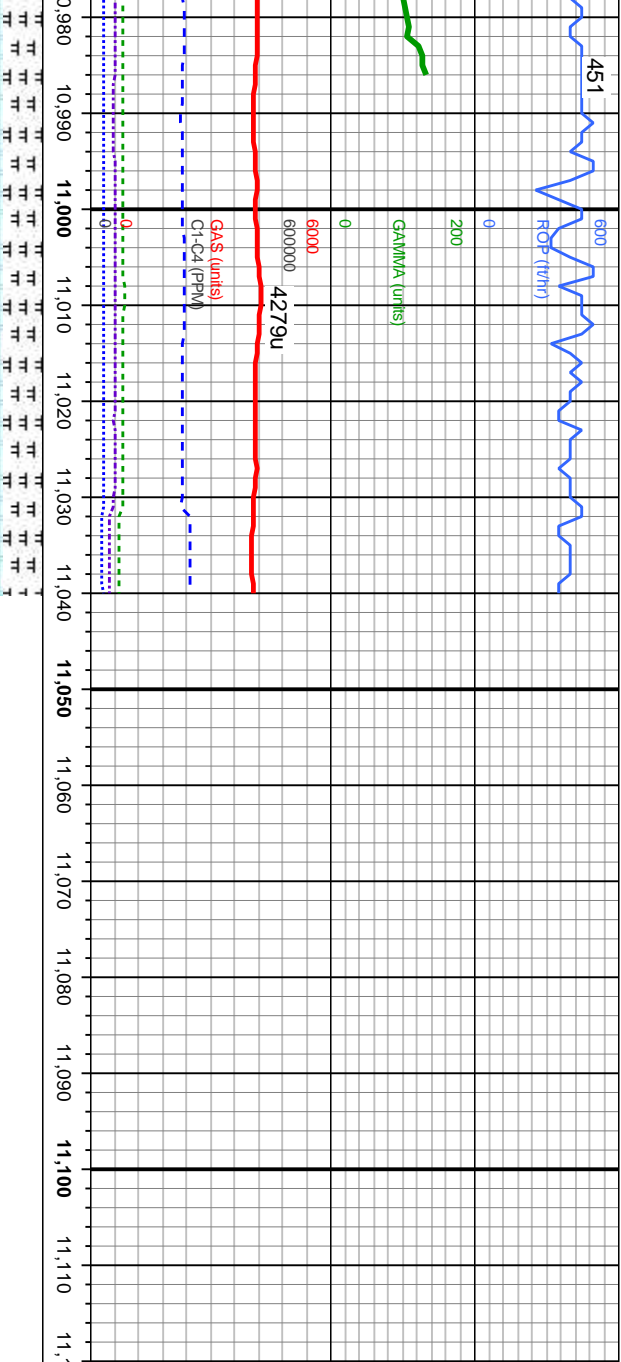
MD: 10,815
TVD: 6,572.07
Inclination: 88.67 °
Azimuth: 86.79 °

MD: 10,910
TVD: 6,573.97
Inclination: 89.04 °
Azimuth: 87.65 °

MD: 10,977
TVD: 6,575
Inclination:
Azimuth: 8

| | | | | |
|---|--|--|--|--|
| HK: litgy, bndd wi crm & off wh, v sft - | 70%CHK: litgy-med gy, bndd wi crm & off | 70%CHK: litgy-med gy, bndd wi crm & off | 70%CHK: litgy-med gy, bndd wi crm & off | 60%CHK: litgy-med gy, bndd wi crm & off |
| d, brit - fri, sb pty - sb ang, gt - sb wxy | wh, v sft - mod hd, brit - fri, sb pty - sb ang, gt - sb wxy | wh, v sft - mod hd, brit - fri, sb pty - sb ang, gt - sb wxy | wh, v sft - mod hd, brit - fri, sb pty - sb ang, gt - sb wxy | mod hd, brit - fri, sb pty - sb ang, gt - sb wxy |
| RL: dk gy, blk, mod hd - hd, brit - fis | 30%MR: dk gy, blk, mod hd - hd, brit - fis | 30%MR: dk gy, blk, mod hd - hd, brit - fis | 30%MR: dk gy, blk, mod hd - hd, brit - fis | 40%MR: dk gy, blk, mod hd - hd, brit - fis |
| ent wi dism pyr | sb pty - pty, stly - gt, scat fos frag, tr bent | sb pty - pty, stly - gt, scat fos frag, tr bent | sb pty - pty, stly - gt, scat fos frag, tr bent | sb pty - pty, stly - gt, scat fos frag, tr bent |





| | |
|------|---|
| 6300 | Projection to Bit MD: 11,040 TVD: 6,576.45 Inclination: 88.86 Azimuth: 86.82 |
| 6900 | 60%CHK: lgy-med gy, bndd wi off wh, v sft - mod hd, brit - fri, sb pty - sb ang, gt - sb wxy 40%MR.L: dk gy, blk, mod hd - hd,brit - fis sb pty - pty, slty - gt, scat fos frag, tr bent |

Wellbore Trebor B11-66-1HN TD @
11,040 MD @ 05:39 MST on 07/03/2013

Wellsite Geological Services Provided By
Columbine Logging, Inc

