

COLUMBINE LOGGING

Scale: 5" / 100'
Measured Depth Log

Well Name CVR 5-63-32-1609CDH

Location NWSW SEC 32 T5N R63W

State COLORADO

Country UNITED STATES OF AMERICA

API Number 05-123-37086

Region DENVER JULESBURG BASIN

Spud Date 4/11/2013

Surface Coordinates 2394' FSL X 230' FWL

Bottom Hole Coordinates

Ground Elevation 4578

Logged Interval 6200 To 11400

Formation PIERRE - CODELL

Type of Drilling Fluid WATER BASED POLY MUD

County WELD

Rig Number NABORS M 37

Field NE WATTENBERG

Drilling Completed 7/1/2013

K.B. Elevation 5601

Total Depth 11400

Company BILL BARRETT
Address 1099 18TH ST .,
DENVER, CO 8

Name JASON BRAND
Company BILL BARRETT
Address 1099 18TH ST .,
DENVER, CO 8

LE DEL VECCHIO WELLSIT
TRENT NELSON WELLSIT
EDGE HOWLAND RELIEF V



Operator

CORP.

STE. 2300
0202

Geologist

CORP.

STE. 2300
0202

Other

THE GEOLOGIST
THE GEOLOGIST
WELLSITE GEOLOGIST

Rock Types

	CONGLOMERATE		NO SAMPLE
	DOLOMITE		SALT
	GRANITE		SALT-PEPPER SANDSTONE
	GYPSUM		SANDSTONE
	IGNEOUS		SHALE
	LIMESTONE		SHALE COLORED
	SIDERITE or LIMONITE		SHALE GRAY
	MARLSTONE		SHALY SANDSTONE
	METAMORPHIC		SHALY SILTSTONE
	NO SAMPLE		SILTSTONE
	SALT		SILTY SHALE
	SALT-PEPPER SANDSTONE		TUFF
	SANDSTONE		WELDED TUFF
	SHALE		
	SHALE COLORED		
	SHALE GRAY		
	SHALY SANDSTONE		

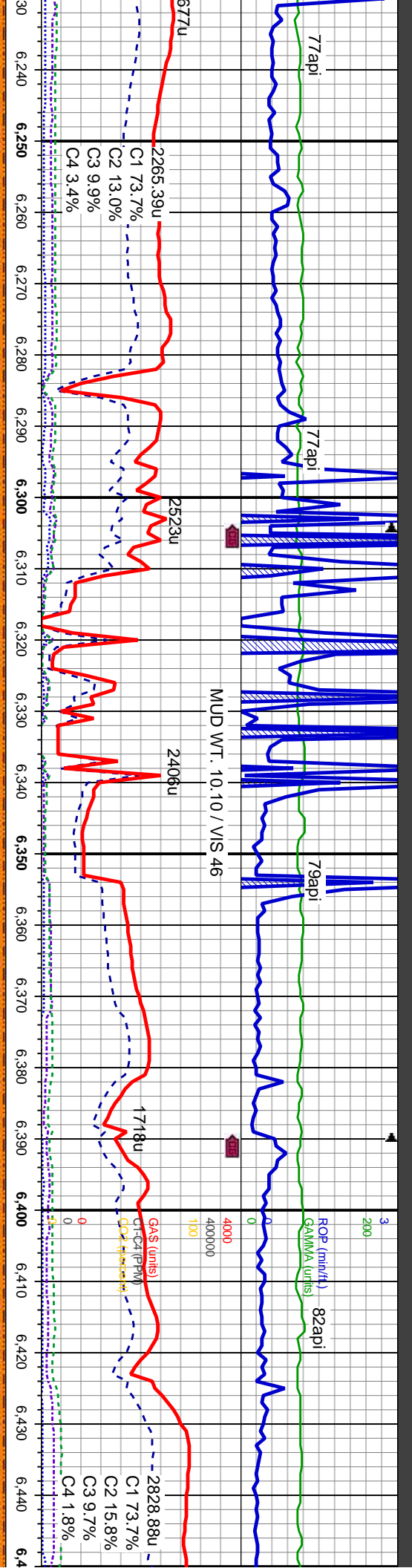
Accessories

	F FOSSIL		ANHYDRITIC		FERRUGINOUS		TUFFACEOUS
	GASTROPOD		ARGILLACEOUS		GLAUCONITE		
	INOCERAMUS		ARGILLITE GRAIN		GYPSIFEROUS		
	ALGAE		BENTONITE		HEAVY MINERAL		ANHYDRITE STRINGER
	AMPHIPORA		BITUMINOUS SUBSTANCE		KAOLIN		BENTONITE STRINGER
	BELAMINITE		BRECCIA FRAGMENTS		MARLSTONE		COAL STRINGER
	BIOCLASTIC		CARBONACEOUS FLAKES		MINERAL CRYSTALS		DOLOMITE STRINGER
	BRACHIOPOD		CHERT		NODULES		GYPSUM STRINGER
	BRYOZOA		COAL - THIN BEDS		PHOSPHATE PELLET		LIMESTONE STRINGER
	CEPHALOPOD		CHERT		PYRITE		MARLSTONE (CALC) STRG
	CORAL		DOLOMITIC		SALT CAST		MARLSTONE (DOL) STRG
	CRINOID		FELDSPAR		SANDY		SANDSTONE STRINGER
	ECHINOID		FERRUGINOUS PELLET		SILTY		SHALE STRINGER
	FISH						
	FORAMINIFERA						SILTSTONE STRINGER

Stringer

Other Symbols

	MOLDIC		FAULT		WIRELINE TESTED - LEFT		E EARTHY
	DEAD		FORMATION TOP		WIRELINE TESTED - RT		FX FINELY SILTY
	EVEN		GAS SHOW		GS GRAINSTONE		L LITHOGRAPHIC
	QUESTIONABLE		MINDEPTH MIN DEPTH		ANGULAR		MX MICRO SILTY
	SPOTTED STAINING		NORMAL FAULT		ROUNDED		MS MUDSTONE
	Porosity		OIL SHOW		SUBANG		PS PACKSTONE
	E EARTHY		OVERTURNED STRATA		SUBROUND		WS WACKESTONE
	FENESTRAL		REVERSE FAULT				
	F FRACTURE		SIDEWALL CORE (LEFT)				
	INTERCRYSTALLINE		SIDEWALL CORE (RIGHT)		Textures		
	INTERGOLITIC		SLIDE		BOUNDSTONE		M MODERATE
			SURVEY		CHALKY		P POOR
			TRIP GAS		CRYPTOXLIN		W WELL

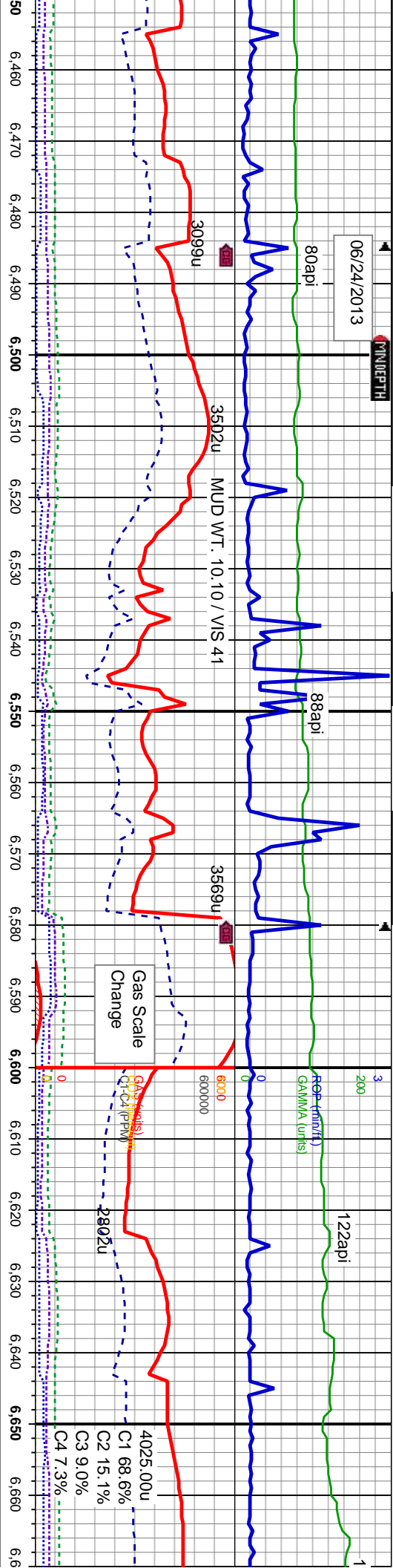


MD	TVD	Inclination	Azimuth	VS	SHY:SLTST
6:240	5,851.45	4 °	75.6 °	441.26'	some s&g, y, firm-mod hd, clay, tr blot, k gy, v-f gr, sb ply, bndd, r c gr, mod hd, t, sil cnt
6:278	5,889.24	7.7 °	77.4 °	445.09'	SHY:SLTST: lt-med gy, some dk gy, v-f gr, mod sft-firm, mod w srt, sb blk-y-sb ply, bndd, some fis, tr dism pyr, SHY:SS: wh-t gy, com med gy, some s&g, f-med gr, md-sub ang gr, sb blk-y, firm-mod hd, sil cnt, mod srt, some bndd, tr glau, tr blot, inbddd wi silst
6:302	5,912.99	9.1 °	74.9 °	448.56'	SHY:SLTST: lt-med gy, some dk gy, v-f gr, mod sft-firm, mod w srt, sb blk-y-sb ply, bndd, some fis, tr dism pyr, SHY:SS: wh-t gy, com med gy, some s&g, f-med gr, md-sub ang gr, sb blk-y, firm-mod hd, sil cnt, mod srt, some bndd, tr glau, tr blot, inbddd wi silst
6:334	5,944.53	10.3 °	79.1 °	453.88'	SHY:SLTST: lt-med gy, some dk gy, v-f gr, mod sft-firm, mod w srt, sb blk-y-sb ply, bndd, some fis, tr dism pyr
6:365	5,974.88	13.1 °	83 °	459.99'	SHY:SLTST: lt-med gy, some dk gy, v-f gr, mod sft-firm, mod w srt, sb blk-y-sb ply, bndd, some fis, tr dism pyr
6:397	6,005.77	17.1 °	81 °	468.08'	SHY:SLTST: lt-med gy, some dk gy, v-f gr, mod sft-firm, mod w srt, sb blk-y-sb ply, bndd, some fis, tr dism pyr
6:428	6,035	21.7 °	78.9 °	478.15'	SHY:SLTST: lt-med gy, some dk gy, v-f gr, mod sft-firm, mod w srt, sb blk-y-sb ply, bndd, some fis, tr dism pyr



06/24/2013

MINDEPTH



6,459' MD: 6,490'
 6,063.34' TVD: 6,090.75'
 ation: 26.1° Inclination: 29.6°
 uth: 82.8° Azimuth: 89.3°
 990.37' VS: 504.09'

SHY:SLTST: lt-med gy, some dk gy, v f gr, mod st-firm, mod w srt, sb blkly-sb ply, brdd, some fls, tr dissm pyr

6,523' MD: 6,523'
 6,119.1' TVD: 6,119.1'
 Inclination: 32°
 Azimuth: 93°
 VS: 519.6'

SHY:SLTST: medgy - gy, sme brn gy, firm - mod stf, sb ply - ply,sme blkly - sb blkly, rthy - gly, mx: sily - arg, non calc, occ - tr grdg to slst, v tr dissm pyr

6,552' MD: 6,552'
 6,143.64' TVD: 6,169.66'
 Inclination: 32.4°
 Azimuth: 92.1°
 VS: 533.64'

SHY:SLTST: medgy - gy, sme brn gy, firm - mod stf, sb ply - ply,sme blkly - sb blkly, rthy - gly, mx: sily - arg, non calc, occ - tr grdg to slst, v tr dissm pyr

SLTY:SH: medgy-dkgy, sme lgy, sily-grty, sb ply-ply, occ sb blkly, inbdd w shy slst, w srt, v f gr, rthy, tex, arg mx, sme sl fls: fnt bl mky cut, v fnt pale yeal ring, v v fnt brn vis lt ring

5800' MD: 6,618'
 6,198.92' TVD: 6,198.92'
 Inclination: 33.2°
 Azimuth: 92.3°
 VS: 566.46'

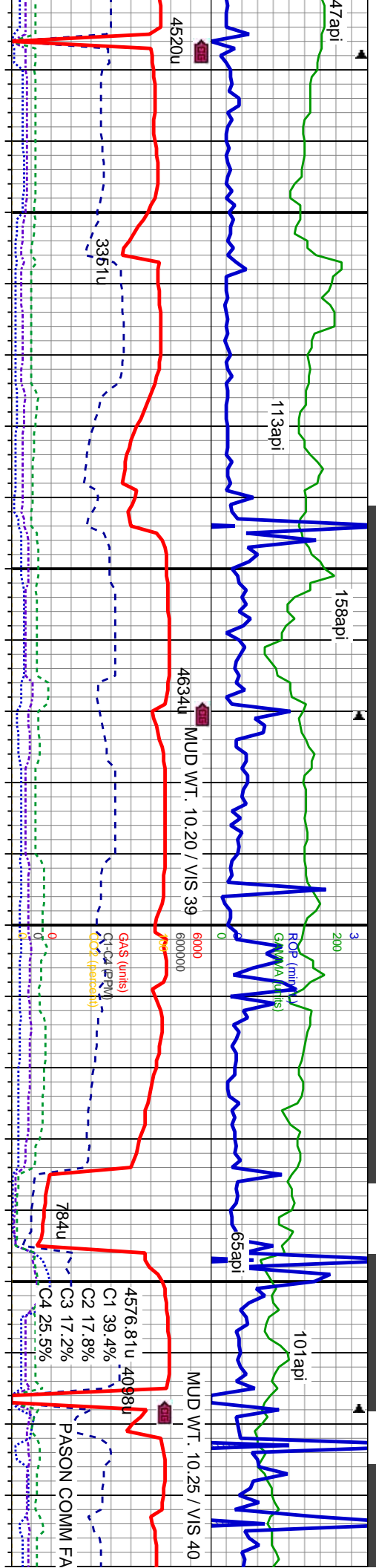
SLTY:SH: medgy-dkgy, sme lgy, sily-grty, sb ply-ply, occ sb blkly, inbdd w shy slst, w srt, v f gr, rthy, tex, arg mx, sme sl fls

SHY:SLTST: medgy - gy, sme brn gy, firm - mod stf, sb ply - ply,sme blkly - sb blkly, rthy - gly, mx: sily - arg, non calc, occ - tr grdg to slst, v tr dissm pyr: fnt bl mky cut, v fnt pale yeal ring, v v fnt brn vis lt ring

6,650' MD: 6,650'
 6,225.72' TVD: 6,225.72'
 Inclination: 33°
 Azimuth: 91.4°
 VS: 582.43'

SLTYSH: lt gyshtn gy brn, firm - mod s blkly - sb blkly, rthy - calc, occ grdg to sh v fnt pale yeal ring, v





MD: 6,682' TVD: 6,252.62' Inclination: 32.6° Azimuth: 90.7° VS: 598.37'

SL.TYSH: lt gysthn - medgy - gy, sme dk gy - dk gy brn, firm - mod sft, sb ply - ply - sb fis, sme blk - sb blk, rthy - gy, mtx: sily - arg, non calc, occ grdg to sh, occ bent

CHK: lt-dk gy, v sft-firm, sb ply-sb blk, brndd, sub wxy, v calc, inbddd wi mlst

MRLST: med-dk gy, some blk, some brn blk, mod sft-firm, grtty, sil mtx, calc, sb ply-ply, some fis, inbddd wi chk, bl mky-sting cut, fnt pale yel ring, v v fnt brn vis lt ring

MD: 6,713' TVD: 6,278.81' Inclination: 32.1° Azimuth: 90.9° VS: 613.65'

MD: 6,745' TVD: 6,305.78' Inclination: 33° Azimuth: 90.4° VS: 629.52'

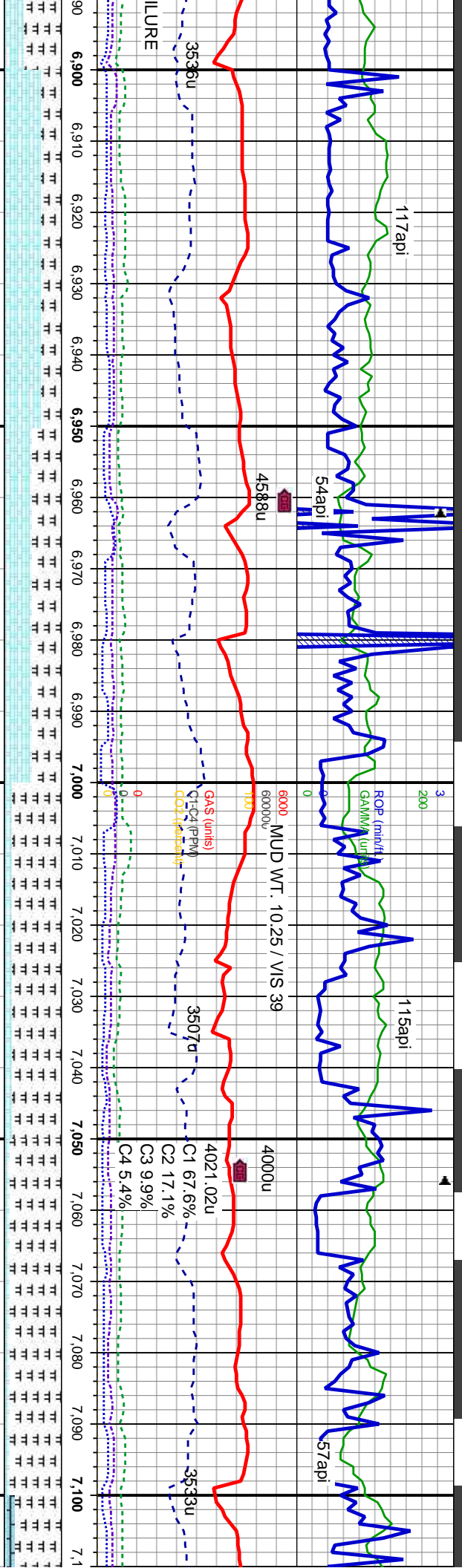
MD: 6,775' TVD: 6,330.46' Inclination: 36.3° Azimuth: 87.2° VS: 645.46'

MD: 6,809' TVD: 6,357.16' Inclination: 40.2° Azimuth: 83.7° VS: 665.52'

MD: 6,840' TVD: 6,380.23' Inclination: 43.6° Azimuth: 83° VS: 685.47'

MD: 6,871' TVD: 6,401.99' Inclination: 47.2° Azimuth: 83.2° VS: 706.77'





MRLST: dk gy-blk, some brn blk, sft-firm, gritty, sil mtz, calc, sb ply-ply, some fis, mod abnt yel-gn bent, inbddd wi chk
 CHK: med gy, some lt gy, unc wht, v sft-sft, sb ply-sb blk, bndd, sub wxy, mot, v calc, mod abnt fos, mod abnt inooc fos frag, inbddd wi mlst; bl wh mod fast string cut, pale yel gn ring, tan-brn vis lt ring

CHK: lt-med gy, some tan-redbrn, v sft-sft, sb ply-sb blk, bndd, sub wxy, mot, v calc, tr fos rnd frag, inbddd wi mlst
 MRLST: dk gy-blk, sft-firm, gritty, sil mtz, calc, sb ply-ply, some fis, mod abnt yel-gn bent, inbddd wi chk, bl wh mod fast string cut, pale yel gn ring, tan-brn vis lt ring

5%
 MRLST: dk gy-blk, sft-firm, gritty, sil mtz, calc, sb ply-ply, some fis, mod abnt yel-gn bent, inbddd wi chk
 CHK: lt-med gy, some tan-redbrn, v sft-sft, sb ply-sb blk, bndd, sub wxy, mot, v calc, tr fos rnd frag, inbddd wi mlst; bl wh string cut, pale yel gn ring, tan-brn vis lt ring

MRLST: dk gy-blk, sft-firm, gritty, sil mtz, calc, sb ply-ply, some fis, mod abnt yel-gn bent, inbddd wi chk
 CHK: med gy-dk gy, some red brn, v sft-sft, sb ply-sb blk, bndd, sub wxy, mot, v calc, tr fos rnd frag, inbddd wi mlst; bl wh string cut, pale yel gn ring, tan-brn vis lt ring

MRLST: dk gy-blk, sft-firm, gritty, sil mtz, calc, sb ply-ply, some fis, mod abnt yel-gn bent, inbddd wi chk
 LS: crm-c calc, wxy
 CHK: med gy, some tan-redbrn, v sft-sft, sb ply-sb blk, bndd, sub wxy, mot, v calc, tr fos rnd frag, inbddd wi mlst; bl wh string cut, pale yel gn ring, tan-brn vis lt ring

MD: 6,903	MD: 6,935	MD: 6,966	MD: 6,998	MD: 7,030	MD: 7,062	MD: 7,093
TVD: 6,422.84'	TVD: 6,441.53'	TVD: 6,457.26'	TVD: 6,471.38'	TVD: 6,483.75'	TVD: 6,494.46'	TVD: 6,503.24'
Inclination: 51.5°	Inclination: 57°	Inclination: 62°	Inclination: 65.6°	Inclination: 68.9°	Inclination: 72°	Inclination: 75.1°
Azimuth: 83.9°	Azimuth: 86°	Azimuth: 87.7°	Azimuth: 88.6°	Azimuth: 89.3°	Azimuth: 89.8°	Azimuth: 89.8°
VS: 730.14'	VS: 754.95'	VS: 780.2'	VS: 807.13'	VS: 834.66'	VS: 862.69'	VS: 890.27'



162api

06/25/2013 -
06/27/2013

TRM DEPTH

25api

GAMMA (units)

6000
600000
100

MUD WT. 10.30 / VIS 42

PASON COMM FAILURE

MUD WT. 8.40 / VIS 27

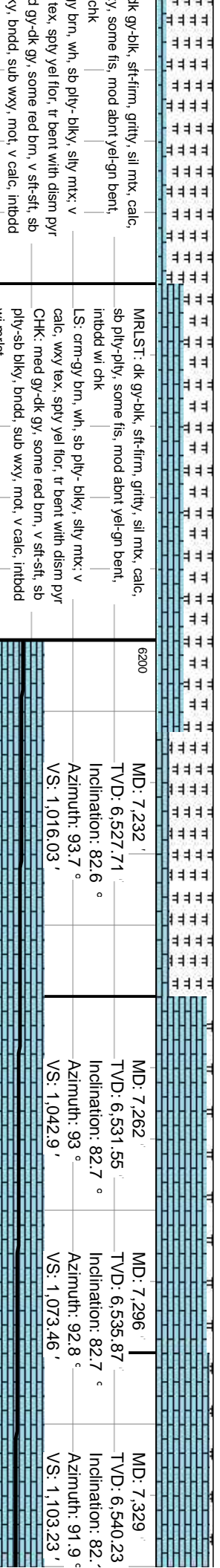
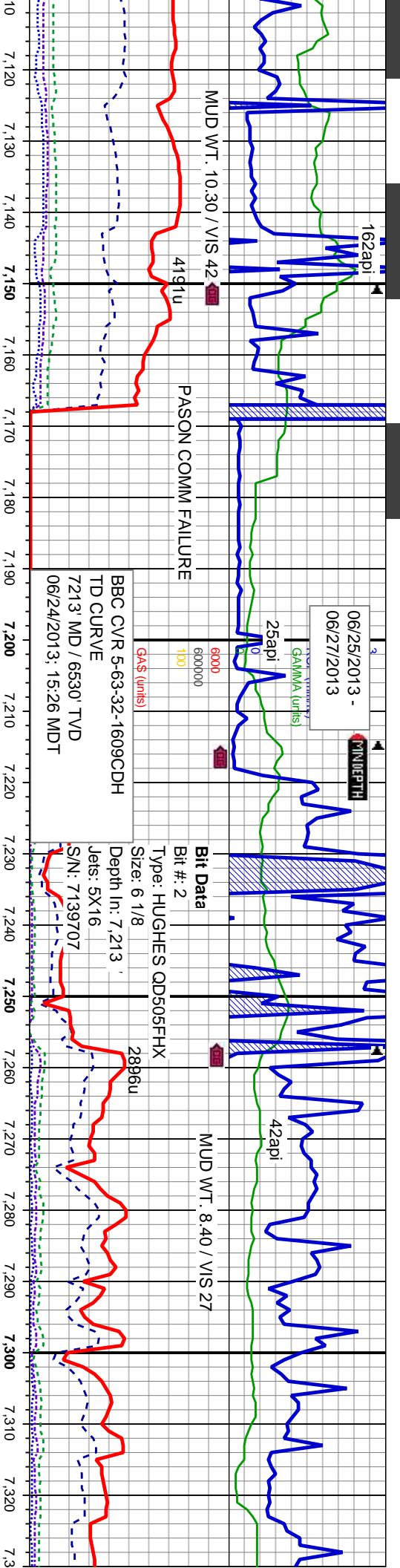
42api

Bit Data

Bit #: 2
Type: HUGHES QD505FHX
Size: 6 1/8
Depth In: 7.213
Jets: 5X16
S/N: 7139707

2896u

BBC CVR 5-63-32-1609CDH
TD CURVE
7213' MD / 6530' TVD
06/24/2013; 15:26 MDT



MR.LST: dk gy-blk, stf-firm, gritty, sil mtx, calc, sb pily-pily, some fis, mod abnt yel-gn bent, inbddd w/ chk
LS: crm-gy brn, wh, sb pily-blky, stly mtx: v calc, wxy tex, sply yel flor, tr bent with dism pyr
CHK: med gy-dk gy, some red brn, v stf-stf, sb pily-sb blky, bnddd, sub wxy, mot, v calc, inbddd w/ mlrst

6200
MD: 7.232
TVD: 6.527.71
Inclination: 82.6
Azimuth: 93.7
VS: 1.016.03

MD: 7.262
TVD: 6.531.55
Inclination: 82.7
Azimuth: 93
VS: 1.042.9

MD: 7.296
TVD: 6.535.87
Inclination: 82.7
Azimuth: 92.8
VS: 1.073.46

MD: 7.329
TVD: 6.540.23
Inclination: 82.7
Azimuth: 91.9
VS: 1.103.23

TVD Scale Change

MD: 7.125
TVD: 6.510.63
Inclination: 78.2
Azimuth: 89.5
VS: 919.18

MD: 7.156
TVD: 6.516.41
Inclination: 80.3
Azimuth: 90.2
VS: 947.42

MD: 7.232
TVD: 6.527.71
Inclination: 82.6
Azimuth: 93.7
VS: 1.016.03

MD: 7.262
TVD: 6.531.55
Inclination: 82.7
Azimuth: 93
VS: 1.042.9

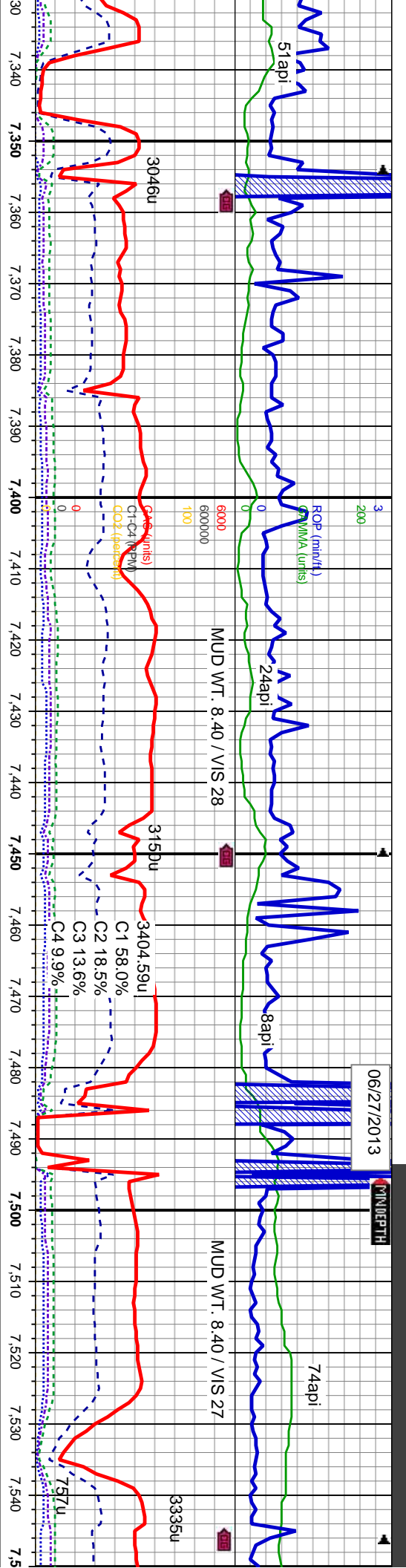
MD: 7.296
TVD: 6.535.87
Inclination: 82.7
Azimuth: 92.8
VS: 1.073.46

MD: 7.329
TVD: 6.540.23
Inclination: 82.7
Azimuth: 91.9
VS: 1.103.23



06/27/2013

MINDEPTH



MD: 7.360
 TVD: 6,544.6
 Inclination: 81.7 °
 Azimuth: 91.9 °
 VS: 1,131.27'

6200
 MD: 7.424
 TVD: 6,554.17
 Inclination: 81.1 °
 Azimuth: 92.3 °
 VS: 1,188.98'

MD: 7.456
 TVD: 6,559.21
 Inclination: 80.8 °
 Azimuth: 95.3 °
 VS: 1,217.4'

MD: 7.487
 TVD: 6,564.19
 Inclination: 80.7 °
 Azimuth: 93.7 °
 VS: 1,244.76'

MD: 7.520
 TVD: 6,569.15
 Inclination: 82 °
 Azimuth: 90.7 °
 VS: 1,274.49'

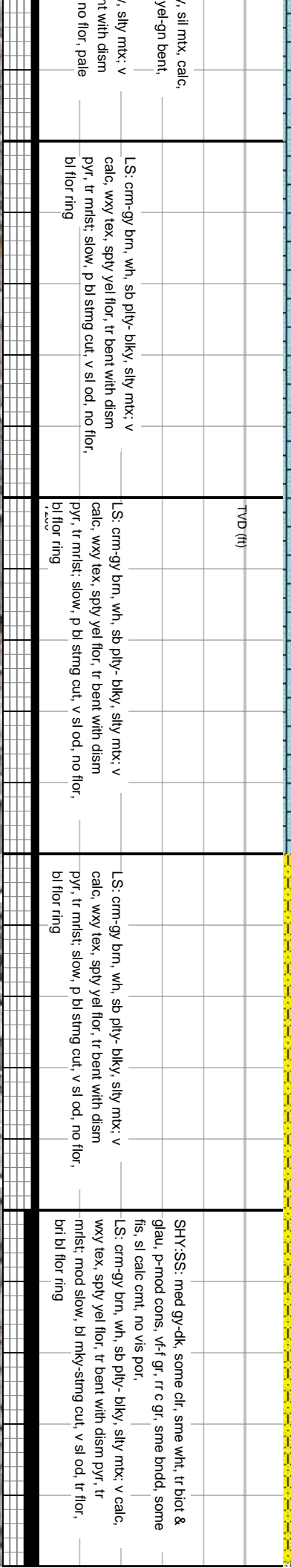
MD: 7.5
 TVD: 6,
 Inclinati
 Azimuth
 VS: 1,3

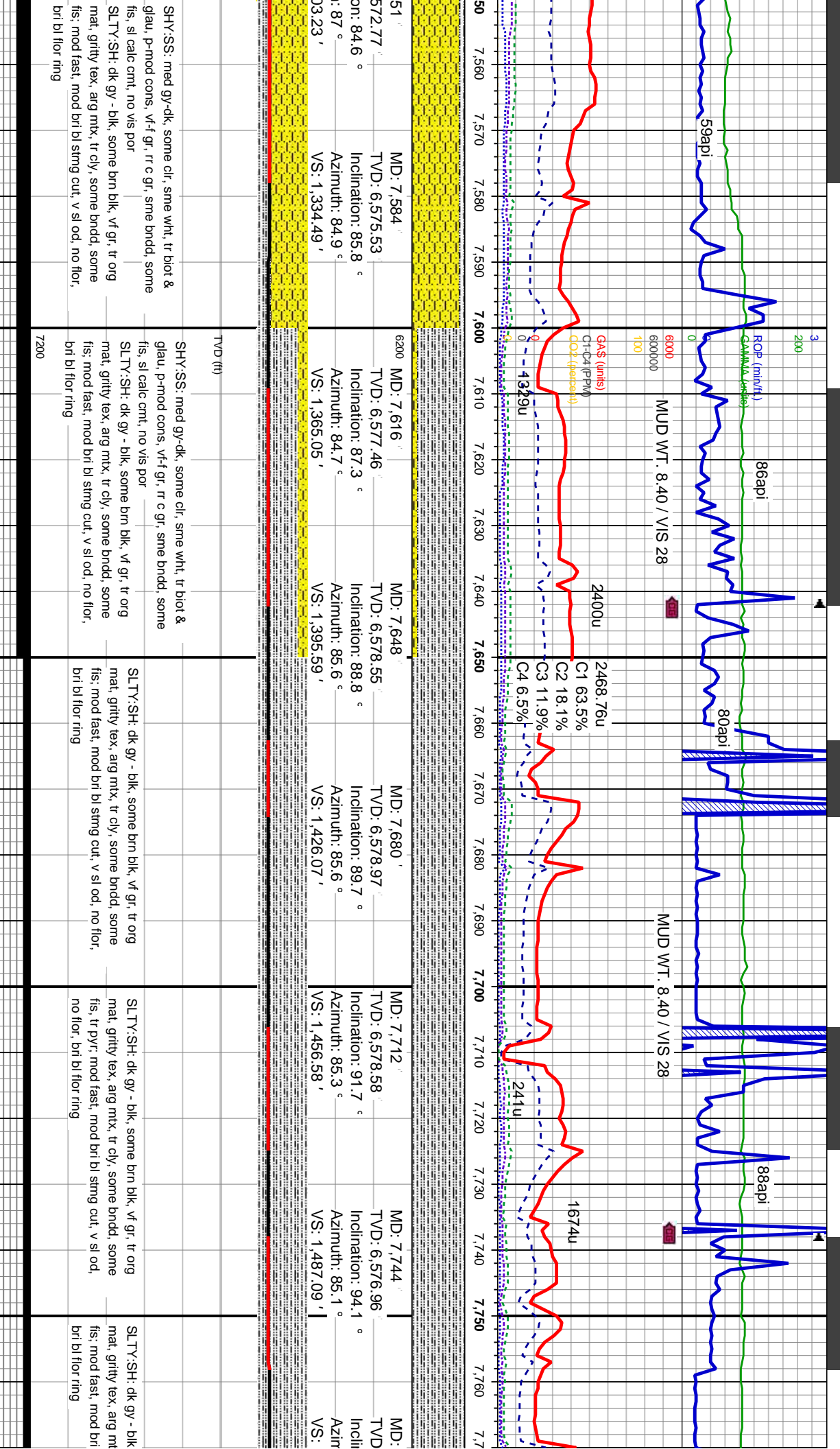
L.S: crm-gy brn, wh, sb pty- blkly, silty mx; v calc, wxy tex, sply yel flor, tr bent with dism pvr, tr mlst; slow, p bl string cut, v sl od, no flor, bl flor ring

L.S: crm-gy brn, wh, sb pty- blkly, silty mx; v calc, wxy tex, sply yel flor, tr bent with dism pvr, tr mlst; slow, p bl string cut, v sl od, no flor, bl flor ring

L.S: crm-gy brn, wh, sb pty- blkly, silty mx; v calc, wxy tex, sply yel flor, tr bent with dism pvr, tr mlst; slow, p bl string cut, v sl od, no flor, bl flor ring

SHY:SS: med gy-dk, some clr, sme wht, tr blot & glau, p-mod cons, v-f gr, rr c gr, sme bnnd, some fis, sl calc cnt, no vis por,
 L.S: crm-gy brn, wh, sb pty- blkly, silty mx; v calc, wxy tex, sply yel flor, tr bent with dism pvr, tr mlst; mod slow, bl mky-string cut, v sl od, tr flor, bri bl flor ring





SHY:SS: med gy-dk, some clr, sme wht, tr blot & glau, p-mod cons, v-f gr, rr c gr, sme brdd, some fis, sl calc cnt, no vis por
 SLTY:SH: dk gy - blk, some brn blk, v-f gr, tr org mat, gritty tex, arg mtk, tr cly, some brdd, some fis: mod fast, mod bri bl string cut, v sl od, no flor, bri bl flor ring

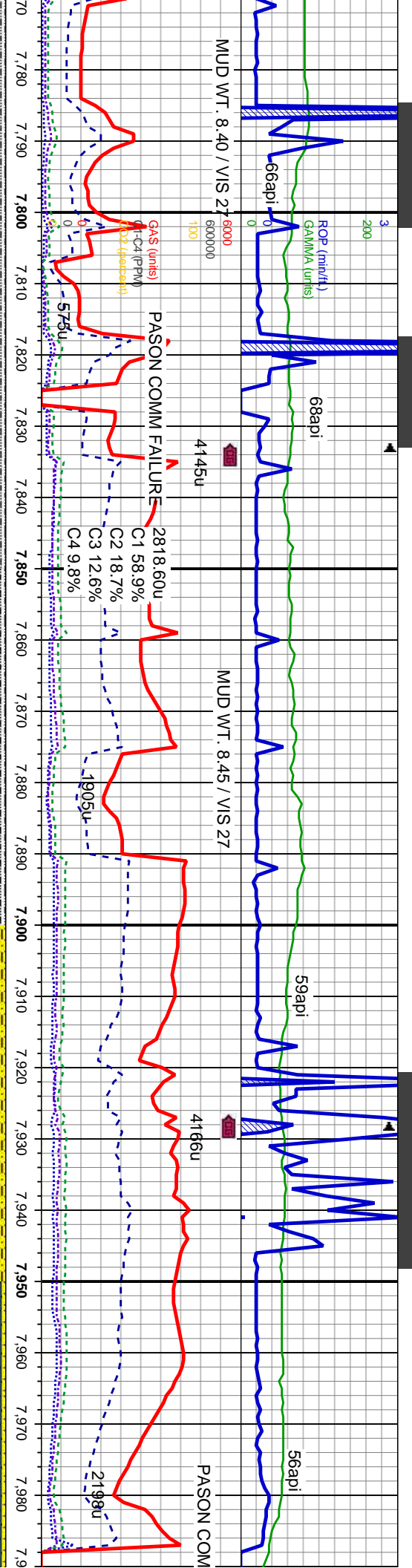
SHY:SS: med gy-dk, some clr, sme wht, tr blot & glau, p-mod cons, v-f gr, rr c gr, sme brdd, some fis, sl calc cnt, no vis por
 SLTY:SH: dk gy - blk, some brn blk, v-f gr, tr org mat, gritty tex, arg mtk, tr cly, some brdd, some fis: mod fast, mod bri bl string cut, v sl od, no flor, bri bl flor ring

SLTY:SH: dk gy - blk, some brn blk, v-f gr, tr org mat, gritty tex, arg mtk, tr cly, some brdd, some fis: mod fast, mod bri bl string cut, v sl od, no flor, bri bl flor ring

SLTY:SH: dk gy - blk, some brn blk, v-f gr, tr org mat, gritty tex, arg mtk, tr cly, some brdd, some fis, tr pyr: mod fast, mod bri bl string cut, v sl od, no flor, bri bl flor ring

SLTY:SH: dk gy - blk mat, gritty tex, arg mtk, tr cly, some brdd, some fis: mod fast, mod bri bl flor ring

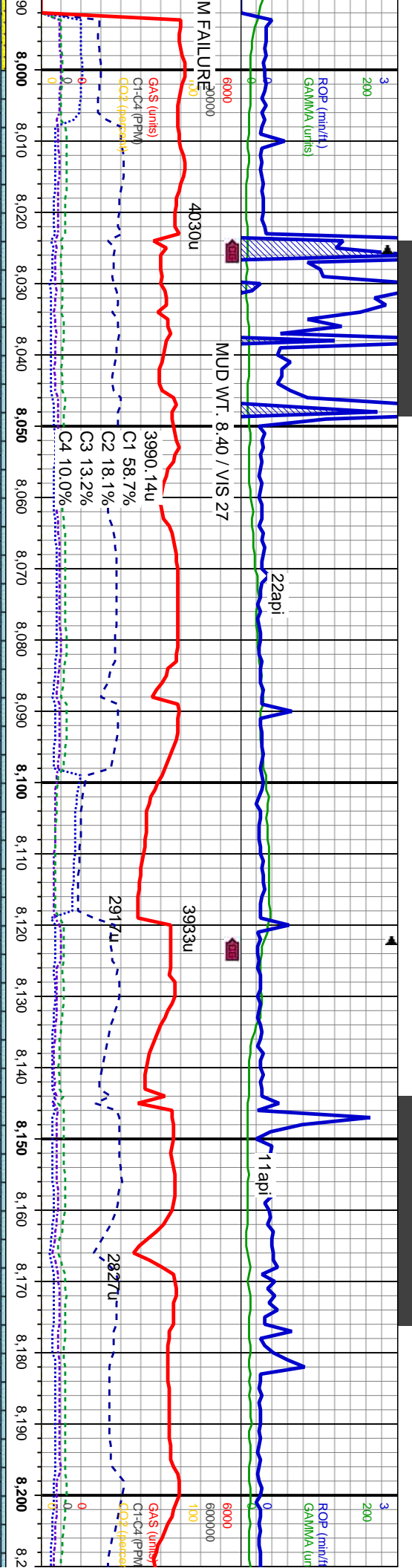




MD: 7,775'	MD: 7,807'	MD: 7,839'	MD: 7,967'
TVD: 6,574.42'	TVD: 6,571.52'	TVD: 6,568.84'	TVD: 6,559.69'
Inclination: 95.3°	Inclination: 95.1°	Inclination: 94.5°	Inclination: 93.7°
Azimuth: 85.3°	Azimuth: 85.8°	Azimuth: 86.7°	Azimuth: 87.2°
VS: 1,516.58'	VS: 1,546.95'	VS: 1,577.21'	VS: 1,697.89'

7,775'	7,807'	7,839'	7,967'
SL.TY:SH: dk gy - blk, some brn blk, vf gr, tr org mat, gritty tex, arg mtz, tr cly, some brndd, some fis	SL.TY:SH: dk gy - blk, some brn blk, vf gr, tr org mat, gritty tex, arg mtz, tr cly, some brndd, some fis	SL.TY:SH: dk gy - blk, some brn blk, vf gr, tr org mat, gritty tex, arg mtz, tr cly, some brndd, some fis	SHY:SS: med gy-dk, some clr, sme wht, tr blot & glau, p-mod cons, vf-f gr, rr c gr, sme brndd, some fis, sl calc cnt, no vis por, mod fast, mod bri bl stmg cut, v sl od, no flor, bri bl flor ring
SHY:SS: med gy-dk, some clr, sme wht, tr blot & glau, p-mod cons, vf-f gr, rr c gr, sme brndd, some fis, sl calc cnt, no vis por, mod fast, mod bri bl stmg cut, v sl od, no flor, bri bl flor ring	SHY:SS: med gy-dk, some clr, sme wht, tr blot & glau, p-mod cons, vf-f gr, rr c gr, sme brndd, some fis, sl calc cnt, no vis por, mod fast, mod bri bl stmg cut, v sl od, no flor, bri bl flor ring	SHY:SS: med gy-dk, some clr, sme wht, tr blot & glau, p-mod cons, vf-f gr, rr c gr, sme brndd, some fis, sl calc cnt, no vis por, mod fast, mod bri bl stmg cut, v sl od, no flor, bri bl flor ring	SHY:SS: med gy-dk, some clr, sme wht, tr blot & glau, p-mod cons, vf-f gr, rr c gr, sme brndd, some fis, sl calc cnt, no vis por, mod fast, mod bri bl stmg cut, v sl od, no flor, bri bl flor ring





MD: 8,063
 TVD: 6,554.66
 Inclination: 92.3 °
 Azimuth: 87.9 °
 VS: 1,788.16'

MD: 8,158
 TVD: 6,551.02
 Inclination: 92.1 °
 Azimuth: 87.2 °
 VS: 1,877.56'

LS: crm-gy brn, wh, sb pily- blk, silty mx; v calc, wxy tex, sply yel flor, tr bent with dism pyr, tr mlst; slow, p bl string cut, v sl od, no flor, bl floor ring

LS: crm-gy brn, wh, sb pily- blk, silty mx; v calc, wxy tex, sply yel flor, tr bent with dism pyr, tr mlst; slow, p bl string cut, v sl od, no flor, bl floor ring

LS: crm-gy brn, wh, sb pily- blk, silty mx; v calc, wxy tex, sply yel flor, tr bent with dism pyr, tr mlst; slow, p bl string cut, v sl od, no flor, bl floor ring

LS: crm-gy brn, wh, sb pily- blk, silty mx; v calc, wxy tex, sply yel flor, tr bent with dism pyr, tr mlst; slow, p bl string cut, v sl od, no flor, bl floor ring

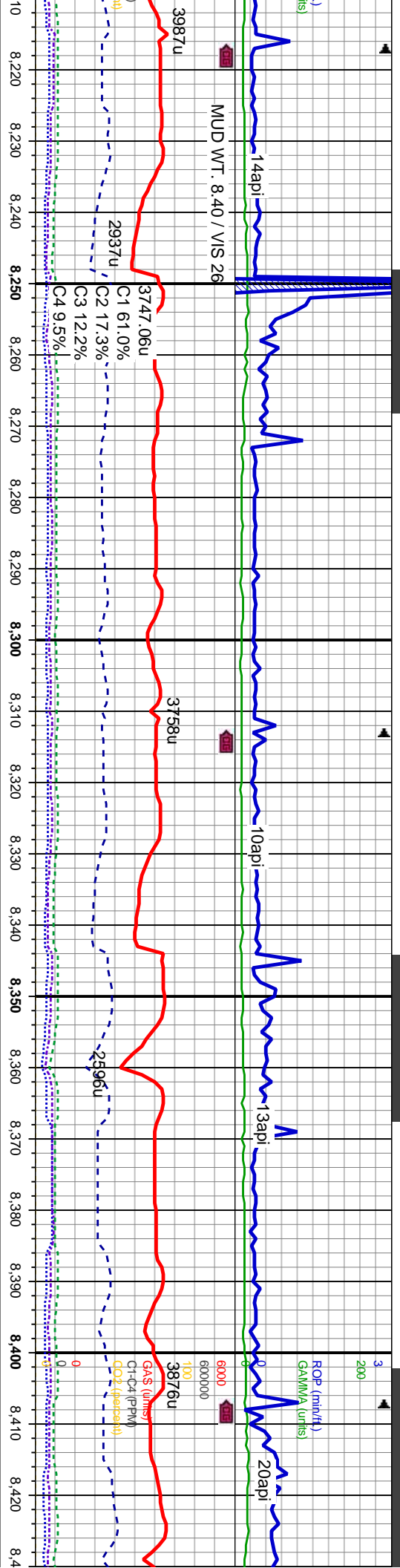


TVD (ft)

TVD (ft)

6200

6200



MD: 8,254'
 TVD: 6,548.75'
 Inclination: 90.6°
 Azimuth: 88.4°
 VS: 1,967.79'

MD: 8,344'
 TVD: 6,547.42'
 Inclination: 91.1°
 Azimuth: 88.6°
 VS: 2,052.02'

6200

TVD (ft)

gy brn, wh, sb ply- blk, silty mx; v
 tex, sply yel flor, tr bent with dism
 list; slow, p bl string cut, v sl od, no flor,
 g

LS: crm-gy brn, wh, sb ply- blk, silty mx; v
 calc, wxy tex, sply yel flor, tr bent with dism
 pyr, tr mlst; slow, p bl string cut, v sl od, no flor,
 bl flor ring

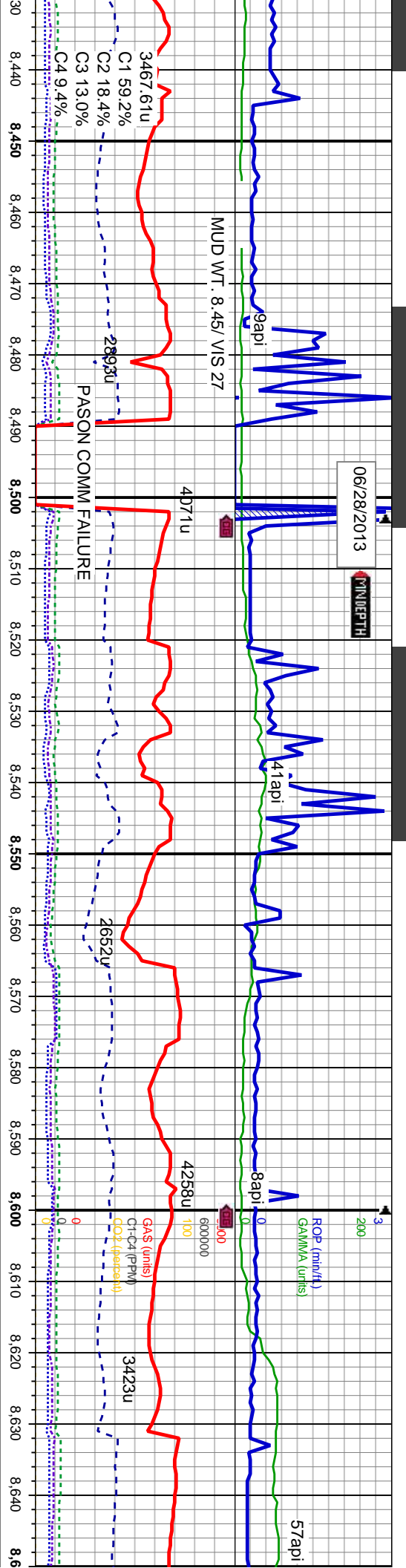
LS: crm-gy brn, wh, sb ply- blk, silty mx; v
 calc, wxy tex, sply yel flor, tr bent with dism
 pyr, tr mlst; slow, p bl string cut, v sl od, no flor,
 bl flor ring

LS: crm-gy brn, wh, sb ply- blk, silty mx; v
 calc, wxy tex, sply yel flor, tr bent with dism
 pyr, tr mlst; slow, p bl string cut, v sl od, no flor,
 bl flor ring

LS: crm-gy brn, wh, sb ply- blk
 calc, wxy tex, sply yel flor, tr bent
 pyr, tr mlst; slow, p bl string cut
 z-bl flor ring



06/28/2013
 MINIREPT



MD: 8,446'
 TVD: 6,546.97'
 Inclination: 89.4°
 Azimuth: 90.9°
 VS: 2,146.68'

MD: 8,541'
 TVD: 6,549.88'
 Inclination: 87.1°
 Azimuth: 94.2°
 VS: 2,232.95'

MD: 8,637'
 TVD: 6,554.06'
 Inclination: 87.9°
 Azimuth: 93.7°
 VS: 2,319.11'

LS: crm-gy brn, wh, sb pily-blky, silty mtx; v calc, wxy tex, sply yel flor, tr bent with dism pyr, tr mlst; slow, p bl string cut, v sl od, no flor, bl flor ring

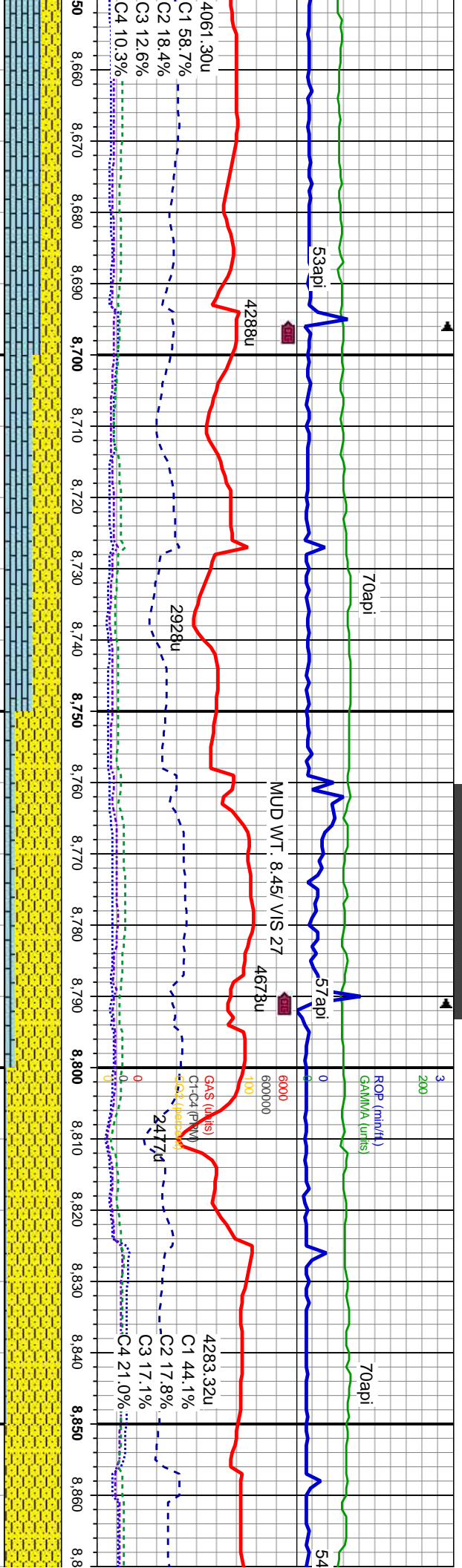
LS: crm-gy brn, wh, sb pily-blky, silty mtx; v calc, wxy tex, sply yel flor, tr bent with dism pyr, tr mlst; slow, p bl string cut, v sl od, no flor, bl flor ring

LS: crm-gy brn, wh, sb pily-blky, silty mtx; v calc, wxy tex, sply yel flor, tr bent with dism pyr, tr mlst; slow, p bl string cut, v sl od, no flor, bl flor ring

SHY:SS: med gy-dk, some clr, sme wht, tr blot & glau, p-mod cons, vf-f gr, rr c gr, sme brdd, some fis, sl calc cmt, no vis por,
 LS: crm-gy brn, wh, sb pily-blky, silty mtx; v calc, wxy tex, sply yel flor, tr bent with dism pyr, tr mlst; mod slow, bl mky-string cut, v sl od, tr flor, bri, bl flor ring

TVD (ft)





MD: 8,735'
 TVD: 6,555.86'
 Inclination: 90 °
 Azimuth: 93 °
 VS: 2,407.57'

MD: 8,828'
 TVD: 6,556.26'
 Inclination: 89.5 °
 Azimuth: 90.4 °
 VS: 2,492.65'

SHY:SS: med gy-dk, some clr, sme wht, tr biot & glau, p-mod cons, v-f gr, rr c gr, sme brndd, some fis, sl calc cnt, no vis por,
 LS: crm-gy brn, wh, sb pily-blky, silty mtx: v calc, wxy tex, sply yel flor, tr bent with dism pyr, tr mist: mod slow, bl mky-stng cut, v sl od, tr flor, bri bl flor ring

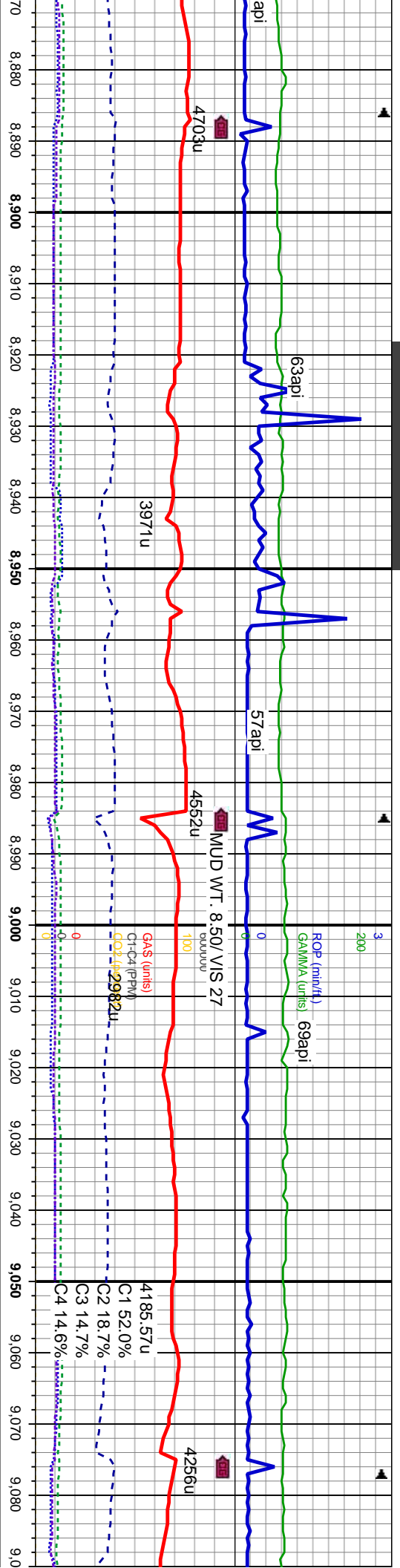
SHY:SS: med gy-dk, some clr, sme wht, tr biot & glau, p-mod cons, v-f gr, rr c gr, sme brndd, some fis, sl calc cnt, no vis por,
 LS: crm-gy brn, wh, sb pily-blky, silty mtx: v calc, wxy tex, sply yel flor, tr bent with dism pyr, tr mist: mod slow, bl mky-stng cut, v sl od, tr flor, bri bl flor ring

SHY:SS: med gy-dk, some clr, sme wht, tr biot & glau, p-mod cons, v-f gr, rr c gr, sme brndd, some fis, sl calc cnt, no vis por,
 LS: crm-gy brn, wh, sb pily-blky, silty mtx: v calc, wxy tex, sply yel flor, tr bent with dism pyr, tr mist: mod slow, bl mky-stng cut, v sl od, tr flor, bri bl flor ring

SHY:SS: med gy-dk, some clr, sme wht, tr biot & glau, p-mod cons, v-f gr, rr c gr, sme brndd, some fis, sl calc cnt, no vis por, tr dism pyr,
 LS: crm-gy brn, wh, sb pily-blky, silty mtx: v calc, wxy tex, sply yel flor, mod slow, bl mky-stng cut, v sl od, tr flor, bri bl flor ring

SHY:SS: med gy-dk, glau, p-mod cons, v-f some fis, sl calc cnt, slow, bl mky-stng cu ring





MD: 8.924'
 TVD: 6.556.01'
 Inclination: 90.8 °
 Azimuth: 89.3 °
 VS: 2.581.68'

MD: 9.019'
 TVD: 6.555.18'
 Inclination: 90.2 °
 Azimuth: 88.8 °
 VS: 2.670.27'

SHY:SS: med-dk gy, sme clr, tr biot & glau,
 p-mod cons, v-f gr, rr c gr, sme bndd, some fis,
 sl calc cnt, no vis por, tr dism pyr; mod slow, bl
 mky-stng cut, v sl od, tr flor, bri bl flor ring

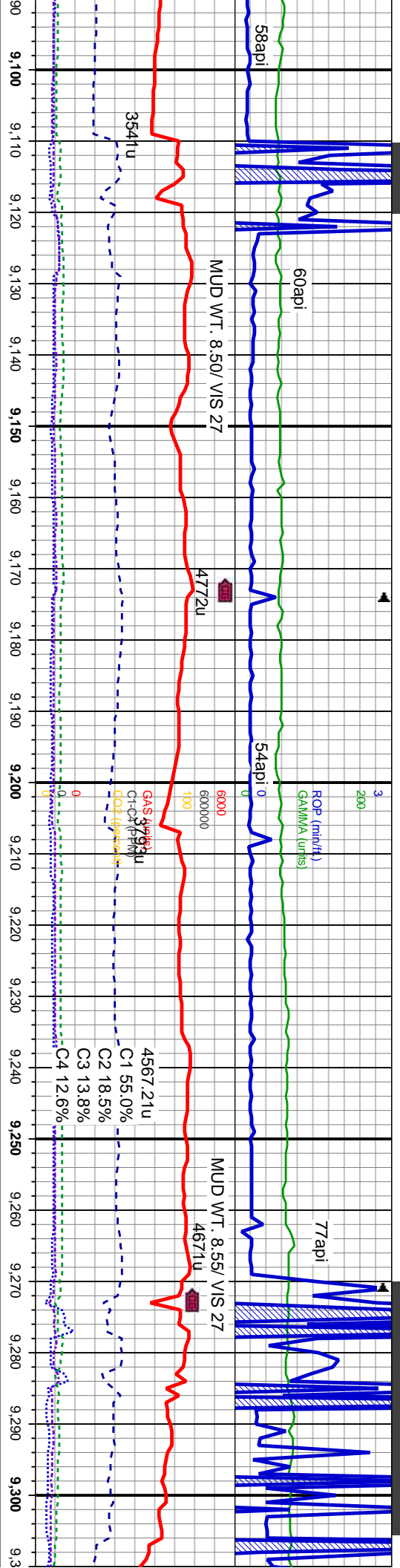
SHY:SS: med-dk gy, sme clr, tr biot & glau,
 p-mod cons, v-f gr, rr c gr, sme bndd, some fis,
 sl calc cnt, no vis por, tr dism pyr, tr sily sh, mod
 slow, bl mky-stng cut, v sl od, tr flor, bri bl flor
 ring

SHY:SS: med-dk gy, sme clr, tr biot & glau,
 p-mod cons, v-f gr, rr c gr, sme bndd, some fis,
 sl calc cnt, no vis por, tr dism pyr, tr sily sh,
 slow, bl mky-stng cut, v sl od, tr flor, bri bl flor
 ring

SHY:SS: med-dk gy, sme clr, tr biot & glau,
 p-mod cons, v-f gr, rr c gr, sme bndd, some
 sl calc cnt, no vis por, tr dism pyr, tr sily sh
 slow, bl mky-stng cut, v sl od, tr flor, bri bl f
 ring



some clr, sme wht, tr biot &
 f gr, rr c gr, sme bndd,
 no vis por, tr dism pyr; mod
 t, v sl od, tr flor, bri bl flor



MD: 9,116'
 TVD: 6,553.83'
 Inclination: 91.4 °
 Azimuth: 89.1 °
 VS: 2,760.78'

6200 MD: 9,212'
 TVD: 6,550.26'
 Inclination: 92.8 °
 Azimuth: 88.8 °
 VS: 2,850.32'

MD: 9,300'
 TVD: 6,5
 Inclination:
 Azimuth:
 VS: 2,94

SHY:SS: med-dk gy, sme cl, tr biot & glau,
 p-mod cons, v-f gr, rr c gr, sme brndd, some fis,
 sl calc cmt, no vis por, tr dism pyr, tr sily sh; mod
 slow, bl mky-stng cut, v sl od, tr flor, bri bl flor
 ring

SHY:SS: med-dk gy, sme cl, tr biot & glau,
 p-mod cons, v-f gr, rr c gr, sme brndd, some fis,
 sl calc cmt, no vis por, tr dism pyr, tr sily sh; mod
 slow, bl mky-stng cut, v sl od, tr flor, bri bl flor
 ring

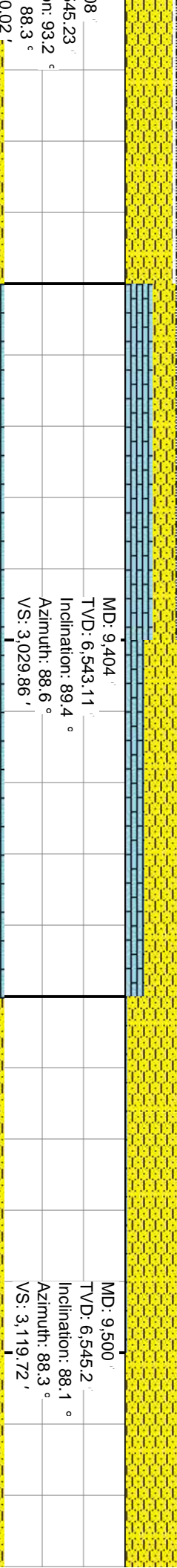
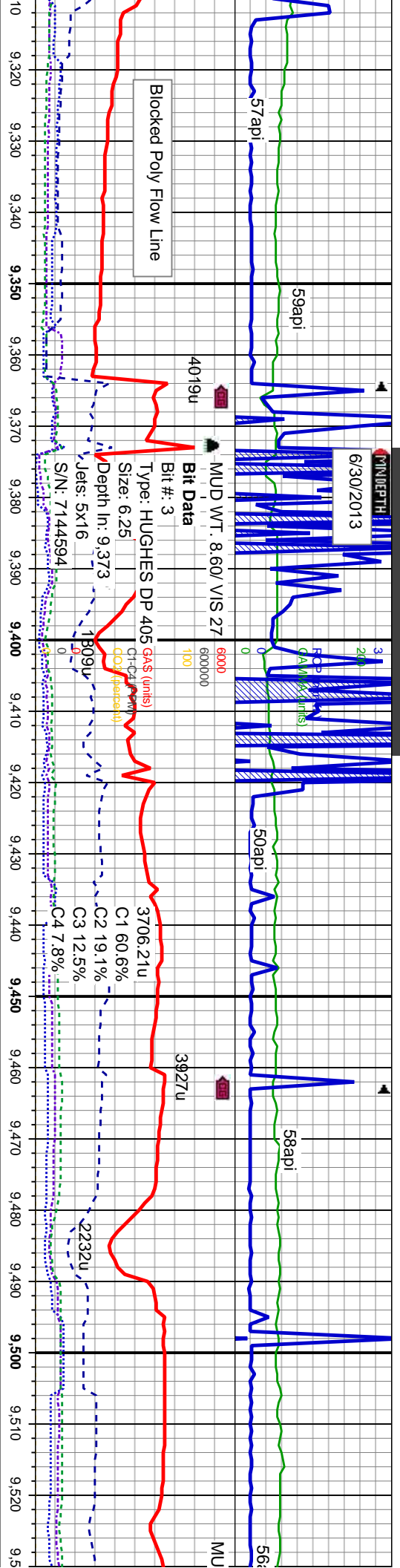
SHY:SS: med-dk gy, sme cl, tr biot & glau,
 p-mod cons, v-f gr, rr c gr, sme brndd, some fis,
 sl calc cmt, no vis por, tr dism pyr, tr sily sh; mod
 slow, bl mky-stng cut, v sl od, tr flor, bri bl flor
 ring

SHY:SS: med-dk gy, sme cl, tr biot & glau,
 p-mod cons, v-f gr, rr c gr, sme brndd, some fis,
 sl calc cmt, no vis por, tr dism pyr, tr sily sh; mod
 slow, bl mky-stng cut, v sl od, tr flor, bri bl flor
 ring

SLTY:SH:
 mat, grfly
 fis
 SHY:SS:
 glau, p-m
 fis, sl calc
 stng cut,



6/30/2013

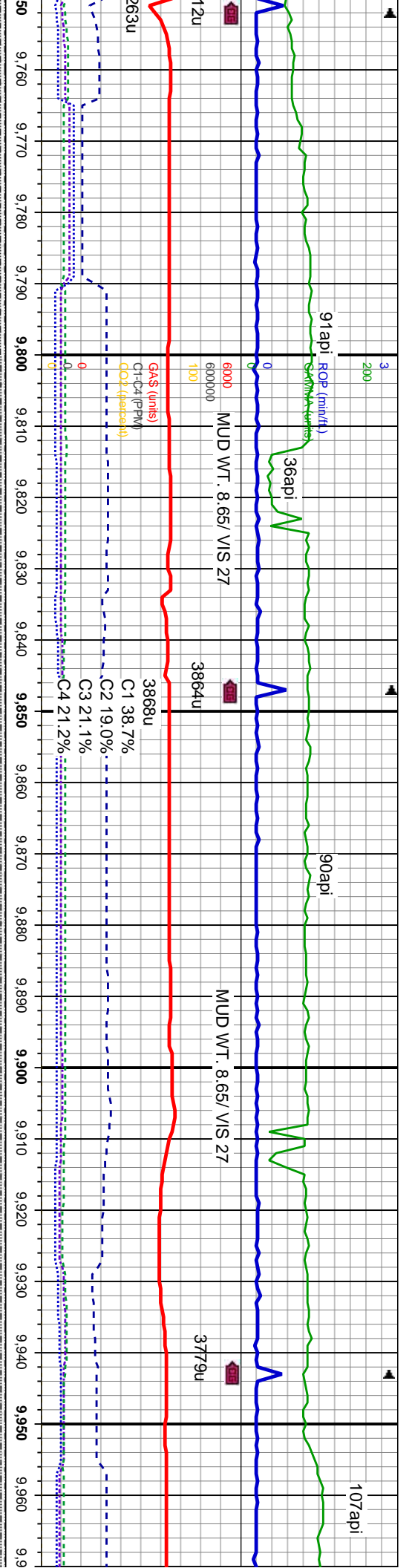


MD: 9,404
 TVD: 6,543.11
 Inclination: 89.4 °
 Azimuth: 88.6 °
 VS: 3,029.86'

MD: 9,500
 TVD: 6,545.2
 Inclination: 88.1 °
 Azimuth: 88.3 °
 VS: 3,119.72'

<p>dk gy - blk, some brn blk, vf gr, tr org tex, arg mtx, tr cly, some brndd, some</p>	<p>LS: crm-gy brn, wh, sb ply- blk, silty mtx; v calc, wxy tex, sply yel flor, tr bent with dism pyr, tr mlst SLTY:SH: dk gy - blk, some brn blk, vf gr, tr org mat, grifty tex, arg mtx, tr cly, some brndd, some fis SHY:SS: med gy-dk, some clr, sme wht, tr blot & glau, p-mod cons, vf-f gr, rr c gr, sme brndd, some fis, sl calc cmt, no vis por; mod fast, mod bri bl sting cut, v sl od, no flor, bri bl flor ring</p>	<p>LS: crm-gy brn, wh, sb ply- blk, silty mtx; v calc, wxy tex, sply yel flor, tr bent with dism pyr, tr mlst SHY:SS: med gy-dk, some clr, sme wht, tr blot & glau, p-mod cons, vf-f gr, rr c gr, sme brndd, some fis, sl calc cmt, no vis por; mod fast, mod bri bl sting cut, v sl od, no flor, bri bl flor ring</p>	<p>LS: crm-gy brn, wh, sb ply- blk, silty mtx; v calc, wxy tex, sply yel flor, tr bent with dism pyr, tr mlst SHY:SS: med gy-dk, some clr, sme wht, tr blot & glau, p-mod cons, vf-f gr, rr c gr, sme brndd, some fis, sl calc cmt, no vis por; mod fast, mod bri bl sting cut, v sl od, no flor, bri bl flor ring</p>	<p>SHY:SS: med gy-dk, some clr, s glau, p-mod cons, vf-f gr, rr c gr, fis, sl calc cmt, no vis por; mod f; sting cut, v sl od, no flor, bri bl flc</p>
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MD: 9.788
 TVD: 6,551.92
 Inclination: 89.3 °
 Azimuth: 86.8 °
 VS: 3,391.01'

MD: 9.884
 TVD: 6,553.09
 Inclination: 89.3 °
 Azimuth: 86.3 °
 VS: 3,481.95'

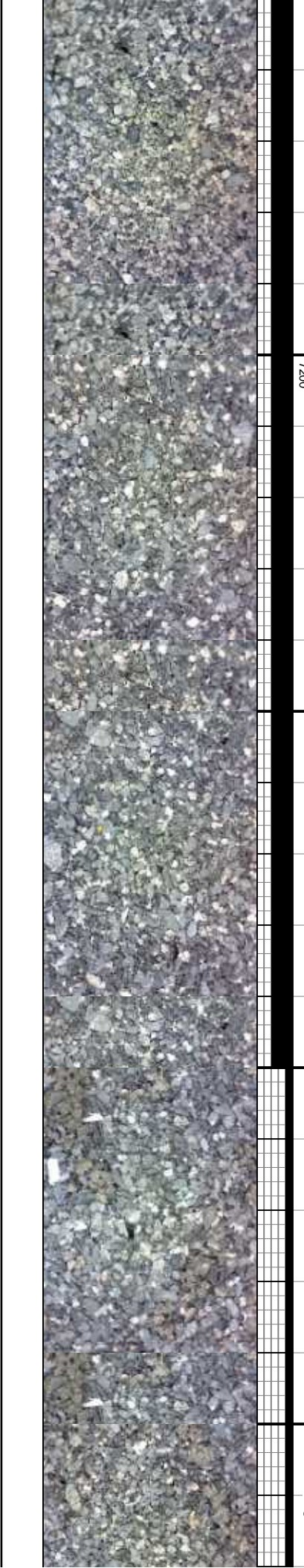
SHY:SS: med gy-dk, some clr, sme wht, tr blot & glau, p-mod cons, v-f gr, rr c gr, sme brndd, some fis, sl calc cmt, no vis por
 SL.TY:SH: dk gy - blk, some brn blk, vf gr, tr org mat, grity tex, arg mtx, tr cly, some brndd, some fis, mod fast, mod bri bl string cut, v sl od, no flor, bri bl flor ring

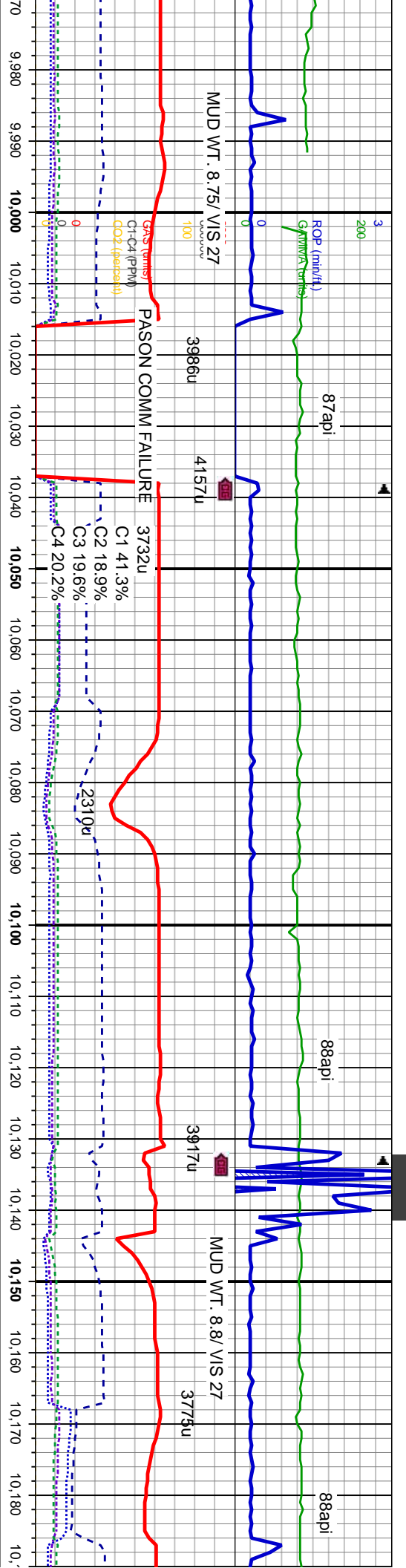
SHY:SS: med gy-dk, some clr, sme wht, tr blot & glau, p-mod cons, v-f gr, rr c gr, sme brndd, some fis, sl calc cmt, no vis por
 SL.TY:SH: dk gy - blk, some brn blk, vf gr, tr org mat, grity tex, arg mtx, tr cly, some brndd, some fis, mod fast, mod bri bl string cut, v sl od, no flor, bri bl flor ring

SHY:SS: med gy-dk, some clr, sme wht, tr blot & glau, p-mod cons, v-f gr, rr c gr, sme brndd, some fis, sl calc cmt, no vis por
 SL.TY:SH: dk gy - blk, some brn blk, vf gr, tr org mat, grity tex, arg mtx, tr cly, some brndd, some fis, mod fast, mod bri bl string cut, v sl od, no flor, bri bl flor ring

SHY:SS: med gy-dk, some clr, sme wht, tr blot & glau, p-mod cons, v-f gr, rr c gr, sme brndd, some fis, sl calc cmt, no vis por
 SL.TY:SH: dk gy - blk, some brn blk, vf gr, tr org mat, grity tex, arg mtx, tr cly, some brndd, some fis, mod fast, mod bri bl string cut, v sl od, no flor, bri bl flor ring

SHY:SS: med gy-dk, glau, p-mod cons, v-f-
 fis, sl calc cmt, no vis
 SL.TY:SH: dk gy - blk
 mat, grity tex, arg m
 fis, mod fast, mod bri
 bri bl flor ring

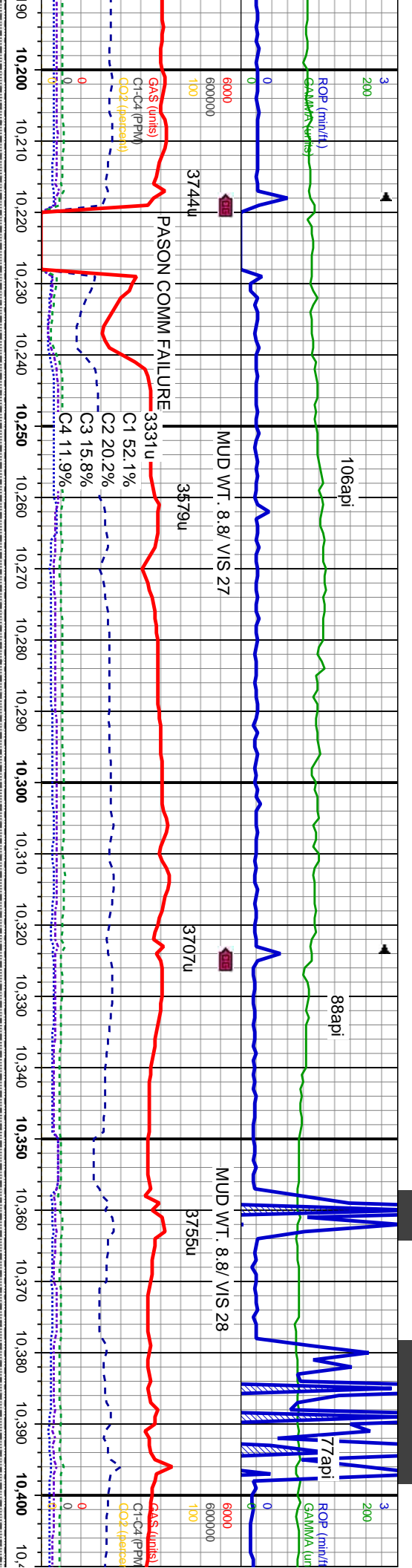




MD: 9,979 TVD: 6,554.61 Inclination: 88.8 ° Azimuth: 86.2 ° VS: 3,572.11'	6200	MD: 10,075 TVD: 6,556.62 Inclination: 88.8 ° Azimuth: 85.8 ° VS: 3,663.34'	MD: 10,170 TVD: 6,557.95 Inclination: 89.6 ° Azimuth: 84 ° VS: 3,754.17'
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some clr, sme wht, tr blot & 1 gr, rr c gr, sme brndd, some por	SLTY:SH: dk gy - blk, some brn blk, vf gr, tr org mat, grifty tex, arg mtx, tr cly, some brndd, some fis, tr pyf, tr ss: mod fast, mod brl bl string cut, v sl od, no flor, brl bl flor ring	SLTY:SH: dk gy - blk, some brn blk, vf gr, tr org mat, grifty tex, arg mtx, tr cly, some brndd, some fis, tr pyf, tr ss: mod fast, mod brl bl string cut, v sl od, no flor, brl bl flor ring	SLTY:SH: dk gy - blk, some brn blk, vf gr, tr org mat, grifty tex, arg mtx, tr cly, some brndd, some fis, tr pyf, tr ss: mod fast, mod brl bl string cut, v sl od, no flor, brl bl flor ring	SLTY:SH: dk gy - blk, some brn blk, vf gr, tr org mat, grifty tex, arg mtx, tr cly, some brndd, some fis, tr pyf, tr ss: mod fast, mod brl bl string cut, v sl od, no flor, brl bl flor ring
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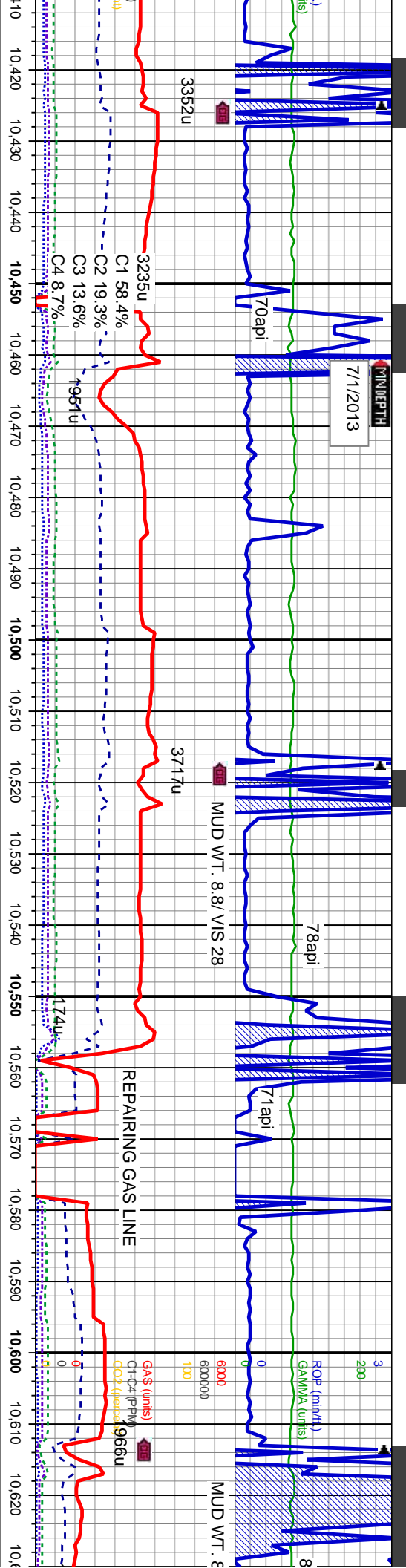




6200	MD: 10,265 TVD: 6,558.45 Inclination: 89.8 ° Azimuth: 82.4 ° VS: 3,845.79'	6200
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TVD (ft)	SL.TY-SH: dk gy - blk, some brn blk, vf gr, tr org mat, grifty tex, arg mtx, tr cly, some brndd, some fis, tr pyr, mod fast, mod brl bl string cut, v sl od, no flor, brl bl flor ring	TVD (ft)	SL.TY-SH: dk gy - blk, some brn blk, vf gr, tr org mat, grifty tex, arg mtx, tr cly, some brndd, some fis, tr pyr, mod fast, mod brl bl string cut, v sl od, no flor, brl bl flor ring	TVD (ft)	SL.TY-SH: dk gy - blk, some brn blk, vf gr, tr org mat, grifty tex, arg mtx, tr cly, some brndd, some fis, tr pyr, mod fast, mod brl bl string cut, v sl od, no flor, brl bl flor ring	TVD (ft)	SL.TY-SH: dk gy - blk, some brn blk, vf gr, tr org mat, grifty tex, arg mtx, tr cly, some brndd, some fis, tr pyr, mod fast, mod brl bl string cut, v sl od, no flor, brl bl flor ring	TVD (ft)	SL.TY-SH: dk gy - blk, some brn blk, vf gr, tr org mat, grifty tex, arg mtx, tr cly, some brndd, some fis, tr pyr, mod fast, mod brl bl string cut, v sl od, no flor, brl bl flor ring
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MD: 10,459
 TVD: 6,558.78'
 Inclination: 90.8 °
 Azimuth: 81.8 °
 VS: 4,033.93'

MD: 10,554
 TVD: 6,557.84'
 Inclination: 90.4 °
 Azimuth: 81.6 °
 VS: 4,126.17'

6200

dk gy - blk, some brn blk, vf gr, tr org
 tex, arg mtx, tr cly, some brndd, some
 tr ss: mod fast, mod brl bl stmg cut, v sl
 brl bl flr ring

SLTY:SH: dk gy - blk, some brn blk, vf gr, tr org
 mat, grtly tex, arg mtx, tr cly, some brndd, some
 fis, tr pyr, tr ss: mod fast, mod brl bl stmg cut, v sl
 od, no flr, brl bl flr ring

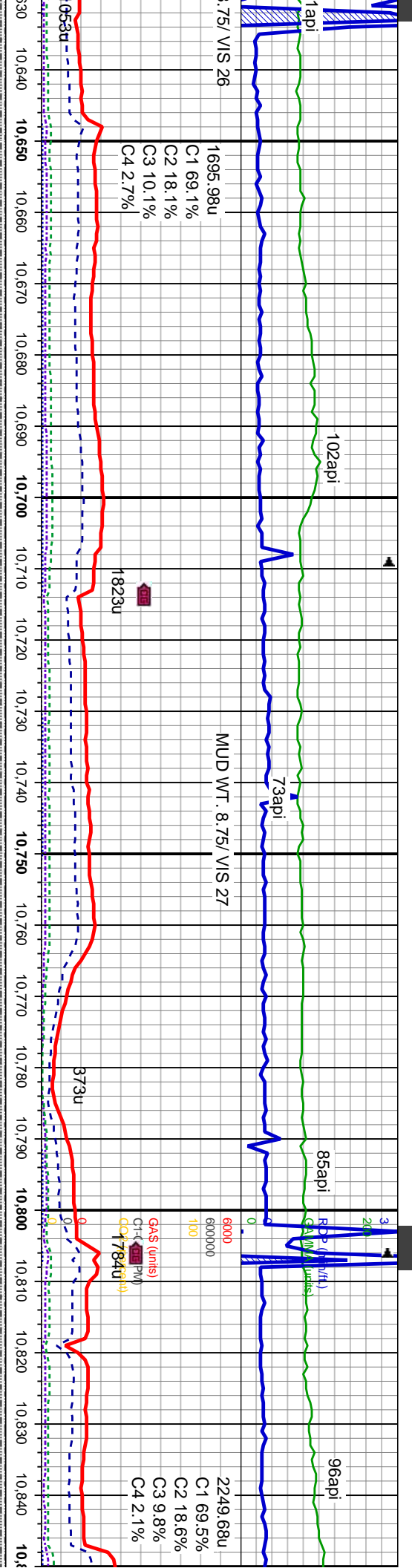
SLTY:SH: dk gy - blk, some brn blk, vf gr, tr org
 mat, grtly tex, arg mtx, tr cly, some brndd, some
 fis, tr pyr, tr ss: mod fast, mod brl bl stmg cut, v sl
 od, no flr, brl bl flr ring

SLTY:SH: dk gy - blk, some brn blk, vf gr, tr org
 mat, grtly tex, arg mtx, tr cly, some brndd, some
 fis, tr pyr, tr ss: mod fast, mod brl bl stmg cut, v sl
 od, no flr, brl bl flr ring

SLTY:SH: dk gy - blk, some brn
 mat, grtly tex, arg mtx, tr cly, some
 fis, tr pyr, tr ss: mod fast, mod br
 od, no flr, brl bl flr ring
 7200

TVD (ft)





MD: 10,650
 TVD: 6,555.41'
 Inclination: 92.5 °
 Azimuth: 82.4 °
 VS: 4,219.24'

MD: 10,745
 TVD: 6,550.86'
 Inclination: 93 °
 Azimuth: 82.1 °
 VS: 4,311.17'

MD: 10,841
 TVD: 6,545.78'
 Inclination: 93 °
 Azimuth: 81.6 °
 VS: 4,404.21'

SL.TY:SH: dk gy - blk, some brn blk, vf gr, tr org
 mat. gritty tex, arg mtx, tr cly, some brndd, some
 fis, tr pyr, tr ss: mod fast, mod brl bl sting cut, v sl
 od, no flor, brl bl flor ring

SL.TY:SH: dk gy - blk, some brn blk, vf gr, tr org
 mat. gritty tex, arg mtx, tr cly, some brndd, some
 fis, tr pyr, tr ss: mod fast, mod brl bl sting cut, v sl
 od, no flor, brl bl flor ring

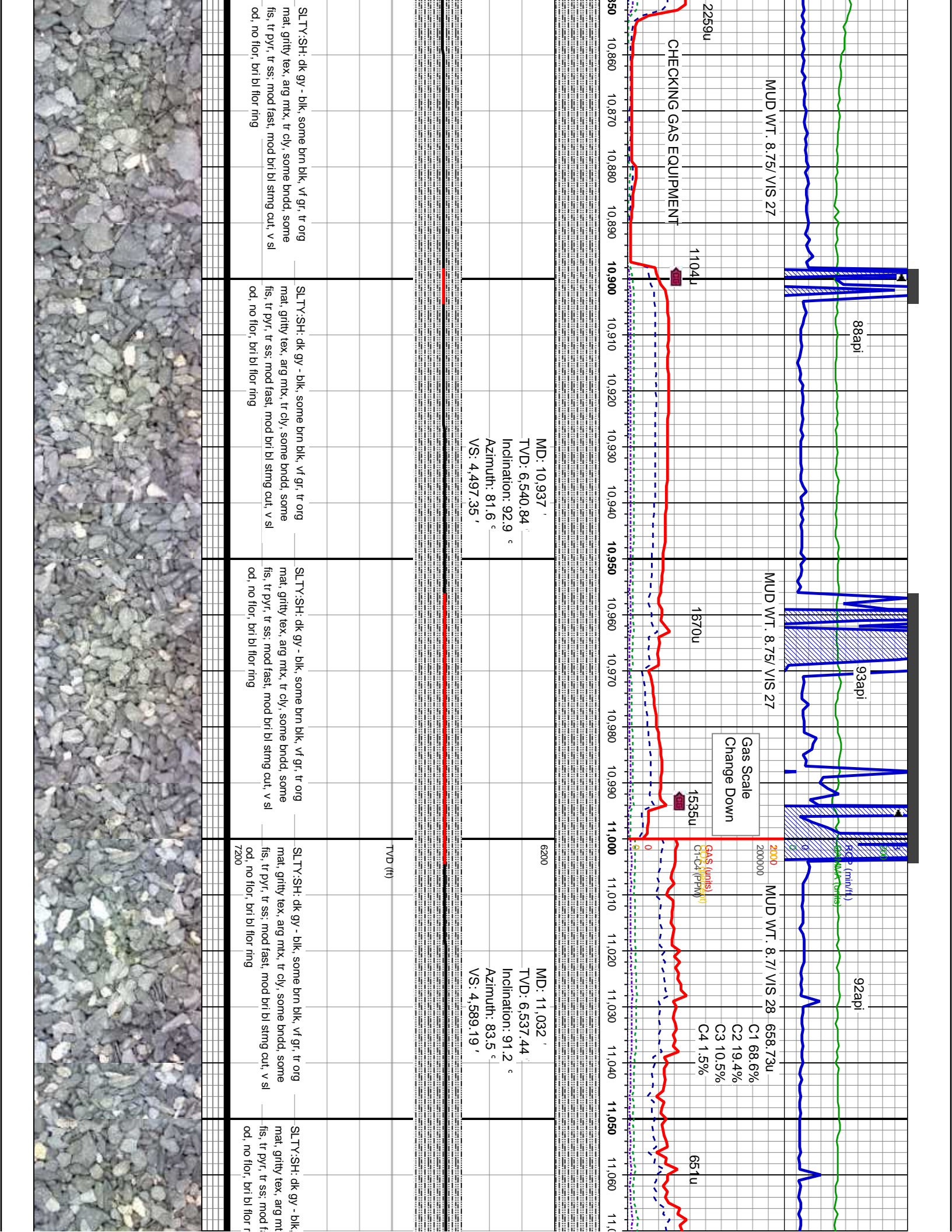
SL.TY:SH: dk gy - blk, some brn blk, vf gr, tr org
 mat. gritty tex, arg mtx, tr cly, some brndd, some
 fis, tr pyr, tr ss: mod fast, mod brl bl sting cut, v sl
 od, no flor, brl bl flor ring

SL.TY:SH: dk gy - blk, some brn blk, vf gr, tr org
 mat. gritty tex, arg mtx, tr cly, some brndd, some
 fis, tr pyr, tr ss: mod fast, mod brl bl sting cut, v sl
 od, no flor, brl bl flor ring

TVD (ft)

7200





SL.TY.:SH: dk gy - blk, some brn blk, vf gr, tr org
 mat. gritty tex, arg mtx, tr cly, some bnrd, some
 fis, tr pyr, tr ss: mod fast, mod bri bl sting cut, v sl
 od, no flor, bri bl flor ring

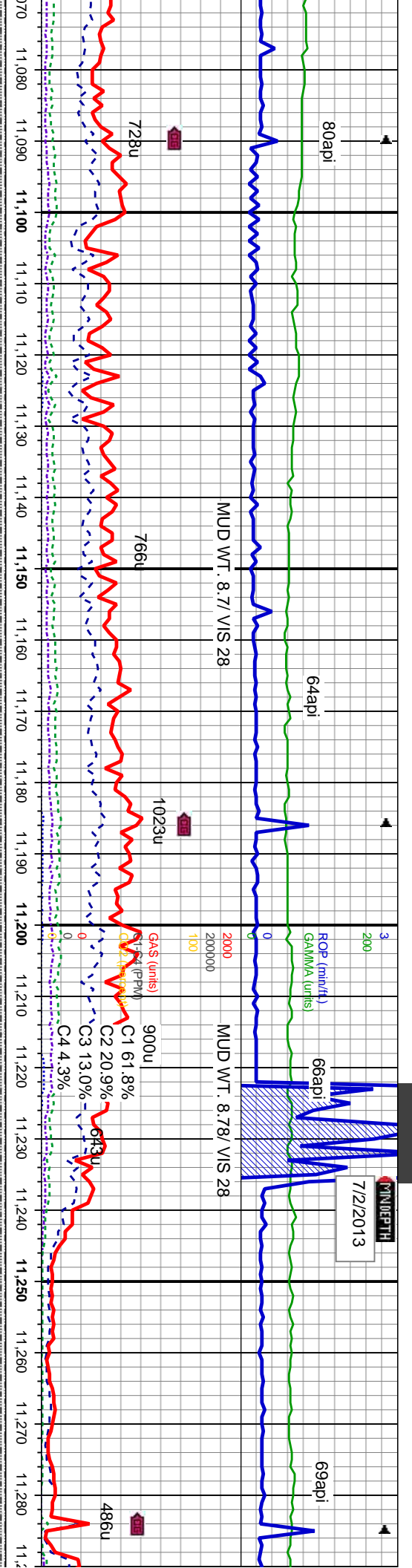
SL.TY.:SH: dk gy - blk, some brn blk, vf gr, tr org
 mat. gritty tex, arg mtx, tr cly, some bnrd, some
 fis, tr pyr, tr ss: mod fast, mod bri bl sting cut, v sl
 od, no flor, bri bl flor ring

SL.TY.:SH: dk gy - blk, some brn blk, vf gr, tr org
 mat. gritty tex, arg mtx, tr cly, some bnrd, some
 fis, tr pyr, tr ss: mod fast, mod bri bl sting cut, v sl
 od, no flor, bri bl flor ring

SL.TY.:SH: dk gy - blk, some brn blk, vf gr, tr org
 mat. gritty tex, arg mtx, tr cly, some bnrd, some
 fis, tr pyr, tr ss: mod fast, mod bri bl sting cut, v sl
 od, no flor, bri bl flor ring

SL.TY.:SH: dk gy - blk, some brn blk, vf gr, tr org
 mat. gritty tex, arg mtx, tr cly, some bnrd, some
 fis, tr pyr, tr ss: mod fast, mod bri bl sting cut, v sl
 od, no flor, bri bl flor ring





MD: 11,128
 TVD: 6,534.84
 Inclination: 91.9 °
 Azimuth: 83.3 °
 VS: 4,681.66'

MD: 11,225
 TVD: 6,532.39
 Inclination: 91 °
 Azimuth: 83.3 °
 VS: 4,775.15'

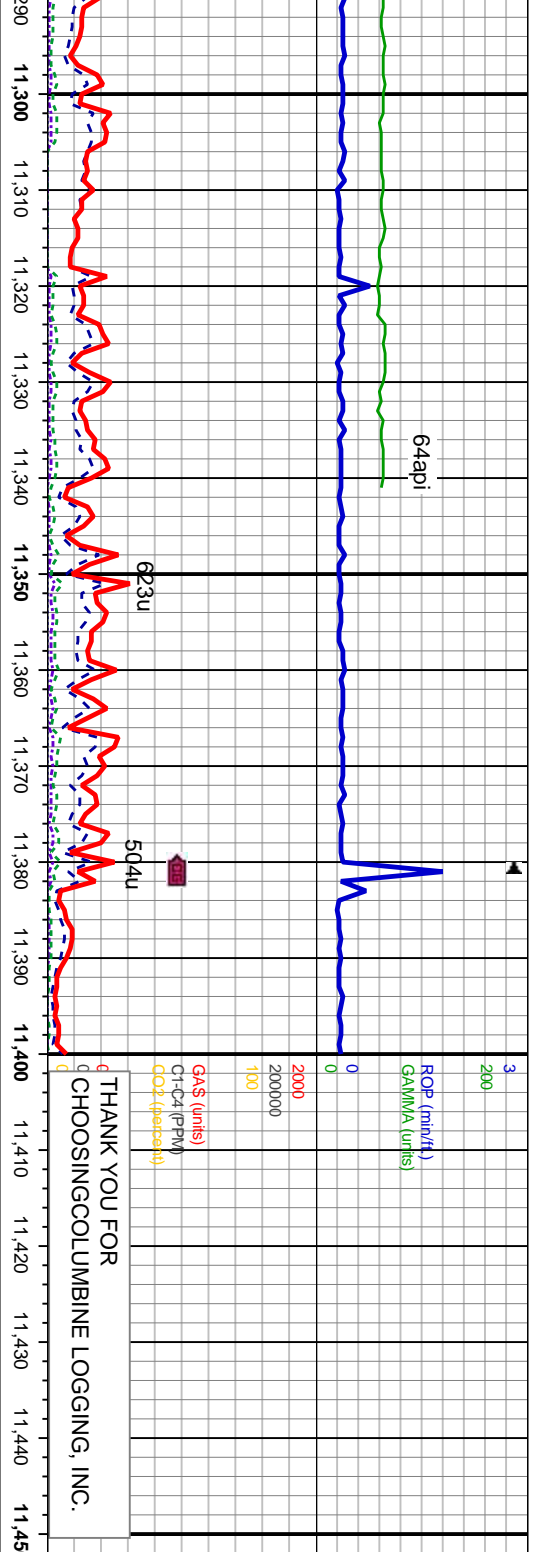
SHY:SS: med gy-dk, some clr, sme wht, tr blot & glau, p-mod cons, v-f gr, rr c gr, sme bnnd, some fis, sl calc cmt, no vis por
 SL.TY-SH: dk gy - blk, some brn blk, vf gr, tr org mat, grily tex, arg mnx, tr cly, some bnnd, some fis, mod fast, mod bri bl string cut, v sl od, no flor, bri bl flor ring

SHY:SS: med gy-dk, some clr, sme wht, tr blot & glau, p-mod cons, v-f gr, rr c gr, sme bnnd, some fis, sl calc cmt, no vis por
 SL.TY-SH: dk gy - blk, some brn blk, vf gr, tr org mat, grily tex, arg mnx, tr cly, some bnnd, some fis, mod fast, mod bri bl string cut, v sl od, no flor, bri bl flor ring

SHY:SS: med gy-dk, some clr, sme wht, tr blot & glau, p-mod cons, v-f gr, rr c gr, sme bnnd, some fis, sl calc cmt, no vis por
 SL.TY-SH: dk gy - blk, some brn blk, vf gr, tr org mat, grily tex, arg mnx, tr cly, some bnnd, some fis, mod fast, mod bri bl string cut, v sl od, no flor, bri bl flor ring

SHY:SS: med gy-dk, some clr, sme wht, tr blot & glau, p-mod cons, v-f gr, rr c gr, sme bnnd, some fis, sl calc cmt, no vis por
 SL.TY-SH: dk gy - blk, some brn blk, vf gr, tr org mat, grily tex, arg mnx, tr cly, some bnnd, some fis, mod fast, mod bri bl string cut, v sl od, no flor, bri bl flor ring





MD: 11,321' TVD: 6,531.05'
 Inclination: 90.6° Azimuth: 83.7°
 VS: 4,867.6'

MD: 11,341' TVD: 6,530.84'
 Inclination: 90.6° Azimuth: 83.3°
 VS: 4,886.86'

MD: 11,400' TVD: 6,530.22'
 Inclination: 90.6° Azimuth: 83.3°
 VS: 4,943.73'

Projection To Bit

BBC CVR 5-63-32-1609CDH REACHED
 TD OF 11,400' MD / 6,530.22' TVD ON
 07/2/2013; 01:42 MDT

lot & some
 SHY:SS: med gy-dk, some clr, sme wht, tr blot & glau, p-mod cons, v-f gr, rr c gr, sme bndd, some fis, sl calc cntl, no vis por
 SL TY-SH: dk gy - blk, some brn blk, v-f gr, tr org mat, gritty tex, arg mnx, tr cly, some bndd, some fis, mod fast, mod bri bl string cut, v sl od, no flor, bri bl flor ring

lot & some
 SHY:SS: med gy-dk, some clr, sme wht, tr blot & glau, p-mod cons, v-f gr, rr c gr, sme bndd, some fis, sl calc cntl, no vis por
 SL TY-SH: dk gy - blk, some brn blk, v-f gr, tr org mat, gritty tex, arg mnx, tr cly, some bndd, some fis, mod fast, mod bri bl string cut, v sl od, no flor, bri bl flor ring

TVD (ft)
 7200

