

COLUMBINE LOGGING

Scale: 5" / 100'
Measured Depth Log

Well Name State Pronghorn 43-32-31MRLNB

Location SESE SEC. 32 T5N R61W

State COLORADO

County WELD

Country USA

Rig Number XTREME 20

API Number 05-123-41259

AFE # 15091

Region DJ BASIN

Field WATTENBERG

Spud Date 4/18/2015

Drilling Completed 5/3/2015

Surface Coordinates 571' FSL x 1107' FEL (LAT: 40.35154, -104.22731)

Bottom Hole Coordinates 1980' FSL x 860' FEL (LAT: 40.35532, -104.24520)PROJECTED

Ground Elevation 4530'

K.B. Elevation 4547'

Logged Interval 5900' To 12157'

Total Depth 12157'

Formation NIOBRARA B-CHALK

Type of Drilling Fluid LSND, H2O

Operator

Company Bonanza Creek Energy Inc.

Address 410 17th Street, Suite 1500 Denver, CO 80202

Geologist

Name Paul McKay

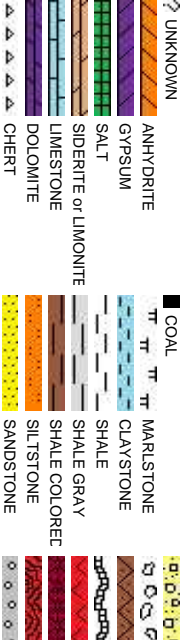
Company Bonanza Creek

Address 410 17TH STREET, SUITE 1500 DENVER, CO 80202

Zone Color Cod



Rock Types



Accessories

Fossils

Fossils		
F FOSSIL	- ARGILLACEOUS	GLAUCONITE
GASTROPOD	/ ARGILLITE GRAIN	GYPSIFEROUS
Ø OOLITE	B BENTONITE	HEAVY MINERAL
OSTRACOD	/ BITUMENOUS SUBSTANCE	KAOLIN
PELECYPOD	/ BRECCIA FRAGMENTS	MARLSTONE
PELLET	⬇ CALCAREOUS	MINERAL CRYSTALS
Ø PISOLITE	■ CARBONACEOUS FLAKES	NODULES
PLANT REMAINS	▲ CHITDK	PHOSPHATE PELLETS
CEPHALOPOD	◀ CHITL	PYRITE
Ø CORAL	— COAL - THIN BEDS	SALT CAST
CRINOID	✓ DOLOMITIC	· SANDY
ECHINOID	+ FELDSPAR	◁ SILICEOUS
FISH	● FERRUGINOUS PELLET	· SILTY
FORAMINIFERA	/ ANHYDRITIC	✓ TUFFACEOUS

Stringer

ANHYDRITE STRINGER
BENTONITE STRINGER
COAL STRINGER
DOLOMITE STRINGER
GYPSUM STRINGER
LIMESTONE STRINGER
MARLSTONE (CALC) STRG
MARLSTONE (DOL) STRG
SANDSTONE STRINGER
SHALE STRINGER
SILTSTONE STRINGER

Other Symbols

Oil Show

O ORGANIC	FORMATION TOP	CONNECTION GAS	CRYPTOXLN
P PINPOINT	GAS SHOW	CONNECTION DOWN	E EARTHY
V VUGGY	MINDEPTH MN DEPTH	CASING	FX FINELYXLN

Engineering

EVEN	NORMAL FAULT	FORMATION TOP	GRAINSTONE
QUESTIONABLE	OIL SHOW	CONNECTION TOP	L LITHOGRAPHIC
SPOTTED STAINING	BIT	OVERTURNED STRATA	MX MICROXLN

Rounding

CASING	REVERSE FAULT	A ANGULAR	M3 MUDSTONE
CONNECTION (LEFT)	SIDEWALL CORE (LEFT)	R ROUNDED	P3 PACKSTONE
CONNECTION (RIGHT)	SIDEWALL CORE (RIGHT)	B SUBANG	W3 WACKSTONE
CONNECTION GAS	SLIDE	P SUBRND	

Textures

F FRACTURE	SURVEY		
INTERCRYSTALLINE	CORE - RECOVERED	B3 BOUNDSTONE	M MODERATE
INTEROOLITIC	DST INTERVAL	WIRELINE TESTED - LEFT	P POOR
MOULDIC	FAULT	WIRELINE TESTED - RT	W WELL
		CHALKY	

Sorting

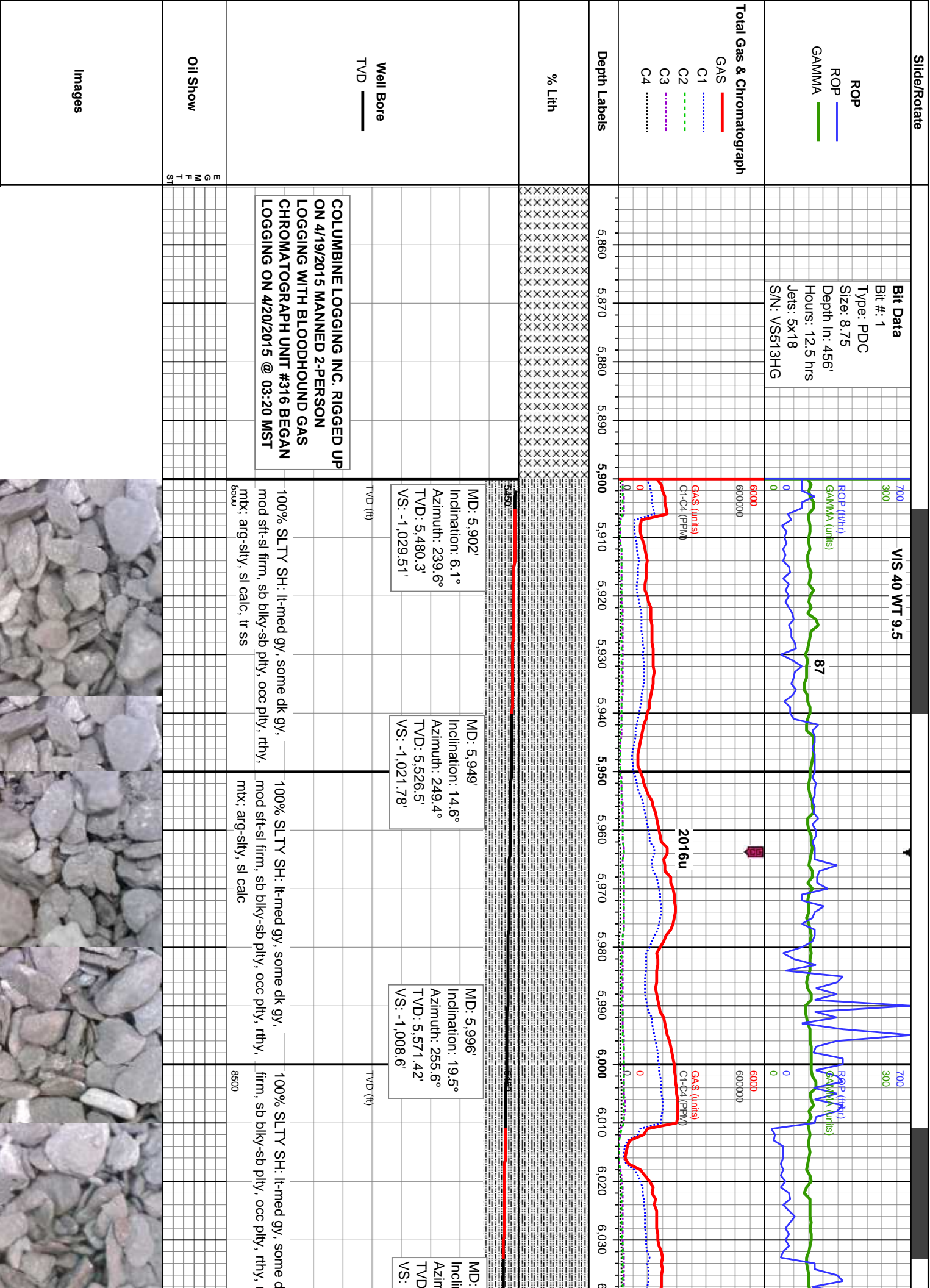
--	--

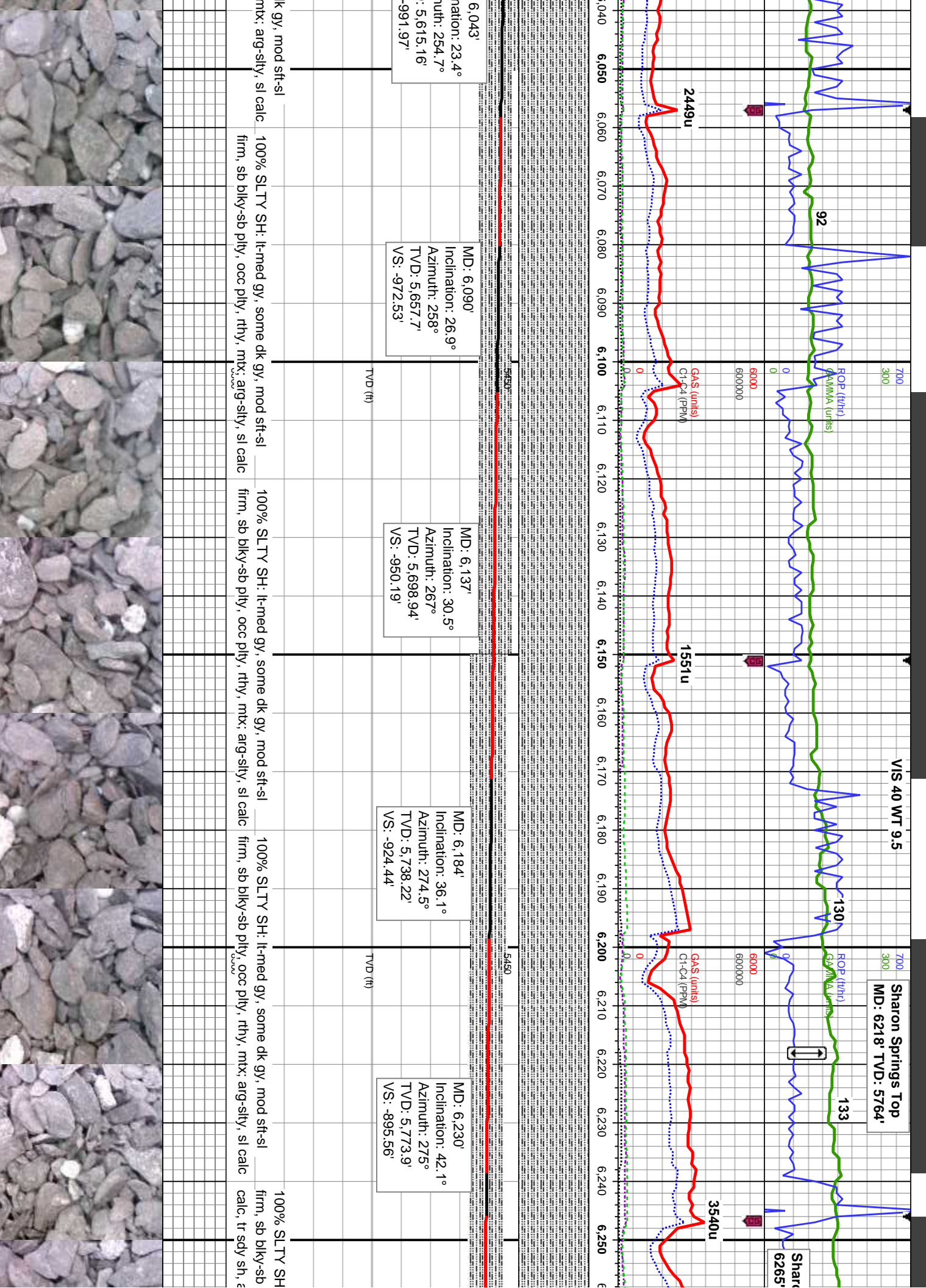


ing

CONGLOMERATE	CHALK
BRECCIA	SILTY SHALE
TILL	NO SAMPLE
BENTONITE	SHALY SANDSTONE
TUFF	SHALY SILTSTONE
IGNEOUS	
METAMORPHIC	
CEMENT	

O 80202



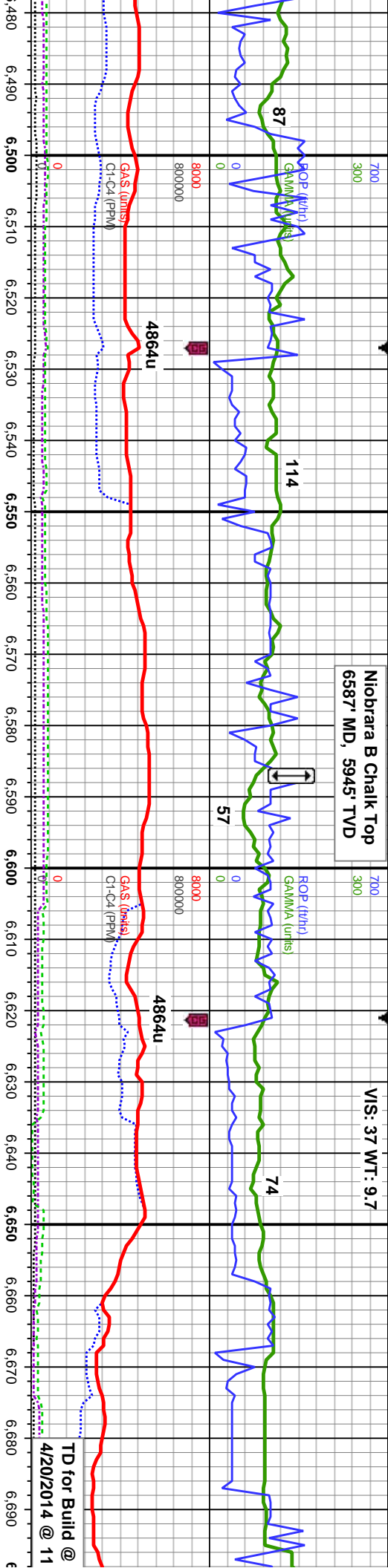


Sharon Springs Top
MD: 6218' TVD: 5764'

Sharon
6265'

Niobrara B Chalk Top
6587' MD, 5945' TVD

VIS: 37 WT: 9.7



MD: 6,512'
Inclination: 74.4°
Azimuth: 270.1°
TVD: 5,929.01'
VS: -664.89'

MD: 6,560'
Inclination: 78.5°
Azimuth: 268°
TVD: 5,940.25'
VS: -618.24'

MD: 6,606'
Inclination: 79.6°
Azimuth: 268.1°
TVD: 5,948.99'
VS: -573.1'

MD: 6,649'
Inclination: 84.6°
Azimuth: 266.9°
TVD: 5,954.9'
VS: -530.55'

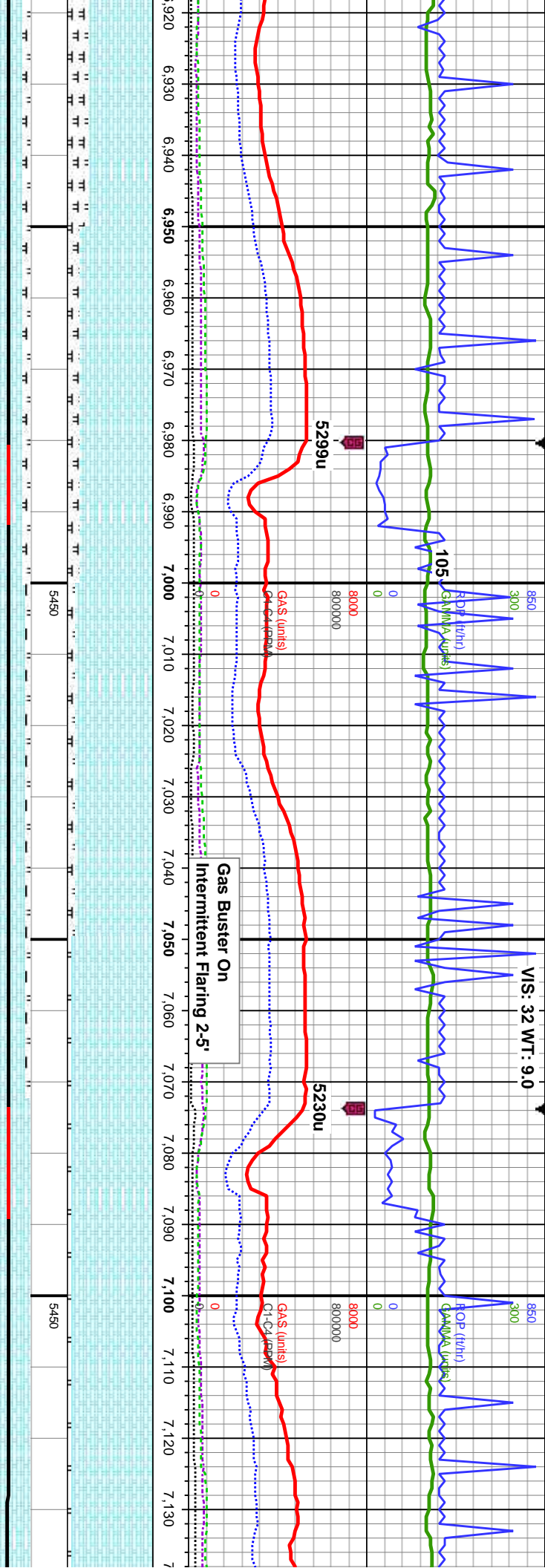
90%: MRLST: med-dk gy, blk, sb pty-blky, sl
frm-mod hd, arg-sly tex, mx; calc, 10% CHK: lt-med
gy, occ crm, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, tr
pyr, some bent, mod uphole contaminants,
slow-mod string mod wh bl, even fr dull amb ring, tr
sin

70-20%: MRLST: med-dk gy, blk, sb pty-blky, sl
frm-mod hd, arg-sly tex, mx; calc, 30-80% CHK:
lt-med gy, occ crm, mot, sb pty-blky, sft-sl frm,
rthy-sb wxy, tr fos frags, tr bent, mod uphole
contaminants, mod string mod wh bl, even yel-gm
ring, fr sin

75-65% CHK: lt-med gy, mot, sb pty-blky, sft-sl frm,
rthy-sb wxy, 25-35%: MRLST: med-dk gy, blk, sb
pty-blky, sl frm-mod hd, arg-sly tex, mx; calc, tr cal
frags, uphole con, fast sting bri wh bl, even mod
yel-gm ring, mod sin

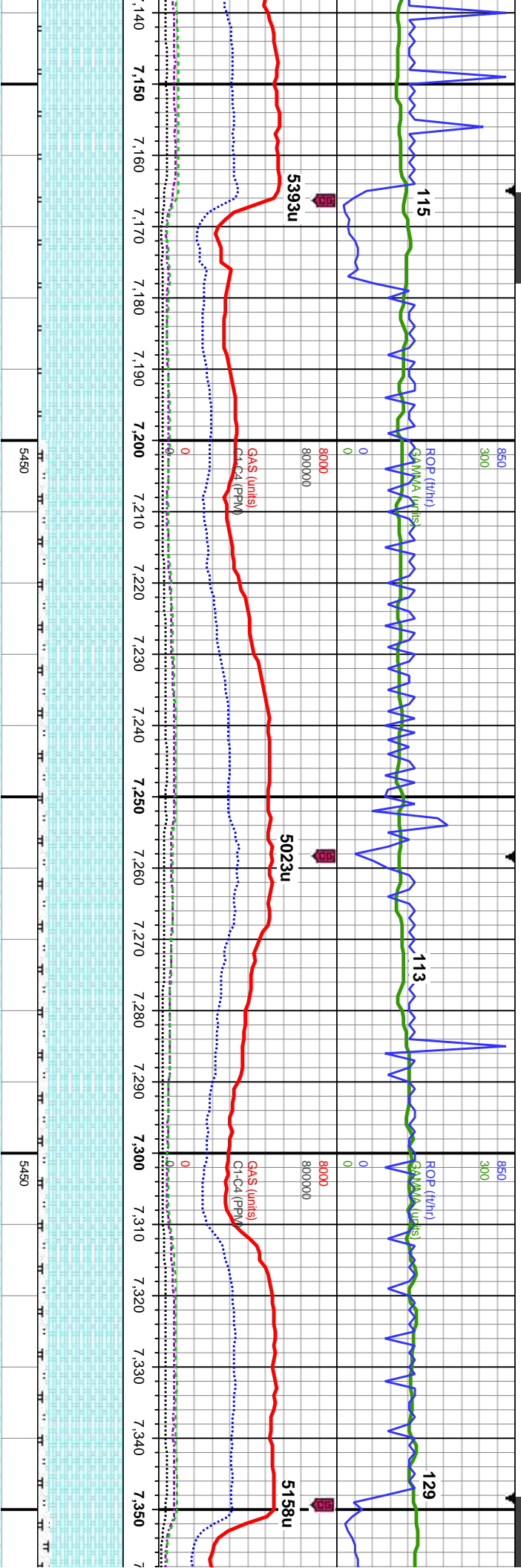
75-80% CHK: lt-med gy, mot, sb pty-blky, sft-sl frm,
rthy-sb wxy, 25-20%: MRLST: med-dk gy, blk, sb
pty-blky, sl frm-mod hd, arg-sly tex, mx; calc, tr cal
frags, uphole con, fast sting bri wh bl, even mod
yel-gm ring, mod sin





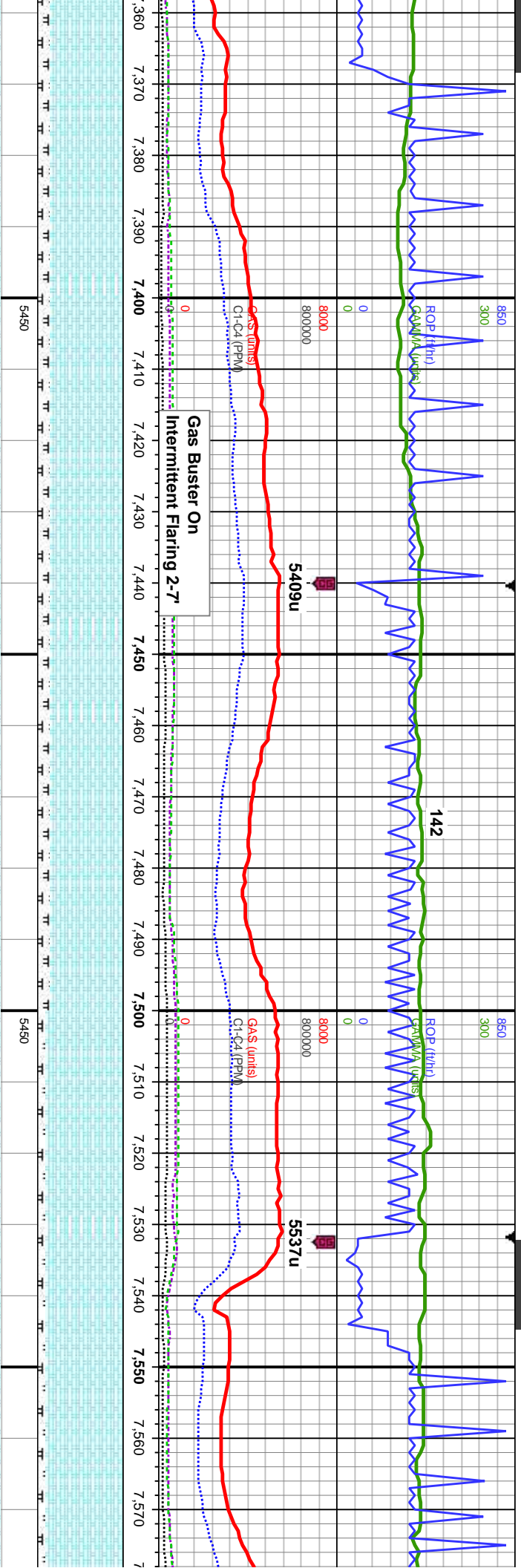
18'	MD: 7,010' Inclination: 89.3° Azimuth: 270.7° TVD: 5,955.02' VS: -169.74'	90% CHK: med gy brn, occ lt gy, mot, sb ply-bkly, sft-sl frm, rthy-sb wxy, 10% MRLST: dk gy, blk, sb ply-bkly, sl frm-mod hd, arg-sily tex, tr pyr, fast stmg bri wh bl, even thk mod yel grn ring, thk stn
on: 89.5° n: 269.6° 954.06' 1.73'		85% CHK: med gy brn, occ lt gy, mot, sb ply-bkly, sft-sl frm, rthy-sb wxy, 15% MRLST: dk gy, blk, sb ply-bkly, sl frm-mod hd, arg-sily tex, fast stmg bri wh bl, even thk bri yel grn ring, thk stn
gy brn, occ lt gy mot, sb rthy-sb wxy, 25% MRLST: ply-bkly, sl frm-mod hd, stmg bri wh bl, even thk bri stn		95% CHK: med gy brn, occ lt gy mot, sb ply-bkly, sft-sl frm, rthy-sb wxy, 5% MRLST: dk gy, blk, sb ply-bkly, sl frm-mod hd, arg-sily tex, tr pyr, fast stmg bri wh bl, even thk mod yel grn ring, thk stn





MD: 7,192' Inclination: 89.1° Azimuth: 270.5° TVD: 5,957.08' VS: 12.22'		MD: 7,284' Inclination: 90° Azimuth: 270.9° TVD: 5,957.81' VS: 104.2'	
95% CHK: med gy brn, occ lt gy, mot, sb ply-bkly, sft-sl frm, rthy-sb wxy, 5% MRLST: dk gy, blk, sb ply-bkly, sl frm-mod hd, arg-sily tex, fast stmg bri wh bl, even thk bri yel grn ring, mod sin	90% CHK: lt-med gy brn, mot, sb ply-bkly, sft-sl frm, rthy-sb wxy, 10% MRLST: dk gy, blk, sb ply-bkly, sl frm-mod hd, arg-sily tex, fast stmg bri wh bl, even thk bri yel grn ring, mod sin	90% CHK: lt-med gy brn, mot, sb ply-bkly, sft-sl frm, rthy-sb wxy, 10% MRLST: dk gy, blk, sb ply-bkly, sl frm-mod hd, arg-sily tex, fast stmg bri wh bl, even thk bri yel grn ring, mod sin	85% CHK: med gy brn, lt gy, mot, sb ply-bkly, sft-sl frm, rthy-sb wxy, 15% MRLST: dk gy, blk, sb ply-bkly, sl frm-mod hd, arg-sily tex, tr bent, fast stmg bri wh bl, even thk bri yel grn ring, mod sin
TVD (ft)	TVD (ft)	TVD (ft)	TVD (ft)





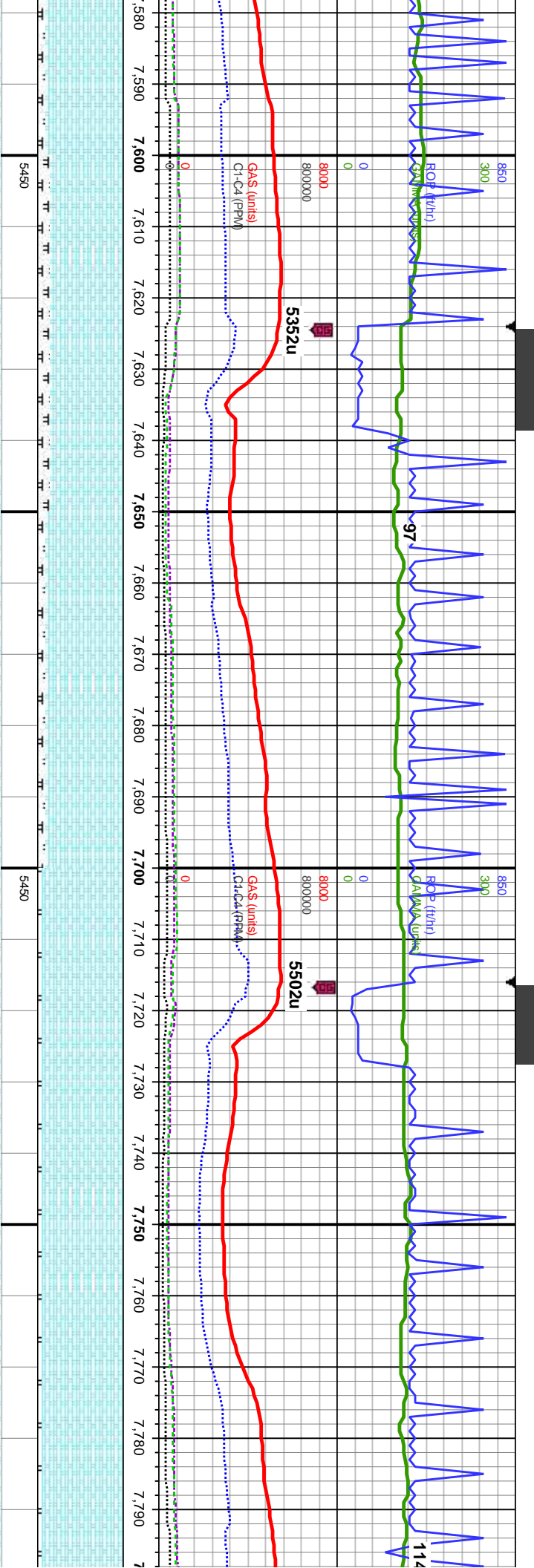
MD: 7,376'
Inclination: 88.4°
Azimuth: 270.5°
TVD: 5,959.09'
VS: 196.17'

CHK: med gy brn, occ lt gy, mot, sb y, sft-sl frm, rthy-sb wxy, tr ls & imbd % MRLST: dk gy, blk, sb ply-blky, sl hd, arg-sily tex, tr bent, fast sting bl, even thk bri yel grn ring, mod sin	TVD (ft)	85% CHK: med gy brn, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, 15% MRLST: dk gy, blk, sb ply-blky, sl frm-mod hd, arg-sily tex, fast sting bri wh bl, even thk bri yel grn ring, mod sin	85% CHK: med gy brn, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, 15% MRLST: dk gy, blk, sb ply-blky, sl frm-mod hd, arg-sily tex, fast sting bri wh bl, even thk bri yel grn ring, mod sin	90% CHK: med gy brn, occ lt gy, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, 10% MRLST: dk gy, blk, sb ply-blky, sl frm-mod hd, arg-sily tex, tr bent, fast sting bri wh bl, even thk bri yel grn ring, thk sin	90% CHK: med gy brn, occ ply-blky, sft-sl frm, rthy-s dk gy, blk, sb ply-blky, sl arg-sily tex, tr bent, fast s thk bri yel grn ring, thk str

MD: 7,467'
Inclination: 89.1°
Azimuth: 271°
TVD: 5,961.08'
VS: 287.14'

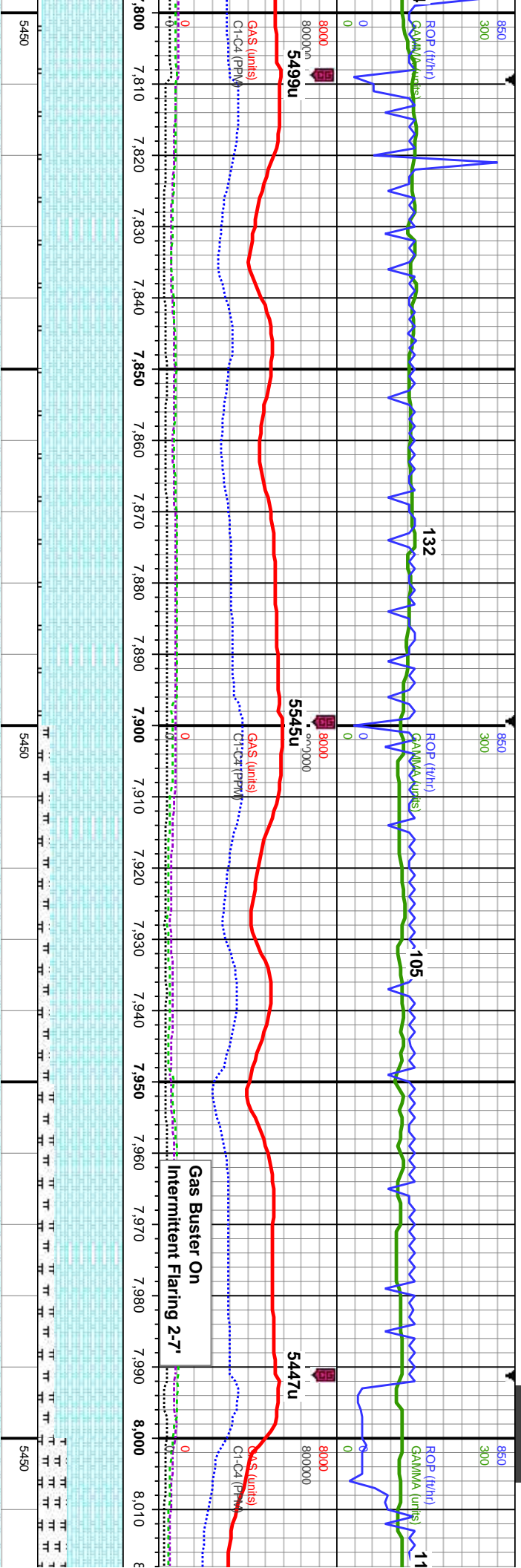
MD: 7,559'
Inclination: 90.4°
Azimuth: 270.1°
TVD: 5,961.48'
VS: 379.12'





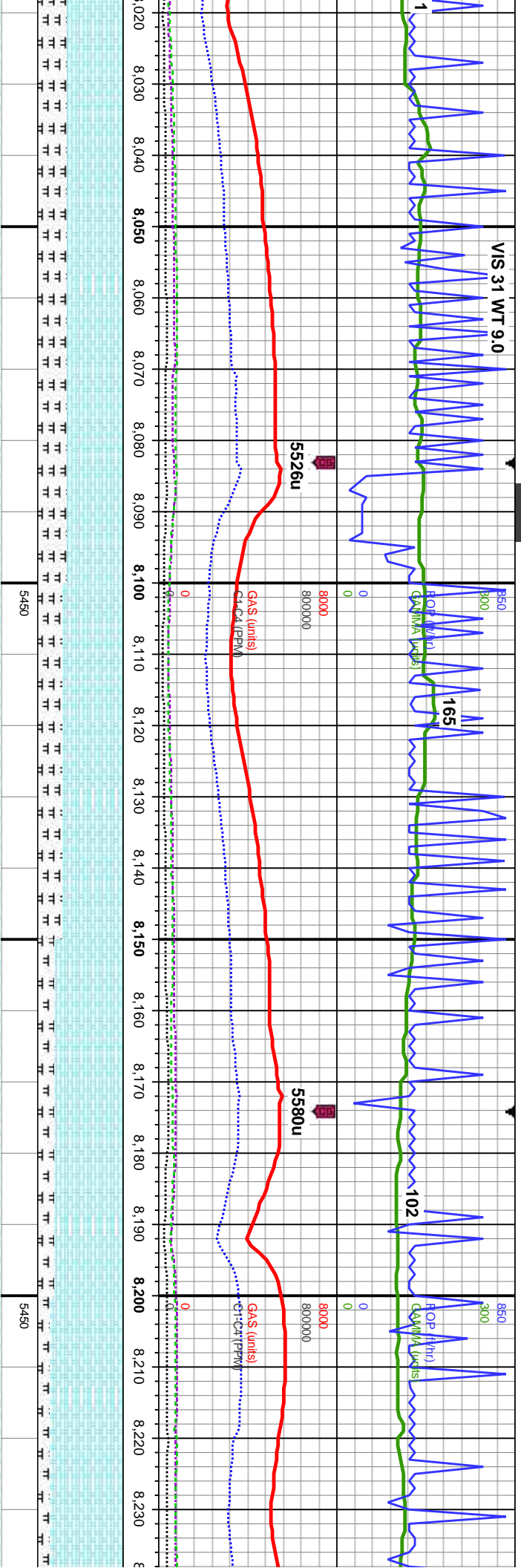
MD: 7,651' Inclination: 89.8° Azimuth: 270.8° TVD: 5,961.32' VS: 471.11'		MD: 7,743' Inclination: 89.3° Azimuth: 270.5° TVD: 5,962.04' VS: 563.09'	
85% CHK: med gy brn, occ lt gy, mot, sb ply-bkly, sft-sl frm, rthy-sb wxy, 15% MRLST: dk gy, blk, sb ply-bkly, sl frm-mod hd, arg-sily tex, fast string bri wh bl, even thk bri yel gm ring, mod stn	TVD (ft)	90% CHK: med gy brn, occ lt gy, mot, sb ply-bkly, sft-sl frm, rthy-sb wxy, 10% MRLST: dk gy, blk, sb ply-bkly, sl frm-mod hd, arg-sily tex, fast string bri wh bl, even thk bri yel gm ring, mod stn	TVD (ft)
95% CHK: med gy brn, occ lt gy, mot, sb ply-bkly, sft-sl frm, rthy-sb wxy, 5% MRLST: dk gy, blk, sb ply-bkly, sl frm-mod hd, arg-sily tex, tr bent, fast string bri wh bl, even thk bri yel gm ring, thk stn	TVD (ft)	95% CHK: med gy brn, occ lt gy, mot, sb ply-bkly, sft-sl frm, rthy-sb wxy, 5% MRLST: dk gy, blk, sb ply-bkly, sl frm-mod hd, arg-sily tex, tr bent, fast string bri wh bl, ever thk bri yel gm ring, thk stn	TVD (ft)





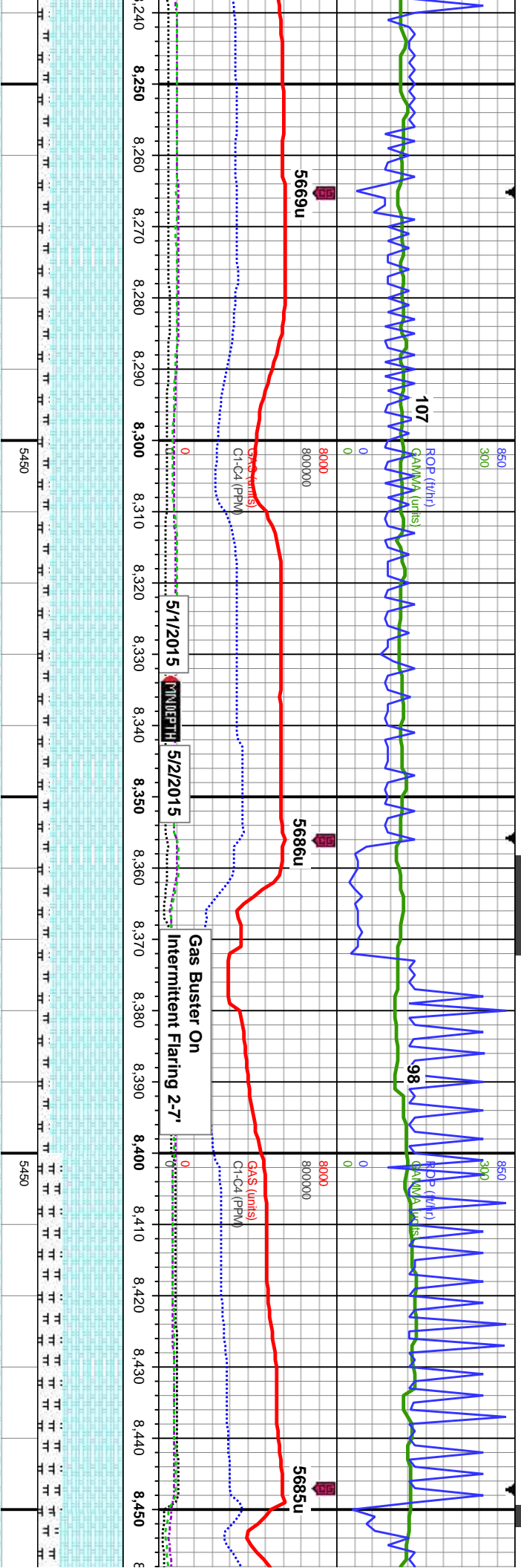
MD: 7,836' Inclination: 89.8° Azimuth: 269.5° TVD: 5,962.77' VS: 656.09'		95% CHK: med gy brn, occ lt gy, mot, sb ply-bkly, sft-sl frm, rthy-sb wxy, 5% MRLST: dk gy, blk, sb ply-bkly, sl frm-mod hd, arg-sily tex, tr bent, fast string bri wh bl, even thk bri yel gm ring, thk stn	95% CHK: med gy brn, occ lt gy, mot, sb ply-bkly, sft-sl frm, rthy-sb wxy, 5% MRLST: dk gy, blk, sb ply-bkly, sl frm-mod hd, arg-sily tex, tr bent, fast string bri wh bl, even thk bri yel gm ring, thk stn	85% CHK: med gy brn, mot, sb ply-bkly, sft-sl frm, rthy-sb wxy, 15% MRLST: dk gy, blk, sb ply-bkly, sl frm-mod hd, arg-sily tex, fast string bri wh bl, even thk bri yel gm ring, mod sin	80% CHK: med gy brn, mot, sb ply-bkly, sft-sl frm, rthy-sb wxy, 20% MRLST: dk gy, blk, sb ply-bkly, sl frm-mod hd, arg-sily tex, fast string bri wh bl, even thk bri yel gm ring, mod sin	65% CHK: med- sft-sl frm, rthy-sl blk, sb ply-bkly, tr inbd cal, tr foc even mod bri ye
TVD (ft)						





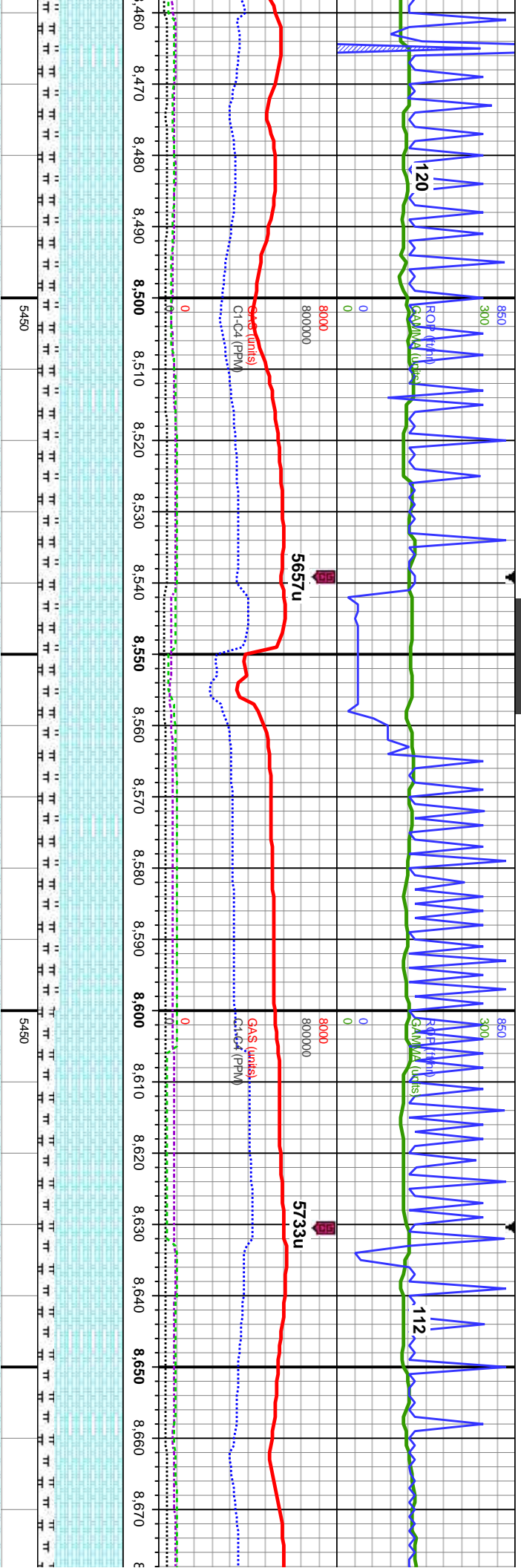
8,019'	ation: 90.2°	MD: 8,111'	Inclination: 89°	MD: 8,201'	Inclination: 89.8°
uth: 270°		Azimuth: 269.5°		Azimuth: 270.2°	
5,961.97'		TVD: 5,962.61'		TVD: 5,963.55'	
39.08'		VS: 931.08'		VS: 1,021.07'	
dk gy brn, mot, sb pty-blky,	65% CHK: med-dk gy brn, mot, sb pty-blky,	70% CHK: med-dk gy brn, mot, sb pty-blky,	80% CHK: med gy brn, mot, sb pty-blky,	85% CHK: med gy brn, mot, sb pty-blky,	
o wxy, 35% MRLST: dk gy,	sft-sl frm, rthy-sb wxy, 35% MRLST: dk gy,	sft-sl frm, rthy-sb wxy, 30% MRLST: dk gy,	sft-sl frm, rthy-sb wxy, 20% MRLST: dk gy,	sft-sl frm, rthy-sb wxy, 15% MRLST	
sl frm-mod hd, arg-sily tex,	blk, sb pty-blky, sl frm-mod hd, arg-sily tex,	blk, sb pty-blky, sl frm-mod hd, arg-sily tex,	blk, sb pty-blky, sl frm-mod hd, arg-sily tex,	blk, sb pty-blky, sl frm-mod hd, arg	
s frags, mod sting bri wh bl,	tr imbd cal, tr fos frags, mod sting bri wh bl,	tr imbd cal, tr fos frags, mod sting bri wh bl,	tr imbd cal, mod sting bri wh bl, even mod	tr imbd cal, mod od, fast sting bri wh	
grn ring, fr stn	even mod bri yel grn ring, fr stn	even mod bri yel grn ring, fr stn	bri yel grn ring, fr stn	even thk bri yel grn ring, mod stn	





MD: 8,292' Inclination: 90.4° Azimuth: 270.6° TVD: 5,963.4' VS: 1,112.06'		85% CHK: med gy brn, mot, sb pily-blky, sft-sl frm, rthy-sb wxy, 15% MRLST: dk gy, blk, sb pily-blky, sl frm-mod hd, arg-sily tex, tr imbd cal, mod od, fast sting bri wh bl, even thk bri yel grn ring, mod stn	85% CHK: med gy brn, mot, sb pily-blky, sft-sl frm, rthy-sb wxy, 15% MRLST: dk gy, blk, sb pily-blky, sl frm-mod hd, arg-sily tex, tr imbd cal, mod od, fast sting bri wh bl, even thk bri yel grn ring, mod stn	85% CHK: med gy brn, mot, sb pily-blky, sft-sl frm, rthy-sb wxy, 15% MRLST: dk gy, blk, sb pily-blky, sl frm-mod hd, arg-sily tex, tr imbd cal, mod od, fast sting bri wh bl, even thk bri yel grn ring, mod stn	70% CHK: lt-med gy brn, mot, sb pily-blky, sft-sl frm, rthy-sb wxy, 30% MRLST: dk gy, blk, sb pily-blky, sl frm-mod hd, arg-sily tex, fast sting bri wh bl, even thk bri yel grn ring, mod stn	75% C
TVD (ft)						





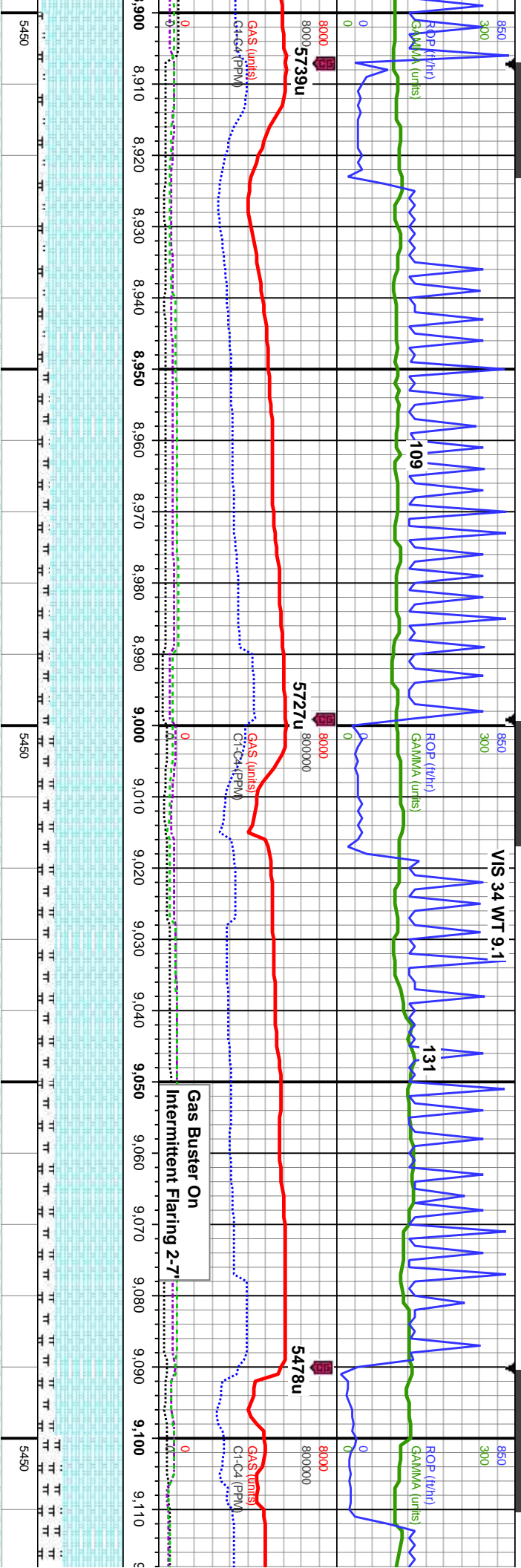
MD: 8,475'
Inclination: 90.9°
Azimuth: 269.9°
TVD: 5,962.67'
VS: 1,295.06'

CHK: lt-med gy brn, mot, sb pily-biky, n, rthy-sb wxy, 25% MRLST: dk gy, pily-biky, sl frm-mod hd, arg-sily tex, fast stng bri wh bl, even thk bri yel gm ring,	75% CHK: lt-med gy brn, mot, sb pily-biky, sft-sl frm, rthy-sb wxy, 25% MRLST: dk gy, blk, sb pily-biky, sl frm-mod hd, arg-sily tex, fast stng bri wh bl, even thk bri yel gm ring, thk sin	75% CHK: lt-med gy brn, occ dk gy, mot, sb pily-biky, sft-sl frm, rthy-sb wxy, 25% MRLST: dk gy, blk, sb pily-biky, sl frm-mod hd, arg-sily tex, tr cal frags, fast stng bri wh bl, even thk bri yel gm ring, thk sin	80% CHK: lt-med gy brn, occ dk gy, mot, sb pily-biky, sft-sl frm, rthy-sb wxy, 20% MRLST: dk gy, blk, sb pily-biky, sl frm-mod hd, arg-sily tex, tr cal frags, fast stng bri wh bl, even thk bri yel gm ring, thk sin	80% CHK: lt-med gy brn, dk gy, blk, sb pily-biky, sl frm-mod tex, tr cal and fos frags, fast stng bri wh bl, even thk bri yel gm ring, thk sin
---	--	---	---	--

MD: 8,567'
Inclination: 89.8°
Azimuth: 269.1°
TVD: 5,962.11'
VS: 1,387.05'

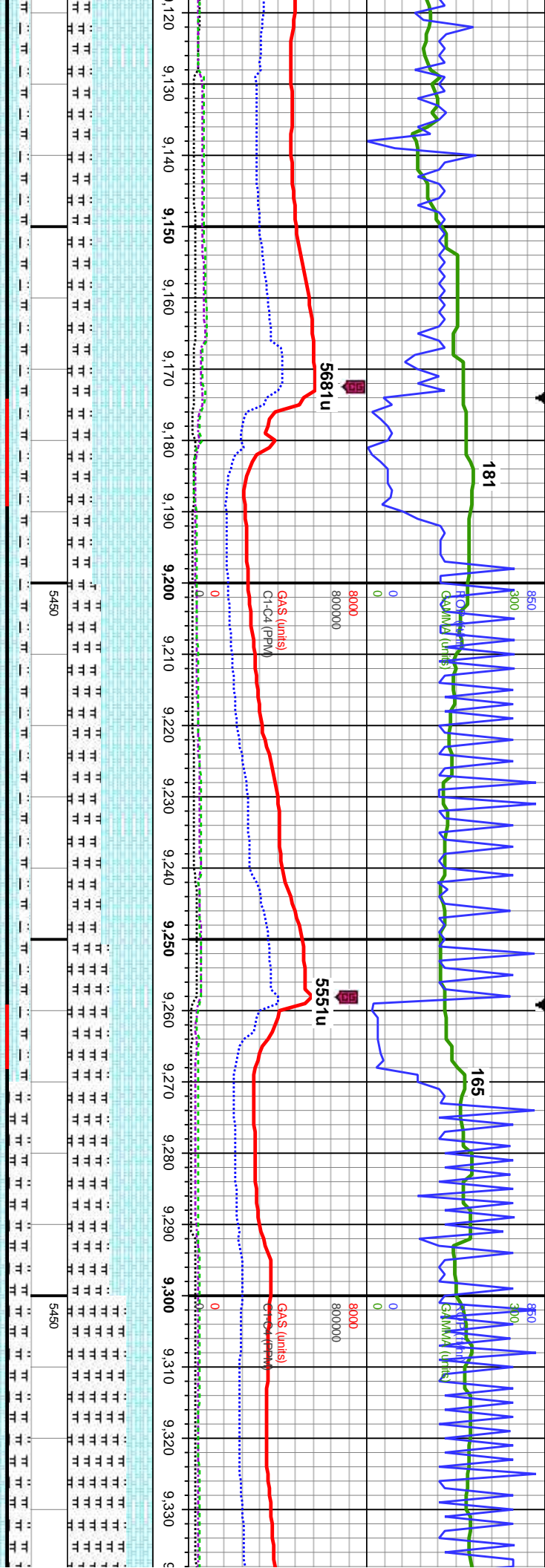
MD: 8,659'
Inclination: 91.5°
Azimuth: 269.8°
TVD: 5,961.07'
VS: 1,479.04'





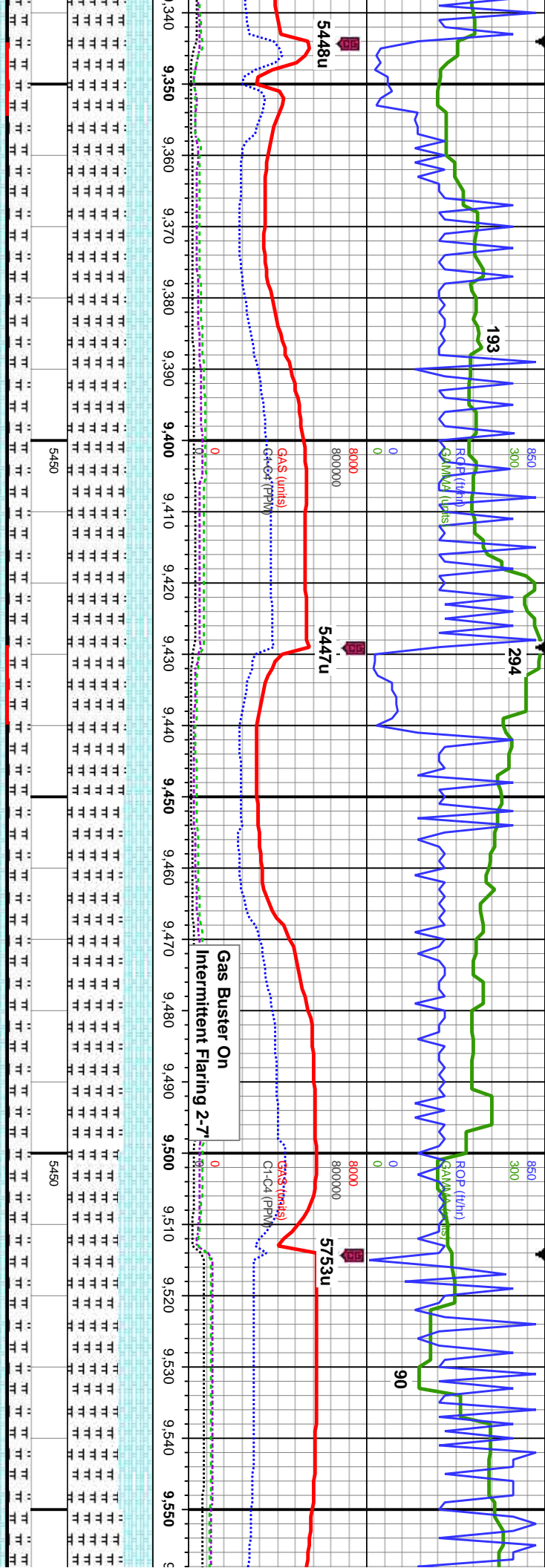
MD: 8,936' Inclination: 90.3° Azimuth: 269.5° TVD: 5,958.64' VS: 1,756.02'		MD: 9,027' Inclination: 90.6° Azimuth: 269.7° TVD: 5,957.93' VS: 1,847.02'		MD: 9,111' Inclination: Azimuth: 27 TVD: 5,958 VS: 1,931.0'	
90% CHK: lt-med gy brn, occ dk gy, mot, sb	85% CHK: lt-med gy brn, occ dk gy, mot, sb	80% CHK: lt-med gy brn, occ dk gy, mot, sb	80% CHK: lt-med gy brn, occ dk gy, mot, sb	70% CHK: lt-me	
ply-biky, sft-sl frm, rthy-sb wxy, 10%	ply-biky, sft-sl frm, rthy-sb wxy, 15%	ply-biky, sft-sl frm, rthy-sb wxy, 20% MRLST:	sb ply-biky, sft-sl frm, rthy-sb wxy, 20%	ply-biky, sft-sl fr	
MRLST: dk gy, blk, sb ply-biky, sl frm-mod	MRLST: dk gy, blk, sb ply-biky, sl frm-mod	dk gy, blk, sb ply-biky, sl frm-mod hd,	MRLST: dk gy, blk, sb ply-biky, sl frm-mod	dk gy, blk, sb pit	
hd, arg-sily tex, lt cal and fos frags, mod	hd, arg-sily tex, occ cal and fos frags, mod	arg-sily tex, occ cal and fos frags, mod chk	hd, arg-sily tex, occ cal and fos frags, mod	arg-sily tex, occ	
chk flr, fast sting bri wh bl, even thk bri yel	chk flr, fast sting bri wh bl, even thk bri yel	flr, fast sting bri wh bl, even thk bri yel grn	chk flr, fast sting bri wh bl, even thk bri	flr, fast sting br	
grm ring, thk stn	grm ring, thk stn	ring, mod sin	yel grm ring, mod stn	ring, mod sin	





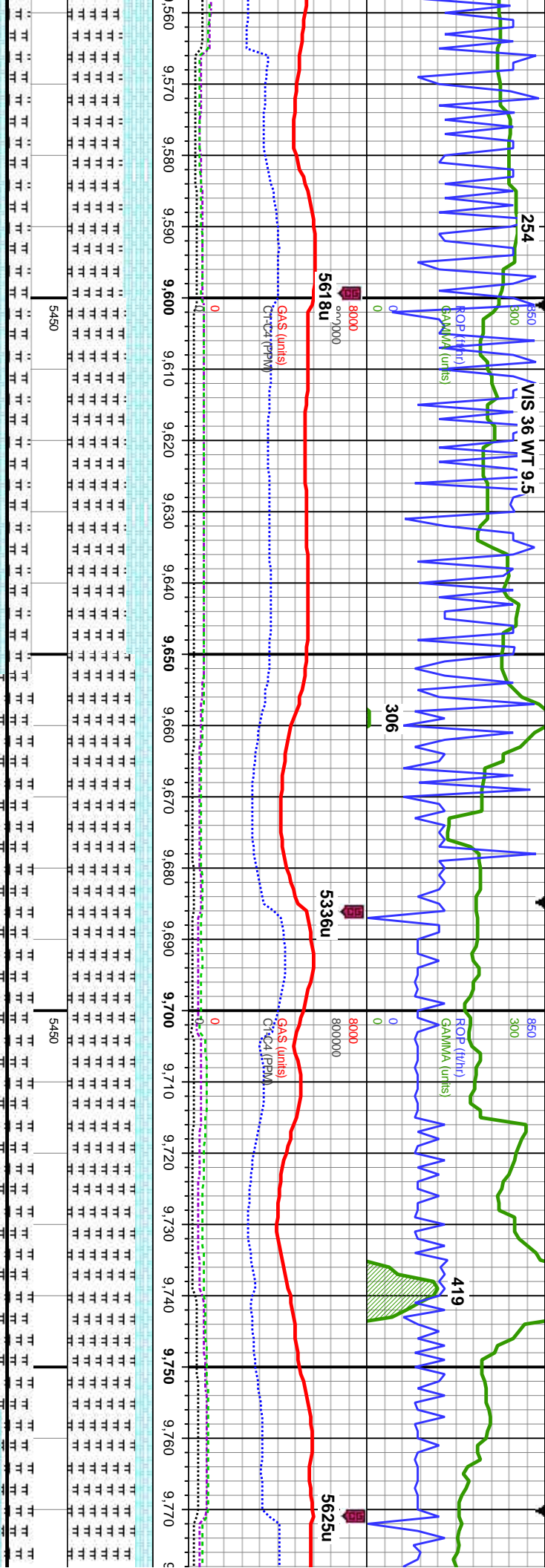
89.2° 0.1° 07 1'	70% CHK: lt-med gy brn, occ dk gy, mot, sb ply-dlky, sft-sl frm, rthy-sb wxy, 30% MRLST: dk gy, blk, sb ply-dlky, sl frm-mod hd, arg-slty tex, occ cal and fos frags, mod chk flor, fast sting bri wh bl, even thk bri yel grn ring, mod sin	MD: 9,196' Inclination: 89.3° Azimuth: 269.9° TVD: 5,959.19' VS: 2,016.01' (ft)	60% CHK: lt-med gy brn, occ dk gy, mot, sb ply-dlky, sft-sl frm, rthy-sb wxy, 40% MRLST: dk gy, blk, sb ply-dlky, sl frm-mod hd, arg-slty tex, occ cal and fos frags, mod chk flor, fast sting bri wh bl, even thk bri yel grn ring, mod sin	MD: 9,281' Inclination: 89.1° Azimuth: 269.5° TVD: 5,960.37' VS: 2,101'	70% MRLST: dk gy, blk, sb ply-dlky frm-mod hd, arg-slty tex, occ cal and frags, 30% CHK: med gy brn, occ cal mot, sb ply-dlky, sft-sl frm, rthy-sb mod chk flor, fast sting bri wh bl, e bri yel grn ring, thk sin	TVD (ft)
---------------------------	---	--	---	---	---	----------





<div>MD: 9,366' Inclination: 89.5° Azimuth: 269.4° TVD: 5,961.41' VS: 2,185.99'</div>		<div>MD: 9,451' Inclination: 88.9° Azimuth: 268.7° TVD: 5,962.6' VS: 2,270.98'</div>		<div>MD: 9,538' Inclination: 89.1° Azimuth: 269° TVD: 5,964.12' VS: 2,357.95'</div>	
70% MRLST: dk gy, blk, sb pty-blky, sl	70% MRLST: dk gy, blk, sb pty-blky, sl	65% MRLST: dk gy, blk, sb pty-blky, sl	60% MRLST: dk gy, blk, sb pty-blky, sl	65% MRLST: dk gy, blk, sb pty-blky, sl	65% MRLST: dk gy, blk, sb pty-blky, sl
frm-mod hd, arg-sily tex, occ cal and fos	frm-mod hd, arg-sily tex, occ cal and fos	frm-mod hd, arg-sily tex, occ cal and fos	frm-mod hd, arg-sily tex, occ cal and fos	frm-mod hd, arg-sily tex, occ cal and fos	frm-mod hd, arg-sily tex, occ cal and fos
frags, 30% CHK: med gy brn, occ dk gy,	frags, 30% CHK: med gy brn, occ dk gy,	frags, 35% CHK: med gy brn, occ dk gy,	frags, 40% CHK: med gy brn, occ dk gy,	frags, 40% CHK: med gy brn, occ dk gy,	frags, 40% CHK: med gy brn, occ dk gy,
mot, sb pty-blky, sft-sl frm, rthy-sb wxy,	mot, sb pty-blky, sft-sl frm, rthy-sb wxy,	mot, sb pty-blky, sft-sl frm, rthy-sb wxy,	mot, sb pty-blky, sft-sl frm, rthy-sb wxy,	mot, sb pty-blky, sft-sl frm, rthy-sb wxy,	mot, sb pty-blky, sft-sl frm, rthy-sb wxy,
mod chk flr, fast sting bri wh bl, even thk	mod chk flr, fast sting bri wh bl, even thk	mod chk flr, fast sting bri wh bl, even	mod chk flr, fast sting bri wh bl, even	mod chk flr, fast sting bri wh bl, even	mod chk flr, fast sting bri wh bl, even
bri yel grn ring, thk sin	grm ring, thk sin	thk bri yel grn ring, thk sin	bri yel grn ring, thk sin	bri yel grn ring, thk sin	bri yel grn ring, thk sin

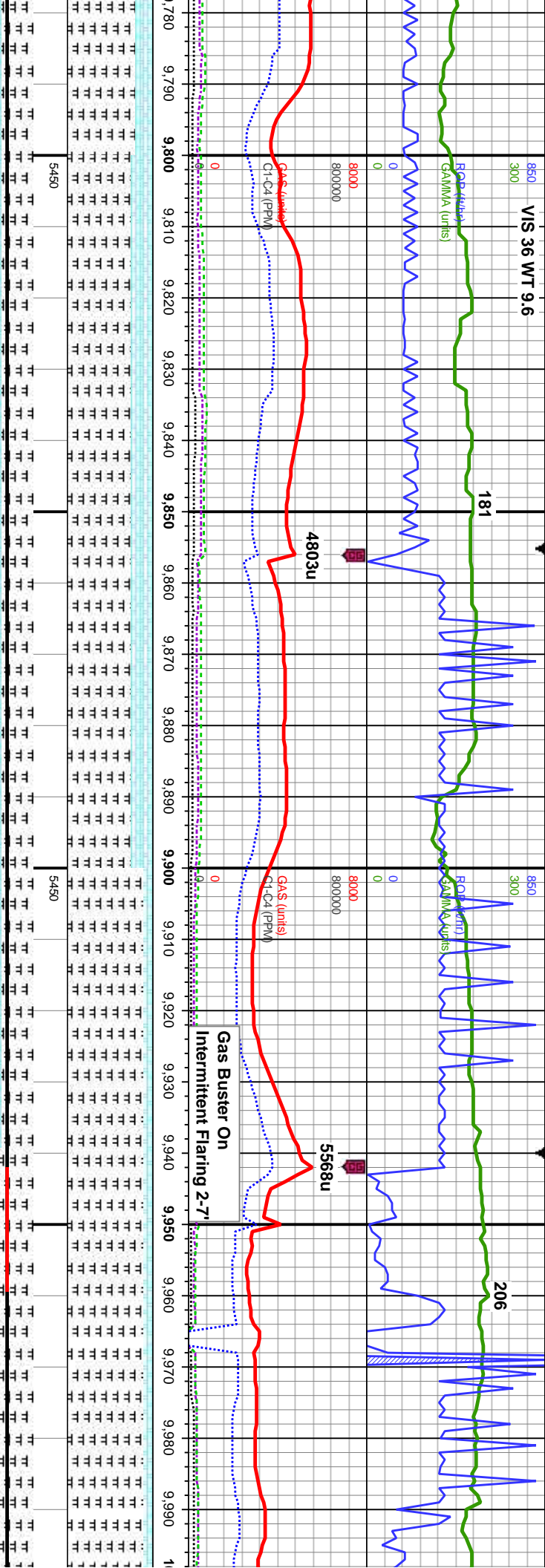




MD: 9.622' Inclination: 89.7° Azimuth: 269.4° TVD: 5.965' VS: 2.441.95'		MD: 9.707' Inclination: 89.9° Azimuth: 269.9° TVD: 5.965.29' VS: 2.526.94'	
70% MRLST: dk gy, blk, sb pty-biky, sl frm-mod hd, arg-sily tex, occ cal and fos frags, 30% CHK: med gy brn -, occ dk gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, mod chk flor, fast sting bri wh bl, even mod thk mod yel amb ring, thk sin	80% MRLST: dk gy, blk, sb pty-biky, sl frm-mod hd, arg-sily tex, occ cal and fos frags, 20% CHK: med gy brn -, occ dk gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, mod chk flor, fast sting bri wh bl, even mod thk mod yel amb ring, thk sin	80% MRLST: dk gy, blk, sb pty-biky, sl frm-mod hd, arg-sily tex, occ cal and fos frags, 20% CHK: med gy brn, occ dk gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, tr bent, mod chk flor, fast sting bri wh bl, even thk bri yel grn ring, mod sin	80% MRLST: dk gy, blk, sb pty-biky, sl frm-mod hd, arg-sily tex, occ cal and fos frags, 20% CHK: med gy brn, occ dk gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, tr bent, mod chk flor, fast sting bri wh bl, even thk bri yel grn ring, mod sin



VIS 36 WT 9.6



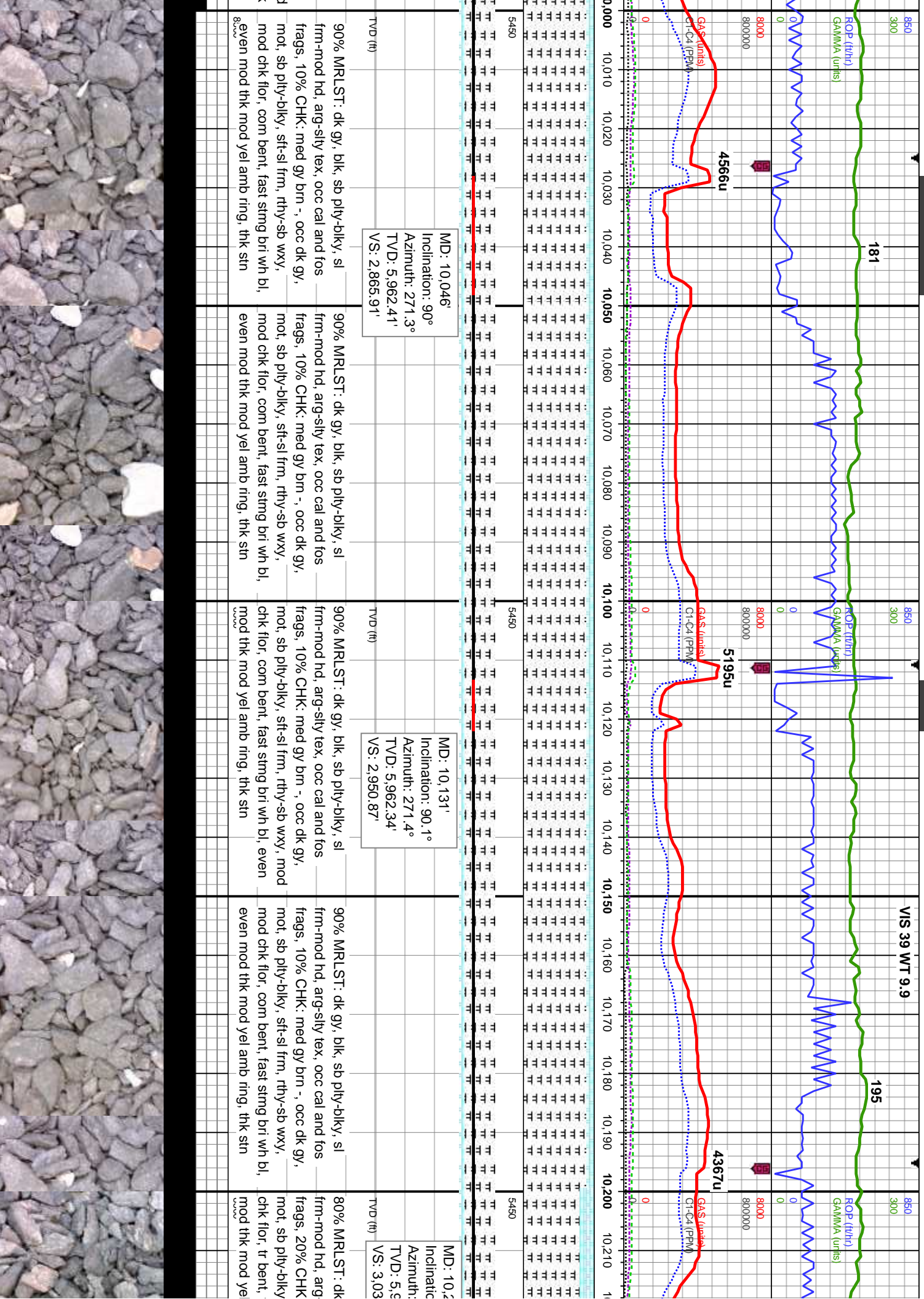
MD: 9,792'
Inclination: 90.2°
Azimuth: 269.9°
TVD: 5,965.22'
VS: 2,611.94'

MD: 9,877'
Inclination: 90.9°
Azimuth: 269.8°
TVD: 5,964.4'
VS: 2,696.94'

MD: 9,962'
Inclination: 90.9°
Azimuth: 270.1°
TVD: 5,963.07'
VS: 2,781.93'

75% MRLST: dk gy, blk, sb pty-blky, sl frm-mod hd, arg-sily tex, occ cal and fos frags, 25% CHK: med gy brn -, occ dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, mod chk flor, fast sting bri wh bl, even mod yel amb ring, thk sin	75% MRLST: dk gy, blk, sb pty-blky, sl frm-mod hd, arg-sily tex, occ cal and fos frags, 25% CHK: med gy brn -, occ dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, mod chk flor, fast sting bri wh bl, even mod thk mod yel amb ring, thk sin	90% MRLST: dk gy, blk, sb pty-blky, sl frm-mod hd, arg-sily tex, occ cal and fos frags, 10% CHK: med gy brn -, occ dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, mod chk flor, tr bent, fast sting bri wh bl, even thk bri yel grn ring, mod sin	90% MRLST: dk gy, blk, sb pty-blky, sl frm-mod hd, arg-sily tex, occ cal and fos frags, 10% CHK: med gy brn -, occ dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, mod chk flor, tr bent, fast sting bri wh bl, even thk bri yel grn ring, mod sin
---	---	--	--

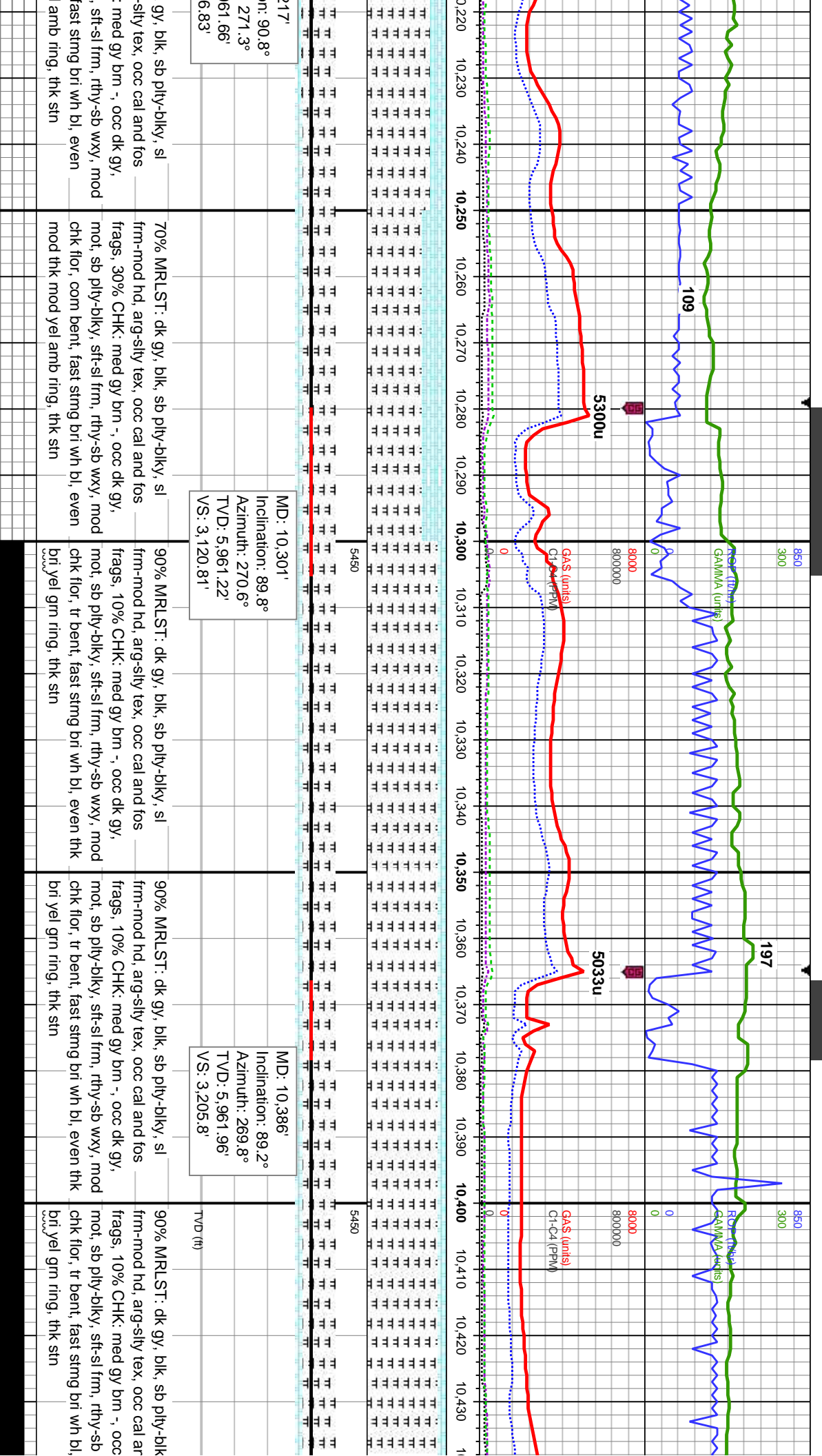


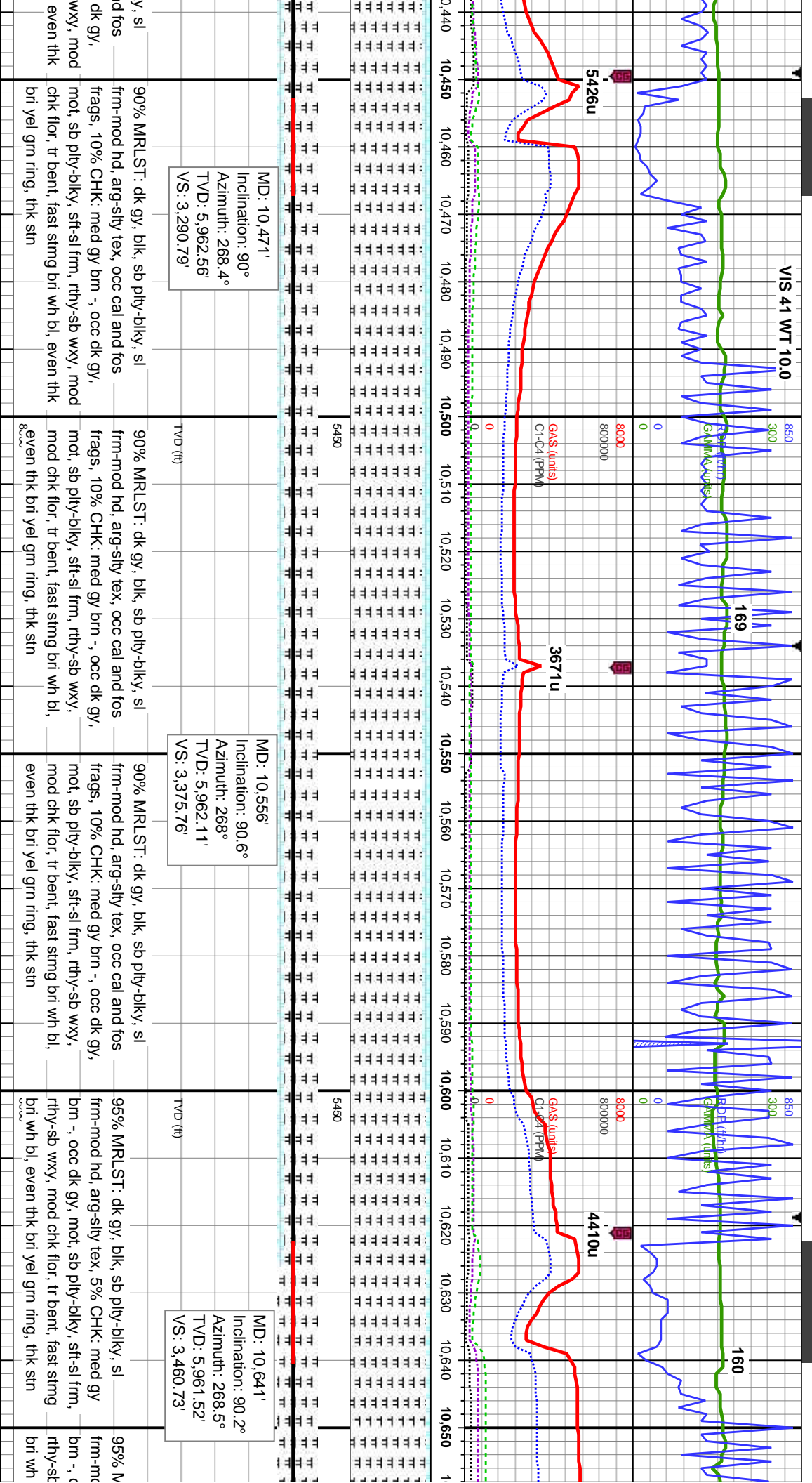


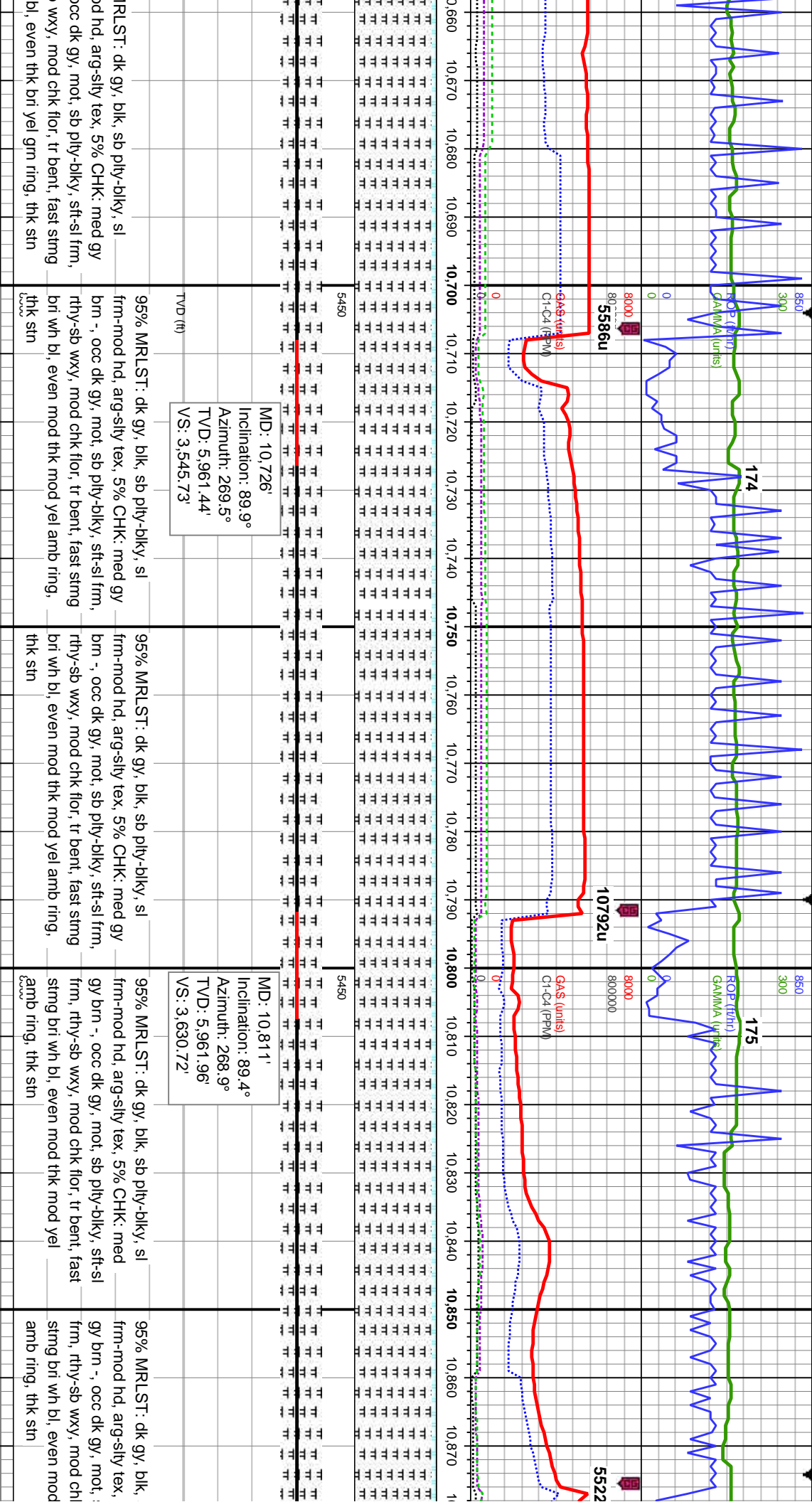
MD: 10,046'
Inclination: 90°
Azimuth: 271.3°
TVD: 5,962.41'
VS: 2,865.91'

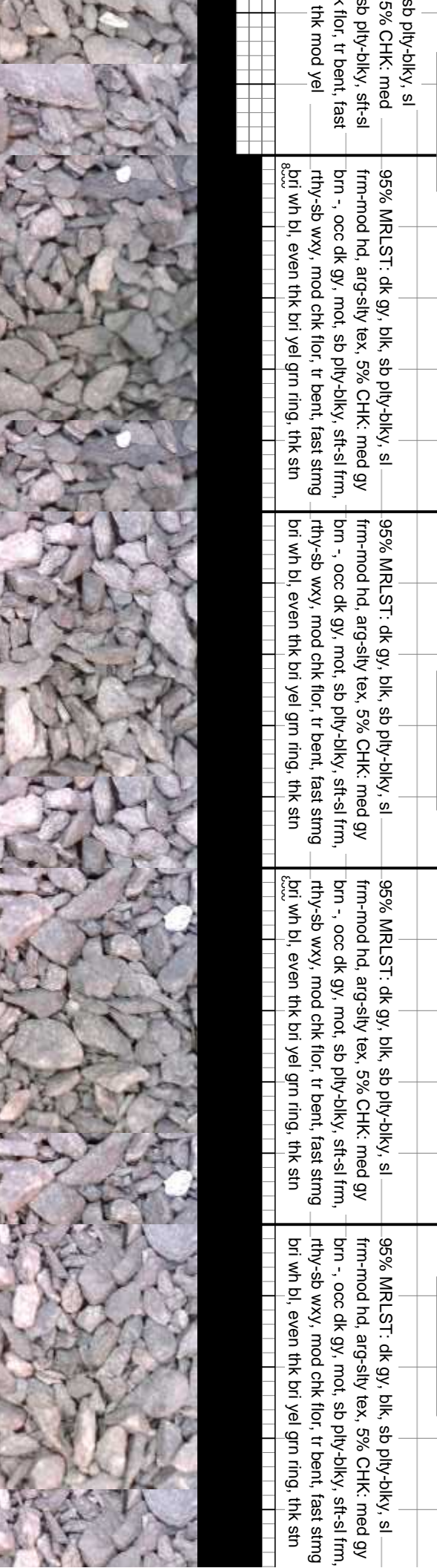
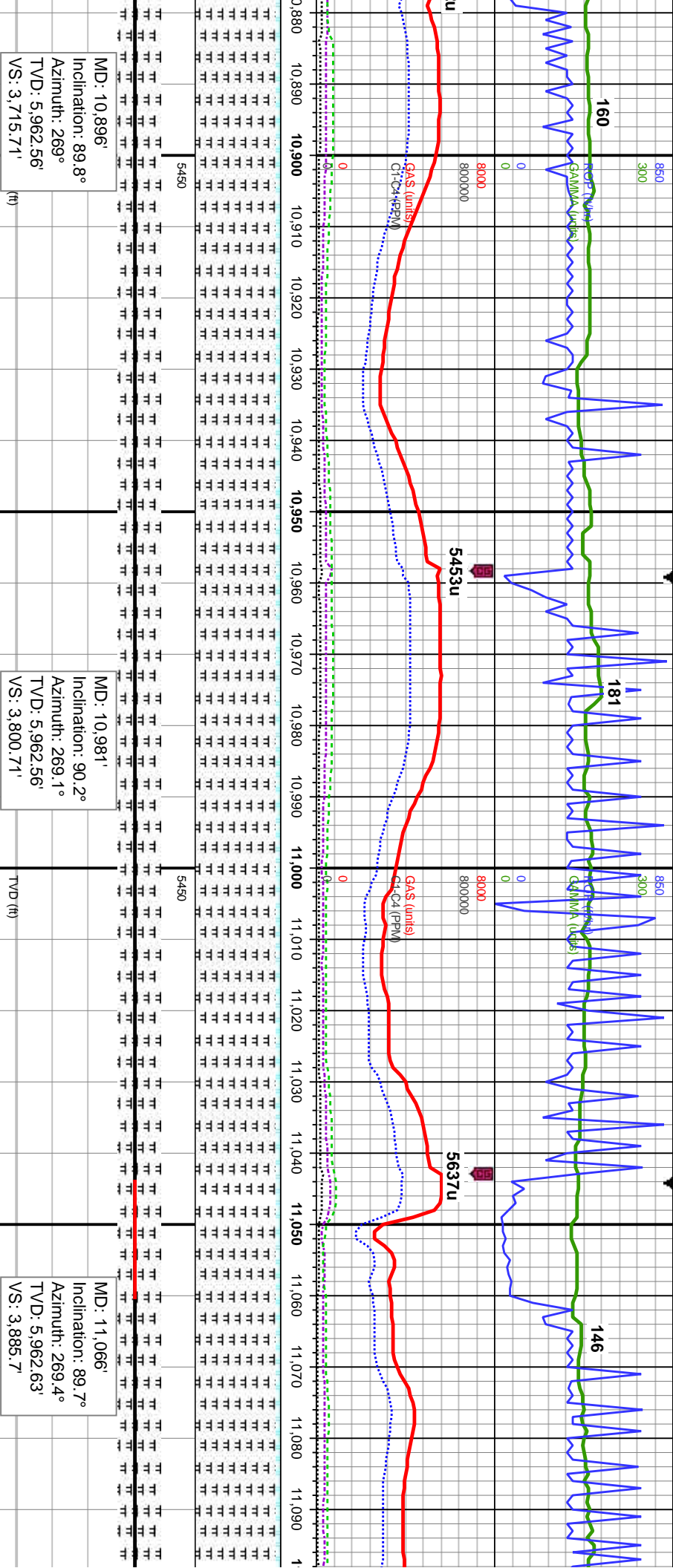
MD: 10,131'
Inclination: 90.1°
Azimuth: 271.4°
TVD: 5,962.34'
VS: 2,950.87'

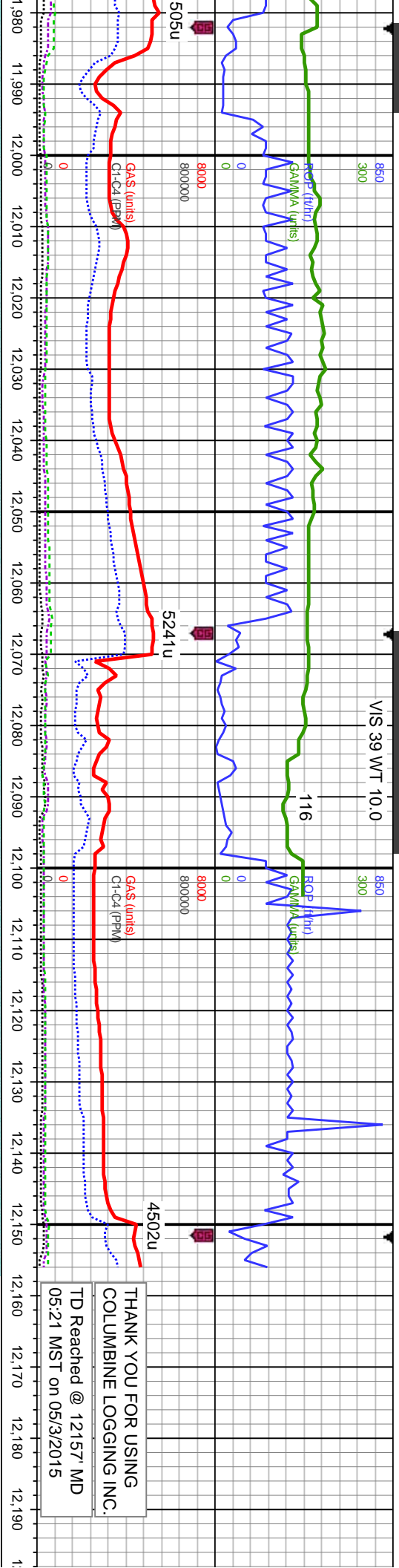
MD: 10,212'
Inclination: 88.6°
Azimuth: 271.3°
TVD: 5,962.34'
VS: 3,033.87'











THANK YOU FOR USING
COLUMBINE LOGGING INC.
TD Reached @ 12157' MD
05:21 MST on 05/3/2015

Bit Projection
MD: 12157.00'
INC: 90.50
AZI: 270.40
TVD: 5969.61'
VS: 4976.57
DLS: 0.00

MD: 12,003'
Inclination: 90.8°
Azimuth: 269.5°
TVD: 5,971.19'
VS: 4,822.59'

MD: 12,094'
Inclination: 90.5°
Azimuth: 270.4°
TVD: 5,970.16'
VS: 4,913.58'

85% MRLST: dk gy, blk, sb pty-blky, sl	85% MRLST: dk gy, blk, sb pty-blky, sl	85% MRLST: dk gy, blk, sb pty-blky, sl
frm-mod hd, arg-slty tex, 15% CHK:	frm-mod hd, arg-slty tex, 15% CHK:	hd, arg-slty tex, 15% CHK: med-dk gy, occ lt gy, mot, sb pty-blky, sl frm-mod
med-dk gy, occ lt gy, mot, sb pty-blky,	med-dk gy, occ lt gy, mot, sb pty-blky,	mot, sb pty-blky, sft-sl frm, rthy-sb wxy, mod chk
sft-sl frm, rthy-sb wxy, mod chk flor, tr cal	sft-sl frm, rthy-sb wxy, mod chk flor, tr bent,	flor, tr cal frags, some bent, mod string bri wh bl,
frags, some bent, mod string bri wh bl,	ring, fr stn	even mod bri yel grn ring, fr sin
even mod bri yel grn ring, fr stn		



