

COLUMBINE LOGGING

Scale: 5" / 100'
Measured Depth Log

Well Name Pronghorn C13-W43-28HNB

Location SWSW SEC. 28 T5N R61W

State COLORADO

County WELD

Country USA

Rig Number XTREME 20

API Number 05-123-41218-00

AFE # 15144

Region DJ BASIN

Field WATTENBERG

Spud Date 8/4/2015

Drilling Completed 8/24/2015

Surface Coordinates 1250' FSL x 409' FWL (LAT: 40.36801, -104.22212)

Bottom Hole Coordinates 2310' FSL x 470' FEL (LAT: 40.37098, -104.20623) PROJECTED

Ground Elevation 4597'

K.B. Elevation 4614'

Logged Interval 5800' To 10829'

Total Depth 10829'

Formation NIOBRARA B-CHALK

Type of Drilling Fluid H2O, LSND

Operator

Company Bonanza Creek Energy Inc.

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

Geologist

Name Paul McKay

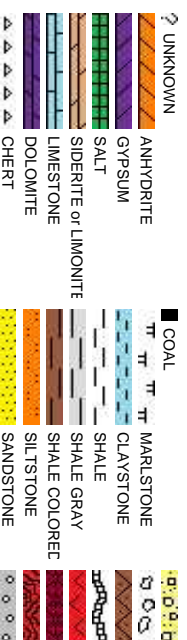
Company Bonanza Creek

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

Zone Color Code



Rock Types



Accessories

Fossils			Stringer		
F FOSSIL	ARGILLACEOUS	GLAUCONITE	ANHYDRITE STRINGER		
GASTROFOD	ARGILLITE GRAIN	GYPSIFEROUS	BENTONITE STRINGER		
ALGAE	OOLITE	HEAVY MINERAL	COAL STRINGER		
AMPHIPORA	OSTRACOD	BITUMENOUS SUBSTANCE	DOLOMITE STRINGER		
BELEMNITE	PELLET	BRECCIA FRAGMENTS	GYPSUM STRINGER		
BIOCLASTIC	PISOLUTE	CALCAREOUS	LIMESTONE STRINGER		
BRACHIOFOD	PLANT REMAINS	CARBONACEOUS FLAKES	MARLSTONE STRINGER		
BRYOZOA	PLANT SPORES	CHTDK	MARLSTONE (CALC) STRG		
CEPHALOFOD	SCAPHOFOD	CHTLT	MARLSTONE (DOL) STRG		
CORAL	STROMATOPOROID	COAL - THIN BEDS	SANDSTONE STRINGER		
CRINOID	FELDSPAR	DOLOMITIC	SHALE STRINGER		
ECHINOID	FERRUGINOUS PELLET	SILTY	SILTSTONE STRINGER		
FISH	FERRUGINOUS	TUFFACEOUS			
FORAMINIFERA	ANHYDRITIC				

Other Symbols

O ORGANIC	FORMATION TOP	CONNECTION GAS	CRYPTOXLN
P PINPOINT	GAS SHOW	CONNECTION DOWN	E EARTHY
V VUGGY	MINDEPTH MN DEPTH	CASING	FX FINELYXLN
EVEN	NORMAL FAULT	FORMATION TOP	GS GRAINSTONE
QUESTIONABLE	OIL SHOW	ROUNDED	L LITHOGRAPHIC
SPOTTED STAINING	OVERTURNED STRATA	SUBANG	MX MICROXLN
Porosity	Engineering	Rounding	Sorting
CASING	REVERSE FAULT	A ANGULAR	MS MUDSTONE
CONNECTION (LEFT)	SIDEWALL CORE (LEFT)	R ROUNDED	PS PACKSTONE
CONNECTION (RIGHT)	SIDEWALL CORE (RIGHT)	SUBANG	WS WACKESTONE
FENESTRAL	SLIDE	SUBRND	
F FRACTURE	SURVEY		
INTERCRYSTALLINE	CORE - LOST	Textures	
INTEROOLITIC	CORE - RECOVERED	TRIP GAS	M MODERATE
MOLDIC	DST INTERVAL	WIRELINE TESTED - LEFT	P POOR
	FAULT	WIRELINE TESTED - RT	W WELL
		CHALKY	

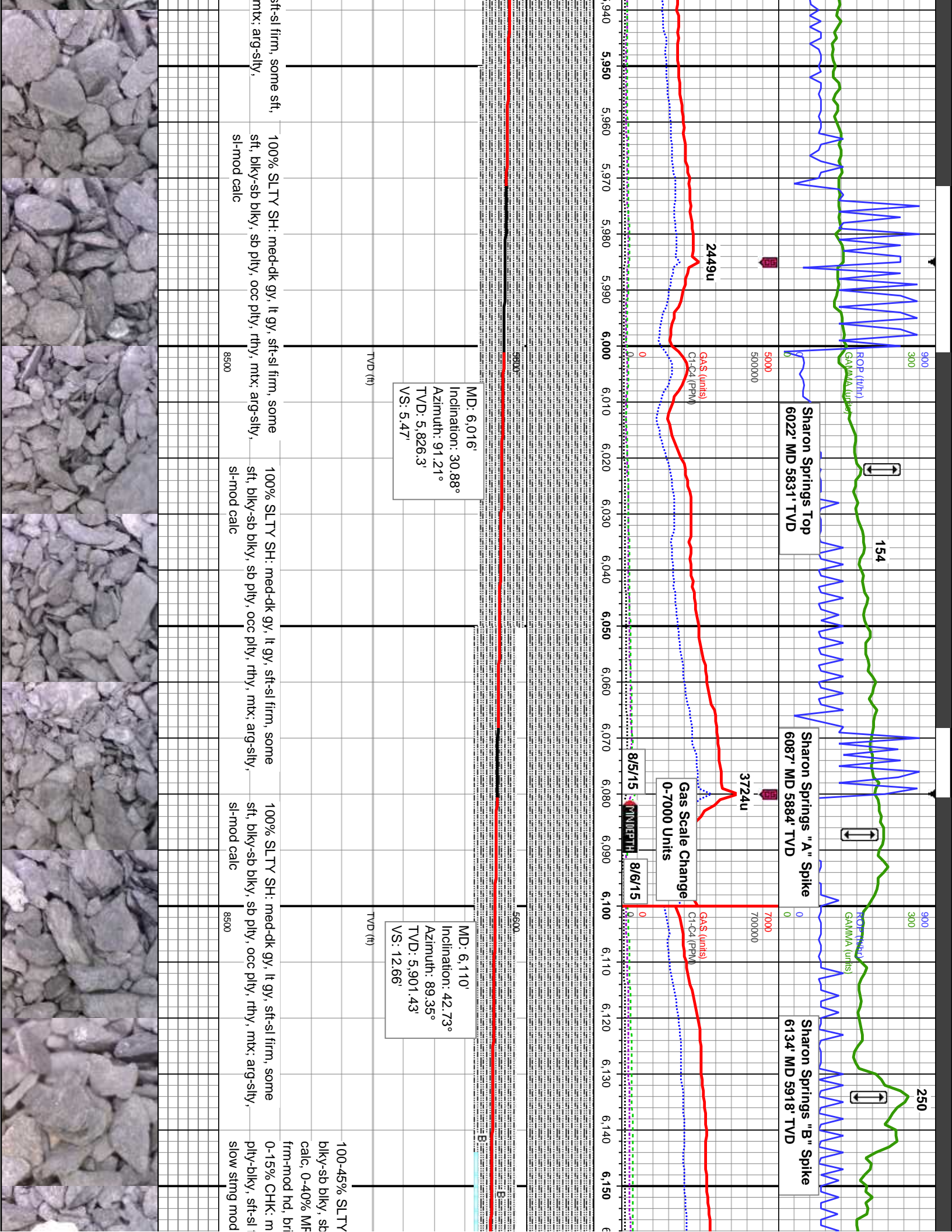
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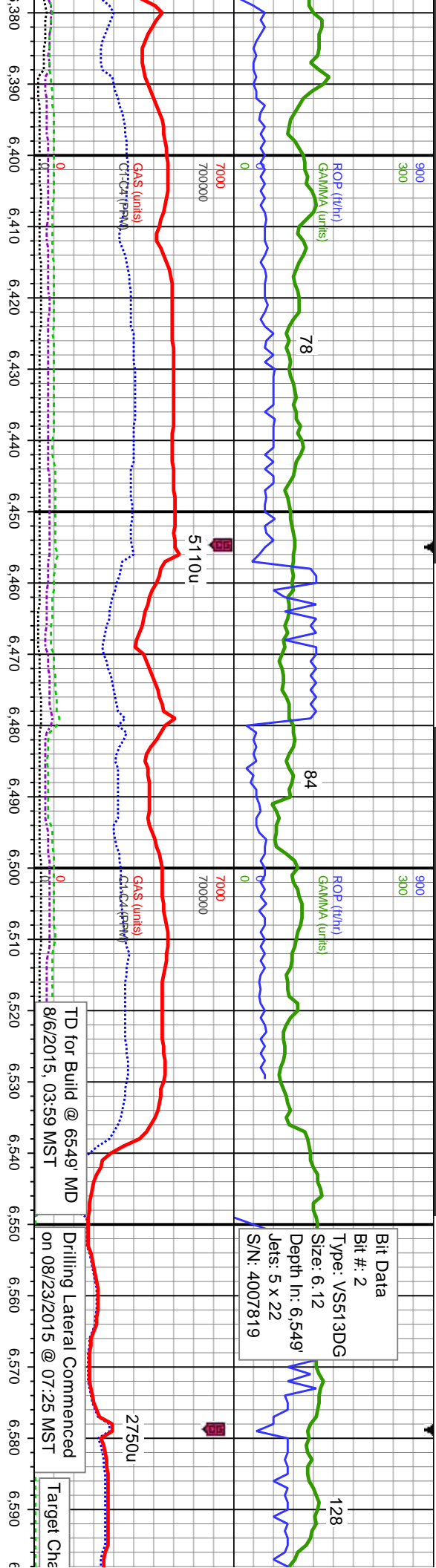


CONGLOMERATE	CHALK
BRECCIA	SILTY SHALE
TILL	NO SAMPLE
BENTONITE	SHALY SANDSTONE
TUFF	SHALY SILTSTONE
IGNEOUS	
METAMORPHIC	
CEMENT	

CO 80202

Slide/Rotate		Bit Data		VIS: 43 WT: 9.5	
ROP ROP GAMMA		Bit #: 2 Type: VS513HG Size: 8.75 Depth In: 787' Hours: 6.8 hrs Jets: 7x18 S/N: 4008557		107 (ft/hr) GAMMA (units)	
Total Gas & Chromatograph GAS C1 C2 C3 C4		5000 500000		99 300 900 5000 500000	
Depth Labels		5,760 5,770 5,780 5,790 5,800 5,810 5,820 5,830 5,840 5,850 5,860 5,870 5,880 5,890 5,900 5,910 5,920 5,930		5,760 5,770 5,780 5,790 5,800 5,810 5,820 5,830 5,840 5,850 5,860 5,870 5,880 5,890 5,900 5,910 5,920 5,930	
% Lith		5,760 5,770 5,780 5,790 5,800 5,810 5,820 5,830 5,840 5,850 5,860 5,870 5,880 5,890 5,900 5,910 5,920 5,930		5,760 5,770 5,780 5,790 5,800 5,810 5,820 5,830 5,840 5,850 5,860 5,870 5,880 5,890 5,900 5,910 5,920 5,930	
Well Bore TVD		COLUMBINE LOGGING INC. RIGGED UP ON 8/5/2015 MANNED 2-PERSON LOGGING WITH BLOODHOUND GAS CHROMATOGRAPH UNIT #311 BEGAN LOGGING ON 8/5/2015 @ 22:22 MST		MD: 5,827' Inclination: 16.81° Azimuth: 98.95° TVD: 5,655.22' VS: 13.96'	
Oil Show		100% SLTY SH: med-dk gy, lt gy, sft-sl firm, some sft, blk-sb blk, sb pty, occ pty, rthy, mty; arg-sly, sl-mod calc		100% SLTY SH: med-dk gy, lt gy, sft-sl firm, some sft, blk-sb blk, sb pty, occ pty, rthy, mty; arg-sly, sl-mod calc	
Images					





Bit Data
Bit #: 2
Type: VS513DG
Size: 6.12
Depth In: 6.549'
Jets: 5 x 22
S/N: 4007819

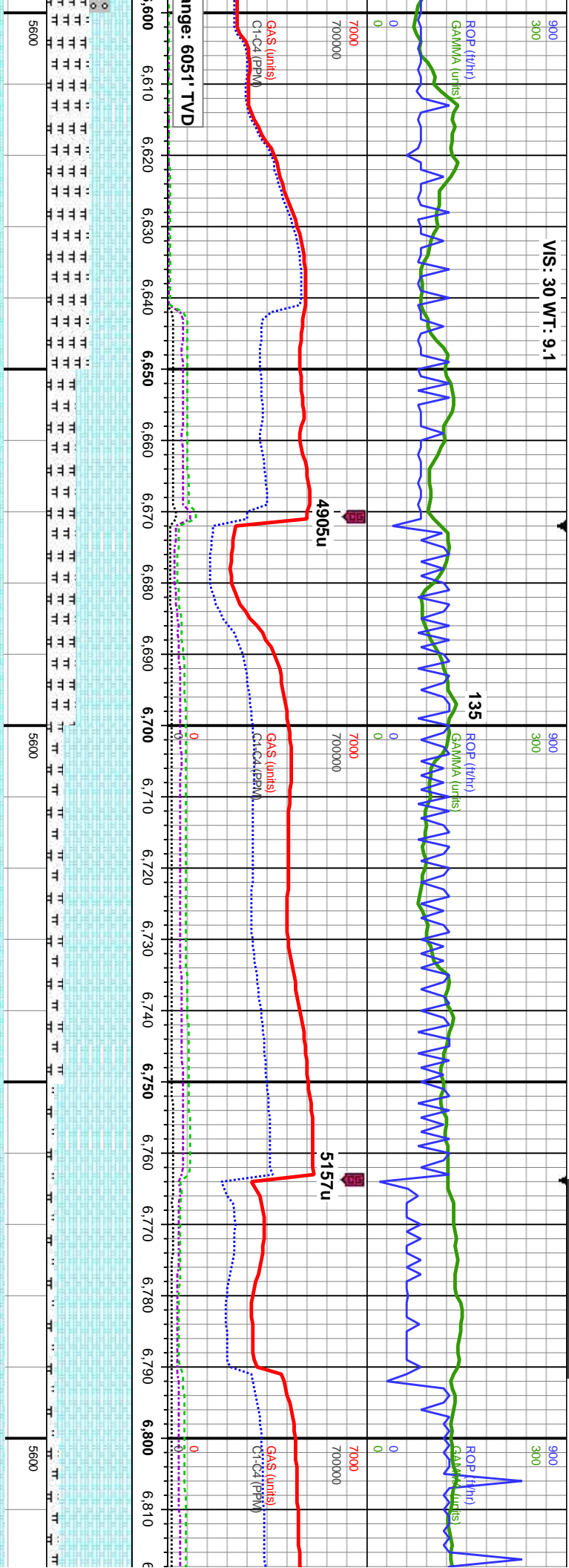
MD: 6.391'
Inclination: 74.18°
Azimuth: 89.68°
TVD: 6.044.85'
VS: 9.88'

MD: 6.484'
Inclination: 84.57°
Azimuth: 90.3°
TVD: 6.061.97'
VS: 11.19'

Projection to Bit:
MD : 65.49
Inc: 91.0
Azi: 90.3
TVD: 6064.48

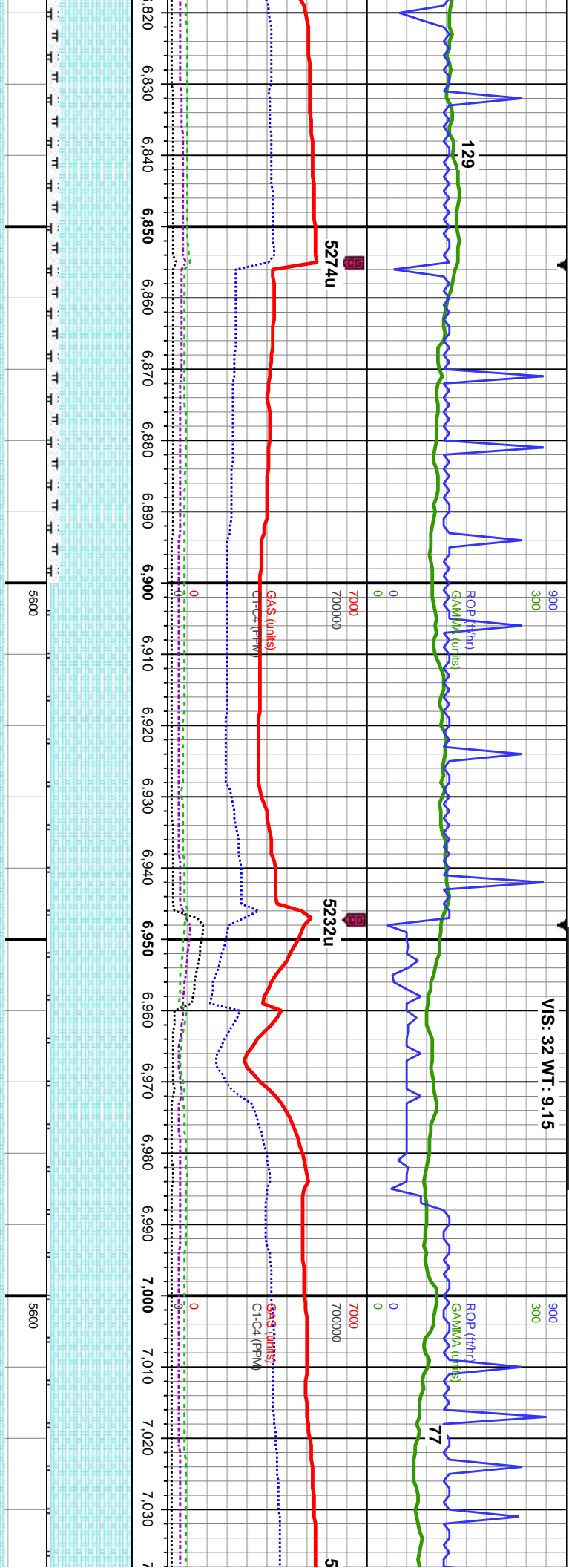
90% CHK: lt-med gy, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, tr imbd cal, 10% MRLST: dk gy-blk, sb ply-blky, frm-mod hd, brit, silty tex, mot, rthy lstr, calc mtx, tr cal frags, scat bent, mod chk flr, fast string bri wh bl, even thk yel gn ring, mod str	95-70% CHK: lt-med gy, occ dk gy, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, tr imbd cal, 5-30% MRLST: dk gy-blk, sb ply-blky, frm-mod hd, brit, silty tex, mot, rthy lstr, calc mtx, tr-scat cal and fos frags, mod chk flr, fast string bri wh bl, even thk yel gn ring, thk sin	60% CHK: lt-med gy, occ dk gy, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, imbd cal, 40% MRLST: dk gy-blk, sb ply-blky, frm-mod hd, brit, silty tex, mot, rthy lstr, calc mtx, scat cal and fos frags, mod chk flr, fast string bri wh bl, even mod yel gn ring, mod sin	50% MRLST: dk gy - blk, sb ply-blky, frm-mod hd, brit, silty tex, mot, ag, rthy lstr, calc mtx, 25% CHK: med gy bm, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, 25% CMT, scat cal frags, tr fos frags, mod string bri wh bl, mod wh gn ring, mod str
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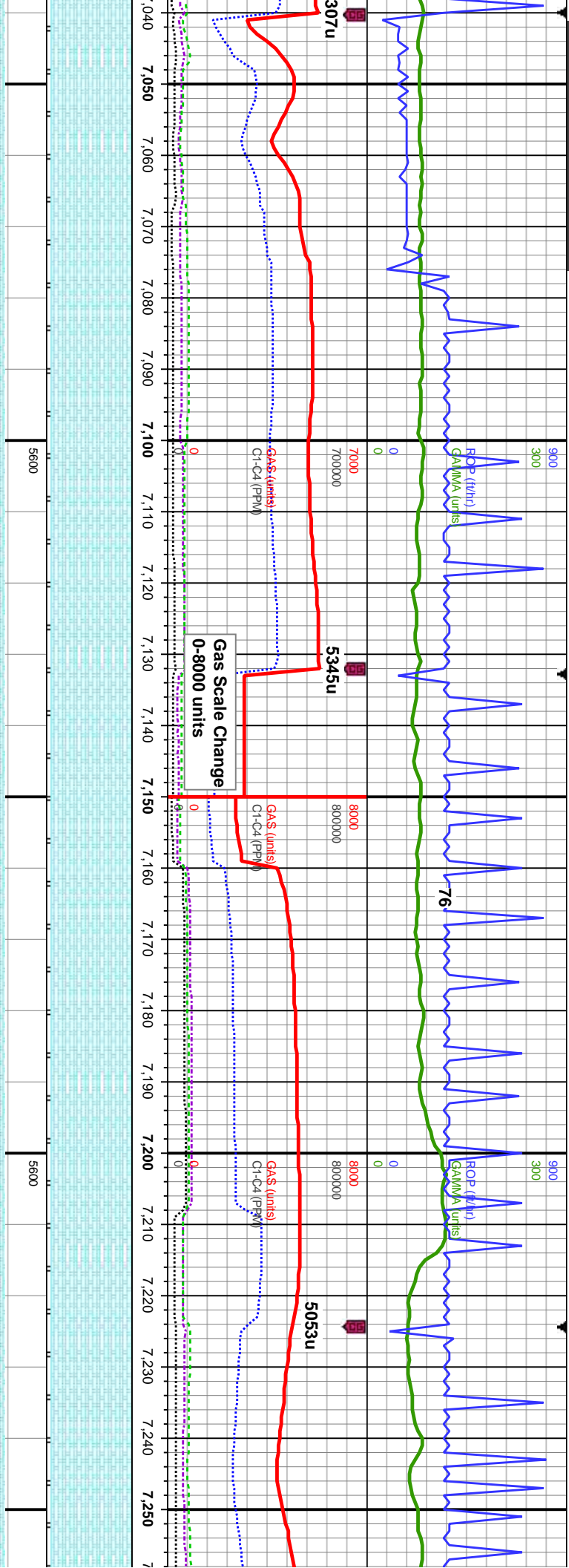
MD: 6.610' Inclination: 91.11° Azimuth: 89.19° TVD: 6,066.72' VS: 450.08'	50% MRLST: dk gy - blk, sb pty-blky, frm-mod hd, brit, silty tex, mot, arg, rthy lst, calc mtz, 50% CHK: med gy brn, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, scat cal frags, tr fos frags, fast stmg bri wh bl, bri gn ring, mod stn	65% CHK: lt-med gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, 35% MRLST: med-dk gy, some blk, sb pty-blky, frm-mod hd, brit, arg, silty tex, mot, rthy lst, calc mtz, tr imbd cal, tr cal frags, tr bent, fast stmg bri wh bl, bri wh gn ring, mod stn	80% CHK: lt-med gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, 20% MRLST: med-dk gy, some blk, sb pty-blky, frm-mod hd, brit, arg, silty tex, mot, rthy lst, calc mtz, tr imbd cal, tr cal frags, tr bent, fast stmg bri wh bl, bri wh gn ring, thn stn	90% CHK: lt-med gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, 10% MRLST: med-dk gy, some blk, sb pty-blky, frm-mod hd, brit, arg, silty tex, mot, rthy lst, calc mtz, tr imbd cal, tr cal frags, tr bent, fast stmg bri wh bl, bri wh gn ring, thn stn	85% CHK: lt-med gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, 5% MRLST: med-dk gy, some blk, sb pty-blky, frm-mod hd, brit, arg, silty tex, mot, rthy lst, calc mtz, tr imbd cal, tr cal frags, tr bent, fast stmg bri wh bl, bri wh gn ring, thn stn
MD: 6.702' Inclination: 91.88° Azimuth: 89.35° TVD: 6,064.32' VS: 539.69'					
MD: 6.794' Inclination: 90.77° Azimuth: 90.22° TVD: 6,062.19' VS: 629.11'					





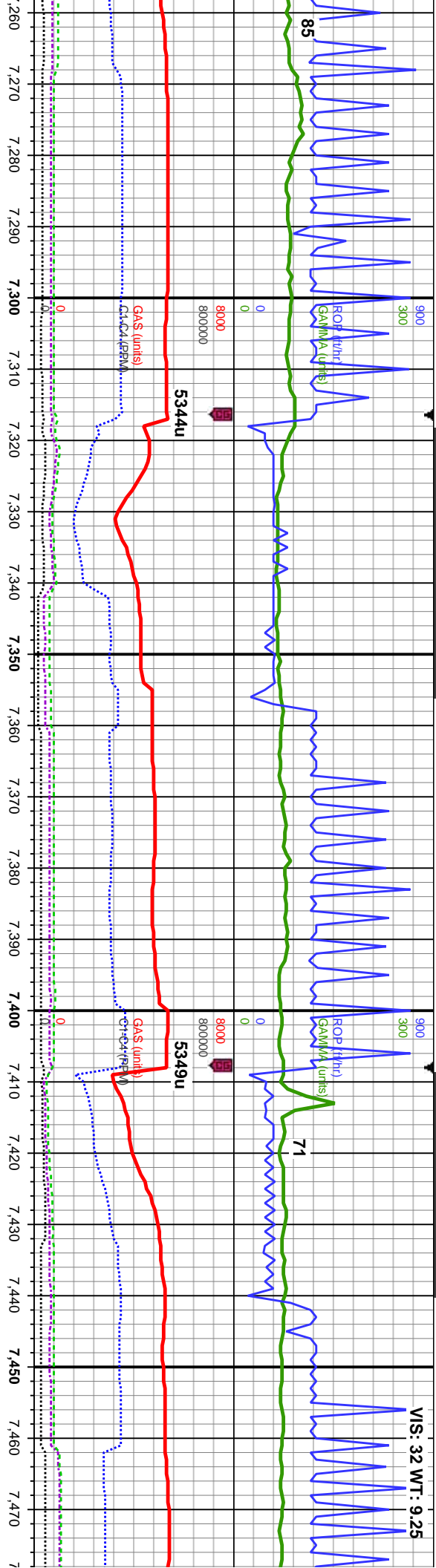
	MD: 6.886' Inclination: 91.22° Azimuth: 90.53° TVD: 6,060.59' VS: 718.32'	TVD (ft)	MD: 6.979' Inclination: 91.45° Azimuth: 91.16° TVD: 6,058.43' VS: 808.3'	TVD (ft)
85% CHK: lt-med gy, mot, sb ply-blky, sft-sl	95% CHK: lt-med gy, mot, sb ply-blky, sft-sl	95% CHK: lt-med gy, mot, sb ply-blky, sft-sl	95% CHK: lt-med gy, mot, sb ply-blky, sft-sl	95% CHK: lt-med gy, mot, sb ply-blky, sft-sl
frm, rthy-sb wxy, cal incl 15% MRLST:	frm, rthy-sb wxy, cal incl 5% MRLST:	frm, rthy-sb wxy, cal incl 5% MRLST:	frm, rthy-sb wxy, cal incl 5% MRLST:	frm, rthy-sb wxy, cal incl 5% MRLST:
med-dk gy, some blk, sb ply-blky, frm-mod	med-dk gy, sb ply-blky, frm-mod hd, brit,	med-dk gy, sb ply-blky, frm-mod hd, brit,	med-dk gy, sb ply-blky, frm-mod hd, brit,	med-dk gy, sb ply-blky, frm-mod hd, brit,
hd, brit, arg, silty tex, mot, rthy lst, calc mtx,	arg, silty tex, mot, rthy lst, calc mtx, tr cal	arg, silty tex, mot, rthy lst, calc mtx, tr cal	arg, silty tex, mot, rthy lst, calc mtx, tr cal	arg, silty tex, mot, rthy lst, calc mtx,
frag, fast stmg bri wh bl, even mod yel-gn	frags, fast stmg bri wh bl, even mod yel gn	frags, fast stmg bri wh bl, even mod yel gn	frags, fast stmg bri wh bl, even mod yel gn	frags, fast stmg bri wh bl, even mod yel gn
ring, mod stn	ring, mod stn	ring, mod stn	ring, mod stn	ring, mod stn





T: 95% CHK: lt-med gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, cal incl 5% MRLST: med-dk gy, sb pty-blky, frm-mod hd, brit, arg, silty tex, mot, rthy lst, calc mtx, tr cal frags, fast stmg bri wh bl, even mod yel gn ring, mod stn	MD: 7,071' Inclination: 89.87° Azimuth: 91.39° TVD: 6,057.37' VS: 897.15'	TVD (ft)	95% CHK: lt-med gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, cal incl 5% MRLST: med-dk gy, sb pty-blky, frm-mod hd, brit, arg, silty tex, mot, rthy lst, calc mtx, tr cal frags, tr foss, fast stmg bri wh bl, even mod yel gn ring, mod stn	MD: 7,162' Inclination: 90.37° Azimuth: 91.72° TVD: 6,057.18' VS: 984.92'	TVD (ft)	95% CHK: lt-med gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, cal incl 5% MRLST: med-dk gy, sb pty-blky, frm-mod hd, brit, arg, silty tex, mot, rthy lst, calc mtx, tr cal frags, tr foss, fast stmg bri wh bl, even mod yel gn ring, mod stn	MD: 7,254' Inclination: Azimuth: 91 TVD: 6,055 VS: 1,073.5



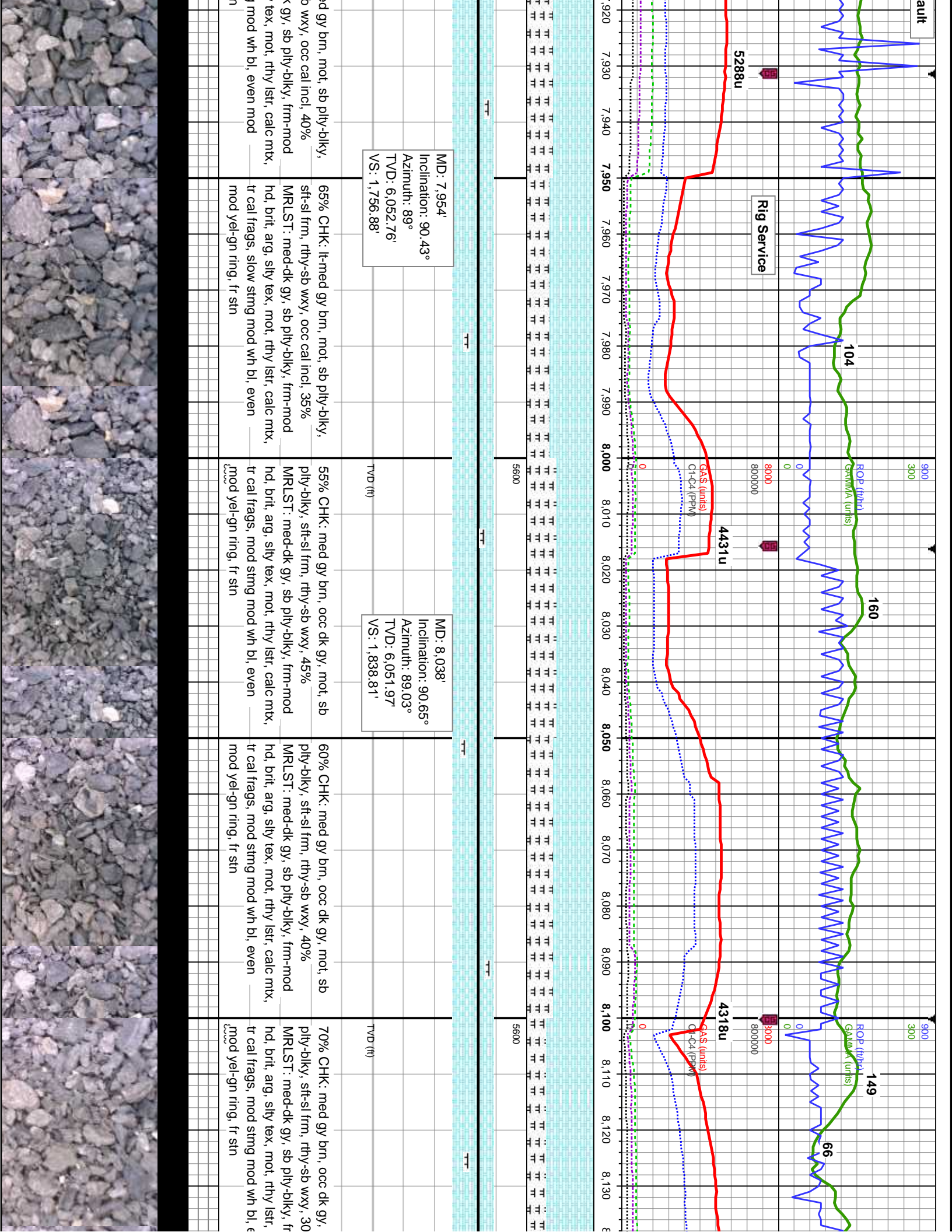


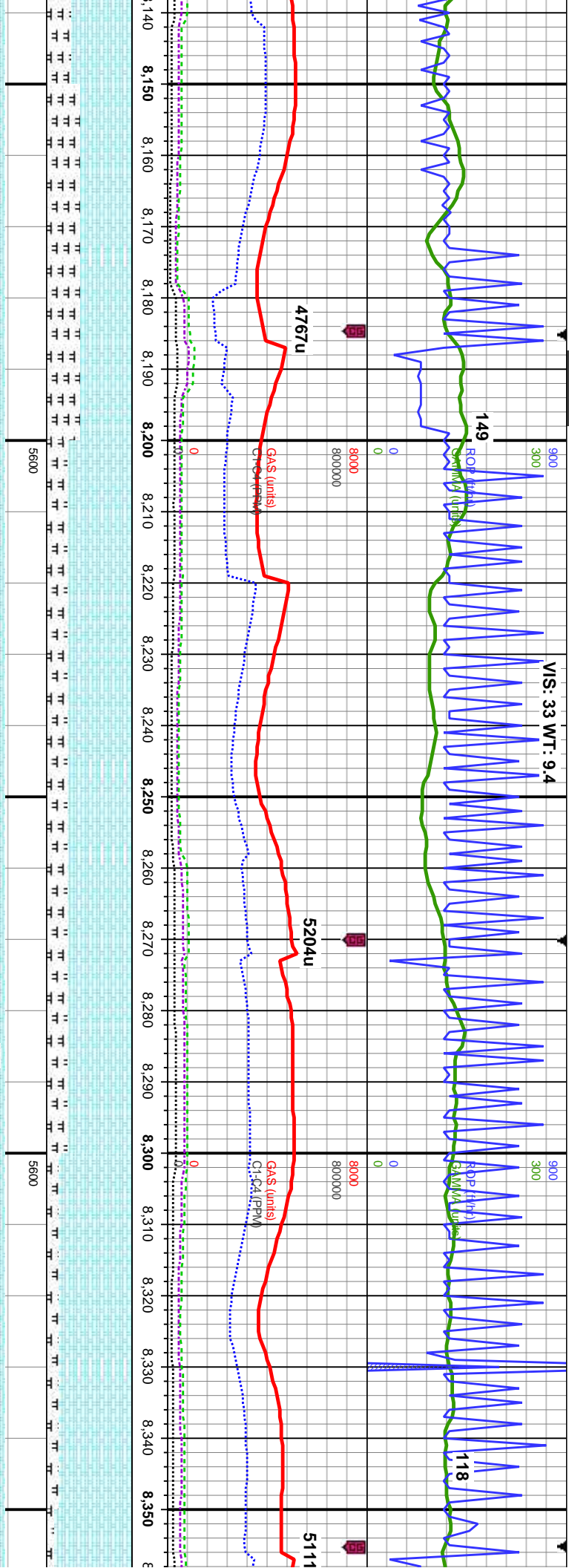
91.62°
.94°
.58'
3'

HK: lt-med gy, occ wht-crm, mot, sb gy, sft-sl frm, rthy-sb wxy, cal incl 5% T: med-dk gy, sb ply-blky, frm-mod t, arg, sfty tex, mot, rthy lst, calc mtx, cal frags, tr foss, fast stmg bri wh bl, mod yel gn ring, mod stn	95% CHK: lt-med gy, occ wht-crm, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, cal incl 5% MRLST: med-dk gy, sb ply-blky, frm-mod hd, brit, arg, sfty tex, mot, rthy lst, calc mtx, occ cal frags, tr foss, fast stmg bri wh bl, even thk yel gn ring, thk stn	100% CHK: lt-med gy, occ wht-crm, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, cal incl, occ cal frags and fos frags, fast stmg bri wh bl, even thk yel gn ring, thk stn	100% CHK: lt-med gy, occ wht-crm, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, cal incl, occ cal frags and fos frags, mod chk flr, fast stmg bri wh bl, even thk yel gn ring, thk stn	100% CHK: lt-med gy, o sb ply-blky, sft-sl frm, rth occ cal frags and fos frag fast stmg bri wh bl, even thk stn
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MD: 7,438'
Inclination: 90.22°
Azimuth: 88.23°
TVD: 6,052.62'
VS: 1,252.14'



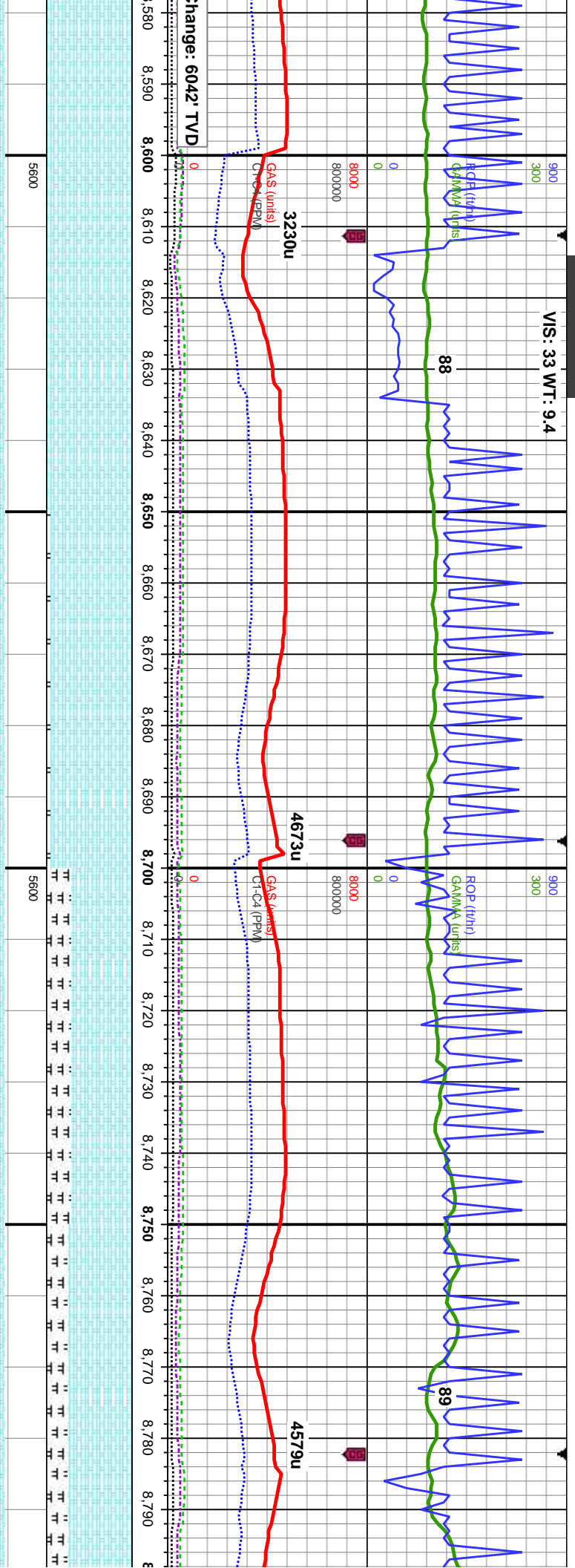




MD: 8,208'
Inclination: 88.53°
Azimuth: 89.71°
TVD: 6,053.18'
VS: 2,004.36'

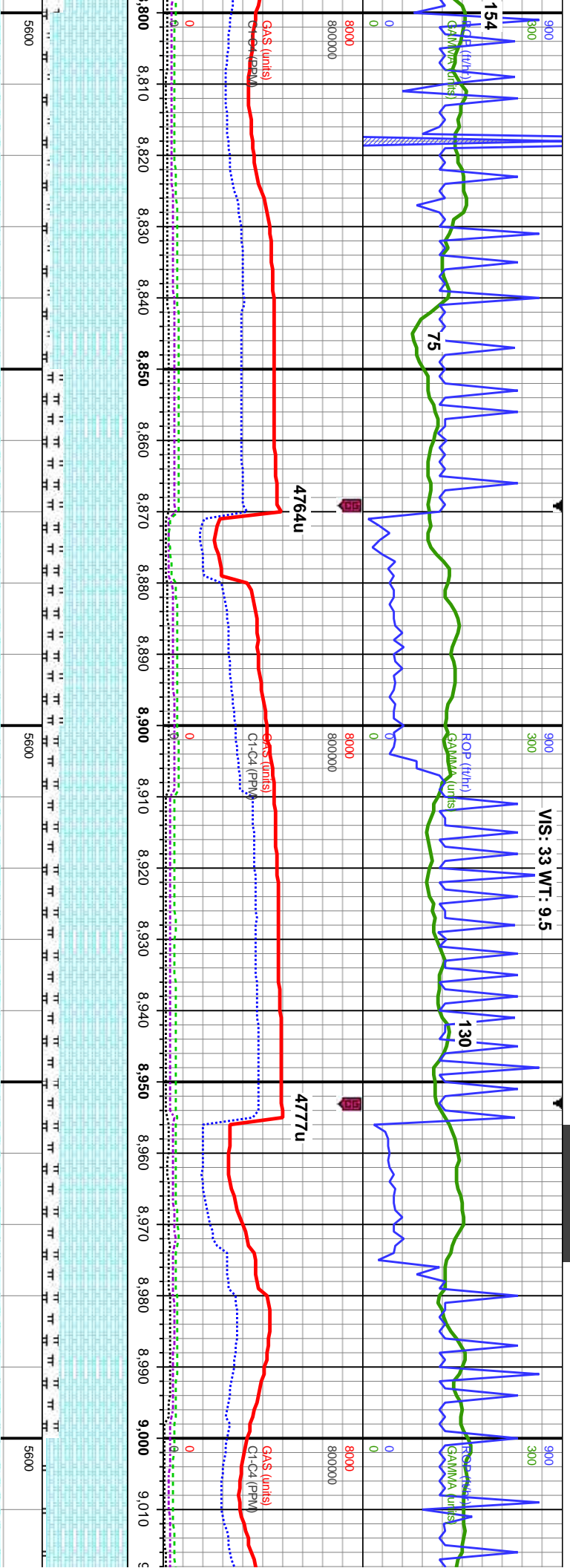
60% CHK: med gy brn, occ dk gy, mot, sb ply-biky, sft-sl frm, rthy-sb wxy, 40% MRLST: med-dk gy, sb ply-biky, frm-mod hd, brit, arg, sily tex, mot, rthy lstr, calc mtx, tr cal frags, mod stmg mod wh bl, even mod yel-gn ring, fr sin	75% CHK: med gy brn, occ lt gy, mot, sb ply-biky, sft-sl frm, rthy-sb wxy, 25% MRLST: med-dk gy, sb ply-biky, frm-mod hd, brit, arg, sily tex, mot, rthy lstr, calc mtx, cal and fos frags, fast stmg bri wh bl, even mod yel gn ring, fr sin	75% CHK: med gy brn, occ lt gy, mot, sb ply-biky, sft-sl frm, rthy-sb wxy, 25% MRLST: med-dk gy, sb ply-biky, frm-mod hd, brit, arg, sily tex, mot, rthy lstr, calc mtx, cal and fos frags, fast stmg bri wh bl, even mod yel gn ring, fr sin	85% CHK: med gy brn, occ lt gy, mot, sb ply-biky, sft-sl frm, rthy-sb wxy, 15% MRLST: med-dk gy, sb ply-biky, frm-mod hd, brit, arg, sily tex, mot, rthy lstr, calc mtx, scat cal and fos frags, tr pyr, fast stmg bri wh bl, even mod yel gn ring, mod stn	90% C ply-bill MRLS hd, bri scat ca even r
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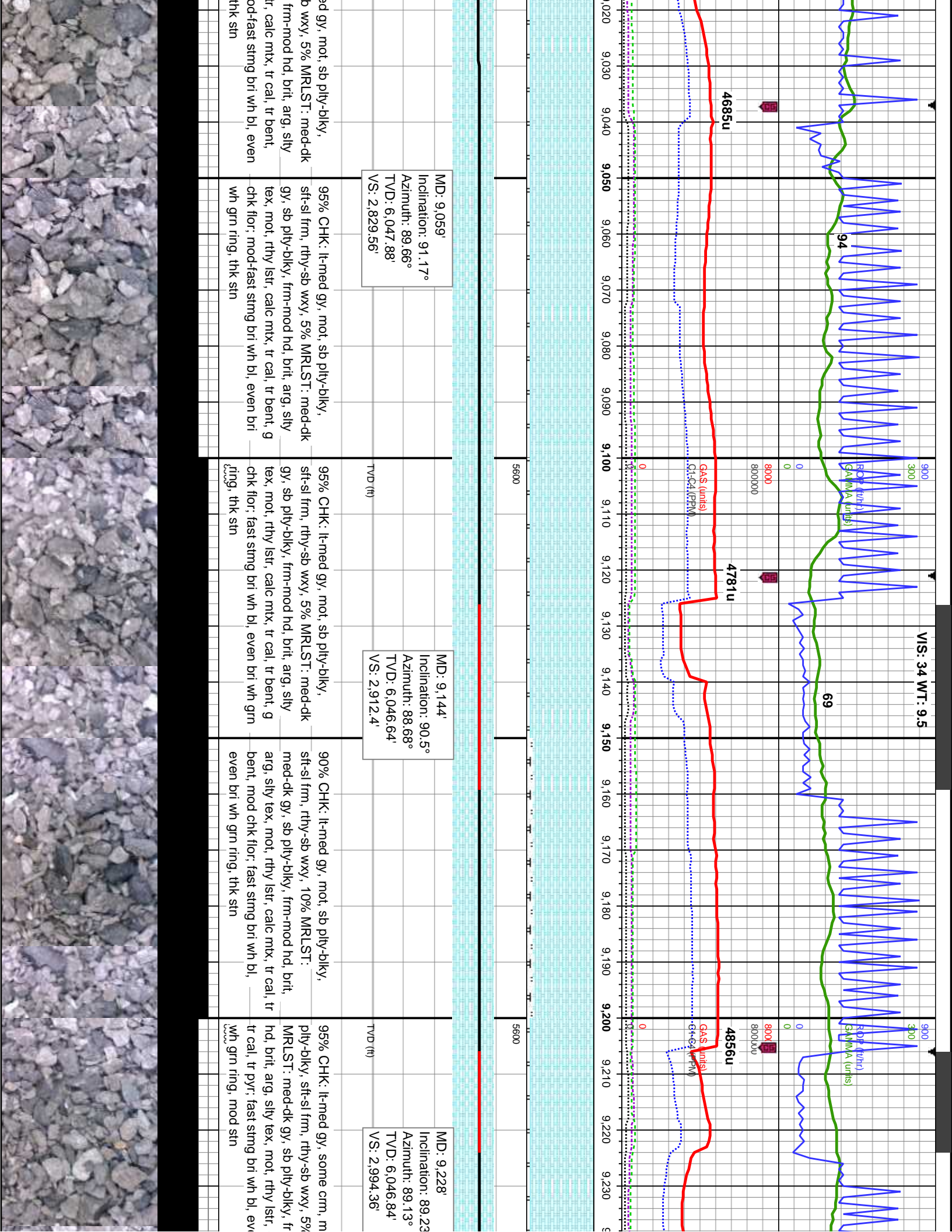
MD: 8.634' Inclination: 89.66° Azimuth: 90.33° TVD: 6,053.32' VS: 2,417.7'		TVD (ft)	
100% CHK: lt-med gy brn, occ wht-crm, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, imbd cal and fos frags, scat bent; fast stmg bri wh bl, even mod yel gn ring, mod stn	95% CHK: lt-med gy brn, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, 5% MRLST: med-dk gy, sb pty-blky, frm-mod hd, brit, arg, silty tex, mot, rthy lstr, calc mtx, imbd cal and fos frags, bent; fast stmg bri wh bl, even mod yel gn ring, mod stn	70% CHK: med gy brn, occ dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, 30% MRLST: med-dk gy, sb pty-blky, frm-mod hd, brit, arg, silty tex, mot, rthy lstr, calc mtx, scat fos frags, tr cal; fast stmg bri wh bl, even mod yel gn ring, mod stn	75% CHK: med gy brn, occ dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, 25% MRLST: med-dk gy, sb pty-blky, frm-mod hd, brit, arg, silty tex, mot, rthy lstr, calc mtx, scat fos frags, tr cal; fast stmg bri wh bl, even mod yel gn ring, mod stn



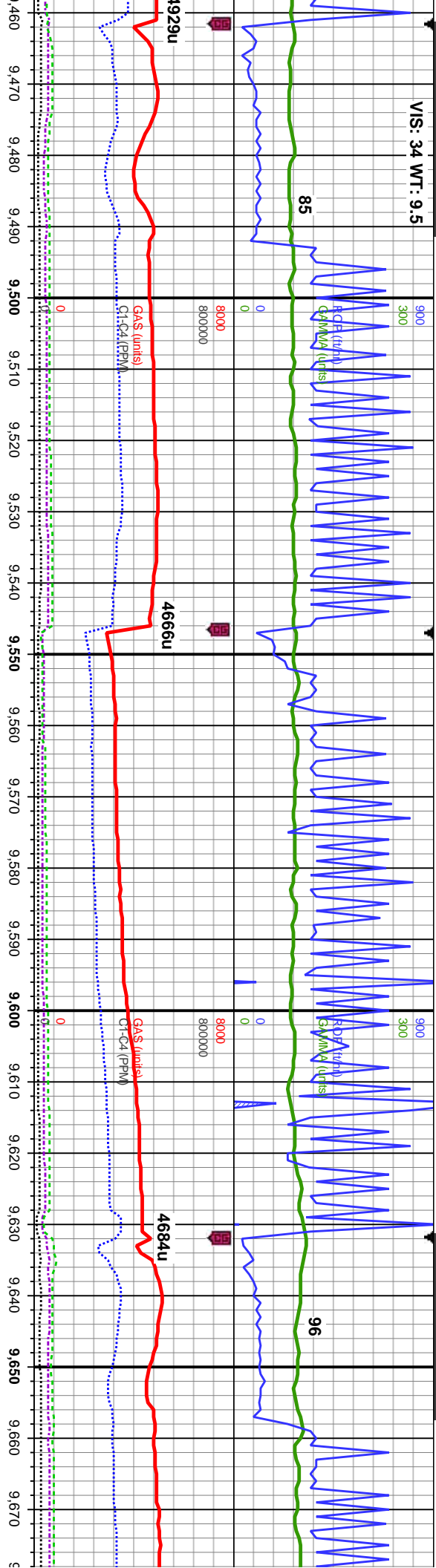


ID: 8,805' Inclination: 91.74° Azimuth: 91.37° VD: 6,051.23' VS: 2,583.16'		MD: 8,890' Inclination: 90.81° Azimuth: 90.63° TVD: 6,049.34' VS: 2,665.34'		MD: 8,975' Inclination: 90° Azimuth: 89.66° TVD: 6,048.74' VS: 2,747.85'	
90% CHK: med gy brn, occ dk gy, mot, sb ply-biky, sft-sl frm, rthy-sb wxy, 10% MRLST: med-dk gy, sb ply-biky, frm-mod hd, brit, arg, silty tex, mot, rthy lstr, calc mtx, occ fos and cal frags, slow stmg bri wh bl, even mod amb ring, thk str		75% CHK: med gy brn, occ dk gy, mot, sb ply-biky, sft-sl frm, rthy-sb wxy, 25% MRLST: med-dk gy, sb ply-biky, frm-mod hd, brit, arg, silty tex, mot, rthy lstr, calc mtx, tr fos and cal frags, slow stmg bri wh bl, even mod amb ring, thk str		80% CHK: lt-med gy, occ dk gy, mot, sb ply-biky, sft-sl frm, rthy-sb wxy, 20% MRLST: med-dk gy, sb ply-biky, frm-mod hd, brit, arg, silty tex, mot, rthy lstr, calc mtx; mod stmg bri wh bl, even mod wh grn ring, thk str	
TVD (ft)		TVD (ft)		TVD (ft)	





VIS: 34 WT: 9.5



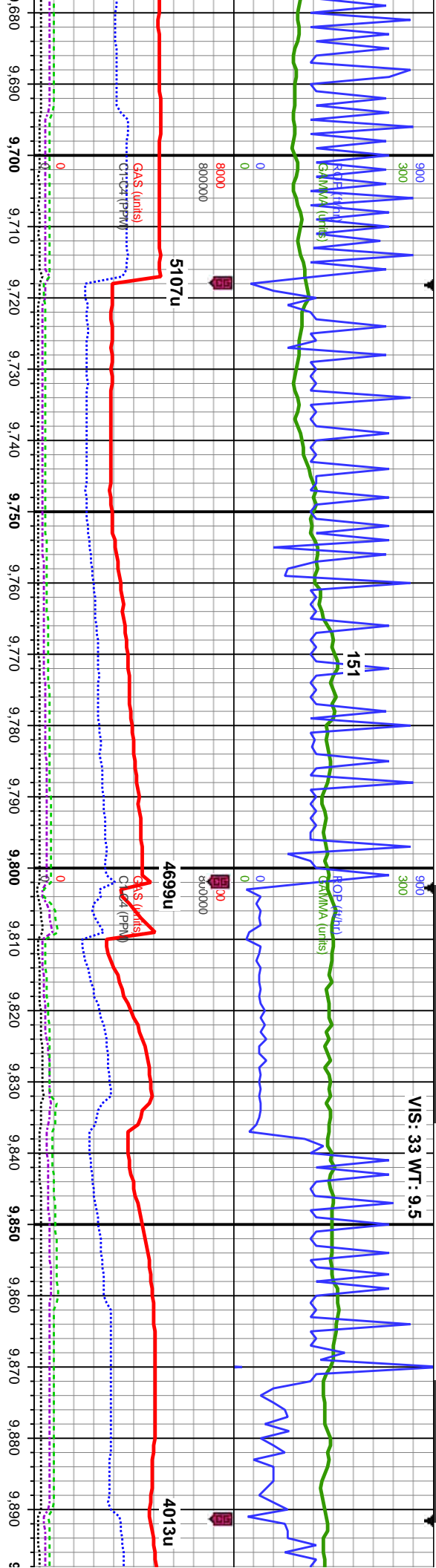
MD: 9,485'
Inclination: 89.81°
Azimuth: 89.88°
TVD: 6,046.53'
VS: 3,244.45'

	TVD (ft)	95% CHK: lt-med gy, some crm, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, 5% MRLST: med-dk gy, sb ply-blky, frm-mod hd, brit, arg, silty tex, mot, rthy lstr, calc mtx, tr cal, tr pyr; fast stmg bri wh bl, even bri wh grn ring, thk str	TVD (ft)	95% CHK: lt-med gy, some crm, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, 5% MRLST: med-dk gy, sb ply-blky, frm-mod hd, brit, arg, silty tex, mot, rthy lstr, calc mtx, tr cal, tr pyr; fast stmg bri wh bl, even bri wh grn ring, thk str	TVD (ft)	90% CHK: lt-med gy, some crm, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, 10% MRLST: med-dk gy, sb ply-blky, frm-mod hd, brit, arg, silty tex, mot, rthy lstr, calc mtx, tr cal, tr pyr; fast stmg bri wh bl, even bri wh grn ring, thk str	TVD (ft)	90% CHK: lt-med gy, some crm, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, 10% MRLST: med-dk gy, sb ply-blky, frm-mod hd, brit, arg, silty tex, mot, rthy lstr, calc mtx, tr cal, tr pyr; fast stmg bri wh bl, even bri wh grn ring, thk str

MD: 9,570'
Inclination: 90.44°
Azimuth: 89.66°
TVD: 6,046.35'
VS: 3,327.1'

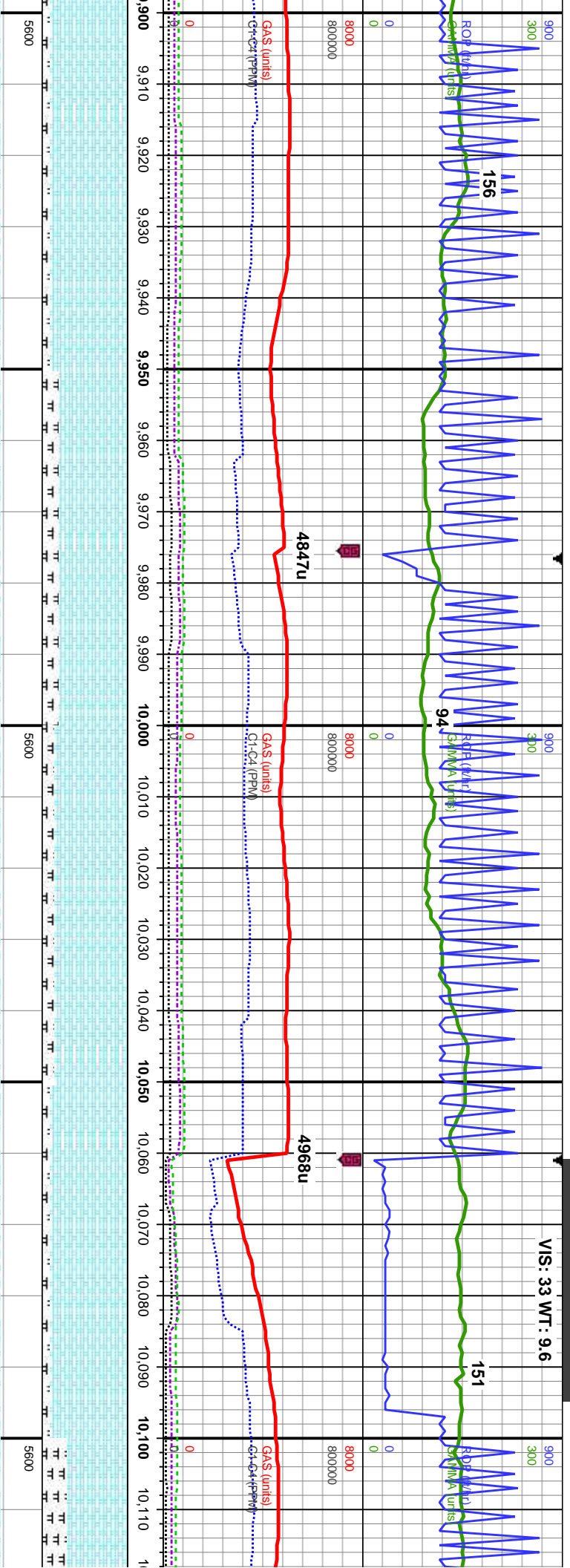
MD: 9,655'
Inclination: 89.5°
Azimuth: 90.67°
TVD: 6,046.39'
VS: 3,409.61'





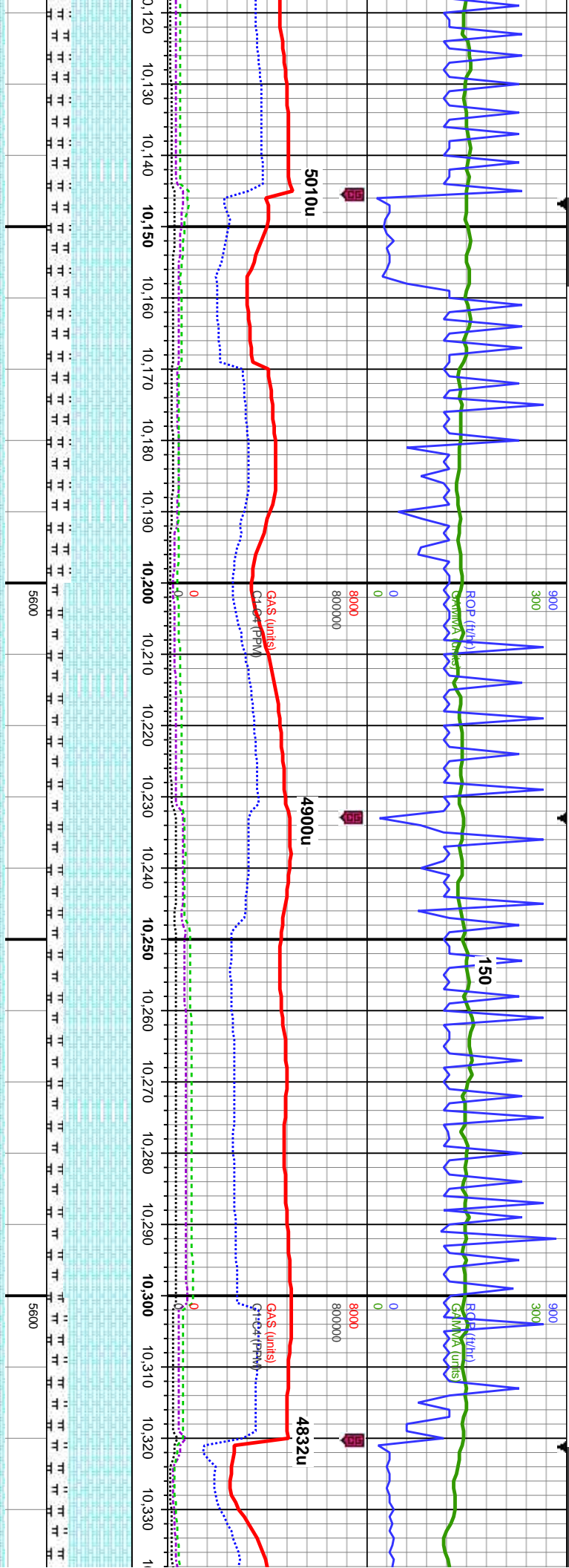
MD: 9,741' Inclination: 90.28° Azimuth: 90.88° TVD: 6,046.56' VS: 3,492.86'		MD: 9,828' Inclination: 89.91° Azimuth: 89.44° TVD: 6,046.41' VS: 3,577.31'	
85% CHK: lt-med gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, tr imbd cal, 15% MRLST: med-dk gy, sb pty-blky, frm-mod hd, brit, arg, silty tex, mot, rthy lst, calc mtx, tr cal; fast stmg bri wh bl, even bri	ring, thk str	90% CHK: lt-med gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, tr imbd cal, 20% MRLST: med-dk gy, sb pty-blky, frm-mod hd, brit, arg, silty tex, mot, rthy lst, calc mtx, tr cal; fast stmg bri wh bl, even bri	ring, mod str





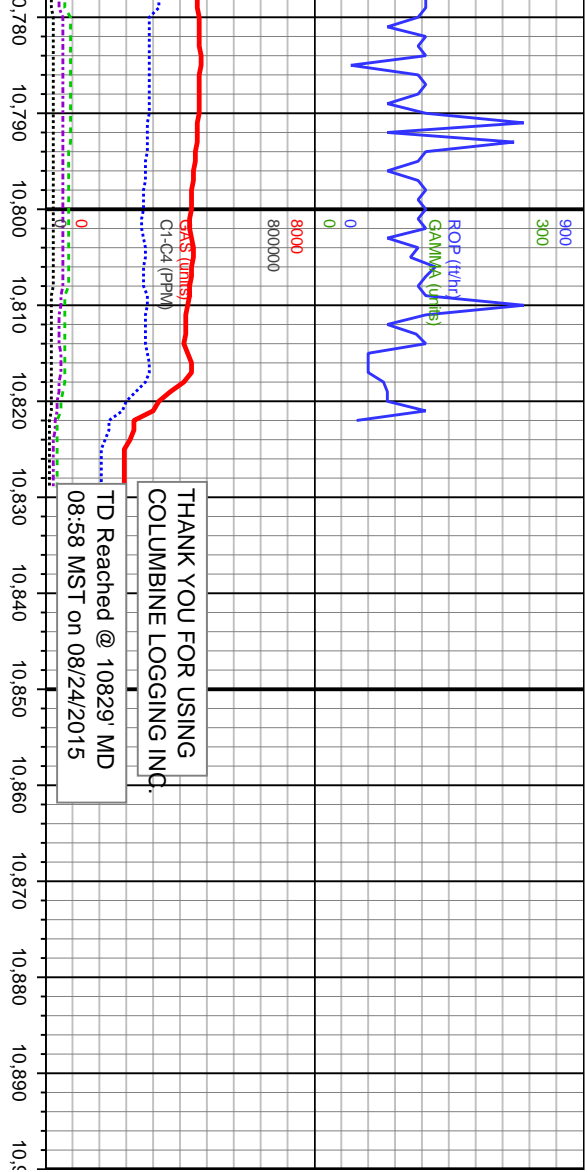
<div>MD: 9,913' Inclination: 90.34° Azimuth: 89.38° TVD: 6,046.23' VS: 3,660.08'</div>	90% CHK: lt-med gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy 10% MRLST: med-dk gy, occ blk, sb pty-biky, frm-mod hd, brit, arg, silty tex, mot, rthy lstr, calc mtx, tr cal frags, tr foss frags; fast stmg bri wh bl, even mod yel amb ring, thk str
<div>MD: 9,998' Inclination: 91.3° Azimuth: 89.51° TVD: 6,045.01' VS: 3,742.83'</div>	80% CHK: lt-med gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy 20% MRLST: med-dk gy, occ blk, sb pty-biky, frm-mod hd, brit, arg, silty tex, mot, rthy lstr, calc mtx, tr cal frags, tr foss frags; fast stmg bri wh bl, even mod yel amb ring, thk str
<div>MD: 9,998' Inclination: 91.3° Azimuth: 89.51° TVD: 6,045.01' VS: 3,742.83'</div>	85% CHK: lt-med gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy 15% MRLST: med-dk gy, occ blk, sb pty-biky, frm-mod hd, brit, arg, silty tex, mot, rthy lstr, calc mtx, tr cal frags, tr foss frags; mod-fast stmg bri wh bl, even bri wh grn ring, thk str
<div>MD: 10,082' Inclination: 90.28° Azimuth: 88.89° TVD: 6,043.85' VS: 3,824.69'</div>	90% CHK: lt-med gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy 10% MRLST: med-dk gy, sb pty-biky, frm-mod hd, brit, arg, silty tex, mot, rthy lstr, calc mtx, tr cal frags; mod-fast stmg bri wh bl, even bri wh grn ring, thk str
<div>MD: 10,082' Inclination: 90.28° Azimuth: 88.89° TVD: 6,043.85' VS: 3,824.69'</div>	70% CHK: lt-med gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy 10% MRLST: med-dk gy, occ blk, sb pty-biky, frm-mod hd, brit, arg, silty tex, mot, rthy lstr, calc mtx, tr cal frags; mod-fast stmg bri wh bl, even bri wh grn ring, thk str



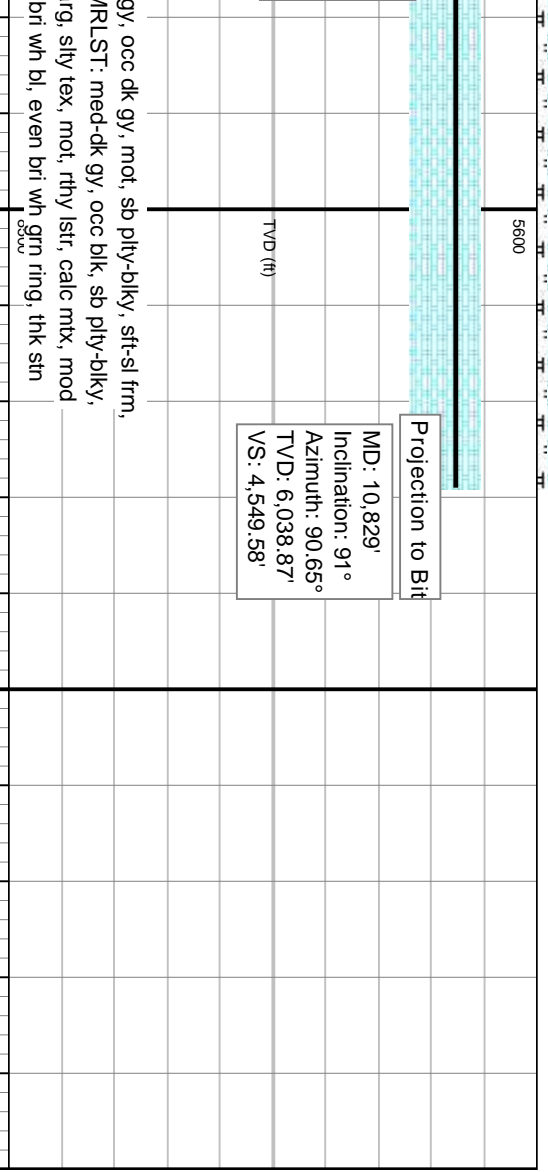


d gy, mot, sb pily-blky, sft-sl 30% MRLST: med-dk gy, blky, frm-mod hd, brit, arg, y lstr, calc mtx, tr cal frags; i wh bl, even bri wh grn	MD: 10,169' Inclination: 89.16° Azimuth: 89.61° TVD: 6,044.28' VS: 3,909.46'	TVD (ft)	80% CHK: lt-med gy, mot, sb pily-blky, sft-sl frm, rthy-sb wxy 20% MRLST: med-dk gy, occ blk, sb pily-blky, frm-mod hd, brit, arg, silty tex, mot, rthy lstr, calc mtx, tr cal frags; mod-fast stmg bri wh bl, even bri wh grn ring, mod stn	MD: 10,256' Inclination: 90.59° Azimuth: 90.18° TVD: 6,044.47' VS: 3,994'	TVD (ft)	75% CHK: lt-med gy, mot, sb pily-blky, sft-sl frm, rthy-sb wxy 25% MRLST gy, occ blk, sb pily-blky, frm-mod r arg, silty tex, mot, rthy lstr, calc mtx frags; fast stmg bri wh bl, even bri ring, mod stn





THANK YOU FOR USING
COLUMBINE LOGGING INC.
TD Reached @ 10829' MD
08:58 MST on 08/24/2015



Projection to Bit
MD: 10,829'
Inclination: 91°
Azimuth: 90.65°
TVD: 6,038.87'
VS: 4,549.58'

gy, occ dk gy, mot, sb pity-blky, sft-sl frm,
RLST: med-dk gy, occ blk, sb pity-blky,
rg, silty tex, mot, rthy lstr, calc mt, mod
bri wh bl, even bri wh grn ring, thk sin

