



Scale: 5" / 100'  
Measured Depth Log

Well Name    Antelope 11-41-33HNB

Location    SWNW SEC33 T5N R62W

State    CO

County    WELD

Country    USA

Rig Number    CADE 26

API Number    05-123-39063-00

Region    DJ BASIN

Field    WATTENBERG

Spud Date    4/19/2014

Drilling Completed    4/26/2014

Surface Coordinates    1471' FNL x 390' FWL (LAT: 40.35939, 104.33686)

Bottom Hole Coordinates    654' FNL x 470' FEL (LAT: 40.36164, 104.32123) Projected

Ground Elevation    4579'

K.B. Elevation    4596'

Logged Interval    5800'    To    10835'

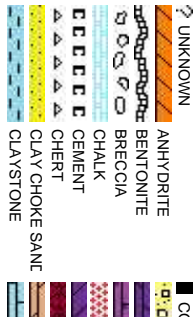
Total Depth    10835'

Formation    NIOBRARA, B-CHALK

Type of Drilling Fluid    LSND, H2O

Company    Bonanza Creek  
Address    410 17th Street  
                 Denver, CO 80202

Name    Paul McKay  
Company    Bonanza Creek  
Address    410 17th Street  
                 Denver, CO 80202



Operator

Energy Inc.

Suite 1500

202

Geologist

Energy Inc.

Suite 1500

202

Rock Types

CONGLOMERATE	MARLSTONE	SHALY SANDSTONE
DOLomite	METAMORPHIC	SHALY SILTSTONE
DOLomitic LIMESTONE	NO SAMPLE	SILTY SHALE
GRANITE	SALT	SILTSTONE
GYPsum	SANDSTONE	TILL
IGNEOUS	SALT-PEPPER SANt	TUFF
SIDERITE or LIMONITE	SHALE	WELDED TUFF
LIMESTONE	SHALE COLORED	
	SHALE GRAY	

Accessories

<b>Fossils</b>	GASTROPOD	ARGILLITE GRAIN	HEAVY MINERAL
INOCERAMUS	B BENTONITE	K KAOLIN	ANHYDRITE STRINGER
ALGAE	O OOLITE	BIT BITUMENOUS SUBSTANCE	COAL STRINGER
AMPHIPORA	O OSTRACOD	BRE BRECIA FRAGMENTS	DOLOMITE STRINGER
BELEMNITE	P PELECYPOD	C CALCAREOUS	GYPsum STRINGER
BIOCLASTIC	P PELLET	C CARBONACEOUS FLAKES	LIMESTONE STRINGER
BRACHIOPOD	P PISOLITE	CHT CHERT	PHOSPHATE PELLETS
BRYOZOA	P PLANT REMAINS	COAL - THIN BEDS	P PYRITE
CEPHALOPOD	S PLANT SPORES	DOLOMITIC	S SALT CAST
CORAL	S SCAPHOPOD	F FELDSPAR	S SANDY
CRINOID	S STROMATOPOROID	F FERRUGINOUS PELLETT	S SILTY
ECHINOID		F FERRUGINOUS	T TUFACEOUS
FISH		A ANHYDRITIC	
FORAMINIFERA	A ARGILLACEOUS	G GLAUCONITE	
F FOSSIL		G GYPSIFEROUS	<b>Stringer</b>

Other Symbols

<b>Oil Show</b>	P PINPOINT	DST INTERVAL	WIRELINE TESTED - LEFT	E EARTHY
V VUGGY	FAULT	WIRELINE TESTED - RT	Fx FINELYXLN	
D DEAD	FORMATION TOP	DRILL STEM TEST	GS GRAINSTONE	
EVEN	GAS SHOW	MN DEPTH	L LITHOGRAPHIC	
Q QUESTIONABLE	BIT	OIL SHOW	Mx MICROXLN	
S SPOTTED STAINING	CONNECTION (UP)			<b>Rounding</b>
	MN DEPTH UP			MS MUDSTONE
<b>Porosity</b>	CONNECTION (DOWN)	MN DEPTH (DOWN)	A ANGULAR	PS PACKSTONE
	CONNECTION GAS	NORMAL FAULT	R ROUNDED	WS WACKESTONE
E EARTHY	CONNECTION GAS (LEFT)	OVERTURNED STRATA	B SUBANG	
F FENESTRAL	TRIP GAS	REVERSE FAULT	R SUBRND	
F FRACTURE	TRIP GAS (LEFT)	CASING		<b>Textures</b>
X INTERCRYSTALLINE	DOWN TIME GAS	SIDEWALL CORE (LEFT)		M MODERATE
X INTERCRYSTALLINE	DOWN TIME GAS (LEFT)	SIDEWALL CORE (RIGHT)	BS BOUNDSTONE	P POOR
M MOLDIC	CORE - LOST	SLIDE	C CHALKY	W WELL
O ORGANIC	CORE - RECOVERED	SURVEY	CX CRYPTOXLN	

ROP  
ROF  
GAMMA

Bit Data

Bit #: 3

Type: HEO4MRSV

Size: 8.75

Depth In: 5,835'

Jets: 3 x 20

S/N: 1387666

Total Gas & Chromatograph

GAS  
C1  
C2  
C3  
C4

COLUMBINE LOGGING RIGGED UP ON  
4/21/2014 MANNED 2-PERSON LOGGING  
WITH BLOODHOUND GAS  
CHROMATOGRAPH UNIT #0603 BEGAN  
ON 4/22/2014, 07:00 MST at 5850' MD

Depth Labels

% Lith

Well Bore  
TVD

Oil Show

EGMFTST

Images

VIS 43 WT 9.4

108

104

2468u

2541

MD: 5,878'

Inclination: 8.67 °

Azimuth: 69.18 °

TVD: 5,761.43'

VS: -370.72'

MD: 5,924'

Inclination: 17.93 °

Azimuth: 83.41 °

TVD: 5,806.16'

VS: -360.42'

MD: 5,972'

Inclination: 23.88 °

Azimuth: 87.76 °

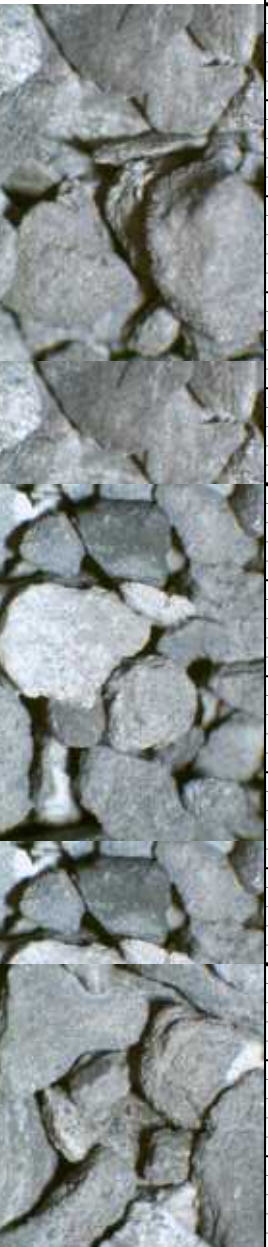
TVD: 5,850.98'

VS: -343.36'

100% SLTY SH: med-dk gy, occ blk, mod  
sft - sl firm, sb blkly - blkly, occ ply, rthy - gt,  
mtx; slty, sl calc, occ ss

100% SLTY SH: med-dk gy, occ blk, mod  
sft - sl firm, sb blkly - blkly, occ ply, rthy - gt,  
mtx; slty, sl calc, occ ss

100% SLTY SH: med-dk gy, occ b  
sft - sl firm, sb blkly - blkly, occ ply,  
mtx; slty, sl calc, occ ss









S 38 WT 9.3

149

Sharon Springs Top  
6227' MD 6064' TVD

203

Sharon Springs "A" Spike  
MD: 6274' TVD: 6098'

VIS 38 WT 9.3

225

Sharon Springs "B" Spike  
6334' MD 6137' TVD

300  
250

Niobrara A Chalk Top  
6407' MD, 6180' TVD

ROP (ft/L) (L)  
GAMMA (api)

7000  
7000000

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

4131u

3528u

Rig Service

5750

MD: 6,257'  
Inclination: 44.84 °  
Azimuth: 88.17°  
TVD: 6,086.09'  
VS: -185.07'

MD: 6,304'  
Inclination: 49.43 °  
Azimuth: 87.47°  
TVD: 6,118.05'  
VS: -150.66'

MD: 6,353'  
Inclination: 52.42 °  
Azimuth: 87.35°  
TVD: 6,148.94'  
VS: -112.66'

MD: 6,399'  
Inclination: 57.6 °  
Azimuth: 86.95°  
TVD: 6,175.3'  
VS: -75.04'

gy, occ blk, mod sft - sl firm,  
y - gt, mtx; slty, occ mics, sl

100% SLTY SH: dk gy-blk, occ lt gy, mod sft - sl firm,  
sb blk - blk, occ pty, rthy - gt, mtx; slty, sl calc, abnt  
bent, tr pyr

100% SLTY SH: dk gy-blk, occ lt gy, mod sft - sl firm,  
sb blk - blk, occ pty, rthy - gt, mtx; slty, sl calc, abnt  
bent, tr pyr

100-65% SLTY SH: medgy-dkgy, blk, mod sft - firm,  
pty - sb blk, sl rthy - gt, mtx; arg - slty, sl calc, 0-20%  
CHK: lt gy, crm, mot, sb pty-blk, sft - sl firm, rthy-sb  
wxy, 0-15%: MRLST: med - dk gy, blk, sb pty - blk, sl  
frm - mod hd, arg-slt, mtx; calc, some bent; slow  
stmg bri wh bl, even v thn frt yel-amb, lt yel brn

75-20%  
frm, rth  
gy, blk  
calc, 1  
ply-sb  
stmg b



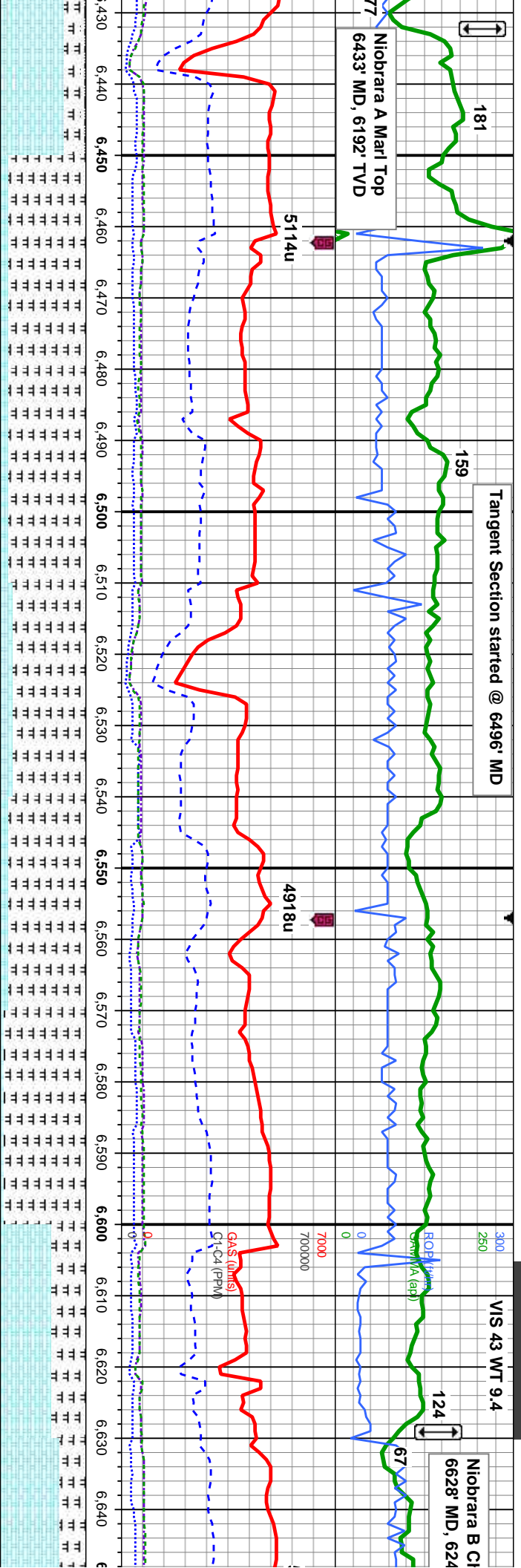


Tangent Section started @ 6496' MD

VIS 43 WT 9.4

Niobrara B Cl  
6628' MD, 624'

Niobrara A Marl Top  
6433' MD, 6192' TVD



MD: 6,448'  
Inclination: 67.12 °  
Azimuth: 86.87 °  
TVD: 6,198.01'  
VS: -31.74'

MD: 6,494'  
Inclination: 73.81 °  
Azimuth: 88.08 °  
TVD: 6,213.38'  
VS: 11.54'

MD: 6,541'  
Inclination: 75.2 °  
Azimuth: 87.83 °  
TVD: 6,225.94'  
VS: 56.8'

MD: 6,590'  
Inclination: 75.5 °  
Azimuth: 88.37 °  
TVD: 6,238.33'  
VS: 104.19'

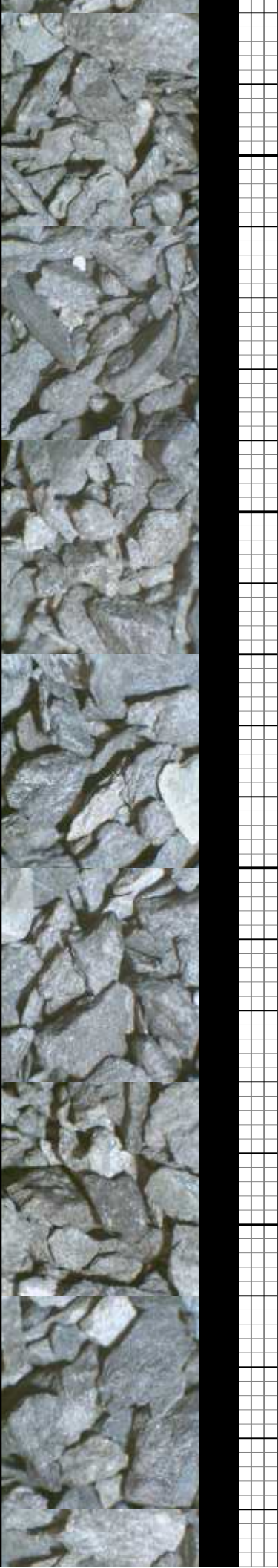
MD: 6,638'  
Inclination: 79.56 °  
Azimuth: 89.26 °  
TVD: 6,248.7'  
VS: 151.03'

6 CHK: lt gy, wht-crem, mot, sb ply-biky, sft-si  
y-sb wxy, tr imbd cal, 15-90%: MRLST: med-dk  
sb ply-biky, sl frm-mod hd, arg-sily tex, mtx;  
0-0% SLTY SH: medgy-dkgy, blk, mod sft-firm,  
biky, rthy-gt, mtx; arg-sily, sl calc; slow-mod  
tri wh bl, even thn mod yel-amb, thn yel brn

90-85%: MRLST: blk, dk gy, sb ply - biky, occ bnnd,  
sl frm - hd, arg-sily tex, mtx; calc, 10-15% CHK:  
lt-med gy, occ dk brn, mot, sb ply-biky, sft-mod hd,  
rthy-wxy, tr pyr, tr bent; mod sting bri wh bl, even mod  
thk mod yel-amb, thn yel brn

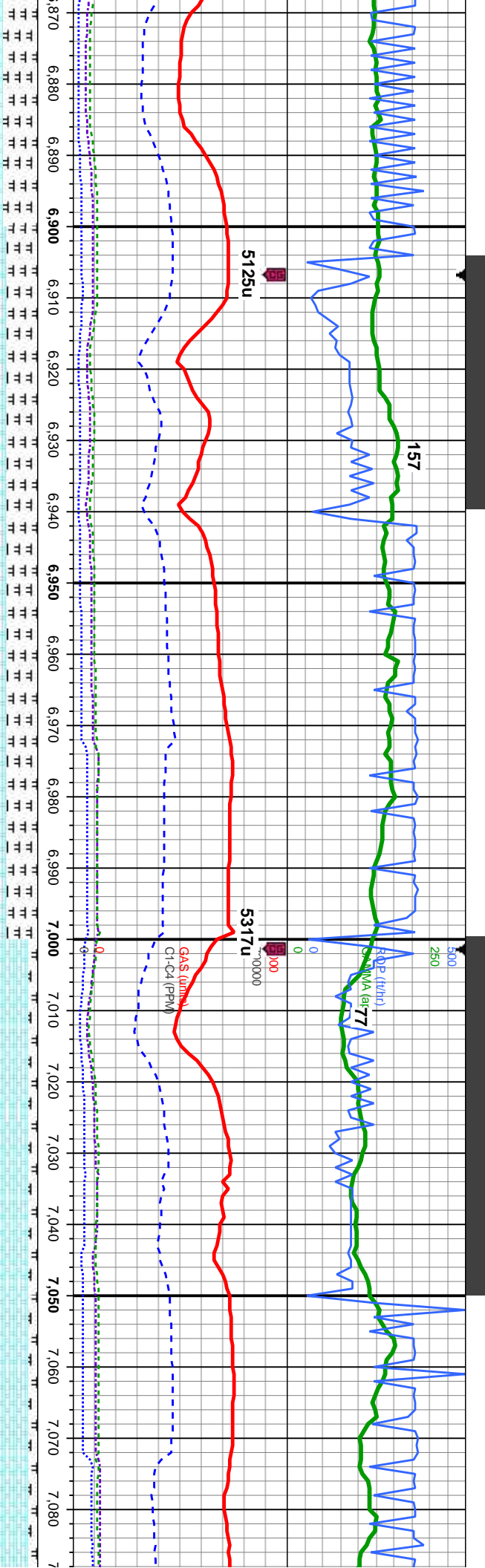
90-95%: MRLST: blk, dk gy, sb ply - biky, occ bnnd,  
sl frm - hd, arg-sily tex, mtx; calc, 10-5% CHK: lt-med  
gy, occ dk brn, mot, sb ply-biky, sft-mod hd, rthy-wxy,  
occ imbd cal, tr pyr, tr bent; mod sting bri wh bl, even  
thn mod yel-wh, thn yel brn

60-70% CHK: lt-med gy, occ dk gy, brn, mod  
mod sft-si frm, rthy, v calc, some imbd & lse  
40-30% MRLST: dk gy, blk, sb ply - biky, sl  
hd, arg-sily tex, tr pyr, some uphole con, mo  
slow-mod sting bri wh bl, even mod thk mod  
thn yel brn







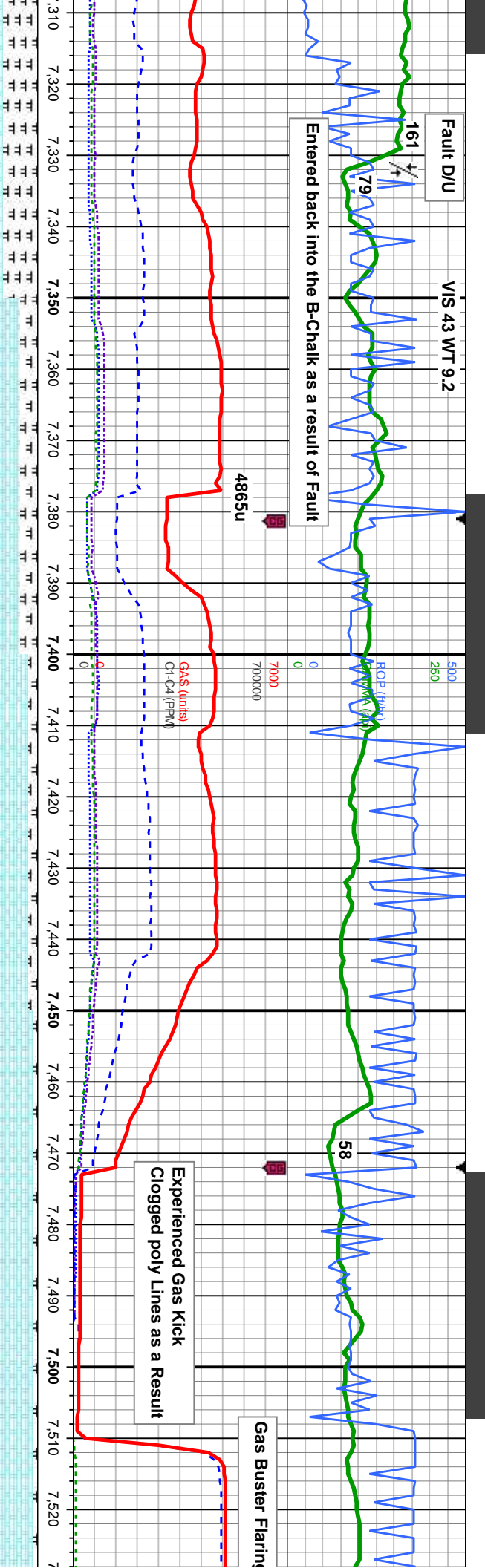


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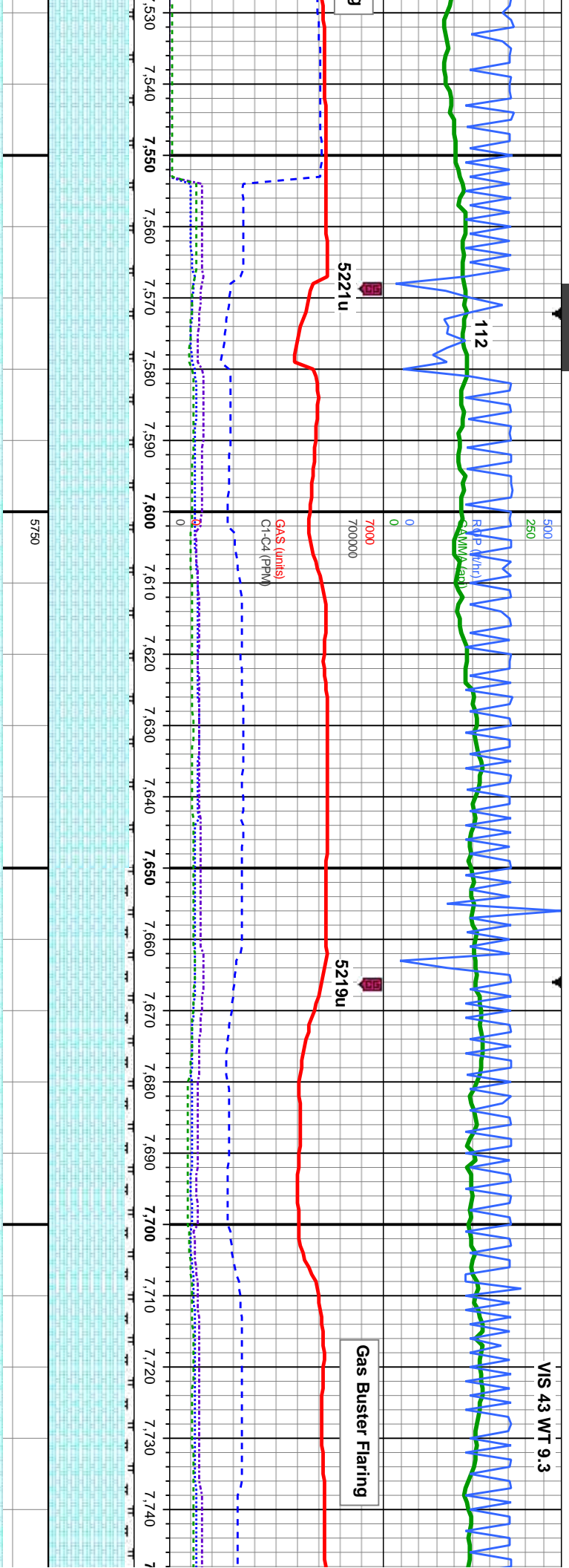




MD: 7,401' Inclination: 91.3° Azimuth: 91.18° TVD: 6,247.36' VS: 912.62'		80% CHK: lt-med gry, occ dk gry, brn, mot, sb blk, mod sft-sl frm, rthy, v calc, 20% MRLST: dk gry, blk, sb pily - blk, sl frm - mod hd, arg-sily tex, some ise cal, g chk flor, mod oc; mod stmg bri wh bl, even thk bri yel-wh, mod-thk brn	90% CHK: wht-crm, lt gry, brn, mot, sb blk, mod sft-sl frm, rthy, v calc, 10% MRLST: dk gry, blk, sb pily - blk, sl frm - mod hd, arg-sily tex, some ise cal, tr inoc fos, g chk flor, g oc; v fast stmg bri wh bl, even v thk bri yel-wh, mod thk yel brn	95% CHK: wht-crm, lt gry, brn, mot, sb blk, mod sft-sl frm, rthy, v calc, 5% MRLST: dk gry, blk, sb pily - blk, sl frm - mod hd, arg-sily tex, some ise cal, tr inoc fos, g chk flor, g oc; v fast stmg bri wh bl, even v thk bri yel-wh, mod thk yel brn	95% CHK: wht-crm, lt gry, brn, mot, sb blk, mod sft-sl frm, rthy, v calc, 40% MRLST: dk gry, blk, sb pily - blk, sl frm - mod hd, arg-sily tex, some ise cal, tr inoc fos, g chk flor, g oc; v fast stmg bri wh bl, even thk bri yel-wh, mod-thk brn
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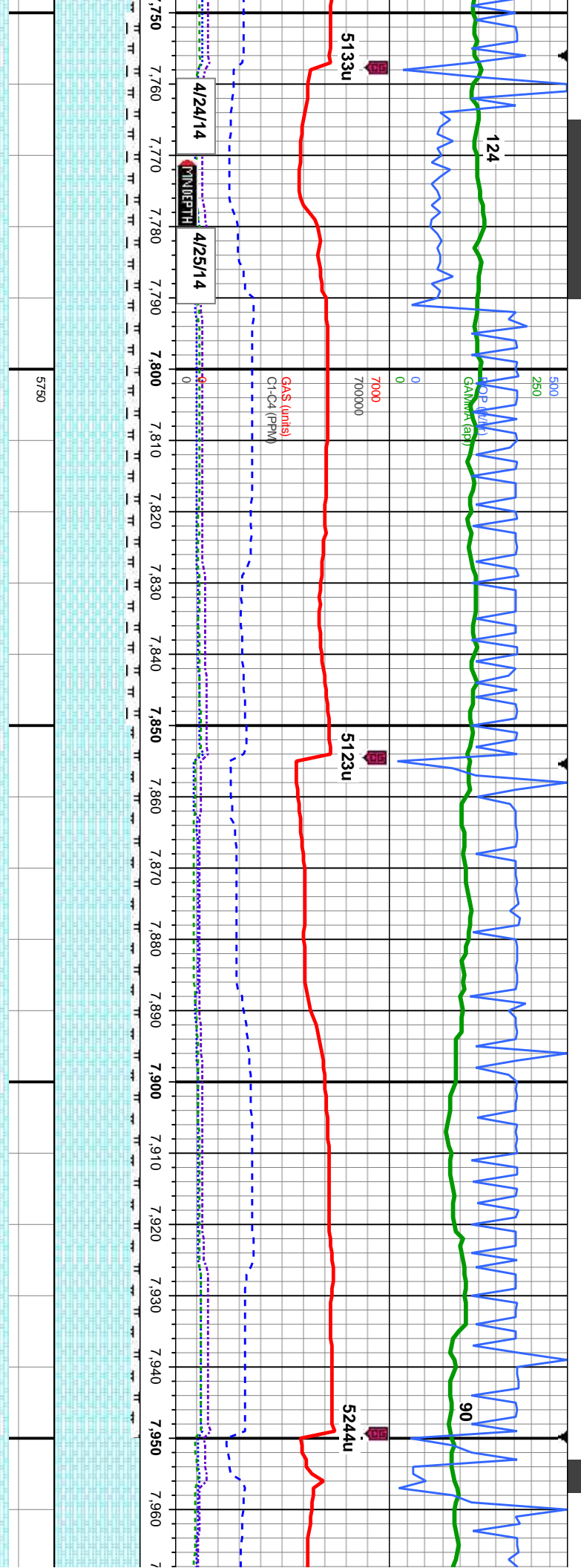






brn, mot, sb blk, 5% MRLST: dk m - mod hd, tr inoc fos, g chk n bl, even thk bri	95% CHK: wht-erm, lt gy, brn, mot, sb blk, mod sft-sl frm, rthy, v calc, 5% MRLST: dk gy, blk, sb ply - blk, sl frm - mod hd, arg-sltv tex, some lse cal, tr inoc fos, g chk flor, g od; fast stimg bri wh bl, even thk bri yel-wh, thk yel brn	95% CHK: wht-erm, lt gy, brn, mot, sb blk, mod sft-sl frm, rthy, v calc, 5% MRLST: dk gy, blk, sb ply - blk, sl frm - mod hd, arg-sltv tex, some lse cal, tr inoc fos, g chk flor, g od; fast stimg bri wh bl, even thk mod yel-amb, thk yel brn	90% CHK: wht-erm, lt gy, brn, mot, sb blk, mod sft-sl frm, rthy, v calc, 10% MRLST: dk gy, blk, sb ply - blk, sl frm - mod hd, arg-sltv tex, tr lse & imbd cal, tr inoc fos, mod chk flor, fr od; fast stimg bri wh bl, even thk mod yel-amb, thk yel brn	90% CHK: wht-erm, lt gy, brn, mot, sb blk, mod sft-sl frm, rthy, v calc, 10% MRLST: dk gy, blk, sb ply - blk, sl frm - mod hd, arg-sltv tex, tr lse & imbd cal, tr inoc fos, mod chk flor, fr od
	MD: 7,591' Inclination: 89.88 ° Azimuth: 92.98 ° TVD: 6,245.52' VS: 1,102.47' (ft)	MD: 7,686' Inclination: 90 ° Azimuth: 93.33 ° TVD: 6,245.62' VS: 1,197.32'		

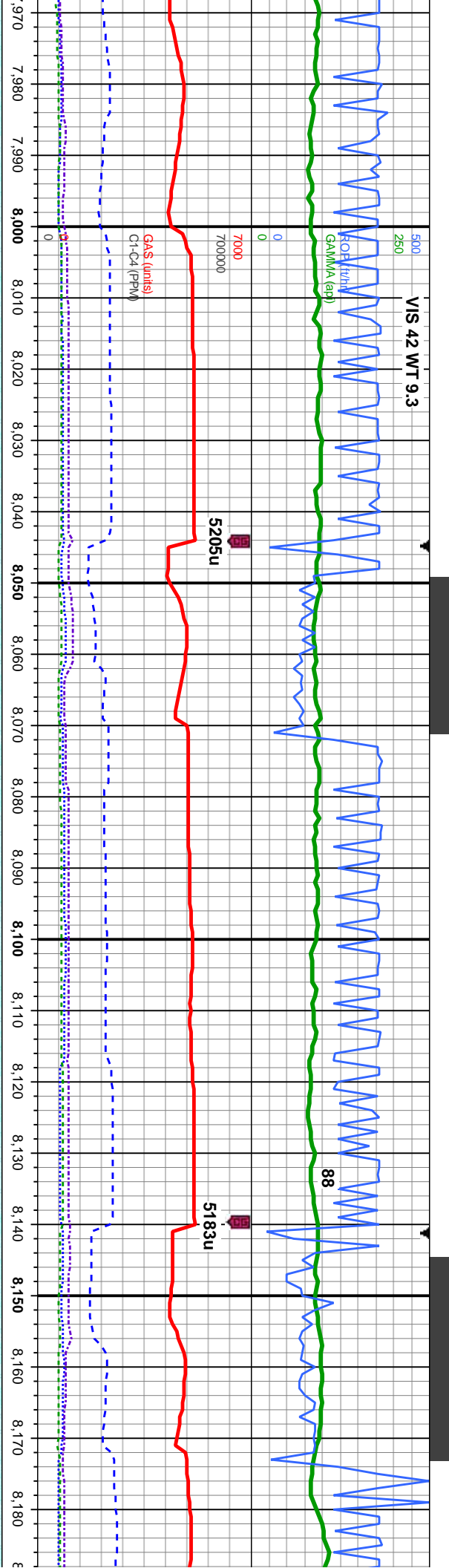




MD: 7,781' Inclination: 89.97° Azimuth: 91.56° TVD: 6,245.64' VS: 1,292.23'		MD: 7,876' Inclination: 89.75° Azimuth: 91.43° TVD: 6,245.87' VS: 1,387.2'		MD: 7,950' Inclination: 89.75° Azimuth: 91.43° TVD: 6,245.87' VS: 1,387.2'	
85% CHK: wht-frm, lt gy, brn, mot, sb blk, mod sft-sl frm, rthy, v calc, 15% MRLST: dk gy, blk, sb ply - blk, sl frm - mod hd, arg-sily tex, tr ise & imbd cal, tr inoc fos, mod chk flr, g od, fast sting bri wh bl, even mod thk mod yel-wh, thn yel brn	85% CHK: wht-frm, lt gy, brn, mot, sb blk, mod sft-sl frm, rthy, v calc, 15% MRLST: dk gy, blk, sb ply - blk, sl frm - mod hd, arg-sily tex, tr ise & imbd cal, tr inoc fos, mod chk flr, g od, fast sting bri wh bl, even thk mod yel-wh, mod yel brn	90% CHK: lt-med gy, occ wht-frm and brn, mot, sb blk, mod sft-sl frm, rthy, v calc, 10% MRLST: dk gy, blk, sb ply - blk, sl frm - mod hd, arg-sily tex, occ lse cal, tr inoc fos, g chk flr, g od, fast sting bri wh bl, even thk mod yel-wh, mod yel brn	90% CHK: lt-med gy, occ wht-frm and brn, mot, sb blk, mod sft-sl frm, rthy, v calc, 10% MRLST: dk gy, blk, sb ply - blk, sl frm - mod hd, arg-sily tex, occ lse cal, tr inoc fos, g chk flr, g od, v fast sting bri wh bl, even thk bri yel-wh, thk yel brn	100% CHK: wht-frm, lt gy, brn, mot, sb blk, mod sft-sl frm, rthy, v calc, 15% MRLST: dk gy, blk, sb ply - blk, sl frm - mod hd, arg-sily tex, tr ise & imbd cal, tr inoc fos, mod chk flr, g od, fast sting bri wh bl, even mod thk mod yel-wh, thn yel brn	100% CHK: wht-frm, lt gy, brn, mot, sb blk, mod sft-sl frm, rthy, v calc, 15% MRLST: dk gy, blk, sb ply - blk, sl frm - mod hd, arg-sily tex, tr ise & imbd cal, tr inoc fos, mod chk flr, g od, fast sting bri wh bl, even mod thk mod yel-wh, thn yel brn







5750

7,970'  
ation: 89.88 °  
uth: 91.96 °  
6,246.18'  
1,481.16'

TVD (ft)

MD: 8,066'  
Inclination: 90.12 °  
Azimuth: 91.28 °  
TVD: 6,246.18'  
VS: 1,577.12'

-crm and lt gy, brn, mot, sb  
rthy, v calc, occ imbd  
g chl flor, g od; v fast stmg  
hbk bri yel-wh, thk yel brn

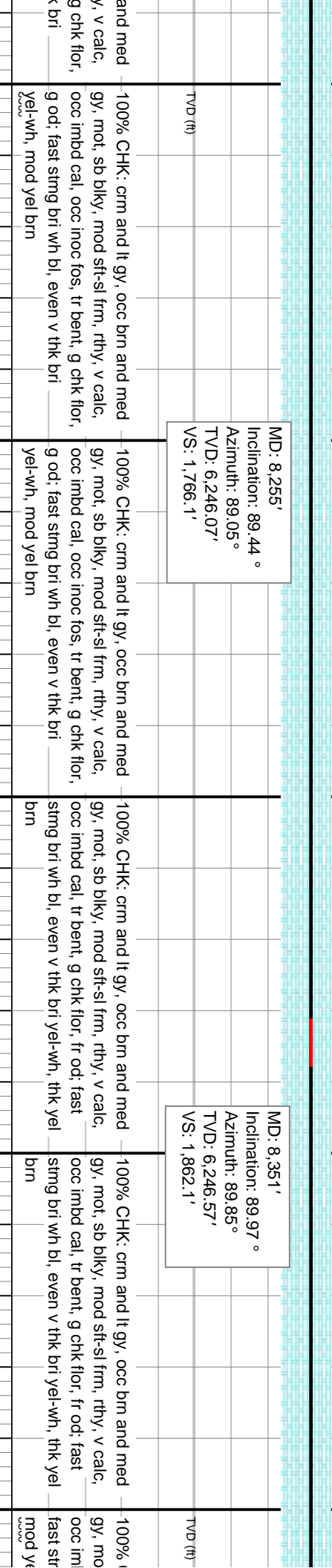
100% CHK: wht-crm and lt gy, brn, mot, sb  
blky, mod sft-sl frm, rthy, v calc, occ imbd  
cal, tr inoc fos, g chl flor, g od; fast stmg bri  
wh bl, even thk bri yel-wh, thk yel brn

100% CHK: wht-crm and lt gy, brn, mot, sb  
blky, mod sft-sl frm, rthy, v calc, occ imbd  
cal, tr inoc fos, g chl flor, g od; fast stmg bri  
wh bl, even thk bri yel-wh, thk yel brn

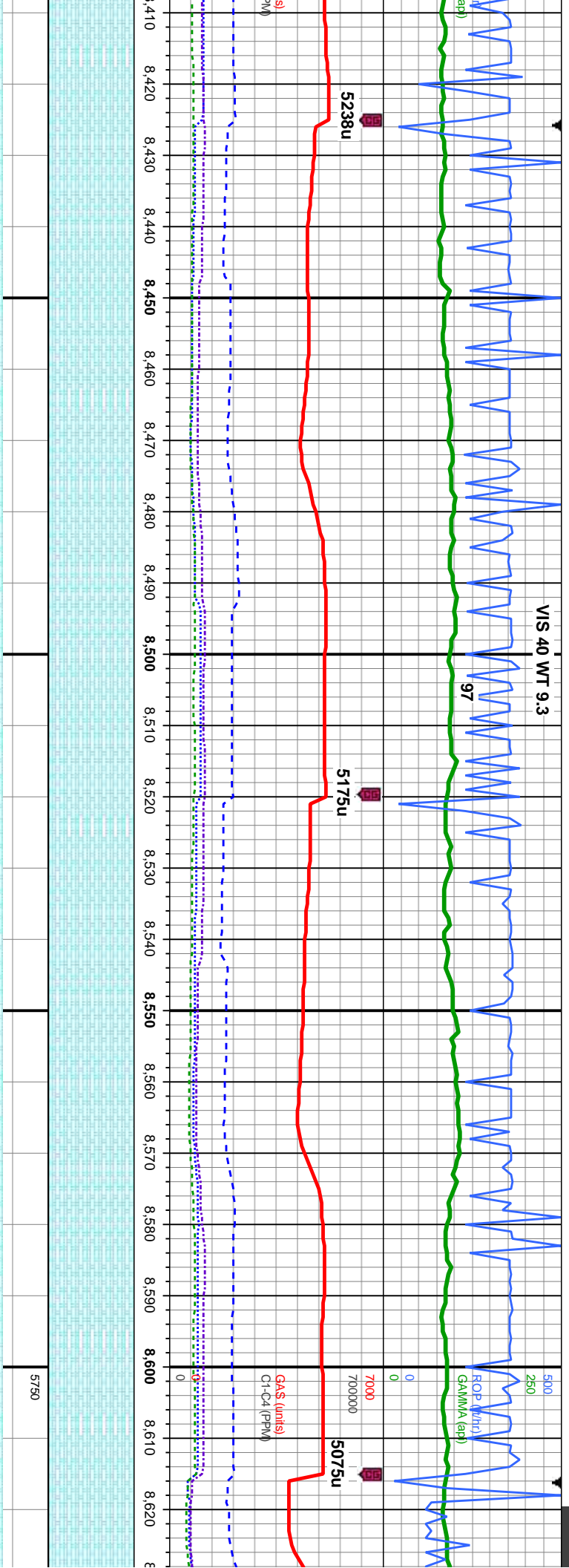
100% CHK: crm and lt gy, occ brn and med  
gy, mot, sb blky, mod sft-sl frm, rthy, v calc,  
occ imbd cal, occ inoc fos, tr bent, g chl flor,  
g od; v fast stmg bri wh bl, even thk bri  
yel-wh, thk yel brn

100% CHK: crm and lt gy, occ brn  
gy, mot, sb blky, mod sft-sl frm, rth  
occ imbd cal, occ inoc fos, tr bent,  
g od; v fast stmg bri wh bl, even thk  
yel-wh, thk yel brn



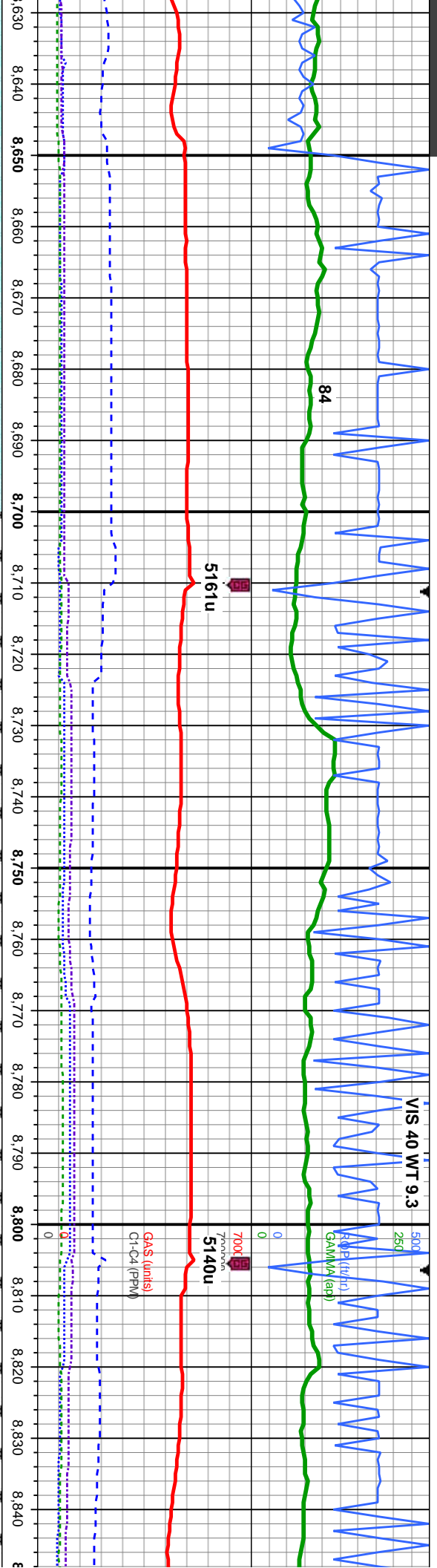






MD: 8,445' Inclination: 90.25 ° Azimuth: 90.23 ° TVD: 6,246.39' VS: 1,956.1'		100% CHK: crm and lt gy, occ brn and med gy, mot, sb blkly, mod sft-sl frm, rthy, v calc, occ imbd cal, tr foss frags, v g chk flor, g ocl, fast stmg bri wh bl, even v thk bri yel-wh, mod yel brn	100% CHK: crm and lt gy, med gy, mot, sb blkly, mod sft-sl frm, rthy, v calc, tr imbd cal, v g chk flor, g ocl, fast stmg bri wh bl, even v thk bri yel-wh, thk yel brn	100% CHK: crm and lt gy, occ med gy, mot, sb blkly, mod sft-sl frm, rthy, v calc, tr imbd cal, v g chk flor, g ocl, fast stmg bri wh bl, even v thk bri yel-wh, mod yel brn	100% CHK: crm-brn and mot, sb blkly, mod sft-sl frm, foss frags, scatt bent, g c bri blshwh stmg, some flo ring, thk stn
MD: 8,540' Inclination: 91.54 ° Azimuth: 90.86 ° TVD: 6,244.9' VS: 2,051.08'					
MD: 8,540' Inclination: 91.54 ° Azimuth: 90.86 ° TVD: 6,244.9' VS: 2,051.08'					
MD: 8,445' Inclination: 90.25 ° Azimuth: 90.23 ° TVD: 6,246.39' VS: 1,956.1'					





B

B

5750

MD: 8,636'  
Inclination: 89.35 °  
Azimuth: 89.8 °  
TVD: 6,244.16'  
VS: 2,147.07'

MD: 8,730'  
Inclination: 89.05 °  
Azimuth: 89.64 °  
TVD: 6,245.47'  
VS: 2,241.06'

MD: 8,825'  
Inclination: 89.81 °  
Azimuth: 89.7 °  
TVD: 6,246.42'  
VS: 2,336.05'

it gy, occ med gy,  
m, rthy, v calc, tr  
thk flr, g od, fast  
r, thk bri yel-wh

100% CHK: crm-brn and lt gy, occ med gy,  
mot, sb blk, mod sft-sl frm, rthy, v calc, tr  
foss frags, scatt bent, g chk flr, g od, fast  
bri bishwh stmg, some flr, thk bri yel-wh  
ring, thk sin

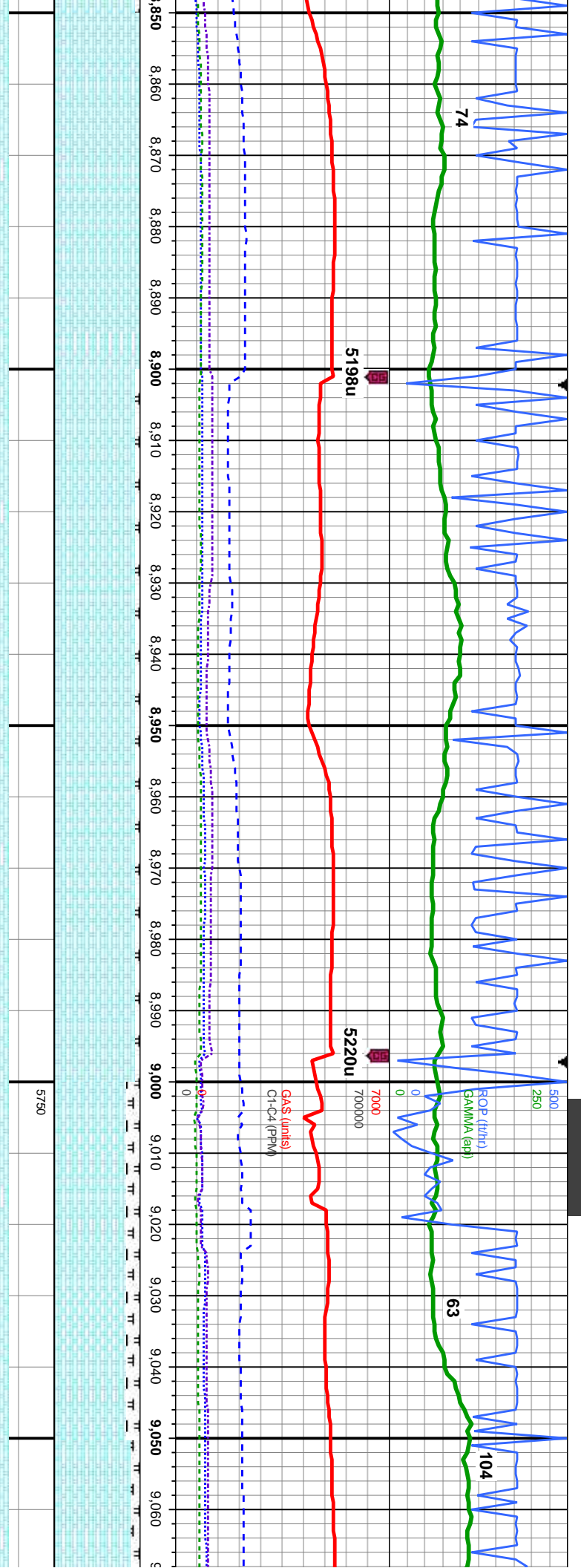
95% CHK: crm-brn gy,occ wht-crm and brn,  
mot, sb blk, mod sft-sl frm, rthy, v calc, 5%  
MRLST: dk gy, blk, sb ply - blk, sl frm - mod  
hd, arg-sily tex, occ lse cal, tr inoc fos, g chk  
flr, g od, mod-fast bishwh stmg, no flr,  
med thk bri gn-wh ring, mod sin

95% CHK: crm-brn gy,occ wht-crm and brn,  
mot, sb blk, mod sft-sl frm, rthy, v calc, 5%  
MRLST: dk gy, blk, sb ply - blk, sl frm - mod  
hd, arg-sily tex, occ lse cal, tr inoc fos, g chk  
flr, g od, mod-fast bishwh stmg, no flr,  
med thk bri gn-wh ring, mod sin

95% CHK: crm-brn gy,occ wht-crm and brn,  
mot, sb blk, mod sft-sl frm, rthy, v calc, 5%  
MRLST: dk gy, blk, sb ply - blk, sl frm -  
mod hd, arg-sily tex, occ lse cal, tr inoc fos,  
g chk flr, g od, fast bri bishwh stmg, some  
flr, thk bri yel-wh ring, thk sin



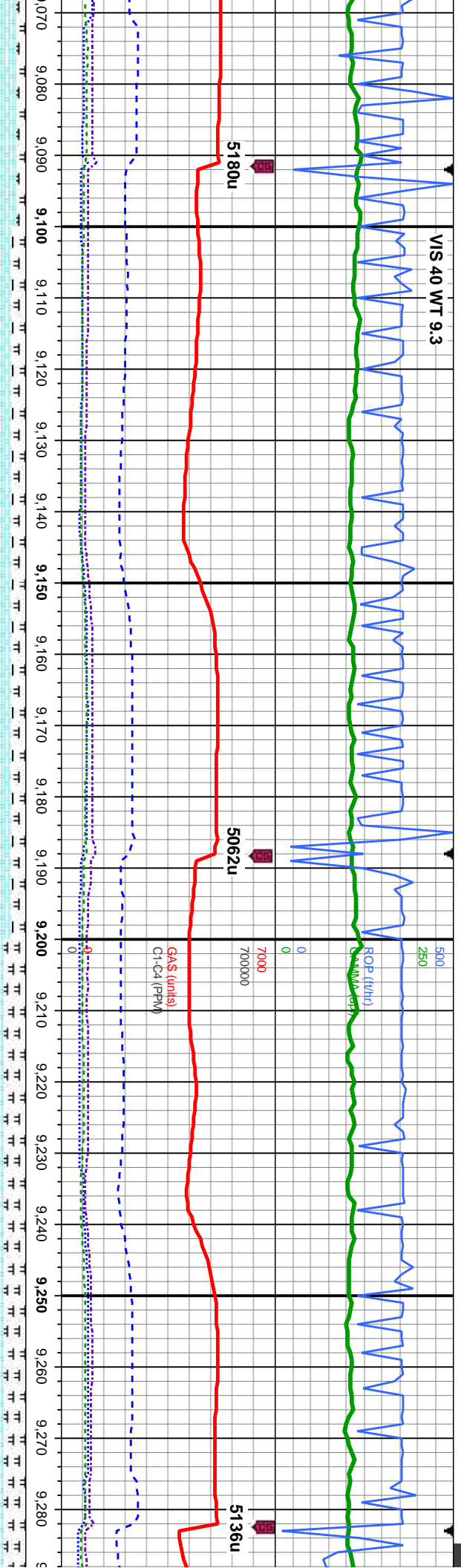




MD: 8,921' Inclination: 90.4 ° Azimuth: 89.83 ° TVD: 6,246.24' VS: 2,432.05'		95% CHK: crm-brn gy,occ wht-crm and brn, mot, sb blk, mod sft-sl frm, rthy, v calc, 5% MRLST: dk gy, blk, sb ply - blk, sl frm - mod hd, arg-sily tex, tr imbd & lse cal, tr bent, g chk flor, v g od, fast bri bishwh stmg, some flor, thk bri yel-wh ring, thk stn	95% CHK: crm-brn gy,occ wht-crm and brn, mot, sb blk, mod sft-sl frm, rthy, v calc, 5% MRLST: dk gy, blk, sb ply - blk, sl frm - mod hd, arg-sily tex, tr imbd & lse cal, tr bent, g chk flor, v g od, fast bri bishwh stmg, some flor, thk bri yel-wh ring, thk stn	85% CHK: crm and lt gy,occ med gy and brn, mot, sb blk, mod sft-sl frm, rthy, v calc, 15% MRLST: dk gy, blk, sb ply - blk, sl frm - mod hd, arg-sily tex, occ imbd & lse cal, tr bent, g chk flor, g od, mod-fast bishwh stmg, no flor, med thk bri gn-wh ring, mod stn	90% CHK: crm and lt gy,occ med gy and brn, mot, sb blk, mod sft-sl frm, rthy, v calc, 15% MRLST: dk gy, blk, sb ply - blk, sl frm - mod hd, arg-sily tex, occ imbd & lse cal, tr bent, g chk flor, g od, mod-fast bishwh stmg, no flor, med thk bri gn-wh ring, mod stn
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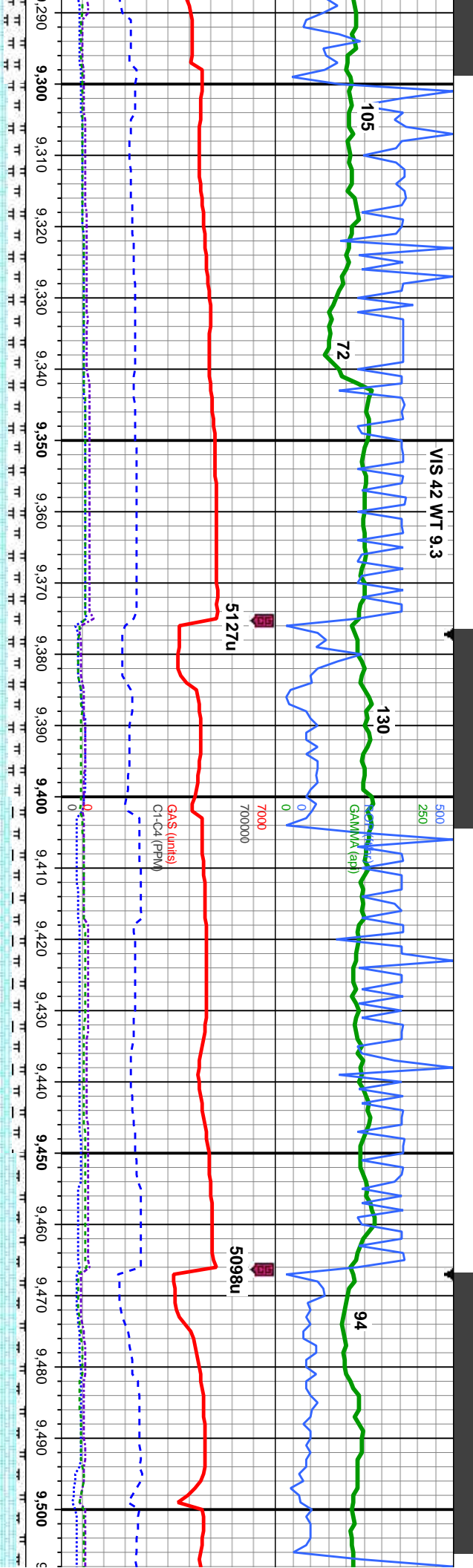
MD: 9,111'  
Inclination: 89.41 °  
Azimuth: 89.96°  
TVD: 6,246.03'  
VS: 2,622.04'

MD: 9,206'  
Inclination: 89.01 °  
Azimuth: 90.23°  
TVD: 6,247.34'  
VS: 2,717.03'

and lt gy,occ med gy and gy, blk, sb ply - blk, v calc, gy tex, occ imbd & lse cal, tr g od, mod-fast blshwh med thk bri gn-wh ring, mod	85% CHK: crm and lt gy,occ med gy and brn, mot, sb blk, mod sft-sl frm, rthy, v calc, 15% MRLST: dk gy, blk, sb ply - blk, sl frm - mod hd, arg-sily tex, tr imbd cal, tr bent, mod chk flor, g od, mod-fast blshwh stmg, no flor, med thk bri gn-wh ring, mod stn	75% CHK: lt-med gy and brn, occ crm, mot, sb blk, mod sft-sl frm, rthy, v calc, 25% MRLST: dk gy, blk, sb ply - blk, sl frm - mod hd, arg-sily tex, tr imbd cal, occ foss frags, tr bent, fr od, mod-fast blshwh stmg, no flor, med thk bri gn-wh ring, mod stn	75% CHK: lt-med gy and brn, occ sb blk, mod sft-sl frm, rthy, v calc, MRLST: dk gy, blk, sb ply - blk, s mod hd, arg-sily tex, tr imbd cal, o frags, tr bent, fr od, mod-fast blshw no flor, med thk bri gn-wh ring, mo
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MD: 9,301'  
Inclination: 89.6 °  
Azimuth: 91.69 °  
TVD: 6,248.5'  
VS: 2,812.01'

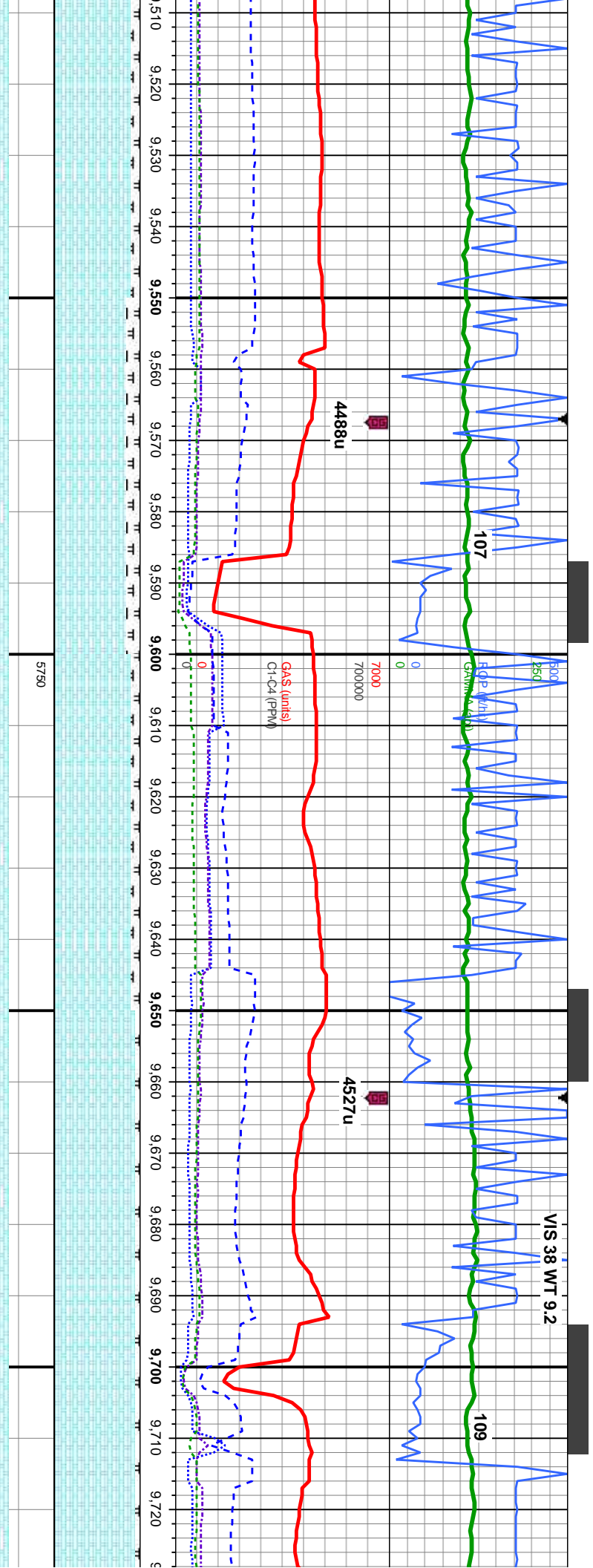
MD: 9,396'  
Inclination: 91.51 °  
Azimuth: 91 °  
TVD: 6,247.58'  
VS: 2,906.98'

MD: 9,491'  
Inclination: 91.51 °  
Azimuth: 89.78 °  
TVD: 6,245.07'  
VS: 3,001.94'

ccrm, mot, 25% l frm - oc foss d stn	80% CHK: lt-med gy, brn, occ crm, mot, sb blky, mod sft-sl frm, rthy, v calc, 20% MRLST: dk gy, blk, sb pty - blky, sl frm - mod hd, arg-sily tex, scat cal incl, tr foss frags, tr bent, fr od	80% CHK: lt-med gy, brn, occ crm, mot, sb blky, mod sft-sl frm, rthy, v calc, 20% MRLST: dk gy, blk, sb pty - blky, sl frm - mod hd, arg-sily tex, scat cal incl, tr foss frags, tr bent, fr od	85% CHK: lt-med gy, brn, occ crm, mot, sb blky, mod sft-sl frm, rthy, v calc, 15% MRLST: dk gy, blk, sb pty - blky, sl frm - mod hd, arg-sily tex, scat cal incl, tr foss frags, tr bent, fr od, mod-fast blshwh stmg, no flor, med thk bri gn-wh ring, mod stn	90% CHK: lt-med gy, occ wht-crm, mot, sb blky, mod sft-sl frm, rthy, v calc, 10% MRLST: dk gy, blk, sb pty - blky, sl frm - mod hd, arg-sily tex, scat cal incl, tr foss frags, fr od, mod-fast blshwh stmg, no flor, med thk bri gn-wh ring, mod stn	90% C blky, r MRLS mod h frags, med th
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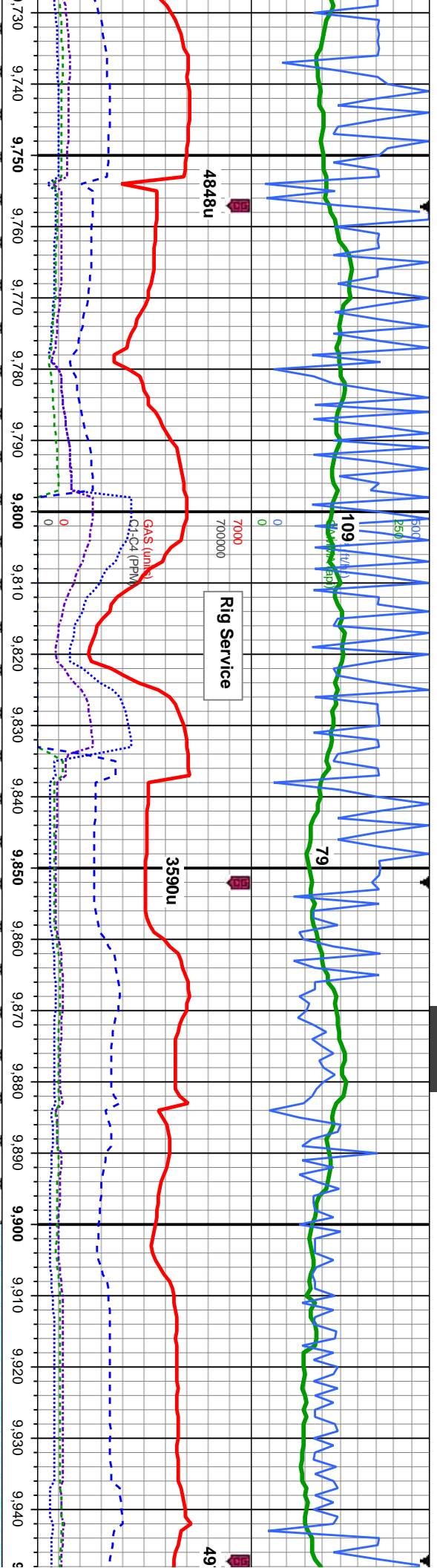




MD: 9,618' Inclination: 90.73 ° Azimuth: 89° TVD: 6,242.59' VS: 3,128.9'		90% CHK: lt-med gy, occ wht-crm, mot, sb blk, mod sft-sl frm, rthy, v calc, 10% MRLST: dk gy, blk, sb pty - blk, sl frm - mod hd, arg-sily tex, scat cal incl, fr od, fast bri bishwh stmg, some flor, thk bri ye-wh ring, thk stn	95% CHK: ltgy, wht-crm, mot, sb blk, mod sft-sl frm, rthy, v calc, 5% MRLST: dk gy, blk, sb pty - blk, sl frm - mod hd, arg-sily tex, occ inoc fos frags, tr bent, mod chk flor, g od, fast bri bishwh stmg, some flor, thk bri ye-wh ring, thk stn	95% CHK: ltgy, wht-crm, sft-sl frm, rthy, v calc, 5% MRLST: dk gy, blk, sb pty - blk, sl frm - mod bent, mod chk flor, g od, l stmg, some flor, thk bri ye
MD: 9,713' Inclination: 89.53 ° Azimuth: 88.3° TVD: 6,242.37' VS: 3,223.88'				







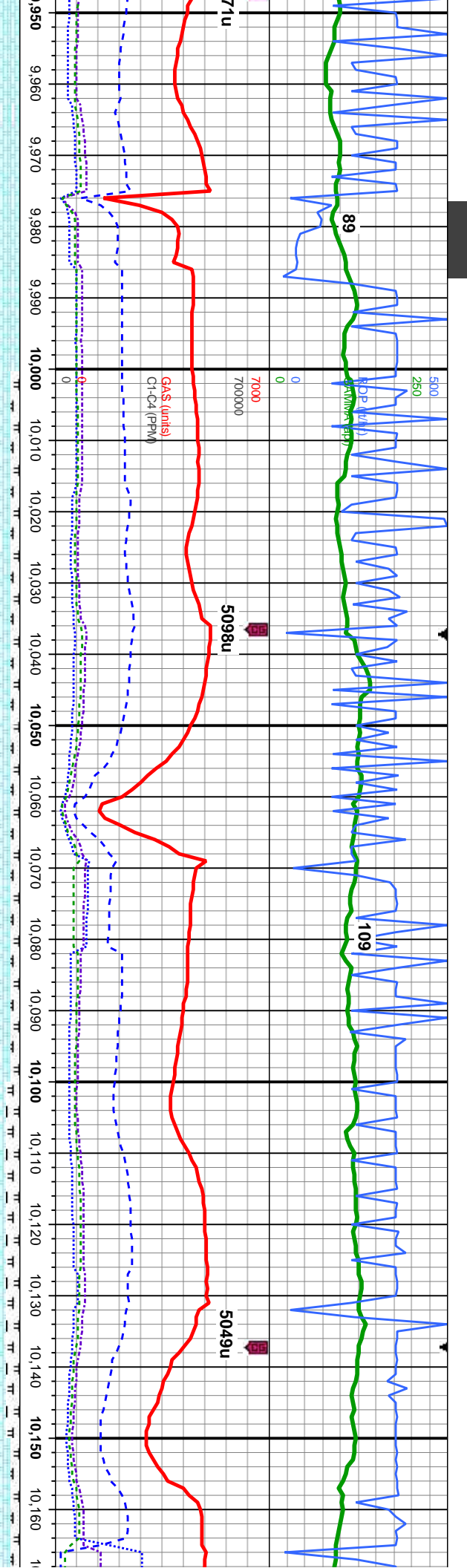
mot, sb blkly, mod		95% CHK: ltgy, wht-crm, mot, sb blkly, mod	95% CHK: ltgy, wht-crm, mot, sb blkly, mod	95% CHK: ltgy, wht-crm, mot, sb blkly, mod
MRST: dk gy, blk,		sft-sl frm, rthy, v calc, 5% MRST: dk gy, blk,	sft-sl frm, rthy, v calc, 5% MRST: dk gy, blk,	sft-sl frm, rthy, v calc, 5% MRST: dk gy, blk,
fast bri blshwh		sb pily - blkly, sl frm - mod hd, arg-sily tex,	sb pily - blkly, sl frm - mod hd, arg-sily tex,	sb pily - blkly, sl frm - mod hd, arg-sily tex,
ocd, fast bri blshwh		occ inoc fos frags, tr bent, mod chk flor, g	occ inoc fos frags, tr bent, mod chk flor, g	occ inoc fos frags, tr bent, mod chk flor, g
yel-wh ring, thk sin		od, fast bri blshwh stimg, some flor, thk bri	od, fast stimg bri wh bl, even thk bri yel-wh,	100% CHK: wht-crm, occ lt gry, mot, sb
		thk yel brn	thk yel brn	blkly, mod sft-sl frm, rthy, v calc, v g chk flor,
				g ocd, fast stimg bri wh bl, even thk bri
				yel-wh, thk yel brn

MD: 9,808'  
Inclination: 89.66 °  
Azimuth: 88.73°  
TVD: 6,243.05'  
VS: 3,318.84'

MD: 9,903'  
Inclination: 90 °  
Azimuth: 88.55°  
TVD: 6,243.33'  
VS: 3,413.81'







5750

MD: 9,998'  
Inclination: 90 °  
Azimuth: 89.56°  
TVD: 6,243.33'  
VS: 3,508.8'

100% CHK: wht-crm, occ lt gry, mot, sb  
blk, mod sft-sl frm, rthy, v calc, v g chk flr,  
g od, fast stmg bri wh bl, even thk bri  
yel-wh, thk yel brn

90% CHK: med-ltgy, occ wht-crm, mot, sb  
blk, mod sft-sl frm, rthy, v calc, 10%  
MRLST: dk gy, blk, sb pty - blk, sl frm -  
mod hd, arg-sily tex, occ inoc fos frags,  
some bent, mtr chk flr, mod od, fast stmg  
bri wh bl, even thk bri yel-wh, mod yel brn

MD: 10,093'  
Inclination: 90.03 °  
Azimuth: 89.95°  
TVD: 6,243.3'  
VS: 3,603.8'

90% CHK: med-ltgy, occ wht-crm, mot, sb  
blk, mod sft-sl frm, rthy, v calc, 10%  
MRLST: dk gy, blk, sb pty - blk, sl frm -  
mod hd, arg-sily tex, occ inoc fos frags,  
some bent, mtr chk flr, mod od, fast stmg  
bri wh bl, even thk bri yel-wh, mod yel brn

85% CHK: med-ltgy, occ wht-crm, mot, sb  
blk, mod sft-sl frm, rthy, v calc, 15% MRLST:  
dk gy, blk, sb pty - blk, sl frm - mod hd,  
arg-sily tex, occ inoc fos frags, some ise &  
limbd cal, some bent, fr od, fast stmg bri wh  
bl, even thk bri yel-wh, mod yel brn

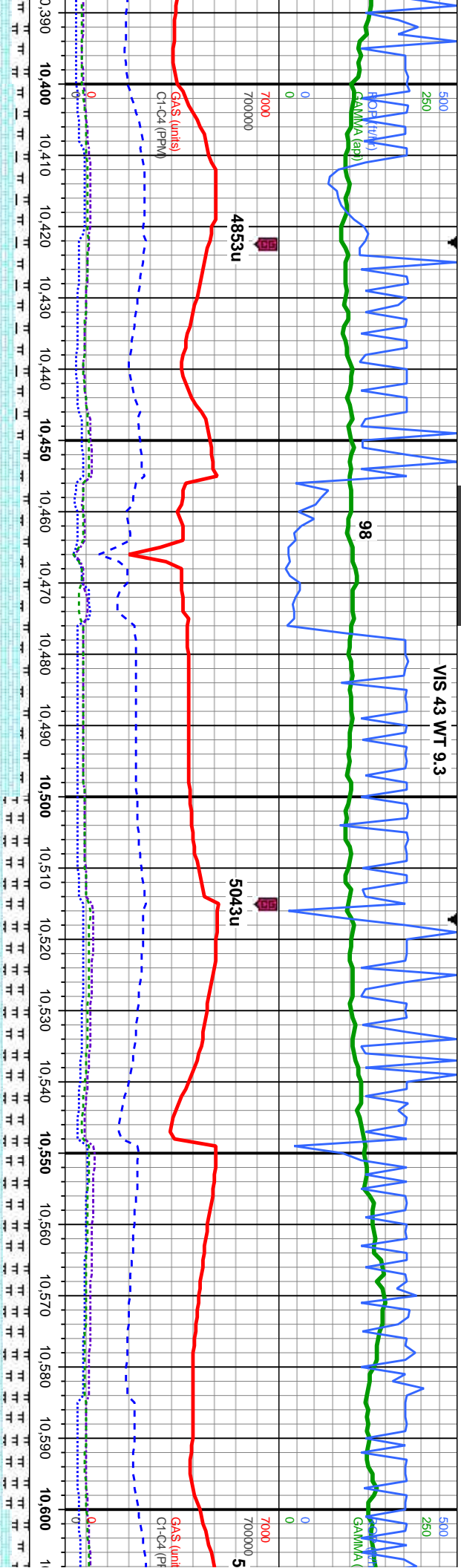
90% CHK: med-  
blk, mod sft-sl fr  
dk gy, blk, sb pty  
arg-sily tex, occ  
limbd cal, some t  
bl, even thk bri y









[illegible]





TD Reached @ 10,835' MD  
02:37 MST on 4/26/2014

THANK YOU FOR USING  
COLUMBINE LOGGING INC.

10,830	10,840	10,850	10,860	10,870	10,880	10,890	10,900
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Bit@

dark gy, mot, sb blk, g  
10% MRLST: dk  
m - mod hd,  
bent, g chk flwr, g  
even thk bri