

COLUMBINE LOGGING

Scale: 5" / 100'
Measured Depth Log

Well Name STATE ANTELOPE A-U-2HNB

Location NWNW SEC. 2 T5N R62W

State COLORADO

County WELD

Country USA

Rig Number XTREME 20

API Number 05-123-41071-00

AFE # 15010

Region DJ BASIN

Field WATTENBERG

Spud Date 2/16/2015

Drilling Completed 2/25/2015

Surface Coordinates 1319' FNL x 345' FWL (LAT: 40.433144, -104.298799)

Bottom Hole Coordinates 10' FNL x 470' FEL (LAT: 40.437203, -104.282604) PROJECTED

Ground Elevation 4646'

K.B. Elevation 4663'

Logged Interval 5950' To 10967'

Total Depth 10967'

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

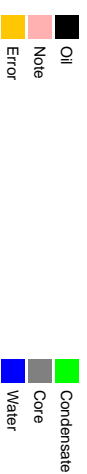
Geologist

Name Paul McKay

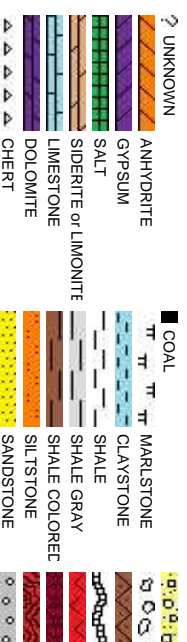
Company Bonanza Creek

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

Zone Color Code



Rock Types



Accessories

Fossils		Stringer	
F FOSSIL	ARGILLACEOUS	GLAUCONITE	
GASTROFOD	ARGILLITE GRAIN	GYPSIFEROUS	
OOLITE	B BENTONITE	HEAVY MINERAL	
AMPHIPORA	BITUMENOUS SUBSTANCE	KAOLIN	ANHYDRITE STRINGER
BELEMNITE	BRECCIA FRAGMENTS	MARLSTONE	BENTONITE STRINGER
BIOCLASTIC	CALCAREOUS	MINERAL CRYSTALS	COAL STRINGER
BRACHIOFOD	CARBONACEOUS FLAKES	NODULES	DOLOMITE STRINGER
PISOLUTE	CHTCK	PHOSPHATE PELLETS	GYPSUM STRINGER
PLANT REMAINS	CHTLT	P PYRITE	LIMESTONE STRINGER
CEPHALOPOD	COAL - THIN BEDS	SALT CAST	MARLSTONE (CALC) STRG
CORAL	DOLOMITIC	SANDY	MARLSTONE (DOL) STRG
CRINOID	FELDSPAR	SILTY	SANDSTONE STRINGER
ECHINOID	FERRUGINOUS PELLET	TUFFACEOUS	SHALE STRINGER
FISH	FERRUGINOUS		SILTSTONE STRINGER
FORAMINIFERA	ANHYDRITIC		

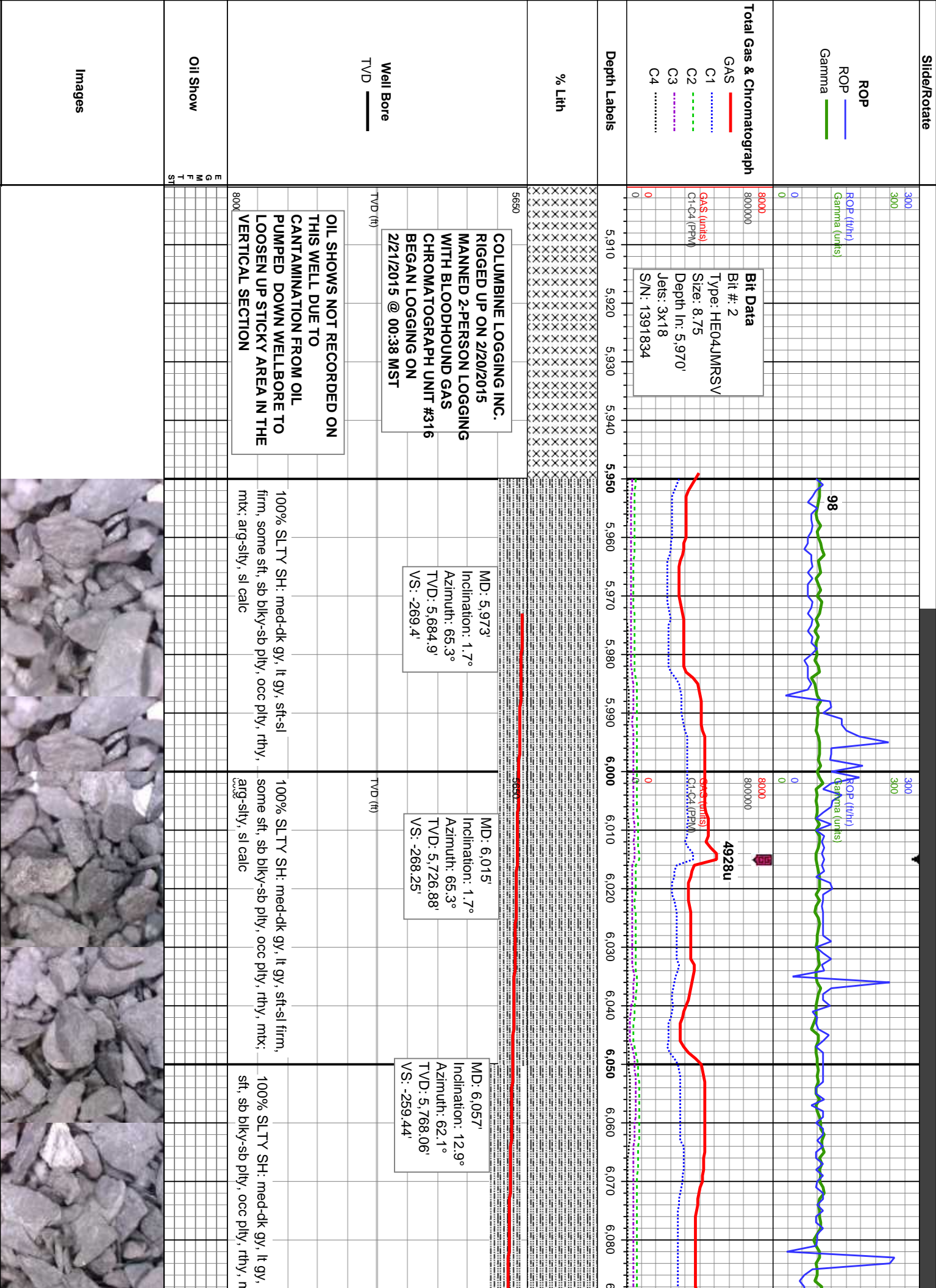
Other Symbols

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

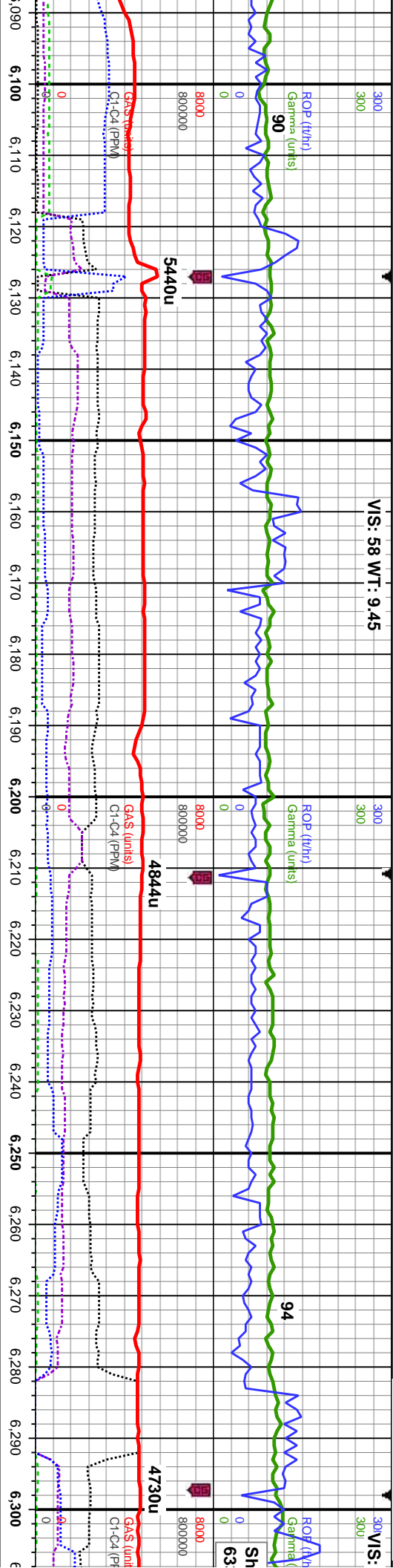
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CONGLOMERATE	CHALK
BRECCIA	SILTY SHALE
TILL	NO SAMPLE
BENTONITE	SHALY SANDSTONE
TUFF	SHALY SILTSTONE
IGNEOUS	
METAMORPHIC	
CEMENT	



VIS: 58 WT: 9.45



MD: 6,100'
Inclination: 18.3°
Azimuth: 65.9°
TVD: 5,809.47'
VS: -248.85'

MD: 6,142'
Inclination: 22.7°
Azimuth: 66.7°
TVD: 5,848.8'
VS: -235.17'

MD: 6,185'
Inclination: 25.8°
Azimuth: 72.4°
TVD: 5,888'
VS: -218.41'

MD: 6,228'
Inclination: 30.1°
Azimuth: 82.3°
TVD: 5,926'
VS: -198.64'

MD: 6,270'
Inclination: 35.5°
Azimuth: 90°
TVD: 5,961.31'
VS: -175.94'

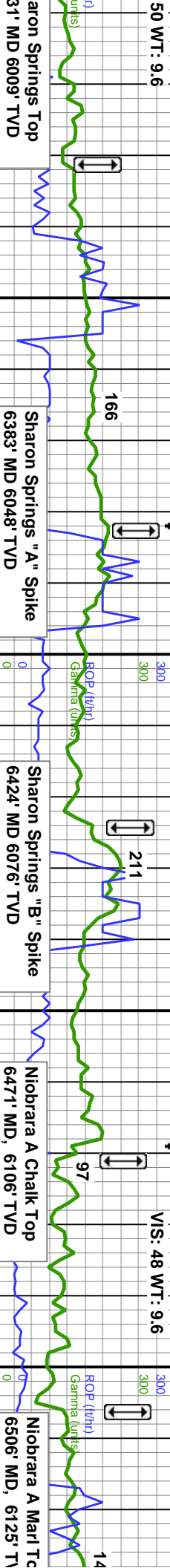
MD: 6,300'
Inclination: 35.5°
Azimuth: 90°
TVD: 5,961.31'
VS: -175.94'

sft-si firm, some
arg-sily, si calc
100% SLTY SH: med-dk gy, lt gy, sft-si firm, some
sft, sb blk-ly-sb ply, occ ply, rthy, mtx; arg-sily, si calc
100% SLTY SH: med-dk gy, lt gy, sft-si firm, some
sft, sb blk-ly-sb ply, occ ply, rthy, mtx; arg-sily, si calc
100% SLTY SH: med-dk gy, lt gy, sft-si firm, some
sft, sb blk-ly-sb ply, occ ply, rthy, mtx; arg-sily, si calc
100% SLTY SH: med-dk gy, lt gy, sft-si firm, some
sft, sb blk-ly-sb ply, occ ply, rthy, mtx; arg-sily, si calc



50 WT: 9.6

V/S: 48 WT: 9.6



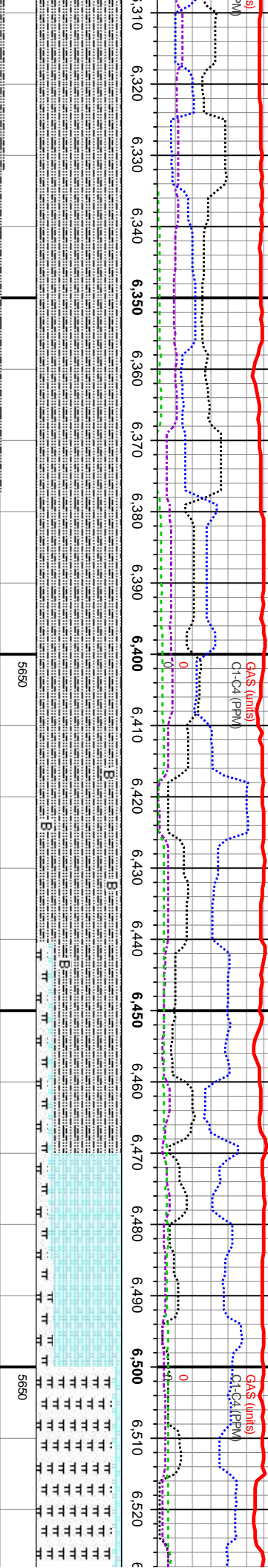
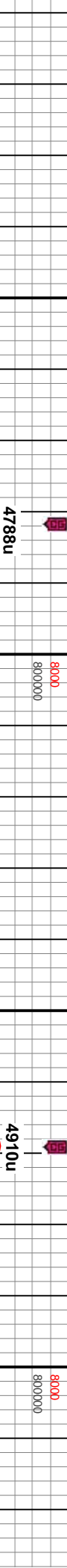
Sharon Springs Top
6331' MD 6009' TVD

Sharon Springs "A" Spike
6383' MD 6048' TVD

Sharon Springs "B" Spike
6424' MD 6076' TVD

Niobrara A Chalk Top
6471' MD, 6106' TVD

Niobrara A Marl Top
6506' MD, 6125' TVD



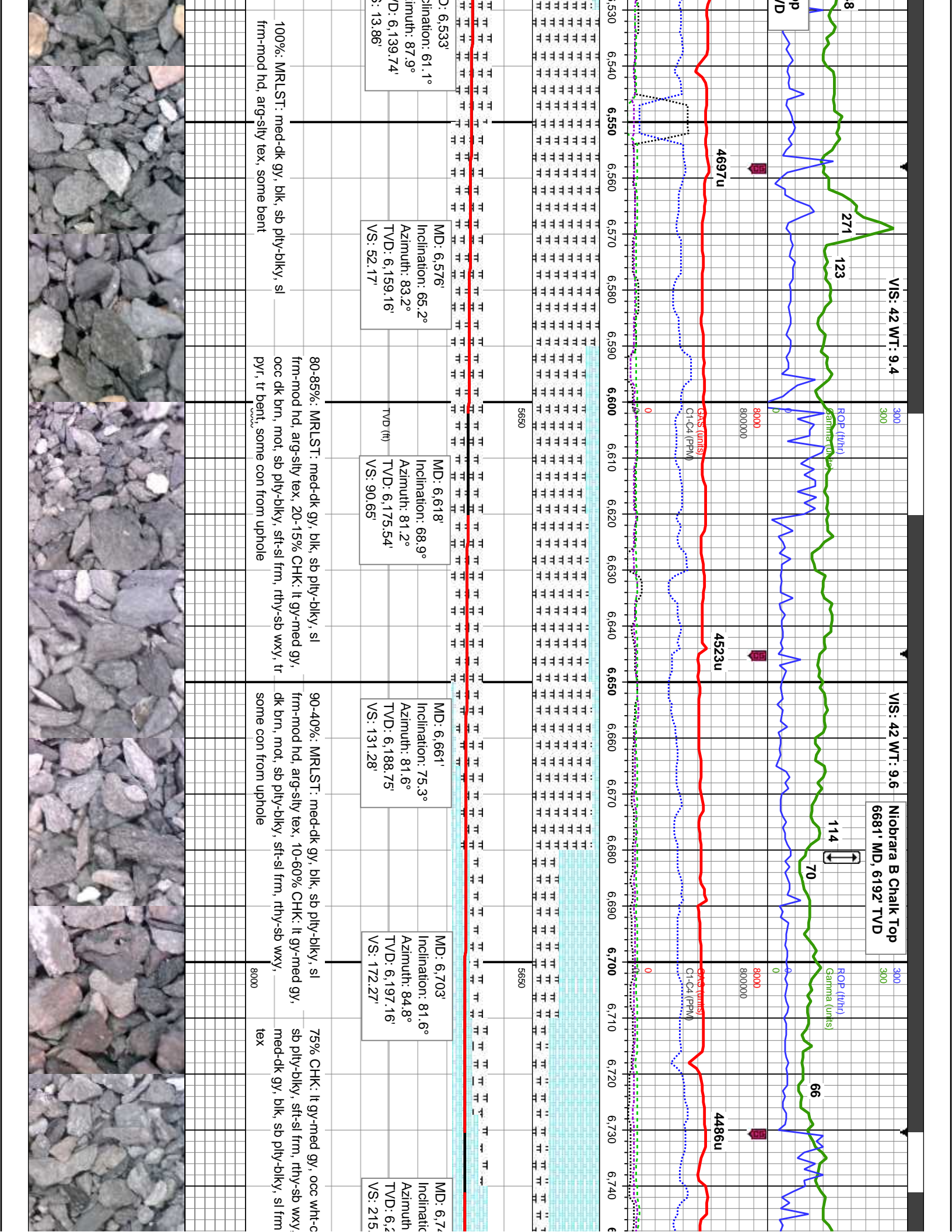
ID: 6.313' Inclination: 38.3° Azimuth: 91.7° VD: 5.995.69' VS: -150.16'	MD: 6.357' Inclination: 42.5° Azimuth: 92.6° TVD: 6.029.19' VS: -121.73'	MD: 6.400' Inclination: 45.8° Azimuth: 92.4° TVD: 6.060.04' VS: -91.89'	MD: 6.444' Inclination: 49.8° Azimuth: 92.3° TVD: 6.089.59' VS: -59.4'	MD: 6.489' Inclination: 55.9° Azimuth: 90.9° TVD: 6.116.75' VS: -23.62'
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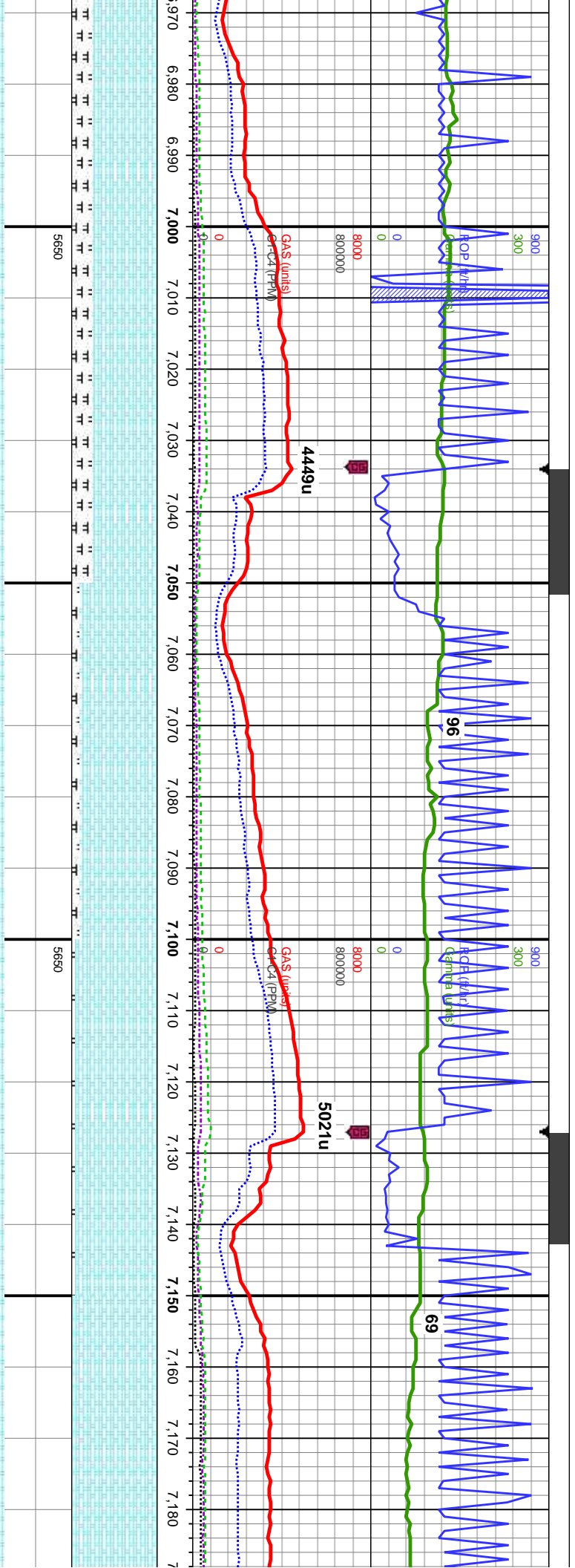
med-dk gy, lt gy, sft-sl firm, some
sft, sb blkly-sb ply, occ ply, rthy, mx; arg-sily, sl calc.
tr bent

100-80% SLTY SH: med-dk gy, lt gy, sft-sl firm, some
sft, sb blkly-sb ply, occ ply, rthy, mx; arg-sily, sl calc.
pyr, tr-abnt bent

85-10% CHK: lt gy-med gy, occ wht-crm, mot, sb
ply-blky, sft-sl frm, rthy-sb wxy, 15-90%: MRLST:
med-dk gy, blk, sb ply-blky, sl frm-mod hd, arg-sily
tex, tr pyr, tr bent, mod chk flw, mod od



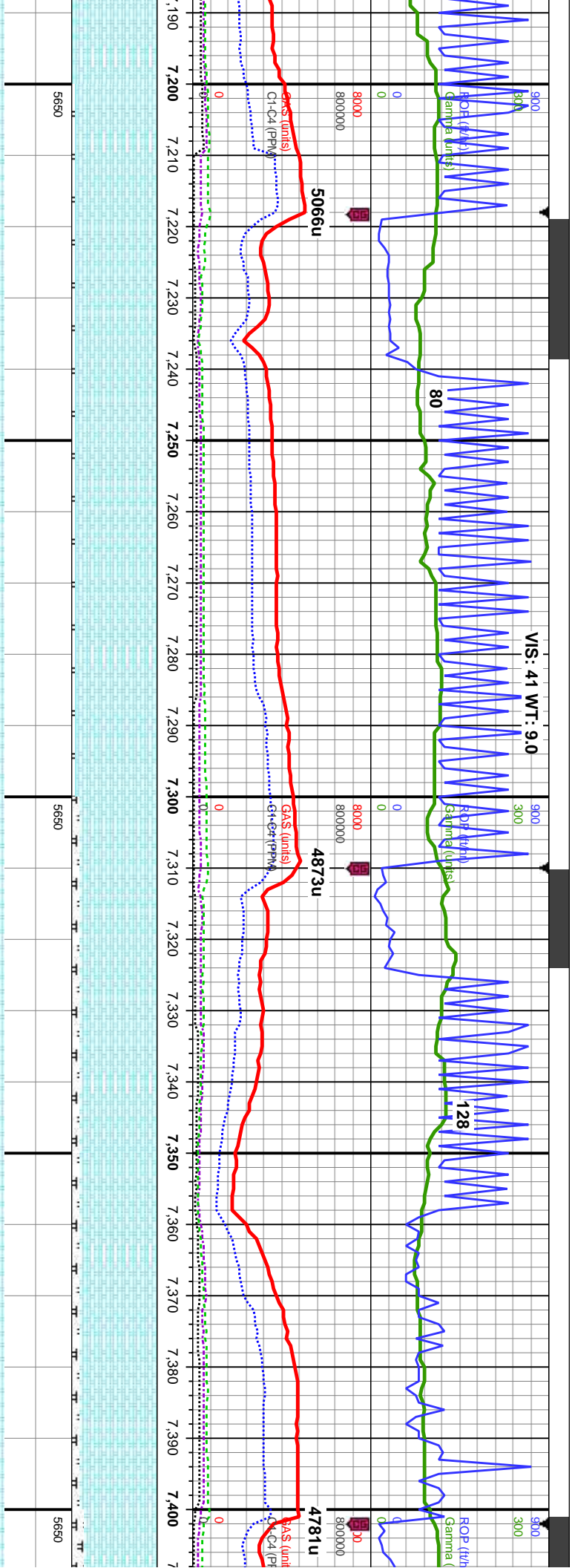




668'	on: 90.8° i: 91.3° 203.97'	TVD (ft)	MD: 7.059' Inclination: 89.3° Azimuth: 92.1° TVD: 6,203.9' VS: 527.52'	90% CHK: med-dk gy, occ wht-crm, mot, sb pily-biky, sft-sl frm, rthy-sb wxy, occ lse cal 10%: MRLST: med-dk gy, blk, sb pily-biky, sl frm-mod hd, arg-sily tex
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dk gy, dk bm, occ wht-crm, sft-sl frm, rthy-sb wxy, 25%: gy, blk, sb pily-biky, sl pily tex,	75% CHK: med-dk gy, dk bm, occ wht-crm, mot, sb pily-biky, sft-sl frm, rthy-sb wxy, tr imbd cal 25%: MRLST: med-dk gy, blk, sb pily-biky, sl frm-mod hd, arg-sily tex,	95% CHK: med-dk gy, occ wht-crm, mot, sb pily-biky, sft-sl frm, rthy-sb wxy, 5%: MRLST: med-dk gy, blk, sb pily-biky, sl frm-mod hd, arg-sily tex, tr fos frags	100% CHK: med-dk gy, occ wht-cr sb pily-biky, sft-sl frm, rthy-sb wxy, frags
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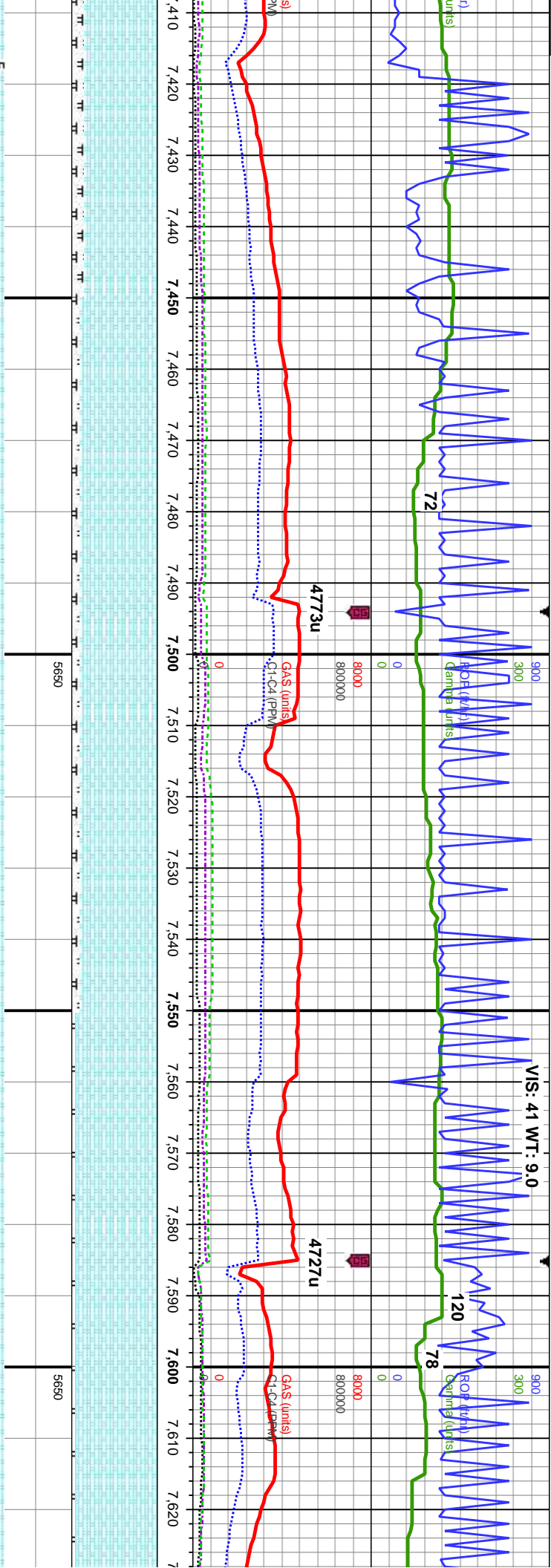


MD: 7,243'
Inclination: 88.1°
Azimuth: 89.6°
TVD: 6,208.55'
VS: 711.11'

MD: 7,335'
Inclination: 88.9°
Azimuth: 88°
TVD: 6,210.96'
VS: 803.06'

95% CHK: med-dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, 5%: MRLST: med-dk gy, blk, sb pty-blky, sl frm-mod hd, arg-sily tex, occ cal frags & fos frags	95% CHK: med-dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, 5%: MRLST: med-dk gy, blk, sb pty-blky, sl frm-mod hd, arg-sily tex, occ cal frags & fos frags	90% CHK: med-dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, 10%: MRLST: med-dk gy, blk, sb pty-blky, sl frm-mod hd, arg-sily tex, occ cal frags & fos frags	90% CHK: med-dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, 10%: MRLST: med-dk gy, blk, sb pty-blky, sl frm-mod hd, arg-sily tex, occ cal frags & fos frags	85% C frm, rth blk, sb incr in
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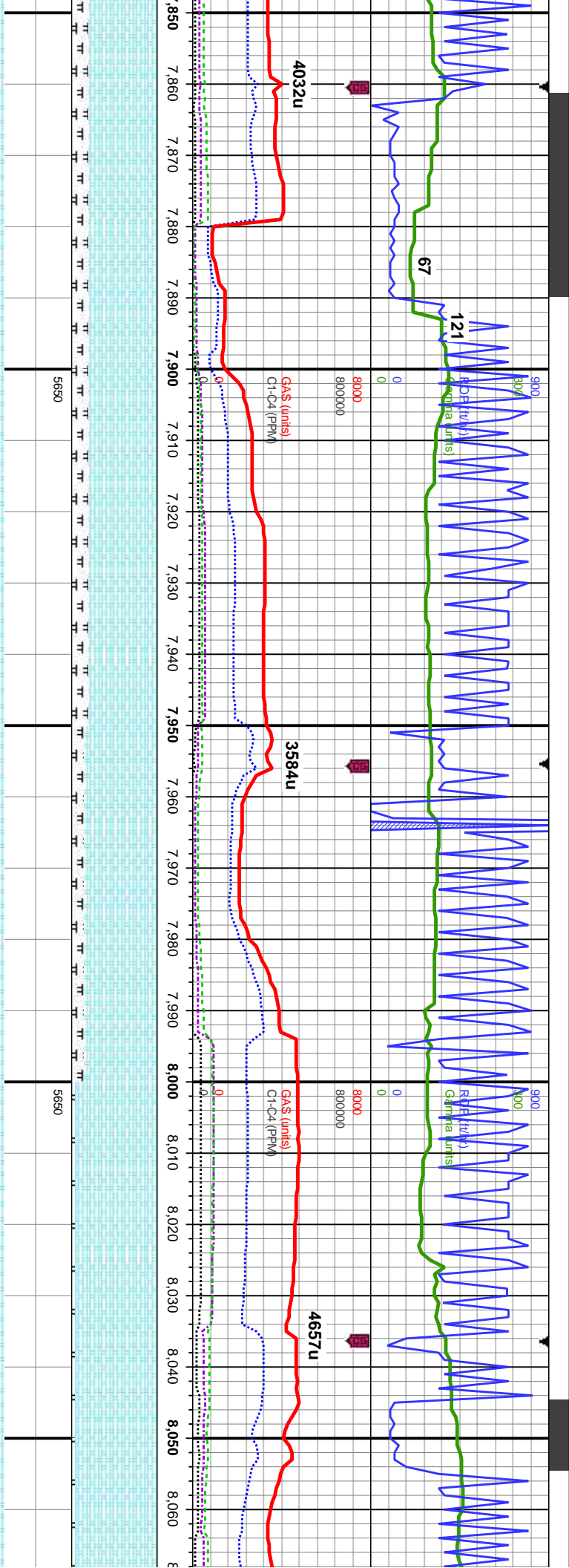
MD: 7.426'
Inclination: 90.9°
Azimuth: 86.4°
TVD: 6,211.12'
VS: 894.04'

MD: 7.518'
Inclination: 91.7°
Azimuth: 86.3°
TVD: 6,209.03'
VS: 985.99'

MD: 7.609'
Inclination: 92°
Azimuth: 87.3°
TVD: 6,206.09'
VS: 1,076.92'

90% CHK: med-dk gy, mot, sb pily-blky, sft-sl	90% CHK: med-dk gy, mot, sb pily-blky, sft-sl	90% CHK: med-dk gy, mot, sb pily-blky, sft-sl	95% CHK: med-dk gy, occ lt gy, wht-crm, mot, sb pily-blky, sft-sl frm, rthy-sb wxy, 5%: MRLST: med-dk gy, blk, sb pily-blky, sl frm-mod hd, arg-sily tex, tr fos frags	95% CHK: med-dk gy, occ
frm, rthy-sb wxy, 10%: MRLST: med-dk gy, blk, sb pily-blky, sl frm-mod hd, arg-sily tex, occ cal frags & fos frags	frm, rthy-sb wxy, 10%: MRLST: med-dk gy, blk, sb pily-blky, sl frm-mod hd, arg-sily tex, occ cal frags & fos frags	frm, rthy-sb wxy, 10%: MRLST: med-dk gy, blk, sb pily-blky, sl frm-mod hd, arg-sily tex, occ cal frags & fos frags	frm, rthy-sb wxy, 10%: MRLST: med-dk gy, blk, sb pily-blky, sl frm-mod hd, arg-sily tex, occ cal frags & fos frags	frm, rthy-sb wxy, 10%: MRLST: med-dk gy, blk, sb pily-blky, sl frm-mod hd, arg-sily tex, occ cal frags & fos frags





MD: 7,884'
Inclination: 90.5°
Azimuth: 88.4°
TVD: 6,195.76'
VS: 1,351.71'

MD: 7,969'
Inclination: 89.4°
Azimuth: 88.4°
TVD: 6,195.84'
VS: 1,436.7'

MD: 8,054'
Inclination: 90.9°
Azimuth: 87.9°
TVD: 6,195.61'
VS: 1,521.7'

80% CHK: med-dk gy, wht-crm, mot, sb
ply-blky, sft-sl frm, rthy-sb wxy, occ imbd cal,
20%: MRLST: med-dk gy, blk, sb ply-blky, sl
frm-mod hd, arg-silty tex

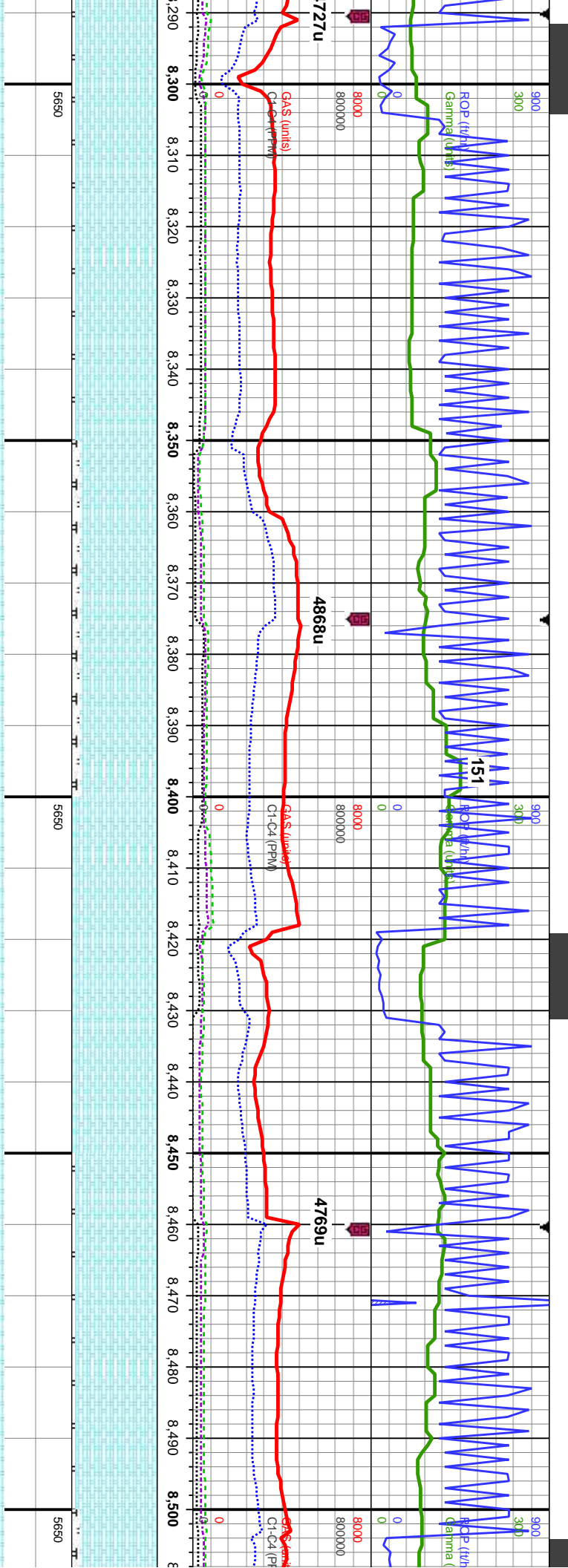
80% CHK: med-dk gy, wht-crm, mot, sb
ply-blky, sft-sl frm, rthy-sb wxy, occ imbd cal,
20%: MRLST: med-dk gy, blk, sb ply-blky, sl
frm-mod hd, arg-silty tex

85% CHK: med-dk gy, occ wht-crm, mot, sb
ply-blky, sft-sl frm, rthy-sb wxy, imbd cal,
15%: MRLST: med-dk gy, blk, sb ply-blky, sl
frm-mod hd, arg-silty tex, tr fros frags

95% CHK: med-dk gy, occ wht-crm, mot, sb
ply-blky, sft-sl frm, rthy-sb wxy, imbd cal, 5%:
MRLST: med-dk gy, blk, sb ply-blky, sl
frm-mod hd, arg-silty tex, tr fros frags

95% CHK: med:
ply-blky, sft-sl fr
5%: MRLST: me
frm-mod hd, arg





MD: 8,308'
Inclination: 88.2°
Azimuth: 89.1°
TVD: 6,200.88'
VS: 1,775.56'

MD: 8,393'
Inclination: 87.9°
Azimuth: 88.3°
TVD: 6,203.77'
VS: 1,860.5'

MD: 8,477'
Inclination: 88.1°
Azimuth: 86.6°
TVD: 6,206.7'
VS: 1,944.45'

ly-biky,
s:
y, sl
al frags

95% CHK: lt-med, dk gy brn, mot, sb
ply-biky, sft-sl frm, rthy-sb wxy, imbd cal,
5%: MRLST: med-dk gy, blk, sb ply-biky, sl
frm-mod hd, arg-sily tex, tr fos & cal frags

90% CHK: med, dk gy brn, mot, sb ply-biky,
sft-sl frm, rthy-sb wxy, imbd cal, 10%:
MRLST: med-dk gy, blk, sb ply-biky, sl
frm-mod hd, arg-sily tex, tr fos

100% CHK: med, dk gy brn, mot, sb
ply-biky, sft-sl frm, rthy-sb wxy, occ imbd
cal, tr fos frags

95% CHK: med, dk gy brn, mot, sb ply-biky,
sft-sl frm, rthy-sb wxy, imbd cal, 5%:
MRLST: med-dk gy, blk, sb ply-biky, sl
frm-mod hd, arg-sily tex, tr fos

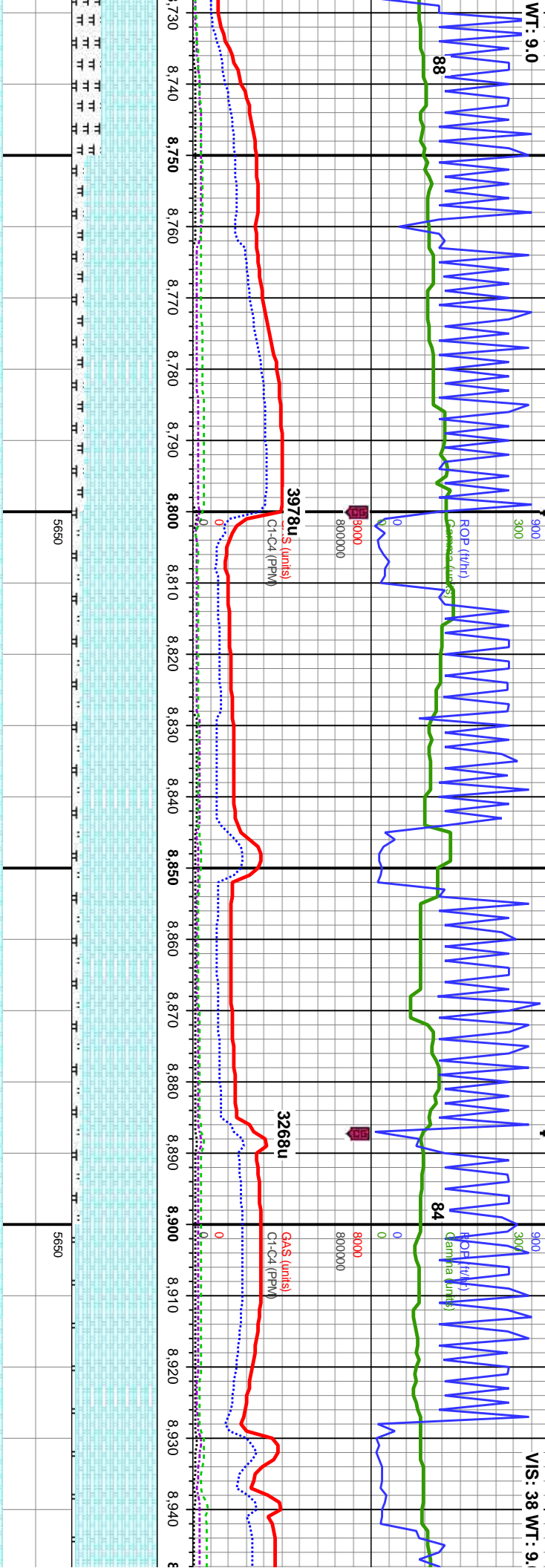
90% C
sft-sl fr
MRLS
frm-mc

TVD (ft)



WT: 9.0

VIS: 38 WT: 9.

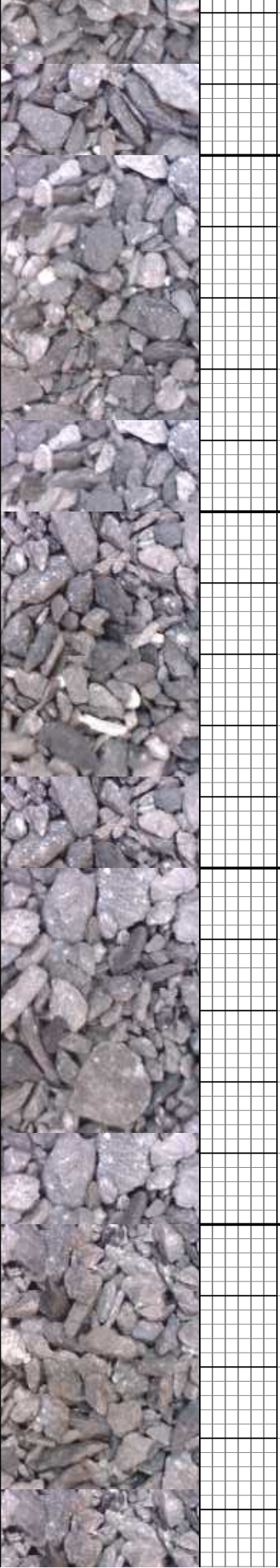


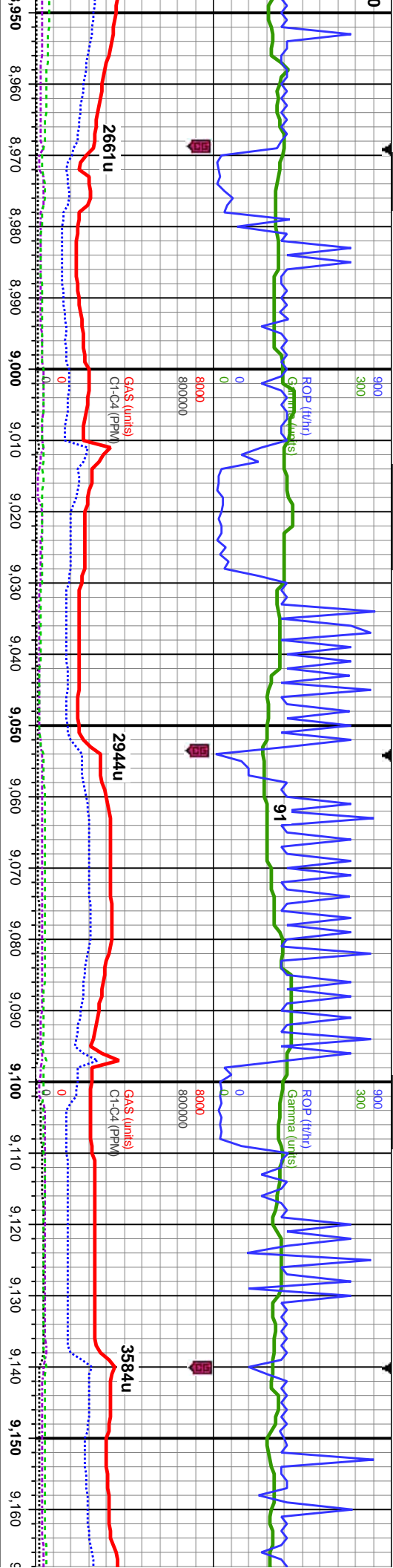
MD: 8,732'
Inclination: 89.5°
Azimuth: 91.5°
TVD: 6,206.4'
VS: 2,199.04'

MD: 8,817'
Inclination: 89°
Azimuth: 90.8°
TVD: 6,207.52'
VS: 2,283.89'

MD: 8,902'
Inclination: 89.7°
Azimuth: 90.4°
TVD: 6,208.48'
VS: 2,368.78'

8,730'	8,750'	8,760'	8,770'	8,780'	8,790'	8,800'	8,810'	8,820'	8,830'	8,840'	8,850'	8,860'	8,870'	8,880'	8,890'	8,900'	8,910'	8,920'	8,930'	8,940'
mot, sb pty-biky, imbd cal, 35%: sb pty-biky, sl	85% CHK: med, dk gy brn, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, imbd cal, 15%: MRLST: med-dk gy, blk, sb pty-biky, sl	85% CHK: med, dk gy brn, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, imbd cal, 15%: MRLST: med-dk gy, blk, sb pty-biky, sl	85% CHK: med, dk gy brn, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, imbd cal, 15%: MRLST: med-dk gy, blk, sb pty-biky, sl	85% CHK: med, dk gy brn, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, imbd cal, 15%: MRLST: med-dk gy, blk, sb pty-biky, sl	85% CHK: med, dk gy brn, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, imbd cal, 15%: MRLST: med-dk gy, blk, sb pty-biky, sl	85% CHK: med, dk gy brn, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, imbd cal, 15%: MRLST: med-dk gy, blk, sb pty-biky, sl	85% CHK: med, dk gy brn, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, imbd cal, 15%: MRLST: med-dk gy, blk, sb pty-biky, sl	85% CHK: med, dk gy brn, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, imbd cal, 15%: MRLST: med-dk gy, blk, sb pty-biky, sl	85% CHK: med, dk gy brn, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, imbd cal, 15%: MRLST: med-dk gy, blk, sb pty-biky, sl	85% CHK: med, dk gy brn, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, imbd cal, 15%: MRLST: med-dk gy, blk, sb pty-biky, sl	85% CHK: med, dk gy brn, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, imbd cal, 15%: MRLST: med-dk gy, blk, sb pty-biky, sl	85% CHK: med, dk gy brn, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, imbd cal, 15%: MRLST: med-dk gy, blk, sb pty-biky, sl	85% CHK: med, dk gy brn, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, imbd cal, 15%: MRLST: med-dk gy, blk, sb pty-biky, sl	85% CHK: med, dk gy brn, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, imbd cal, 15%: MRLST: med-dk gy, blk, sb pty-biky, sl	85% CHK: med, dk gy brn, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, imbd cal, 15%: MRLST: med-dk gy, blk, sb pty-biky, sl	85% CHK: med, dk gy brn, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, imbd cal, 15%: MRLST: med-dk gy, blk, sb pty-biky, sl	85% CHK: med, dk gy brn, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, imbd cal, 15%: MRLST: med-dk gy, blk, sb pty-biky, sl	85% CHK: med, dk gy brn, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, imbd cal, 15%: MRLST: med-dk gy, blk, sb pty-biky, sl	85% CHK: med, dk gy brn, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, imbd cal, 15%: MRLST: med-dk gy, blk, sb pty-biky, sl	85% CHK: med, dk gy brn, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, imbd cal, 15%: MRLST: med-dk gy, blk, sb pty-biky, sl





MD: 8,987'
Inclination: 88.9°
Azimuth: 88.6°
TVD: 6,209.52'
VS: 2,453.74'

MD: 9,073'
Inclination: 88.7°
Azimuth: 87.2°
TVD: 6,211.32'
VS: 2,539.72'

95% CHK: lt-med gry, tr dk gy brn, mot, sb
ply-biky, sft-sl frm, rthy-sb wxy, imbd cal,
5%: MRLST: med-dk gy, blk, sb ply-biky, sl
frm-mod hd, arg-sily tex, tr fos, tr bent

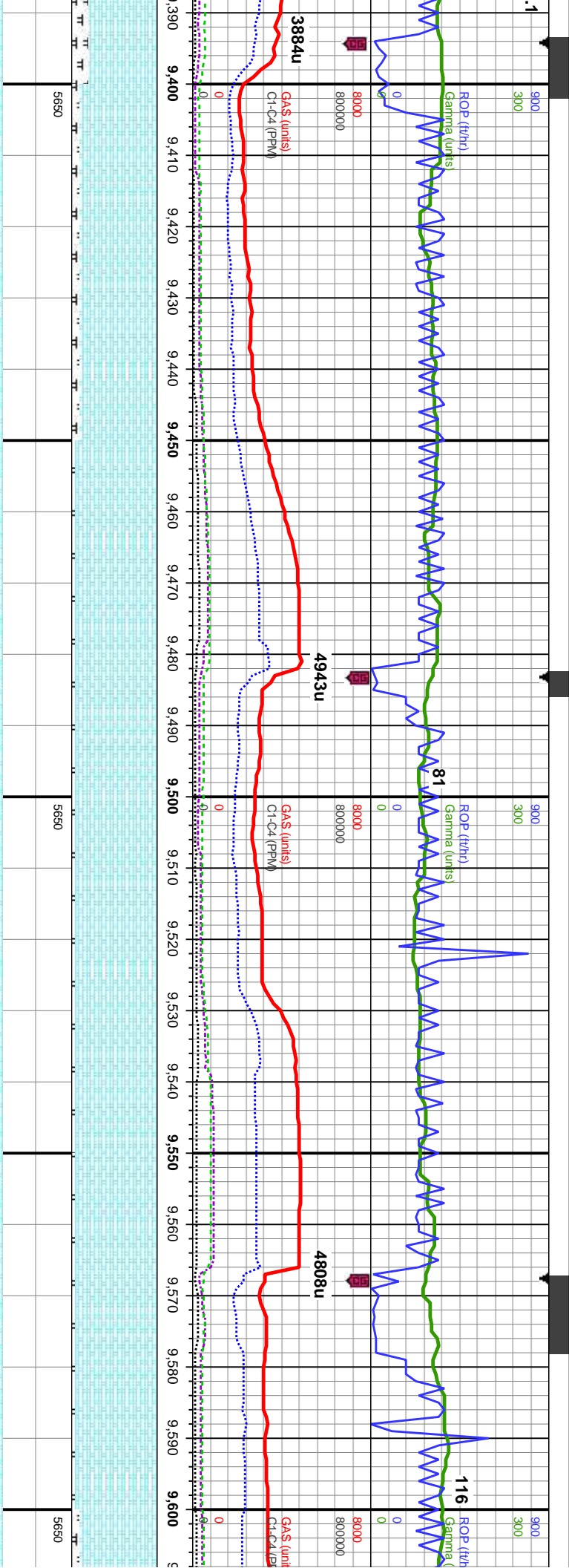
90% CHK: med gry, tr dk gy brn, mot, sb
ply-biky, sft-sl frm, rthy-sb wxy, imbd cal,
10%: MRLST: med-dk gy, blk, sb ply-biky, sl
frm-mod hd, arg-sily tex, tr fos, tr bent

85% CHK: med gry, tr dk gy brn, mot, sb
ply-biky, sft-sl frm, rthy-sb wxy, imbd cal,
15%: MRLST: med-dk gy, blk, sb ply-biky, sl
frm-mod hd, arg-sily tex, tr fos, tr bent

90% CHK: med gry, tr dk gy brn, mot, sb
ply-biky, sft-sl frm, rthy-sb wxy, imbd cal,
10%: MRLST: med-dk gy, blk, sb ply-biky, sl
frm-mod hd, arg-sily tex, abnt fos, tr bent

75% CHK: med
ply-biky, sft-sl fr
25%: MRLST: r
frm-mod hd, arg



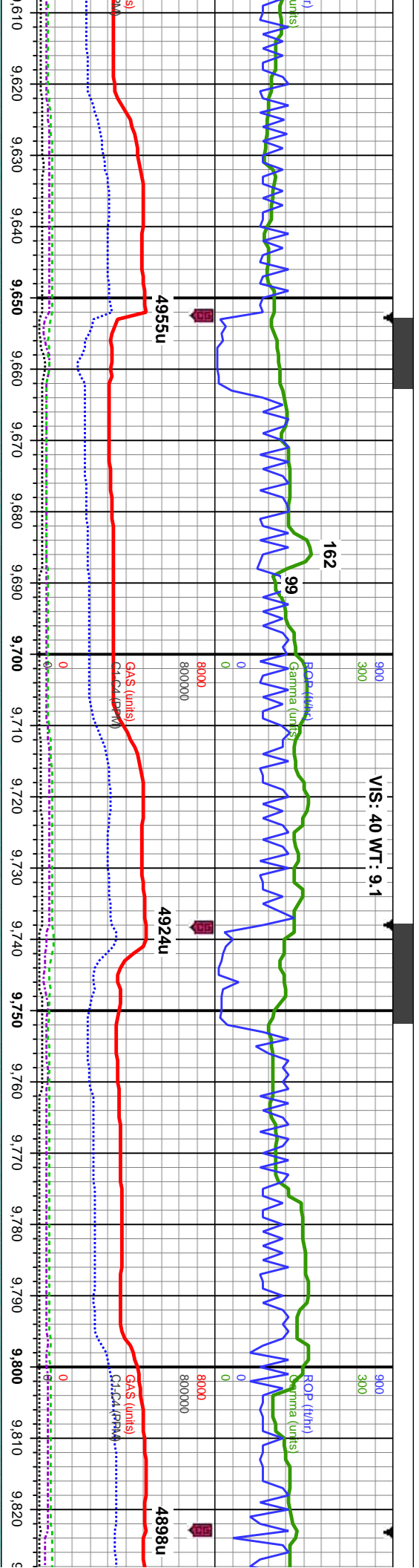


MD: 9,415'
Inclination: 91°
Azimuth: 84.9°
TVD: 6,210.64'
VS: 2,881.51'

MD: 9,500'
Inclination: 92.3°
Azimuth: 85.7°
TVD: 6,208.19'
VS: 2,966.39'

MD: 9,585'
Inclination: 91.8°
Azimuth: 86.7°
TVD: 6,205.15'
VS: 3,051.3'

ot, sb	90% CHK: med gry, tr dk gy brn, mot, sb	95% CHK: med gry, tr dk gy brn, mot, sb	95% CHK: med gry, dk gy brn, mot, sb	95% CHK: med gry, dk gy brn, mot, sb	90% C
od cal,	ply-biky, sft-sl frm, rthy-sb wxy, imbd cal,	ply-biky, sft-sl frm, rthy-sb wxy, imbd cal,	ply-biky, sft-sl frm, rthy-sb wxy, imbd cal,	ply-biky, sft-sl frm, rthy-sb wxy, imbd cal,	ply-bik
ply-biky, sl	10%: MRLST: med-dk gy, blk, sb ply-biky, sl	5%: MRLST: med-dk gy, blk, sb ply-biky, sl	5%: MRLST: med-dk gy, blk, sb ply-biky, sl	5%: MRLST: med-dk gy, blk, sb ply-biky, sl	10%: A
bent	frm-mod hd, arg-sly tex, scatt fos, tr bent	frm-mod hd, arg-sly tex, scatt fos, tr bent	bent	frm-mod hd, arg-sly tex, some fos frags, tr	frm-mc



MD: 9,670'
Inclination: 91.3°
Azimuth: 87°
TVD: 6,202.85'
VS: 3,136.26'

MD: 9,755'
Inclination: 90.1°
Azimuth: 86.6°
TVD: 6,201.81'
VS: 3,221.23'

HK: med gry, dk gy brn, mot, sb
y, sft-sl frm, rthy-sb wxy, imbd cal,
MRLST: med-dk gy, blk, sb pily-blky, sl
nd hd, arg-sily tex, tr fos frags

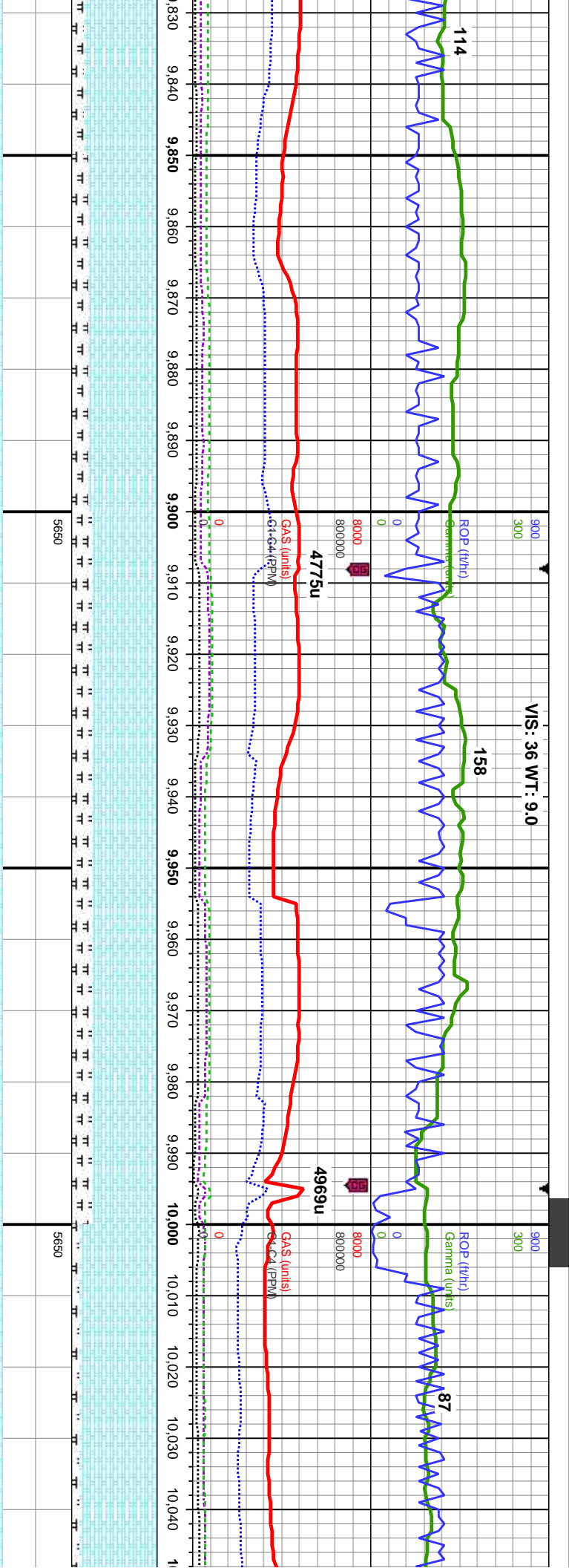
90% CHK: med gry, dk gy brn, mot, sb
pily-blky, sft-sl frm, rthy-sb wxy, imbd cal,
10%: MRLST: med-dk gy, blk, sb pily-blky, sl
frm-mod hd, arg-sily tex, tr fos frags

95% CHK: med gry, dk gy brn, mot, sb
pily-blky, sft-sl frm, rthy-sb wxy, imbd cal,
5%: MRLST: med-dk gy, blk, sb pily-blky, sl
frm-mod hd, arg-sily tex, tr fosd cal frags

85% CHK: med-dk gry, occ lt gy, mot, sb
pily-blky, sft-sl frm, rthy-sb wxy, imbd cal,
15%: MRLST: med-dk gy, blk, sb pily-blky, sl
frm-mod hd, arg-sily tex, tr cal frags

85% CHK: med-dk gry, oc
pily-blky, sft-sl frm, rthy-sl
15%: MRLST: med-dk gy
frm-mod hd, arg-sily tex, t
dhd





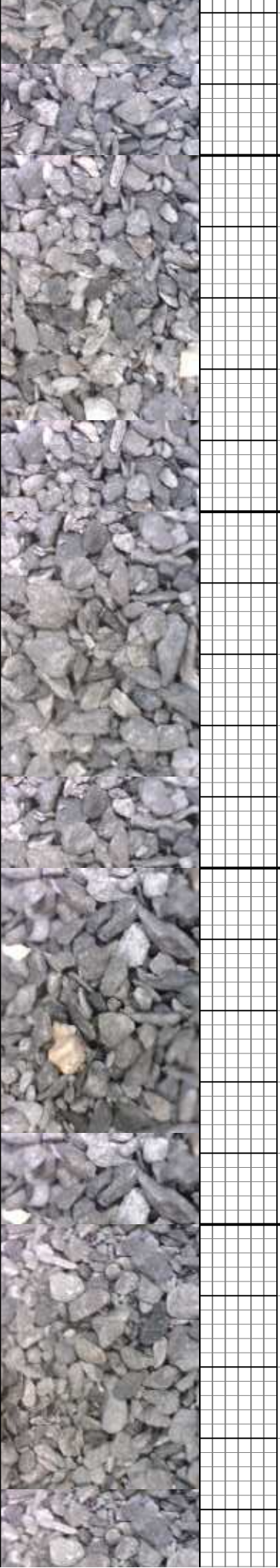
MD: 9,840'
Inclination: 89.5°
Azimuth: 85.3°
TVD: 6,202.11'
VS: 3,306.19'

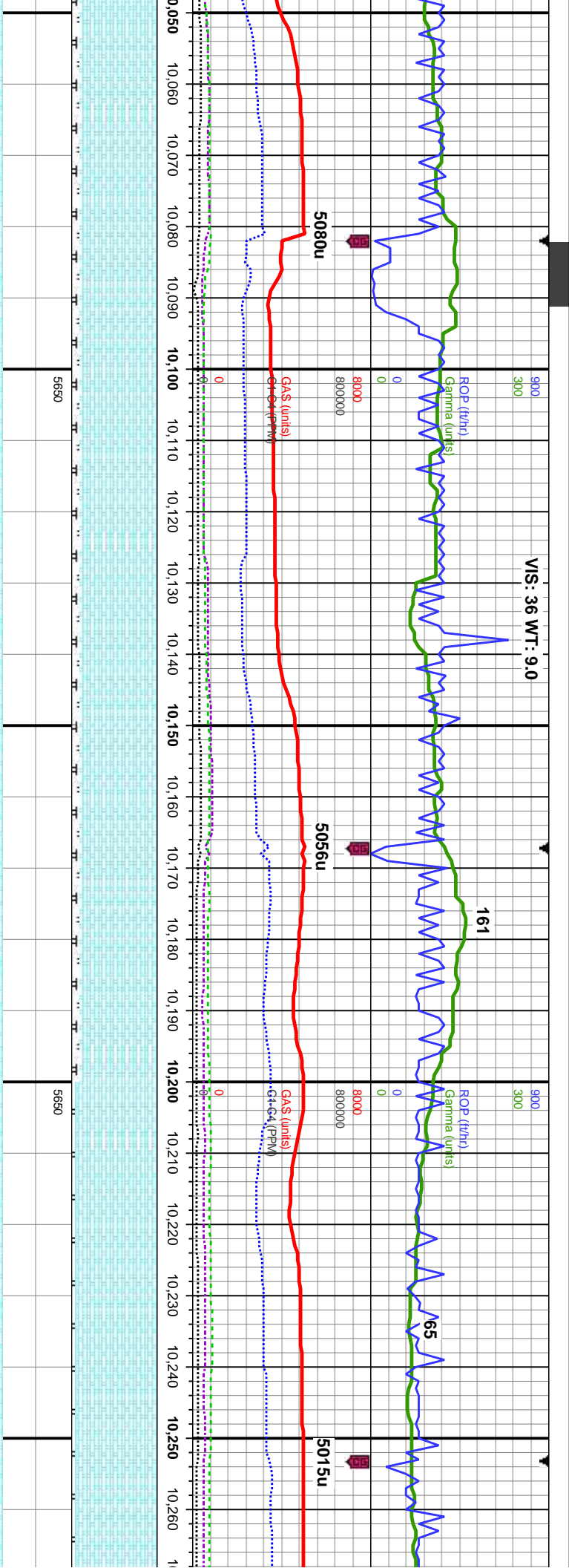
TVD (ft)

MD: 9,927'
Inclination: 90.7°
Azimuth: 85.5°
TVD: 6,201.96'
VS: 3,393.1'

MD: 10,014'
Inclination: 90.2°
Azimuth: 85.9°
TVD: 6,201.27'
VS: 3,480.04'

occ lt gy, mot, sb	80% CHK: med-dk gry, occ lt gy, mot, sb	75% CHK: dk gry, occ med gy, mot, sb	75% CHK: dk gry, occ med gy, mot, sb	90% CHK: med-dk gry, mot, sb pty-biky,
o wxy, imbd cal,	pty-biky, sft-sl frm, rthy-sb wxy, imbd cal,	pty-biky, sft-sl frm, rthy-sb wxy, tr imbd cal,	pty-biky, sft-sl frm, rthy-sb wxy, tr imbd cal,	sft-sl frm, rthy-sb wxy, tr imbd cal, 10%:
blk, sb pty-biky, sl	20%: MRLST: med-dk gy, blk, sb pty-biky, sl	25%: MRLST: med-dk gy, blk, sb pty-biky, sl	25%: MRLST: med-dk gy, blk, sb pty-biky, sl	MRLST: med-dk gy, blk, sb pty-biky, sl
tr cal frags	frm-mod hd, arg-sily tex, tr cal frags	frm-mod hd, arg-sily tex, tr fos frags, tr bent	frm-mod hd, arg-sily tex, tr fos frags, tr bent	frm-mod hd, arg-sily tex, tr bent





MD: 10,100'
Inclination: 89.8°
Azimuth: 86.8°
TVD: 6,201.27'
VS: 3,566.01'

MD: 10,185'
Inclination: 89.4°
Azimuth: 86.6°
TVD: 6,201.87'
VS: 3,650.99'

TVD (ft)

MD: 10,185'
Inclination: 89.4°
Azimuth: 86.6°
TVD: 6,201.87'
VS: 3,650.99'

90% CHK: med-dk gry, mot, sb pily-blky, sft-sl frm, rthy-sb wxy, tr imbd cal, 10%: MRLST: med-dk gy, blk, sb pily-blky, sl frm-mod hd, arg-sily tex, tr bent

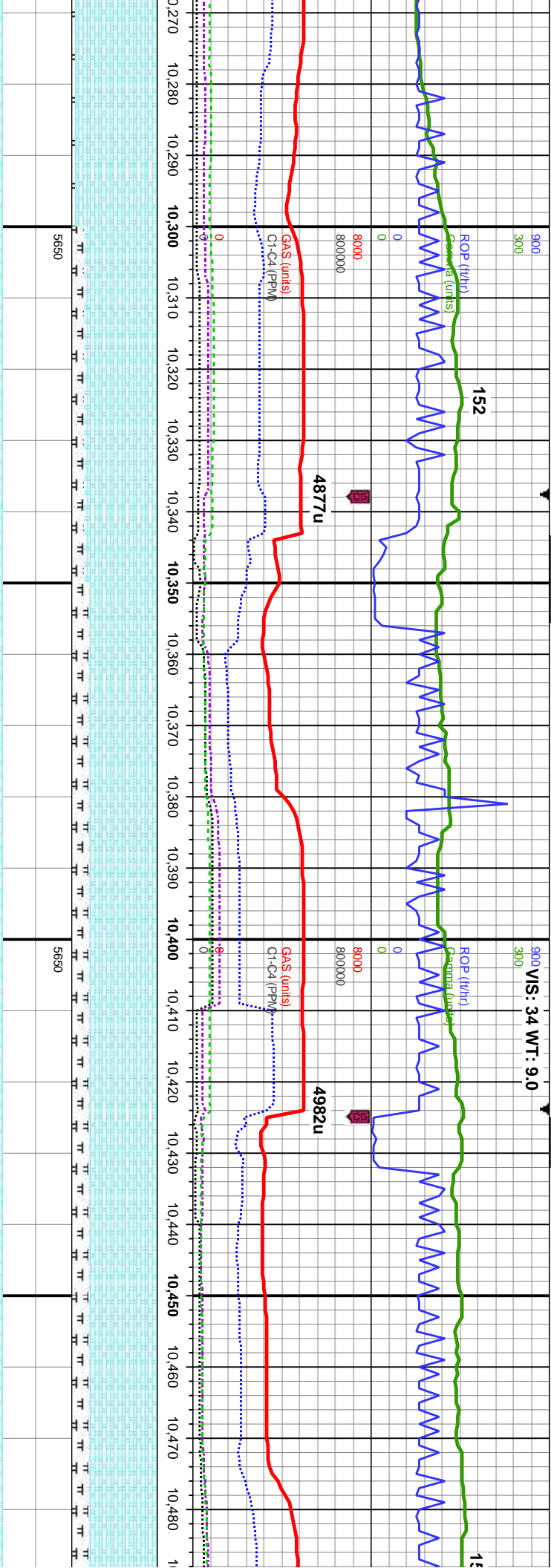
90% CHK: med-dk gry, mot, sb pily-blky, sft-sl frm, rthy-sb wxy, tr imbd cal, 10%: MRLST: med-dk gy, blk, sb pily-blky, sl frm-mod hd, arg-sily tex, tr bent

90% CHK: med-dk gry, mot, sb pily-blky, sft-sl frm, rthy-sb wxy, tr imbd cal, 10%: MRLST: med-dk gy, blk, sb pily-blky, sl frm-mod hd, arg-sily tex

95% CHK: med-dk gry, occ dk brn, mot, sb pily-blky, sft-sl frm, rthy-sb wxy, tr imbd cal, 5%: MRLST: med-dk gy, blk, sb pily-blky, sl frm-mod hd, arg-sily tex, tr bent

95% CHK: med-dk gry, occ dk brn, mot, sb pily-blky, sft-sl frm, rthy-sb wxy, tr imbd cal, 5%: MRLST: med-dk gy, blk, sb pily-blky, sl frm-mod hd, arg-sily tex, tr bent





0.270'
Inclination: 91.1°
Azimuth: 87.2°
TVD: 6,201.51'
VS: 735.97'

TVD (ft)

MD: 10,357'
Inclination: 90.2°
Azimuth: 87.7°
TVD: 6,200.51'
VS: 3,822.96'

TVD (ft)

MD: 10,444'
Inclination: 90°
Azimuth: 88.5°
TVD: 6,200.36'
VS: 3,909.96'

dk gry, occ dk brn, mot, sb
m, rthy-sb wxy, tr imbd cal,
dk-dk gy, blk, sb pily-blky, sl
stly tex, tr bent

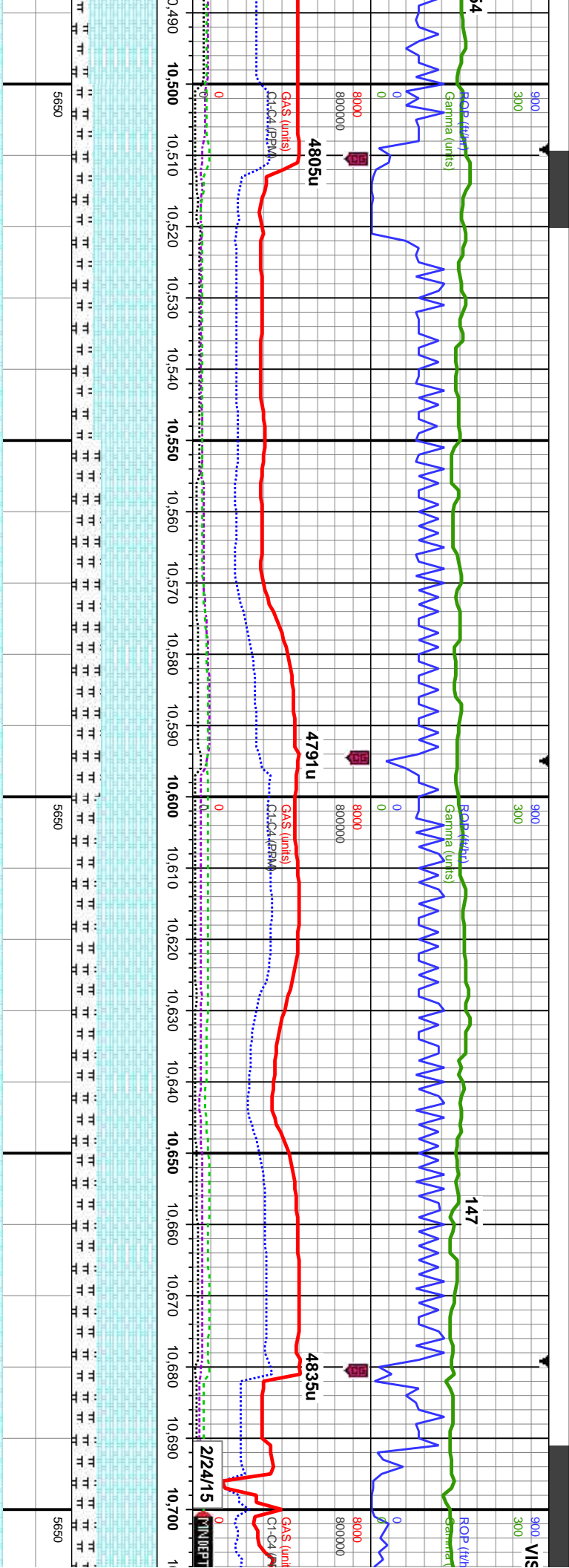
90% CHK: med-dk gry, mot, sb pily-blky,
sft-sl frm, rthy-sb wxy, tr imbd cal, 10%:
MRLST: dk gy, blk, sb pily-blky, sl frm-mod
hd, arg-sily tex, tr bent

80% CHK: med-dk gry, mot, sb pily-blky,
sft-sl frm, rthy-sb wxy, tr imbd cal, 10%:
MRLST: dk gy, blk, sb pily-blky, sl frm-mod
hd, arg-sily tex, tr bent

80% CHK: med-dk gry, mot, sb pily-blky,
sft-sl frm, rthy-sb wxy, tr imbd cal, 10%:
MRLST: dk gy, blk, sb pily-blky, sl frm-mod
hd, arg-sily tex, tr bent

80% CHK: med-dk gry, mot, sb pily-blky,
sft-sl frm, rthy-sb wxy, tr imbd cal, 10%:
MRLST: dk gy, blk, sb pily-blky, sl frm-mod
hd, arg-sily tex, tr bent





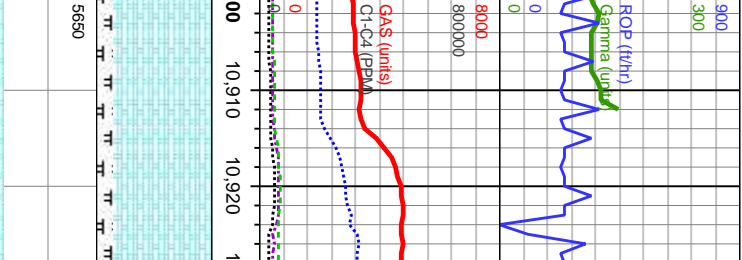
MD: 10,529'
Inclination: 88.6°
Azimuth: 88.6°
TVD: 6,201.4'
VS: 3,994.95'

MD: 10,614'
Inclination: 90.2°
Azimuth: 89.5°
TVD: 6,202.29'
VS: 4,079.92'

MD: 10,699'
Inclination: 89.6°
Azimuth: 89.3°
TVD: 6,202.43'
VS: 4,164.89'

-biky, 0%:	75% CHK: med-dk gry, mot, sb ply-biky, sft-sl frm, rthy-sb wxy, tr imbd cal, 25%: MRLST: dk gy, blk, sb ply-biky, sl frm-mod hd, arg-sily tex, tr bent	65% CHK: med-dk gry, mot, sb ply-biky, sft-sl frm, rthy-sb wxy, tr imbd cal, 35%: MRLST: dk gy, blk, sb ply-biky, sl frm-mod hd, arg-sily tex, tr bent	70% CHK: med-dk gry, mot, sb ply-biky, sft-sl frm, rthy-sb wxy, tr imbd cal, 30%: MRLST: dk gy, blk, sb ply-biky, sl frm-mod hd, arg-sily tex	70% CHK: med-dk gry, mot, sb ply-biky, sft-sl frm, rthy-sb wxy, tr imbd cal, 30%: MRLST: dk gy, blk, sb ply-biky, sl frm-mod hd, arg-sily tex	70% C sft-sl fr MRLS hd, arg
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[illegible]

MD: 10,900'
Inclination: 85.2°
Azimuth: 86.9°
TVD: 6,212.85'
VS: 4,365.52'

85% CHK: med gry, mot, tr imbd cal, 15%: MRLST: hd, arg-sltly tex			
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