

COLUMBINE LOGGING

Scale: 5" / 100'
Measured Depth Log

Well Name STATE ANTELOPE A11-U41-2HNC

Location NWNW SEC. 2 T5N R62W

State COLORADO

County WELD

Country USA

Rig Number XTREME 20

API Number 05-123-41072-00

AFE # 15012

Region DJ BASIN

Field WATTENBERG

Spud Date 2/27/2015

Drilling Completed 3/6/2015

Surface Coordinates 1320' FNL x 365' FWL (LAT: 40.433143, -104.298727)

Bottom Hole Coordinates 330' FNL x 470' FEL (LAT: 40.436324, -104.282591) PROJECTED

Ground Elevation 4647'

K.B. Elevation 4664'

Logged Interval 6000' To 11050'

Total Depth 11050'

Formation NIOBRARA C-CHALK

Type of Drilling Fluid LSND, H2O

Operator

Company Bonanza Creek Energy Inc.

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

Geologis

Name Paul McKay

Company Bonanza Creek

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

Zone Color Co



Rock Type



Accessories

Fossils			
F FOSSIL	ARGILLACEOUS	GLAUCONITE	
GASTROPOD	ARGILLITE GRAIN	GYPSEFEROUS	
OOLITE	B BENTONITE	HEAVY MINERAL	
OSTRACOD	BITUMENOUS SUBSTANCE	KAOLIN	ANHYDRITE STRINGER
PELECYPOD	BRECCIA FRAGMENTS	MARLSTONE	BENTONITE STRINGER
PELLET	CALCAREOUS	MINERAL CRYSTALS	COAL STRINGER
PISOLITE	CARBONACEOUS FLAKES	NODULES	DOLOMITE STRINGER
PLANT REMAINS	CHITK	PHOSPHATE PELLET	GYPSUM STRINGER
PLANT SPORES	CHITL	PYRITE	LIMESTONE STRINGER
SCAPHOPOD	COAL - THIN BEDS	SALT CAST	MARLSTONE (CALC) STRG
CRINOID	DOLOMITIC	SANDY	MARLSTONE (DOL) STRG
ECHINOID	FELDSPAR	SILICEOUS	SANDSTONE STRINGER
FISH	FERRUGINOUS PELLET	SILTY	SHALE STRINGER
FORAMINIFERA	ANHYDRITIC	TUFFACEOUS	SILTSTONE STRINGER
Minerals			

Stringer

Other Symbols

Oil Show			
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	GS GRAINSTONE
QUESTIONABLE	OIL SHOW	CONNECTION TOP	L LITHOGRAPHIC
SPOTTED STAINING	BIT	OVERTURNED STRATA	MX MICROXLN
Porosity			
CASING	REVERSE FAULT	ANGULAR	MS MUDSTONE
CONNECTION (LEFT)	SIDEWALL CORE (LEFT)	ROUNDED	PS PACKSTONE
CONNECTION (RIGHT)	SIDEWALL CORE (RIGHT)	SUBANG	WS WACKSTONE
FENESTRAL	CONNECTION GAS	SLIDE	SR SUBRND
F FRACTURE	CORE - LOST	SURVEY	
INTERCRYSTALLINE	CORE - RECOVERED	TRIP GAS	
INTEROOLITIC	DST INTERVAL	WIREDLINE TESTED - LEFT	BS BOUNDSTONE
MOULDIC	FAULT	WIREDLINE TESTED - RT	C CHALKY
Textures			
Sorting			

Fossils

F FOSSIL	ARGILLACEOUS	GLAUCONITE
GASTROPOD	ARGILLITE GRAIN	GYPSEFEROUS
OOLITE	B BENTONITE	HEAVY MINERAL
OSTRACOD	BITUMENOUS SUBSTANCE	KAOLIN
PELECYPOD	BRECCIA FRAGMENTS	MARLSTONE
PELLET	CALCAREOUS	MINERAL CRYSTALS
PISOLITE	CARBONACEOUS FLAKES	NODULES
PLANT REMAINS	CHITK	PHOSPHATE PELLET
PLANT SPORES	CHITL	PYRITE
SCAPHOPOD	COAL - THIN BEDS	SALT CAST
CRINOID	DOLOMITIC	SANDY
ECHINOID	FELDSPAR	SILICEOUS
FISH	FERRUGINOUS PELLET	SILTY
FORAMINIFERA	ANHYDRITIC	TUFFACEOUS

Stringer

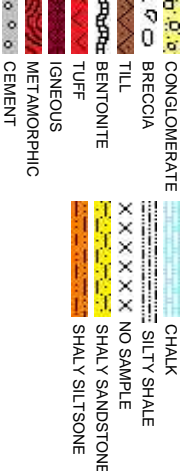
ANHYDRITE STRINGER
BENTONITE STRINGER
COAL STRINGER
DOLOMITE STRINGER
GYPSUM STRINGER
LIMESTONE STRINGER
MARLSTONE (CALC) STRG
MARLSTONE (DOL) STRG
SANDSTONE STRINGER
SHALE STRINGER
SILTSTONE STRINGER

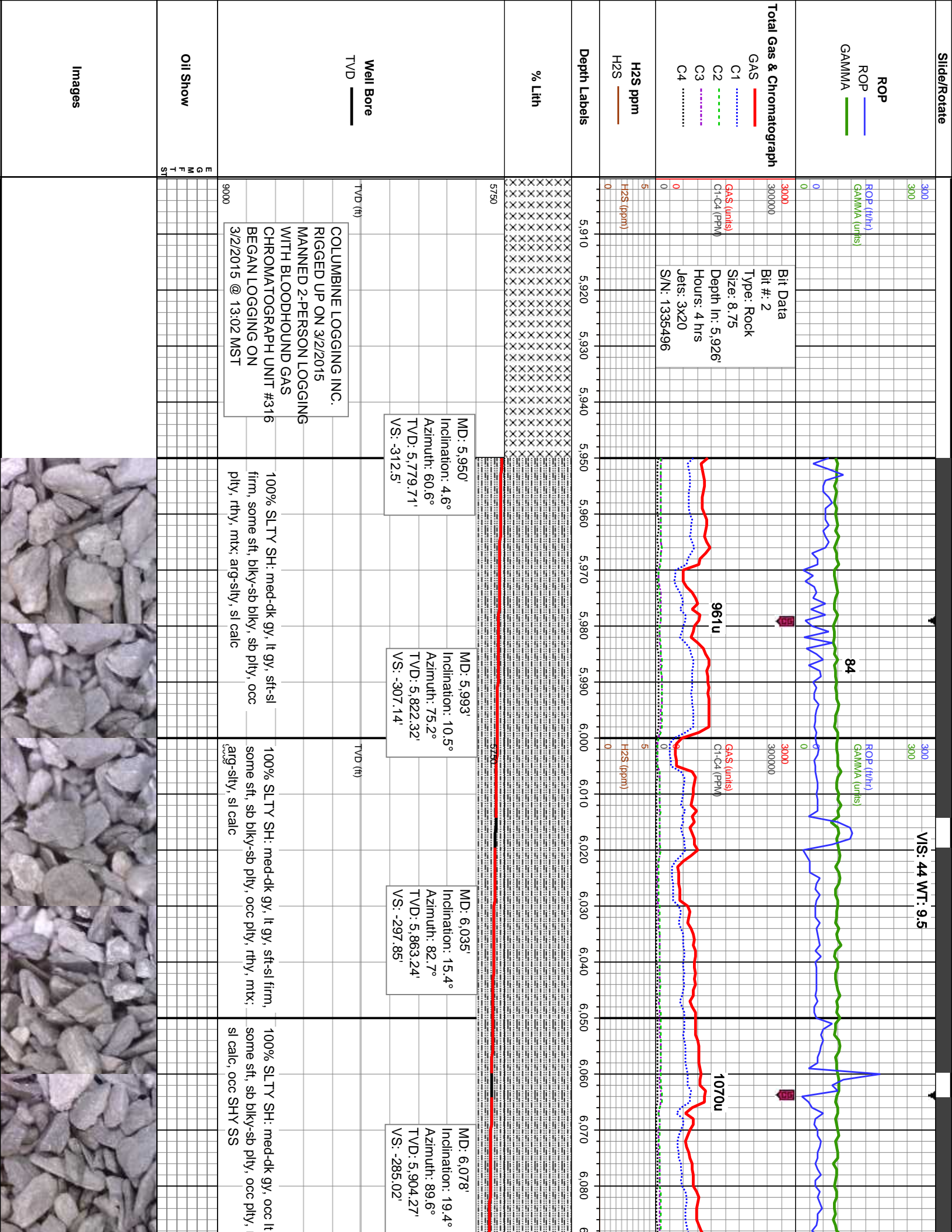
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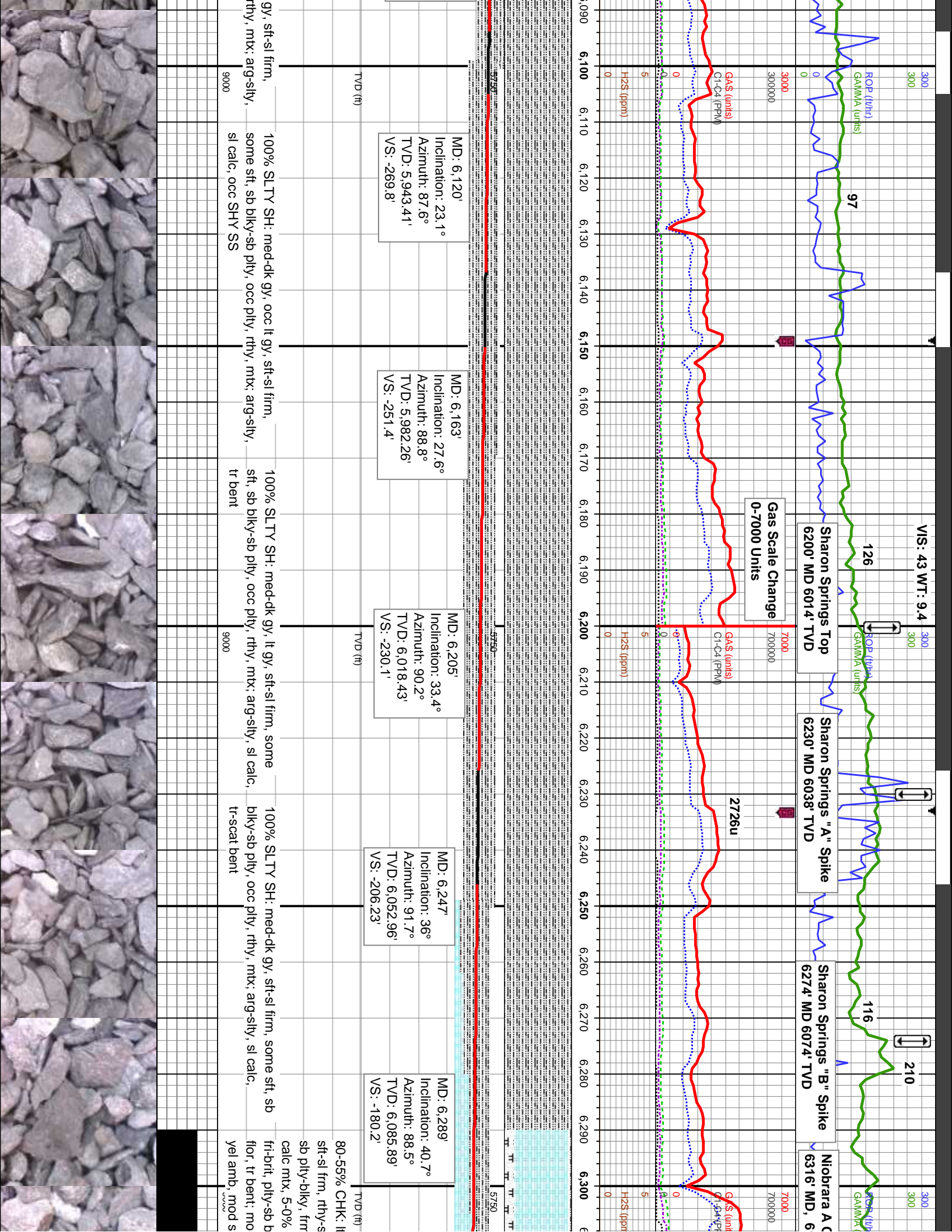


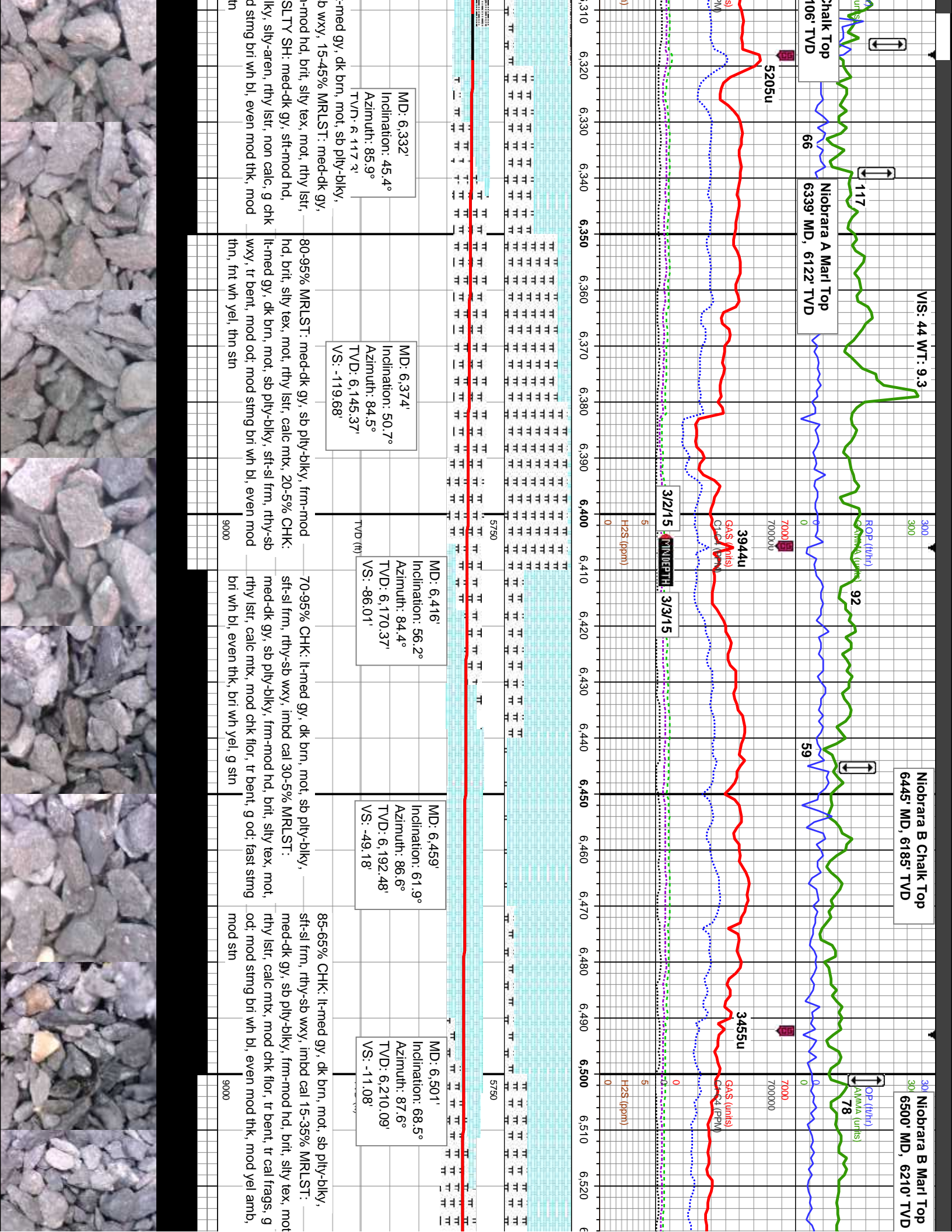
CO 80202

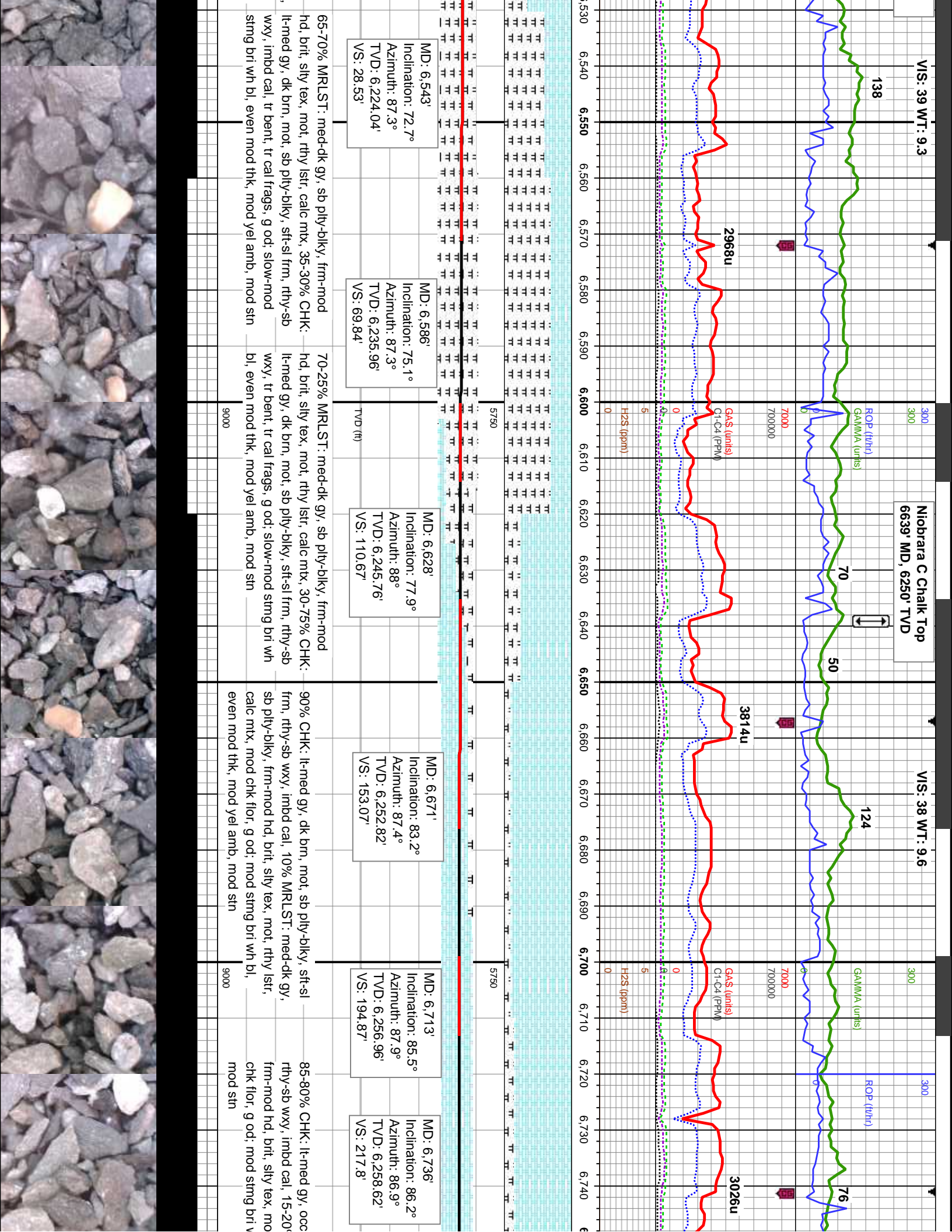
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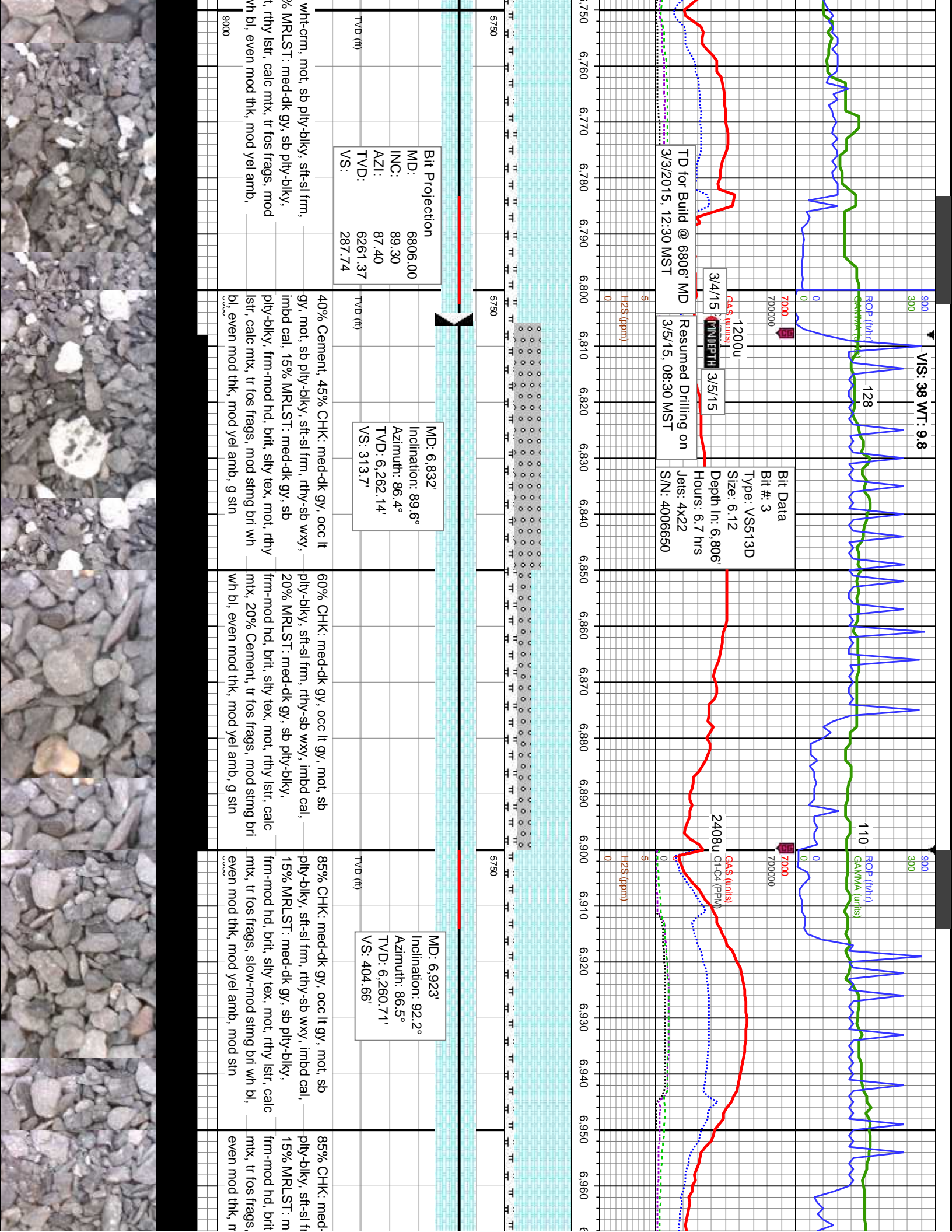


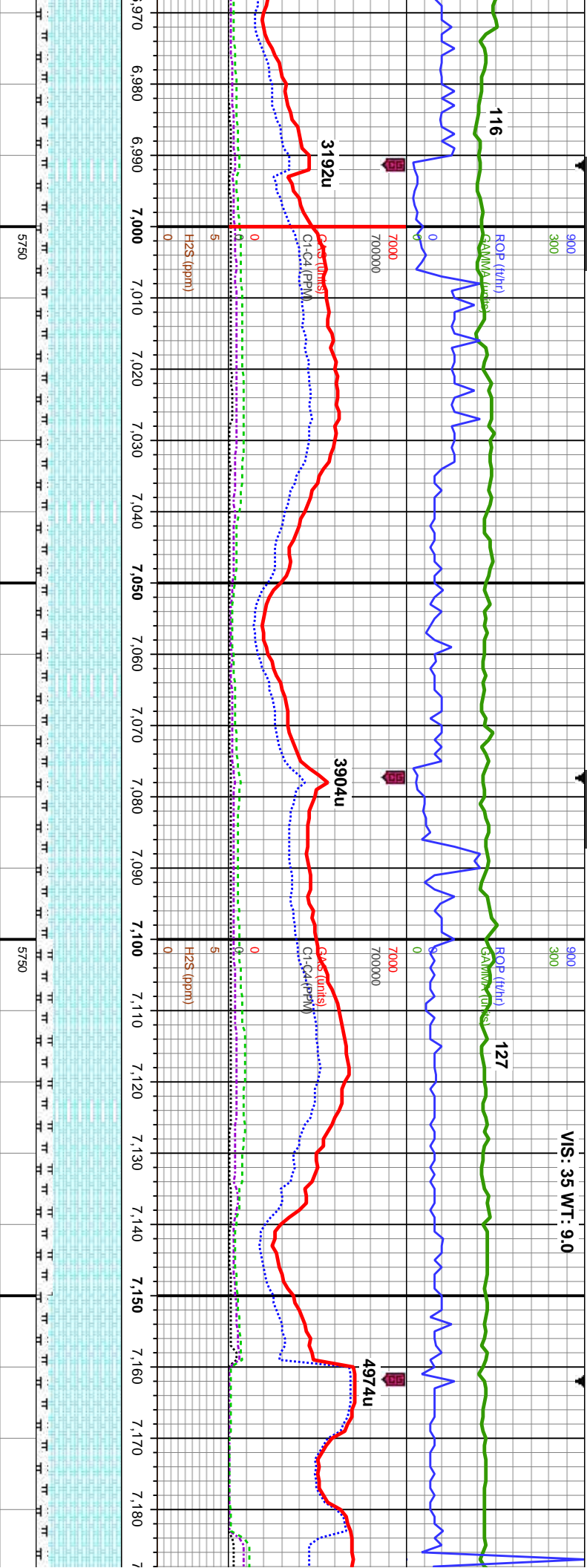












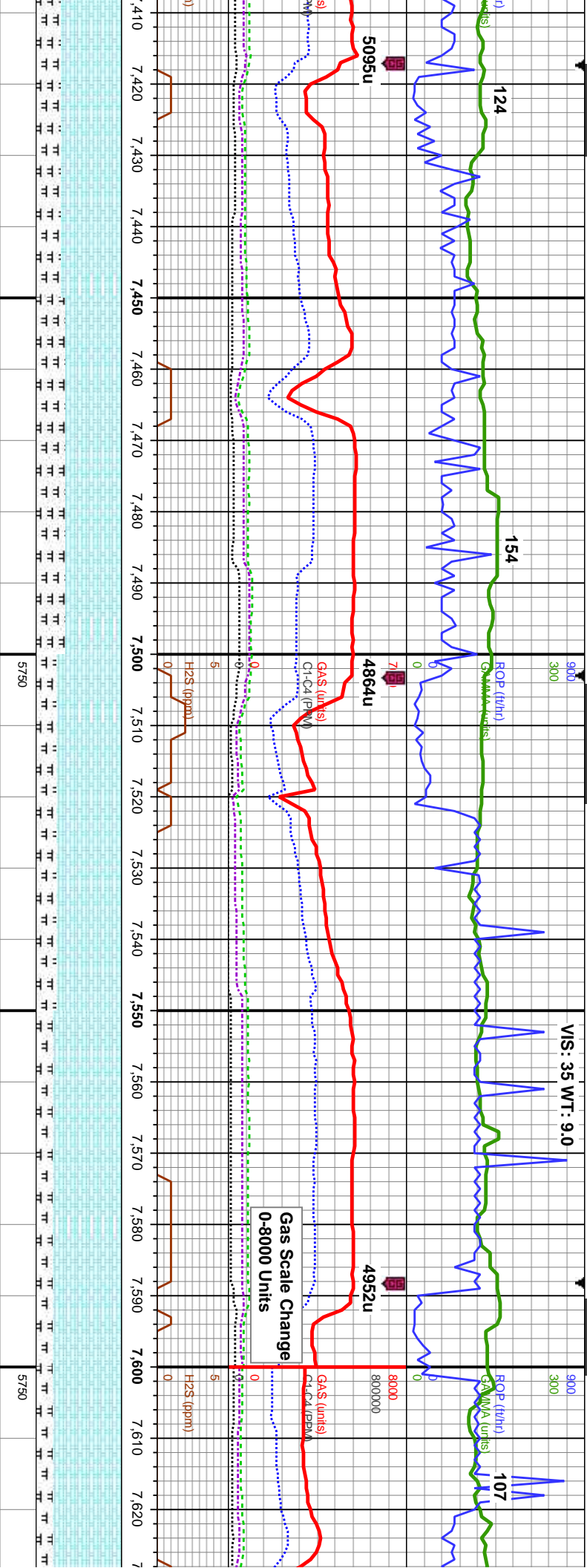
MD: 7,010'
Inclination: 91°
Azimuth: 87.3°
TVD: 6,258.28'
VS: 491.61'

MD: 7,095'
Inclination: 90.2°
Azimuth: 88.9°
TVD: 6,257.39'
VS: 576.6'

MD: 7,179'
Inclination: 90.6
Azimuth: 88.2°
TVD: 6,256.8'
VS: 660.59'

dk gy, occ lt gy, mot, sb mm, rthy-sb wxy, imbd cal, med-dk gy, sb pty-blky, sily tex, mot, rthy lstr, calc slow-mod stmg bri wh bl, mod yel amb, mod str	85% CHK: med-dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, imbd cal, 15% MRLST: med-dk gy, sb pty-blky, frm-mod hd, brit, sily tex, mot, rthy lstr, calc mtx, occ cal frags, tr fos frags, slow-mod stmg bri wh bl, even mod thk, mod yel amb, fr str	85% CHK: med-dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, imbd cal, 15% MRLST: med-dk gy, sb pty-blky, frm-mod hd, brit, sily tex, mot, rthy lstr, calc mtx, occ cal frags, tr fos frags, slow-mod stmg bri wh bl, even mod thk, mod yel amb, fr str	80% CHK: med-dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, imbd cal, 20% MRLST: med-dk gy, sb pty-blky, frm-mod hd, brit, sily tex, mot, rthy lstr, calc mtx, occ cal frags, tr fos frags, fast-mod stmg bri wh bl, even mod thk, mod yel amb, mod str	85% CHK: med-dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, imbd cal, 15% MRLST: med-dk gy, sb pty-blky, frm-mod hd, brit, sily tex, mot, rthy lstr, calc cal frags, tr fos frags, fast-mod stm bl, even mod thk, mod yel amb, m
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MD: 7,435'
Inclination: 90.2°
Azimuth: 90.6°
TVD: 6,255.76'
VS: 916.31'

MD: 7,520'
Inclination: 88.7°
Azimuth: 88.8°
TVD: 6,256.58'
VS: 1,001.26'

MD: 7,605'
Inclination: 87.2°
Azimuth: 86.6°
TVD: 6,259.62'
VS: 1,086.19'

CHK: med-dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, imbd cal, 30%
MRLST: med-dk gy, sb pty-blky, frm-mod hd, brlt, silty tex, mot, rthy lstr, calc mtx, occ cal frags, scat fos frags, mod stmg bri wh bl, even mod, mod yel amb, mod sin

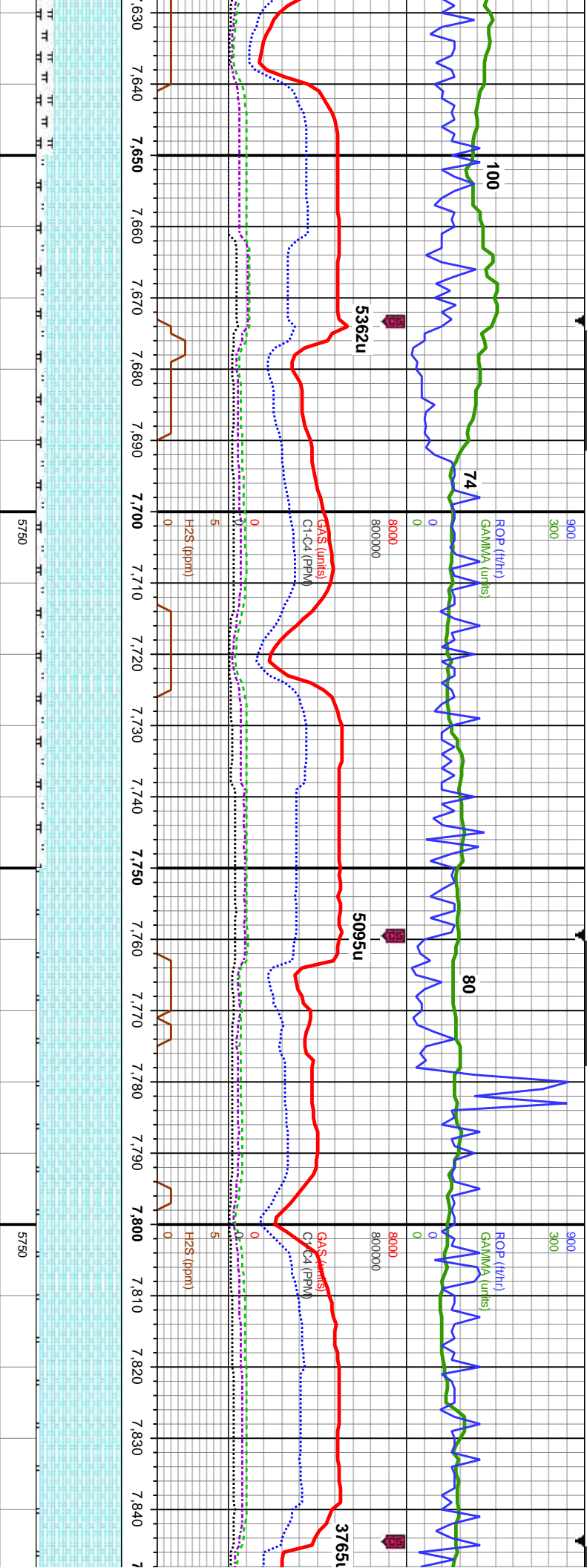
65% CHK: med-dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, imbd cal, 35%
MRLST: med-dk gy, sb pty-blky, frm-mod hd, brlt, silty tex, mot, rthy lstr, calc mtx, occ cal frags, scat fos frags, slow-mod stmg bri wh bl, even mod, mod yel amb, mod sin

75% CHK: med-dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, occ imbd cal, 25%
MRLST: med-dk gy, sb pty-blky, frm-mod hd, brlt, silty tex, mot, rthy lstr, calc mtx, occ cal frags, some fos frags, fast stmg bri wh bl, even mod, mod yel amb, mod sin

80% CHK: med-dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, occ imbd cal, 20%
MRLST: med-dk gy, sb pty-blky, frm-mod hd, brlt, silty tex, mot, rthy lstr, calc mtx, occ cal frags, some fos frags, fast stmg bri wh bl, even mod, mod yel amb, mod sin

80% CHK: med-dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, occ imbd cal, 20%
MRLST: med-dk gy, sb pty-blky, frm-mod hd, brlt, silty tex, mot, rthy lstr, calc mtx, occ cal frags, some fos frags, fast stmg bri wh bl, even mod, mod yel amb, mod sin



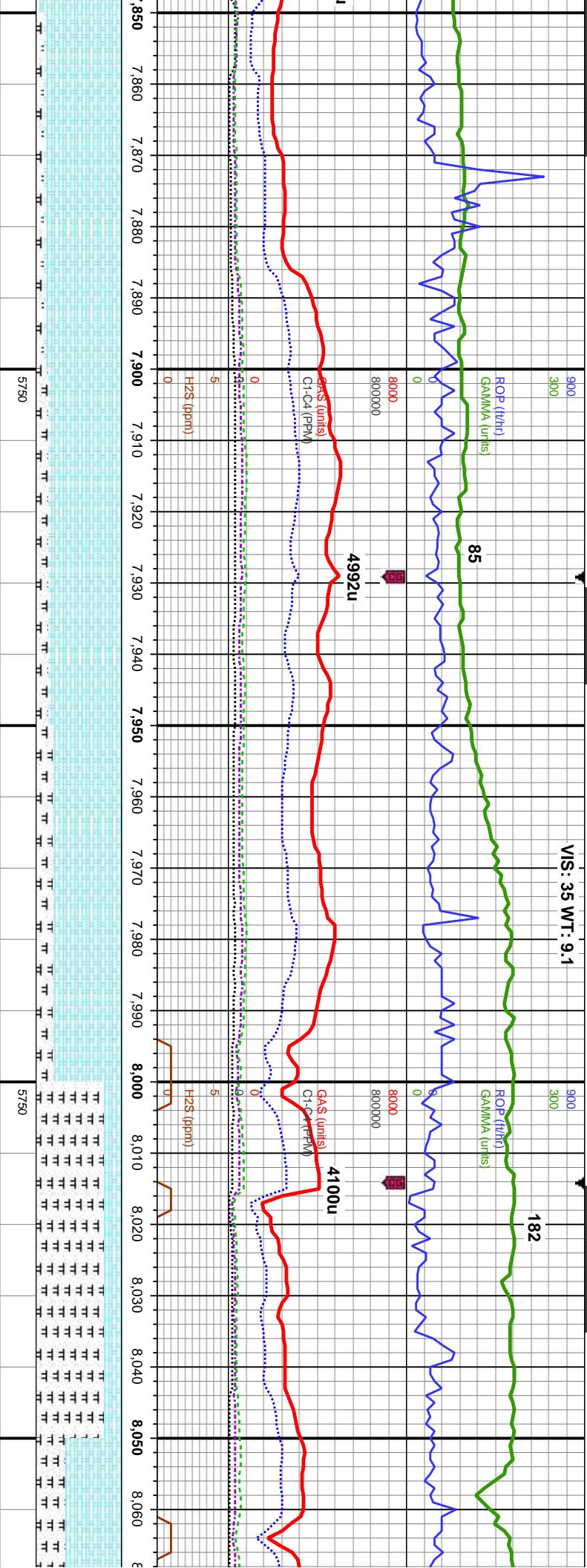


MD: 7,692'
Inclination: 87.7°
Azimuth: 86.1°
TVD: 6,263.49'
VS: 1,173.08'

MD: 7,777'
Inclination: 88.3°
Azimuth: 84.4°
TVD: 6,266.45'
VS: 1,257.94'

it, sb ply-blky, c imbd cal, 20% ply-blky, frm-mod lstr, calc mtx, occ fast stmg bri wh b, mod sin	90% CHK: lt-med, dk gy-brn, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, occ imbd cal, 10% MRLST: med-dk gy, sb ply-blky, frm-mod hd, brit, sly tex, mot, rthy lstr, calc mtx, tr cal frags, g od, fast stmg bri wh bl, even mod, mod yel amb, mod sin	90% CHK: lt-med, dk gy-brn, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, occ imbd cal, 10% MRLST: med-dk gy, sb ply-blky, frm-mod hd, brit, sly tex, mot, rthy lstr, calc mtx, tr cal frags, g od, v fast stmg bri wh bl, even thk, mod yel amb, g sin	95% CHK: med-dk gy-brn, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, tr imbd cal, 5% MRLST: med-dk gy, sb ply-blky, frm-mod hd, brit, sly tex, mot, rthy lstr, calc frags, tr fos frags, g od, v fast stmg bri wh bl, even thk, mod yel amb, g sin	95% CHK: med-dk gy-brn, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, tr imbd cal, 5% MRLST: med-dk gy, sb ply-blky, frm-mod hd, brit, sly tex, mot, rthy lstr, calc frags, tr fos frags, g od, v fast stmg bri wh bl, even thk, mod yel amb, g sin
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MD: 7,862'
Inclination: 90.4°
Azimuth: 84.1°
TVD: 6,267.42'
VS: 1,342.76'

90% CHK: med-dk gy-brn, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, occ imbd cal, 10% MRLST: med-dk gy, sb pty-blky, frm-mod hd, brit, silty tex, mot, rthy lstr, calc mtx, occ cal frags, tr fos frags, mod od, v fast string bri wh bl, even thk, mod yel amb, g str

MD: 7,946'
Inclination: 91.6°
Azimuth: 84.8°
TVD: 6,265.95'
VS: 1,426.59'

85% CHK: med-dk gy-brn, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, occ imbd cal, 15% MRLST: med-dk gy, sb pty-blky, frm-mod hd, brit, silty tex, mot, rthy lstr, calc mtx, occ cal frags, tr fos frags, mod od, fast string bri wh bl, even mod, mod yel amb, mod str

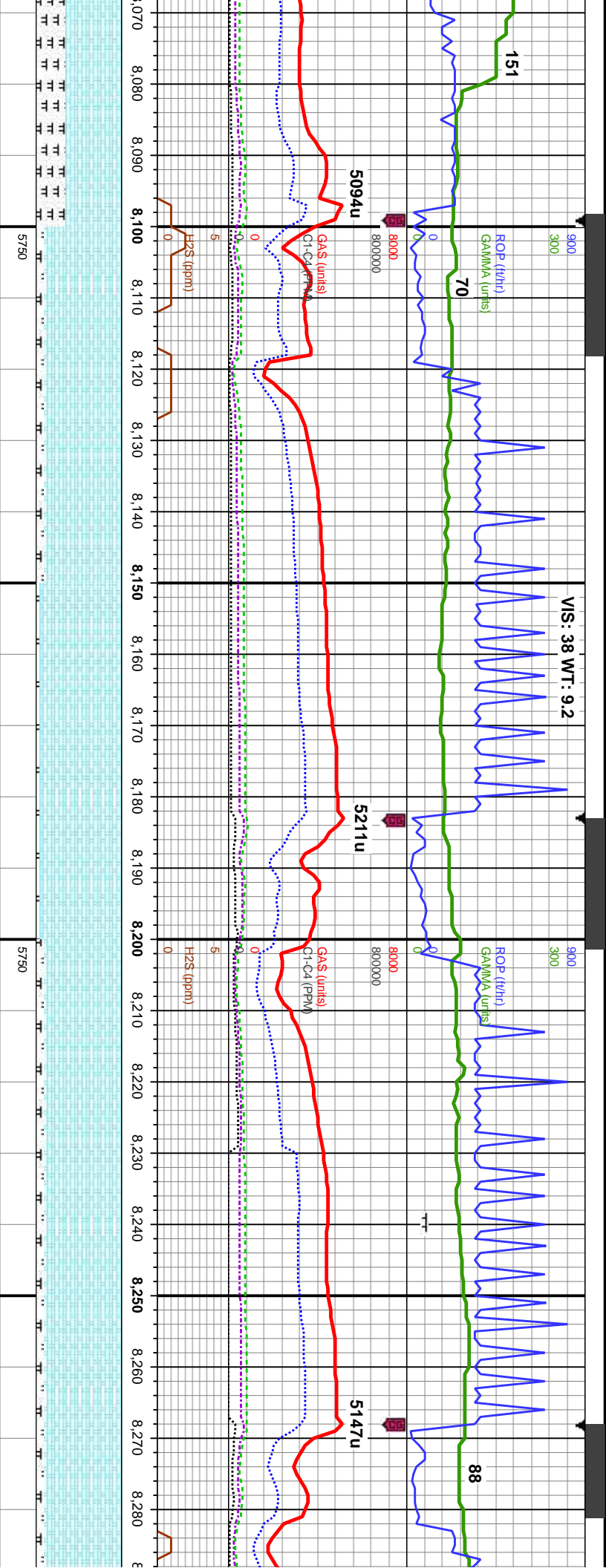
MD: 8,031'
Inclination: 91.2°
Azimuth: 85.5°
TVD: 6,263.88'
VS: 1,511.47'

80% CHK: dk gy, occ med gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, occ imbd cal, 20% MRLST: med-dk gy, sb pty-blky, frm-mod hd, brit, silty tex, mot, rthy lstr, calc mtx, occ cal frags, tr fos frags, tr bent, fast string bri wh bl, even mod, mod yel amb, mod str

80% MRLST: med-dk gy, blk, sb pty-blky, frm-mod hd, brit, silty tex, arg, mot, rthy lstr, calc mtx, 20% CHK: dk gy, occ med gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, occ imbd cal, tr cal frags, tr fos frags, slow-mod string bri wh bl, even mod, mod yel amb, mod str

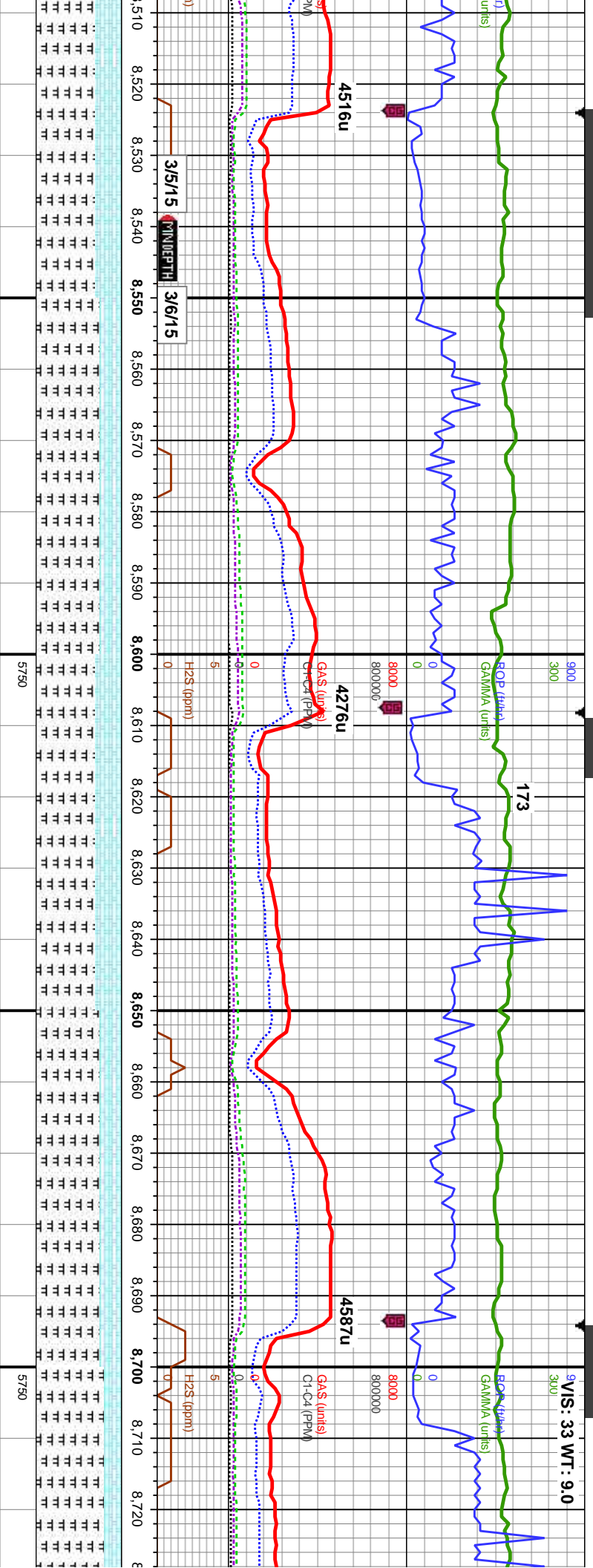
65% CHK: med-sft-sl frm, rthy-slt MRLST: med-dk hd, brit, silty tex, frags, tr fos frags, bri wh bl, even r





dk gy, mot, sb pty-blky, wxy, occ imbd cal, 20% sb pty-blky, frm-mod mot, rthy lstr, calc mtx, tr cal s, tr bent, slow-mod stmg mod, mod yel amb, mod stn	90% CHK: lt-med gy, occ dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, 10% MRLST: med-dk gy, sb pty-blky, frm-mod hd, brit, silty tex, mot, rthy lstr, calc mtx, tr fos frags, 9 od, v fast stmg bri wh bl, even v thk, bri wh yel ring, thk stn	95% CHK: lt-med gy, occ dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, 5% MRLST: med-dk gy, sb pty-blky, frm-mod hd, brit, silty tex, mot, rthy lstr, calc mtx, tr fos frags, 9 od, v fast stmg bri wh bl, even v thk, bri wh yel ring, thk stn	90% CHK: lt-med gy, occ dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, 10% MRLST: med-dk gy, sb pty-blky, frm-mod hd, brit, silty tex, mot, rthy lstr, calc mtx, tr fos frags, 9 od, v fast stmg bri wh bl, even v thk, bri wh yel ring, thk stn	90% CHK: lt-med gy, occ dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, 10% MRLST: med-dk gy, sb pty-blky, frm-mod hd, brit, silty tex, mot, rthy lstr, calc mtx, tr fos frags, 9 od, v fast stmg bri wh bl, even v thk, bri wh yel ring, thk stn
MD: 8,116' Inclination: 91.7° Azimuth: 88.1° TVD: 6,261.72' VS: 1,596.43'				
MD: 8,200' Inclination: 90.3° Azimuth: 89.3° TVD: 6,260.26' VS: 1,680.4'				
MD: 8,285' Inclination: 8 Azimuth: 8 TVD: 6,26 VS: 1,765				





MD: 8,542'
Inclination: 91.3°
Azimuth: 86.9°
TVD: 6,263.42'
VS: 2,022.26'

75% MRLST: med-dk gy, blk, sb pty-blky, frn-mod hd, brit, sly tex, arg, mot, rthy lstr, calc mtx, 25% CHK: dk gy, occ med gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, occ imbd cal, tr cal frags, tr bent, mod od, mod stng bri wh bl, even v thk, bri wh yel ring, mod stn

MD: 8,626'
Inclination: 91.6°
Azimuth: 87.9°
TVD: 6,261.3'
VS: 2,106.23'

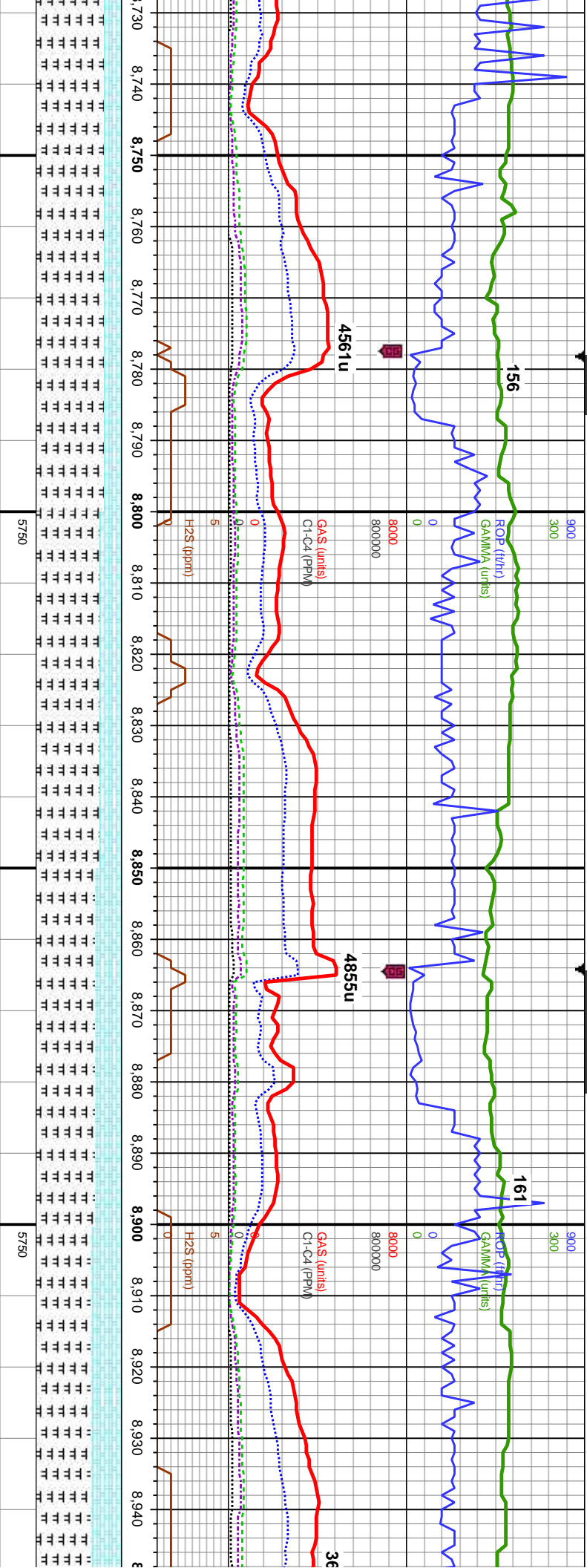
70% MRLST: med-dk gy, blk, sb pty-blky, frn-mod hd, brit, sly tex, arg, mot, rthy lstr, calc mtx, 30% CHK: dk gy, occ med gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, tr cal frags, mod od, mod stng mod wh bl, even mod thk, mod wh yel ring, mod stn

MD: 8,711'
Inclination: 90.8°
Azimuth: 88.6°
TVD: 6,259.52'
VS: 2,191.2'

75% MRLST: med-dk gy, blk, sb pty-blky, frn-mod hd, brit, sly tex, arg, mot, rthy lstr, calc mtx, 25% CHK: dk gy, occ med gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, tr cal frags, mod od, mod stng mod wh bl, even mod thk, mod wh yel ring, mod stn

80% MRLST: med-dk gy, frn-mod hd, brit, sly tex, calc mtx, 20% CHK: dk gy, sb pty-blky, sft-sl frm, rthy mod od, mod stng mod w thk, mod wh yel ring, mod



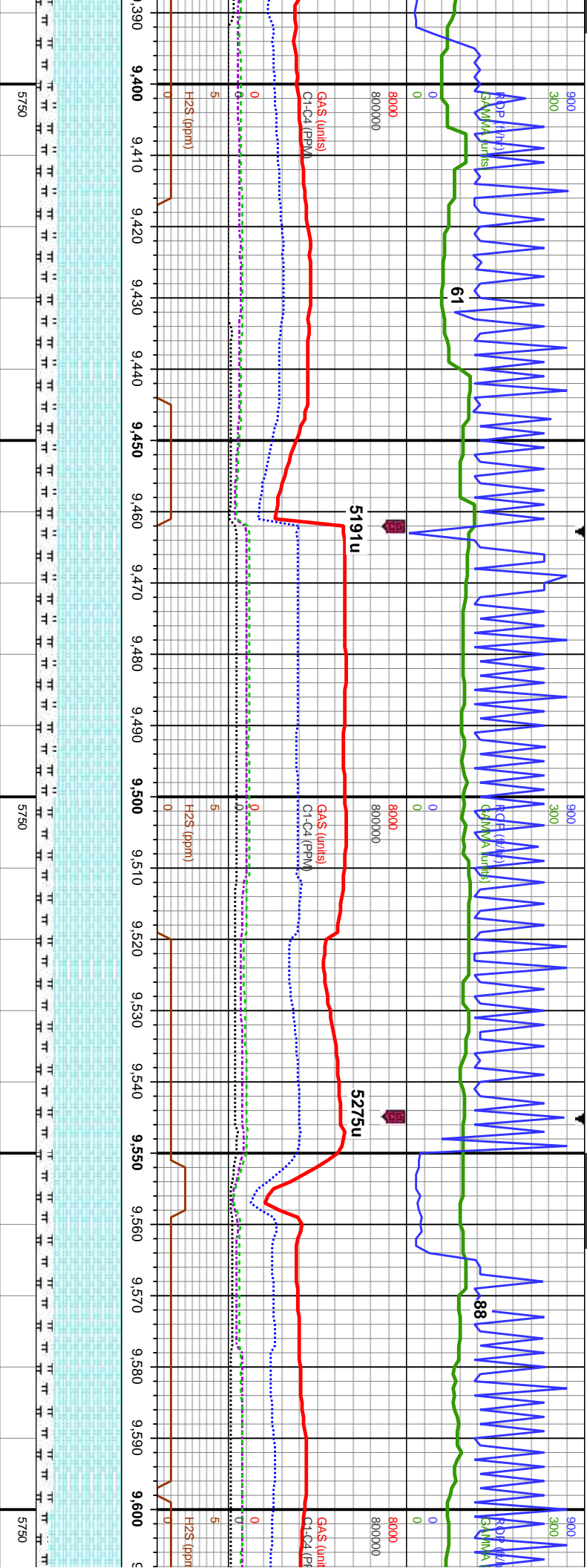


MD: 8,797'
Inclination: 90.8°
Azimuth: 90.2°
TVD: 6,258.31'
VS: 2,277.16'

MD: 8,882'
Inclination: 88.9°
Azimuth: 88.3°
TVD: 6,258.54'
VS: 2,362.13'

blk, sb pily-blky, arg, mot, rthy lstr, /, occ med gy, mot, -sb wxy, tr bent, th bl, even mod stn	80% MRLST: med-dk gy, blk, sb pily-blky, frm-mod hd, brit, stly tex, arg, mot, rthy lstr, calc mtx, 20% CHK: dk gy, occ med gy, mot, sb pily-blky, sft-sl frm, rthy-sb wxy, tr bent, mod od, mod stng mod wh bl, even mod thk, mod wh yel ring, mod stn	75% MRLST: med-dk gy, blk, sb pily-blky, frm-mod hd, brit, stly tex, arg, mot, rthy lstr, calc mtx, 25% CHK: dk gy, occ med gy, mot, sb pily-blky, sft-sl frm, rthy-sb wxy, tr bent, mod od, mod stng mod wh bl, even mod thk, mod wh yel ring, mod stn	70% MRLST: med-dk gy, blk, sb pily-blky, frm-mod hd, brit, stly tex, arg, mot, rthy lstr, calc mtx, 30% CHK: dk gy, occ med gy, mot, sb pily-blky, sft-sl frm, rthy-sb wxy, tr bent, mod od, mod stng mod wh bl, even mod thk, mod wh yel ring, mod stn	65% MRLST: med-dk gy, blk, sb pily-blky, frm-mod hd, brit, stly tex, arg, mot, rthy lstr, calc mtx, 35% CHK: dk gy, occ med gy, mot, sb pily-blky, sft-sl frm, rthy-sb wxy, tr bent, mod od, mod stng mod wh bl, even mod thk, mod wh yel ring, mod stn
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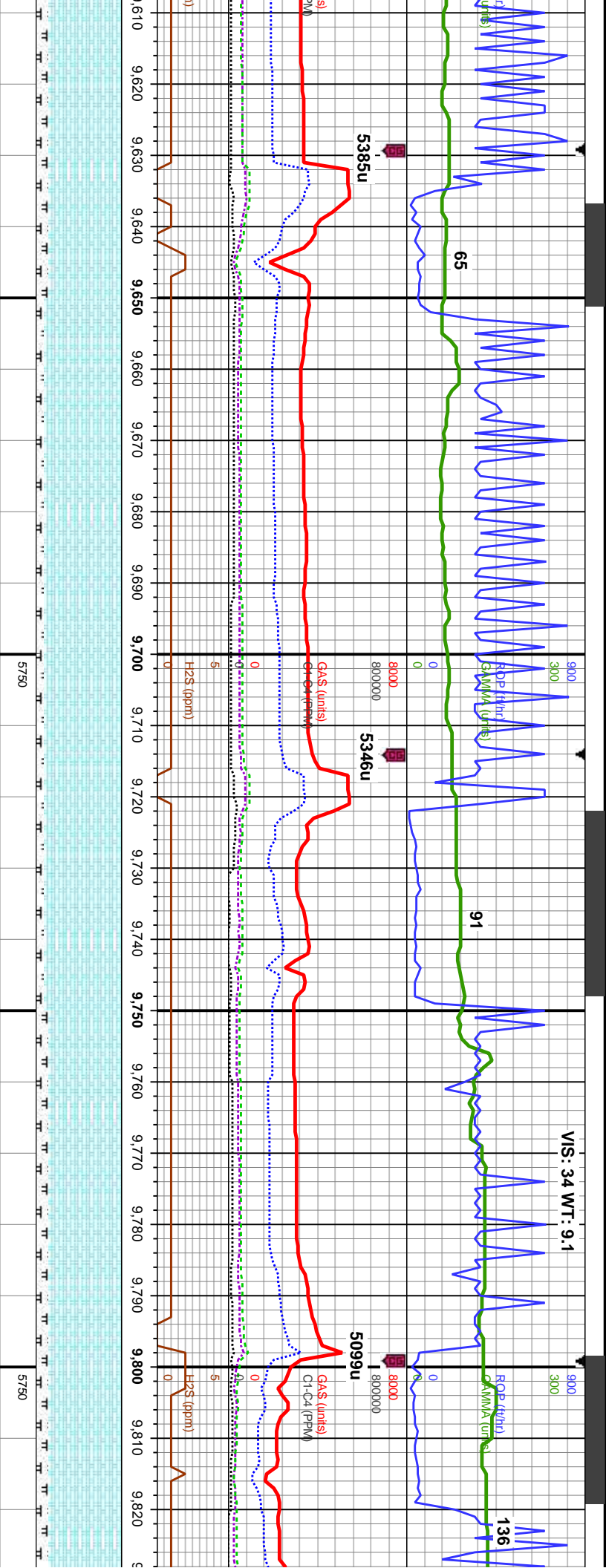
D: 9,393'
Inclination: 89.4°
Azimuth: 87.9°
D: 6,256.17'
VS: 2,872.9'

MD: 9,477'
Inclination: 89°
Azimuth: 86.7°
TVD: 6,257.34'
VS: 2,956.88'

MD: 9,562'
Inclination: 89.6°
Azimuth: 85.2°
TVD: 6,258.38'
VS: 3,041.83'

75% CHK: med gry, occ lt gy, mot, sb ply-biky, sft-sl frm, rthy-sb wxy, 25% MRLST: med-dk gy, blk, sb ply-biky, frm-mod hd, brit, silty tex, arg, mot, rthy lstr, calc mtx, tr cal frags, mod od, mod milky mod wh bl, even mod, fr wh yel ring, fr stn	75% CHK: med gry, occ lt gy, mot, sb ply-biky, sft-sl frm, rthy-sb wxy, 25% MRLST: med-dk gy, blk, sb ply-biky, frm-mod hd, brit, silty tex, arg, mot, rthy lstr, calc mtx, tr cal frags, mod od, mod milky mod wh bl, even mod, fr wh yel ring, fr stn	80% CHK: med-dk gry, lt brn, mot, sb ply-biky, sft-sl frm, rthy-sb wxy, 20% MRLST: med-dk gy, blk, sb ply-biky, frm-mod hd, brit, silty tex, arg, mot, rthy lstr, calc mtx, occ cal & fos frags, fast string bri wh bl, even mod, mod yel amb, g stn	80% CHK: med-dk gry, lt brn, mot, sb ply-biky, sft-sl frm, rthy-sb wxy, 20% MRLST: med-dk gy, blk, sb ply-biky, frm-mod hd, brit, silty tex, arg, mot, rthy lstr, calc mtx, occ cal & fos frags, fast string bri wh bl, even mod, mod yel amb, g stn	85% C ply-bil MRLS frm-m calc m wh bl,
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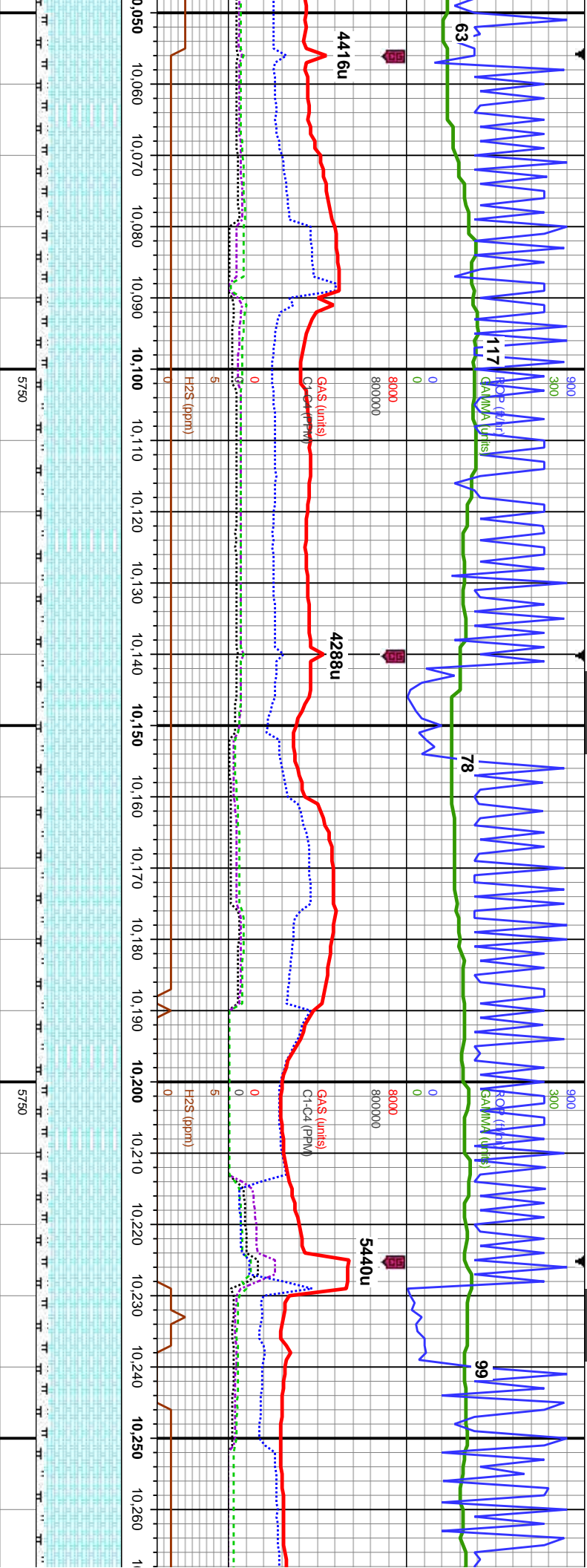
MD: 9,647'
Inclination: 90.5°
Azimuth: 84.2°
TVD: 6,258.31'
VS: 3,126.7'

MD: 9,731'
Inclination: 92.8°
Azimuth: 85.1°
TVD: 6,255.89'
VS: 3,210.52'

MD: 9,816'
Inclination: 92.8°
Azimuth: 87.8°
TVD: 6,251.73'
VS: 3,295.39'

CHK: med-dk gry, lt brn, mot, sb xy, sft-sl frm, rthy-sb wxy, 15% T: med-dk gy, blk, sb ply-blky, mod hd, brt, silty tex, arg, mot, rthy lstr, tx, occ cal & fos frags, fast sting bri even mod, mod yel amb, mod str	90% CHK: med-dk gry, lt brn, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, 10% MRLST: med-dk gy, blk, sb ply-blky, frm-mod hd, brt, silty tex, arg, mot, rthy lstr, calc mtx, occ cal & fos frags, fast sting bri wh bl, even mod, mod yel amb, mod str	90% CHK: med-dk gry, buff-brn, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, occ cal concs, 10% MRLST: med-dk gy, blk, sb ply-blky, frm-mod hd, brt, silty tex, arg, mot, rthy lstr, calc mtx, fast sting bri wh bl, even thk, thk wh yel ring, g str	85% CHK: med-dk gry, buff-brn, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, occ cal concs, 15% MRLST: med-dk gy, blk, sb ply-blky, frm-mod hd, brt, silty tex, arg, mot, rthy lstr, calc mtx, fast sting bri wh bl, even thk, thk wh yel ring, g str	85% CHK: med-dk gry, buff-brn, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, occ cal concs, 15% MRLST: med-dk gy, blk, sb ply-blky, frm-mod hd, brt, silty tex, arg, mot, rthy lstr, calc mtx, fast sting bri wh bl, even mod, mod yel amb, mod str
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MD: 10,073'
Inclination: 87.9°
Azimuth: 88.6°
TVD: 6,251.59'
VS: 3,552.25'

85% CHK: med-dk gry, buff-brn, mot, sb
ply-blky, sft-sl frm, rthy-sb wxy, occ cal
concs, 15% MRLST: med-dk gy, blk, sb
ply-blky, frm-mod hd, brit, silty tex, arg, mot,
rthy lstr, calc mtx, tr cal & fos frags, slow
stmg bri wh bl, even thk, bri wh yel, mod str

90% CHK: med-dk gry, buff-brn, mot, sb
ply-blky, sft-sl frm, rthy-sb wxy, occ cal
concs, 10% MRLST: med-dk gy, blk, sb
ply-blky, frm-mod hd, brit, silty tex, arg, mot,
rthy lstr, calc mtx, tr fos frags, fast stmg bri
wh bl, even thk, bri wh yel, mod str

MD: 10,158'
Inclination: 89.8°
Azimuth: 88.2°
TVD: 6,253.3'
VS: 3,637.22'

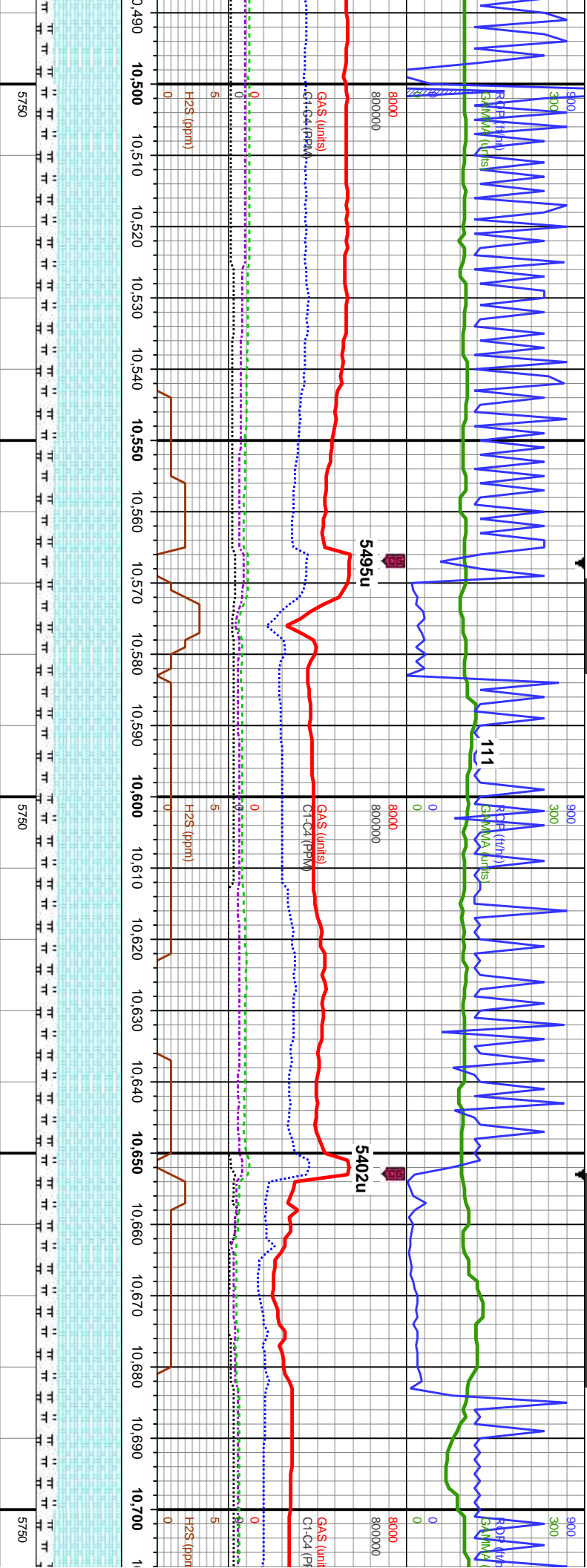
90% CHK: med-dk gry, buff-brn, mot, sb
ply-blky, sft-sl frm, rthy-sb wxy, occ cal
concs, 10% MRLST: med-dk gy, blk, sb
ply-blky, frm-mod hd, brit, silty tex, arg, mot,
rthy lstr, calc mtx, tr fos frags, fast stmg bri
wh bl, even thk, bri wh yel, mod str

MD: 10,242'
Inclination: 88.5°
Azimuth: 86.9°
TVD: 6,254.54'
VS: 3,721.21'

85% CHK: dk gry, buff-brn, mot, sb ply-blky,
sft-sl frm, rthy-sb wxy, occ cal concs, 15%
MRLST: med-dk gy, blk, sb ply-blky,
frm-mod hd, brit, silty tex, arg, mot, rthy lstr,
calc mtx, occ fos & cal frags, mod stmg bri
wh bl, even thk, bri wh yel, thin str

85% CHK: dk gr
sft-sl frm, rthy-sl
MRLST: med-dk
frm-mod hd, brit
calc mtx, occ fos
wh bl, even thk,





MD: 10,500'
Inclination: 89.8°
Azimuth: 86.6°
TVD: 6,258.07'
VS: 3,979.17'

MD: 10,585'
Inclination: 89.6°
Azimuth: 85.1°
TVD: 6,258.51'
VS: 4,064.11'

TVD (ft)

MD: 10,670'
Inclination: 91.4°
Azimuth: 86.8°
TVD: 6,257.77'
VS: 4,149.05'

TVD (ft)

occ cal	75% CHK: med gy-dk gry brn, occ buff, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, cal concs, 25% MRLST: med-dk gy, blk, sb ply-blky, frm-mod hd, brit, sily tex, arg, mot, rthy lstr, calc mtx, fos & cal frags, slow stmg bri wh bl, even thk, bri wh yel, mod sin	80% CHK: dk gry-brn, occ buff, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, cal concs, 20% MRLST: med-dk gy, blk, sb ply-blky, frm-mod hd, brit, sily tex, arg, mot, rthy lstr, calc mtx, fos & cal frags, slow stmg bri wh bl, even thk, bri wh yel, mod sin	75% CHK: dk gry-brn, occ buff, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, cal concs, 25% MRLST: med-dk gy, blk, sb ply-blky, frm-mod hd, brit, sily tex, arg, mot, rthy lstr, calc mtx, fos & cal frags, mod stmg bri wh bl, even thk, bri wh yel, mod sin	75% CHK: dk gry-brn, occ buff, mot, sb ply-blky, sft-sl frm, rthy-sb wxy, cal concs, 25% MRLST: med-dk gy, blk, sb ply-blky, frm-mod hd, brit, sily tex, arg, mot, rthy lstr, calc mtx, tr cal frags, mod stmg bri wh bl, even thk, bri wh yel, mod sin	80% C
sb					ply-bl
arg, mot,					20% N
low stmg					frm-m
mod					calc m
bl, even thk,					even t



