



Scale: 4.20" / 100'
Measured Depth Log

Well Name State Seventy Holes 21-24-4HNB

Location NENW SEC 4 T4N R62W

State CO

County WELD

Country USA

Rig Number FRONTIER 4

API Number 05-123-39209-00

AFE # 14028

Region DJ BASIN

Field WATTENBERG

Spud Date 12/24/2014

Drilling Completed 1/2/2015

Surface Coordinates 350' FNL x 1383' FWL (LAT: 40.34797, -104.33591)

Bottom Hole Coordinates 470' FSL x 1988' FWL (LAT: 40.33529, -104.33290)PROJECTED

Ground Elevation 4552'

K.B. Elevation 4574'

Logged Interval 5900' To 11015'

Total Depth 11015'

Formation NIOBRARA, B-CHALK

Type of Drilling Fluid LSND, H2O

Operator

Company Bonanza Creek Energy Inc.

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

Geologist

Name Paul McKay

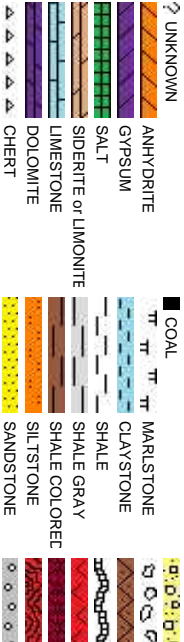
Company Bonanza Creek

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

Zone Color Cod



Rock Types



Accessories

Fossils

F FOSSIL	- ARGILLACEOUS	GLAUCONITE
GASTROPOD	ARGILLITE GRAIN	GYPSIFEROUS
OOLITE	B BENTONITE	HEAVY MINERAL
OSTRACOD	BITUMENOUS SUBSTANCE	KAOLIN
PELECYPOD	BRECCIA FRAGMENTS	MARLSTONE
PELLET	CALCAREOUS	MINERAL CRYSTALS
PISOLITE	CARBONACEOUS FLAKES	NODULES
PLANT REMAINS	CHTDK	PHOSPHATE PELLETS
CEPHALOPOD	PLANT SPORES	PYRITE
CORAL	SCAPHOPOD	SALT CAST
CRINOID	STROMATOPOROID	DOLOMITIC
ECHINOID	FELDSPAR	SANDY
FISH	FERRUGINOUS PELLETT	SILICEOUS
FORAMINIFERA	ANHYDRITIC	FERRUGINOUS
		TUFFACEOUS

Stringer

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

Other Symbols

Oil Show

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

Engineering

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

Porosity

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

Textures

F FRACTURE	SURVEY		
INTERCRYSTALLINE	CORE - RECOVERED	TRIP GAS	
INTEROOLITIC	DST INTERVAL	WIRELINE TESTED - LEFT	B3 BOUNDSTONE
MOULDIC	FAULT	WIRELINE TESTED - RT	C CHALKY

Sorting

M MODERATE
P POOR
W WELL

ing
Gas
Pressure
Seal

O 80202

2

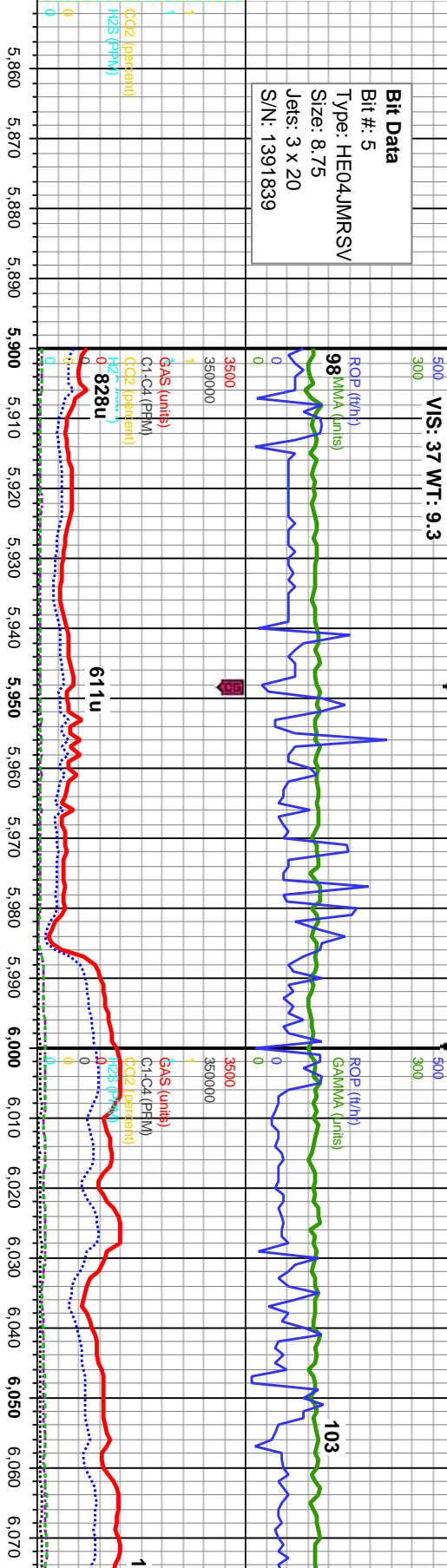
CONGLOMERATE
BRECCIA
TILL
BENTONITE
TUFF
IGNEOUS
METAMORPHIC
CEMENT
CHALK
SILTY SHALE
NO SAMPLE
SHALY SANDSTONE
SHALY SILTSTONE

Slide/Rotate

ROP
ROP
GAMMA

Bit Data
Bit #: 5
Type: HE04JMRSV
Size: 8.75
Jets: 3 x 20
S/N: 1391839

Total Gas & Chromatograph
GAS
C1
C2
C3
C4
CO2
H2S



% Lith



COLUMBINE LOGGING INC.
RIGGED UP ON 12/28/2014
MANNED 2-PERSON LOGGING
WITH BLOODHOUND GAS
CHROMATOGRAPH UNIT #316
BEGAN LOGGING ON
12/29/2014 @ 01:05 AM

Well Bore
TVD

MD: 5,911'
Inclination: 19.89°
Azimuth: 181.4°
VS: -198.79'
TVD: 5,800.13'

MD: 5,958'
Inclination: 25.62°
Azimuth: 179.03°
VS: -180.92'
TVD: 5,843.45'

MD: 6,005'
Inclination: 30.16°
Azimuth: 182.36°
VS: -159.37'
TVD: 5,884.98'

MD: 6,052'
Inclination: 34.15°
Azimuth: 178.64°
VS: -134.8'
TVD: 5,924.77'

Oil Show

E
G
M
F
T
ST

100% SLTY SH: lt-med gy, some dk gy, mod sft - sl firm, sb blk-y-sb pty, occ pty, rthy, mt; arg-slt, sl calc, tr shy ss

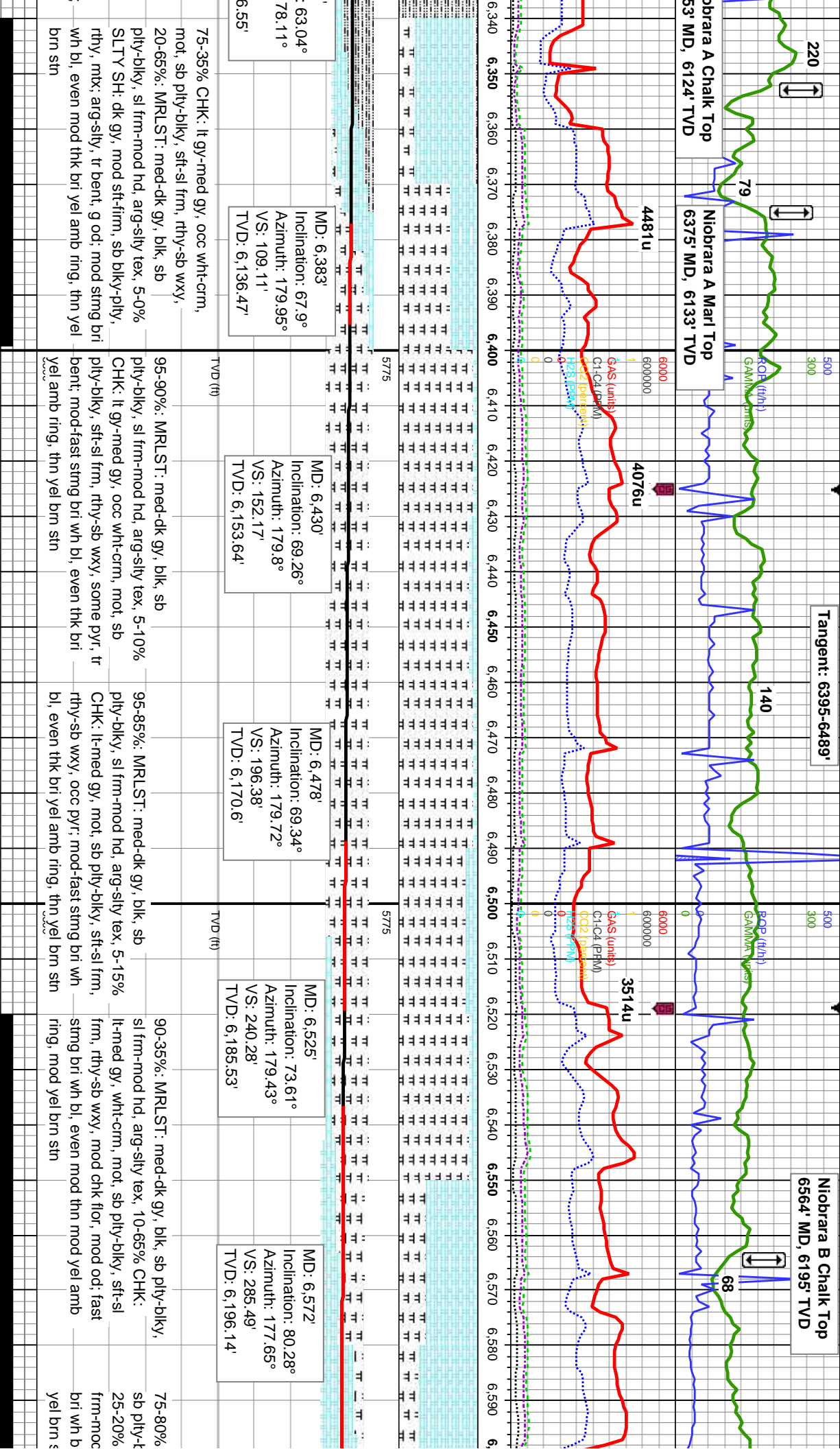
100% SLTY SH: lt-med gy, some dk gy, mod sft - sl firm, sb blk-y-sb pty, occ pty, rthy, mt; arg-slt, sl calc, tr shy ss

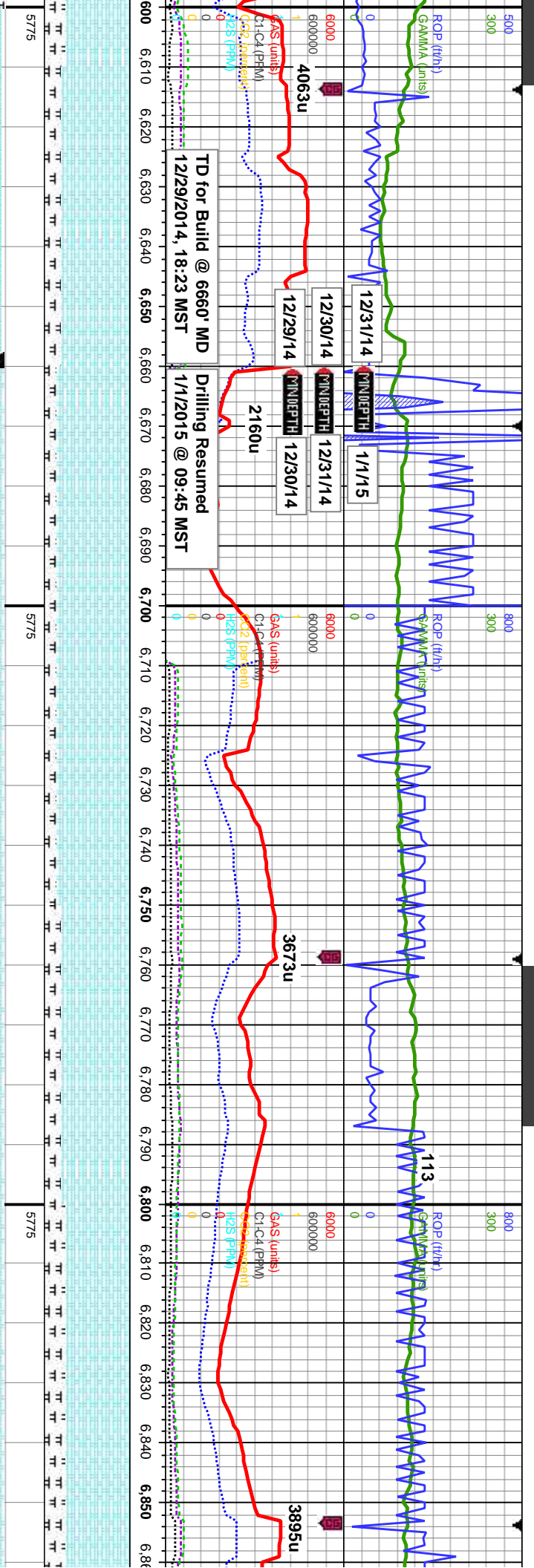
100% SLTY SH: lt-med gy, some dk gy, mod sft - sl firm, sb blk-y-sb pty, occ pty, rthy, mt; arg-slt, sl calc, tr shy ss

100% SLTY SH: lt-med gy, some dk gy, mod sft - sl firm, sb blk-y-sb pty, occ pty, rthy, mt; arg-slt, sl calc, tr shy ss

Images



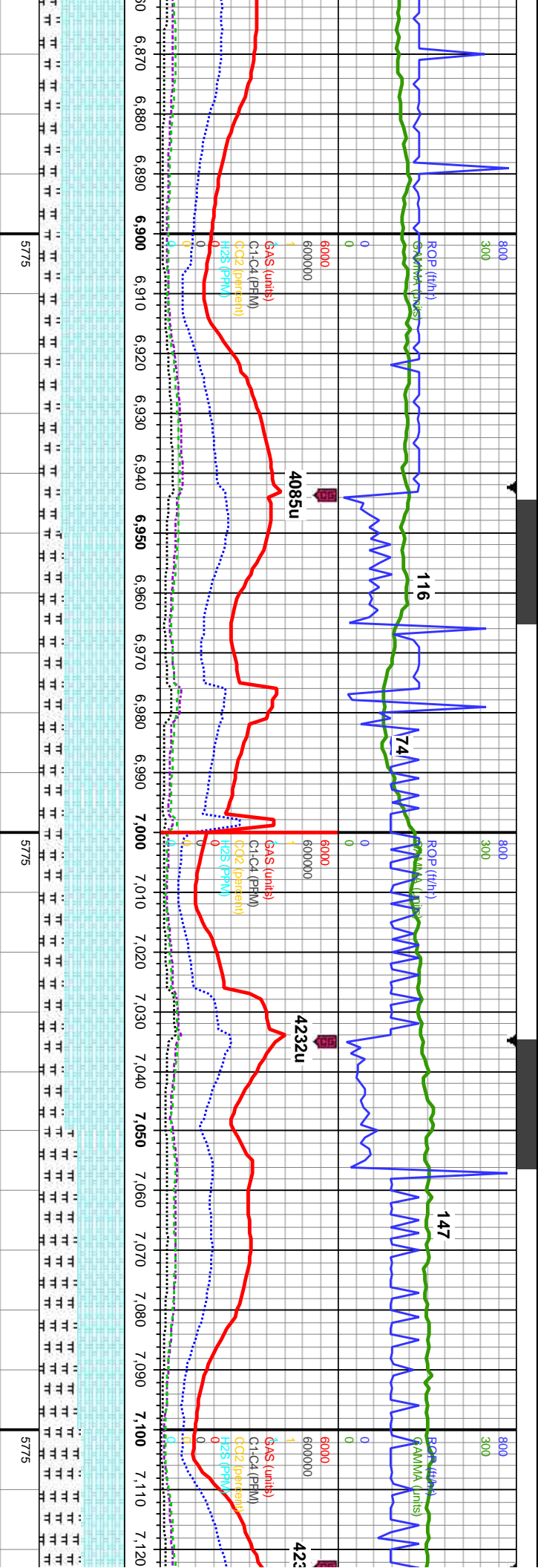




MD: 6,618' Inclination: 87.24° Azimuth: 176.35° VS: 330.82' TVD: 6,201.14'		MD: 6,706' Inclination: 89.54° Azimuth: 175.92° VS: 418.23' TVD: 6,203.61'	
TVD (ft)		TVD (ft)	

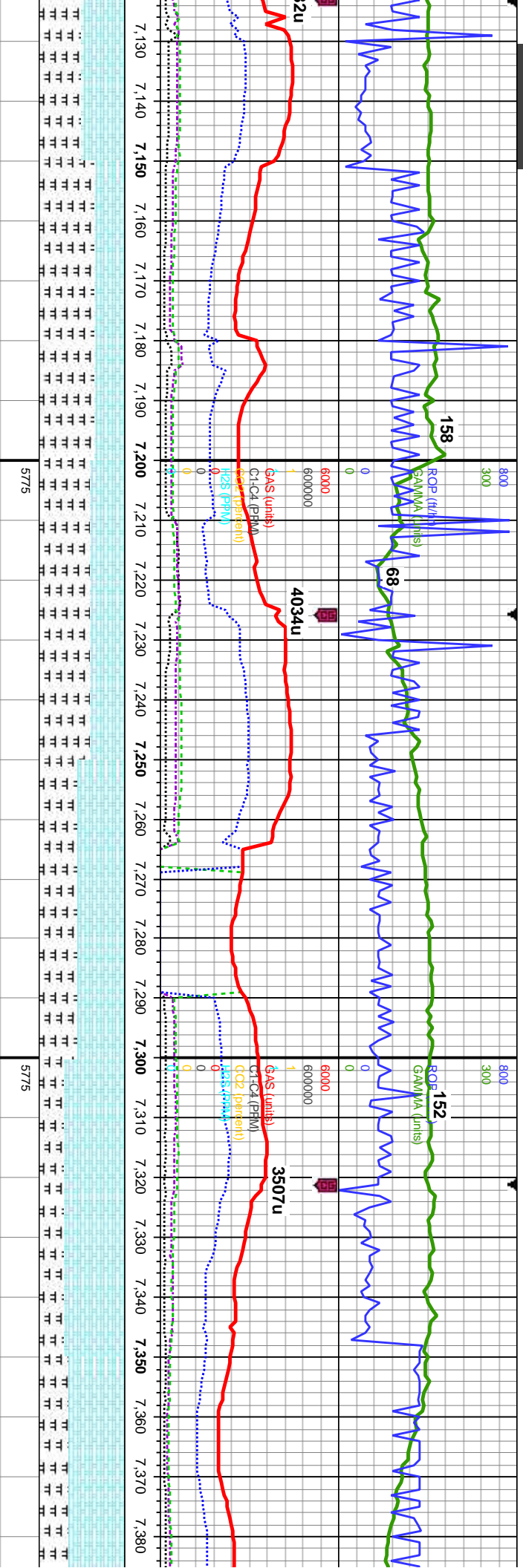
CHK: lt-med gy, wht-crm, occ dk gy, mot, blk, sft-sl frm, rthy-sb wxy, tr imbd cal, MRLST: dk gy-blk, sb pty-blky, sl	85% CHK: lt-med gy, wht-crm, occ dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, tr imbd cal, 15%. MRLST: dk gy-blk, sb pty-blky, sl frm-mod hd, arg-sily tex, mtx: calc, g od, fast stmg si frm-mod hd, arg-sily tex, mtx: calc, g od, fast stmg bri wh bl, even thk mod yel amb ring, thn yel brn str
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MD: 6,890' Inclination: 90.28° Azimuth: 175.03° VS: 601.2' TVD: 6,205.19'		75% CHK: med-dk gy, occ lt gy, mot, sb pty-biky, sft-si frm, rthy-sb wxy, tr imbd cal, 25%: MRLST: dk gy-bik, sb pty-biky, sl frm-mod hd, arg-sily tex, mtx: calc, g od: fast stmg bri wh bl, even mod thk mod yel amb ring, mod yel yel brn stn	70% CHK: med-dk gy, occ lt gy, mot, sb pty-biky, sft-si frm, rthy-sb wxy, tr imbd cal, 30%: MRLST: dk gy-bik, sb pty-biky, sl frm-mod hd, arg-sily tex, mtx: calc, mod od: fast stmg bri wh bl, even mod thk mod yel amb ring, thn yel brn stn	70% CHK: med-dk gy, occ lt gy, mot, sb pty-biky, sft-si frm, rthy-sb wxy, tr imbd cal, 30%: MRLST: dk gy-bik, sb pty-biky, sl frm-mod hd, arg-sily tex, mtx: calc, mod od: fast stmg bri wh bl, uneven mod thk bri yel amb ring, thk yel brn stn	55% CHK: med-dk gy, mot, sb pty-biky, sft-si frm, rthy-sb wxy, occ imbd cal, 45%: MRLST: dk gy-bik, sb pty-biky, sl frm-mod hd, arg-sily tex, mtx: calc: fast stmg bri wh bl, uneven mod thk bri yel amb ring, thk yel brn stn	50% CHK: med-c pty-biky, sft-si frm imbd cal, 50%: MRLST: dk gy-bik, sb pty-biky, sl frm-mod hd, arg-sily tex, mtx: calc: fast stmg bri wh bl, uneven mod thk mod yel yel brn stn
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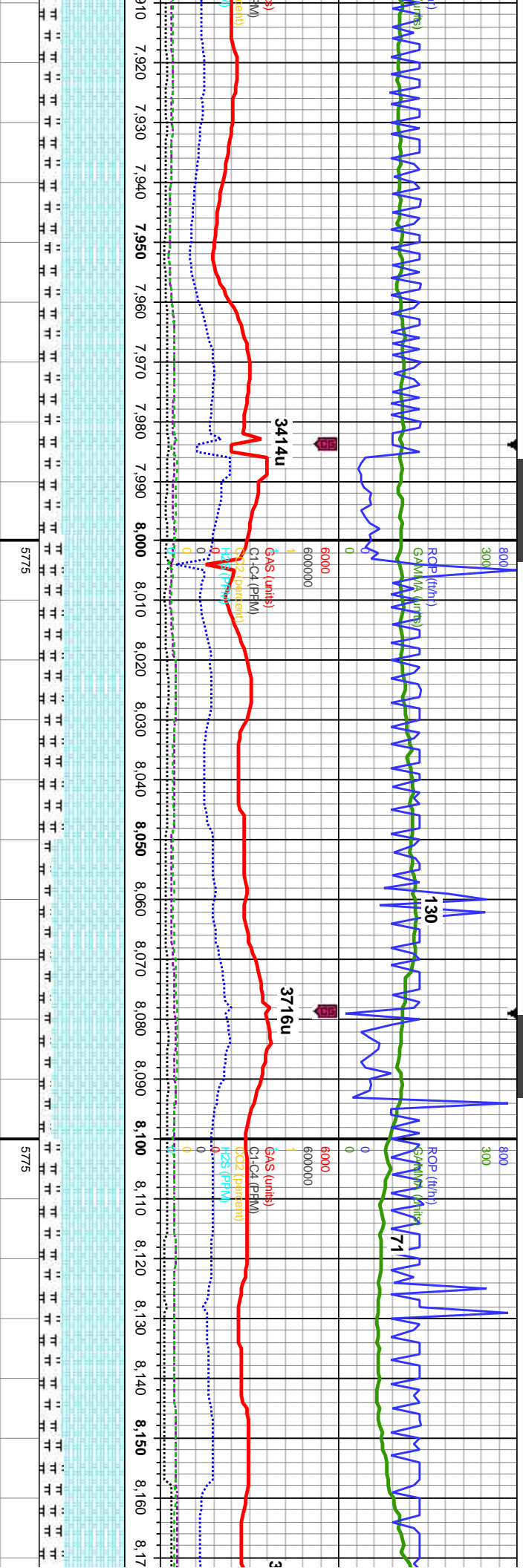
MD: 7,170'
Inclination: 90.86°
Azimuth: 176.27°
VS: 880'
TVD: 6,208.72'

MD: 7,265'
Inclination: 91.51°
Azimuth: 175.82°
VS: 974.39'
TVD: 6,206.76'

MD: 7,358'
Inclination: 90.06°
Azimuth: 176.01°
VS: 1,066.84'
TVD: 6,205.49'

Depth (ft)	Description	Description	Description
65%	MRLST: dk gy-blk, sb pty-blky, sl frm-mod hd, arg-sily tex, mtix; calc	60%	MRLST: dk gy-blk, sb pty-blky, sl frm-mod hd, arg-sily tex, mtix; calc
35% CHK: med-dk gy, mot, sb		40% CHK: med-dk gy, mot, sb	
pty-blky, sft-sl frm, rthy-sb wxy, occ		pty-blky, sft-sl frm, rthy-sb wxy, tr cal	
mod hd, arg-sily tex, imbd cal, mod ocl; fast stmg bri wh		frags, mod ocl; mod-fast stmg bri wh bl, uneven mod thn mod yel amb ring, mod yel brn stn	
amb bri wh bl, uneven			
amb ring, thk yel			





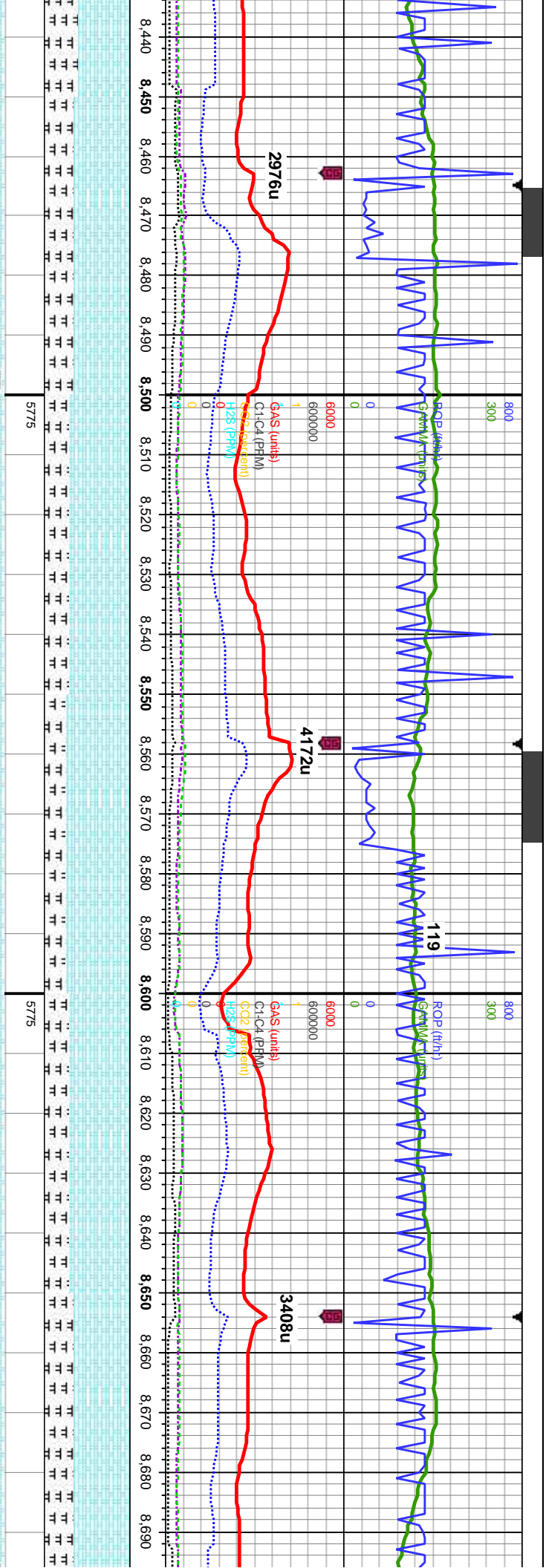
MD: 7,928'
Inclination: 89.72°
Azimuth: 176.55°
VS: 1,631.86'
TVD: 6,207.17'

MD: 8,023'
Inclination: 91.58°
Azimuth: 178.11°
VS: 1,726'
TVD: 6,206.09'

MD: 8,119'
Inclination: 91.17°
Azimuth: 177.63°
VS: 1,821'
TVD: 6,203.79'

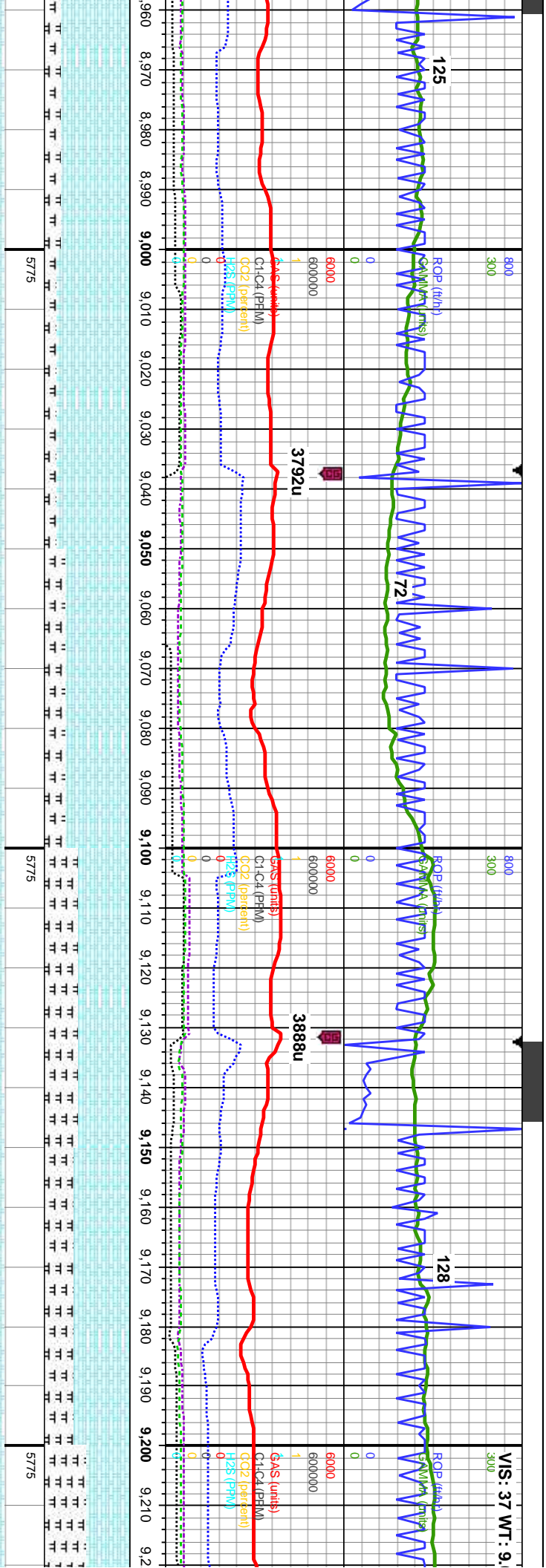
HK: med-dk gy, occ lt gy, mot, -biky, sft-sl frm, rthy-sb wxy, tr	75% CHK: med-dk gy, occ lt gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, tr	75% CHK: med-dk gy, occ dk gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, tr	75% CHK: med-dk gy, occ lt gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, tr
l, 25%: MRLST: dk gy-bik, sb cal incl, 25%: MRLST: dk gy-bik, sb pty-biky, sl frm-mod hd, arg-sily tex, mtx: calc, mod od: fast stmg bl, even thn mod yel ring, thn	cal incl, 25%: MRLST: dk gy-bik, sb pty-biky, sl frm-mod hd, arg-sily tex, mtx: calc, mod od: fast stmg wh bl, even thn mod yel ring, thn stn	85% CHK: med gy, occ dk gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, 15%: MRLST: dk gy-bik, sb pty-biky, sl frm-mod hd, arg-sily tex, mtx: calc, tr pyr, mod od: fast stmg bri g od, fast stmg bri wh bl, even thn mod yel ring, thn stn	75% CHK: med-dk gy, occ lt gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, occ cal incl, 30%: MRLST: dk gy-bik, sb pty-biky, sl frm-mod hd, arg-sily tex, mtx: calc, tr pyr, mod od: fast stmg bri wh bl, even thn mod yel ring, thn stn





MD: 8,502' Inclination: 90.31° Azimuth: 176.84° VS: 6,203.44' TVD: 6,203.44'		70% CHK: med-dk gy, occ lt gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, occ cal incl, 35%: MRLST: dk gy-bik, sb pty-biky, sl frm-mod hd, arg-sily tex, mix: calc, g od: fast stmg mod wh bl, even mod thk mod yel ring, mod sin	70% CHK: med-dk gy, occ lt gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, occ cal incl, 30%: MRLST: dk gy-bik, sb pty-biky, sl frm-mod hd, arg-sily tex, mix: calc, g od: fast stmg mod wh bl, even mod thk mod yel ring, mod sin	75% CHK: med-dk gy, occ lt gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, occ cal incl, 25%: MRLST: dk gy-bik, sb pty-biky, sl frm-mod hd, arg-sily tex, mix: calc, g od: fast stmg mod wh bl, even mod thk mod yel ring, mod sin	MD: 8,597' Inclination: 89.38° Azimuth: 177.16° VS: 6,203.7' TVD: 6,203.7'	70% CHK: med-dk gy, occ lt gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, 30%: MRLST: dk gy-bik, sb pty-biky, sl frm-mod hd, arg-sily tex, mix: calc, mod od: fast stmg mod wh bl, even mod thk mod yel ring, mod sin	65% CHK: med-dk gy, occ lt gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, 35%: MRLST: dk gy-bik, sb pty-bik sl frm-mod hd, arg-sily tex, cal mod od: fast stmg mod wh bl, even mod thk mod yel ring, mod sin	MD: 8,693' Inclination: Azimuth: 17 VS: 6,205.0 TVD: 6,205
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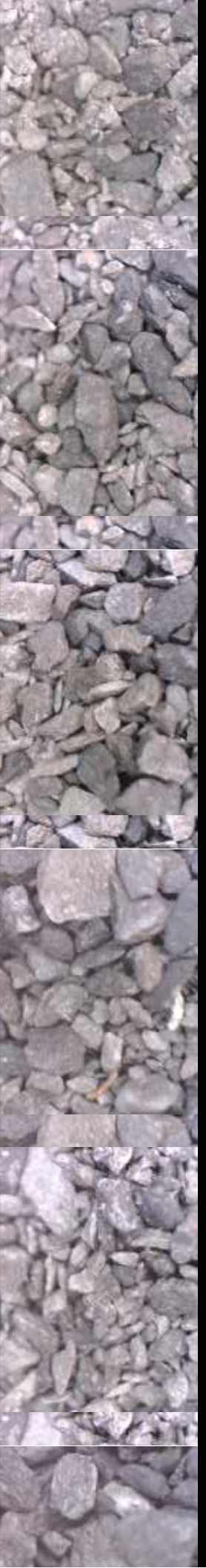


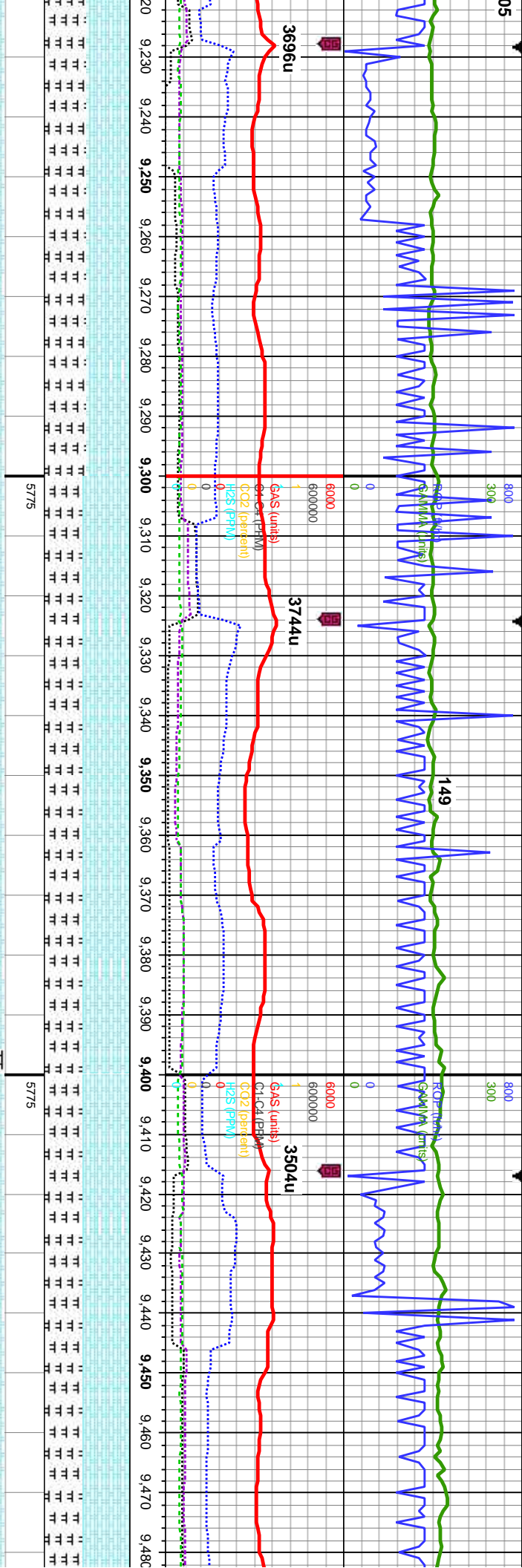
MD: 8,979'
Inclination: 90.71°
Azimuth: 177.47°
VS: 2,673.82'
TVD: 6,207.08'

85% CHK: lt-med gy, occ lt gy, mot, sb ply-biky, sft-sl frm, rthy-sb wxy, 15%: MRLST: dk gy-bik, sb ply-biky, sl frm-mod hd, arg-sily tex, mix: calc, mod chk flor, g od: mod sting mod wh bl, even mod thk bri yel ring, tr stn	75% CHK: med-dk gy, occ lt gy, mot, sb ply-biky, sft-sl frm, rthy-sb wxy, 25%: MRLST: dk gy-bik, sb ply-biky, sl frm-mod hd, arg-sily tex, mix: calc, g od: mod sting mod wh bl, even mod thk bri yel ring, tr stn	60% CHK: med-dk gy, occ lt gy, mot, sb ply-biky, sft-sl frm, rthy-sb wxy, 40%: MRLST: dk gy-bik, sb ply-biky, sl frm-mod hd, arg-sily tex, mix: calc, g od: mod sting mod wh bl, even mod thk bri yel ring, tr stn	65% CHK: med-dk gy, occ lt gy, mot, sb ply-biky, sft-sl frm, rthy-sb wxy, 35%: MRLST: dk gy-bik, sb ply-biky, sl frm-mod hd, arg-sily tex, mix: calc, g od: mod sting mod wh bl, even mod thk bri yel ring, tr stn	50% CHK: med sb ply-biky, sft-sl frm, rthy-sb wxy, 50%: MRLST: c sl frm-mod hd, g od: mod sting mod thk dull yel
8500				

MD: 9,075'
Inclination: 90.77°
Azimuth: 177.14°
VS: 2,768.97'
TVD: 6,205.84'

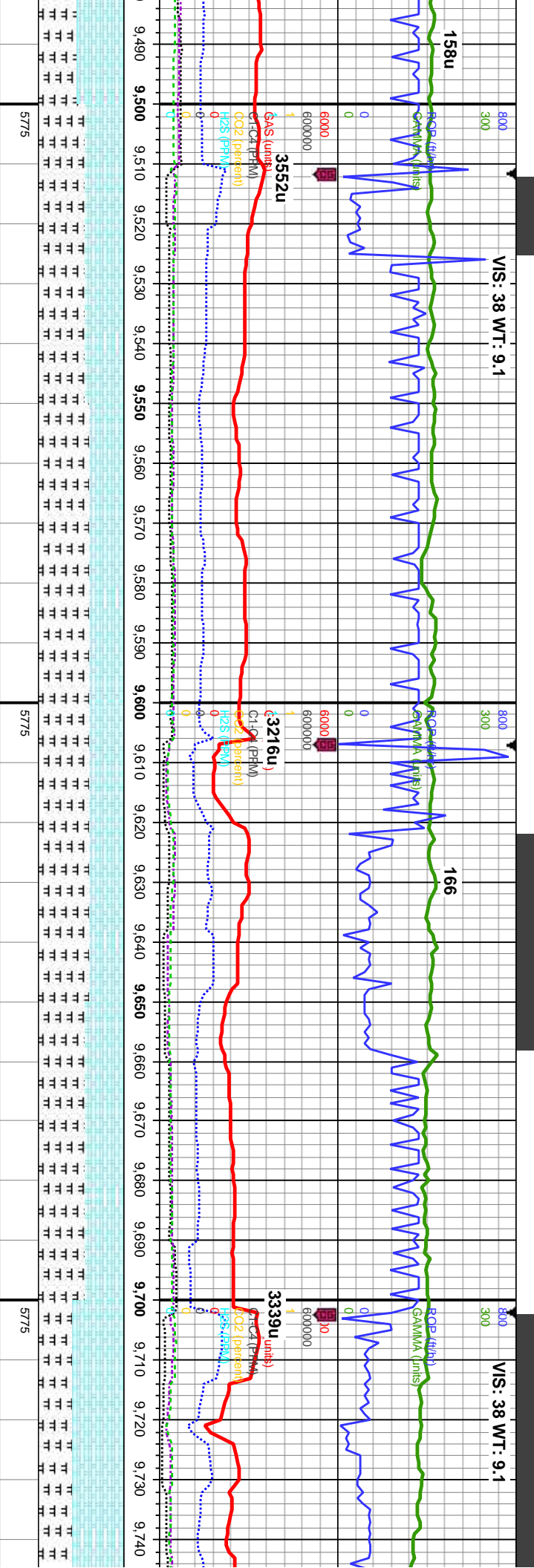
MD: 9,170'
Inclination: 91.17°
Azimuth: 177.55°
VS: 2,863.11'
TVD: 6,204.23'





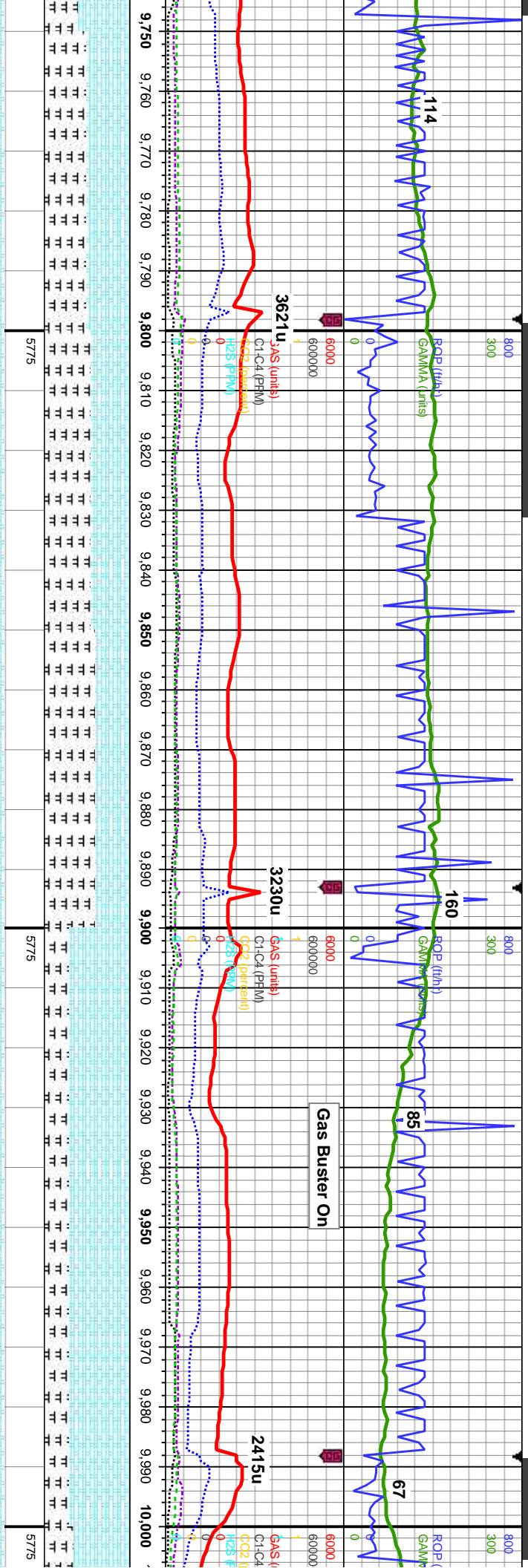
MD: 9,266' Inclination: 89.88° Azimuth: 177.7° VS: 2,958.18' TVD: 6,203.35'		50% CHK: med-dk gy, occ lt gy, mot, sb ply-biky, sft-sl frm, rthy-sb wxy, 50%: MRLST: dk gy-bik, sb ply-biky, sl frm-mod hd, arg-sily tex, mtx: calc, g od: mod stmg mod wh bl, even mod thk dull yel ring, tr stn	55% CHK: med-dk gy, mot, sb ply-biky, sft-sl frm, rthy-sb wxy, 45%: MRLST: dk gy-bik, sb ply-biky, sl frm-mod hd, arg-sily tex, mtx: calc, g od: slow stmg mod wh bl, even mod thk bri yel ring, tr stn	55% CHK: med-dk gy, mot, sb ply-biky, sft-sl frm, rthy-sb wxy, 45%: MRLST: dk gy-bik, sb ply-biky, sl frm-mod hd, arg-sily tex, mtx: calc, g od: slow stmg mod wh bl, even mod thk bri yel ring, tr stn	55% CHK: med-dk gy, mot, sb ply-biky, sft-sl frm, rthy-sb wxy, 45%: MRLST: dk gy-bik, sb ply-biky, sl frm-mod hd, arg-sily tex, mtx: calc, g od: slow stmg frt wh bl, even mod thk bri yel ring, tr stn
TVD (ft)					



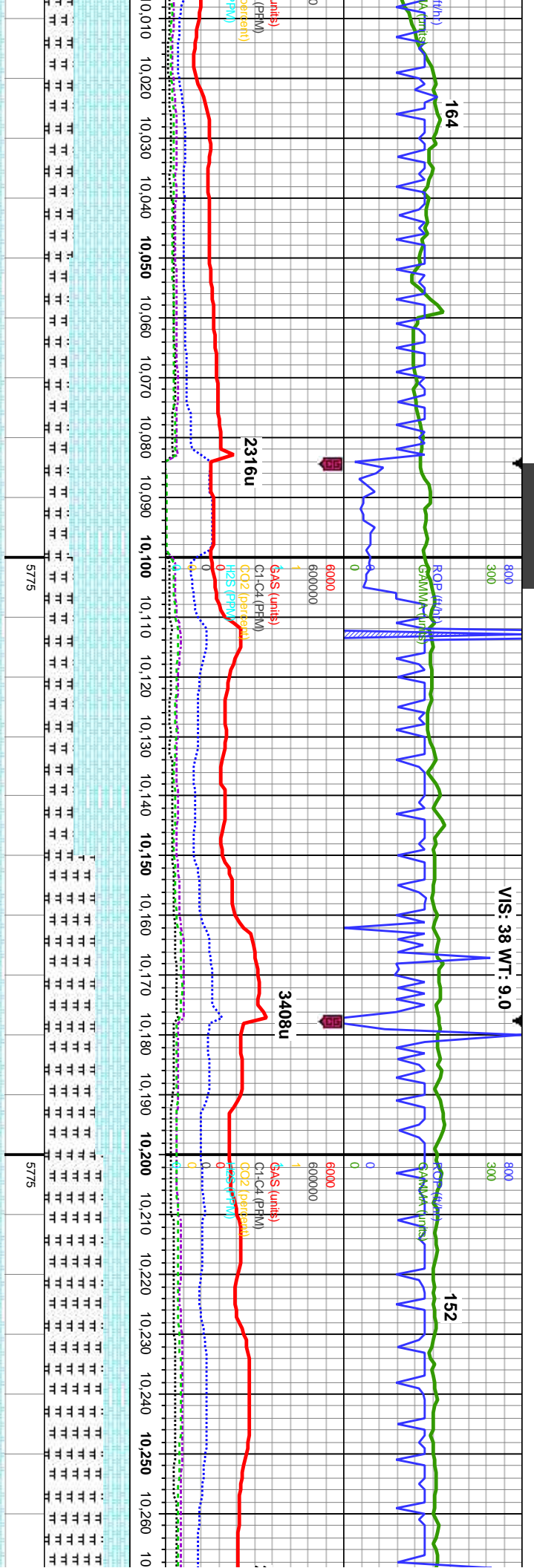


MD: 9.551' Inclination: 89.66° Azimuth: 180.21° VS: 3,239.74' TVD: 6,203.07'		MD: 9.647' Inclination: 88.62° Azimuth: 181.09° VS: 3,333.98' TVD: 6,204.51'		MD: 9.744' Inclination: 89.74° Azimuth: 181.09° VS: 3,427' TVD: 6,204.51'	
55%: MRLST: dk gy-blk, sb pty-blky, sl frm-mod hd, occ sft, arg-sily tex, mt; calc, 45% CHK: med-dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, some lse & imbd cal; slow stmg frt wh bl, even thn bri yel ring, tr stn	60%: MRLST: dk gy-blk, sb pty-blky, sl frm-mod hd, occ sft, arg-sily tex, mt; calc, 40% CHK: med-dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, some lse & imbd cal, tr bent; slow stmg frt wh bl, even thn bri yel ring, tr stn	60%: MRLST: dk gy-blk, sb pty-blky, sl frm-mod hd, occ sft, arg-sily tex, mt; calc, 40% CHK: dk gy, occ med gy-dk brn, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, some lse & imbd cal, tr bent; slow stmg frt wh bl, even mod thk bri yel ring, tr stn	55%: MRLST: dk gy-blk, sb pty-blky, sl frm-mod hd, occ sft, arg-sily tex, mt; calc, 45% CHK: dk gy, occ med gy-dk brn, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, some lse & imbd cal, tr bent; slow stmg frt wh bl, even mod thk bri yel ring, tr stn	60% CHK: med-dk gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, 40% MRLST: dk gy-blk, sb pty-blky, sl frm-mod hd, arg-sily tex, mt; calc: mod ocl, mky mod wh bl, even thk mod yel ring, tr stn	





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MD: 10,028'
Inclination: 91.2°
Azimuth: 176.35°
VS: 3,711.35'
TVD: 6,209.58'

MD: 10,124'
Inclination: 89.82°
Azimuth: 175.43°
VS: 3,806.79'
TVD: 6,208.72'

MD: 10,217'
Inclination: 89.54°
Azimuth: 176.15°
VS: 3,899.26'
TVD: 6,209.24'

MD (ft)	VS (ft)	TVD (ft)
10,028'	3,711.35'	6,209.58'
10,124'	3,806.79'	6,208.72'
10,217'	3,899.26'	6,209.24'

70% CHK: lt-med gy, occ dk gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, tr imbd cal, 30%: MRLST: dk gy-bik, sb pty-biky, sl frm-mod hd, arg-sily tex, mtx: calc, tr bent, g od: fast string mod wh bl, even thk mod yel-grn ring, thn str

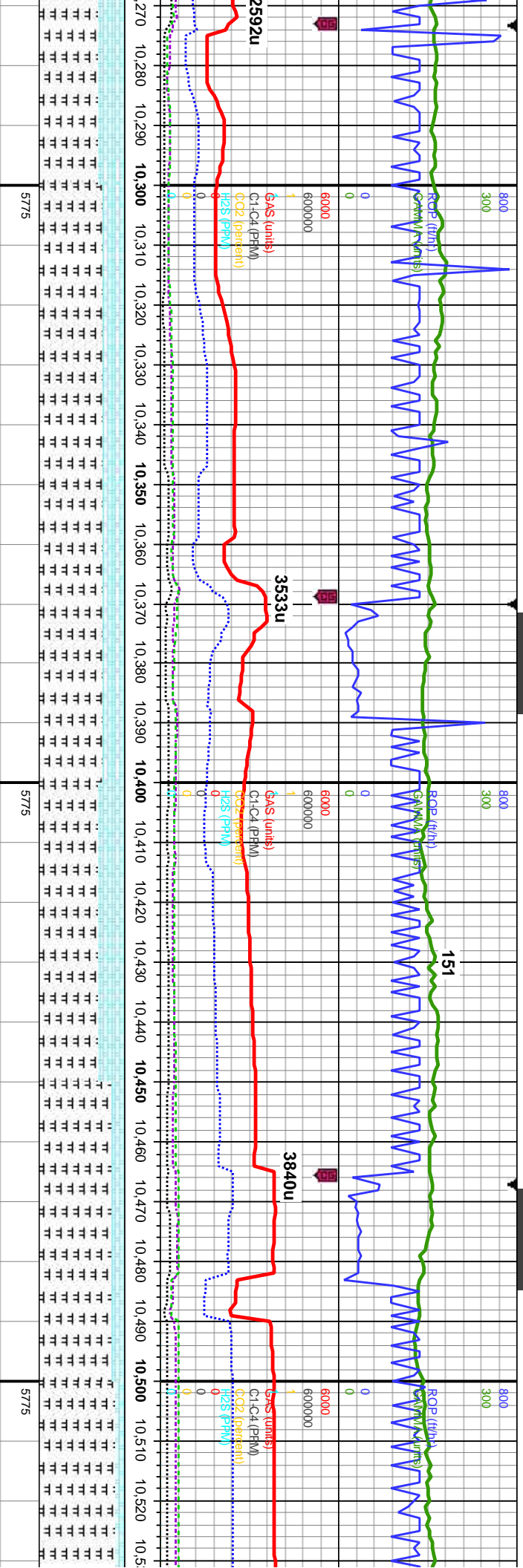
65% CHK: lt-med gy, occ dk gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy, 35%: MRLST: dk gy-bik, sb pty-biky, sl frm-mod hd, arg-sily tex, mtx: calc, tr bent, g od: fast string mod wh bl, even mod thk mod yel-grn ring, tr str

60%: MRLST: dk gy-bik, sb pty-biky, sl frm-mod hd, arg-sily tex, mtx: calc, 40% CHK: dk-med gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy: fast string mod wh bl, even mod thk mod yel-grn ring, tr str

70%: MRLST: dk gy-bik, sb pty-biky, sl frm-mod hd, arg-sily tex, mtx: calc, 30% CHK: dk-med gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy: mod-fast string mod wh bl, even thn fnt yel-grn ring, sl tr str

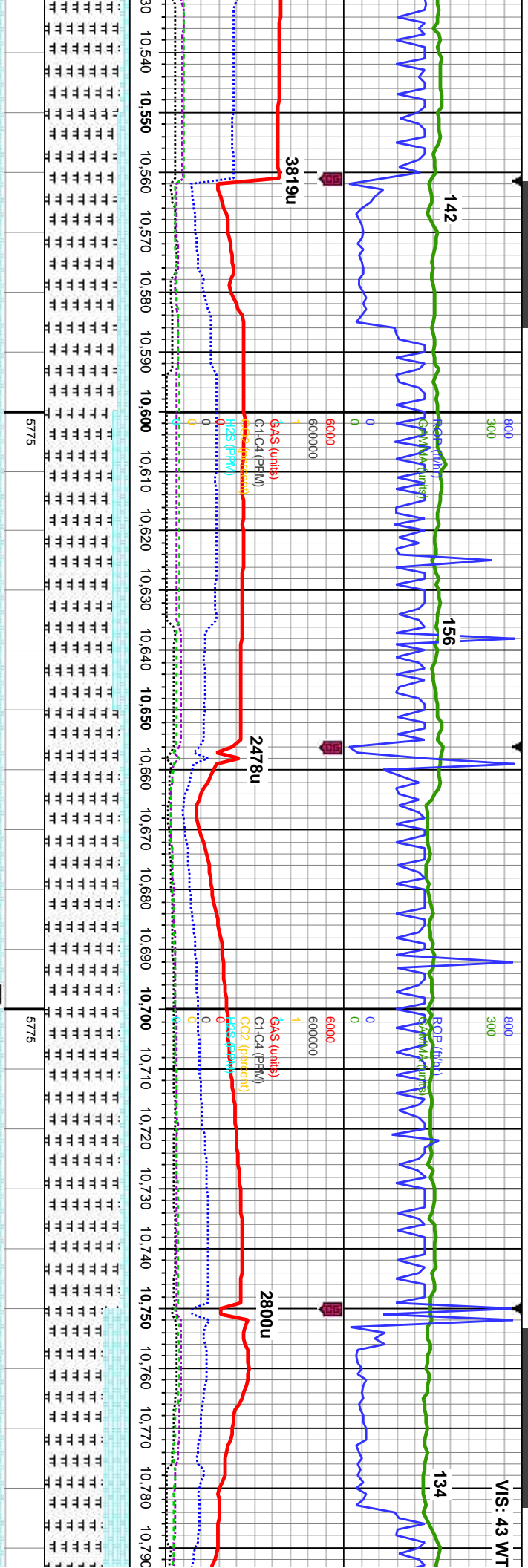
70%: MRLST: dk gy-bik, sb pty-biky, sl frm-mod hd, arg-sily tex, mtx: calc, tr pyr, 30% CHK: dk-med gy, mot, sb pty-biky, sft-sl frm, rthy-sb wxy: mod-fast string mod wh bl, even thn fnt yel-grn ring





MD: 10,313' Inclination: 88.89° Azimuth: 176.46° VS: 3,994.61' TVD: 6,210.56'		75%: MRLST: dk gy-blk, sb pty-blky, sl frm-mod hd, arg-sily tex, mtx; calc, tr pyr, 25% CHK: dk-med gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy; fast stng mod wh bl, even thn dull	75%: MRLST: dk gy-blk, sb pty-blky, sl frm-mod hd, arg-sily tex, mtx; calc, tr pyr, 25% CHK: dk-med gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, tr bent; fast stng mod wh bl, even thn dull yel-gm ring, sl tr stn	70%: MRLST: dk gy-blk, sb pty-blky, sl frm-mod hd, arg-sily tex, mtx; calc, tr pyr, 30% CHK: dk-med gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, tr bent; slow stng mod wh bl, even thn fnt yel-gm ring, tr stn	85%: MRLST: dk gy-blk, sb pty-blky, sl frm-mod hd, arg-sily tex, mtx; calc, tr pyr 15% CHK: dk-med gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, tr bent, tr cal frags; slow stng mod wh bl, even thn fnt yel-gm ring, tr stn	90%: MRLST: dk gy-blk, sl frm-mod hd, arg-sily t tr pyr 10% CHK: dk-med pty-blky, sft-sl frm, rthy-bent, tr cal frags; slow-r mod wh bl, even mod tr ring, thn stn
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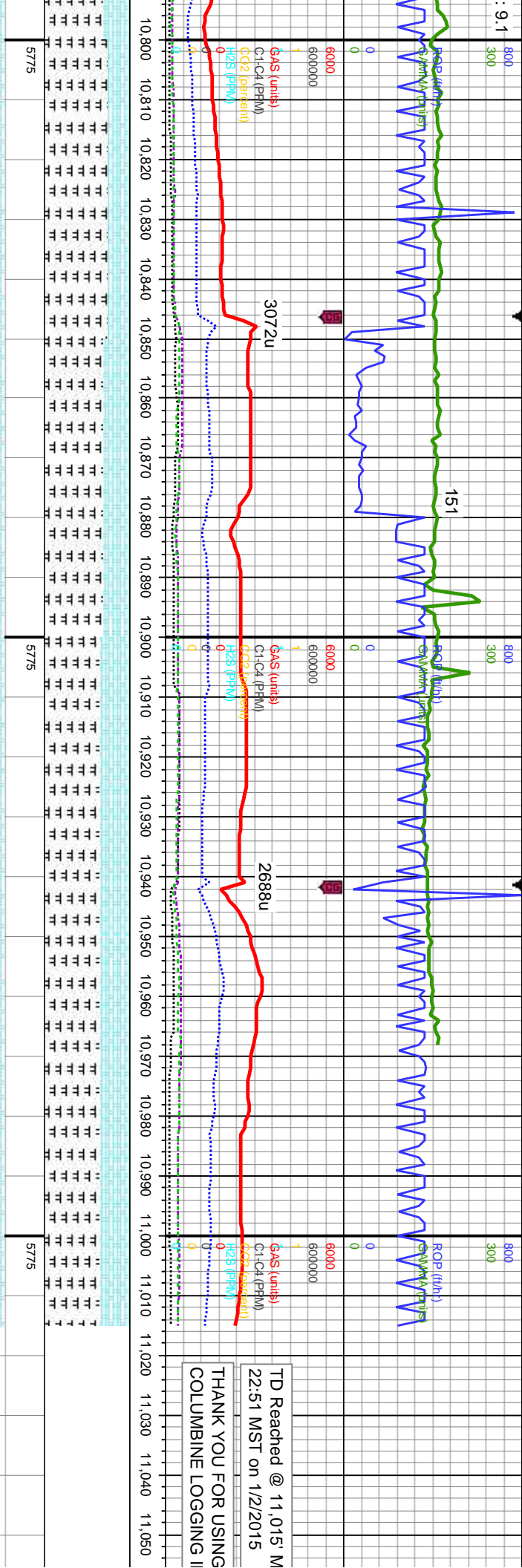
MD: 10,599'
Inclination: 90.8°
Azimuth: 176.15°
VS: 4,278.65'
TVD: 6,212.97'

MD: 10,695'
Inclination: 89.94°
Azimuth: 175.6°
VS: 4,374.09'
TVD: 6,212.35'

MD: 10,791'
Inclination: 17°
Azimuth: 17°
VS: 4,469.3'
TVD: 6,212'

sb pily-blky, d gy, mot, sb	85%: MRLST: dk gy-blk, sb pily-blky, sl frm-mod hd, arg-sily tex, mtx; calc, tr pyr 15% CHK: dk-med gy, mot, sb	85%: MRLST: dk gy-blk, sb pily-blky, sl frm-mod hd, arg-sily tex, mtx; calc, tr pyr 15% CHK: dk-med gy, mot, sb	90%: MRLST: dk gy-blk, sb pily-blky, sl frm-mod hd, arg-sily tex, mtx; calc, 10% CHK: dk-med gy, mot, sb	90%: MRLST: dk gy-blk, sb pily-blky, sl frm-mod hd, arg-sily tex, mtx; calc, 10% CHK: dk-med gy, mot, sb	70%: MRLST: dk gy-blk, sb pily-blky, sl frm-mod hd, arg-sily tex, mtx; calc, 30% CHK: dk-med gy, mot, sb
ply-blky, tr	ply-blky, stf-si frm, rthy-sb wxy, tr cal	ply-blky, stf-si frm, rthy-sb wxy, tr cal	ply-blky, stf-si frm, rthy-sb wxy, tr cal	ply-blky, stf-si frm, rthy-sb wxy, tr cal	ply-blky, stf-si frm, rthy-sb wxy, tr cal
mod stmg	frags: slow-mod stmg mod wh bl, even	frags: slow-mod stmg mod wh bl, even	frags: slow-mod stmg mod wh bl, even	frags: slow-mod stmg mod wh bl, even	frags: slow-mod stmg mod wh bl, even
frags: slow-mod stmg mod wh bl, even	mod thk fnt yel-grn ring, thn stn	mod thk fnt yel-grn ring, thn stn	mod thk fnt yel-grn ring, thn stn	mod thk fnt yel-grn ring, thn stn	mod thk fnt yel-grn ring, thn stn





TD Reached @ 11,015 M
22:51 MST on 1/2/2015
THANK YOU FOR USING
COLUMBINE LOGGING II

Projection to Bit	
MD: 10,886'	MD: 10,960'
Inclination: 90.83°	Inclination: 89.72°
Azimuth: 177.5°	Azimuth: 176.55°
VS: 4,563.5'	VS: 6,211.78'
TVD: 6,212.13'	TVD: 6,211.78'
TVD (ft)	
75%: MRLST: dk gy-blk, sb pty-blky, sl frm-mod hd, arg-sily tex, mtx; calc, 25% CHK: dk gy-dk brn, occ med gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, tr fos frags, tr cal frags; mod-fast stmg mod wh bl, even thn fnt yel-grn ring, sl tr stn	70%: MRLST: dk gy-blk, sb pty-blky, sl frm-mod hd, arg-sily tex, mtx; calc, 30% CHK: dk gy-dk brn, occ med gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, tr fos frags, tr cal frags; mod-fast stmg mod wh bl, even thn fnt yel-grn ring, sl tr stn
65%: MRLST: dk gy-blk, sb pty-blky, sl frm-mod hd, arg-sily tex, mtx; calc, 35% CHK: dk gy-dk brn, occ med gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, tr fos frags, cal frags; mod-fast stmg mod wh bl, even thn fnt yel-grn ring, sl tr stn	65%: MRLST: dk gy-blk, sb pty-blky, sl frm-mod hd, arg-sily tex, mtx; calc, 35% CHK: dk gy-dk brn, occ med gy, mot, sb pty-blky, sft-sl frm, rthy-sb wxy, tr fos frags, cal frags; mod-fast stmg mod wh bl, even thn fnt yel-grn ring, sl tr stn
8500	8500

MD: 11,015'
Inclination: 89.72°
Azimuth: 176.55°
VS: 6,212.05'
TVD: 6,212.05'



