



Scale: 5" / 100'
Measured Depth Log

Well Name Wells Ranch AA111-632

Location NESE 11 6N 63W 6 PM

State COLORADO

County WELD

Country United States

Rig Number H&P 326

API Number 05-123-41256

Field WATTENBERG

Region DJ BASIN

Drilling Completed 6/14/2015

Spud Date 6/6/2015

Surface Coordinates NESE 11 6N 63W 6 PM
1710' FSL 215' FEL
Lat/Long: 40.49854/-104.39509

Bottom Hole Coordinates Projected Location
NESE 11 6N 63W
1467' FFSL 2085' FFELL

Ground Elevation 4854' K.B. Elevation 4884'
Logged Interval 1800 To 13885' Total Depth 13885'
Formation NIOBRARA
Type of Drilling Fluid H2O, LSND

Operator

Company Noble Energy Inc

Address 1625 Broadway Suite 2200
Denver, CO 80202

Geologist

Name BRYAN KAPROTH-GERECHT

Company NOBLE ENERGY INC.

Address 1625 Broadway Suite 2200
Denver, CO 80202

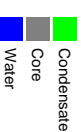
Other

Well Site Logging Company Columbine Logging Inc.



































Well Site Geologist (Days) Brad Wilson

Well Site Geologist (Nights) Shanna Gilbert


























































Zone Color Coding



Rock Types

	UNKNOWN		COAL		TR		TR		TR	MARLSTONE		SHALY SANDSTONE
	ANHYDRITE		CONGLOMERATE		X X X X X X NO SAMPLE						SILTY SHALE	
	BENTONITE		DOLOMITE							SALT		SILTSTONE
	BRECCIA		DOLOMITIC LIMESTONE							SANDSTONE		TILL
	CHALK		GRANITE							SALT-PEPPER SANC		TUFF
	CEMENT		GYPSSUM							SHALE		WELDED TUFF
	CHELT		IGNEOUS							SHALE COLORED		
	CLAY CHOKE SANC		SIDERITE or LIMONITE							SHALE GRAY		
	CLAYSTONE		LIMESTONE									

Accessories

Fossils		Stringer	
 GASTROPOD	 ARGILLITE GRAIN	 HEAVY MINERAL	
 INOCERAMUS	 B BENTONITE	 K KAOLIN	
 O OOLITE	 BITUMENOUS SUBSTANCE	 M MARCASITE	 ANHYDRITE STRINGER
 AMPHIPORA	 BRECCIA FRAGMENTS	 T MARLSTONE	 BENTONITE STRINGER
 BELEMNITE	 L CALCAREOUS	 V MICACEOUS	 COAL STRINGER
 BIOCLASTIC	 C CARBONACEOUS FLAKES	 M MINERAL CRYSTALS	 DOLOMITE STRINGER
 BRACHIOPOD	 C CHERT	 N NODULES	 GYPSUM STRINGER
 BRYOZOA	 C CHERT	 P PHOSPHATE PELLETS	 LIMESTONE STRINGER
 CEPHALOPOD	 C COAL - THIN BEDS	 P PYRITE	 MARLSTONE (CALC) STRG
 CORAL	 L DOLOMITIC	 S SALT CAST	 MARLSTONE (DOL) STRG
 CRINOID	 F FELDSPAR	 S SANDY	 SANDSTONE STRINGER
 ECHINOID	 F FERRUGINOUS PELLET	 S SIDERITE	 SHALE STRINGER
 FISH	 F FERRUGINOUS	 S SILICEOUS	 SILTSTONE STRINGER
 FORAMINIFERA	 A ANHYDRITIC	 S SILTY	
 F FOSSIL	 A ARGILLACEOUS	 G GYPSIFEROUS	 TUFFACEOUS

Oil Show

P PINPOINT

Engineering

Engi

☐ DEAD

☒ EVEN






































☐ QUESTIONABLE

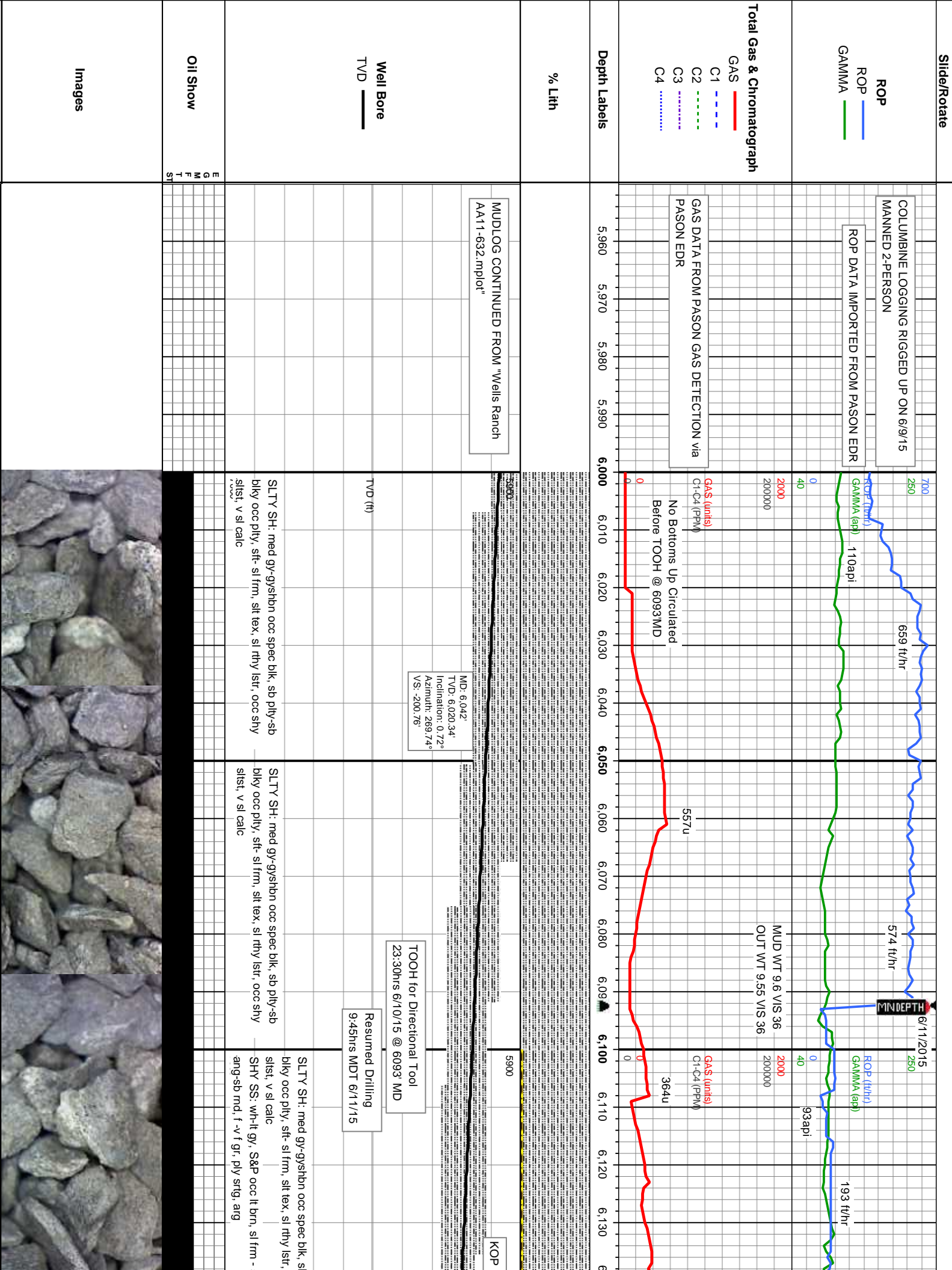
☐ BIT

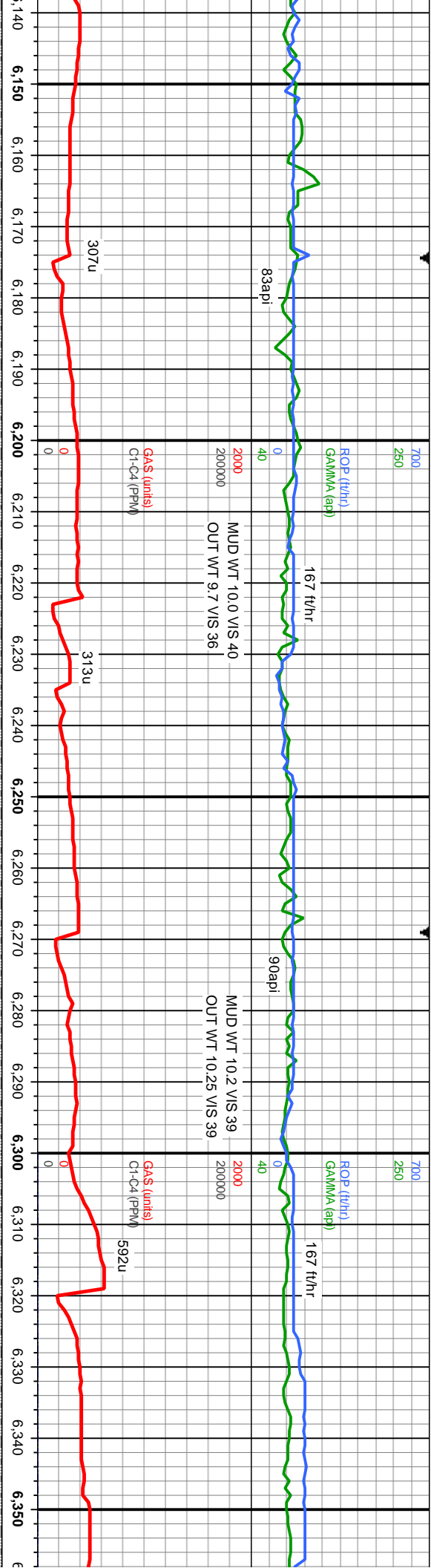
Porosity

	▼ CONNECTION (DOWN)
Porosity	
■ CONNECTION GAS	■ CONNECTION GAS (L)
E EARTHY	E EARTHY
■ FENESTRAL	■ FENESTRAL
F FRACTURE	F FRACTURE
✕ INTERCRYSTALLINE	✕ INTERCRYSTALLINE
♠ INTERROULTIC	♠ INTERROULTIC
♠ MOLDIC	♠ MOLDIC
○ ORGANIC	○ ORGANIC
■ CORE - RECOVERED	■ CORE - LOST

Other Symbols

	DST INTERVAL		WIRELINE TESTED - LEFT		E EARTHY
	FAULT		WIRELINE TESTED - RT		FX FINELYXLN
	FORMATION TOP		DRILL STEM TEST		GS GRAINSTONE
	GAS SHOW		MINDEPTH MN DEPTH		L LITHOGRAPHIC
	OIL SHOW				MX MICROXLN
Rounding					
	MINDEPTH MN DEPTH UP				MS MUDDSTONE
	MINDEPTH MN DEPTH (DOWN)		A ANGULAR		PS PACKSTONE
	NORMAL FAULT		R ROUNDED		WS WACKESTONE
	LEFT) OVERTURNED STRATA		B SUBANG		
	REVERSE FAULT		F SUBRND	Sorting	
	CASING				M MODERATE
Textures					
	SIDEWALL CORE (LEFT)				P POOR
	LEFT) SIDEWALL CORE (RIGHT)		BS BOUNDSTONE		W WELL
	SLIDE		C CHALKY		
	SURVEY		CX CRYPTOXLN		





@ 6142'

MD: 6,149'
TVD: 6,127.24'
Inclination: 4°
Azimuth: 278.76°
VS: -196.43

MD: 6,190'
TVD: 6,168.01'
Inclination: 7.9°
Azimuth: 286.68°
VS: -192.37

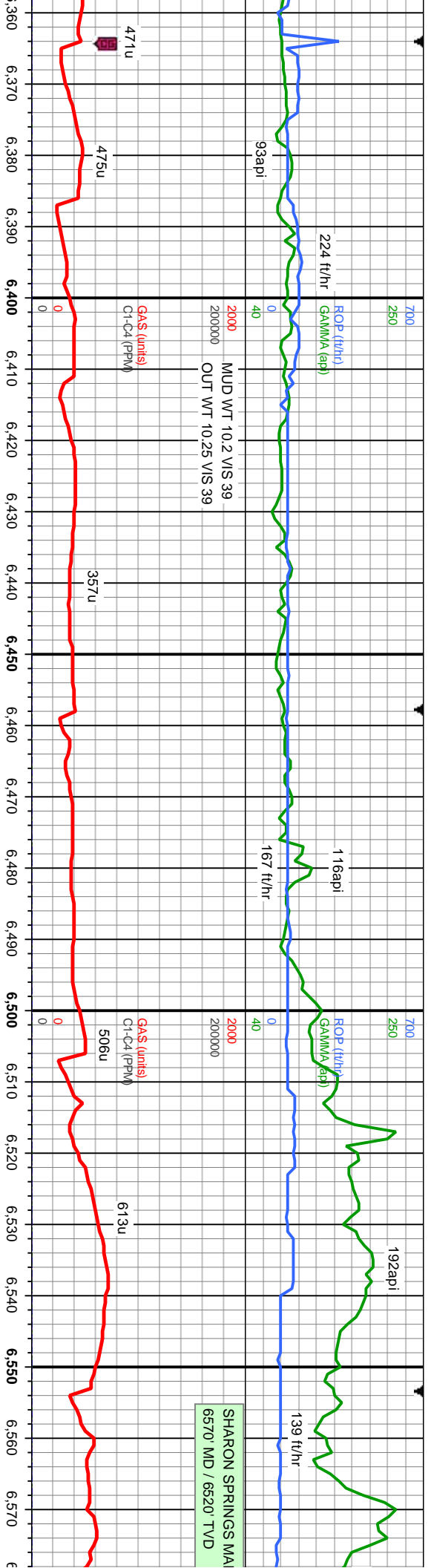
MD: 6,244'
TVD: 6,221.13'
Inclination: 12.66°
Azimuth: 287.22°
VS: -183.29

MD: 6,289'
TVD: 6,264.72'
Inclination: 16.09°
Azimuth: 280.91°
VS: -172.58

MD: 6,339'
TVD: 6,312.34'
Inclination: 19.4°
Azimuth: 274.55°
VS: -157.59

b ply-sb occ shy	SLTY SH: med gy-gyshbn occ spec blk, sb ply-sb bly occ ply, sft-si frm, slit tex, sl rthy lstr, occ shy sist v sl calc SHY SS: wh-it gy, S&P occ lt brn, si frm - sft, sb ang-sb mnd, f -v f gr, ply strg, arg	SLTY SH: med gy-gyshbn occ spec blk, sb ply-sb bly occ ply, si sft-si frm, slit tex, si arg, v sl calc SHY SS: wh-it gy, S&P occ lt brn, si frm - sft, sb ang-sb mnd, f -v f gr, ply strg, arg	SLTY SH: med gy-gyshbn occ spec blk, sb ply-sb bly occ ply, si sft-si frm, slit tex, si arg, v sl calc SHY SS: wh-it gy, S&P occ lt brn, si frm - sft, sb ang-sb mnd, f -v f gr, ply strg, arg	SLTY SH: med gy-gyshbn occ spec blk, sb ply-sb bly occ ply, si sft-si frm, slit tex, si arg, v sl calc SHY SS: wh-it gy, S&P occ lt brn, si frm - sft, sb ang-sb mnd, f -v f gr, ply strg, arg	SLTY SH: med gy-gyshbn occ spec blk, sb ply-sb bly occ ply, si sft-si frm, slit tex, si arg, v sl calc SHY SS: wh-it gy, S&P occ lt brn, si frm - sft, sb ang-sb mnd, f -v f gr, ply strg, arg	SLTY SH: med gy-gyshbn occ spec blk, sb ply-sb bly occ ply, si sft-si frm, slit tex, si arg, v sl calc SHY SS: wh-it gy, S&P occ lt brn, si frm - sft, sb ang-sb mnd, f -v f gr, ply strg, arg	SLTY SH: med gy-gyshbn occ spec blk, sb ply-sb bly occ ply, si sft-si frm, slit tex, si arg, v sl calc SHY SS: wh-it gy, S&P occ lt brn, si frm - sft, sb ang-sb mnd, f -v f gr, ply strg, arg	SLTY SH: med gy-gyshbn occ spec blk, sb ply-sb bly occ ply, si sft-si frm, slit tex, si arg, v sl calc SHY SS: wh-it gy, S&P occ lt brn, si frm - sft, sb ang-sb mnd, f -v f gr, ply strg, arg	SLTY SH: med gy-gyshbn occ spec blk, sb ply-sb bly occ ply, si sft-si frm, slit tex, si arg, v sl calc SHY SS: wh-it gy, S&P occ lt brn, si frm - sft, sb ang-sb mnd, f -v f gr, ply strg, arg
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224 ft/hr
MUD WT 10.2 VIS 39
OUT WT 10.25 VIS 39

471u
475u
357u
506u
613u

MD: 6.433'
TVD: 6.399.52'
Inclination: 24.43°
Azimuth: 274.2°
VS: -122.78'

MD: 6.477'
TVD: 6.439.28'
Inclination: 26.28°
Azimuth: 277.89°
VS: -104.16'

MD: 6.528'
TVD: 6.484.4'
Inclination: 29.73°
Azimuth: 281.37°
VS: -80.77'

MD: 6.570'
TVD: 6.520.14'
Inclination: 33.1°
Azimuth: 281.1°
VS: -69.51'

lt: med gy-gyshbn occ spec blk, sb ply-sb
ply, sl sft-sl frm, slt tex, sl arg, v sl calc
: wh-it gy, S&P occ lt brn, sl frm - sft, sb
nd, f - v f gr, ply strg, arg, tr dk yel o flr

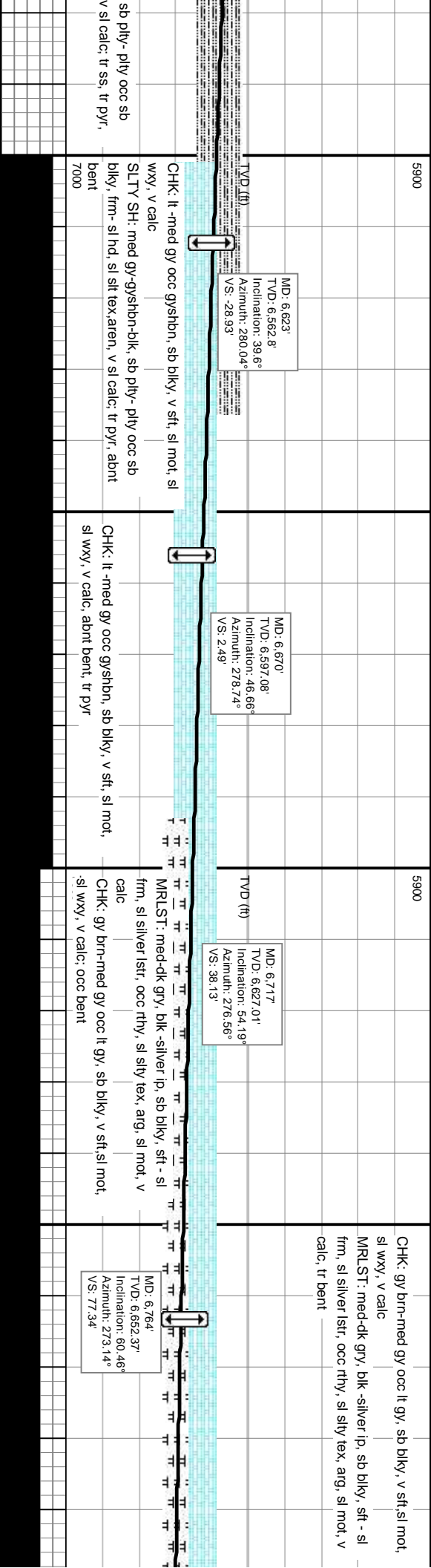
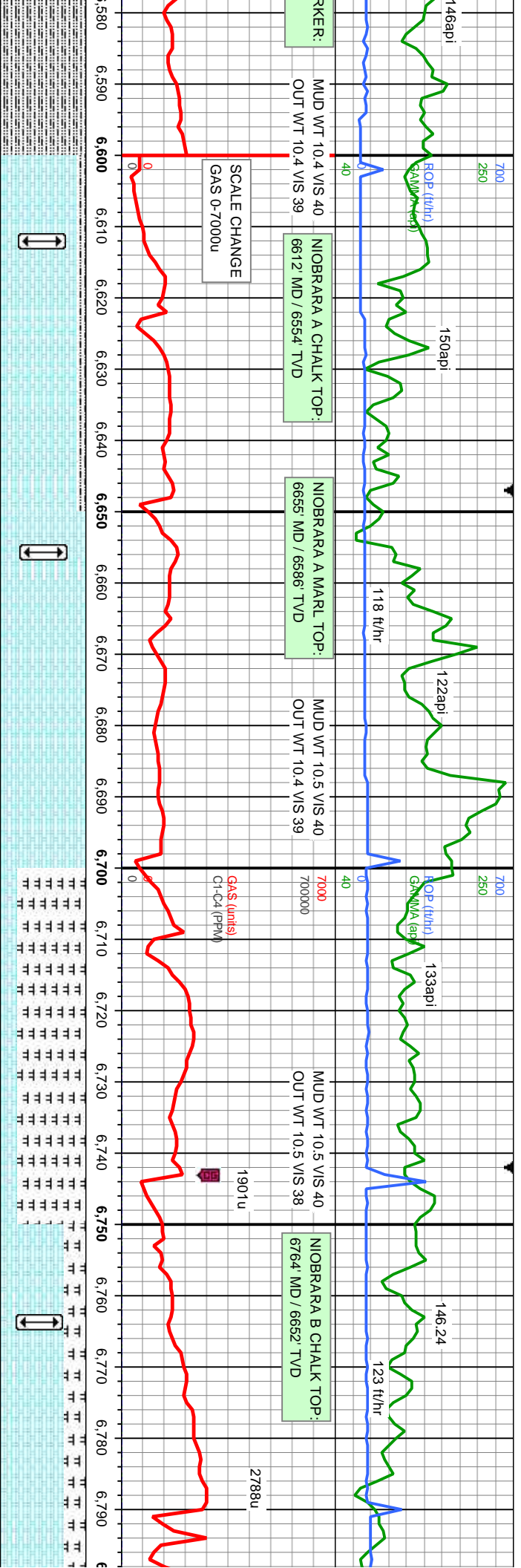
SLTY SH: med gy-gyshbn occ spec blk, sb ply-sb
biky occ ply, sl sft-sl frm, slt tex, sl arg, v sl calc,
biky occ ply, sl sft-sl frm, slt tex, sl arg, v sl calc, tr
bdd ss

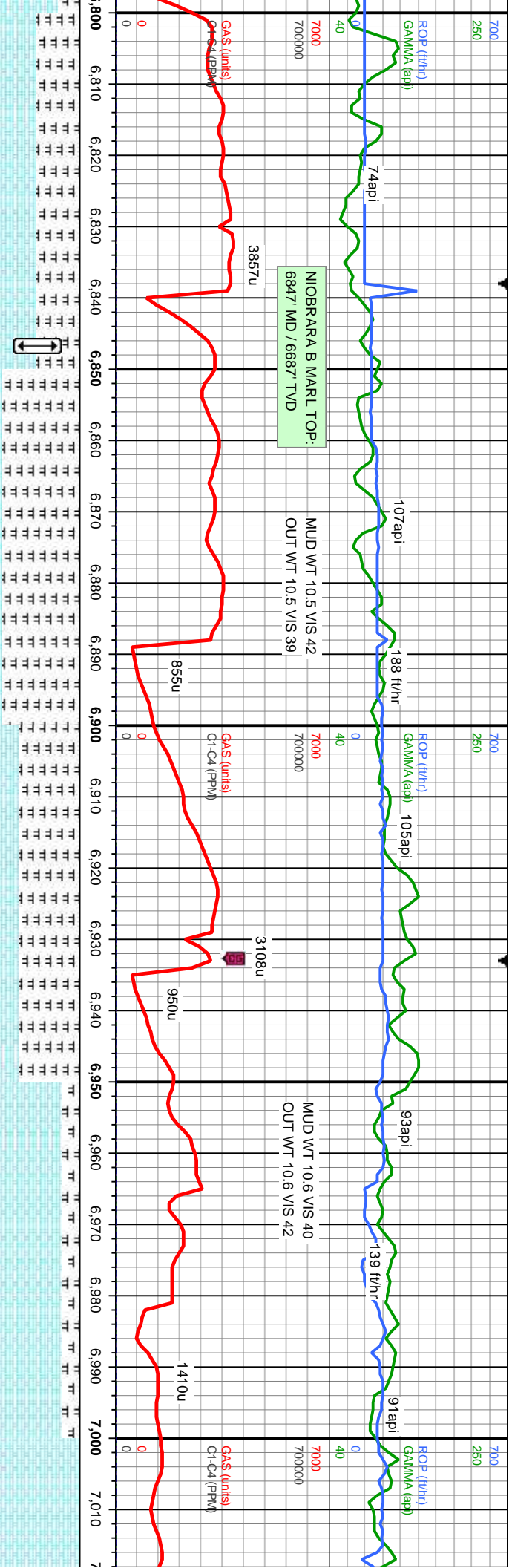
SLTY SH: med gy-gyshbn occ spec blk, sb ply-sb
biky occ ply, sl sft-sl frm, slt tex, sl arg, v sl calc
SHY SS: wh-it gy, S&P occ lt brn, sl frm - sft, sb
ang-sb md, f - v f gr, ply strg, arg, tr dk yel o flr

SLTY SH: med gy-gyshbn-blk, sb ply- pily occ sb
biky, frm- sl hd, sl slt tex, aren, v sl calc; tr ss, abnt
bent

SLTY SH: med gy-gyshbn-blk,
biky, frm- sl hd, slt tex, aren,
abnt bent

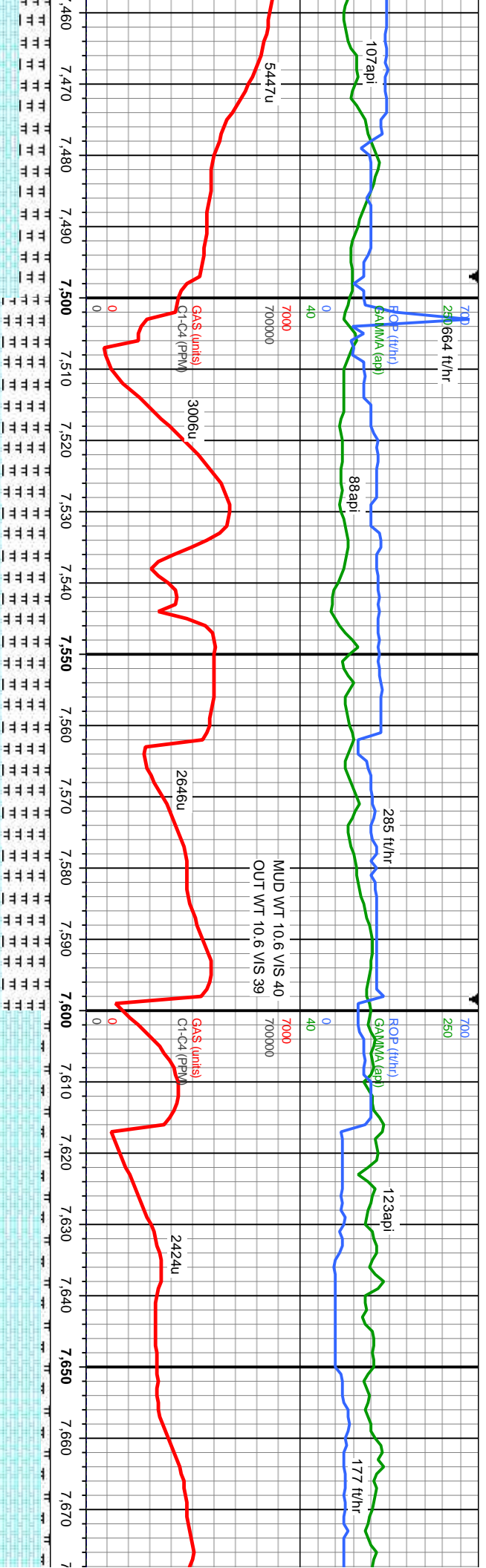






5900	CHK: gy brn-med gy occ lt gy, sb blk, v sft,sl mot, sl wxy, v calc	MD: 6.812' TVD: 6.674, 1' Inclination: 66.71° Azimuth: 270.06° VS: 120.01'
5900	MRSLST: med-dk gry, blk -silver ip, sb blk, sft - sl frm, sl silver lst, occ rthy, sl sly tex, arg, sl mot, v calc	MD: 6.859' TVD: 6.691, 49' Inclination: 70.85° Azimuth: 268.04° VS: 163.64'
5900	CHK: gy brn-med gy occ lt gy, sb blk, v sft,sl mot, sl wxy, v calc, abnt bent	MD: 6.907' TVD: 6.705, 7' Inclination: 74.7° Azimuth: 267.96° VS: 209.47'
5900	CHK: gy brn-med gy occ lt gy, sb blk, v sft,sl mot, sl wxy, v calc, tr bent	MD: 7.002' TVD: 6.728, 93' Inclination: 76.99° Azimuth: 269.15° VS: 301.56'





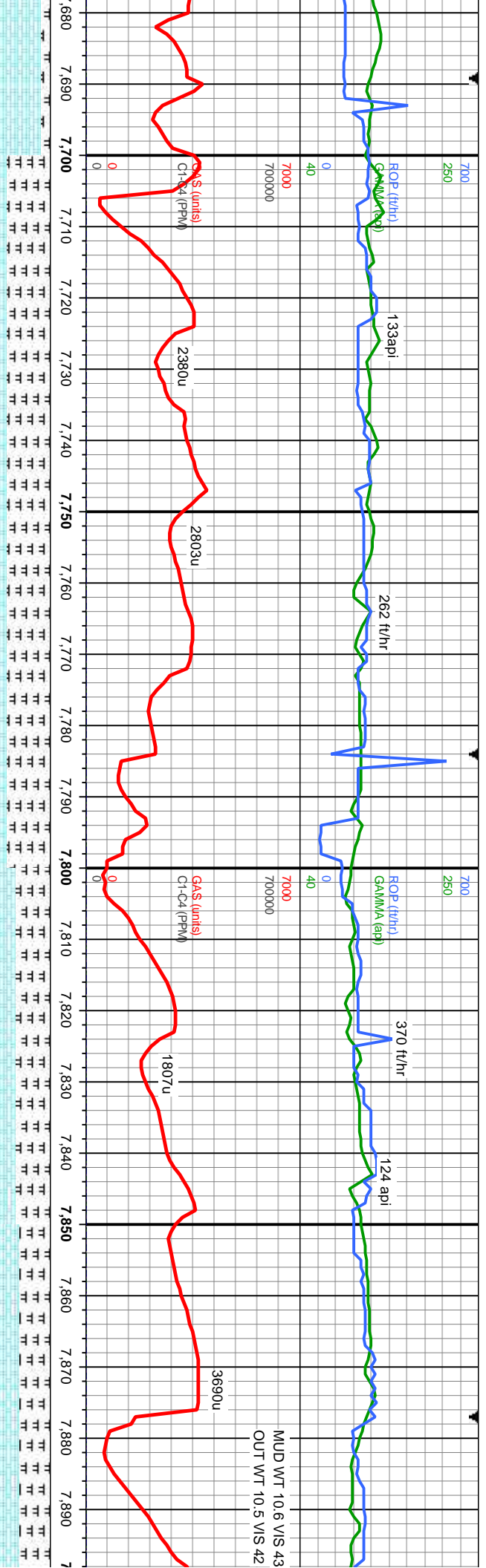
brn-med gy occ lt gy, sb blk, v sft,sl mot, calc	MRSLT: med-dk gry, blk-silver ip, sb blk, sft - sl frm, sl silver lsrt, occ rthy, sl silty tex, arg, sl mot, v calc	MRSLT: med-dk gry, blk-silver ip, sb blk, sft - sl frm, sl silver lsrt, occ rthy, sl silty tex, arg, sl mot, v calc	CHK: gy brn-med gy occ lt gy, sb blk, v sft,sl mot, sl wxy, v calc, tr bent
med-dk gry, blk-silver ip, sb blk, sft - sl	MRSLT: med-dk gry, blk-silver ip, sb blk, sft - sl frm, sl silver lsrt, occ rthy, sl silty tex, arg, sl mot, v calc	MRSLT: med-dk gry, blk-silver ip, sb blk, sft - sl frm, sl silver lsrt, occ rthy, sl silty tex, arg, sl mot, v calc	CHK: gy brn-med gy occ lt gy, sb blk, v sft,sl mot, sl wxy, v calc, tr bent
lvr lsrt, occ rthy, sl silty tex, arg, sl mot, v	MRSLT: med-dk gry, blk-silver ip, sb blk, sft - sl frm, sl silver lsrt, occ rthy, sl silty tex, arg, sl mot, v calc	MRSLT: med-dk gry, blk-silver ip, sb blk, sft - sl frm, sl silver lsrt, occ rthy, sl silty tex, arg, sl mot, v calc	CHK: gy brn-med gy occ lt gy, sb blk, v sft,sl mot, sl wxy, v calc, tr bent
tr bent	MRSLT: med-dk gry, blk-silver ip, sb blk, sft - sl frm, sl silver lsrt, occ rthy, sl silty tex, arg, sl mot, v calc	MRSLT: med-dk gry, blk-silver ip, sb blk, sft - sl frm, sl silver lsrt, occ rthy, sl silty tex, arg, sl mot, v calc	CHK: gy brn-med gy occ lt gy, sb blk, v sft,sl mot, sl wxy, v calc, tr bent

MD: 7.475
TVD: 6,758.42'
Inclination: 90.12°
Azimuth: 264.43°
VS: 722.22'

MD: 7.570
TVD: 6,758.22'
Inclination: 90.12°
Azimuth: 265.09°
VS: 867.12'

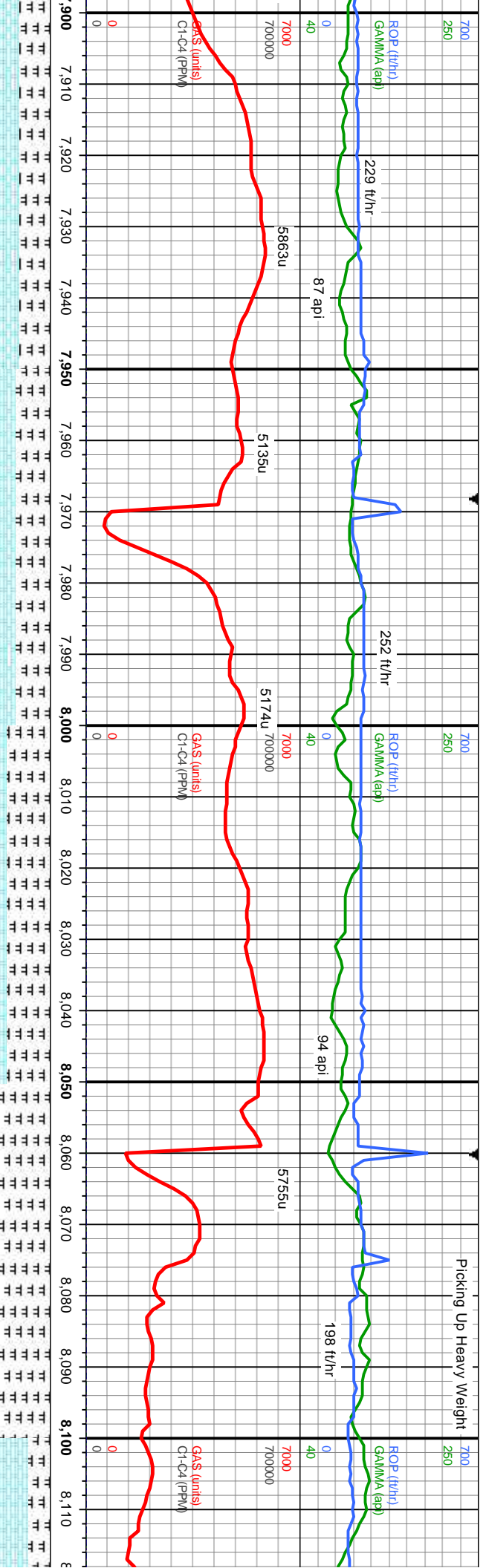
MD: 7.665
TVD: 6,757.99'
Inclination: 90.15°
Azimuth: 264.11°
VS: 962'





sb blkly, v sft,sl mot,	6700	CHK: gy brn-med gy occ lt gy, sb blkly, v sft,sl mot, sl wxy, v calc	6700	CHK: med -lt gy, sb blkly, sl sft-frm, v mot with mrl, sl wxy, v calc	6700	CHK: med -lt gy, sb blkly, sl sft-frm, v mot with mrl, sl wxy, v calc
ip, sb blkly, sft - sl		MRLST: med-dk gry, blk -silver ip, sb blkly, sft - sl frm, sl silver lstr, occ rthy, sl silty tex, arg, sl mot, v calc		MRLST: med-dk gry, blk occ speckl wh chk, sb blkly, sl sft - frm, sl silver lstr, rthy, sl silty tex, arg, sl mot, v calc		MRLST: med-dk gry, blk occ speckl wh chk, sb blkly, sl sft - frm, sl silver lstr, rthy, sl silty tex, arg, sl mot, v calc
y tex, arg, sl mot, v						
TVD (ft)						
TVD (ft)						
MD: 7.759'						
TVD: 6.757/64'						
Inclination: 90.28°						
Azimuth: 262.11°						
VS: 1.055.72'						
MD: 7.854'						
TVD: 6.757/26'						
Inclination: 90.18°						
Azimuth: 265.4°						
VS: 1.150.51'						

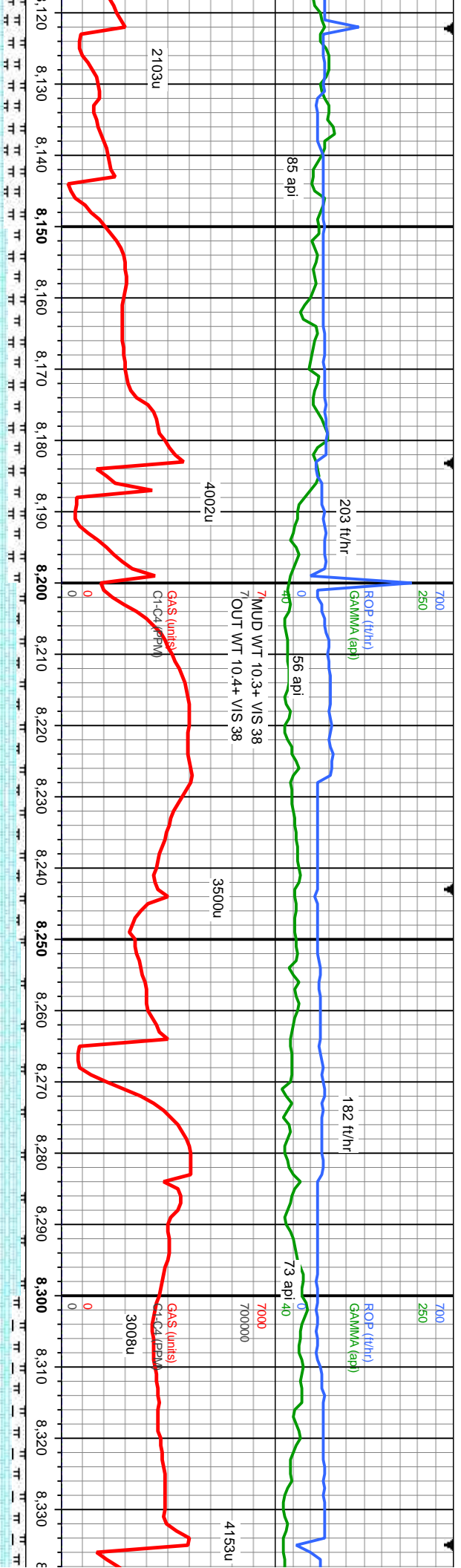




6700	CHK: med -lt gy, sb blkly, sl sft-frm, v mot with mtl, sl wxy, v calc	CHK: med -lt gy, sb blkly, sl sft-frm, v mot with mtl, sl wxy, v calc	6700	MRLST: med-dk gry, blk occ speckl wh chk, sb blkly, sl sft - frm, sl silver lstr, rthy, sl silty tex, arg, sl mot, v calc	MRLST: med-dk gry, blk occ speckl wh chk, sb blkly, sl sft - frm, sl silver lstr, rthy, sl silty tex, arg, sl mot, v calc	6700	CHK: med -lt gy, sb blkly, sl sft-frm, v mot with mtl, sl wxy, v calc	CHK: med -lt gy, sb blkly, sl sft-frm, v mot with mtl, sl wxy, v calc	6700	CHK: med -lt gy, sb blkly, sl sft-frm, v mot with mtl, sl wxy, v calc	CHK: med -lt gy, sb blkly, sl sft-frm, v mot with mtl, sl wxy, v calc
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6800	MD: 7.949 TVD: 6,757.13' Inclination: 89.97° Azimuth: 267.43° VS: 1.245.49'	MD: 8.035 TVD: 6,757.04' Inclination: 90.15° Azimuth: 269.24° VS: 1.331.47'	MD: 8.097 TVD: 6,756.93' Inclination: 90.06° Azimuth: 269.59° VS: 1.393.44'
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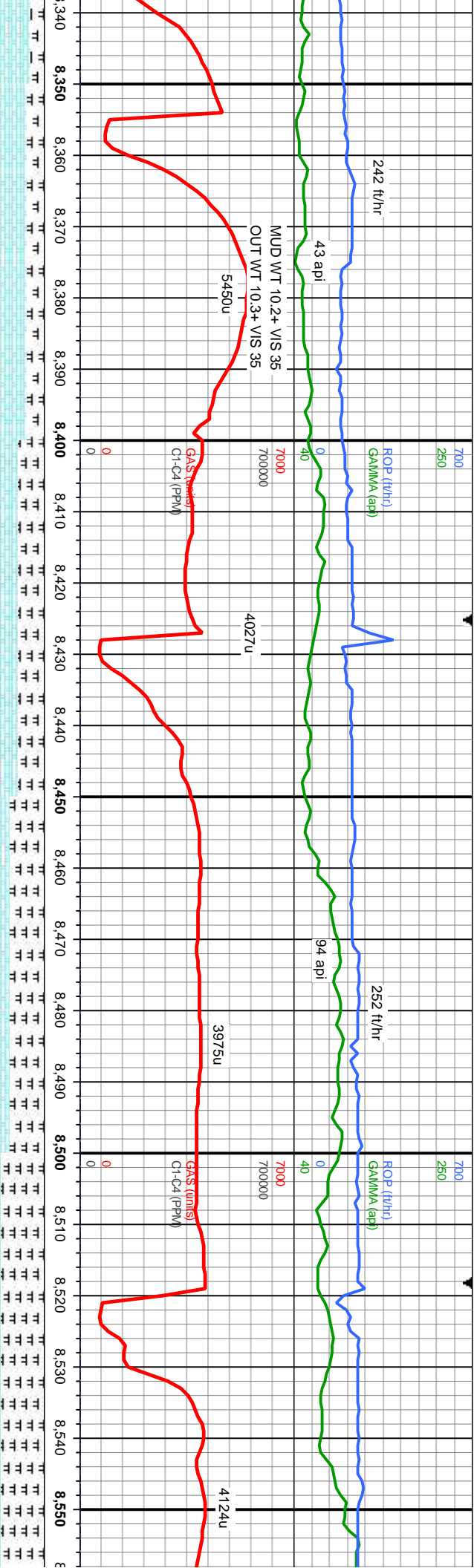
occ wh-it brn, sb blk, sl sft-frm, wxy, occ bdg, v calc	CHK: med -lt gy occ wh-it brn, sb blk, sl sft-frm, v mot with mrl, sl wxy, occ bdg, v calc	CHK: med -lt gy occ wh-it brn, sb blk, sl sft-frm, v mot with mrl, sl wxy, occ bdg, v calc
gy, blk occ speckl wh chk, sb blk, sl sft - frm, sl silver lstr, rthy, sl silty tex, arg, sl mot, v calc	MRLST: med-dk gry, blk occ speckl wh chk, sb blk, sl sft - frm, sl silver lstr, rthy, sl silty tex, arg, sl mot, v calc	MRLST: med-dk gry, blk occ speckl wh chk, sb blk, sl sft - frm, sl silver lstr, rthy, sl silty tex, arg, sl mot, v calc

MD: 8,158'
TVD: 6,756.82'
Inclination: 90.15°
Azimuth: 270.56°
VS: 1,454.37

MD: 8,218'
TVD: 6,756.74'
Inclination: 90°
Azimuth: 271.8°
VS: 1,514.24

MD: 8,310'
TVD: 6,756.62'
Inclination: 90.15°
Azimuth: 274.33°
VS: 1,605.8

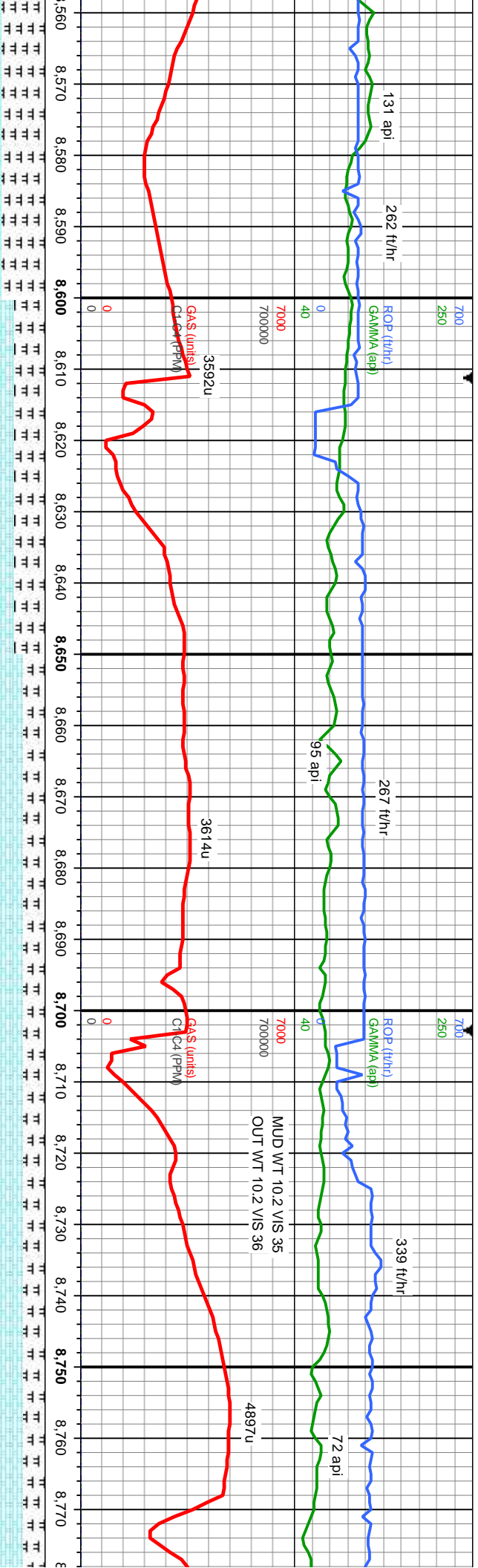




sft-firm, v mot with mrl, sl wxy, occ bdg, v calc	CHK: med -lt gy occ wh-it brn, sb blk, sl sft-firm, v mot with mrl, sl wxy, occ bdg, v calc	CHK: med -lt gy occ wh-it brn, sb blk, sl sft-firm, v mot with mrl, sl wxy, occ bdg, v calc	CHK: med -lt gy occ medgy- wh-it brn, sb blk, sl sft-firm, v mot with mrl, sl wxy, v calc	CHK: lt gy occ medgy- wh-it brn, sb blk, sl sft-firm, v mot with mrl, sl wxy, v calc
shk, sb blk, arg,	MRLST: med-dk gry, blk occ speckl wh chk, sb blk, sl sft - firm, sl silver lstr, rthy, sl silty tex, arg,	MRLST: med-dk gry, blk occ speckl wh chk, sb blk, sl sft - firm, sl silver lstr, rthy, sl silty tex, arg,	MRLST: med-dk gry, blk occ speckl wh chk, sb blk, sl sft - firm, sl silver lstr, rthy, sl silty tex, arg,	MRLST: med-dk gry, blk occ speckl wh chk, sb blk, sl sft - firm, sl silver lstr, rthy, sl silty tex, arg,
sl mot, v calc	sl mot, v calc	sl mot, v calc	sl mot, v calc	sl mot, v calc

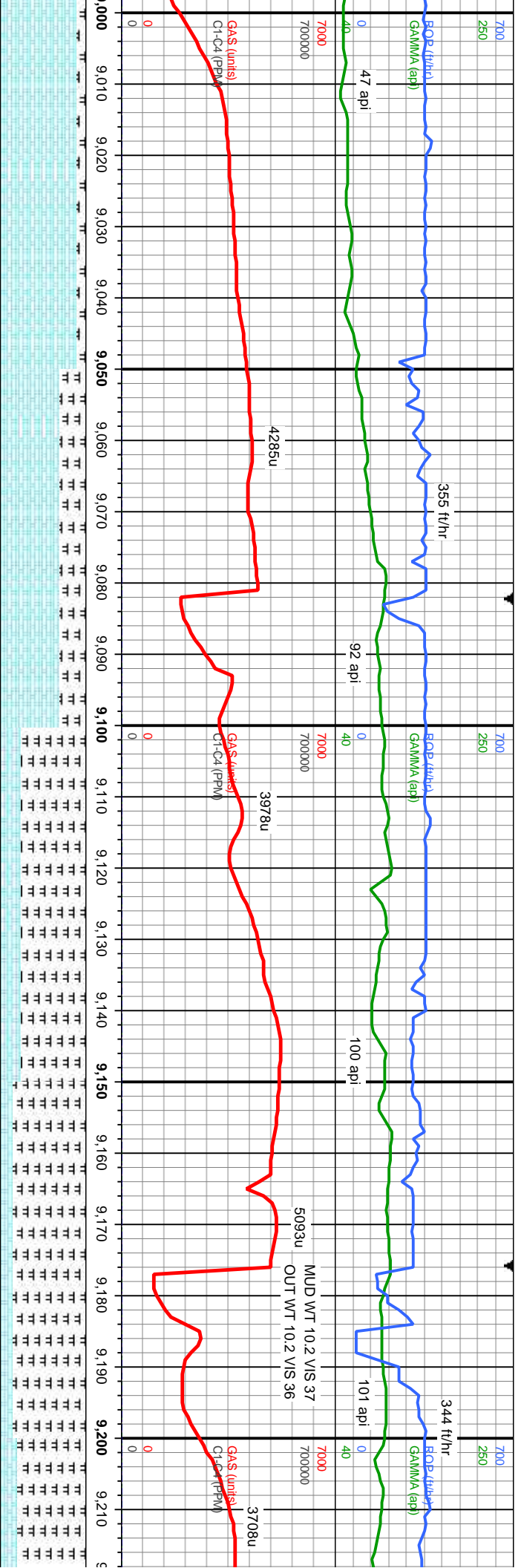
MD: 8.402' TVD: 6,755.95' Inclination: 90.68° Azimuth: 275.41° VS: 1.69702'	MD: 8.494' TVD: 6,755.06' Inclination: 90.43° Azimuth: 275.63° VS: 1.788.11'
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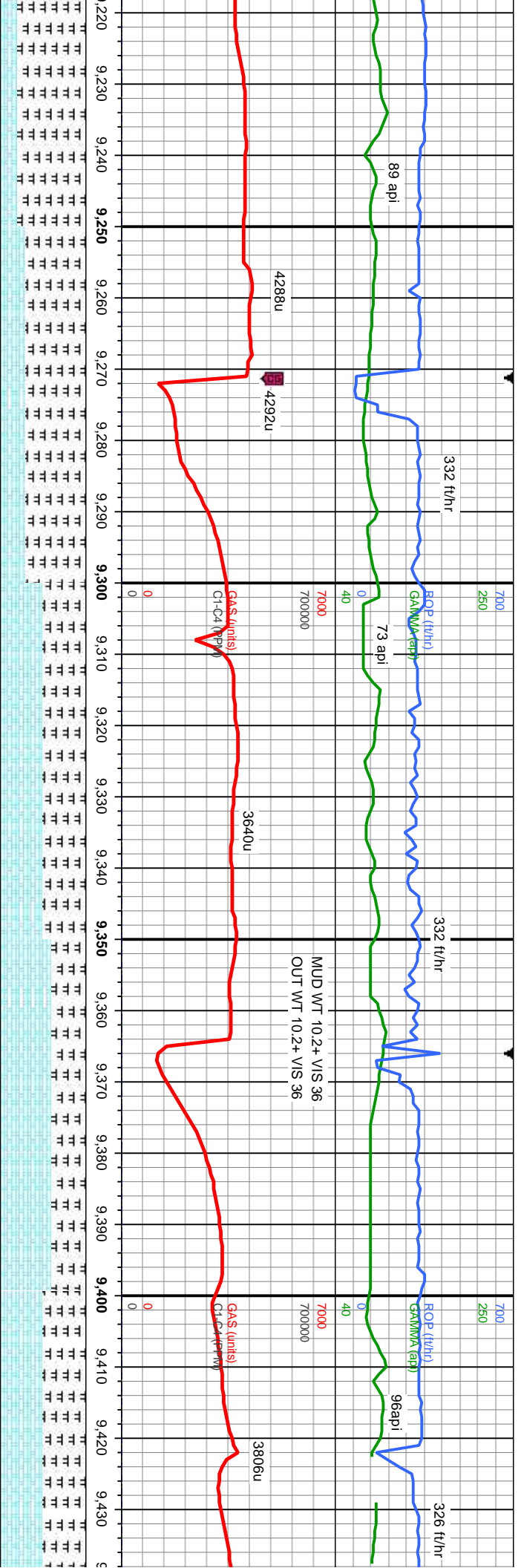
gy occ medgy- wh-lt brn, sb blk, sl v mot with mrl, sl wxy, v calc	6700	CHK: lt-med gy occ wh, sb blk, sl sft-frn, v mot with mrl, sl wxy, v calc	6700	CHK: lt-med gy occ wh, sb blk, sl sft-frn, v mot with mrl, sl wxy, v calc	6700	CHK: lt-med gy occ wh, sb blk, sl sft-frn, v mot with mrl, sl wxy, v calc
		MRLST: med-dk gry, blk occ speckl wh chk, sb blk, sl sft - frm, sl silver lstr, rthy, sl silty tex, arg, sl mot, v calc		MRLST: med-dk gry, blk occ speckl wh chk, sb blk, sl sft - frm, sl silver lstr, rthy, sl silty tex, arg, sl mot, v calc		MRLST: med-dk gry, blk occ speckl wh chk, sb blk, sl sft - frm, sl silver lstr, rthy, sl silty tex, arg, sl mot, v calc
TVD (ft)						
MD: 8.586'						
TVD: 6,754.69'						
Inclination: 90.03°						
Azimuth: 276.04°						
VS: 1.879.13'						
MD: 8.678'						
TVD: 6,754.57'						
Inclination: 90.12°						
Azimuth: 274.48°						
VS: 1.970.28'						
MD: 8.773'						
TVD: 6,754.73'						
Inclination: 89.6°						
Azimuth: 272.8°						
VS: 2.064.72'						





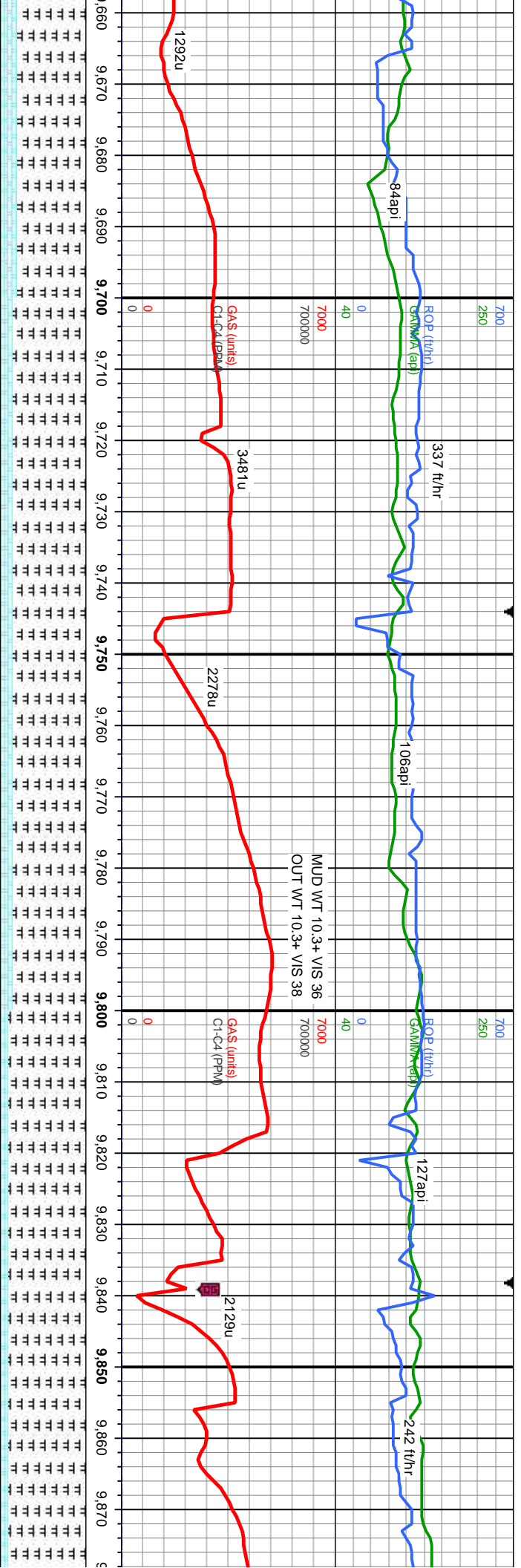
6700	CHK: lt-med gy occ wh, sb blk, sl sft-frm, v mot with mrl, sl wxy, v calc	CHK: lt-med gy occ wh, sb blk, sl sft-frm, v mot with mrl, sl wxy, v calc	6700	MRLST: med-dk gry, sb blk-sb ply, sl frm-hd, sl silver lstr, rthy-mot tex, sl silty tex, arg, v calc	MRLST: med-dk gry, sb blk-sb ply, sl frm-hd, sl silver lstr, rthy-mot tex, sl silty tex, arg, v calc	6700	MRLST: med-dk gry, sb blk-sb ply, sl frm-hd, sl silver lstr, rthy-mot tex, sl silty tex, arg, v calc
	MRLST: med-dk gry, blk occ speckl wh chk, sb blk, sl frm-hd, sl silver lstr, rthy, sl silty tex, arg, occ sl mot, v calc	MRLST: med-dk gry, blk occ speckl wh chk, sb blk, sl frm-hd, sl silver lstr, rthy, sl silty tex, arg, occ sl mot, v calc		CHK: med gy -gysbhn, sb blk, sl sft-frm, v mot with mrl, sl wxy, v calc	CHK: med gy -gysbhn, sb blk, sl sft-frm, v mot with mrl, sl wxy, v calc		CHK: med gy -gysbhn, sb blk, sl sft-frm, v mot with mrl, sl wxy, v calc
TVD (ft)							
MD: 9.051'							
TVD: 6,755.42'							
Inclination: 89.94°							
Azimuth: 271.21°							
VS: 2,341.81'							
6800			6800			6800	
MD: 9.151'							
TVD: 6,755.72'							
Inclination: 89.72°							
Azimuth: 271.02°							
VS: 2,441.55'							
6800			6800			6800	





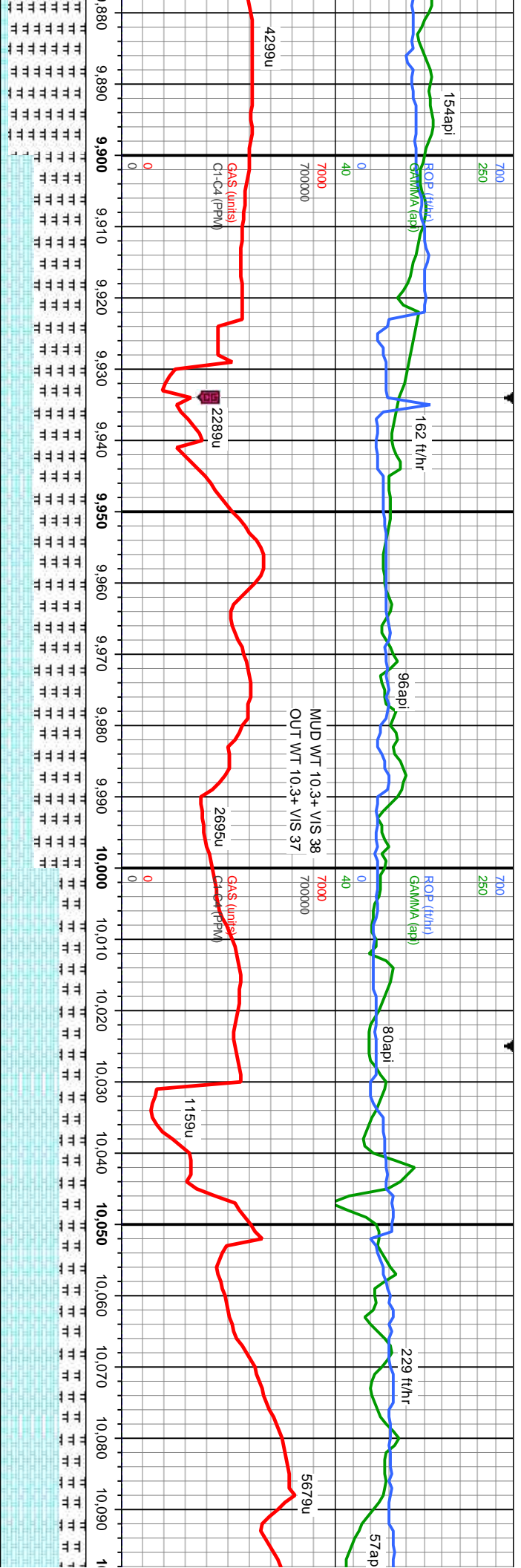
gry, sb blk-y-sb ply, sl frm-hd, sl it tex, sl sily tex, arg, v calc shbn, sb blk-y, sl stf-frm, v mot calc		MRLST: med-dk gry, sb blk-y-sb ply, sl frm-hd, sl silver lstr, rthy-mot tex, sl sily tex, arg, v calc CHK: med gy -gysbn, sb blk-y, sl stf-frm, v mot with mrl, sl wxy, v calc		MRLST: med-dk gry, sb blk-y-sb ply, sl frm-hd, sl silver lstr, rthy-sl mot tex, sl sily tex, arg, v calc CHK: med gy -gysbn, sb blk-y, sl stf-frm, v mot with mrl, sl wxy, v calc		MRLST: med-dk gry, sb blk-y-sb ply, sl frm-hd, sl silver lstr, rthy-sl mot tex, sl sily tex, arg, v calc CHK: med gy -gysbn, sb blk-y, sl stf-frm, v mot with mrl, sl wxy, v calc	
MD: 9.246'		MD: 9.341'		MD: 9.436'		MD: 9.436'	
TVD: 6.756.05'		TVD: 6.756.15'		TVD: 6.756.15'		TVD: 6.756.15'	
Inclination: 89.88°		Inclination: 90°		Inclination: 90°		Inclination: 90°	
Azimuth: 269.65°		Azimuth: 267.93°		Azimuth: 267.93°		Azimuth: 267.93°	
VS: 2.536.42'		VS: 2.631.39'		VS: 2.631.39'		VS: 2.631.39'	
6800		6800		6800		6800	





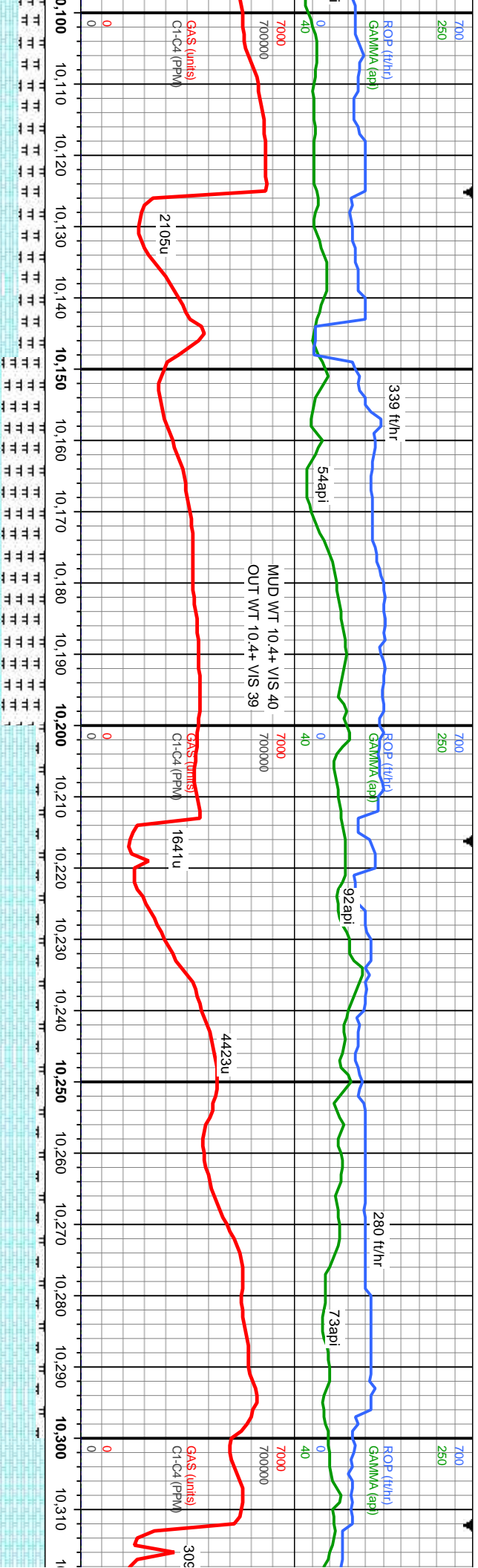
med-dk gry-blk, sb blk-y-sb ply, sl frm-hd, istr, rthy-sl mot tex, sl silty tex, arg, v calc med gy -gysbhn, sb blk-y, sl sft-frm, v mot with xy, v calc, tr bent, rr foss frag, rr pyr	6700	MRLST: med-dk gry-blk, sb blk-y-sb ply, sl frm-hd, sl silver istr, rthy-sl mot tex, sl silty tex, arg, v calc CHK: med gy -gysbhn, sb blk-y, sl sft-frm, v mot with mrl, sl wxy, v calc, abnt bent, rr foss frag, rr pyr	6700	MRLST: med-dk gry-blk, sb blk-y-sb ply, sl frm-hd, sl silver istr, rthy-sl mot tex, sl silty tex, arg, v calc CHK: med gy -gysbhn, sb blk-y, sl sft-frm, v mot with mrl, sl wxy, v calc, abnt bent, rr foss frag, rr pyr	6700	MRLST: med-dk gry-blk, sb blk-y-sb ply, sl frm-hd, sl silver istr, rthy-sl mot tex, sl silty tex, arg, v calc CHK: med gy -gysbhn, sb blk-y, sl sft-frm, v mot with mrl, sl wxy, v calc, abnt bent, rr foss frag, rr pyr
TVD (ft)		TVD (ft)		TVD (ft)		
MD: 9.719° Inclination: 90.03° Azimuth: 266.83° VS: 3.009.33		MD: 9.814° Inclination: 89.97° Azimuth: 265.92° VS: 3.104.32		MD: 9.814° Inclination: 89.97° Azimuth: 265.92° VS: 3.104.32		
6800		6800		6800		





6700	6700
MRSLST: med-dk gry-blk, sb blk-y-sb ply, sl frm-hd, sl silver lst, rthy-sl mot tex, sl sily tex, arg, v calc	CHK: med gy -lt gysbhn, sb blk-y, sl sft-firm, mod mot with mrl, sl wxy, v calc
CHK: med gy -gysbhn, sb blk-y, sl sft-firm, mod mot with mrl, sl wxy, v calc, abnt bent, rr inoc frags, rr pyr	MRSLST: med-dk gry-blk, sb blk-y-sb ply, sl frm-hd, sl silver lst, rthy-sl mot tex, sl sily tex, arg, v calc
	MRSLST: med-dk gry-blk, sb blk-y-sb ply, sl frm-hd, sl silver lst, rthy-sl mot tex, sl sily tex, arg, v calc, tr bent, rr inoc frags, rr pyr
TVD (ft)	
MD: 9,909 TVD: 6,756.3' Inclination: 90.06° Azimuth: 269.35° VS: 3,199.3'	
6800	
TVD (ft)	
MD: 10,027' TVD: 6,756.21' Inclination: 90.03° Azimuth: 264.99° VS: 3,317.27'	
6800	
MD: 10,067' TVD: 6,756.21' Inclination: 90.03° Azimuth: 264.99° VS: 3,317.27'	
6800	





6700
CHK: med gy -lt gysbhn, sb blk, sl sft-fm, mod
mot, sl wxy, v calc
MR.LST: med-dk gry-blk, sb blk-sb ply, sl frm-hd,
sl silver lst, rthy-sl mot tex, sl silty tex, arg, v calc, rr
bent, rr fos frags, rr pyr

6700
CHK: med gy -lt gysbhn, sb blk, sl sft-fm, mod
mot, sl wxy, v calc
MR.LST: med-dk gry-blk, sb blk-sb ply, sl frm-hd,
sl silver lst, rthy-sl mot tex, sl silty tex, arg, v calc, rr
bent, rr fos frags, rr pyr

6700
CHK: med gy -lt gysbhn, sb blk, sl sft-fm, mod
mot, sl wxy, v calc
MR.LST: med-dk gry-blk, sb blk-sb ply, sl frm-hd,
sl silver lst, rthy-sl mot tex, sl silty tex, arg, v calc, rr
bent, rr fos frags

6700
CHK: med gy -lt gysbhn, sb blk, sl sft-fm, mod
mot, sl wxy, v calc
MR.LST: med-dk gry-blk, sb blk-sb ply, sl frm-hd,
sl silver lst, rthy-sl mot tex, sl silty tex, arg, v calc, rr
bent, rr fos frags

6700
CHK: med gy -lt gy
mot, sl wxy, v calc,

TVD (ft)

TVD (ft)

TVD (ft)

998'
56.12°
on: 90.12°
1264.77°
8.2°

MD: 10.193°
TVD: 6.756.02°
Inclination: 90°
Azimuth: 265.2°
VS: 3.483.11°

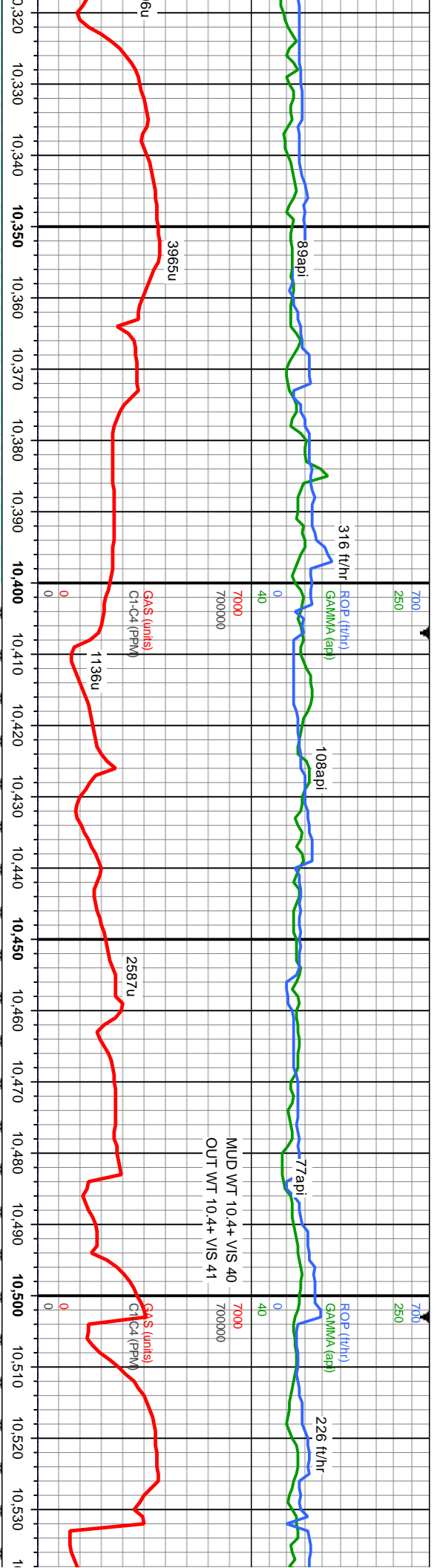
MD: 10.287°
TVD: 6.756.02°
Inclination: 90°
Azimuth: 265.16°
VS: 3.577.04°

6800

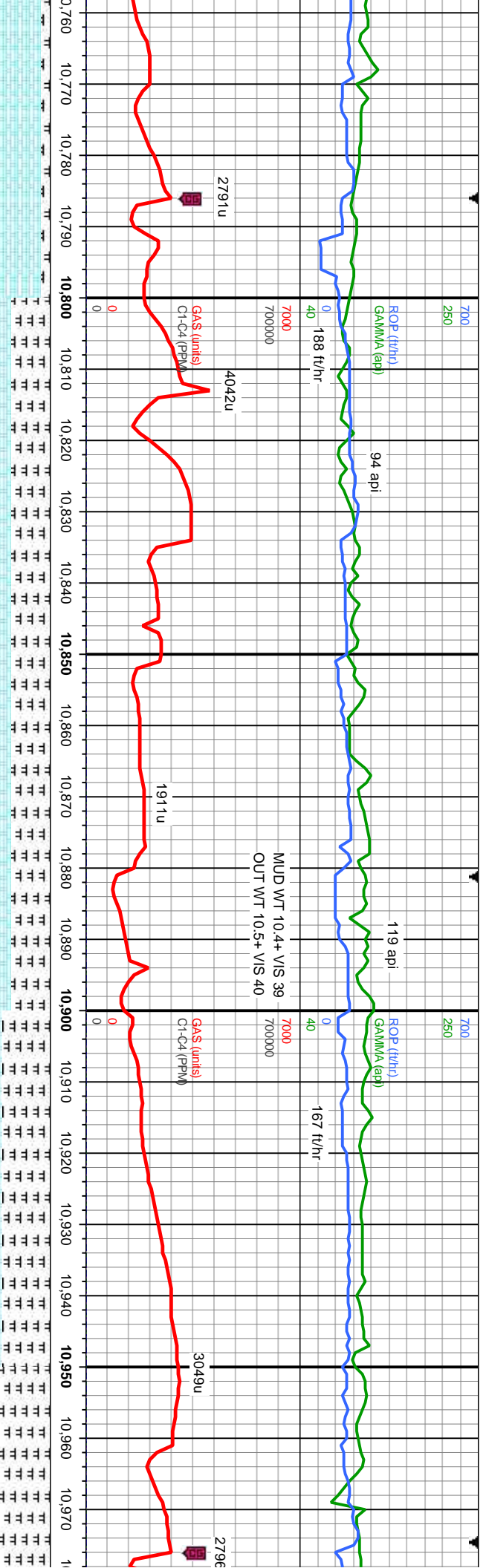
6800

6800



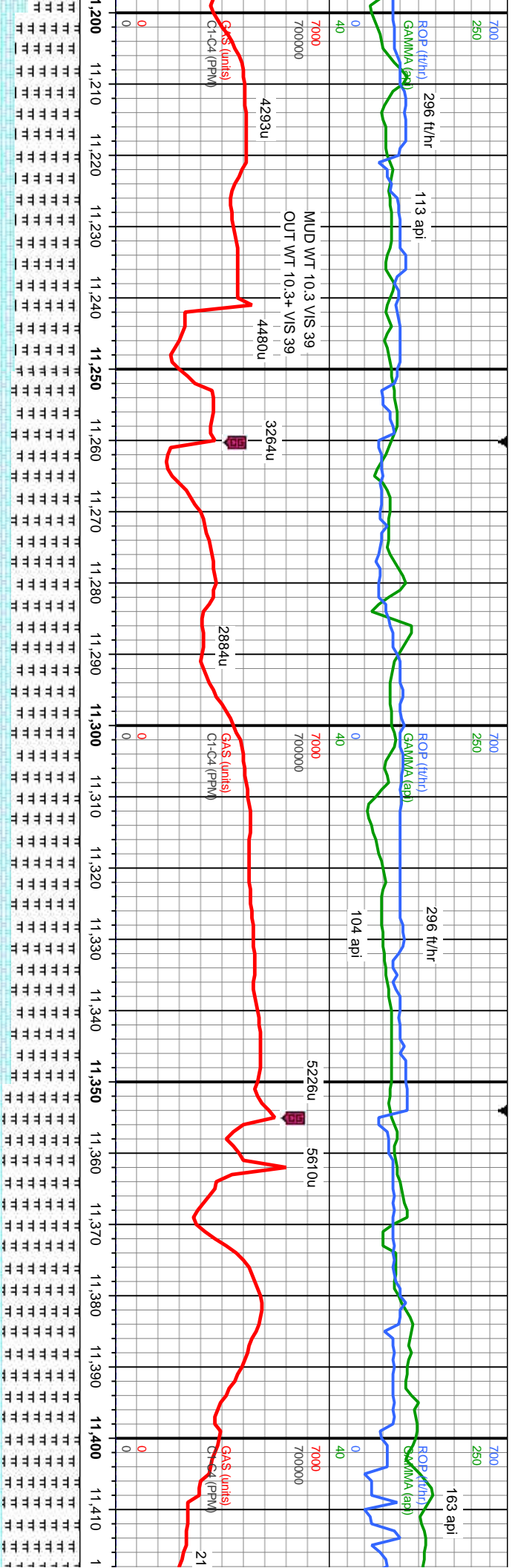


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	6700	6700	6700
med gy -lt gyshtbn, sb blk, sl sft-frm, mod	MR.LST: med-dk gry-blk, sb blk-sb ply, sl frm-hd, sl silver lstr, rthy-sl mod tex, sl sly tex, arg, v calc CHK: med gy -lt gyshtbn, sb blk, sl sft-frm, mod mot, sl wxy, v calc, abnt bent, occ pyr, occ fss frags	MR.LST: med-dk gry-blk, sb blk-sb ply, sl frm-hd, sl silver lstr, rthy-sl mod tex, sl sly tex, arg, v calc CHK: med gy -lt gyshtbn, sb blk, sl sft-frm, mod mot, sl wxy, v calc, abnt bent, occ pyr, occ fss frags	MR.LST: med-dk gry-blk, sb blk-sb ply, sl frm-hd, sl silver lstr, rthy tex, sl sly tex, arg, v calc CHK: med gy occ lt gy -gyshtbn, sb blk, sl sft-frm, mod mot, sl wxy, v calc, abnt bent, occ fss frags, tr cal nod foss
10,760'	TVD (ft)	TVD (ft)	
6,755.89'			
Incination: 89.78°			
Azimuth: 271.9°			
VS: 4,144.22'			
6800		6800	6800





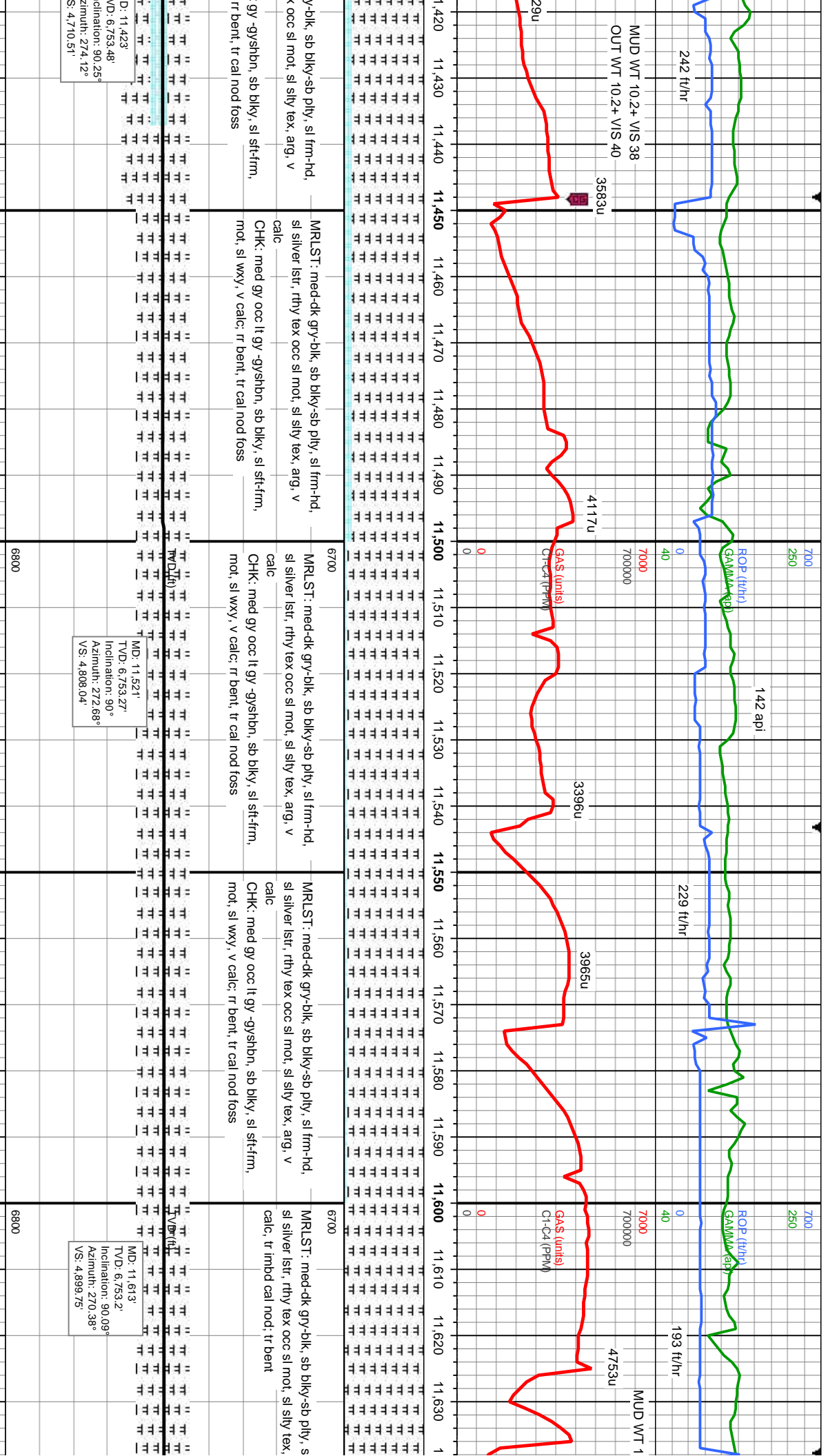
6700	MR.LST: med-dk gry-blk, sb biky-sb pily, sl frm-hd, sl silver lstr, rthy tex, sl silty tex, arg, v calc CHK: med gy occ lt gy -gysbhn, sb biky, sl stf-frm, mot, sl wxy, v calc, occ bent, rr cal nod foss	6700	MR.LST: med-dk gry-blk, sb biky-sb pily, sl frm-hd, sl silver lstr, rthy tex, sl silty tex, arg, v calc CHK: med gy occ lt gy -gysbhn, sb biky, sl stf-frm, mot, sl wxy, v calc, occ bent, rr cal nod foss	6700	MR.LST: med-dk gry-blk, sb biky-sb pily, sl frm-hd, sl silver lstr, rthy tex, arg, v calc CHK: med gy occ lt gy -gysbhn, sb biky, sl stf-frm, mot, sl wxy, v calc, rr bent, tr cal nod foss	6700	MR.LST: med-dk gry-blk, sb biky-sb pily, sl frm-hd, sl silver lstr, rthy tex, arg, v calc CHK: med gy occ lt gy -gysbhn, sb biky, sl stf-frm, mot, sl wxy, v calc
6800		6800		6800		6800	

MD: 11.234'
Inclination: 90.25°
Azimuth: 271.5°
VS: 4.522.39

MD: 11.329'
Inclination: 90.25°
Azimuth: 273.08°
VS: 4.617.05

MD: 11.329'
Inclination: 90.25°
Azimuth: 273.08°
VS: 4.617.05





D: 11.423'

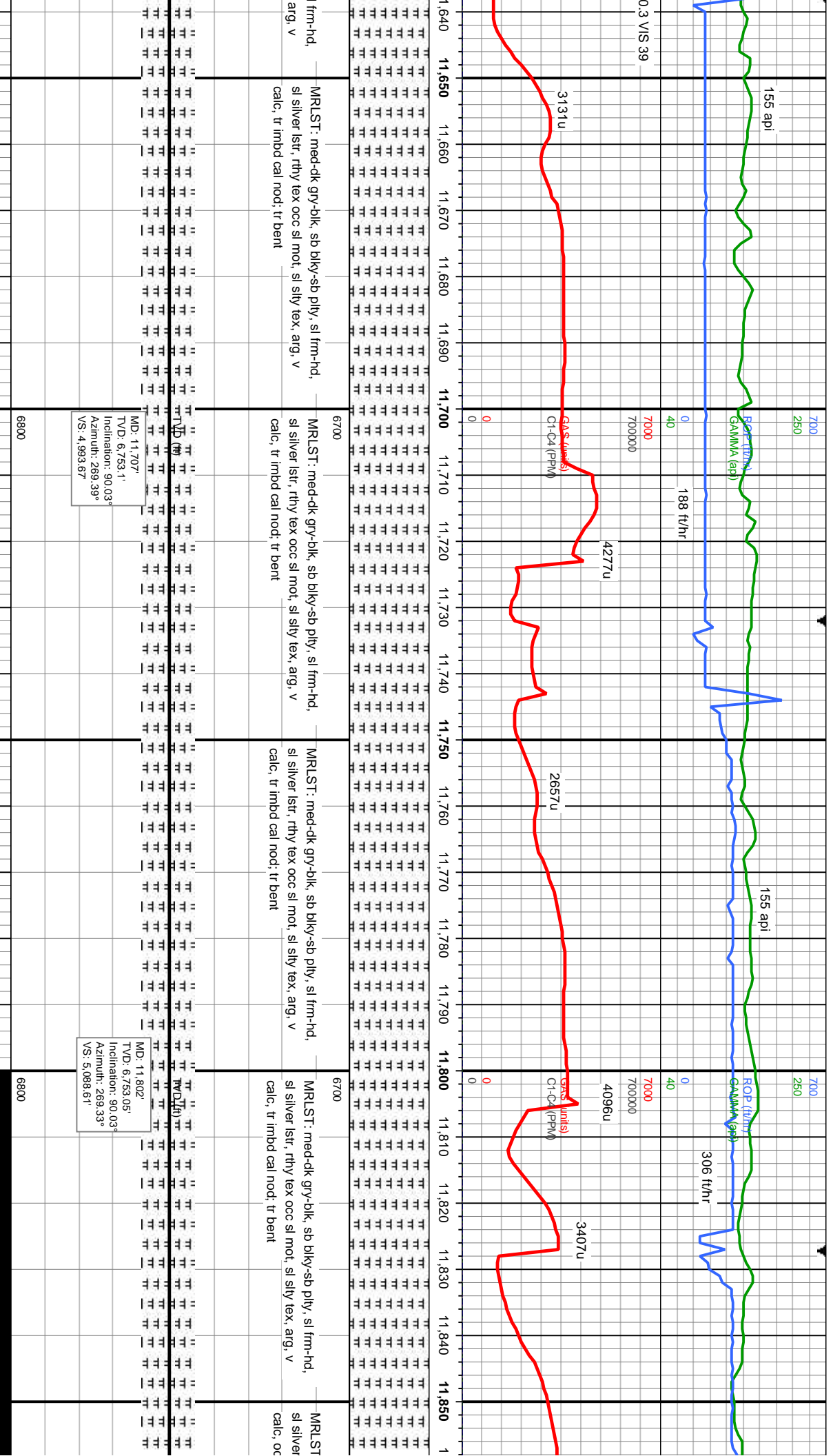
VD: 6,753.48'

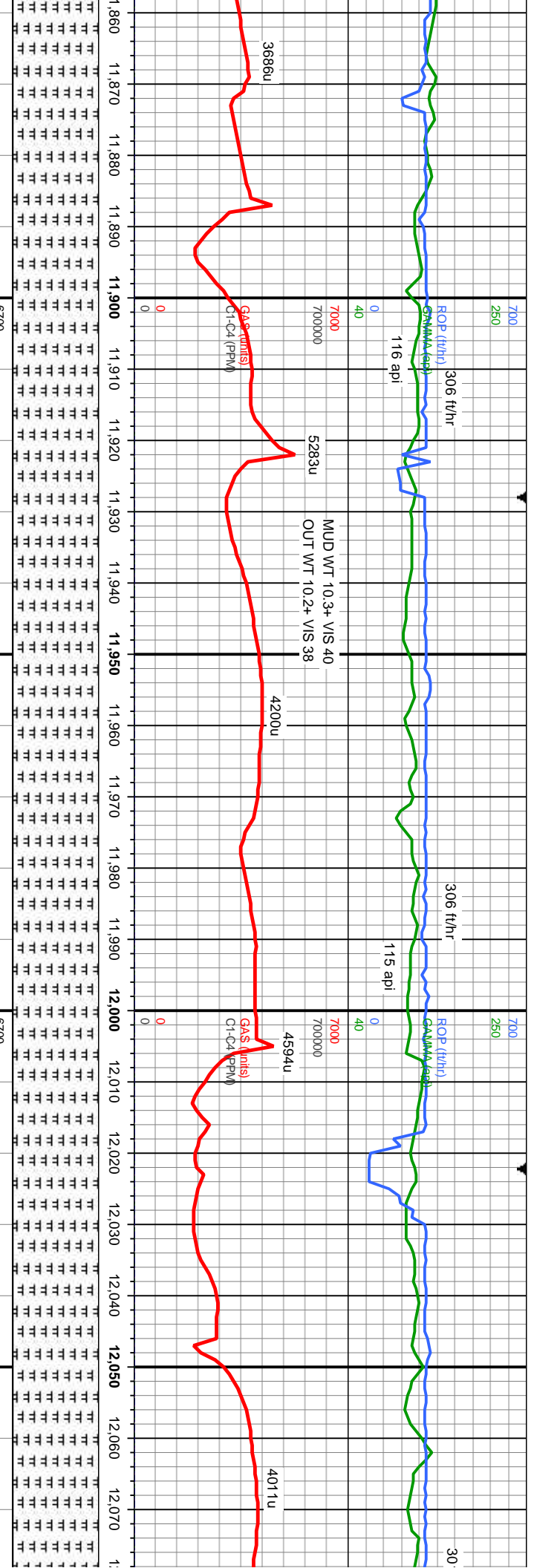
Inclination: 90.25°

Azimuth: 274.12°

S: 4,710.51'







med-dk gry-blk, sb blk-y-sb pily, sl frm-hd, str, rthy tex occ sl mot, sl silty tex, arg, v
occ imbd cal nod, tr bent

MRLST: med-dk gry-blk, sb blk-y-sb pily, sl frm-hd, sl silver lstr, rthy tex occ sl mot, sl silty tex, arg, v calc, occ imbd cal nod, tr bent

MRLST: med-dk gry-blk, sb blk-y-sb pily, sl frm-hd, sl silver lstr, rthy tex occ sl mot, sl silty tex, arg, v calc, occ imbd cal nod, tr bent, tr pyr

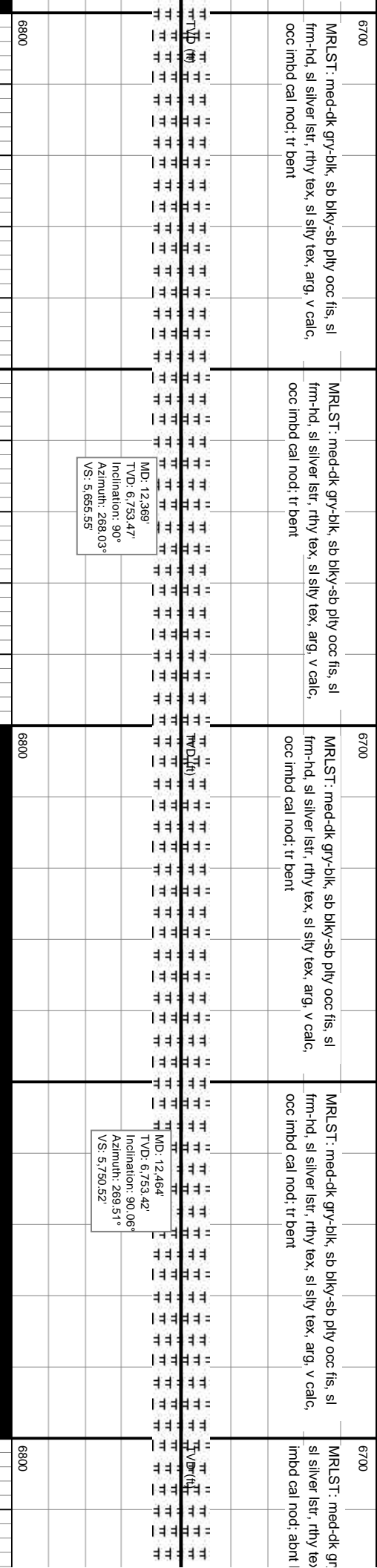
MRLST: med-dk gry-blk, sb blk-y-sb pily occ fis, sl frm-hd, sl silver lstr, rthy tex, sl silty tex, arg, v calc, occ imbd cal nod, tr bent

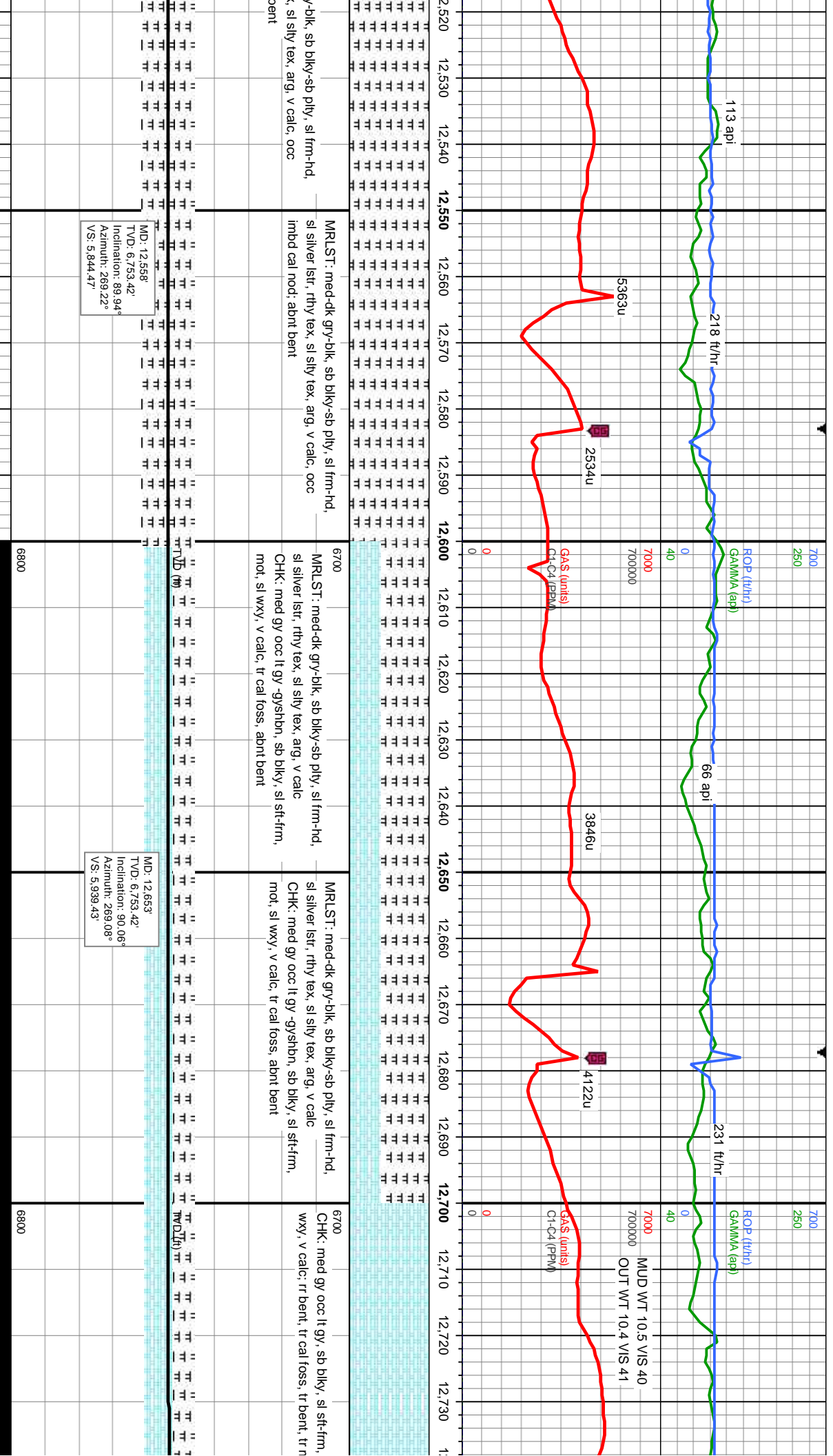
MRLST: med-dk gry-blk, sb blk-y-sb pily, sl frm-hd, sl silver lstr, rthy tex, s

MD: 11,897'
TVD: 6,753.05'
Inclination: 89.97°
Azimuth: 268.08°
VS: 5,183.59

MD: 11,991'
TVD: 6,753.1'
Inclination: 89.97°
Azimuth: 267.25°
VS: 5,277.59







MR.LST: med-dk gry-blk, sb blk-y-sb pily, sl frm-hd, sl silver lst, rthy tex, sl silty tex, arg, v calc, occ imbd cal nod; abnt bent

MR.LST: med-dk gry-blk, sb blk-y-sb pily, sl frm-hd, sl silver lst, rthy tex, sl silty tex, arg, v calc CHK: med gy occ lt gy -gysbhn, sb blk-y, sl sft-frm, mot, sl wxy, v calc, tr cal foss, abnt bent

MR.LST: med-dk gry-blk, sb blk-y-sb pily, sl frm-hd, sl silver lst, rthy tex, arg, v calc CHK: med gy occ lt gy -gysbhn, sb blk-y, sl sft-frm, mot, sl wxy, v calc, tr cal foss, abnt bent

MD: 12.558
TVD: 6,753.42'
Inclination: 89.94°
Azimuth: 269.22°
VS: 5.844.47'

MD: 12.653
TVD: 6,753.42'
Inclination: 90.06°
Azimuth: 269.08°
VS: 5.939.43'



