



Scale: 5" / 100'
Measured Depth Log

Well Name Aggie State AA17-635 HORZ

Location SWNW SEC 17 T6N R63W

State COLORADO County WELD

Country USA Rig Number H&P 273

API Number 05-123-40902 Field WILDCAT

Region DJ BASIN Drilling Completed 2/12/2015

Spud Date 2/7/2015

Surface Coordinates 1126' FSL; 574' FWL

Bottom Hole Coordinates 1650' FFSL; 50' FFWL

Ground Elevation 4668' K.B. Elevation 4692'

Logged Interval 6000' To 11235' Total Depth 11235'

Formation NIOBRARA

Type of Drilling Fluid LSND

Operator

Company NOBLE ENERGY INC.

Address 1625 Broadway Suite 2200
Denver, CO 80202

Geologist

Name JAMES TAYLOR

Company NOBLE ENERGY INC.

Address 1625 Broadway Suite 2200
Denver, CO 80202

Other

Wellsite Geologist #1 Tim Bright

Wellsite Geologist #2 Nick Kopiasz

Wellsite Geological Services Provided By Columbine Logging













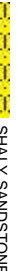




















Zone Color Coding

Oil
Note
Error
























































Condensate
Core
Water

Gas
Pres
Sea

Rock Types

 CHALK	 CEMENT	 IGNEOUS	 SHALE GRAY
 MARLSTONE	 CHERT	 SIDERITE or LIMONITE	 SHALY SILTSTONE
 SANDSTONE	 CLAY CHOKE SANC	 LIMESTONE	 SILTSTONE
 SHALY SANDSTONE	 CLAYSTONE	 METAMORPHIC	 TILL
 SILTY SHALE	 COAL	 NO SAMPLE	 TUFF
 UNKNOWN	 CONGLOMERATE	 SALT	 WELDED TUFF
 ANHYDRITE	 DOLOMITE	 SALT-PEPPER SAND	
 BENTONITE	 GRANITE	 SHALE	
 BRECCIA	 GYPSUM	 SHALE COLORED	

Accessories

 F FOSSIL	 ARGILLACEOUS	 GLAUCONITE	 TUFFACEOUS
 GASTROPOD	 ARGILLITE GRAIN	 GYPSIFEROUS	
 ALGAE	 B BENTONITE	 HEAVY MINERAL	
 AMPHIPORA	 BITUMENOUS SUBSTANCE	 INOCERAMUS	
 BELEMNITE	 BRECCIA FRAGMENTS	 K KAOLIN	 ANHYDRITE STRINGER
 BIOCLASTIC	 CALCAREOUS	 M MARLSTONE	 BENTONITE STRINGER
 BRACHIOPOD	 CARBONACEOUS FLAKES	 MINERAL CRYSTALS	 COAL STRINGER
 BRYOZOA	 CHTDK	 N NODULES	 DOLOMITE STRINGER
 CEPHALOPOD	 CHITLT	 PHOSPHATE PELLETS	 GYPSUM STRINGER
 CORAL	 COAL - THIN BEDS	 P PYRITE	 LIMESTONE STRINGER
 CRINOID	 DOLOMITIC	 B SALT CAST	 MARLSTONE (CALC) STRG
 ECHINOID	 + FELDSPAR	 S SANDY	 MARLSTONE (DOL) STRG
 FISH	 FERRUGINOUS PELLETT	 S SILICEOUS	 SANDSTONE STRINGER
 FORAMINIFERA	 F FERRUGINOUS	 S SILTY	 SHALE STRINGER
	 ANHYDRITIC		 SILTSTONE STRINGER

Minerals











Oil Show

 MOLDIC	 ORGANIC
 DEAD	 PINPOINT
 EVEN	 VUGGY

Engineering

 QUESTIONABLE	
 SPOTTED STAINING	
 BIT	


Porosity

 CONNECTION (LEFT)	 CONNECTION (RIGHT)
 FENESTRAL	 CONNECTION GAS
 FRACTURE	 CORE - LOST
 INTERCRYSTALLINE	 CORE - RECOVERED
 INTERROOTIC	 DST INTERVAL

Other Symbols

 FAULT  WIRELINE TESTED - LEFT **E** EARTHY

 FORMATION TOP  WIRELINE TESTED - RT **FX** FINELYXLN

 GAS SHOW

GS GRAINSTONE


Rounding

 MINDEPTH MN DEPTH

L LITHOGRAPHIC

 NORMAL FAULT **A** ANGULAR

MX MICROXLN

 OIL SHOW

R ROUNDED

MS MUDSTONE

 OVERTURNED STRATA

B SUBANG

PS PACKSTONE

 REVERSE FAULT


F SUBRND

WS WACKESTONE

 SIDEWALL CORE (LEFT)

Textures


Sorting

 SIDEWALL CORE (RIGHT)

 SLIDE

BS BOUNDSTONE

M MODERATE

 SURVEY

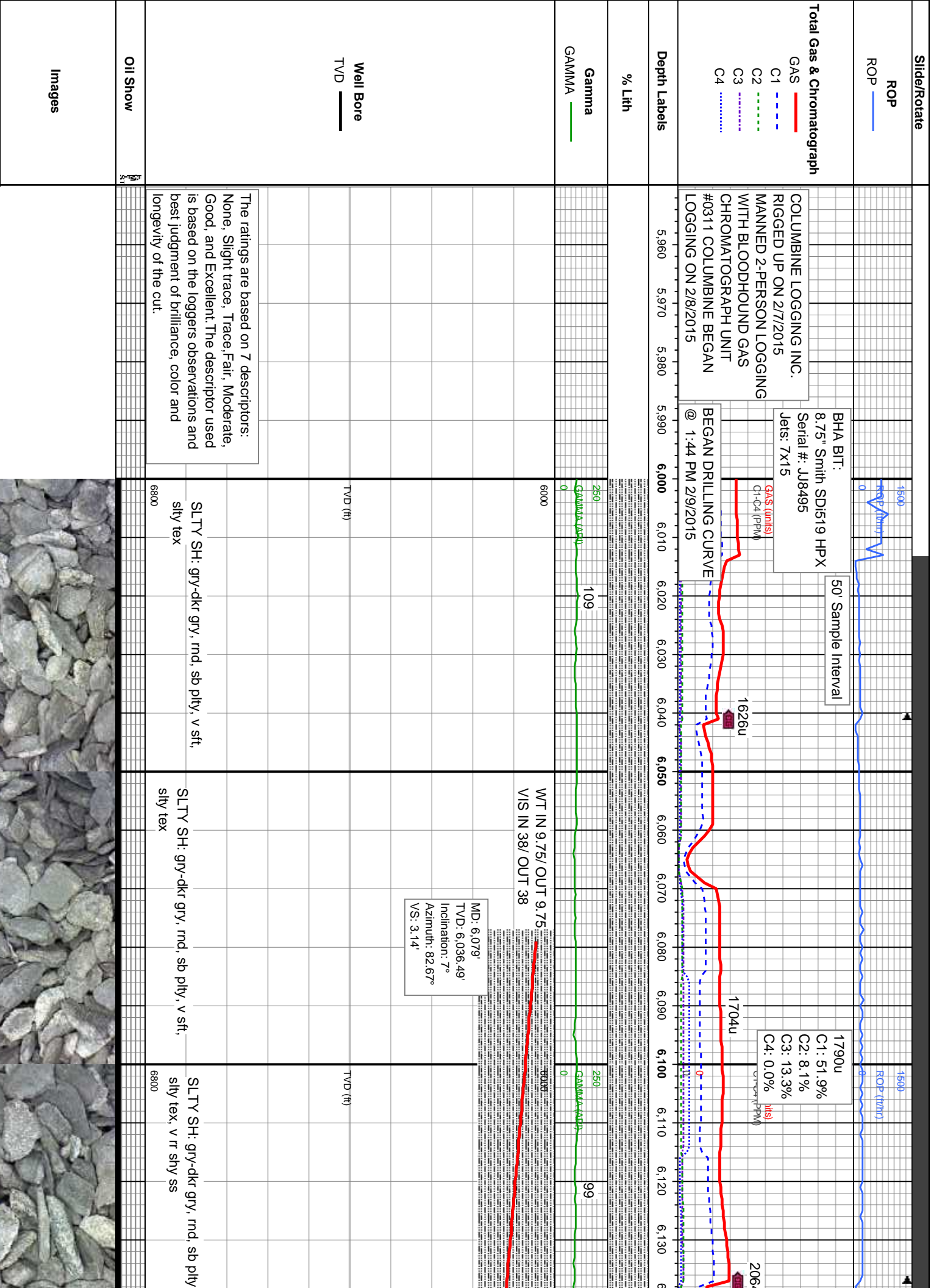
C CHALKY

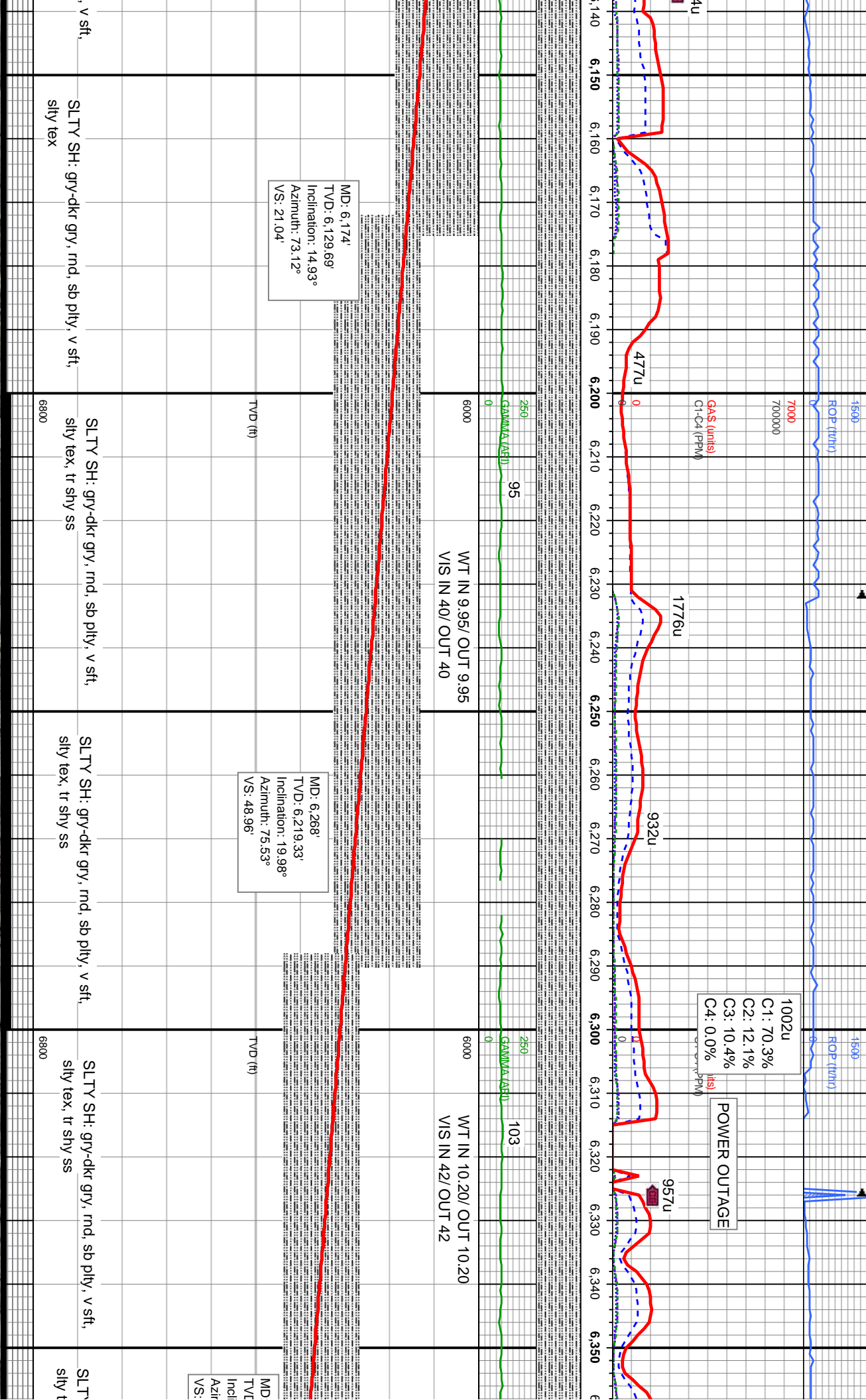
P POOR

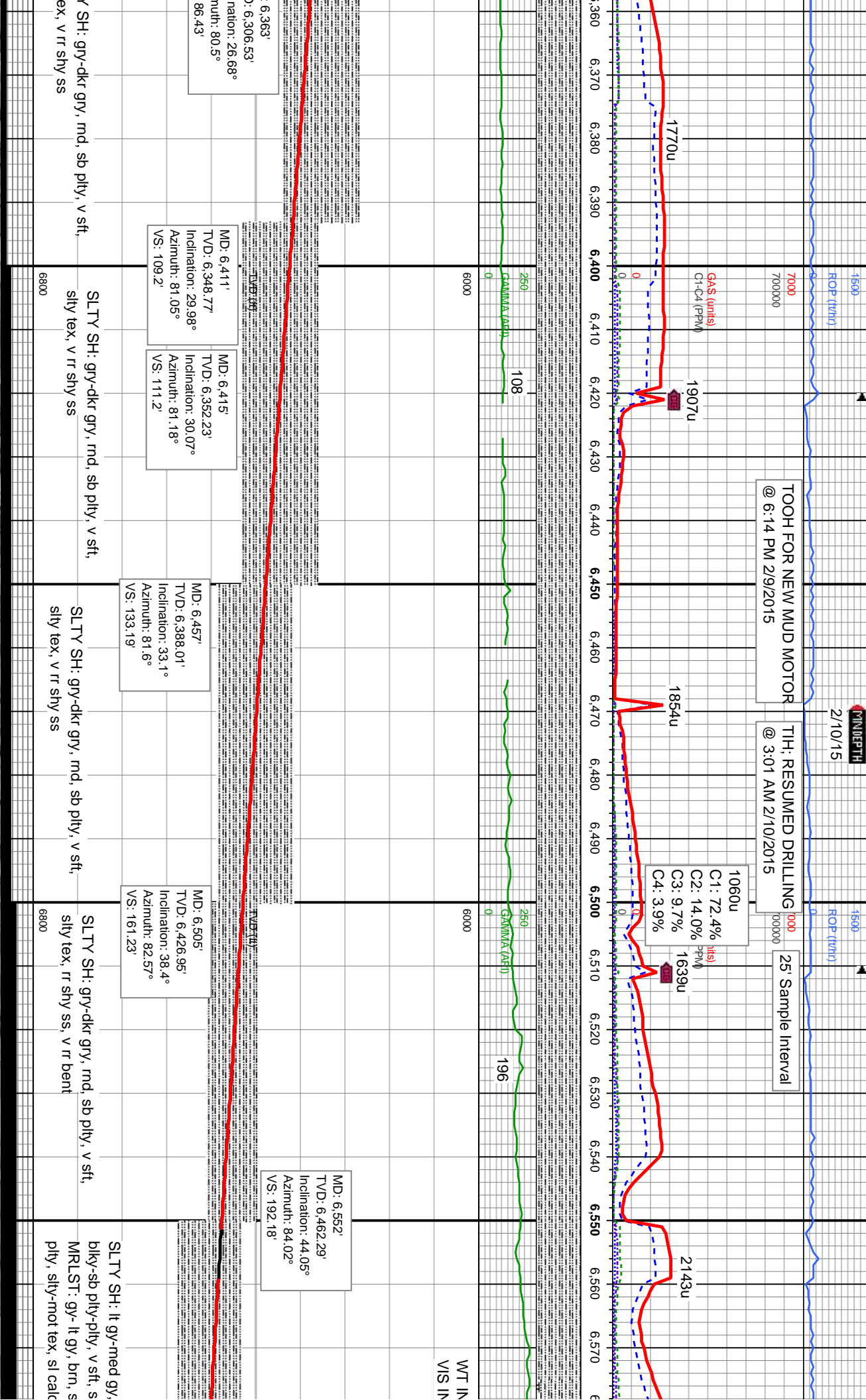
 TRIP GAS

CX CRYPTOXLN

W WELL







MD: 6.411' TVD: 6.348.77' Inclination: 29.98° Azimuth: 81.05° VS: 109.2'

MD: 6.415' TVD: 6.352.23' Inclination: 30.07° Azimuth: 81.18° VS: 111.2'

MD: 6.457' TVD: 6.388.01' Inclination: 33.1° Azimuth: 81.6° VS: 133.19'

MD: 6.505' TVD: 6.426.95' Inclination: 38.4° Azimuth: 82.57° VS: 161.23'

MD: 6.552' TVD: 6.462.29' Inclination: 44.05° Azimuth: 84.02° VS: 192.18'

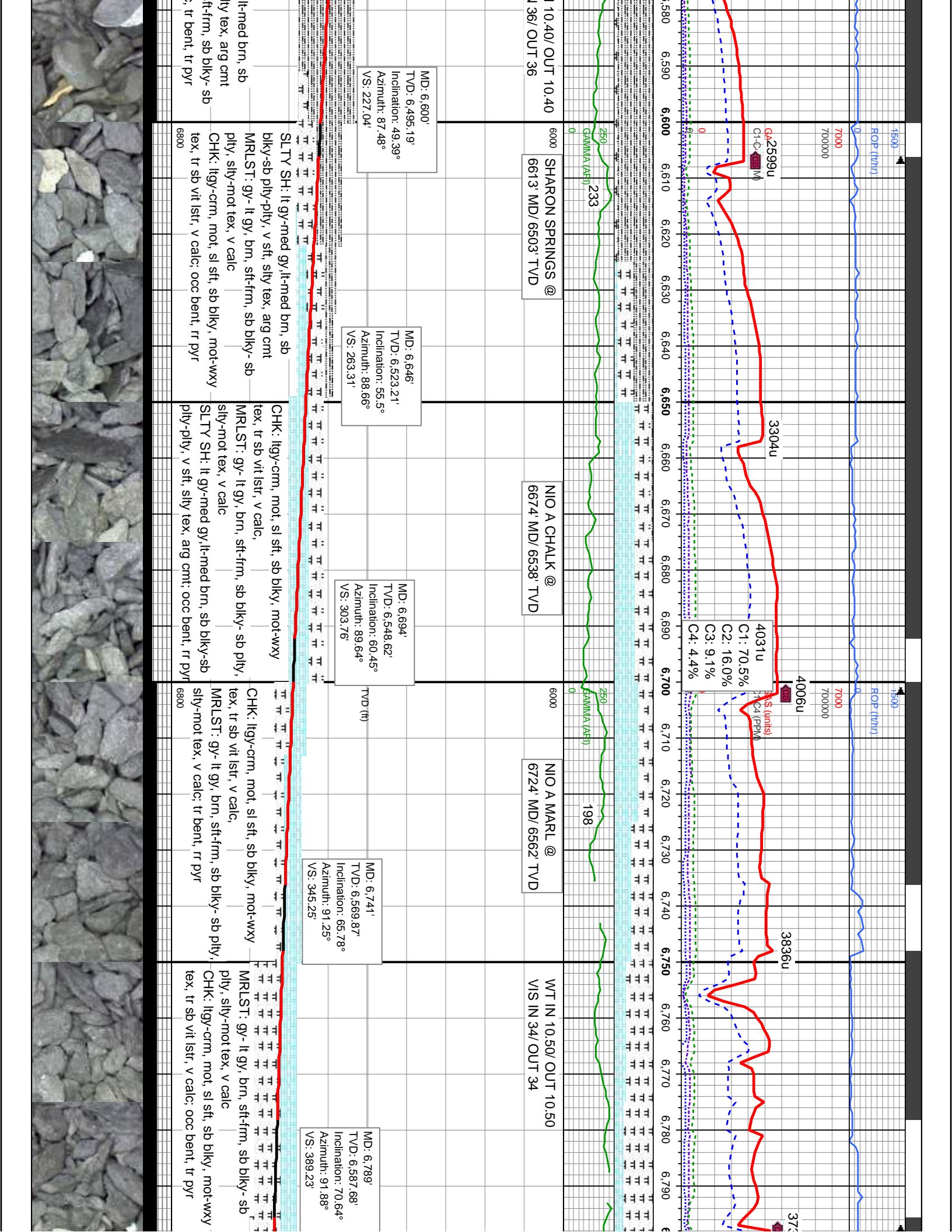
SLTY SH: gry-dkr gry, md, sb pily, v sft, silty tex, v rr shy ss

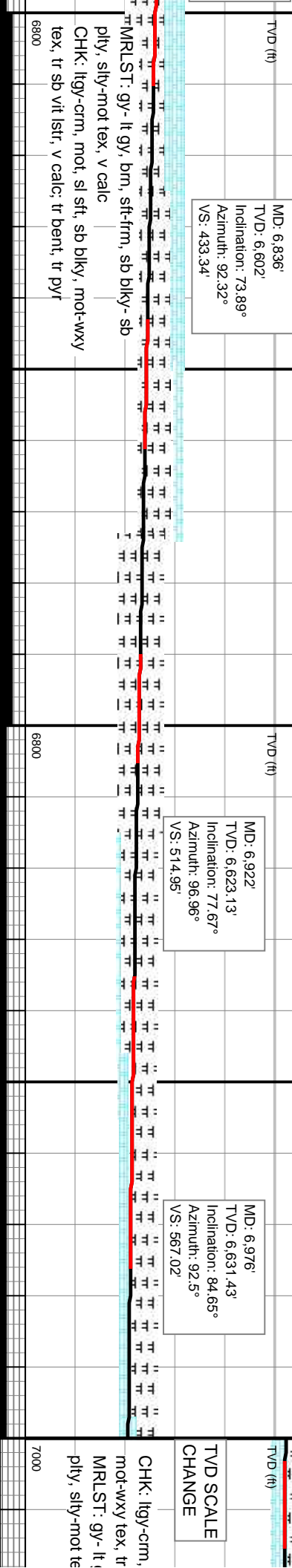
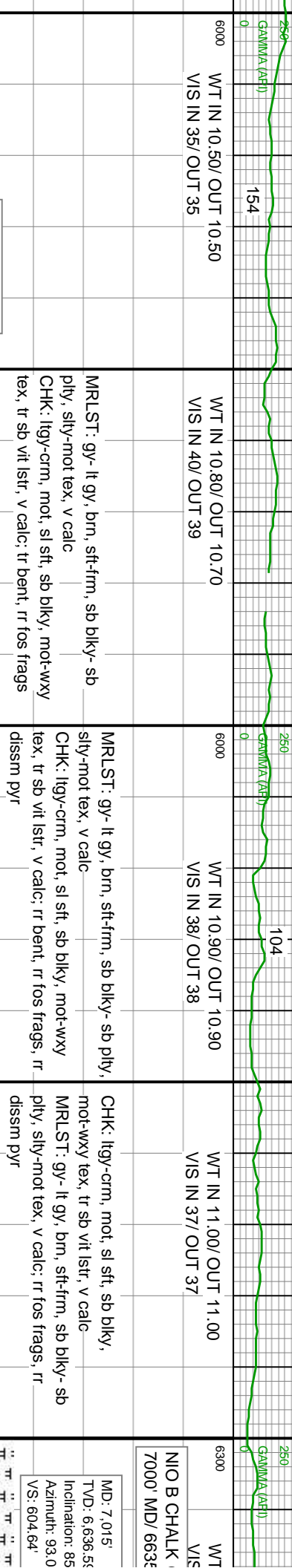
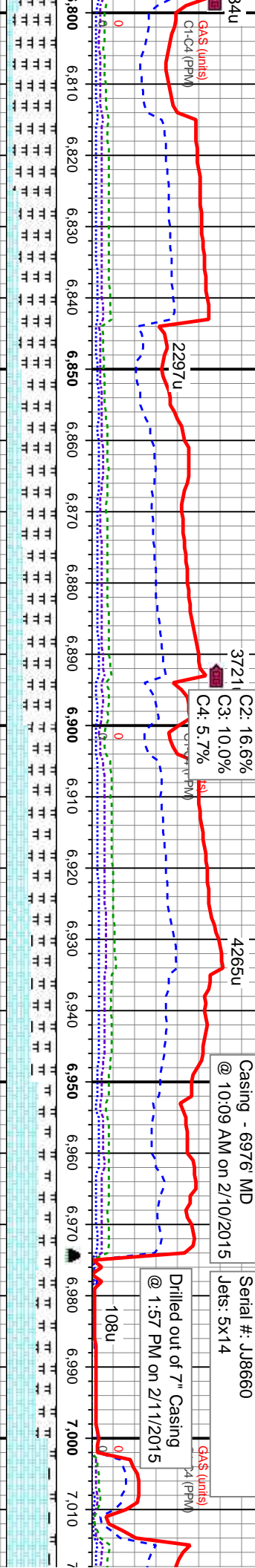
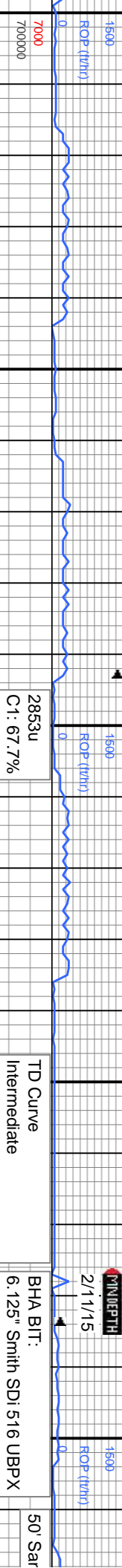
SLTY SH: gry-dkr gry, md, sb pily, v sft, silty tex, v rr shy ss

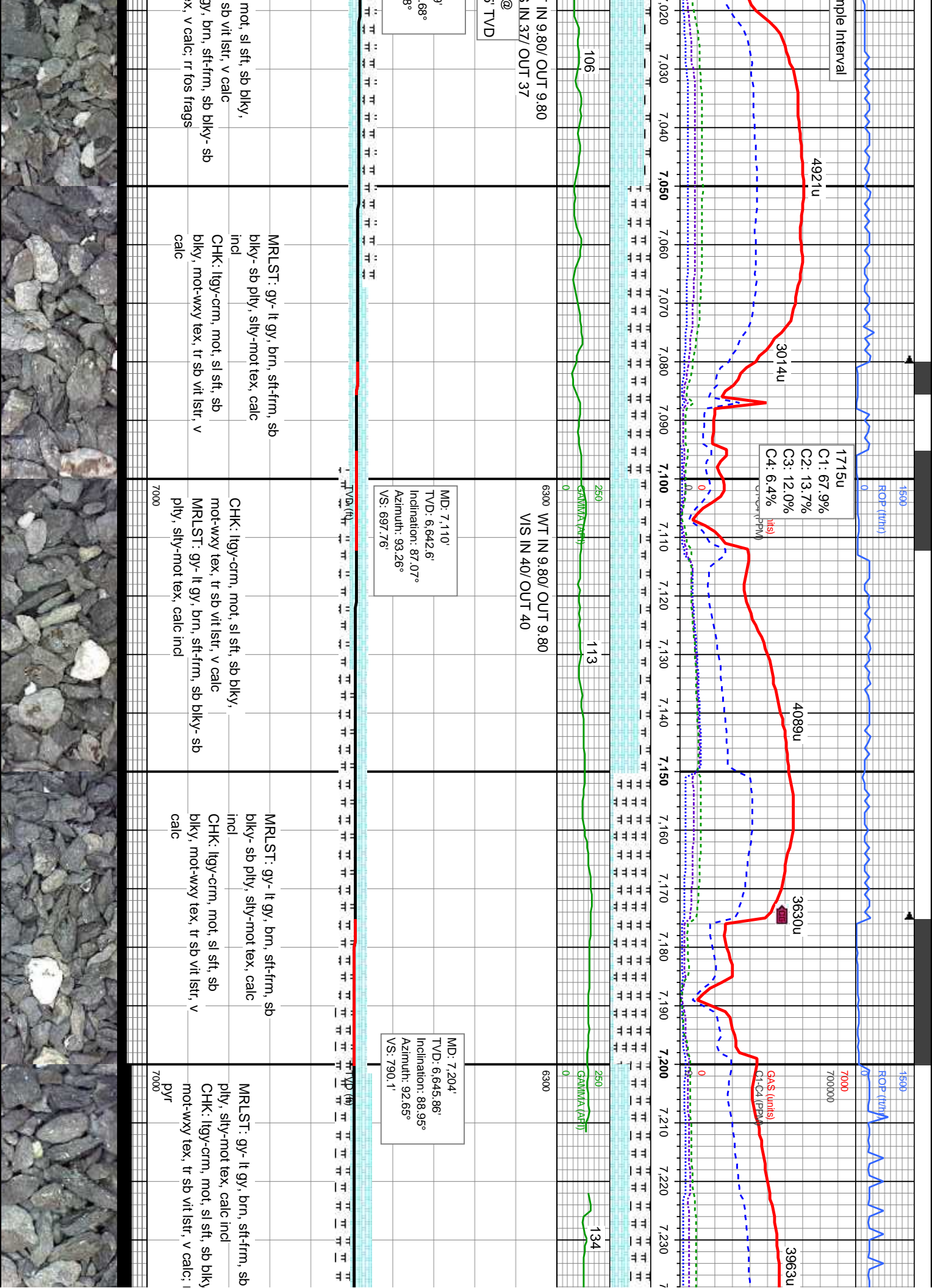
SLTY SH: gry-dkr gry, md, sb pily, v sft, silty tex, rr shy ss, v rr bent

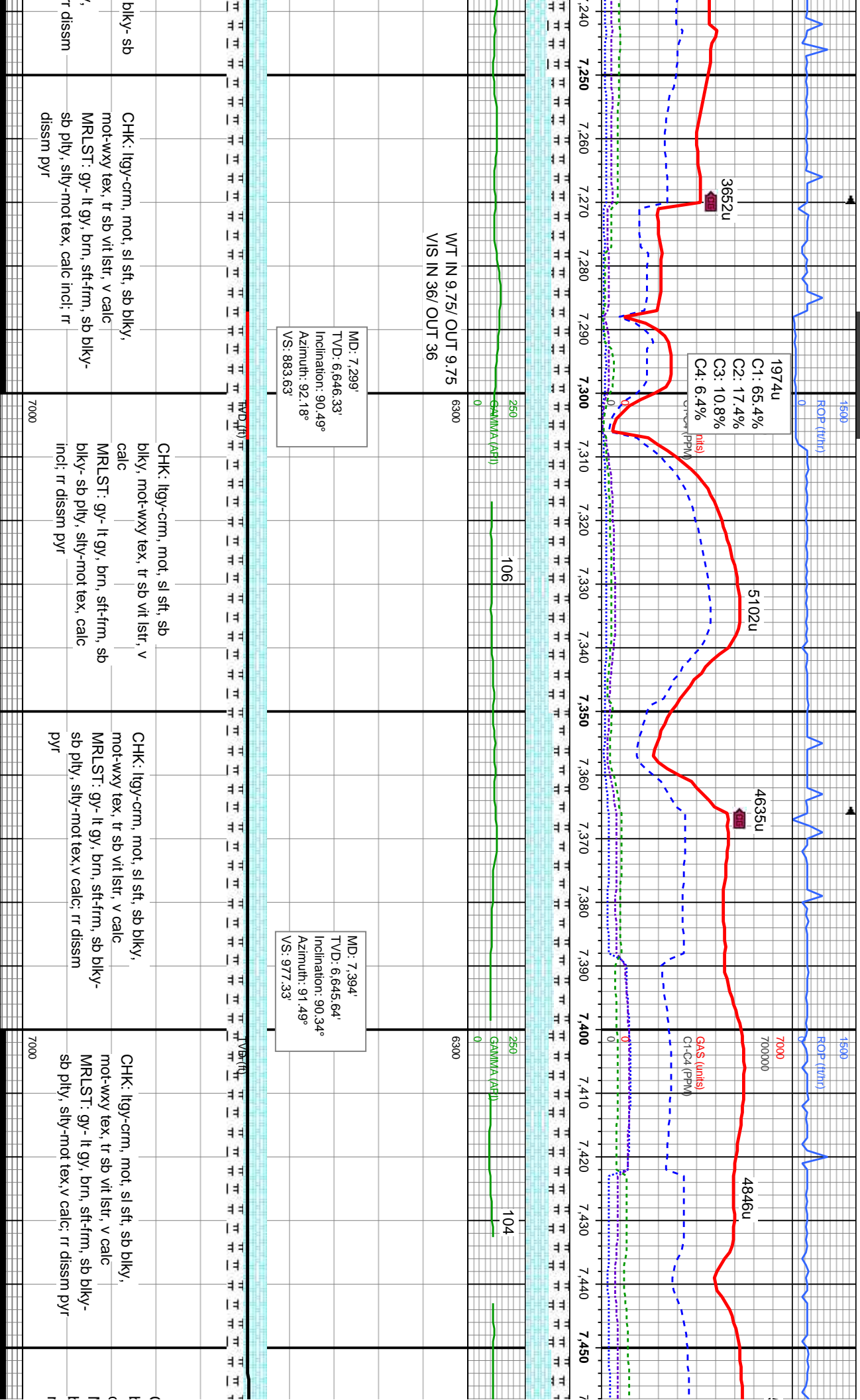
SLTY SH: It gy-med gry, blk-y-sb pily-pily, v sft, s MRLST: gy- It gy, brn, s pily, silty-mot tex, sl calc

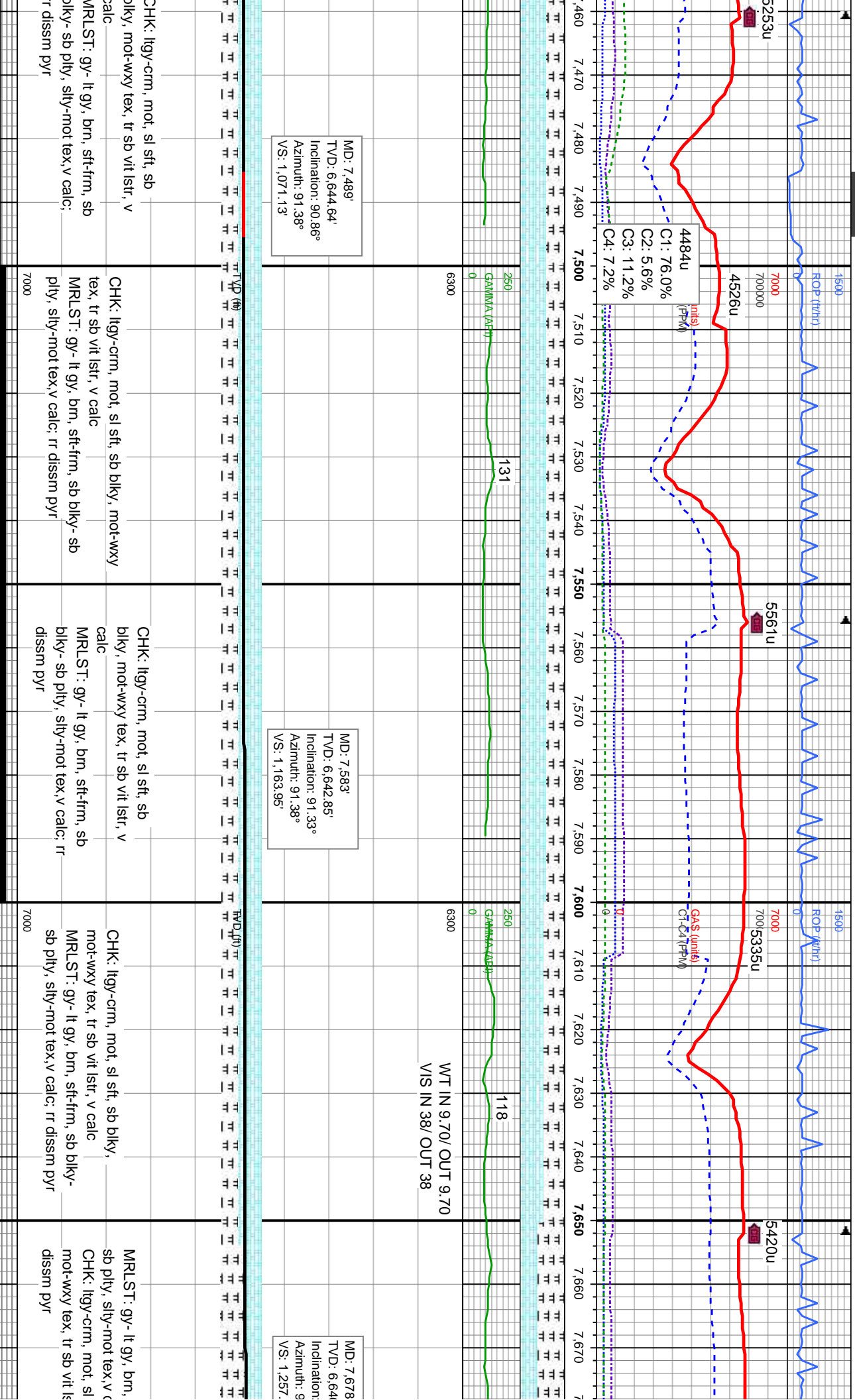


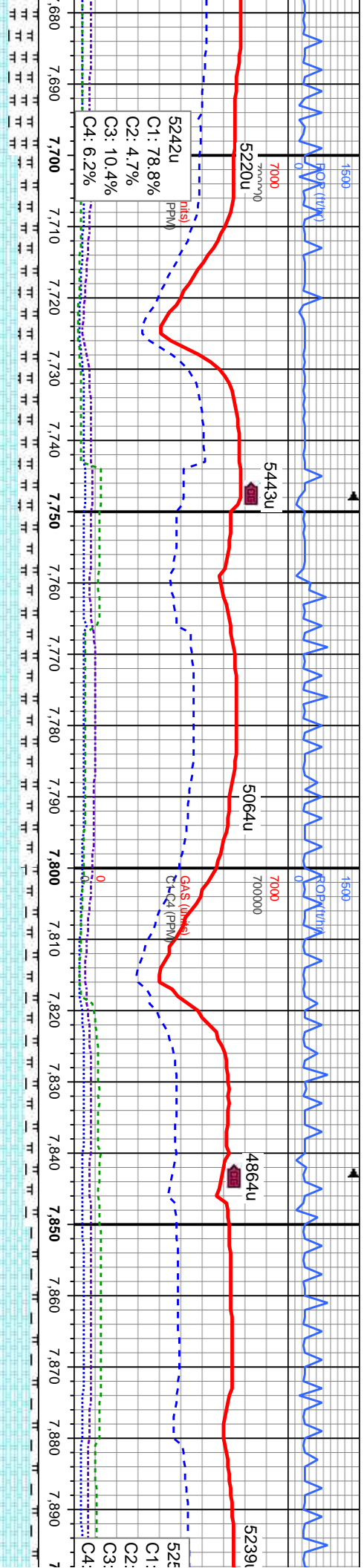












5242u
C1: 78.8%
C2: 4.7%
C3: 10.4%
C4: 6.2%

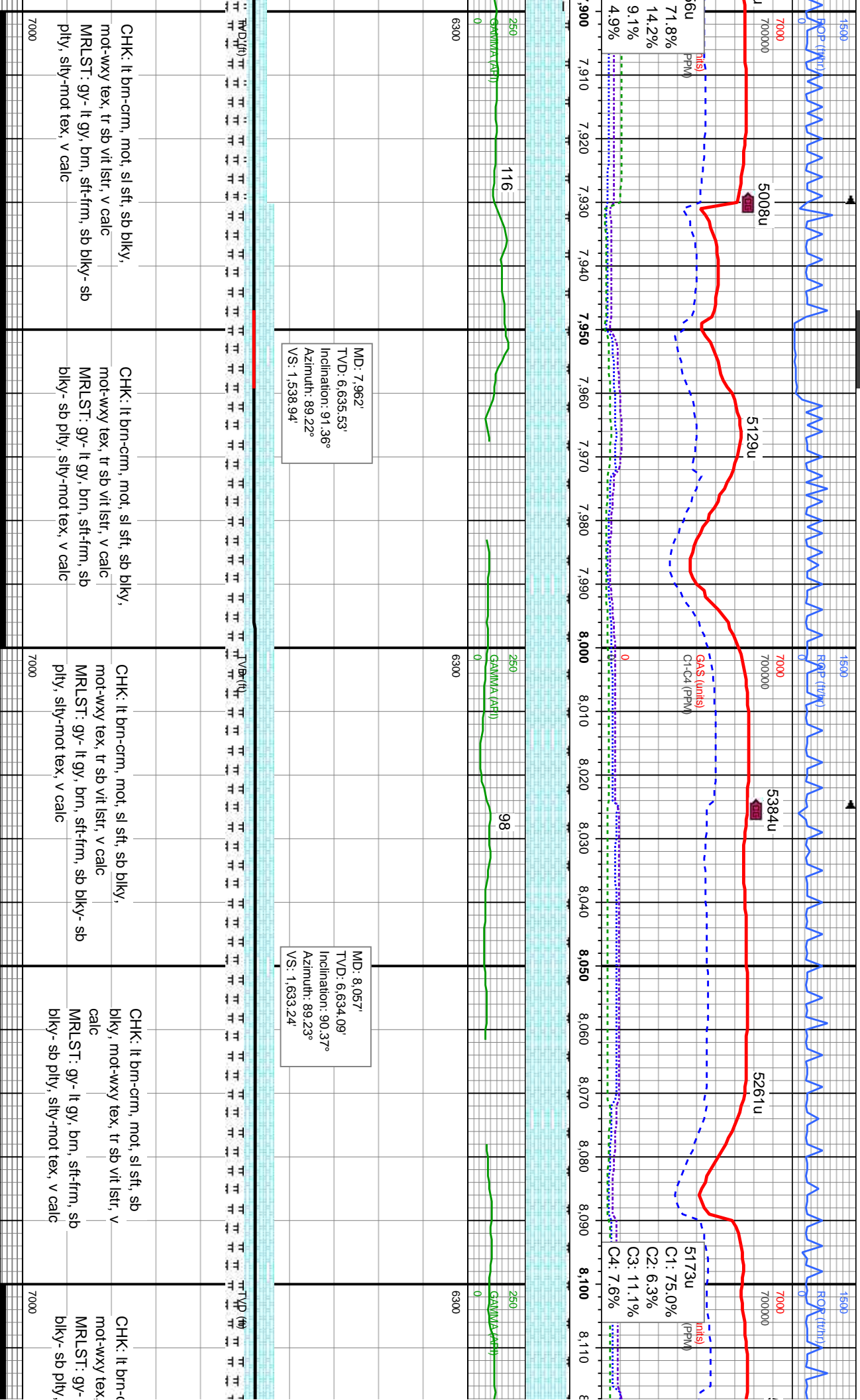
MD: 7.772'
TV/D: 6.639.33'
Inclination: 90.77°
Azimuth: 90.45°
VS: 1.350.72'

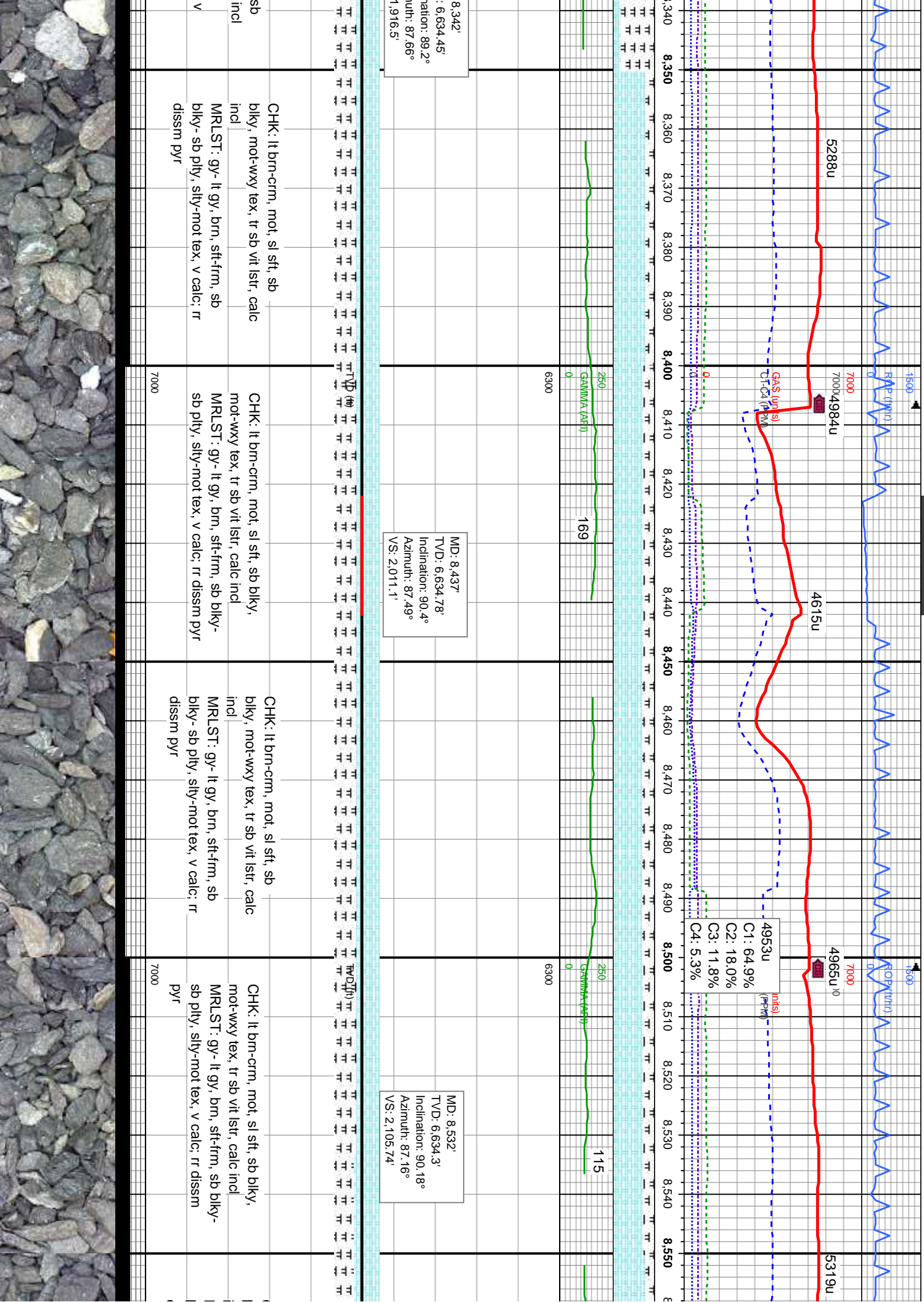
MD: 7.772'
TV/D: 6.639.33'
Inclination: 90.77°
Azimuth: 90.45°
VS: 1.350.72'

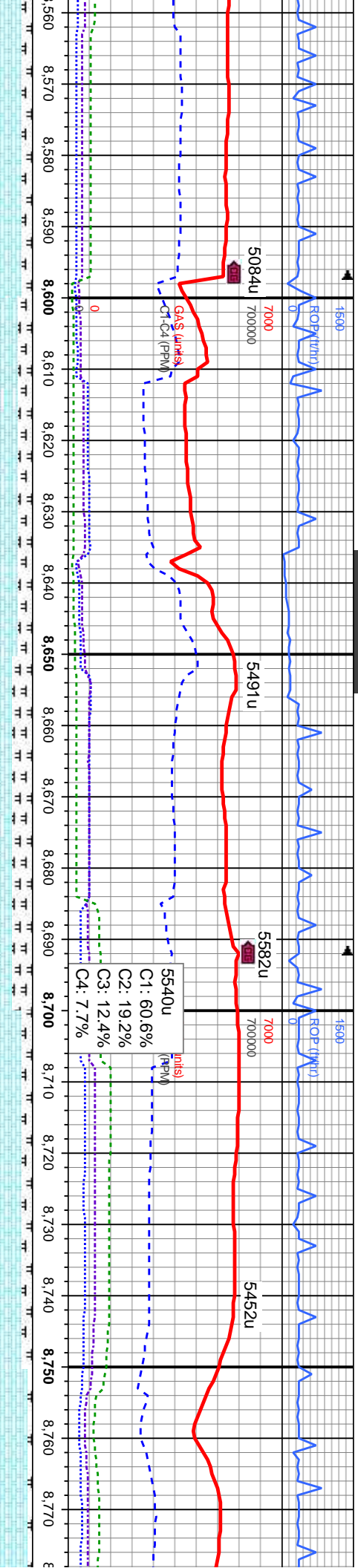
MD: 7.867'
TV/D: 6.637.67'
Inclination: 91.23°
Azimuth: 90.4°
VS: 1.444.77'

0.85' 91.08° 1.25° 777'	250 6300	97	250 6300	116	250 6300
sft-frm, sb blkly- calc sft, sb blkly, sft, calc incl; rr	CHK: ltgy-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, calc incl MRLST: gy- lt gy, brn, sft-frm, sb blkly- sb ply, slty-mot tex, v calc	CHK: ltgy-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, calc incl MRLST: gy- lt gy, brn, sft-frm, sb blkly- sb ply, slty-mot tex, v calc	CHK: ltgy-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, calc incl MRLST: gy- lt gy, brn, sft-frm, sb blkly- sb ply, slty-mot tex, v calc	CHK: ltgy-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, calc incl MRLST: gy- lt gy, brn, sft-frm, sb blkly- sb ply, slty-mot tex, v calc	CHK: ltgy-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, calc incl MRLST: gy- lt gy, brn, sft-frm, sb blkly- sb ply, slty-mot tex, calc incl
7000	7000	7000	7000	7000	7000







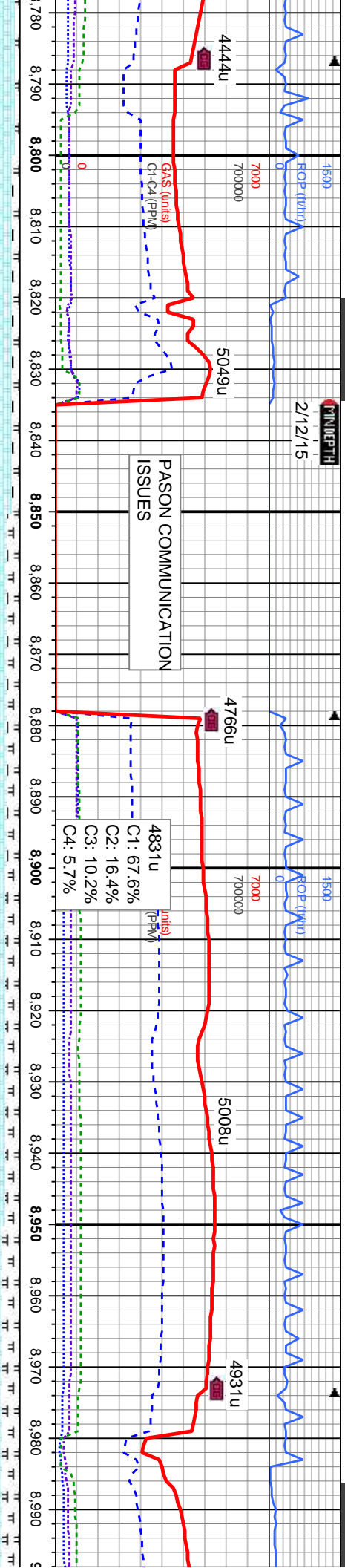


WT IN 10.00/ OUT 10.00
VIS IN 40/ OUT 40

MD: 8.626'
TVD: 6,635.09'
Inclination: 88.86°
Azimuth: 86.69°
VS: 2,199.44'

CHK: lt brn-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, calc incl	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, calc incl	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, calc incl	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, calc incl
MRLST: gy- lt gy, brn, sft-frm, sb blk- sb ply, slty-mot tex, v calc, rr dissn pyr	MRLST: gy- lt gy, brn, sft-frm, sb blk- sb ply, slty-mot tex, calc incl, rr dissn pyr	MRLST: gy- lt gy, brn, sft-frm, sb blk- sb ply, slty-mot tex, calc incl, rr dissn pyr	MRLST: gy- lt gy, brn, sft-frm, sb blk- sb ply, slty-mot tex, calc incl, rr dissn pyr





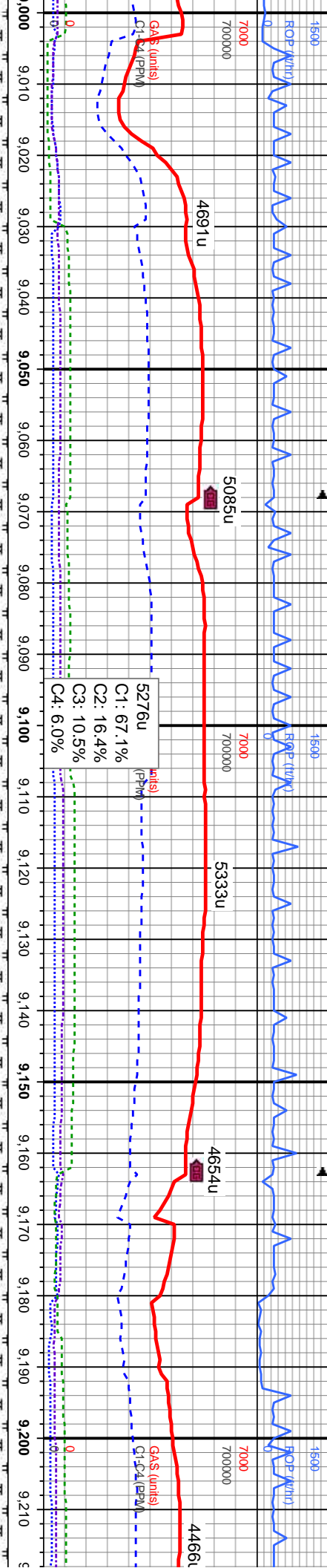
WT IN 9.90/ OUT 9.90
VIS IN 40/ OUT 40

MD: 8.816'
TVD: 6,634.94'
Inclination: 89.54°
Azimuth: 87.28°
VS: 2,388.76'

MD: 8.911'
TVD: 6,635.55'
Inclination: 89.72°
Azimuth: 86.72°
VS: 2,483.47'

sft, sb b vit lstr,	CHK: lt brn-cm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc	CHK: lt brn-cm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc	CHK: lt brn-cm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc
sft-frm, sb tex, calc	MRLST: gy- lt gy, brn, sft-frm, sb blkly- sb plty, silty-mot tex, calc incl; rr dissm pyr	MRLST: gy- lt gy, brn, sft-frm, sb blkly- sb plty, silty-mot tex, calc incl; rr dissm pyr	MRLST: gy- lt gy, brn, sft-frm, sb blkly- sb plty, silty-mot tex, calc incl
7000	7000	7000	

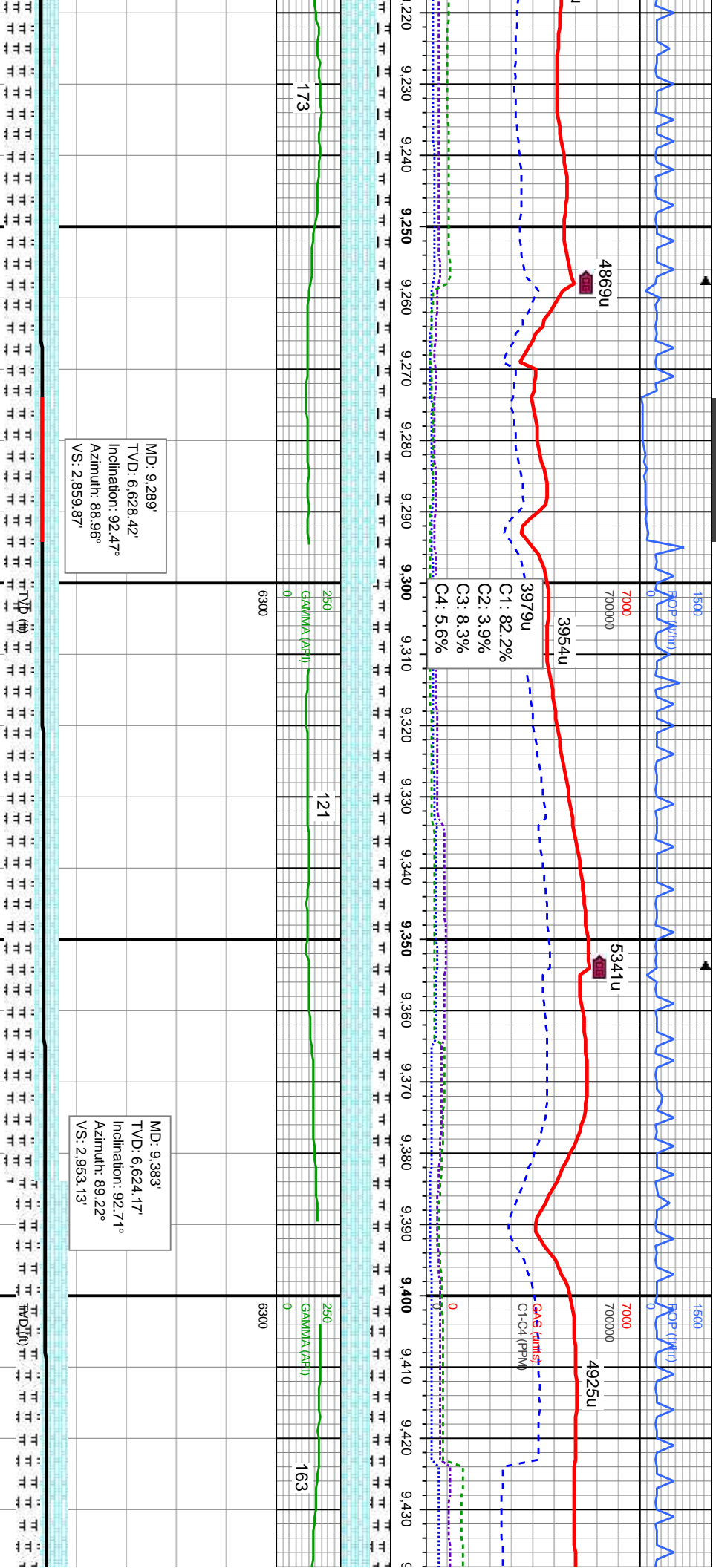




ID: 9.006' VD: 6,634.38' inclination: 91.69° azimuth: 87.33° S: 2,578.14'	ID: 9.100' TVD: 6,632.14' inclination: 91.05° Azimuth: 87.21° VS: 2,671.76'	ID: 9.194' TVD: 6,630.87' inclination: 90.49° Azimuth: 87.41° VS: 2,765.4'
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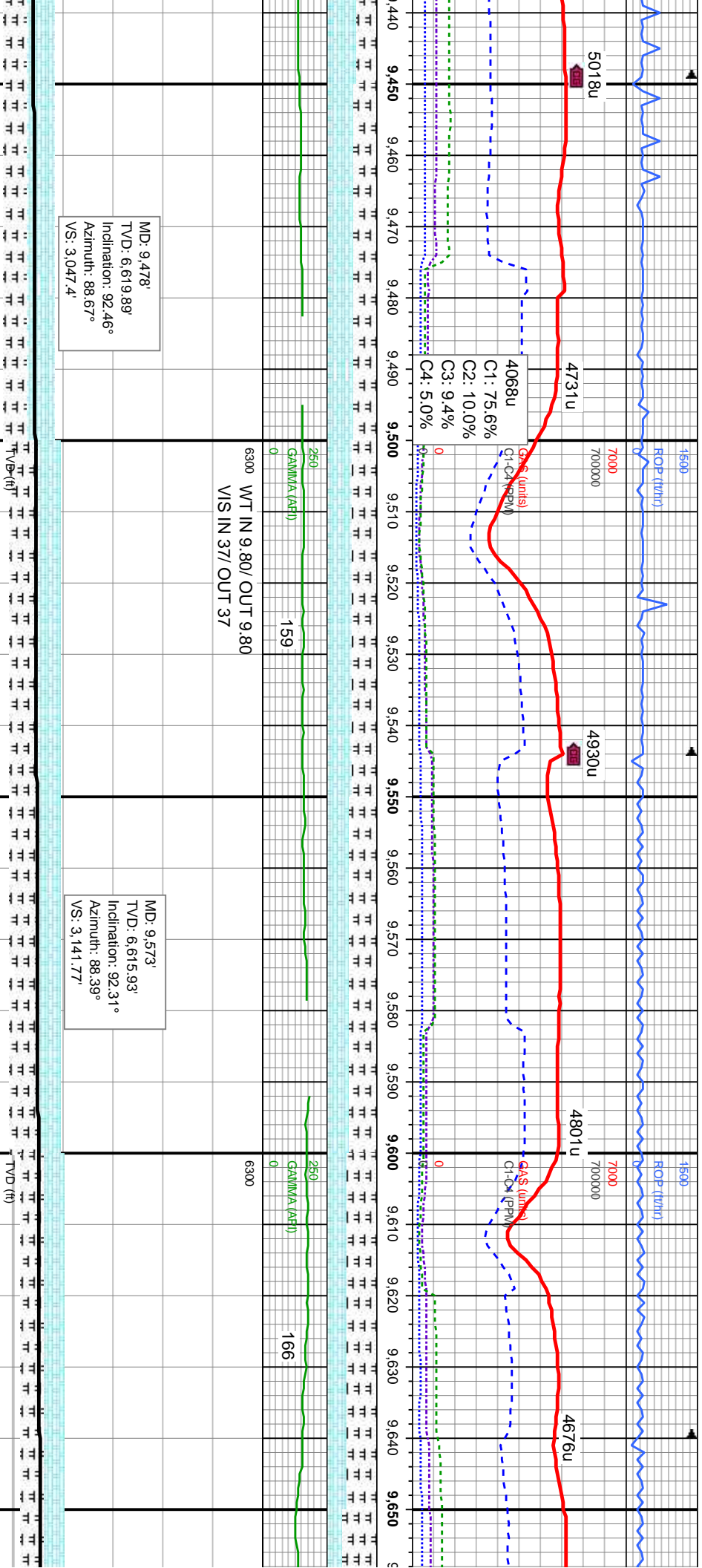
TTVP (ft)	TTVP (ft)	TTVP (ft)
It brn-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc	It brn-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc	Itgy-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc
MRLST: gy- lt gy, brn, sft-frn, sb blkly-sb plty, silty-mot tex, calc incl	MRLST: gy- lt gy, brn, sft-frn, sb blkly-sb plty, silty-mot tex, calc incl; rr dissn pyr	MRLST: gy- lt gy, brn, sft-frn, sb blkly-sb plty, silty-mot tex, calc incl; rr dissn pyr
7000	7000	7000





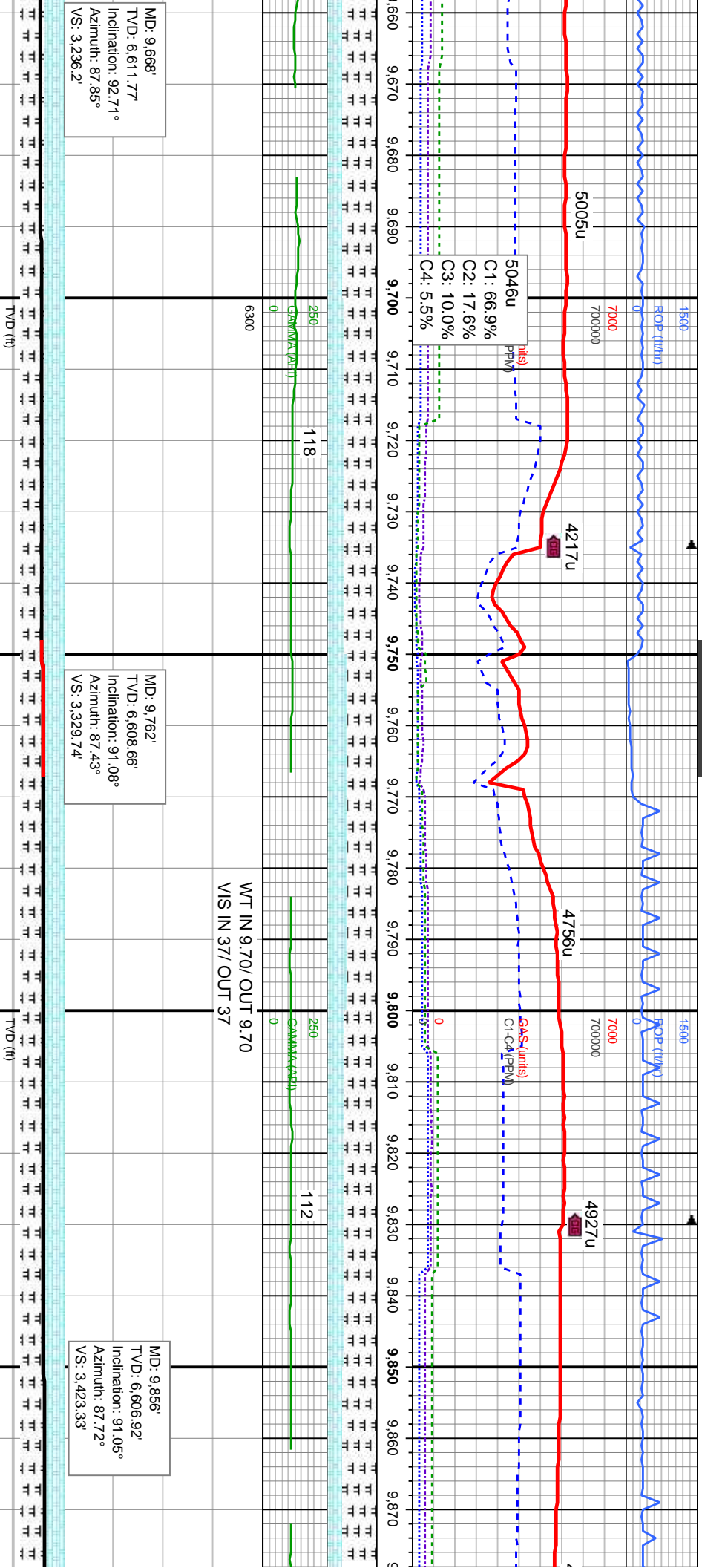
n, mot, sl sft, sb blkly, tr sb vit lstr, v calc	CHK: ltgy-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc	MRLST: gy- lt gy, brn, sft-frm, sb blkly- sb ply, stly-mot tex, calc incl; rr dissn pyr	7000
t gy, brn, sft-frm, sb stly-mot tex, calc incl	CHK: ltgy-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc	MRLST: gy- lt gy, brn, sft-frm, sb blkly- sb ply, stly-mot tex, calc incl; rr dissn pyr	7000





not-wxy	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy	MRSLT: gy- lt gy, brn, sft-firm, sb blk- sb	MRSLT: gy- lt gy, brn, sft-firm, sb blk- sb	MRSLT: gy- lt gy, brn, sft-firm, sb blk- sb
ky- sb	tex, tr sb vit lstr, v calc	tex, tr sb vit lstr, v calc	plty, slty-mot tex, v tr calc incl	plty, slty-mot tex, v tr calc incl	plty, slty-mot tex, v tr calc incl
frags, rr	MRSLT: gy- lt gy, brn, sft-firm, sb blk- sb	MRSLT: gy- lt gy, brn, sft-firm, sb blk- sb	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy
	plty, slty-mot tex, tr calc incl, rr foss frags, rr	plty, slty-mot tex, tr calc incl, rr foss frags, rr	tex, tr sb vit lstr, v calc, rr foss frags, rr	tex, tr sb vit lstr, v calc, rr foss frags, rr	tex, tr sb vit lstr, v calc, rr foss frags, rr
	dissm pyr	dissm pyr	dissm pyr	dissm pyr	dissm pyr
	7000	7000	7000	7000	7000





T: gy- lt gy, brn, sft-frm, sb blk- sb
ly-mot tex, calc incl
lgy-crm, mot, sl sft, sb blk, mot-wxy
sb vit lstr, v calc; rr foss frags, rr
pyr, tr bent

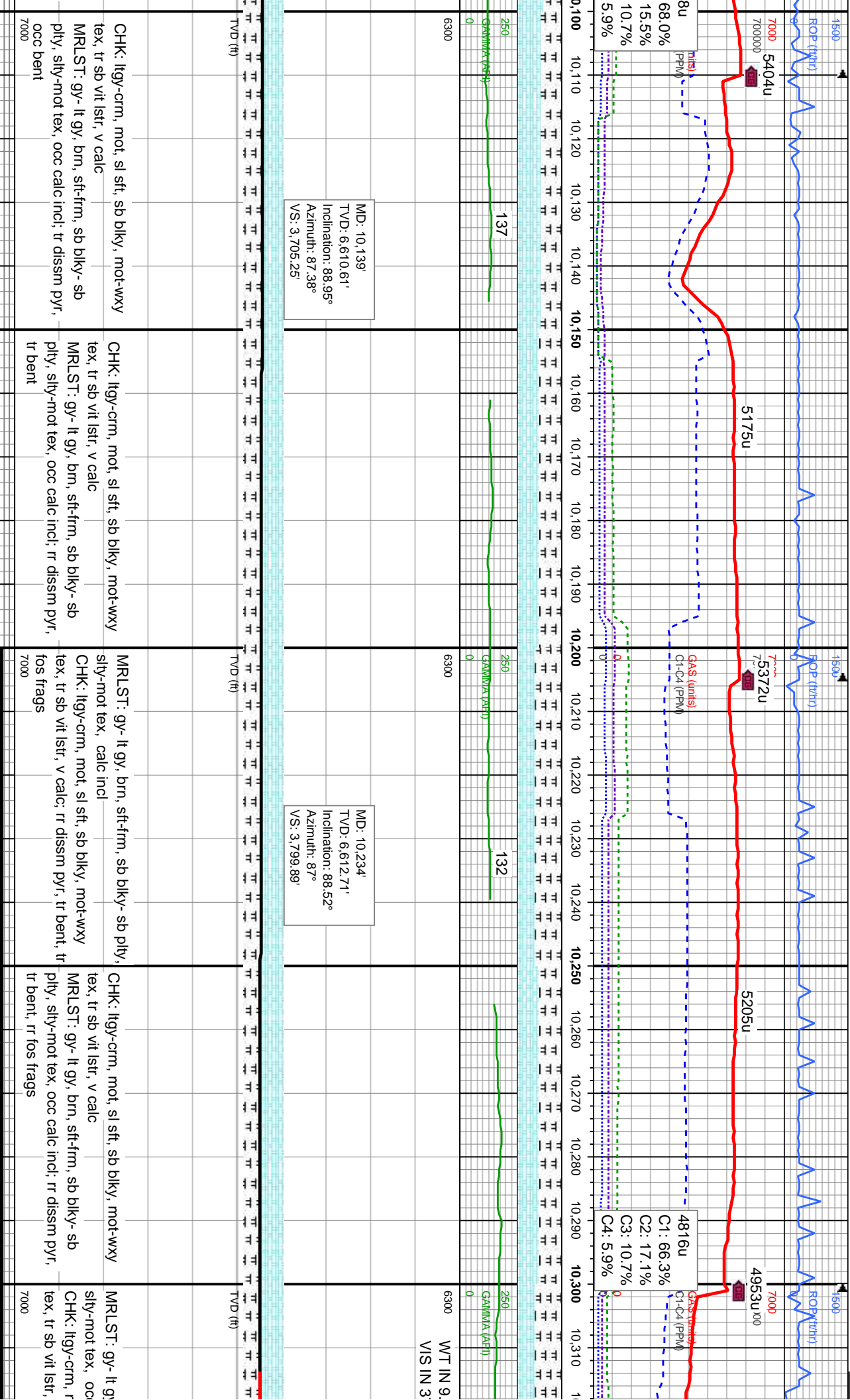
MRLST: gy- lt gy, brn, sft-frm, sb blk- sb
ply, silty-mot tex, calc incl
CHK: lgy-crm, mot, sl sft, sb blk, mot-wxy
tex, tr sb vit lstr, v calc; rr foss frags, rr
dissm pyr, tr bent

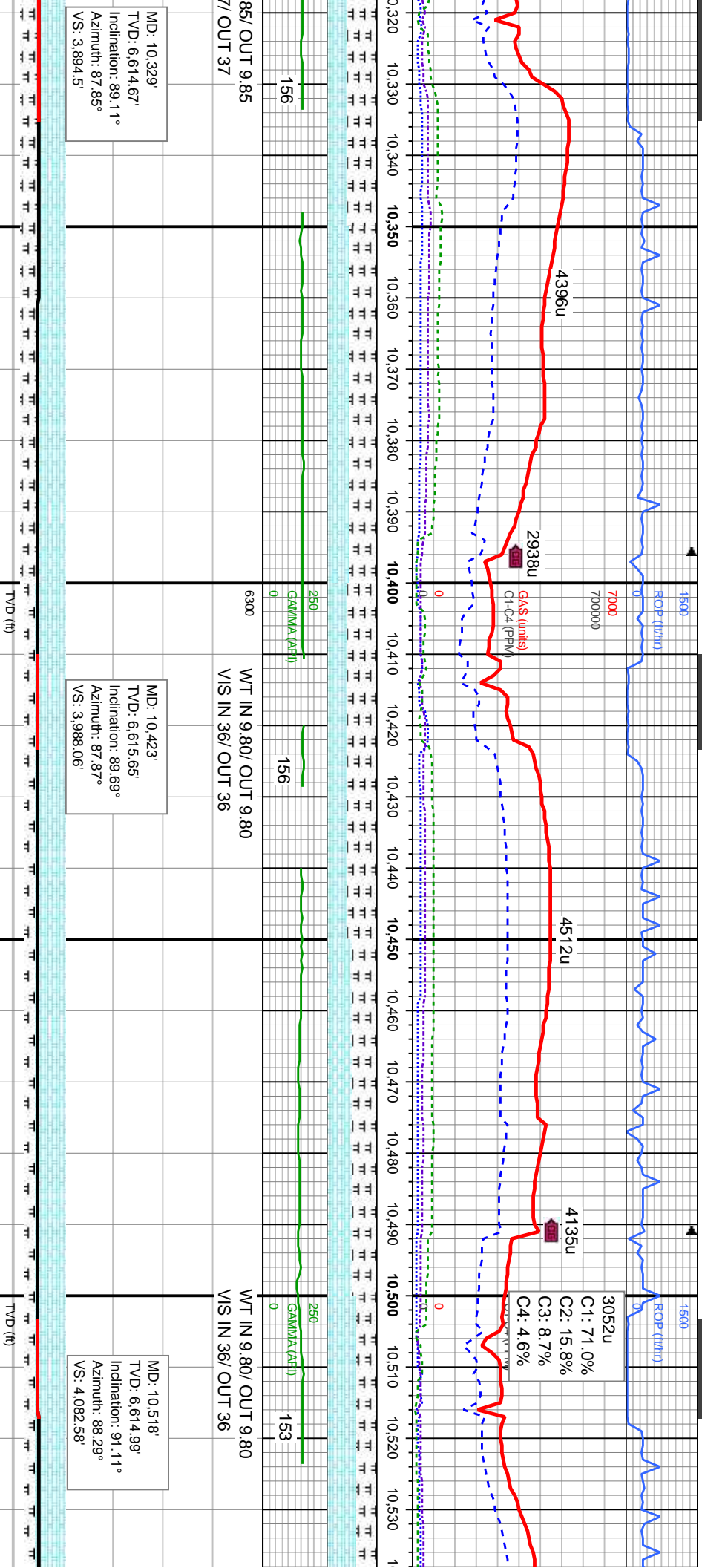
MRLST: gy- lt gy, brn, sft-frm, sb blk- sb
ply, silty-mot tex, occ calc incl
CHK: lgy-crm, mot, sl sft, sb blk, mot-wxy
tex, tr sb vit lstr, v calc; rr foss frags, rr
dissm pyr, tr bent

MRLST: gy- lt gy, brn, sft-frm, sb blk- sb
ply, silty-mot tex, occ calc incl
CHK: lgy-crm, mot, sl sft, sb blk, mot-wxy
tex, tr sb vit lstr, v calc; rr foss frags, tr bent

MRLST: gy- lt gy, brn, sft-frm, sb blk- sb
ply, silty-mot tex, calc incl
CHK: lgy-crm, mot, sl sft, sb blk, mot-wxy
tex, tr sb vit lstr, v calc; rr foss frags, rr







MD: 10,329'
TVD: 6,614.67'
Inclination: 89.11°
Azimuth: 87.85°
VS: 3,894.5'

MD: 10,423'
TVD: 6,615.65'
Inclination: 89.69°
Azimuth: 87.87°
VS: 3,988.06'

MD: 10.518'	
TVD: 6,614.99'	
Inclination: 91.11°	
Azimuth: 88.29°	
VS: 4,082.58'	

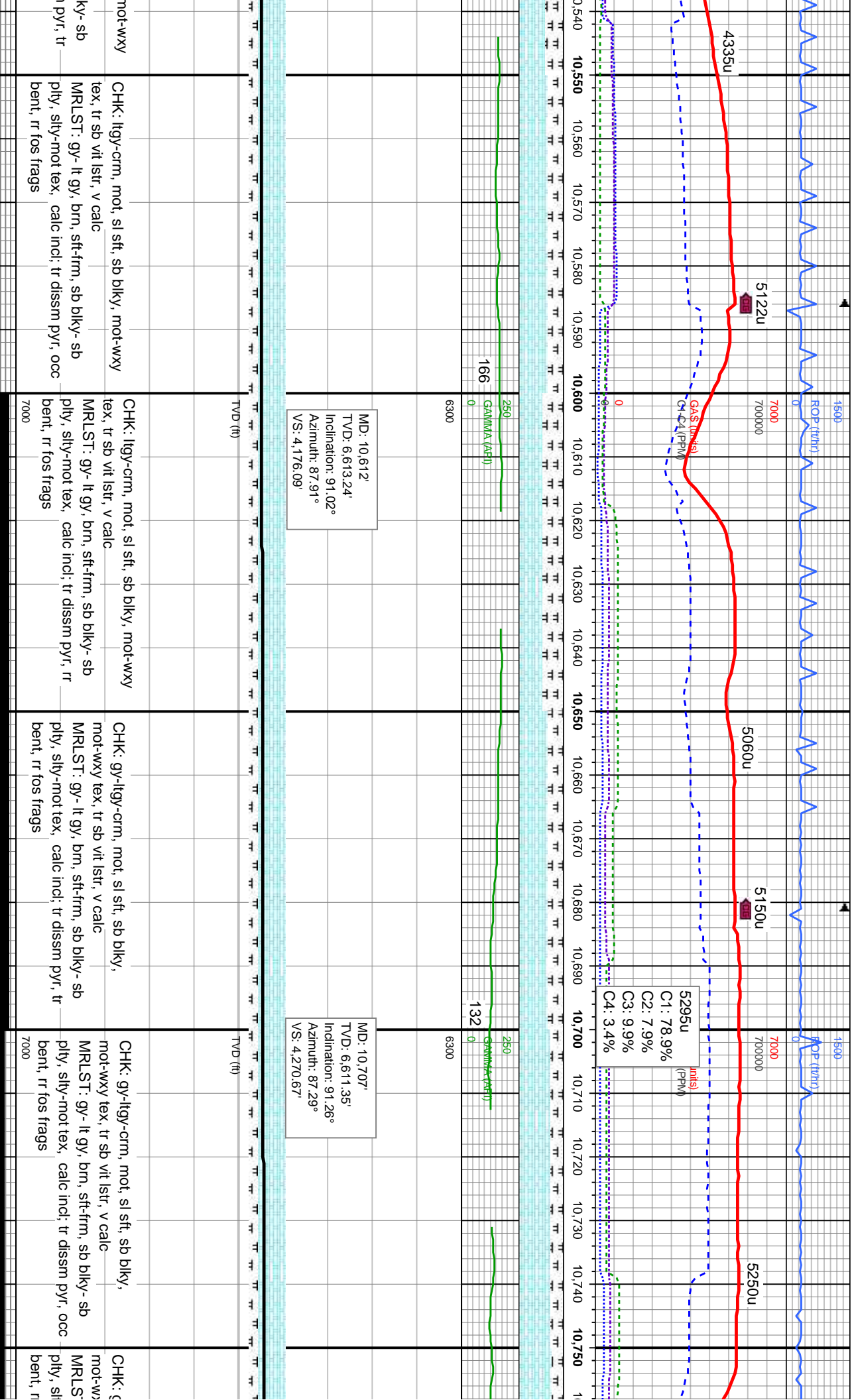
7, brn, sft-frm, sb blk-y- sb plty,
c calc incl
not, sl sft, sb blk-y, mot-wxy
v calc; rr diss m pyr, rr bent

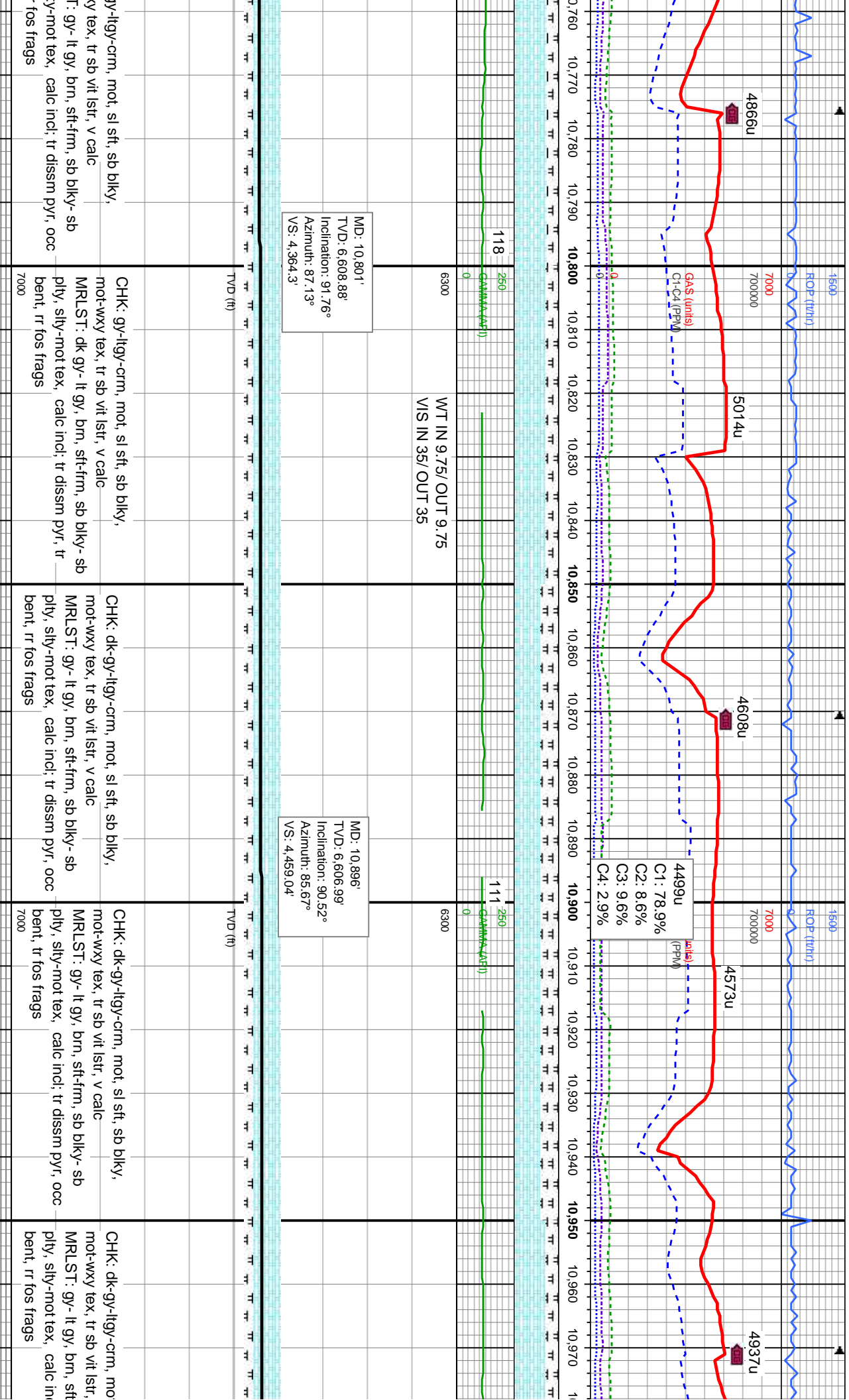
MLRST: gy- lt gy, bfm, sft-frm, sb biky- sb
 plty, sfty-mot tex, calc incl
 CHK: lgy-crm, mot, sl sft, sb biky, mot-wxy
 tex, tr sb vit lstr, v calc: r dissim py/r, ooc
 bent, r r fos frags

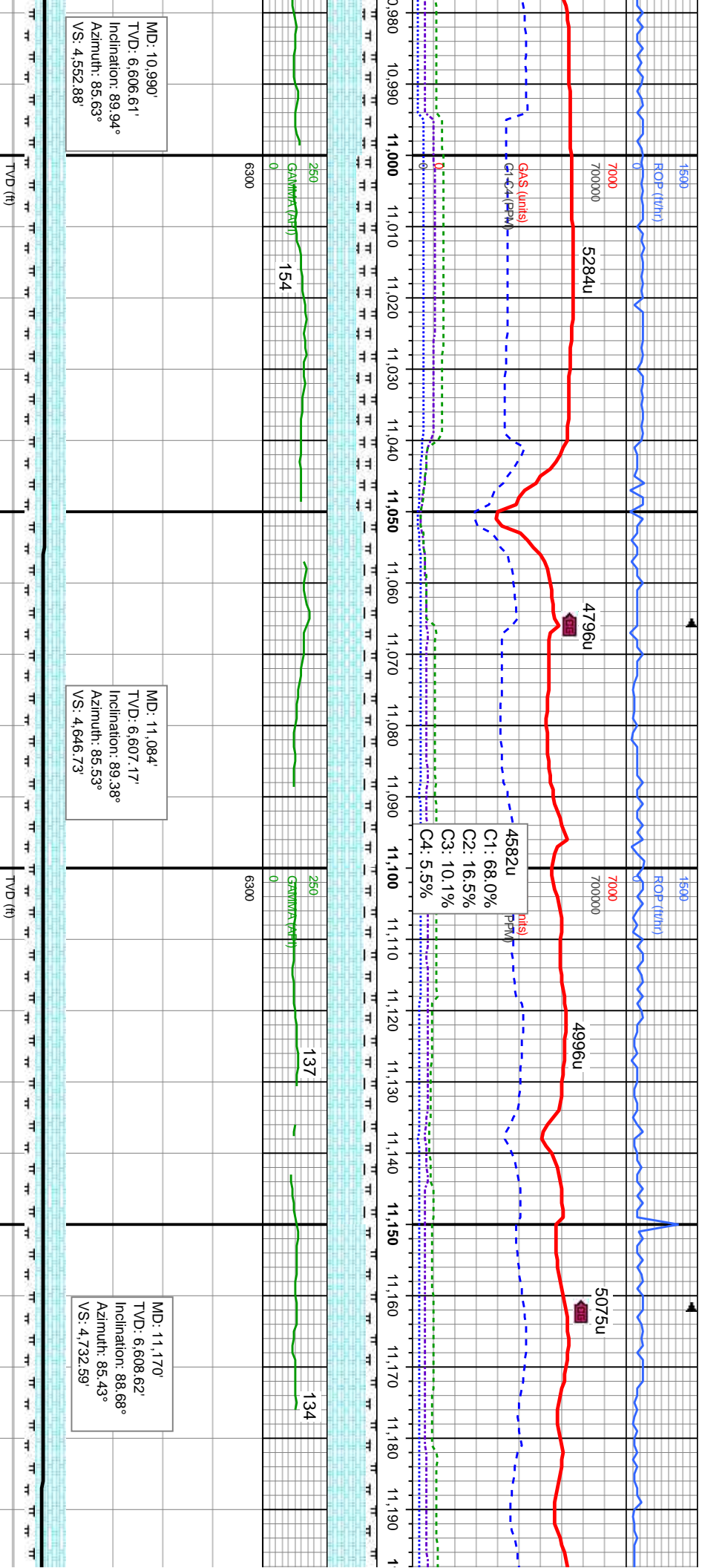
MRSLST: gy- lt gy, brn, sft-frn, sb blk-y- sb
ply, slty-mot tex, calc incl
CHK: ltgy-crm, mot, sl sft, sb blk-y, mot-wxy
tex, tr sb vit lstr, v calc; tr diss m pyr, tr bent,
rr fos frags

CHK: ltyg-crm, mot, sl sft, sb biky, mot-wxy
tex, tr sb vit lstr, v calc
MRJST: gy- lt gy, brn, sft-fm, sb biky- sb
ply, sily-mot tex, calc ind; tr dissm pyr, tr
bent, r r fos frags

CHK: ltgy-crm, mot, sl sft, sb blkly, l
tex, tr sb vit lsir, v calc
MRLST: gy- lt gy, brn, sft-firm, sb bl
ply, slty-mot tex, calc incl; tr dissr
bent, tr fos frags
7000







MD: 10.990'
TVD: 6,606.61'
Inclination: 89.94°
Azimuth: 85.63°
VS: 4.552.88

4582u
C1: 68.0%
C2: 16.5%
C3: 10.1%
C4: 5.5%

MD: 11.084'
TVD: 6,607.17'
Inclination: 89.38°
Azimuth: 85.53°
VS: 4.646.73

MD: 11.170'
TVD: 6,608.62'
Inclination: 88.68°
Azimuth: 85.43°
VS: 4.732.59

TVD (ft)	6300	7000	6300	7000	6300	7000
CHK:	dk-gy-ilty-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc	dk-gy-ilty-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc	dk-gy-ilty-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc	dk-gy-ilty-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc	dk-gy-ilty-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc	dk-gy-ilty-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc
MRLST:	gy- lt gy, brn, sft-frm, sb blkly- sb plty, silty-mot tex, calc inci, tr dissn pyr, occ bent, tr fos frags	gy- lt gy, brn, sft-frm, sb blkly- sb plty, silty-mot tex, calc inci, tr dissn pyr, occ bent, tr fos frags	gy- lt gy, brn, sft-frm, sb blkly- sb plty, silty-mot tex, calc inci, tr dissn pyr, occ bent, tr fos frags	gy- lt gy, brn, sft-frm, sb blkly- sb plty, silty-mot tex, calc inci, tr dissn pyr, occ bent, tr fos frags	gy- lt gy, brn, sft-frm, sb blkly- sb plty, silty-mot tex, calc inci, tr dissn pyr, occ bent, tr fos frags	gy- lt gy, brn, sft-frm, sb blkly- sb plty, silty-mot tex, calc inci, tr dissn pyr, occ bent, tr fos frags



