



Empirica

Scale: 5" / 100'
Measured Depth Log

Well Name Raindance #3

Location Raindance Pad Sec.30-T6N-R67W

State Colorado

Country USA

API Number #05-123-36172-000

Region DJ Basin

County Weld

Rig Number Frontier #10

Field Wattenberg

Drilling Completed 4/5/2014

Surface Coordinates Lat: 40.451250

Long: -104.828010

SHL:201°FSL, 418°FEL, Sec.30

Bottom Hole Coordinates Lat: 40.44894

Long: -104.90891

BHL: 660°FNL, 460°FEL, Sec. 32

Ground Elevation 4,982'

Logged Interval 5,000' **To** 12,022'

Formation Codell

Type of Drilling Fluid Fresh Water

K.B. Elevation 5004.5

Total Depth 12,022'

Company Tektok Windsor

Address 640 Plaza Drive
Highlands Ranch

Name Dominic Pitre

Company Empirica

Address 6741 Satsuma D
Houston, TX 770
(713)-466-7400

Equipment ML-131

Comments Start Date: 3-
Standby:3-22

Notes Curve TD: 3-2
Release Date

Operator

LLC

#290

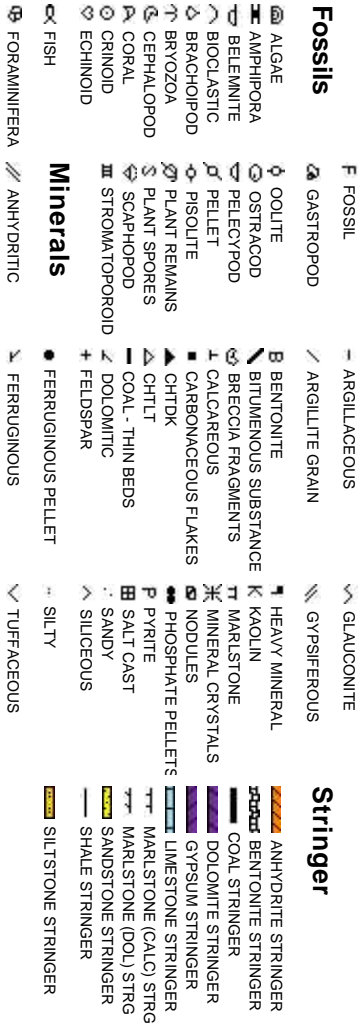
0, CO 80129

Geologist

Rock Types



Accessories



Other

18-14 (Curve) / 4-03-14 (Lateral)
-14,3-23-14, 4-02-14,4-06-14
21-14 / TD Lateral: 4-05-14
: XX-XX-XX

Oil

DE
EV
OL
ST
FE
FR
IN
IN

Poi

Other Symbols

Show

- MOLDIC
- ORGANIC
- PINPOINT
- VUGGY

QUESTIONABLE

Engineering

- FAULT
- FORMATION TOP
- GAS SHOW
- MINDEPTH MN DEPTH
- NORMAL FAULT
- OIL SHOW
- OVERTURNED STRATA
- REVERSE FAULT
- SIDEWALL CORE (LEFT)
- SIDEWALL CORE (RIGHT)
- CONNECTION (LEFT)
- CONNECTION (RIGHT)
- CONNECTION GAS
- CORE - LOST
- CORE - RECOVERED
- DST INTERVAL
- SLIDE
- SURVEY
- TRIP GAS

osity

- BIT
- CONNECTION (LEFT)
- CONNECTION (RIGHT)
- CONNECTION GAS
- SIDEWALL CORE (RIGHT)

ACTURE

- CORE - LOST
- CORE - RECOVERED

- DST INTERVAL

- SLIDE
- SURVEY
- TRIP GAS

Textures

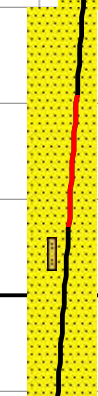
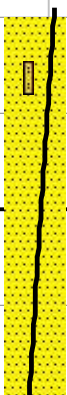
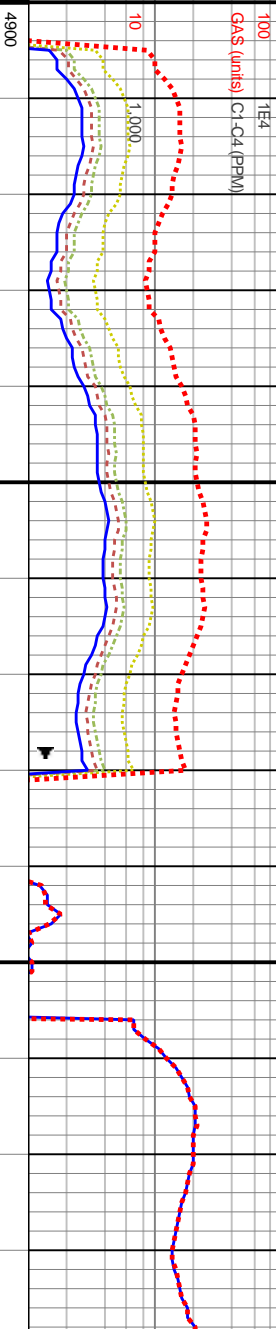
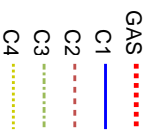
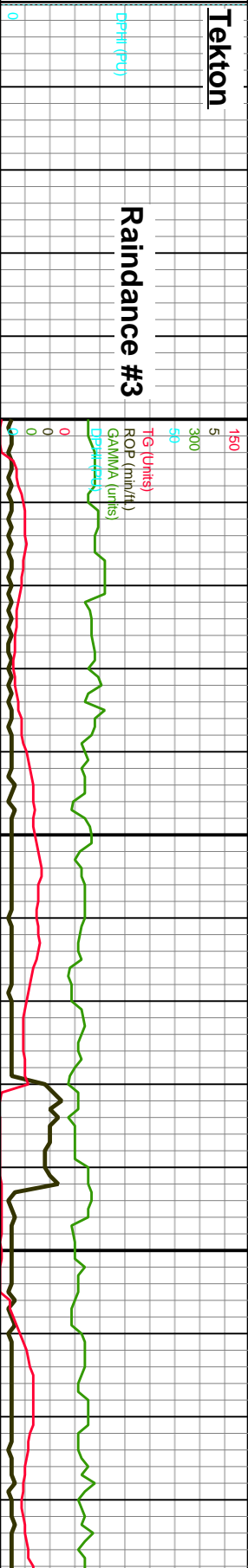
- BOUNDSTONE
- CHALKY
- CRYPTOXLN

Sorting

- MODERATE
- POOR
- WELL

Rounding

- WIRELINE TESTED - LEFT
- WIRELINE TESTED - RIGHT
- FINELYXLN
- GRAINSTONE
- LITHOGRAPHIC
- ANGULAR
- ROUNDED
- SUBANG
- SUBRND
- MICROXLN
- MUDSTONE
- PACKSTONE
- WACKESTONE



MD: 5,124'
TVD: 5,085.55'
Inclination: 7.4 °
Azimuth: 158 °
VS: 245.72'

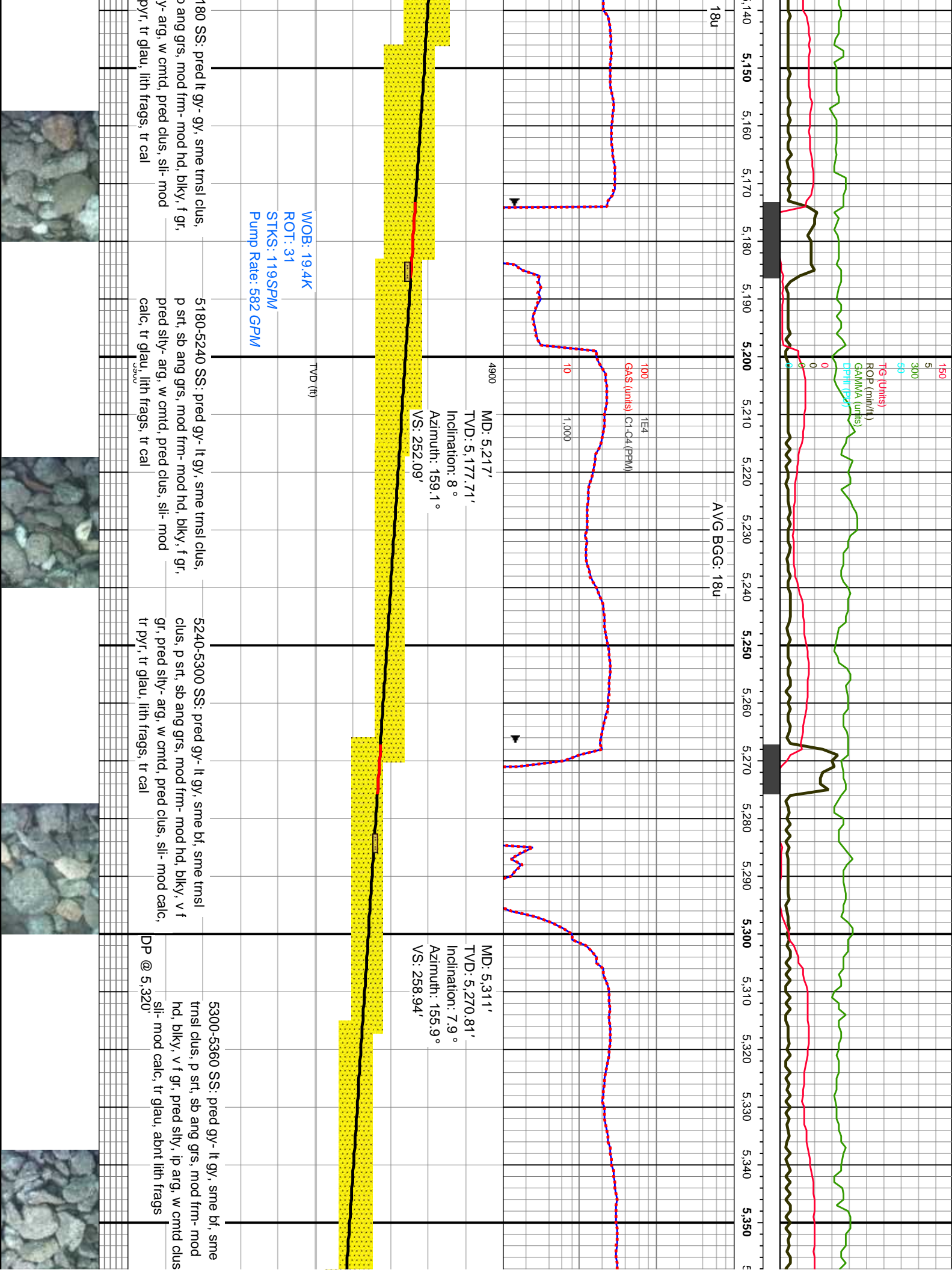
WOB: 19.9K
ROT: 34
STKS: 119SPM
Pump Rate: 592 GPM
MT @ 5,000' MD

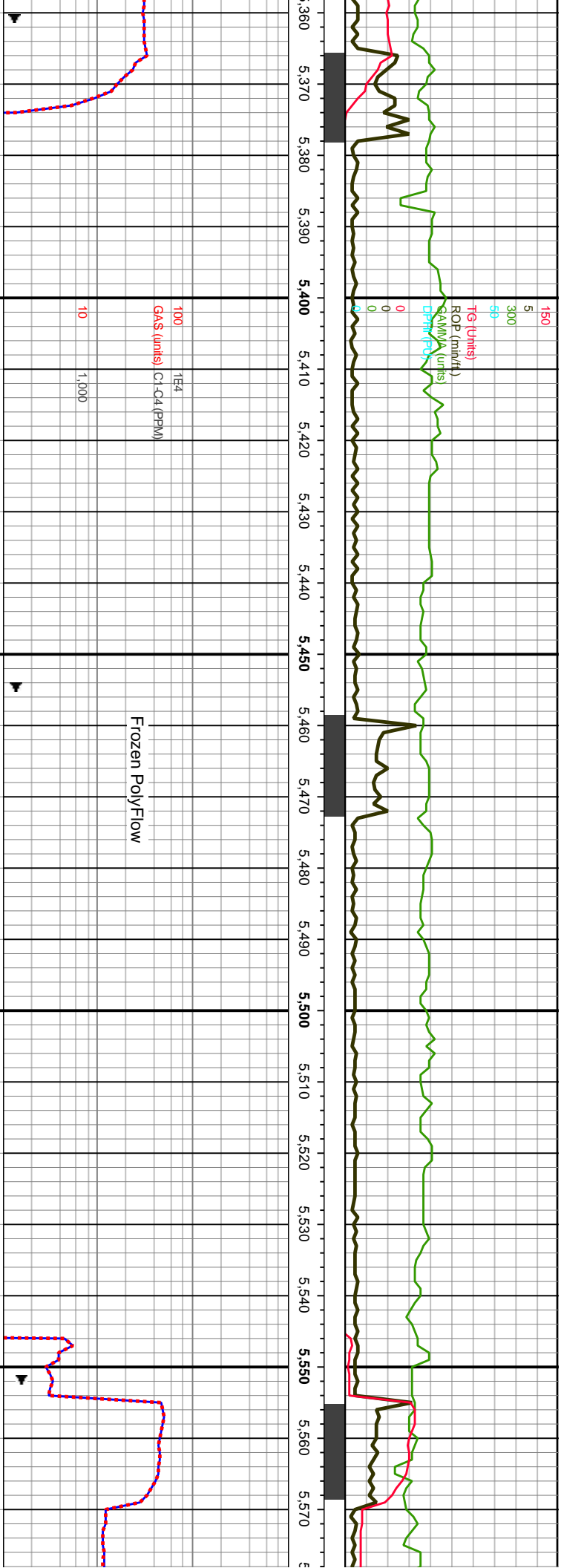
5060-5-120 SS: pred lt gy- gy, sme tmsl clus, p srt, sb ang grs, mod frm- mod hd, blkly, v f gr, pred slty- arg, w cmtd, pred clus, sli- mod calc, tr pyr, lith frags, tr cal

5120-5
p srt, sk
pred slt
calc, tr

20400







WOB: 25.9K
ROT: 37
STKS: 119SPM
Pump Rate: 685 GPM

MD: 5,405'
TVD: 5,363.95'
Inclination: 7.6°
Azimuth: 156.2°
VS: 265.9'

5360-5420 SS: pred gy- lt gy, sme bf, sme trnsi clus, p srt, sb ang grs, mod frm- mod hd, blkly, v f gr, pred stly, ip arg, w cntd clus, sli- mod calc, tr glau, abnt lith frags

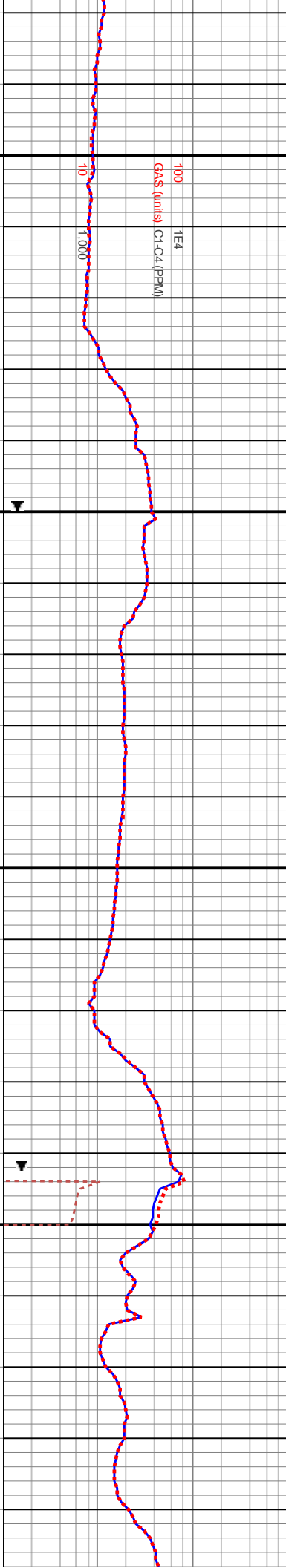
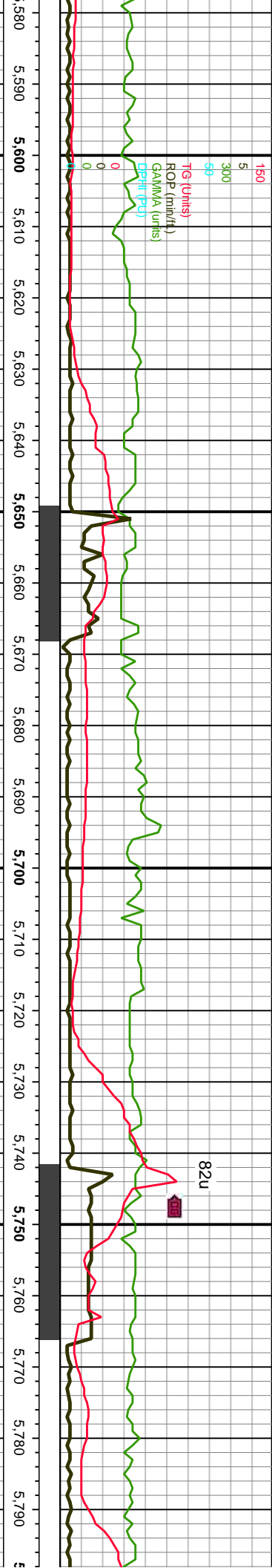
5420-5480 SS: pred gy, rr bf- ofwht, sme sl trnsi clus, p srt, sb ang grs, mod frm- hd, blkly- plty, v f- f gr, bcm pred stly, ip arg, w cntd clus, sli- mod calc, tr glau, abnt lith frags

MD: 5,498'
TVD: 5,456.19'
Inclination: 7.1°
Azimuth: 156.2°
VS: 272.4'

5480-5540 SS: pred gy, rr bf- ofwht, sme sl trnsi clus, p srt, sb ang grs, mod frm- hd, blkly- plty, v f- f gr, bcm pred stly, ip arg, w cntd clus, sli- mod calc, tr glau, abnt lith frags

5540-5600 SS: pred gy, rr bf- o clus, p srt, sb ang grs, mod frm f gr, bcm pred stly, ip arg, w cr calc, tr glau, abnt lith frags





MD: 5,592'
TVD: 5,549.5'
Inclination: 6.8°
Azimuth: 164.9°
VS: 277.87'

5600-5660 SS: pred gy, rr bf- offwht, sme sl
tnsl clus, p srt, sb ang grs, mod frm- hd,
blky- ply, v f- f gr, bcm pred stly, ip arg, w
cmtd clus, sl- mod calc, tr glau, abnt lith
frags

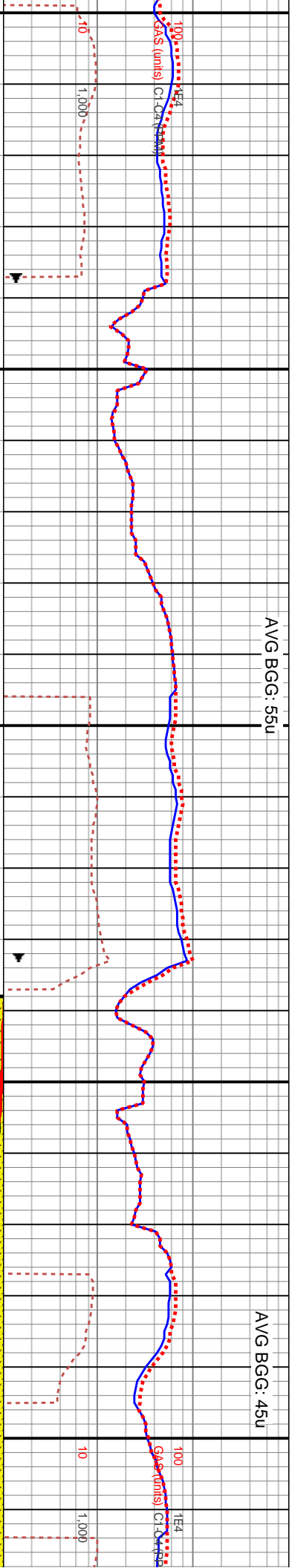
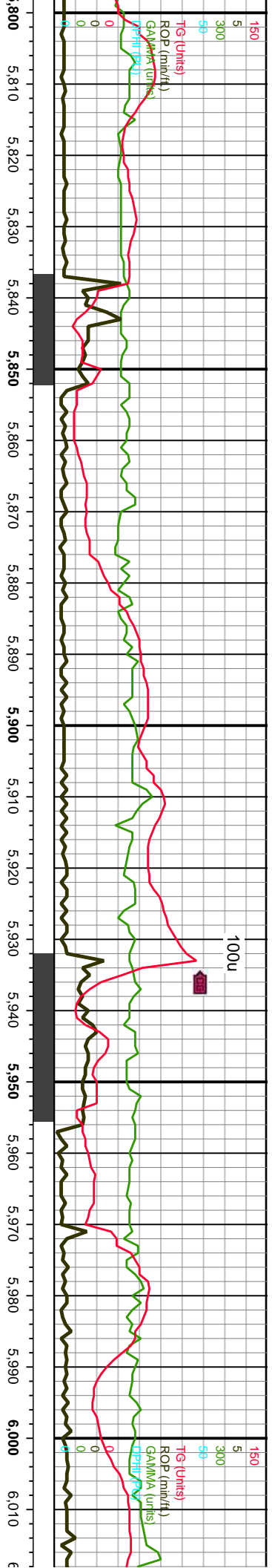
5660-5720 SS: pred gy, ip lt gy, tr bf-
offwht, rr sl tnsl clus, p srt, sb ang grs,
mod frm- hd, blky-, v f- f gr, bcm pred
stly, ip arg, w cmtd clus, sl- mod calc, tr
glau, rr pyr, abnt lith frags

5720-5780 SS: pred gy, ip lt gy, tr bf- offwht,
rr sl tnsl clus, p srt, sb ang grs, mod frm-
hd, blky-, v f- f gr, bcm pred stly, ip arg, w
cmtd clus, sl- mod calc, tr glau, rr pyr, abnt
lith frags

MD: 5,686'
TVD: 5,642.84'
Inclination: 6.8°
Azimuth: 169.8°
VS: 282.03'

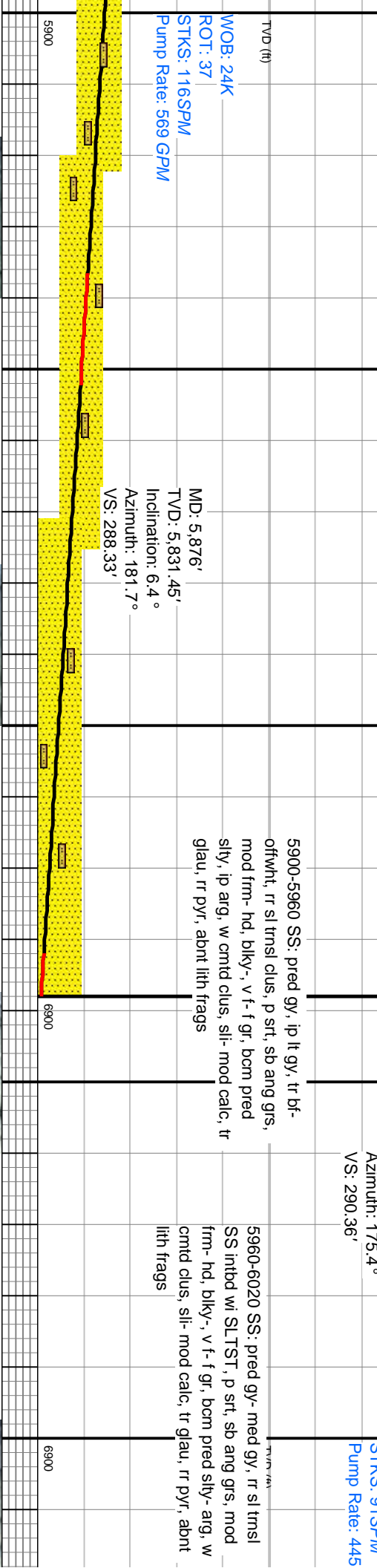
MD: 5,781'
TVD: 5,737.12'
Inclination: 7.3°
Azimuth: 171.4°
VS: 285.77'

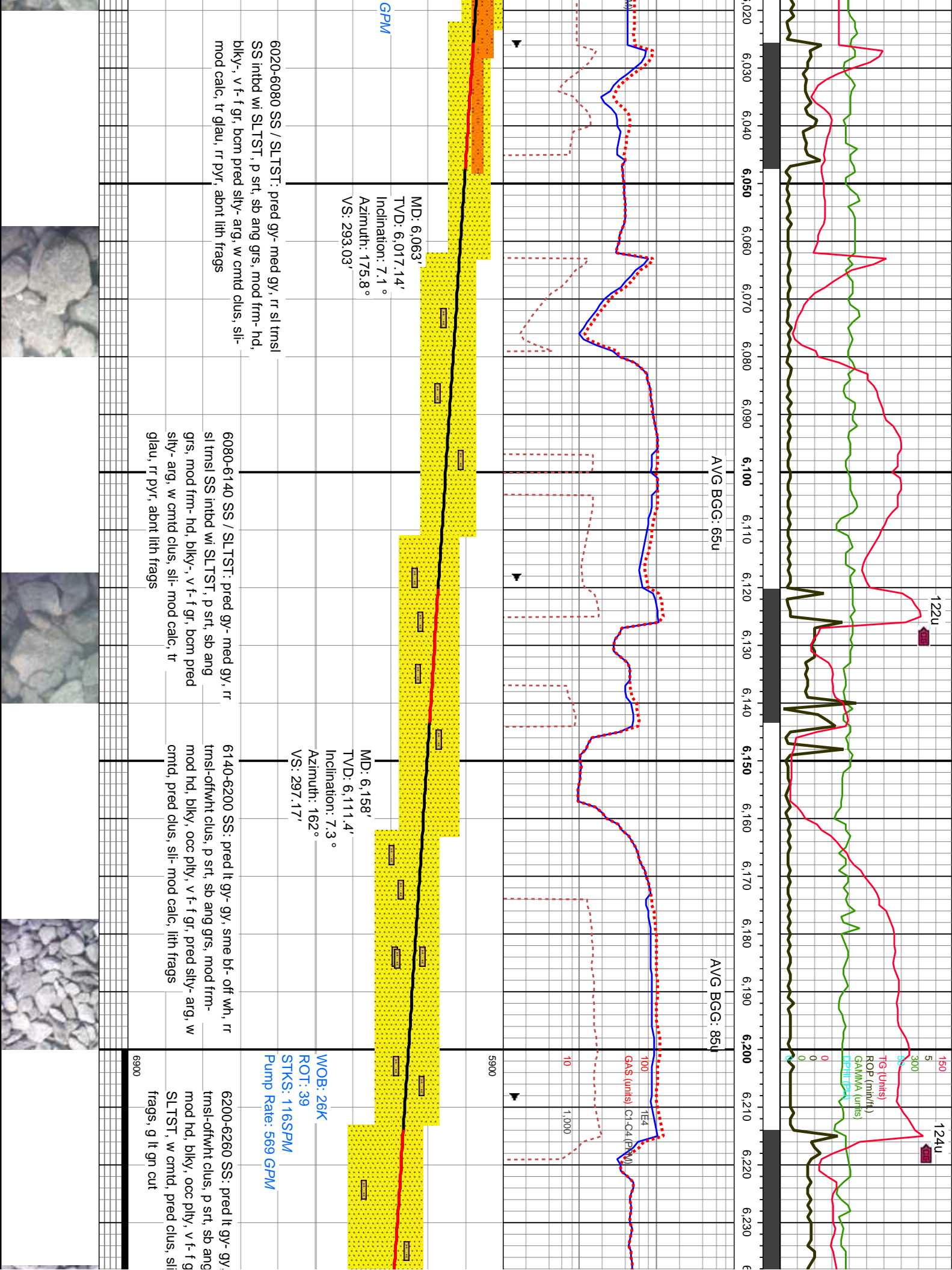


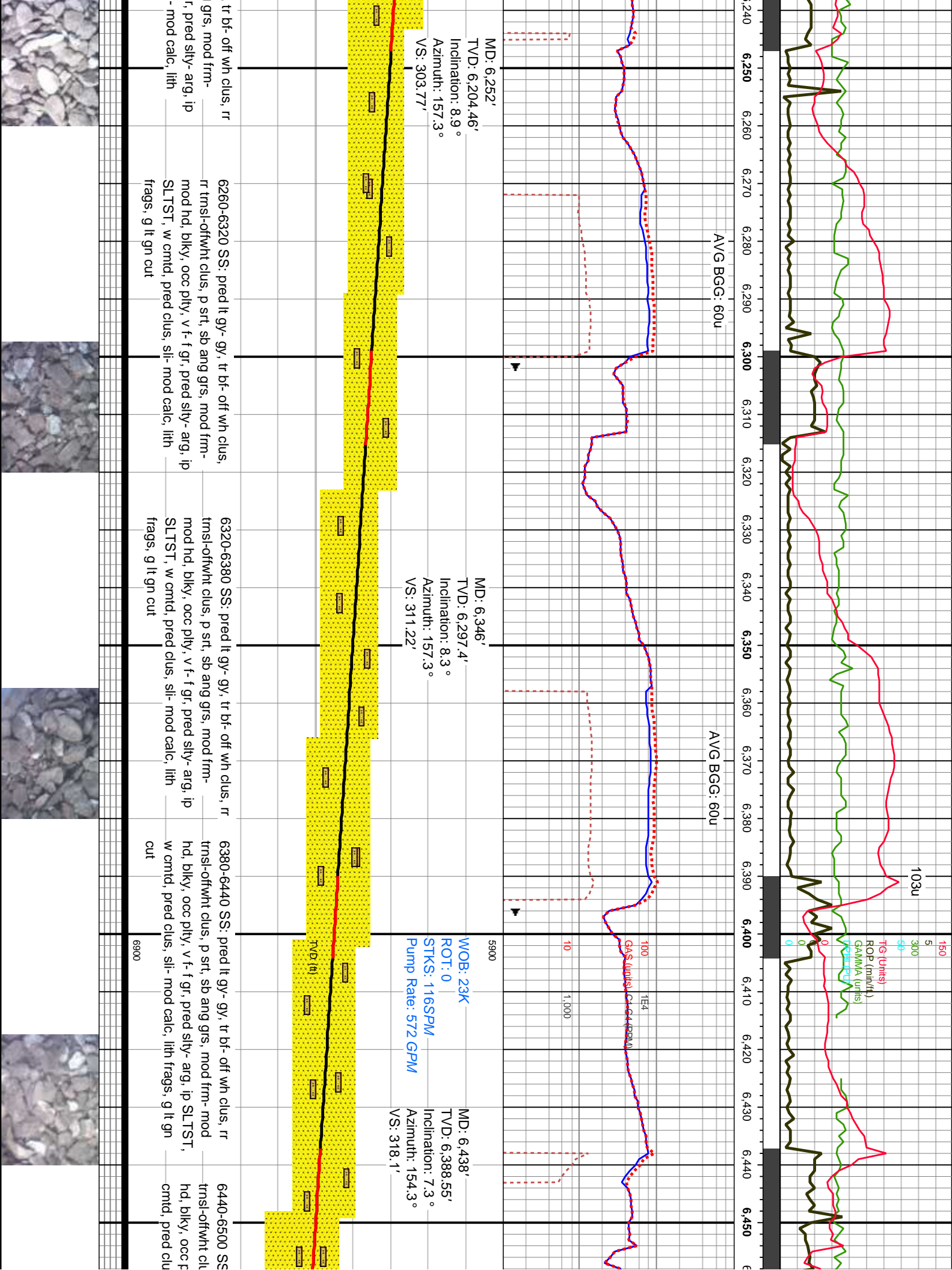


5780-5840 SS: pred gy, ip lt gy, tr bf-
offwht, rr sl trnsi clus, p srt, sb ang grs,
mod frm- hd, blkly-, v f- f gr, bcm pred
sily, ip arg, w cmt clus, sil- mod calc,
rr glau, rr pyr, abnt lith frags

5840-5900 SS: pred gy, ip lt gy, tr bf-
offwht, rr sl trnsi clus, p srt, sb ang grs,
mod frm- hd, blkly-, v f- f gr, bcm pred sily,
ip arg, w cmt clus, sil- mod calc, tr glau,
rr pyr, abnt lith frags







MD: 6,252'
TVD: 6,204.46'
Inclination: 8.9 °
Azimuth: 157.3 °
VS: 303.77'

MD: 6,346'
TVD: 6,297.4'
Inclination: 8.3 °
Azimuth: 157.3 °
VS: 311.22'

WOB: 23K
ROT: 0
STKS: 116SPM
Pump Rate: 572 GPM

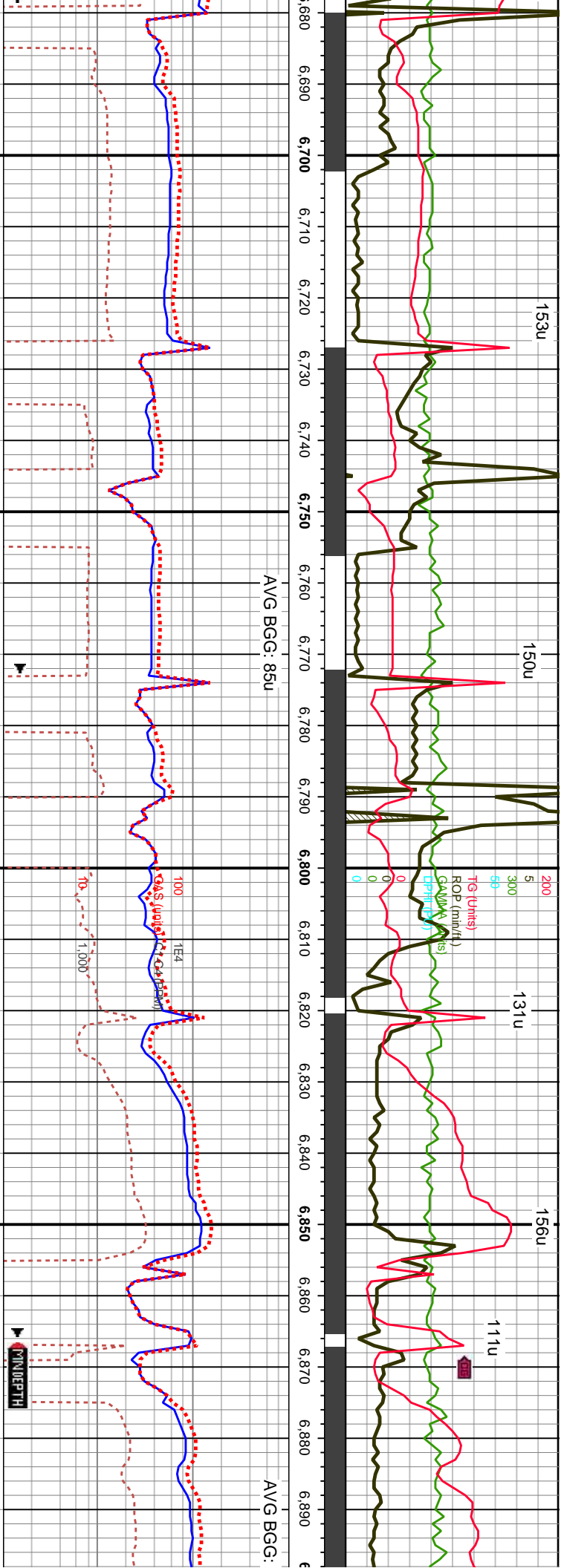
MD: 6,438'
TVD: 6,388.55'
Inclination: 7.3 °
Azimuth: 154.3 °
VS: 318.1'

6260-6320 SS: pred lt gy- gy, tr bf- off wh clus, rr
tr bf- off wh clus, rr
grs, mod frm-
f, pred silty- arg, ip
- mod calc, lith

6320-6380 SS: pred lt gy- gy, tr bf- off wh clus, rr
trnsl-offwht clus, p srt, sb ang grs, mod frm-
mod hd, blkly, occ ply, v f- f gr, pred silty- arg, ip
SLTST, w cmt, pred clus, sli- mod calc, lith
frags, g lt gn cut

6380-6440 SS: pred lt gy- gy, tr bf- off wh clus, rr
trnsl-offwht clus, p srt, sb ang grs, mod frm-
hd, blkly, occ ply, v f- f gr, pred silty- arg, ip
w cmt, pred clus, sli- mod calc, lith frags, g lt gn
cut

6440-6500 SS
trnsl-offwht clu
hd, blkly, occ p
cmt, pred clu



6680-6740 SS/SLTST/SH: pred lt gy- gy, occ med gy, it bf- off wh clus, rr trnsf-offwht clus, SS intbd wi

SLTST, p srt, sb ang grs, mod frm- mod hd, blkly, f- occ ply, v f- f gr, pred silty- arg, ip SLTST-SH, ip f lam, w cmtcd, pred clus, sil- mod calc, lith frags, g lt gn cut

6740-6800 SS: pred gy- lt gy, occ med gy, p srt, sb ang grs, mod frm- mod hd, blkly, occ ply, v f- f gr, pred silty- arg, ip SLTST, w cmtcd, pred clus, sil- mod calc, lith frags, lt gn cut

5906 6800-6860 SS: pred gy- lt gy, occ med gy, p srt, sb ang grs, mod frm- mod hd, blkly, occ ply, v f- f gr, pred silty- arg, ip SLTST, w cmtcd, pred clus, sil- mod calc, lith frags, tr glau, g lt gn cut

6860-6920 SS/SLTST: lt gy- gy sb ang ip, mod frm- hd, blkly- ph silty- arg, w cmtcd, pred clus, sils sl- mod calc, abnt lith frags

MD: 6,722'
TVD: 6,669.14'
Inclination: 9.7°
Azimuth: 148°
VS: 342.17'

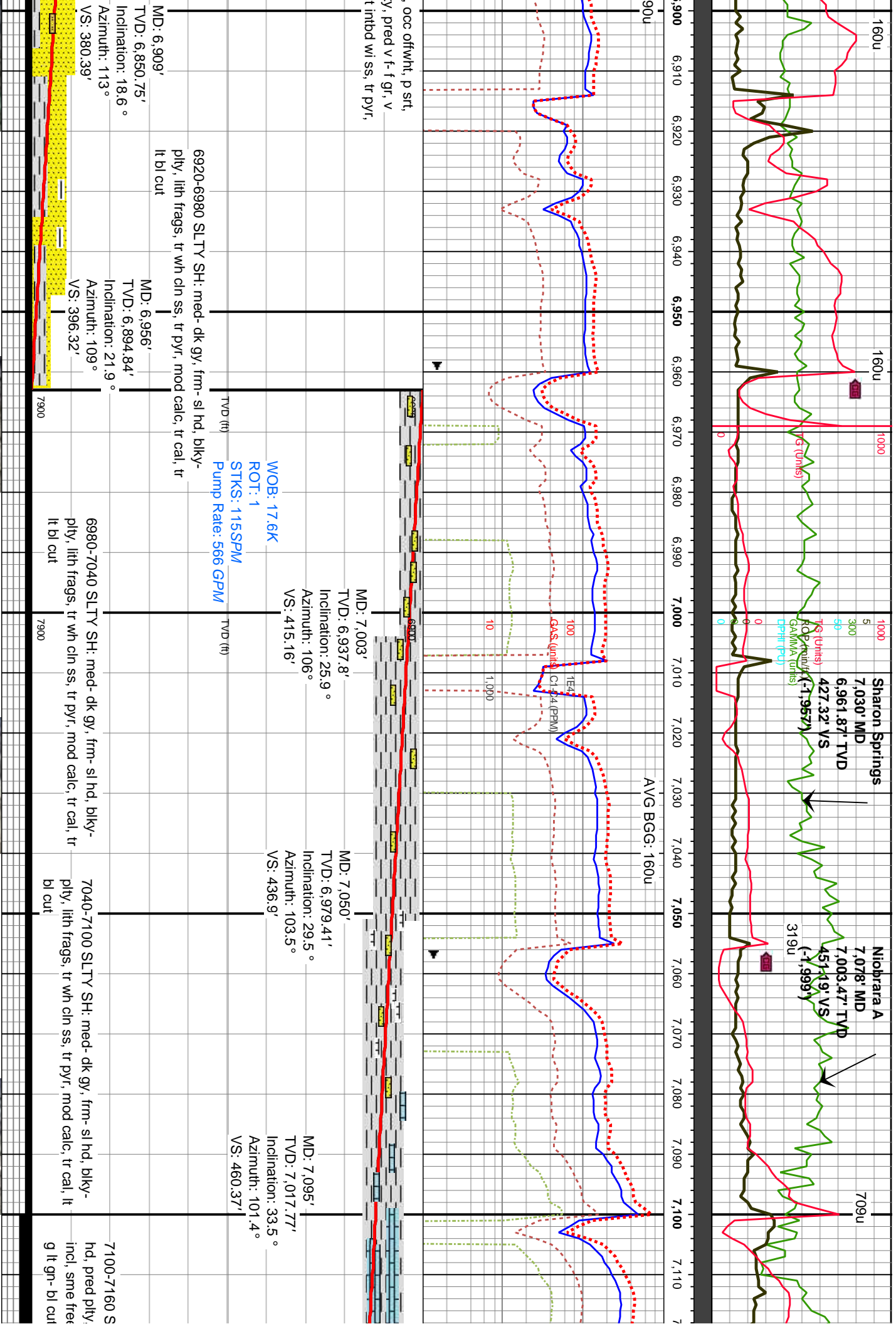
MD: 6,769'
TVD: 6,715.36'
Inclination: 11.2°
Azimuth: 136.6°
VS: 348.42'

MD: 6,815'
TVD: 6,760.32'
Inclination: 13.2°
Azimuth: 129°
VS: 356.54'

MD: 6,862'
TVD: 6,805.84'
Inclination: 15.7°
Azimuth: 120°
VS: 367.15'

WOB: 20.4K
ROT: 0
STKS: 117SPM
Pump Rate: 577 GPM





Sharon Springs

7,030' MD
6,961.87' TVD

427.32 VS

(-1.957)

Niobrara A

7,078' MD
7,003.47' TVD

451.19 VS

(-1.999)

319u

AVG BGG: 160u

occ offwht, p srt,
y, pred v f- f gr, v
t inbd w/ ss, tr pyr,

MD: 7,003'

TVD: 6,937.8'

Inclination: 25.9°

Azimuth: 106°

VS: 415.16'

MD: 7,050'

TVD: 6,979.41'

Inclination: 29.5°

Azimuth: 103.5°

VS: 436.9'

MD: 7,095'

TVD: 7,017.77'

Inclination: 33.5°

Azimuth: 101.4°

VS: 460.37'

6920-6980 SLTY SH: med- dk gy, frm- sl hd, blkly-
pty, lith frags, tr wh cln ss, tr pyr, mod calc, tr cal, tr
lt bl cut

MD: 6,909'

TVD: 6,850.75'

Inclination: 18.6°

Azimuth: 113°

VS: 380.39'

6980-7040 SLTY SH: med- dk gy, frm- sl hd, blkly-
pty, lith frags, tr wh cln ss, tr pyr, mod calc, tr cal, tr
lt bl cut

MD: 6,956'

TVD: 6,894.84'

Inclination: 21.9°

Azimuth: 109°

VS: 396.32'

7040-7100 SLTY SH: med- dk gy, frm- sl hd, blkly-
pty, lith frags, tr wh cln ss, tr pyr, mod calc, tr cal, lt
bl cut

MD: 7,050'

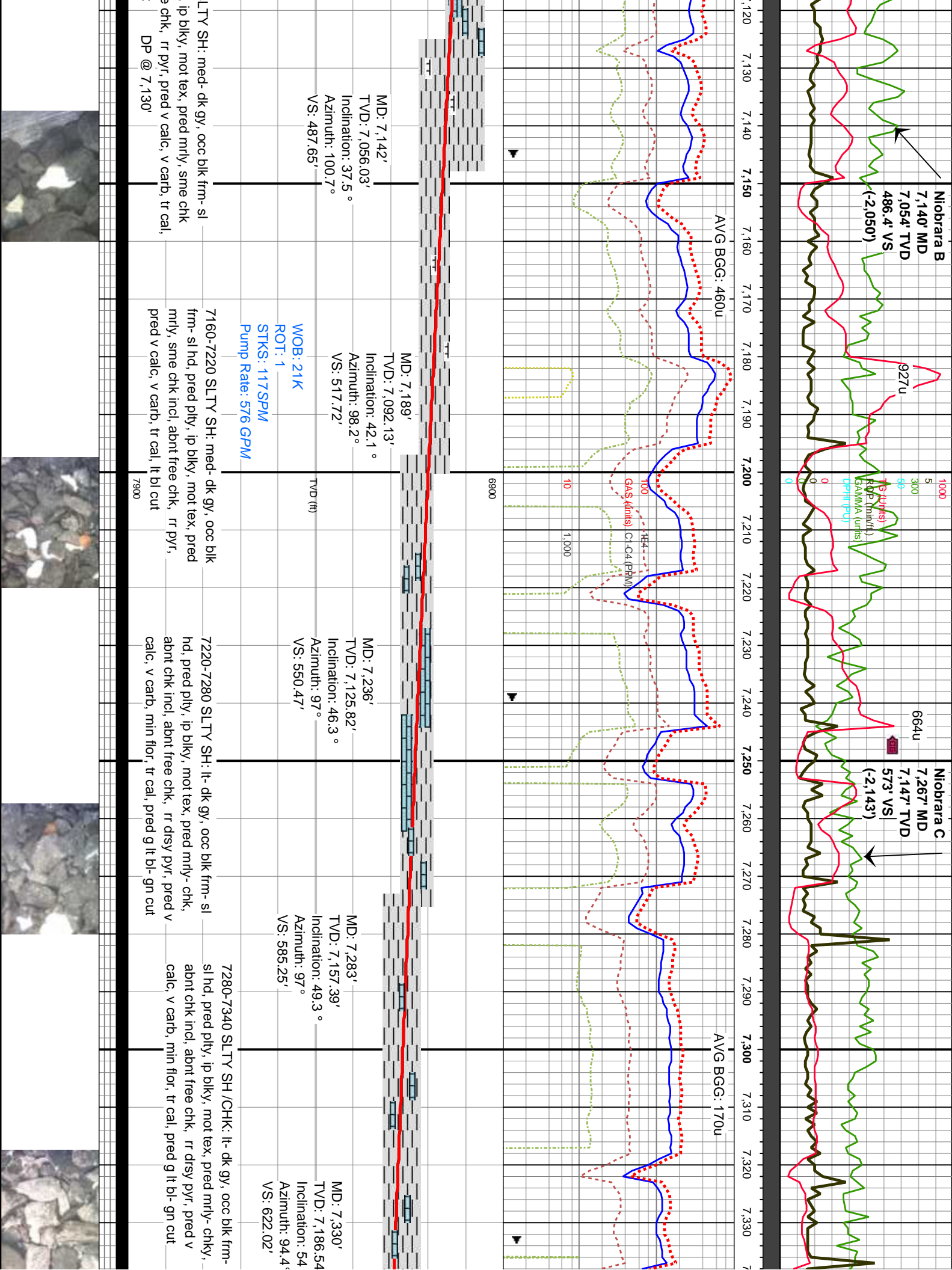
TVD: 6,979.41'

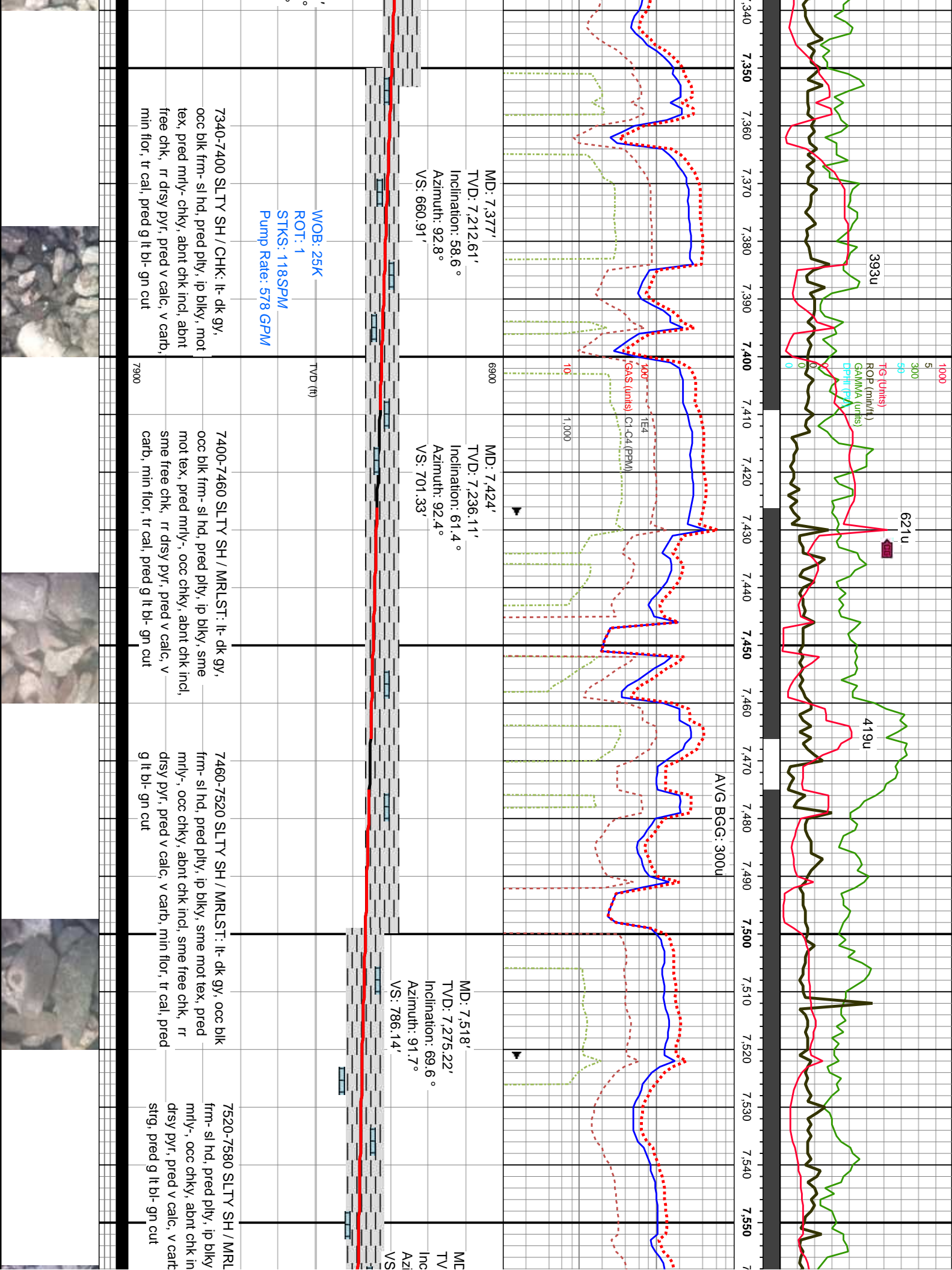
Inclination: 29.5°

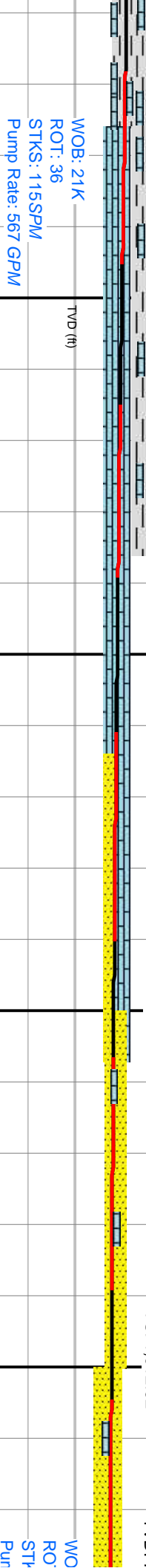
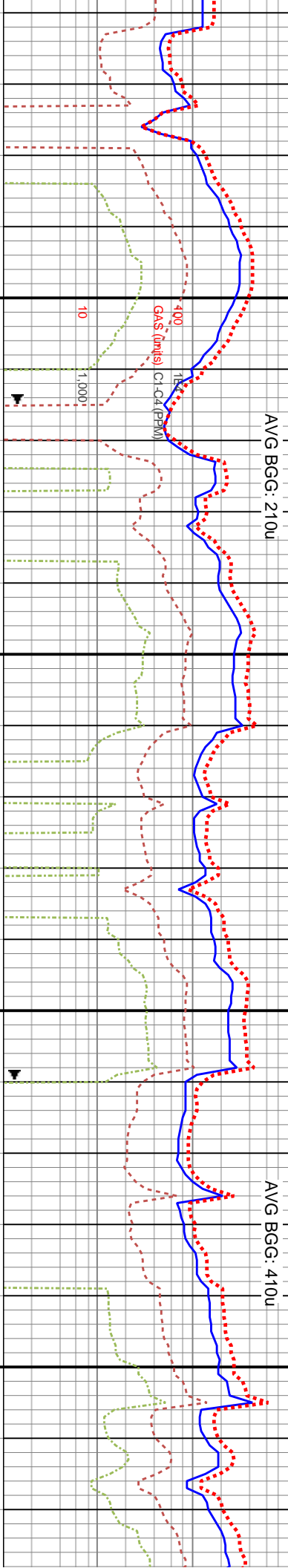
Azimuth: 103.5°

VS: 436.9'

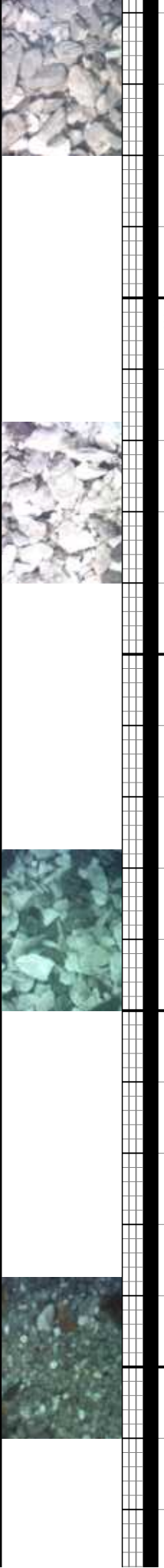
7100-7160 S
hd, pred pty,
incl, sme free
g lt gn- bl cut

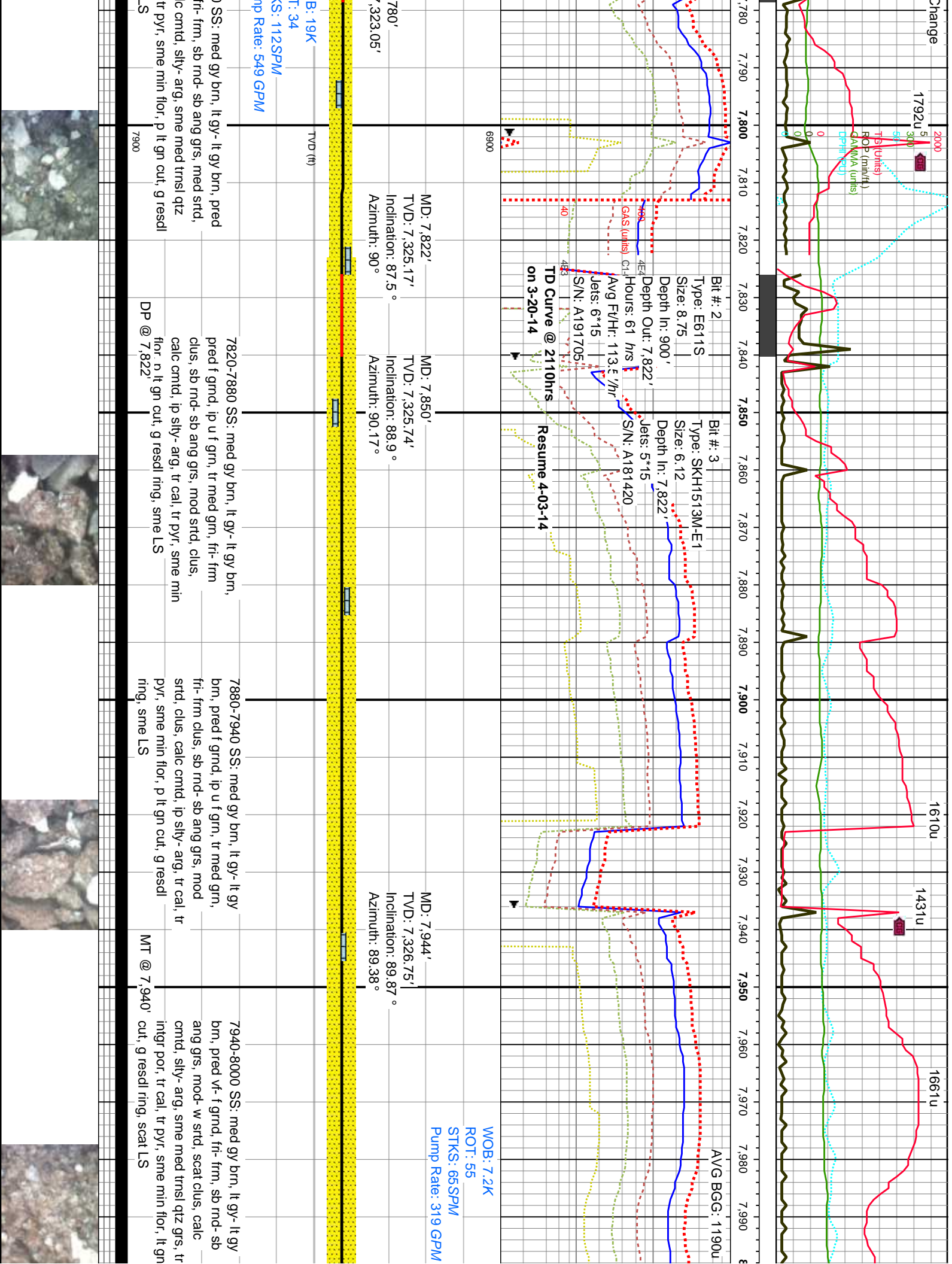


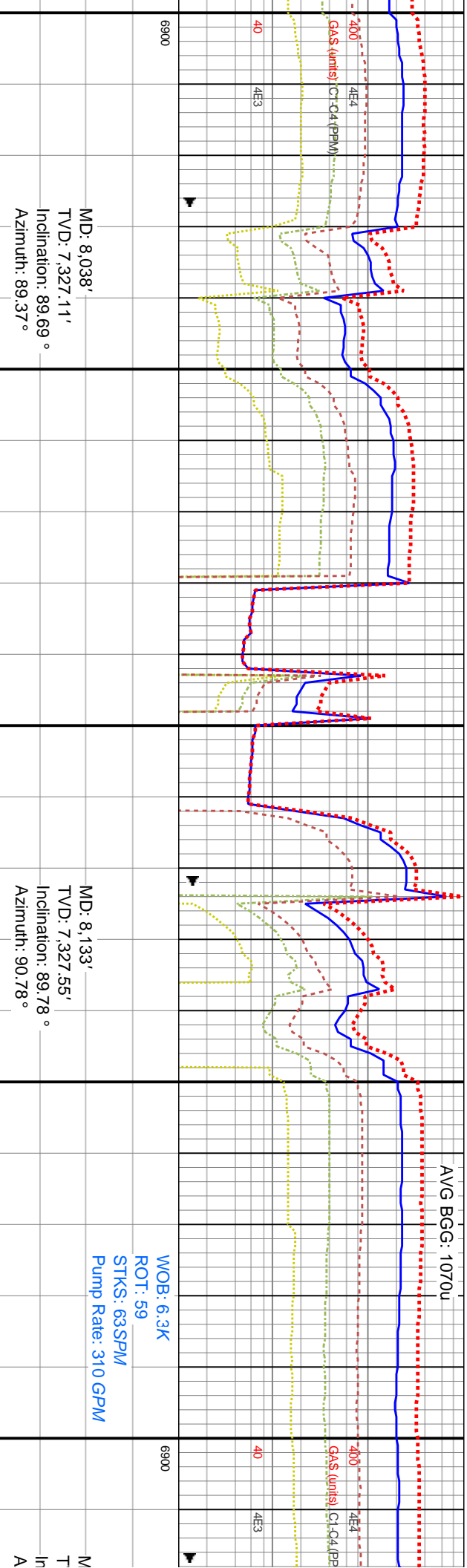
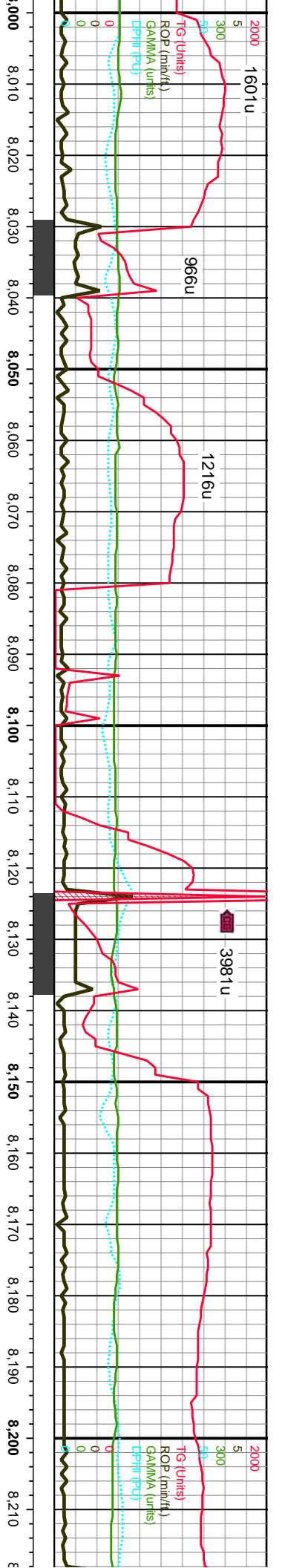




7900	some min flor, p lt gn cut, g resld ring	resld ring, sme LS	ring, sme
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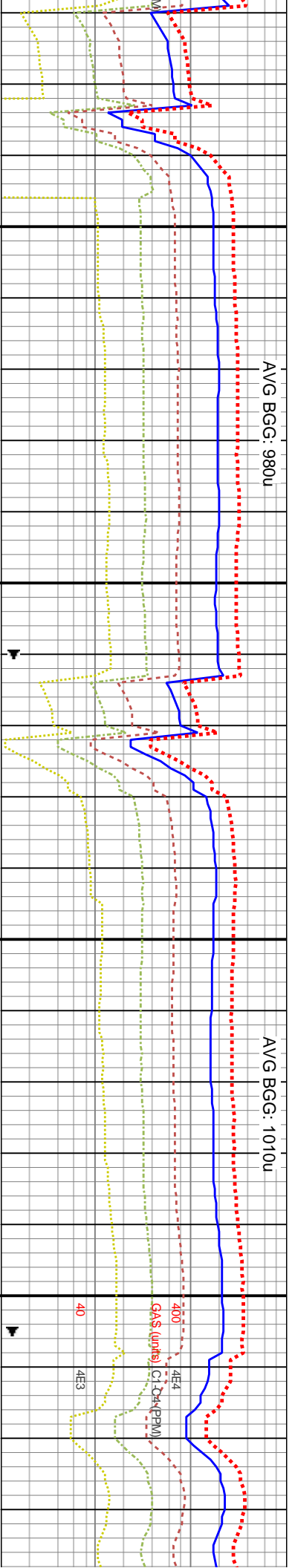
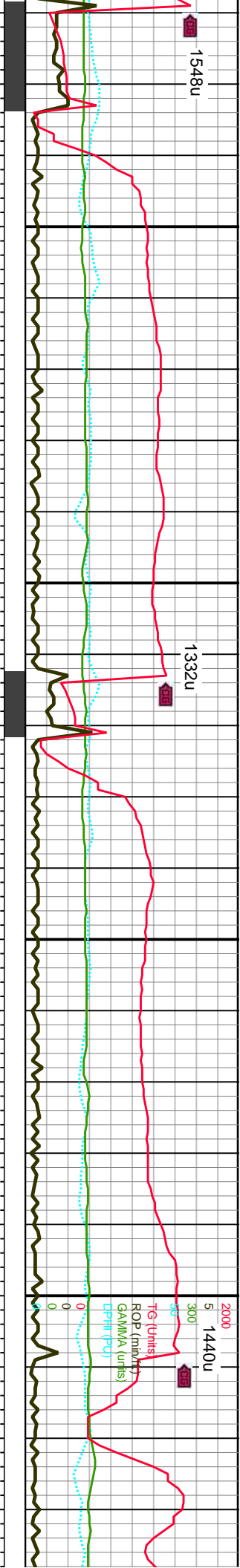
MD: 8,038'
TVD: 7,327.11'
Inclination: 89.69 °
Azimuth: 89.37 °

MD: 8,133'
TVD: 7,327.55'
Inclination: 89.78 °
Azimuth: 90.78 °

WOB: 6.3K
ROT: 59
STKS: 63SPM
Pump Rate: 310 GPM

8000-8060 SS: med gy brn, lt gy- lt gy brn, pred vf- f grnd, fir- frm, sb rnd- sb ang grs, mod- w strd, scat clus, calc cmtd, silty- arg, sme med trnsl qtz grs, tr intrgr por, tr cal, tr pyr, sme min flor, lt gn cut, resdl ring, tr LS	8060-8120 SS: med gy brn, lt gy- lt gy brn, pred vf- f grnd, fir- frm, sb rnd- sb ang grs, mod- w strd, scat clus, calc cmtd, silty- arg, sme med trnsl qtz grs, tr intrgr por, tr cal, tr pyr, sme min flor, lt gn cut, resdl ring, tr LS	8120-8180 SS: med gy brn, lt gy- lt gy brn, pred vf- f grnd, fir- frm, sb rnd- sb ang grs, mod- w strd, ip clus, calc cmtd, silty- arg, sme med trnsl qtz grs, tr intrgr por, tr cal, sme min flor, lt gn cut, resdl ring, tr LS	8180-8240 SS: mee brn, pred vf- f grnd, ang grs, mod- w strd silty- arg, sme med por, tr cal, tr pyr, sr resdl ring, tr LS
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D: 8,227'
V/D: 7,327.83'
Inclination: 89.87 °
Azimuth: 91.85°

MD: 8,322'
TVD: 7,328.78'
Inclination: 88.99 °
Azimuth: 91.67°

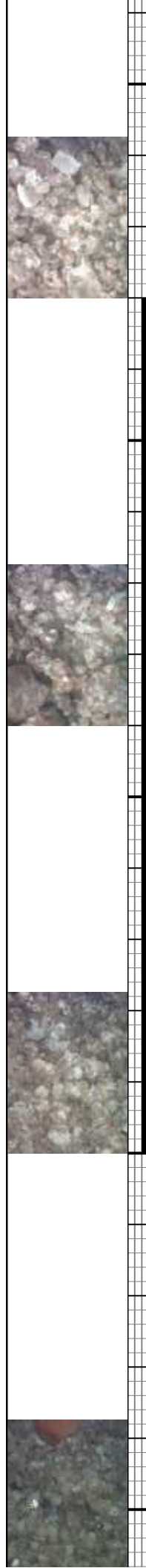
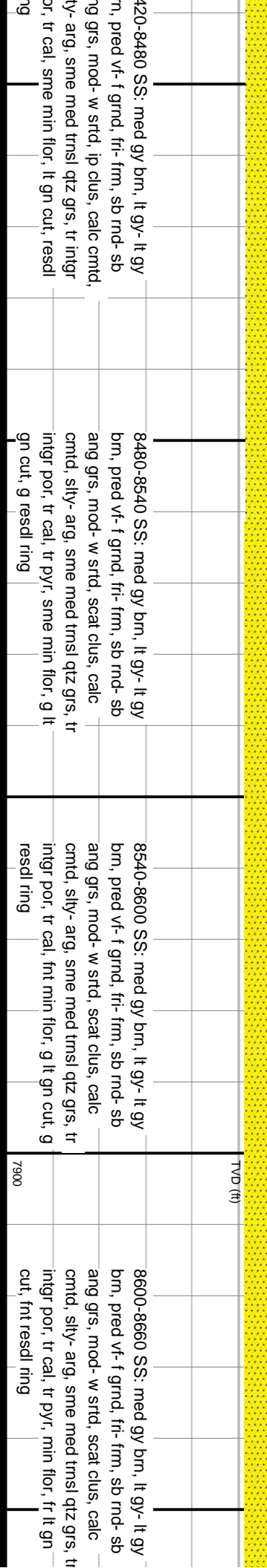
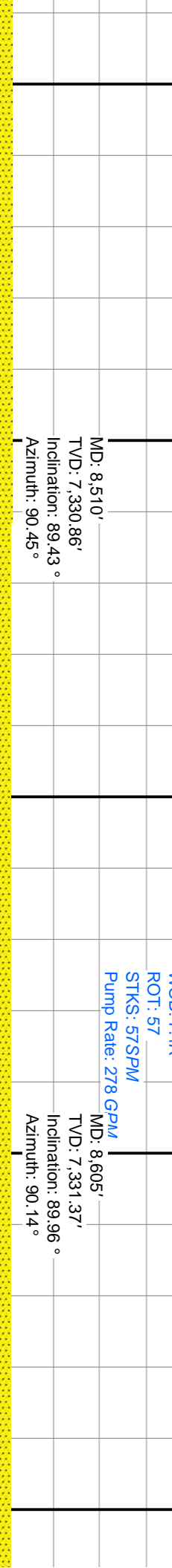
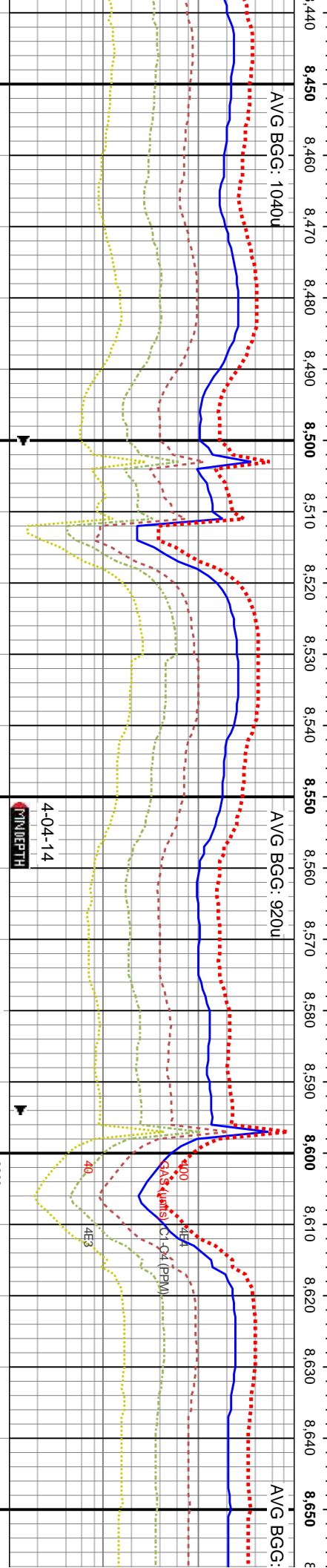
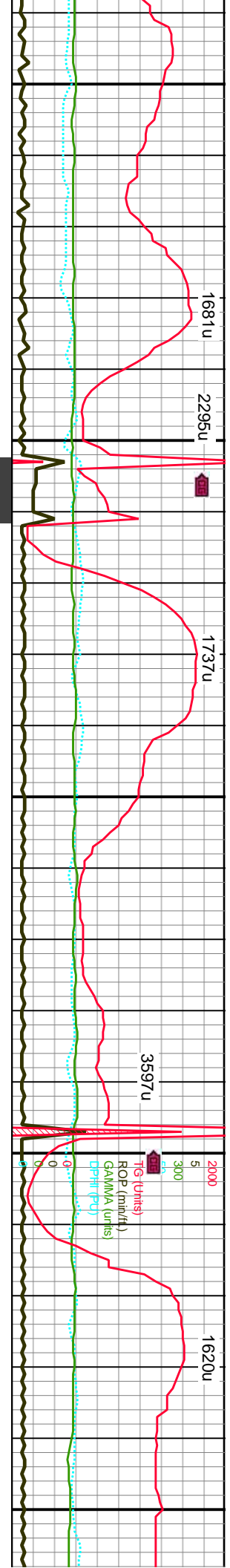
MD: 8,416'
TVD: 7,330'
Inclination: 89.52 °
Azimuth: 90.81°

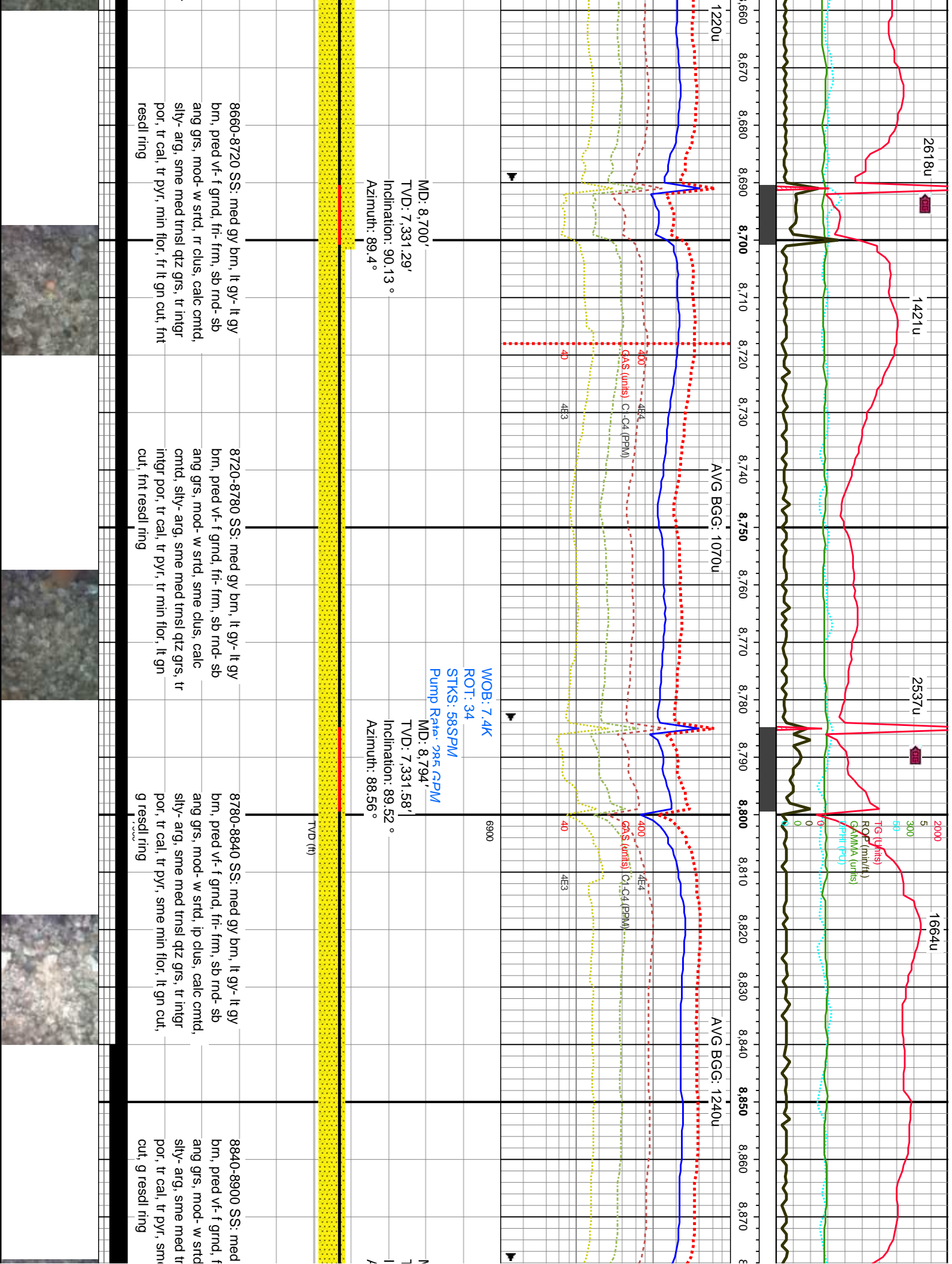
8240-8300 SS: med gy brn, lt gy- lt gy
brn, pred vf- f gmd, fri- frm, sb rnd- sb
ang grs, mod- w strd, ip- sme clus, calc
cmtd, silty- arg, sme med trnsi qtz grs, tr
ingr por, tr cal, tr pyr, sme min flor, lt gn
cut, resd ring, tr LS

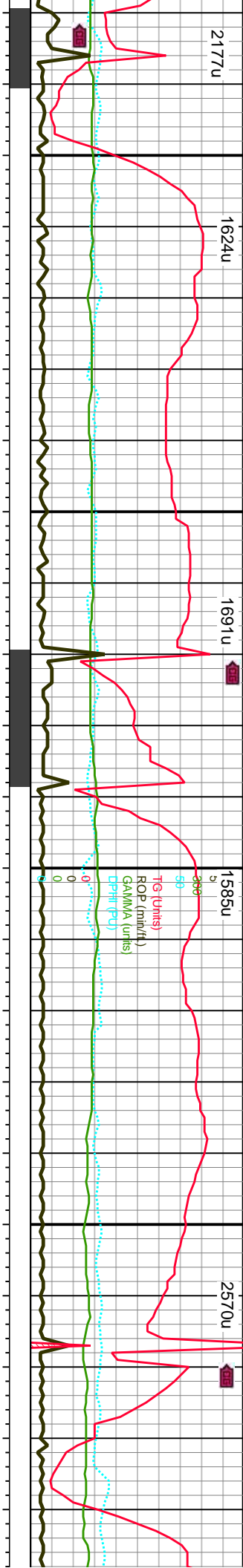
8300-8360 SS: med gy brn, lt gy- lt gy
brn, pred vf- f gmd, fri- frm, sb rnd- sb
ang grs, mod- w strd, scat clus, calc
cmtd, silty- arg, sme med trnsi qtz grs, tr
ingr por, tr cal, sme min flor, lt gn cut,
resd ring, tr LS

8360-8420 SS: med gy brn, lt gy- lt gy
brn, pred vf- f gmd, fri- frm, sb rnd- sb
ang grs, mod- w strd, tr clus, calc cmtd,
silty- arg, sme med trnsi qtz grs, tr ingr
por, tr cal, tr pyr, sme min flor, lt gn cut,
resd ring









AVG BGG: 1020u

AVG BGG: 1440u

GAAS (units) C1-C4 (PPM)

400 40 4E3

MD: 8,888'
TVD: 7,332.8'
Inclination: 88.99°
Azimuth: 88.32°

WOB: 5.8K
ROT: 34
STKS: 59SPM
Pump Rate: 292 GPM
MD: 8,982'
TVD: 7,335.18'
Inclination: 88.11°
Azimuth: 89.47°

MD: 9,077'
TVD: 7,337.43'
Inclination: 89.52°
Azimuth: 88.83°
VS: 2,319.58'

TVD (ft)

gy brn, lt gy- lt gy
fr- frm, sb rnd- sb
, ip clus, calc cntd,
nsi qtz grs, tr intgr
e min flor, g lt gn

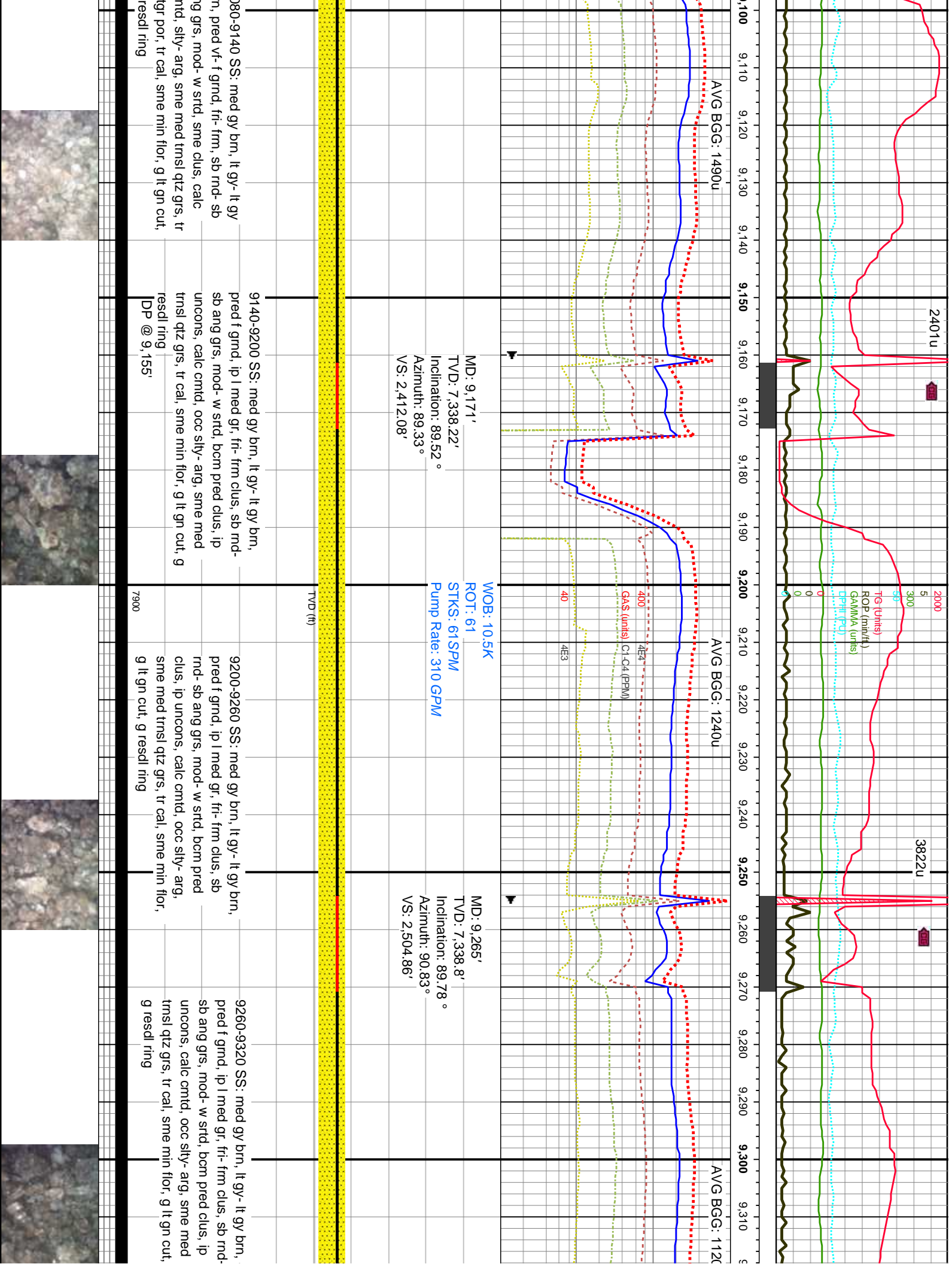
8900-8960 SS: med gy brn, lt gy- lt gy
brn, pred vf- f grnd, fir- frm, sb rnd- sb
ang grs, mod- w strd, ip- abnt clus, calc
cntd, silty- arg, sme med trnsi qtz grs, tr
intgr por, tr cal, tr pyr, sme min flor, g lt
gn cut, g resdl ring

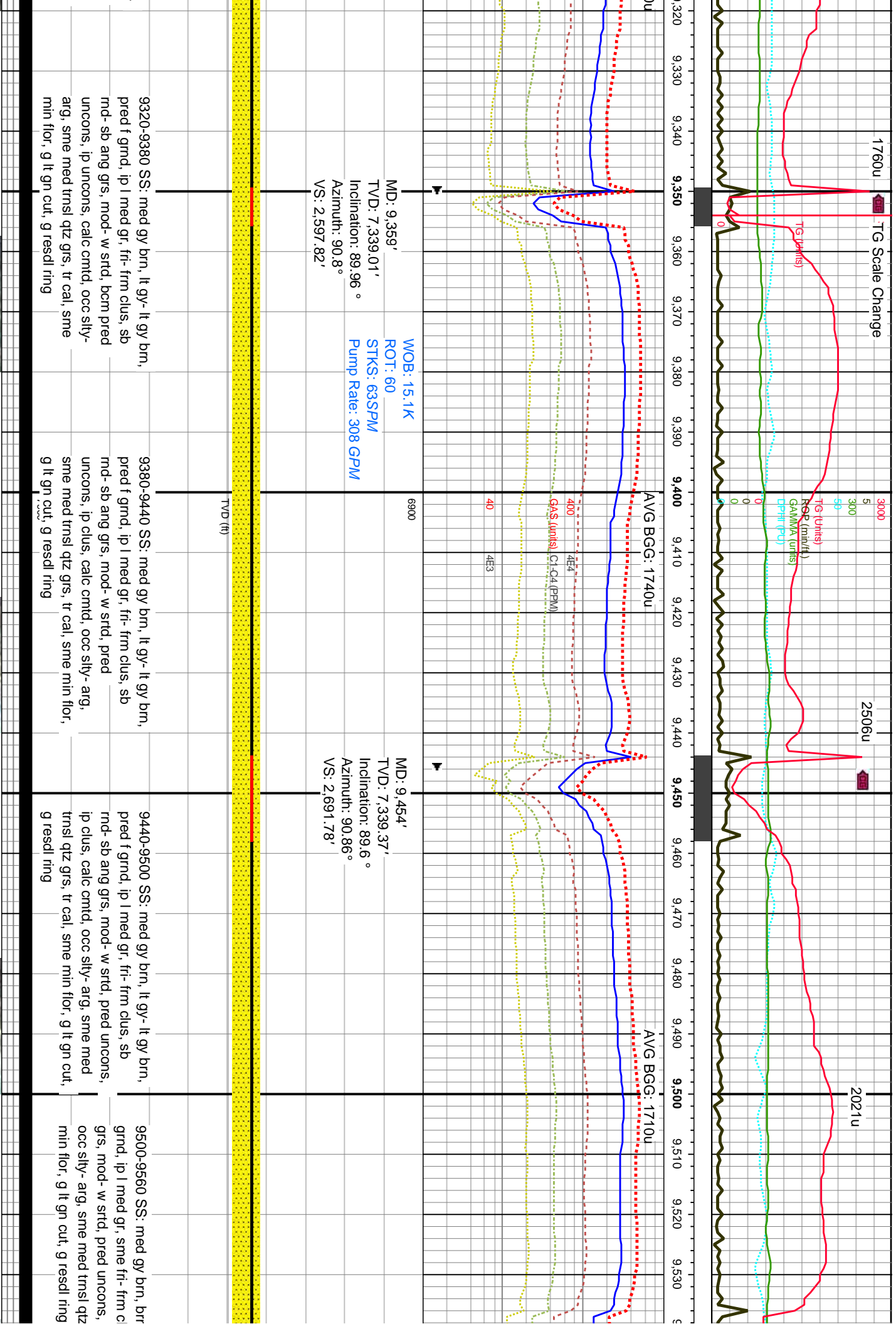
8960-9020 SS: med gy brn, lt gy- lt gy
brn, pred vf- f grnd, fir- frm, sb rnd- sb
ang grs, mod- w strd, ip- abnt clus, calc
cntd, silty- arg, sme med trnsi qtz grs, tr
intgr por, tr cal, tr pyr, sme min flor, g lt
gn cut, g resdl ring

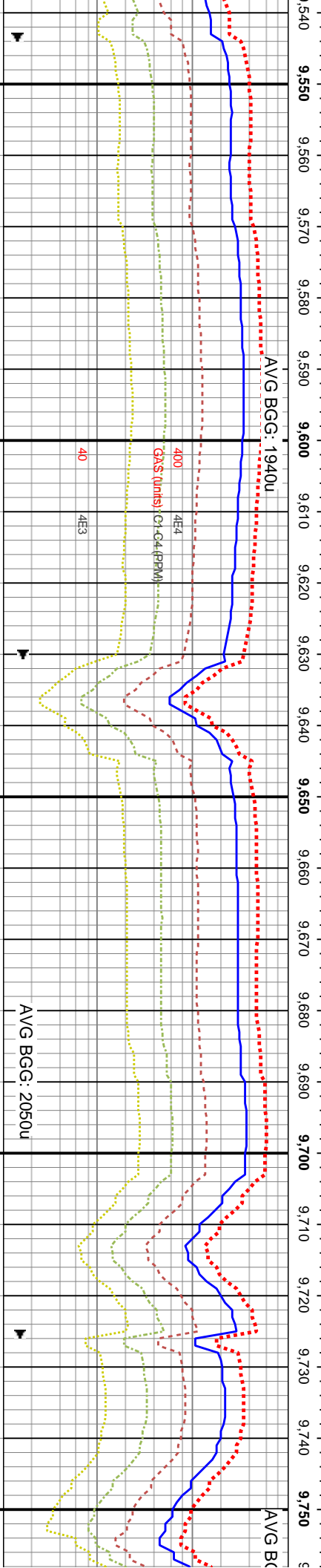
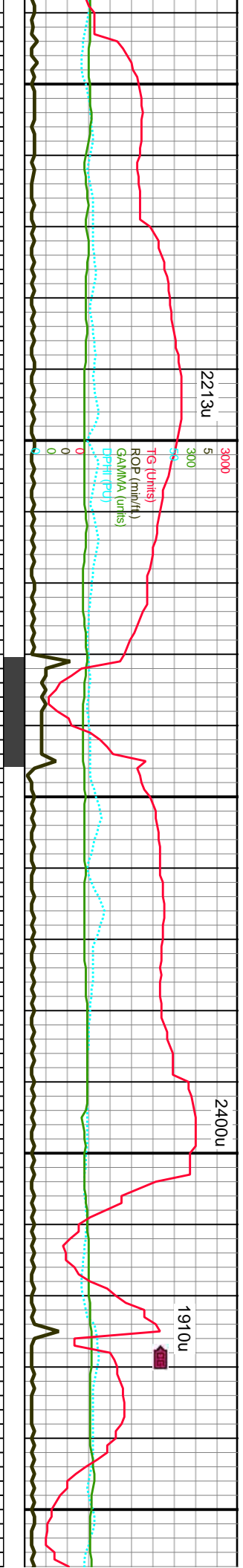
9020-9080 SS: med gy brn, lt gy- lt gy
brn, pred vf- f grnd, fir- frm, sb rnd- sb
ang grs, mod- w strd, sme clus, calc
cntd, silty- arg, sme med trnsi qtz grs, tr
intgr por, tr cal, tr pyr, sme min flor, g lt
gn cut, g resdl ring

9080-9140 SS: med gy brn, lt gy- lt gy
brn, pred vf- f grnd, fir- frm, sb rnd- sb
ang grs, mod- w strd, sme clus, calc
cntd, silty- arg, sme med trnsi qtz grs, tr
intgr por, tr cal, tr pyr, sme min flor, g lt
gn cut, g resdl ring





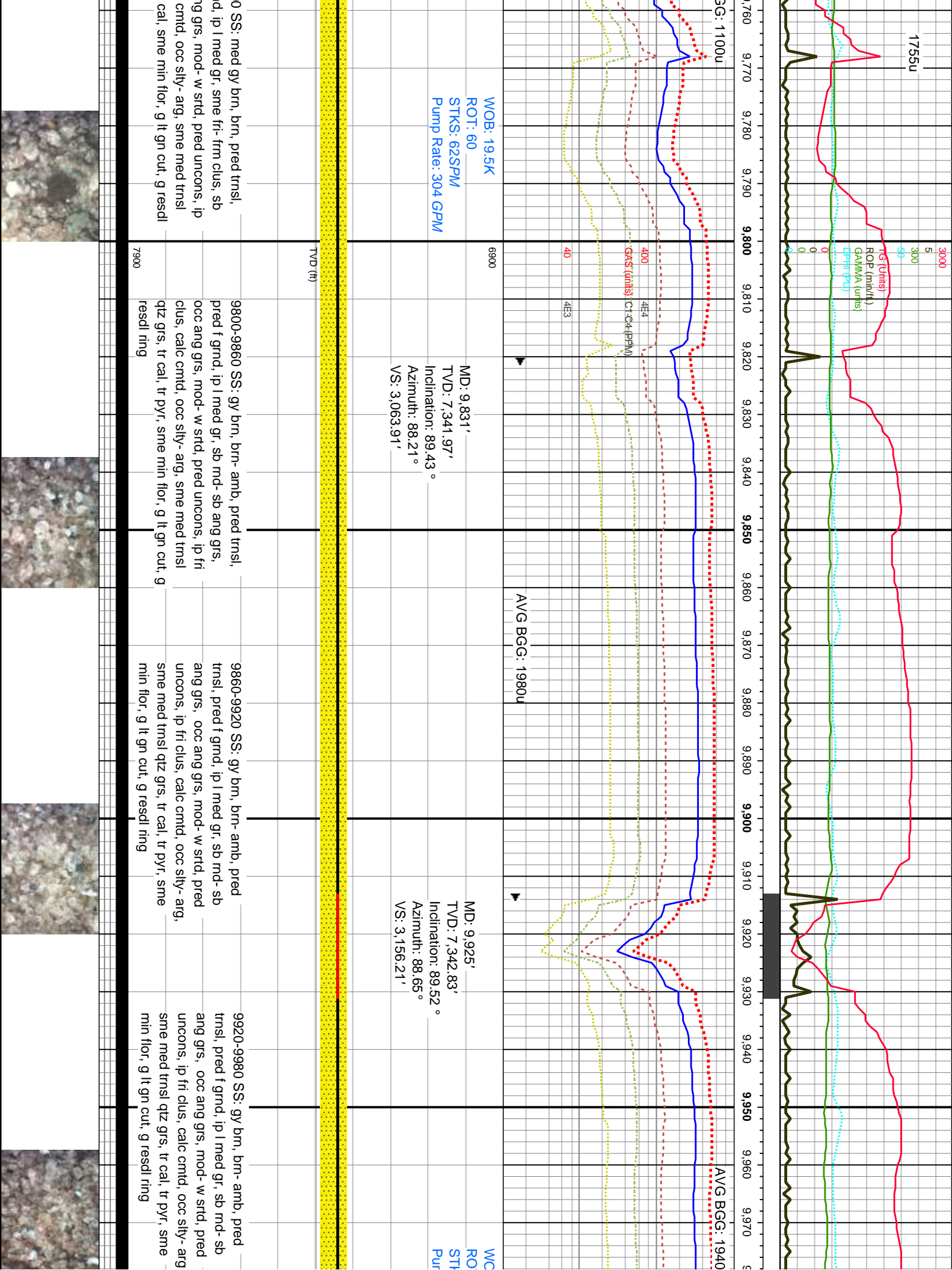


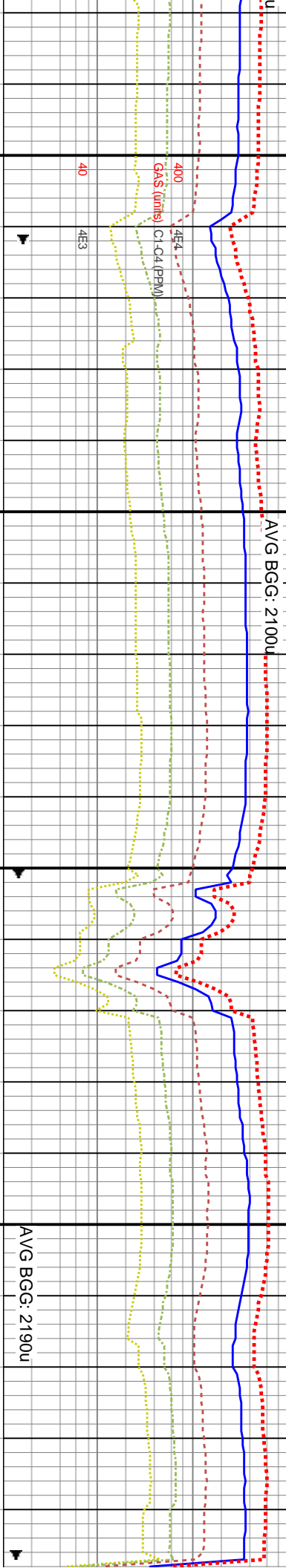
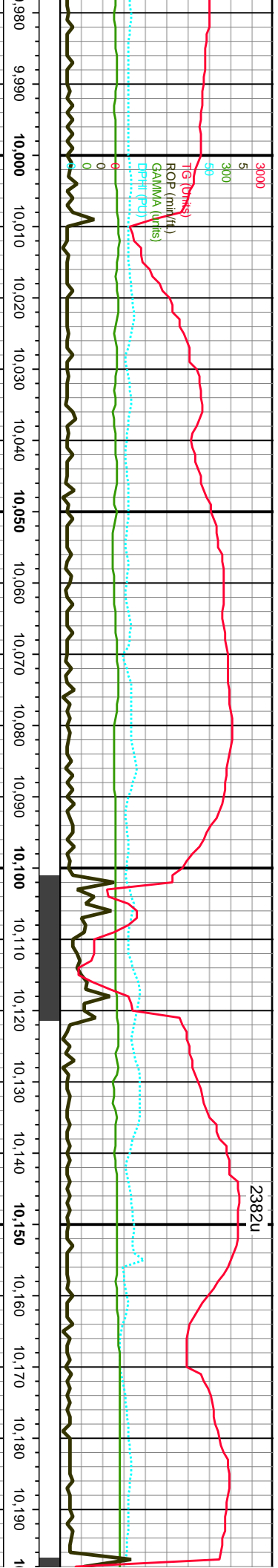


MD: 9,548'	WOB: 22.7K	MD: 9,642'	MD: 9,736'
TVD: 7,339.37'	ROT: 61	TVD: 7,339.51'	TVD: 7,340.74'
Inclination: 90.4 °	STKS: 62SPM	Inclination: 89.43 °	Inclination: 89.08 °
Azimuth: 90.87 °	Pump Rate: 303 GPM	Azimuth: 90.57 °	Azimuth: 89.64 °
VS: 2,784.76'		VS: 2,877.7'	VS: 2,970.48'

	9560-9620 SS: med gy brn, brn, pred tmsl, pred f	9620-9680 SS: med gy brn, brn, pred tmsl, pred f	9680-9740 SS: med gy brn, brn, pred tmsl, pred f	9740-980
	grnd, ip l med gr, sme fri- frm clus, sb rnd- sb ang	f grnd, ip l med gr, sme fri- frm clus, sb rnd- sb ang	grnd, ip l med gr, sme fri- frm clus, sb rnd- sb ang	pred f grr
	grs, mod- w strd, pred uncon, ip clus, calc cmtd,	ang grs, mod- w strd, pred uncon, ip clus, calc cmtd, occ sily- arg, sme med tmsl qtz grs, tr cal, sme min flor, g lt gn cut, g resdl ring	grs, mod- w strd, pred uncon, ip clus, calc cmtd, occ sily- arg, sme med tmsl qtz grs, tr cal, sme min flor, g lt gn cut, g resdl ring	rnd- sb at
	grs, tr cal, sme			clus, calc
				qtz grs, tr
				ring



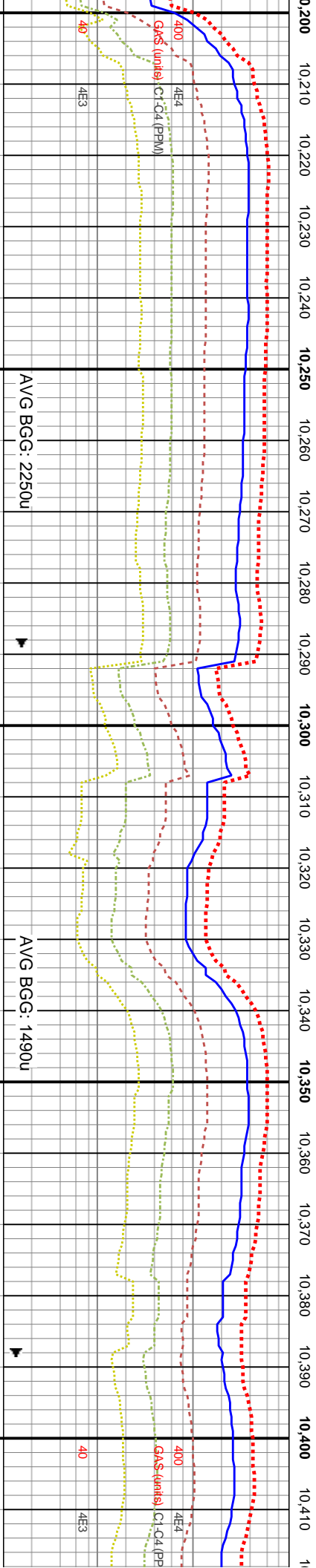
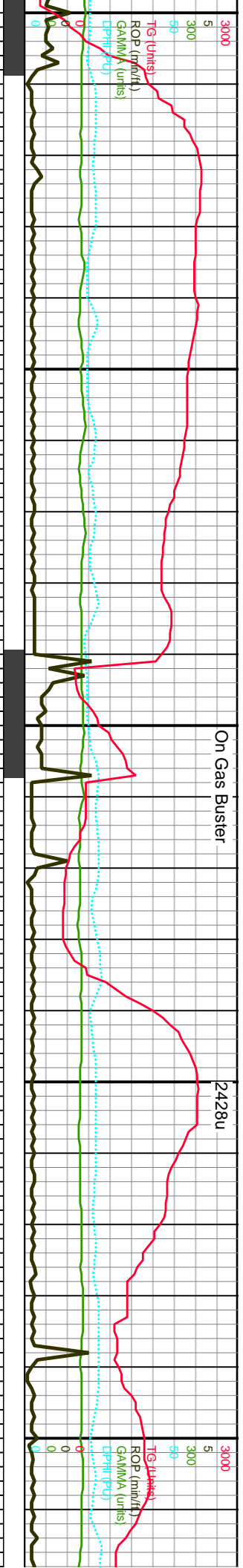




B: 15.2K T: 60 SS: 63SPM Pump Rate: 311 GPM		6900	MD: 10,020' TVD: 7,342.97' Inclination: 90.31 ° Azimuth: 88.98 ° VS: 3,249.62'

9980-10040 SS: gy brn, brn-amb, pred trnsl, pred f gmd, ip l med gr, sb rnd- sb ang grs, occ ang grs, mod- w strd, pred unconcs, ip fri clus, calc cmd, occ silty- arg, sme med trnsl qtz grs, tr cal, tr pyr, sme min flor, g lt gn cut, g resd ring		TVD (ft)	7900
10040-10100 SS: gy brn, brn-amb, pred trnsl, pred f gmd, ip l med gr, sb rnd- sb ang grs, occ ang grs, mod- w strd, pred unconcs, ip fri clus, calc cmd, occ silty- arg, sme med trnsl qtz grs, tr cal, tr pyr, sme min flor, g lt gn cut, g resd ring			
10100-10160 SS: gy brn, brn-amb, pred trnsl, pred f gmd, ip l med gr, sb rnd- sb ang grs, occ ang grs, pred w strd, pred unconcs, ip fri clus, calc cmd, occ silty- arg, sme med trnsl qtz grs, tr cal, tr pyr, sme min flor, g lt gn cut, g resd ring			
10160-10220 SS: gy brn, trnsl, pred f gmd, ip l med gr, sb rnd- sb ang grs, occ ang grs, pred w strd, pred unconcs, ip fri clus, calc cmd, occ silty- arg, sme med trnsl qtz grs, tr cal, tr pyr, sme min flor, g lt gn cut, g resd ring			





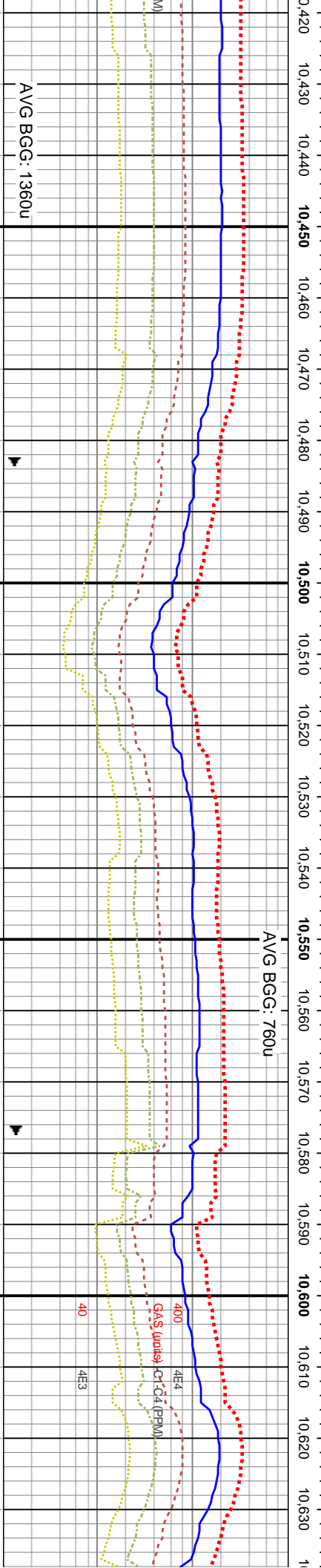
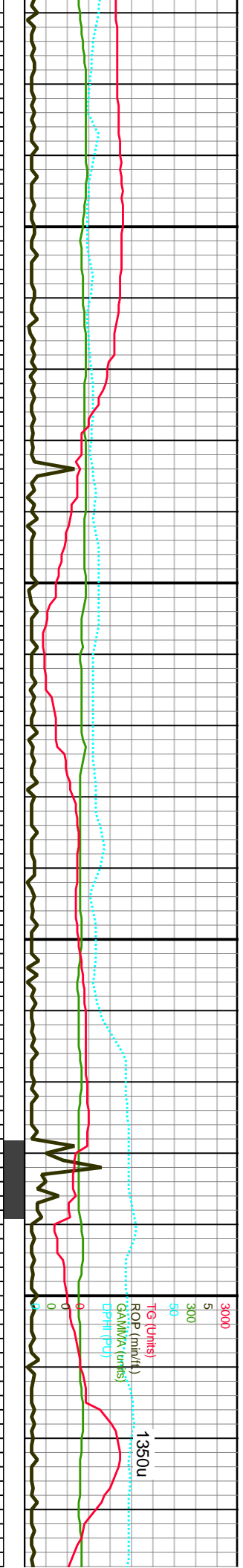
MD: 10,209'
TVD: 7,341.75'
Inclination: 90.22 °
Azimuth: 90.43°
VS: 3,435.98'

MD: 10,303'
TVD: 7,342.03'
Inclination: 89.43 °
Azimuth: 90.81 °
VS: 3,528.9'

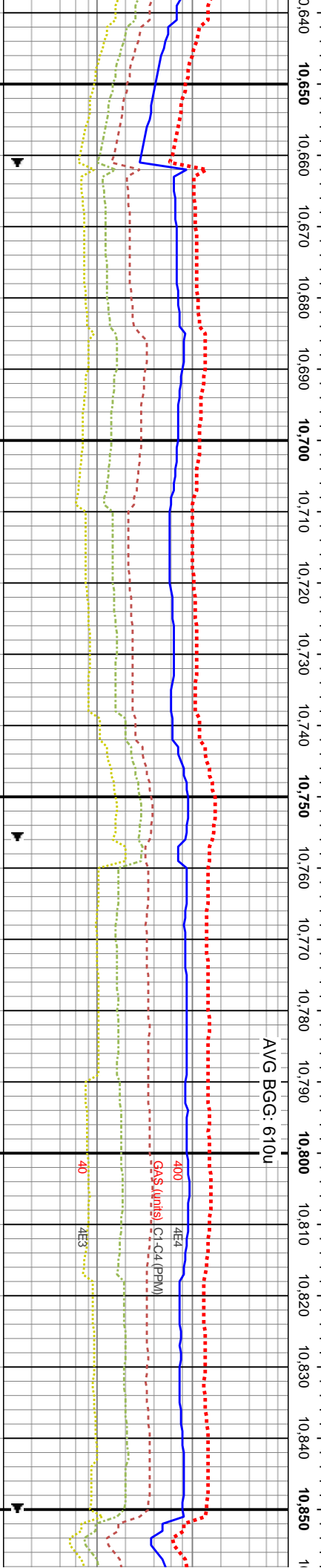
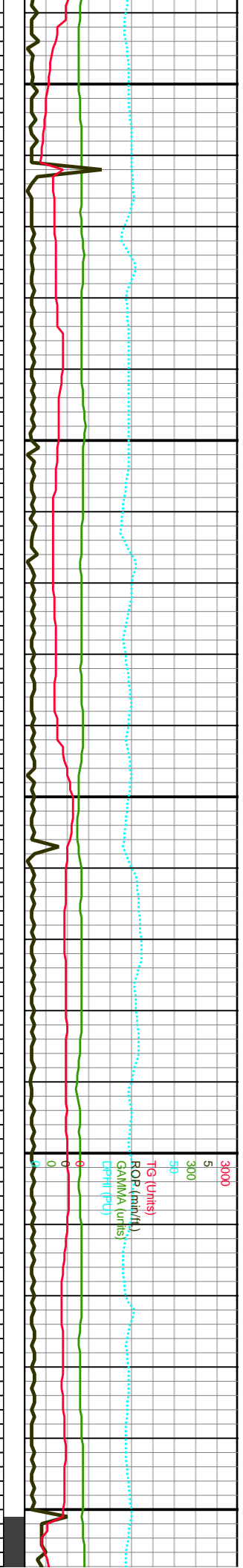
MD: 10,397'
TVD: 7,342.75'
Inclination: 89.69 °
Azimuth: 90.52°
VS: 3,621.82'

TVD (ft)		TVD (ft)	
10220-10280 SS: gy brn, brn-amb, pred tmsl, pred f grnd, ip l med gr, sb rnd- sb ang grs, occ ang grs, pred w srt, pred unconc, bcm fri clus, calc cmt, occ sily- arg, sme med tmsl qtz grs, tr cal, tr pyr, sme min flr, g lt gn cut, g resd ring		10280-10340 SS: tms lt brn-amb, pred tmsl, pred u f grnd, ip l med gr, sb rnd- sb ang grs, occ ang grs, pred w srt, pred unconc- clus, calc cmt, occ sily- arg, sme med tmsl qtz grs, tr cal, tr pyr, sme min flr, g lt gn cut, g resd ring	
10340-10400 SS: tms lt brn-amb, pred tmsl, pred u f grnd, ip l med gr, sb rnd- sb ang grs, pred w srt, pred unconc- clus, calc cmt, occ sily- arg, sme med tmsl qtz grs, tr cal, tr pyr, sme min flr, g lt gn cut, g resd ring		10400-10460 u f grnd, ip l med gr, sb rnd- sb ang grs, pred w srt, pred unconc- clus, calc cmt, occ sily- arg, sme min flr, g lt gn cut, g resd ring	





MD: 10,492'										WOB: 29.5K										6900									
TVD: 7,342.61'										ROT: 58																			
Inclination: 90.48 °										STKS: 63SPM																			
Azimuth: 89.92 °										Pump Rate: 311 GPM																			
VS: 3,715.63'										MD: 10,586'																			
										TVD: 7,342.47'																			
										Inclination: 89.34 °																			
										Azimuth: 90.1 °																			



MD: 10,680'
TVD: 7,343.05'
Inclination: 89.96 °
Azimuth: 90.19 °

MD: 10,775'
TVD: 7,342.68'
Inclination: 90.48 °
Azimuth: 89.45 °

WOB: 20.8K
ROT: 57
STKS: 60SPM
Pump Rate: 295 GPM

TVD (ft)

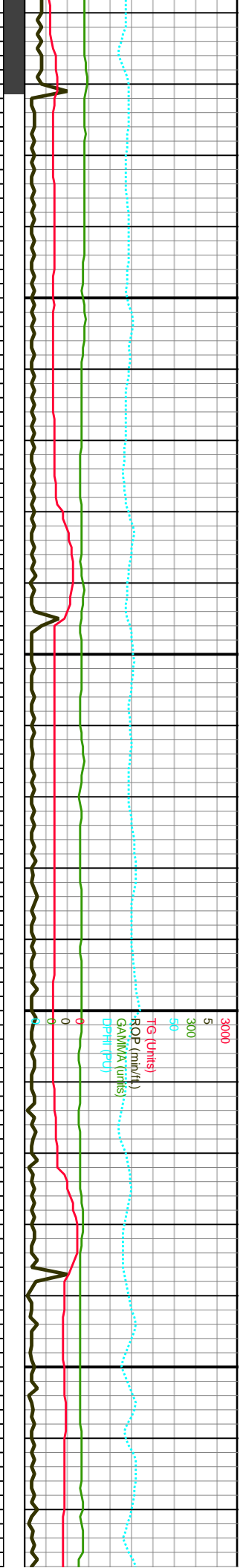
10640-10700 SS: tms lt brn- amb, pred
tnsl, pred u f grnd, ip l med gr, sb ang- sb
rnd grs, occ ang grs, pred w strd, pred
uncons- clus, ip calc cmtd, occ silty- arg,
sme med tnsl qtz grs, tr cal, tr glau, tr pyr,
sme min flor, g lt gn cut, g resdl ring

10700-10760 SS: tms lt brn- amb, pred
tnsl, pred u f grnd, ip l med gr, sb ang- sb
rnd grs, occ ang grs, pred w strd, pred
uncons, ip clus, ip calc cmtd, occ silty- arg,
sme med tnsl qtz grs, tr cal, tr glau, tr pyr,
sme min flor, g lt gn cut, g resdl ring

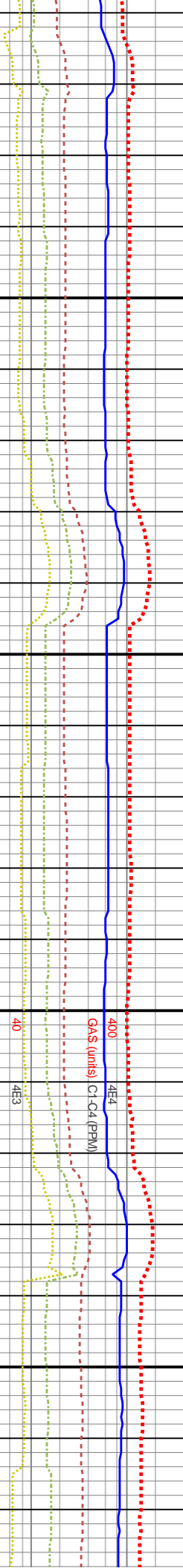
10760-10820 SS: tms lt brn- amb, ip tnsl,
pred u f grnd, ip l med gr, sb ang- sb rnd
grs, occ ang grs, pred w strd, pred uncons,
ip clus, ip calc cmtd, occ silty- arg, sme med
tnsl qtz grs, tr cal, tr glau, tr pyr, sme min
flor, g lt gn cut, g resdl ring

10820-10880 SS: tms lt
pred u f grnd, ip l med gr
grs, occ ang grs, pred w
ip clus, ip calc cmtd, occ
tnsl qtz grs, tr cal, tr pyr,
gn cut, g resdl ring



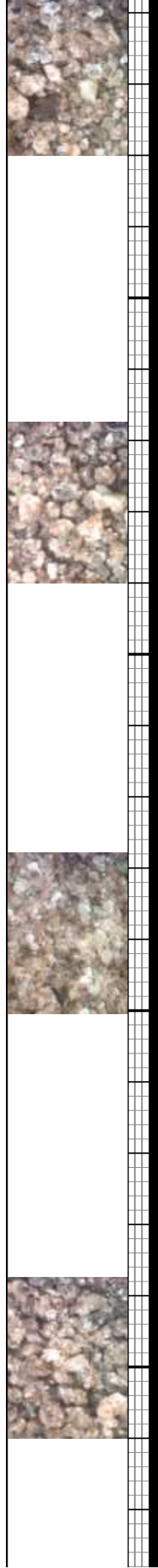


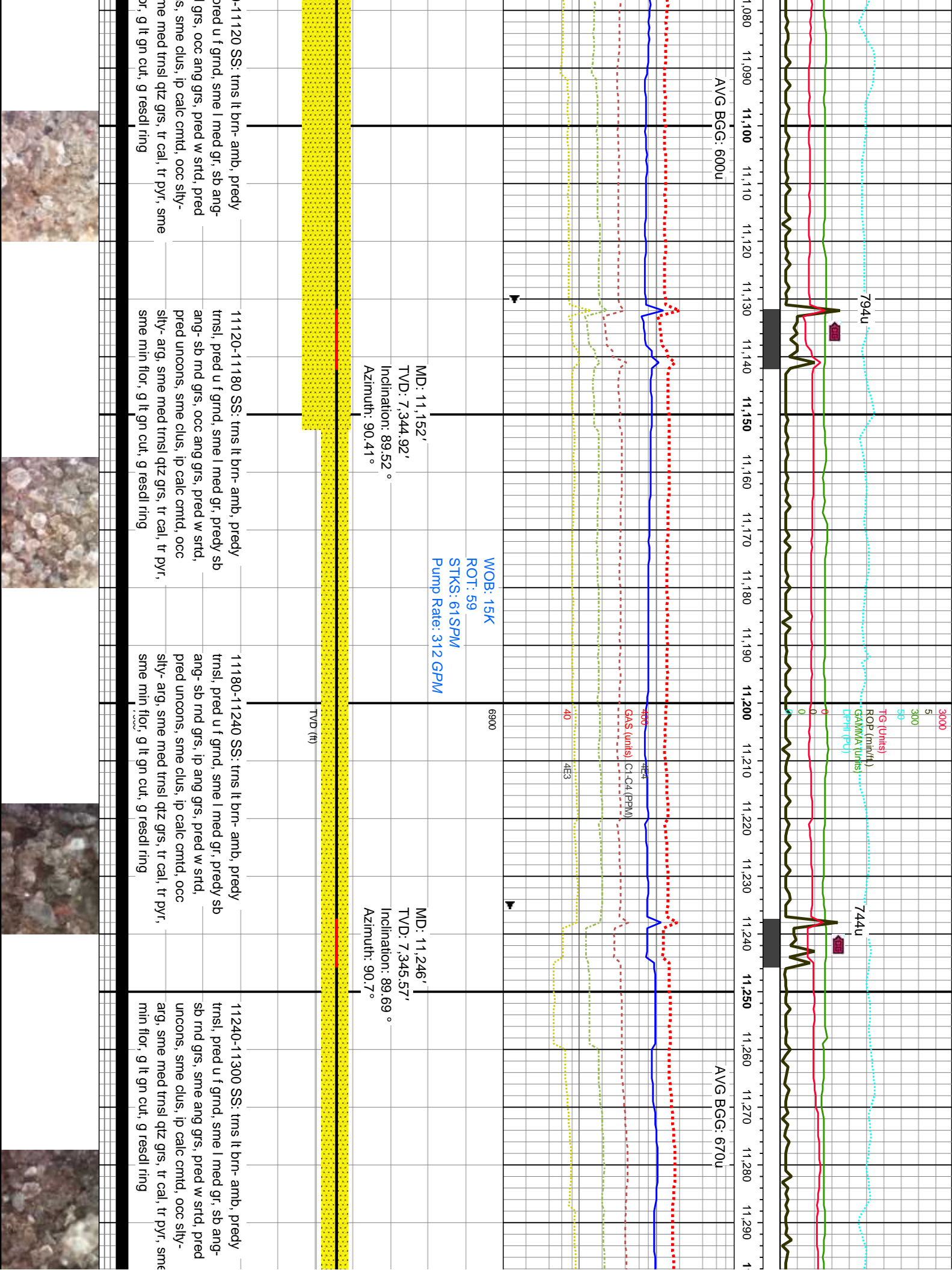
AVG BGG: 550u

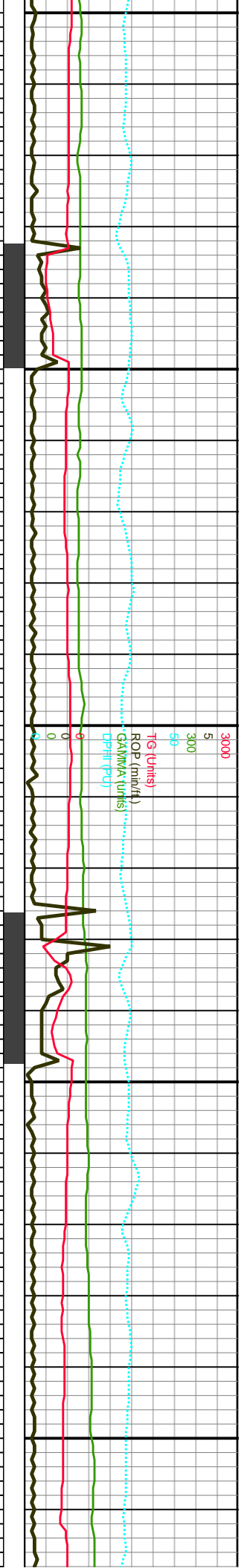


MD: 10,869'		MD: 10,963'		MD: 11,058'	
TVD: 7,342.68'		TVD: 7,343.54'		TVD: 7,344.27'	
Inclination: 89.52 °		Inclination: 89.43 °		Inclination: 89.69 °	
Azimuth: 90.21 °		Azimuth: 90.71 °		Azimuth: 90.59 °	

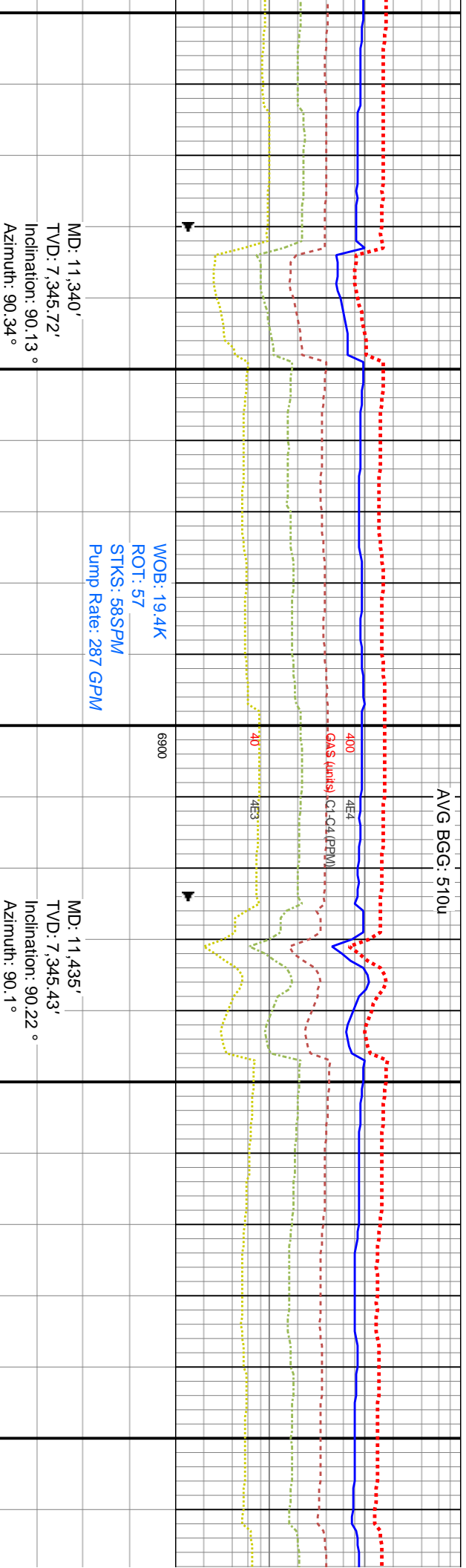
10880-10940 SS: tms lt brn-amb, predy		10940-11000 SS: tms lt brn-amb, predy		11000-11060 SS: tms lt brn-amb, ip trns,	
trns, pred u f grnd, ip l med gr, sb ang- sb		trns, pred u f grnd, sme l med gr, sb ang- sb		pred u f grnd, sme l med gr, sb ang- sb	
rnd grs, occ ang grs, pred w strd, pred		sb rnd grs, occ ang grs, pred w strd, pred		grs, occ ang grs, pred w strd, pred uncons,	
uncons, ip clus, ip calc cmtd, occ silty- arg,		uncons, ip clus, ip calc cmtd, occ silty- arg,		ip clus, ip calc cmtd, occ silty- arg, sme med	
sme med trns qtz grs, tr cal, tr pyr, sme min		sme med trns qtz grs, tr cal, tr pyr, sme min		trns qtz grs, tr cal, tr pyr, sme min	
flor, g lt gn cut, g resd ring		flor, g lt gn cut, g resd ring		gn cut, g resd ring	







AVG BGG: 510u



MD: 11,340'
TV/D: 7,345.72'
Inclination: 90.13 °
Azimuth: 90.34 °

WOB: 19.4K
ROT: 57
STKS: 58SPM
Pump Rate: 287 GPM

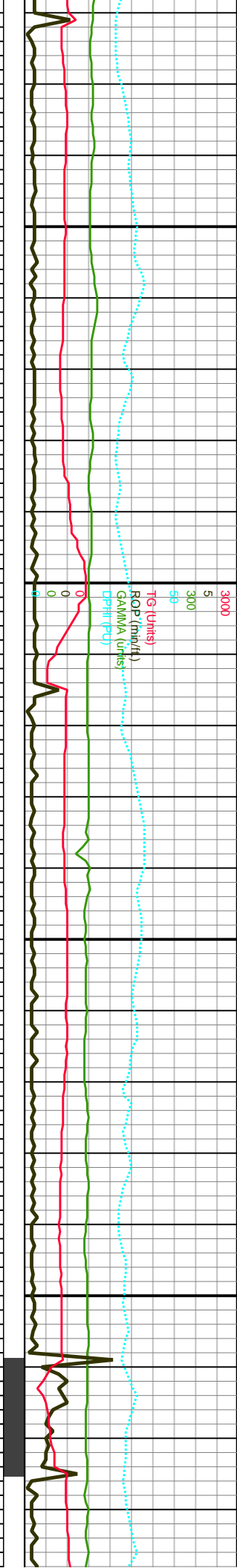
6900

MD: 11,435'
TV/D: 7,345.43'
Inclination: 90.22 °
Azimuth: 90.1 °

TVD (ft)

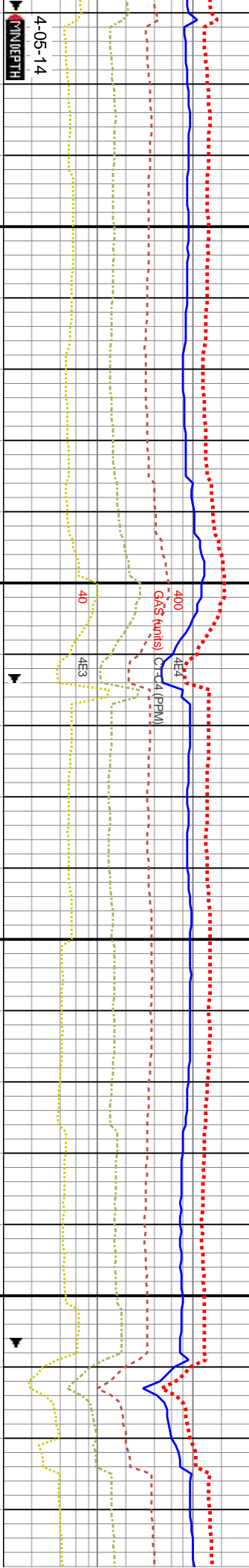
11300-11360 SS: tms lt brn- amb, predy tnsl, pred u f grnd, sme l med gr, sb ang- sb rnd grs, sme ang grs, pred w strd, pred uncons, sme clus, ip calc cntd, occ silty- arg, sme med tnsl qtz grs, tr cal, tr pyr, sme min flor, g lt gn cut, g resd ring	11360-11420 SS: tms lt brn- amb, ip tnsl, pred u f grnd, sme l med gr, sb ang- sb rnd grs, sme ang grs, pred w strd, pred uncons, sme clus, ip calc cntd, occ silty- arg, sme med tnsl qtz grs, tr cal, tr pyr, sme min flor, g lt gn cut, g resd ring	11420-11480 SS: tms lt brn- amb, ip tnsl, pred u f grnd, sme l med gr, sb ang- sb rnd grs, sme ang grs, pred w strd, pred uncons, sme clus, ip calc cntd, occ silty- arg, sme med tnsl qtz grs, tr cal, tr pyr, tr glau, sme min flor, g lt gn cut, g resd ring	11480-11540 SS: tms lt pred u f grnd, sme l med grs, sme ang grs, pred w uncons, sme clus, ip calc arg, sme med tnsl qtz g min flor, g lt gn cut, g res
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AVG BGG: 610u

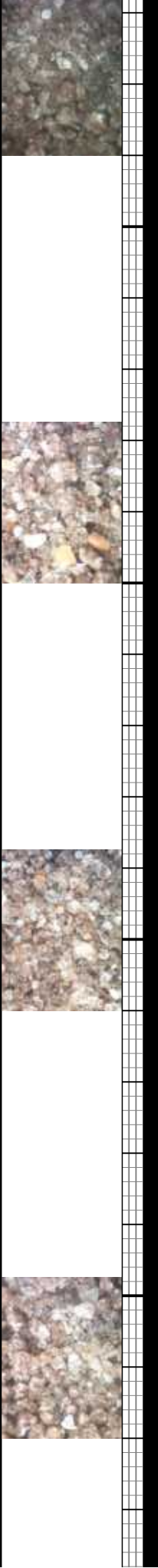
AVG BGG: 420u

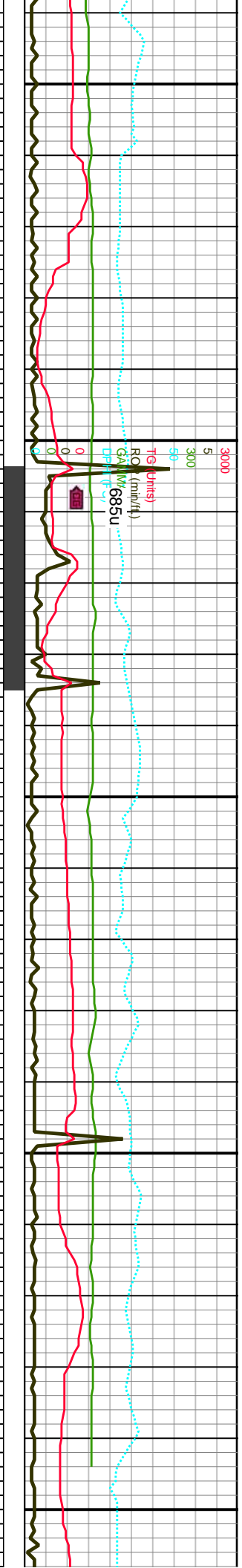


4-05-14
DEPTH

MD: 11,529'		WOB: 19.4K		MD: 11,624'		MD: 11,718'	
TVD: 7,345.07'		ROT: 57		TVD: 7,344.19'		TVD: 7,343.53'	
Inclination: 90.22 °		STKS: 60SPM		Inclination: 90.84 °		Inclination: 89.96 °	
Azimuth: 89.91 °		Pump Rate: 287 GPM		Azimuth: 91.59 °		Azimuth: 92.37 °	

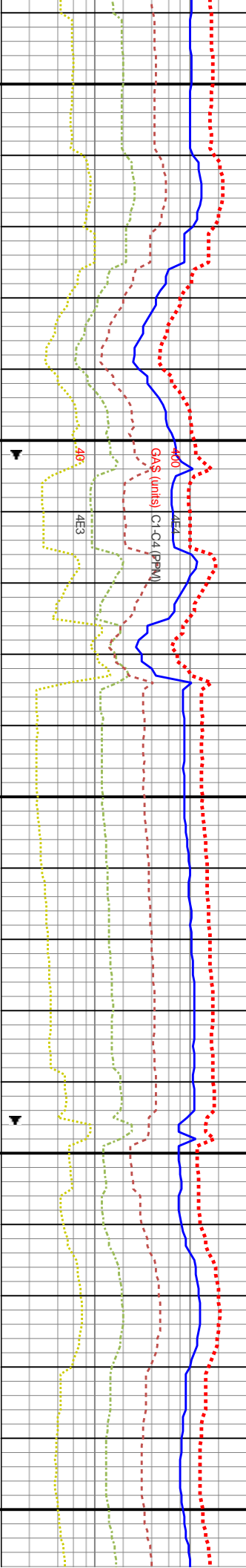
brn- amb, ip tmsl, gr, sb ang- sb rnd		11540-11600 SS: tms lt brn- amb, ip tmsl, pred u f grnd, sme l med gr, sb ang- sb rnd grs, ip ang grs, pred w srt, pred uncon, sme clus, ip calc cntd, occ silty- arg, sme med tmsl qtz grs, tr cal, tr pyr, sme min flr, g lt gn cut, g resd ring		11600-11660 SS: tms lt brn- amb, ip tmsl, pred u f grnd, sme l med gr, sb ang- sb rnd grs, ip ang grs, pred w srt, pred uncon, sme clus, calc cntd, occ silty- arg, ip med tmsl qtz grs, tr cal, tr pyr, sme min flr, g lt gn cut, g resd ring		11660-11720 SS: tms lt brn- amb, ip tmsl, pred u f grnd, ip l med gr, sb ang- sb rnd grs, ip ang grs, pred w srt, pred uncon, sme clus, calc cntd, occ silty- arg, ip med tmsl qtz grs, tr cal, tr pyr, sme min flr, g lt gn cut, g resd ring	
c cntd, occ silty- grs, tr cal, tr pyr, sme							
d ring							





AVG BGG: 560u

AVG BGG: 560u



WOB: 16.3K
ROT: 57
STKS: 65SPM
Pump Rate: 322 GPM

MD: 11,812'
TVD: 7,343.53'
Inclination: 90.04 °
Azimuth: 92.9°

MD: 11,906'
TVD: 7,343.17'
Inclination: 90.4 °
Azimuth: 93.76°

MD: 11,938'
TVD: 7,342.95'
Inclination: 90.4 °
Azimuth: 94.66°

TVD (ft)

11780-11780 SS: tms lt brn-amb, ip trns, u f grnd, ip l med gr, sb ang-sb rnd ang grs, pred w srt, pred uncons, plus, ip calc cntd, occ silty-arg, ip med trns, qtz grs, tr cal, sme min flr, g lt gn cut, all ring

11780-11840 SS: tms lt brn-amb, ip trns, pred u f grnd, ip l med gr, sb ang-sb rnd grs, ip ang grs, pred w srt, pred uncons, sme clus, calc cntd, occ silty-arg, occ med trns, qtz grs, tr cal, tr pyr, sme min flr, g lt gn cut, g resd ring

11840-11900 SS: tms lt brn-amb, ip trns, pred u f grnd, ip l med gr, sb ang-sb rnd grs, ip ang grs, pred w srt, pred uncons, sme clus, occ calc cntd, occ silty-arg, occ med trns, qtz grs, tr cal, tr pyr, sme min flr, g lt gn cut, g resd ring

11900-11960 SS: tms lt brn-amb, ip trns, pred u f grnd, ip l med gr, sb ang-sb rnd grs, ip ang grs, pred w srt, pred uncons, sme clus, occ calc cntd, occ silty-arg, occ med trns, qtz grs, tr cal, sme min flr, g lt gn cut, g resd ring



