



Empirica

Scale: 5" / 100'
Measured Depth Log

Well Name DT Martinez 1-5-6

Location Sec.5-T05N-R65W

State Colorado

Country USA

API Number 05-123-1029-00

Region DJ Basin

Spud Date 3/30/2015

Surface Coordinates SHL: 414°FNL, 1684°FEL, Sec.05

Lat: 40.43536

Long: 104.68373

County Weld

Rig Number Savanna 802

AFE # N/A

Field Wattenberg

Drilling Completed 4/5/2015

Bottom Hole Coordinates BHL: 2341°FNL, 460°FWL, Sec. 06

Ground Elevation 4,640'

K.B. Elevation 4,655'

Logged Interval 6,800' To 14,727'

Total Depth 14,727'

Formation Niobrara B

Type of Drilling Fluid Water Based

Operator

Company Extraction Oil & Gas

Address 1888 Sherman St., Suite 200
Denver, CO 80203

Geologist

Name Jared Rouse

Company Extraction Oil & Gas

Address 1888 Sherman St., Suite 200
Denver, CO 80203



Other

Equipment ML-461

Comments Start: 4-1-15
Standby: 3-31-15, 4-02-15
TD: 4-05-15

Services Provided 2-man Logging
On Site Geosteering

Logger Names Dominic Pitre / Nicholas V

Address Empirica, LLC.
6360 W Sam Houston Pk
Suite 100
Houston, TX 77041

Zone Color Coding

Oil

Note

Error

Condensate

Core

Water

Gas

Pressure

Seal

Rock Types

UNKNOWN

ANHYDRITE

GYPSUM

SALT

SIDERITE or LIMONITE

LIMESTONE

DOLOMITE

CHERT

COAL

MARLSTONE

CLAYSTONE

SHALE

SHALE GRAY

SHALE COLORED

SILTSTONE

SANDSTONE

CONGLOMERATE

BRECCIA

TILL

BENTONITE

TUFF

IGNEOUS

METAMORPHIC

CEMENT

Accessories

F FOSSIL

GASTROPOD

O OOLITE

OSTRACOD

PELECYPOD

PELLET

PISOLITE

PLANT REMAINS

CORAL

CEPHALOPOD

CRINOID

ECHINOID

FISH

FORAMINIFERA

ARGILLACEOUS

ARGILLITE GRAIN

B BENTONITE

BITUMENOUS SUBSTANCE

BRECCIA FRAGMENTS

CALCAREOUS

CARBONACEOUS FLAKES

CHTDK

CHTLT

COAL - THIN BEDS

DOLOMITIC

+ FELDSPAR

FERRUGINOUS PELLET

FERRUGINOUS

GLAUCONITE

GYPSIFEROUS

H HEAVY MINERAL

K KAOLIN

M MARLSTONE

M MINERAL CRYSTALS

N NODULES

PHOSPHATE PELLETS

P PYRITE

SALT CAST

S SANDY

S SILICEOUS

TUFFACEOUS

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 Sy

O ORGANIC

P PINPOINT

D DEAD

EVEN

QUESTIONABLE

SPOTTED STAINING

GAS SH

MINDEPTH

V VUGGY

NORMAL

OIL SH

OVERTURN

Engineering

CASING

REVERS

OVERT

CONNECTION (LEFT)

CONNECTION (RIGHT)

SIDEAWA

Porosity

E EARTHY

F FENESTRAL

F FRACTURE

CONNECTION GAS

SLIDE

SURV

INTERCRYSTALLINE

CORE - RECOVERED

TRIP C

INTEROOLITIC

DST INTERVAL

WIRELIN

MOLDIC

FAULT

WIRELIN

Symbols

FORMATION TOP L LITHOGRAPHIC

Rounding

LOW MX MICROXLN

MIN DEPTH AN ANGULAR MS MUDSTONE

FL FAULT R ROUNDED PS PACKSTONE

DW B SUBANG WS WACKESTONE

TURNED STRATA N SUBRND

Sorting

DEFAULT

Textures

LL CORE (LEFT) M MODERATE

LL CORE (RIGHT) BS BOUNDSTONE P POOR

C CHALKY W WELL

EY CX CRYPTOXLN

SAS E EARTHY

IE TESTED - LEFT FX FINELYXLN

IE TESTED - RT GS GRAINSTONE

ROP
GAMMA
GAS

Extraction OG
Weld County, Colorado
Spud Date: 3-30-15
Surface Casing @ 1,038'
Intermediate Casing @ 7,621'
2-man Logging / Geosteering Began: 4-1-15

DT Martinez 1-5-6
MW 9.8
VIS 40
ROP (mhl/ft)
GAMMA (units)
GAS (units)

Linear Scale

1466u

Slide/Rotate

Depth Labels

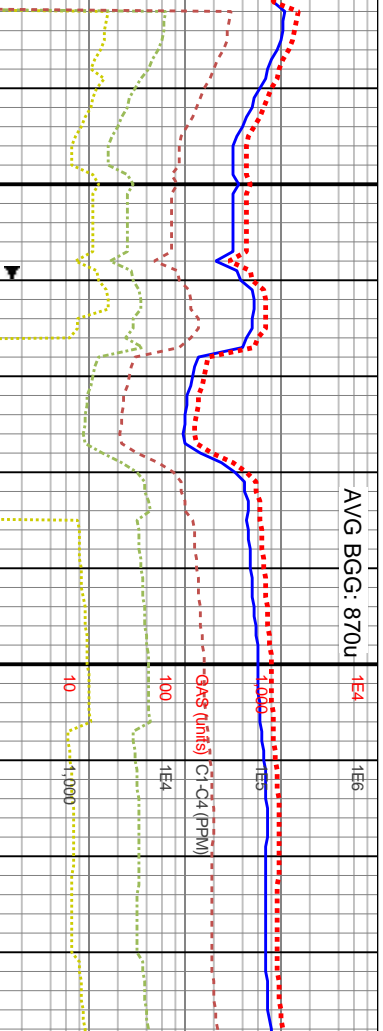
100 units = 1% methane

Total Gas & Chromatograph

GAS
C1
C2
C3
C4

Depths Correspond to Driller's Pipe Tally

Logarithmic Scale



Well Bore
TVD

TVD (ft)

TVD (ft)

MD: 6,890'
TVD: 6,511.25'
Inclination: 22.52°
Azimuth: 199.09°
VS: 6,511.25'

6800-6860 SS: pred med gy, sme offwht, trnsi grs thru, occ gy brn, pred sb blkly- blkly, ip pily- sb pily- split, pred vf grnd, occ f grs, pred frm- hd cons ss clus, sme sl frm arg slst, pred sb ang- sb rd grs, pred p- mod srt, sl silty- arg, ip silty- shy intbds, sil- cal cnt thru, sme pyr, abnt lith frags, sme glau, occ f lam, fr- g lt bl cut, g lt bl resdl ring

6860-6920 SS: pred med gy, sme offwht, trnsi grs thru, occ gy brn, pred sb blkly- blkly, ip pily- sb pily- split, pred vf grnd, occ f grs, pred frm- hd cons ss clus, sme sl frm arg slst, pred sb ang- sb rd grs, pred p- mod srt, sl silty- arg, ip silty- shy intbds, sil- cal cnt thru, sme pyr, abnt lith frags, sme glau, occ f lam, fr- g lt bl cut, g lt bl resdl ring

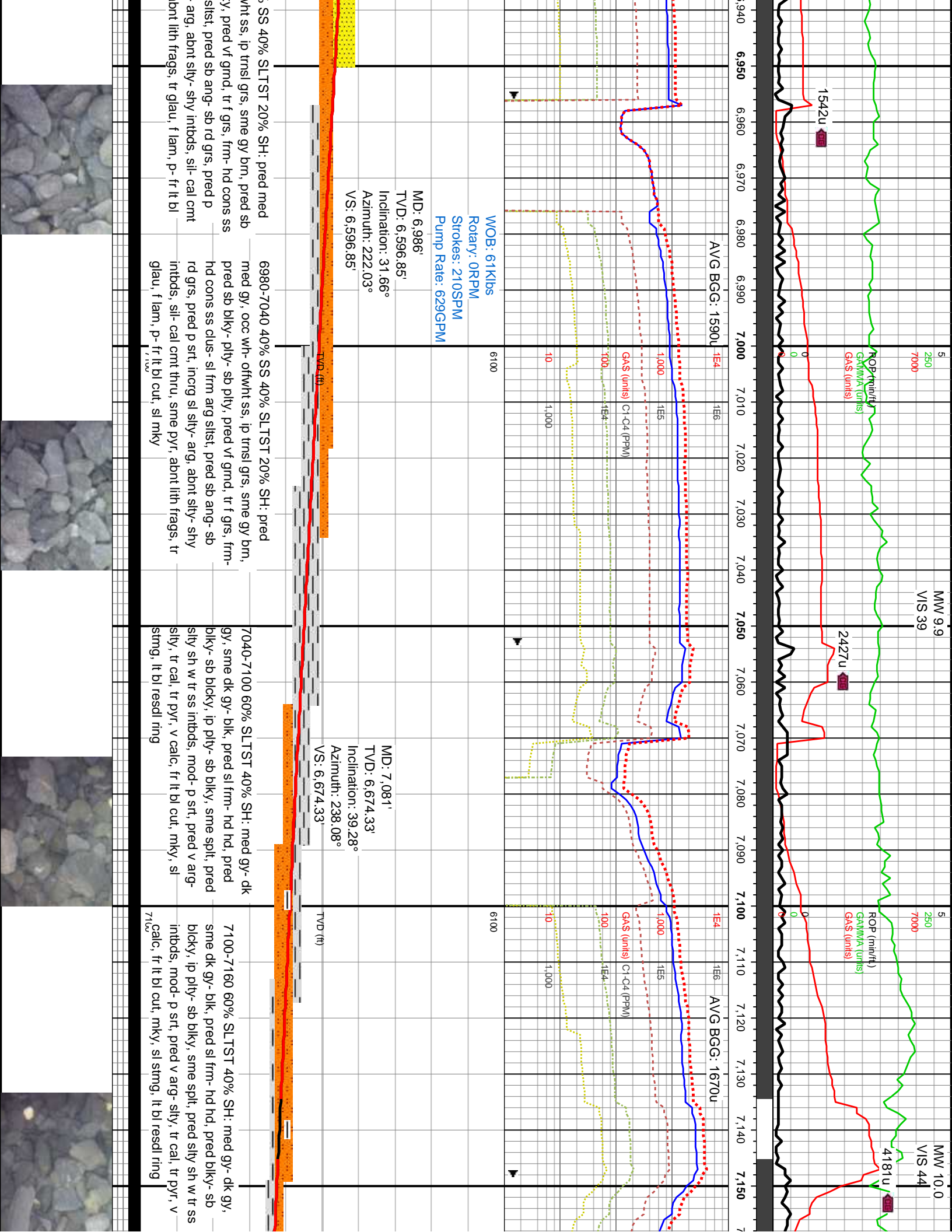
6920-6980 40% gy, occ wh- offw blkly- pily- sb pily- split, pred vf grnd, occ f grs, pred frm- hd cons ss clus, sme sl frm arg slst, pred sb ang- sb rd grs, pred p- mod srt, sl silty- arg, ip silty- shy intbds, sil- cal cnt thru, sme pyr, abnt lith frags, sme glau, occ f lam, fr- g lt bl cut, g lt bl resdl ring

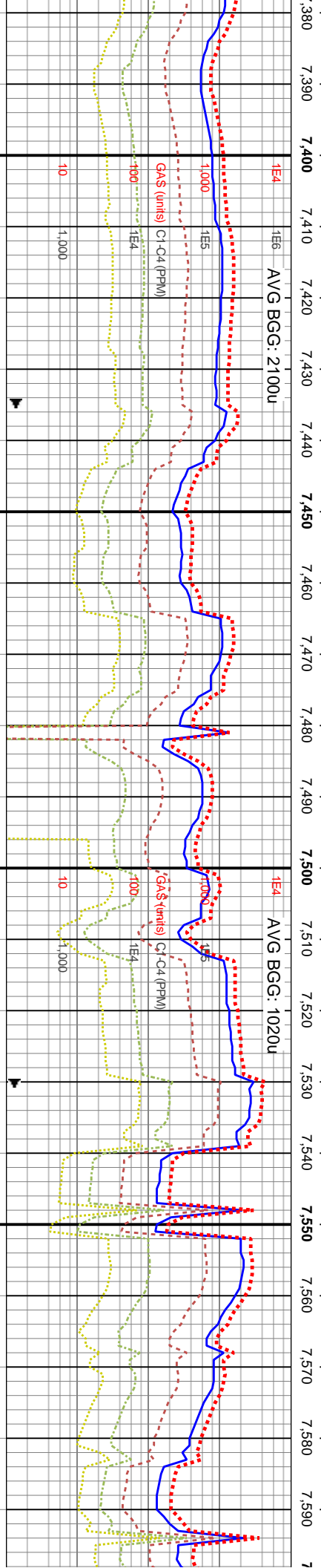
Oil Show

Log

Images

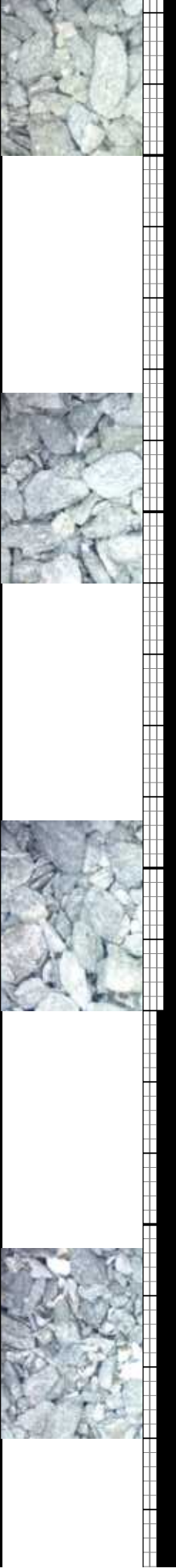


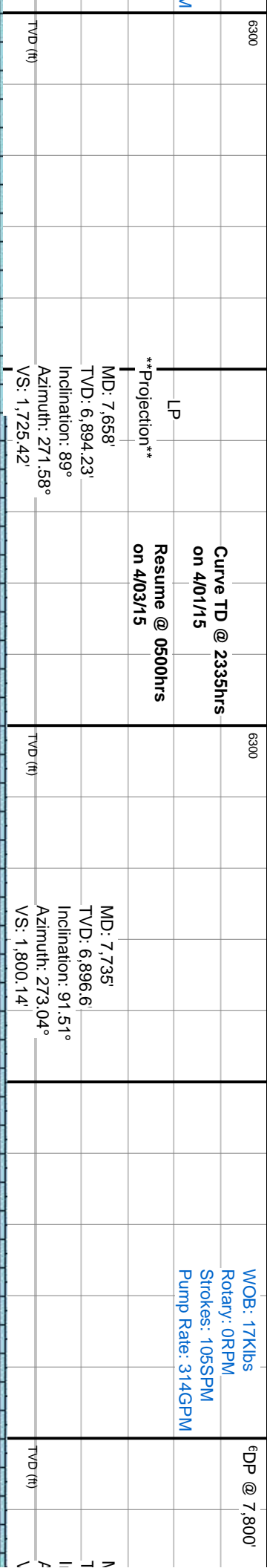
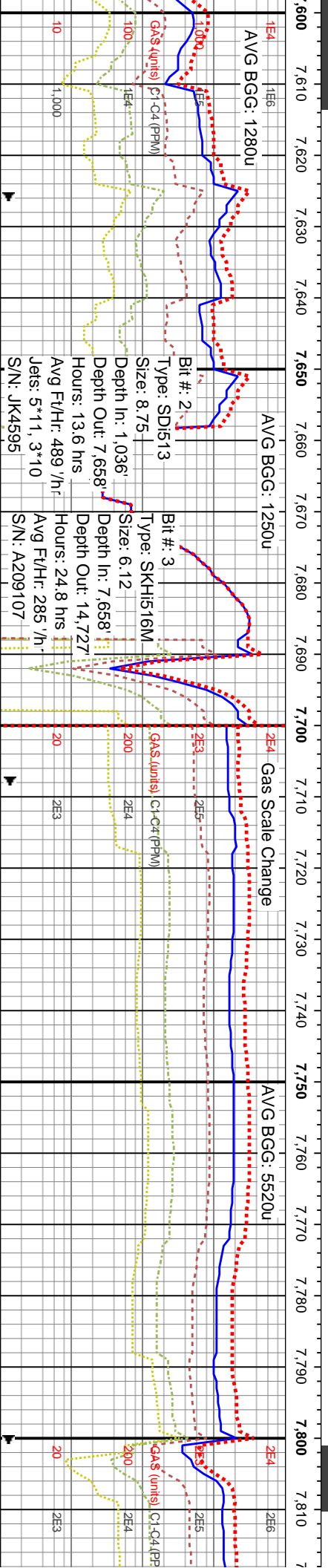
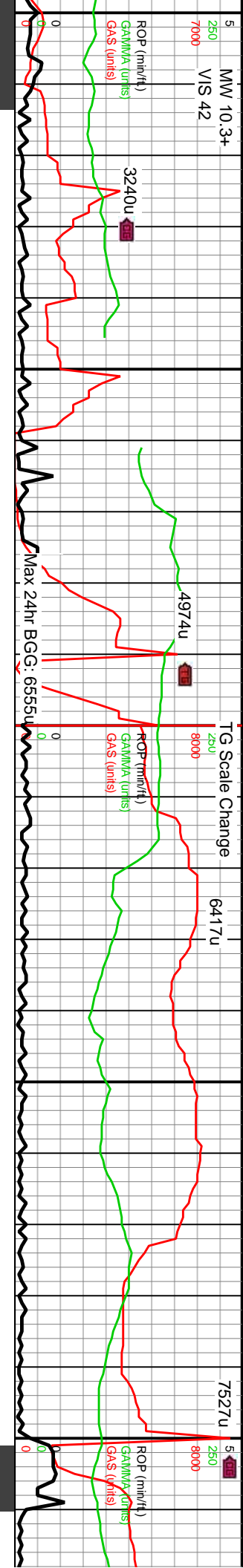


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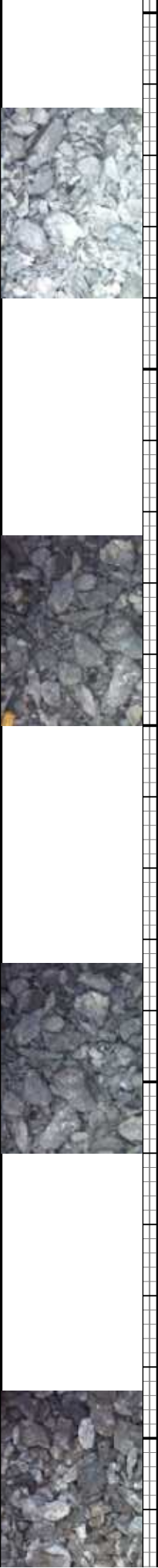
	7400-7460 50% CHK: lt gy-gy, com off wh v f chky	7460-7520 80% CHK: lt gy-gy, com off wh v f chky	7520-7580 85% CHK: lt gy-gy, com off wh v f chky	7580-7640 85%
lamm, frm-v frm crunchy-brit, mod fts sb bly-sb ply	lamm, frm-v frm crunchy-brit, mod fts sb bly-sb ply	lamm, frm-v frm crunchy-brit, mod fts sb bly-sb ply	lamm, frm-v frm crunchy-brit, sb bly-sb ply v arg LS,	crunchy-brit, v
ctgs, tr c free chk, sily-chky-r sdv tex, rr cal vn, tr v f pyr,	ctgs, tr c free chk, sily-chky-r sdv tex, rr cal vn, tr v f pyr,	ctgs, tr c free chk, sily-chky-r sdv tex, rr cal vn, tr v f pyr,	rr c free chk, sily-chky-r sdv tex, tr v f pyr, v calc cln	ply, tr v fts fra
v calc cln HCL rxn, 50% MRLST: dk gy, frm-v frm,	v calc cln HCL rxn, 20% MRLST: dk gy, frm-v frm,	v calc cln HCL rxn, 20% MRLST: dk gy, frm-v frm,	HCL rxn, 15% MRLST: dk gy, frm-v frm, crunchy-brit,	HCL rxn, 15%
crunchy-brit, com tr-off wh marl-chky lamm & incl,	crunchy-brit, com tr-off wh marl-chky lamm & incl,	crunchy-brit, com tr-off wh marl-chky lamm & incl,	com mot tr-off wh marl, mod calc dirty HCL rxn	com mot tr-off
mod calc dirty HCL rxn, p bl gn mky flor cut, fr flor	mod calc dirty HCL rxn, p bl gn mky flor cut, fr flor	mod calc dirty HCL rxn, p bl gn mky flor cut, fr flor		gn mky cut, fr
resd ring	resd ring	resd ring		
7300	7300	7300		

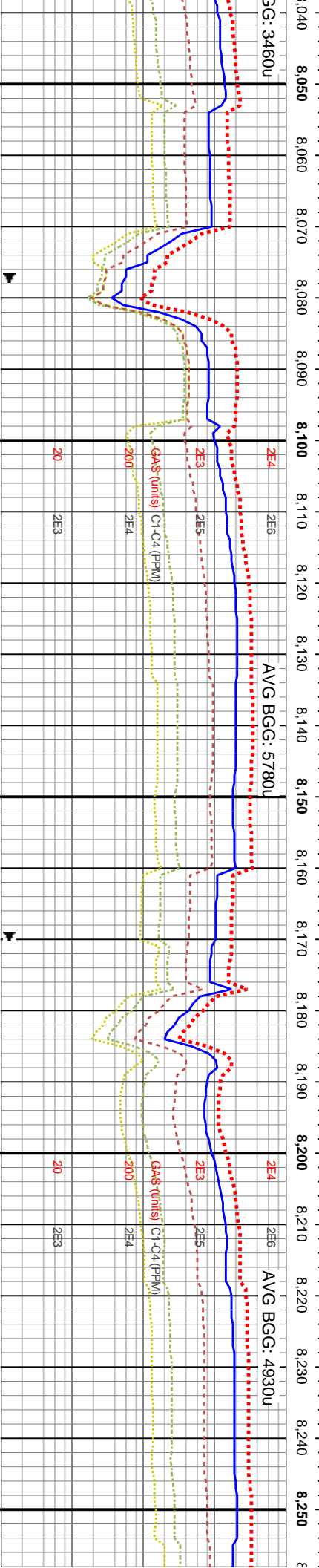
7520-7580 85% CHK< It gy-gy, com off wh vf chky
lamn, frm-v frm crunchy-brit, sb blkly-sb pily v arg LS,
rr c free chk, sily-chky-rr sdv tex, tr vf pyr, v calc clin
HCL rxn, 15% MRLST: dk gy, frm-v frm, crunchy-brit,
com mot tr-off wh marl, mod calc dirty HCL rxn

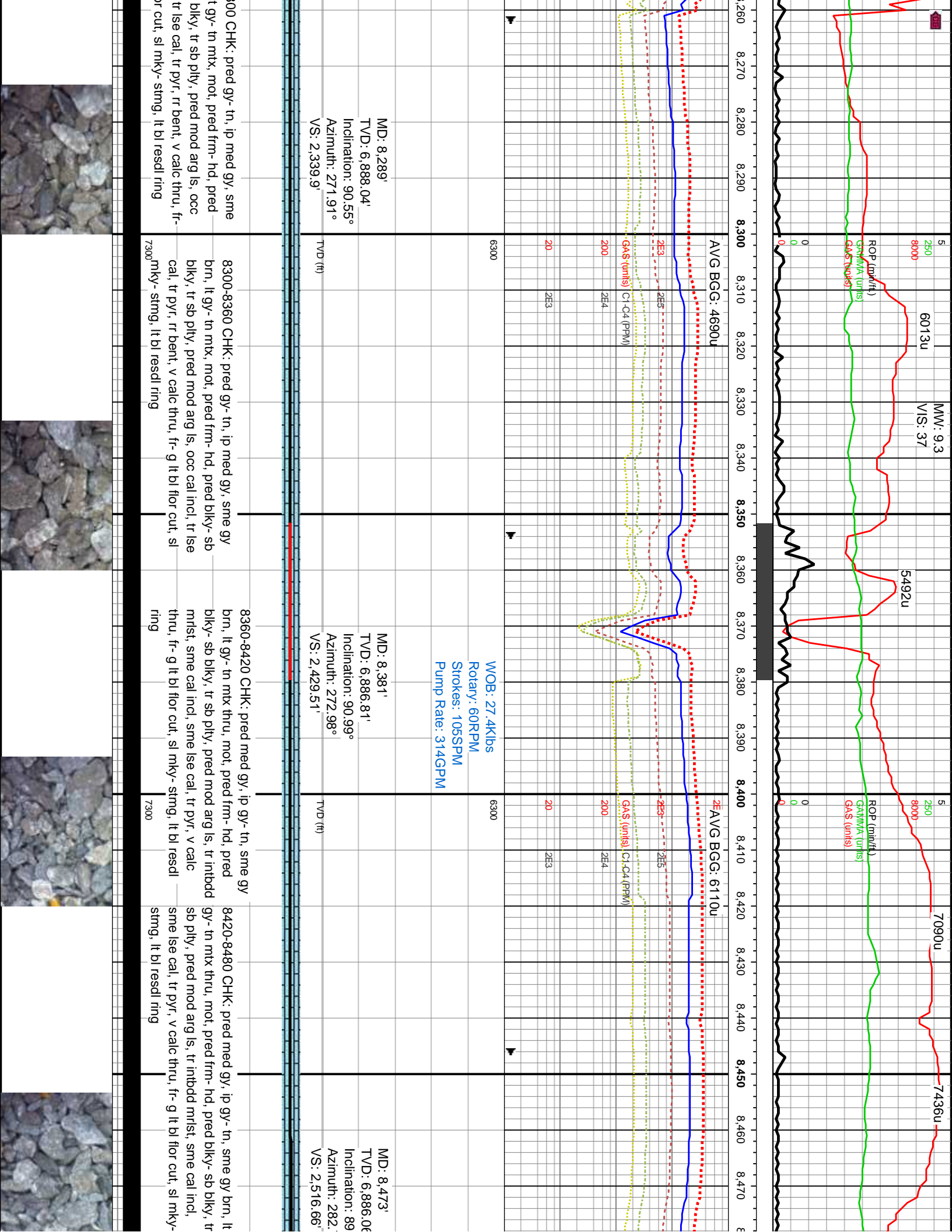


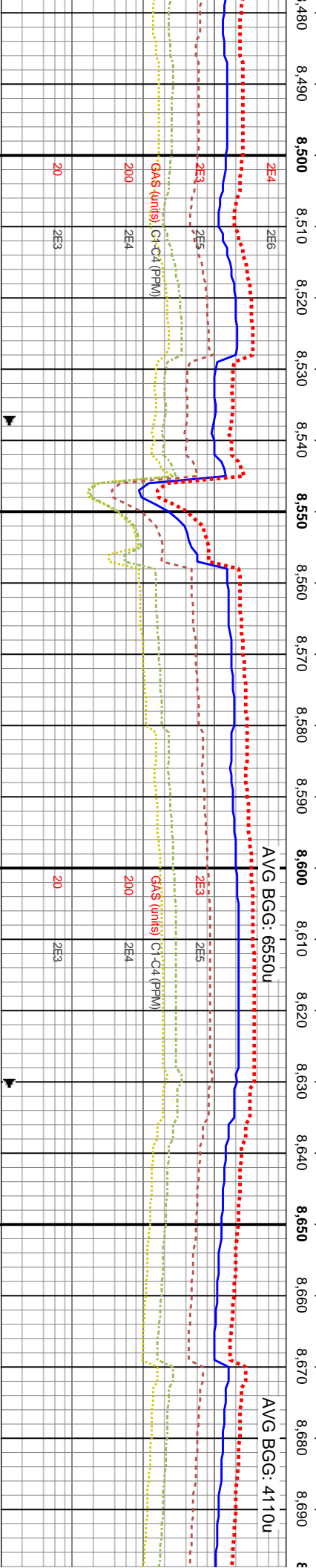


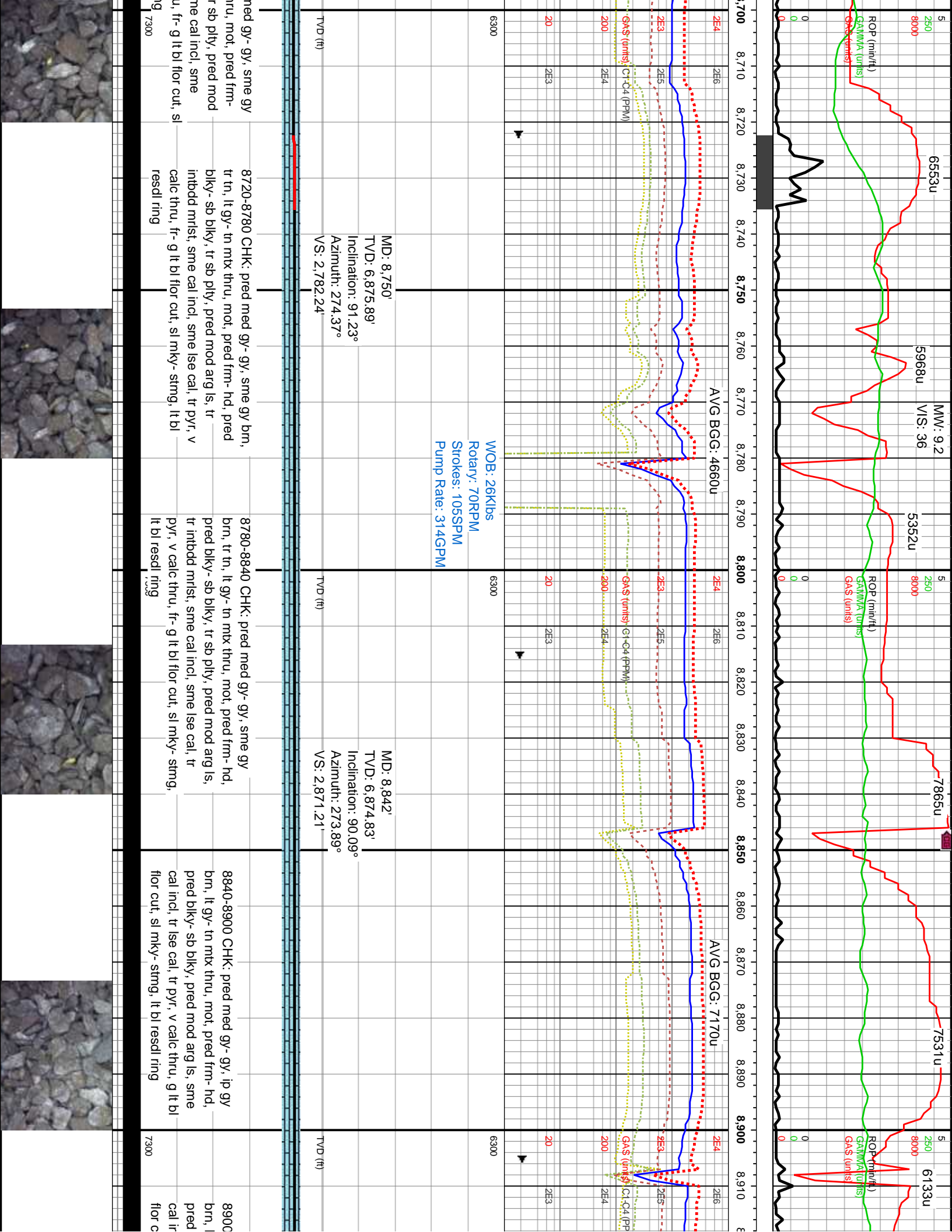
% CHK: pred lt gy-gy, frm-v frm		7640-7700 85% CHK: pred lt gy-gy, frm-v frm	7700-7760 85% CHK: pred lt gy-gy, frm-v frm	7760-7820 CHK: pred gy, ip med gy, sme gy brn, rr
arg LS, rr c free chk, pred sb blk-y-sb		crunchy-brt, v arg LS, rr c free chk, pred sb blk-y-sb	crunchy-brt, v arg LS, rr c free chk, pred sb blk-y-sb	blk, lt gy mix, sme mot, pred frm-hd, pred sb blk-y,
c, slty-cky-rr sdy tex, tr vf pyr, v calc cln		ply, tr v fis frac, slty-cky-rr sdy tex, tr vf pyr, v calc	pyr, v calc cln HCL rxn, 15% MRLST: dk gy,	occ sb ply, pred mod- v arg ls, occ cal incl, occ lse
MRLST: dk gy, frm-v frm, crunchy-brt,		cln HCL rxn, 15% MRLST: dk gy, frm-v frm,	frm-v frm, crunchy-brt, com mot tn-off wh marl,	cal, tr pyr, rr bent, v calc thru, fr-g lt bl flor cut, sl
wh marl, mod calc dirty HCL rxn, fr bl		crunchy-brt, com mot tn-off wh marl, mod calc dirty	mod calc dirty HCL rxn, fr bl gn mky cut, fr bl gn	mky- stmg, lt bl resdl ring
bl gn resdl flor ring		HCL rxn, fr bl gn mky cut, fr bl gn resdl flor ring	resdl flor ring	
7300		7300	7300	7300

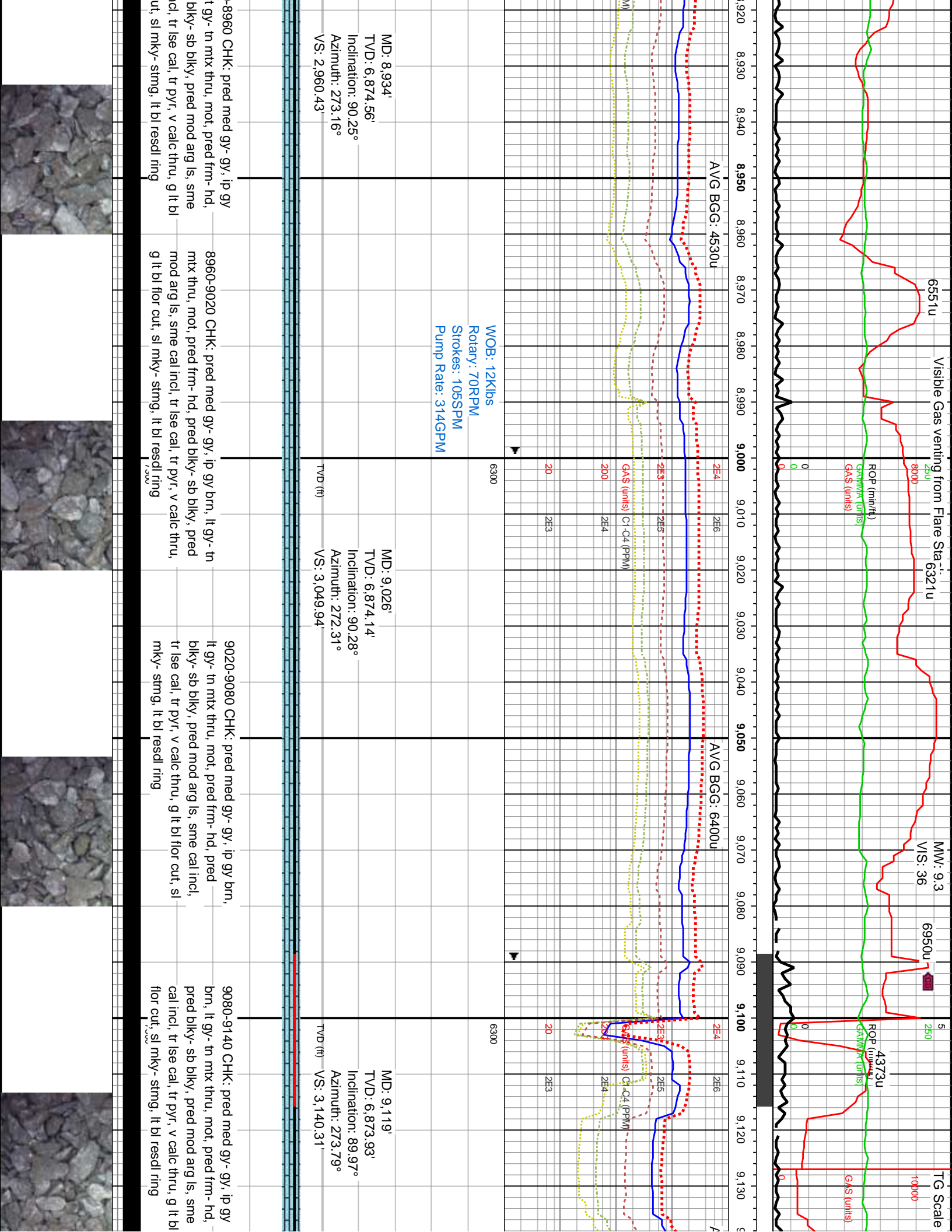


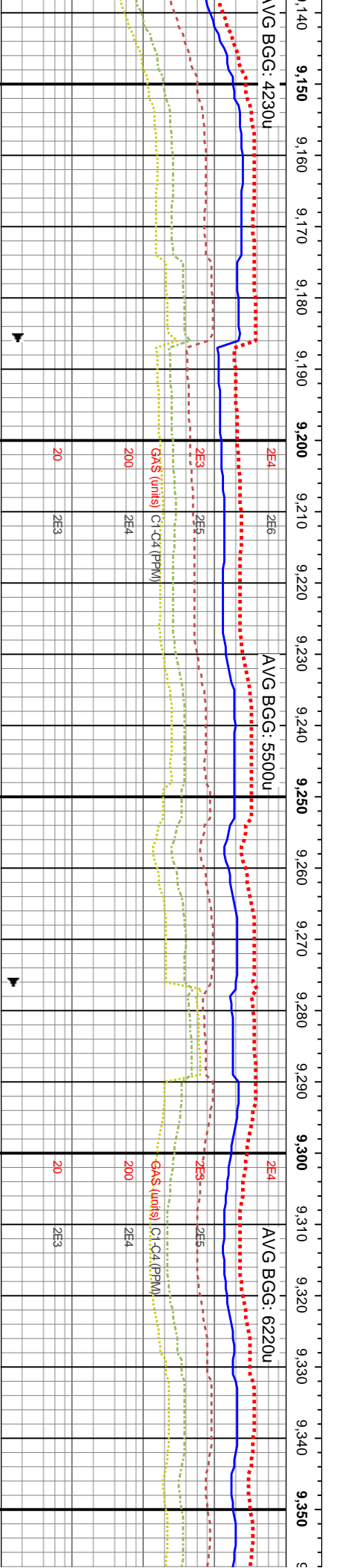
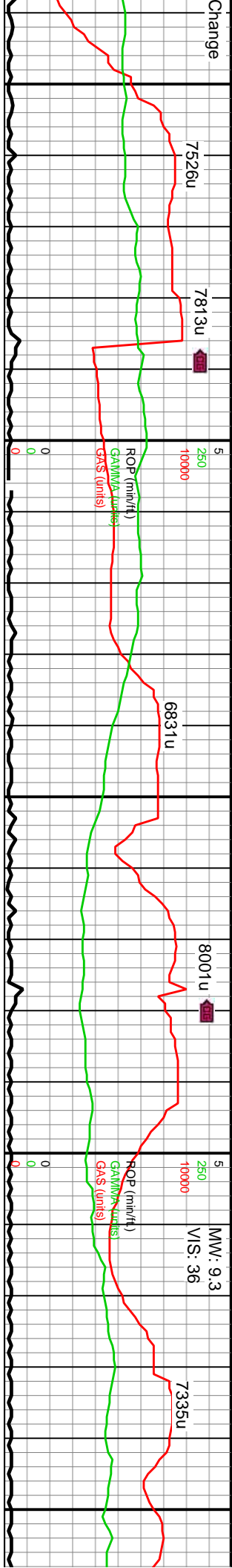












WOB: 35Klbs
Rotary: 70RPM
Strokes: 105SPM
Pump Rate: 314GPM

MD: 9,211'
TVD: 6,874.33'
Inclination: 89.54°
Azimuth: 274.91°
VS: 3,229.2'

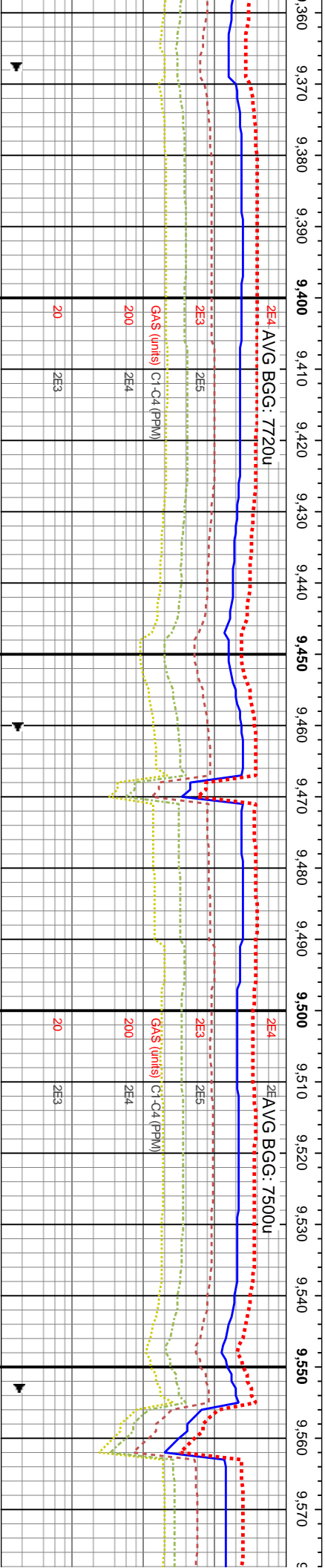
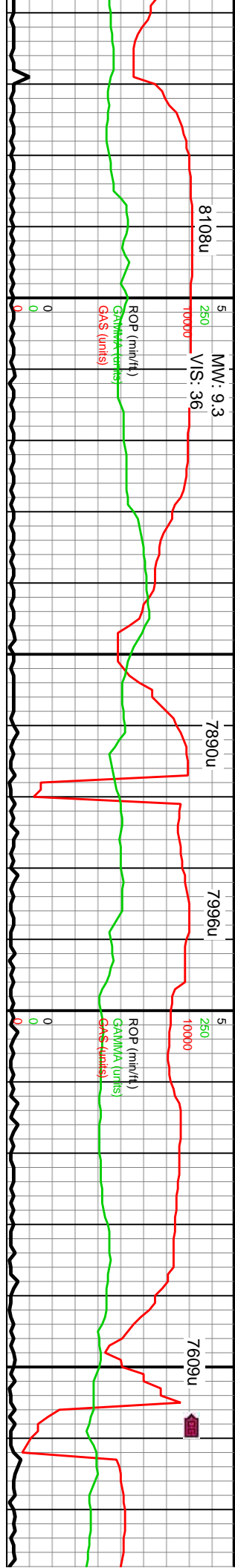
9140-9200 CHK: pred gy- med gy, sme gy brn- tn, lt gy- tn mtx thru, mot, pred frm- hd, pred blk- sb blk- pred mod arg ls w tr inbddd mrlst, occ cal incl, tr lse cal- frac fl cal, tr pyr, tr bent, v calc thru, g lt bl fl or cut, sl mky- stmg, lt bl resd ring

9200-9260 CHK: pred gy- med gy, sme gy brn- tn, lt gy- tn mtx thru, mot, pred frm- hd, pred blk- sb blk- pred mod arg ls w tr inbddd mrlst, occ cal incl, tr lse cal- frac fl cal, tr pyr, tr bent, v calc thru, g lt bl fl or cut, sl mky- stmg, lt bl resd ring

9260-9320 CHK: pred gy- med gy, sme gy brn- tn, lt gy- tn mtx thru, mot, pred frm- hd, pred blk- sb blk- pred mod arg ls w tr inbddd mrlst, occ cal incl, tr lse cal- frac fl cal, tr pyr, tr bent, v calc thru, g lt bl fl or cut, sl mky- stmg, lt bl resd ring

9320-9380 CHK: pred gy- n brn- tn, lt gy- tn mtx thru, mot, pred frm- hd, pred blk- sb blk- pred mod arg ls w tr inbddd mrlst, occ cal incl, tr lse cal- frac fl cal, tr pyr, tr bent, v calc thru, g lt bl fl or cut, sl mky- stmg, lt bl resd ring





WOB: 26Klbs
Rotary: 55RPM
Strokes: 105SPM
Pump Rate: 314GPM

MD: 9,395'
TV D: 6,876.16'
Inclination: 89.41°
Azimuth: 275.02°
VS: 3,406.35' TV D (th)

MD: 9,487'
TVD: 6,877.16'
Inclination: 89.35°
Azimuth: 275.09°
VS: 3,494.93'

MD: 9,5	
TVD: 6,	
Inclinati	
Azimuth	
VS: 3,5	

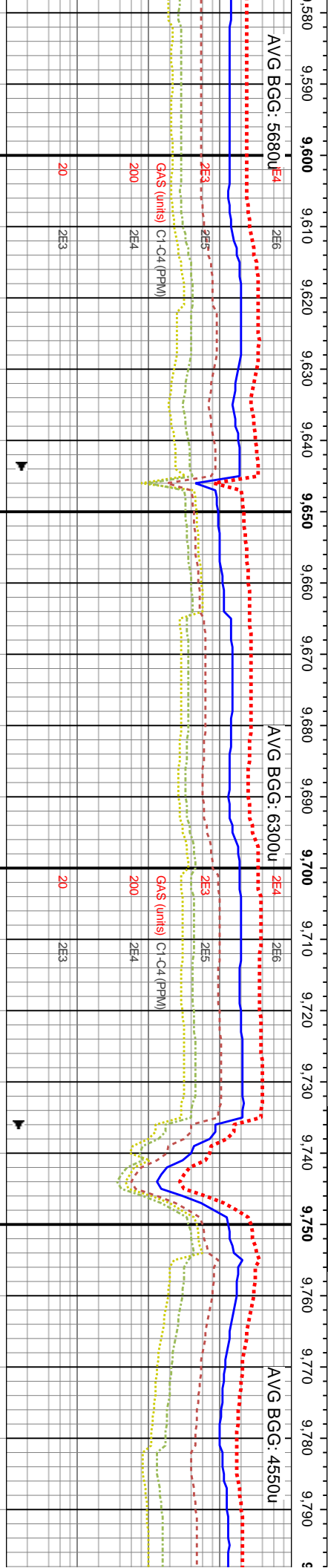
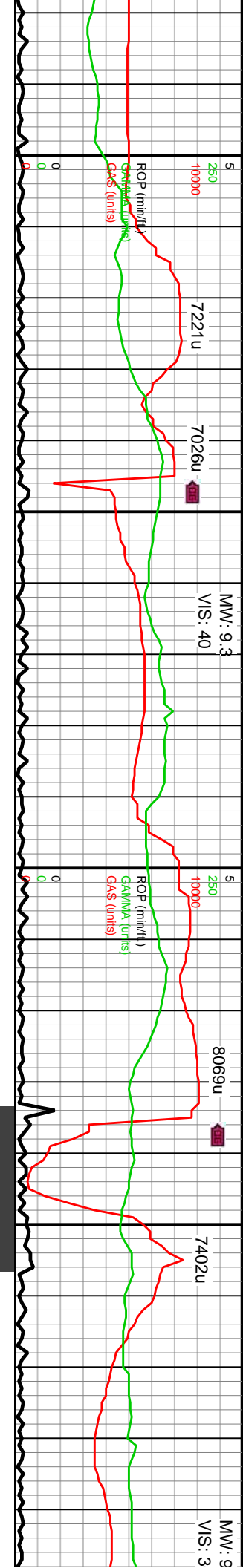
9380-9440 CHK, pred gy - med gy, sme gy brn-
tn, lt gy- tn mtx thru, mot, pred frm- hd, pred bkly-
sb bkly, pred mod arg ls w tr intbnd mlst, occ cal
incl, tr lse cal- frac fl cal, tr pyr, tr bent, v calc thru,
g lt bl fior cut, sl mky- stmg, lt bl resdl ring

94440-95000 CHK: pred gy- med gy, sme gy bmn, lt gy- tn mtx thru, mot, pred frm- hd, pred blyk- sb blyk, pred mod arg ls w tr inbddd mlst, occ cal incl, tr use cal- frac fl cal, tr pyr, tr bent, v calc thru, g lt bl fluor cut, sl mky- stmg, lt bl resdl ring

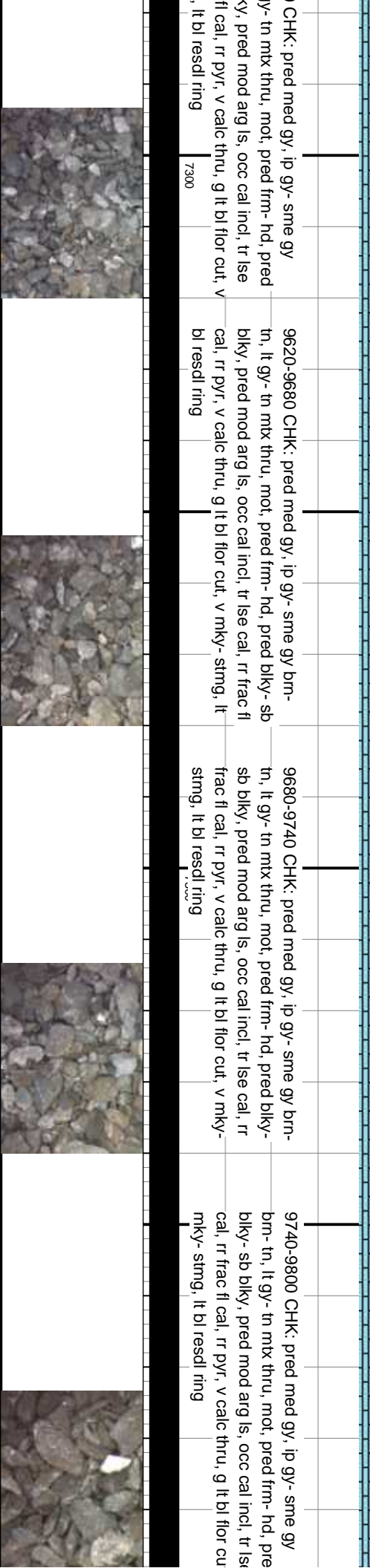
9550-9560 CHK: pred med gy, ip gy- sme gy br-
tn, lt gy- tn mx thru, mot, pred frm- hd, pred bky-
sb bky, pred mod arg is, occ cal incl, tr use cal, r
frac fl cal, r pyr, v calc thru, g lt bl flor cut, v mky-
simg, lt bl resdl ring

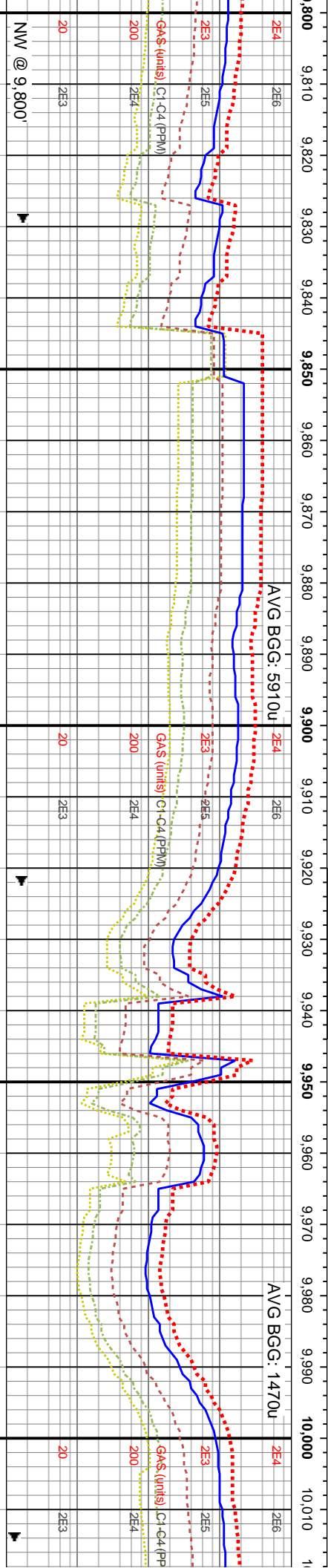
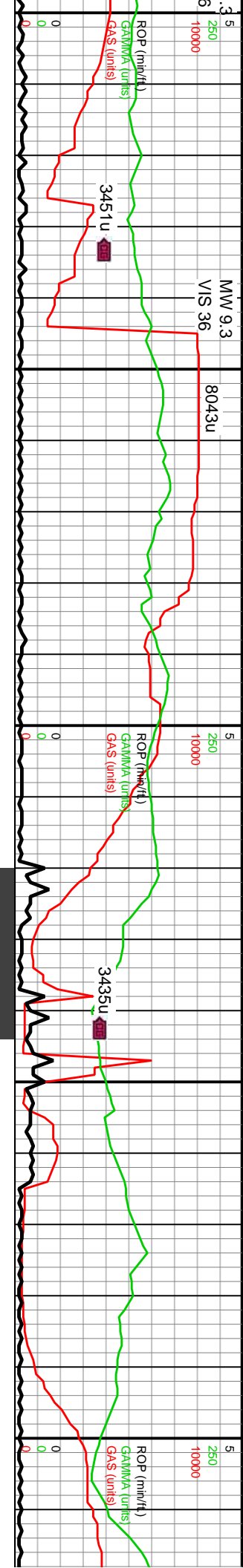
9560-9620
brn-tn, lt g
biky-sb bl
cal, rr frac
mky-stmg





OB: 26Klbs Rotary: 55RPM Strokes: 105SPM Pump Rate: 314GPM	6300	MD: 9,672' TVD: 6,880.22' Inclination: 88.89° Azimuth: 275.38° VS: 3,673.25'	TVD (ft)	9620-9680 CHK: pred med gy, ip gy- sme gy brn- tn, lt gy- tn mix thru, mot, pred frm- hd, pred blk- sb blk- y, pred mod arg ls, occ cal incl, tr lse cal, rr pyr, v calc thru, g lt bl flr cut, v bl resdl ring
OB: 26Klbs Rotary: 55RPM Strokes: 105SPM Pump Rate: 314GPM	6300	MD: 9,764' TVD: 6,881.32' Inclination: 89.75° Azimuth: 274.29° VS: 3,761.92'	TVD (ft)	9740-9800 CHK: pred med gy, ip gy- sme gy brn- tn, lt gy- tn mix thru, mot, pred frm- hd, pred blk- sb blk- y, pred mod arg ls, occ cal incl, tr lse cal, rr pyr, v calc thru, g lt bl flr cut, v bl resdl ring



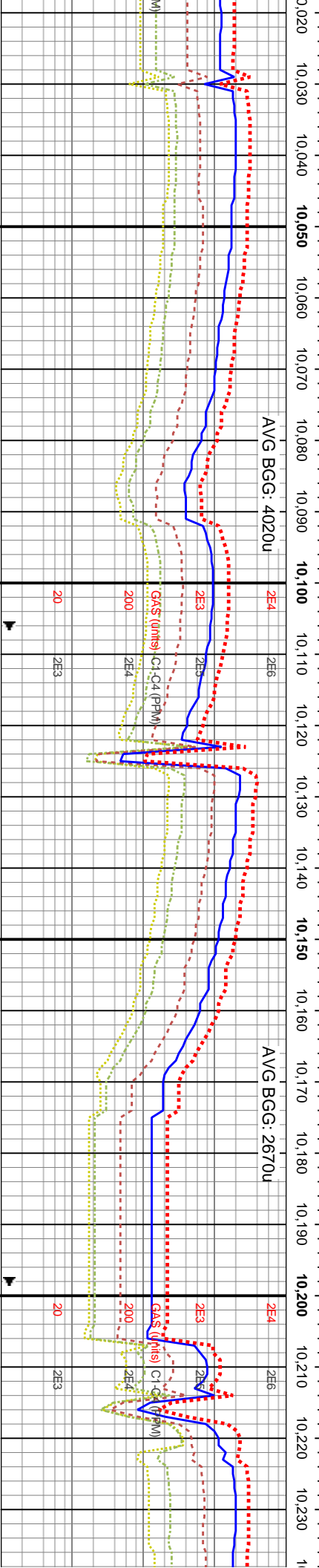


MD: 9,856'		MD: 9,948'		MD: 9,948'	
TVD: 6,882.91'		TVD: 6,883.68'		TVD: 6,883.68'	
Inclination: 88.27°		Inclination: 90.77°		Inclination: 90.77°	
Azimuth: 273.93°		Azimuth: 274.4°		Azimuth: 274.4°	
VS: 3,855.56'		VS: 3,944.51'		VS: 3,944.51'	
TVD (ft)		TVD (ft)		TVD (ft)	

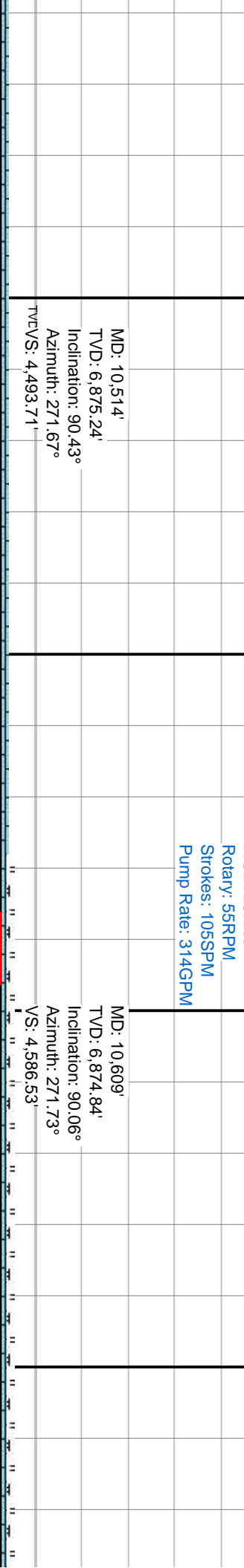
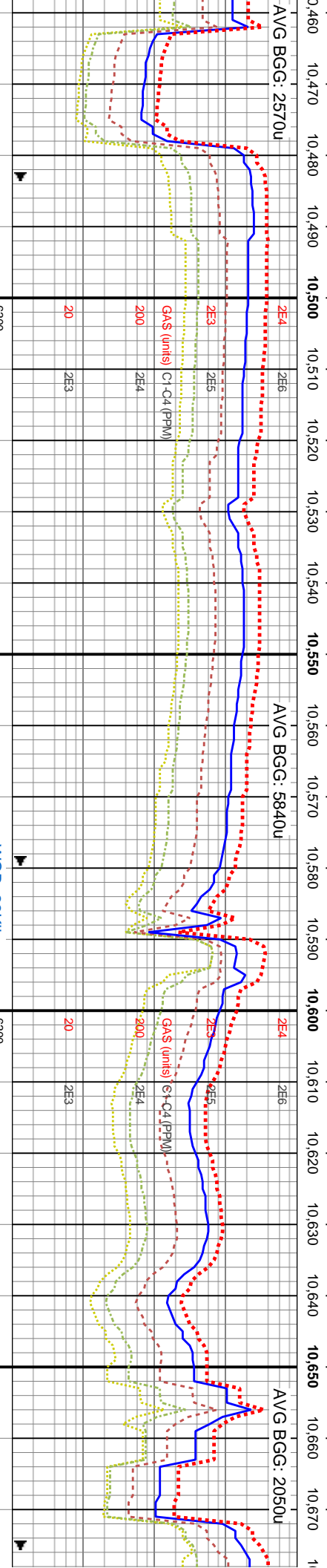
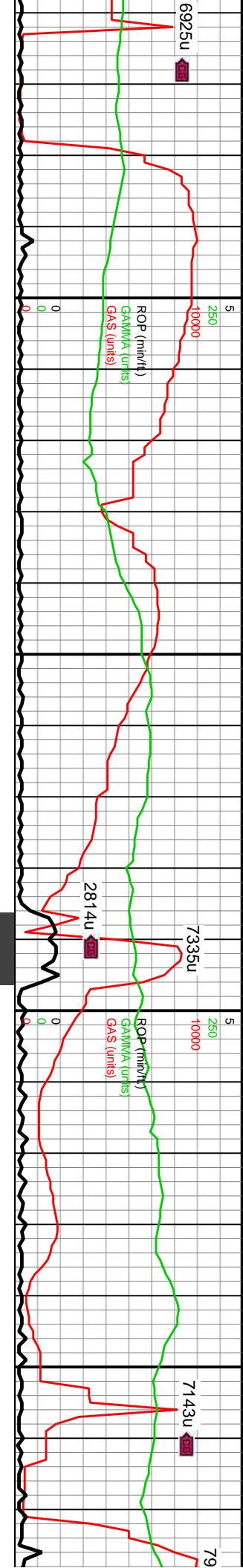
9800-9860 CHK (90%): pred gy-lt gy, sl brn hue ip, frm-v frm, crunchy-brit mod fis sb blkly-tab ctgs, abt off wh chk incl, tr vf pyr, tr c free chk, v calc w/ cln HCL rxn, 10% MRLST: dk gy, v frm, sm-sily tex, occ in mly incl, mod calc, fr sting cut, fr-g bl flr resdl ring	9860-9920 CHK (75%): pred gy-lt gy, sl brn hue ip, frm-v frm, crunchy-brit mod fis sb blkly-tab ctgs, abt off wh chk incl, sily-sl gt tex, tr vf pyr, tr c free chk, calc w/ cln HCL rxn, 25% MRLST: dk gy, v frm, sm-sily tex, occ in mly incl, mod calc w/ dirty HCL rxn, fr sting cut, fr-g bl flr resdl ring	9920-9980 CHK (80%): pred gy-lt gy, sl brn hue ip, frm-v frm, crunchy-brit mod fis sb blkly-tab ctgs, vabnt off wh chk incl, sily-sl gt tex, tr vf pyr, tr c free chk, v calc w/ cln HCL rxn, 20% MRLST: dk gy, v frm, sm-sily tex, occ in mly incl, tr vf pyr, mod calc w/ dirty HCL rxn, fr sting cut, fr-g bl flr resdl ring	9980-11000 CHK (70%): gy-lt gy, o sb blkly-tab ctgs, abt off wh chl MRLST: dk gy, v frm, sm-sily tex, o
7300	7300	7300	7300



WOB: 24Klbs
Rotary: 55RPM
Strokes: 105SPM
Pump Rate: 314GPM

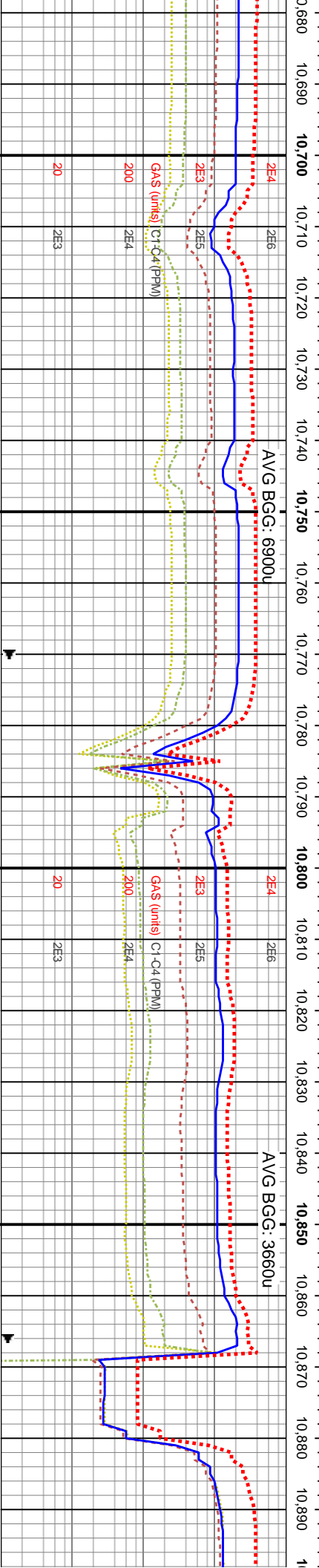


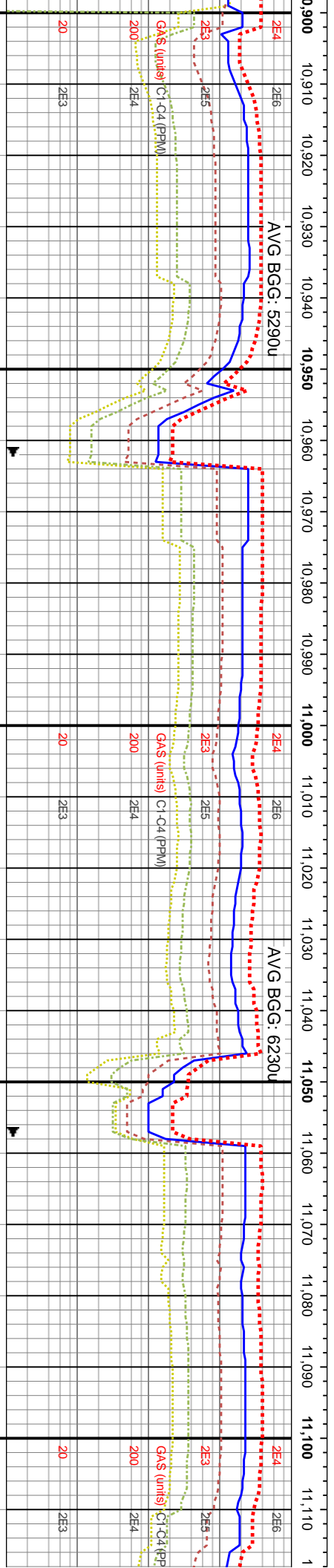
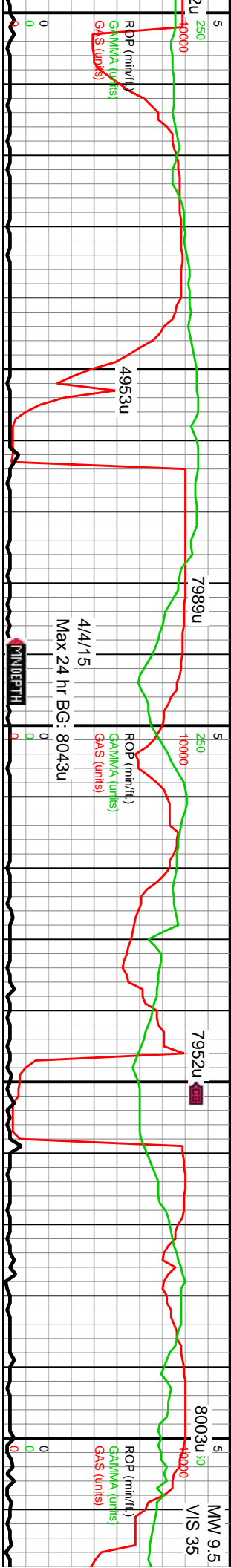
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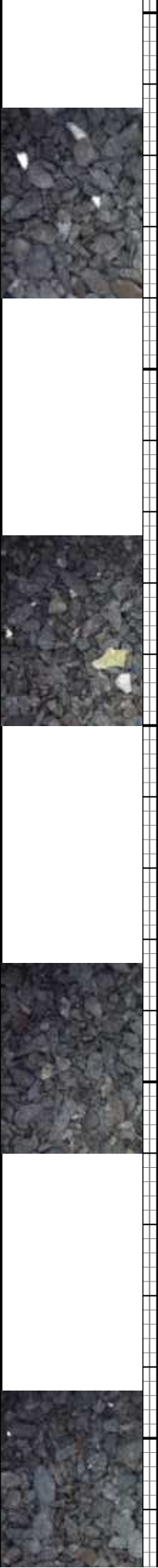
10460-10520 CHK (85%): lt gy-gy, occ dk gy, sl brn hue ip, mod fis sb blk-y-bkly-tab frm v frm brit cigs, r com off wh chk incl w/ occ mrlly intbds, silty-sl gt tex, tr vf pyr-pyr strg, tr c free chk, v calc w/ cin HCL rxn, MRLST (15%): pred dk gy, occ gy, v frm, occ in mrlly incl, sm-silty tex, tr vf pyr, mod calc w/ dirty HCL rxn, fr sting cut, fr-g bl flor resdl ring	10520-10580 CHK (75%): lt gy-gy, sl brn hue ip, occ dk gy, mod fis crunchy-brit cigs, com off wh chk incl w/ occ mrlly intbds, silty-sl gt tex, tr vf pyr-pyr strg, tr c free chk, v calc w/ cin HCL rxn, MRLST (25%): pred dk gy, occ gy-gy brn, v frm, occ in mrlly incl, sm-silty tex, tr vf pyr, mod calc w/ dirty HCL rxn, fr sting cut, fr-g bl flor resdl ring	10580-10640 CHK (70%): lt gy-gy-occ dk gy, sl brn hue ip, crunchy-brit mod fis sb blk-y-sb pily cigs, occ off wh chk incl w/ occ mrlly intbds, silty-sl gt tex, tr vf pyr-pyr strg, tr c free chk, v calc w/ cin HCL rxn, MRLST (30%): strg, tr c free chk, v calc w/ cin HCL rxn, pred dk gy, occ gy-gy brn, v frm, occ in mrlly incl, sm-silty pred dk gy, occ gy-gy brn, v frm, occ in mrlly incl, sm-silty tex, tr vf pyr, mod calc w/ dirty HCL rxn, fr sting cut, fr-g bl flor resdl ring	10640-10700 CHK (70%): lt gy-gy-c
MD: 10,514'	MD: 10,580'	MD: 10,609'	MD: 10,640'
TVD: 6,875.24'	TVD: 6,875.24'	TVD: 6,874.84'	TVD: 6,874.84'
Inclination: 90.43°	Inclination: 90.43°	Inclination: 90.06°	Inclination: 90.06°
Azimuth: 271.67°	Azimuth: 271.67°	Azimuth: 271.73°	Azimuth: 271.73°
TVCVS: 4,493.71'	TVCVS: 4,493.71'	VS: 4,586.53'	VS: 4,586.53'

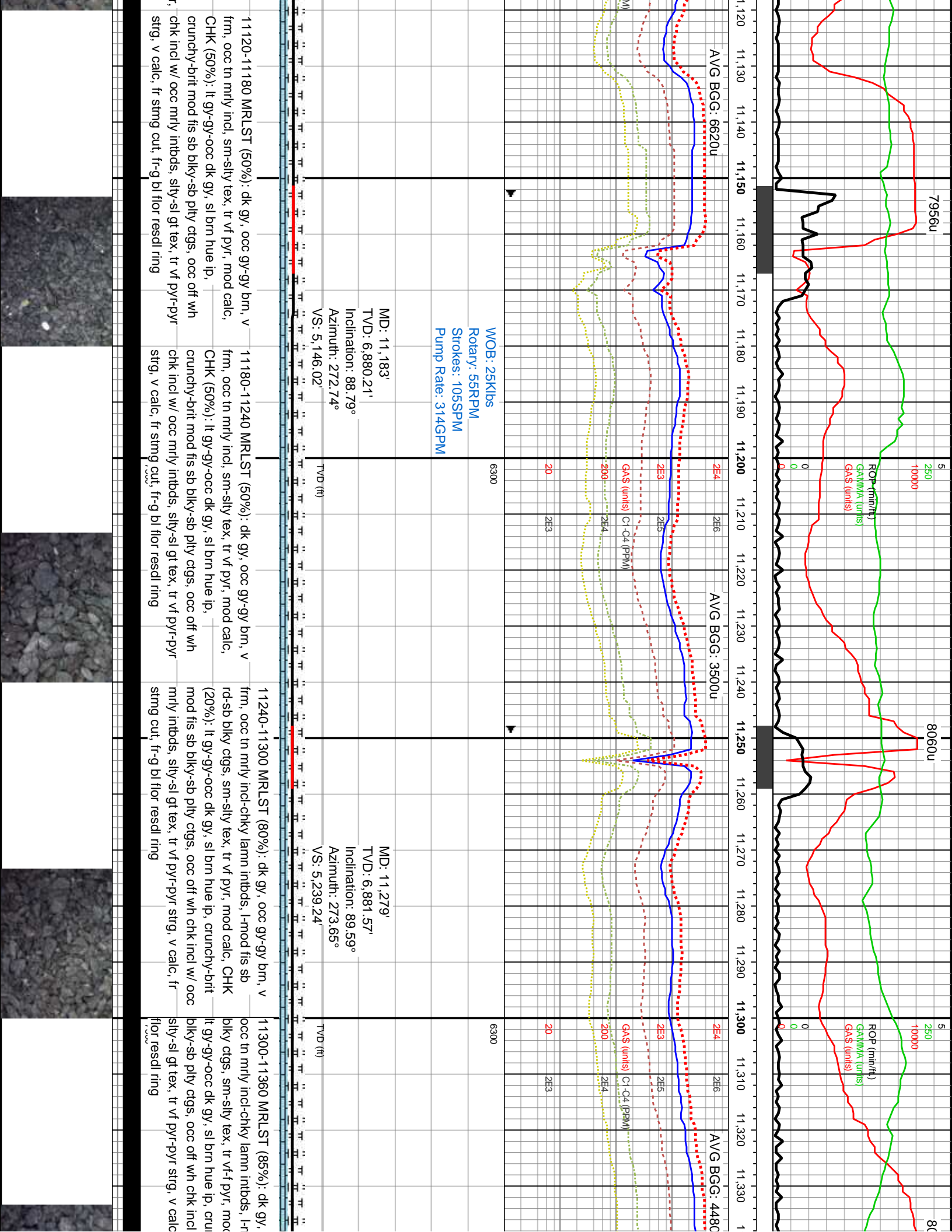


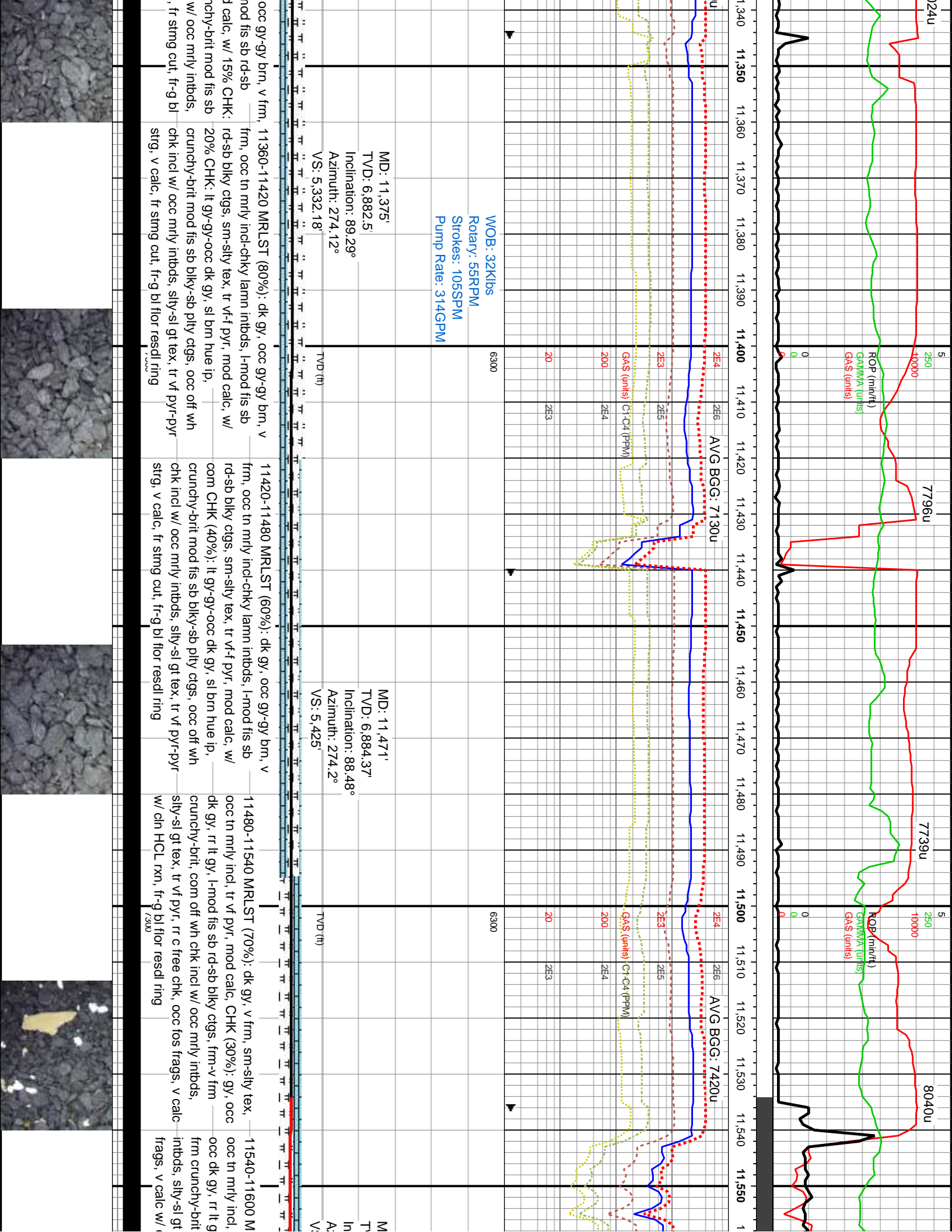


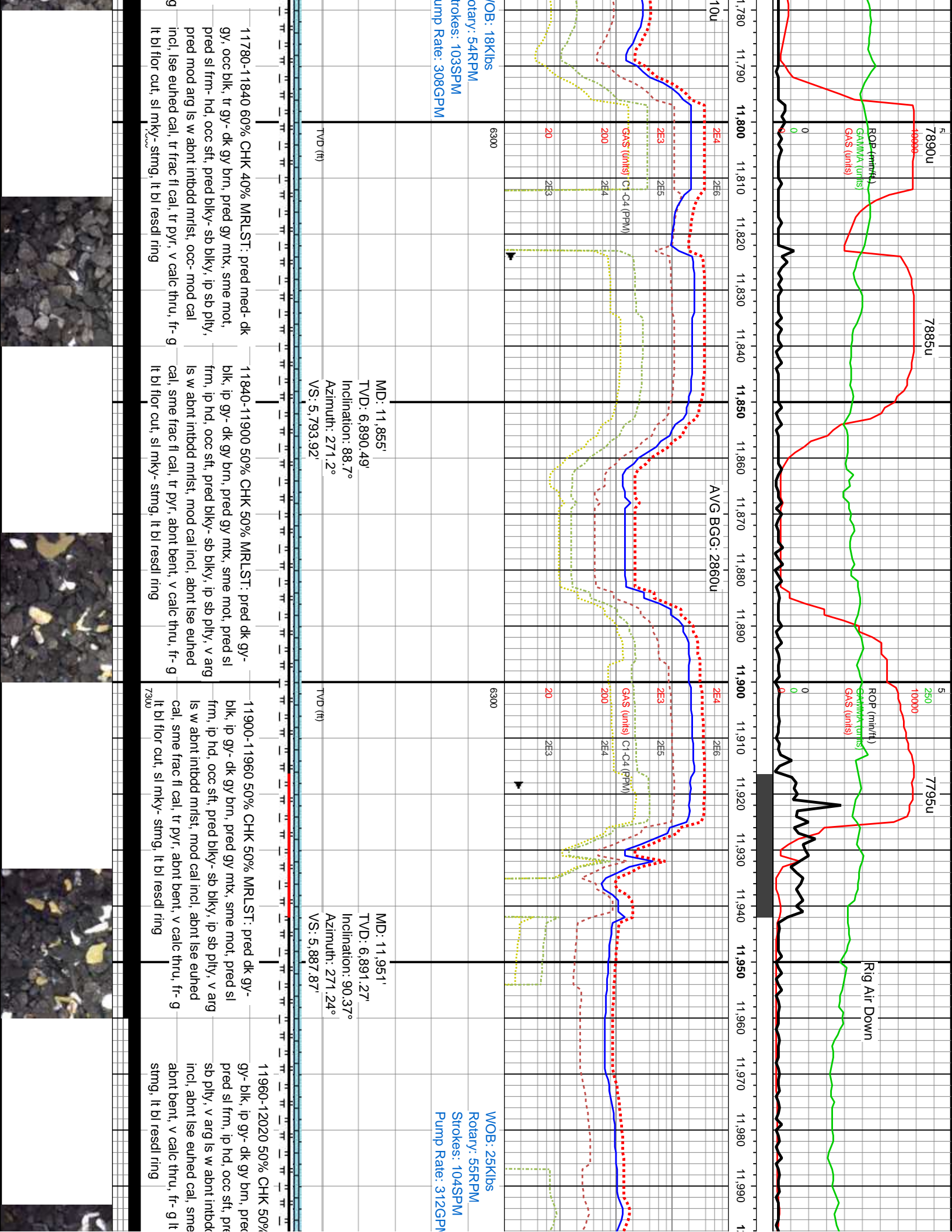


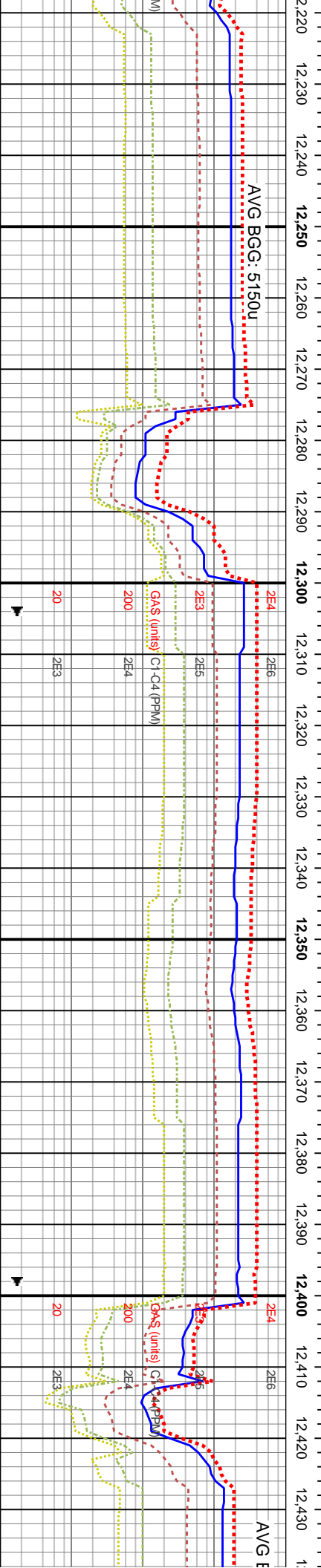
6300	6300	6300	6300
MD: 10,992'	MD: 11,087'	MD: 10,992'	MD: 11,087'
TVD: 6,875.97'	TVD: 6,877.92'	TVD: 6,875.97'	TVD: 6,877.92'
Inclination: 89.16°	Inclination: 88.48°	Inclination: 89.16°	Inclination: 88.48°
Azimuth: 272.54°	Azimuth: 272.82°	Azimuth: 272.54°	Azimuth: 272.82°
VS: 4,960.21'	VS: 5,052.65'	VS: 4,960.21'	VS: 5,052.65'
TVD (ft)	TVD (ft)	TVD (ft)	TVD (ft)
10940-11000 MRLST (70%): pred dk gy-gy brn, v frm mod fis sb blkly ctgs, occ in mrlly incl, sm-sily tex, tr vf pyr, mod calc, CHK (30%): lt gy-gy-occ dk gy, sl brn hue ip, crunchy-brt mod fis sb blkly-sb ply ctgs, occ off wh chk incl w/ occ mrlly inbds, sily-sl gt tex, tr vf pyr-pyr stng, tr c free chk, v calc, fr stng cut, fr-g bl flr resd ring	11000-11060 MRLST (50%): pred dk gy-gy brn, v frm mod fis sb blkly ctgs, occ in mrlly incl, sm-sily tex, tr vf pyr, mod calc, CHK (50%): lt gy-gy-occ dk gy, sl brn hue ip, crunchy-brt mod fis sb blkly-sb ply ctgs, occ off wh chk incl w/ occ mrlly inbds, sily-sl gt tex, tr vf pyr-pyr stng, tr c free chk, v calc, fr stng cut, fr-g bl flr resd ring	10940-11000 MRLST (70%): pred dk gy-gy brn, v frm mod fis sb blkly ctgs, occ in mrlly incl, sm-sily tex, tr vf pyr, mod calc, CHK (30%): lt gy-gy-occ dk gy, sl brn hue ip, crunchy-brt mod fis sb blkly-sb ply ctgs, occ off wh chk incl w/ occ mrlly inbds, sily-sl gt tex, tr vf pyr-pyr stng, tr c free chk, v calc, fr stng cut, fr-g bl flr resd ring	11060-11120 MRLST (60%): dk gy, v frm, mod fis sb blkly ctgs, occ in mrlly incl, sm-sily tex, tr vf pyr, mod calc, CHK (40%): lt gy-gy, frm-v frm mod fis ctgs, occ off wh chk incl w/ occ mrlly inbds, sily-sl gt tex, tr vf pyr-pyr stng, tr c free chk, v calc, fr stng cut, fr-g bl flr resd ring
7300	7300	7300	7300

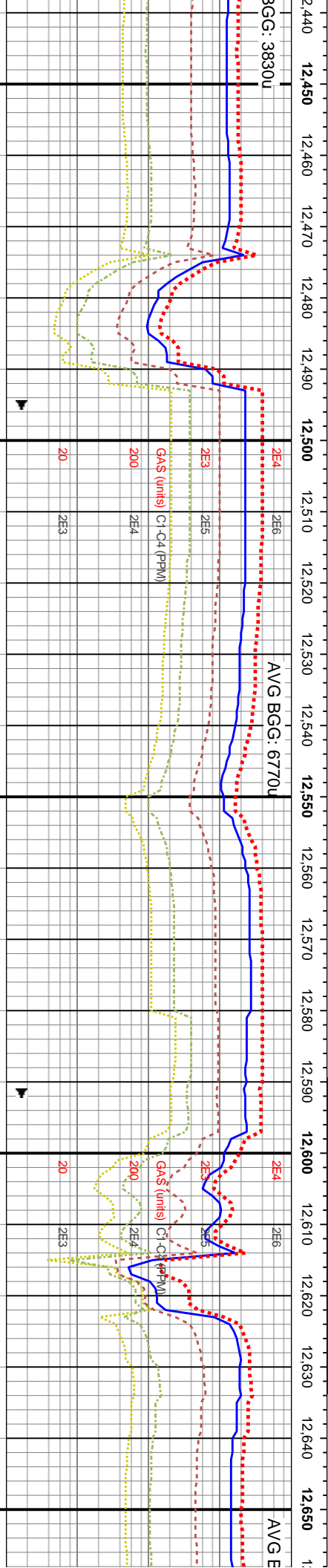
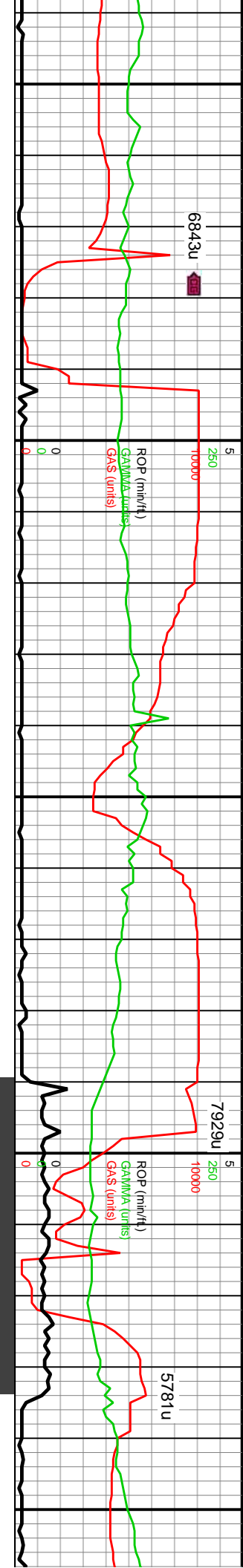




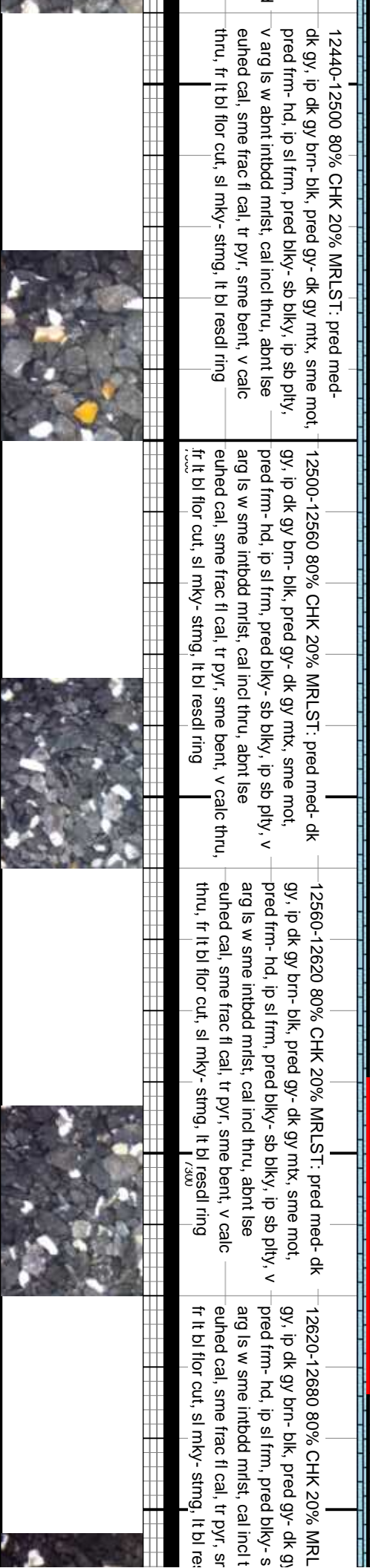


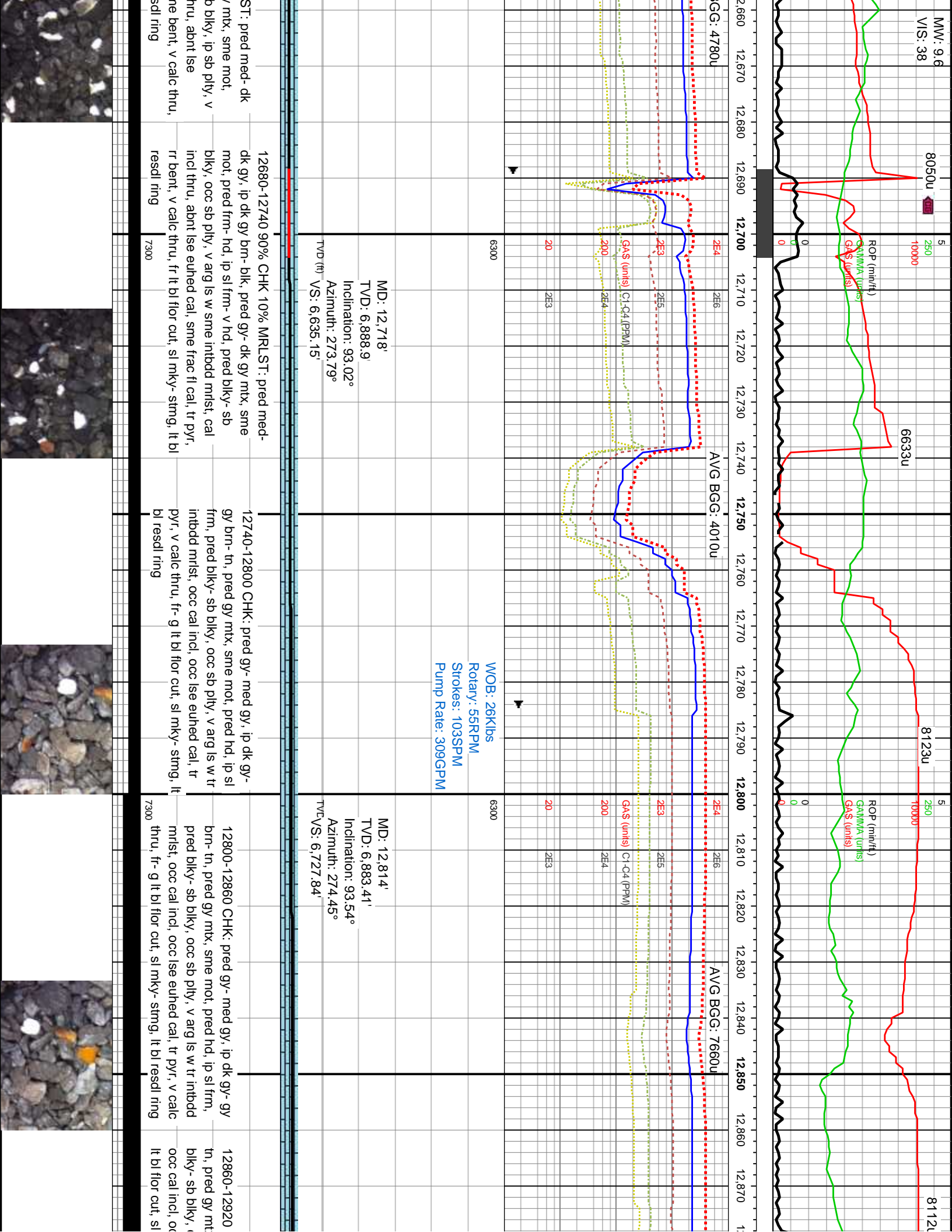


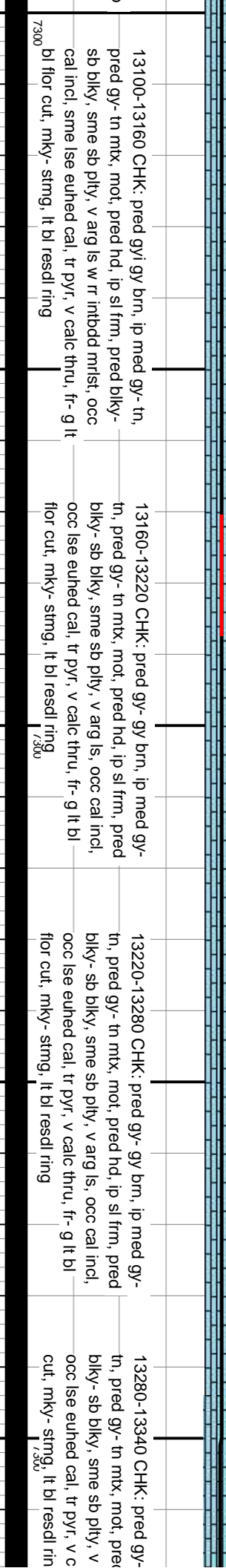
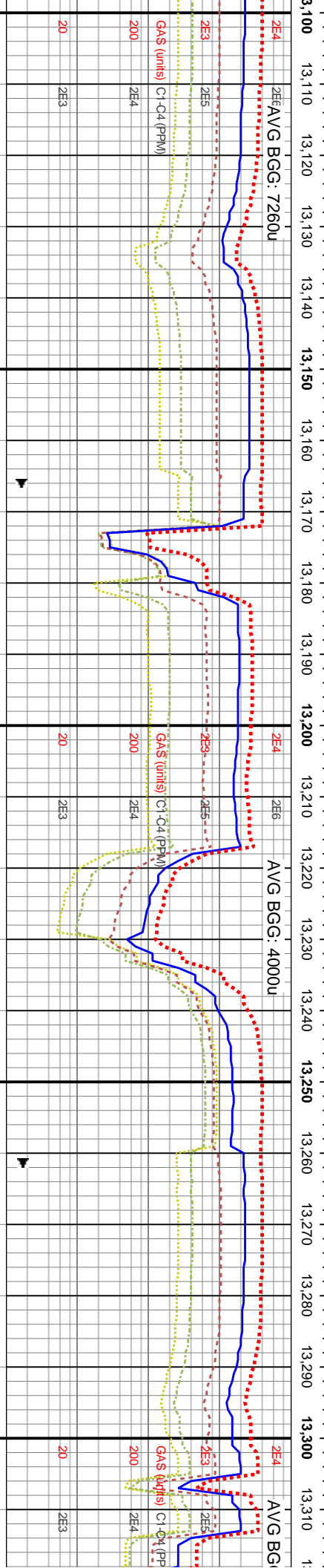


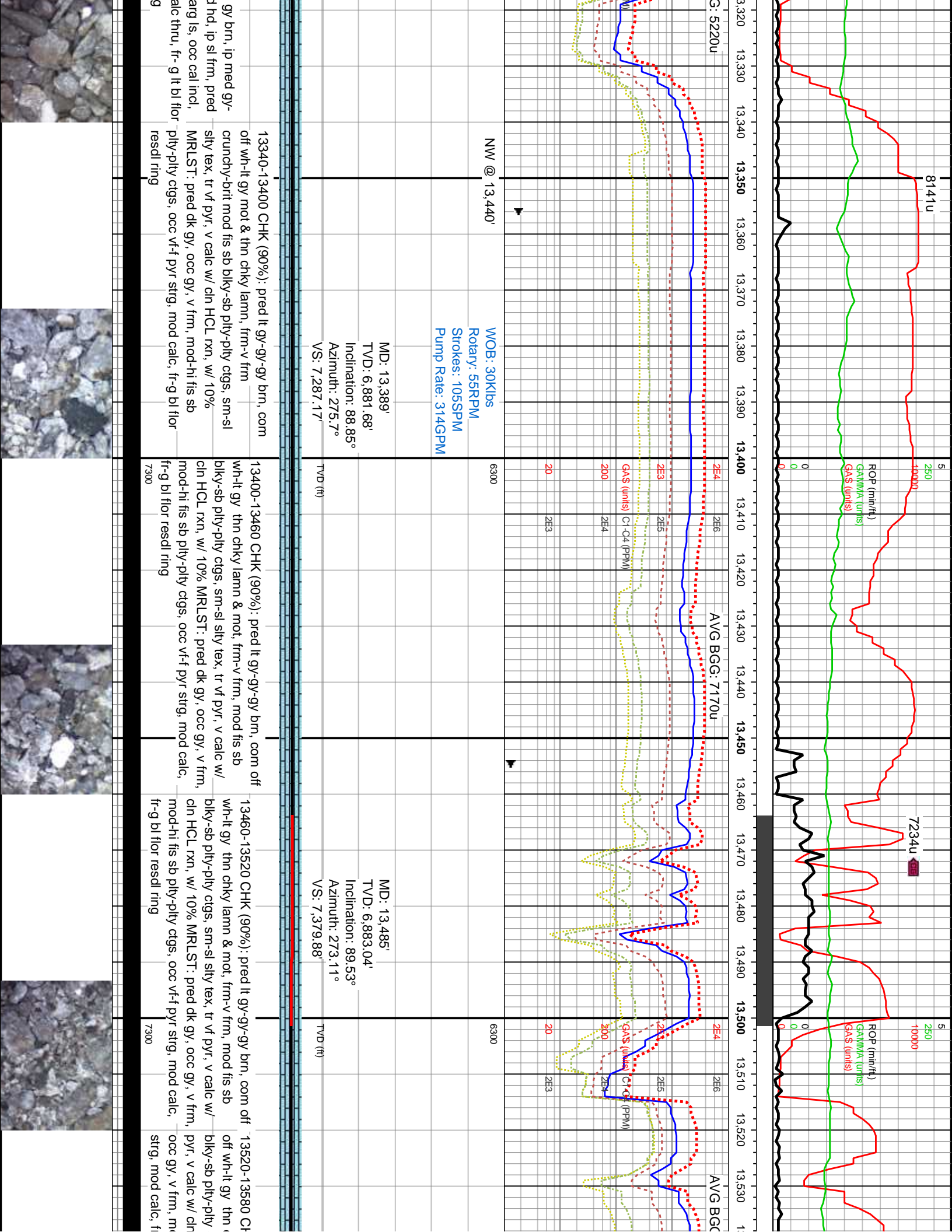


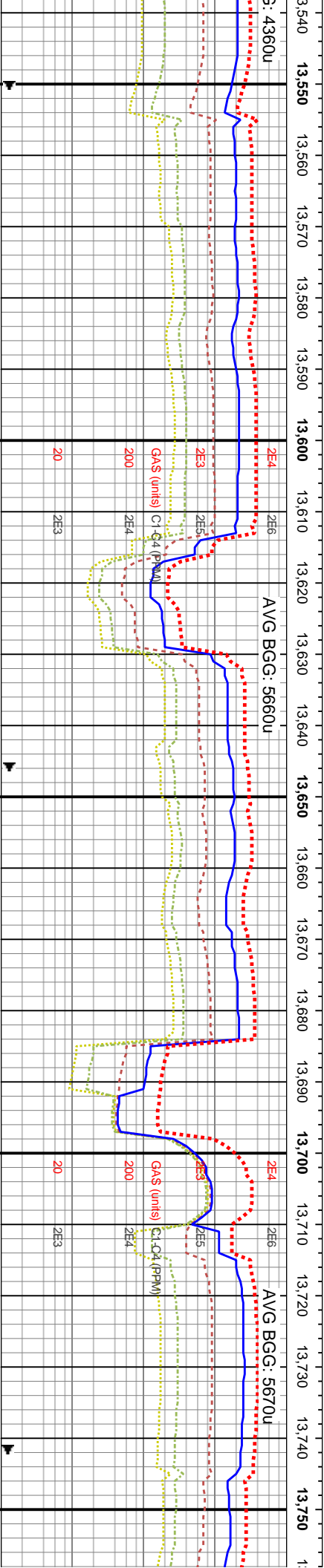
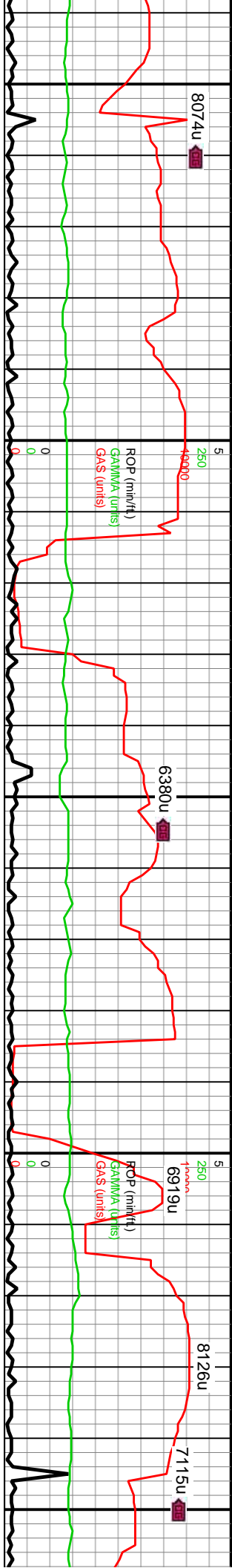
12440-12500 80% CHK 20% MRLST: pred med-dk gy, ip dk gy brn- blk, pred gy- dk gy mtx, sme mot, pred frm- hd, ip sl frm, pred blk- sb blk, ip sb ply, v arg ls w abnt intbdd mntst, cal incl thru, abnt lse euhed cal, sme frac fl cal, tr pyr, sme bent, v calc thru, fr lt bl fior cut, sl mky- stmg, lt bl resdl ring	12500-12560 80% CHK 20% MRLST: pred med- dk gy, ip dk gy brn- blk, pred gy- dk gy mtx, sme mot, pred frm- hd, ip sl frm, pred blk- sb blk, ip sb ply, v arg ls w sme intbdd mntst, cal incl thru, abnt lse euhed cal, sme frac fl cal, tr pyr, sme bent, v calc thru, fr lt bl fior cut, sl mky- stmg, lt bl resdl ring	12560-12620 80% CHK 20% MRLST: pred med- dk gy, ip dk gy brn- blk, pred gy- dk gy mtx, sme mot, pred frm- hd, ip sl frm, pred blk- sb blk, ip sb ply, v arg ls w sme intbdd mntst, cal incl thru, abnt lse euhed cal, sme frac fl cal, tr pyr, sme bent, v calc thru, fr lt bl fior cut, sl mky- stmg, lt bl resdl ring	12620-12680 80% CHK 20% MRLST: pred med- dk gy, ip dk gy brn- blk, pred gy- dk gy mtx, sme mot, pred frm- hd, ip sl frm, pred blk- sb blk, ip sb ply, v arg ls w sme intbdd mntst, cal incl thru, abnt lse euhed cal, sme frac fl cal, tr pyr, sme bent, v calc thru, fr lt bl fior cut, sl mky- stmg, lt bl resdl ring
MD: 12,526' TVD: 6,892.28' Inclination: 89.11° Azimuth: 273.03° VS: 6,448.84'	MD: 12,526' TVD: 6,892.28' Inclination: 89.11° Azimuth: 273.03° VS: 6,448.84'	MD: 12,622' TVD: 6,892.23' Inclination: 90.95° Azimuth: 273.21° VS: 6,542.1'	MD: 12,622' TVD: 6,892.23' Inclination: 90.95° Azimuth: 273.21° VS: 6,542.1'







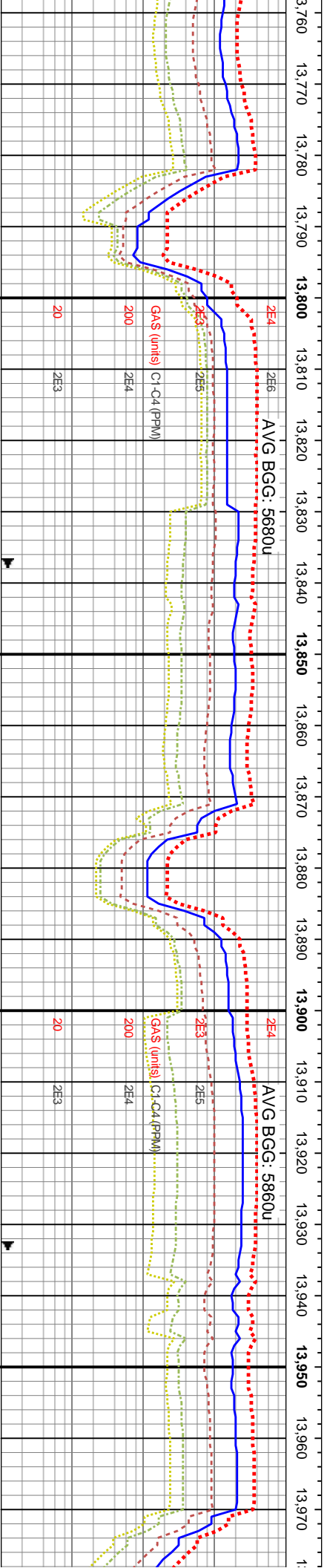




WOB: 28Klbs Rotary: 55RPM Strokes: 105SPM Pump Rate: 314GPM		6300	20	2E3
MD: 13,580' TVD: 6,883.87' Inclination: 89.47° Azimuth: 272.54° VS: 7,472.28'		TVD (ft)		
		6300	20	2E3

CHK (90%): pred lt gy-gy-gy brn, com chky lamn & mot, frm-v frm, mod fis sb biky-sb ply-pty mod fis ctgs, sm-sl silty tex, tr c free chk, tr vf pyr, v calc, w/ 10% MRLST: pred dk gy, mod-hi fis sb ply-pty ctgs, occ vf-f pyr -g bl flr resd ring	13580-13640 CHK (90%): pred lt gy-gy, occ gy brn, com off wh-it gy thn chky lamn & mot, frm-v frm, sb biky-sb ply-pty mod fis ctgs, sm-sl silty tex, tr c free chk, tr vf pyr, v calc, w/ 10% MRLST: pred dk gy, occ gy, v frm, mod-hi fis sb ply-pty ctgs, occ vf-f pyr strg, mod calc, fr-g bl flr resd ring	13640-13700 CHK (90%): pred lt gy-gy-gy brn, com off wh-it gy thn chky lamn & mot, frm-v frm, mod fis sb biky-sb ply-pty ctgs, sm-sl silty tex, tr vf pyr, tr free c chk, v calc w/ c/n HCL rxn, w/ 10% MRLST: pred dk gy, occ gy, v frm, mod-hi fis sb ply-pty ctgs, occ vf-f pyr strg, mod calc, fr-g bl flr resd ring	13700-13760 CHK (85%): pred lt gy-gy-gy brn, com off wh-it gy thn chky lamn & mot, frm-v frm, mod fis sb biky-sb ply-pty ctgs, sm-sl silty tex, tr vf pyr, tr free c chk, v calc w/ c/n HCL rxn, w/ 15% MRLST: pred dk gy occ gy, v frm, mod-hi fis sb ply-pty ctgs, occ vf-f pyr strg, mod calc, fr-g bl flr resd ring
	7300		7300





MD: 13,772'
TVD: 6,884.63'
Inclination: 89.5°
Azimuth: 272.84°
VS: 7,659.16'

13760-13820 CHK (85%): pred lt gy-gy-gy brn, com
off wh-it gy thn chky lamn & mot, frm-v frm, mod fis
sb bly-sb ply-ply ctgs, sm-sl sily tex, tr vf pyr, r free
chk, v calc w/ cin HCL rxn, w/ MRLST (15%): pred dk
gy, occ gy, v frm, mod-hi fis sb ply-ply ctgs, tn mot, r
chck incl, occ vf-f pyr strg, mod calc, fr-g bl flior tesdl

7300

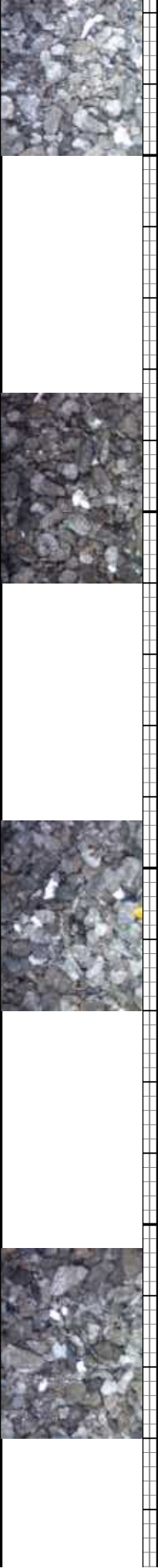
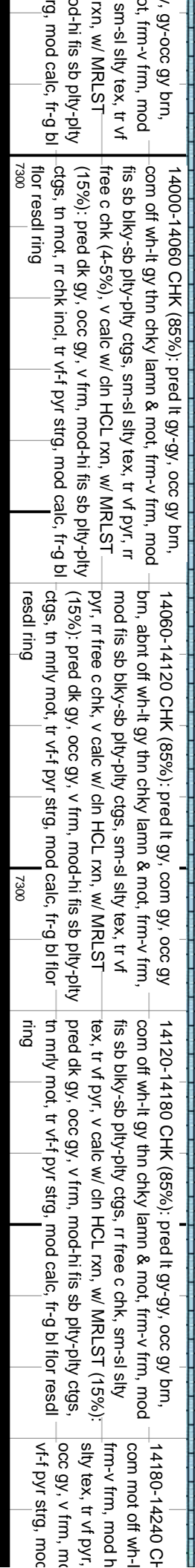
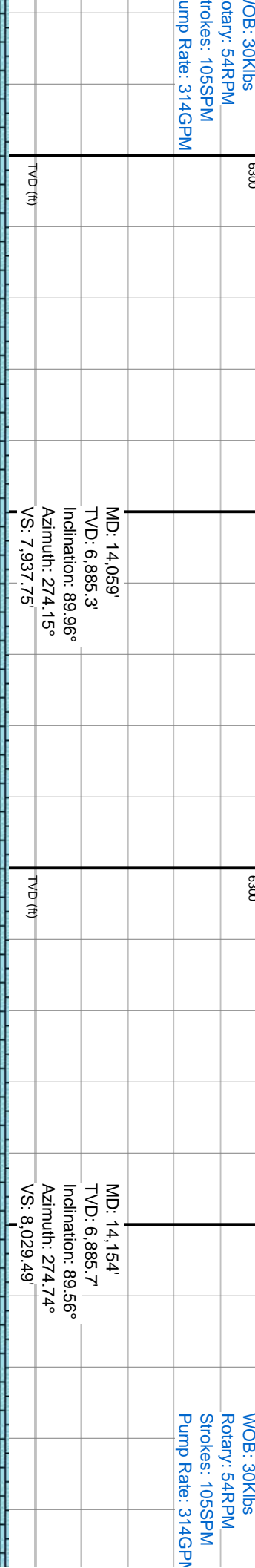
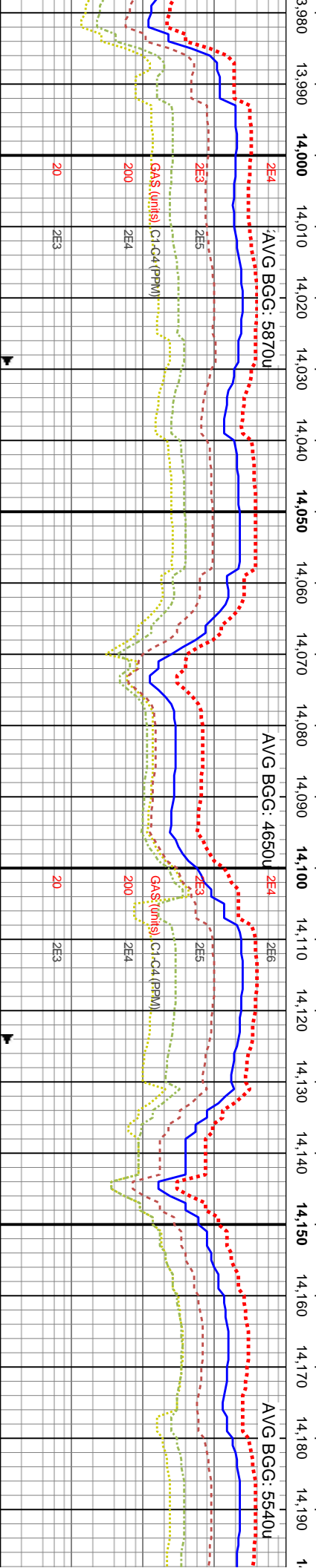
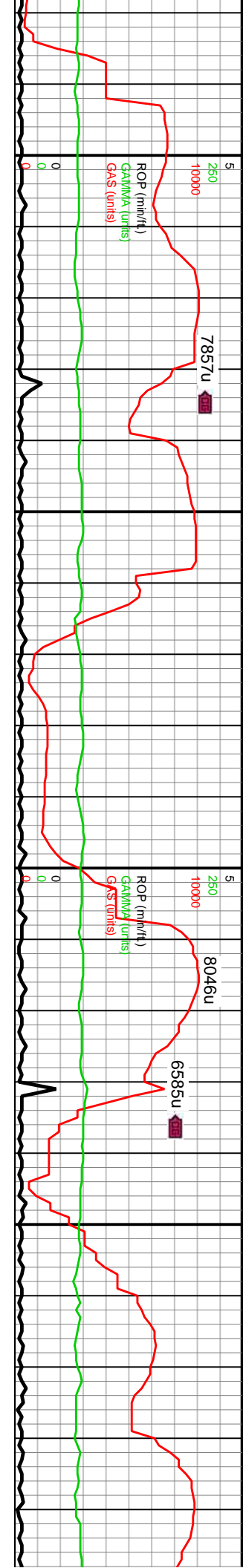
MD: 13,868'
TVD: 6,884.95'
Inclination: 90.12°
Azimuth: 273.04°
VS: 7,752.49'

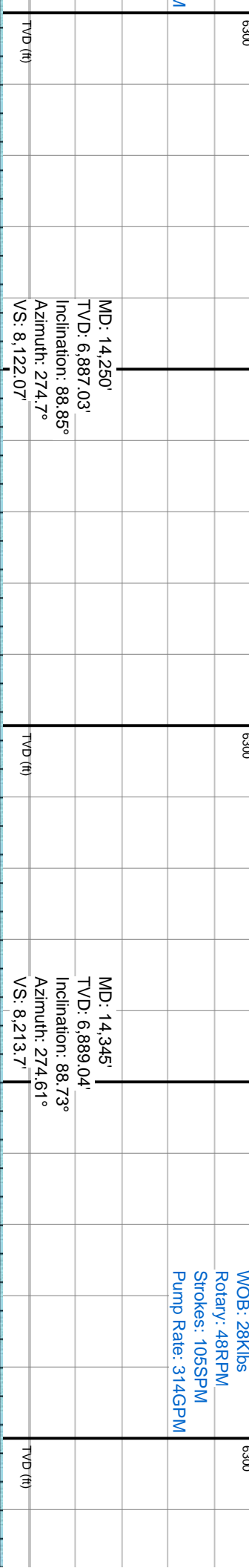
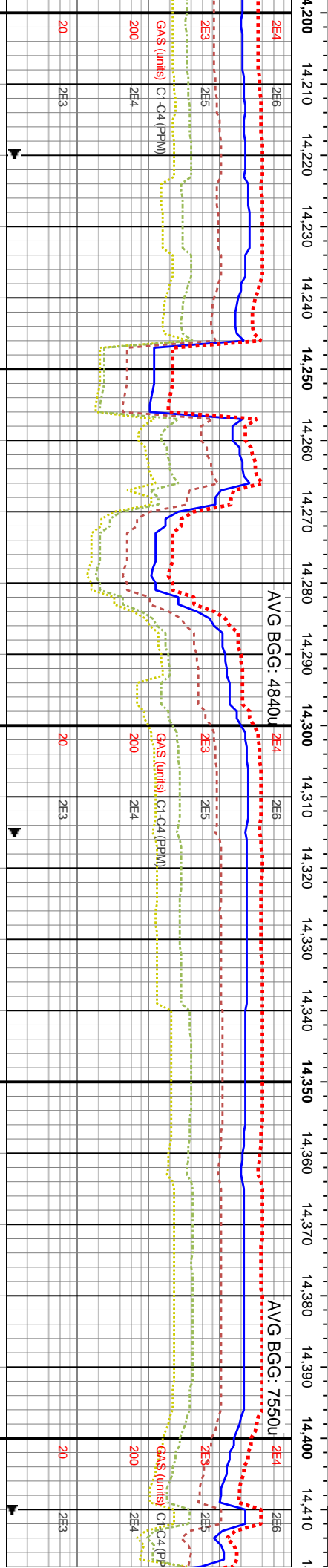
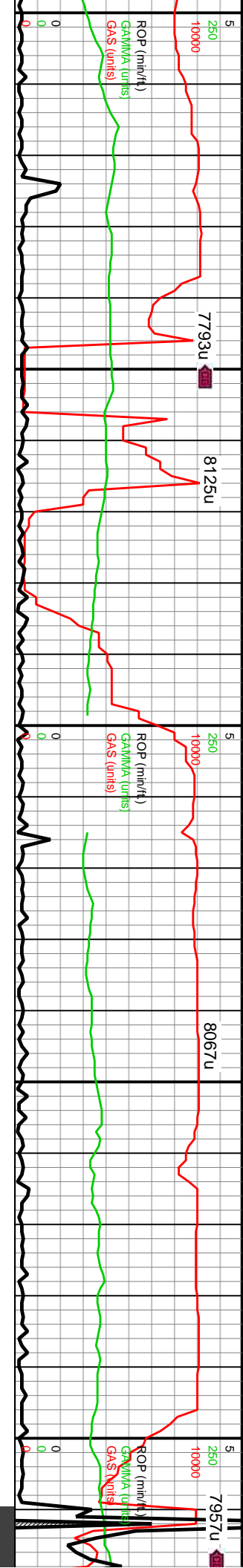
13820-13880 CHK (85%): pred it gy-gy-gy brn, com
off wh-it gy thn chky larn & mot, frm-v frm, mod fis sb
biky-sb ply-pty cigs, sm-sl sity tex, tr vf pyr, π (3%)
free c chk, v calc w/ cin HCL rxn, w/ MRLST (15%):
pred dk gy, occ gy, v frm, mod-hi fis sb ply-pty cigs, tr
mot, π chk incl, occ vf-f pyr strg, mod calc, fr-g bl flr
resd ring

MD: 13,963'
TVD: 6,885.06'
Inclination: 89.75
Azimuth: 273.37°
VS: 7,844.75'

resd ring 7300

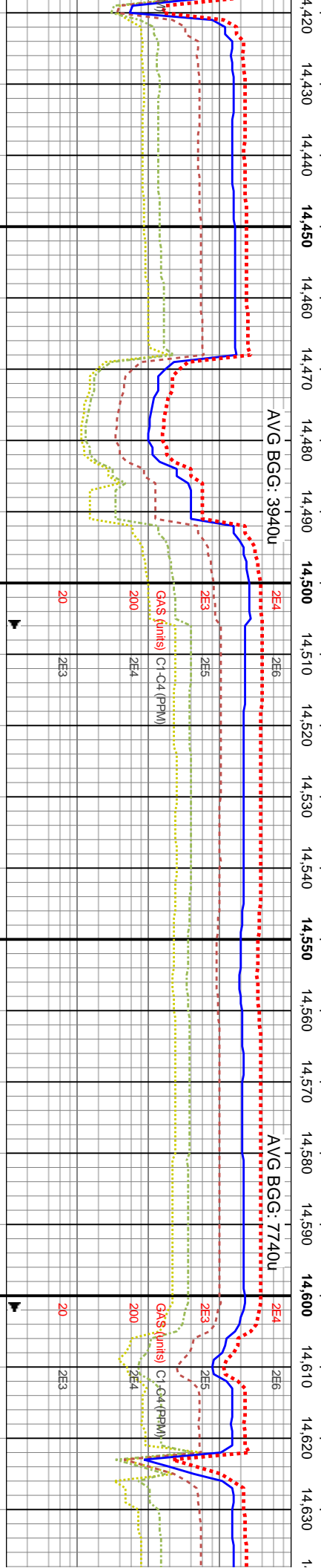
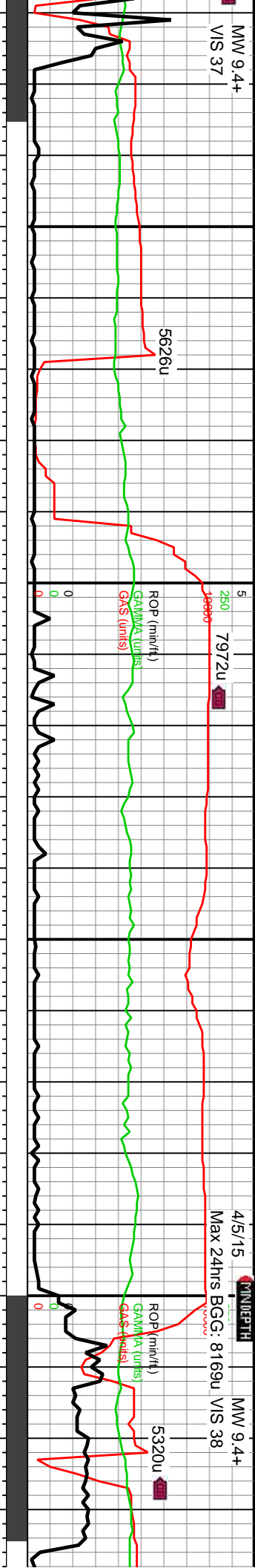




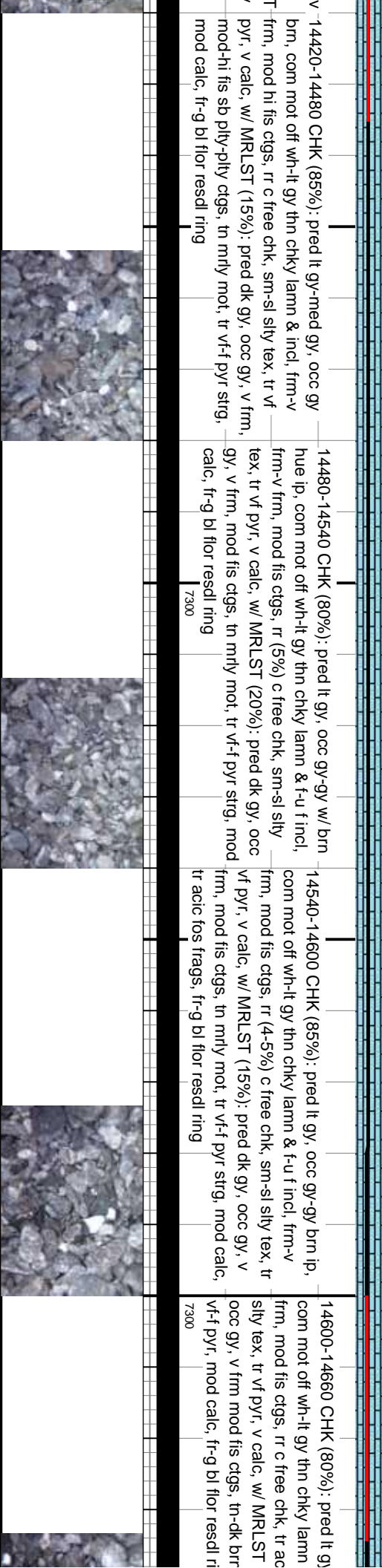


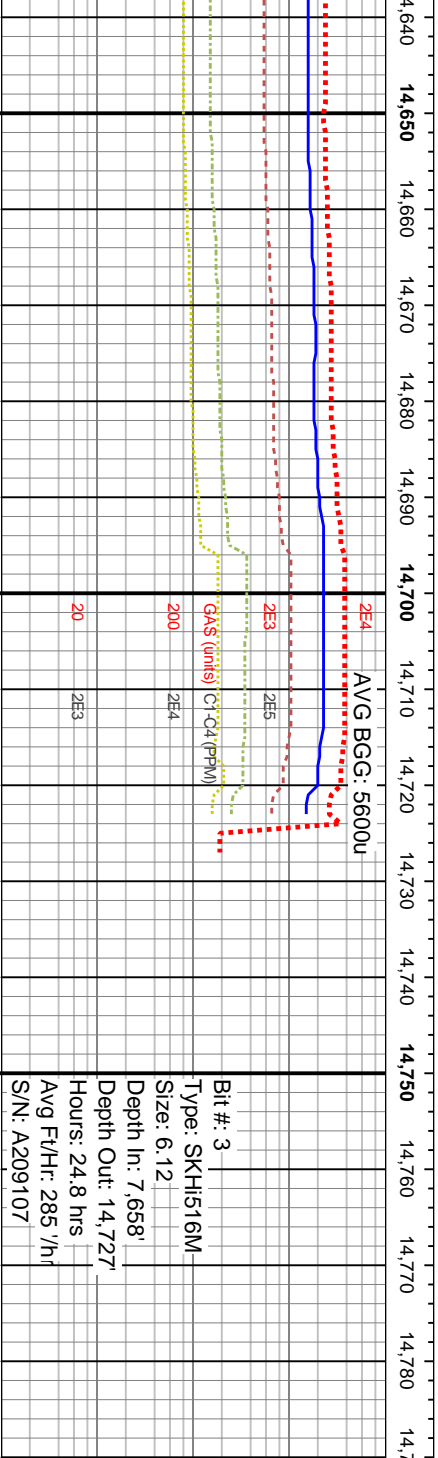
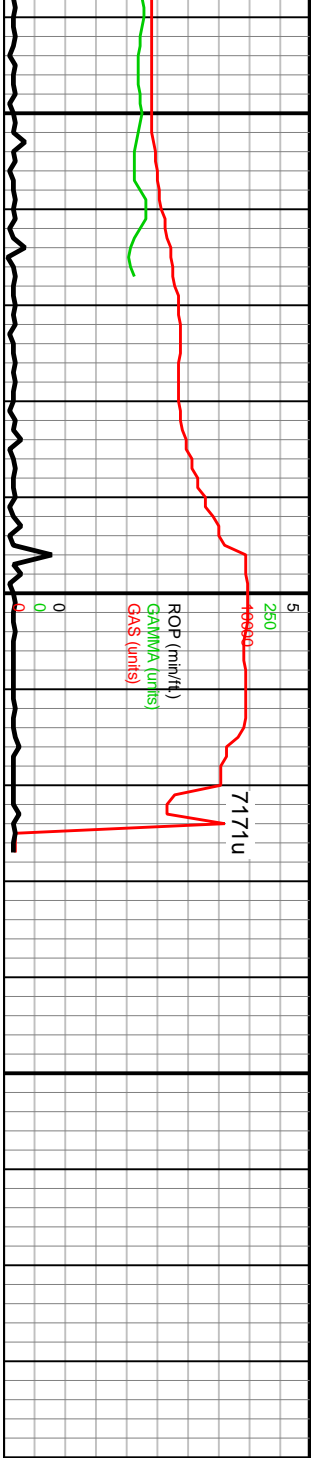
14240-14300 CHK (80%): pred lt gy-gy, occ gy brn, com mot off wh-it gy thn chky lamn & incl, frm-v frm, mod hi fis sb blkly-pty ctgs, sm-sl silty tex, tr vf pyr, v calc, w/ MRLST (20%): pred dk gy, v frm, mod-hi fis sb pty-pty ctgs, tn mrlly mot, tr mod calc, fr-g bl flor resdl ring		MD: 14,250' TVD: 6,887.03' Inclination: 88.85° Azimuth: 274.7° VS: 8,122.07'	TVD (ft)
14300-14360 CHK (80%): pred lt gy-gy, occ gy brn, com mot off wh-it gy thn chky lamn & incl, frm-v frm, mod hi fis sb blkly-pty ctgs, sm-sl silty tex, tr vf pyr, v calc, w/ MRLST (20%): pred dk gy, occ gy, v frm, mod-hi fis sb pty-pty ctgs, tn mrlly mot, tr vf-f pyr strg, mod calc, fr-g bl flor resdl ring		MD: 14,345' TVD: 6,889.04' Inclination: 88.73° Azimuth: 274.61° VS: 8,213.7'	TVD (ft)
14360-14420 CHK (85%): pred lt gy, occ gy-gy brn, tr lt gy, com mot off wh-it gy thn chky lamn & incl, frm-v frm, thn lamn, sm-sl stly tex, tr vf pyr, v calc, w/ MRLS (15%): pred dk gy, occ gy, v frm, mod-hi fis sb pty-pty ctgs, tn mrlly mot, tr vf-f pyr strg, mod calc, fr-g bl flor resdl ring			TVD (ft)





MD: 14,440' TVD: 6,890.55' Inclination: 89.44° Azimuth: 274.37° VS: 8,305.41'	14420-14480 CHK (85%): pred lt gy-med gy, occ gy brn, com mot off wh-it gy thn chky lamm & incl, frm-v frm, mod hi fis ctgs, rr c free chk, sm-sl silty tex, tr vf pyr, v calc, w/ MRLST (15%): pred dk gy, occ gy, v frm, mod-hi fis sb ply-ply ctgs, tn mly mot, tr vf-f pyr stg, mod calc, fr-g bl flr resd ring	6300	TVD (ft)	MD: 14,536' TVD: 6,891.9' Inclination: 88.95° Azimuth: 275.03° VS: 8,398'	14540-14600 CHK (80%): pred lt gy, occ gy-gy w/ brn hue ip, com mot off wh-it gy thn chky lamm & f-u f incl, frm-v frm, mod fis ctgs, rr (5%) c free chk, sm-sl silty tex, tr vf pyr, v calc, w/ MRLST (20%): pred dk gy, occ gy, v frm, mod fis ctgs, tn mly mot, tr vf-f pyr stg, mod calc, fr-g bl flr resd ring	7300
MD: 14,632' TVD: 6,892.79' Inclination: 90.03° Azimuth: 273.68° VS: 8,490.74'	14600-14660 CHK (80%): pred lt gy, com mot off wh-it gy thn chky lamm frm, mod fis ctgs, rr c free chk, tr ac silty tex, tr vf pyr, v calc, w/ MRLST occ gy, v frm mod fis ctgs, tn-dk brr vf-f pyr, mod calc, fr-g bl flr resd ri	6300	TVD (ft)	WOB: 45Klbs Rotary: 0RPM Strokes: 105SPM Pump Rate: 315GPM	14600-14660 CHK (85%): pred lt gy, occ gy-gy brn ip, com mot off wh-it gy thn chky lamm & f-u f incl, frm-v frm, mod fis ctgs, rr (4-5%) c free chk, sm-sl silty tex, tr vf pyr, v calc, w/ MRLST (15%): pred dk gy, occ gy, v frm, mod fis ctgs, tn mly mot, tr vf-f pyr stg, mod calc, tr acic fos frags, fr-g bl flr resd ring	7300





MD: 14,661'
TVD: 6,892.69'
Inclination: 90.24°
Azimuth: 273.44°
VS: 8,518.86'

MD: 14,727'
TVD: 6,892.41'
Inclination: 90.24°
Azimuth: 273.44°

Projected

Bit #: 3
Type: SKH1516M
Size: 6.12
Depth In: 7,658'
Depth Out: 14,727'
Hours: 24.8 hrs
Avg Ft/Hr: 285 '/hr
S/N: A209107

Reach TD
@ 0130hrs
on 4/5/15

14660-14727 CHK (80%): lt gy, occ gy-gy brn ip, com mot
& f-u f incl, frm-v
ic fos frags, sm-sl
(20%): pred dk gy,
mily mot & lamm, tr
resd ring

7300

