ALS Empirica

Scale: 5" / 100'
Measured Depth Log

Well Name	Fairview 2		
Location	Sec 5, T2N, R68W		
State	CO	**County**	Weld
Country	USA	**Rig Number**	Savanna 802
API Number	05-123-41666	**Field**	Wattenberg
Geographic Region	DJ Basin	**Drilling Completed**	2/12/2016
Spud Date	12/5/2015		
Surface Coordinates	Lat: 40° 9' 56.7252" N Long: 105° 2' 5.1612" W		
Bottom Hole Coordinates	Lat: 40° 9' 58.9655" N Long: 105° 0' 34.9415" W		
Ground Elevation	4,948'	**K.B. Elevation**	4,963'
Logged Interval	5,000' **To** 14,292	**Total Depth**	14,292'
Formation	J Sand		
Type of Drilling Fluid	Invert		

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

EXTRACTION Oil & Gas

Other

Equipment ML-197

Comments Start: 1-28-16
End: 2-12-16

Logger Names Mark Gross / Henry Printz

Services Provided 2-Man Logging

Zone Color Coding

Oil	Condensate	Gas
Note	Core	Pressure
Error	Water	Seal

Rock Types

UNKNOWN	DOLOMITE	SHALE GRAY	TILL
ANHYDRITE	CHERT	SHALE COLORED	BENTONITE
GYPSUM	COAL	SILTSTONE	TUFF
SALT	MARLSTONE	SANDSTONE	IGNEOUS
CHALK	CLAYSTONE	CONGLOMERATE	METAMORPHIC
LIMESTONE	SHALE	BRECCIA	CEMENT

Accessories

Fossils

- ALGAE
- AMPHIPORA
- BELEMNITE
- BIOCLASTIC
- BRACHIOPOD
- BRYOZOA
- CEPHALOPOD
- CORAL
- CRINOID
- ECHINOID
- FISH
- FORAMINIFERA
- FOSSIL
- GASTROPOD
- OOLITE
- OSTRACOD
- PELECYPOD
- PELLET
- PISOLITE
- PLANT REMAINS
- PLANT SPORES
- SCAPHOPOD
- STROMATOPOROID

Minerals

- ANHYDRITIC
- ARGILLACEOUS
- ARGILLITE GRAIN
- BENTONITE
- BITUMENOUS SUBSTANCE
- BRECCIA FRAGMENTS
- CALCAREOUS
- CARBONACEOUS FLAKES
- CHTDK
- CHTLT
- COAL - THIN BEDS
- DOLOMITIC
- FELDSPAR
- FERRUGINOUS PELLET
- FERRUGINOUS
- GLAUCONITE
- GYPSIFEROUS
- HEAVY MINERAL
- KAOLIN
- MARLSTONE
- MINERAL CRYSTALS
- NODULES
- PHOSPHATE PELLETS
- PYRITE
- SALT CAST
- SANDY
- SILICEOUS
- SILTY
- TUFFACEOUS

Stringer

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

Other Sym

Oil Show

- ORGANIC
- PINPOINT
- DEAD
- VUGGY
- EVEN
- QUESTIONABLE
- SPOTTED STAINING

Porosity

- EARTHY
- FENESTRAL
- FRACTURE
- INTERCRYSTALLINE
- INTEROOLITIC
- MOLDIC

Engineering

- BIT
- CASING
- CONNECTION (LEFT)
- CONNECTION (RIGHT)
- CONNECTION GAS
- CORE - LOST
- CORE - RECOVERED
- DST INTERVAL
- FAULT

- FORM
- GAS SHOW
- MN
- NORMAL FA
- OIL SHOW
- OVERTURN
- REVERSE F
- SIDEWALL C
- SIDEWALL C
- SLIDE
- SURVEY
- TRIP GAS
- WIRELINE T
- WIRELINE T

nbols

ATION TOP

N DEPTH

AULT

ED STRATA

AULT

CORE (LEFT)

CORE (RIGHT)

ESTED - LEFT

ESTED - RT

Rounding

A ANGULAR

R ROUNDED

a SUBANG

r SUBRND

Textures

BS BOUNDSTONE

C CHALKY

CX CRYPTOXLN

E EARTHY

FX FINELYXLN

GS GRAINSTONE

L LITHOGRAPHIC

MX MICROXLN

MS MUDSTONE

PS PACKSTONE

WS WACKESTONE

Sorting

M MODERATE

P POOR

W WELL

ROP
ROP
GAMMA
GAS

Extraction OG
Weld County, CO
Spud Date: 12-05-15
Surface Casing @ 1,583'
2-man logging began: 1-28-16

1% Methane = 100 Units
99% Methane = 10000 Units
Depths Correspond to Driller's Pipe Tally

Fairview 2

Linear Scale

385u

Carlile
7306' MD
7262' TVD

Greenhorn
7327' MD
7282' TVD

MW 9.2
VIS 47

998u

ROP (min/ft.)
GAMMA (units)
GAS (units)

Slide/Rotate

Depth Labels

7,260 7,270 7,280 7,290 **7,300** 7,310 7,320 7,330 7,340 **7,350** 7,360 7,370 7,380 7,390 **7,400** 7,410 7,420 7,430

Total Gas & Chromatograph
GAS
C1
C2
C3
C4
C5

Logarithmic Scale

AVG BGG: 310u

GAS (units) C1-C5 (PPM)

Well Bore
TVD

Bit #: 2
Type: E516-B34-Z
Size: 7.88
Depth In: 1,583'
Depth Out: 8,646'
Hours: 18.7 hrs
Avg Ft/Hr: 377.7 '/hr
Jets: 7x10
S/N: A196174

MD: 7,335'
TVD: 7,290.25'
Inclination: 21.21°
Azimuth: 110.67°
VS: 276.19'

WOB: 9.5Klbs
Rotary: 0RPM
Strokes: 260SPM
Pump Rate: 695GPM

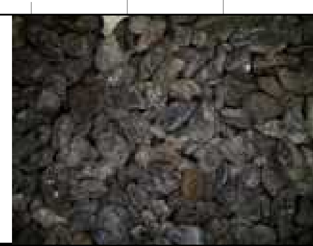
MD: 7,431'
TVD: 7,379.21'
Inclination: 23.0
Azimuth: 99.3°
VS: 311.09'

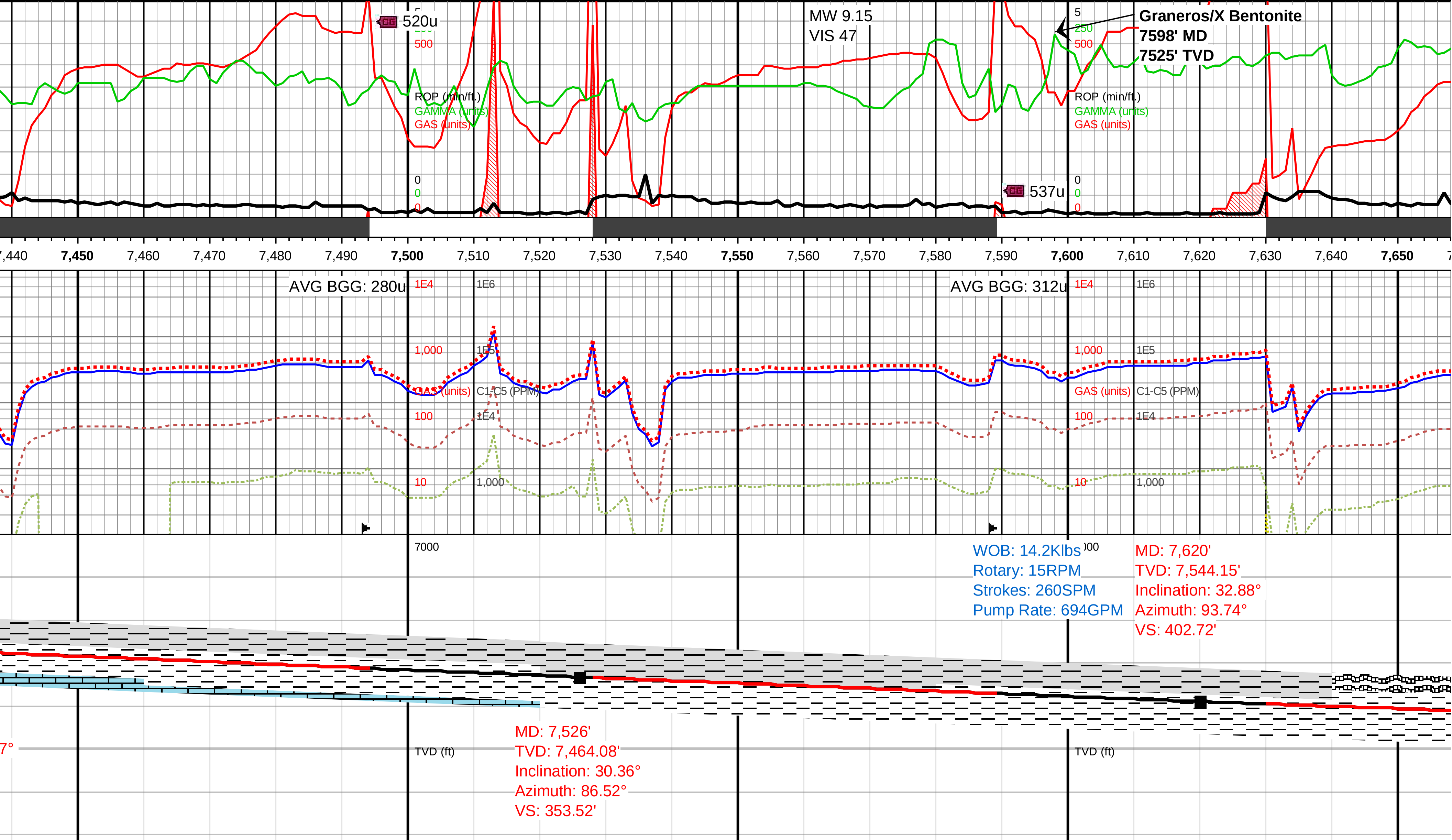
7280-7340 SH (65%): mot dk gy-blshgy, occ blk gy, plty-splt, frm-sl hrd, v calc, intbd ls; LS (25%): offwht-crm, lt brn, blky, frm, microxln, scat pyrc nod, SS (10%): predy gyshbn, vf-f gr, mod srtd, sb ang-sb rd, gr sup cls wi arg-silc cmt, mod yelgn flor

7340-7400 SH (70%): predy mot blshgy-dk gy, occ blk gy, splt-sb blky, frm-sl hrd, sl micmica, v calc, intbd LS; LS (30%): mot crm-offwht, lt gyshbn, blky-tab, microxln-cryptoxln, hrd, mnr pp/imbd mic pyr

7400-7460 SH (80%): pred splt-sb blky, frm-sl hrd, sl m intbd LS; LS (20%): mot off blky-tab, microxln-cryptoxln mic pyr

Images





...y mot blshgy-dk gy, ...micmica, v calc, ...fwht-crm, lt tn, ..., hrd-frm, mnr imbd

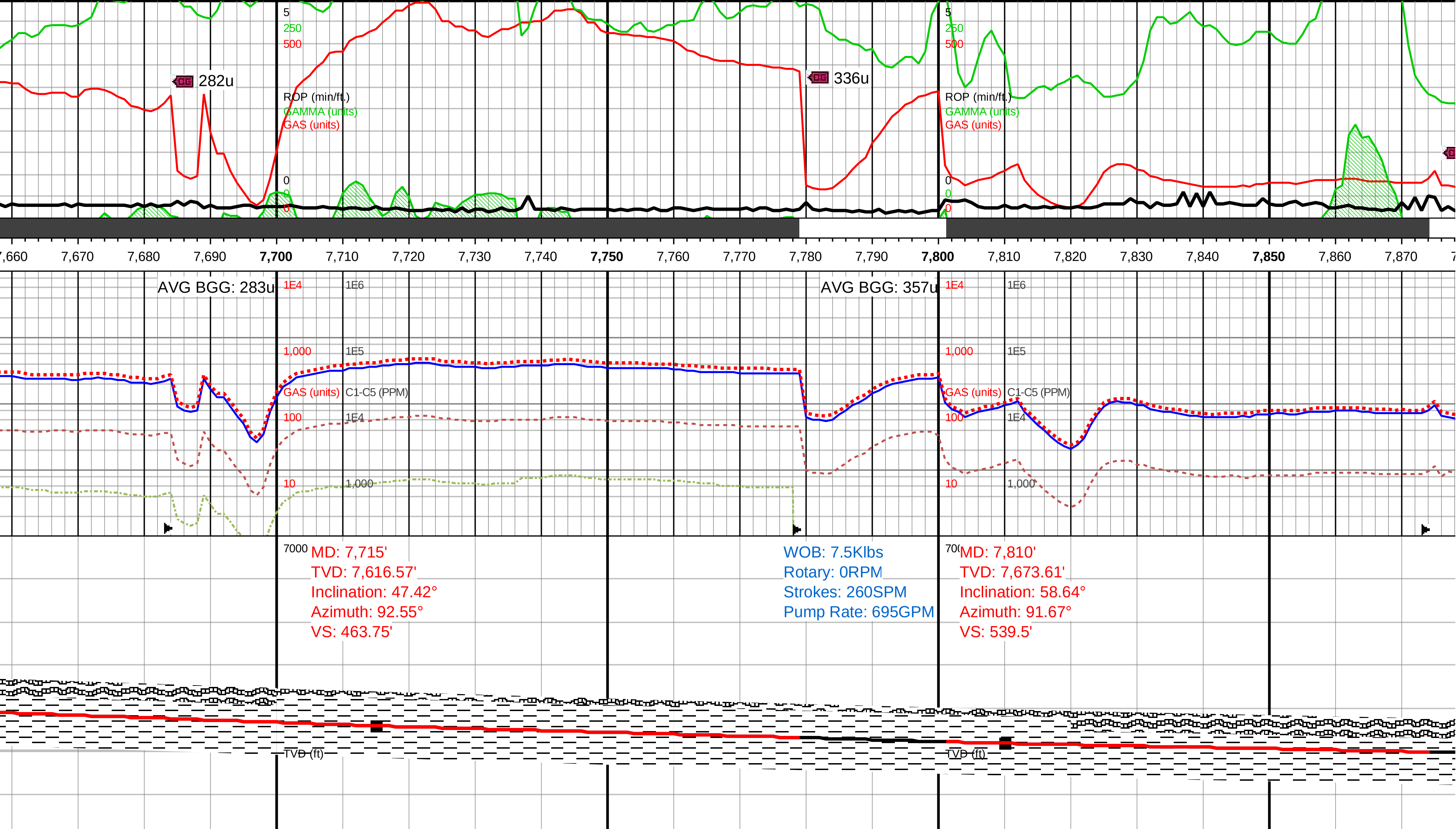
7460-7520 SH (95%): pred dk gy-blshgy, sme v dk gy, sb splt-blky, v calc, tr micmica, ls intbd, tr lamn; LMST (5%): mot gyshbn-lt gy, offwht-tn, sb tab-blky, frm-sl hrd, v calc, micxln-cryptoxln, stri ip, tr pp mic pyr

7520-7580 SH: predy dk gy-blshgy, occ v dk gy, splt-plty, sme blky, sm-sl slty tex, v calc, tr imbd/pp mic pyr, mnr lam, tr ls, tr dul yelgn flor

7580-7640 SH: predy mot blshgy-dk gy, v dk gy, splt-sb plty, sme tab, sm-sl abrsv tex, v calc, tr pp mic pyr, mnr lam, tr ls, tr dul yelgn flor

7640-77... splt-sb p... mnr mic... (25%): p... intbdd S...



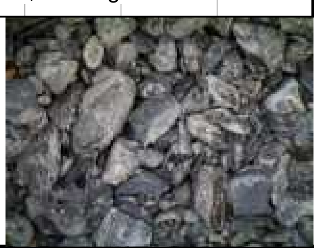
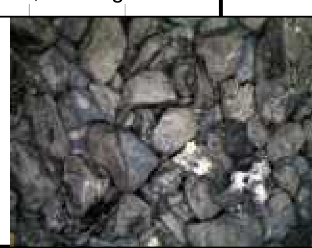



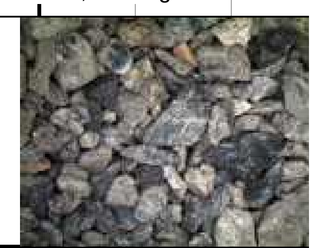
00 SH (75%): dk gy-blshgy, v dk gy, lty, sme tab, mnr lamn, intbdd bent, mica, sl slty tex, non calc; BENT redy crm-lt brn, offwht, sft, blky-ireg, H, non calc, bri orng flor

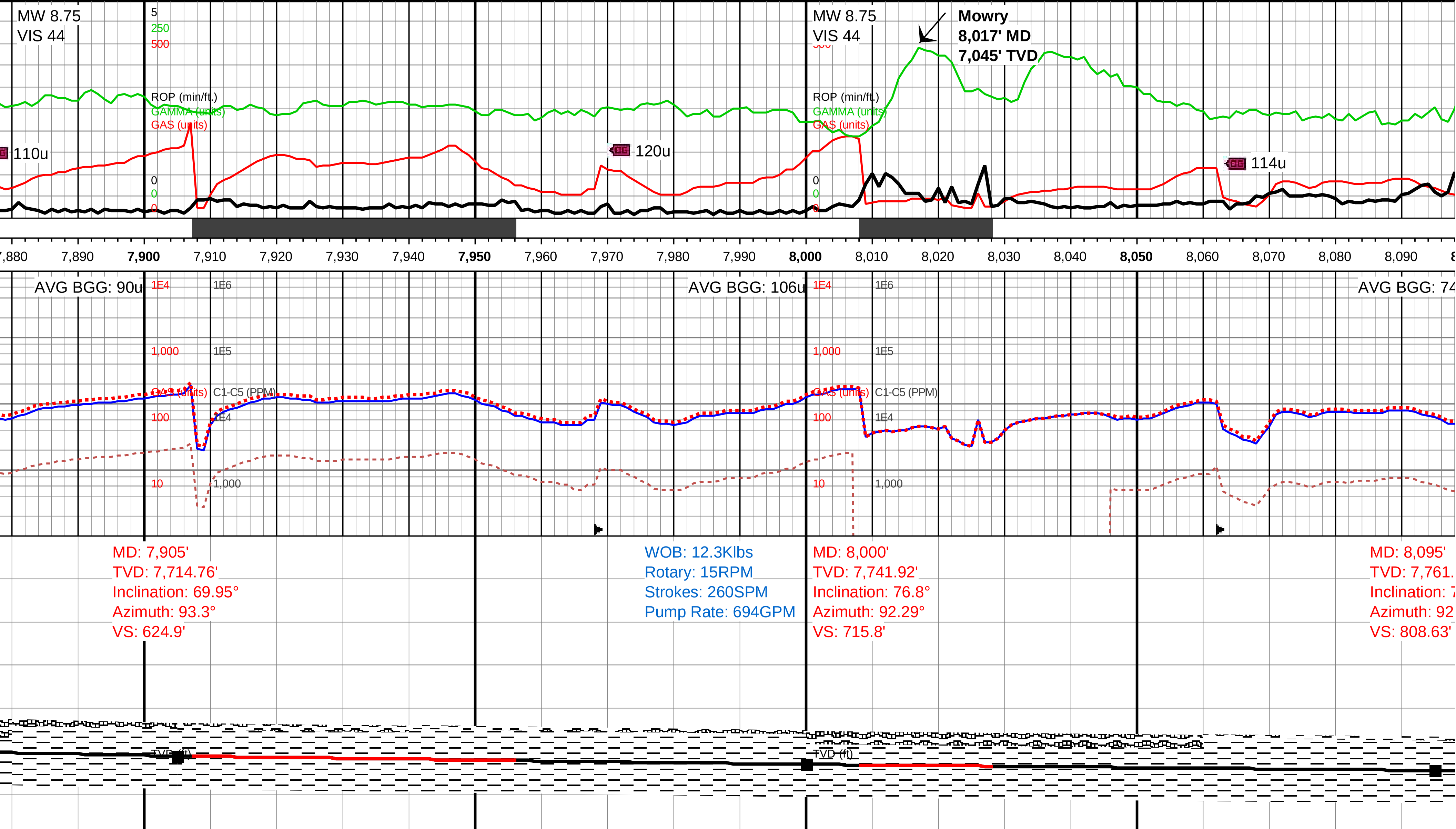
7700-7760 SH (90%): predy dk gy-blshgy, v dk gy, sl slty tex, splt-sb plty, sme tab, mnr lamn, mnr micmica, intbdd BENT, non calc; BENT (10%): predy crm-offwht, lt brn, sft, blky-ireg, intbdd SH, non calc, bri orng flor

7760-7820 SH (90%): predy mot dk gy-v dk gy, sl slty tex, splt-sb plty, sme tab, mnr lamn, mnr micmica, intbdd BENT, non calc; BENT (10%): mot offwht, crm-lt brn, sft, blky-ireg, intbdd SH, non calc, bri orng flor

7820-7880 SH (70%): predy mot dk gy-v dk gy, blshgy, sl slty tex, splt-sb plty, sme tab, mnr lamn, mnr micmica, intbdd BENT, non calc; BENT (30%): predy crm-offwht, crm, blky-ireg, sft, intbdd SH, non calc, bri orng flor



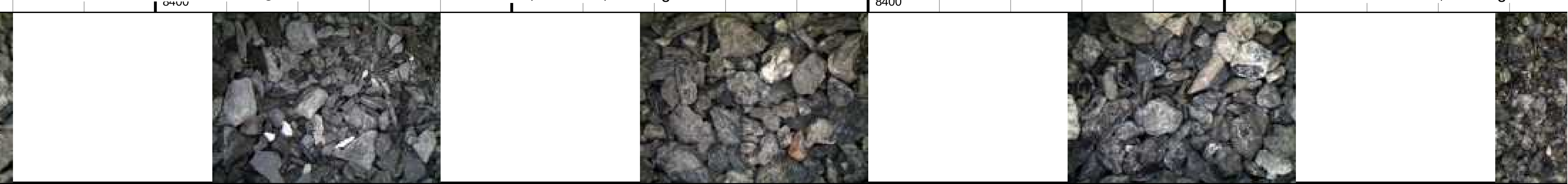


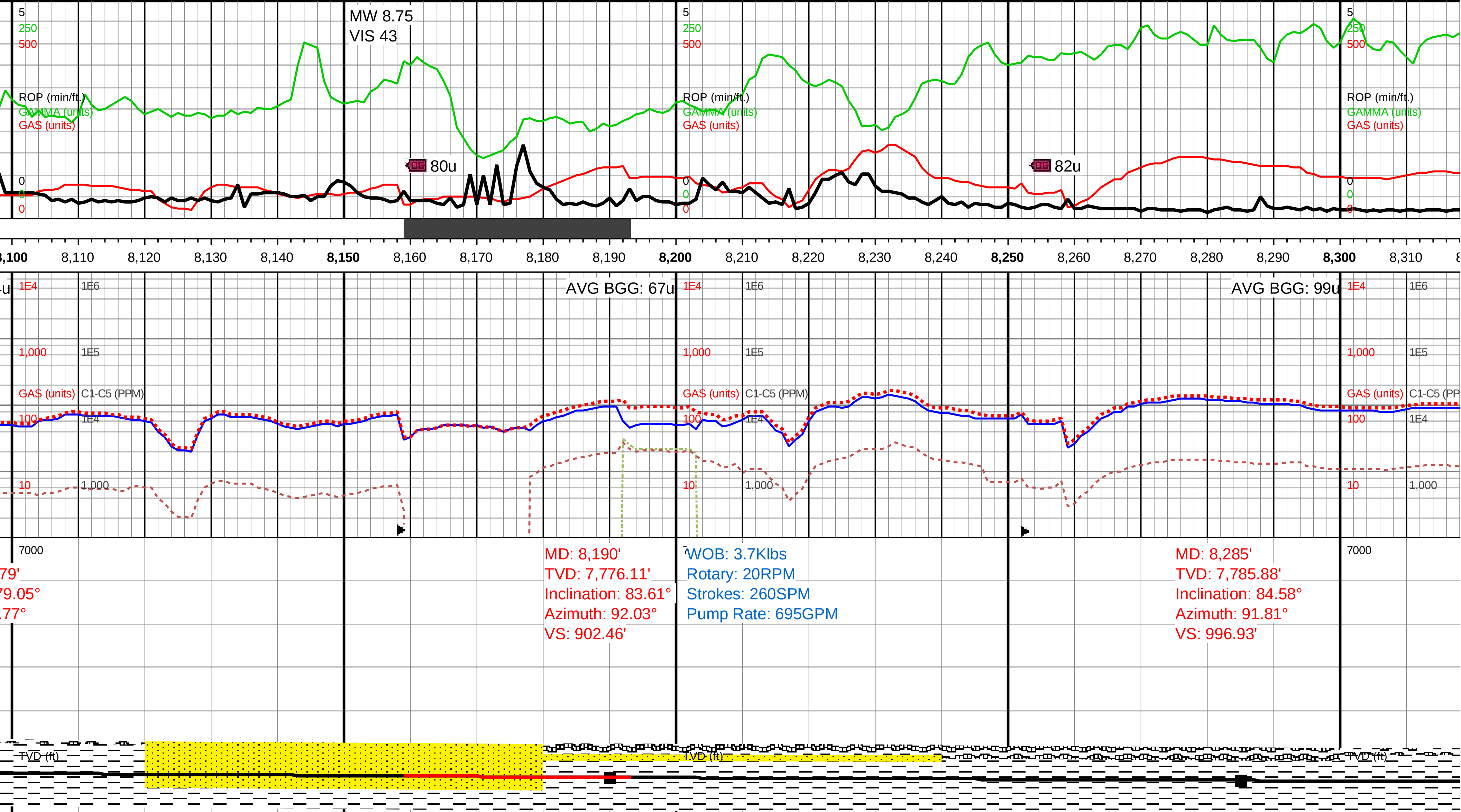
7880-7940 SH (90%): predy v dk gy-med gy, occ blshgy, plty-splt. tab, sm-sl slty tex, micmica, tr f lam, intbdd BENT, non calc; BENT (10%): mot lt brn-crm, offwht, blky-ireg, tab, non calc, sft, bri orng flor

7940-8000 SH (95%): predy mot dk gy-v dk gy, blshgy, sl slty tex, splt-sb plty, intbdd BENT, tr f lamn, mnr micmica, non calc; BENT (5%): predy crm-offwht, crm, blky-ireg, sft, intbdd SH, non calc, bri orng flor

8000-8060 SH (80%): mot dk gy-med gy, blshgy, splt-sb plty, tab, mnr lamn, intbdd BENT, mnr micmica, sl slty tex, non calc; BENT (20%): predy mot crm-offwht, lt brn, sft, blky-ireg, intbdd SH, non calc, bri orng flor

8060-8120 SH (95%): pred blshgy, sl slty tex, splt-sb p BENT, non calc, mnr micm predy crm-offwht, crm, sft, intbdd SH, bri orng flor





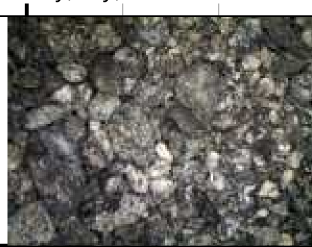
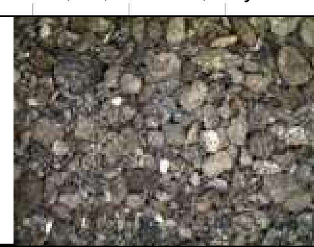
y mot dk gy-v dk gy, lty, tr f lamn, intbdd ica; BENT (5%): blky-ireg, non calc,

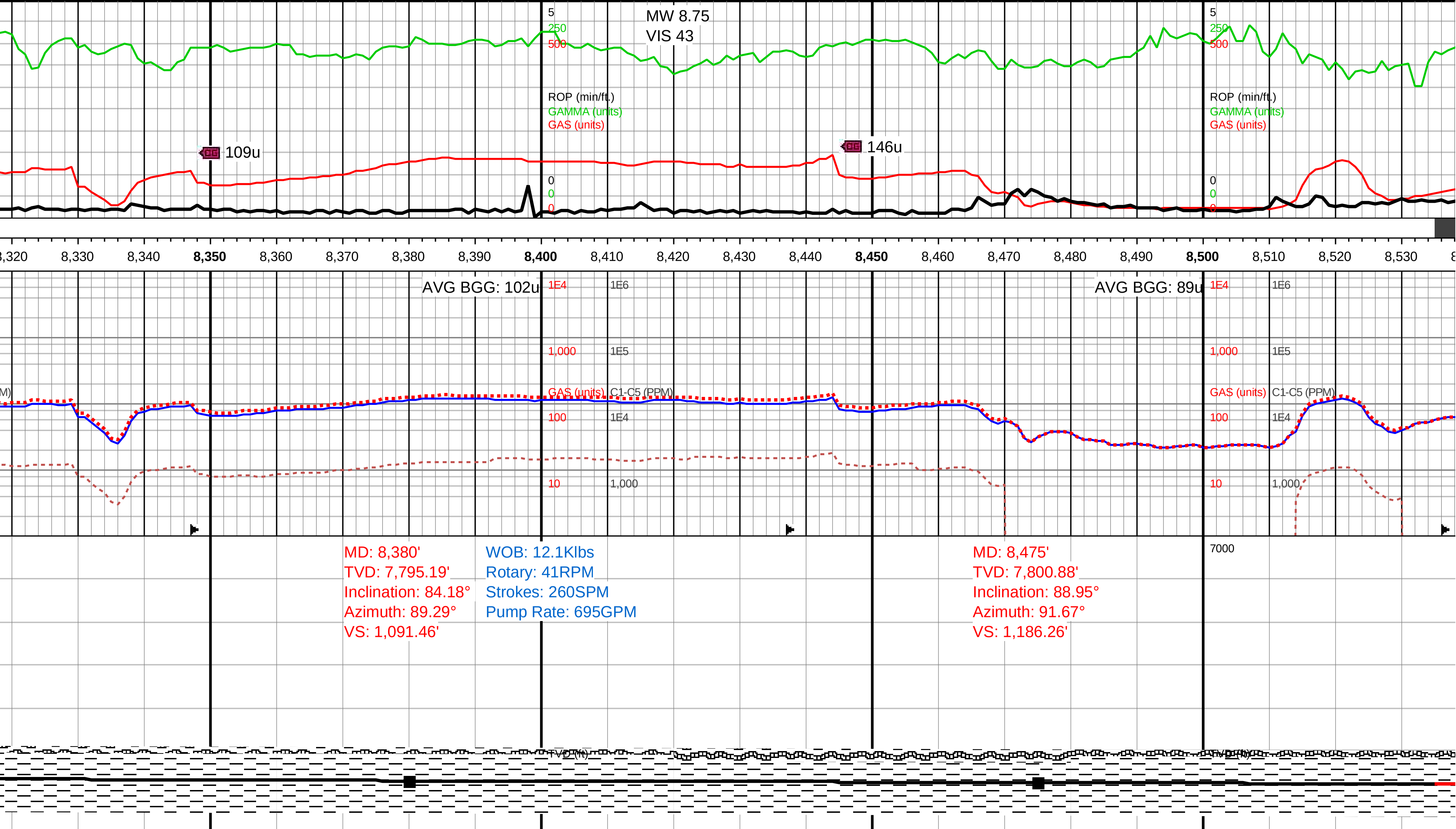
8120-8180 SS (70%): mot offwht-gyshbn, vf-f gr, sb ang-sb rd, gr sup cls wi arg/silc cmt, w cmtd, intbdd SH, sl calc, mod-bri yelgn flor, v wk mky cut, blshwh resdl ring; SH (30%) v dk gy-blk, frm, plty-sb blky, slty, sl-non calc

8180-8240 SH (75%) v dk gy-blk, frm, plty-sb blky, slty tex, non calc, intbdd SS and BENT; SS (10%): mot gyshbn, vf-f gr, sb ang-sb rd, gr sup cls wi arg/silc cmt, w cmtd, sl calc, 2-3% scat/imbd mic pyr, mod-bri yelgn flor; BENT (15%): crm-lt brn, offwht, sft, non calc, blky

8240-8300 SH (80%): predy mot dk gy-v dk gy, blshgy, slty-abrsv tex, splt-sb plty, sme tab, mnr lamn, mnr micmica, intbdd BENT, non calc; BENT (20%): predy crm-offwht, crm, blky-ireg, sft, intbdd SH, non calc

8300-83 occ blsh lam, mic (10%): n blky-ireg

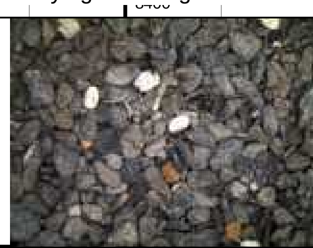



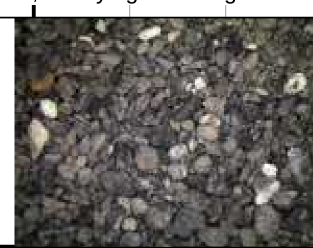
60 SH (90%): predy v dk gy-med gy, gy, plty-splt, tab, slty-abrsv tex, tr f mica, intbdd BENT, non calc; BENT mot lt brn-crm, offwht, non calc, , tab, sft

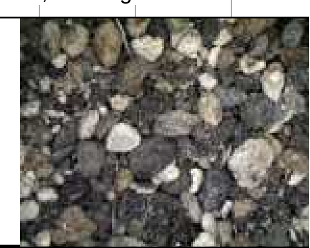
8360-8420 SH (90%): mot dk gy-gyshbn, slty tex, splt-sb plty, sme tab, mnr lamn, mnr micmica, intbdd BENT, non calc; BENT (10%): mot crm-offwht, sft, blky-ireg, intbdd SH, non-sl calc, mod yelgn-bri orng flor

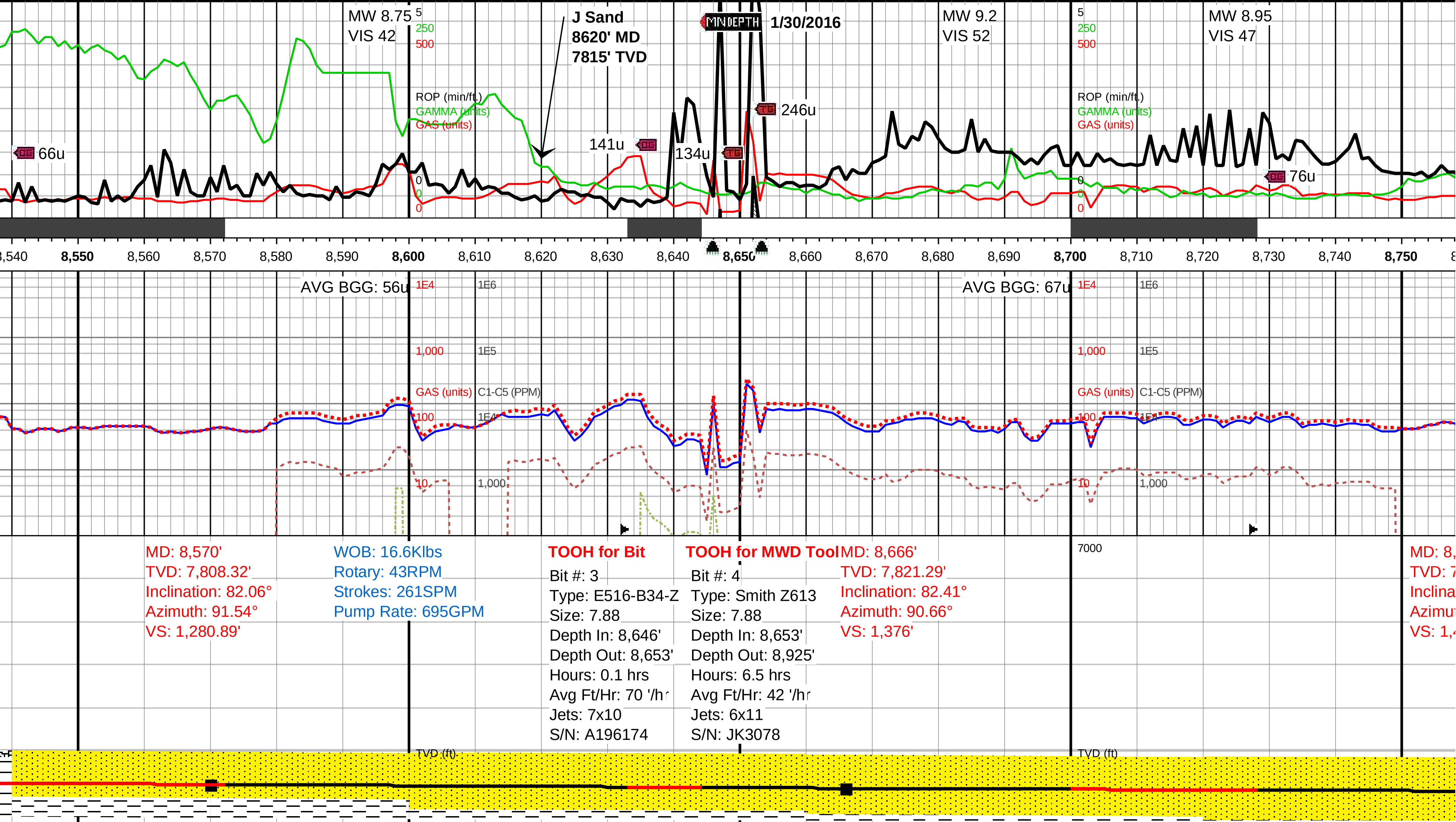
8420-8480 SH (80%): mot dk gy-gyshbn, med gy-blshgy, splt-sb plty, tab, tr f lamn, intbdd BENT, mnr micmica, slty tex, non calc; BENT (20%): predy offwht, crm-lt brn, sft, blky-ireg, intbdd SH, non calc, mod yelgn-bri orng flor

8480-8540 SH (75%): predy dk gy-v dk gy, splt-sb plty, sme tab, mnr lamn, intbdd bent, mnr micmica, sl slty tex, non calc; BENT (25%): predy crm-lt brn, offwht, sft, blky-ireg, intbdd SH, non calc, bri orng flor







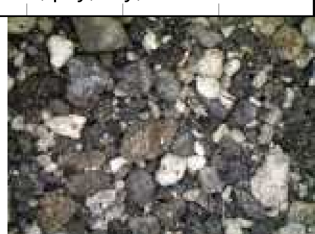
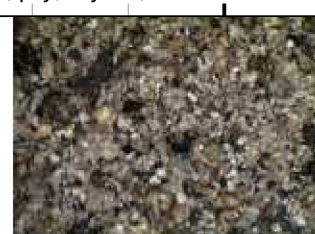
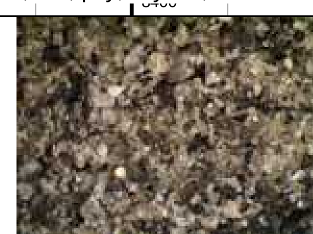
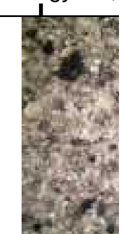


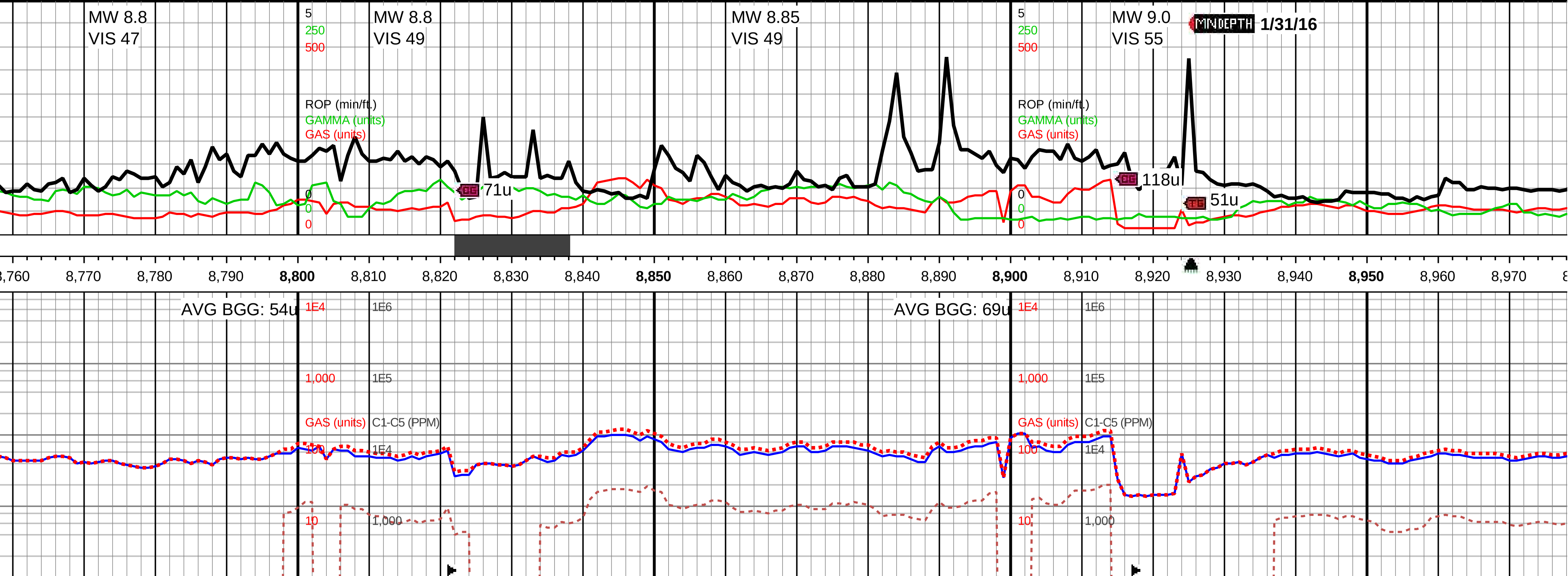
8540-8600 SS (70%): predy offwht, med gy, vf-f gr, sb ang-sb rd, gr sup cls wi arg/silc cmt, w cmtd, intbdd SH, sl calc, mod yelgn-blshwh flor, wk mky cut, wk blshwh resdl ring; SH (30%) v dk gy-blk, frm, plty, slty, non calc

8600-8660 SS (85%): predy clr-offwht abnt lse grs, vf-f gr, sb ang-sb rd, mod srtd, sme gr sup cls wi silc cmt, frm, v sl calc, bri orng-bri yelgn flor, wk mky cut, mod blshwh resdl ring; SH (15%): dk gy, frm, plty, slty tex, non calc

8660-8720 SS (90%): predy lse trnsp-op grs, offwht cls, vf-f gr, mod srtd, sb ang-sb rd, sme gr sup cls wi silc cmt, bri orng-bri yelgn flor, mod mky cut, mod blshwh resdl ring; SH (10%): v dk gy-blk, frm, plty, slty tex, non calc

8720-8780 SS (95%): abnt rnd f-vf qtz sd grs, sme offw srtd, tr gr sup cls cmtd w/ s flor, blshwh mky cut, mod b ring; SH (5%): v dk gy-blk,



761'
7,830.09'
tion: 86.96°
th: 89.16°
470.56'

WOB: 26.3Klbs
Rotary: 41RPM
Strokes: 190SPM
Pump Rate: 508GPM

MD: 8,855'
TVD: 7,834.24'
Inclination: 87.98°
Azimuth: 88.46°
VS: 1,564.43'

7000

TOOH for motor/bit

Bit #: 5
Type: SK613M-A1C
Size: 7.88
Depth In: 8,925'
Depth Out: 9,491'
Hours: 9.1 hrs
Avg Ft/Hr: 62.2 '/hr
Jets: 6x11
S/N: 127605

MD: 8,949'
TVD: 7,837.81'
Inclination: 87.67°
Azimuth: 88.72°
VS: 1,658.31'

TVD (ft)

TVD (ft)

: lse trnsp-op sb wht-crm, mod-w sil cmt, dul-bri orng blshwh wh resdl frm, blky, sl rgh tex

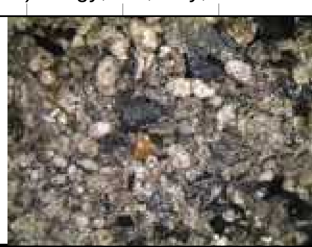
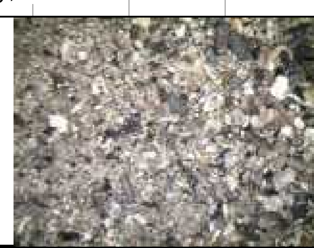
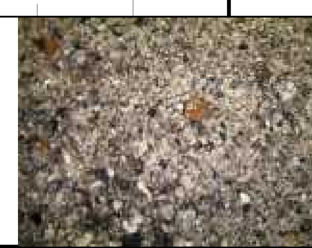
8780-8840 SS (90%): com gr sup cls wi silc cmt, predy crm-offwht, sme tn, sme lse qtz grs, vf-f gr, sb ang-sb rd, mod srtd, frm, bri orng-bri yelgn flor, wk mky cut, mod blshwh resdl ring; SH (10%): dk gy, frm, blky, non calc

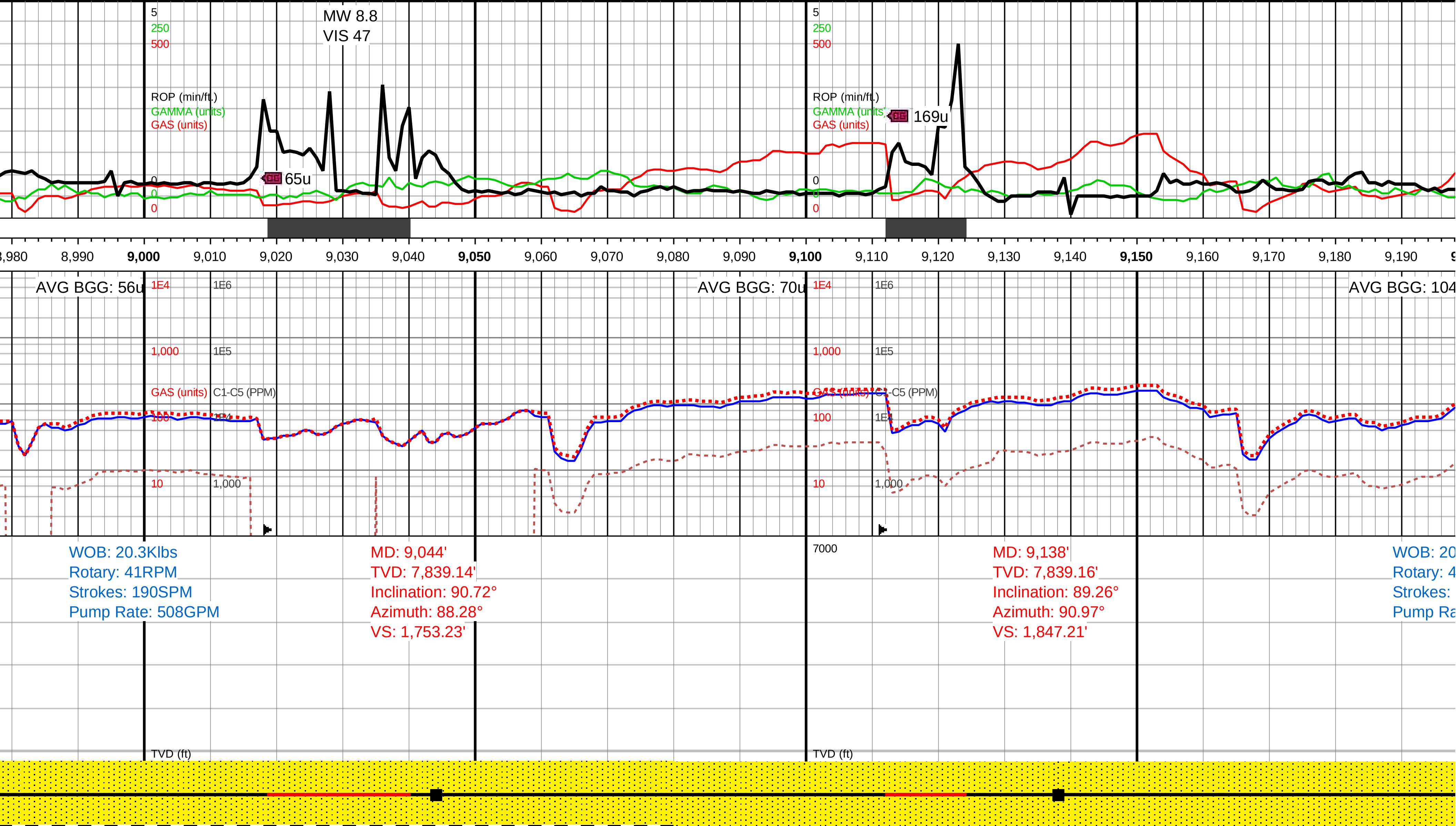
8840-8900 SS (90%): predy lse trnsp-op qtz sd grs, sb rnd-rnd, mod-w srt, med f-f, sme v f, occ gr sup silc cls, bri yelgn-orng flor, blshwh mky cut, blshwh resdl ring, SH (10%): gy-dk gy, frm plty, non calc

8400

8900-8960 SS (95%): predy lse trnsp-op qtz grs, vf-f gr, sb ang-sb rd, mod srtd, frm, tr-sme gr sup cls, sil cmt, bri orng-bri yelgn flor, wk mky cut, mod blshwh resdl ring; SH (5%): dk gy, frm, blky, non calc

8960-90 grs, pred tr gr sup orng-bri resdl rin

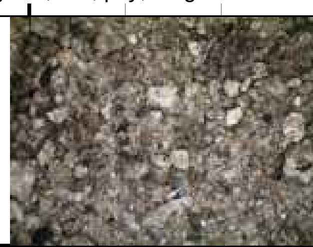
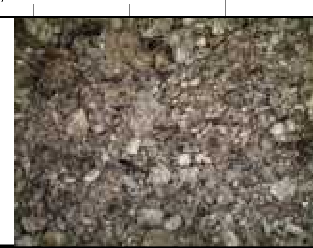
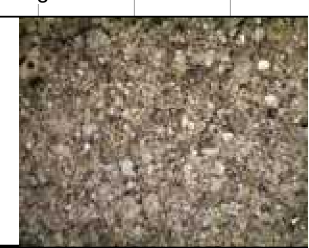


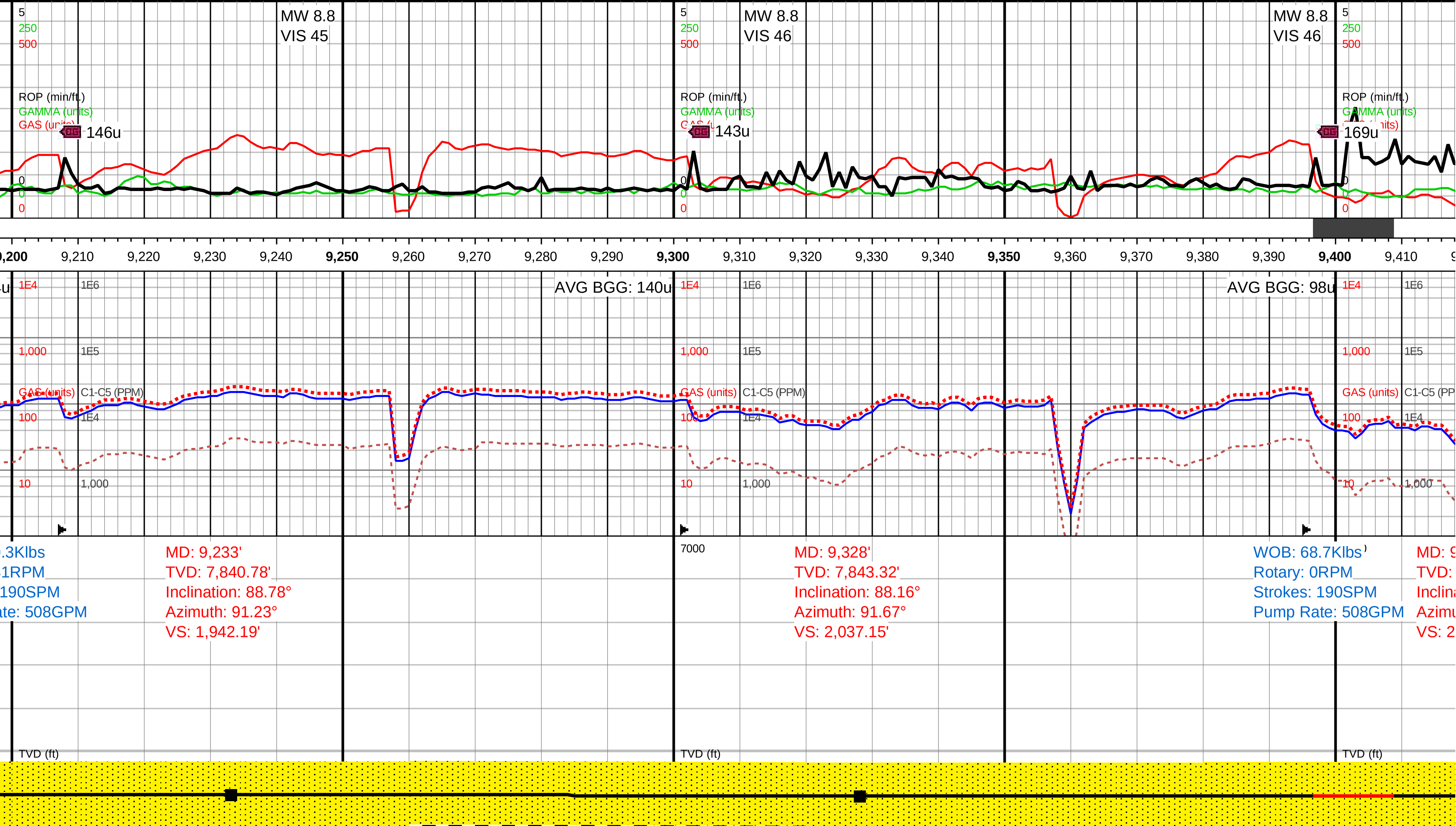
20 SS (95%): predy clr-offwht lse sd dy qtz, vf-f gr, sb ang-sb rd, mod srtd, cls wi silc cmt, frm, v sl calc, bri yelgn flor, wk mky cut, mod blshwh g; SH (15%): dk gy, frm, plty, non calc

9020-9080 SS (95%): abnt lse clr-op sb rnd f-vf qtz grs, sme offwht-crm cls, mod-w srtd, gr sup cls cmtd wi sil cmt, bri yelgn-blshwh flor, blshwh mky cut, mod blshwh wh resdl ring; SH (5%): v dk gy-blk, frm, plty, sl rgh tex

9080-9140 SS: predy lse sb ang op grs, sme gr sup cls wi silc cmt, predy crm-offwht, sme tn, vf-f gr, predy sb ang, sb rd, mod srtd, frm-sl hrd, bri yelgn-orng flor, mod mky cut, mod blshwh resdl ring; tr non calc SH

9140-9200 SS: abnt lse clr-op sb ang f-vf qtz grs, sme offwht-crm cls, mod-w srtd, mnr gr sup cls cmtd wi sil cmt, tr dk intcls, tr pp mic pyr, bri yelgn-blshwh flor, mod mky cut, mod blshwh wh resdl ring

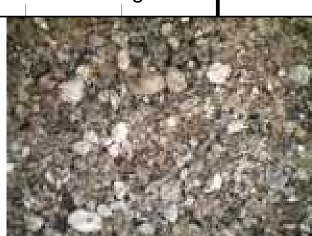


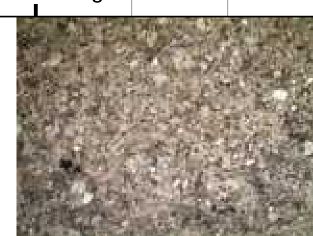
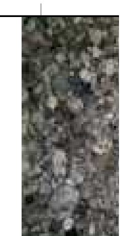
9200-9260 SS (95%): predy uncons sb ang op-clr qtz grs, vf-f gr, occ offwht-gyshbn gr sup cls wi silc cmt, sb ang-sb rd, mod w srtd, hrd-frm, sl calc, bri yelgn-blshwh flor, mod mky cut, mod blshwh resdl ring

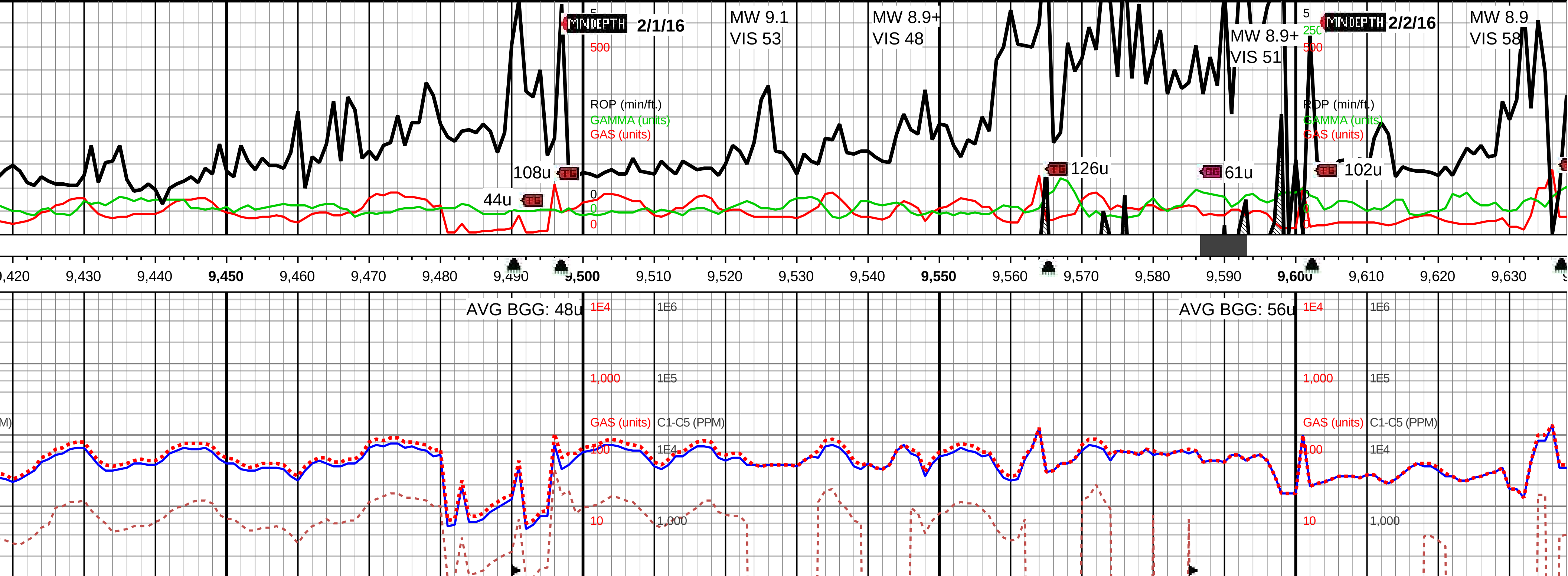
9260-9320 SS (95%): predy uncons op-trnsp qtz grs, vf-f gr, predy ang-sb ang, mod w srtd, sme offwht-gyshbn, gr sup cls wi sil cmt, bri blshwh-bri yelgn flor, mod mky cut, blshwh resdl ring; SH (5%): v dk gy, plty, non calc

9320-9380 SS: predy lse op-clr qtz grs, vf-f gr, mod w srtd, ang-sb ang, sme gr sup cls wi silc cmt, predy crm-offwht, sme tn, frm, tr imbd/pp mic pyr, mod-bri yelgn flor, mod mky cut, mod blshwh resdl ring

9380-9440 SS (95%): pred cmt, offwht-crm, sme tn, sm gr, sb ang-sb rd, mod srtd, flor, mod mky cut, blshwh r dk gy, splt, non calc





...,422'
...7,845.03'
...ation: 89.75°
...uth: 90.57°
...,131.12'

TOOH for motor/bit
Bit #: 6
Type: KM422
Size: 7.88
Depth In: 9,491'
Depth Out: 9,497'
Hours: 0.2 hrs
Avg Ft/Hr: 30 '/hr
Jets: 2x14
S/N: 7043705

TOOH for motor/bit
Bit #: 7
Type: SKH613M
Size: 7.88
Depth In: 9,497'
Depth Out: 9,565'
Hours: 2.3 hrs
Avg Ft/Hr: 29.6 '/hr
Jets: 6x16
S/N: A174875

MD: 9,517'
TVD: 7,845.08'
Inclination: 90.19°
Azimuth: 90.48°
VS: 2,226.12'

TOOH for bit
Bit #: 8
Type: FHi08
Size: 7.88
Depth In: 9,565'
Depth Out: 9,602'
Hours: 2.6 hrs
Avg Ft/Hr: 14.2 '/hr
Jets: 3x20
S/N: RH4294

TOOH for motor/bit
Bit #: 9
Type: KH613M-A1
Size: 7.88
Depth In: 9,602'
Depth Out: 9,637'
Hours: 1.3 hrs
Avg Ft/Hr: 26.9 '/hr
Jets: 6x16
S/N: A174876

MD: 9,612'
TVD: 7,845.61'
Inclination: 89.17°
Azimuth: 90.31°
VS: 2,321.12'
WOB: 35.3Klbs
Rotary: 40RPM
Strokes: 200SPM
Pump Rate: 535GPM

TO...
Bit...
Ty...
Si...
De...
De...
Ho...
Av...
Je...
S/...

TVD (ft)

...y gr sup cls wi silc ...ne lse qtz grs, vf-f ...bri yelgn-blshwh ...esdl ring; SH (5%):

9440-9500 SS: predy lse op-clr qtz grs, vf-f gr, mod w srtd, ang-sb ang, sme gr sup cls wi silc cmt, kaol, predy crm-offwht, sme tn, frm, tr pp mic pyr, blshwh-bri yelgn flor, mod mky cut, blshwh resdl ring

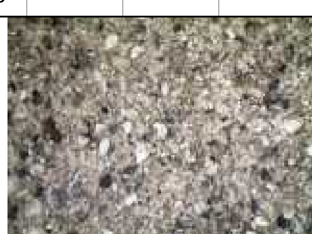
8400

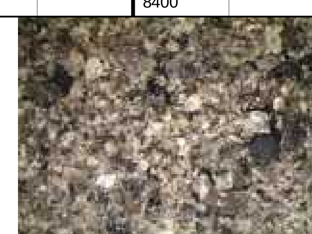
9500-9560 SS (95%): predy lse sb ang op-clr qtz grs, vf-f gr, mod w srtd, sme offwht-gyshbn gr sup cls wi silc cmt, ang-sb rd, hrd-frm, sl calc, bri yelgn-blshwh flor, mod mky cut, blshwh resdl ring

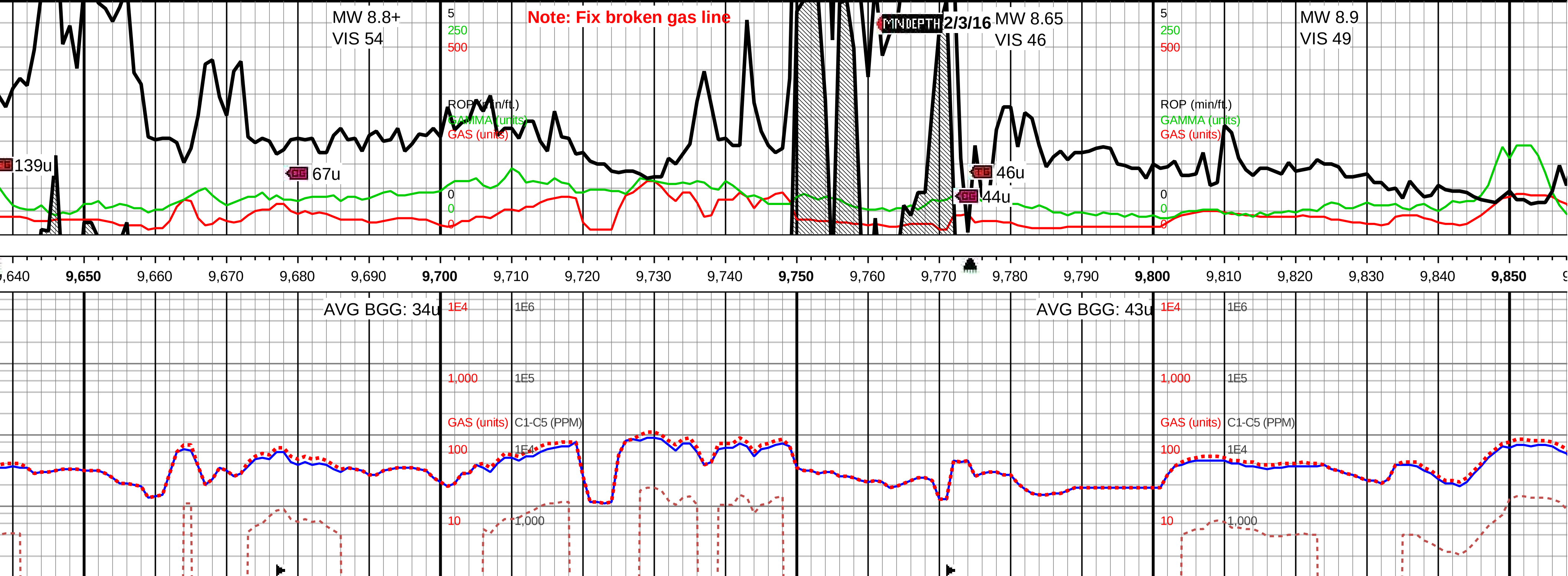
9560-9620 SS: predy lse op-clr sb ang f-vf qtz grs, mod-w srtd, sme offwht, crm-lt brn cls, gr sup cls wi sil cmt, tr dk incl, tr pp mic pyr, bri yelgn-blshwh flor, mod mky cut, mod blshwh wh resdl ring

8400

9620-96... cmt, mt... gy, com... med-bri... blshwh...



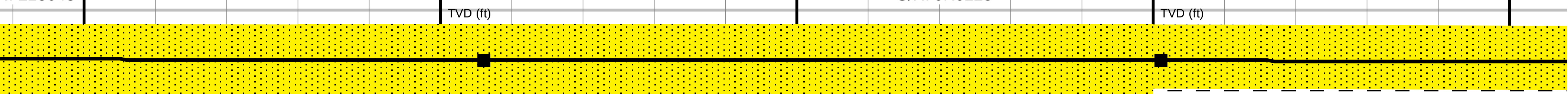


OOH for motor/bit
#: 10
pe: DSX813
ze: 7.88
epth In: 9,637'
epth Out: 9,775'
ours: 7.5 hrs
g Ft/Hr: 18.3 '/hr
ts: 7x10
N: 213048

MD: 9,706'
TVD: 7,847.47'
Inclination: 88.56°
Azimuth: 89.69°
VS: 2,415.09'

TOOH for motor/bit
Bit #: 11
Type: MDSi613
Size: 7.88
Depth In: 9,775'
Depth Out: 10,367'
Hours: 12 hrs
Avg Ft/Hr: 49.3 '/hr
Jets: 6x13
S/N: JK6123

MD: 9,801'
TVD: 7,850.23'
Inclination: 88.11°
Azimuth: 88.85°
VS: 2,510.03'
WOB: 20.2Klbs
Rotary: 20RPM
Strokes: 190SPM
Pump Rate: 507GPM



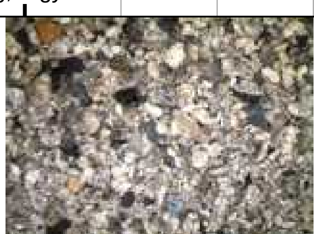
680: SS (95%): pred w cmtd cls w/silc x sup, sme gr sup, pred offwht, sme lse qtz sd grs, trnsp-op, sl fros, orng-yelgn flor, mod mky cut, mod resdl ring; tr gy SH

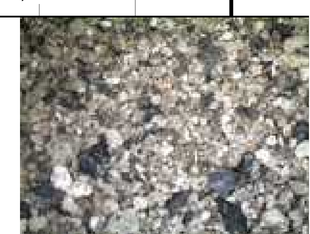
9680-9740 SS: com lse op-clr qtz grs, vf-f gr, mod w srtd, ang-sb ang, tr gr sup cls wi silc cmt, predy crm-offwht, frm, scat BENT, mod-bri yelgn flor, mod mky cut, mod blshwh resdl ring, tr SH

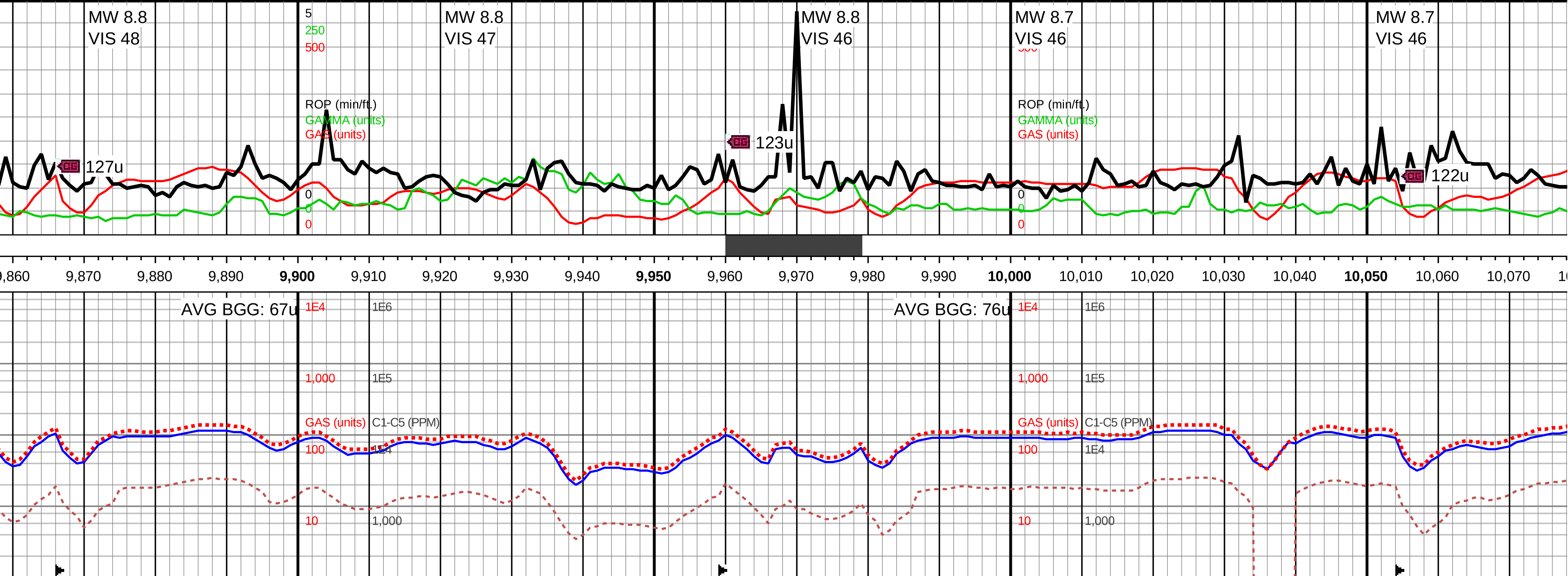
9740-9800 SS: predy lse trnsl-trnsp qtz grs, mod w srtd, vf-f gr, ang-sb ang, tr gr sup cls wi silc cmt, predy crm-offwht, frm-sl hrd, bri orng-bri yelgn flor, mod mky cut, mod blshwh resdl ring, tr SH frags

8400

9800-9860 SS (90%): predy gr sup cls wi silc cmt, offwht-crm, sme tn, sme lse qtz grs, vf-f gr, sb ang-sb rd, mod w srtd, mod-bri yelgn flor, mod mky cut, blshwh resdl ring; SH (10%): dk gy, splt, non calc





MD: 9,894'
TVD: 7,853.55'
Inclination: 87.8°
Azimuth: 89.65°
VS: 2,602.95'

7000

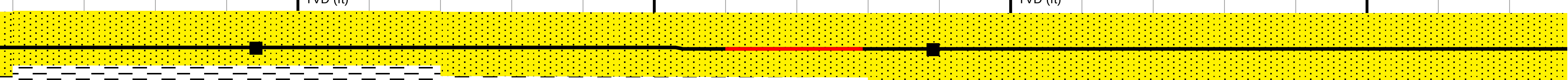
MD: 9,989'
TVD: 7,855.99'
Inclination: 89.26°
Azimuth: 89.12°
VS: 2,697.9'

WOB: 25.8Klbs
Rotary: 35RPM
Strokes: 210SPM
Pump Rate: 561GPM

MD
TVD
Incl
Azim
VS:

TVD (ft)

TVD (ft)

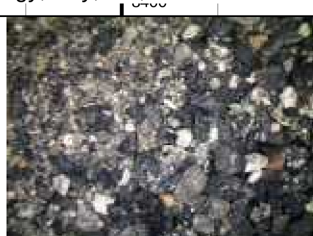


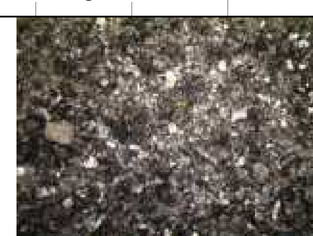
9860-9920 SS (75%): wh-offwht gr sup cls cons wi silc cmt, occ tn-crm, vf-f grd, w srt, sb rd-rd, sme lse clr-op qtz grs, mod-bri yelgn-orng flor, wk-mod mky cut, blshwh resdl ring; SH (25%): dk gy, blky, frm, non calc

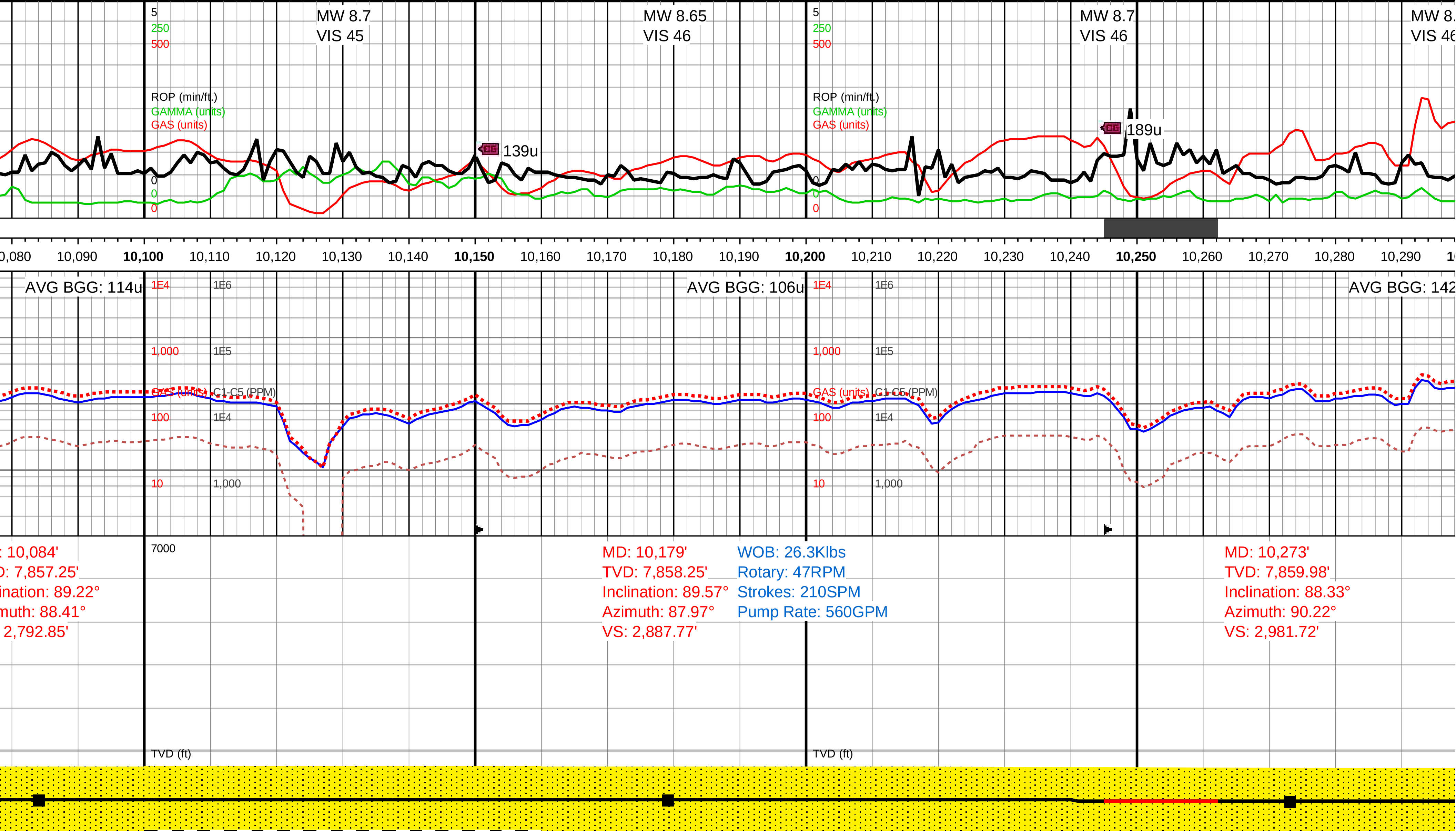
9920-9980: SS (95%): pred w cmtd cls w/silc cmt, gr sup, pred offwht, sme gy, com lse qtz sd grs, trnsp-op, sl fros, mod yelgn-orng flor, mod-gd cut, mod-gd blshwh resdl ring; tr gy SH

9980-10040: SS: predy med gy, sme clr-offwht, pred gr sup cls cons wi slc cmt, mod-w srt, vf-f grd, sb rd-rd, sme lse qtz grs, w srt, w rd, mod yelgn-orng flor, mod-gd cut, mod-gd blshwh resdl ring, tr SH

10040-10100 SS: lt gy-of
cons wi silc cmt, w srt, vf
com lse trnsp-op sl fros q
flor, wk-mod cut, mod bls
SH





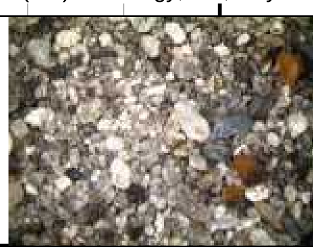
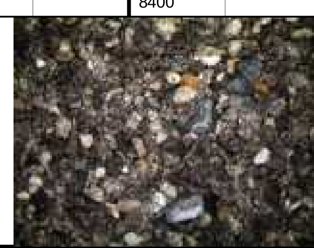
fwht gr sup cls
-f grd, sb rnd-rnd,
tz sd, mod orng
hwh resdl ring, tr

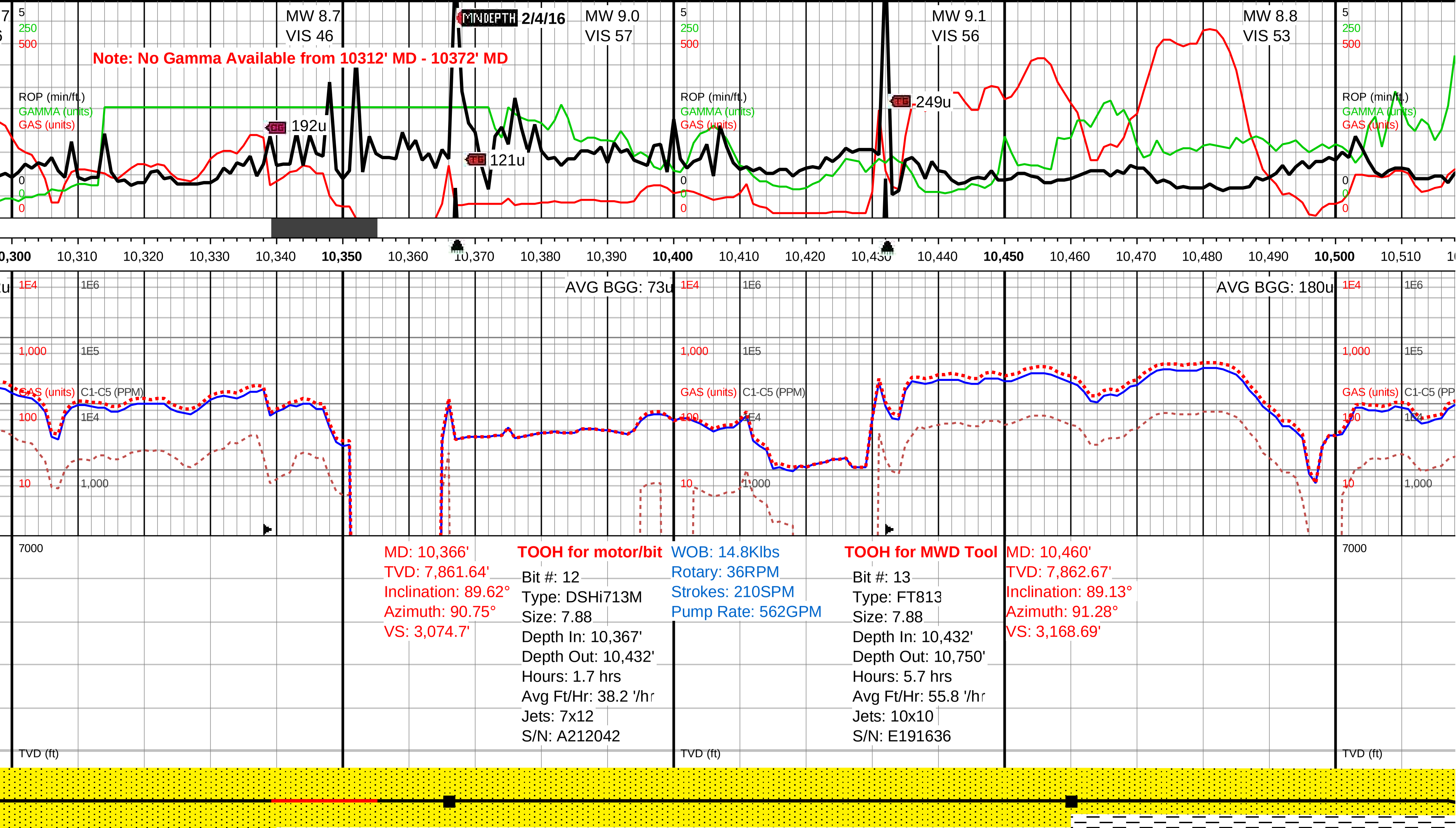
10100-10160 SS (95%): predy gr sup cls wi silc cmt, predy crm-offwht, mod w srtd, vf-f gr, ang-sb ang, tr lse trnsl-trnsp qtz grs, frm-sl hrd, bri orng-bri yelgn flor, mod mky-sl stmg cut, mod blshwh resdl ring; SH (5%): med-lt gy, frm, blky

10160-10220: SS: pred dk gy-gyshbn, sme brn, gr sup cls cons wi silc cmt, w srt, vf-f grd, sb rd-rd, sme lse qtz grs, w srt, w rd, mod yelgn-orng flor, mod-gd cut, mod-gd blshwh resdl ring, tr SH

10220-10280 SS: predy lt brn-offwht, gr sup cls wi silc cmt, mod w srtd, vf-f gr, sb ang-sb rnd, tr lse trnsl-trnsp qtz grs, frm-sl hrd, bri orng-bri yelgn flor, mod mky cut, mod blshwh resdl ring, tr SH frags

10280-1
pred gy
cmtd, s
mod w s
blshwh

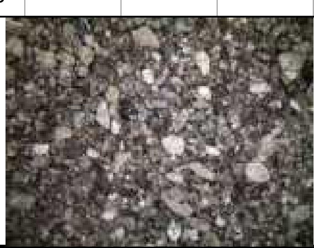
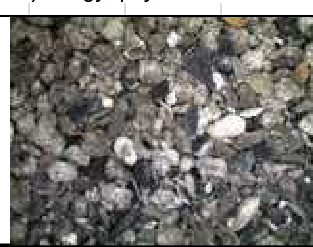
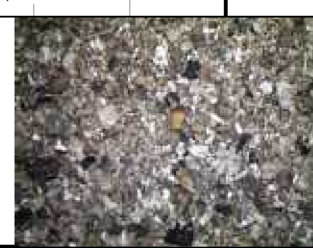
10340 SS: predy gr sup cls wi silc cmt, shbn-brn, offwht-tn ip, mot srt, sb rd, w me lse qtz grs, vf-f gr, sb ang-sb rd, srtd, mod-bri yelgn flor, mod mky cut, resdl ring

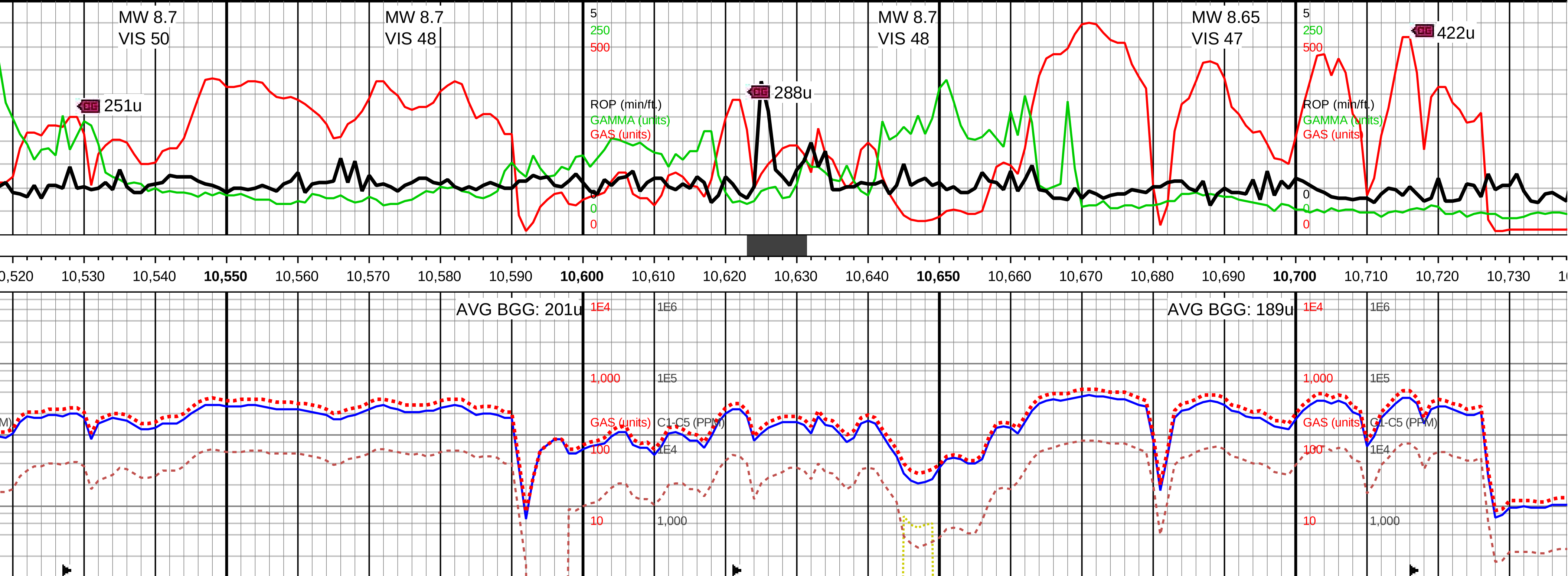
10340-10400 SS (90%): predy gr sup cls wi silc cmt, gyshbn-brn, offwht, sb rd, w cmtd, sme lse qtz grs, vf-f gr, sb ang-sb rd, mod w srtd, mod-bri yelgn flor, mod mky cut, blshwh resdl ring; SH (10%): dk gy, plty, non calc

10400-10460 SS (90%): predy trnsl-clr, sme op, uncons qtz sd grs, rnd-w rnd, vf-f grs, w srt, mod-bri orng flor, mod-gd blshwh mky cut, mod blshwh resdl ring; SH (10%):med gy-dk gy, plty-splt, frm, tr BENT

10460-10520 SS (75%): trnsl-clr uncons qtz sd grs, sme gy-gyshbn, mod-w srtd, vf-f grd, sb rd-rd, sme cons cls cons wi silc cmt, mod-bri orng flor, mod blshwh mky cut, blshwh resdl ring; SH (25%): dk gy-blk, frm, blky-plty, stri tex

8400

MD: 10,554'
TVD: 7,864.35'
Inclination: 88.82°
Azimuth: 91.28°
VS: 3,262.66'

WOB: 28Klbs
Rotary: 35RPM
Strokes: 210SPM
Pump Rate: 561GPM

MD: 10,649'
TVD: 7,865.35'
Inclination: 89.97°
Azimuth: 89.95°
VS: 3,357.65'

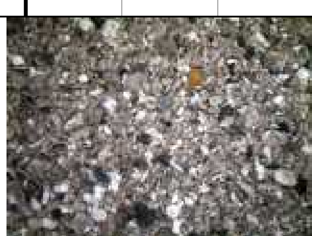
MD: 10,7
TVD: 7,8
Inclinatio
Azimuth
VS: 3,45

TVD (ft)

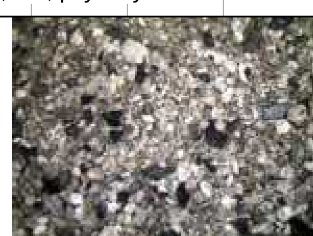
7000

8400

10520-10580 SS: pred trnsl-clr, uncons qtz sd grs, rnd-w rnd, vf-f grs, w srt, scat cons cls, vf, w cmtd wi silc cmt, gr sup, mod-bri orng flor, mod-gd blshwh mky cut, mod blshwh resdl ring

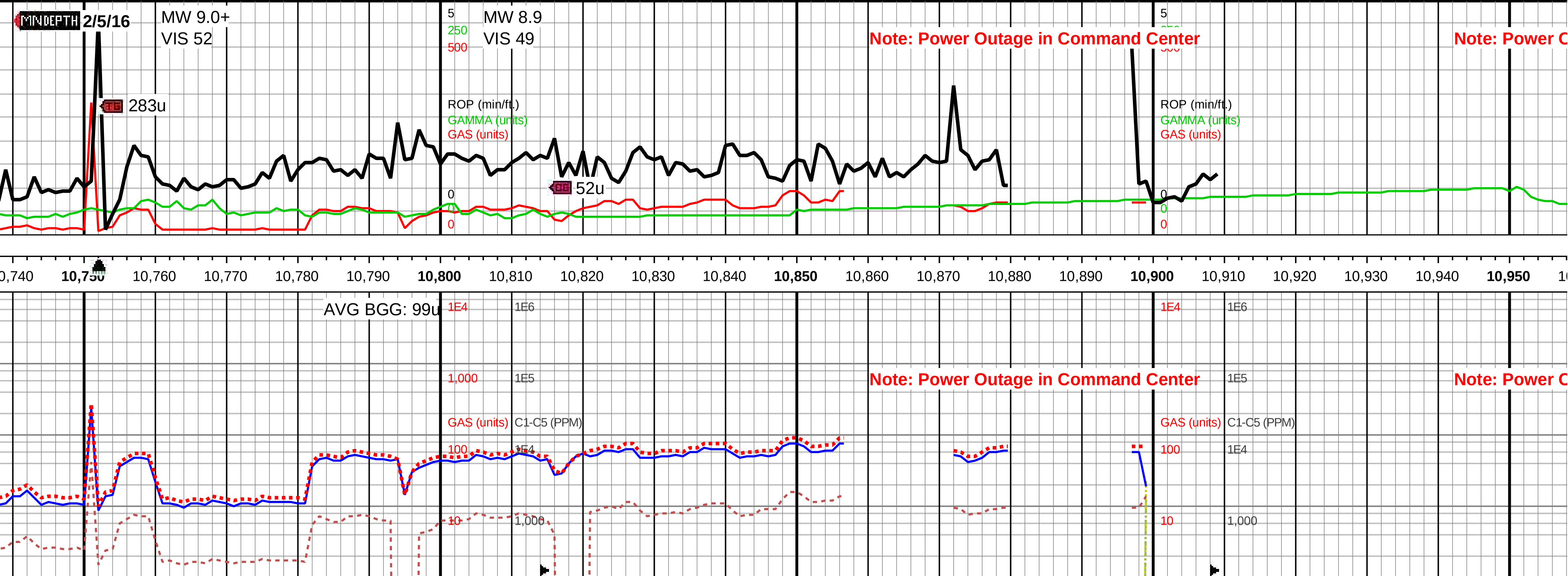


10580-10640: SS (95%): pred uncons qtz sd grs, w srt, vf-f, rnd-w rnd, sme gy-gyshbn pred gr sup cls cons wi silc cmt, mod yelgn-orng flor, mod-gd cut, mod-gd blshwh resdl ring; SH (5%): gy-blk, frm, plty-blky



10640-10700 SS: pred lse trnsp-op qtz sd, scat offwht-brn, mod-w srt, vf-f grd, sme gy, gr sup cls cons wi silc cmt, w srt, vf-f grd, sb rnd-rnd, mod orng flor, wk-mod cut, mod blshwh resdl ring, tr SH

10700-10760 SS: pred trns
grs, w srt, vf-f, rnd-w rnd, s
gr sup cls cons wi silc cmt,
flor, mod-gd cut, mod-gd b



746'
365.21'
on: 90.19°
: 88.85°
4.64'

TOOH for motor/bit

Bit #: RR13
Type: FT813
Size: 7.88
Depth In: 10,750'
Depth Out: 12,567'
Hours: 40.5 hrs
Avg Ft/Hr: 44.86 '/hr
Jets: 10x10
S/N: E191636

WOB: 27.6Klbs
Rotary: 15RPM
Strokes: 190SPM
Pump Rate: 508GPM

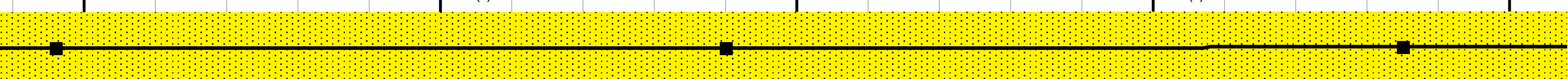
MD: 10,840'
TVD: 7,864.65'
Inclination: 90.5°
Azimuth: 89.47°
VS: 3,548.61'

7000

MD: 10,935'
TVD: 7,863.31'
Inclination: 91.12°
Azimuth: 89.25°
VS: 3,643.58'

TVD (ft)

TVD (ft)



sl-clr uncons qtz sd ... sme gy-gyshbn pred ... mod yelgn-orng ... lshwh resdl ring

10760-10820 SS: pred dk gy-gyshbn, sme brn, gr sup cls cons wi silc cmt, w srt, vf-f grd, sb rd-rd, sme lse qtz grs, w srt, w rd, mod yelgn-orng flor, mod-gd cut, mod-gd blshwh resdl ring, tr SH

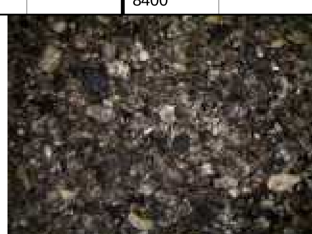
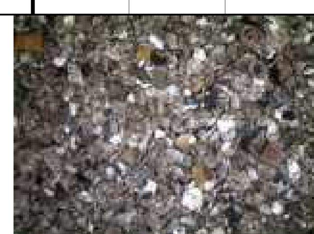
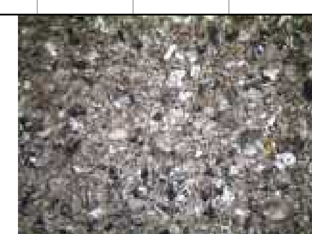
8400

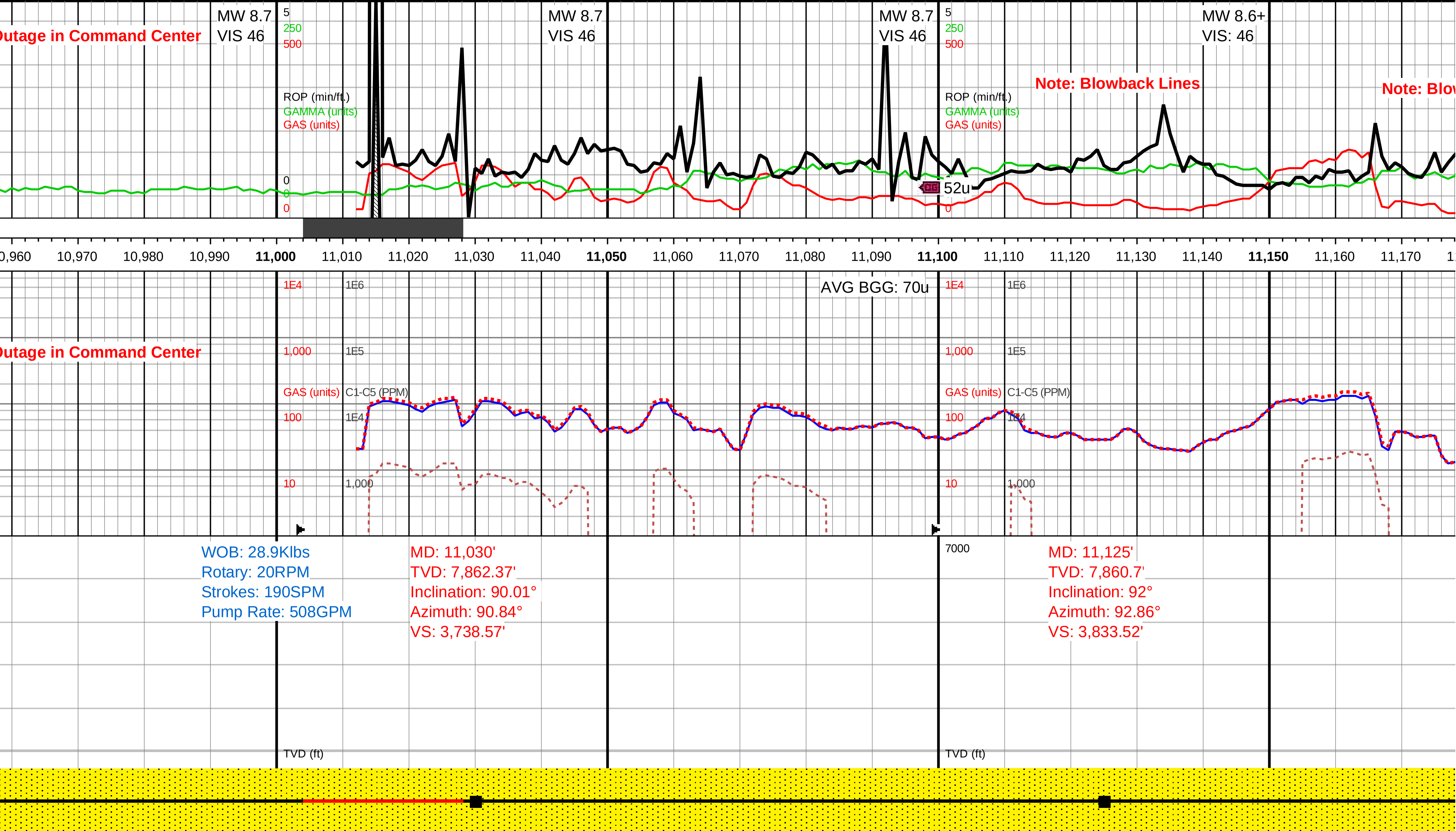
10820-10880: SS: pred uncons qtz sd grs, w srt, vf-f, rnd-w rnd, sme gy-gyshbn pred gr sup cls cons wi silc cmt, mod yelgn-orng flor, mod-gd cut, mod-gd blshwh resdl ring; tr SH

10880-10940 SS: pred trnsl-clr uncons qtz sd grs, w srt, vf-f, rnd-w rnd, sme gy-gyshbn pred gr sup cls cons wi silc cmt, mod yelgn-orng flor, mod-gd cut, mod-gd blshwh resdl ring, tr SH frags

8400

1094 ... sd, s ... cmt, ... flor, ... SH

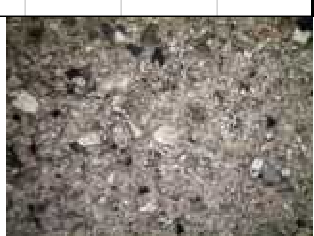


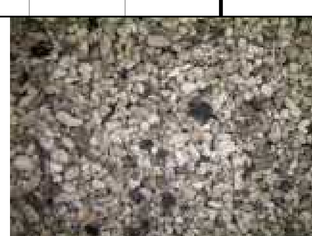
40-11000 SS: com uncons trnsp-op qtz scat lt gy-offwht gr sup cls cons wi silc w srt, vf-f grd, sb rnd-rnd, mod orng wk-mod cut, mod blshwh resdl ring, tr

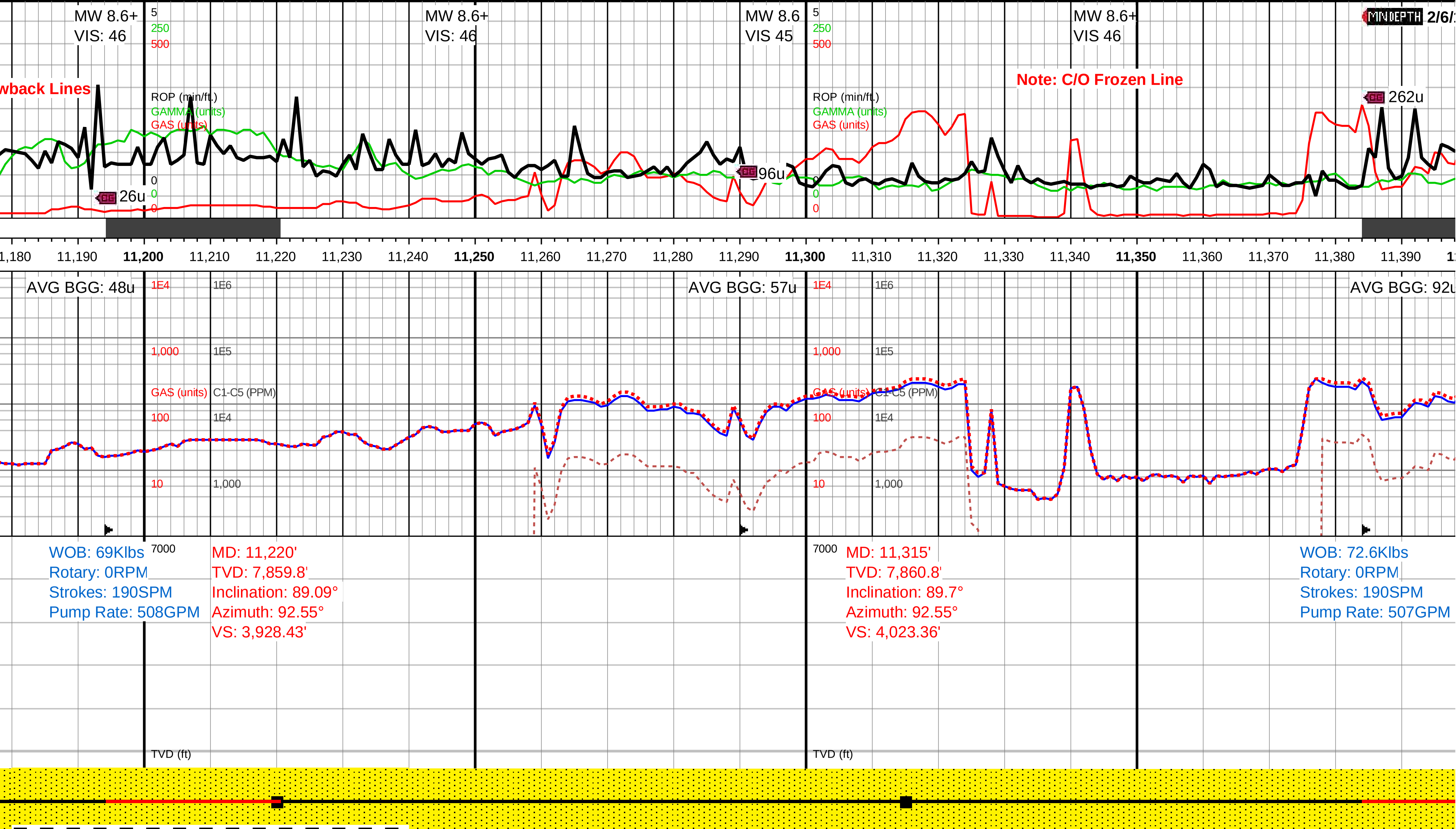
11000-11060 SS: lt tn-offwht gr sup cls cons wi silc cmt, arg, vf grd, sb rd-rd grs, mod-w srt, com lse uncons sd, mod-bri orng flor, mod-gd cut, bri blshwh resdl ring, tr SH frags

11060-11120 SS: pred offwht-crm gr/mtx sup cls cons wi silc/arg cmt, vf grd, sb rd-rd grs, mod-w srt, sme lse uncons sd, mod-bri orng flor, mod-gd cut, bri blshwh resdl ring, tr SH frags

11120-11180 SS: scat lt gy-offwht gr sup cls cons wi arg/silc cmt, w srt, vf-f grd, sb rnd-rnd, sme uncons trnsp-op qtz sd, mod orng flor, gd-mod cut, bri blshwh resdl ring, tr SH







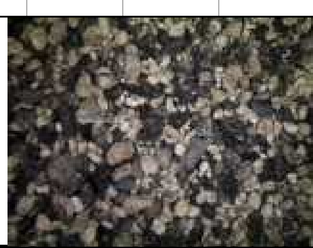
11180-11240 SS (85%): lt tn-offwht gr sup cls cons wi silc cmt, arg-v arg, vf grd, sb rd-rd grs, mod-w srt, mod-bri orng flor, mod-gd cut, bri blshwh resdl ring; SH (15%): dk gy-blk, frm-blky, rgh tex

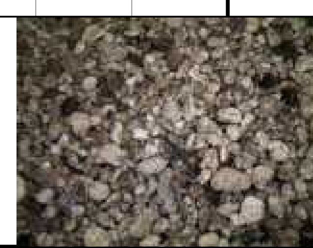
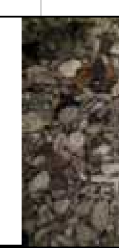
11240-11300 SS: predy gr sup cls wi silc cmt, pred lt tn-offwht, mot srt, sb rd, w cmtd, sme lse qtz grs, vf-f gr, sb ang-sb rd, mod w srtd, mod-bri yelgn flor, mod-gd mky cut, blshwh resdl ring

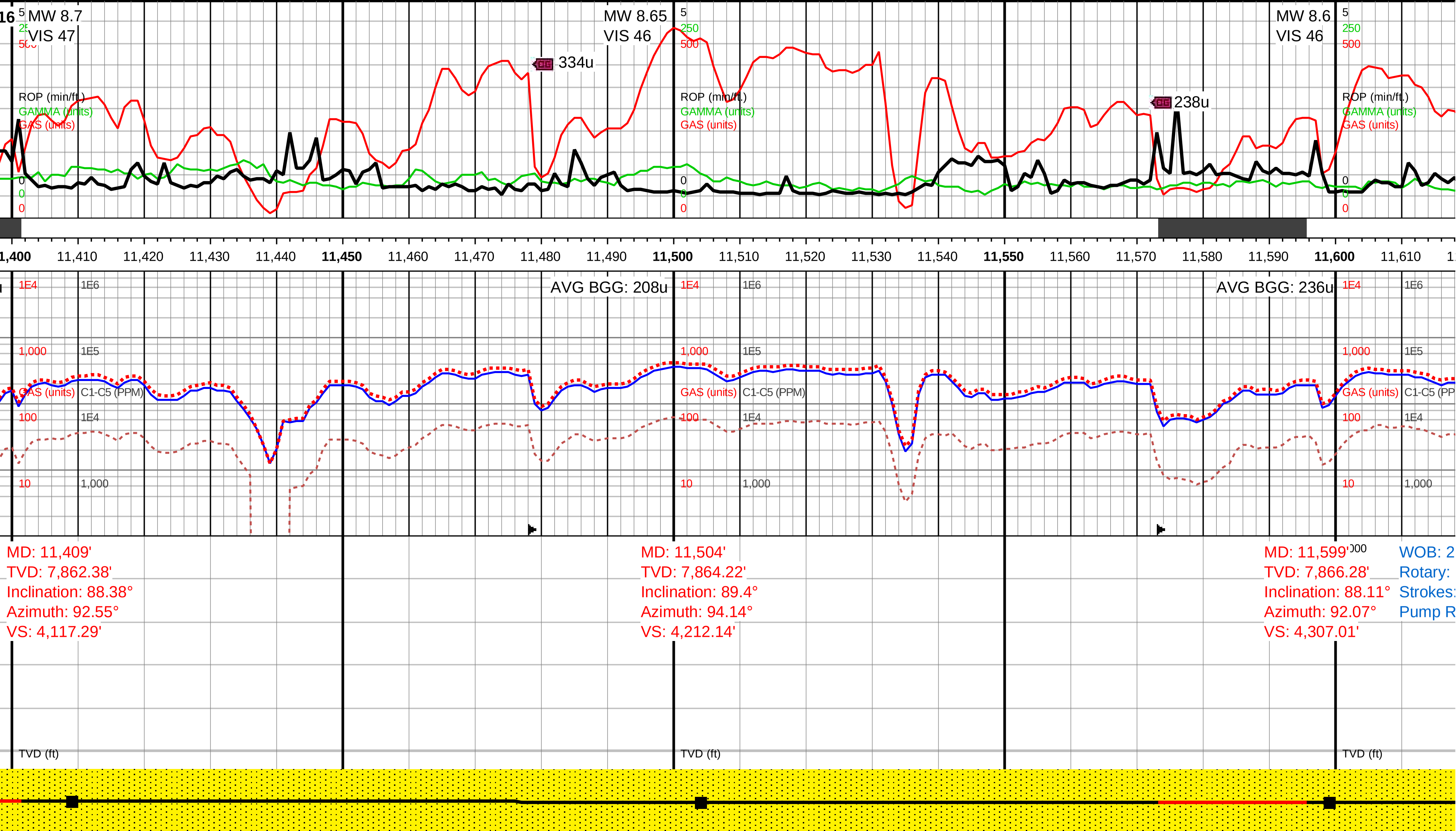
8400

11300-11360 SS: pred gy-gyshbn, sme tn, gr sup cls cons wi silc cmt, sl arg, w srt, vf-f grd, sb rd-rd, sme uncons qtz sd, w rd, mod yelgn-orng flor, mod cut, mod blshwh resdl ring, tr SH

10820-10880: SS: 50% un srt, vf-f, rnd-w rnd, sme gy sup cls cons wi silc/arg cm flor, mod-gd cut, mod-gd b SH





MD: 11,409'
TVD: 7,862.38'
Inclination: 88.38°
Azimuth: 92.55°
VS: 4,117.29'

MD: 11,504'
TVD: 7,864.22'
Inclination: 89.4°
Azimuth: 94.14°
VS: 4,212.14'

MD: 11,599'
TVD: 7,866.28'
Inclination: 88.11°
Azimuth: 92.07°
VS: 4,307.01'

WOB: 2
Rotary:
Strokes:
Pump R

cons qtz sd grs, w -gyshbn, 50% gr t, mod yelgn-orng lshwh resdl ring; tr

11420-11480 SS: pred lse trnsp-op qtz sd, gy-brn ip, mod-w srt, vf-f grd, sme gy, gr sup cls cons wi silc cmt, w srt, vf-f grd, sb rnd-rnd, mod orng flor, wk-mod cut, mod blshwh resdl ring, tr SH

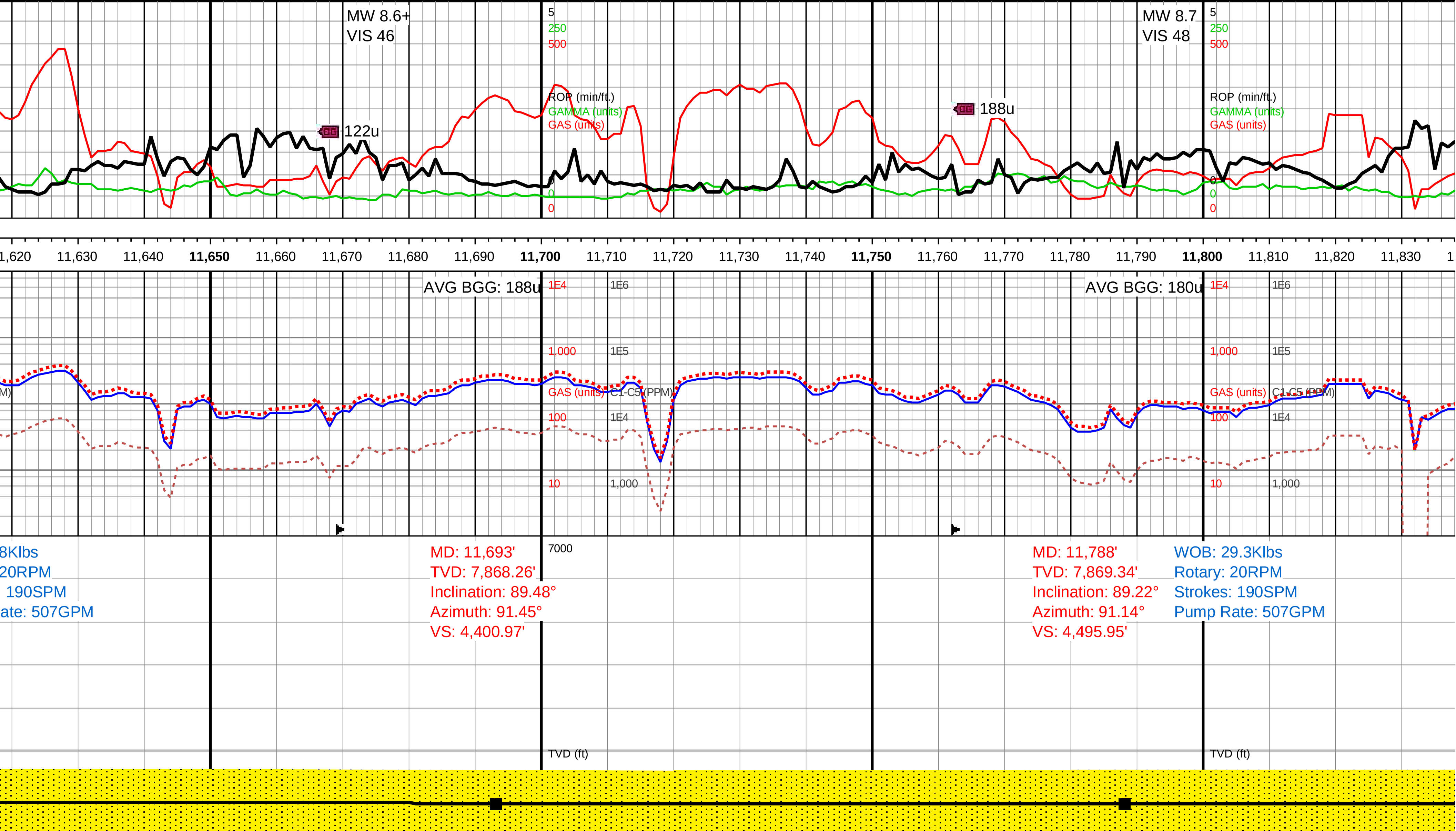
11480-11540 SS: pred uncons qtz sd grs, w srt, vf-f, rnd-w rnd, sme gy-gyshbn pred gr sup cls cons wi silc cmt, sl arg ip, mod yelgn-orng flor, mod cut, mod blshwh resdl ring; tr SH

11540-11600 SS: pred trnsl-clr uncons qtz sd grs, w srt, vf-f, rnd-w rnd, sme gy-gyshbn pred gr sup cls cons wi silc cmt, sl arg ip, mod yelgn-orng flor, mod cut, mod blshwh resdl ring, tr SH frags

11600-1 trnsp-op gr sup, g mod-gd SH

8400



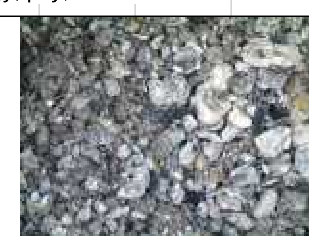
1660: SS (95%): pred lse qtz sd grs, , sl fros, com w cmtd cls w/silc cmt, y-gyshbn, com mod yelgn-orng flor, cut, mod-gd blshwh resdl ring; tr gy

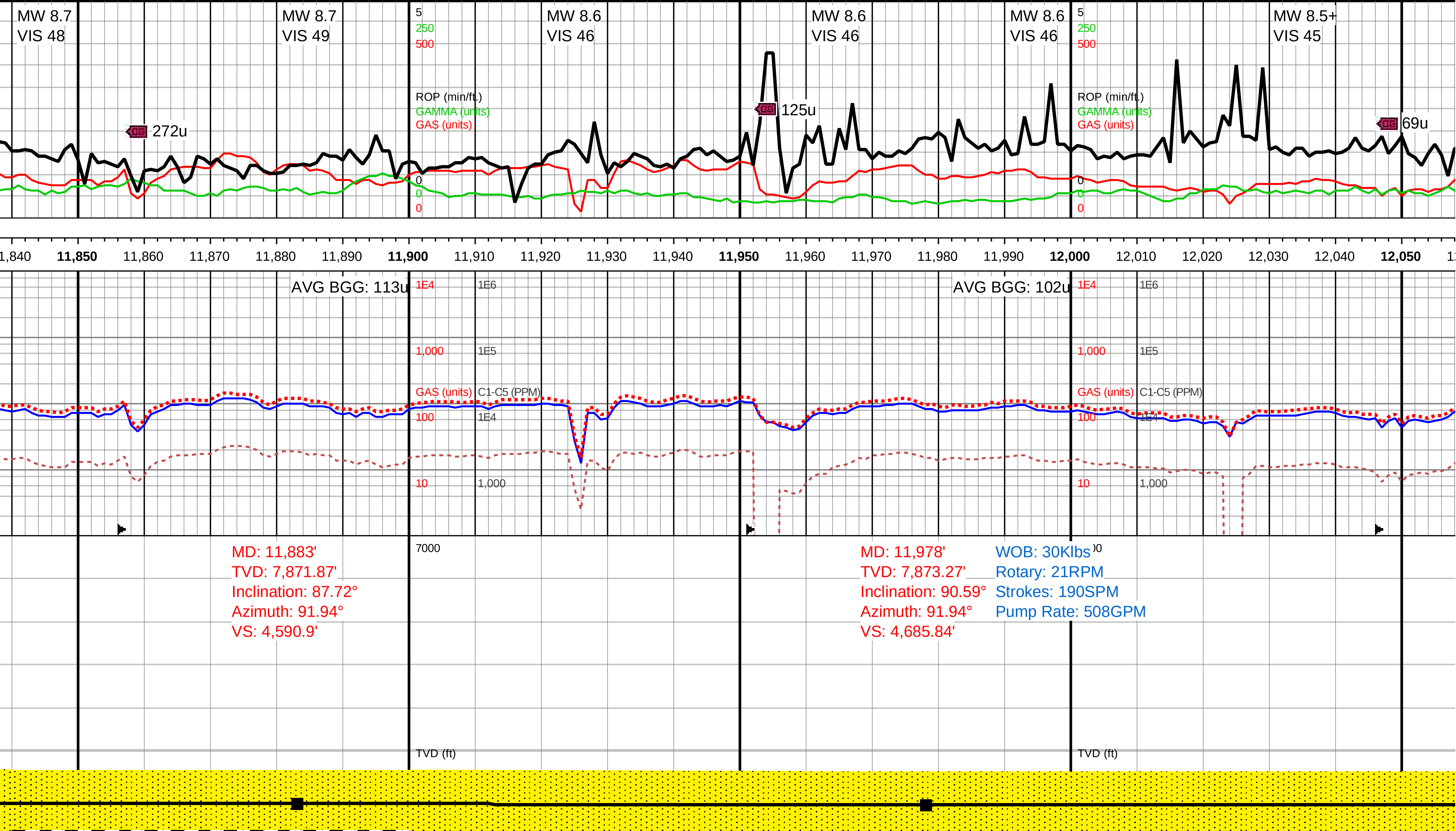
11660-11720 SS: pred gyshbn-tn, lt gy-med gy, gr sup cls cons wi silc cmt, sl arg, vf-f gr, w srt, sb rd-rd, sme uncons qtz sd, w rd, bri yelgn-orng flor, mod mky cut, mod blshwh resdl ring, mnr SH

11720-11780 SS: scat lt gy-offwht gr sup cls, cons wi arg/silc cmt, w srt, sb rnd-rnd, vf-f gr, sme uncons trnsp-op qtz sd, mod orng-yelgn flor, mod-gd cut, mod blshwh resdl ring, tr SH

11780-11840: SS (95%): predy offwht-lt gy, w cmtd cls wi silc-arg cmt, mtx-gr sup, com lse qtz sd grs, ang-sb rd, trnsp-op, mod-dul yelgn flor, wk-mod mky cut, mod blshwh resdl ring; SH (5%): v dk gy, plty, non calc



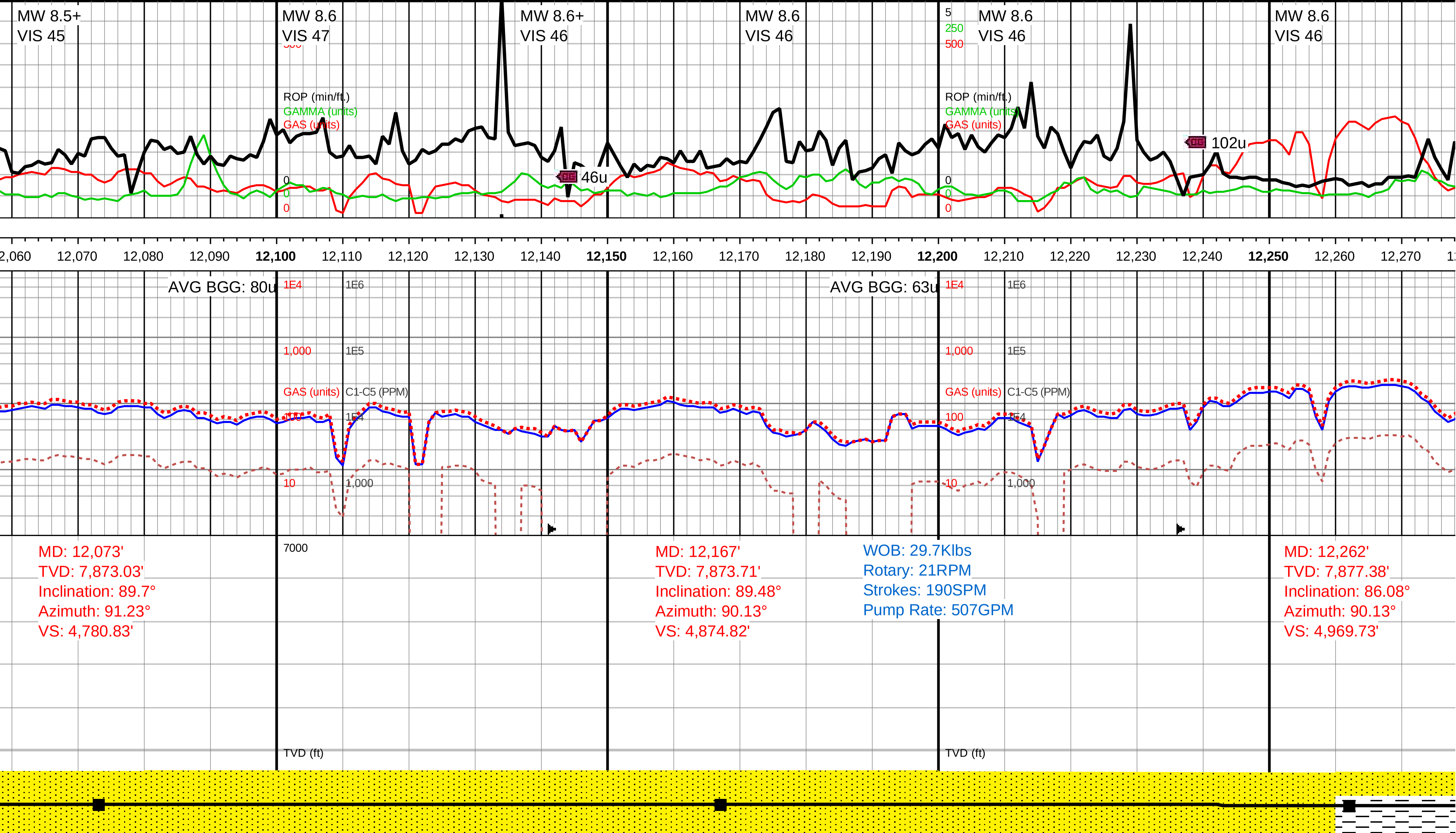


11840-11900: SS (90%): predy offwht-gyshbn, w cmtd gr sup cls wi silc-arg cmt, ang-sb ang, com lse qtz grs, ang-sb rd, trnsp-op, bri-mod yelgn flor, mod mky cut, mod blshwh resdl ring; SH (10%): v dk gy, plty, non calc

11900-11960: SS (95%): offwht-lt gyshbn, w cmtd cls wi silc-arg cmt, predy gr sup, com lse qtz sd grs, ang-sb ang, clr-op, mod yelgn-orng flor, mod mky cut, mod blshwh resdl ring; SH (5%): v dk gy, plty, non calc

11960-12020: SS: predy lse qtz sd grs, vf-f gr, trnsp-trnsl, ang-sb ang, sl fros, com w cmtd cls wi silc cmt, gy-gyshbn, gr sup, bri-mod yelgn flor, mod-gd cut, mod-gd blshwh resdl ring; tr dk gy SH

12020-12080 SS: predy sup cls wi silc/arg cmt, w ang-sb ang, com lse trns ang-sb rd, mod yelgn-bls cut, mod blshwh resdl rir



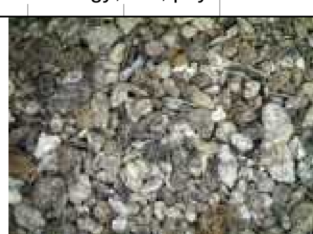
gyshbn-offwht, gr
srt, vf-f grd,
p-trnsl qtz sd, sb
shwh, mod-gd mky
ng, tr v dk gy SH

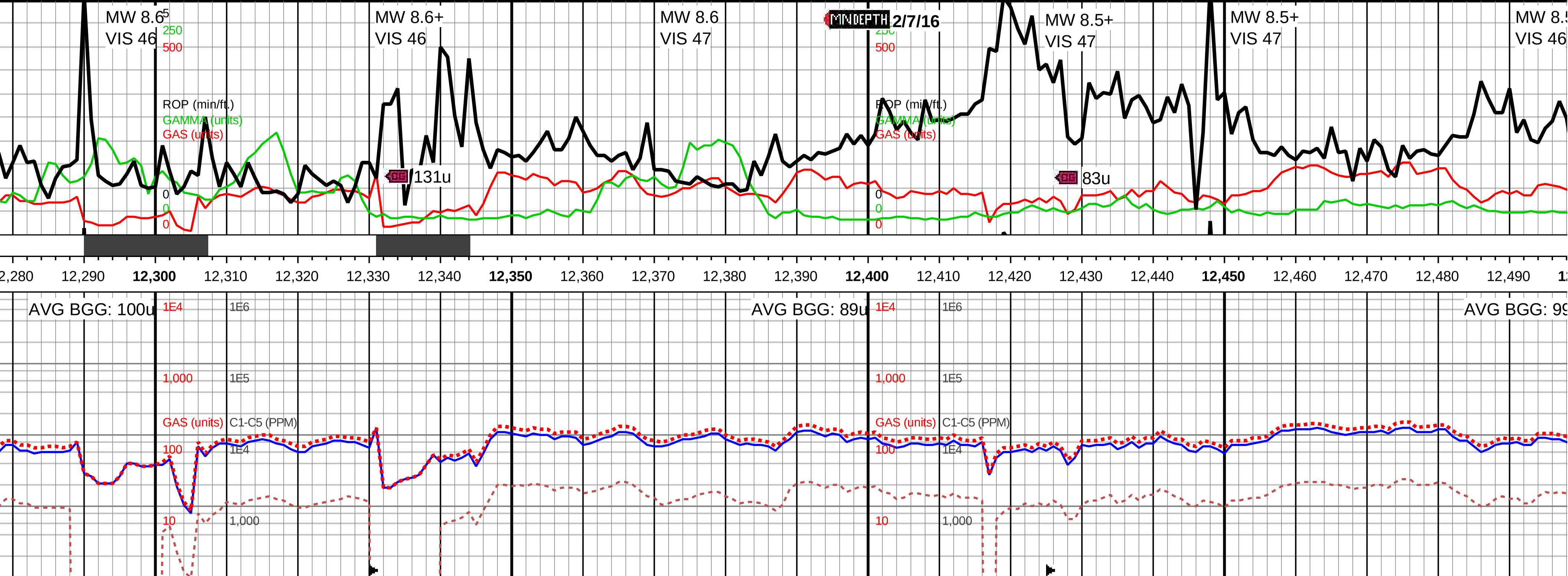
12080-12140 SS (95%): predy crm-offwht, gyshbn, gr sup cls wi silc cmt, mod w srtd, vf-f gr, ang-sb ang, mnr lse op-clr qtz grs, frm-sl hrd, mod-bri yelgn flor, mod-gd mky cut, gd blshwh resdl ring; SH (5%): med-dk gy, frm, plty

12140-12200 SS (95%): predy gyshbn-offwht, gr sup cls wi silc cmt, sb rd, w cmtd, sme lse qtz grs, vf-f gr, sb ang-sb rd, mod w srtd, mod-bri yelgn-blshwh flor, mod-gd mky cut, blshwh resdl ring; SH (5%): dk gy, plty, frm

12200-12260 SS: predy op-clr uncons qtz grs, w srt, vf-f, rnd-w rnd, sme gyshbn-offwht, predy gr sup cls, cons wi silc/arg cmt, mod-bri yelgn flor, mod-gd cut, mod-gd blshwh resdl ring, tr dk gy SH frags

12260-12
blky, slty,
(35%): m
gr sup cls
flor, v wk



7000

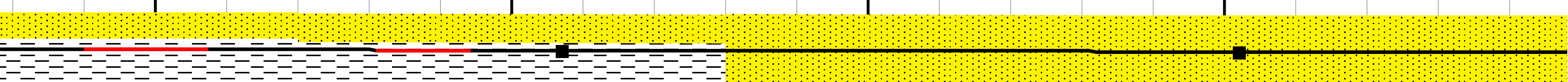
MD: 12,357'
TVD: 7,882.31'
Inclination: 87.98°
Azimuth: 88.85°
VS: 5,064.59'

WOB: 30.4Klbs
Rotary: 20RPM
Strokes: 190SPM
Pump Rate: 508GPM

MD: 12,452'
TVD: 7,886.05'
Inclination: 87.5°
Azimuth: 89.16°
VS: 5,159.48'

TVD (ft)

TVD (ft)

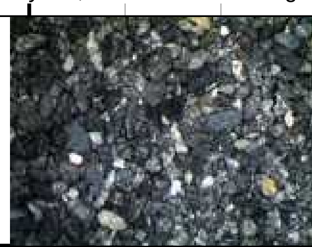


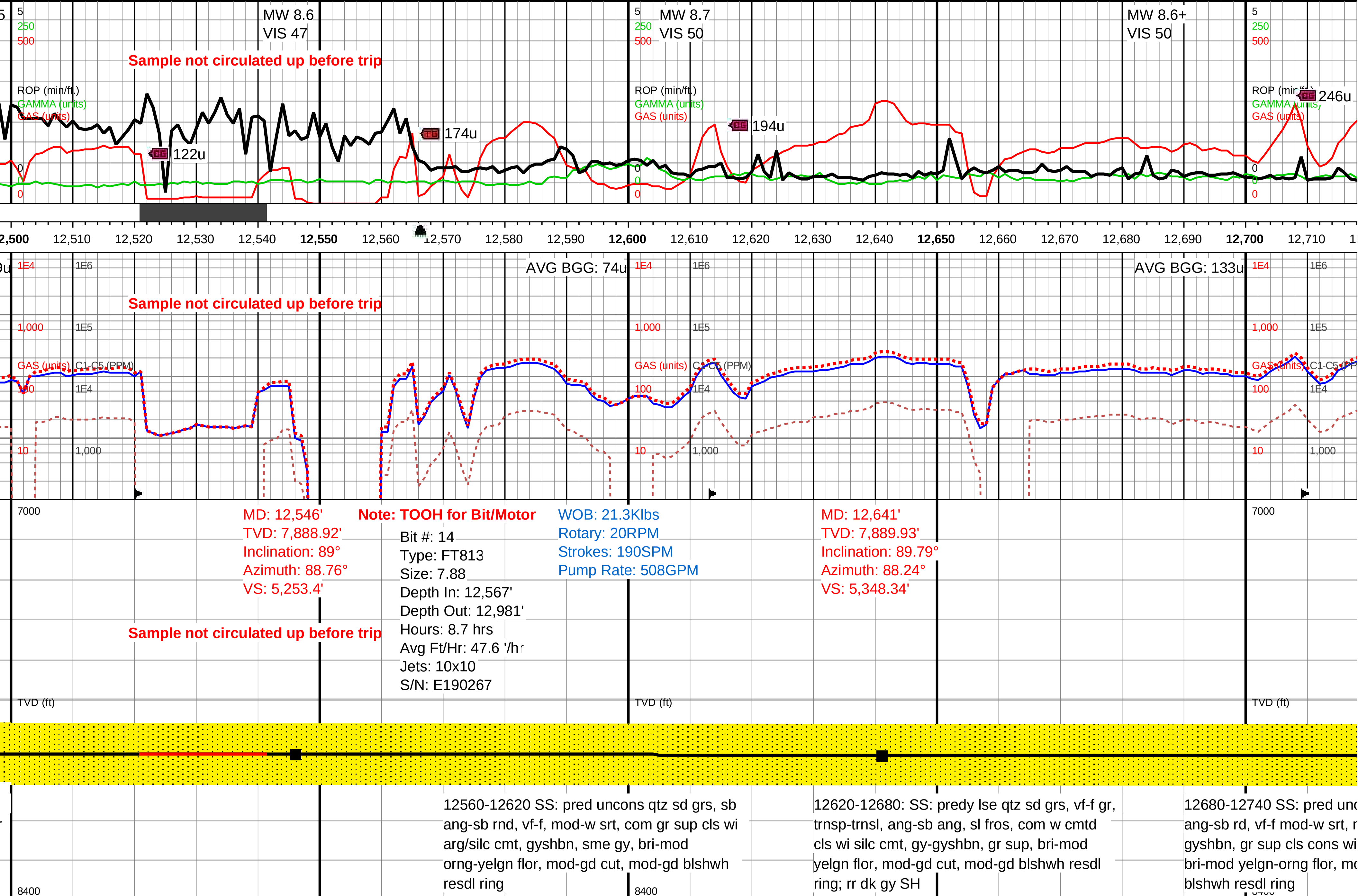
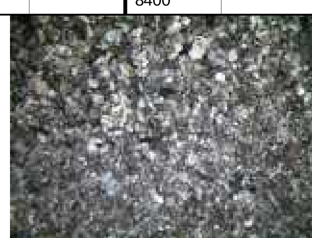
…2320 SH (65%) v dk gy-blk, frm, plty-sb …, non calc, intbdd offwht cons SS; SS …ot offwht-gyshbn, vf-f gr, sb ang-sb rd, …s wi arg/silc cmt, fri-sl hrd, dul yelgn … mky cut, blshwh resdl ring

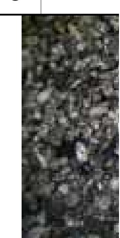
12320-12380 SH (60%) v dk gy-blk, plty-splt, frm, slty, non calc, intbdd cons SS, tr pp mic pyr; SS (40%): predy offwht-med gy, vf-f gr, sb ang-sb rd, gr sup cls wi arg/silc cmt, w cmtd, dul yelgn flor, wk mky cut, wk blshwh resdl ring

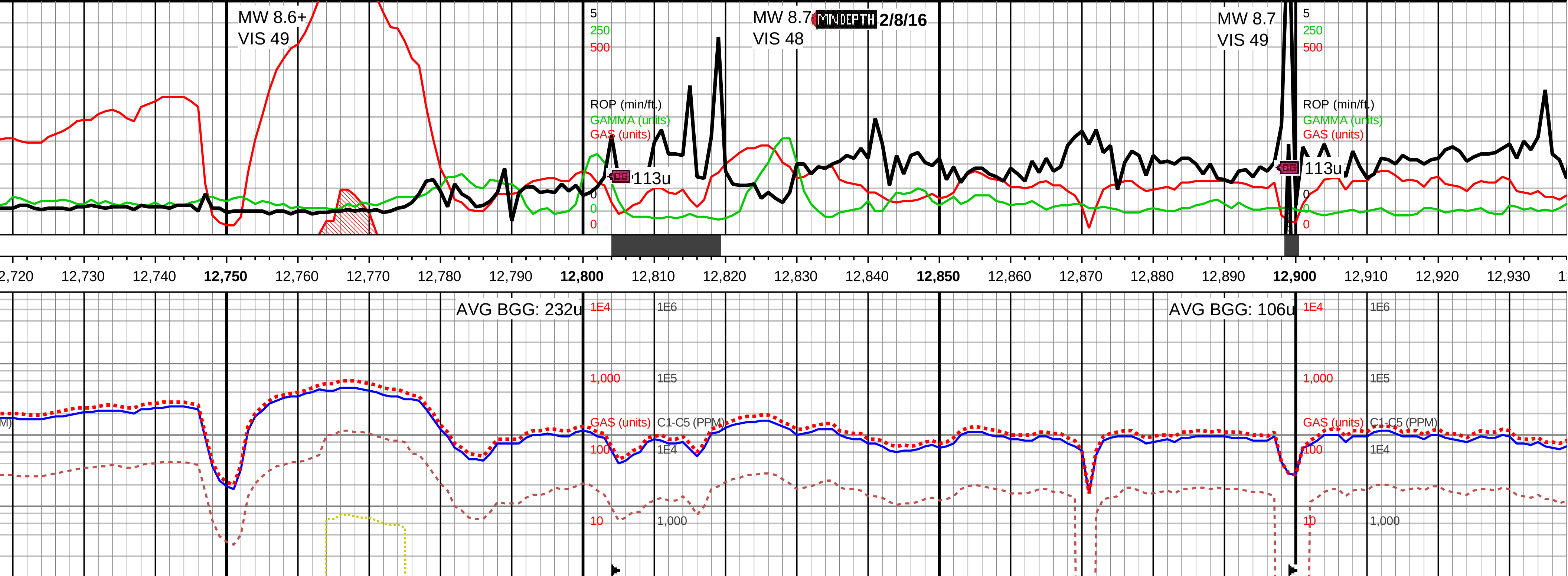
12380-12440: SS: predy lse qtz sd grs, trnsp-trnsl, vf-f gr, ang-sb ang, sl fros, com w cmtd cls wi silc cmt, offwht-lt brn, gr sup, bri yelgn-bri orng flor, mod mky cut, mod blshwh resdl ring; mnr dk gy SH

12440-12500 SS (95%): predy lse clr-op, lt brn… ip qtz sd, mod-w srt, vf-f gr, ang-sb rnd, com g… sup cls, cons wi silc/arg cmt, ang-sb rnd, bri yelgn-mod orng flor, mod-gd mky cut, mod blshwh resdl ring, SH (5%): dk gy, splt, frm


MW 8.6
VIS 47
MW 8.7
VIS 50
MW 8.6+
VIS 50
Sample not circulated up before trip
ROP (min/ft.)
GAMMA (units)
GAS (units)
122u
174u
194u
246u
12,500
12,510
12,520
12,530
12,540
12,550
12,560
12,570
12,580
12,590
12,600
12,610
12,620
12,630
12,640
12,650
12,660
12,670
12,680
12,690
12,700
12,710
AVG BGG: 74u
AVG BGG: 133u
GAS (units)
C1-C5 (PPM)
Sample not circulated up before trip
MD: 12,546'
TVD: 7,888.92'
Inclination: 89°
Azimuth: 88.76°
VS: 5,253.4'
Note: TOOH for Bit/Motor
Bit #: 14
Type: FT813
Size: 7.88
Depth In: 12,567'
Depth Out: 12,981'
Hours: 8.7 hrs
Avg Ft/Hr: 47.6 '/hr
Jets: 10x10
S/N: E190267
WOB: 21.3Klbs
Rotary: 20RPM
Strokes: 190SPM
Pump Rate: 508GPM
MD: 12,641'
TVD: 7,889.93'
Inclination: 89.79°
Azimuth: 88.24°
VS: 5,348.34'
Sample not circulated up before trip
TVD (ft)
7000
8400
12560-12620 SS: pred uncons qtz sd grs, sb ang-sb rnd, vf-f, mod-w srt, com gr sup cls wi arg/silc cmt, gyshbn, sme gy, bri-mod orng-yelgn flor, mod-gd cut, mod-gd blshwh resdl ring
12620-12680: SS: predy lse qtz sd grs, vf-f gr, trnsp-trnsl, ang-sb ang, sl fros, com w cmtd cls wi silc cmt, gy-gyshbn, gr sup, bri-mod yelgn flor, mod-gd cut, mod-gd blshwh resdl ring; rr dk gy SH
12680-12740 SS: pred unc ang-sb rd, vf-f mod-w srt, gyshbn, gr sup cls cons wi bri-mod yelgn-orng flor, mo blshwh resdl ring






MD: 12,736'
TVD: 7,890.09'
Inclination: 90.01°
Azimuth: 86.96°
VS: 5,443.22'

WOB: 30.2Klbs
Rotary: 20RPM
Strokes: 190SPM
Pump Rate: 508GPM

MD: 12,831'
TVD: 7,890.18'
Inclination: 89.88°
Azimuth: 89.16°
VS: 5,538.13'

MD: 12,924'
TVD: 7,890.34'
Inclination: 89.93°
Azimuth: 88.5°
VS: 5,631.09'

TVD (ft) 7000 8400

...cons qtz sd, sb ...med gy-dk gy, com ...arg/silc cmt, ...od-gd cut, mod-gd

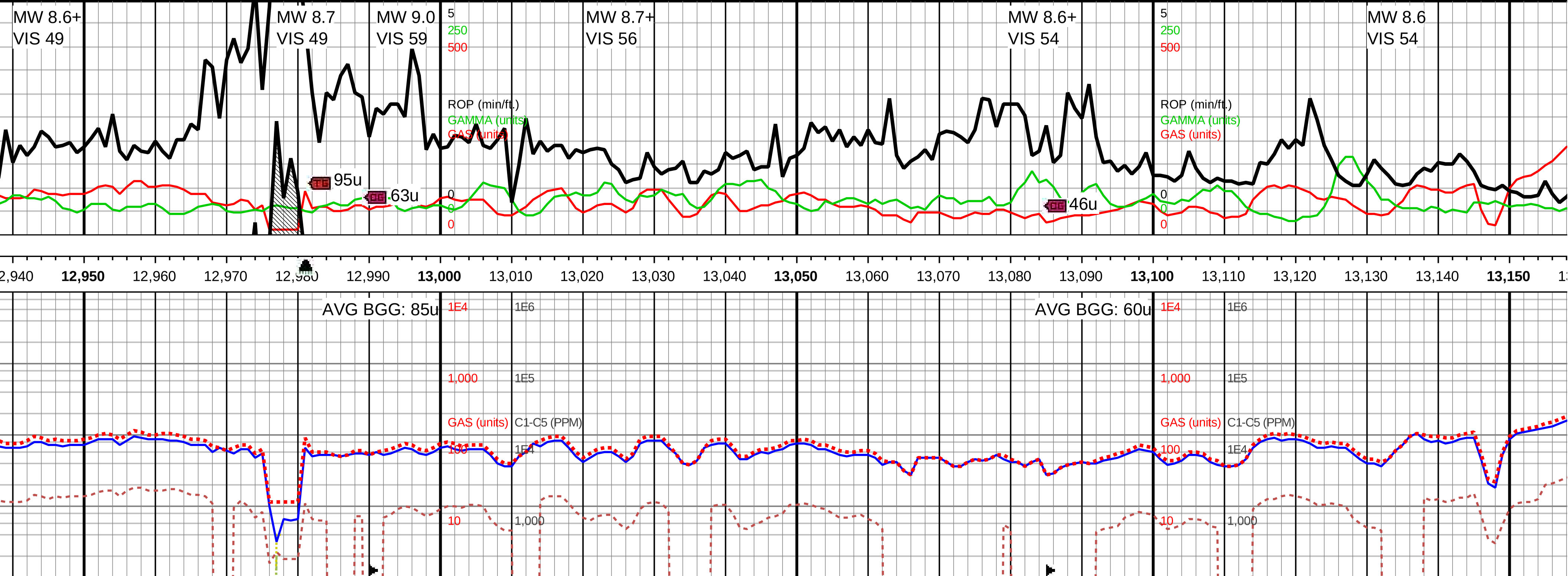
12740-12800 SS: 65% uncons qtz sd grs, sl fros, mod-w srt, vf-f grd, ang-sb ang, com gr sup cls, gyshbn-lt gy, sme offwht, arg/silc cmt, bri-mod yelgn-orng flor, mod-gd cut, mod-gd blshwh resdl ring

12800-12860: SS: pred lse qtz sd grs, trnsp-op, sl fros, mod-w srt vf-f, sb ang-ang, com w cmtd cls w/silc cmt, gyshbn-gy, gr sup, com mod yelgn-orng flor, mod-gd cut, mod-gd blshwh resdl ring

12860-12920: SS: predy lse qtz sd grs, vf-f gr, trnsp-trnsl, ang-sb ang, sl fros, com w cmtd cls wi silc cmt, gy-gyshbn, gr sup, bri-mod yelgn flor, mod-gd cut, mod-gd blshwh resdl ring; tr dk gy SH

12920-... grs, w s... gr sup c... yelgn-o... ring



Note: TOOH for motor/bit

Bit #: 15
Type: DSHI811M-C
Size: 7.88
Depth In: 12,981'
Depth Out: 13,331'
Hours: 10.7 hrs
Avg Ft/Hr: 32.7 '/hr
S/N: A173778

WOB: 16.6Klbs
Rotary: 20RPM
Strokes: 190SPM
Pump Rate: 508GPM

7000

MD: 13,019'
TVD: 7,890.75'
Inclination: 89.57°
Azimuth: 88.59°
VS: 5,726.03'

7000

MD: 13,114'
TVD: 7,891.72'
Inclination: 89.26°
Azimuth: 87.26°
VS: 5,820.93'

TVD (ft)

TVD (ft)

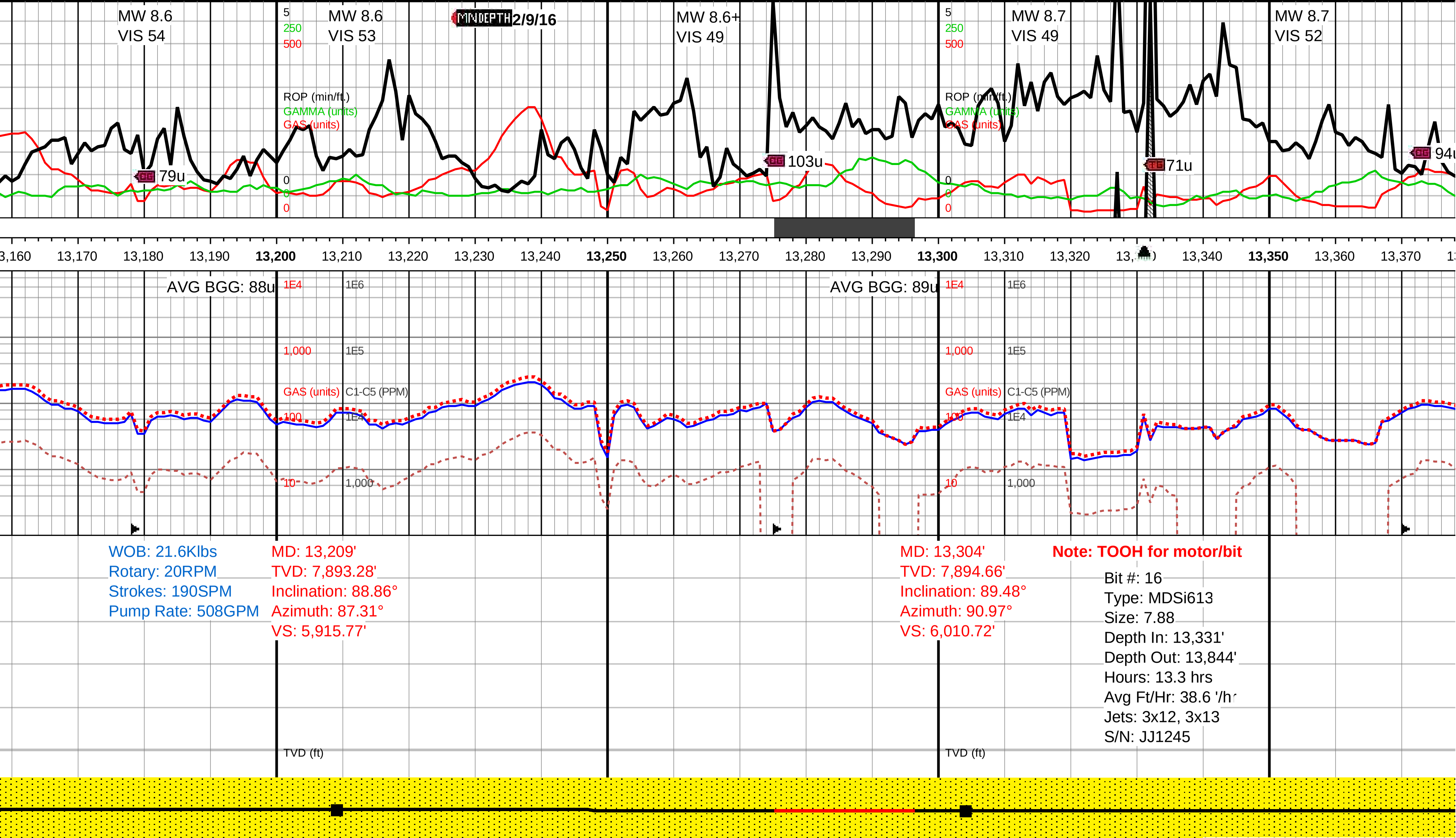
12980 SS: pred trnsl-clr uncons qtz sd rt, vf-f, rnd-w rnd, sme gy-gyshbn pred cls cons wi silc cmt, sl arg ip, mod rng flor, mod cut, mod blshwh resdl

12980-13040 SS: com gr sup cls cons wi predy arg cmt, sme arg cmt, gyshbn-gy, mod-w srt, vf-f sb ang-sb rnd, com uncons qtz sd, mod yelgn-orng flor, mod-gd cut, mod-gd blshwh resdl ring

13040-13100: SS: predy lse qtz sd grs, trnsp-trnsl, vf-f gr, ang-sb ang, sl fros, com w cmtd cls wi silc cmt, offwht-lt brn, gr sup, bri yelgn-bri orng flor, mod-gd mky cut, mod-gd blshwh resdl ring; mnr dk gy SH

8400

1300-13160 SS: pred gyshbn-tn, lt gy-med gy gr sup cls cons wi silc cmt, sl arg, vf-f gr, w srt, sb rd-rd, sme uncons qtz sd, w rd, bri yelgn-orng flor, mod-gd mky cut, mod-gd blshwh resdl ring

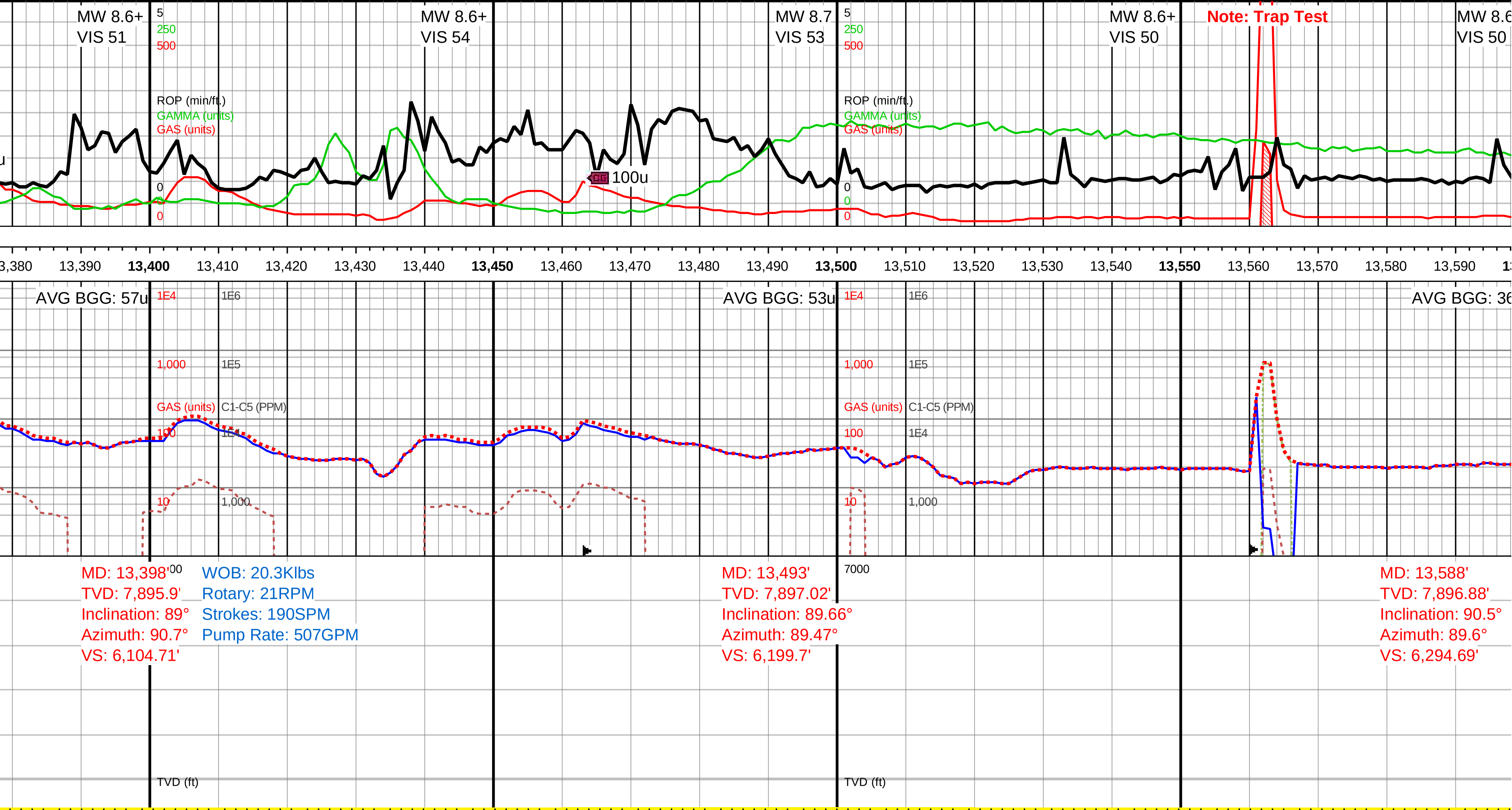


13160-13220 SS: pred gr sup cls cons wi arg/silc cmt, sb ang-sb rd, vf-f mod-w srt, med gy-dk gy, sme gyshbn-brn, com uncons qtz sd, bri-mod yelgn-orng flor, mod-gd cut, mod-gd blshwh resdl ring, scat SH

13220-13280: SS: predy lse qtz sd grs, vf-f gr, trnsp-trnsl, ang-sb ang, sl fros, com w cmtd cls wi silc cmt, gy-gyshbn, gr sup, bri-mod yelgn flor, mod-gd cut, mod-gd blshwh resdl ring; rr dk gy SH

13280-13340 SS: pred uncons qtz sd grs, w srt, vf-f, rnd-w rnd, sme gy-gyshbn pred gr sup cls cons wi silc cmt, sl arg ip, mod yelgn-orng flor, mod cut, mod blshwh resdl ring; tr SH

12560-12620 SS: pred un... ang-sb rnd, vf-f, mod-w srt... arg/silc cmt, gyshbn, sme... orng-yelgn flor, mod-gd cu... resdl ring; SH (5%): dk gy,...



...cons qtz sd grs, sb ..., com gr sup cls wi ...gy, bri-mod ...t, mod-gd blshwh ... splt, frm

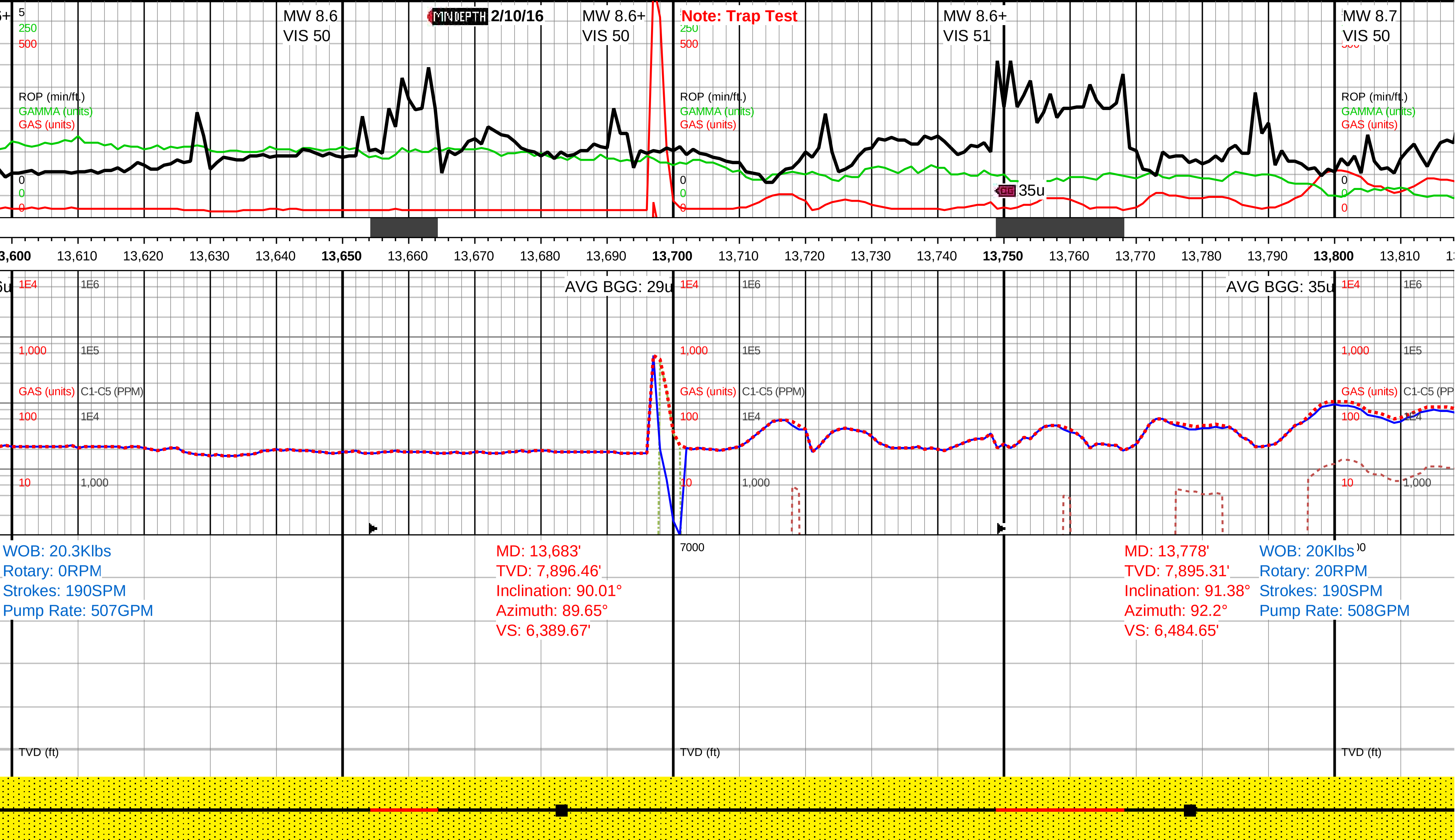
13400-13460: SS: predy lse qtz sd grs, vf-f gr, trnsp-trnsl, ang-sb ang, sl fros, com w cmtd cls wi silc cmt, gy-gyshbn, gr sup, bri-mod yelgn flor, mod-gd cut, mod-gd blshwh resdl ring; rr dk gy SH

13460-13520 SS (95%): predy crm-offwht, gr sup cls wi silc cmt, mod srtd, vf gr, ang-sb ang, mnr lse op-clr qtz grs, mod-bri yelgn flor, mod-gd mky cut, gd blshwh resdl ring; SH (5%): med-dk gy, frm, plty

13520-13580 SS: predy lt gy-offwht gr sup cls cons wi arg/silc cmt, w srt, vf-f grd, sb rnd-rnd, sme uncons trnsp-op qtz sd, mod orng flor, gd-mod cut, bri blshwh resdl ring, rr SH

13580-... gy, gr su... ,od-w sr... bri yelgr... resdl rin...



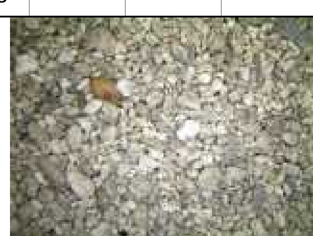



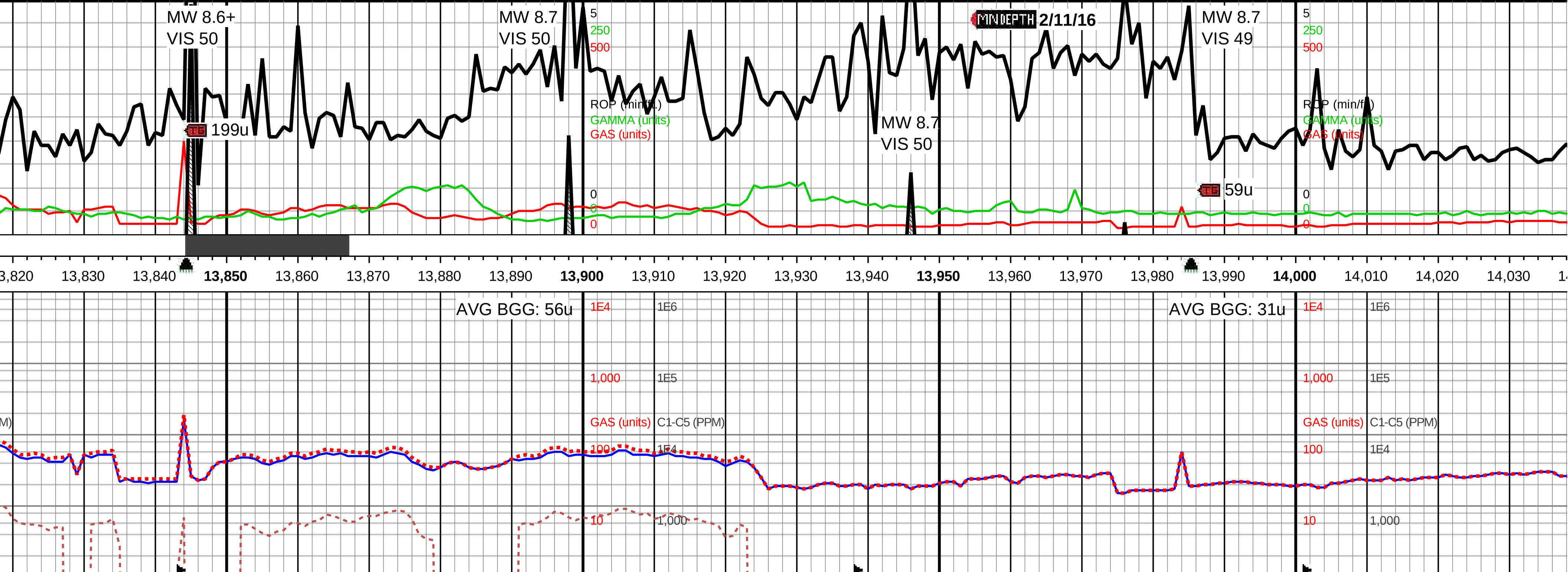
...3640 SS: predy offwht-tn, sme crm-lt ...up cls cons wi silc/arg cmt, vf grd, ...t, sb ang-ang, sme uncons qtz sd grs, ...n flor, mod-gd mky cut, bri blshwh ...g

13640-13700 SS: predy crm-offwht, gyshbn, gr sup cls wi silc cmt, mod w srtd, vf-f gr, ang-sb ang, mnr lse op-clr qtz grs, frm-sl hrd, mod-bri yelgn flor, mod-gd mky cut, gd blshwh resdl ring

13700-13760: SS: predy w cmtd cls wi silc cmt, gy-gyshbn, gr sup, ang-sb ang, sme lse qtz sd grs, vf-f gr, trnsp-trnsl, sl fros, bri-mod yelgn flor, mod-gd cut, mod-gd blshwh resdl ring; tr dk gy SH

13760-13820 SS: predy op-clr uncons qtz sd grs, w srt, vf-f, rnd-w rnd, sme gy-gyshbn predy gr sup cls, cons wi silc cmt, sl arg ip, mod-bri yelgn flor, wk-mod mky cut, mod blshwh resdl ring; tr dk gy SH





Note: TOOH for motor/bit

Bit #: 17
Type: DSHI713M
Size: 7.88
Depth In: 13,984'
Depth Out: 13,844'
Hours: 7.5 hrs
Avg Ft/Hr: 18.9 '/hr
Jets: 3x12, 3x13
S/N: A212041

MD: 13,872'
TVD: 7,895.07'
Inclination: 88.91°
Azimuth: 92.23°
VS: 6,578.6'

7000

MD: 13,936'
TVD: 7,896.58'
Inclination: 88.38°
Azimuth: 92.73°
VS: 6,642.55'

Note: TOOH for motor/bit

Bit #: 18
Type: DSHI613M-H1
Size: 7.88
Depth In: 13,986'
Depth Out: 14,292'
Hours: 8.9 hrs
Avg Ft/Hr: 34.4 '/hr
Jets: 8x11
S/N: A148273

WOB: 20.7Klbs
Rotary: 20RPM
Strokes: 170SPM
Pump Rate: 455GPM

MD: 14,031'
TVD: 7,898.
Inclination: 8
Azimuth: 92
VS: 6,737.4

TVD (ft)

TVD (ft)

13820-13880: SS: predy trnsp-trnsl lse qtz sd grs, vf-f gr, ang-sb ang, com w cmtd cls wi silc cmt, gy-gyshbn, gr sup, bri-mod yelgn flor, mod-gd cut, mod-gd blshwh resdl ring; rr dk gy SH

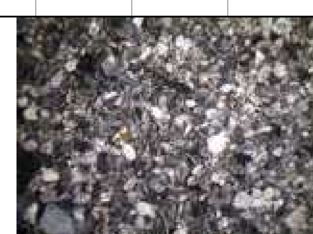
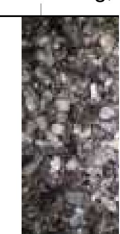
13880-13940 SS (95%): predy gr sup cls wi silc cmt, crm-offwht, mod srtd, vf gr, ang-sb ang, mnr lse op-clr qtz grs, mod-bri yelgn flor, mod-gd mky cut, gd blshwh resdl ring; SH (5%): dk gy, frm, blky

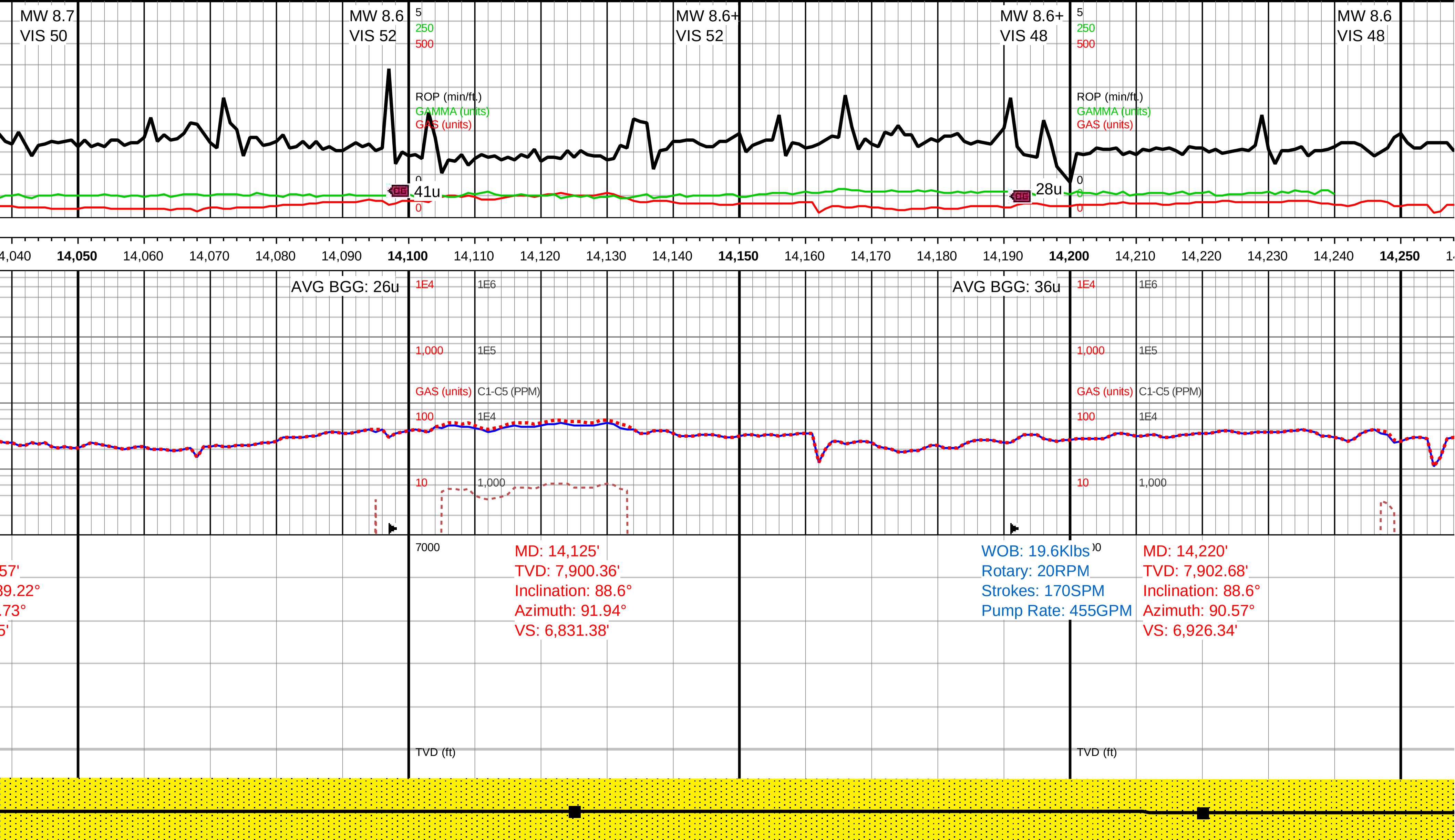
13940-14000 SS: pred uncons qtz sd grs, w srt, vf-f, rnd-w rnd, sme gy-gyshbn pred gr sup cls cons wi silc cmt, sl arg ip, mod yelgn-orng flor, mod mky-wk stmg cut, mod blshwh resdl ring; tr SH

8400

14000-14060 SS: pred gr s
arg/silc cmt, sb ang-sb rd,
gy-brn, com uncons qtz sd
yelgn-orng flor, mod-gd mk
mod-gd blshwh resdl ring,



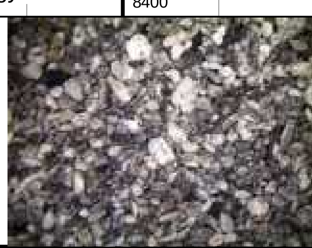
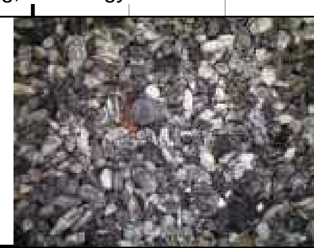


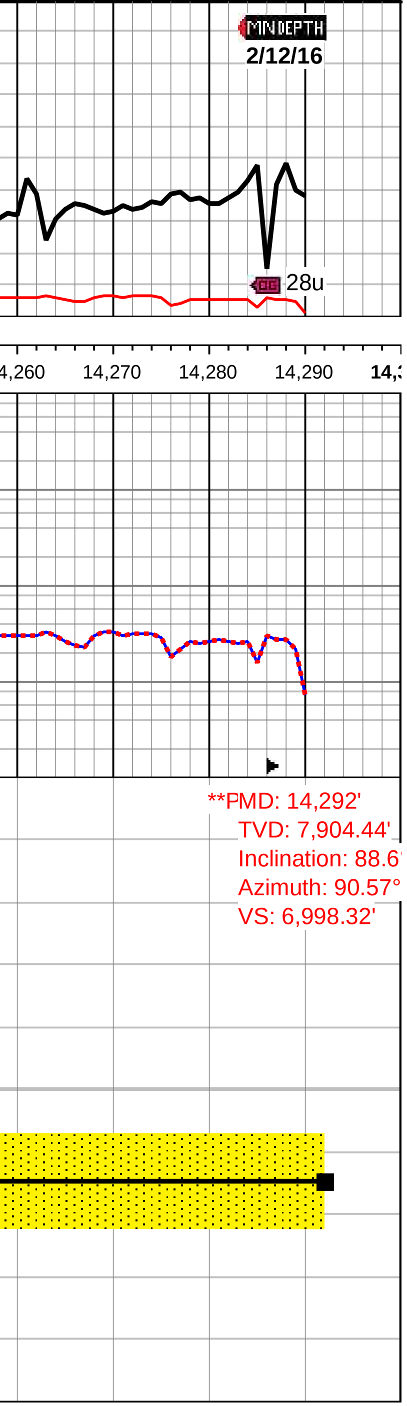
...sup cls cons wi
...vf-f mod-w srt, med
..., bri-mod
...ky-stmg cut,
...scat SH

14060-14120 SS: predy op-clr uncons qtz grs, w srt, vf-f, rnd-w rnd, sme gyshbn-offwht, predy gr sup cls, cons wi silc/arg cmt, mod-bri yelgn flor, mod mky-stmg cut, mod-gd blshwh resdl ring, rr dk gy SH

14120-14180: SS: predy lse qtz sd grs, trnsp-trnsl, vf-f gr, ang-sb ang, sl fros, com w cmtd cls wi silc cmt, offwht-lt brn, gr sup, bri yelgn-bri orng flor, mod-gd mky cut, mod-gd blshwh resdl ring; mnr dk gy SH

14180-14240 SS: pred uncons qtz sd grs, w srt, vf-f, rnd-w rnd, sme gy-gyshbn pred gr sup cls cons wi silc cmt, sl arg ip, mod yelgn-orng flor, mod cut, mod blshwh resdl ring; tr SH



MIN DEPTH
2/12/16
28u
4,260
14,270
14,280
14,290
14,
**PMD: 14,292'
TVD: 7,904.44'
Inclination: 88.6
Azimuth: 90.57°
VS: 6,998.32'