



RESERVOIR GROUP

Scale: 5" / 100'
Measured Depth Log

Well Name Middlepark 18-21-3L

Location 40°18'20.844"N, 104°22'14.304"W

State CO

County Weld

Country USA

Rig Number Xtreme24

API Number 05-123-47444

Field Wattenburg

Geographic Region Rockies

Drilling Completed TBD

Spud Date 9/14/2018

Surface Coordinates 222' FSL & 1,649' FWL
Sec. 18 T4N R62W

Bottom Hole Coordinates 470' FNL & 580' FWL
Sec. 7 T4N R62W

Ground Elevation 4,557'

K.B. Elevation 4,573'

Logged Interval 6,050' To TBD

Total Depth TBD

Formation Niobrara C

Type of Drilling Fluid Oil Based Mud

Operator

Company Confluence DJ LLC.

Address 621 17th St. STE. 1401
Denver, CO. 80293



Geologist

Name Anne Grau

Company Confluence DJ LLC.

Address 621 17th St. STE. 1401
Denver, CO. 80293



Other

Service Type 2 man, ASW

Logger(s) Robert Kelley, Micah Morgan

Service Equipment ML-577

LL/Unit Mgr Robert Kelley

Night Logger Micah Morgan

Job# 1595RK1809

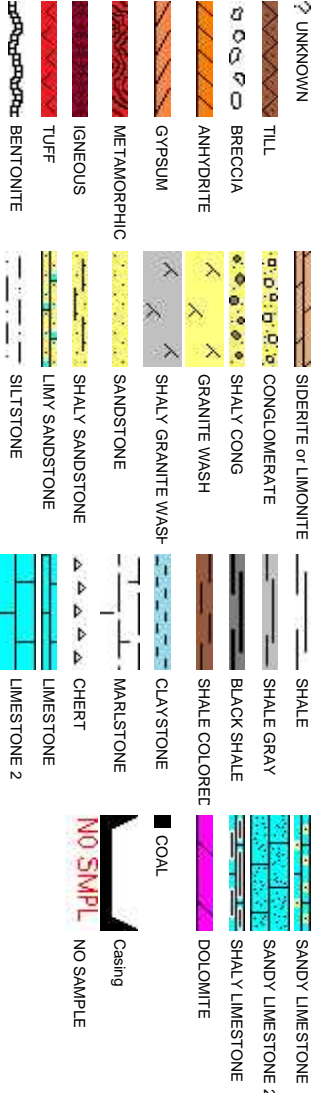
Start Date 9/14/2018

Release Date TBD

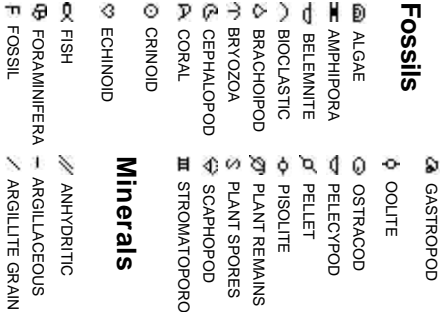
Zone Color Coding



Rock Types



Fossils

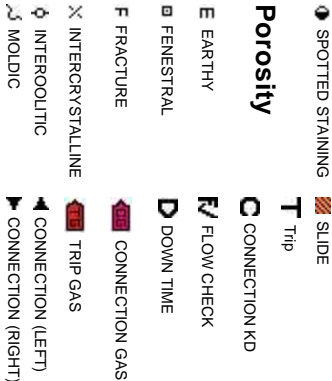


Minerals

Oil Show



Engineering



Porosity



Accessories

E	K	KAOLIN	—	COAL STRINGER
OUS SUBSTANCE	⇄	MARLSTONE	—	DOLOMITE STRINGER
FRAGMENTS	⌘	MINERAL CRYSTALS	—	GYPSUM STRINGER
US	⊞	NODULES	—	LIMESTONE STRINGER
CEOUS FLAKES	⊞	PHOSPHATE PELLETS	⇄	MARLSTONE (CALC) STRG
	P	PYRITE	⇄	MARLSTONE (DOL) STRG
	⊞	SALT CAST	⇄	MARLSTONE (DOL) STRG
IN BEDS	∴	SANDY	—	SANDSTONE STRINGER
C	△	SILICEOUS	—	SHALE STRINGER
?	++	SILTY	—	SILTSTONE STRINGER
	W	WASH	—	WASH
IOUS PELLET	✓	TUFFACEOUS	—	SHLY WASH
IOUS			—	QTZ WASH
ITE			—	SILTY SHALE
IOUS				
ERIAL				

Stringer

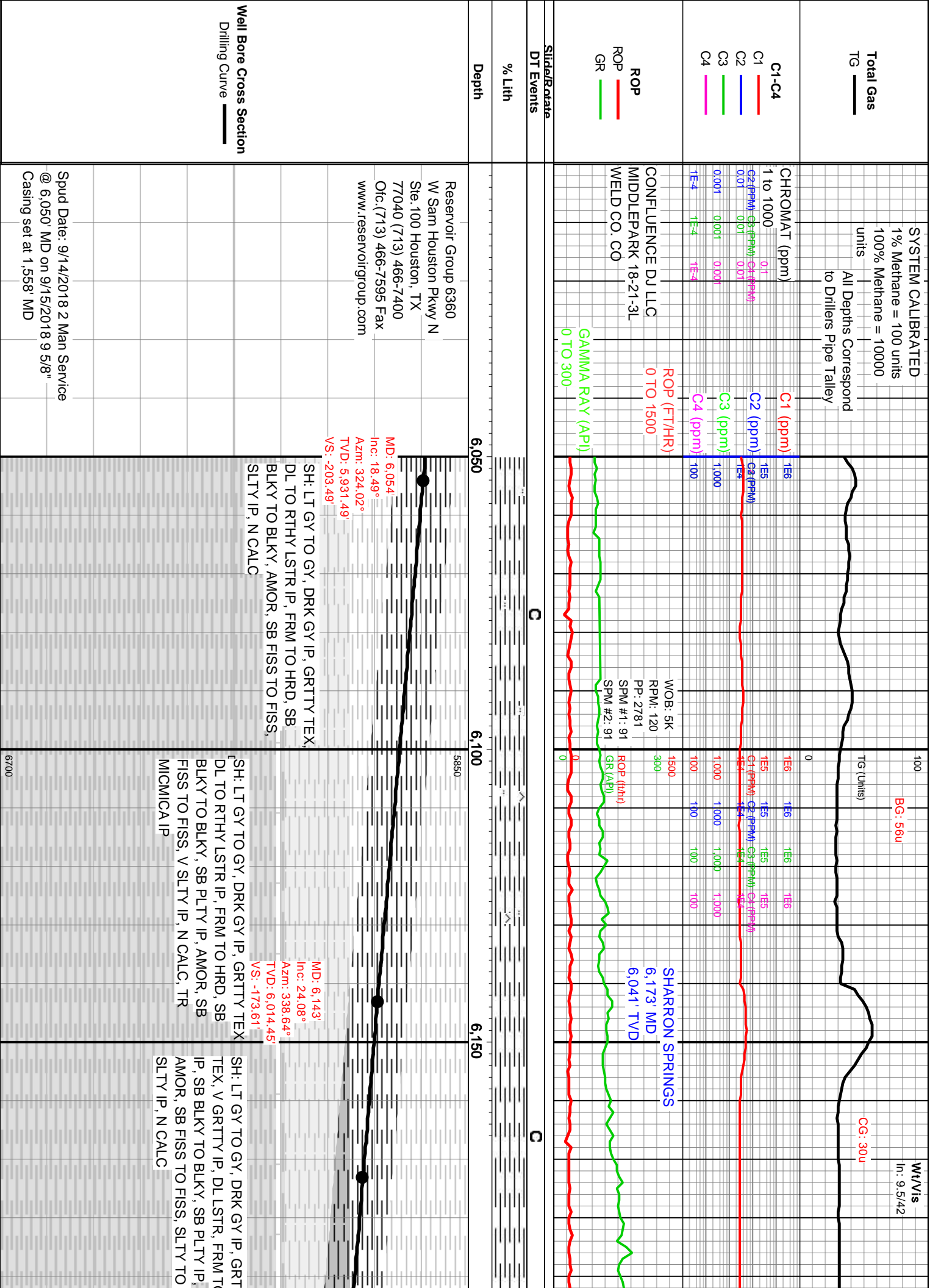
ANHYDRITE STRINGER
BENTONITE STRINGER

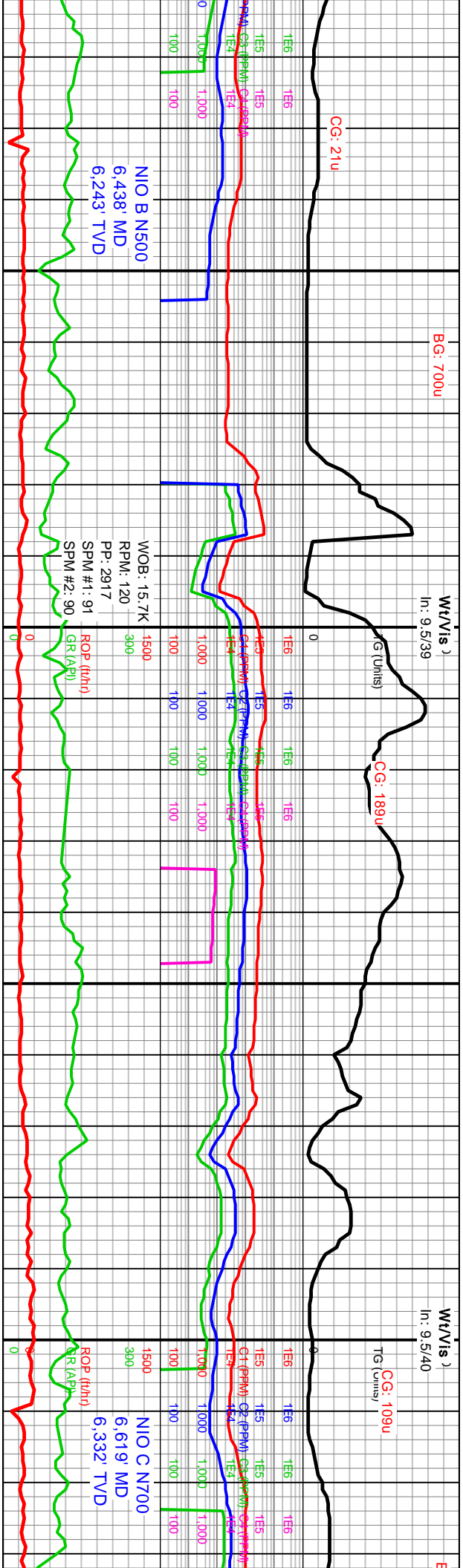
Other Symbols

ORE - LOST	OS	SURVEY	E	EARTHY
ORE - RECOVERED	⇄	WIRELINE TESTED - LEFT	FX	FINELYXLN
OST INTERVAL	▷	WIRELINE TESTED - RT	GS	GRAINSTONE
FAULT			L	LITHOGRAPHIC
FORMATION TOP	⇄		MX	MICROXLN
GAS SHOW	A	ANGULAR	MS	MUDSTONE
MINDEPTH MN DEPTH	R	ROUNDED	PS	PACKSTONE
NORMAL FAULT	B	SUBANG	WS	WACKSTONE
OIL SHOW	F	SUBRND		
BIT				
OVERTURNED STRATA				
REVERSE FAULT				
SIDEWALL CORE (LEFT)	C	CHALKY	P	POOR
SIDEWALL CORE (RIGHT)	CX	CRYPTOXLN	W	WELL

Textures

Sorting

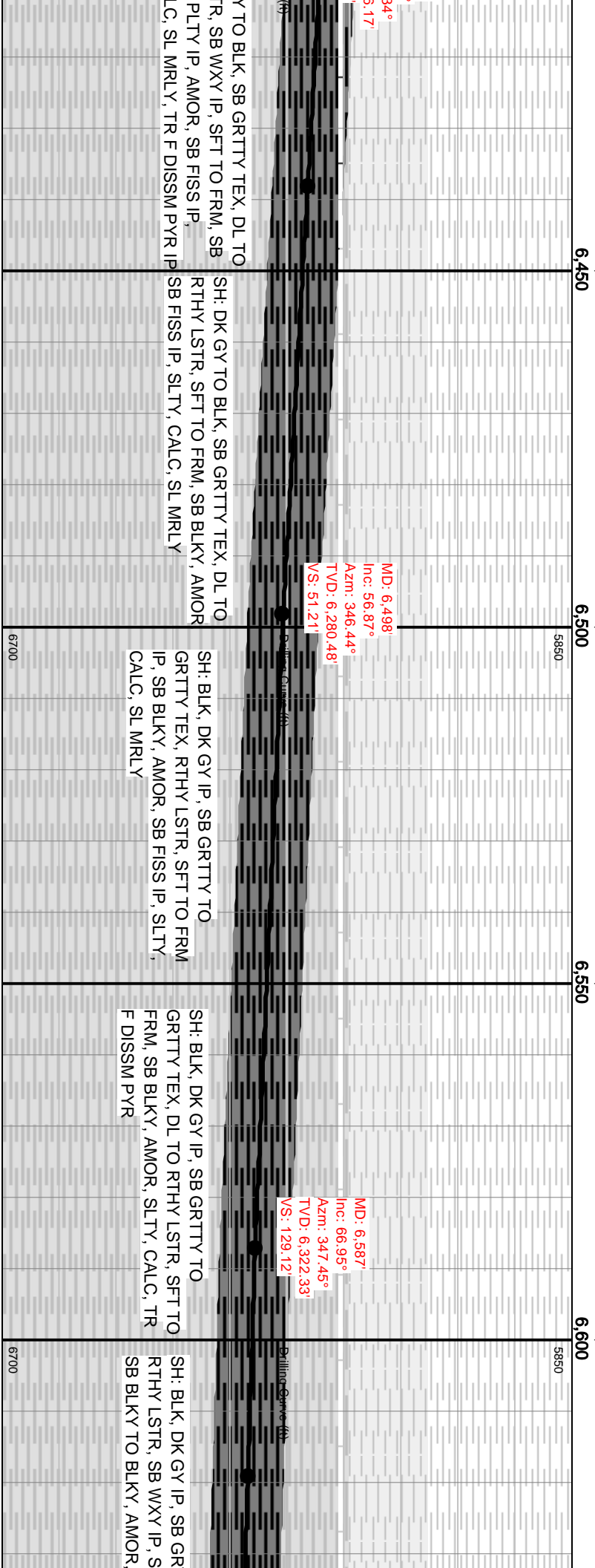


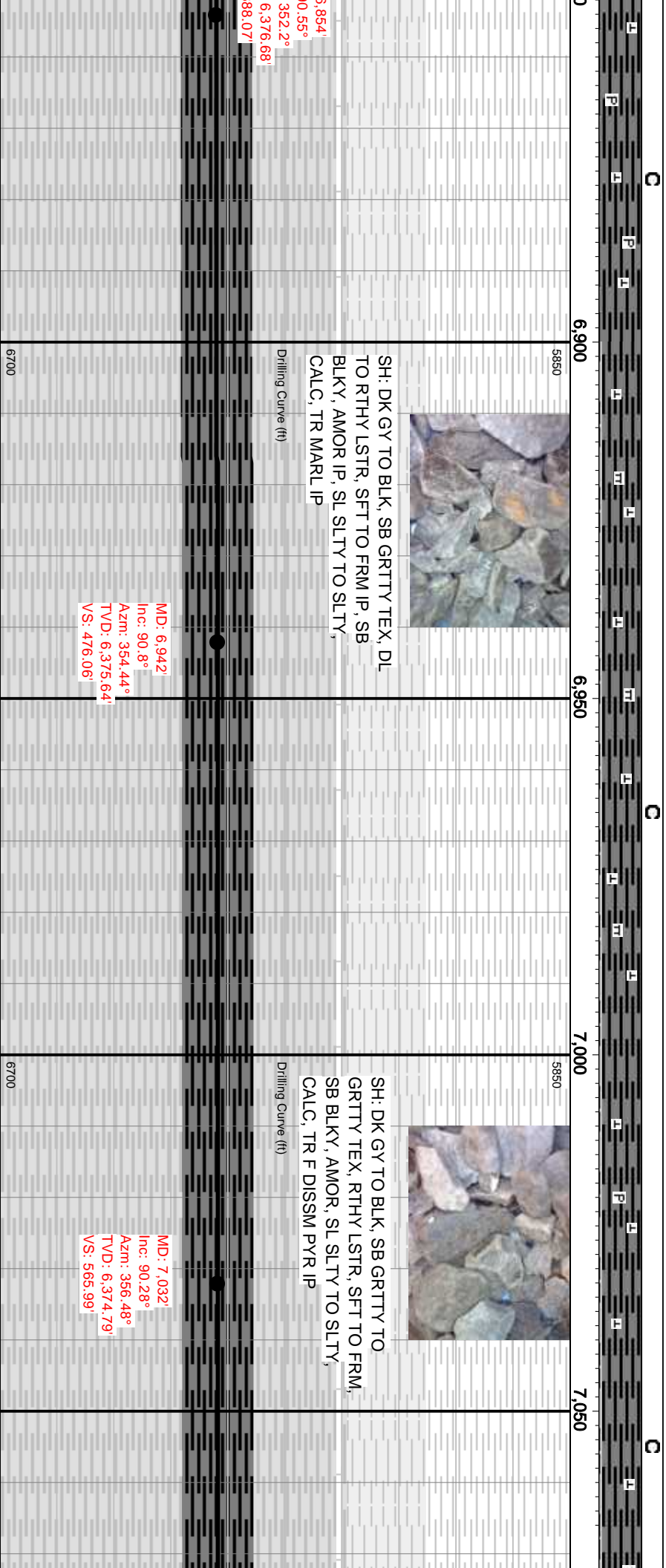
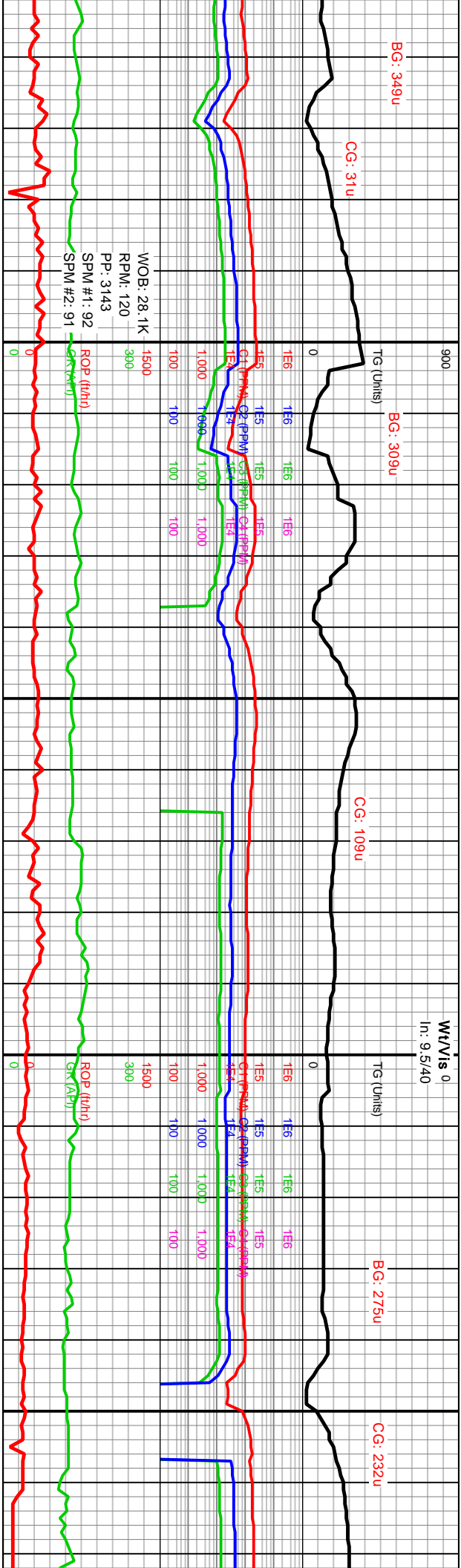


C

C

C



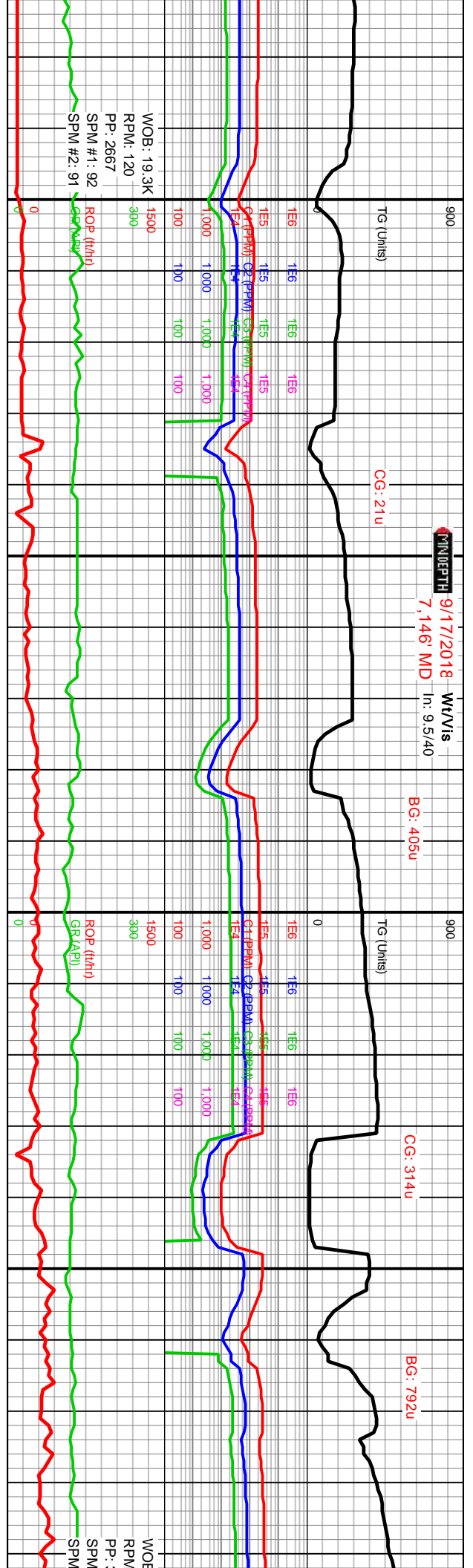


CONNECT 9/17/2018 Wt/Vis
7,146' MD In: 9.5/40

BG: 405u

CG: 314u

BG: 792u



C

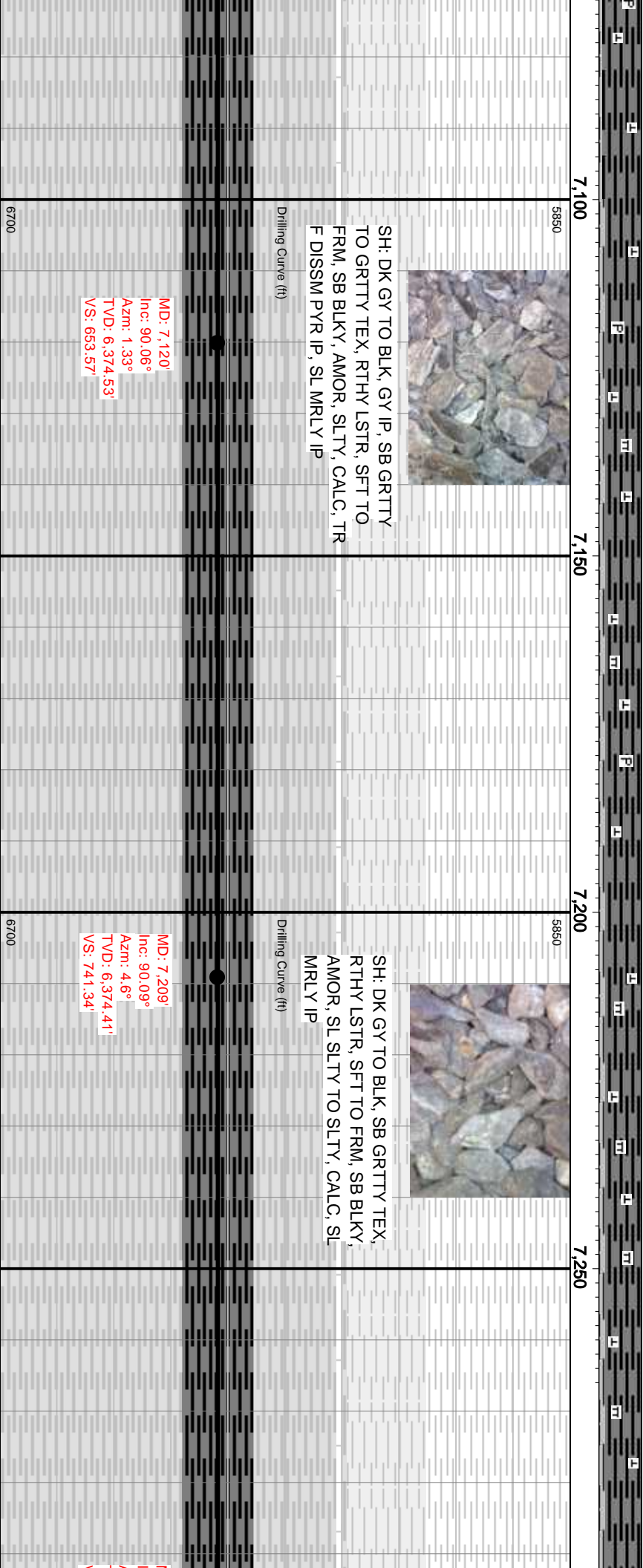
C

7,100

7,150

7,200

7,250



5850

5850

6700

6700

SH: DK GY TO BLK, GY IP, SB GRITTY TO GRITTY TEX, RTHY LSTR, SFT TO FRM, SB BLKY, AMOR, SLTY, CALC, TR F DISSM PYR IP, SL MRLY IP

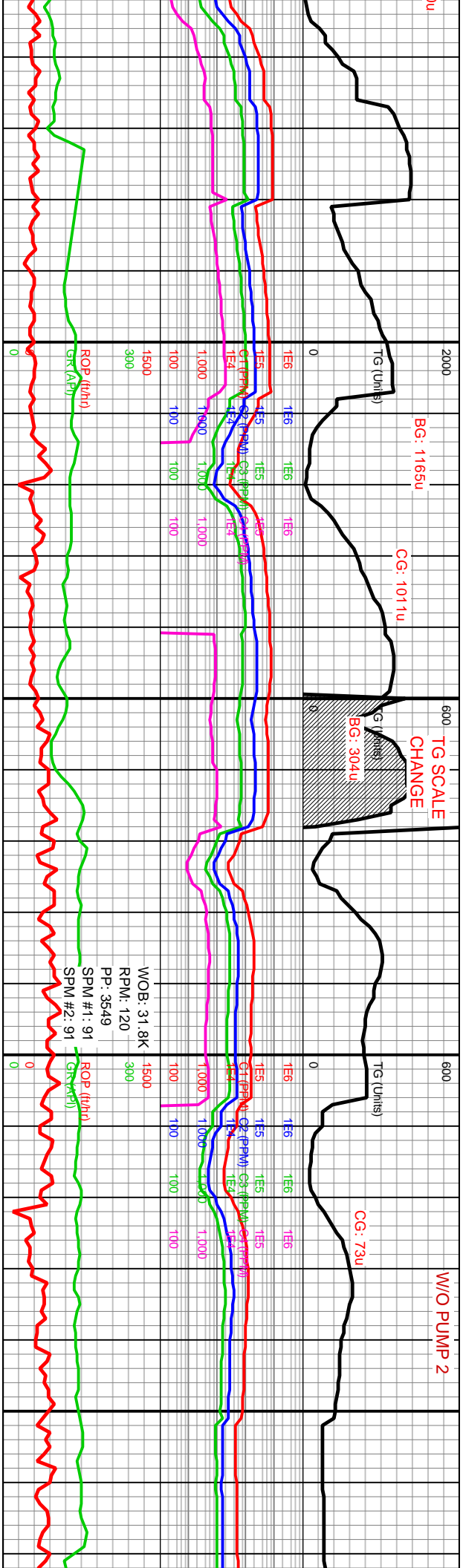


Drilling Curve (ft)

Drilling Curve (ft)

MD: 7,120'
Inc: 90.06°
Azmi: 1.33°
TVD: 6,374.53'
VS: 653.57'

MD: 7,209'
Inc: 90.09°
Azmi: 4.6°
TVD: 6,374.41'
VS: 741.34'



SH: DK GY TO BLK, GY IP, GRITTY
TEX, RTHY LSTR, FRM, SB BLKY,
AMOR IP, SLTY, CALC, SL MRLY IP,
SL CHKY IP

Drilling Curve (ft)

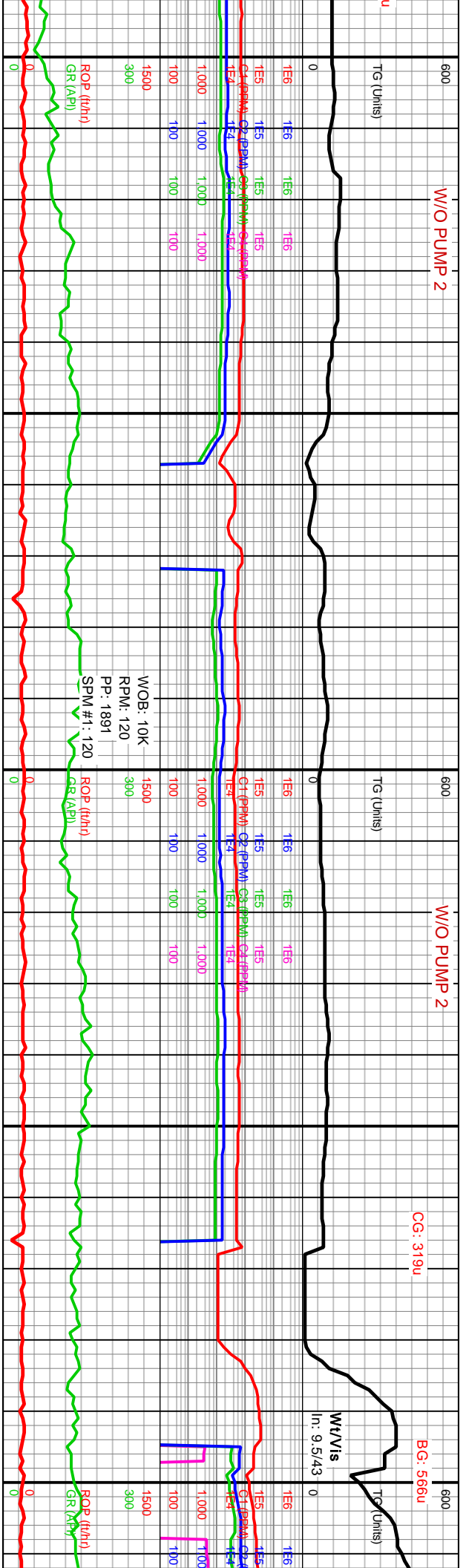
MD: 8.009'
Inc: 89.94°
Az: 358.01°
TVD: 6.375.48'
VS: 1.529.87'



SH: DK GY TO BLK, GY IP, SB GRITTY TO
GRITTY TEX, DL TO RTHY LSTR, SFT TO
FRM, SB BLKY, AMOR IP, SLTY, CALC, SL
MRLY IP

Drilling Curve (ft)

MD: 8.097'
Inc: 89.97°
Az: 358.59°
TVD: 6.375.55'
VS: 1.617.56'



SH: DKGY TO BLK, BRNSH IP, GRITTY
TEX, DL LSTR, SB WXY IP, SFT TO FRM,
HRD IP, SB BLKY TO BLKY, SB PLTY IP, SB
FISS TO FISS IP, AMOR IP, SL SLTY, CALC
TR MRLY IP



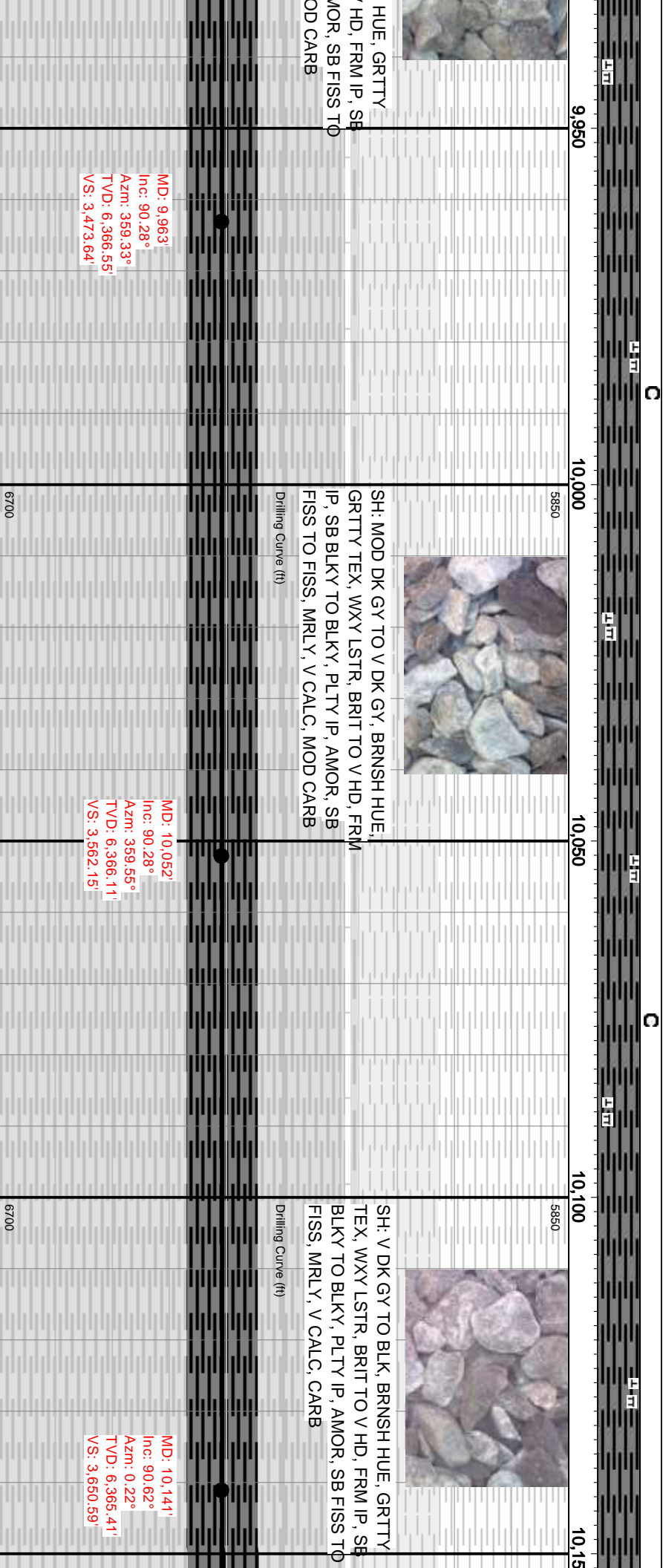
SH, DKGY TO BLK, BRNSH IP, GRITTY
TEX, DL LSTR, SB WXY IP, SFT TO FRM,
HRD IP, SB BLKY TO BLKY, SB PLTY IP, SB
FISS TO FISS IP, AMOR IP, SL SLTY, CALC
TR MRLSTN IP



SH: DK G
TEX, DL L
HRD IP, S
FISS TO F
TR MRLS
Drilling Curve

MD: 8,452'
Inc: 90°
Azm: 358.17°
TVD: 6,375.34'
VS: 1,970.87'

MD: 8,541'
Inc: 90.06°
Az: 357.99°
TVD: 6,375.29'
VS: 2,059.58'





C

C

C



SH: V DK GY TO BLK, BRNSH HUE, GRITTY
TEX, WXY LSTR, BRIT TO V HD, FRM IP, SB
PLTY TO BLKY, PLTY IP, AMOR, SB FISS TO
FISS, MRLY, V CALC, V CARB

SH: V DK GY TO BLK, BRNSH HUE, GRITTY
TEX, WXY LSTR, FRM TO V HD, BRIT IP, SB
PLTY TO BLKY, PLTY IP, AMOR, SB FISS TO
FISS, MRLY, V CALC, V CARB

Drilling Curve (ft)

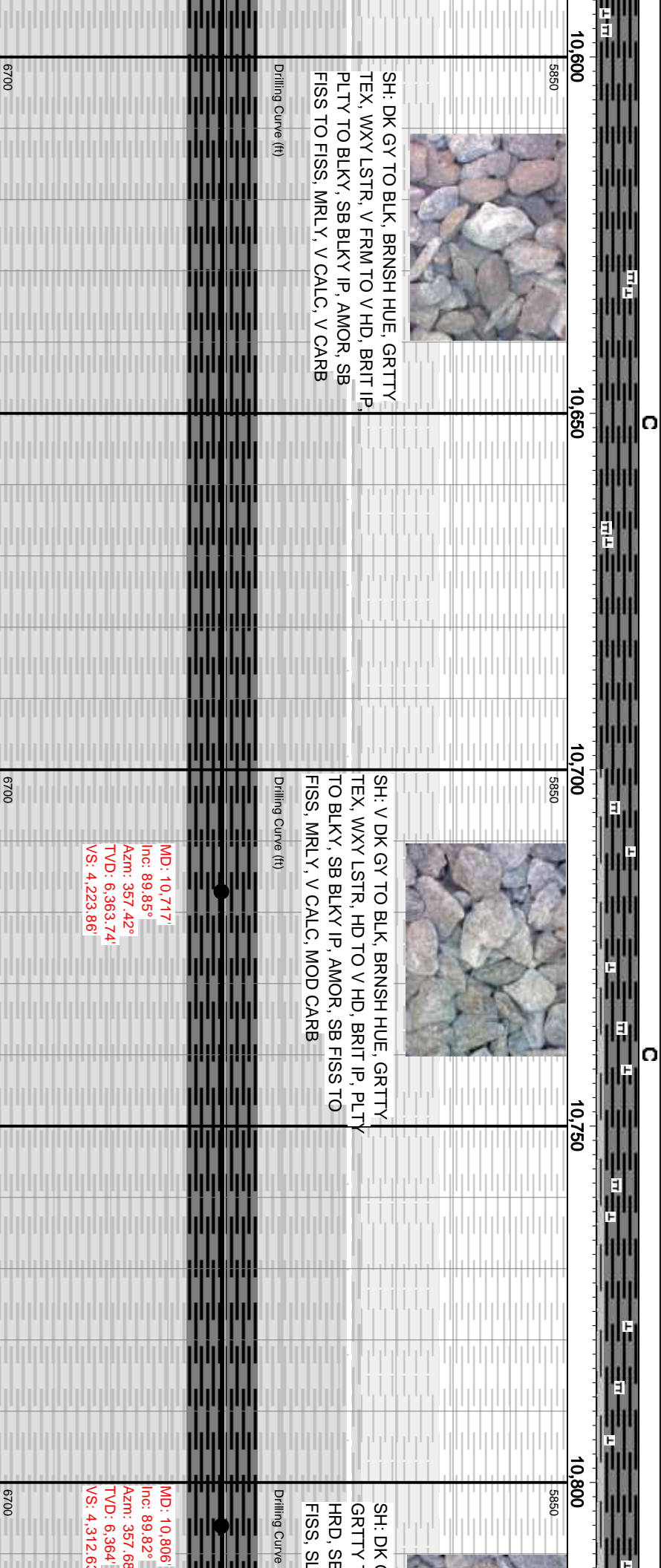
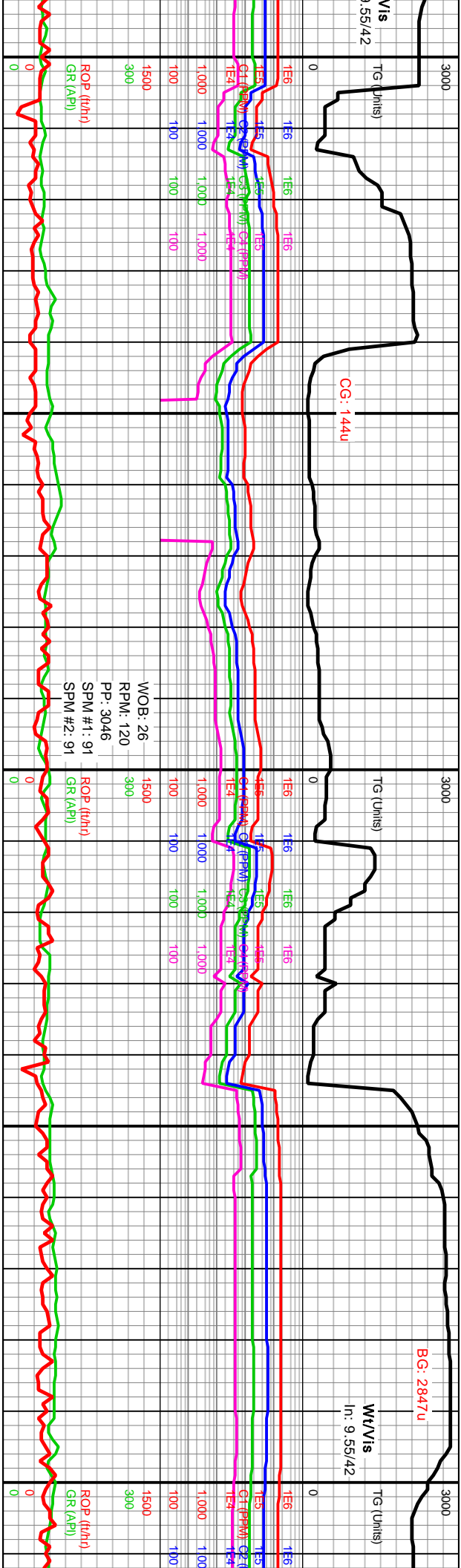
Drilling Curve (ft)

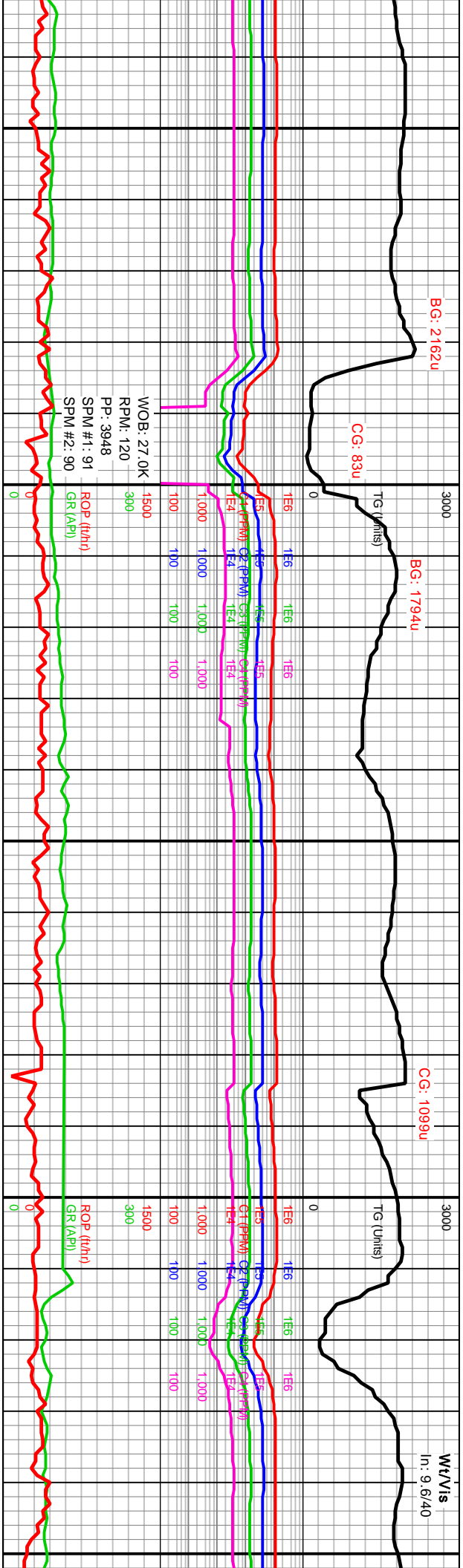
MD: 10,230
Inc: 90.68°
Azim: 0.64°
TVD: 6,364.4
VS: 3,738.93

MD: 10,318
Inc: 90.52°
Azim: 0.19°
TVD: 6,363.48
VS: 3,826.29

6700




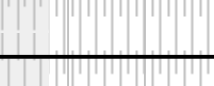

6700

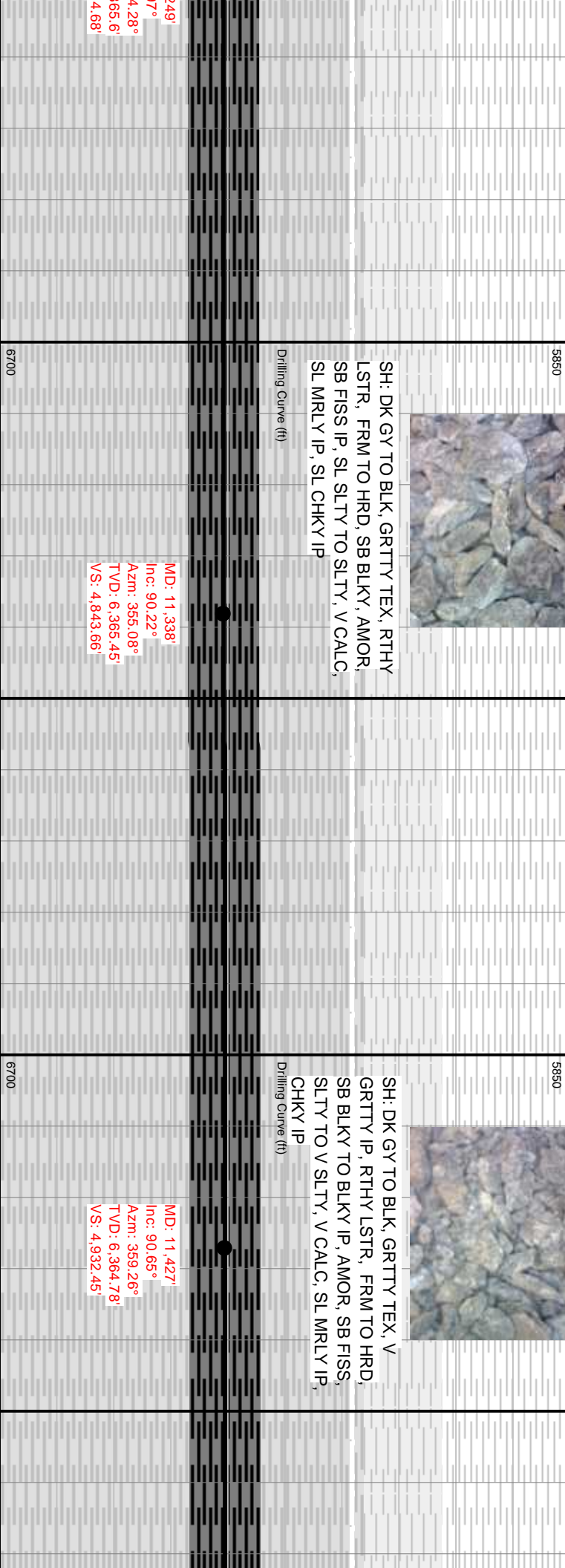
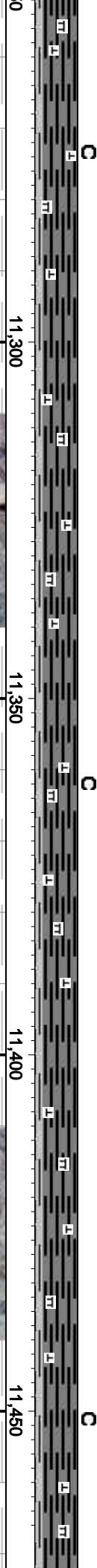
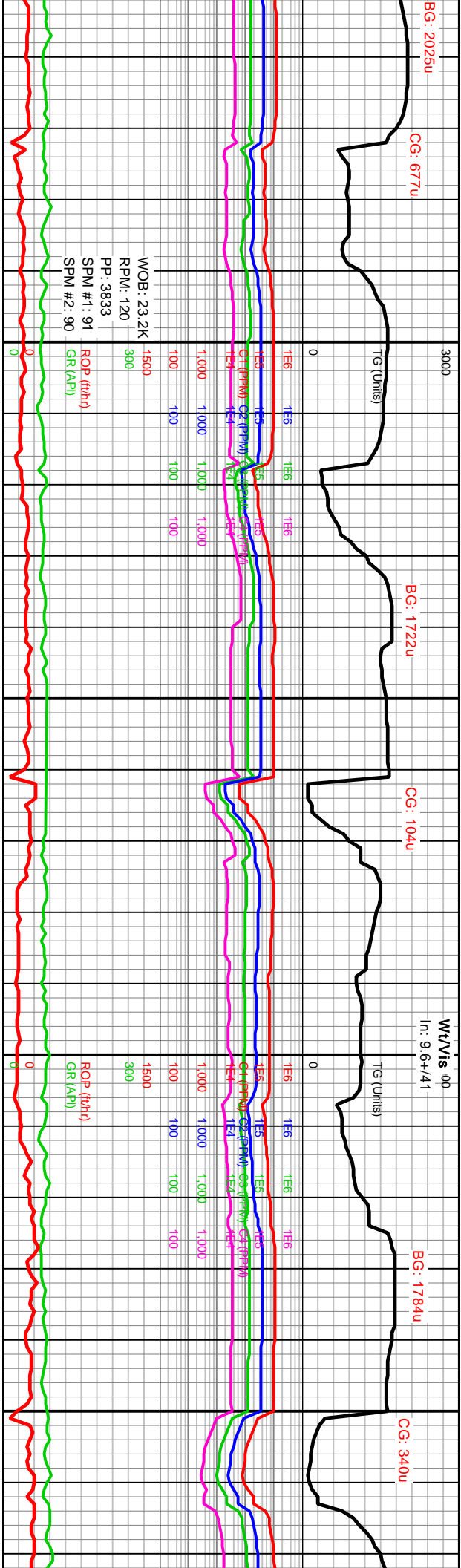


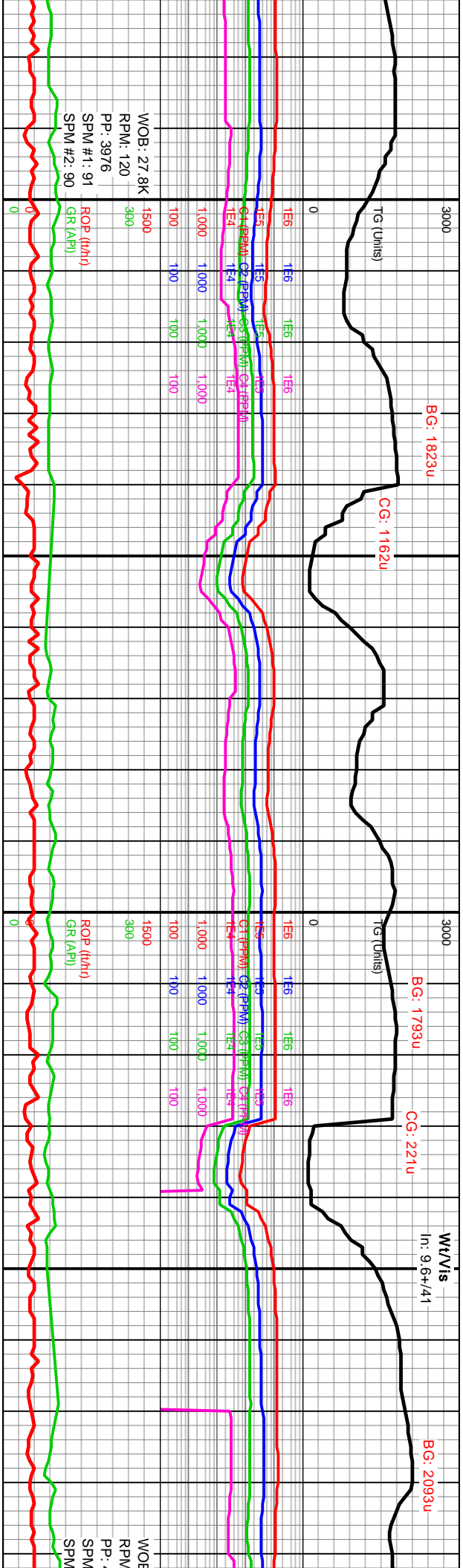


C

C

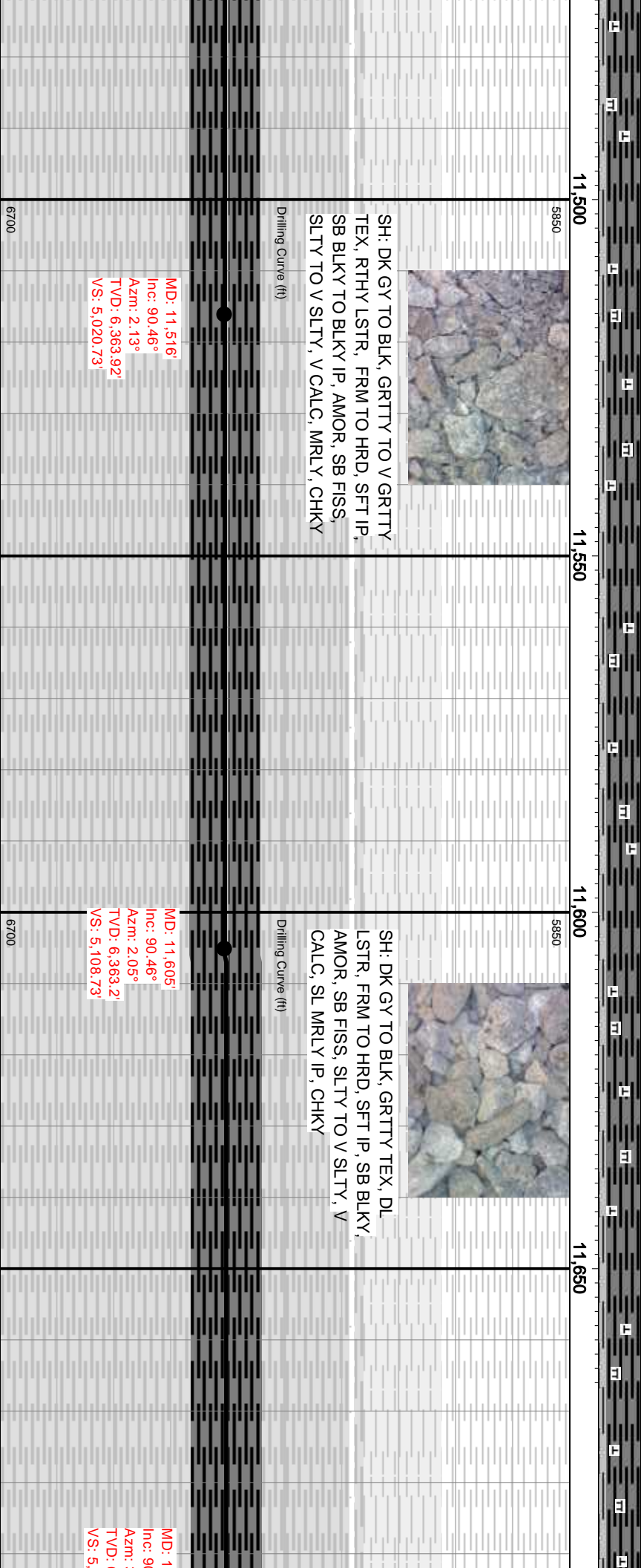
11,050	11,100	11,150	11,200	11,250
				
IP, GRITTY TO HRD, SS, SLTY, V CY IP	SH: GY TO DK GY TO BLK, GRITTY TEX, DL LSTR, FRM TO HRD, SB BLKY TO BLKY IP, AMOR, SB FISS, SLTY, V CALC, SL MRLY IP, SL CHKY IP	SH: GY TO DK GY TO BLK, GRITTY TEX, DL TO RTHY LSTR, FRM TO HRD, SB BLKY TO BLKY IP, AMOR, SB FISS, SLTY TO SLTY, V CALC, SL MRLY IP, SL CHKY IP	SH: GY TO DK GY TO BLK, GRITTY TEX, DL TO RTHY LSTR, FRM TO HRD, SB BLKY TO BLKY IP, AMOR, SB FISS, SLTY TO SLTY, V CALC, SL MRLY IP, SL CHKY IP	
MD: 11.072 Inc: 89.78° Azim: 358.09° TVD: 6.365.07 VS: 4.577.99	MD: 11.160 Inc: 89.78° Azim: 357.13° TVD: 6.365.41 VS: 4.665.76	MD: 11.2 Inc: 89.9° Azim: 35° TVD: 6.3 VS: 4.75		





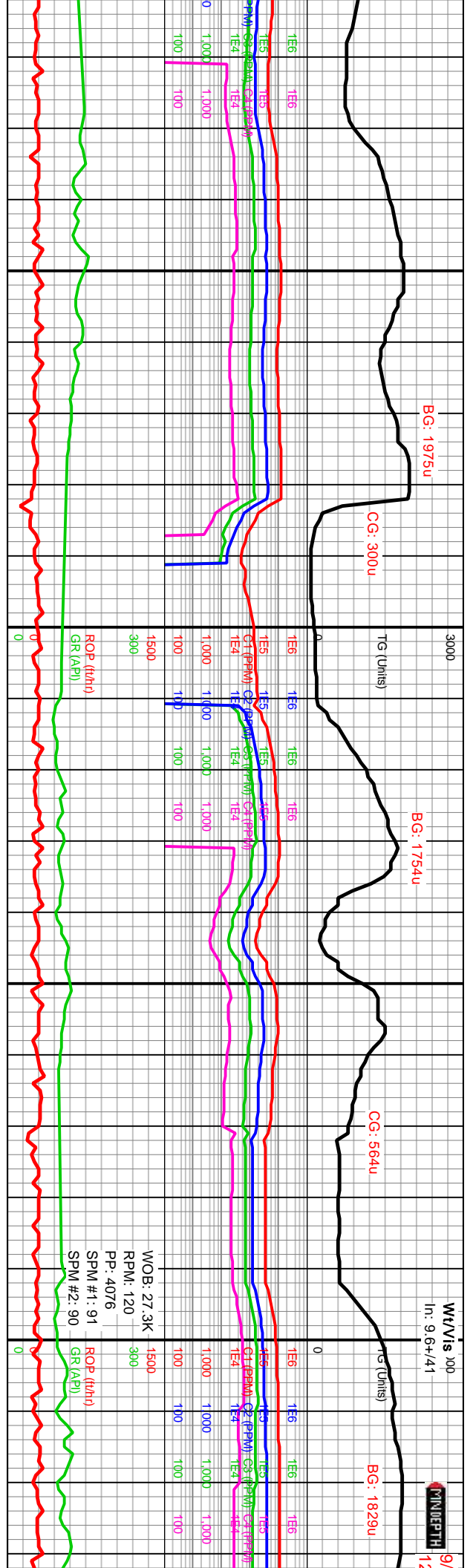
C

C



W/VIS 100
In: 9.6+/-1

MINDEPTH
12



C

C

11,950

12,000

12,050

12,100



Y TO BLK, GRITTY TEX, RTHY
M TO HRD, SB BLKY TO BLKY
SB FISS IP, SLTY TO V SLTY, V
SLTY, SL CHKY IP

SH: DK GY TO BLK, GRITTY TEX, DL
LSTR, RTHY IP, FRM TO HRD IP, SB
BLKY, AMOR, SB FISS IP, SLTY, V
CALC, SL MRLY, SL CHKY IP

SH: DK GY TO BLK, GRITTY
FRM TO HRD IP, SB BLKY,
SLTY TO V SLTY, V CALC, S
CHKY IP

Drilling Curve (ft)

Drilling Curve (ft)

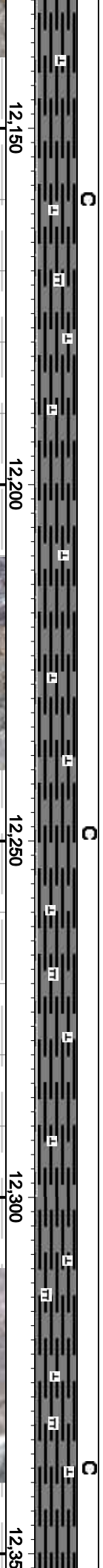
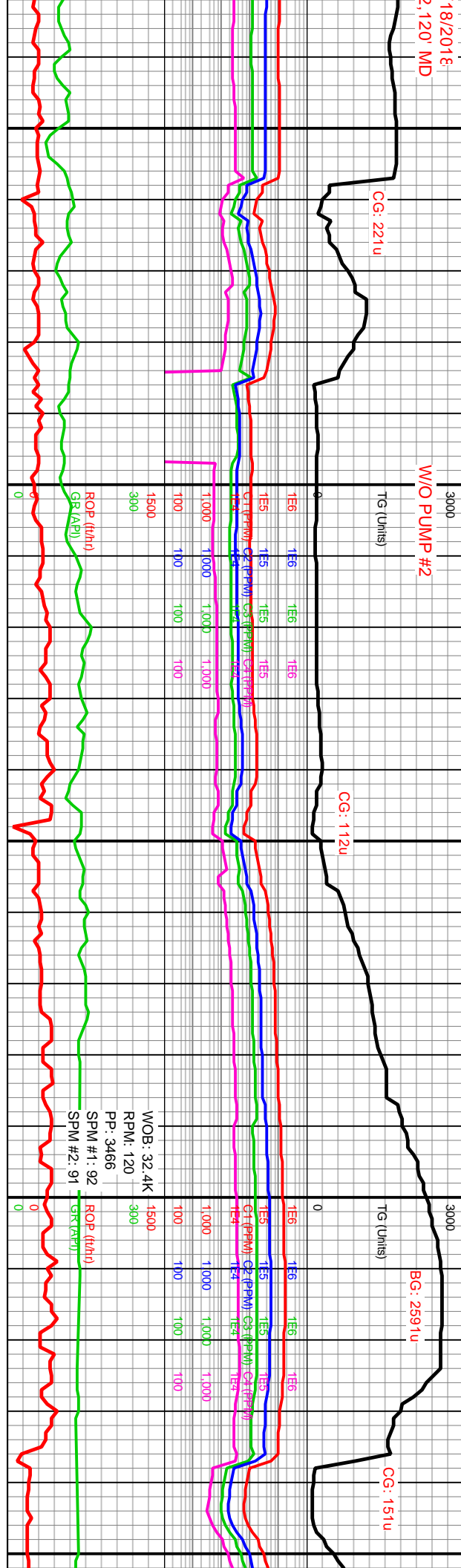
MD: 11,959'
Inc: 90.65°
Azim: 0.85°
TVD: 6,359.87'
VS: 5,459.62'

MD: 12,048'
Inc: 89.94°
Azim: 5.07°
TVD: 6,359.41'
VS: 5,547.38'

6700

6700

18/2016
2,120' MD



TEX, DL LSTR, AMOR, SB FISS, SL MRLY IP, SL

SH: DK GY TO BLK, GY IP, GRITTY TEX, V GRITTY IP, DL LSTR, FRM TO HRD, SB BLKY TO BLKY IP, AMOR, SB FISS, SLTY TO V SLTY, V CALC, TR MRL, SL CHKY IP

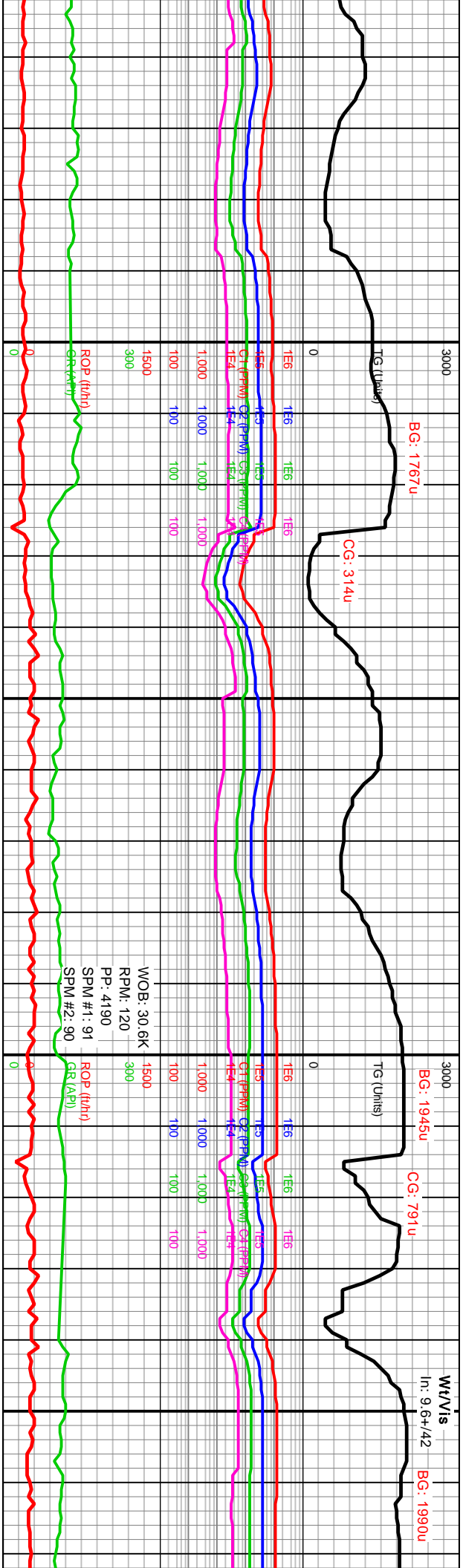
Drilling Curve (ft)

D: 12,137
C: 90.09°
Azm: 6.31°
D: 6,359.39'
S: 5,634.37'

MD: 12,226
Inc: 90.09°
Azm: 6.43°
TV/D: 6,359.25'
VS: 5,721.13'

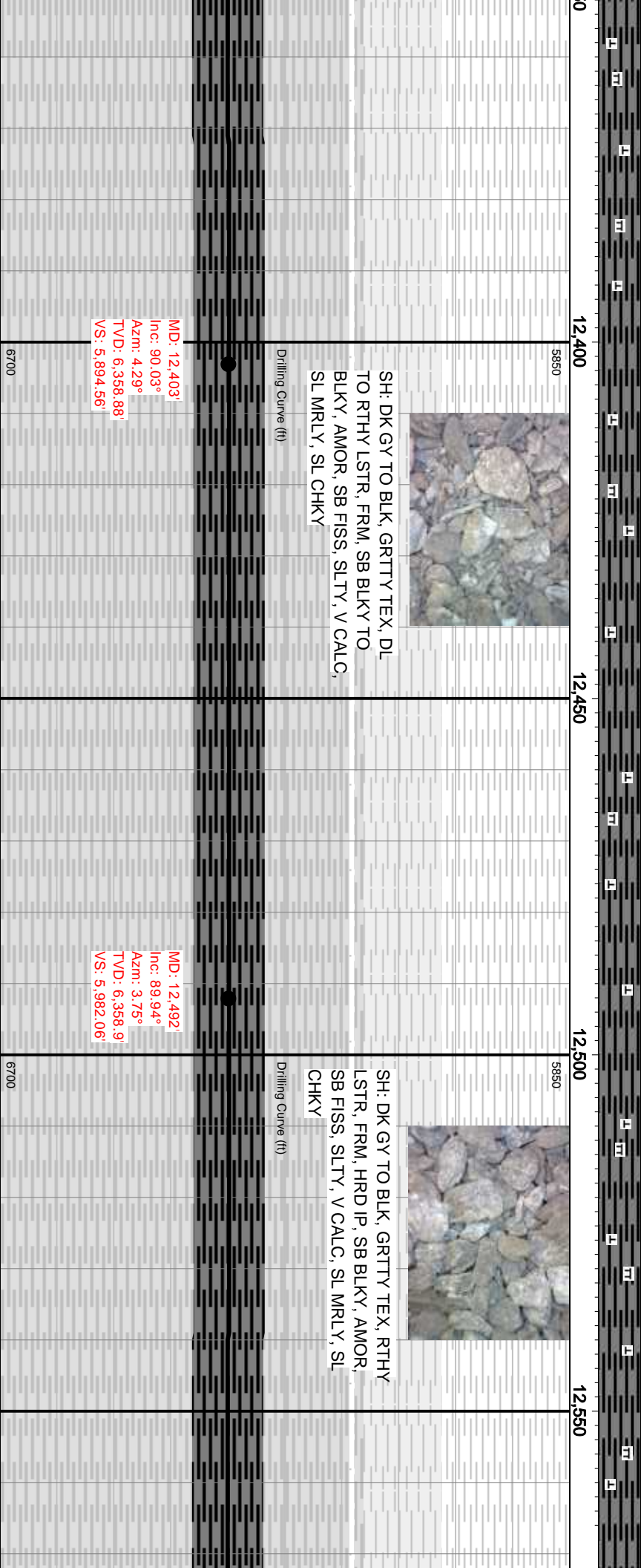
MD: 12,314
Inc: 90.18°
Azm: 4.6°
TV/D: 6,359.04'
VS: 5,807.19'

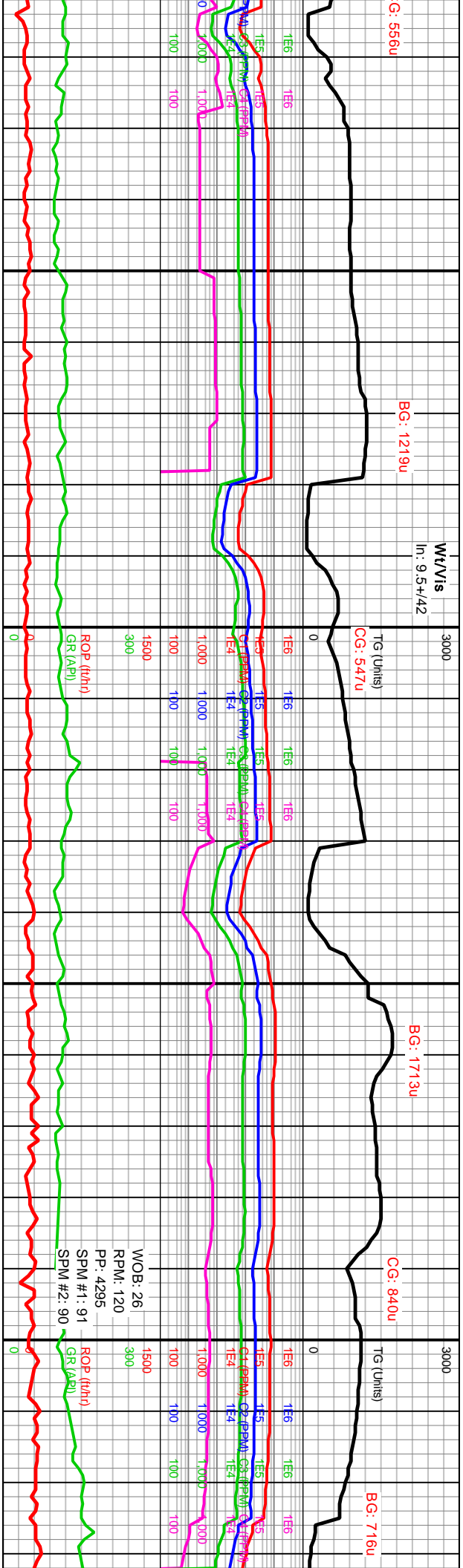




C

C





GY TO BLK, SB GRITTY TO GRITTY
LSTR, V FRM TO V HD, PLTY TO
/ MRLY, SB BLKY IP, AMOR, INTR
CALC, V CARB



SH: V DK GY TO BLK, GRITTY TEX, BRN
LSTR, V FRMT TO V HD, PLTY TO BLKY IP, V
MRLY, SB BLKY IP, AMOR, INTR CAL IP,
PYR INCL IP, V CALC, V CARB

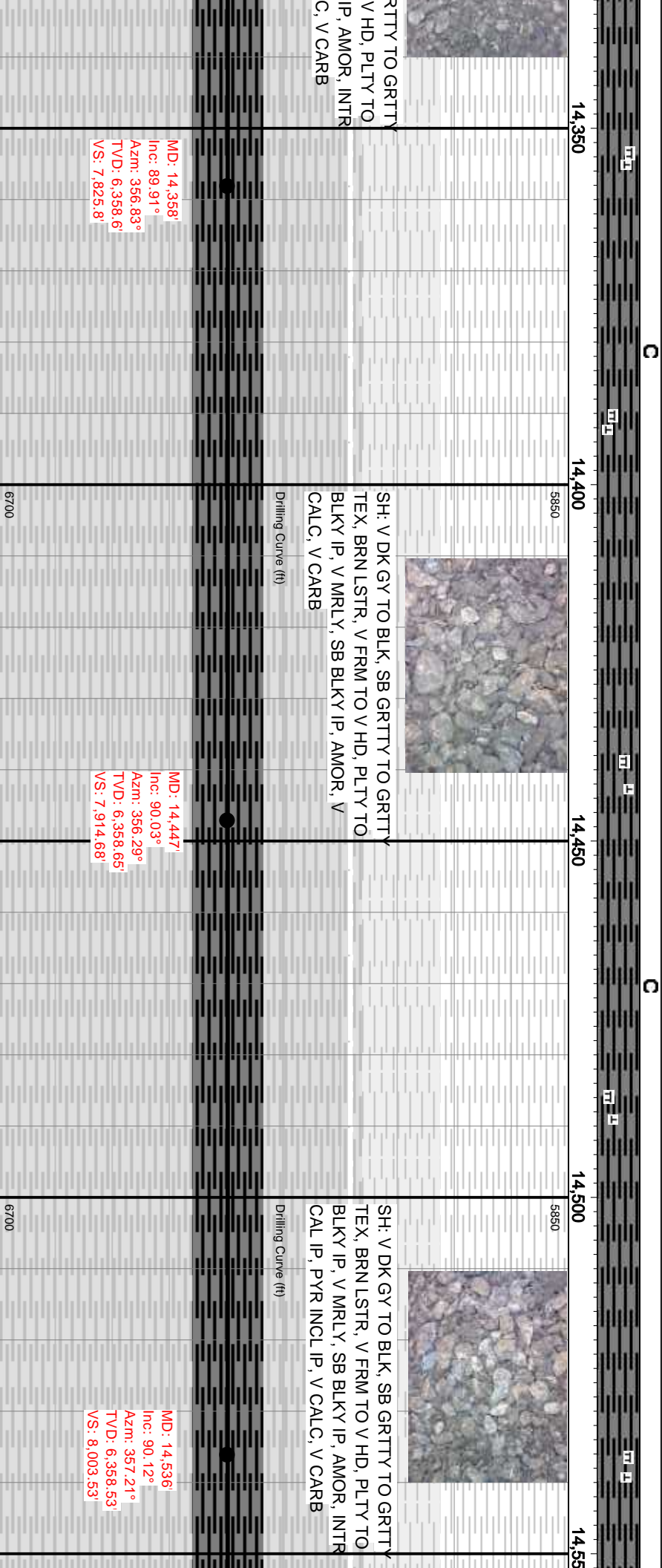
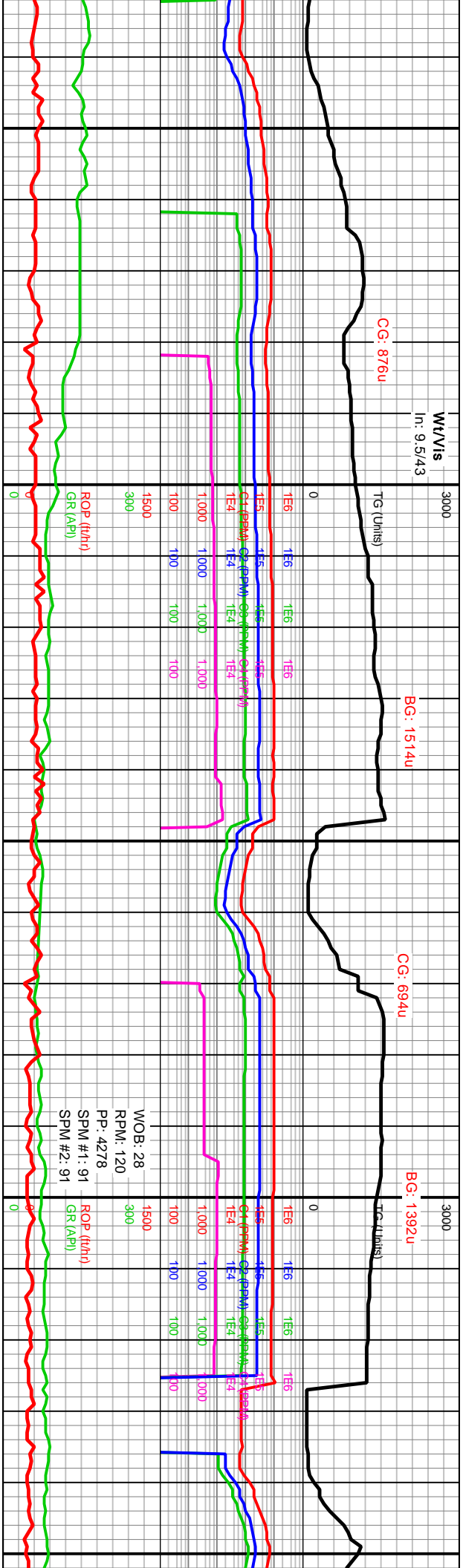


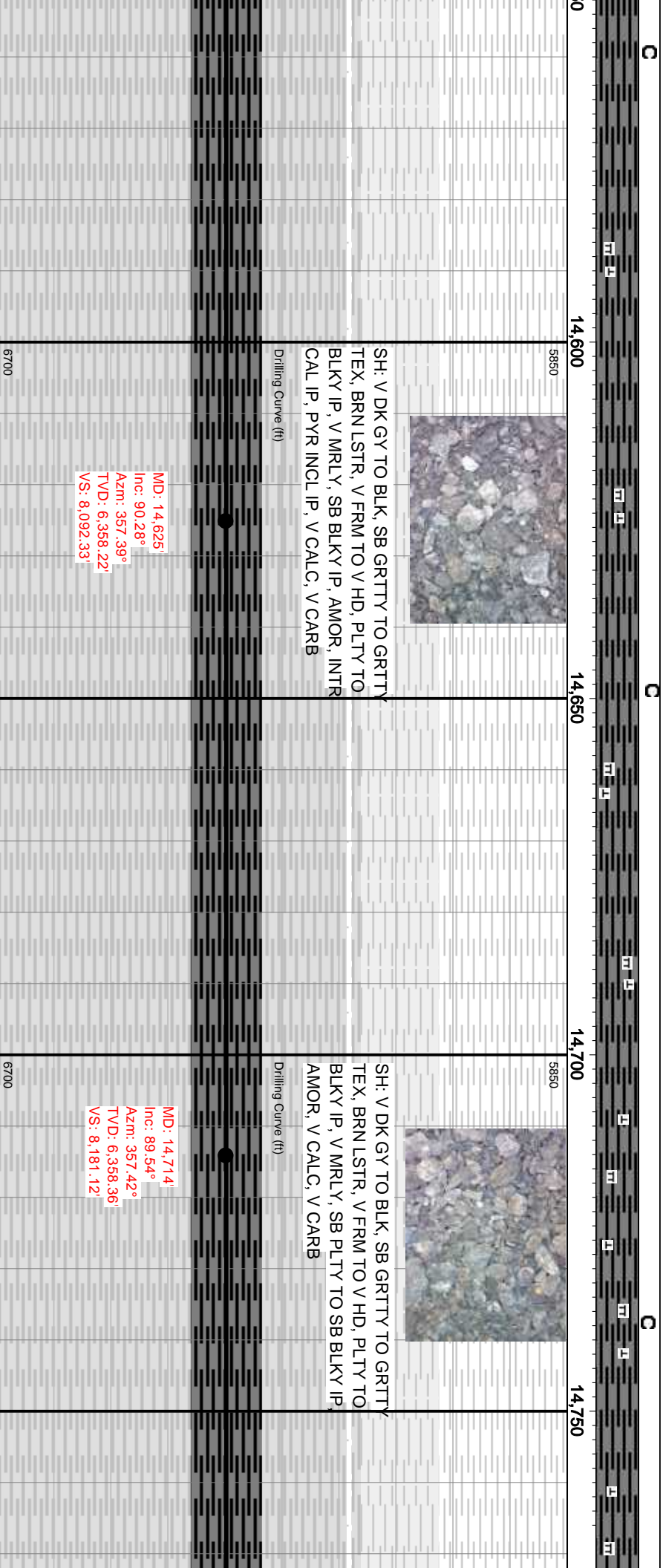
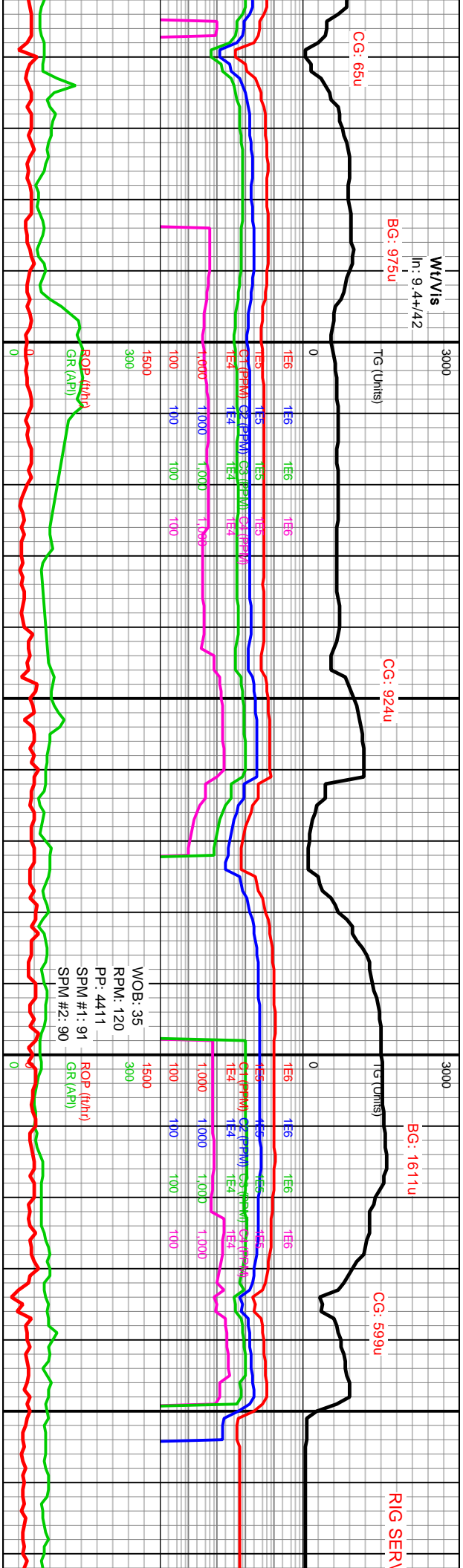
SH: V DK GY TO BLK, SB G
TEX, BRN LSTR, V FRM TO
BLKY IP, V MRLY, SB BLKY
CAL IP, PYR INCL IP, V CAL

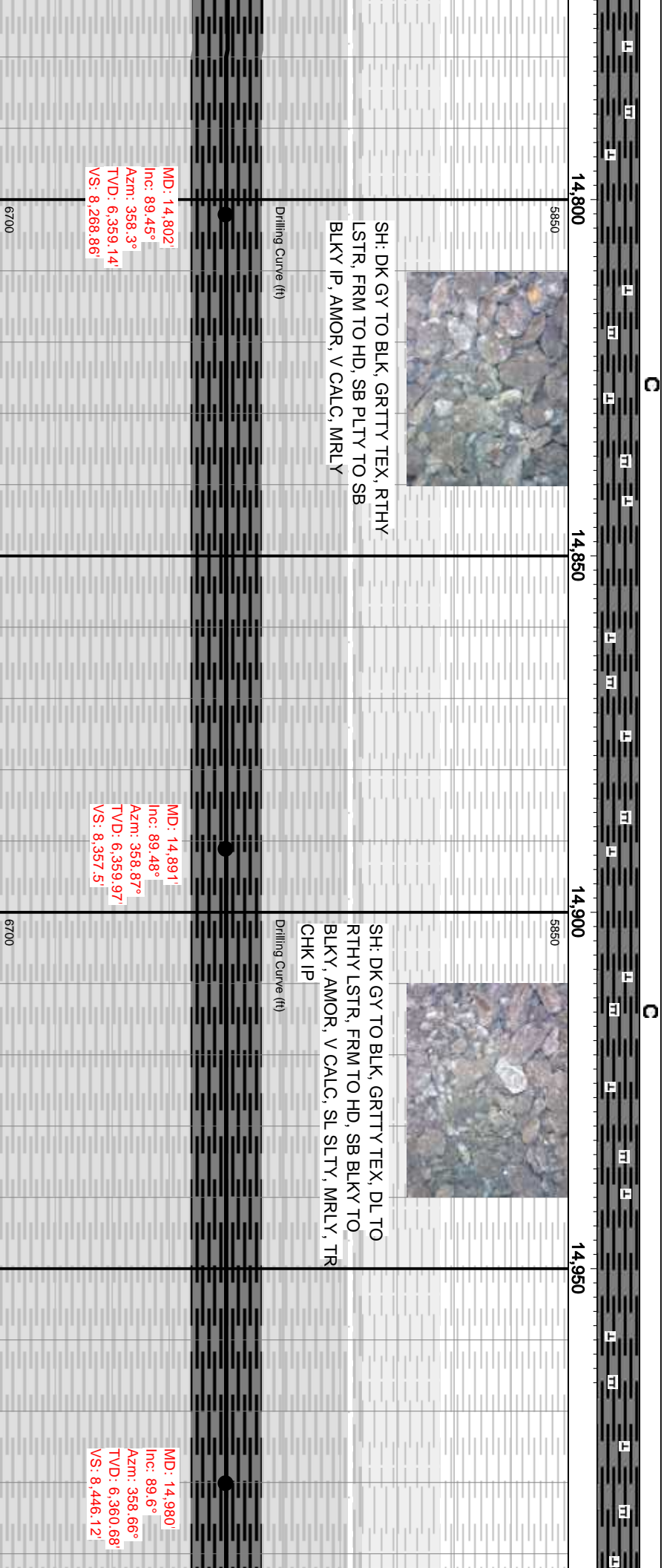
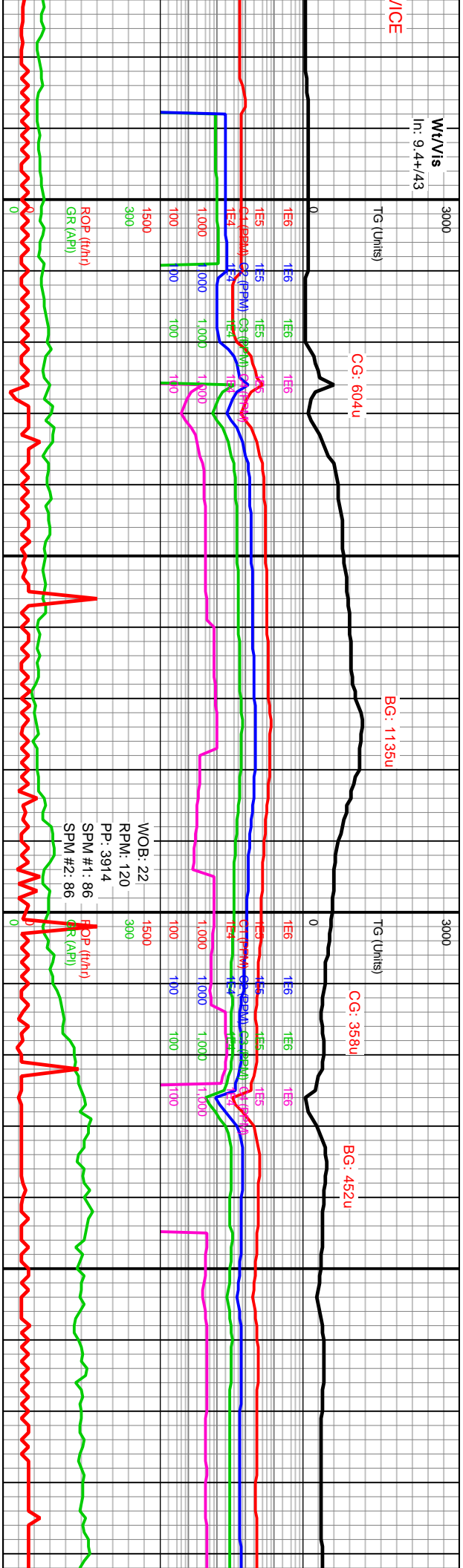
Drilling Curve (ft)

Drilling Curve (ft)

Oil Based
Depth: 14,293
Wt: 9.5
Vis: 42
PV: 11
YP: 7
Gel: 5/77/10
H2O: 21.0
Oil: 68.0
Sol: 9.5
EXLm: 1.29
Cl: 38K
Ca: 34K
ESV: 515







Wt/Vs 30
In: 9.4/40

Wt/Vs 30
In: 9.4/42

TG (Units)
CG: 269u

BG: 608u

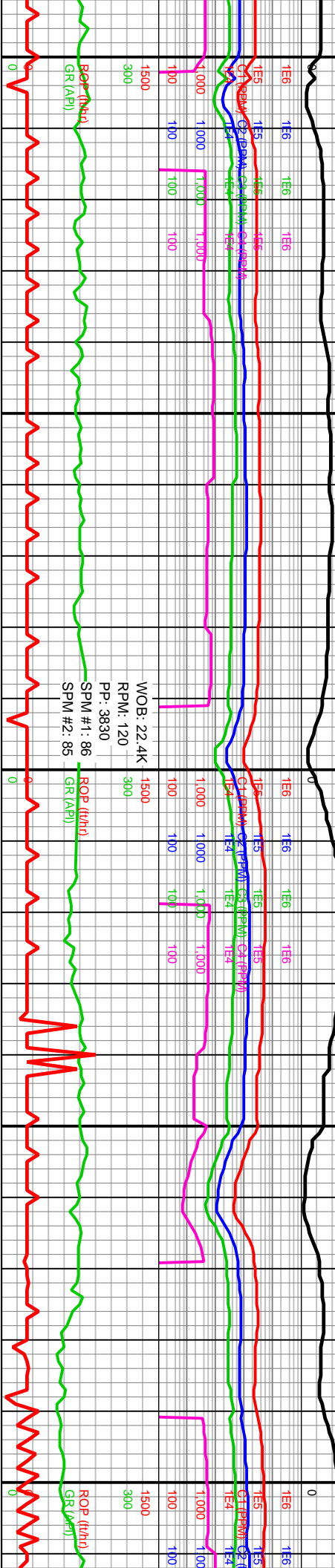
CG: 391u

TG (Units)

BG: 804u

CG: 392u

TG (Units)
BG: 790u



C

C

C

15,000

15,050

15,100

15,150

15,200

5850

5850

5850



SH: DK GY TO BLK, GRITTY TEX. RHY
LSTR, FRM, SB BLKY TO BLKY, AMOR, V
CALC, SLTY, TR MRLY IP

Drilling Curve (ft)



SH: DK GY TO BLK, SB GRITTY TO
GRITTY TEX, RHY LSTR, FRM TO
HRD IP, SB BLKY TO BLKY, AMOR, V
CALC, SLTY

Drilling Curve (ft)

MD: 15.068'
Inc: 89.72°
Az: 2.5°
TVD: 6,361.21'
VS: 8.533.43'

MD: 15.157'
Inc: 90°
Az: 5.22°
TVD: 6,361.42'
VS: 8.620.96'

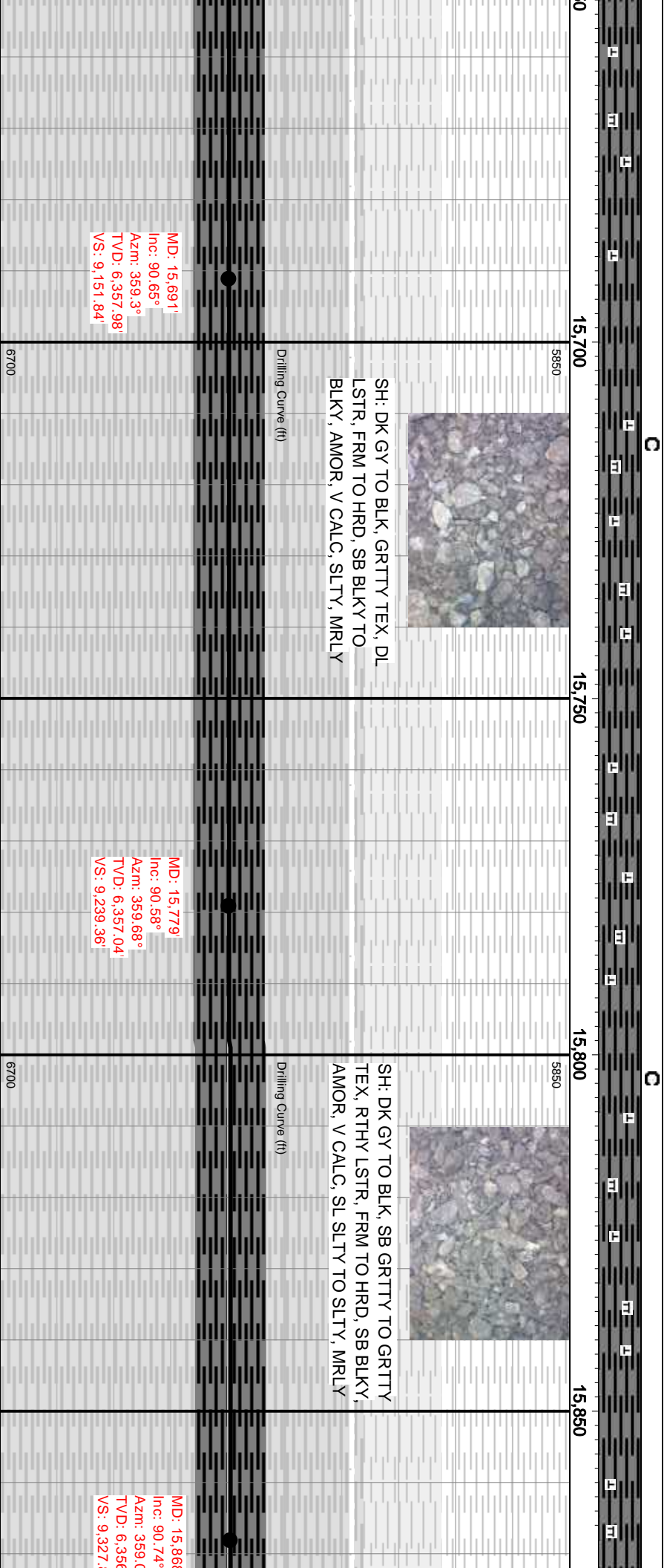
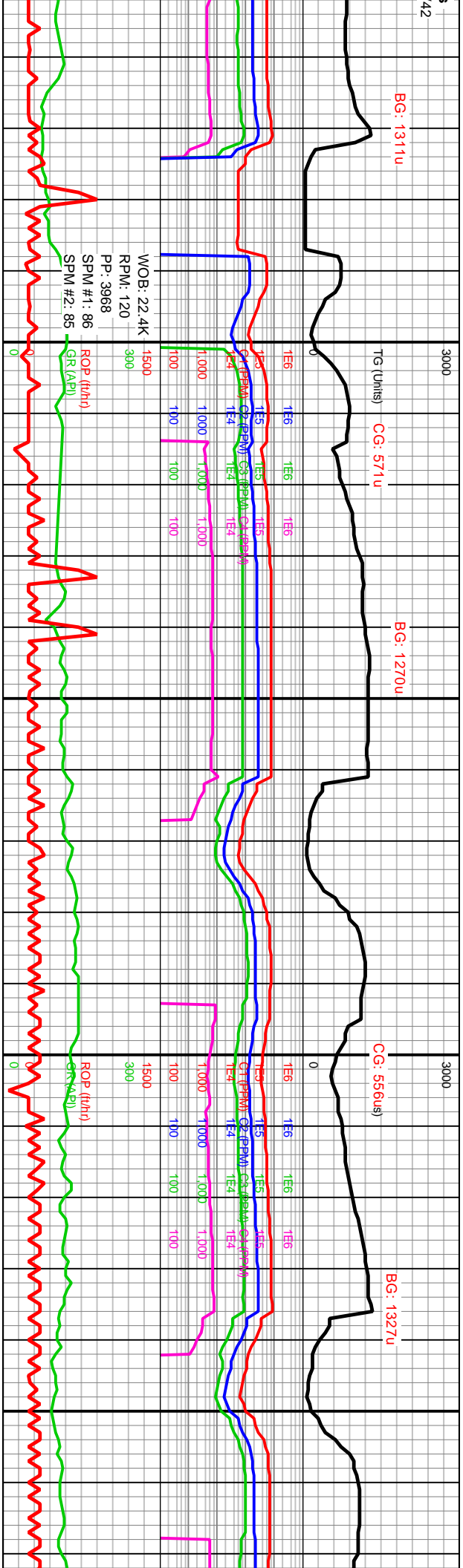
6700

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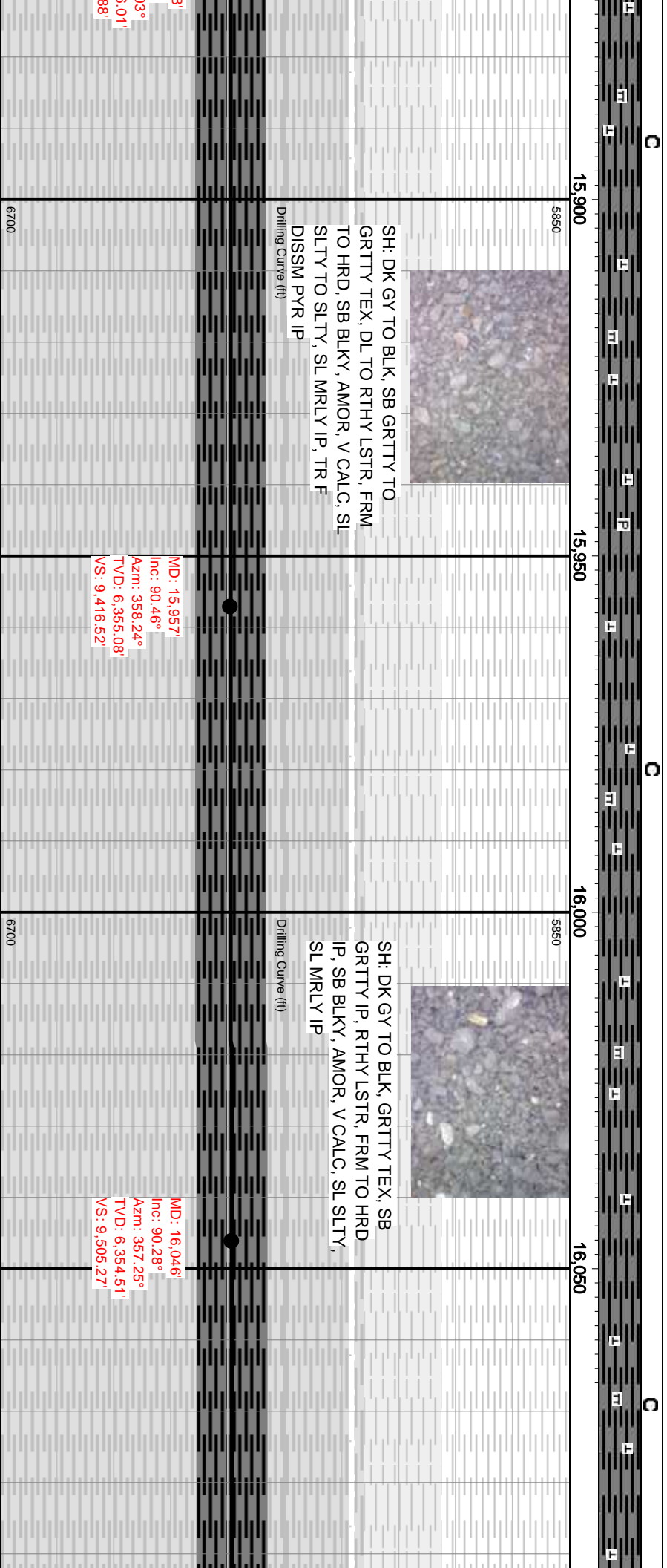
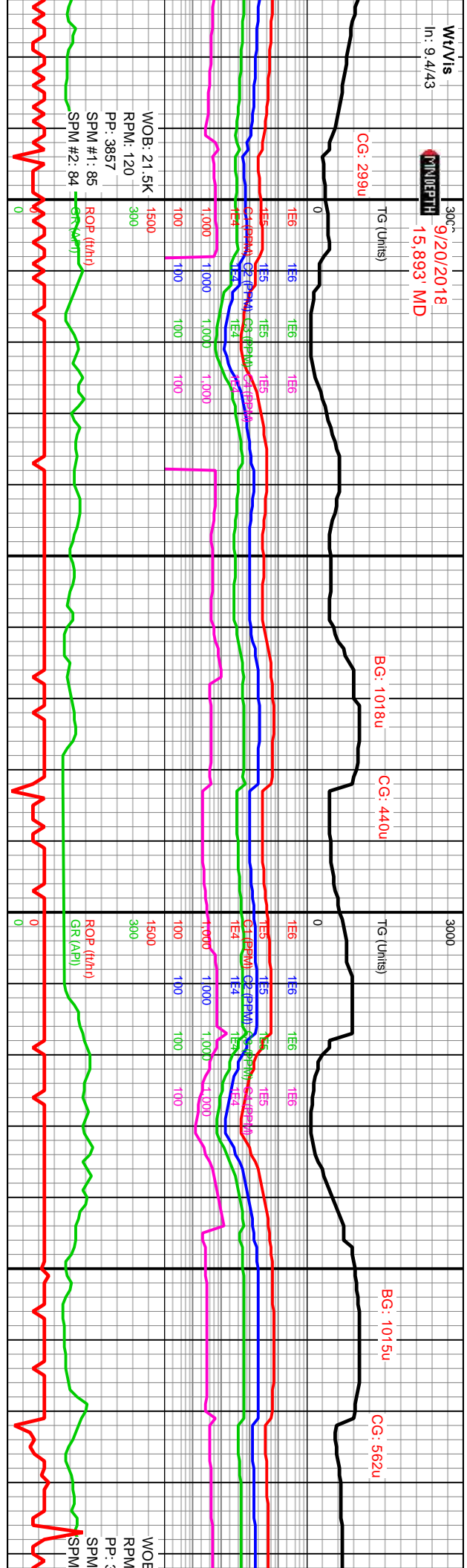
6700

SH: DK GY TO BLK, GRITTY TEX. RHY
LSTR, FRM, SB BLKY TO BLKY, AMOR, V
CALC, SLTY, TR MRLY IP

Drilling Curve (ft)




Wt/Vis
In: 9.4/43
9/20/2018
15,893' MD



A full-page sheet of white graph paper with a light gray grid. The grid consists of small squares, approximately 10 units wide by 10 units high. There are no margins or additional markings on the page.

16,550	16,
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TEX, RTHY
BLKY, AMOR,
SM PYR, SL

WE'LL REACHED TD AT 16:513'
MD ON 9/20/2018. THANK YOU
FOR USING RESERVOIR
GROUP. WE LOOK FORWARD
TO WORKING WITH YOU ON
FUTURE PROJECTS.