



Scale: 5" / 100'  
Measured Depth Log

Well Name    Nalen State LD12-77-1BHN

Location    SESW SEC 1 T9N R58W

State    COLORADO    County    WELD

Country    USA    Rig Number    H&P 273

API Number    05-123-39765    Field    WILDCAT

Region    DJ BASIN    Drilling Completed    12/15/2014

Spud Date    12/11/2014

Surface Coordinates    250' FSL; 1412' FWL

Bottom Hole Coordinates    330' FFSSL; 1760' FFWLL

Ground Elevation    4647'    K.B. Elevation    4671'

Logged Interval    4757' To    10419    Total Depth    10419'

Formation    NIOBRARA

Type of Drilling Fluid    LSND

## Operator

Company    NOBLE ENERGY INC.

Address    1625 Broadway Suite 2200  
Denver, CO 80202

## Geologist

Name    RENEE CLACKER

Company    NOBLE ENERGY INC.

Address    1625 Broadway Suite 2200  
Denver, CO 80202

## Other

Wellsite Geologist #1    Laura Kellogg

Wellsite Geologist #2    Nick Kopiasz

Wellsite Geological Services Provided By    Columbine Logging








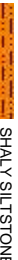




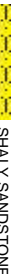













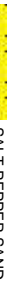






## Zone Color Coding

Oil  
Note  
Error






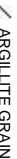








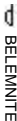
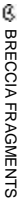








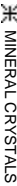







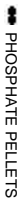

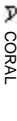
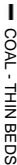


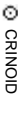

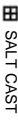





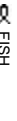


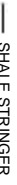
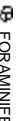
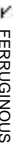



Condensate  
Core  
Water

Gas  
Pres  
Sea

Rock Types

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

Accessories

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

Oil Show

 MOLDIC	 ORGANIC
 DEAD	 PINPOINT
 EVEN	 VUGGY

Engineering

 QUESTIONABLE	
 SPOTTED STAINING	
 BIT	


Porosity

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

## Other Symbols

 FAULT       WIRELINE TESTED - LEFT    **E** EARTHY

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

 GAS SHOW

**GS** GRAINSTONE


## Rounding

 MINDEPTH    MN DEPTH

**L** LITHOGRAPHIC

 NORMAL FAULT      **A** ANGULAR

**MX** MICROXLN

 OIL SHOW

**R** ROUNDED

**MS** MUDSTONE

 OVERTURNED STRATA

**B** SUBANG

**PS** PACKSTONE

 REVERSE FAULT


**F** SUBRND

**WS** WACKESTONE

 SIDEWALL CORE (LEFT)

## Textures


## Sorting

 SIDEWALL CORE (RIGHT)

 SLIDE

**BS** BOUNDSTONE

**M** MODERATE

 SURVEY

**C** CHALKY

**P** POOR

 TRIP GAS

**CX** CRYPTOXLN

**W** WELL

Slide/Rotate

ROP

ROP

Total Gas & Chromatograph

GAS

C1

C2

C3

C4

COLUMBINE LOGGING INC.  
RIGGED UP ON 12/12/2014  
MANNED 2-PERSON LOGGING  
WITH BLOODHOUND GAS  
CHROMATOGRAPH UNIT  
#0173 COLUMBINE BEGAN  
LOGGING ON 12/12/2014

BEGAN DRILLING CURVE  
@ 5:47 PM 12/12/2014

BHA BIT:  
8.75" Smith SD519HPX  
Serial #: JUT993  
Jets: 7x13

50' Sample Interval

GAS (units)  
C1-C4 (PPM)

892  
C1:  
C2:  
C3:  
C4:

Depth Labels

% Lith

Gamma

GAMMA

MD: 4,763'  
TVD: 4,747.16'  
Inclination: 9.84°  
Azimuth: 105.93°  
VS: 15.02'

MD: 4,811'  
TVD: 4,794.48'  
Inclination: 9.5°  
Azimuth: 106.63°  
VS: 17.9'

MD: 4,858'  
TVD: 4,840.62'  
Inclination: 12.43°  
Azimuth: 115.39°  
VS: 21.84'

WT IN 10.10/ OUT 10.10  
VIS IN 47/ OUT 47

Well Bore  
TVD

The ratings are based on 7 descriptors:  
None, Slight trace, Trace, Fair, Moderate,  
Good, and Excellent. The descriptor used  
is based on the loggers observations and  
best judgment of brilliance, color and  
longevity of the cut.

SLTY SH: lt gy-dk gy, sb blk-  
ply, v sft, silty tex, arg cm; tr shy  
ss, rr pyr

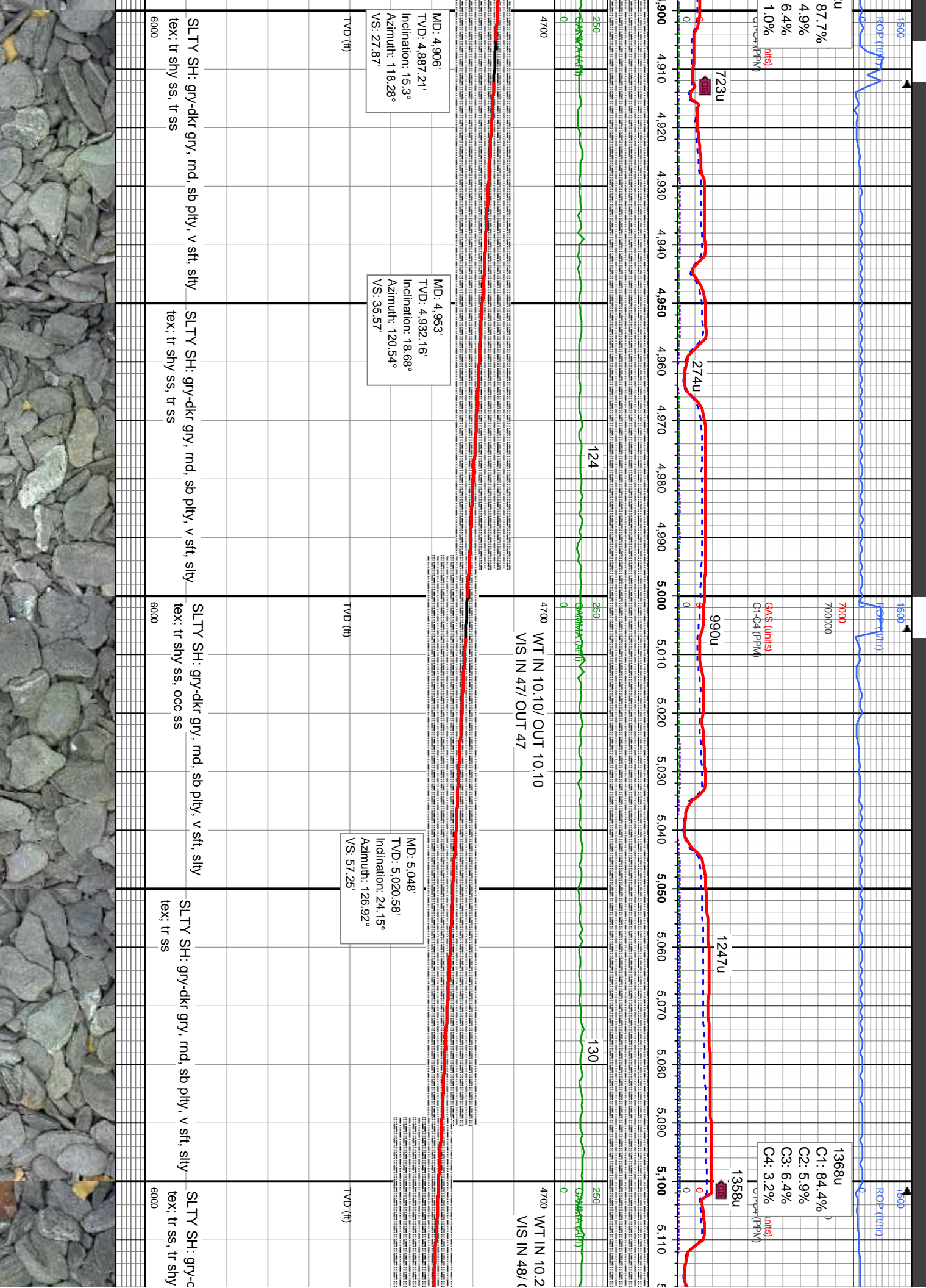
SLTY SH: lt gy-dk gy, sb blk-  
ply, v sft, silty tex, arg cm; tr shy  
ss, rr pyr

SLTY SH: gry-dkr gry, md, sb  
ply, v sft, silty tex  
SHY SS: lt gry, sb ang, sb  
ply, v sft, v f gr, mod srt

Oil Show

Images





1500

ROP (ft/h)

u

87.7%

4.9%

6.4%

1.0%

mls

ppm

723u

4700

250

GAS (units)

0

4700

124

250

GAS (units)

0

4700

130

250

GAS (units)

0

4700

1368u

C1: 84.4%

C2: 5.9%

C3: 6.4%

C4: 3.2%

mls

ppm

1500

ROP (ft/h)

u

7000

7000000

GAS (units)

C1-C4 (ppm)

9900

4700

250

GAS (units)

0

4700

WT IN 10.10/ OUT 10.10

VIS IN 47/ OUT 47

1247u

130

250

GAS (units)

0

4700

1368u

C1: 84.4%

C2: 5.9%

C3: 6.4%

C4: 3.2%

mls

ppm

1500

ROP (ft/h)

u

1368u

C1: 84.4%

C2: 5.9%

C3: 6.4%

C4: 3.2%

mls

ppm

1358u

4700

250

GAS (units)

0

4700

WT IN 10.2

VIS IN 48/ OUT 48

130

250

GAS (units)

0

4700

1368u

C1: 84.4%

C2: 5.9%

C3: 6.4%

C4: 3.2%

mls

ppm

1358u

C1: 84.4%

TVD (ft)

MD: 4.906'  
TVD: 4.887.21'  
Inclination: 15.3°  
Azimuth: 118.28°  
VS: 27.87'

TVD (ft)

MD: 4.953'  
TVD: 4.932.16'  
Inclination: 18.68°  
Azimuth: 120.54°  
VS: 35.57'

TVD (ft)

TVD (ft)

TVD (ft)

SLTY SH: gry-dkr gry, md, sb plty, v sft, silty  
tex: tr shly ss, tr ss

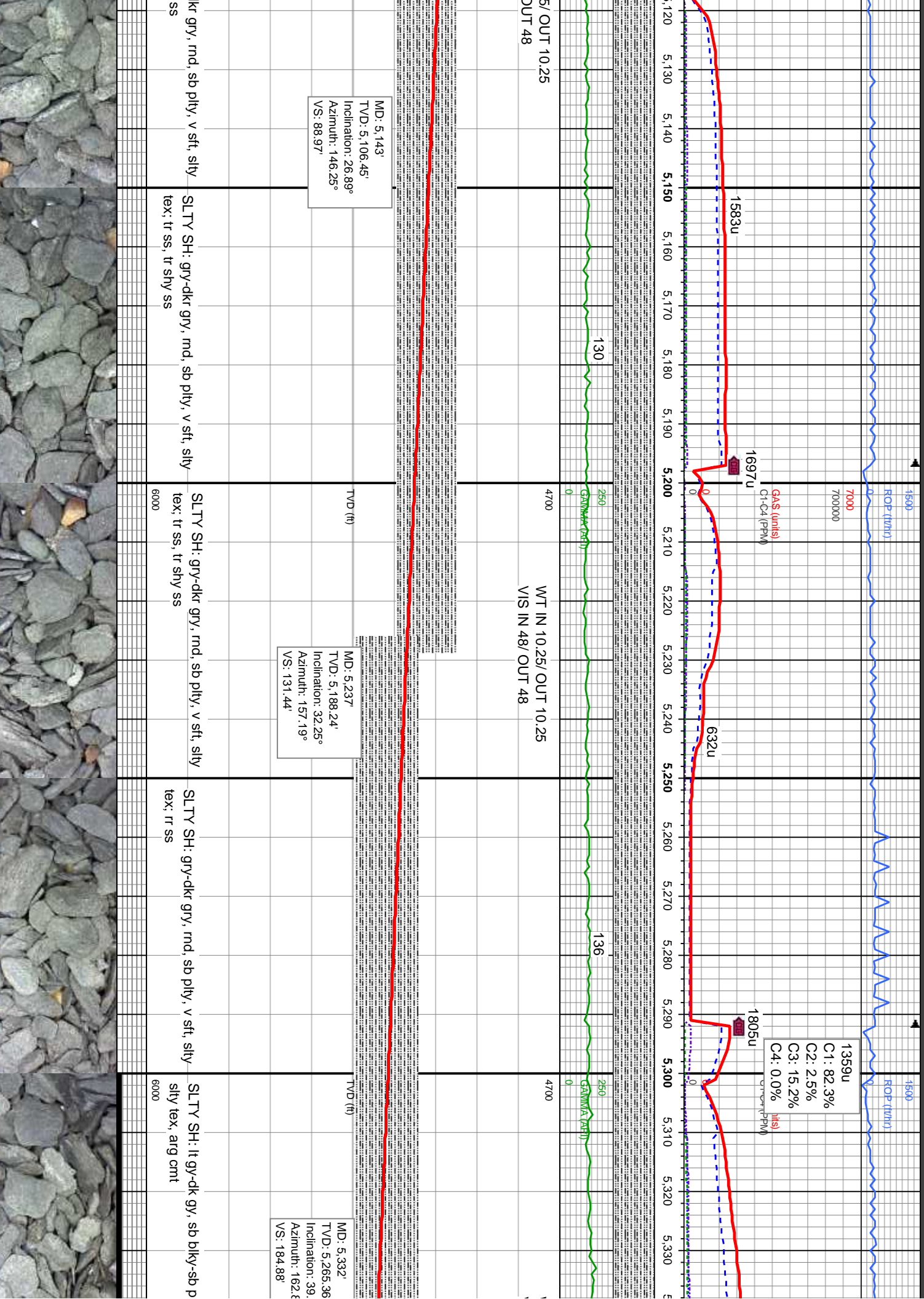
SLTY SH: gry-dkr gry, md, sb plty, v sft, silty  
tex: tr shly ss, tr ss

SLTY SH: gry-dkr gry, md, sb plty, v sft, silty  
tex: tr shly ss, occ ss

SLTY SH: gry-dkr gry, md, sb plty, v sft, silty  
tex: tr ss

SLTY SH: gry-dkr gry, md, sb plty, v sft, silty  
tex: tr ss, tr shly





ROP (ft/hr)

GAs (units)  
C1-C4 (PPM)

1500  
700000

1697u

632u

1805u

1359u  
C1: 82.3%  
C2: 2.5%  
C3: 15.2%  
C4: 0.0%

ROP (ft/hr)

GAs (units)  
C1-C4 (PPM)

1500  
700000

WT IN 10.25/ OUT 10.25  
VIS IN 48/ OUT 48

TVD (ft)

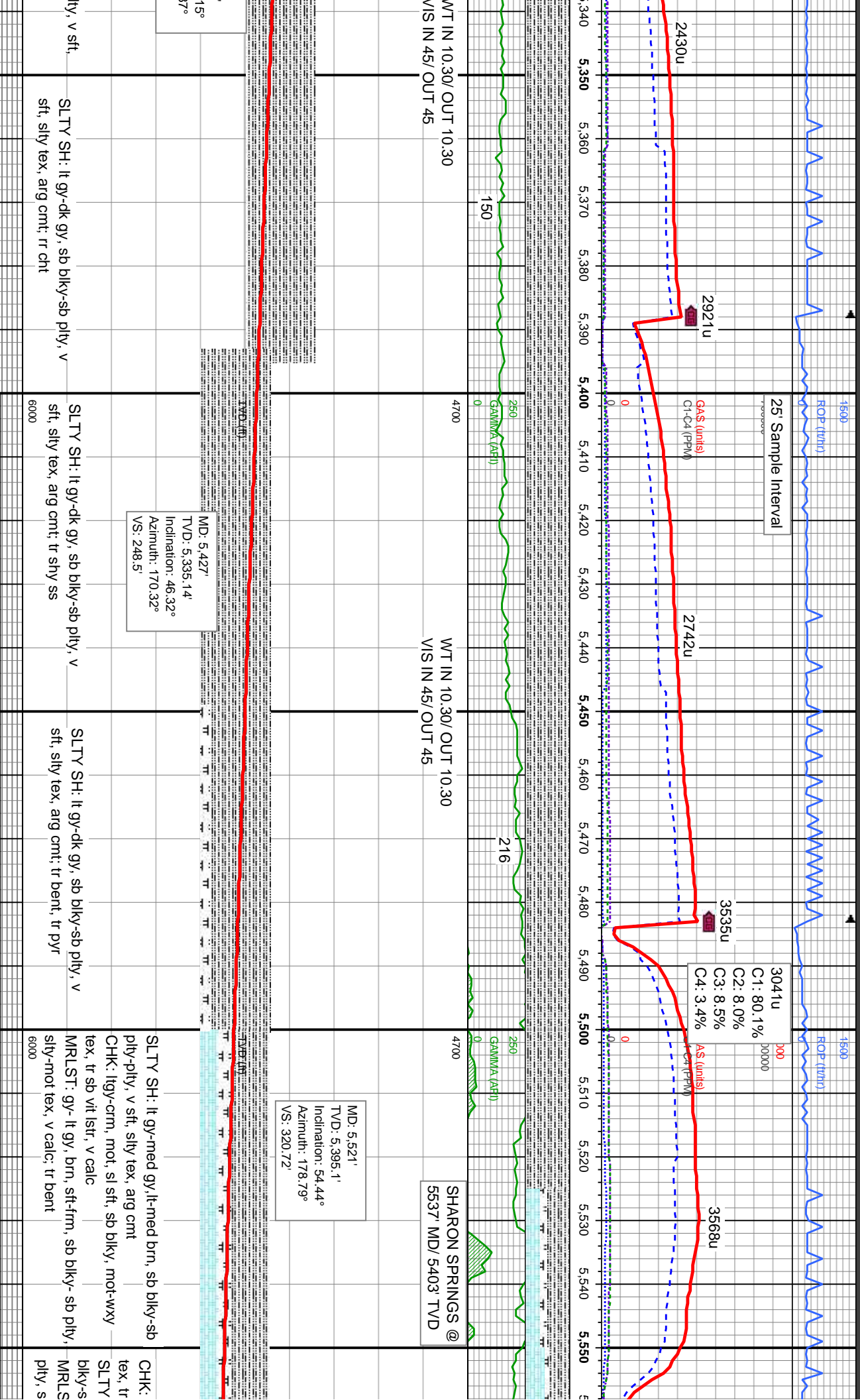
TVD (ft)

SLTY SH: gry-dkr gry, md, sb plty, v sft, slty  
tex: tr ss, tr shy ss

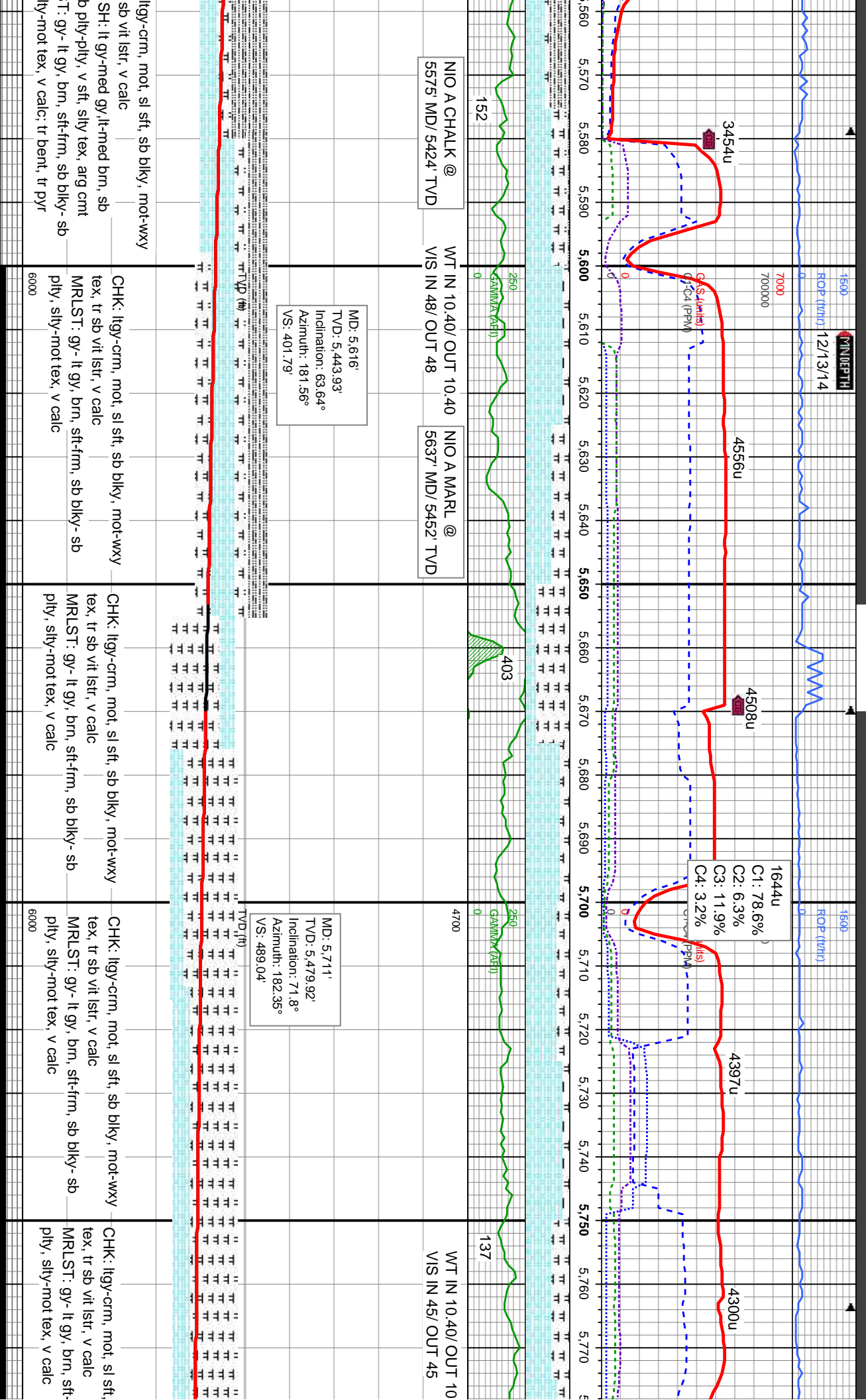
SLTY SH: gry-dkr gry, md, sb plty, v sft, slty  
tex: tr ss, tr shy ss

SLTY SH: gry-dkr gry, md, sb plty, v sft, slty  
tex: rr ss

SLTY SH: lt gy-dk gy, sb blk-ly-sb p  
silty tex, arg cmt







1500  
ROP (ft/m) 1213.14

7000  
7000000

3454u

4556u

4508u

1644u

C1: 78.6%  
C2: 6.3%  
C3: 11.9%  
C4: 3.2%

4397u

4300u

NIO A CHALK @  
5575 MD/ 5424 TVD

WT IN 10.40/ OUT 10.40  
VIS IN 48/ OUT 48

NIO A MARL @  
5637 MD/ 5452 TVD

MD: 5,616'  
TVD: 5,443.93'  
Inclination: 63.64°  
Azimuth: 181.56°  
VS: 401.79'

MD: 5,711'  
TVD: 5,479.92'  
Inclination: 71.8°  
Azimuth: 182.36°  
VS: 489.04'

WT IN 10.40/ OUT 10  
VIS IN 45/ OUT 45

ltgy-crm, mot, sl sft, sb blk, mot-wxy  
sb vit lstr, v calc  
SH: lt gy-med gy, lt-med brn, sb  
b ply-ply, v sft, silty tex, arg cmt  
T: gy- lt gy, brn, sft-fm, sb blk- sb  
silty-mot tex, v calc; tr bent, tr pyr

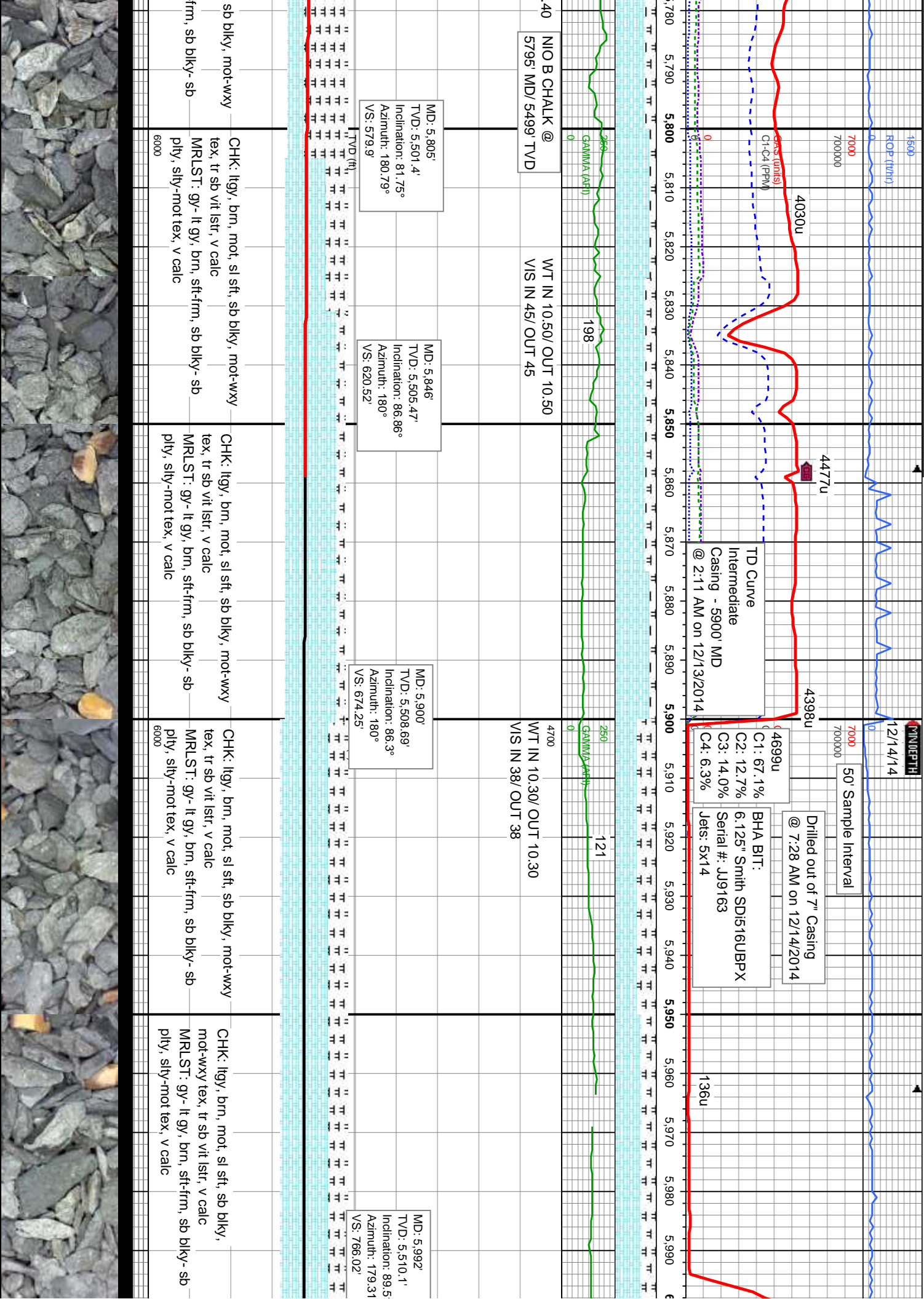
CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy  
tex, tr sb vit lstr, v calc  
MRLST: gy- lt gy, brn, sft-fm, sb blk- sb  
ply, silty-mot tex, v calc

CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy  
tex, tr sb vit lstr, v calc  
MRLST: gy- lt gy, brn, sft-fm, sb blk- sb  
ply, silty-mot tex, v calc

CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy  
tex, tr sb vit lstr, v calc  
MRLST: gy- lt gy, brn, sft-fm, sb blk- sb  
ply, silty-mot tex, v calc

CHK: ltgy-crm, mot, sl sft,  
tex, tr sb vit lstr, v calc  
MRLST: gy- lt gy, brn, sft-  
ply, silty-mot tex, v calc





DEPTH  
12/14/14

50' Sample Interval

Drilled out of 7" Casing  
@ 7:28 AM on 12/14/2014

TD Curve  
Intermediate  
Casing - 5900 MD  
@ 2:11 AM on 12/13/2014

BHA BIT:  
C1: 67.1%  
C2: 12.7%  
C3: 14.0%  
C4: 6.3%  
Serial #: J9163  
Jets: 5x14

MD: 5.805'  
TVD: 5.501.4'  
Inclination: 81.75°  
Azimuth: 180.79°  
VS: 579.9'

MD: 5.846'  
TVD: 5.505.47'  
Inclination: 86.86°  
Azimuth: 180°  
VS: 620.52'

MD: 5.900'  
TVD: 5.508.69'  
Inclination: 86.3°  
Azimuth: 180°  
VS: 674.25'

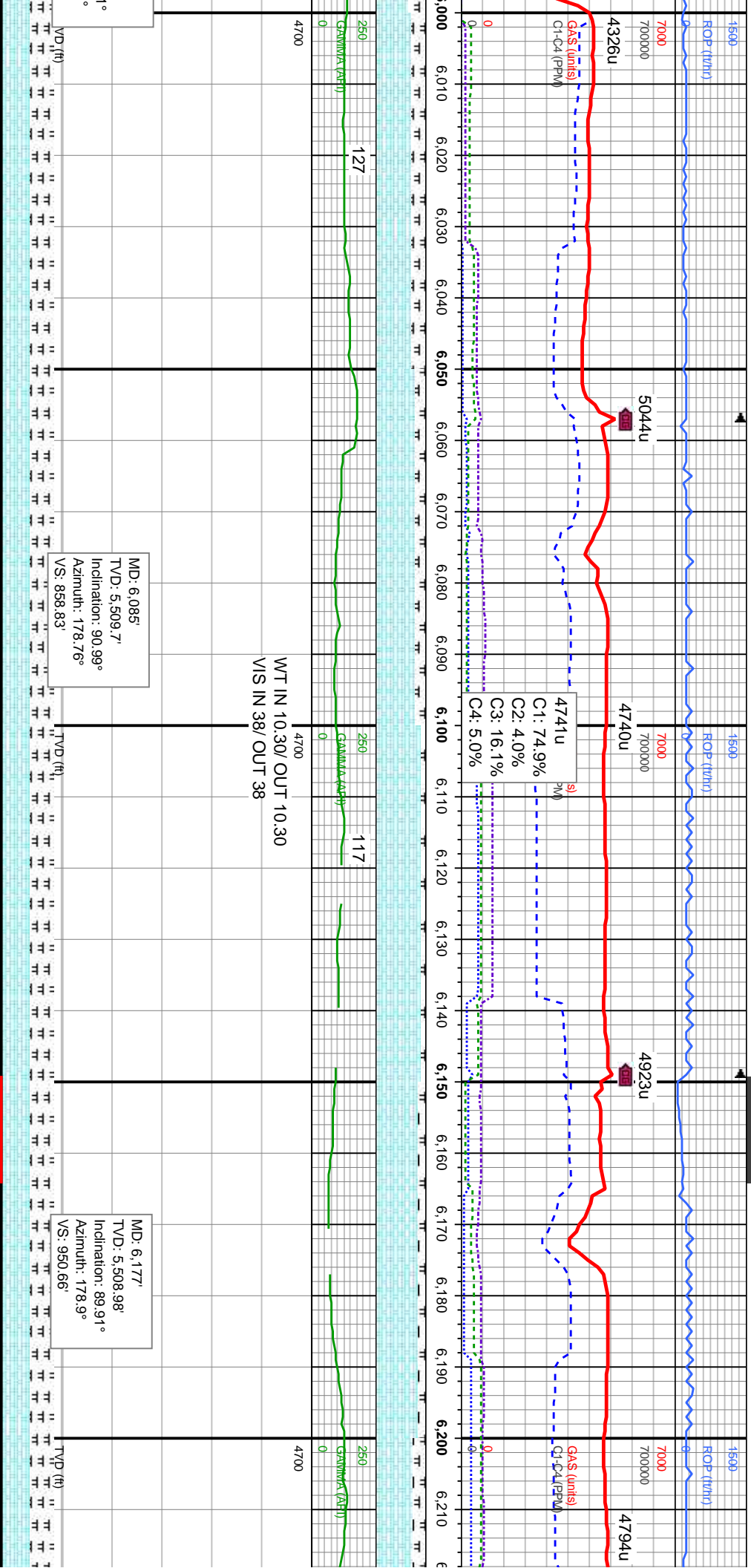
MD: 5.992'  
TVD: 5.510.1'  
Inclination: 89.5°  
Azimuth: 179.31°  
VS: 766.02'

CHK: ltgy, brn, mot, sl sft, sb blk, mot-wxy  
tex, tr sb vit lsfr, v calc  
MRLST: gy- lt gy, brn, sft-firm, sb blk- sb  
ply, silty-mot tex, v calc

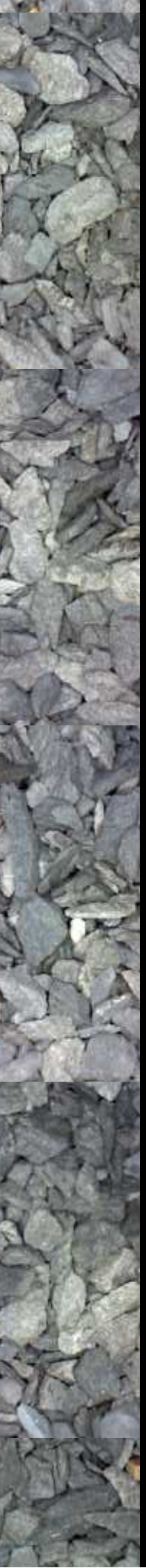
CHK: ltgy, brn, mot, sl sft, sb blk, mot-wxy  
tex, tr sb vit lsfr, v calc  
MRLST: gy- lt gy, brn, sft-firm, sb blk- sb  
ply, silty-mot tex, v calc

CHK: ltgy, brn, mot, sl sft, sb blk, mot-wxy  
tex, tr sb vit lsfr, v calc  
MRLST: gy- lt gy, brn, sft-firm, sb blk- sb  
ply, silty-mot tex, v calc

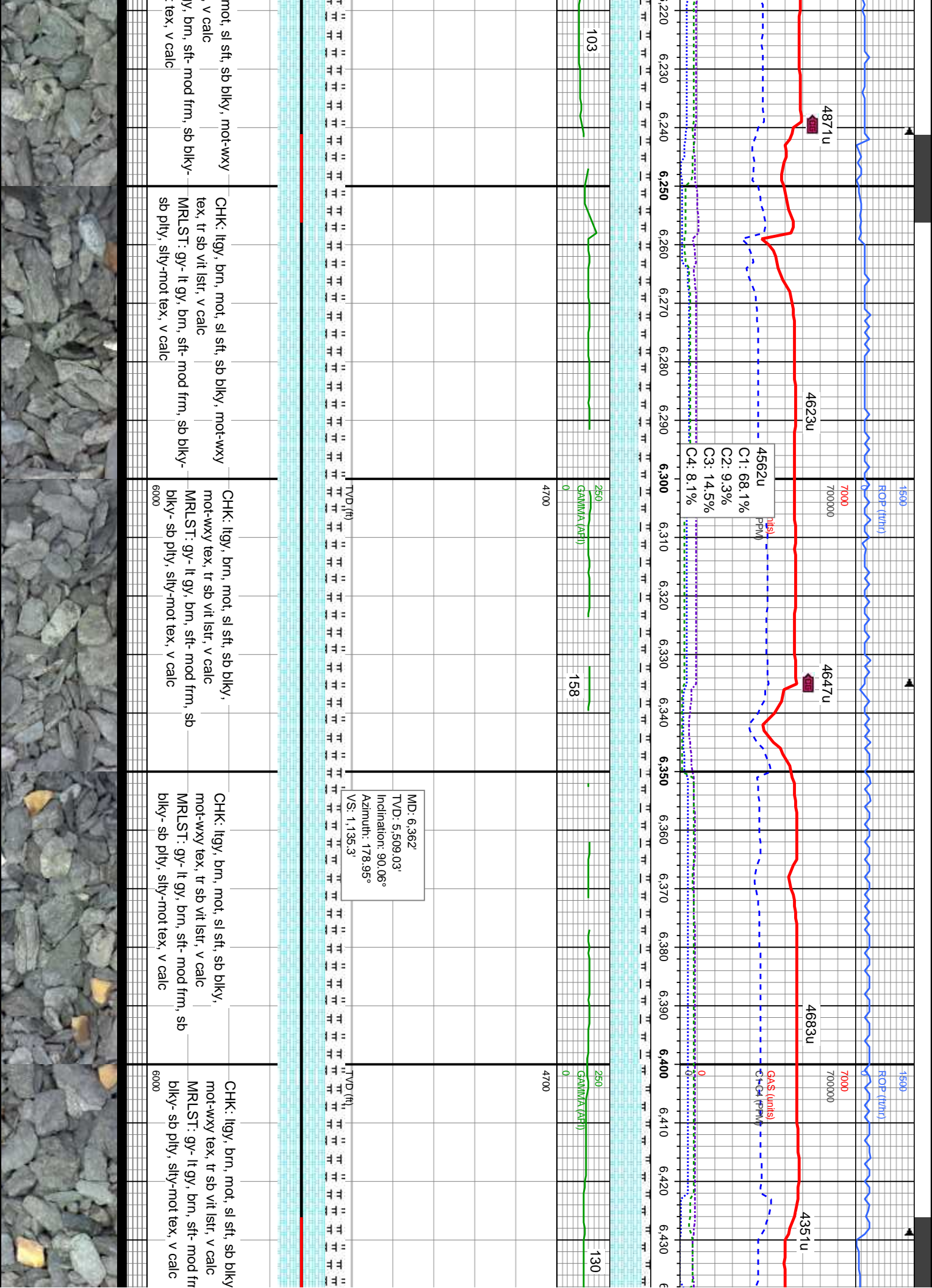
CHK: ltgy, brn, mot, sl sft, sb blk, mot-wxy  
tex, tr sb vit lsfr, v calc  
MRLST: gy- lt gy, brn, sft-firm, sb blk- sb  
ply, silty-mot tex, v calc



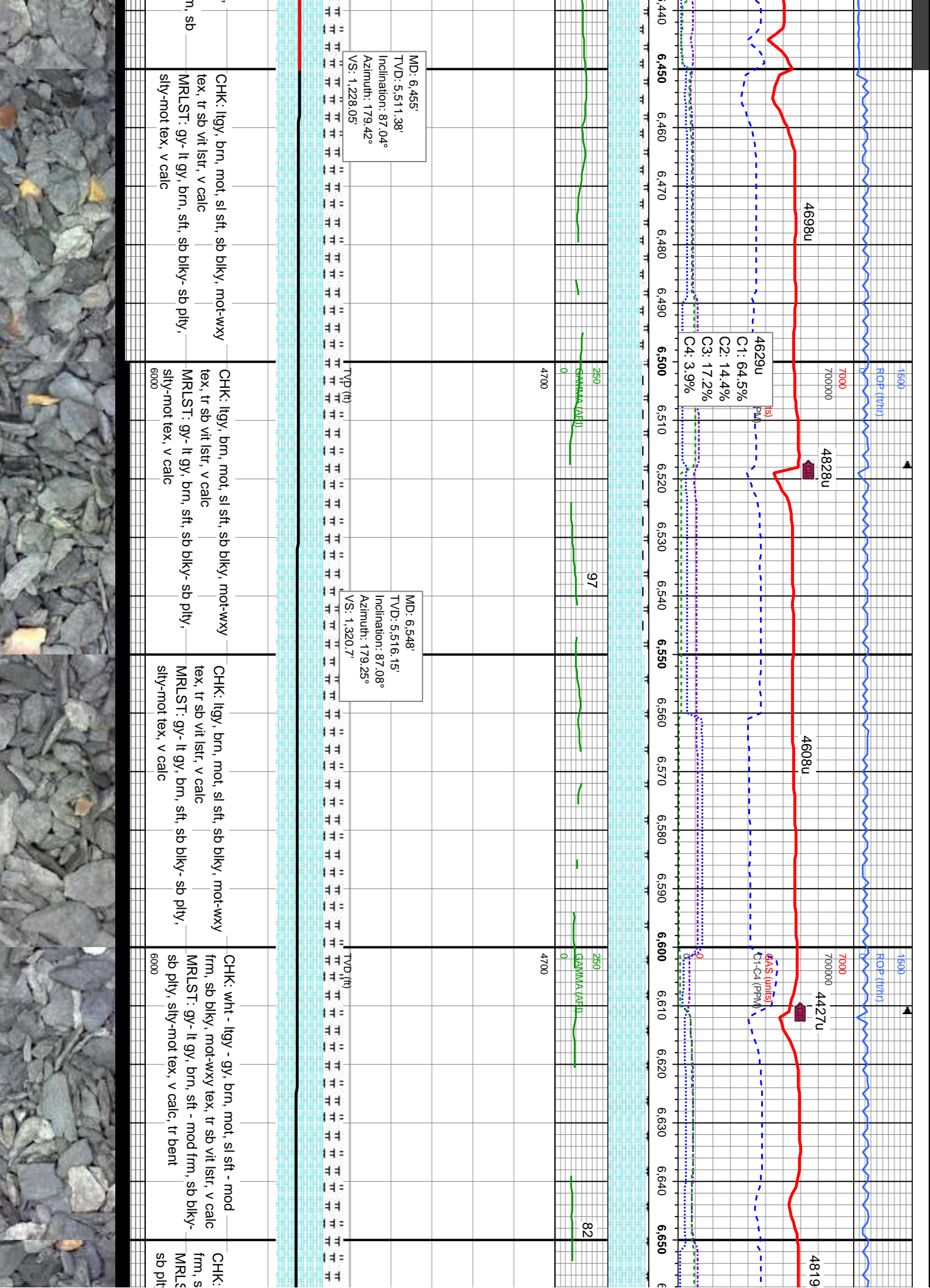
CHK: ltgy, brn, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc	CHK: ltgy, brn, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc	CHK: ltgy, brn, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc	CHK: ltgy, brn, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc
MRLST: gy- lt gy, brn, sft-frm, sb blkly- sb pily, silty-mot tex, v calc	MRLST: gy- lt gy, brn, sft-frm, sb blkly- sb pily, silty-mot tex, v calc	MRLST: gy- lt gy, brn, sft- mod frm, sb blkly- sb pily, silty-mot tex, v calc	MRLST: gy- lt gy, brn, sft- mod frm, sb blkly- sb pily, silty-mot tex, v calc
6000	6000		6000

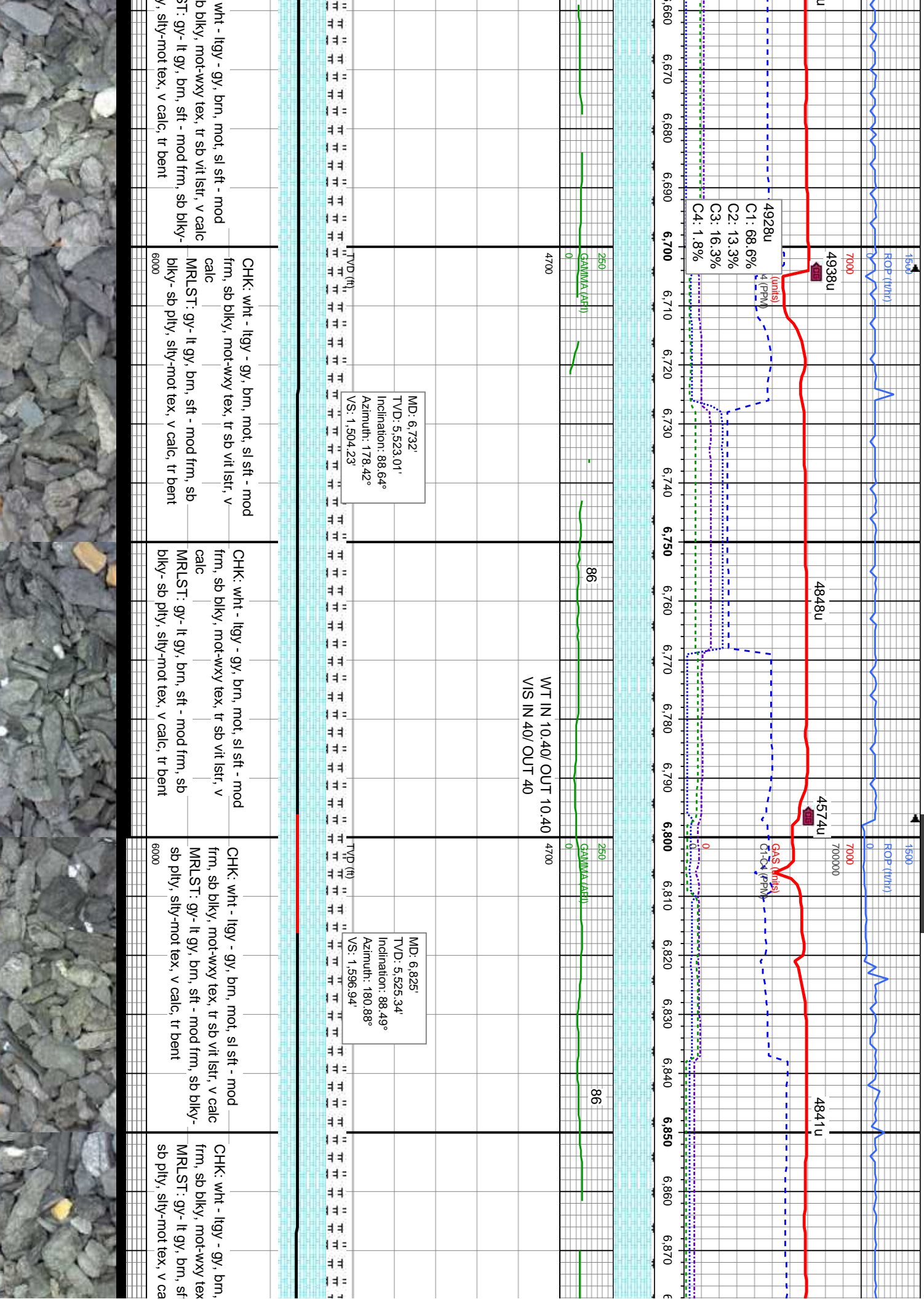




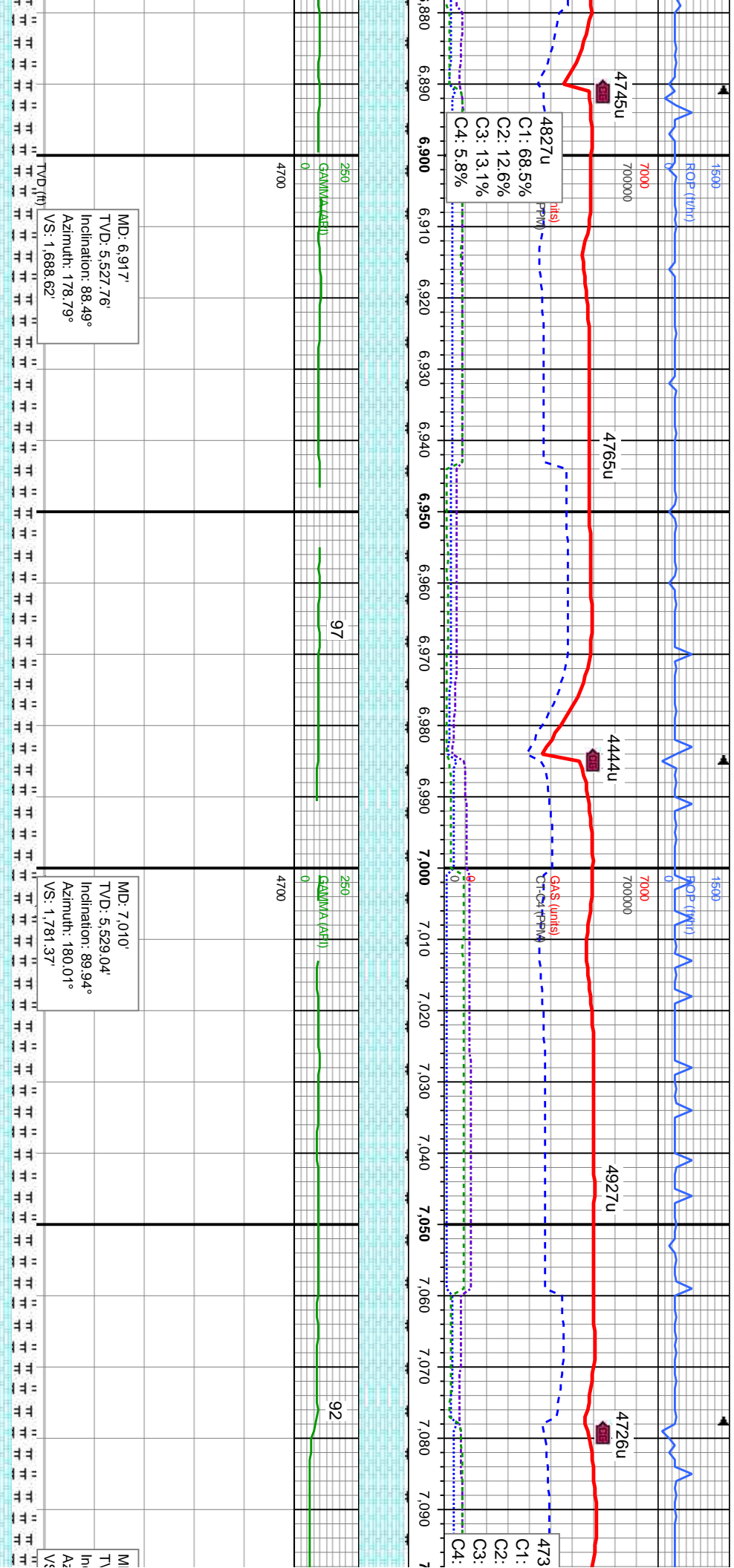








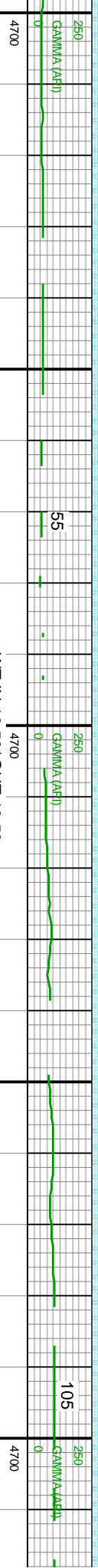
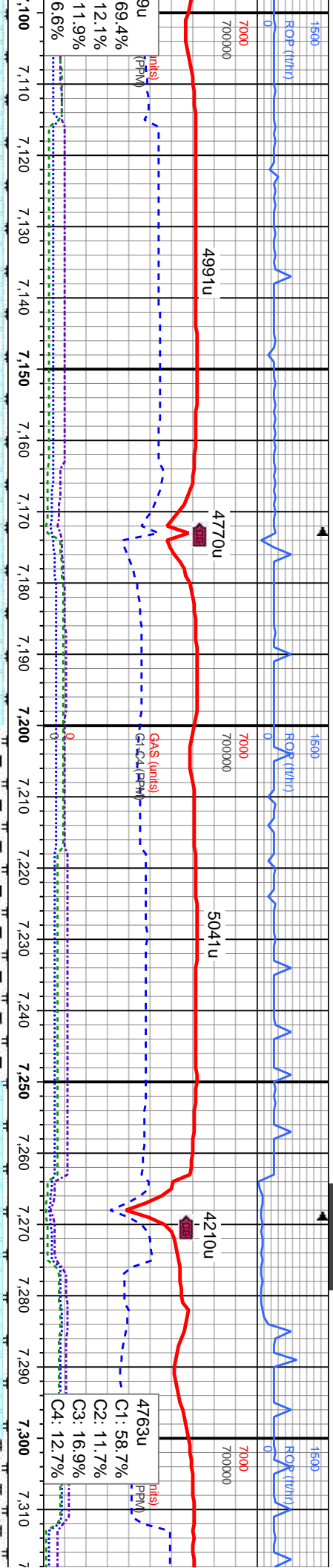




mot, sl sft - mod	CHK: wht - ltgy - gy, brn, mot, sl sft - mod	CHK: ltgy - gy, brn, mot, sl sft - mod frm, sb	CHK: ltgy - gy, brn, mot, sl sft - mod frm, sb	CHK: ltgy - gy, brn, mot, sl sft - mod frm, sb
, tr sb vit lstr, v calc	frm, sb blk, mot-wxy tex, tr sb vit lstr, v calc	blk, mot-wxy tex, tr sb vit lstr, v calc	blk, mot-wxy tex, tr sb vit lstr, v calc	blk, mot-wxy tex, tr sb vit lstr, v calc
- mod frm, sb blk-	MRLST: gy - lt gy, brn, sft - mod frm, sb blk-	MRLST: gy - lt gy, brn, sft - mod frm, sb blk-	MRLST: gy - lt gy, brn, sft - mod frm, sb blk-	MRLST: gy - lt gy, brn, sft - mod frm, sb blk-
ic, tr bent	sb ply, silty-mot tex, v calc, tr bent	sb ply, silty-mot tex, v calc	sb ply, silty-mot tex, v calc	sb ply, silty-mot tex, v calc
	6000	6000		







D: 7.105°  
D: 5.528.65°  
Inclination: 90.52°  
Azimuth: 179.88°  
S: 1.876.07'

MD: 7.200°  
TVD: 5.526.71°  
Inclination: 91.82°  
Azimuth: 179.89°  
VS: 1.970.75'

MD: 7.294°  
TVD: 5.523.88°  
Inclination: 90.15°  
Azimuth: 180.75°  
VS: 2.064.19'

WT IN 10.50/ OUT 10.50  
VIS IN 42/ OUT 42

4700

4700

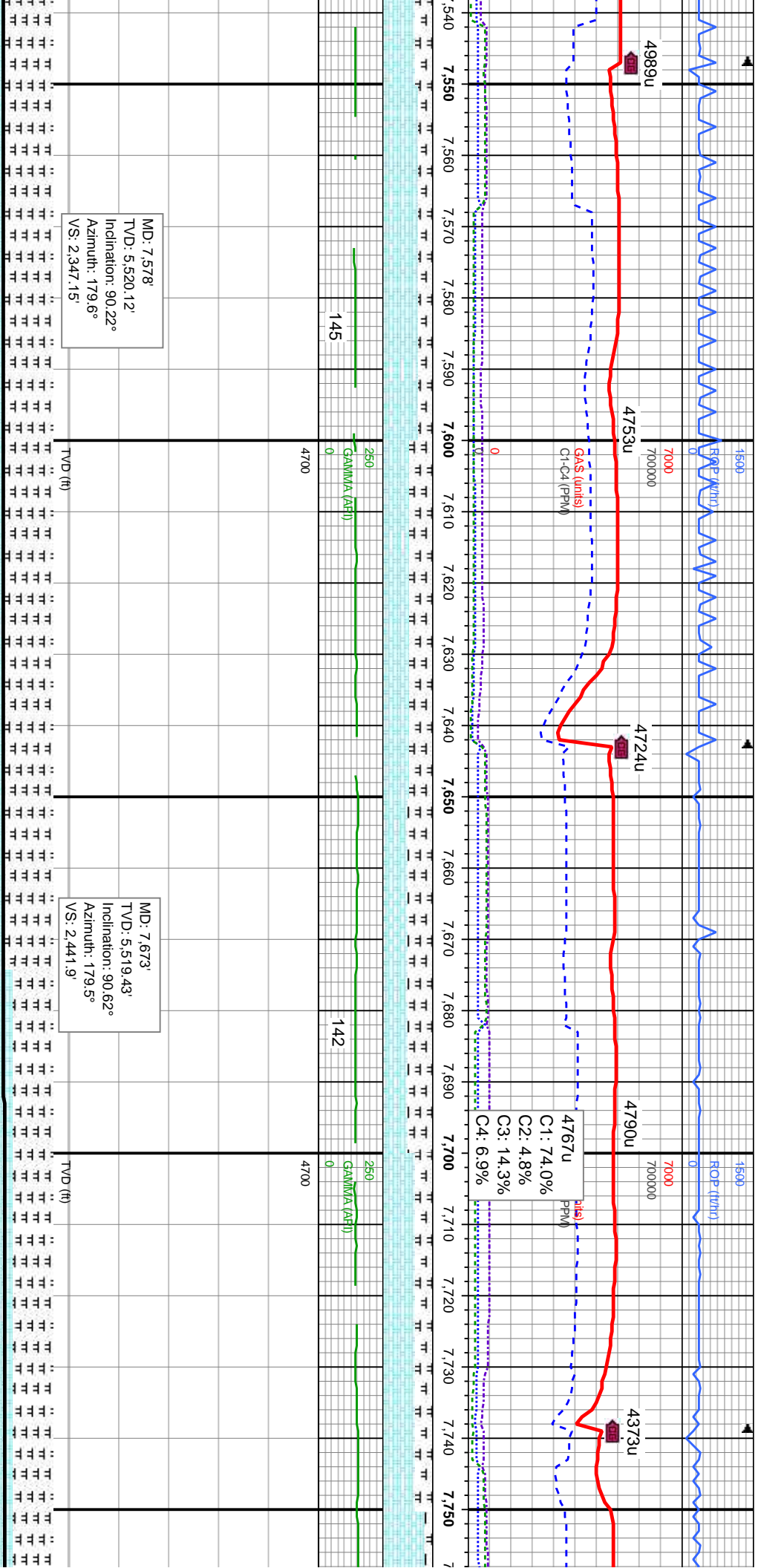
4700

CHK: ltgy - gy, brn, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc MRLST: gy- lt gy, brn, sft - mod frm, sb blkly- sb plty, silty-mot tex, v calc	CHK: ltgy - gy, brn, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc MRLST: gy- lt gy, brn, sft - mod frm, sb blkly- sb plty, silty-mot tex, v calc	CHK: ltgy - gy, brn, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc MRLST: gy- lt gy, brn, sft - mod frm, sb blkly- sb plty, silty-mot tex, v calc	CHK: ltgy - gy, brn, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc MRLST: gy- lt gy, brn, sft - mod frm, sb blkly- sb plty, silty-mot tex, v calc
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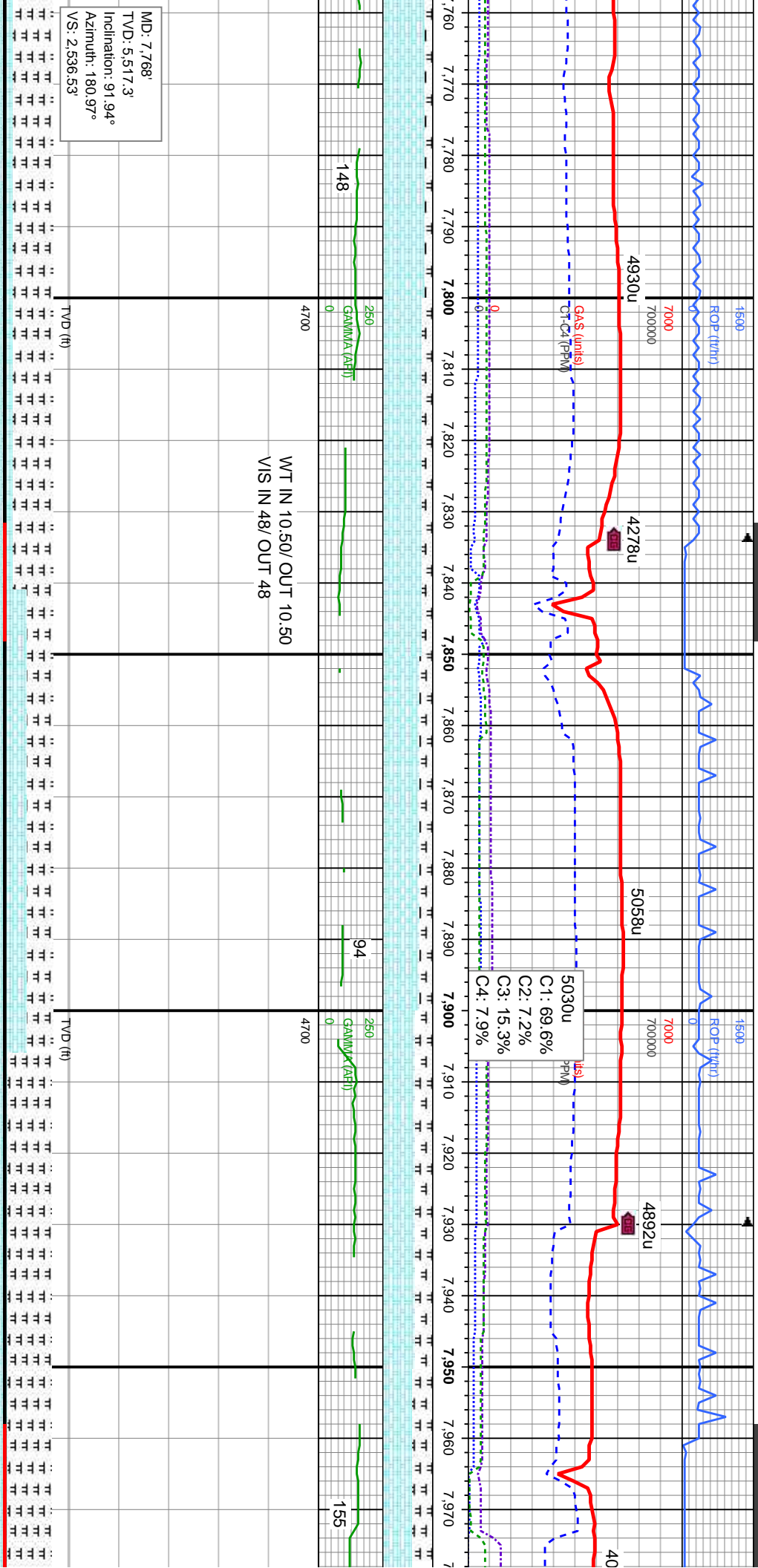








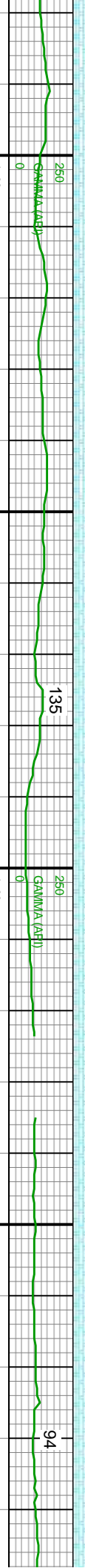
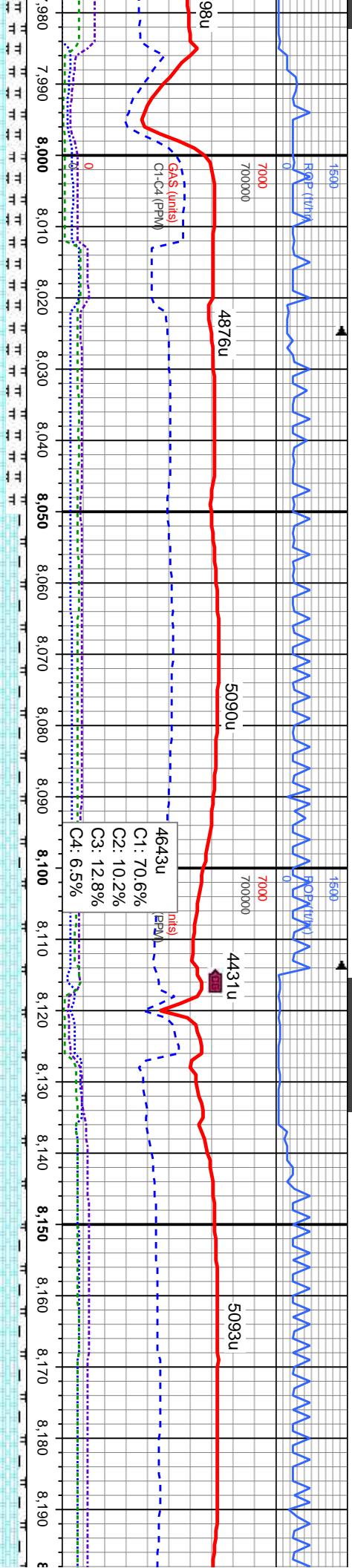




MD: 7.768'  
TVD: 5.517.3'  
Inclination: 91.94°  
Azimuth: 180.97°  
VS: 2.536.53

lgy - crm, mot, sl sft - mod frm, sb mot-wxy tex, tr sb vit lstr, v calc	CHK: lgy - crm, mot, sl sft - mod frm, sb blky, mot-wxy tex, tr sb vit lstr, v calc MRLST: gy- lt gy, brn, sft - mod frm, sb blky- sb plty, silty-mot tex, v calc
lgy - lt gy, brn, sft - mod frm, sb blky- silty-mot tex, v calc	CHK: lgy - crm, mot, sl sft - mod frm, sb blky, mot-wxy tex, tr sb vit lstr, v calc MRLST: gy- lt gy, brn, sft - mod frm, sb blky- sb plty, silty-mot tex, v calc
lgy - crm, mot, sl sft - mod frm, sb mot-wxy tex, tr sb vit lstr, v calc	CHK: lgy - gy, brn, mot, sl sft - mod frm, sb blky, mot-wxy tex, tr sb vit lstr, v calc MRLST: gy- lt gy, brn, sft - mod frm, sb blky- sb plty, silty-mot tex, v calc
lgy - crm, mot, sl sft - mod frm, sb mot-wxy tex, tr sb vit lstr, v calc	CHK: lgy - gy, brn, mot, sl sft - mod frm, sb blky, mot-wxy tex, tr sb vit lstr, v calc MRLST: gy- lt gy, brn, sft - mod frm, sb blky- sb plty, silty-mot tex, v calc
lgy - crm, mot, sl sft - mod frm, sb mot-wxy tex, tr sb vit lstr, v calc	CHK: lgy - gy, brn, mot, sl sft - mod frm, sb blky, mot-wxy tex, tr sb vit lstr, v calc MRLST: gy- lt gy, brn, sft - mod frm, sb blky- sb plty, silty-mot tex, v calc





WT IN 10.50/ OUT 10.50  
VIS IN 48/ OUT 48

WT IN 10.25/ OUT 10.25  
VIS IN 45/ OUT 45

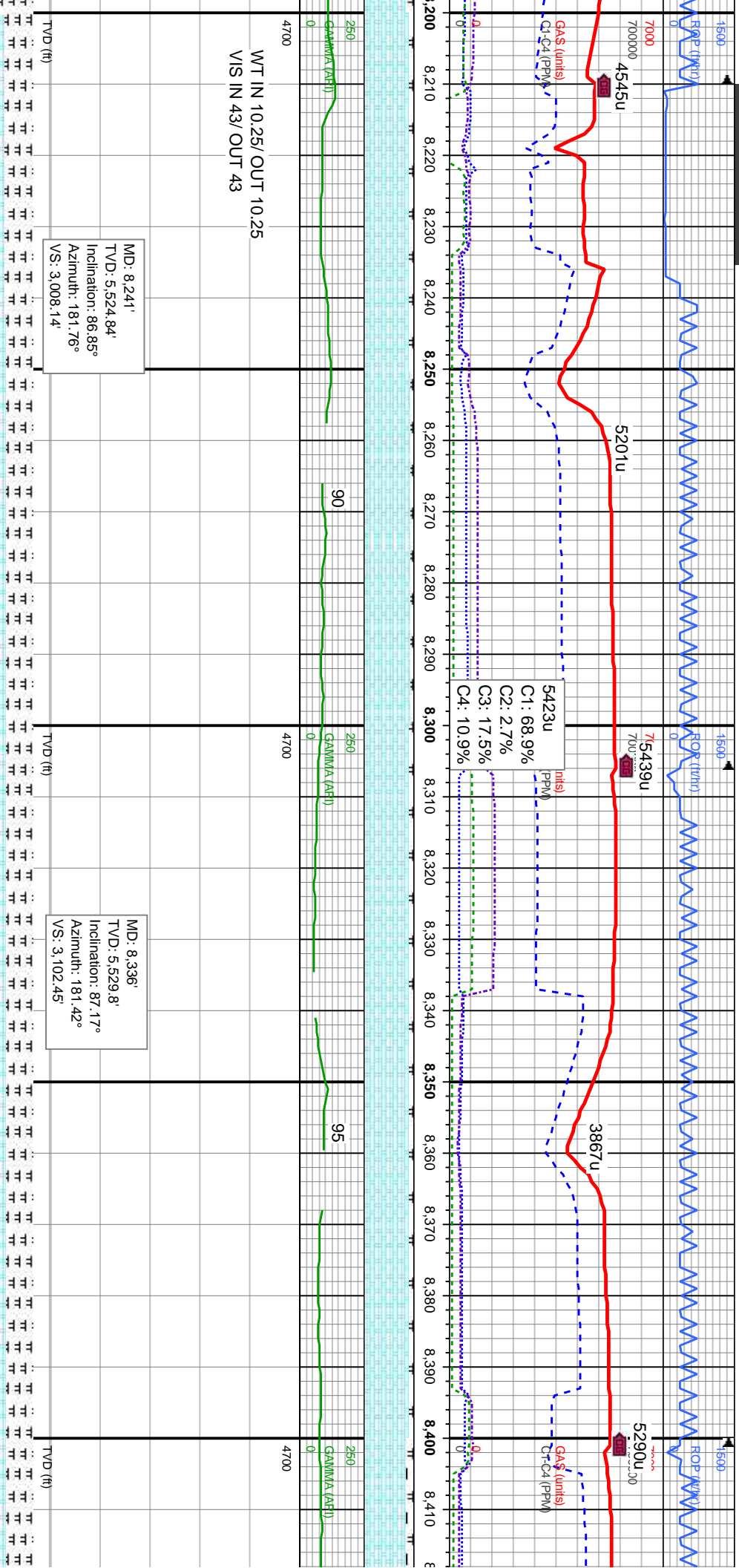
MD: 8.051'  
TVD: 5,516.61'  
Inclination: 88.34°  
Azimuth: 177.31°  
VS: 2.818.81'

MD: 8.146'  
TVD: 5,520.11'  
Inclination: 87.44°  
Azimuth: 179.02°  
VS: 2.913.63'

sl sft - mod frm, sb vit lstr, v calc	CHK: ltgy - gy, brn, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc MRLST: gy- lt gy, brn, sft - mod frm, sb blkly- sb ply, silty-mot tex, v calc	CHK: ltgy - crm, brn, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc MRLST: gy- lt gy, brn, sft - mod frm, sb blkly- sb ply, silty-mot tex, v calc	CHK: ltgy - crm, brn, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc MRLST: gy- lt gy, brn, sft - mod frm, sb blkly- sb ply, silty-mot tex, v calc	CHK: ltgy - crm, brn, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc MRLST: gy- lt gy, brn, sft - mod frm, sb blkly- blkly- sb ply, silty-mot tex, v calc
ft - mod frm, sb x, v calc	6000	6000	6000	6000





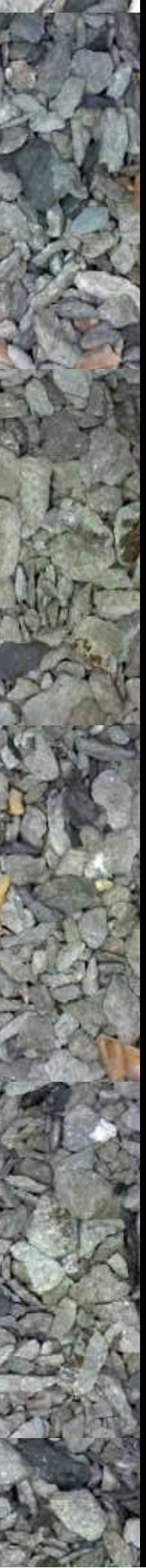


WT IN 10.25/ OUT 10.25  
VIS IN 43/ OUT 43

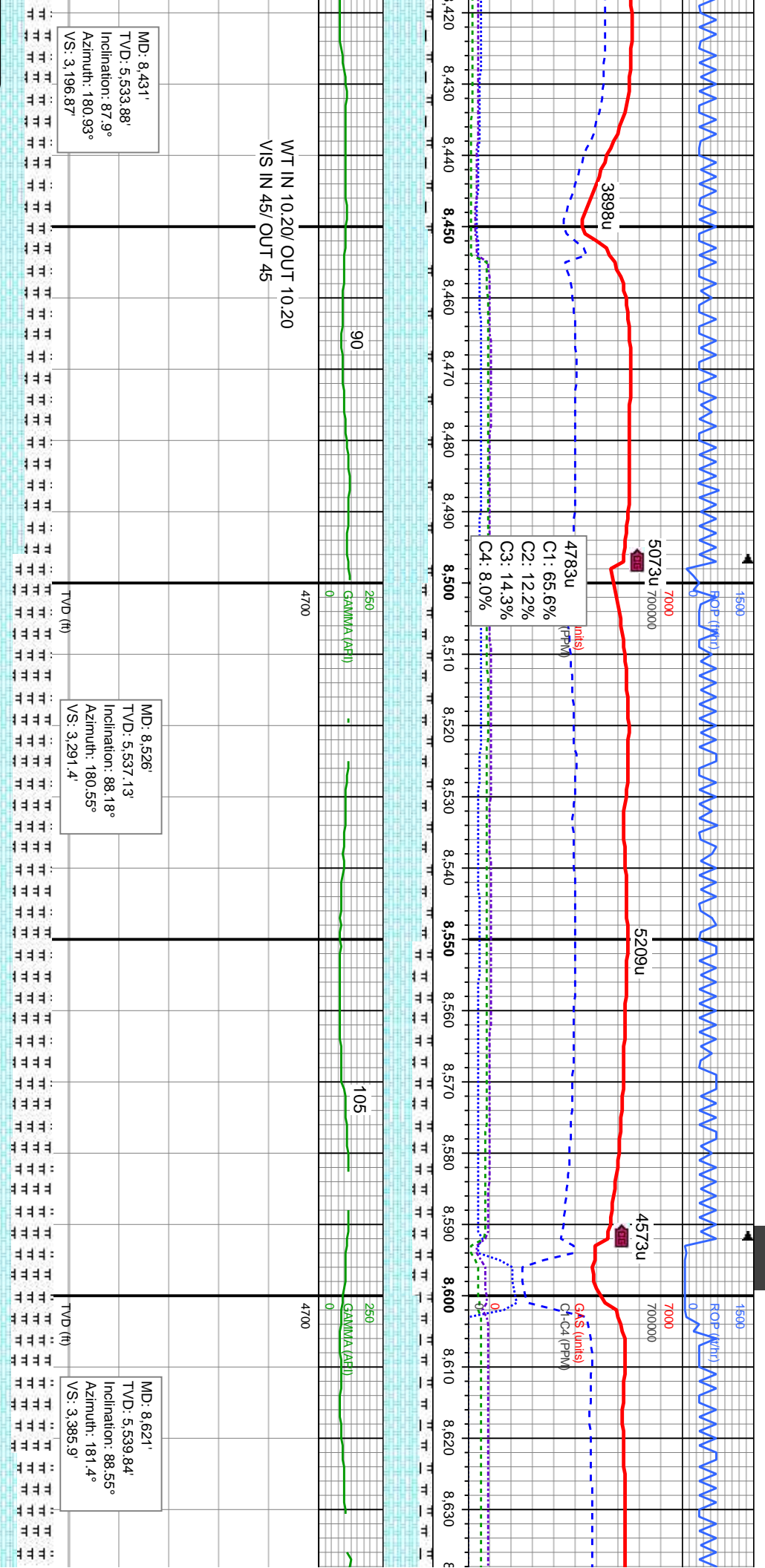
MD: 8,241'  
TVD: 5,524.84'  
Inclination: 86.85°  
Azimuth: 181.76°  
VS: 3,008.14'

5423u  
C1: 68.9%  
C2: 2.7%  
C3: 17.5%  
C4: 10.9%

CHK: ltgy - crm, brn, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc	CHK: ltgy - crm, brn, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc	CHK: ltgy - crm, brn, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc	CHK: ltgy - crm, brn, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc
MRLST: gy- lt gy, brn, sft - mod frm, sb blkly- sb plty, slty-mot tex, v calc	MRLST: gy- lt gy, brn, sft - mod frm, sb blkly- sb plty, slty-mot tex, v calc	MRLST: gy- lt gy, brn, sft - mod frm, sb blkly- sb plty, slty-mot tex, v calc	MRLST: gy- lt gy, brn, sft - mod frm, sb blkly- sb plty, slty-mot tex, v calc





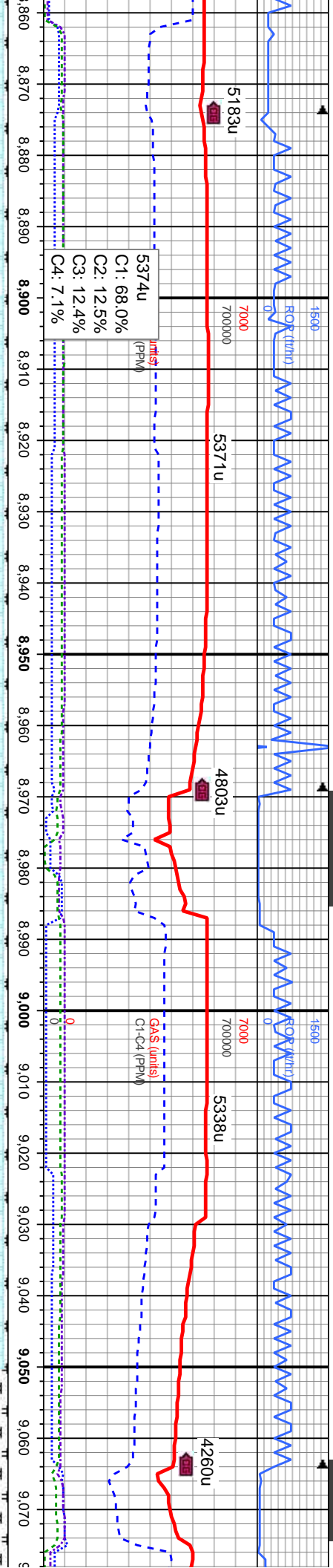


brn, mot, sl sft - mod wt-wxy tex, tr sb vit lstr, v	CHK: ltgy - crm, brn, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc MRLST: gy- lt gy, brn, sft - mod frm, sb blkly- sb plty, slty-mot tex, v calc	6000
brn, mot, sl sft - mod wt-wxy tex, tr sb vit lstr, v	CHK: ltgy - crm, brn, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc MRLST: gy- lt gy, brn, sft - mod frm, sb blkly- sb plty, slty-mot tex, v calc	6000
brn, mot, sl sft - mod wt-wxy tex, tr sb vit lstr, v	CHK: ltgy - crm, brn, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc MRLST: gy- lt gy, brn, sft - mod frm, sb blkly- sb plty, slty-mot tex, v calc	6000









MD: 8,905'  
TVD: 5,538.29'  
Inclination: 91.23°  
Azimuth: 183.01°  
VS: 3,667.62'

MD: 8,999'  
TVD: 5,533.93'  
Inclination: 91.66°  
Azimuth: 180.84°  
VS: 3,761.08'

WT IN 10.30/ OUT 10.30  
VIS IN 48/ OUT 48

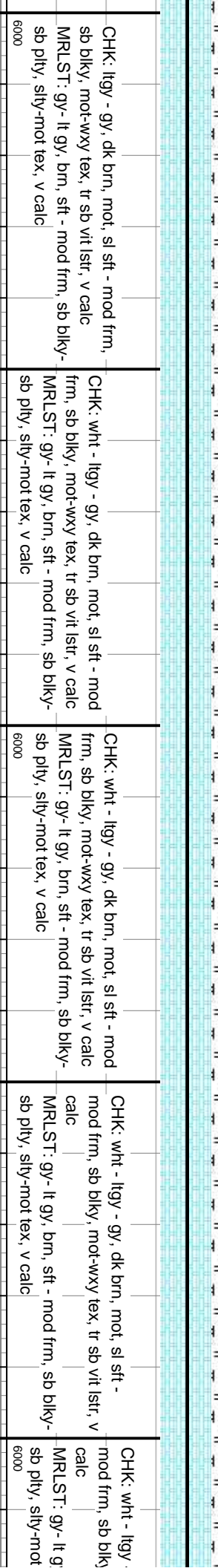
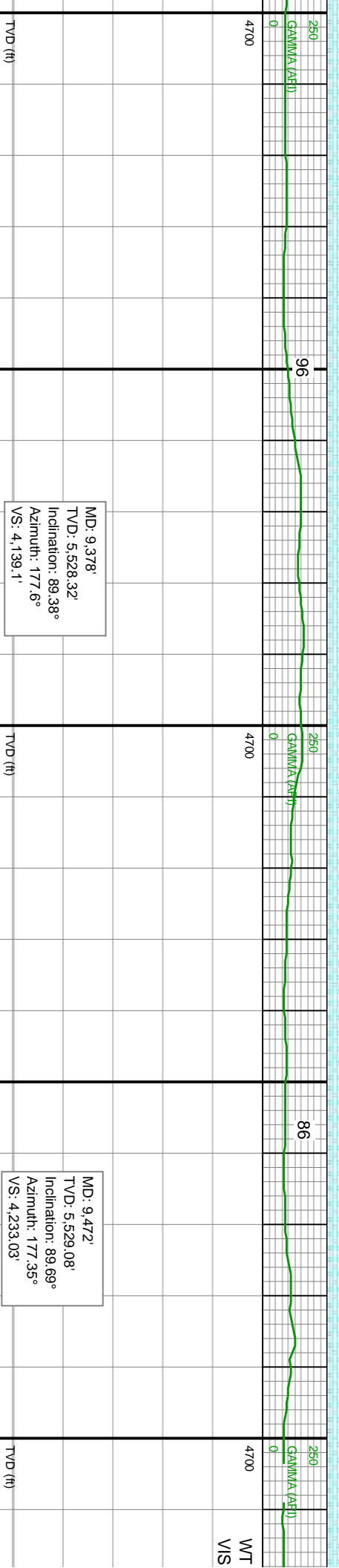
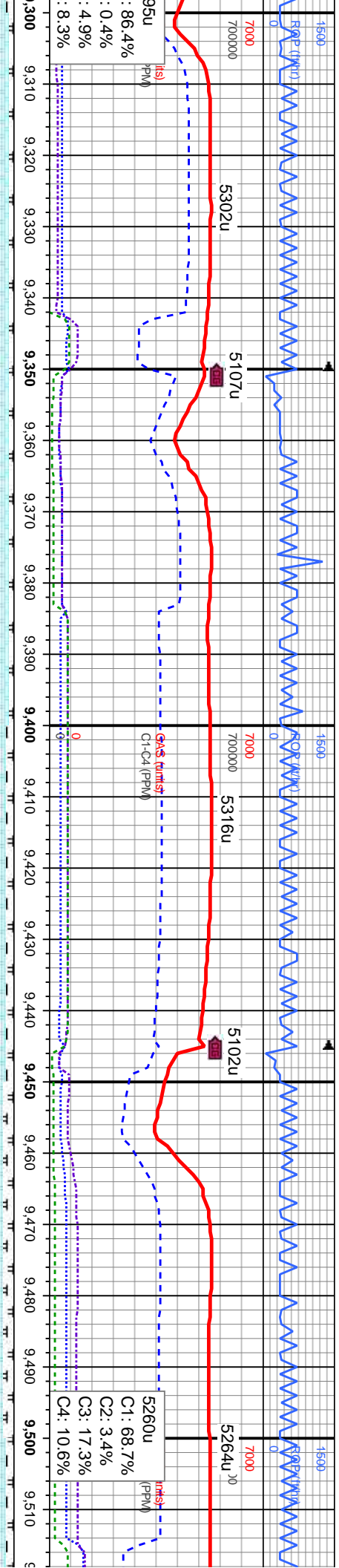
WT IN 10.35/ OUT 10.3  
VIS IN 45/ OUT 45

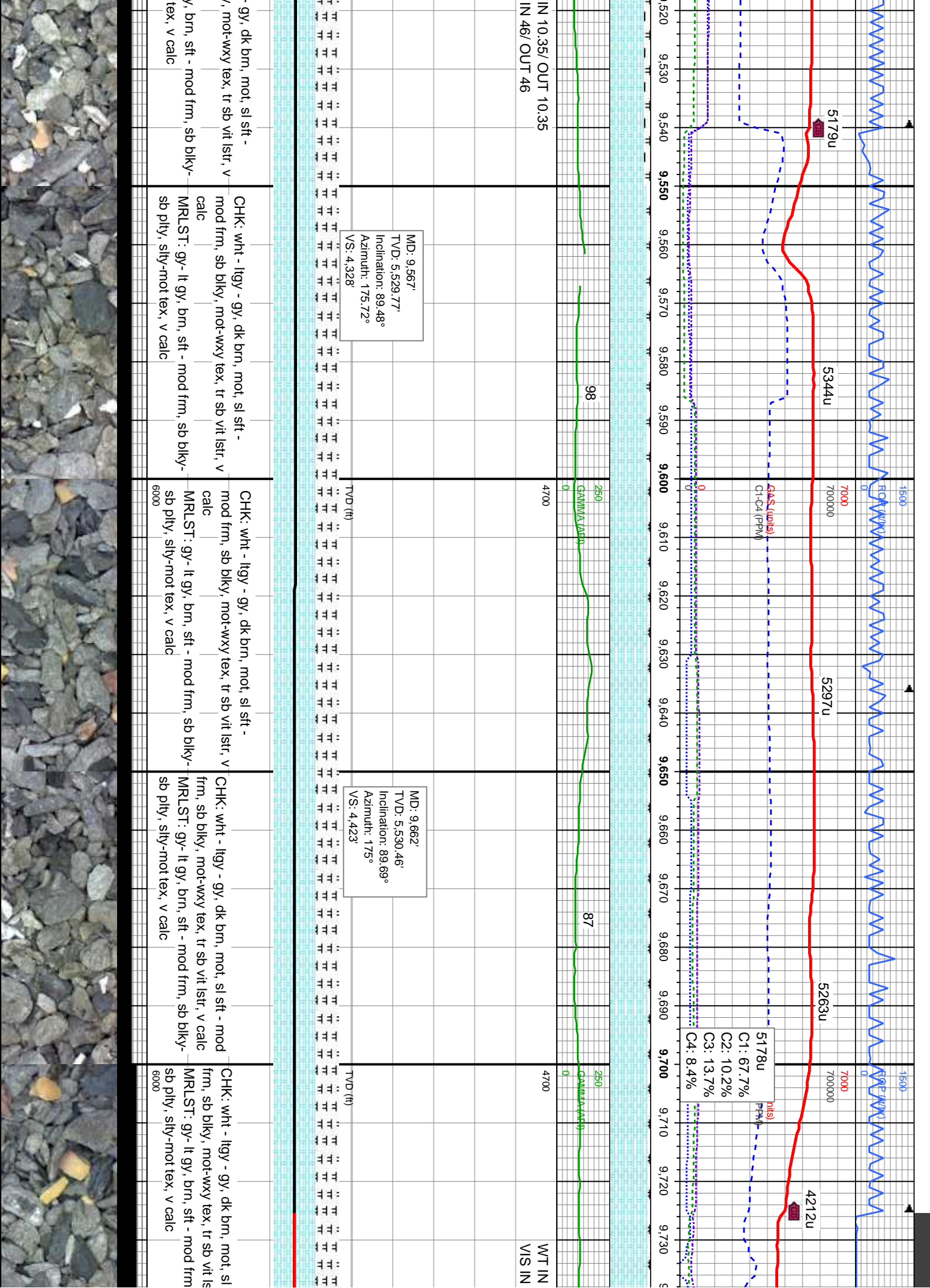
Itgy - crm, lt brn, mot, sl sft - mod sb blkly, mot-wxy tex, tr sb vit lstr, v	CHK: Itgy - crm, lt brn, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc MRLST: gy- lt gy, brn, sft - mod frm, sb blkly- sb plty, silty-mot tex, v calc	CHK: Itgy - crm, lt brn, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc MRLST: gy- lt gy, brn, sft - mod frm, sb blkly- sb plty, silty-mot tex, v calc	CHK: Itgy - crm, lt brn, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc MRLST: gy- lt gy, brn, sft - mod frm, sb blkly- sb plty, silty-mot tex, v calc	CHK: Itgy - gy, dk brn, m sb blkly, mot-wxy tex, tr s MRLST: gy- lt gy, brn, sft blkly- sb plty, silty-mot tex
6000	6000	6000	6000	



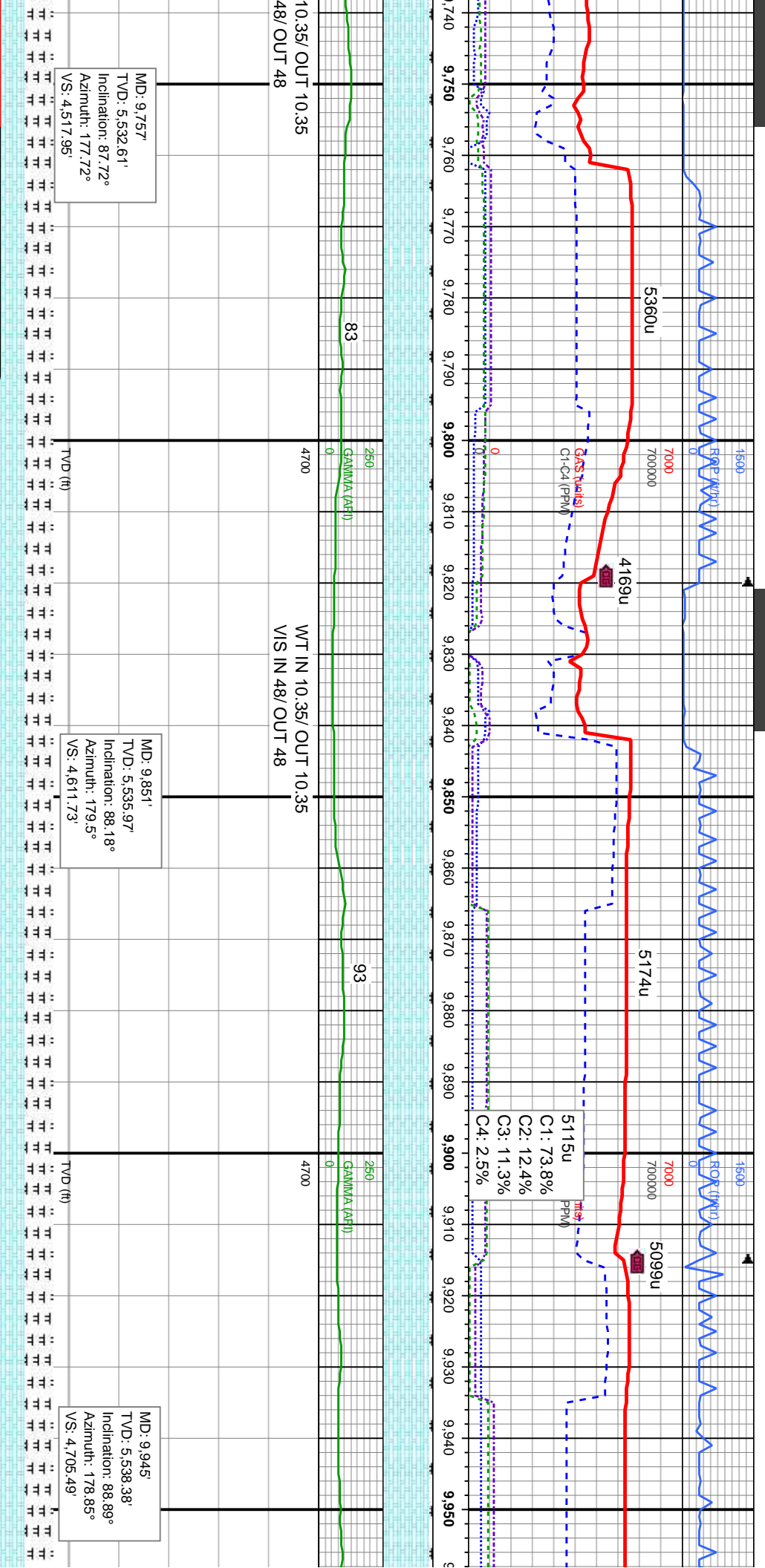






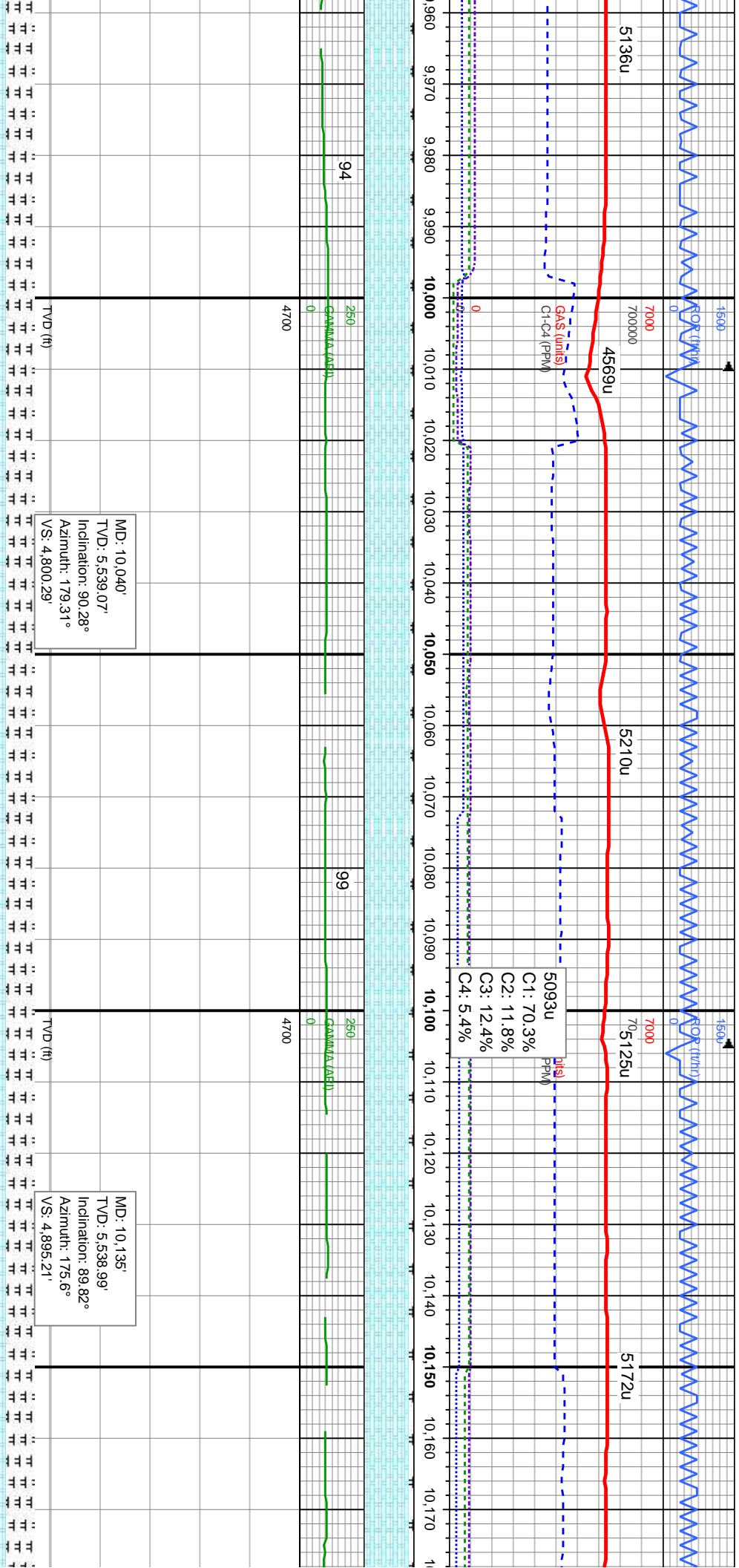






sft - mod itr, v calc sb bly-	CHK: lgy - gy, dk brn, mot, sl sft, sb bly, mot-wxy tex, tr sb vit lstr, v calc MRLST: gy- lt gy, brn, sft, sb bly- sb ply, sily-mot tex, v calc	CHK: lgy - gy, dk brn, mot, sl sft, sb bly, mot-wxy tex, tr sb vit lstr, v calc MRLST: gy- lt gy, brn, sft, sb bly- sb ply, sily-mot tex, v calc	CHK: lgy - gy, dk brn, mot, sl sft, sb bly, mot-wxy tex, tr sb vit lstr, v calc MRLST: gy- lt gy, brn, sft, sb bly- sb ply, sily-mot tex, v calc	CHK: lgy - gy, dk brn, mot, sl sft, sb bly, mot-wxy tex, tr sb vit lstr, v calc MRLST: gy- lt gy, brn, sft, sb bly- sb ply, sily-mot tex, v calc
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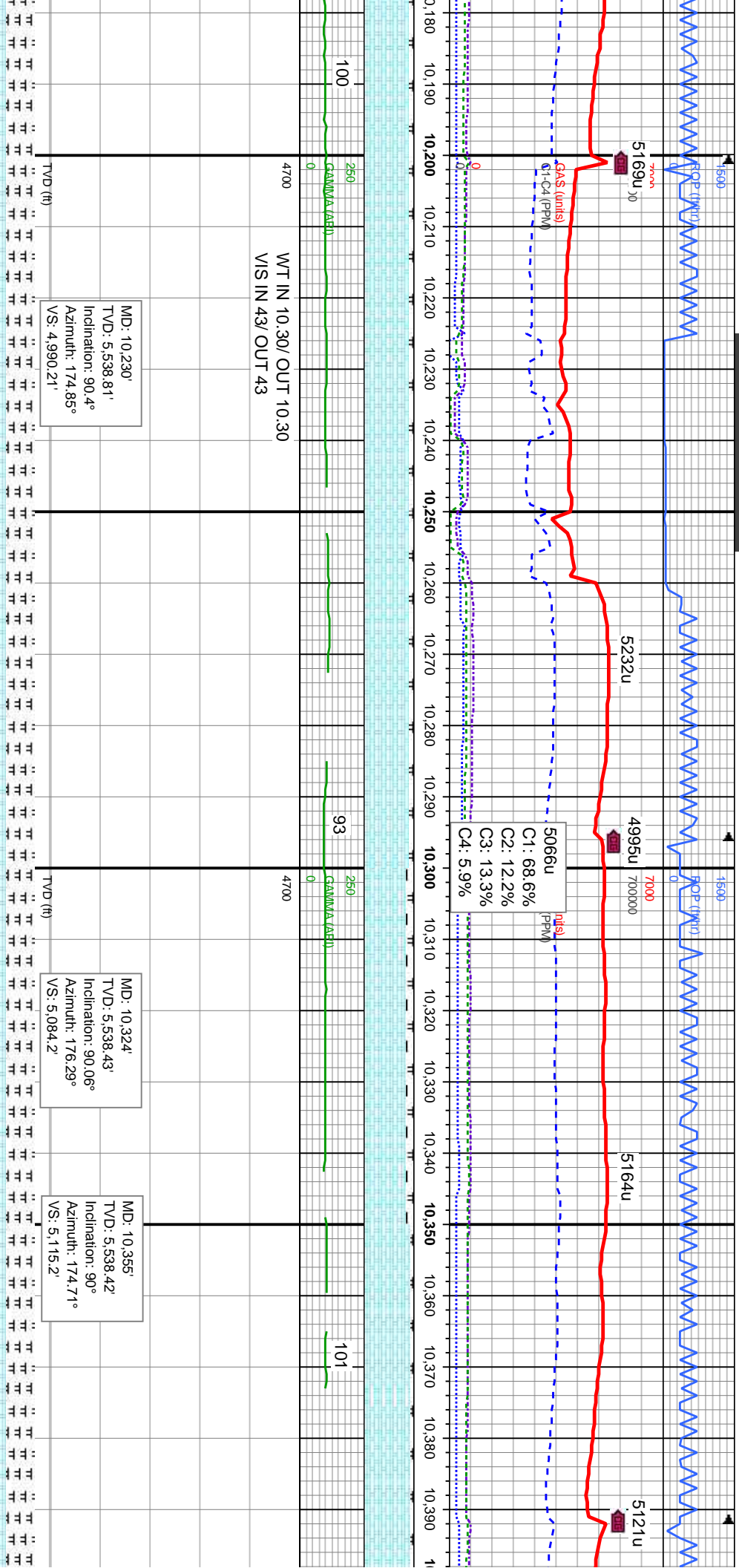




gy, dk brn, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc	CHK: lgy - gy, dk brn, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc	CHK: lgy - gy, dk brn, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc	CHK: lgy - gy, dk brn, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc
gy - lt gy, brn, sft, sb blk - sb ply, mot tex, v calc	gy - lt gy, brn, sft, sb blk - sb ply, sft - mot tex, v calc, tr fos frag	gy - lt gy, brn, sft, sb blk - sb ply, sft - mot tex, v calc, tr fos frag	gy - lt gy, brn, sft, sb blk - sb ply, sft - mot tex, v calc, tr fos frag
6000	6000	6000	6000







CHK:ltgy - gy, dk brn, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc	CHK:ltgy - gy, dk brn, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc	CHK:ltgy - gy, dk brn, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc	CHK:ltgy - gy, dk brn, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc
MRLST: gy- lt gy, brn, sft, sb blk- sb ply, silty-mot tex, v calc, tr fos frag	MRLST: gy- lt gy, brn, sft, sb blk- sb ply, silty-mot tex, v calc	MRLST: gy- lt gy, brn, sft, sb blk- sb ply, silty-mot tex, v calc	MRLST: gy- lt gy, brn, sft, sb blk- sb ply, silty-mot tex, v calc
6000	6000	6000	6000



