

MID CONTINENT WELL LOGGING SERVICE, INC.

CONTINUOUS WELL LOGGING / COMPLETE HYDROCARBON ANALYSIS

2222 WESTPARK DR. STE. A
NORMAN, OK 73069
OFFICE (405) 360-7333
OPERATIONS (405) 590-3655
SALES (405) 203-9989

Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name: Hazel 3120 1-24H
Location: SECTION 13, T31S, R20W, COMANCHE COUNTY, KANSAS
License Number: 1503321684100
Spud Date: 02/07/2013
Surface Coordinates: 2310' FSL & 660' FEL of Section 13, T31S, R20W
Region: Comanche
Drilling Completed: 02/23/2013

Bottom Hole: 3760' FNL & 660' FEL of Section 24, T31S, R20W
Coordinates: LOGGED BY: Blake Johnson/ Adam Bromley
Ground Elevation (ft): 2,042' K.B. Elevation (ft): 2,062'
Logged Interval (ft): 5,507' To: 10,773' Total Depth (ft): 10,773'
Formation: MISSISSIPPIAN
Type of Drilling Fluid: WATER/ NATIVE GEL

Printed by HORIZONTAL.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: SANDRIDGE ENERGY, INC
Address: 123 Robert S. Kerr Avenue, Ste. 2430
Oklahoma City, Oklahoma 73102-6406

GEOLOGIST

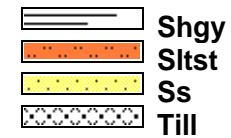
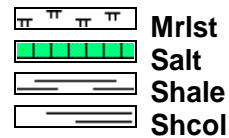
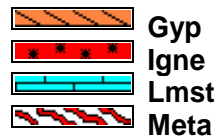
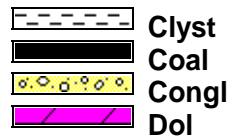
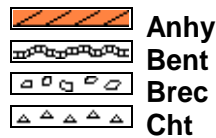
Name:
Company: SANDRIDGE ENERGY, INC
Address: 123 Robert S. Kerr Avenue, Ste. 2430
Oklahoma City, Oklahoma 73102-6406

Cores

DSTs

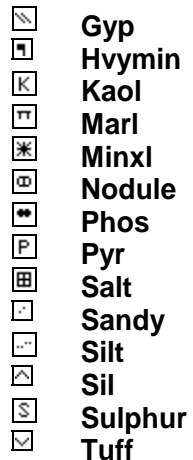
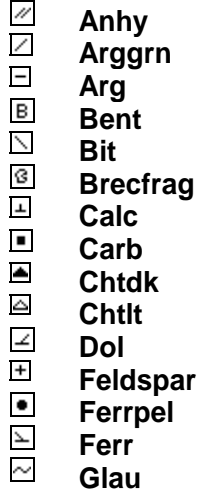
Comments

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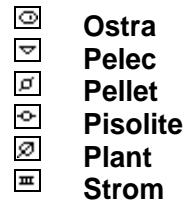
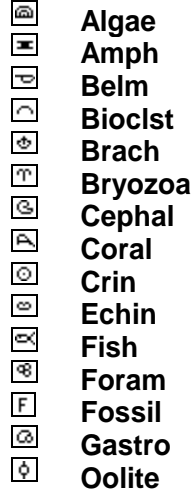


ACCESSORIES

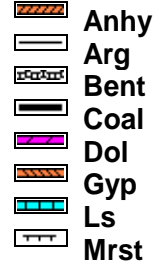
MINERAL



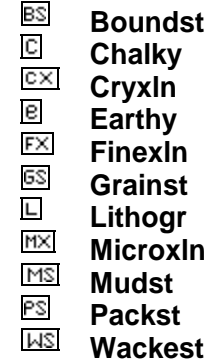
FOSSIL



STRINGER



TEXTURE



OTHER SYMBOLS

POROSITY

- E Earthy
- Fenest
- F Fracture
- X Inter
- ⊗ Moldic
- Organic
- P Pinpoint

- V Vuggy

SORTING

- W Well
- M Moderate
- P Poor

ROUNDING

- R Rounded
- r Subrnd
- a Subang
- A Angular

OIL SHOW

- Even

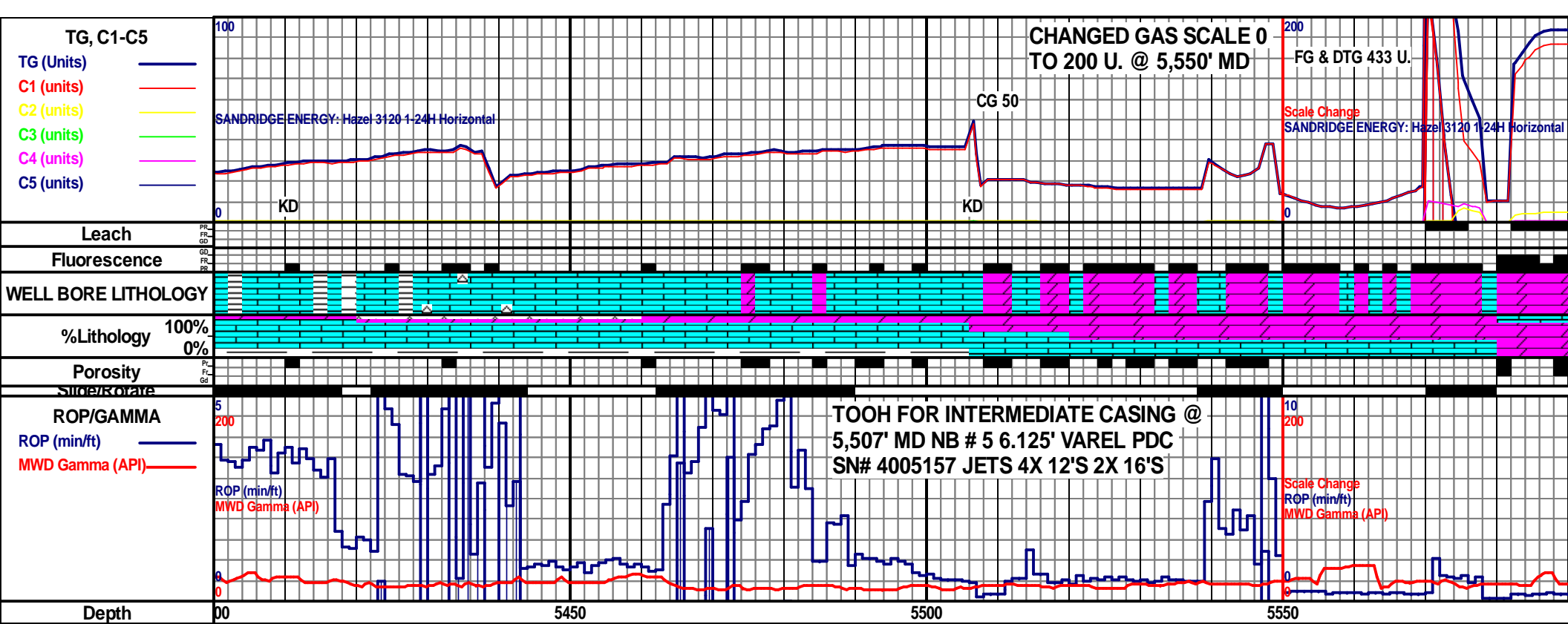
- Spotted
- Ques
- D Dead

INTERVAL

- Core
- Dst

EVENT

- ▽ Rft
- ▴ Sidewall



4800 TVD

LS: PRED LT TAN- OFF WHT, OCC MED TAN, LITHO, BLKY- PLTY, MICRO FN- V FN XLN, MSTLY MOD FRM- FRM, TR CHLKY, TR HL FRAC POR, SH: PRED DK GY- MED GY, SCAT BLK THRU OUT, PLTY- BLKY, MOD FRM- MOD SFT, V FN SLTY TXT, DOL: OFF WHT- WHT, BLKY- PLTY, MICRO FN- V FN XLN, MOD FRM- MOD SFT, TR FRM, DCRG SCAT BRI YEL- YEL MIN FLOR, NO VIS CUT, NO RESD RING

DOL: PRED LT TAN, SCAT OFF WHT THRU OUT, SUCRO, MSTLY BLKY, SUCRO- MICRO SUCRO XLN, PRED MOD FRM- FRI, FR- PR INTRGRNLR POR, PR- FR HC STN, LS: WHT- OFF WHT, PLTY- BLKY, MOD FRM- FRM, OCC BRIT, V FN- MICRO FN XLN, INCRG SCAT YEL- BRI YEL FLOR, MLKY- LT BLU SLW BLMNG CUT, FNT MLKY WHT RESD RING

MD 5431 TVD 5078.2
 INC 82.8 AZ 181.1

MD 5452 TVD 5080.6
 INC 84.1 AZ 180.9

MD 5552 TVD 5087.83
 INC 87.6 AZ 180.3

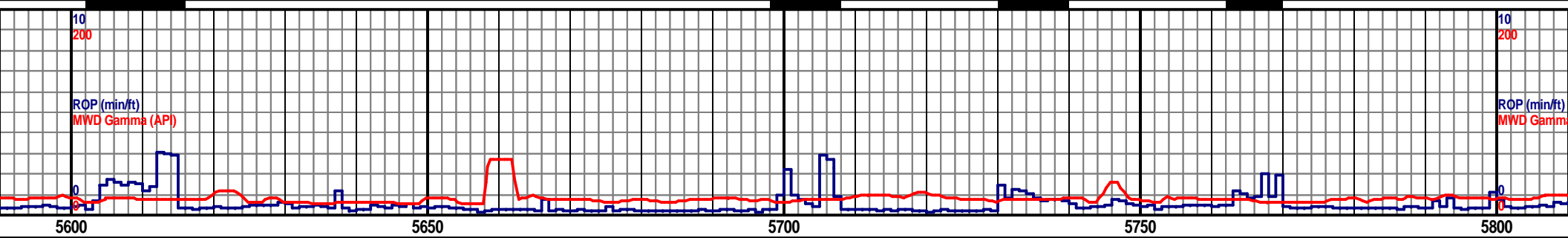
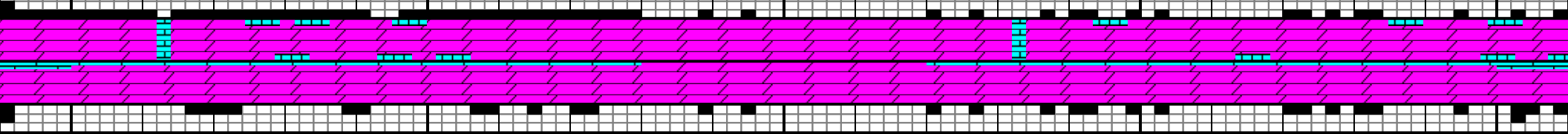
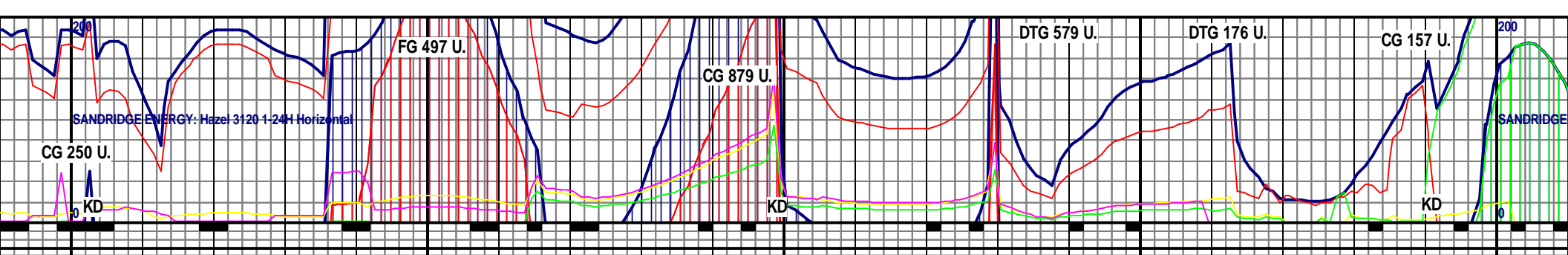
Well Bore Cross Section

5300

SANDRIDGE ENERGY INC.
HAZEL 3120 1-24H SEC
13-T31S-R20W COMANCHE
CO. KANSAS

2,042' GR 2,062' KB

5800



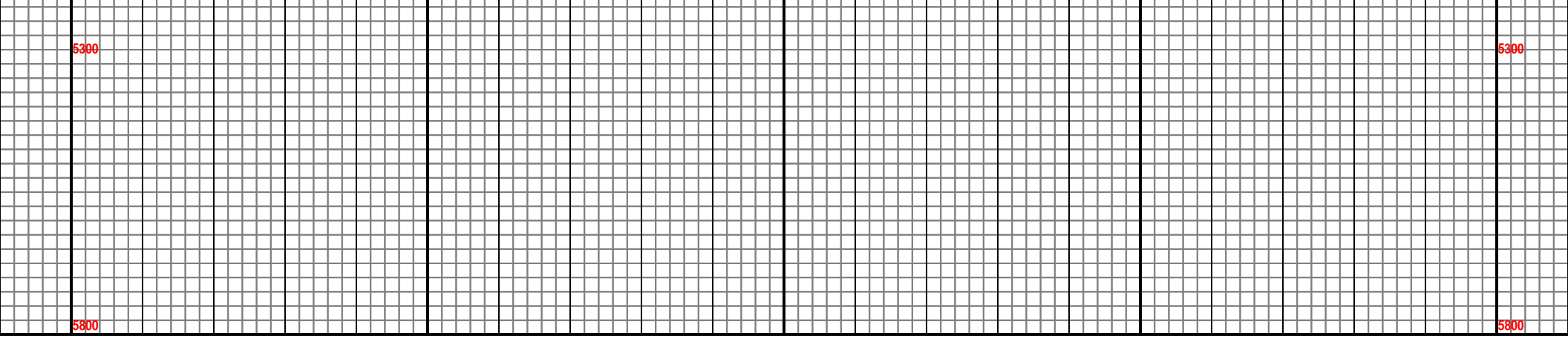
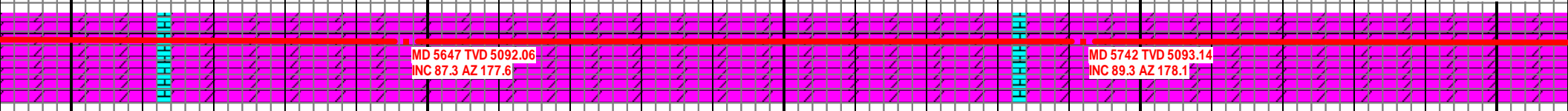
4800 TVD
 DOL: MSTLY LT TAN, SCAT OFF WHT THRU OUT, SUCRO, PRED BLKY, MSTLY SUCRO- MICRO SUCRO XLN, PRED MOD FRM- FRI, FR- PR INTRGRNLR POR, PR- FR HC STN, LS: PRED OFF WHT- WHT, MSTLY PLTY, TR BLKY, MOD FRM- FRM, OCC BRIT, V FN- MICRO FN XLN, BLNKTD YEL- BRI YEL FLOR, MLKY- LT BLU SLW BLMNG CUT, FNT MLKY WHT- LT BLU RESD RING

4800 TVD
 DOL: PRED LT TAN- OFF WHT, INCRG OFF WHT, TR WHT, SUCRO, BLKY, MICRO SUCRO- SUCRO, MOD FRM- SLI FRI, PR- FR INTRGRNLR POR, TR HC STN, LS: WHT- OFF WHT, INCRG WHT, DNSE, PLTY- BLKY, MOD FRM- MOD SFT, OCC BRIT, MICRO FN- V FN XLN, SCAT YEL- BRI YEL FLOR, FNT MLKY FLASH CUT, FNT MLKY WHT RESD RING

WOB: 11.2 K
 RPM: 61
 SPM: 71
 PP: 1852
 GPM: 303

MD 5647 TVD 5092.06
 INC 87.3 AZ 177.6

MD 5742 TVD 5093.14
 INC 89.3 AZ 178.1



CG & 20 SECOND
TEST @ TRAP 533 U.

ENERGY: Hazel 3120-1-24H Horizontal

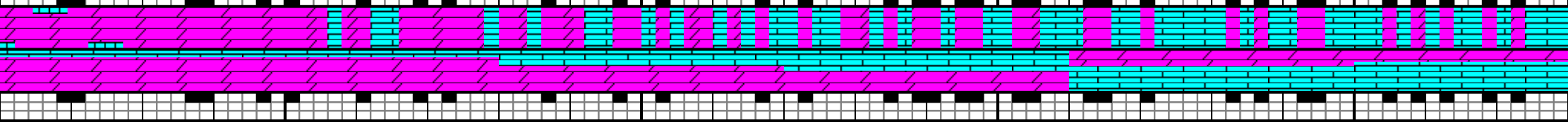
CG 86 U.

KD

KD

200
0

SANDRIDGE ENERGY: Hazel 3120-1-24



b (API)

10
200
ROP (min/ft)
MWD Gamma (API)

5850

5900

5950

6000

DOL: MSTLY LT TAN, ABUND OFF WHT, SME WHT, SUCRO, BLKY, MOD FRM- SLI FRI, MICRO FN XLN, PR- FR INTRGRNLR POR, LS: PRED WHT, OCC OFF WHT, LITHO, PLTY- BLKY, TR SPLNTY, MOD FRM- MOD SFT, INCRG MOD SFT, SCAT BRIT THRU OUT, MICRO FN- V FN XLN, SCAT YEL MIN FLOR, TR MLKY WHT CUT, V FNT MLKY WHT RESD RING

LS: WHT- OFF WHT, LITHO, BLKY- PLTY, MOD SFT- MOD FRM, SCAT SFT THRU OUT, PRED MICRO FN- V FN XLN, TR HL FRAC POR, DOL: MSTLY OFF WHT- WHT, SME LT TAN, SUCRO- DNSE, BLKY, MOD FRM- SLI FRI, TR FRM, MSTLY MICRO FN- V FN XLN, PR INTRGRNLR POR, TR HC STN, DCRG SCAT YEL- BRI YEL MIN FLOR, NO VIS CUT, NO RESD RING

LS: PRED WHT, FRM THRU OUT, WHT- WHT, SME FN XLN, PR INTR RING

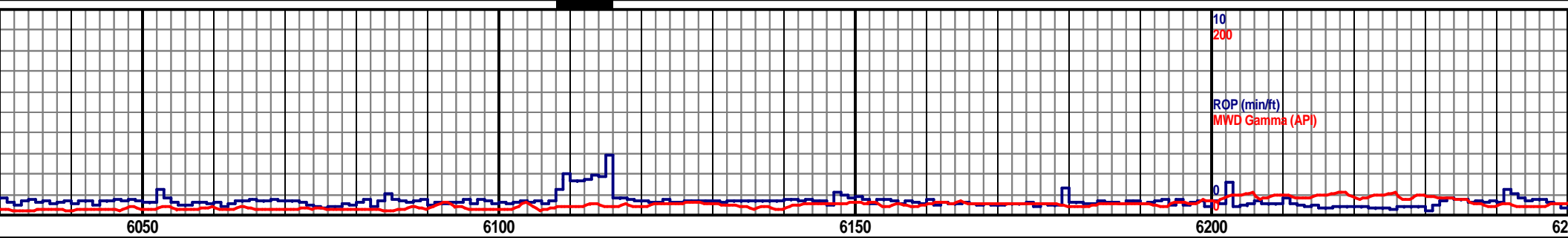
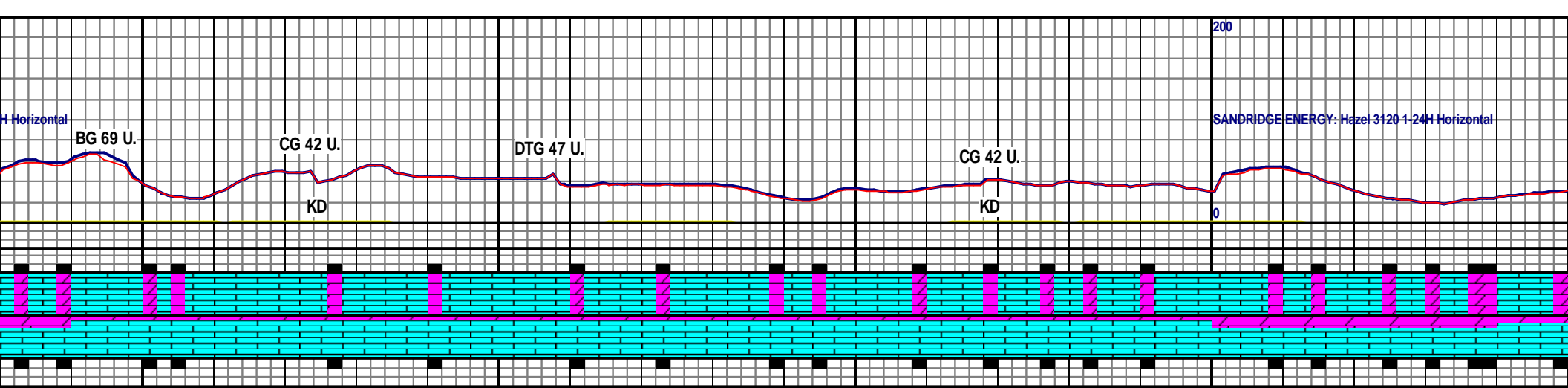
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INC 89.9 AZ 180.2

MD 5931 TVD 5094.13
INC 89.7 AZ 181.3

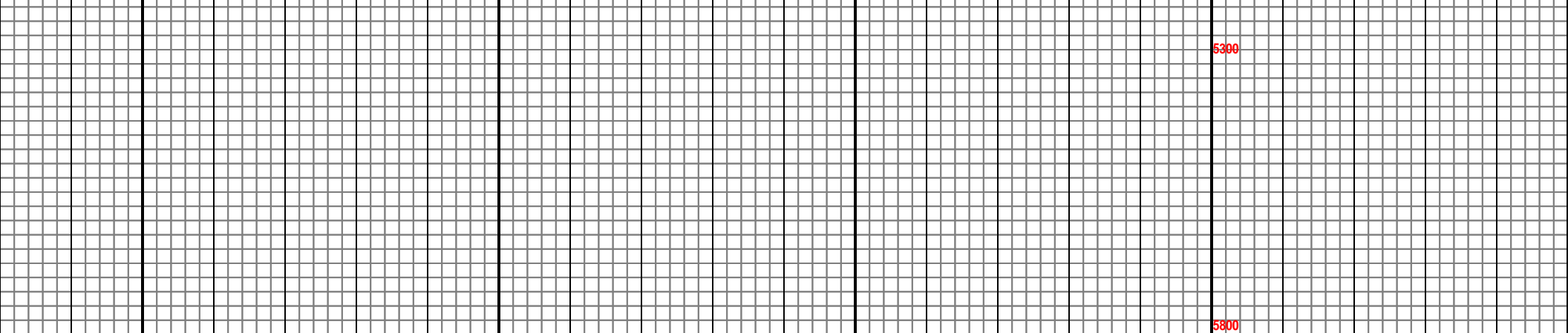
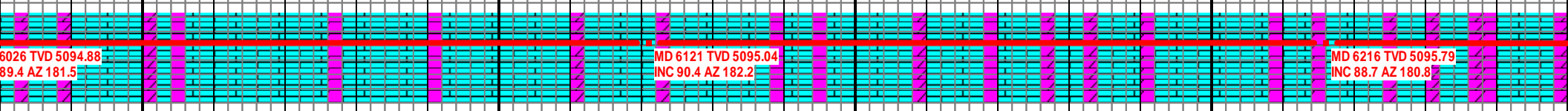
MD
INC

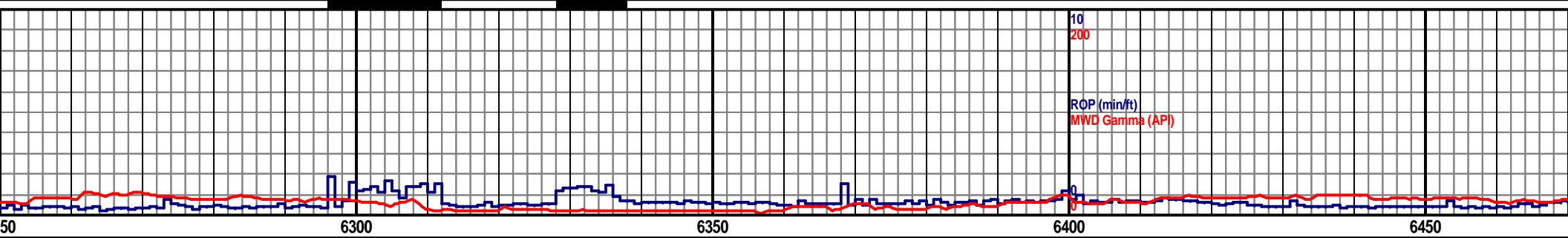
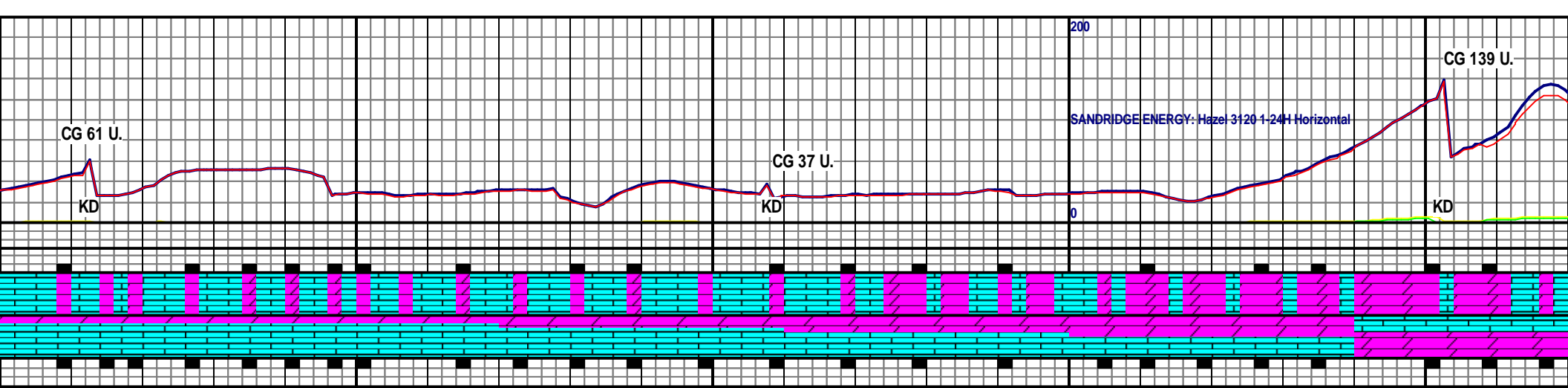
5300

5800

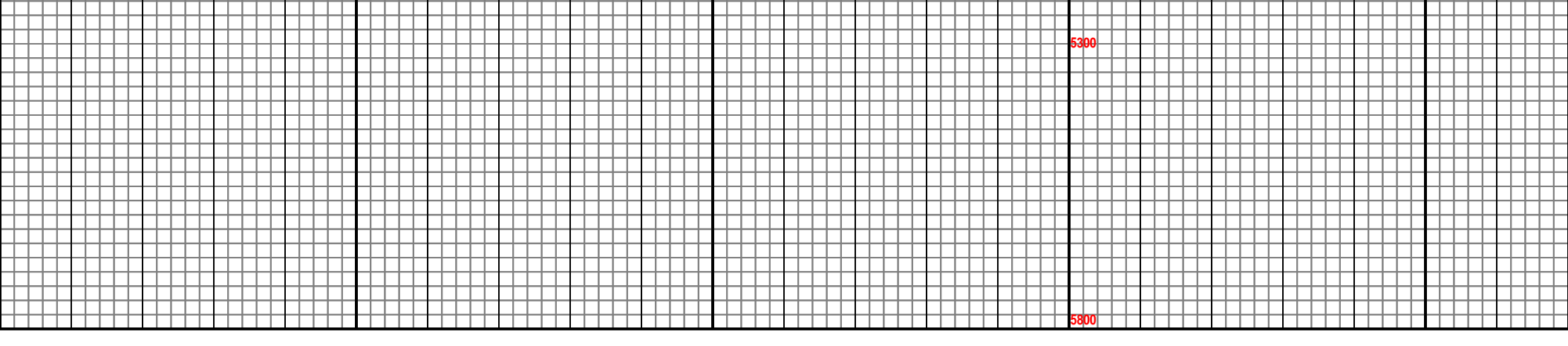
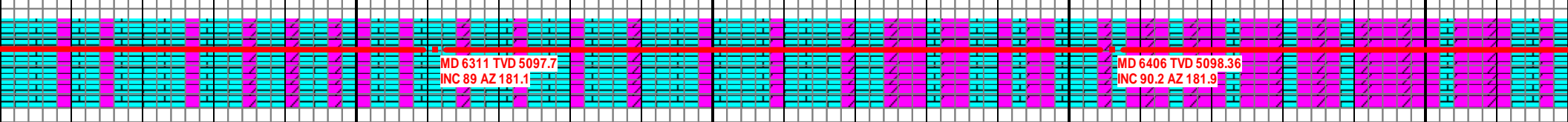


<p>SCAT OFF WHT, LITHO, BLKY- PLTY, MOD SFT- SFT, SCAT MOD MSTLY MICRO FN- V FN XLN, TR HL FRAC POR, DOL: MSTLY OFF LT TAN, SUCRO- DNSE, BLKY, MOD FRM- SLI FRI, MSTLY MICRO INTRGRNLR POR, OCC SCAT YEL MIN FLOR, NO VIS CUT, NO RESD</p>	<p>WOB: 20.5 K RPM: 61 SPM: 72 PP: 1859 GPM: 296</p>	<p>LS: MSTLY WHT, OCC OFF WHT, LITHO, MSTLY BLKY, OCC PLTY, TR SPLNTY, MICRO FN- V FN XLN, MOD SFT- SFT, OCC MOD FRM, TR HL FRAC POR, DOL: PRED OFF WHT- WHT, TR LT TAN, SUCRO- DNSE, DCRG SUCRO, BLKY, MOD FRM- SLI FRI, MSTLY MICRO FN XLN, PR INTRGRNLR POR, TR GLAU, TR SCAT YEL MIN FLOR, NO VIS CUT, NO RESD RING</p>	<p>LS: MSTLY WHT, OCC OFF WHT, LI SPLNTY, MICRO FN- V FN XLN, MO FRAC POR, DOL: PRED OFF WHT- DCRG SUCRO, BLKY, MOD FRM- SLI INTRGRNLR POR, TR GLAU, TR SC RESD RING</p>
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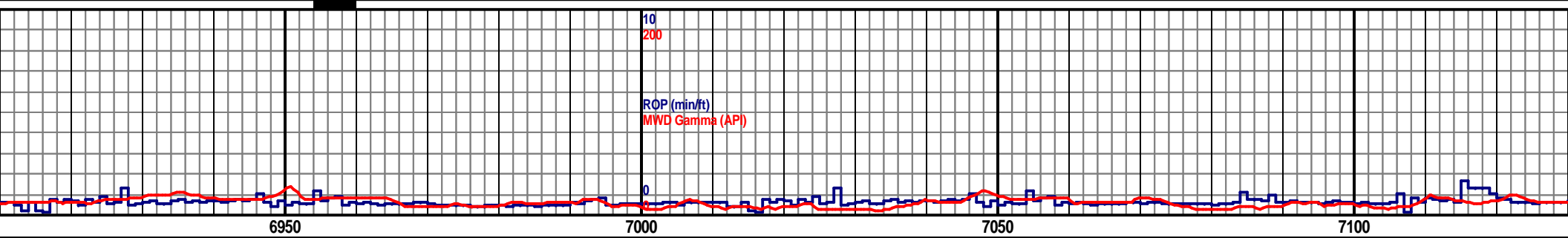
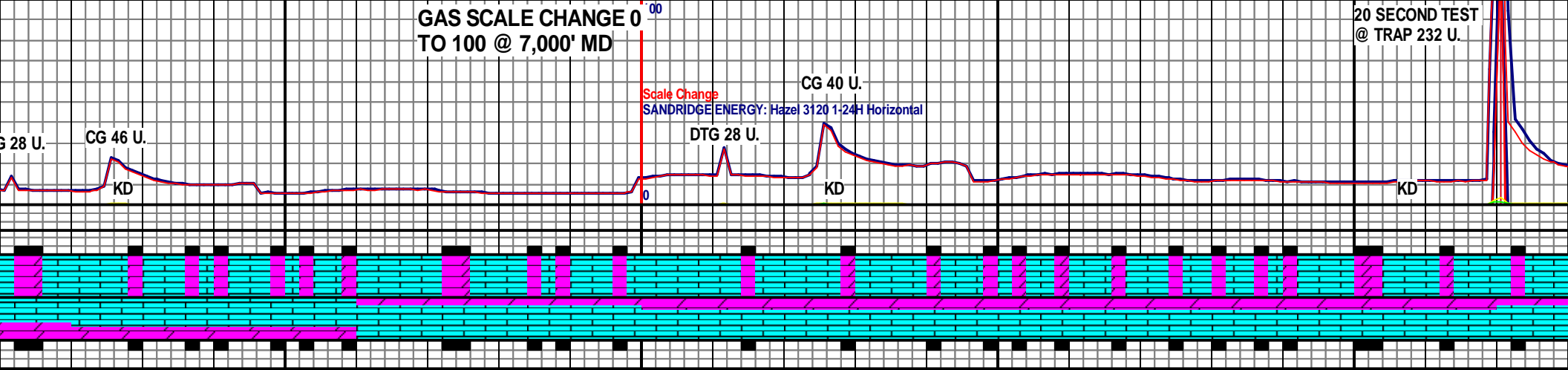


<p>THO, MSTLY BLKY, OCC PLTY, TR D SFT- SFT, OCC MOD FRM, TR HL WHT, TR LT TAN, SUCRO- DNSE, I FRI, MSTLY MICRO FN XLN, PR AT YEL MIN FLOR, NO VIS CUT, NO</p>	<p>LS: PRED WHT- OFF WHT, LITHO, BLKY- PLTY, MOD SFT- MOD FRM, MICRO FN- V FN XLN, TR HL FRAC POR, DOL: MSTLY OFF WHT- LT TAN, SUCRO, MOD FRM- SLI FRI, MICRO FN XLN, BLKY, PR INTGRNLR POR, TR HC STN, TR CHT: OFF WHT- WHT, V HD- HD, TR BRIT, WTHRD, TR HL FRAC POR, SCAT BRI YEL- YEL FLOR, NO VISB CUT, NO RESD RING</p>	<p>4800 TVD WOB: 14.4 K RPM: 60 SPM: 73 PP: 1913 GPM: 302</p>	<p>DOL: MSTLY LT TAN- TAN, SUCRO, MOD FRM- SLI FRI, M BLKY, FR INTGRNLR POR, LS: PRED WHT- OFF WHT, LITHO, MOD SFT- MOD FRM, MICRO FN- V FN XLN, TR HL FRAC P TR CHT: OFF WHT- WHT, V HD- HD, TR BRIT, WTHRD, TR F SCAT YEL- DULL YEL MIN FLOR, N/S</p>
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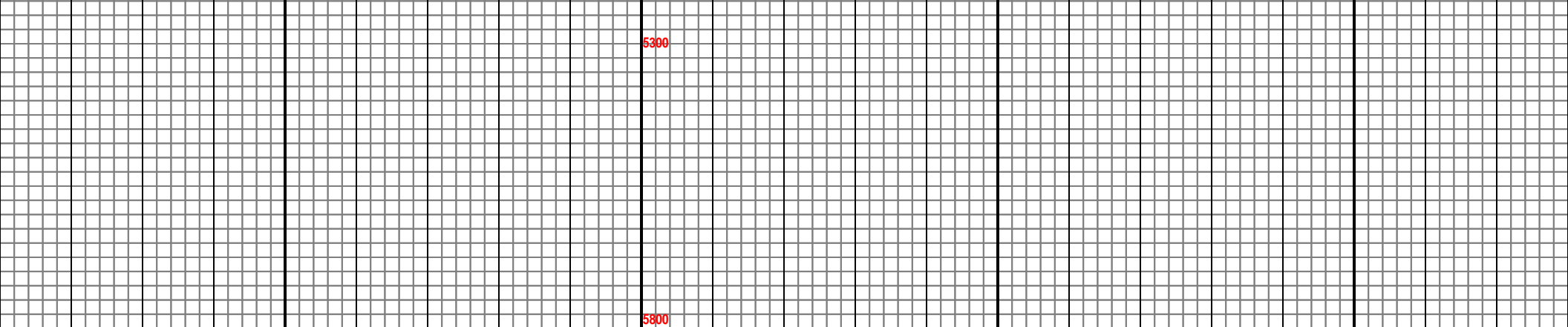
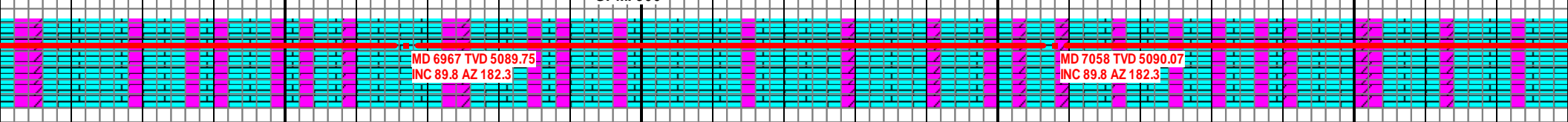


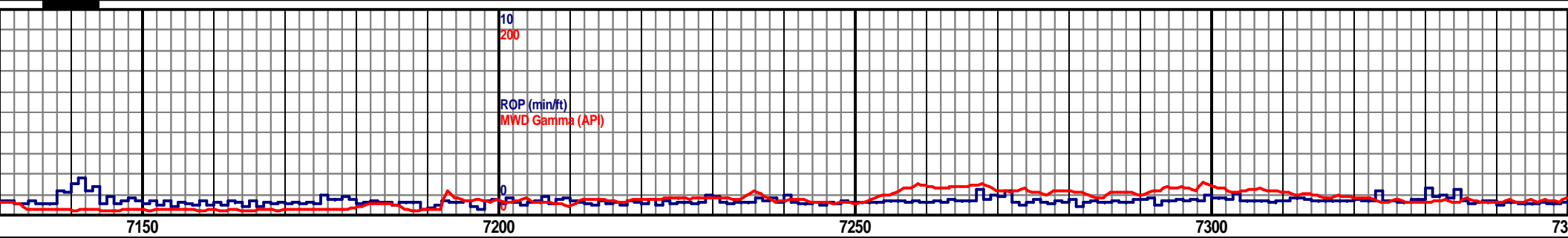
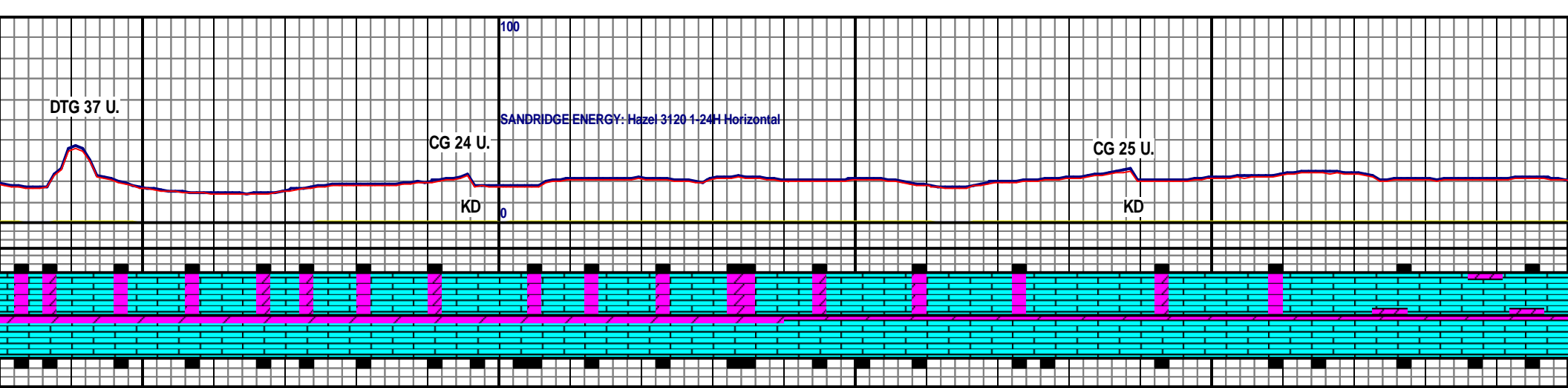
GAS SCALE CHANGE 0 TO 100 @ 7,000' MD

20 SECOND TEST @ TRAP 232 U.

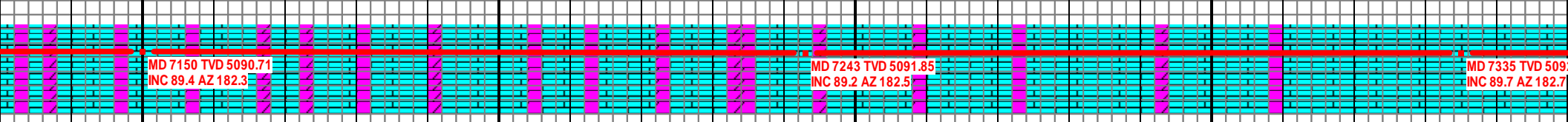


<p>LS: PRED WHT- OFF WHT, LITHO, MSTLY BLKY, SCAT PLTY THRU OUT, PRED MOD SFT- MOD FRM, TR BRIT, MSTLY MICRO FN XLN, SME V FN XLN, TR HL FRAC POR, DOL: PRED LT TAN- OFF WHT, TR WHT, SUCRO, BLKY, SLI FRI- MOD FRM, TR MOD SFT, SUCRO- MICRO FN XLN, PR INTRGRNLR POR, TR YEL- BRI YEL FLOR, NO VIS CUT, NO RESD RING</p>	<p>4800 TVD</p> <p>WOB: 17.2 K RPM: 61 SPM: 73 PP: 2071 GPM: 300</p>	<p>LS: MSTLY OFF WHT- WHT, LITHO, BLKY, SME PLTY THRU OUT, PRED MOD SFT- MOD FRM, OCC BRIT, MSTLY MICRO FN XLN- V FN XLN, TR HL FRAC POR, DOL: PRED LT TAN- OFF WHT, TR WHT, SUCRO, BLKY, SLI FRI- MOD FRM, TR MOD SFT, SUCRO- MICRO FN XLN, PR INTRGRNLR POR, TR YEL FLOR, NO VIS CUT, NO RESD RING</p>	<p>LS: PRED WHT- BRIT, MICRO FN- WHT/OPQ, SUCR XLN, PR INTRGR</p>
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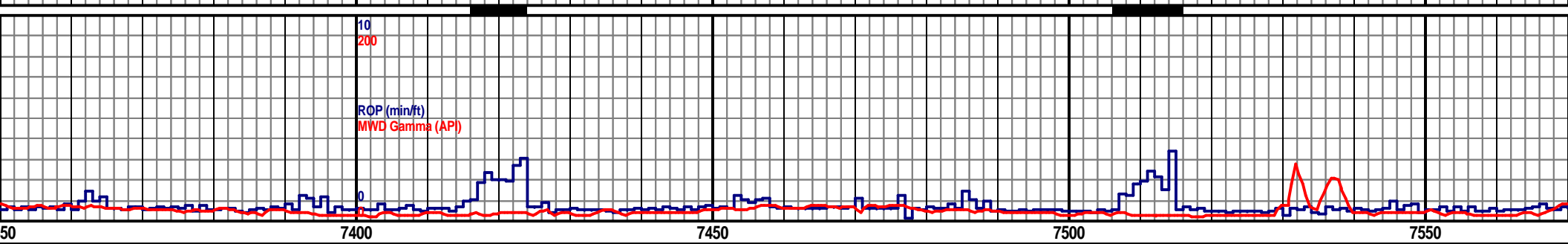
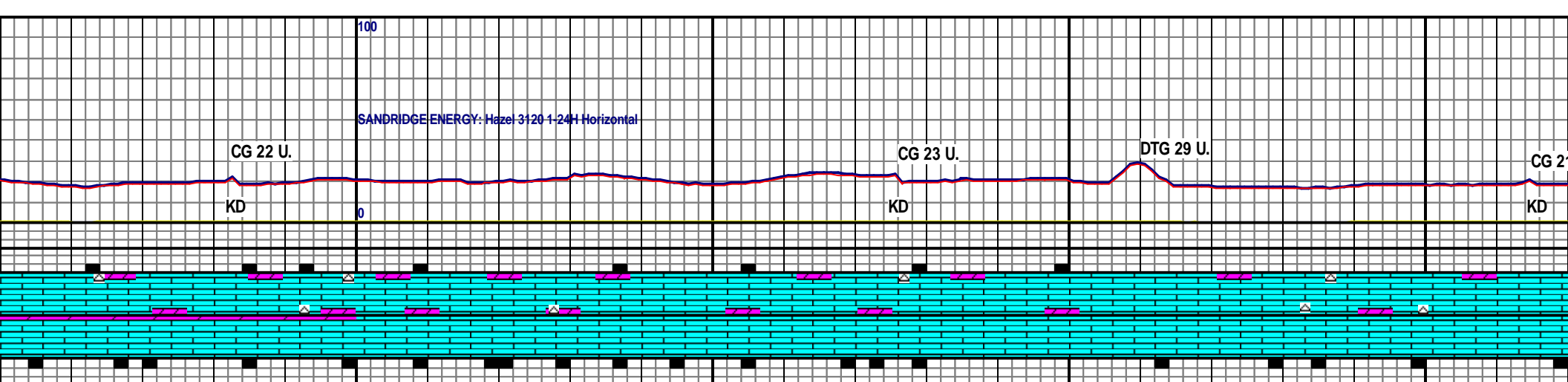
<p>OFF WHT, OCC OOL, BLKY- PLTY, MOD FRM- MOD SFT, OCC V FN XLN, TR HL FRAC POR, DOL: LT TAN- OFF WHT, TR RO, BLKY, SLI FRI- MOD FRM, TR MOD SFT, SUCRO- MICRO FN NLR POR, TR YEL FLOR, NO VIS CUT, NO RESD RING</p>	<p>4800 TVD LS: MSTLY OFF WHT- WHT, TR LT TAN, MSTLY LITHO, OCC OOL, MOD FRM- MOD SFT, OCC BRIT/CHLKY, MICRO FN XLN, OCC V FN XLN, TR HL FRAC POR, DOL: MSTLY LT TAN- OFF WHT, TR WHT/OPQ, SUCRO, BLKY, SLI FRI- MOD FRM, TR MOD SFT, PRED SUCRO- MICRO FN XLN, PR INTRGRNLR POR, TR YEL FLOR, NO VIS CUT, NO RESD RING</p>	<p>WOB: 16.5 K RPM: 59 SPM: 72 PP: 2043 GPM: 295</p>	<p>LS: WHT- OFF WHT, OCC LT TAN, MSTLY TR PLTY, MOD FRM- MOD SFT, OCC BRIT FRAC POR, DOL: MSTLY WHT- OFF WHT FRM- SLI FRI, PR INTRGRNLR POR, TR C BRIT/ WTHRD, TR YEL- DULL YEL MIN F</p>
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MUD DATA- @ 7,138'
WT-8.4 VIS-28 PV-1 YP-1
GEL 0/0 FIL-17.2 SOL-
0.8 H2O-99.2 PH-9.5
CL-1500 CA-20

5300

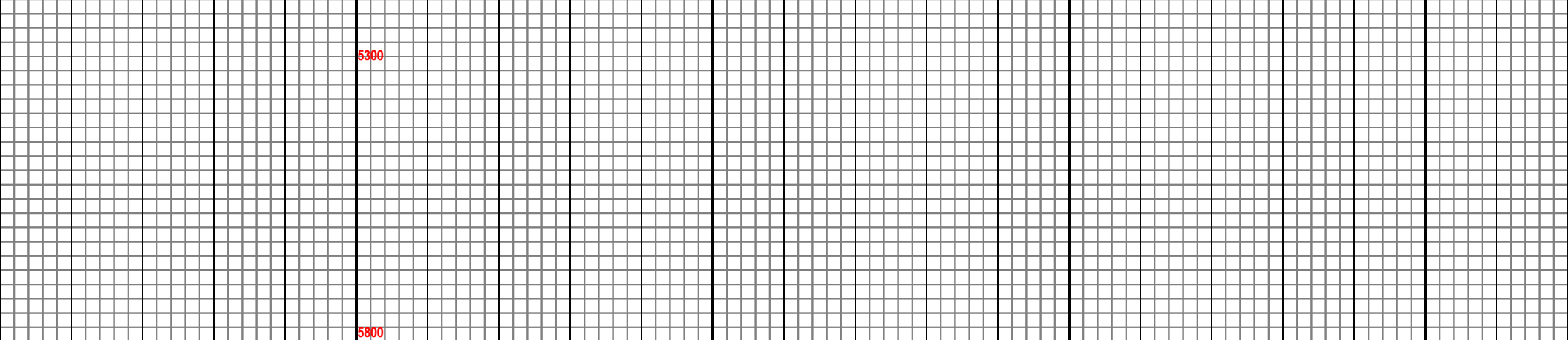
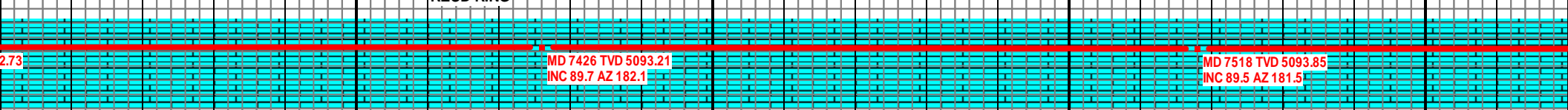
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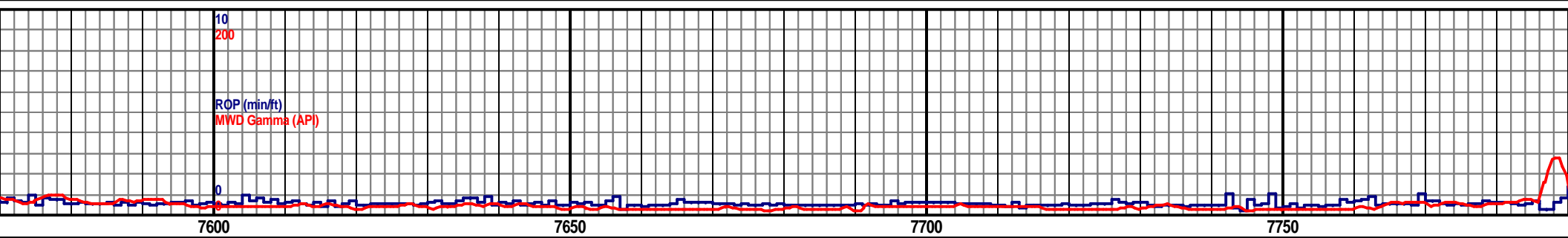
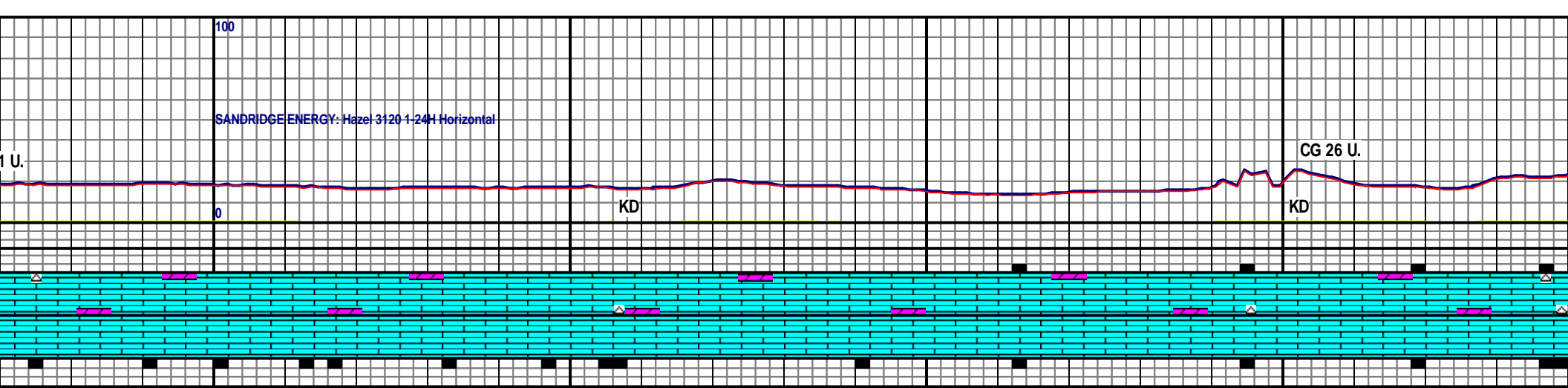


LITHO, TR OOL, TR FREE OOID, BLKY,
 /CHLKY, MICRO FN- V FN XLN, TR HL
 FNT TR LT TAN, SUCRO, PRED MOD
 CHT: WHT- OPQ, WHT- OPQ, V HD- HD, TR
 LOR, NO VIS CUT, NO RESD RING

4800 TVD
 LS: PRED OFF WHT- WHT, SME LT TAN, SME MTTLD OFF WHT- LT TAN, MSTLY LITHO,
 TR OOL, TR FREE OOID, BLKY, TR PLTY, MOD FRM- MOD SFT, OCC BRIT/CHLKY,
 MICRO FN- V FN XLN, TR HL FRAC POR, DOL: WHT- OFF WHT, FNT TR LT TAN,
 SUCRO, PRED MOD FRM- SLI FRI, PR INTRGRNLR POR, TR CHT: WHT- OPQ, WHT-
 OPQ, V HD- HD, TR BRIT/ WTHRD, TR YEL- DULL YEL MIN FLOR, NO VIS CUT, NO
 RESD RING

LS: MSTLY OFF WHT- WHT, INCRNG LT TAN, SME MTTLD OFF WH
 TR OOL, TR FREE OOID, BLKY, TR PLTY, MOD FRM- MOD SFT, OC
 FN- V FN XLN, TR HL FRAC POR, TR DOL: PRED WHT- OFF WHT,
 PRED MOD FRM- SLI FRI, PR INTRGRNLR POR, TR CHT: WHT- OP
 TR BRIT/ WTHRD, NO FLOR, NO VIS CUT, NO RESD RING





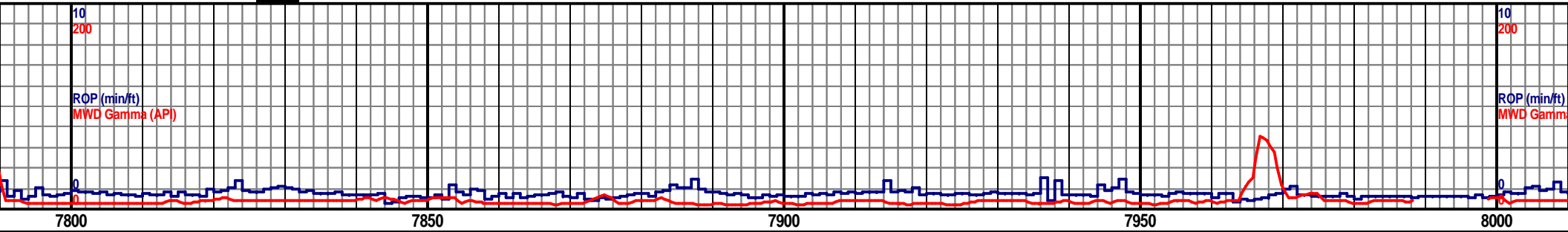
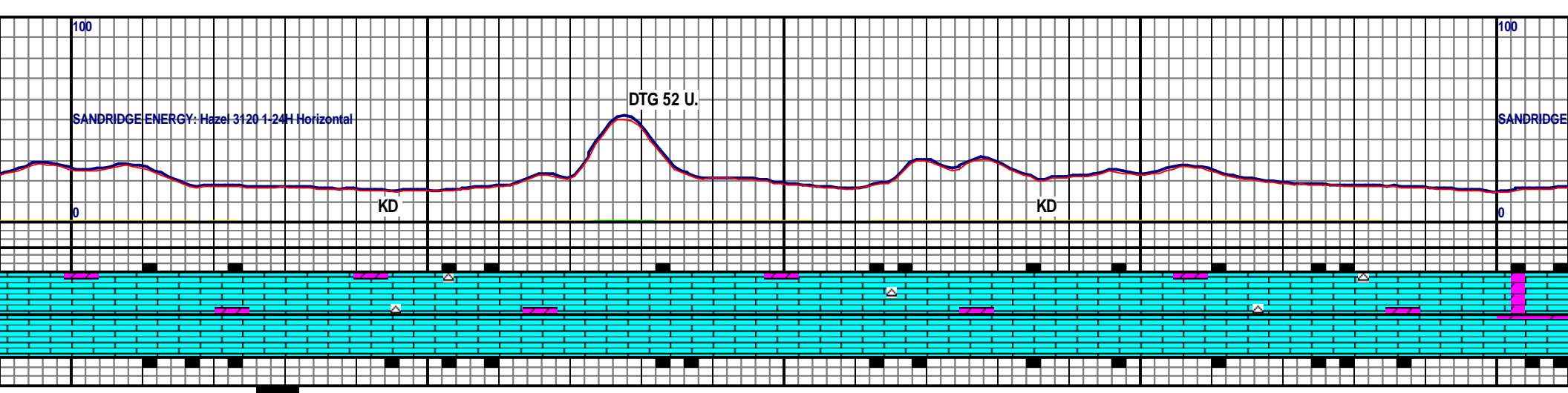
<p>LT TAN, PRED LITHO, OCC BRIT/CHLKY, MICRO FNT TR LT TAN, SUCRO, Q, WHT- OPQ, V HD- HD,</p>	<p>4800 TVD WOB: 20 K RPM: 60 SPM: 71 PP: 2203 GPM 292</p>	<p>LS: PRED OFF WHT- LT TAN, OCC WHT THRU OUT, SME MTTLD OFF WHT- LT TAN, LITHO, TR OOL, TR FREE OOID, BLKY, TR PLTY, MOD FRM- MOD SFT, OCC BRIT/CHLKY, MICRO FN- V FN XLN, TR HL FRAC POR, TR DOL: PRED WHT- OFF WHT, FNT TR LT TAN, SUCRO, PRED MOD FRM- SLI FRI, PR INTRGRNLR POR, TR CHT: WHT- OPQ, WHT- OPQ, V HD- HD, TR BRIT/ WTHRD, NO FLOR, NO VIS CUT, NO RESD RING</p>	<p>LS: MSTLY OFF WHT- WHT, SLI DCRNG LT TAN, SME MTTLD OFF WHT- LT TAN, M FRM- MOD SFT, OCC BRIT/CHLKY, PRED LITHO, TR OOL, TR FREE OOID, BLKY- PLTY, MICRO FN- V FN XLN, TR HL FRAC POR, TR DOL: MSTLY WHT- OFF WHT, FN TR LT TAN, SUCRO, PRED MOD FRM- SLI FRI, PR INTRGRNLR POR, TR CHT: WHT- OPQ, WHT- OPQ, V HD- HD, TR BRIT/ WTHRD, SCAT YEL- BRIT YELL MIN FLOR, N VIS CUT, NO RESD RING</p>
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MD 7611 TVD 5094.82
INC 89.3 AZ 181.4

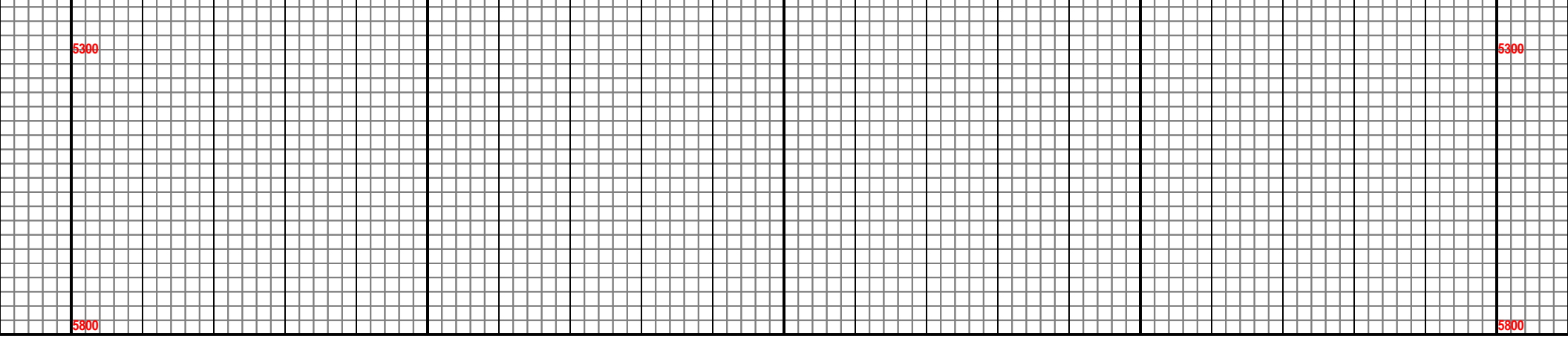
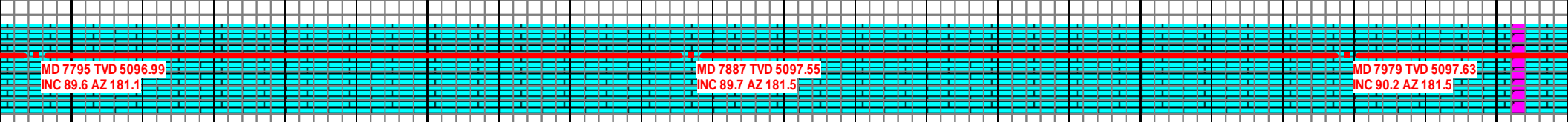
MD 7702 TVD 5096.01
INC 89.2 AZ 181.4

5300

5800

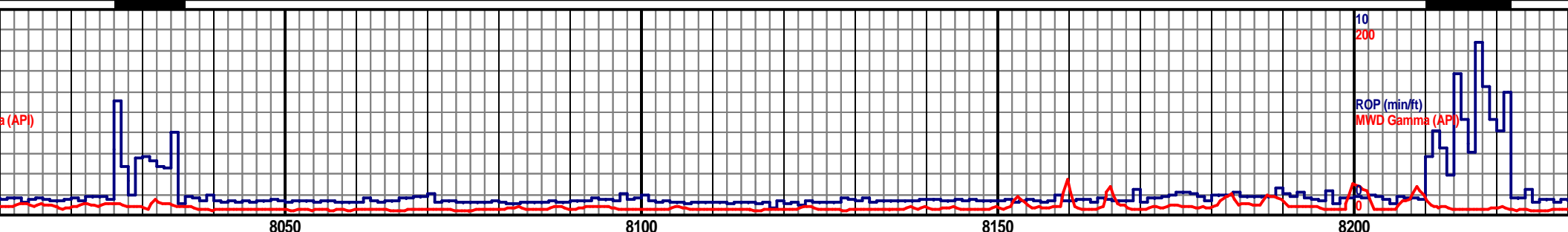
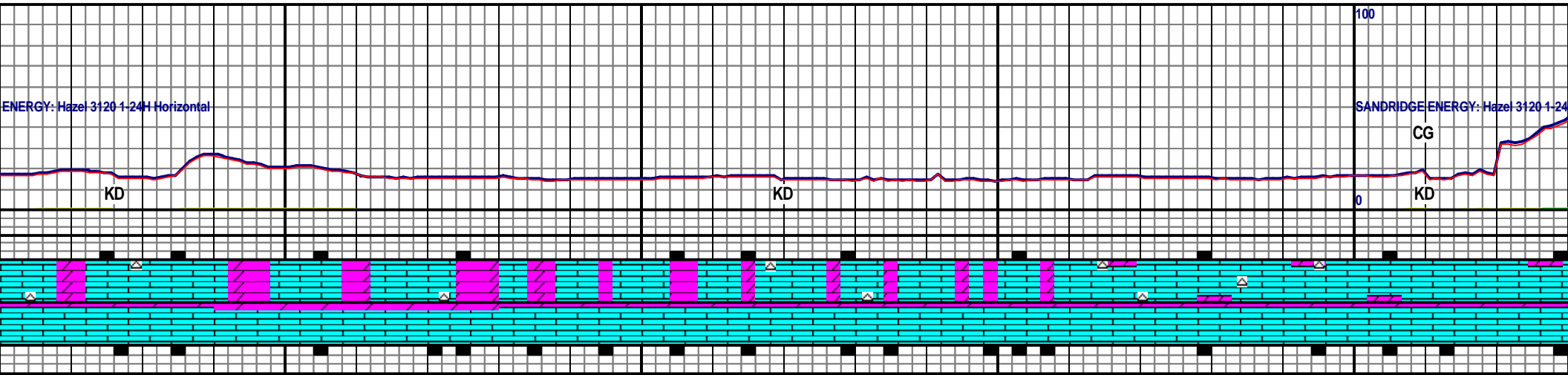


<p>LS: PRED OFF WHT- WHT, LT TAN THRU OUT, SME MTTLD OFF WHT- LT TAN, MSTLY LITHO, TR OOL, TR FREE OOID, BLKY- PLTY, MOD FRM- MOD SFT, OCC BRIT/CHLKY, MICRO FN- V FN XLN, TR HL FRAC POR, TR DOL: PRED WHT- OFF WHT, FNT TR LT TAN, SUCRO, PRED MOD FRM- SLI FRI, PR INTRGRNLR POR, TR CHT: WHT- OPQ, WHT- OPQ, V HD- HD, TR BRIT/ WTHRN, SCAT YEL FLOR, FNT BLU MLKY CUT, NO RESD RING</p>	<p>WOB: 8.9 K RPM: 62 SPM: 74 PP: 2260 GPM: 303</p>	<p>LS: MSTLY LT TAN- OFF WHT, SME WHT, SME MTTLD OFF WHT- LT TAN, PRED LITHO, TR OOL, TR FREE OOID, BLKY- PLTY, MOD FRM- MOD SFT, OCC BRIT/CHLKY, MICRO FN- V FN XLN, TR HL FRAC POR, DOL: MSTLY WHT- OFF WHT, FNT TR LT TAN, SUCRO, PRED MOD FRM- SLI FRI, PR INTRGRNLR POR, TR CHT: WHT- OPQ V HD- HD, TR BRIT/ WTHRD, SCAT YEL MIN FLOR, N/S</p>
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ENERGY: Hazel 3120-1-24H Horizontal

SANDRIDGE ENERGY: Hazel 3120-1-24

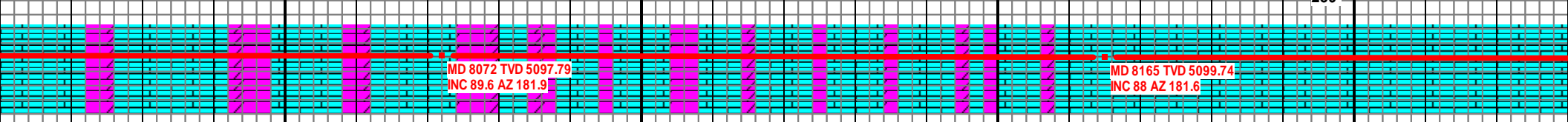


LS: PRED LT TAN- OFF WHT, SME WHT THRU OUT, SME MTTLD OFF WHT- LT TAN, PRED LITHO, TR OOL, TR FREE OOID, BLKY- PLTY, MOD FRM- MOD SFT, TR BRIT/CHLKY, MICRO FN- V FN XLN, TR HL FRAC POR, DOL: PRED WHT- OFF WHT, FNT TR LT TAN, SUCRO, PRED MOD FRM- SLI FRI, PR INTRGRNLR POR, TR CHT: WHT- OPQ, V HD- HD, TR BRIT/ WTHRN, SCAT BRIT YEL MIN FLOR, N/S

LS: PRED LT TAN- OFF WHT, ABUND WHT THRU OUT, SME MTTLD OFF WHT- LT TAN, PRED LITHO, TR OOL, TR FREE OOID, BLKY- PLTY, MOD FRM- MOD SFT, TR BRIT/CHLKY, MICRO FN- V FN XLN, TR HL FRAC POR, DOL: PRED WHT- OFF WHT, FNT TR LT TAN, SUCRO, PRED MOD FRM- SLI FRI, PR INTRGRNLR POR, TR CHT: WHT- OPQ, V HD- HD, TR BRIT/ WTHRD, N/S

4800 TVD
WOB: 10.1 K
RPM: 60
SPM: 70
PP: 2105 GPM:
289

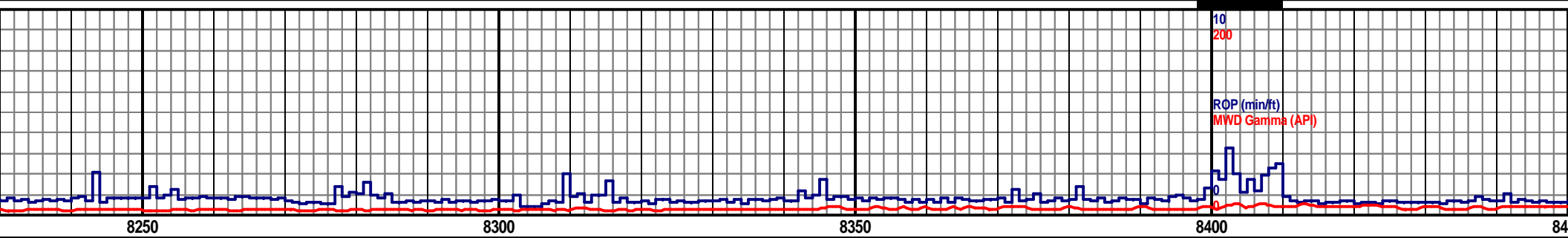
LS: MSTLY LT
LT TAN, PRED
SFT, TR BRIT/
WHT- OFF WH
INTRGRNLR P



02/20/2013

5300

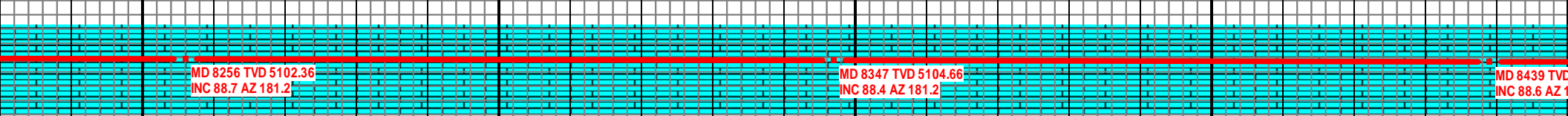
5800



TAN- OFF WHT, ABUND WHT THRU OUT, SME MTTLD OFF WHT-
LITHO, TR OOL, TR FREE OOID, BLKY- PLTY, MOD FRM- MOD
CHLKY, MSTLY MICRO FN- V FN XLN, TR HL FRAC POR, DOL:
IT, TR LT TAN, SUCRO, BLKY, PRED MOD FRM- SLI FRI, TR PR
OR, SME YEL- BRI YEL FLOR, SLW STRMNG WK MLKY CUT,

LS: PRED OFF WHT- WHT, SME LT TAN, OCC OOL, MOD FRM- MOD SFT, SME
CHLKY, BLKY- PLTY, MICRO FN- V FN XLN, TR HL FRAC POR, TR FREE OOID,
DOL: LT TAN- OFF WHT, TR TAN, SLI FRI- MOD FRM, SUCRO, BLKY, TR FR
INTRXLN POR, OCC BRI YEL- YEL FLOR, NO VIS CUT, NO RESD RING

LS: MSTLY OFF WHT- LT TAN, SCAT W
PRED BLKY- PLTY, SLI INCRG PLTY, M
SFR- MOD FRM, SCAT BRIT THRU OU
VIS CUT, NO RESD RING



4800 TVD

5300

5800

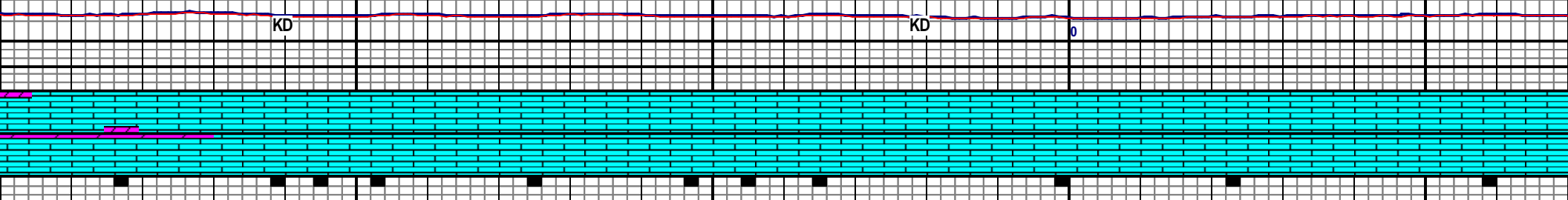
100

SANDRIDGE ENERGY: Hazel 3120-1-24H Horizontal

KD

KD

0

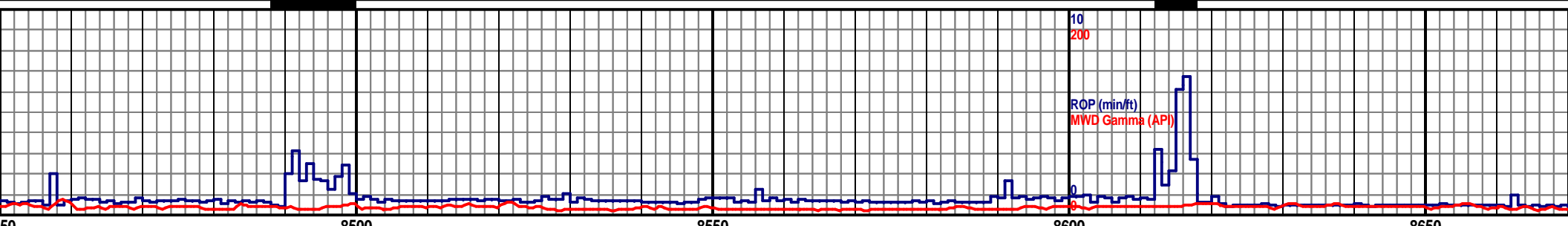


10

200

ROP (min/ft)

MWD Gamma (API)



50

8500

8550

8600

8650

WHT THRU OUT, OOL, OCC FREE OOID,
 MSTLY MICRO FN XLN, OCC V FN XLN, MOD
 T, TR HL FRAC POR, TR YEL MIN FLOR, NO

WOB: 15.4 K
 RPM: 60
 SPM: 112
 PP: 2402 GPM:
 460

LS: PRED LT TAN- OFF WHT, ABUND WHT, OOL, OCC FREE
 OOID, BLKY- PLTY, MOD SFT- MOD FRM, SCAT BRIT/CHLKY,
 MSTLY MICRO FN XLN, OCC V FN XLN, TR YEL MIN FLOR, NO
 VIS CUT, NO RESD RING

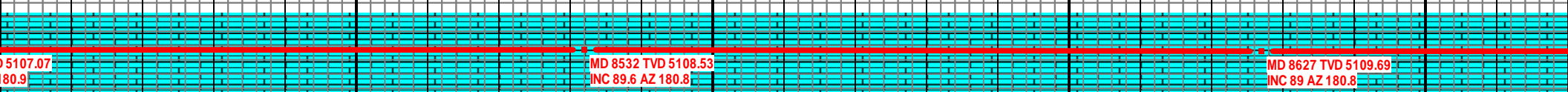
4800 TVD

LS: MSTLY LT TAN- OFF WHT, SCAT WHT THRU OU
 FREE OOIDs, PRED BLKY- PLTY, TR SPLNTY, MST
 MOD FRM, INCRG BRIT/CHLKY, PRED MICRO FN XL
 XLN, HL FRAC POR, TR YEL MIN FLOR, NO VIS CU

5107.07
180.9

MD 8532 TVD 5108.53
INC 89.6 AZ 180.8

MD 8627 TVD 5109.69
INC 89 AZ 180.8



5300

5800

100

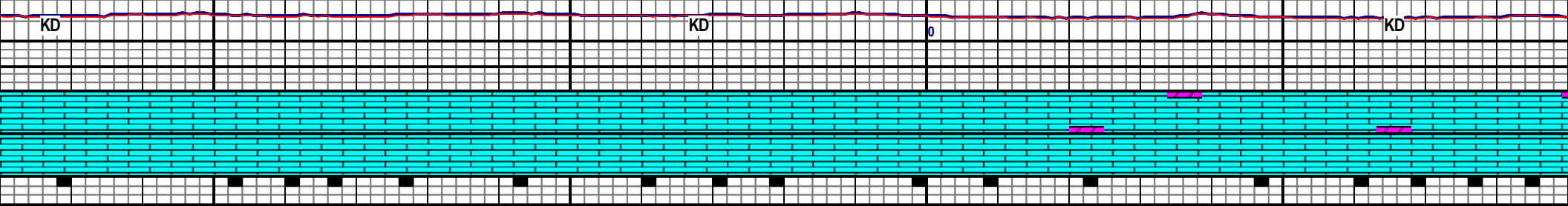
SANDRIDGE ENERGY: Hazel 3120-1-24H Horizontal

KD

KD

KD

0



10

200

ROP (min/ft)

MWD Gamma (API)

0

8700

8750

8800

8850

T, OOL, SCAT
LY MOD SFT-
N, SME V FN
T NO RESD RING

LS: PRED OFF WHT- LT TAN , INCRNG WHT, OOL, SCAT FREE
OOIDS, MOD SFT- MOD FRM, SCAT BRIT/CHLKY, PLTY- BLKY
MSTLY MICRO FN- V FN XLN, HL FRAC POR, NO FLOR, NO VISB
CUT, NO RESD RING

4800 TVD
WOB: 14.0 K
RPM: 59
SPM: 111
PP: 2406 GPM:
457

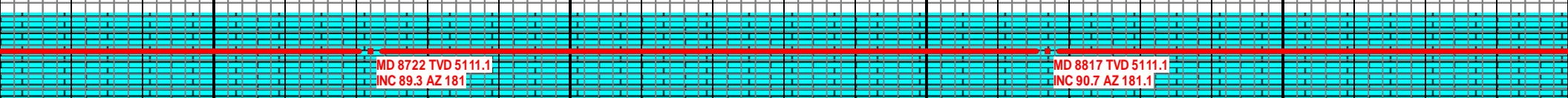
LS: MSTLY OFF WHT- WHT, MOD FRM- MOD SFT, PRED PLTY,
INCRNG LITHO, HL FRAC POR, OOL, MICRO FN- V FN XLN, SCAT
FREE OIDS, TR DOL, SCAT BRIT YEL MIN FLOR, N/S?

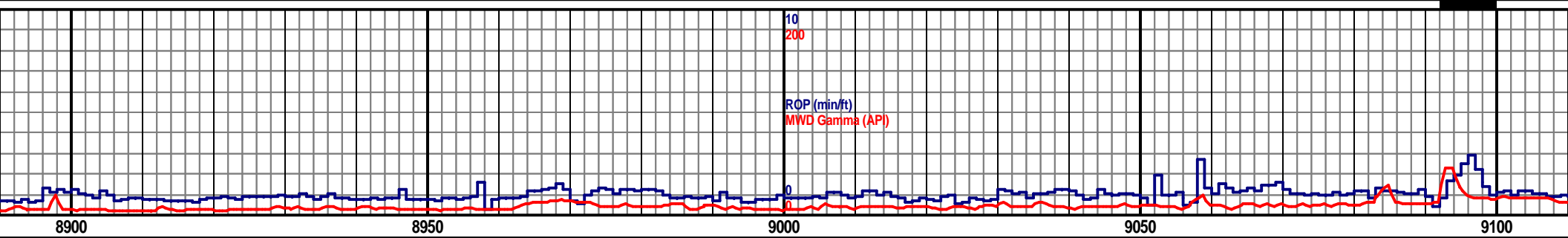
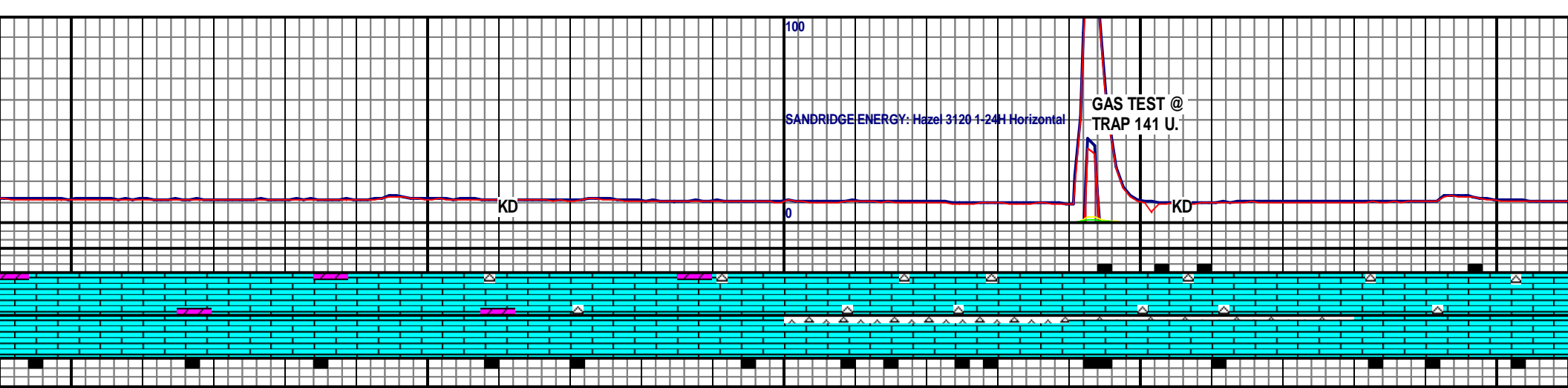
MD 8722 TVD 5111.1
INC 89.3 AZ 181

MD 8817 TVD 5111.1
INC 90.7 AZ 181.1

5300

5800





LS: MSTLY OFF WHT-WHT, MOD FRM- MOD SFT, PRED PLTY, INCRNG LITHO, HL FRAC POR, OOL, MICRO FN- V FN XLN, SCAT FREE OIDS, TR DOL, TR CHT, SCAT BRIT YEL MIN FLOR, NO VISB CUT, NO RESD RING

LS: PRED OFF WHT-LT TAN, SME WHT THRU OUT MOD FRM- MOD SFT, MSTLY PLTY, LITHO, HL FRAC POR, OOL, MICRO FN- V FN XLN, SCAT FREE OIDS, CHT: PRED OFF WHT- OPQ, OCC LT TAN, V HD HD, BLKY, TR DOL, TR BRIT YELL MIN FLOR, NO VISB CUT, NO RESD RING

WOB: 27.1 K
RPM: 59
SPM: 71
PP: 2100
GPM: 291

MD 8912 TVD 5109.94
INC 90.7 AZ 181.6

MD 9007 TVD 5108.28
INC 91.3 AZ 181.5

MD 9102
INC 91.4

4800 TVD

5300

5800

100

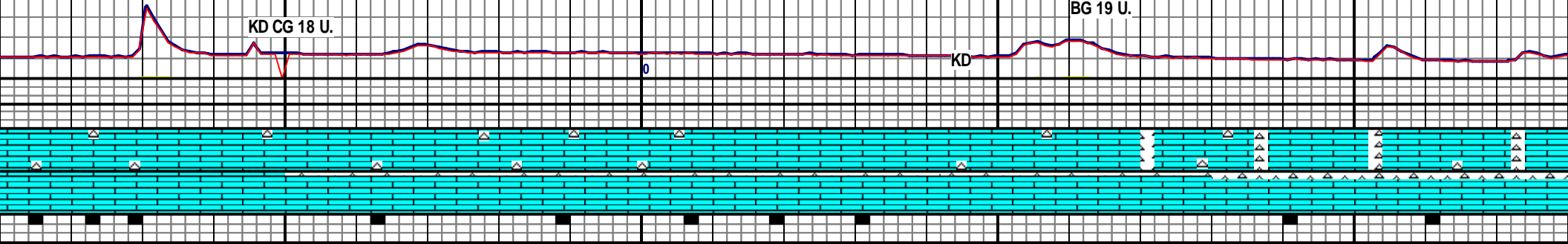
SANDRIDGE ENERGY: Hazel 3120-1-24H Horizontal

BG 19 U.

KD CG 18 U.

KD

0



10

200

ROP (min/ft)

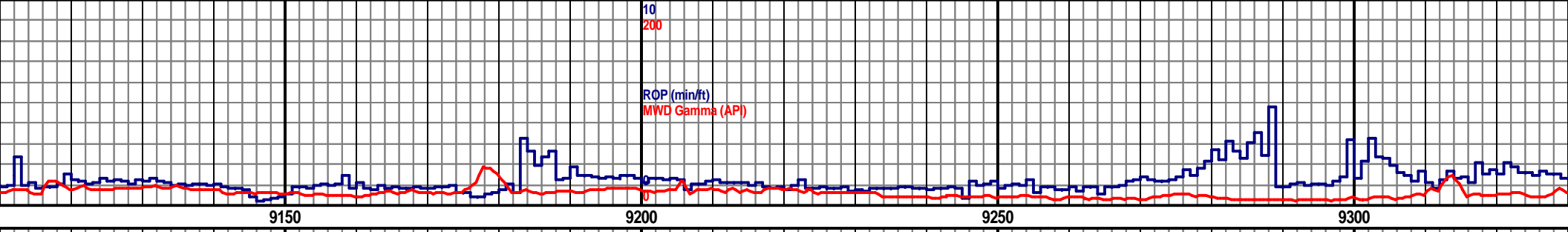
MWD Gamma (API)

9150

9200

9250

9300



LS: MSTLY LT TAN- OFF WHT, SME WHT THRU OUT MOD FRM- MOD SFT, PRED PLTY, OCC BLKY, LITHO, HL FRAC POR, OOL, MICRO FN- V FN XLN, SCAT FREE OIDS, CHT: OFF WHT- OPQ, OCC LT TAN, V HD HD, BLKY, NO FLOR, NO VISB CUT, NO RESD RING

LS: PRED LT TAN- OFF WHT, OCC WHT THRU OUT MOD FRM- MOD SFT, PRED PLTY, OCC BLKY, LITHO, HL FRAC POR, OOL, MICRO FN- V FN XLN, SCAT FREE OIDS, CHT: OFF WHT- OPQ, OCC LT TAN, V HD- HD, BLKY, NO FLOR, NO VISB CUT, NO RESD RING

LS: MSTLY LT TAN- MOD FRM, TR BRIT/ OCC HL FRAC POR, HD- BRIT, TR HL FRA RING

4800 TVD

TVD 5106.04
AZ 181.2

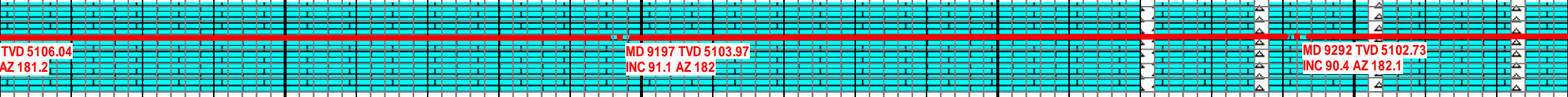
MD 9197 TVD 5103.97
INC 91.1 AZ 182

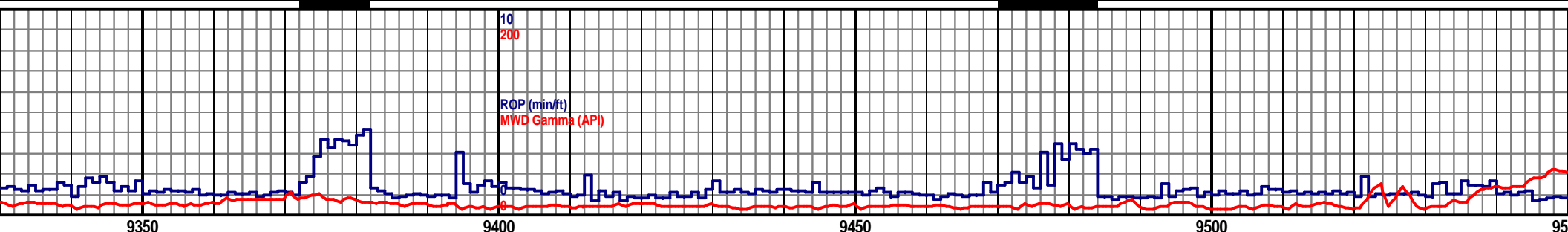
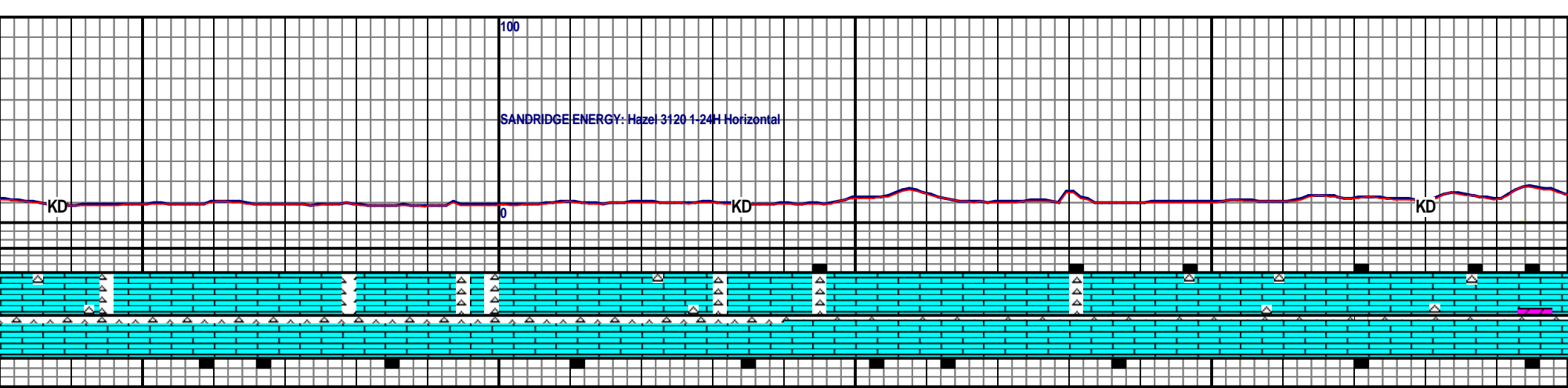
MD 9292 TVD 5102.73
INC 90.4 AZ 182.1

02/21/2013

5300

5800



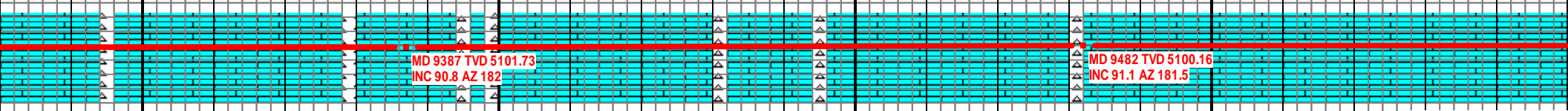


OFF WHT, INCRG WHT, LITHO, PRED MOD SFT-
CHLKY, PRED PLTY- BLKY, MICRO FN- V FN XLN,
CHT: WHT- OFF WHT, OCC OPQ, PLTY- SPLNTY, V
AC POR, NO VIS MIN FLOR, NO CUT, NO RESD

4800 TVD
WOB: 33.5 K
RPM: 61
SPM: 111
PP: 2145
GPM: 456

LS: PRED OFF WHT- WHT, DCRG LT TAN, LITHO, TR OOL, PLTY- BLKY,
INCRG BLKY, MOD SFT- MOD FRM, BCMG MOD FRM- MOD SFT, OCC
CHLKY/ BRIT, MICRO FN- V FN XLN, OCC HL FRAC POR, CHT: WHT- OFF
WHT, OCC OPQ, BLKY- SPLNTY, V HD- BRIT, WTHRD, TR HL FRAC POR,
TR DULL YEL MIN FLOR, NO VIS CUT, NO RESD RING

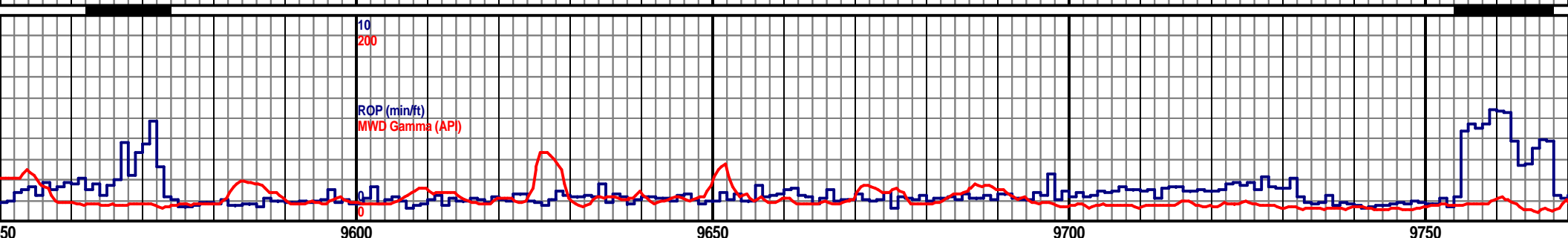
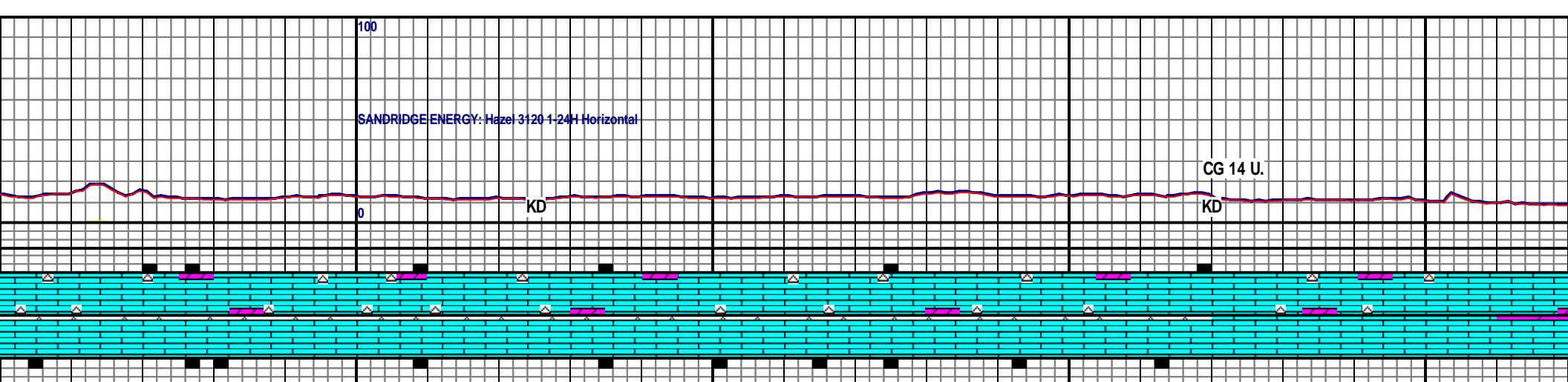
LS: MSTLY WHT- OFF WHT, TR LT TAN
SCAT CHLKY- BRIT, MICRO FN- V FN
OCC OPQ, BLKY- SPLNTY, V HD- BRIT
WHT, PLTY- BLKY, MOD SFT- MOD FRM
YEL FLOR, NO VIS CUT, NO RESD RING



MD 9387 TVD 5101.73
INC 90.8 AZ 182

MD 9482 TVD 5100.16
INC 91.1 AZ 181.5

MUD DATA- @ 9,528' W
VIS-28 PV-0 YP-0 GEL 0
FIL-0.0 SOL- 1.0 H2O-99
PH-0.0 CL-4,800 CA-20



50 9600 9650 9700 9750

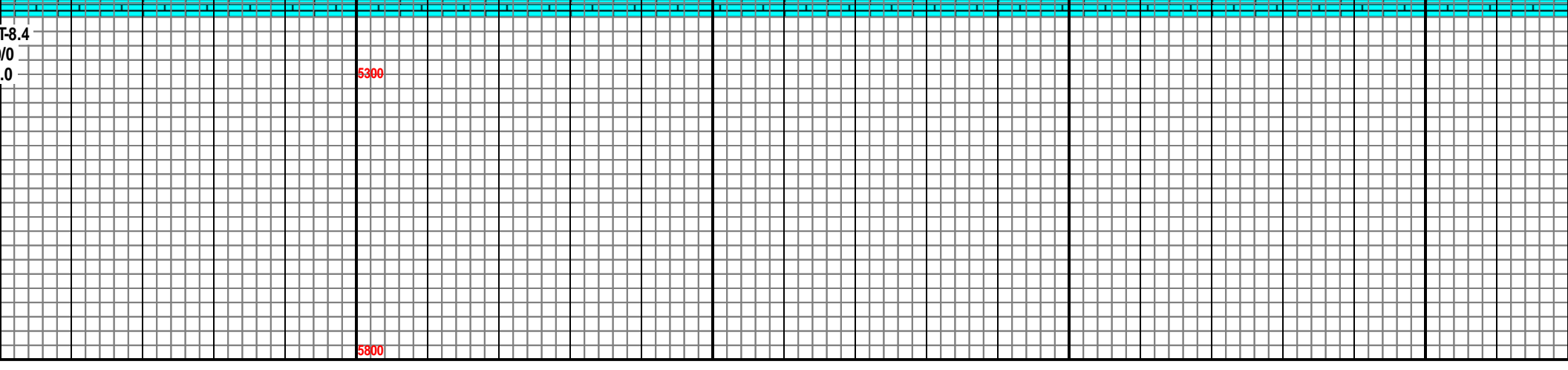
LS: PRED WHT- OFF WHT, LT TAN THRU OUT, LITHO, BLKY- PLTY, MOD FRM- MOD SFT, OCC CHLKY- BRIT, MICRO FN- V FN XLN, TR HL FRAC POR, CHT: WHT- OFF WHT, WTHRD, TR HL FRAC POR, TR DOL: OFF M, MICRO FN XLN, SLI INCRG DULL YEL - NG

LS: MSTLY OFF WHT- LT TAN, WHT THRU OUT, LITHO, BLKY- PLTY, MOD FRM- MOD SFT, OCC CHLKY- BRIT, MICRO FN- V FN XLN, TR HL FRAC POR, CHT: WHT- OFF WHT, WTHRD, TR HL FRAC POR, TR DOL: OFF M, MICRO FN XLN, SLI INCRG DULL YEL - NG

WOB: 20.8 K
RPM: 61
SPM: 111
PP: 2152
GPM: 455

MD 9577 TVD 5099.66
INC 89.5 AZ 181.4

MD 9672 TVD 5099.99
INC 90.1 AZ 182.5



100

SANDRIDGE ENERGY: Hazel 3120-1-24H Horizontal

GAS TEST @ TRAP 148 U.

CG 8 U.

KD

KD

10

200

ROP (min/ft)

MWD Gamma (API)

9800

9850

9900

9950

PLTY, MOD FRM- MOD
R, DOL: PRED OFF WHT-
CHT: MSTLY WHT-OFF
FRAC POR, SCAT YEL- BRI

4800 TVD

LS: PRED LT TAN- OFF WHT, SCAT WHT THRU OUT, LITHO, BLKY- PLTY, MOD
FRM- MOD SFT, OCC CHLKY- BRIT, MICRO FN- V FN XLN, TR HL FRAC POR,
DOL: MSTLY LT TAN- OFF WHT, PLTY- BLKY, MOD SFT- MOD FRM, MICRO FN
XLN, TR CHT, SCAT YEL- BRI YEL MIN FLOR, NO VIS CUT, NO RESD RING

LS: MSTLY OFF WHT- LT TAN, SCAT WHT, LITHO, PRED BLKY- PLTY, MSTLY MOD
FRM- MOD SFT, OCC SFT/CHLKY, PRED MICRO FN XLN, SME V FN XLN, TR HL
FRAC POR, DOL: PRED LT TAN- OFF WHT, OCC WHT, BLKY, DNSE, MICRO FN- V
FN XLN, SH: WHT- OFF WHT, V SFT- SFT, SMTH TXT, TR GLAU, SCAT YEL FLOR,
NO VIS CUT, NO RESD RING

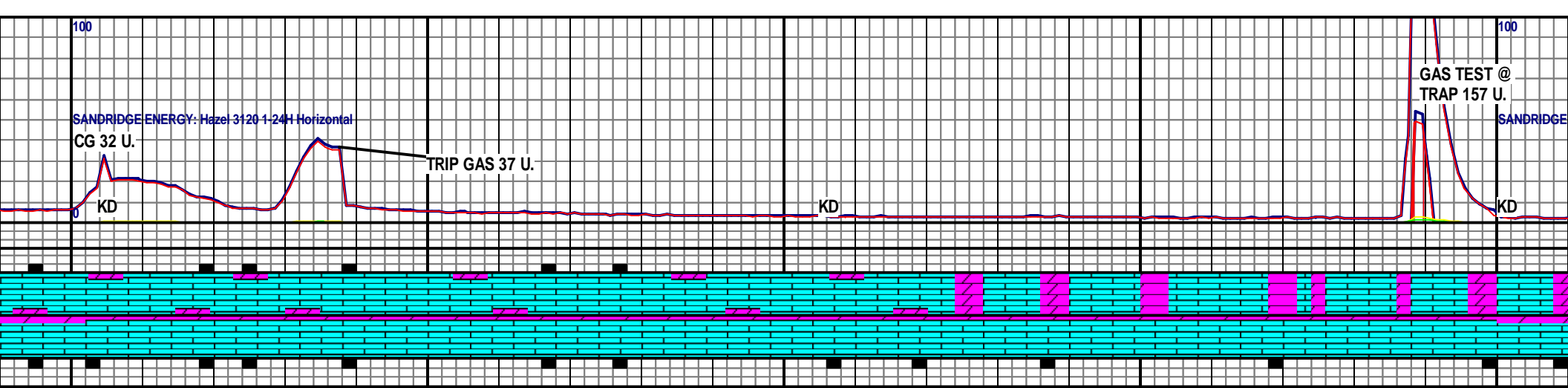
MD 9862 TVD 5102.64
INC 87.9 AZ 181.2

MD 9957 TVD 5106.71
INC 87.2 AZ 179.4

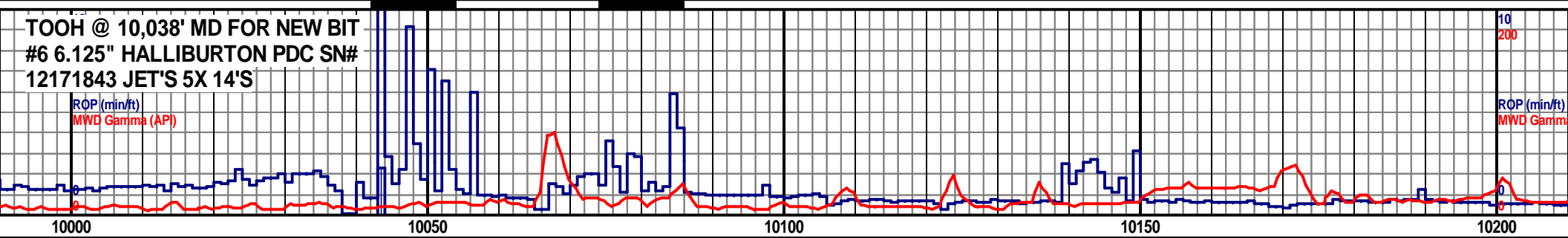
02/22/23

5300

5800



TOOH @ 10,038' MD FOR NEW BIT
#6 6.125" HALLIBURTON PDC SN#
12171843 JET'S 5X 14'S



4800 TVD
WOB: 15.3 K
RPM: 59
SPM: 111
PP: 2289
GPM: 453

LS: PRED OFF WHT- LT TAN, OCC WHT, DCRNG LITHO, PRED BLKY- PLTY, MSTLY MOD FRM- MOD SFT, OCC SFT/CHLKY, PRED MICRO FN XLN, OCC V FN XLN, TR HL FRAC POR, DOL: MSTLY OFF WHT- LT TAN, OCC WHT, BLKY, DNSE, MICRO FN- V FN XLN, SH: PRED WHT- OFF WHT, V SFT- SFT, SMTH TXT, MSTLY BLKY, SCAT YEL
FLOR MIN FLOR, NO VIS CUT, NO RESD RING

LS: MSTLY OFF WHT- LT TAN, OCC WHT, SME MTTLD OFF WHT- LT TAN, DCRNG LITHO, PRED BLKY- PLTY, MSTLY MOD FRM- MOD SFT, OCC SFT/CHLKY, PRED MICRO FN XLN, OCC V FN XLN, TR HL FRAC POR, DOL: PRED OFF WHT- LT TAN, OCC WHT, BLKY, DNSE, MICRO FN- V FN XLN, SH: PRED WHT- OFF WHT, V SFT- SFT, SMTH TXT, MSTLY BLKY, NO FLOR, NO VIS CUT, NO RESD RING

MD 10057 TVD 5109.41
INC 89.7 AZ 178.6

MD 10152 TVD 5107.92
INC 92.1 AZ 179.9

02/23/2012

MUD DATA- @ 10,038'
WT-8.4 VIS-29 PV-0 YP-0
GEL 0/0 FIL-0.0 SOL- 1.0
H2O-99.0 PH-10.0
CL-3200 CA-80

5300

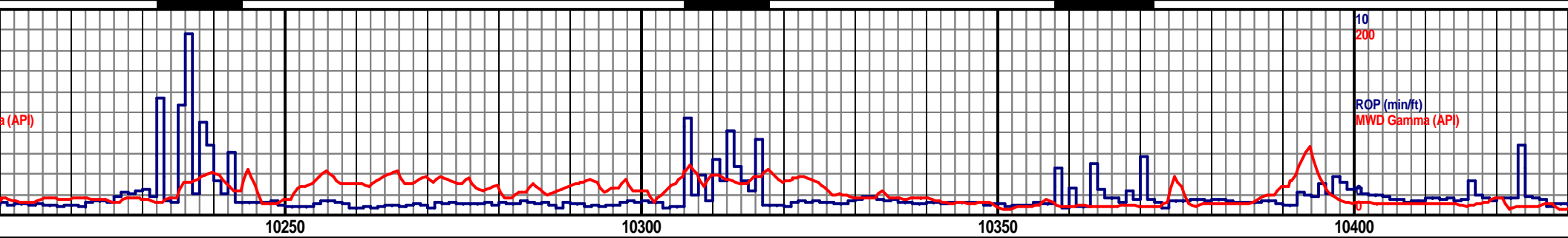
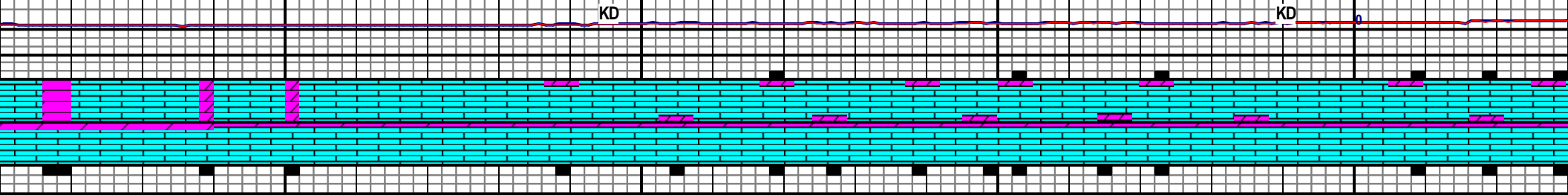
5300

5800

5800

ENERGY: Hazel 3120-1-24H Horizontal

SANDRIDGE ENERGY: Hazel 3120-1-24



LS: PRED OFF WHT- LT TAN, SME WHT, MSTLY BLKY- PLTY, DCRG
 PLTY, MOD FRM- MOD SFT, SME CHLKY, PRED MICRO FN XLN, OCC V
 FN XLN, TR HL FRAC POR, DOL: PRED OFF WHT- LT TAN, INCRG WHT,
 BLKY, DNSE, MICRO FN- V FN XLN, NO FLOR, NO VIS CUT, NO RESD
 RING

WOB: 18.3 K
 RPM: 60
 SPM: 111
 PP: 2418 GPM:
 454

LS: MSTLY OFF WHT- WHT, SCAT LT TAN THRU OUT, TR OOL, TR FREE
 OOID, MOD SFT- MOD FRM, SCAT CHLKY THRU OUT, MICRO FN- V FN XLN,
 DOL: OFF WHT- WHT, OCC LT TAN, PRED MOD FRM- MOD SFT, BLKY,
 MSTLY MICRO FN- V FN XLN, TR CHT, SLI TR DULL YEL MIN FLOR, NO VIS
 CUT, NO RESD RING

LS: MSTLY OFF
 OOL, OCC FRE
 DOL: OFF WHT
 FN XLN, INCRG
 RESD RING

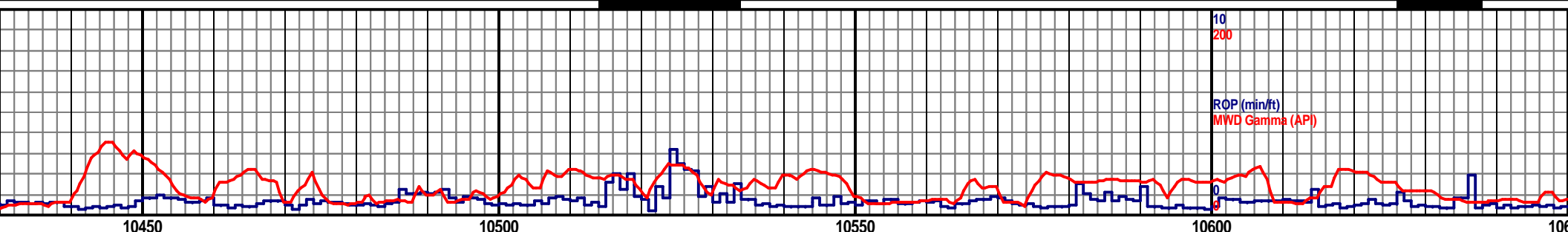
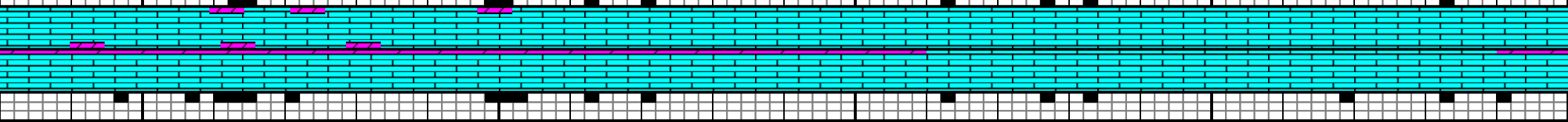
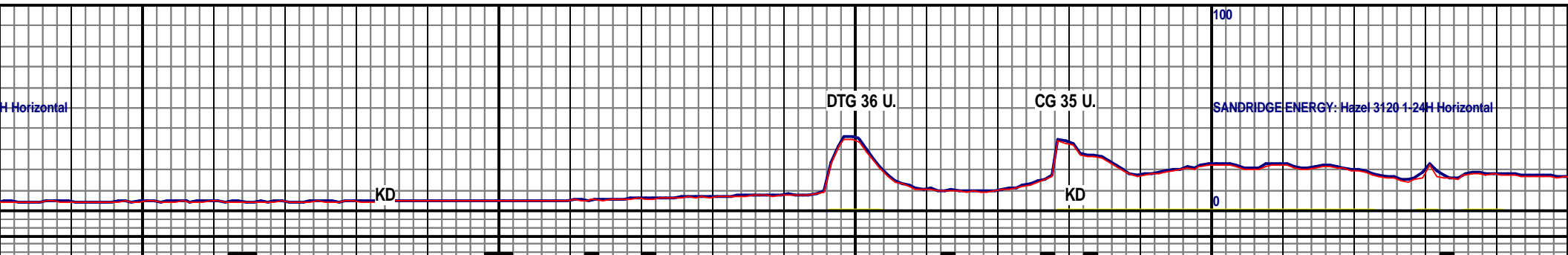
MD 10247 TVD 5103.61
 INC 93.1 AZ 181.4

MD 10342 TVD 5098.47
 INC 93.1 AZ 181.4

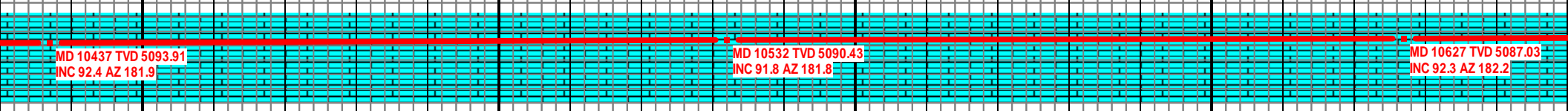
4800 TVD

5300

5800



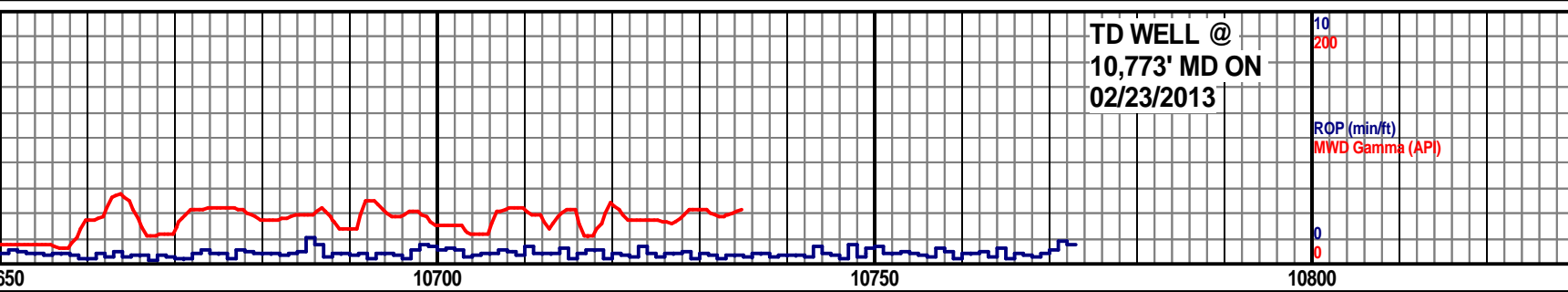
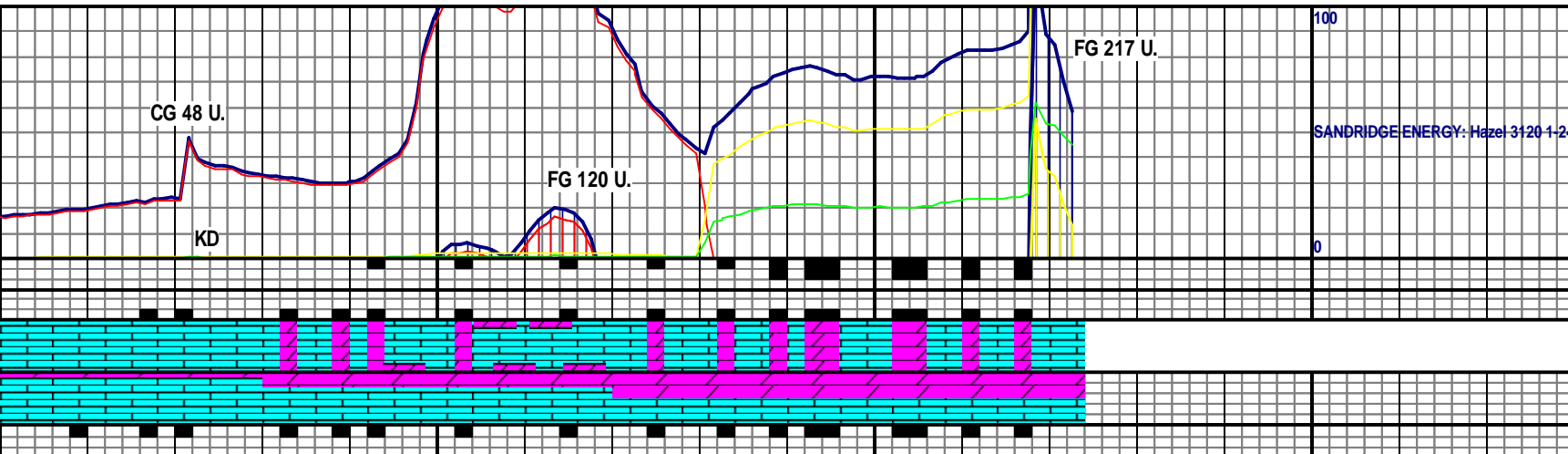
<p>WHT- WHT, INCRG WHT, SCAT LT TAN, SLI INCRG E OOID, MOD FRM- MOD SFT, MICRO FN- V FN XLN, - WHT, TR LT TAN, MOD FRM- MOD SFT, MICRO FN- V TR DULL YEL- BRI YEL MIN FLOR, NO VIS CUT, NO</p>	<p>LS: PRED OFF WHT- WHT, INCRG LT TAN, BCMG OFF WHT- LT TAN, OCC OOL, SME FREE OOID, BLKY, MOD FRM- MOD SFT, TR CHLKY, PRED MICRO FN XLN, SCAT V FN XLN, TR HL FRAC POR, DOL: OFF WHT- WHT, TR LT TAN, DNSE, MOD FRM- MOD SFT, MICRO FN- V FN XLN, TR BRI YEL- YEL FLOR,</p>	<p>4800 TVD WOB: 18.9 K RPM: 62 SPM: 109 PP: 2428 GPM: 450</p>	<p>LS: MSTLY OFF WHT- LT TAN, SC BLKY, MOD FRM- MOD SFT, SCA WHT- LT TAN, BCMG LT TAN- OF MICRO FN XLN, OCC V FN XLN, POR, SLI INCRG YEL- BRI YEL F WHT RESD RING</p>
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MUD DATA- @ 10,536'
 WT-8.5 VIS-28 PV-0
 YP-0 GEL 0/0 FIL-0.0
 SOL- 2.0 H2O-98.0
 PH-9.5 CL-2900 CA-80

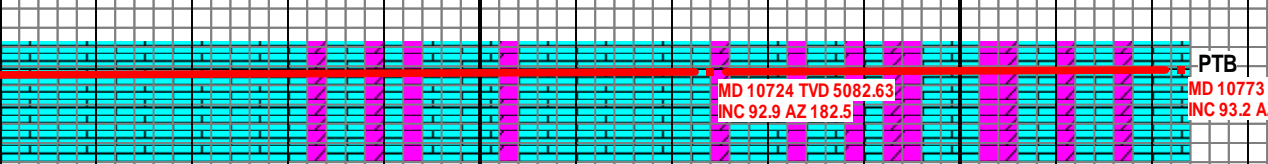
5300

5800



SCAT WHT, SME OOL, TR FREE OIDS,
 T CHLKY, MICRO FN- V FN XLN, DOL: OFF
 F WHT, TR WHT, SUCRO, PRED BLKY,
 MOD FRM- SLI FRI, PR- FR INTRGRNLR
 LOR, FNT MLKY GRN FLASH CUT, THIN

DOL: PRED LT TAN- OFF WHT, TR WHT, SUCRO, BLKY, MOD SFT- MOD
 FRM, OCC SLI FRI, MICRO FN XLN, PR- FR INTRXLN POR, BCMG FR-PR
 POR, LS: OFF WHT- LT TAN, SCAT WHT THRU OUT, MOD FRM- MOD
 SFT, SME CHLKY, MICRO FN- V FN XLN, TR HL FRAC POR, SCAT BRI
 YEL- YEL FLOR, THCK WHT- LT BLU FLASH CUT, GD GRN RESD RING



MD 10724 TVD 5082.63
 INC 92.9 AZ 182.5

MD 10773 TVD 5080
 INC 93.2 AZ 182.5

SANDRIDGE ENERGY INC.
 HAZEL 3120 1-24H SEC
 13-T31S-R20W COMANCHE
 CO. KANSAS

2,042' GR 2,062' KB

100
 SANDRIDGE ENERGY: Hazel 3120-1-24
 0
 10
 200
 ROP (min/ft)
 MWD Gamma (API)
 0
 0
 10800
 4800 TVD
 5300
 5800