



Weatherford[®]

Tooke Rockies, Inc.
(A Weatherford Company)

884 Implement Dr.
Dickinson, ND 58601
701-227-4408

717 West Platte
PO BOX 435
Casper, WY 82601
307-265-2124

Surface Logging Systems

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

Well Name: Bomhoff 5-8H(Pilot & Build Hole)
Location: Sec 9, T4S, R64W, Arapahoe County, CO.
License Number: API- 05-005-07180-00
Spud Date: 11/5/2013
Surface Coordinates: 2033' FNL & 250' FWL of SW/NW, Sec. 9, T4S. R64W, Arapahoe County, Colorado.

Region: DJ Basin

Drilling Completed: 11/13/2013

Bottom Hole Landing Point= From SL of Rig= 12.34'S, 336.76'E. Sec. 9, T4S-R64W.
Coordinates:

Ground Elevation (ft): 5606' K.B. Elevation (ft): 5630'
Logged Interval (ft): 6000' To: 7925' Total Depth (ft): 7925'
Formation: Niobrara
Type of Drilling Fluid: INVERT/WATER BASE

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

OPERATOR

Company: Conoco/Phillips
Address: 600 N. Dairy Ashford
WL 3 3056
Houston, TX 77079

GEOLOGIST

Name: Todd Thiesse, Loren Martian
Company: Tooke Rockies/ Weatherford SLS
Address: PO Box 435
Casper, WY. 82602
307.265.2124

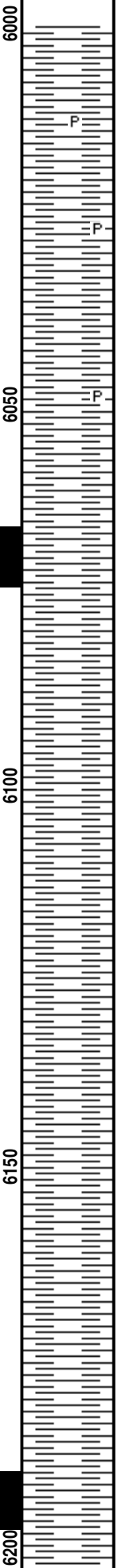
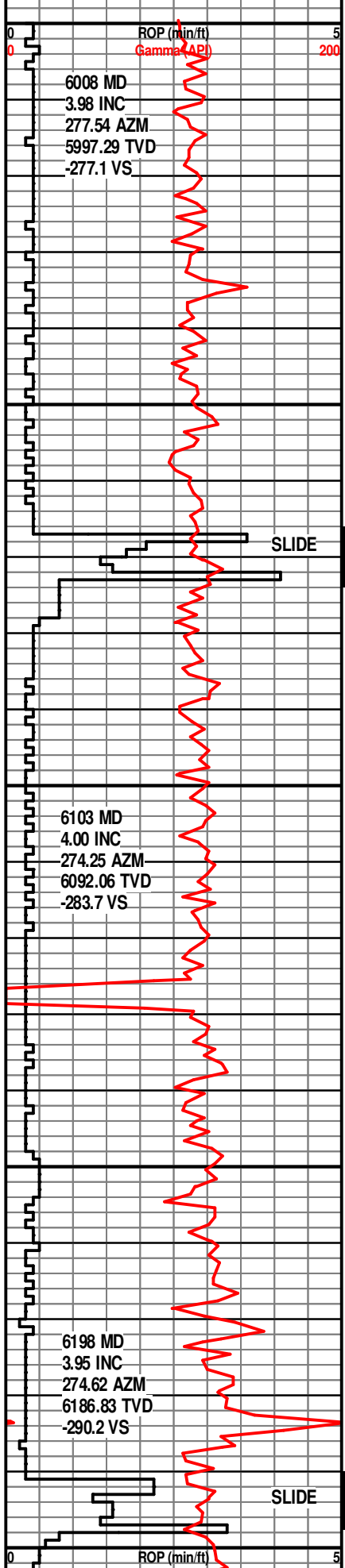
Supervision

Project Geologist: John Ostergren- Conoco/Phillips
Drilling Engineer: Gary Hamilton, Ben Tolman- Conoco/Phillips
Drilling Sup: Bob Strickler- Conoco/Phillips
Company Rep: Richard Perez, Wes Evans(Day Leads),
Company Rep: Frank Holubec, Clint Goins, Wayne Morgan, Clint Valentine, Mike Johnson, Mike Weatherly.(Other)
Well Site Safety: Rainey Schexnider, James Orr
Contact Geologist: Abby Tomkiewicz- Conoco/Phillips
Drilling & Comp. Mgr: Derly Gonzalez-Conoco/Phillips

MMD 55, PDC, 8 3/4",
5X18 JETS, IN AT
1938'

1928 FT. TOOKE ROCKIES/
WEATHERFORD SLS
COMMENCED LOGGING ON
11/11/2013 AT 6000 FT.

MUD MOTOR IS 1.75°
SURVEY IS 56' BEHIND BIT.
GAMMA IS 34' BEHIND BIT.



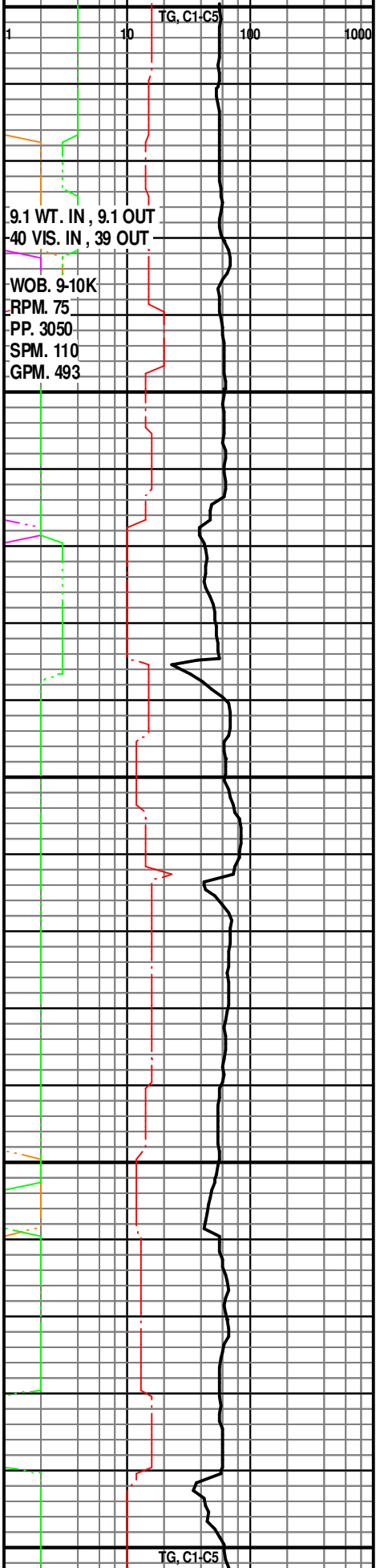
SH- DK GY-GY-OCC GY/WH,
SLI FRM-HD, BLKY, SBPLTY,
SLI SLTY, OCC PYR, NON
CALC
11/12/2013

SH- DK GY-GY, SFT-SL FRM,
BLKY, PLTY-SBPLTY,
SBRTHY-SBWXY, SL-NON
CALC

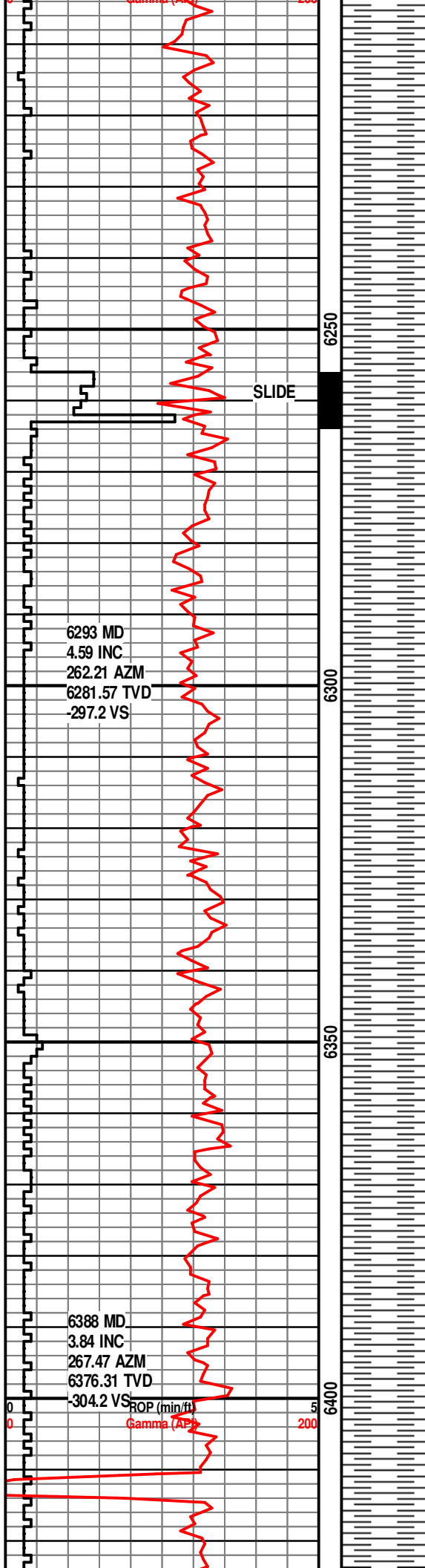
SH- GY-GY/WH, SFT-HD,
BLKY-SBLKY, SBPLTY-PLTY,
SBRTHY-SBWXY, V SLI SLTY,
NON CALC

SH- GY-GY/WH, SFT-HD,
BLKY-SBLKY, SBPLTY-PLTY, V
SLI SLTY, NON CALC

SH- GY-GY/WH, SFT-HD,
BLKY-SBLKY, SBPLTY-PLTY, V
SLI SLTY, NON CALC



BLACK

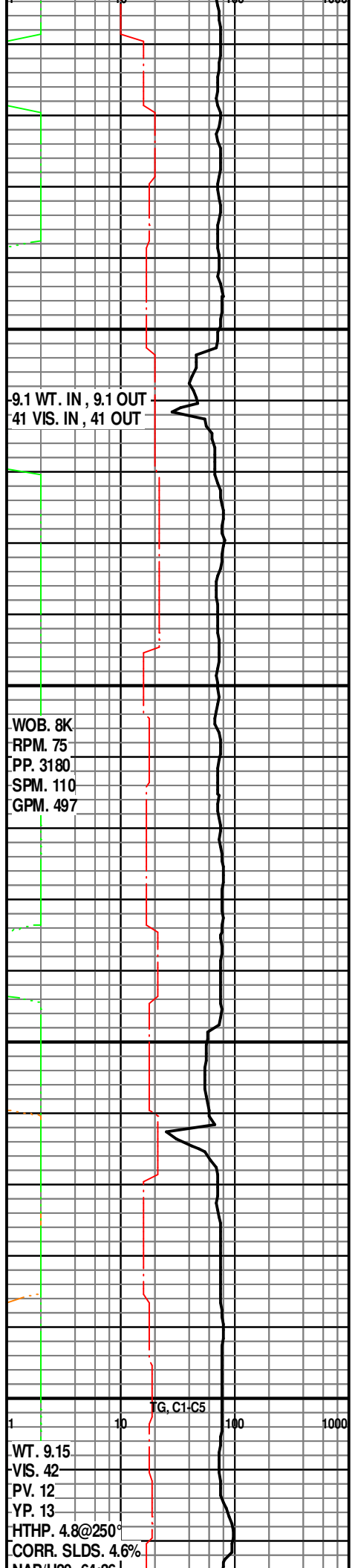


SH- GY-LT GY, SFT-FRM,
BLKY, PLTY, SBWXY-SBRTHY,
SL-NON CALC

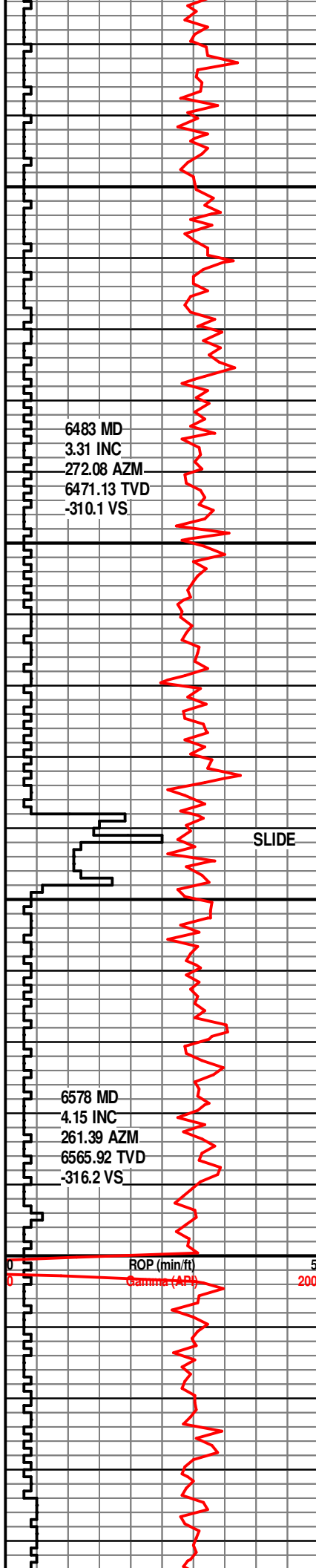
SH- GY-LT GY, SFT-FRM,
BLKY, PLTY, SBWXY-SBRTHY,
SL-NON CALC

SH- DK GY-GY, SFT-FRM,
BLKY, PLTY, SBWXY-SBRTHY,
SL-NON CALC

SH- GY-LT GY, SFT-FRM,
BLKY, PLTY, SBWXY-SBRTHY,
SL-NON CALC



WT. 9.15
VIS. 42
PV. 12
YP. 13
HTHP. 4.8@250°
CORR. SLDS. 4.6%
MADUS. 01-061



SH- GY-DK GY, SFT-FRM,
BLKY-PLTY, SBWXY-SBRTHY,
NON-SL CALC

NAP/H2O. 64:36
Cl. 72000
CaCl. 22.49
LGS/HGS. 2.1/2.4%

WOB. 8-9K
RPM. 75
PP. 3130
SPM. 111
GPM. 497

SH- GY-LT GY, SFT-SL FRM,
SBBLKY, SBWXY, COM PLTY,
NON CALC

9.2 WT. IN , 9.2 OUT
39 VIS. IN , 37 OUT

SH- DK GY-GY, SLI FRM-HD,
BLKY, SBWXY-SBRTHY,
SBPLTY, SLI-NON CALC

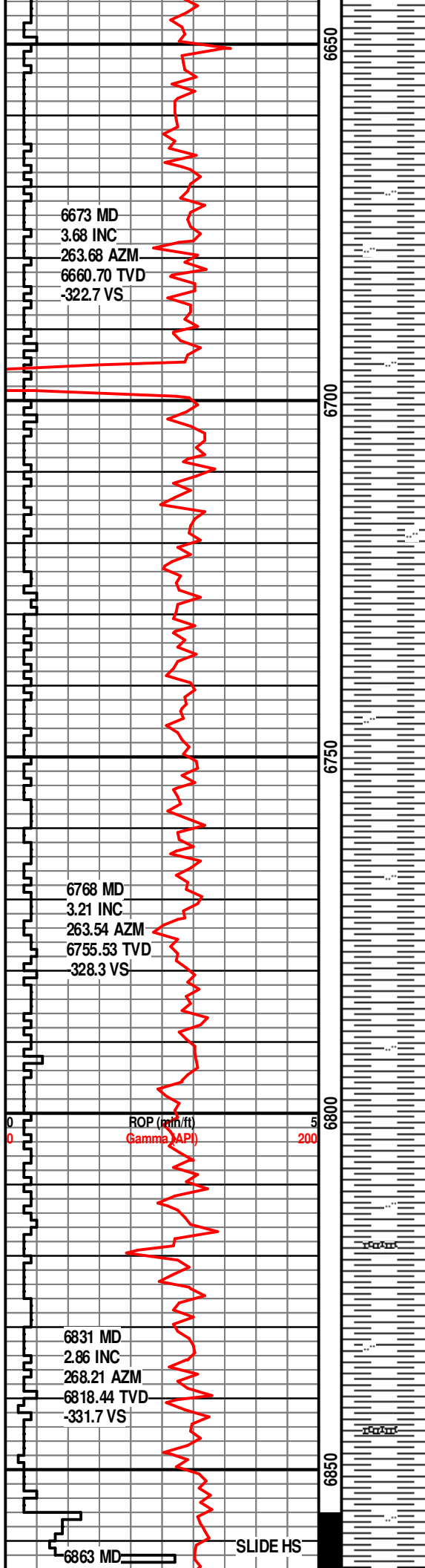
SLIDE

SH- GY-M GY, OCC M BRN, DK
GY, BLKY-PLTY, SBWXY, SL
CALC, SFT-FRM.

SH- GY-M GY, OCC M BRN, DK
GY, BLKY-PLTY, SBWXY, SL
CALC, SFT-FRM.

SH- GY-M GY, OCC M BRN, DK
GY, BLKY-PLTY, SBWXY, SL
CALC, SFT-FRM.

TG, C1-C5
1 10 100 1000



GY, BLKY-PLTY, SBWXY, SL
CALC, SFT-FRM.

SH- GY-M GY, OCC M BRN, DK
GY, BLKY-PLTY, SBWXY, OCC
SLTY, SL CALC, SFT-FRM.

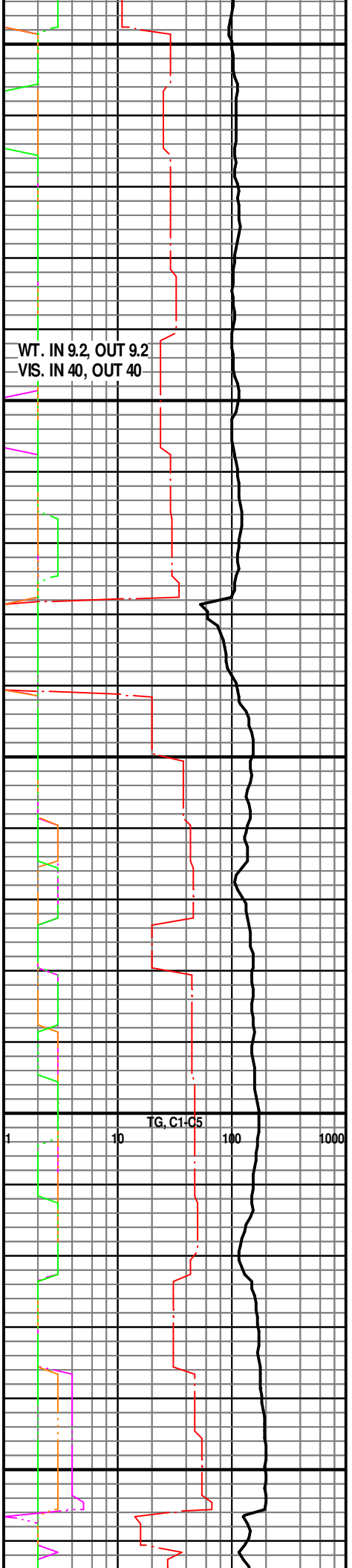
SH- GY-M GY, OCC M BRN-LT
BRN, DK GY, BLKY-PLTY,
SBWXY, OCC SLTY, SL CALC,
SFT-FRM.

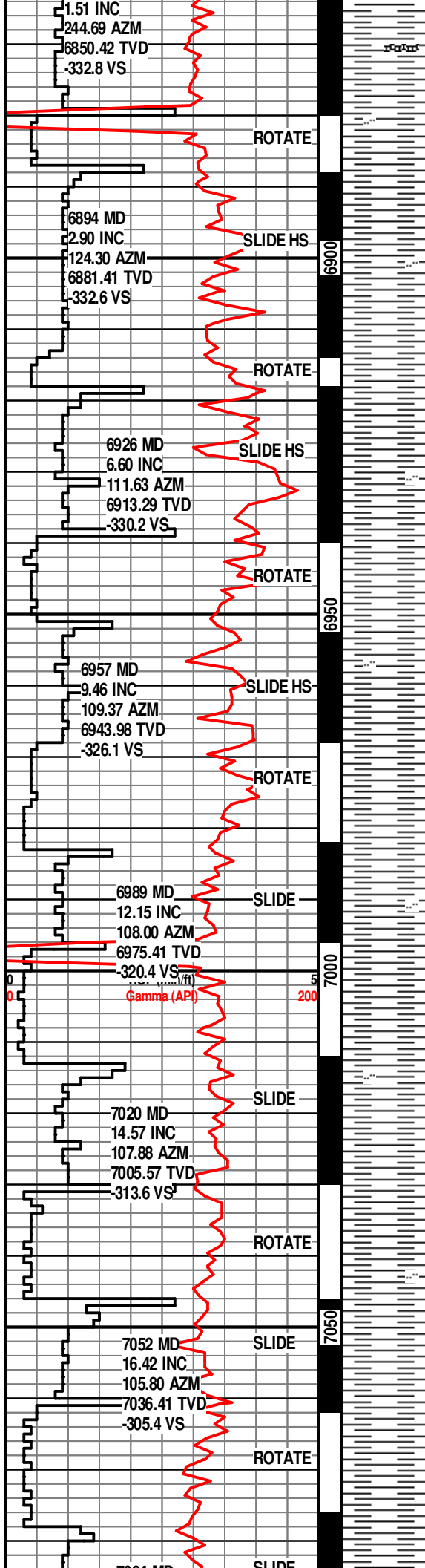
SH- GY-M GY, OCC M BRN-LT
BRN, DK GY, BLKY-PLTY,
SBWXY, OCC SLTY, SL CALC,
SFT-FRM.

SH- GY-M GY, OCC M BRN-LT
BRN, DK GY, BLKY-PLTY,
SBWXY, OCC SLTY, SL CALC,
SFT-FRM. W/ TR BENT- TAN,
WH, LT GY.

KOP= 6856' MD

SH- GY-M GY, OCC M BRN-LT





SH- GY-DK GY, SME M BRN,
BLKY-PLTY, SBWXY, SL SLTY
IN PT, INCR CALC, SFT-FRM.
W/ TR BENT-CRM-TAN, LT GY.

SH- DK GY-GY, OCC M-DK
BRN, BLKY-PLTY, SBWXY,
OCC SLTY, CALC, SFT-FRM.

SH- DK GY-GY, OCC M-DK
BRN, BLKY-PLTY, SBWXY,
OCC SLTY, CALC, SFT-FRM.

SH- GY-DK GY, M BRN,
BLKY-PLTY, SBWXY, TR SLTY
IN PT, CALC, SFT-FRM.

SH- GY-DK GY, M BRN,
BLKY-PLTY, SBWXY, TR SLTY
IN PT, CALC, SFT-FRM.

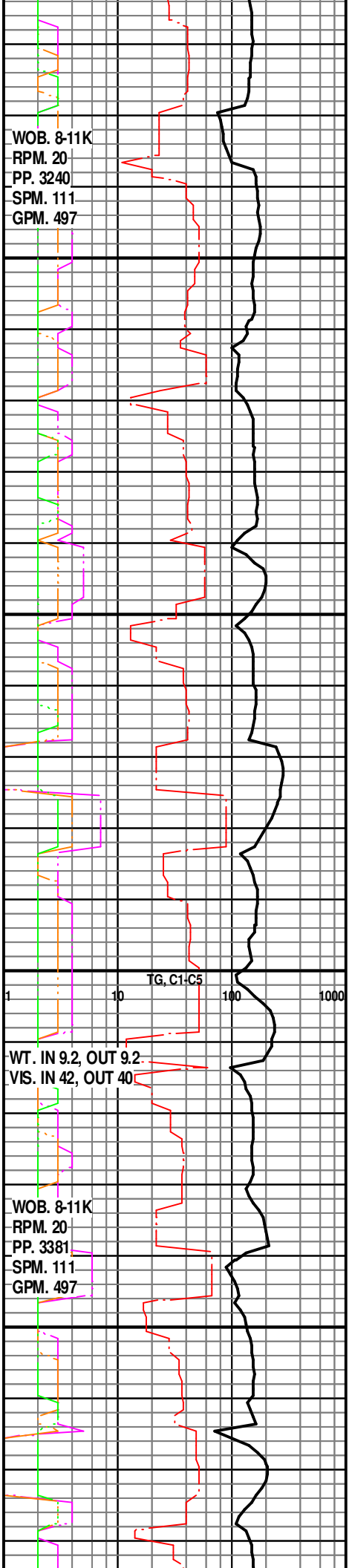
SH- DK GY-GY, SME BRN,
BLKY-PLTY, SBWXY, SLTY IN
PT, CALC, SFT-FRM.

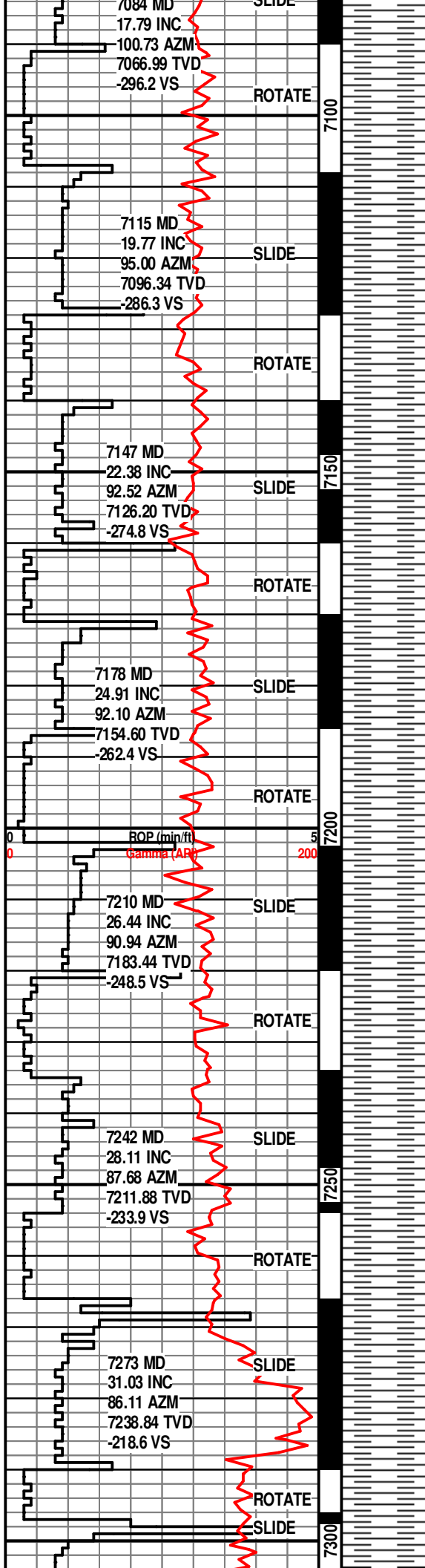
SH- DK GY-GY, SME BRN,
BLKY-PLTY, SBWXY, SLTY IN
PT, CALC, SFT-FRM.

SH- GY-DK GY, M GY, BRN,
BLKY-PLTY, SBWXY, OCC
SLTY, CALC, SFT-FRM.

SH- GY-DK GY, M GY, BRN,
BLKY-PLTY, SBWXY, OCC
SLTY, CALC, SFT-FRM.

SH- GY-M GY, DK GY, DECR
BRN, BLKY-PLTY, SBWXY,
CALC, SFT-FRM.





SH-DK GY-GY, M GY,
BLKY-PLTY, SBWXY, CALC,
SFT-FRM.

SH-DK GY-GY, M GY,
BLKY-PLTY, SBWXY, CALC,
SFT-FRM.

SH-GY, DK GY, OCC DK BRN,
BLKY-PLTY, SBWXY, CALC,
SFT-FRM.

SH-GY, DK GY, OCC DK BRN,
BLKY-PLTY, SBWXY, CALC,
SFT-FRM.

SH-GY-DK GY, BLKY-PLTY,
SBWXY, CALC, SFT-FRM.

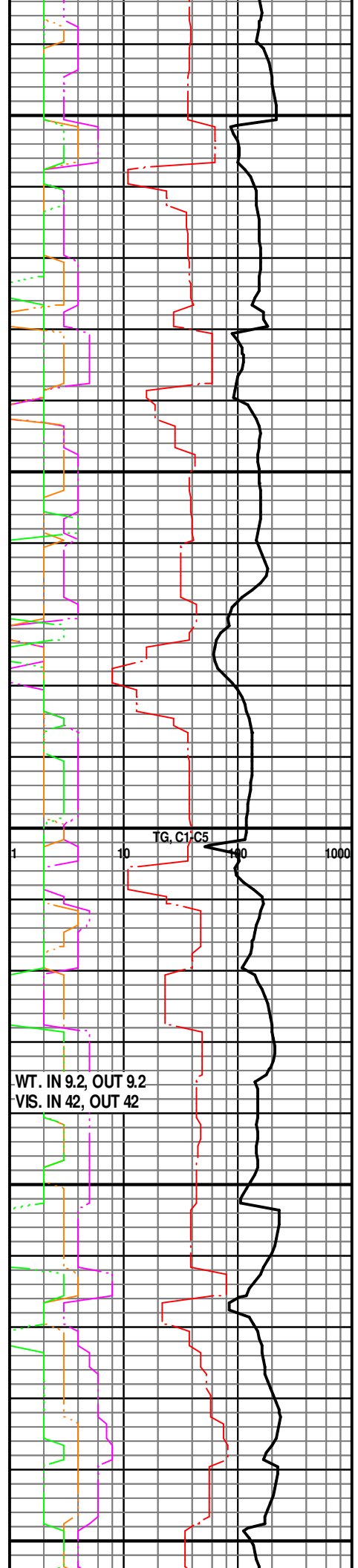
SH-GY-DK GY, SME BRN,
BLKY-PLTY, SBWXY, CALC,
SFT-FRM.

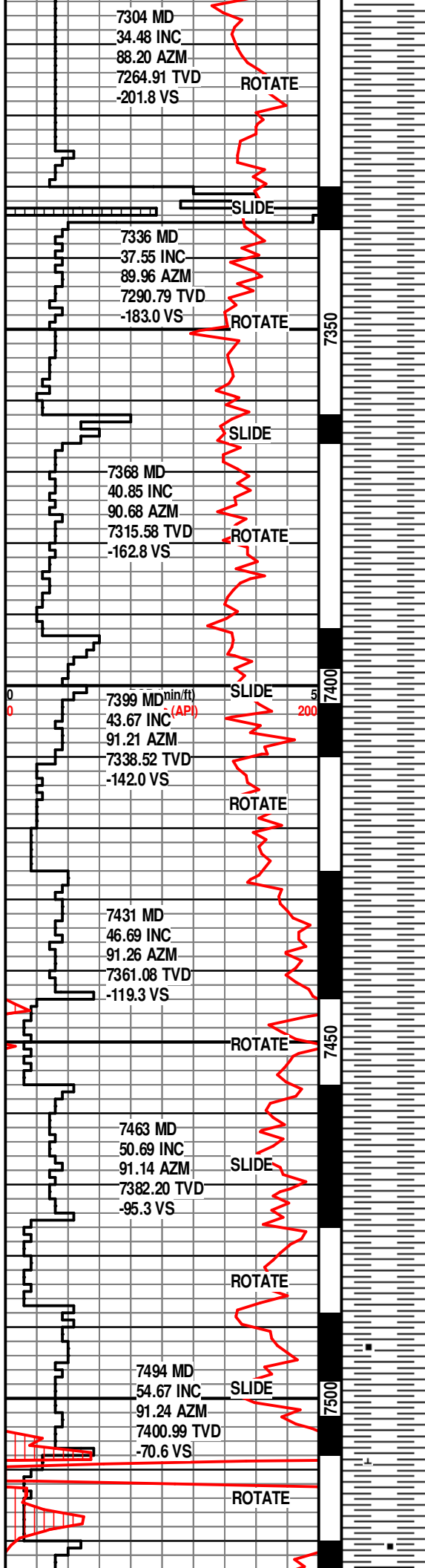
SH-GY-DK GY, SME BRN,
BLKY-PLTY, SBWXY, CALC,
SFT-FRM.

SH-GY-DK GY, OCC BRN,
BLKY-PLTY, SBWXY, CALC,
SFT-FRM.

SH-GY-DK GY, OCC BRN,
BLKY-PLTY, SBWXY, CALC,
SFT-FRM.

SH-DK GY, SLI FRM-FRM,
SBWXY, BLKY, SBPLTY-PLTY,
SLI CALC





7304 MD
34.48 INC
88.20 AZM
7264.91 TVD
-201.8 VS

ROTATE

SLIDE

7336 MD
37.55 INC
89.96 AZM
7290.79 TVD
-183.0 VS

ROTATE

SLIDE

7368 MD
40.85 INC
90.68 AZM
7315.58 TVD
-162.8 VS

ROTATE

SLIDE

7399 MD^(min/ft)
43.67 INC^(API)
91.21 AZM
7338.52 TVD
-142.0 VS

ROTATE

7431 MD
46.69 INC
91.26 AZM
7361.08 TVD
-119.3 VS

ROTATE

SLIDE

7463 MD
50.69 INC
91.14 AZM
7382.20 TVD
-95.3 VS

ROTATE

SLIDE

7494 MD
54.67 INC
91.24 AZM
7400.99 TVD
-70.6 VS

ROTATE

SH- DK GY, SLI FRM-FRM,
SBWXY, BLKY, SBPLTY-PLTY,
SLI CALC

SH- DK GY, SLI FRM-FRM,
SBWXY, BLKY, SBPLTY-PLTY,
SLI CALC

SH- DK GY, SLI FRM-FRM,
SBWXY, BLKY, SBPLTY-PLTY,
SLI CALC

SH- DK GY, SLI FRM-FRM,
SBWXY, BLKY, SBPLTY-PLTY,
SLI CALC

SH- DK GY, SLI FRM-FRM,
SBWXY, BLKY, SBPLTY-PLTY,
SLI CALC

SH- DK GY, SLI FRM-FRM,
SBWXY, BLKY, SBPLTY-PLTY,
SLI CALC

SH- DK GY-GY, FRM, BLKY,
SBPLTY-PLTY, SBWXY, SLI
CALC, SL CARB, TR PYR, OCC
BENT

EST. TOP OF SHARON
SPGS. AT 7505' MD
7407' TVD,

SH- DK GY-GY FRM BLKY

WOB. 8-10K
RPM. 0
PP. 3190
SPM. 111
GPM. 498

ISOTUBE 77 U

ISOTUBE 71 U

WT. IN 9.2, OUT 9.2
VIS. IN 43, OUT 41

ISOTUBE 175 U

ISOTUBE 178 U

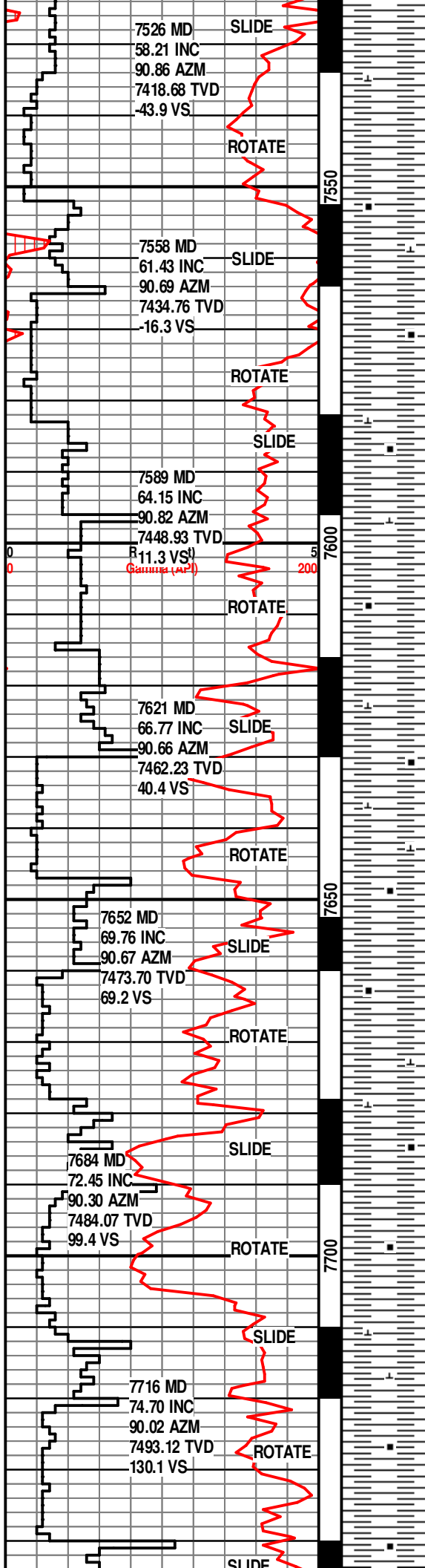
ISOTUBE 20 U

WOB. 8-10K
RPM. 0
PP. 3190
SPM. 111
GPM. 498

ISOTUBE 335 U

ISOTUBE 330 U

ISOTUBE 77 U
FIG. C1-C5



SH- DK GY-GY, FRM, BLKY,
SBPLTY-PLTY, SBWXY, CALC,
CARB, SCAT BENT

11/13/2013

SH- DK GY-GY, BLKY-PLTY,
SBWXY, V CALC-LMY, CARB,
W/CARB LAM, SFT-FRM.

SH- DK GY-DK GY/BRN, FRM,
BLKY, PLTY, SBWXY-SBRTHY,
MOD CALC

**EST. TOP OF
NIOBRARA @ 7600'
MD, 7454' TVD**

SH- DK GY-DK GY/BRN,
SFT-FRM, BLKY, PLTY,
SBWXY-SBRTHY, MOD-V CALC

SH- DK GY-DK GY/BRN, FRM,
BLKY, PLTY, SBWXY-SBRTHY,
MOD CALC

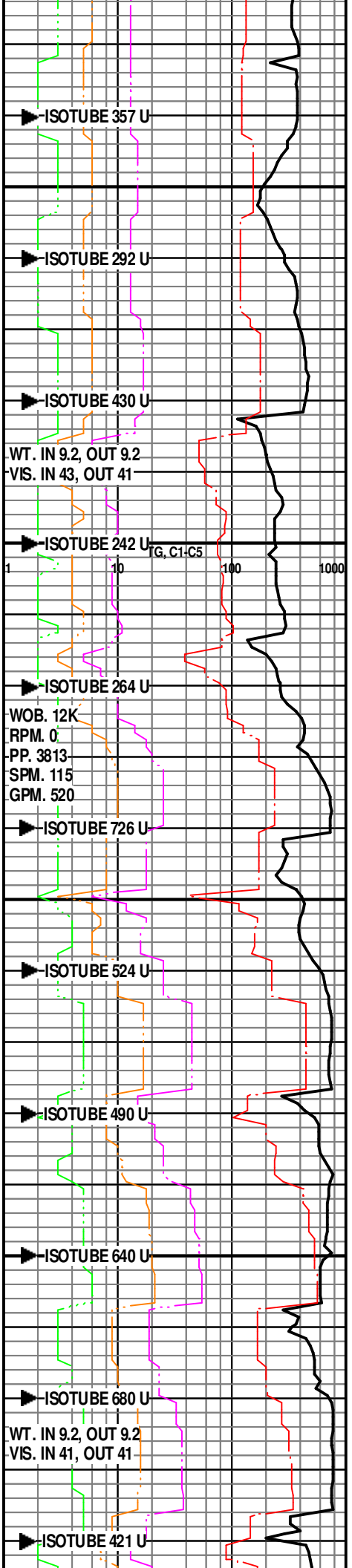
SH- DK GY-DK GY/BRN, FRM,
BLKY, PLTY, SBWXY-SBRTHY,
CARB, MOD-V CALC

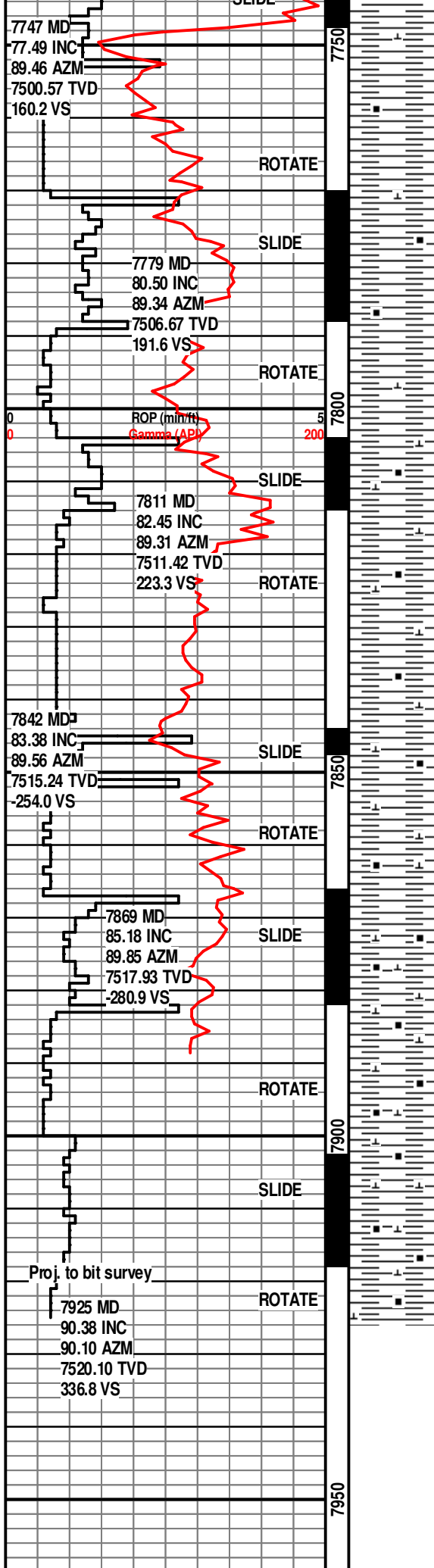
SH- DK GY-DK GY/BRN, FRM,
BLKY, PLTY, SBWXY-SBRTHY,
CARB, MOD-V CALC

SH- DK GY-DK GY/BRN,
FRM-HD, BLKY, PLTY,
SBWXY-SBRTHY, CARB,
MOD-V CALC

SH- DK GY-DK GY/BRN,
FRM-HD, BLKY, PLTY,
SBWXY-SBRTHY, CARB,
MOD-V CALC

SH- DK GY-DK GY/BRN,
FRM-HD, BLKY, PLTY,





SBWXY-SBRTHY, CARB,
MOD-V CALC

SH- DK GY-DK GY/BRN,
FRM-HD, BLKY, PLTY,
SBWXY-SBRTHY, CARB,
MOD-V CALC

SH- DK GY-DK GY/BRN,
FRM-HD, BLKY, PLTY,
SBWXY-SBRTHY, V CARB, V
CALC

SH- DK GY-BLK, GY,
BLKY-PLTY, SBWXY, CARB,
ABNDT CALC FL FRAC &
CALCITE, V CALC-LMY,
SFT-FRM.

SH- DK GY-BLK, GY,
BLKY-PLTY, SBWXY, CARB,
ABNDT CALC FL FRAC &
CALCITE, V CALC-LMY,
SFT-FRM.

SH- DK GY-BLK, GY,
BLKY-PLTY, SBWXY, CARB,
DECR IN CALC FL FRAC &
CALCITE, V CALC-LMY,
SFT-FRM.

SH- DK GY-BLK, GY,
BLKY-PLTY, SBWXY, CARB,
TR CALC FL FRAC & CALCITE,
V CALC-LMY, SFT-FRM.

SH- DK GY-BLK, GY,
BLKY-PLTY, SBWXY, CARB,
SME CALC FL FRAC &
CALCITE, V CALC-LMY,
SFT-FRM.

**TD PILOT/BUILD SEC
AT 7925' MD AT
8:50AM ON
11/13/2013.
DRILLERS DEPTH.**

**Please refer to the
Horz. Log for the
remainder of this well.**

