



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

Well Name: Vonderlage Fed 28N-W31HZ
 Location: Weld County, CO.
 License Number: 051233601700
 Spud Date: 08/06/13
 Surface Coordinates: 491'FSL & 1800'FWL, SEC.31, T3N-R66W
 Region: DJ basin
 Drilling Completed: 08/13/13
 Bottom Hole Coordinates: 460' FNL & 2330' FWL, SEC.31, T3N-R66W
 Ground Elevation (ft): 4843' K.B. Elevation (ft): 4859'
 Logged Interval (ft): 6644' To: 11611' Total Depth (ft): 11611'
 Formation: Niobrara B
 Type of Drilling Fluid: Water Based Mud

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

OPERATOR

Company: Anadarko Petroleum Corporation
 Address: Granite Tower
 1099 18th Street, #1800
 Denver, CO 80202

GEOLOGIST

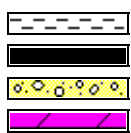
Name: Aaron Wiggins / Kyle Pickard
 Company: Great Divide Consulting, Inc
 Address: P.O. Box 630263
 Highlands Ranch, CO 80163

Comments

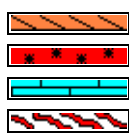
ROCK TYPES



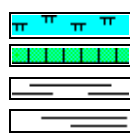
Anhy
Bent
Brec
Cht



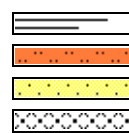
Clyst
Coal
Congl
Dol



Gyp
Igne
Lmst
Meta



Mrlst
Salt
Shale
Shcol



Shgy
Sltst
Ss
Till

ACCESSORIES

MINERAL

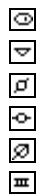
Anhy
Arggrn
Arg
Bent
Bit
Brecfrag
Calc
Carb
Chtdk
Chtl
Dol
Feldspar
Ferrpel
Ferr
Glau



Gyp
Hvymin
Kaol
Marl
Minxl
Nodule
Phos
Pyr
Salt
Sandy
Silt
Sil
Sulphur
Tuff

FOSSIL

Algae
Amph
Belm
Bioclst
Brach
Bryozoa
Cephal
Coral
Crin
Echin
Fish
Foram
Fossil
Gastro
Oolite



Ostra
Pelec
Pellet
Pisolite
Plant
Strom

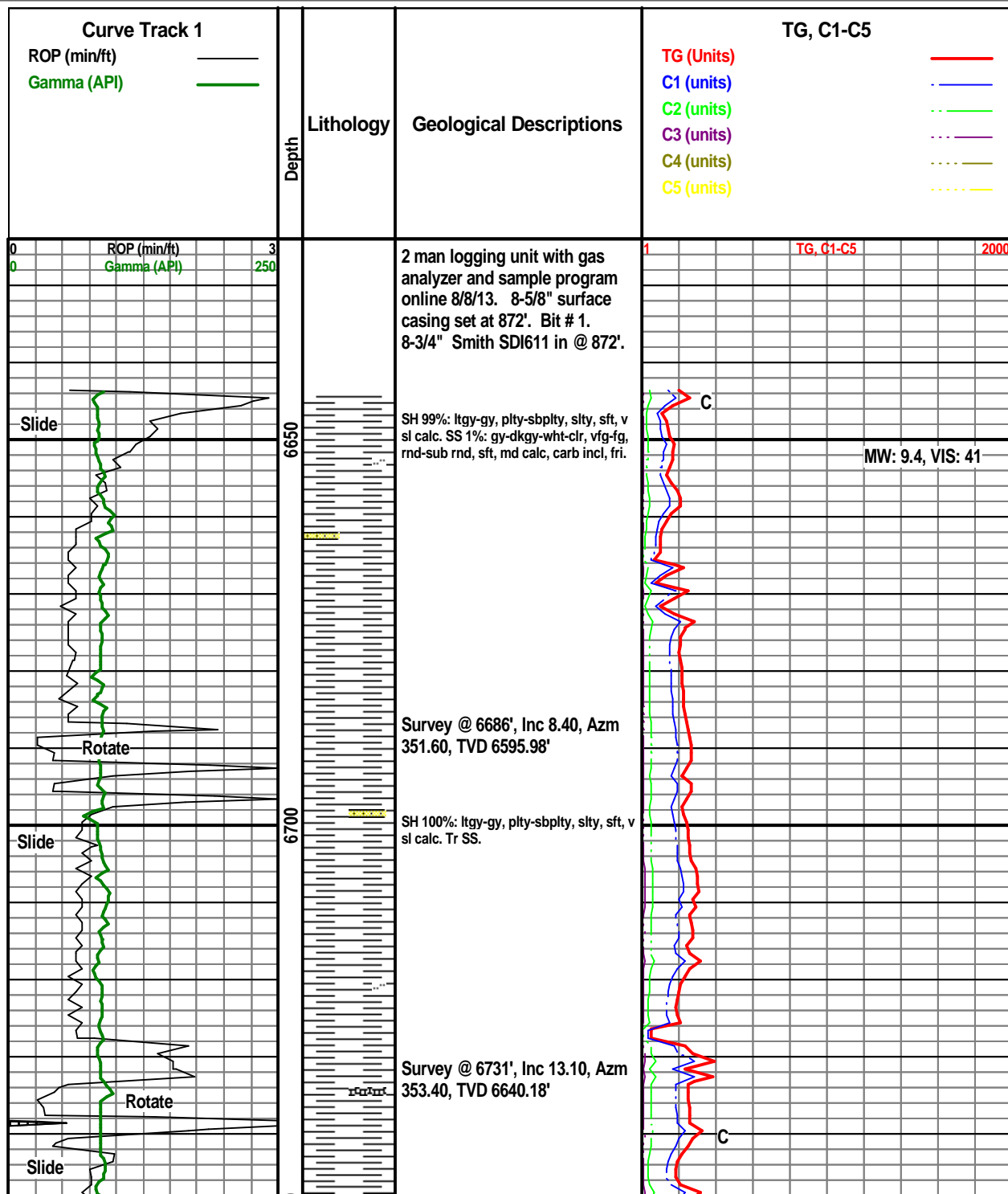
STRINGER

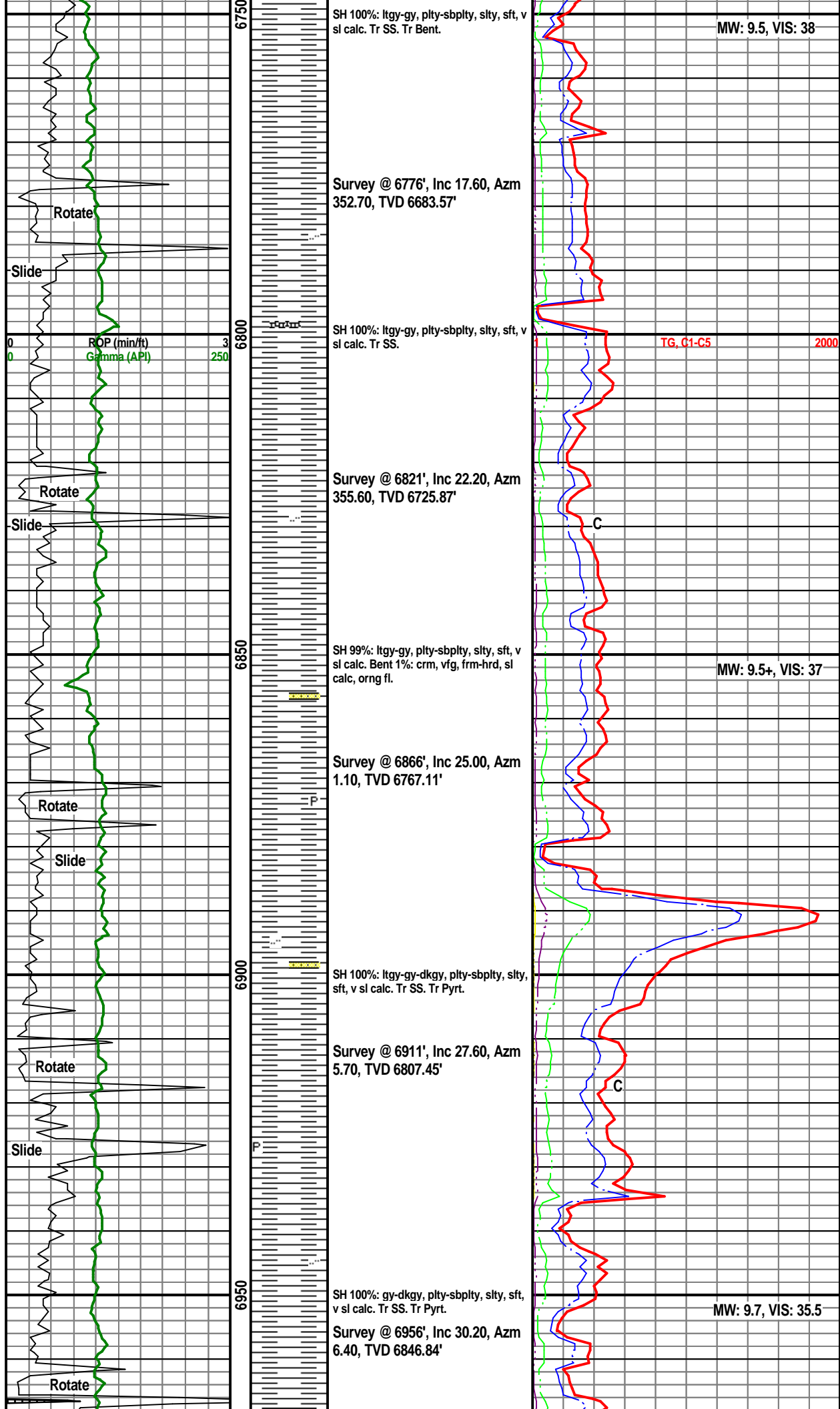
Anhy
Arg
Bent
Coal
Dol
Gyp
Ls
Mrst

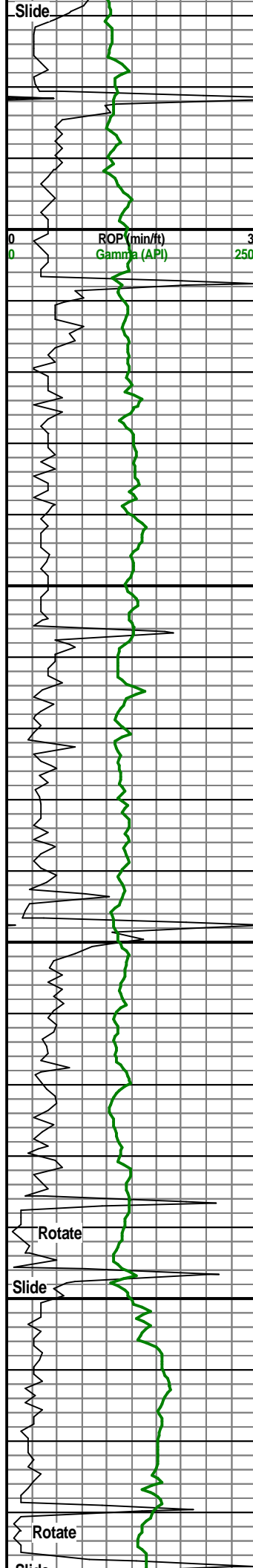
Sltstrg
Ssstrg

TEXTURE

Boundst
Chalky
Cryxln
Earthy
Finexln
Grainst
Lithogr
Microxln
Mudst
Packst
Wackest







SH 100%: gy-dkgy, plty-sbplty, slty, sft, v sl calc. Tr SS.
Survey @ 7001', Inc 34.40, Azm 3.60, TVD 6884.87'

Survey @ 7046', Inc 40.10, Azm 3.90, TVD 6920.68'
SH 100%: gy-dkgy, plty-sbplty, slty, sft, v sl calc.

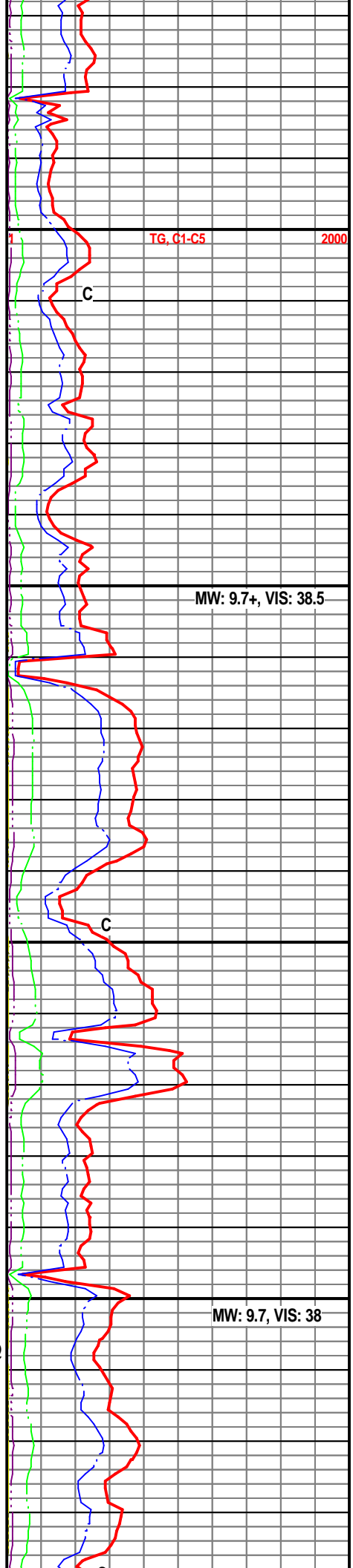
Survey @ 7091', Inc 47.00, Azm 2.30, TVD 6953.27'
SH 100%: gy-dkgy, plty-sbplty, slty, sft, v sl calc.

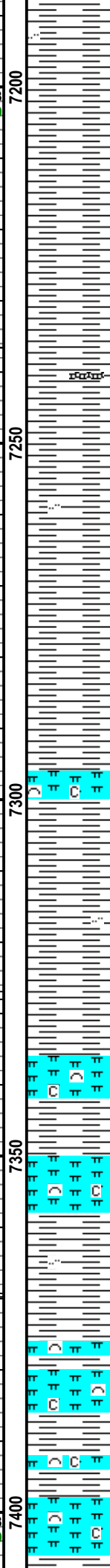
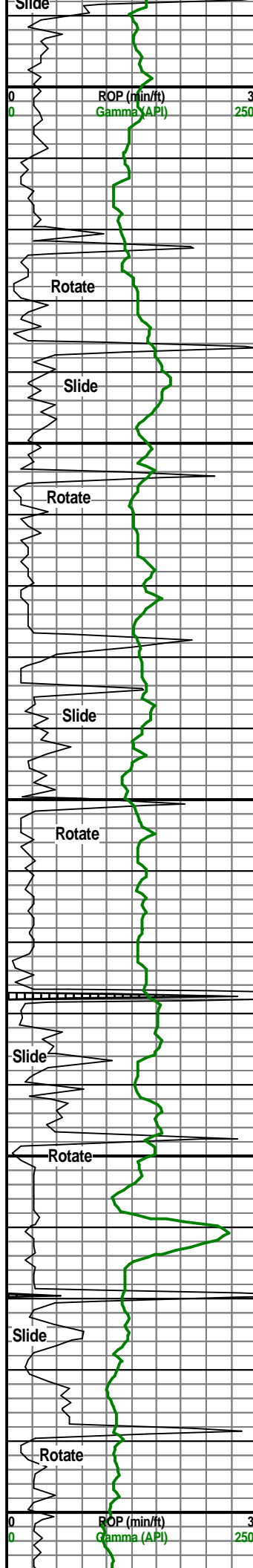
Survey @ 7136', Inc 52.70, Azm 1.60, TVD 6982.28'

SH 99%: lty-gy, plty-sbplty, slty, sft, v sl calc. Bent 1%: crm, vfg, frm-hrd, sl calc, orng-wht fl.

Sharon Springs Top @ 7156'MD 6994'TVD

Survey @ 7181', Inc 58.70, Azm 360.0, TVD 7007.62'





SH 97%: ltgy-gy, plty-sbplty, slty, sft, v
sl calc. Bent 3%: crm, vfg, frm-hrd, sl
calc, orng fl.

Survey @ 7226', Inc 63.50, Azm
358.0, TVD 7029.37'

SH 100%: ltgy-gy, plty-sbplty, slty, sft, v
sl calc. Tr Bent.

Survey @ 7271', Inc 66.20, Azm
357.80, TVD 7048.49'

SH 70%: ltgy-gy, plty-sbplty, slty, sft, sl
cal. Chalky Mrist 30%: ltgy-mdgy,
sbbly, frm, v calc, abd intbd biocl, nsfl,
slw str wh cut.

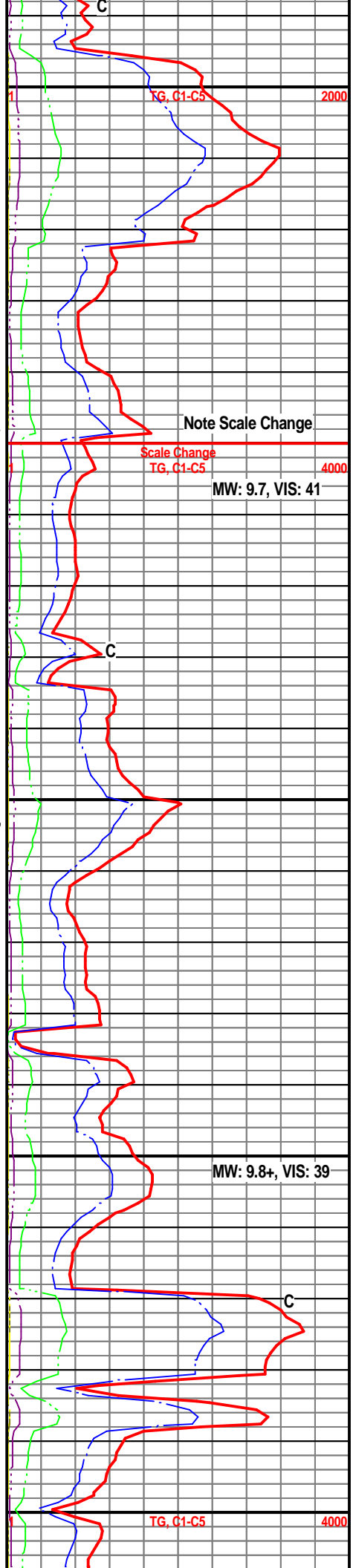
Survey @ 7316', Inc 69.10, Azm
357.70, TVD 7065.60'

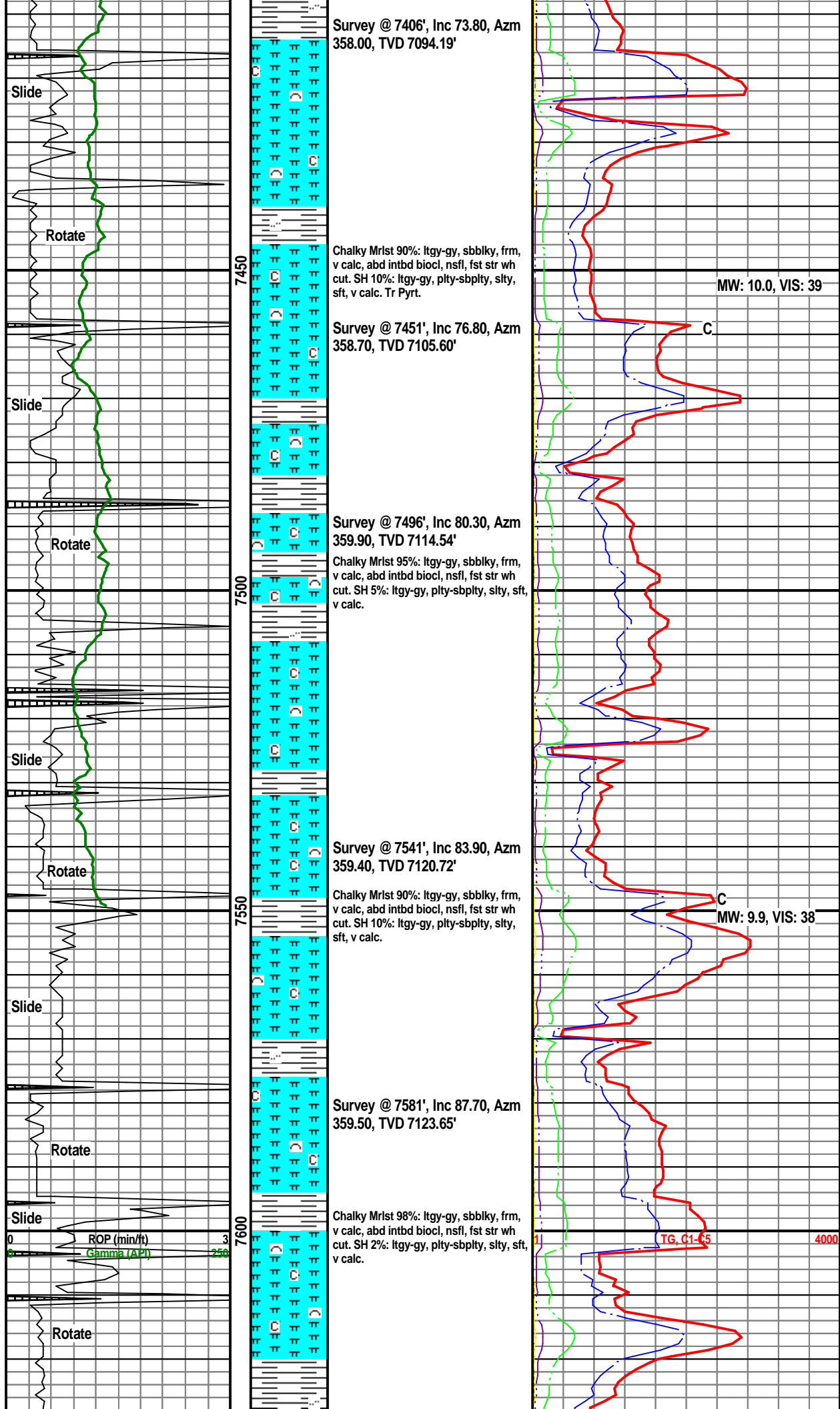
Chalky Mrist 70%: ltgy-mdgy, sbbly,
frm, v calc, abd intbd biocl, nsfl, slw str
wh cut. SH 30%: ltgy-gy, plty-sbplty,
slty, sft, sl cal.

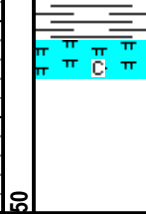
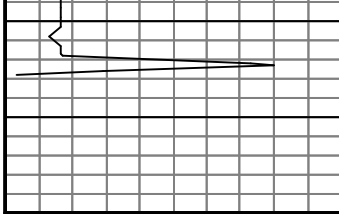
**Niobrara A Top @
7353'MD 7078'TVD**

Survey @ 7361', Inc 71.50, Azm
358.00, TVD 7080.77'

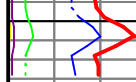
Chalky Mrist 85%: ltgy-mdgy, sbbly,
frm, v calc, abd intbd biocl, nsfl, slw str
wh cut. SH 15%: ltgy-gy, plty-sbplty,
slty, sft, sl cal. Tr Pryt.







Projection To Bit: 7636', Inc
89.9, Azm 359.9, TVD 7124.8'



08/09/13 @ 8:55am
TD Curve for
intermediate
casing~7636'