



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

Well Name: M&M Exploration, Inc. Z-Bar 8-1
Location: SEC. 8-34S-14W Barber Co., Kansas
License Number: 15-007-23999 Region: Aetna SE
Spud Date: 4-5-13 Drilling Completed: 4-12-13
Surface Coordinates: 500 FNL & 600FEL NE/4
Bottom Hole As Above
Coordinates:
Ground Elevation (ft): 1658 K.B. Elevation (ft): 1668
Logged Interval (ft): 3,800' To: 5,200' Total Depth (ft): 5,200'
Formation: Pennsylvanian, Mississippian, & Ordovician
Type of Drilling Fluid: Fresh Water

Printed by WellSight Log Viewer from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: M&M Exploration, Inc
Address: 4257 Main St.
Westminster, CO 80031

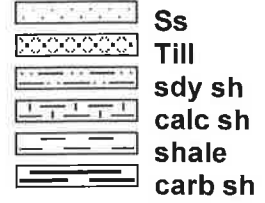
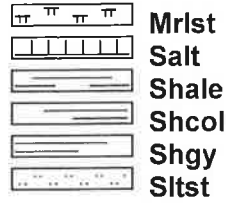
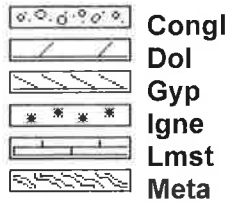
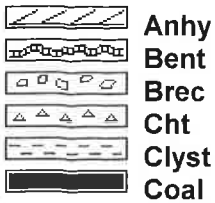
GEOLOGIST

Name: Mr. Mike Pollok
Company: MAP Exploration, Inc.
Address: PO Box 106
Purcell, OK 73080

Comments

Hardt Drilling, Rig Samples
Mudlogging Unit #1
Mudlogger: Bill Busch

ROCK TYPES



ACCESSORIES

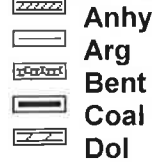
MINERAL



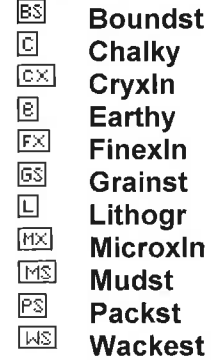
FOSSIL



STRINGER

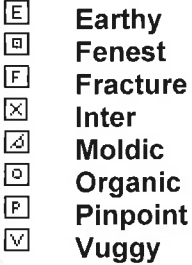


TEXTURE



OTHER SYMBOLS

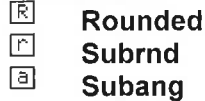
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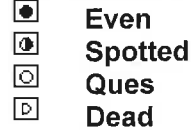
SORTING



ROUNDING



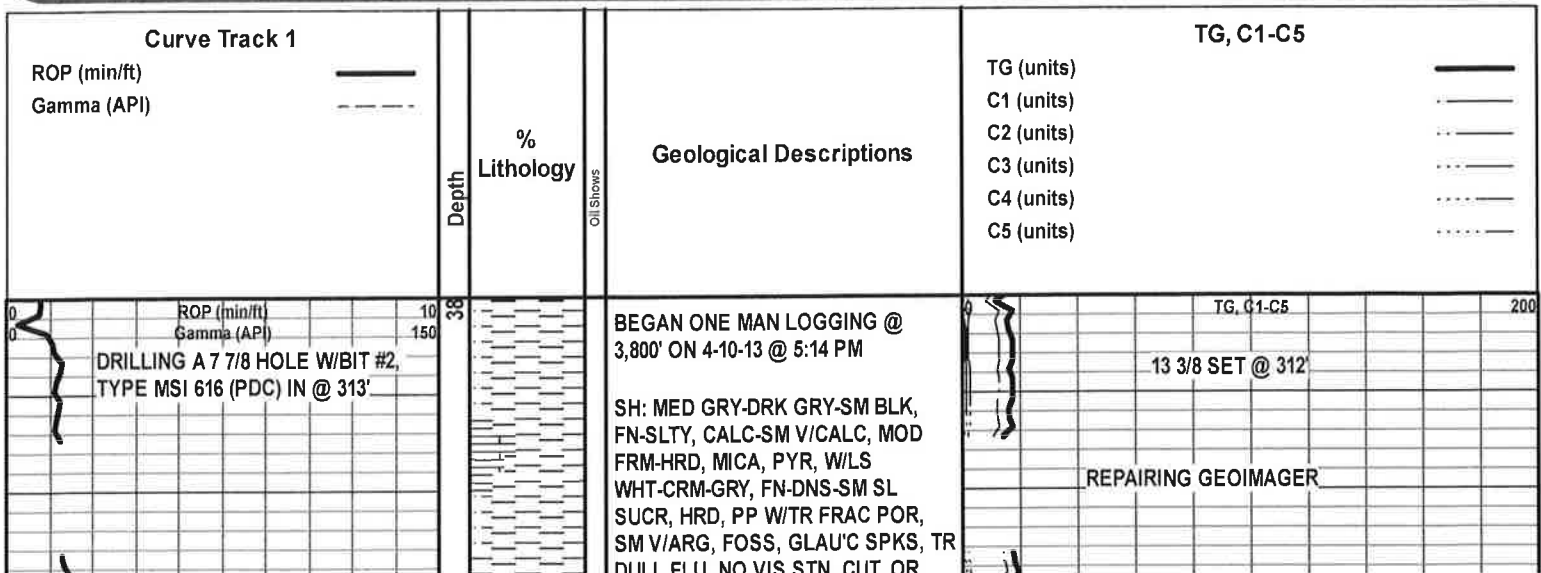
OIL SHOWS

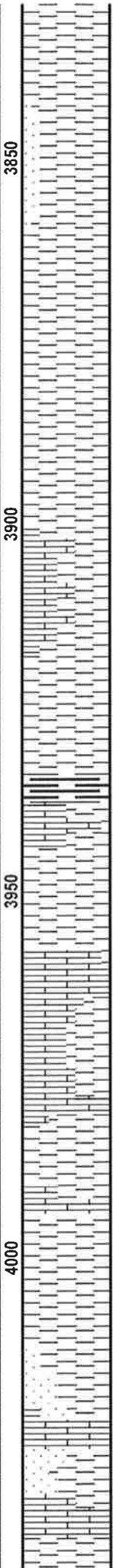
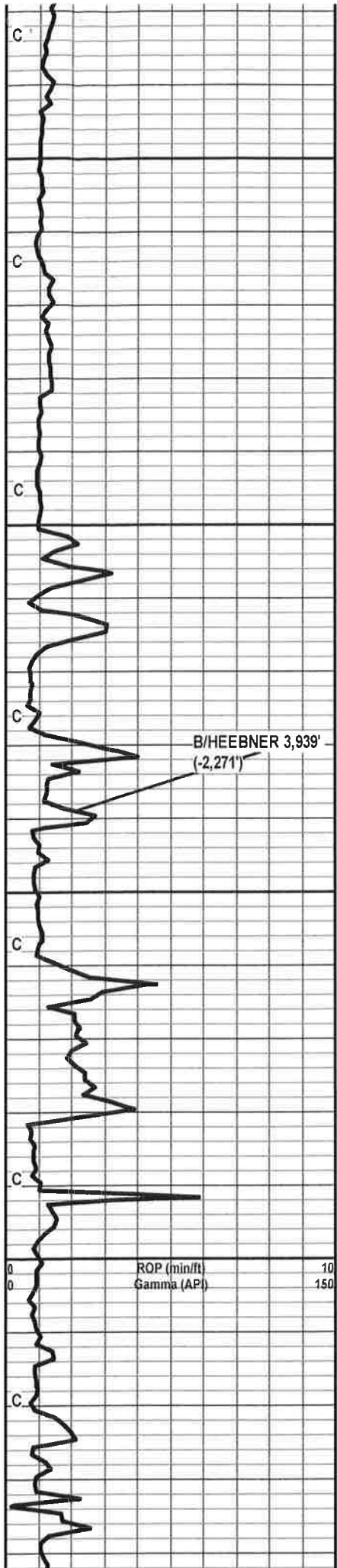


INTERVALS



EVENTS





ODOR

SH: AAB W/ SM SS WHT-LT
GRY-GRY, FN-MED GRN, SUB
ANG-SUB RND, WHT-FROS-GRY
GRNS, CONSL, CALC, MICA, GLAUC
SPKS

SH: LT GRY- MED GRY-DRK GRY, FN,
CALC W/SM V/CALC, SFT-MOD FRM,
SM SLTY, TR MICA

LS: WHT-OFF WHT-TN-BRN-GRY,
XLN-FN-SUCR, BRTL-HRD, PP AND
SM FRAC POR, FOSS, ARG, SM
DULL FLU, NO VIS STN, CUT, OR
ODOR

SH: BLK, FN, CALC, HRD,
LS: CRM-TN-DRK BRN-BRN GRY,
FN-SUCR-XLN-SM CHKY, SM
SFT-BRTL-HRD, PP-V/VUG-SUCR
POR, SUCR, ARG, BRT FLU, NO VIS
STN, CUT, OR ODOR

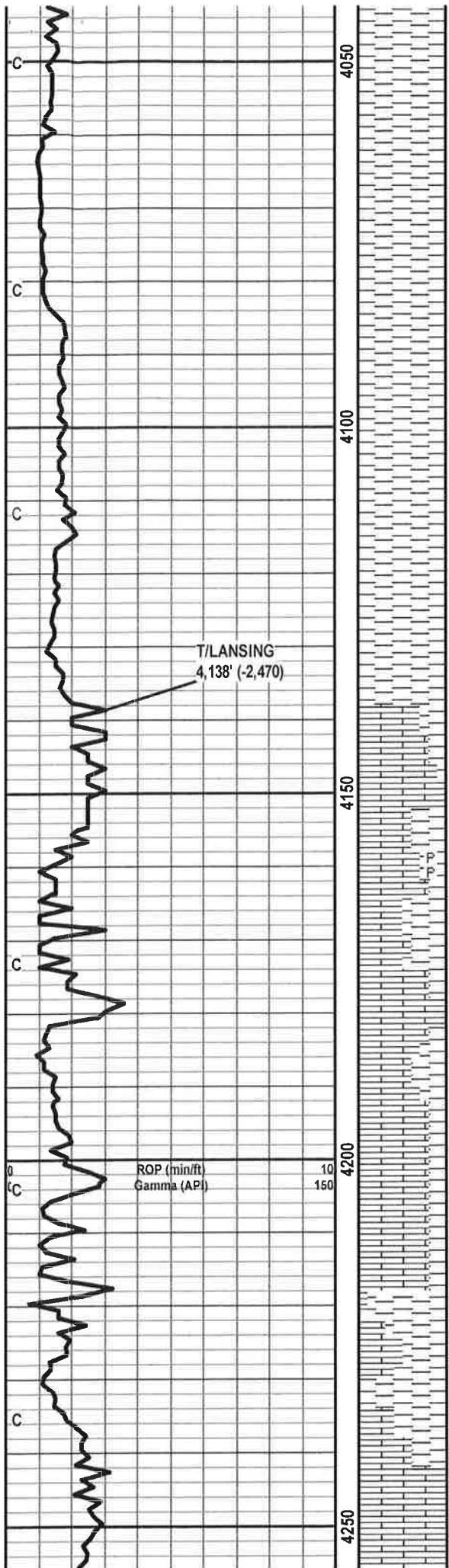
LS: OFF WHT-TN-LT GRY, XLN-FN-SL
SUCR, SM SFT-BRTL-MOD HRD, PP
& VUG POR, SL SUCR, SM ARG, SM
SL SHLY, BRT FLU, NO VIS STN,
CUT, OR ODOR

SH: GRY-DRK GRY, FN, SFT-MOD
FRM, SM VIS SND, TR MICA

LS: CRM-TAN-LT BRN-BRN-GRY,
FN-SUCR W/SM XLN, BRTL-HRD, GD
PP & GD VUG W/SM INTR XN POR,
SM ARG, BRT & DULL FLU, NO VIS
STN, CUT, OR ODOR

3,978' @ 12:00 AM ON 4-11-13

TG, C1-C5 200



SH: GRY-DRK GRY, FN, SFT-MOD
FRM, MICA

SH: AAB

LS: CRM-TAN-BRN-DRK BRN-LT GRY,
MICRO XLN-FN-DNS-SUCR W/SM
CHKY, SFT-BRTL-HRD, GD PP & VUG
POR, SUCR, ARG, TR IMBD PYR,
DULL FLU, NO VIS STN, CUT, OR
ODOR

LS: CR-TN-SM LT GRY, MICRO
XLN-FN-SUCR, BRTL-HRD, V/GD
PP & VUG W/SM INTR XN & FRAC
POR, SUCR, SM ARG, DULL FLU, NO
VIS STN, CUT, OR ODOR

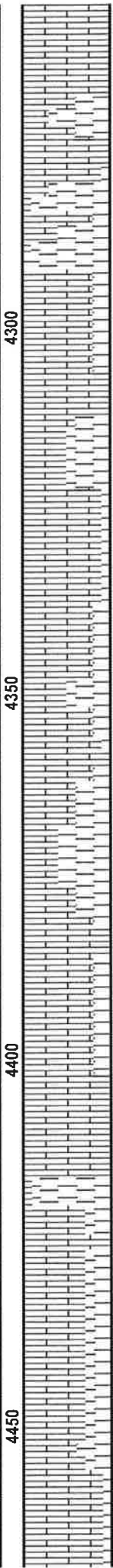
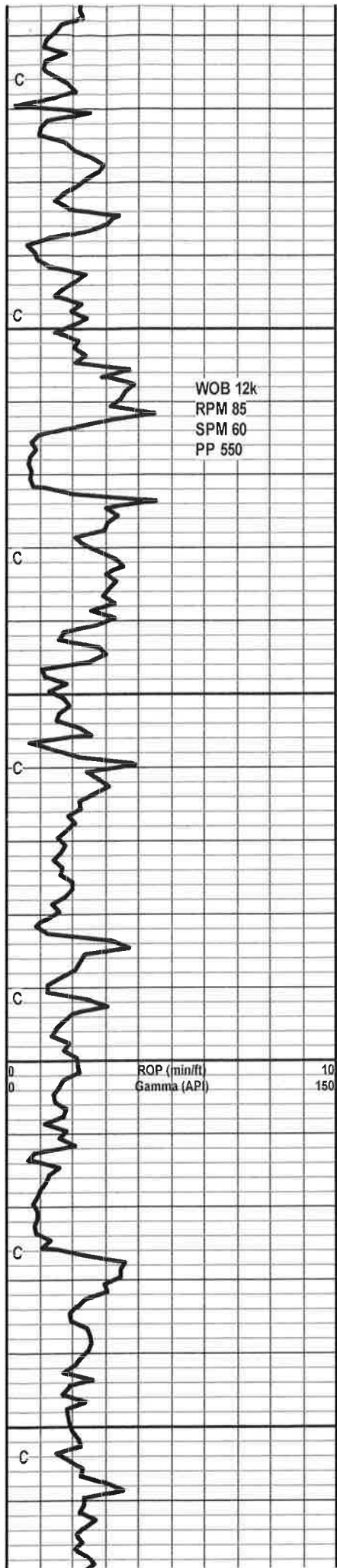
SH: LT GRY-GRY W/SM LT BRN, FN,
CALC, SFT-FRM, MICA, PYR, SM
CHRT

LS: CRM-TN-BR-LT GRY, MICRO
XLN-FN-SUCR-CHKY, SFT-BRTL-HRD,
GD PP-INTR XN W/SM VUG & FRAC
POR, ARG, FOSS, DULL FLU, NO
VIS STN, CUT, OR ODOR

COMPUTER MALFUNCTION

TG, C1-C5

200



LS: CRM-BRN-GLD BRN-LT GRY,
 XLN-FN-DNS-SL CHKY, FRM-HRD, PP
 POR, ERTY W/SM ARG, DRK BRN
 STNG, FOSS, DULL FLU, NO VIS
 STN, CUT, OR ODOR

WOB 12k
 RPM 85
 SPM 60
 PP 550

LS: CRM-TN-DRK BRN-GRY, MICRO
 XLN-FN, HRD, EXCLNT VUG-INTR
 XN-FRAC POR, DULL FLU, NO VIS
 STN, CUT, OR ODOR

MUD CHK @4,298'
 MW 9.1
 FV 48
 PV 19
 YP 15
 GEL 9
 WL 12.0
 CK 2/32
 SLD 5.6
 pH 10.0
 CA 140
 LCM 0

LS: WHT-CRM-BFF, FN-SL CHKY,
 MOD FRM-HRD, PP W/SM FRAC
 POR, SL SUCR, SLI SHLY, FOSS,
 TR ARG, DULL FLU, NO VIS STN,
 CUT, OR ODOR

CHECKING GAS
 SYSTEM

LS: WHT-CRM-BRN-GRY, XLN-FN,
 HRD, PP-INTR XN-FRAC POR, SM
 ARG, DULL W/TR BRT FLU, NO VIS
 STN, CUT, OR ODOR

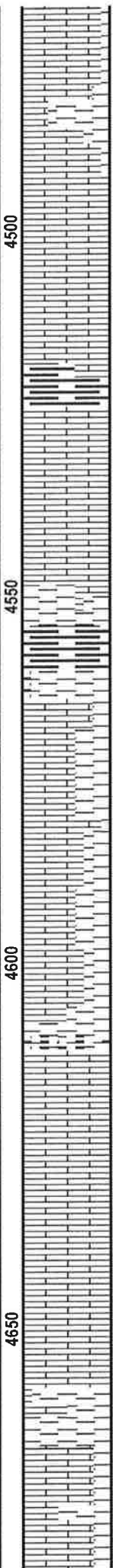
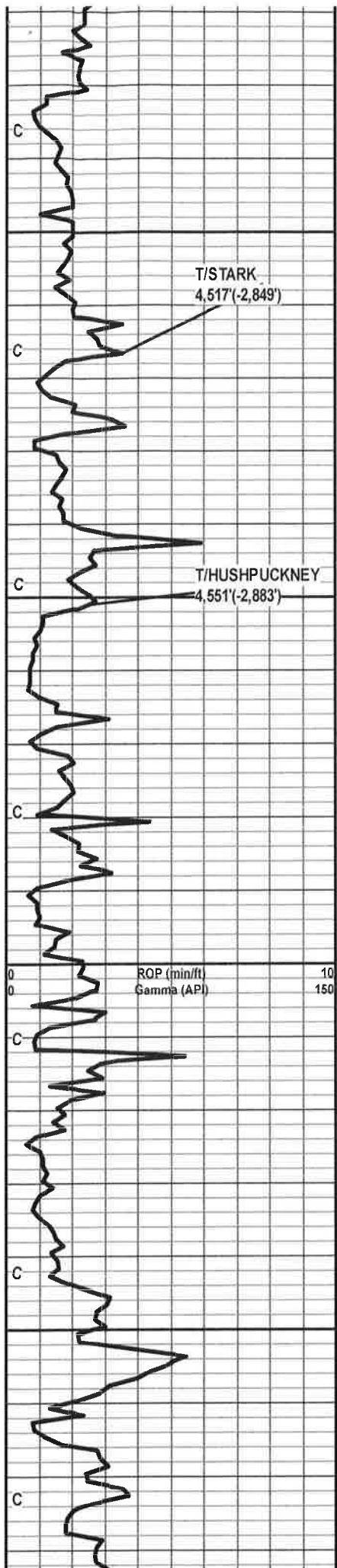
LIGHTER TEST

ROP (min/ft) 10
 Gamma (API) 150

TG, C1-C6 200

LS: AAB W/ SH: GRY-DRK GRY-BLK,
 MOD FRM, V/CALC, SL SLTY, SM
 MICA

LS: CRM-TN-BRN-GRY, MICRO
 XLN-FN, HRD, PP-INTR XN-FRAC



XLN-FN, HKD, GD PP W/IK FRAC
POR, ARG, DULL W/SM BRT FLU,
NO VIS STN, CUT, OR ODOR

LS: AAB

SH: GRY-DK GRY-BLK, V/FN WXY
TEXT, PYR'C SPKS, CARB, MD
FM-HD

LS: WHT-OFF WT-BRN, DNS,
MICRO-XLN, SM P.P. POR, SLI
OOL'C, V/ARG, W/SM FR CALC SM
DUL YEL FLU, NO VIS STN, CUT, OR
ODOR

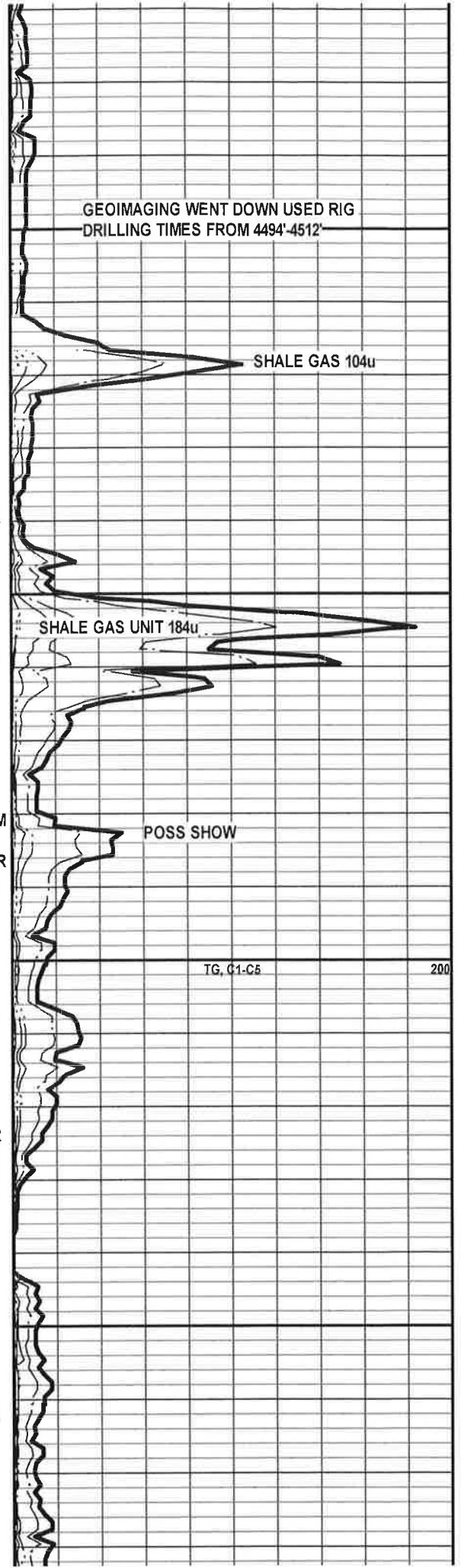
SH: DK GRY, BRN, BLK, V/FN WXY
TEXT, FM-HD, CALC, PLTY, TR PYR,
SLI MICA, V/CARB

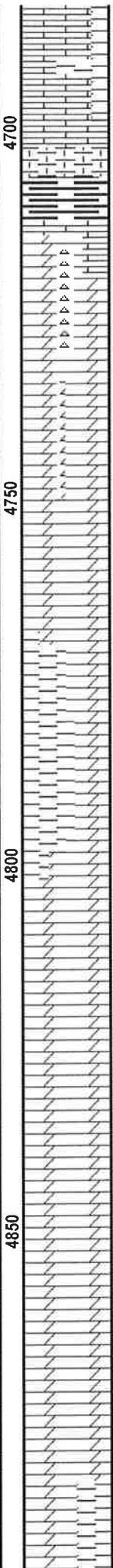
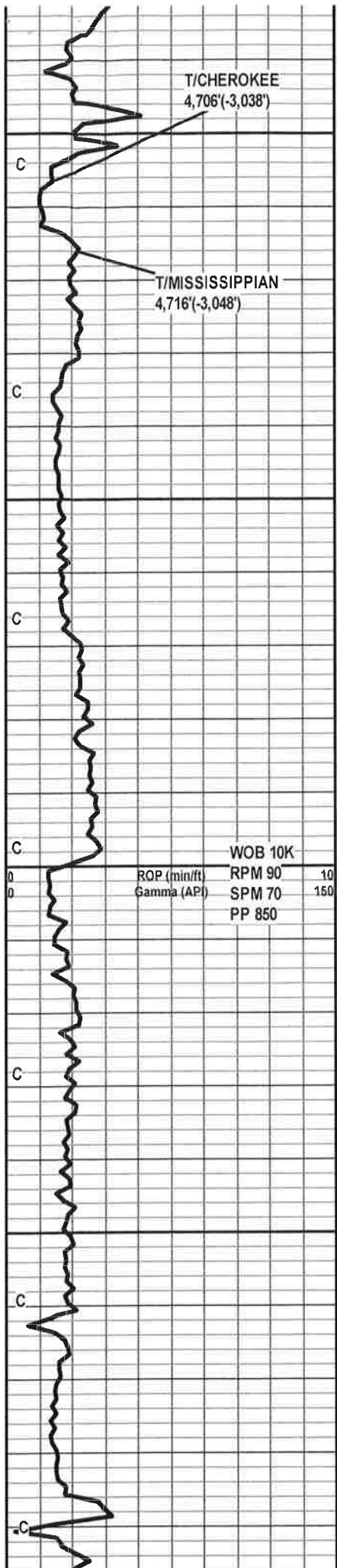
LS: CRM-TN-BRN-GRY, XLN-FN W/SM
SUCR, BRTL-HRD, GD PP W/SM
INTR XN POR, ARG, SHLY, SUCR, TR
CHRT, DULL FLU, NO VIS STN, CUT,
OR ODOR

SH: DRK GRY-BLK, FN, CALC, MOD
FRM-HRD, CARB

LS: XLN-FN W/SM SUCR & TR SL
CHKY, HRD, GD PP POR W/SM INTR
XN POR, ARG, SL CHKY, DULL FLU,
NO VIS STN, CUT, OR ODOR

LS: CRM-BRN-LT GRY, XLN-FN-DNS,
HRD, PP W/SM FRAC POR, DULL
FLU, NO VIS STN, CUT, OR ODOR,
W/SM SH: GRN GRY-LT GRY-GRY
W/SM BLK, FN W/SM WXY, CALC,
SFT-FRM-HRD, SL SLTY, MICA





SH: GRY-DK GRY-GRN-BLK, V/FN WXY TEXT, FM-HD, PYR'C SPKS, GLAU'C, PLTY, CARB, CALC

DOLO: WHT-TN-BRN-GRN, INTER-XLN, V/SUC, MOTT, EXC P.P.POR, GLAU'C, SLI CHTY, ABT YEL FLU, FT ODOR, SM STN, OR SLOW RING CUT

DOLO: TN-BRN-GRN, INTER-XLN, SLI DNS, SM P.POR W/ ABT INTER-XLN POR, ARG, V/ GLAU'C, SUC, SLI MOTT, SLI CHTY, ABT GRNSH YEL FLU, STRNG OIL ODOR, SM STNING, FAST RING CUT AND SLW STRM CUT

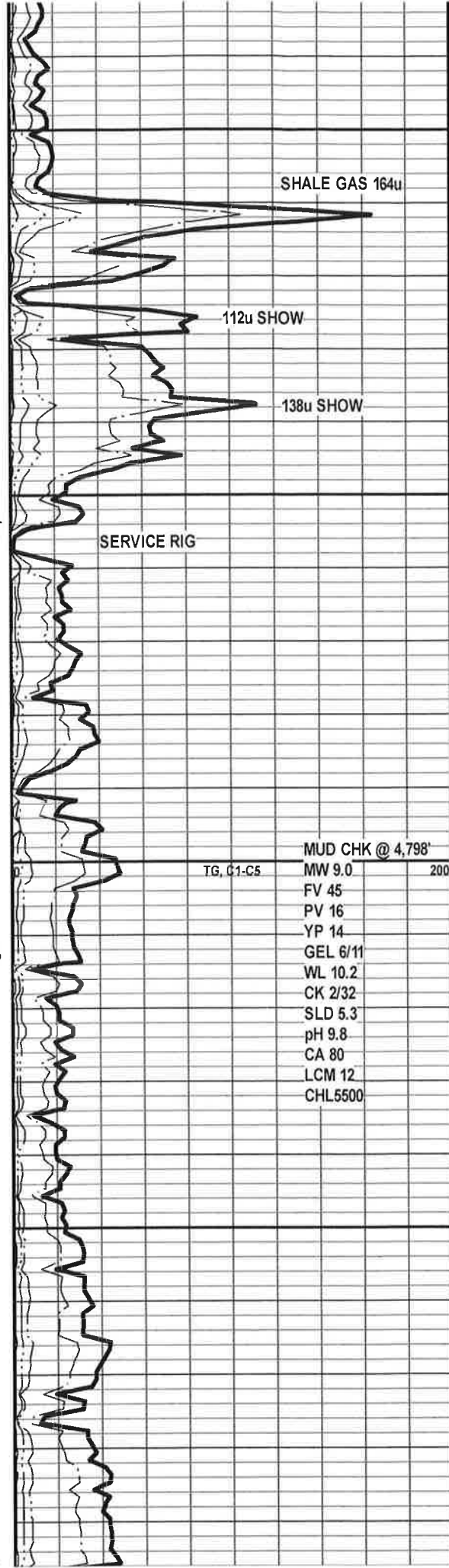
DOLO: GRY-DK GRY, V/FN MICRO-XLN, HD, DNS, SM P.P.POR, SHLY, NO VIS FLU, STN, CUT, OR ODOR

DOLO: CLR-CRM-TN-BRN-DRK BRN-LT GRY, FN-MED-SL SUCR, HRD, PP W/SM INTR XN POR, SL SUCR, DULL FLU, NO VIS STN, CUT, OR ODOR

DOLO: AAB W/SM IMBD CHRT

DOLO: AAB W/ MORE LT GRY

DOLO: LT GRY-GRY-LT BRN-BRN



SHALE GAS 164u

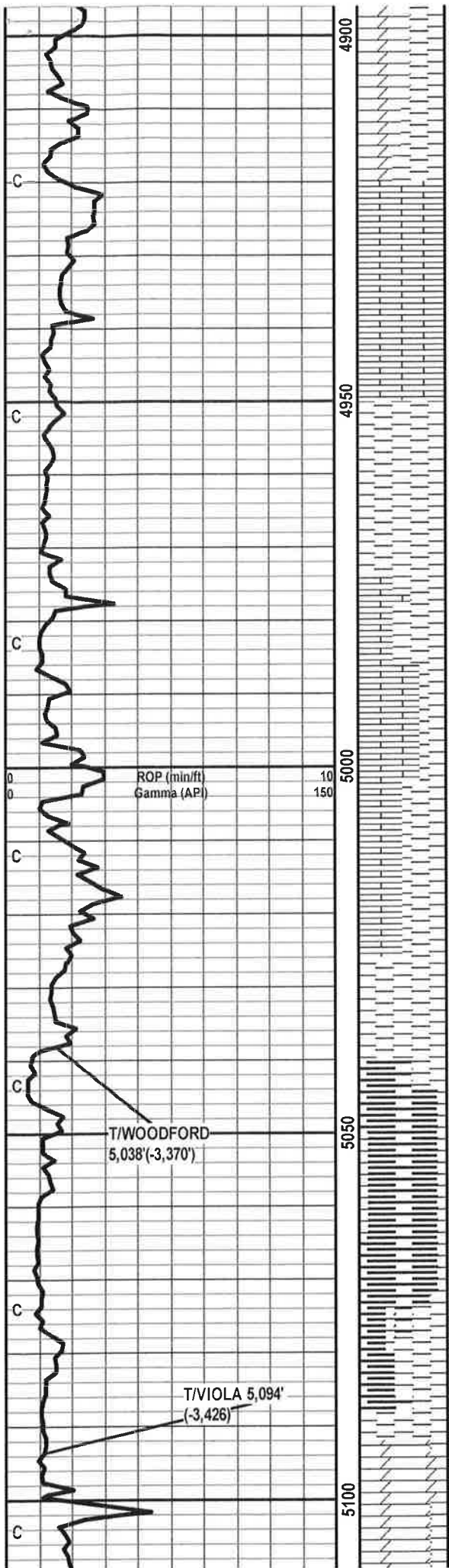
112u SHOW

138u SHOW

SERVICE RIG

MUD CHK @ 4,798'

TG, C1-C5	MW 9.0	200
	FV 45	
	PV 16	
	YP 14	
	GEL 6/11	
	WL 10.2	
	CK 2/32	
	SLD 5.3	
	pH 9.8	
	CA 80	
	LCM 12	
	CHL 5500	



GRY, FN-DNS W/SW ALN, FRM-HRD, PP WSM INTR XN POR, SHLY, ARG, TR DULL FLU, NO VIS STN, CUT, OR ODOR

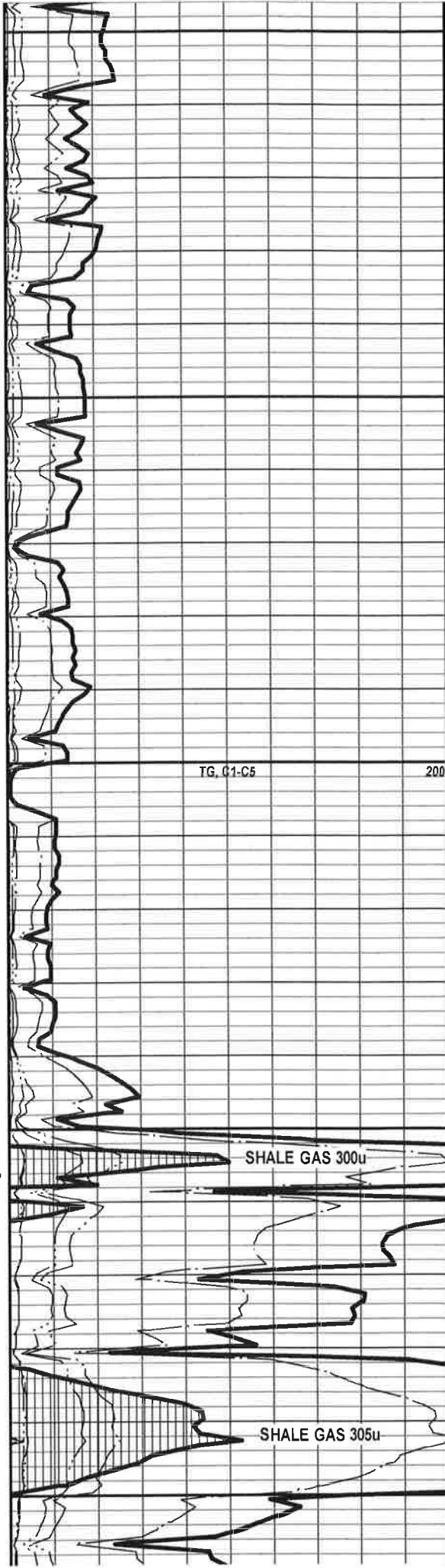
LS: CRM-TN-BRN, V/FN-FN-DNS, BRTL-HRD, PP WTR FRAC, SM DULL FLU, NO VIS STN, CUT, OR ODOR

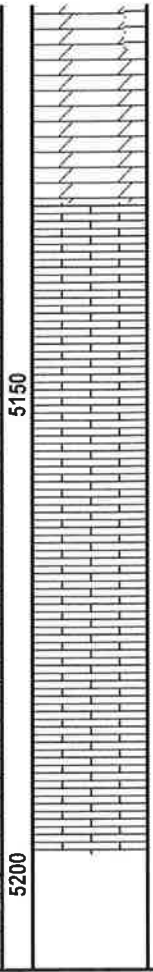
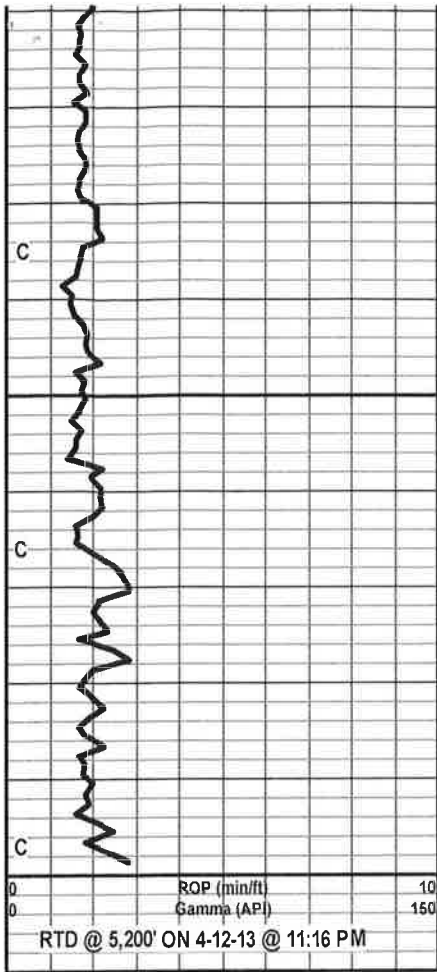
SH: GRY, FN, CALC, MOD FRM-FRM, TR MICA

LS: WHT-OFF WHT GRY-TN, HD DNS, TR P.P.POR, ARG, SHLY, SM V/DUL FLU, NO VIS STN, CUT, OR ODOR

SH: DK GY-BLK-BRN, WXY, FN TEXT, BRTL, FM-HD, V/CARB, MICA, PYR'C SPKS, ABT ORNG FLU SPKS, GSY BUBLS

DOLO: LT GRY W/TR LT BRN-DRK BRN, FN-MED-SUCR, FRM-BRTL-HRD, GD PP POR, SM DULL FLU, SLW RING CUT, FNT ODOR





DOLO: AAB W/SM FRSH CHRT & NO VIS STN, CUT, OR ODOR

LS: WHT-CRM-TN, FN-CHKY W/SM SUCR, SFT-MOD FRM, PP POR, SL ARG, GLAU'C SPKS, CHRTY, DULL FLU, NO VIS STN, CUT, OR ODOR

SHRT TRP TO 4,642' CIRC 1 HR

E-LOGS

