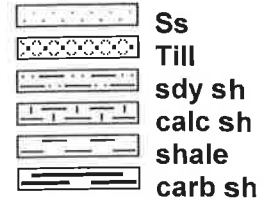
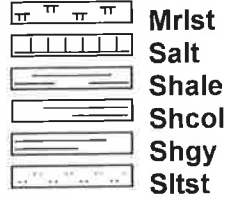
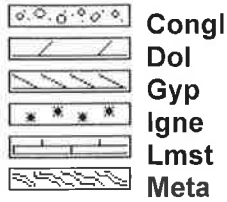
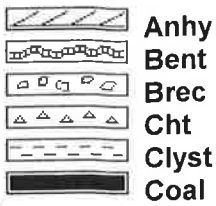
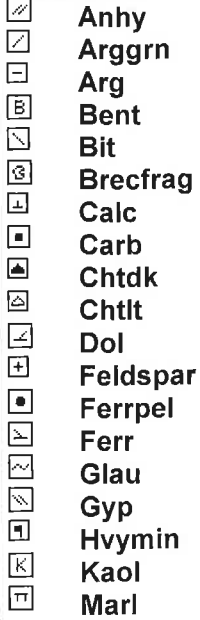


ROCK TYPES

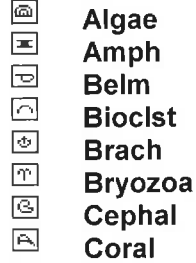


ACCESSORIES

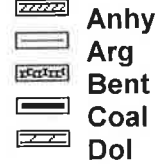
MINERAL



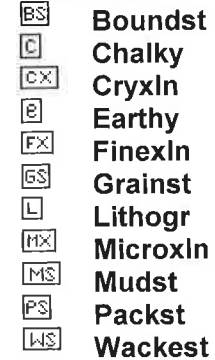
FOSSIL



STRINGER

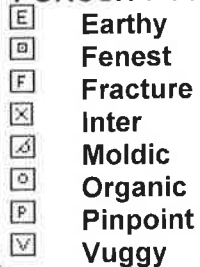


TEXTURE



OTHER SYMBOLS

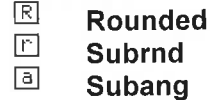
POROSITY TYPE



SORTING



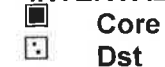
ROUNDING



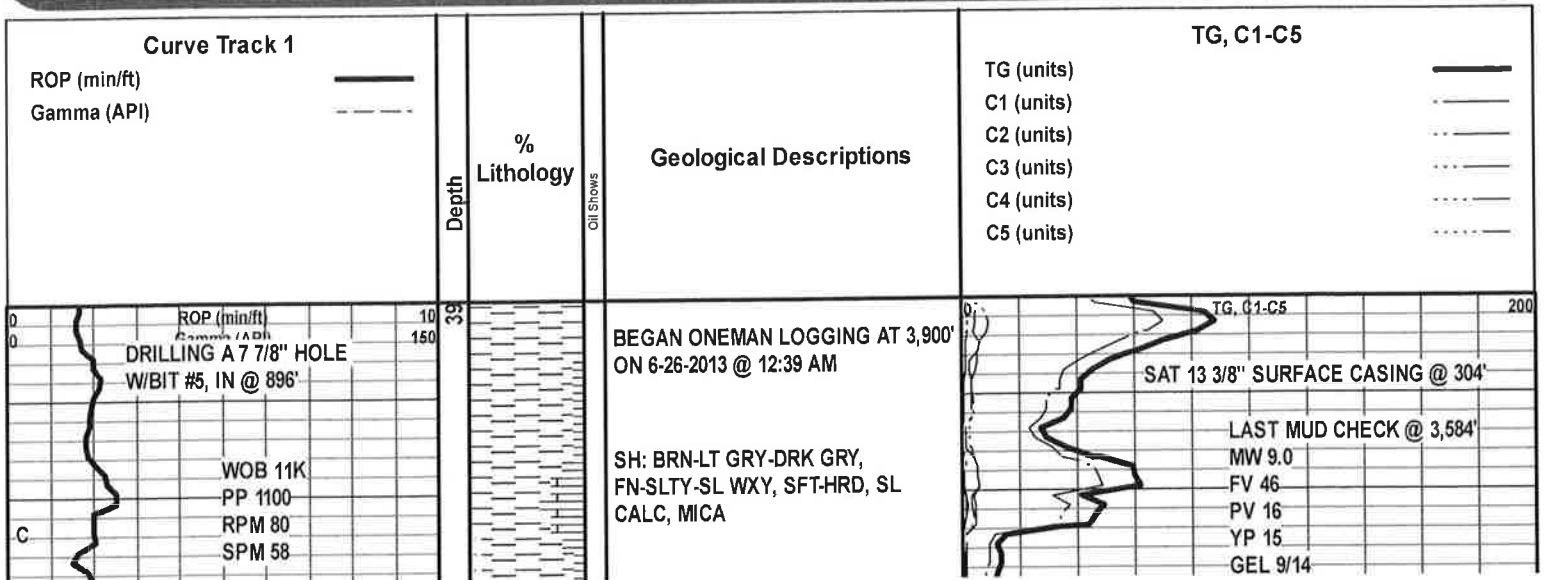
OIL SHOWS

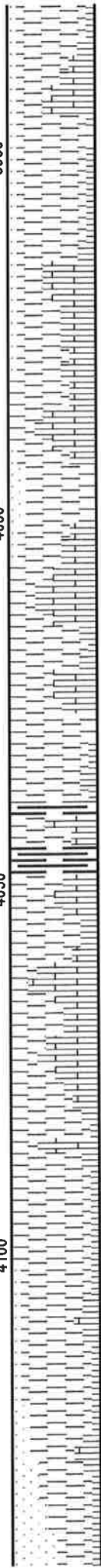
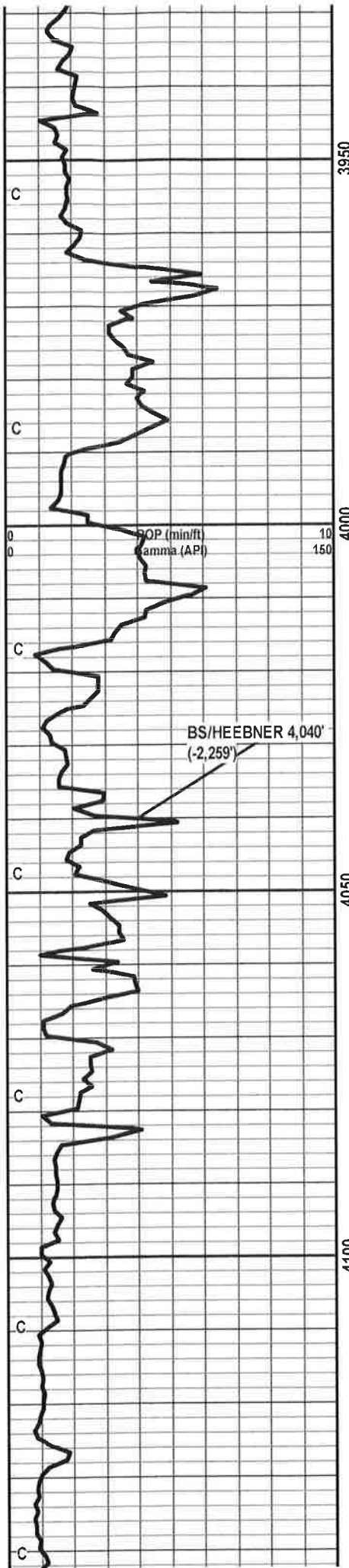


INTERVALS



EVENTS





LS: CRM-OFF WHT-BRN,
 XLN-FN-SUCR, HRD, ARG, FOSS,
 DOLO'C, INT XLN-PP POR, DLL FLU,
 NO VIS STN, CUT, OR ODOR

LS: WHT-CRM-TAN-BRN, MCRO
 XLN-XLN-FN, BRTL-HRD, ARG,
 FOSS, SM CHKY, PP-FRAC POR,
 DLL FLU, NO VIS STN, CUT, OR
 ODOR

SH: LT GRY-DRK GRY-BLK, FN-SLTY,
 BRTL-HRD, CALC, MICA, IMBD PYR,
 CARB

LS: WHT-CRM-TAN-BRN, MCRO
 XLN-XLN-V/FN, BRTL-HRD, PP-FRAC
 POR, ARG, FOSS, DLL FLU, NO VIS
 STN, CUT, OR ODOR

SH: GRY-BLK, FN-WXY, FRM-HRD,
 CALC, IMBD CALC, CARB

SH: BLK, FN-WXY, FRM-HRD, CARB,
 BLKY-FISS

LS: WHT-CRM-BFF-GRY-BRN, MCRO
 XLN-XLN-FN-CHKY W/SM SUCR,
 SFT-BRTL-HRD, PP W/ SM INTR XLN
 POR, DLL W/TR BRT FLU, NO VIS
 STN, CUT, OR ODOR

SH: LT GRY-GRY, FN-SLTY,
 SFT-FRM-HRD, CALC, IMBD PYR,
 MICA, SPL-BLKY

SH: AAB W/INCRSG SS: WHT,
 V/FN-FN, SUB RND-RND,
 TRNSL-FROS, CONSL, CALC, IMBD
 BYR MICA GLAUC SPKS DLL FLU

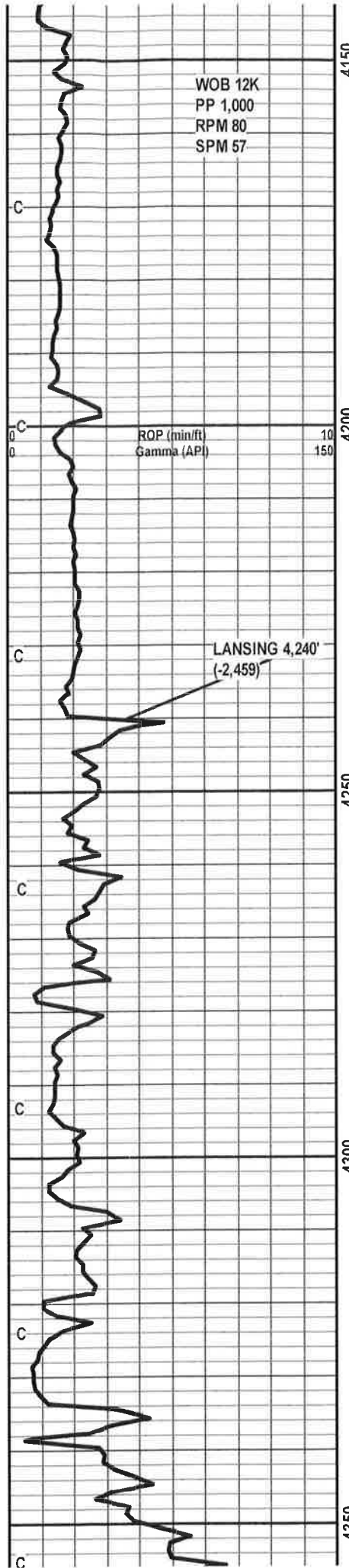
WL 12.0
 CK 2/32
 SLD 5.2
 pH 10.1
 CHL 2900
 CA 60
 LCM 0

TG, C1-C5

200

SHALE GAS

SHALE GAS



WOB 12K
PP 1,000
RPM 80
SPM 57

ROP (min/ft)
Gamma (API)

LANSING 4,240'
(-2,459)

4150
4200
4250
4300
4350

DD OIL STN, NO CUT OR ODOR

SH: LT GRY-GRY, FN-SLTY, SFT-MOD FRM, MICA

SH: LT GRY-DRK GRY-BLK, FN-SL SLTY-WXY, SFT-FRM-HRD, SL CALC, LOTS OF IMBD PYR,

SH: LT GRY-DRK GRY W/SM BLK, V/FN, SFT-FRM, CALC, MICA CARB

LS: WHT-CRM-TAN-BRN-LT GRY, MCRO XLN-XLN-V/FN, BRTL-HRD, ARG, PP W/SM FRAC POR, DLL W/SM BRT FLU, SM DD OIL STN, NO VIS CUT OR ODOR

LS: OFF WHT-CRM-GRY-BRN, MCRO XLN-XLN-FN, HRD W/SM BRTL, TR CHRT, FOSS, PP W/SM FRAC POR, DLL FLU, NO VIS STN, CUT, OR ODOR

LS: WHT-CRM-TN-BRN-LT GRY, MCRO XLN-XLN-FN-SUCR, FRM-BRTL-HRD, TR CHRT, SUCR, DOLO'C, PP-VUG-INTR XLN POR, DLL & BRT FLU, DD OIL STN, NO VIS CUT OR ODOR

LS: WHT-CRM-BRN-GRY, XLN-V/FN-FN, BRTL-HRD, ARG, FOSS, GD PP W/SM FRAC POR, DLL & BRT FLU, SM DD OIL STN, NO VIS CUT OR ODOR

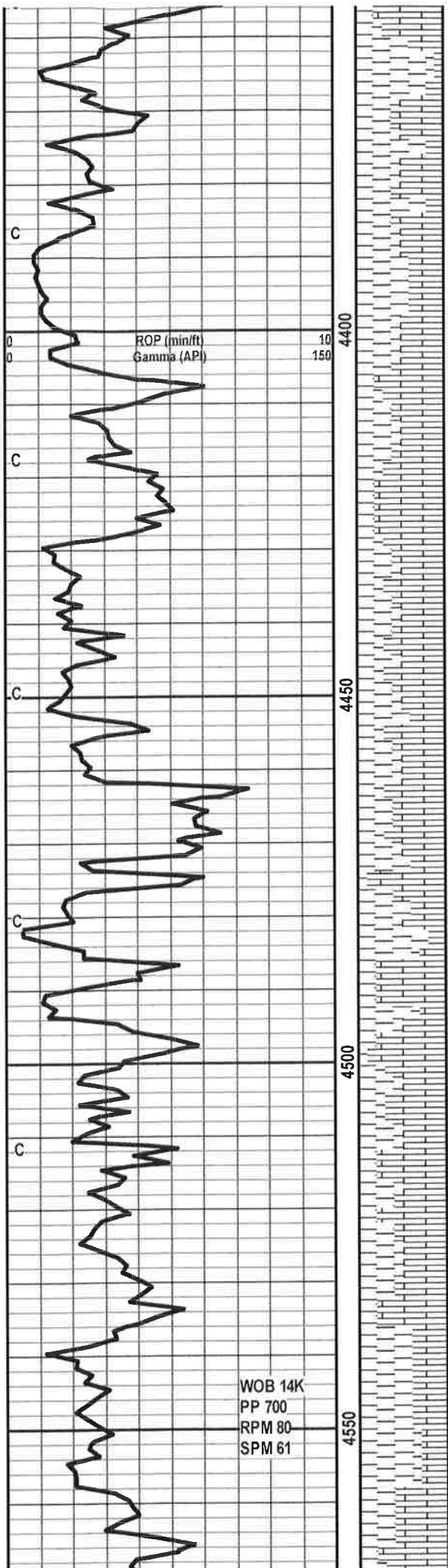
MUD CHECK @ 4,153'
MW 9.3
FV 55
PV 18
YP 16
GEL 8/15
WL 10.0
CK 2/32
SLD 6.4
pH 10.2
CHL 2300
CA 40
LCM 0

TG. C1-C5

200

SHALE GAS

SHALE GAS



LS: AAB W/SM SUCR TEXT & INTR
XLN POR

SH: DK GY, BLK, SLTY, HD, CALC

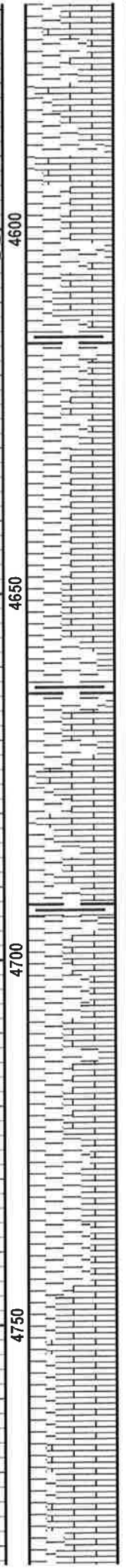
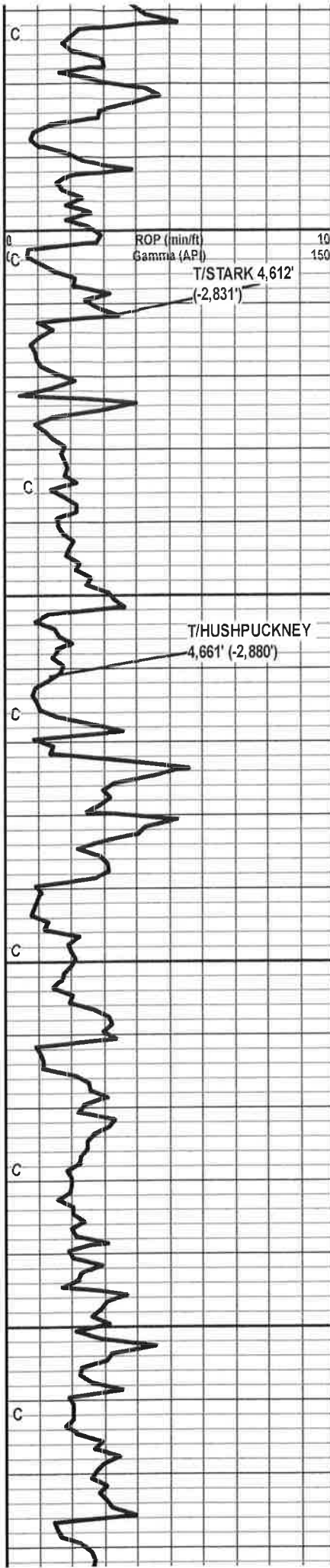
LS: CRM-TN-BRN-GRY,
XLN-FN-SUCR, FRM-BRTL-HRD,
ARG, ERTY, DOLO'C, SUCR, GD
PP-INTR XLN W/SM VUG POR, DLL
& BRT FLU, NO VIS STN, CUT, OR
ODOR

LS: AAB W/SM LT GRY DNS MCRO
XLN

LS: WHT-CRM-BFF-BRN, MCRO
XLN-XLN-FN-DNS W/TR SUCR,
FRM-BRTL-HRD, SM/CHRT, ARG, PP
W/SM FRAC & TR INTR XLN POR,
DLL & BRT FLU, TR DD OIL STN, NO
CUT OR ODOR

LS: WHT-GRY-CRM-BRN, MCRO
XLN-XLN W/SM SUCR BRTL-CHKY,
HRD-BRTL W/SM SFT, ERTY,
PP-FRAC W/SM INTR XLN POR, DLL
FLU, NO VIS STN, CUT, OR OD

TG, C1-C5 200



LS: AAB W/SM VUG POR

LS: WHT-CRM-BFF-BRN-GRY, MCRO
XLN-XLN-V/FN-FN W/SM SUCR,
BRTL-HRD W/SM FRI, CHRT, ARG,
FOSS, SM DOLO'C, DLL FLU, NO
VIS STN, CUT, OR ODOR

SH: BLK, FRM-HRD, CALC, FN-WXY,
BLKY, CARB

LS: WHT-OFF
WHT-BFF-CRM-BRN-GRY, MCRO
XLN-FN-DNS W/SM XLN, HRD W/SM
BRTL, ARG, FOSS, SM CHRT, PP
W/SM FRAC POR, DULL FLU, NO VIS
STN, CUT, OR ODOR

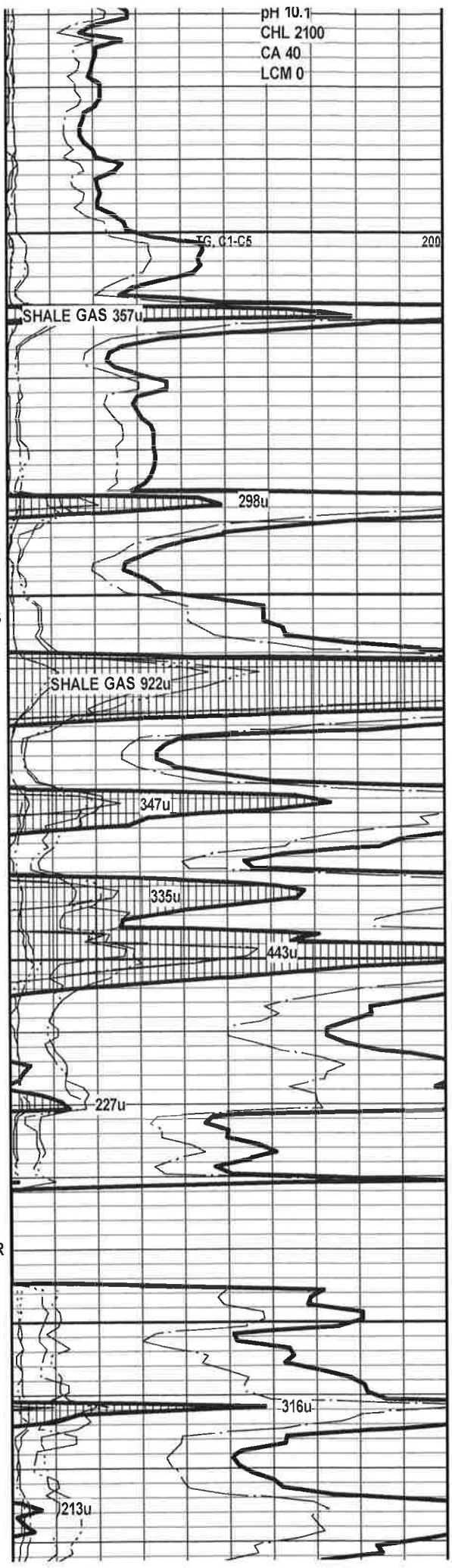
SH: GRY-DRK GRY-BLK, FN-WXY,
CALC, FRM-HRD, CARB

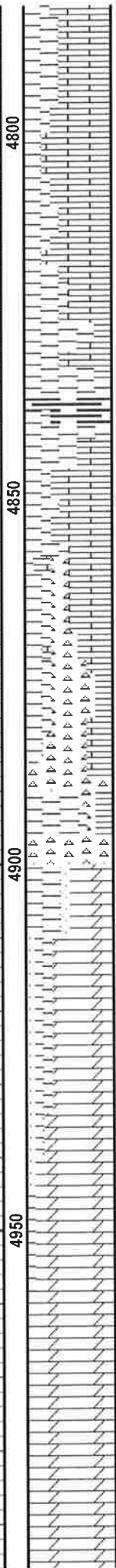
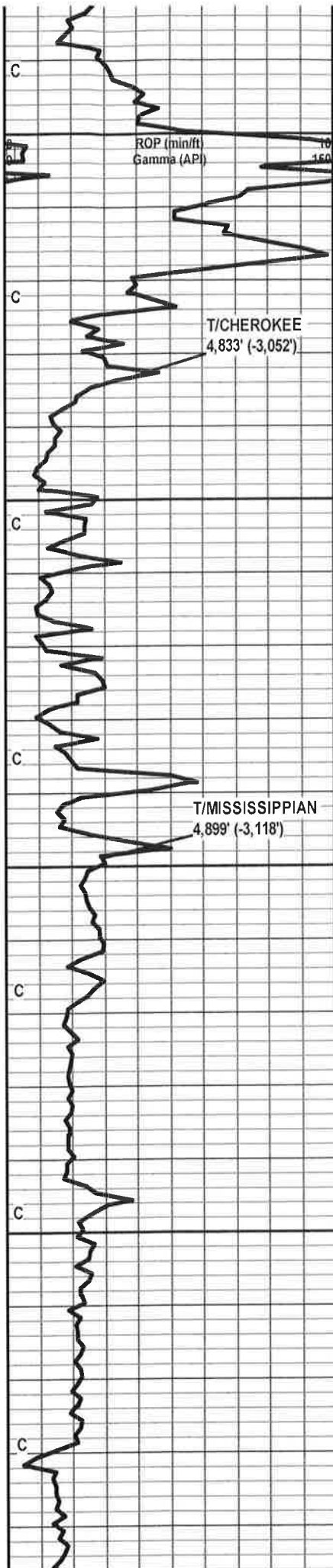
LS: CRM-BFF-GRY, XLN-V/FN, HRD,
ARG, FOSS, PP POR, DLL FLU, NO
VIS STN, CUT, OR ODOR

LS: OFF WHT-CRM-BFF-BRN-LT GRY,
MCRO XLN-XLN-FN-CHKY, SFT-HRD,
ARG, FOSS, PR POR, DLL & BRT
FLU, NO VIS STN, CUT, OR ODOR

LS: WHT-CRM-TN-BRN-GRY, MCRO
XLN-XLN-FN-TR SUCR-TR CHKY,
HRD W/SM BRTL-TR SFT, ARG,
CHRT, GD PP W/SM FRAC & TR INTR
XLN POR, DLL FLU, NO VIS STN,
CUT, OR ODOR

LS: WHT-CRM-TN-BRN-GRY, MCRO
XLN-FN, HRD, ARG, PP POR, DLL
W/TR BRT FLU, NO VIS STN, CUT,
OR ODOR





LS: CRM-TN-BRN-DRK BRN-GRY,
MCRO XLN-XLN-FN, HRD W/SM
BRTL, ARG, IMBD PYR, PP W/SM
FRAC POR, DLL FLU, NO VIS STN,
CUT, OR ODOR

SH: GRY-GRN-BRN-BLK,
FN-SLTY-WXY, SFT-FRM-HRD, CALC,
MICA, CARB

LS: WHT-OFF WHT-TN-BRN, XLN-FN,
HRD, GD PP W/SM FRAC POR, BRN
STN, GD STRMG CUT, ODOR

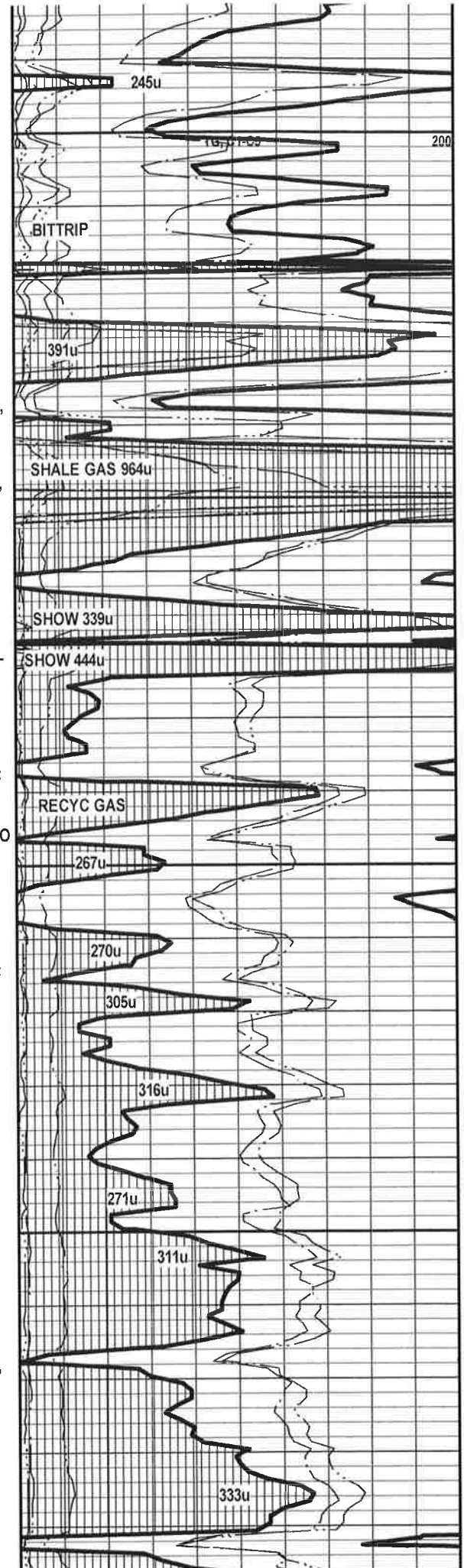
CHRT: WHT-OFF WHT-BRN, ABNT
LIME, WTHRD W/ SM FRSH, GD PP
POR W/ABNT FRACS, SLI SHLY, DLL
YEL/WHT FLU, DRK ASPHT STNG,
FLSH CUT, ODOR

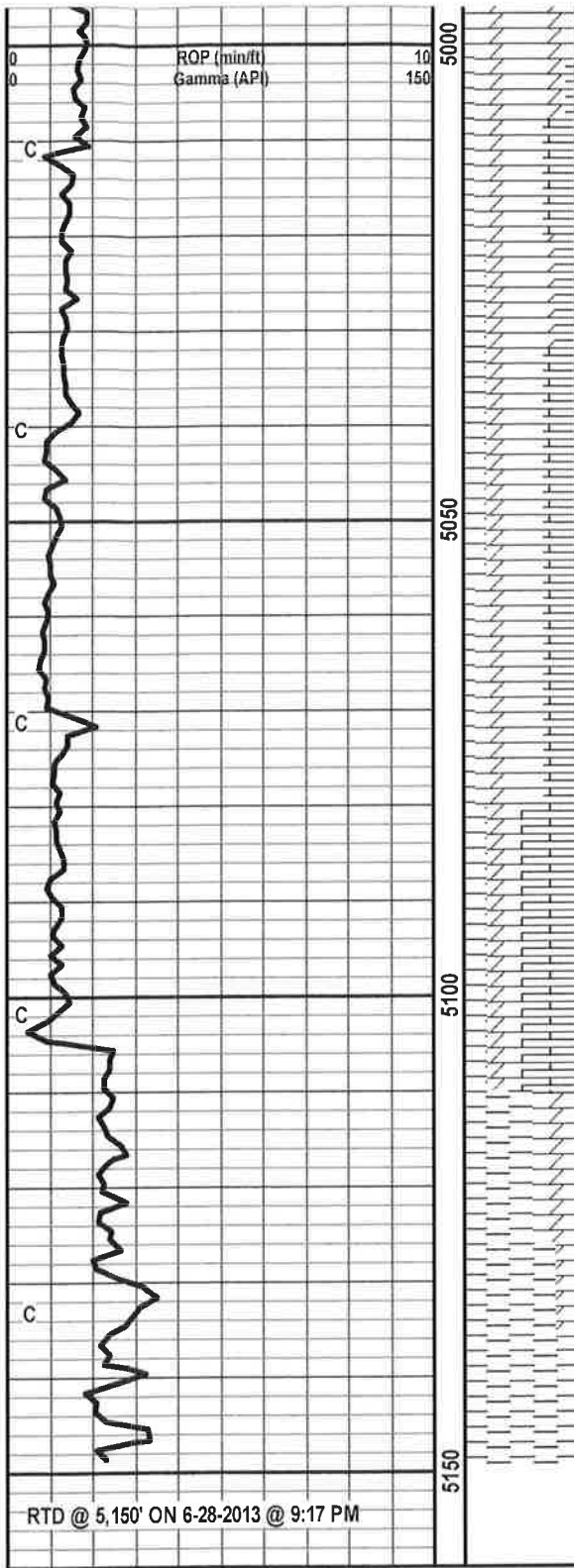
SH: LT GRN-DRK GRN, FRM-HRD,
FN, GLAU'C, SM/MICA MIXED W/LS:
LT GRN-GRN, MCRO XLN-FN, HRD,
GLAU'C, DOLO'C, GLAU'C SPKS,
FRAC W/SM PP POR, V/DLL FLU, NO
VIS STN, CUT, OR ODOR

DOLO: LT GRN, V/FN, HRD, GLAU'C
SPKS, GLAU'C, PP POR, NO VIS
STN, CUT, OR ODOR

DOLO: LT GRY-GRY W/SM LT GRN,
V/FN-FN, HRD, PP POR, NO FLU,
CUT, OR ODOR

DOLO: LT GRY-GRY, V/FN-FN, HRD,
PP POR, NO FLU, CUT, OR ODOR





DOLO: OFF WHT-LT GRY-GRY,
FN-MED, FRM-HRD W/TR SFT, ARG,
GD PP POR, DLL FLU, NO VIS STN,
CUT, OR ODOR

DOLO: OFF WHT-LT GRY W/TR BFF,
BRTL-HRD, IMBD MICA, PP POR, NO
FLU, NO VIS STN, CUT, OR ODOR

DOLO: AAB

LS: WHT-LT GRN-LT GRY, MCRO
XLN-FN-CHKY, SFT-HRD, GLAU'C,
ARG, PP-FRAC POR, TR WHT FLU,
NO VIS STN, CUT, OR ODOR

SH: LT GRY-GRY-LT GRN, FN, HRD,
CALC, DOLO'C

SH: LT GRY-GRY-LT GRN, FN,
SFT-FRM, CALC, IMBD PYR

SHORT TRIP TO 4,791'
CIRC 1 1/2 HRS
FOR E-LOGS

TOH

