

**UNIVERSITAT DE BARCELONA**

**DEPARTAMENT DE CIENCIAS**

**MORFOLÓGIQUES I**

**ODONTO-ESTOMATOLOGIA**

**TESIS DOCTORAL**

**"ESTUDIO RUGOSIMÉTRICO DE LA  
SUPERFICIE DE LA CERÁMICA  
FELDESPÁTICA UTILIZADA EN LA  
ELABORACIÓN DE RESTAURACIONES  
CERAMO-METÁLICAS"**

**PRESENTADA POR EL LICENCIADO EN**

**MEDICINA Y CIRUGÍA:**

**JOSÉ MARÍA ANGLADA CANTARELL**

**DIRECTORES:**

**PROF. F. J. GASCÓN MAYORDOMO (E.P.D.)**

**PROF. J. SALSENCH CABRÉ**

**BARCELONA JUNIO 1992**



*J. Anglada Cantarell*

PERTHOMETER M4P  
 DAT.  
 OBJ. IPA 5a  
 #  
 LT 4.8 MM  
 RA 1.73 UM  
 RZ 8.19 UM  
 RMAX 11.76 UM  
 RPM 4.17 UM  
 PC<1.3> 022 /CM

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 RPM 4.30 UM  
 PC<1.3> 017 /CM

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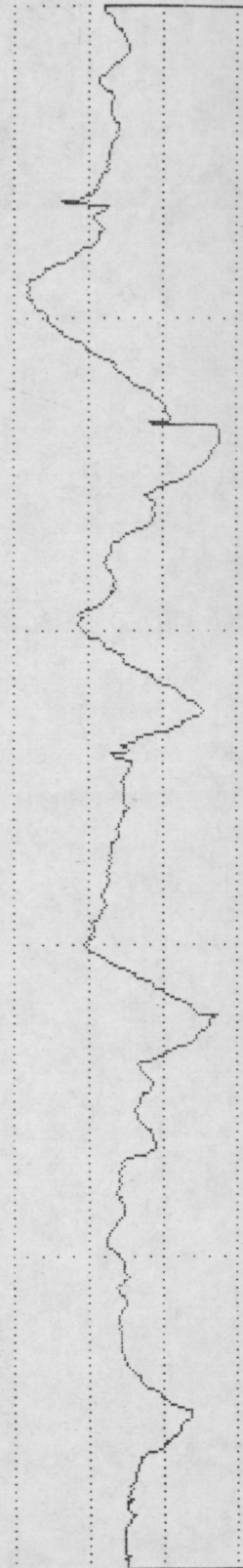
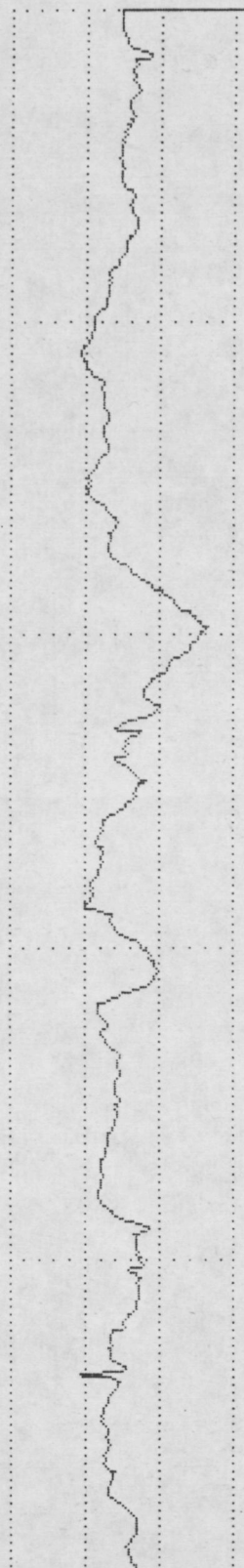
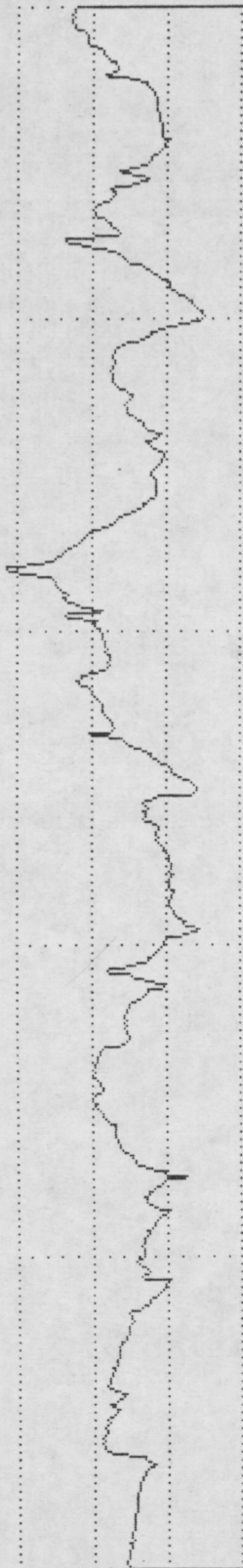
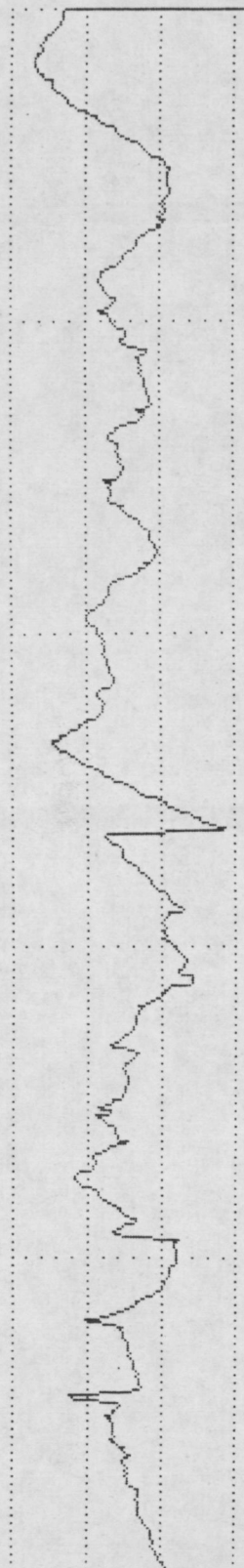
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VER 5 UM  
 HOR LC .80 MM

VER 5 UM  
 HOR LC .80 MM

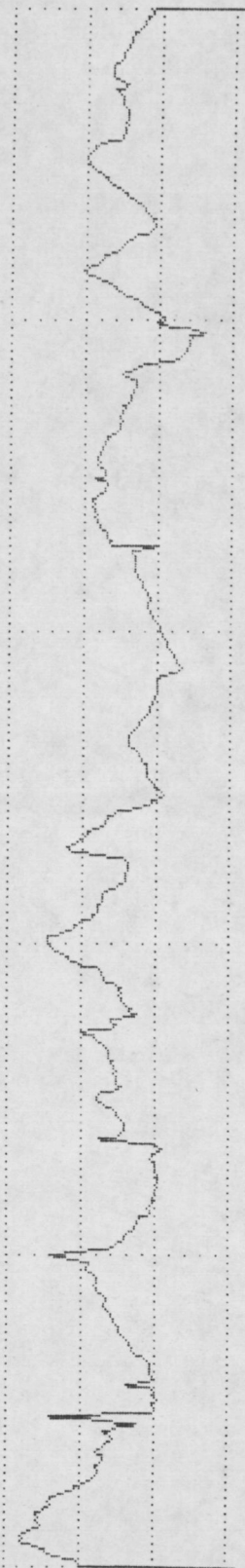
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 HOR LC .80 MM

VER 5 UM  
 HOR LC .80 MM



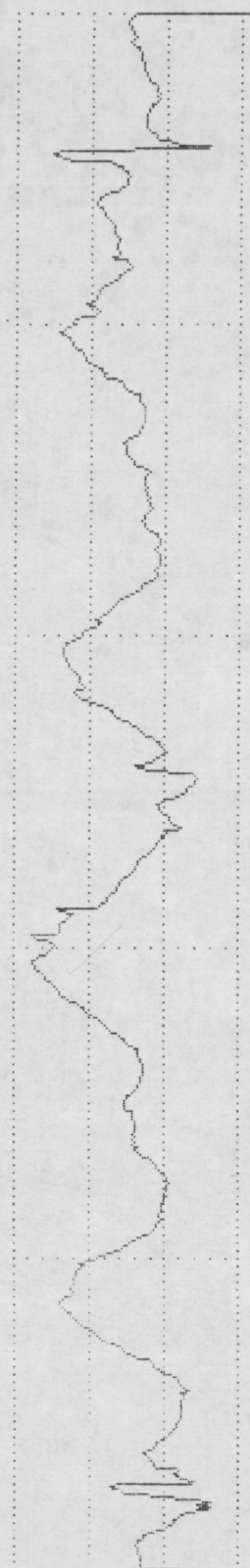
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VER 5 UM  
HOR LC .80 MM



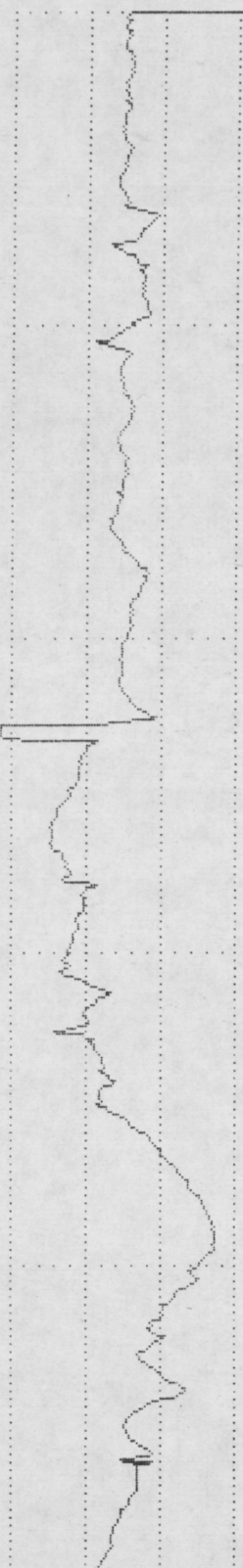
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VER 5 UM  
HOR LC .80 MM



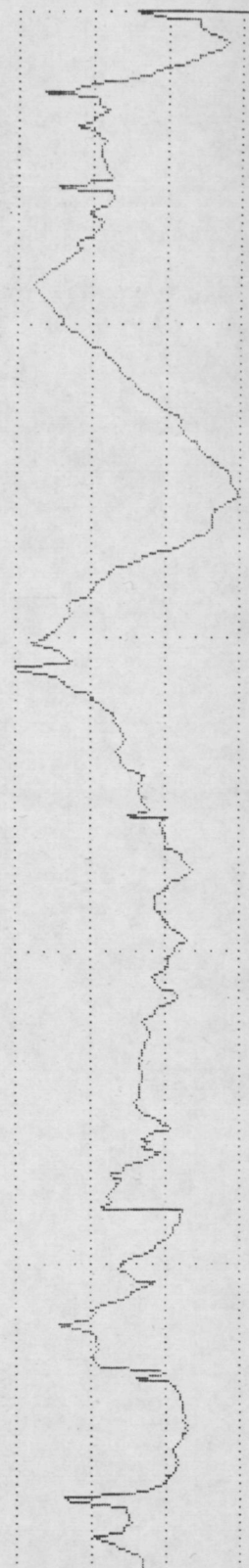
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HOR LC .80 MM



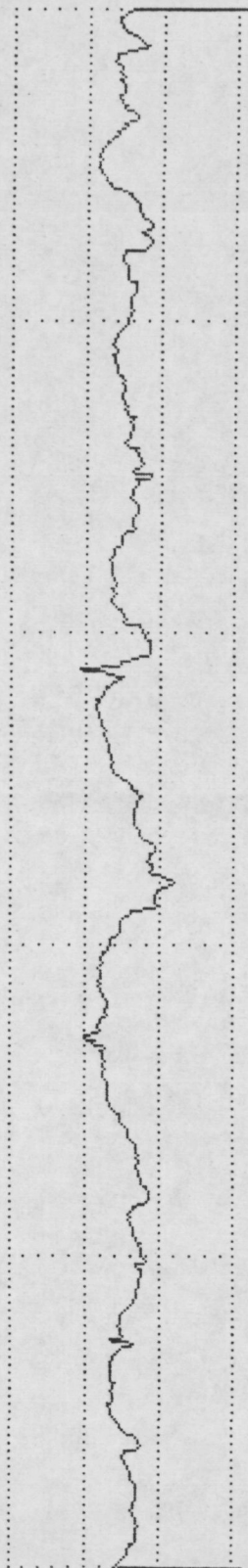
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RPM 5.24 UM  
PC<1.3> 015 /CM

VER 5 UM  
HOR LC .80 MM



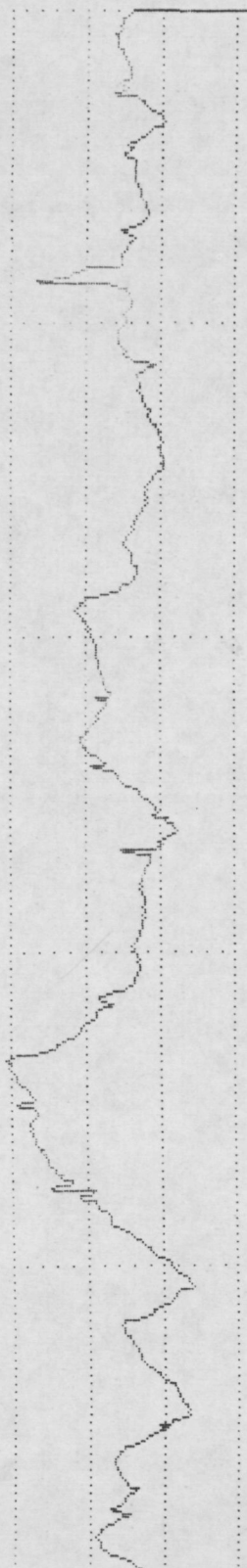
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OBJ. IPA 7c  
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RPM 1.84 UM  
PC<1.3> 015 /CM

VER 5 UM  
HOR LC .80 MM



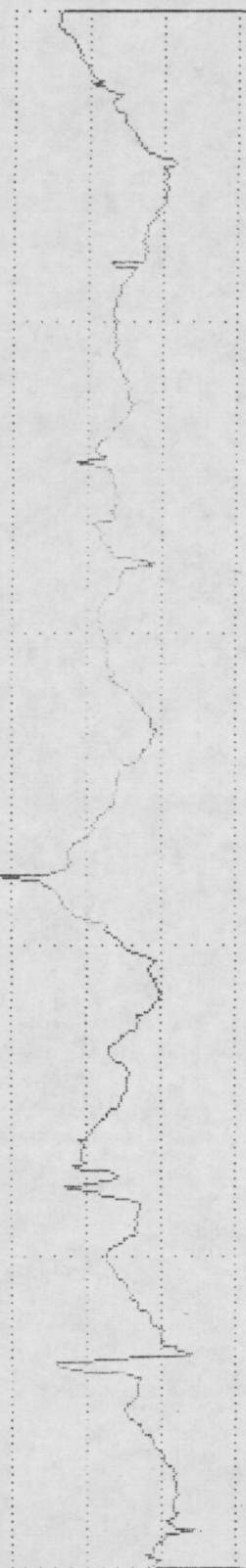
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PC<1.3> 012 /CM

VER 5 UM  
HOR LC .80 MM



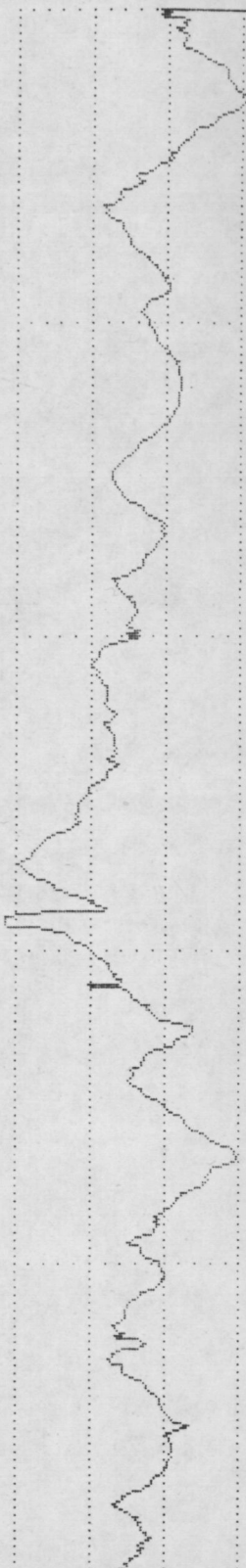
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PC<1.3> 017 /CM

VER 5 UM  
HOR LC .80 MM



PERTHOMETER M4P  
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OBJ. IPA 8c  
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LT 4.8 MM  
RA 2.38 UM  
RZ 9.66 UM  
RMAX 17.60 UM  
RPM 4.80 UM  
PC<1.3> 020 /CM

VER 5 UM  
HOR LC .80 MM





PERTHOMETER M4P  
DAT.  
OBJ. IPA 9a  
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LT 4.8 MM  
RA 2.35 UM  
RZ 10.20 UM  
RMAX 12.80 UM  
RPM 5.98 UM  
PC<1.3> 015 /CM

PERTHOMETER M4P  
DAT.  
OBJ. IPA 9b  
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LT 4.8 MM  
RA 1.83 UM  
RZ 6.97 UM  
RMAX 9.36 UM  
RPM 3.04 UM  
PC<1.3> 012 /CM

PERTHOMETER M4P  
DAT.  
OBJ. IPA 9c  
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PC<1.3> 017 /CM

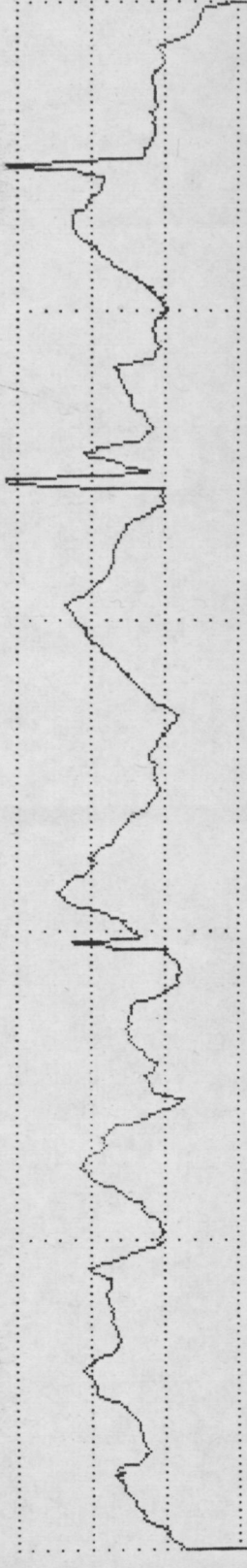
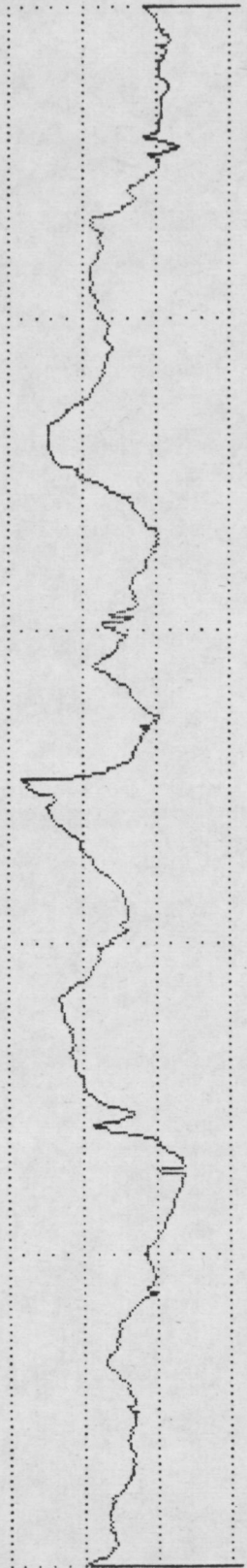
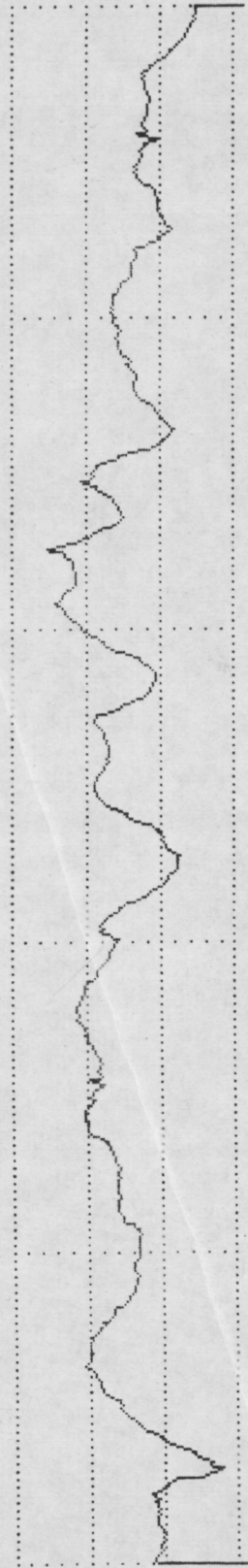
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RA 1.81 UM  
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RPM 6.17 UM  
PC<1.3> 025 /CM

VER 5 UM  
HOR LC .80 MM

VER 5 UM  
HOR LC .80 MM

VER 5 UM  
HOR LC .80 MM

VER 5 UM  
HOR LC .80 MM



PERTHOMETER M4P  
 DAT.  
 OBJ. IPA 10b  
 #  
 LT 4.8 MM  
 RA 2.11 UM  
 RZ 11.15 UM  
 RMAX 13.92 UM  
 RPM 4.94 UM  
 PC<1.3> 020 /CM

PERTHOMETER M4P  
 DAT.  
 OBJ. IPA 10c  
 #  
 LT 4.8 MM  
 RA 1.14 UM  
 RZ 7.69 UM  
 RMAX 9.12 UM  
 RPM 3.92 UM  
 PC<1.3> 022 /CM

PERTHOMETER M4P  
 DAT.  
 OBJ. IPA 11a  
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 PC<1.3> 025 /CM

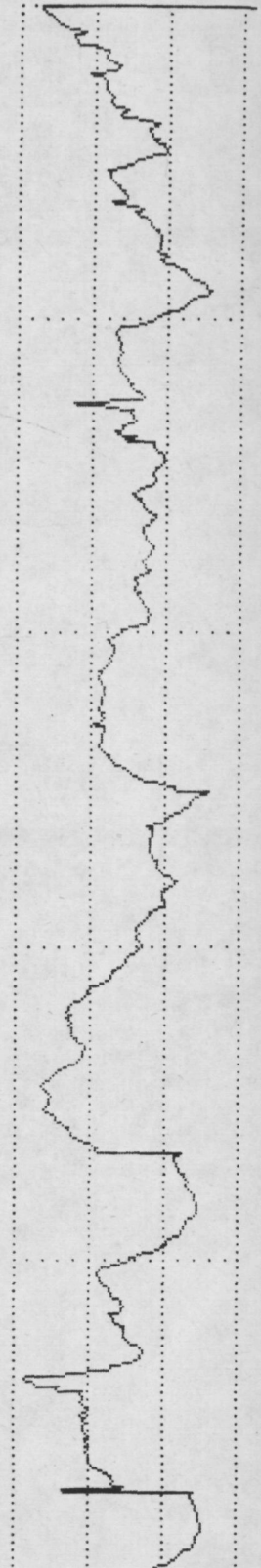
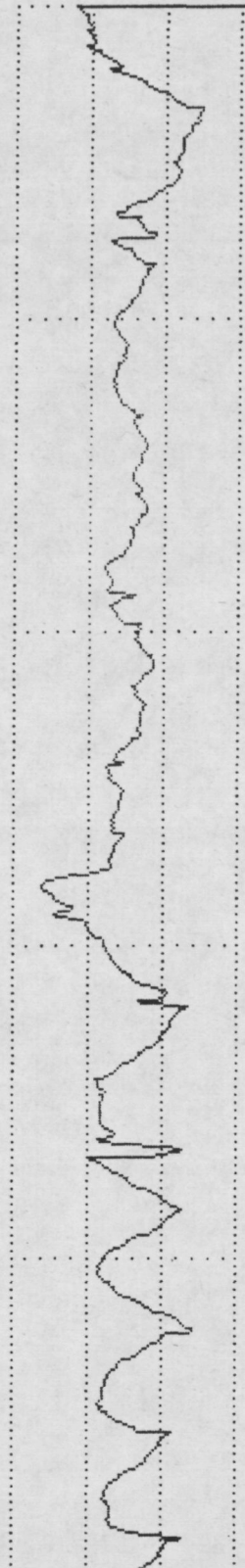
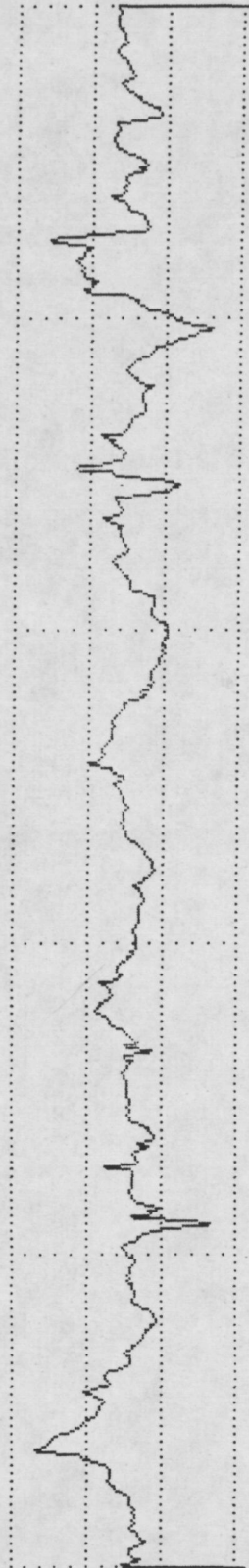
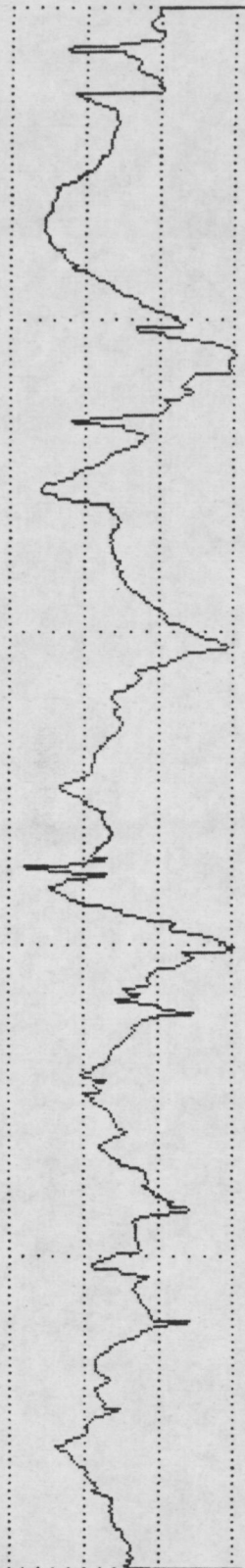
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 RPM 5.08 UM  
 PC<1.3> 017 /CM

VER 5 UM  
 HOR LC .80 MM

VER 5 UM  
 HOR LC .80 MM

VER 5 UM  
 HOR LC .80 MM

VER 5 UM  
 HOR LC .80 MM



PERTHOMETER M4P  
DAT.  
OBJ. IPA Mc  
#  
LT 4.8 MM  
RA 1.37 UM  
RZ 4.95 UM  
RMAX 7.76 UM  
RPM 2.32 UM  
PC<1.3> 015 /CM

PERTHOMETER M4P  
DAT.  
OBJ. IPA 12a  
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LT 4.8 MM  
RA 1.87 UM  
RZ 8.09 UM  
RMAX 13.12 UM  
RPM 3.42 UM  
PC<1.3> 017 /CM

PERTHOMETER M4P  
DAT.  
OBJ. IPA 12b  
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PC<1.3> 015 /CM

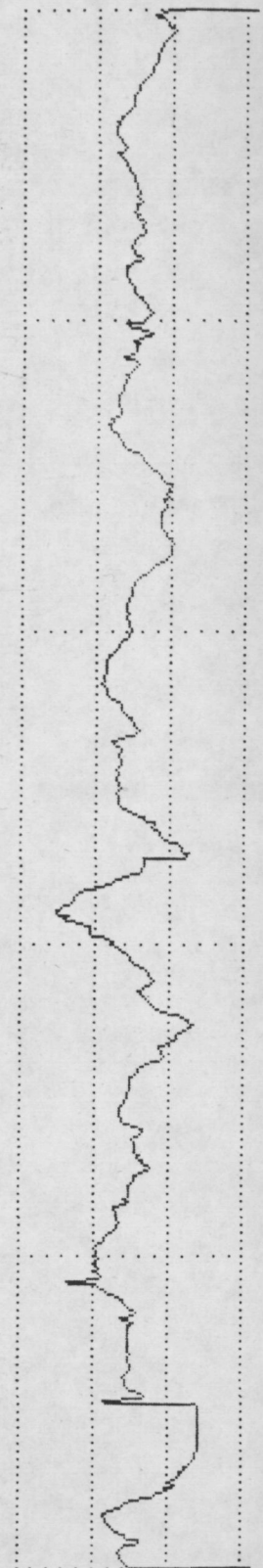
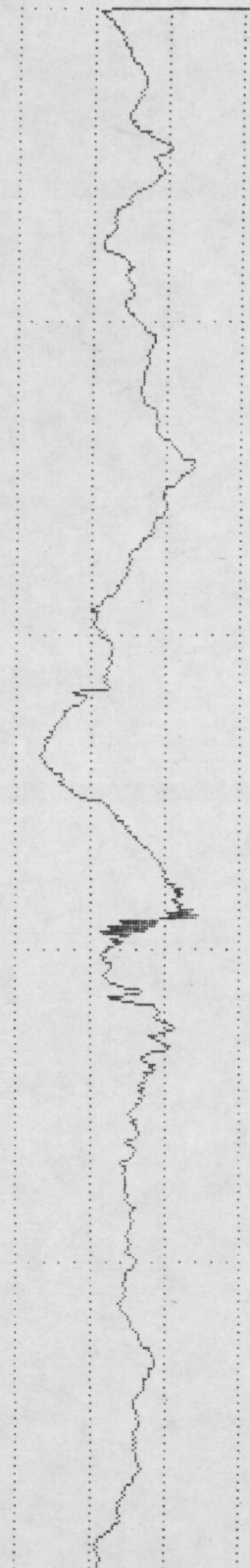
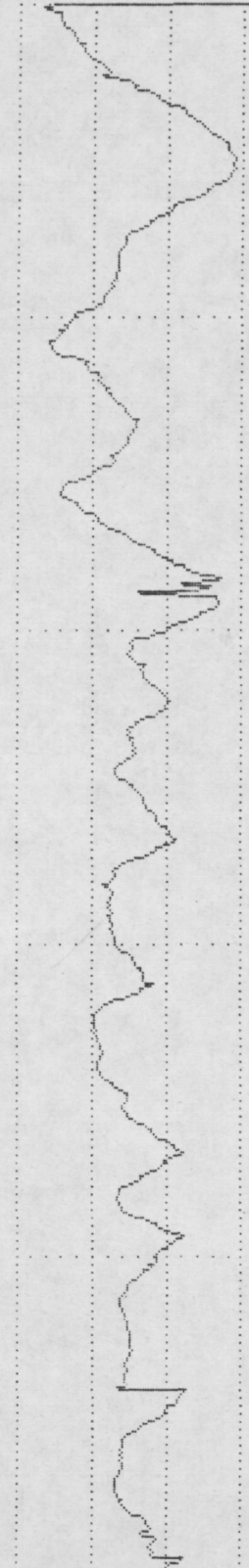
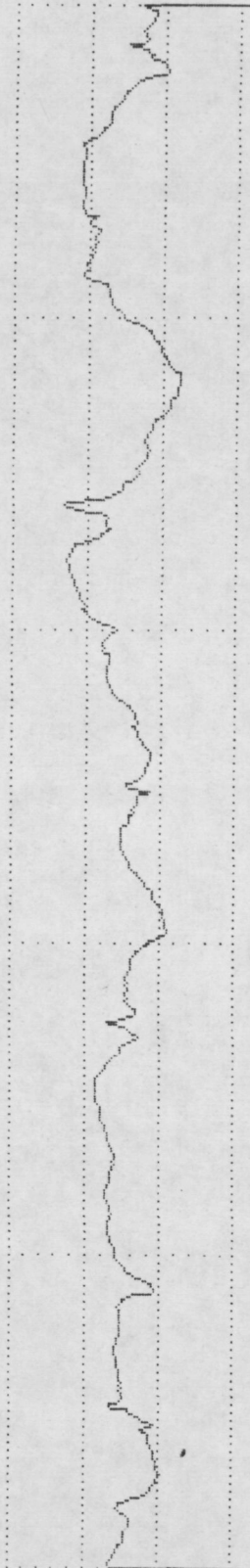
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RZ 6.57 UM  
RMAX 9.04 UM  
RPM 3.05 UM  
PC<1.3> 022 /CM

VER 5 UM  
HOR LC .80 MM

VER 5 UM  
HOR LC .80 MM

VER 5 UM  
HOR LC .80 MM

VER 5 UM  
HOR LC .80 MM





PERTHOMETER M4P  
DAT.  
OBJ. IPA 13a  
#  
LT 4.8 MM  
RA 1.86 UM  
RZ 9.40 UM  
RMAX 12.64 UM  
RPM 4.22 UM  
PC<1.3> 022 /CM

PERTHOMETER M4P  
DAT.  
OBJ. IPA 13b  
#  
LT 4.8 MM  
RA 2.23 UM  
RZ 9.15 UM  
RMAX 13.28 UM  
RPM 3.80 UM  
PC<1.3> 020 /CM

PERTHOMETER M4P  
DAT.  
OBJ. IPA 13c  
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RMAX 13.60 UM  
RPM 5.32 UM  
PC<1.3> 022 /CM

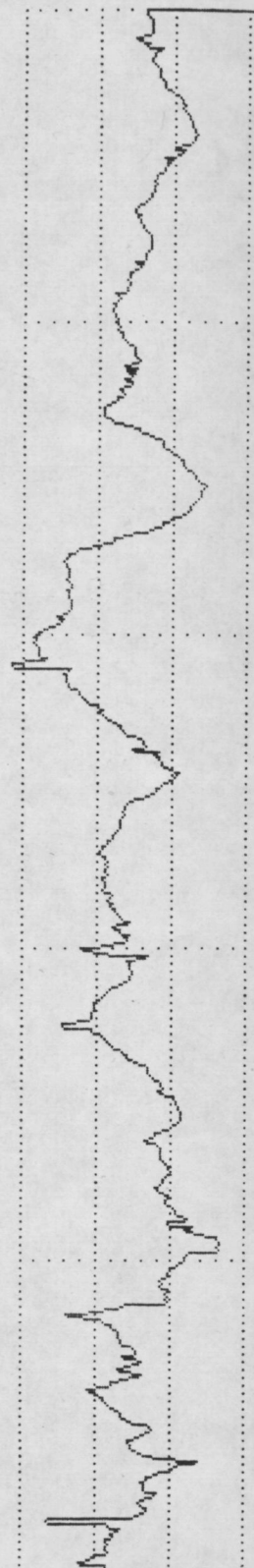
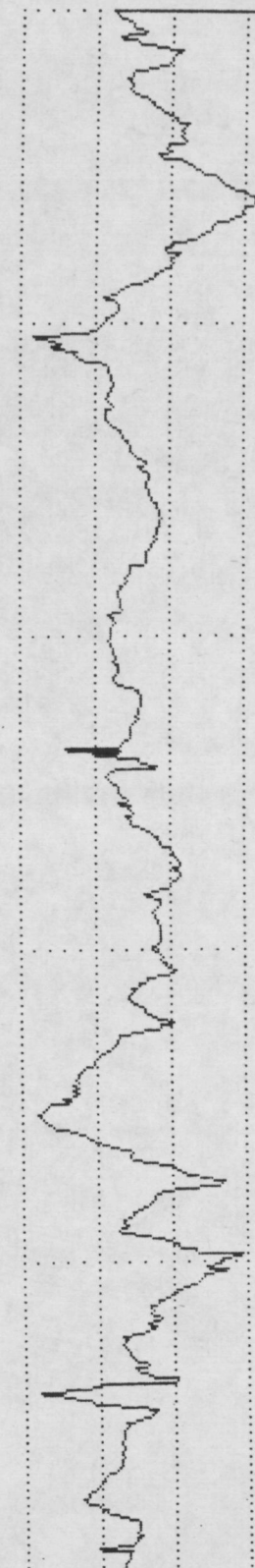
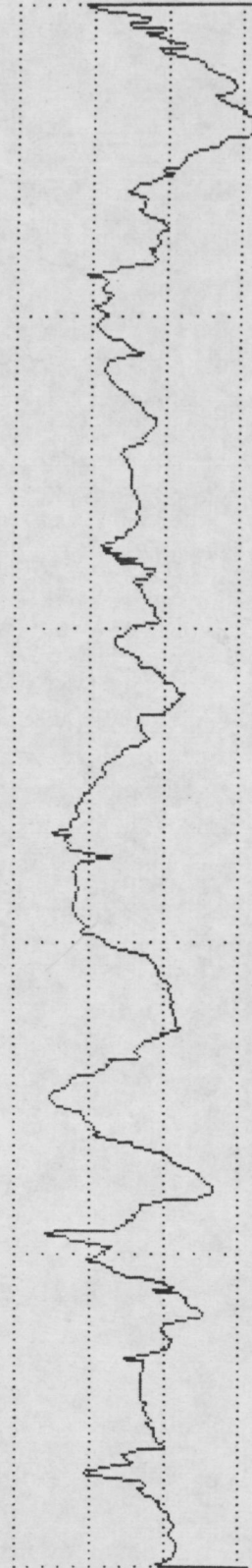
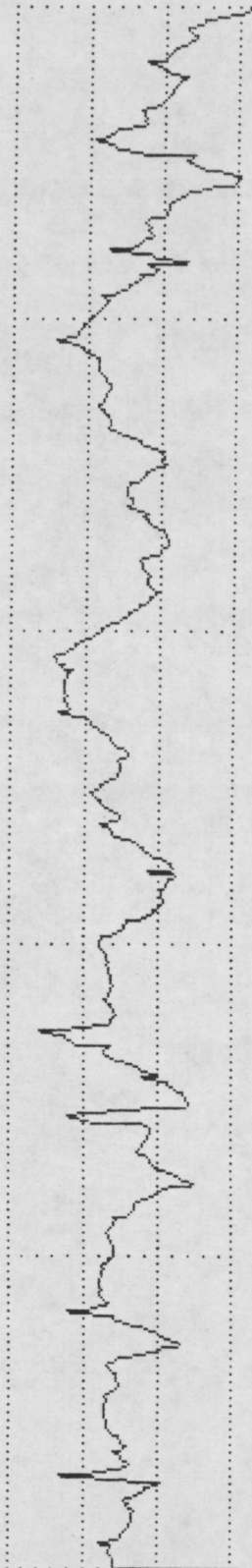
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OBJ. IPA 14a  
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RZ 9.90 UM  
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RPM 5.56 UM  
PC<1.3> 015 /CM

VER 5 UM  
HOR LC .80 MM

VER 5 UM  
HOR LC .80 MM

VER 5 UM  
HOR LC .80 MM

VER 5 UM  
HOR LC .80 MM





PERTHOMETER M4P  
 DAT.  
 OBJ. IPA 146  
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 LT 4.8 MM  
 RA 1.31 UM  
 RZ 6.14 UM  
 RMAX 8.40 UM  
 RPM 3.08 UM  
 PC<1.3> 017 /CM

PERTHOMETER M4P  
 DAT.  
 OBJ. IPA 14C  
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 LT 4.8 MM  
 RA 0.58 UM  
 RZ 3.20 UM  
 RMAX 5.40 UM  
 RPM 1.59 UM  
 PC<1.3> 012 /CM

PERTHOMETER M4P  
 DAT.  
 OBJ. IPA 15a  
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 PC<1.3> 015 /CM

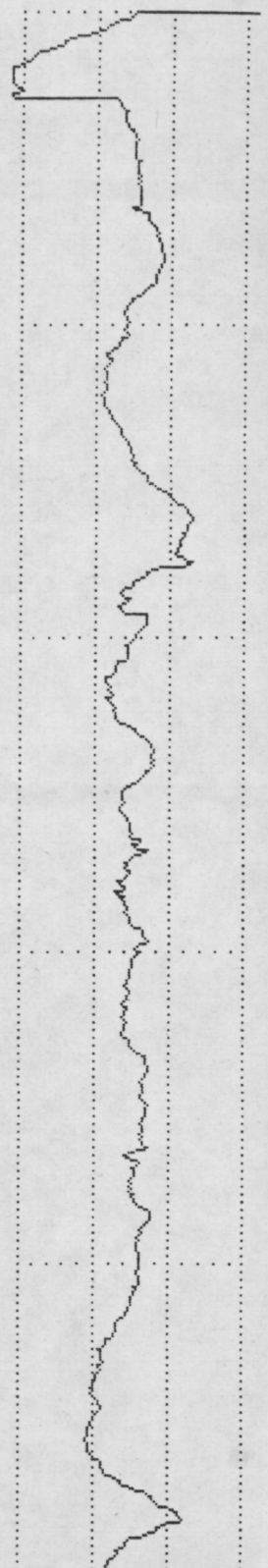
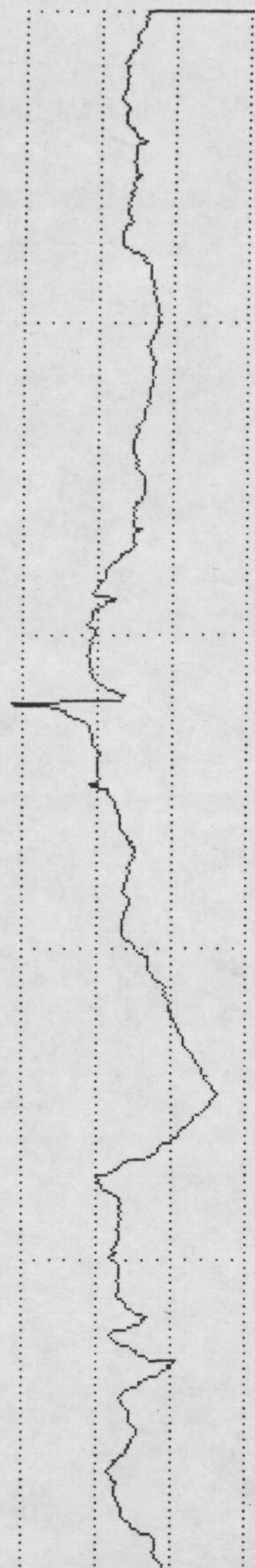
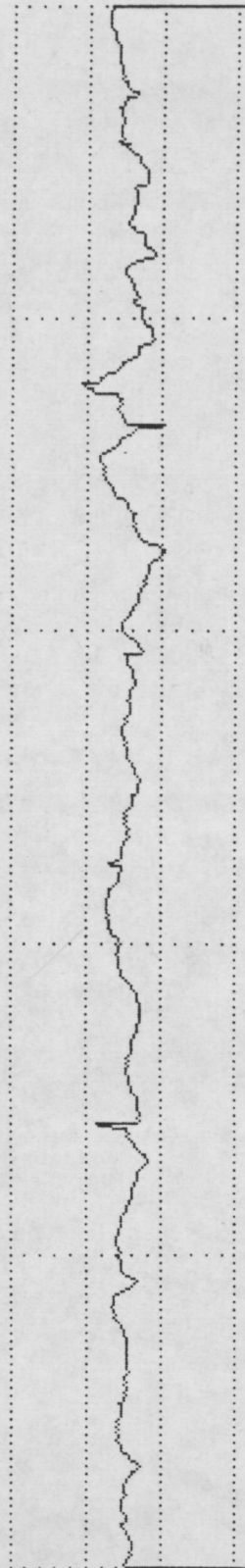
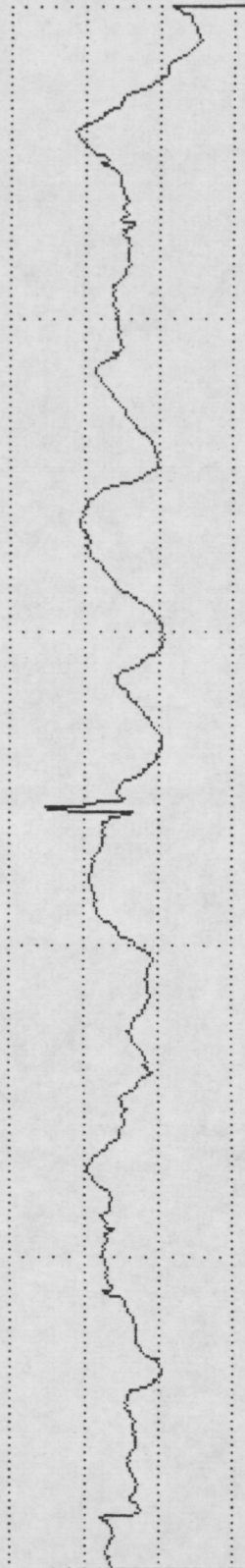
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 PC<1.3> 020 /CM

VER 5 UM  
 HOR LC .80 MM

VER 5 UM  
 HOR LC .80 MM

VER 5 UM  
 HOR LC .80 MM

VER 5 UM  
 HOR LC .80 MM



PERTHOMETER M4P  
DAT.  
OBJ. IPA 15c  
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LT 4.8 MM  
RA 1.83 UM  
RZ 9.88 UM  
RMAX 12.56 UM  
RPM 5.66 UM  
PC<1.3> 017 /CM

PERTHOMETER M4P  
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OBJ. IPA 16a  
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LT 4.8 MM  
RA 2.58 UM  
RZ 9.21 UM  
RMAX 16.16 UM  
RPM 4.76 UM  
PC<1.3> 015 /CM

PERTHOMETER M4P  
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OBJ. IPA 16b  
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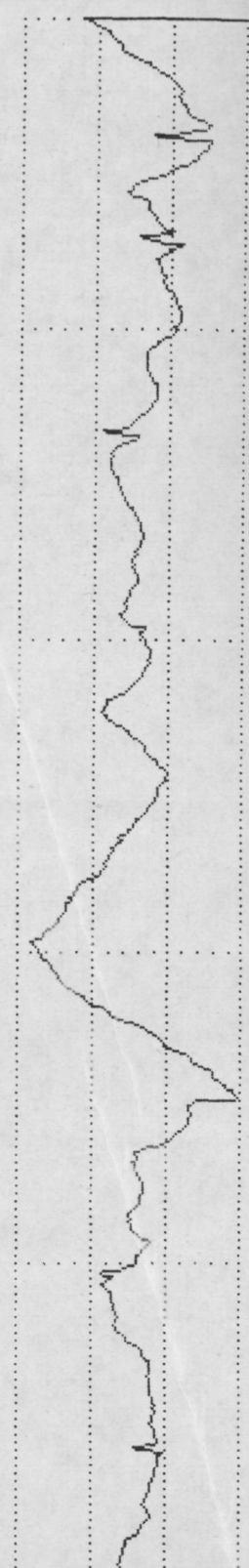
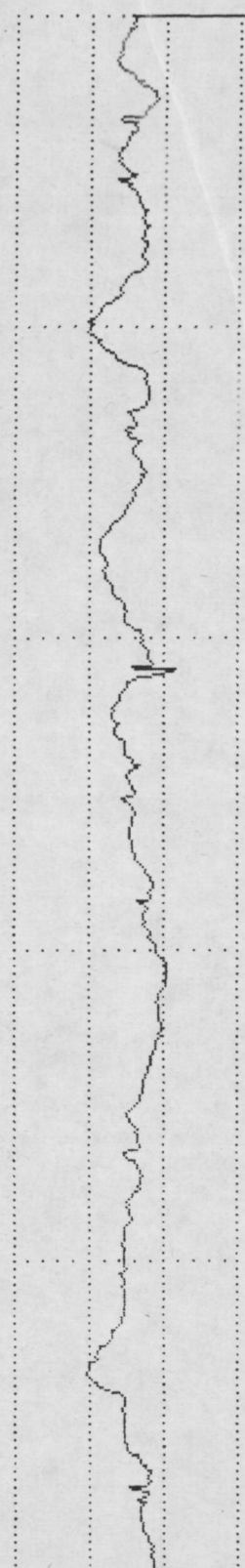
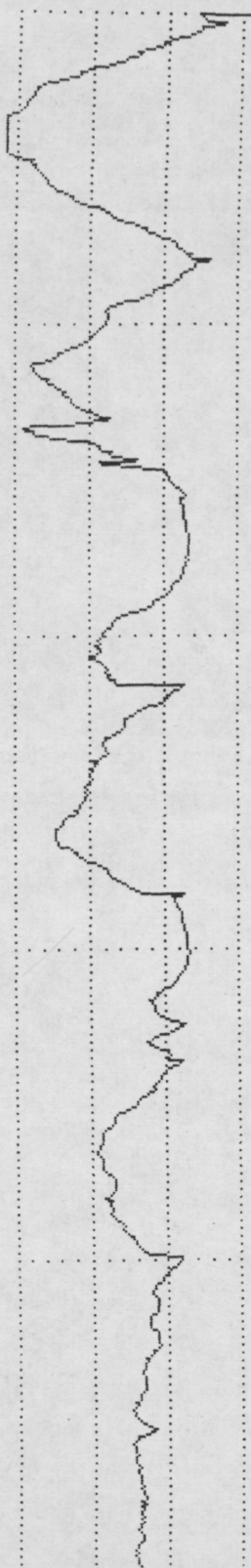
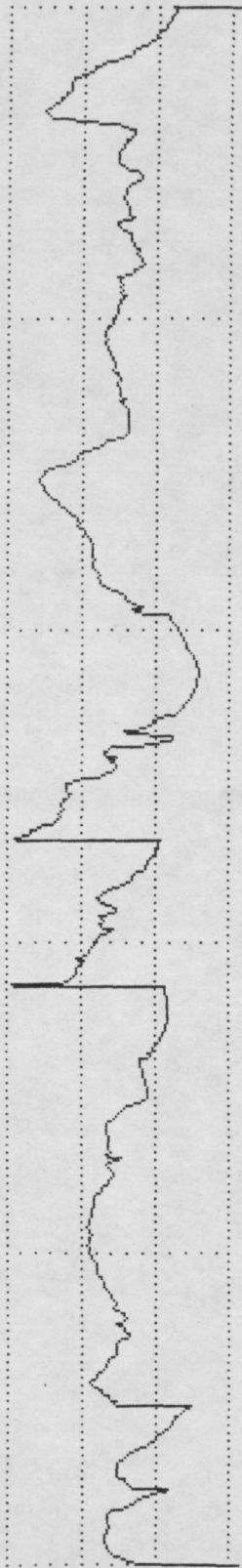
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PC<1.3> 015 /CM

VER 5 UM  
HOR LC .80 MM

VER 5 UM  
HOR LC .80 MM

VER 5 UM  
HOR LC .80 MM

VER 5 UM  
HOR LC .80 MM



PERTHOMETER M4P  
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 OBJ. IPA 17a  
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 RZ 7.61 UM  
 RMAX 10.88 UM  
 RPM 4.52 UM  
 PC<1.3> 015 /CM

PERTHOMETER M4P  
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 OBJ. IPA 17b  
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 RA 1.66 UM  
 RZ 6.97 UM  
 RMAX 10.40 UM  
 RPM 3.37 UM  
 PC<1.3> 010 /CM

PERTHOMETER M4P  
 DAT.  
 OBJ. IPA 17c  
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 RZ 9.66 UM  
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 RPM 6.20 UM  
 PC<1.3> 015 /CM

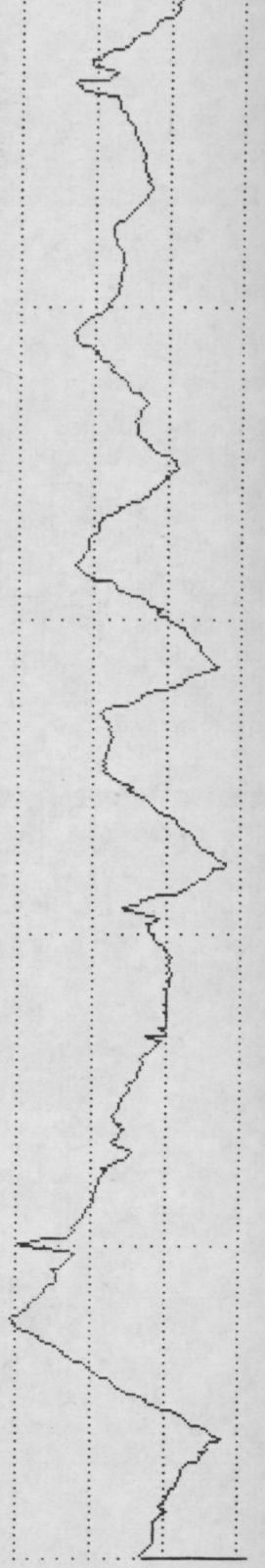
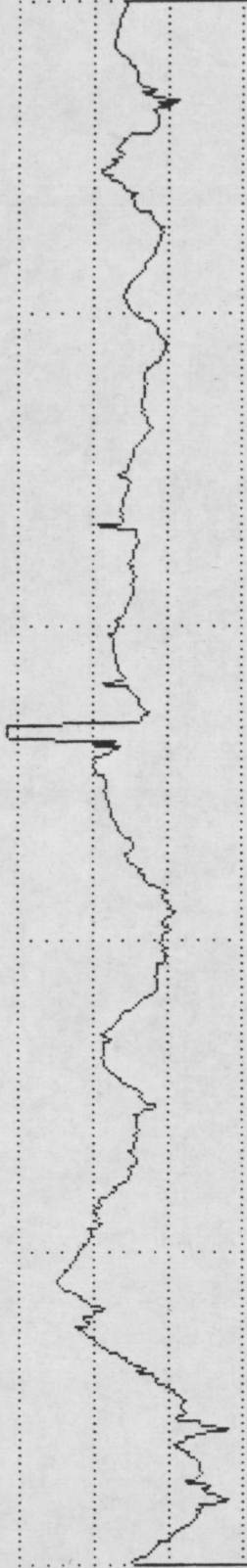
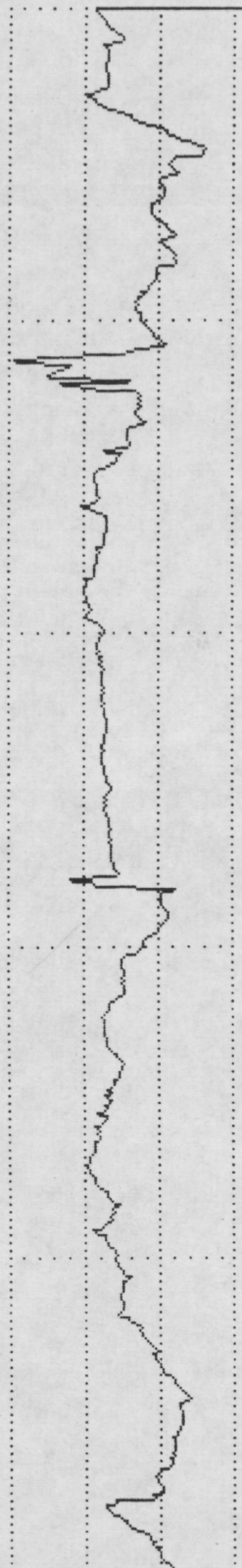
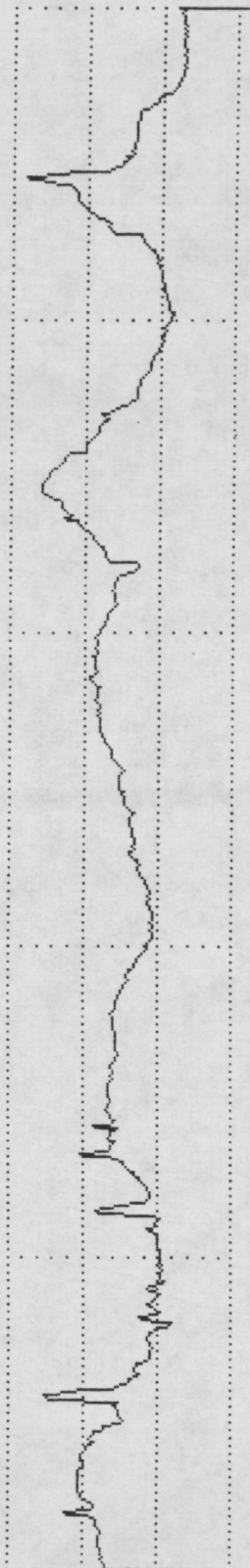
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 RMAX 14.32 UM  
 RPM 5.10 UM  
 PC<1.3> 012 /CM

VER 5 UM  
 HOR LC .80 MM

VER 5 UM  
 HOR LC .80 MM

VER 5 UM  
 HOR LC .80 MM

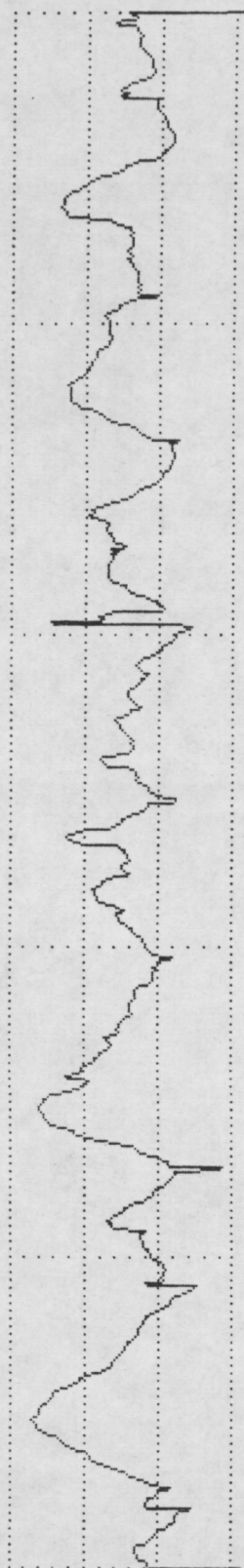
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 HOR LC .80 MM





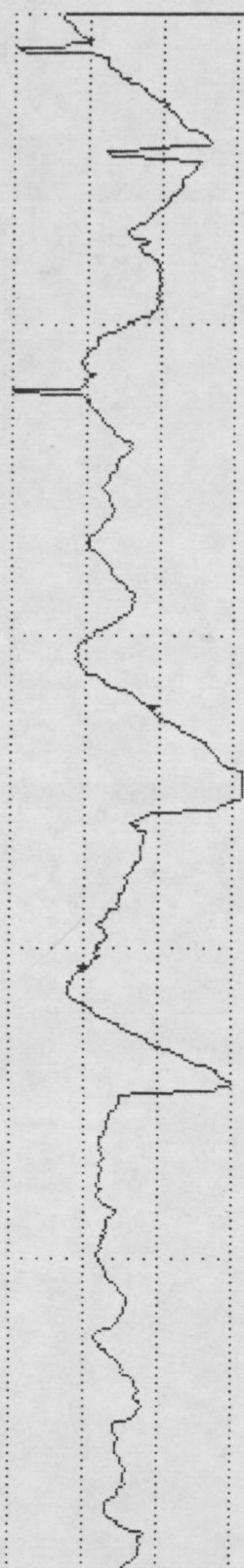
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VER 5 UM  
HOR LC .80 MM



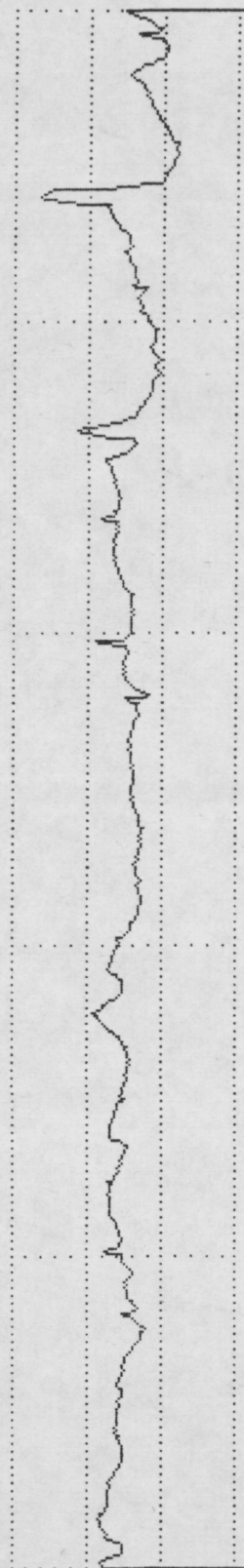
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OBJ. IPA 18c  
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RPM 4.78 UM  
PC<1.3> 015 /CM

VER 5 UM  
HOR LC .80 MM



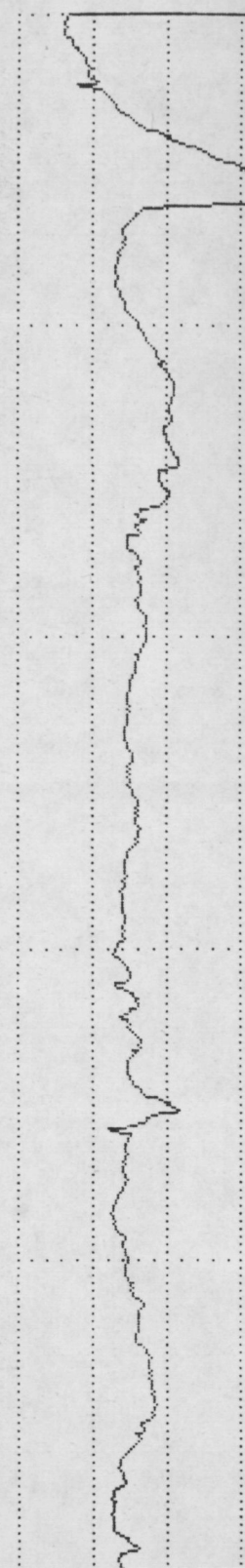
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OBJ. IPA 19a  
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RMAX 9.44 UM  
RPM 3.07 UM  
PC<1.3> 010 /CM

VER 5 UM  
HOR LC .80 MM



PERTHOMETER M4P  
DAT.  
OBJ. IPA 19b  
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RMAX 14.72 UM  
RPM 1.72 UM  
PC<1.3> 010 /CM

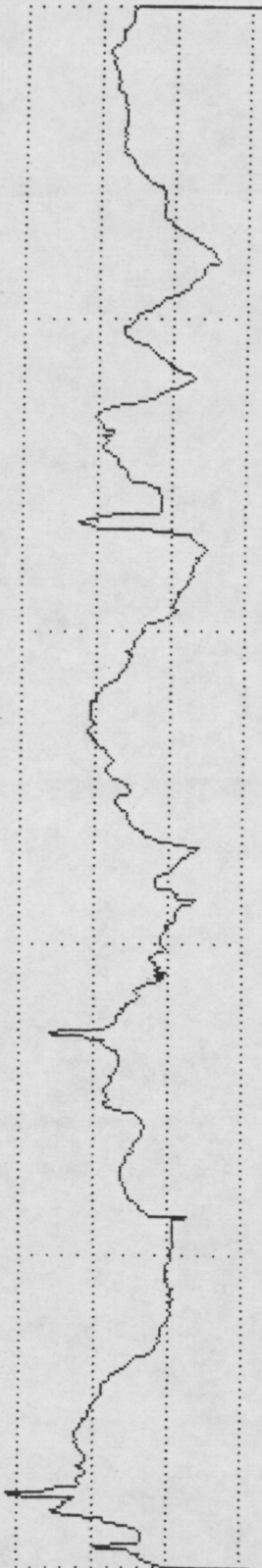
VER 5 UM  
HOR LC .80 MM





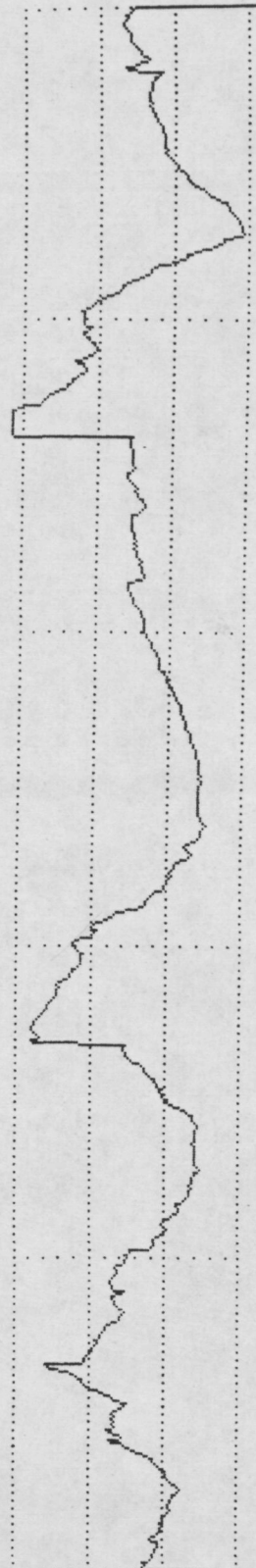
PERTHOMETER M4P  
DAT.  
OBJ. JPA 19c  
#  
LT 4.8 MM  
RA 1.93 UM  
RZ 8.97 UM  
RMAX 11.84 UM  
RPM 4.75 UM  
PC<1.3> 020 /CM

VER 5 UM  
HOR LC .80 MM



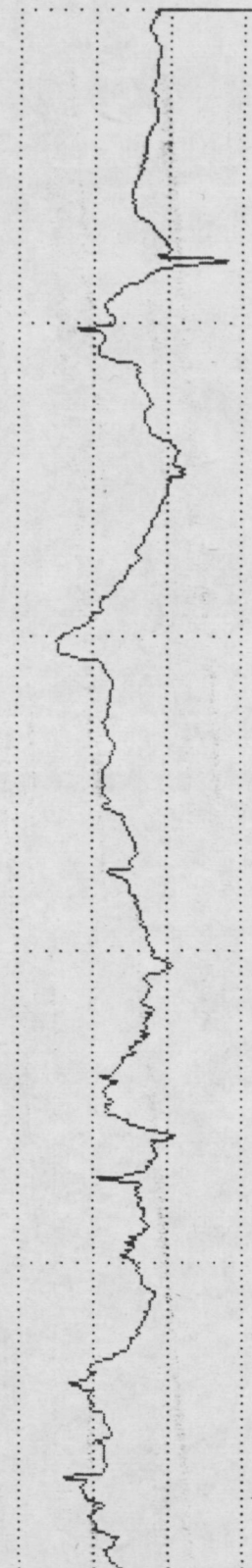
PERTHOMETER M4P  
DAT.  
OBJ. JPA 20a  
#  
LT 4.8 MM  
RA 2.59 UM  
RZ 10.17 UM  
RMAX 11.36 UM  
RPM 5.95 UM  
PC<1.3> 010 /CM

VER 5 UM  
HOR LC .80 MM



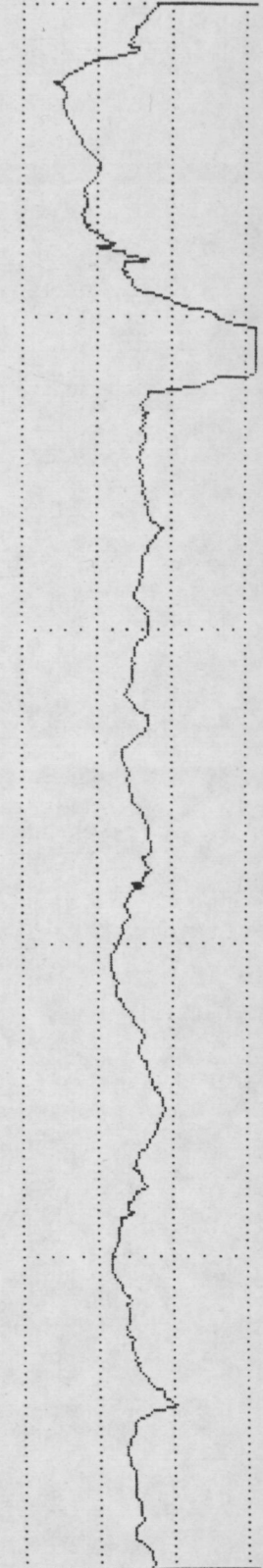
PERTHOMETER M4P  
DAT.  
OBJ. JPA 20b  
#  
LT 4.8 MM  
RA 1.40 UM  
RZ 6.72 UM  
RMAX 8.24 UM  
RPM 3.58 UM  
PC<1.3> 015 /CM

VER 5 UM  
HOR LC .80 MM



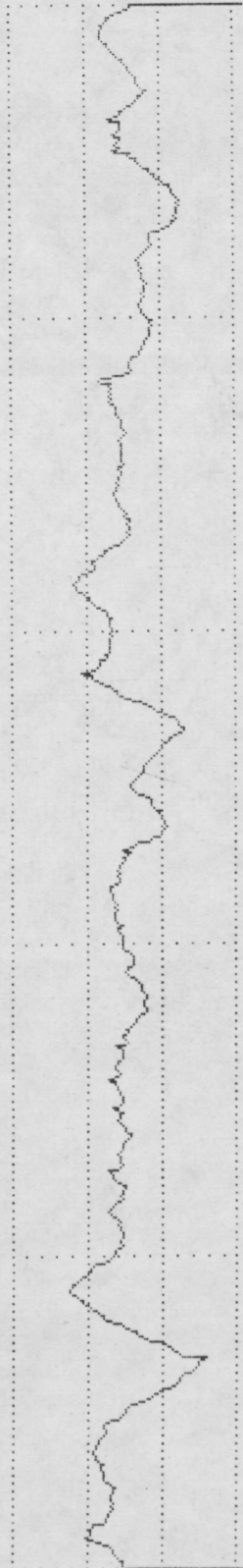
PERTHOMETER M4P  
DAT.  
OBJ. JPA 20c  
#  
LT 4.8 MM  
RA 1.47 UM  
RZ 7.07 UM  
RMAX 14.08 UM  
RPM 2.04 UM  
PC<1.3> 015 /CM

VER 5 UM  
HOR LC .80 MM



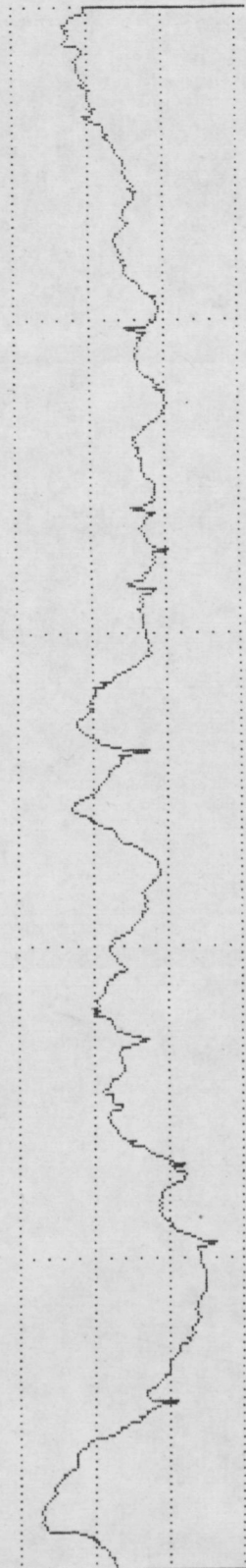
PERTHOMETER M4P  
DAT.  
OBJ. VIA 1a  
#  
LT 4.8 MM  
RA 1.23 UM  
RZ 5.95 UM  
RMAX 9.28 UM  
RPM 2.62 UM  
PC<1.3> 015 /CM

VER 5 UM  
HOR LC .80 MM



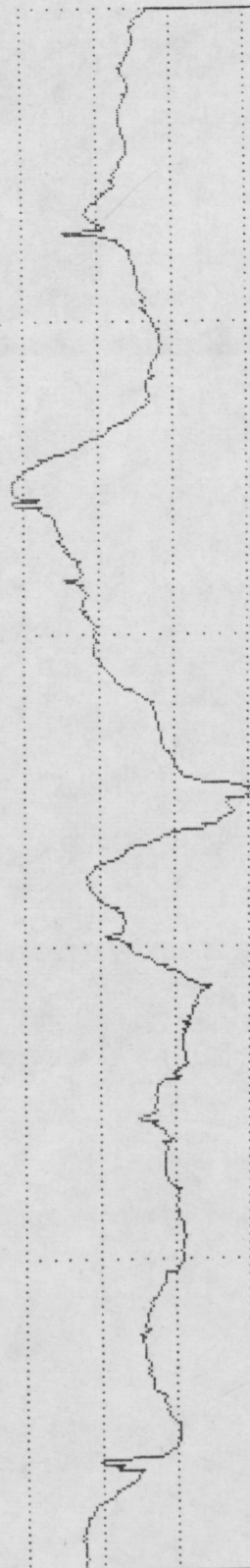
PERTHOMETER M4P  
DAT.  
OBJ. VIA 1b  
#  
LT 4.8 MM  
RA 1.94 UM  
RZ 6.88 UM  
RMAX 11.12 UM  
RPM 3.50 UM  
PC<1.3> 012 /CM

VER 5 UM  
HOR LC .80 MM



PERTHOMETER M4P  
DAT.  
OBJ. VIA 1c  
#  
LT 4.8 MM  
RA 2.26 UM  
RZ 8.41 UM  
RMAX 12.64 UM  
RPM 4.70 UM  
PC<1.3> 010 /CM

VER 5 UM  
HOR LC .80 MM



PERTHOMETER M4P  
DAT.  
OBJ. VIA 2a  
#  
LT 4.8 MM  
RA 1.97 UM  
RZ 6.64 UM  
RMAX 9.04 UM  
RPM 4.33 UM  
PC<1.3> 010 /CM

VER 5 UM  
HOR LC .80 MM

