C-105 P/Wind Tunnel/51

C.A.L. WIND TUNNEL TESTS

(OCTOBER 1954)

DERIVATIVES

COMPARISONS AND EXTRAPOLATIONS

Dec. 1954

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TO

DATE

Report no.: QCX-AVRO-CF105- ℓ-WT-51

has been ☐ downgraded to :

☒ de-classified

by (Name): Michel W. Drapeau

(Dept.): A/DND Coordinator, Access to Information

Date: Dec. 7, 1992

R. Auger
Signature

A. V ROE CANADA LIMITED
MALTON - ONTARIO

TECHNICAL DEPARTMENT (Aircraft)

AIRCRAFT: C-105

REPORT NO P/Wind Tunnel/51

FILE NO

NO OF SHEETS

TITLE:

C.A.L. WIND TUNNEL TESTS

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PREPARED BY DATE Dec. 1954

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SUPERVISED BY DATE

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FORM 1316A

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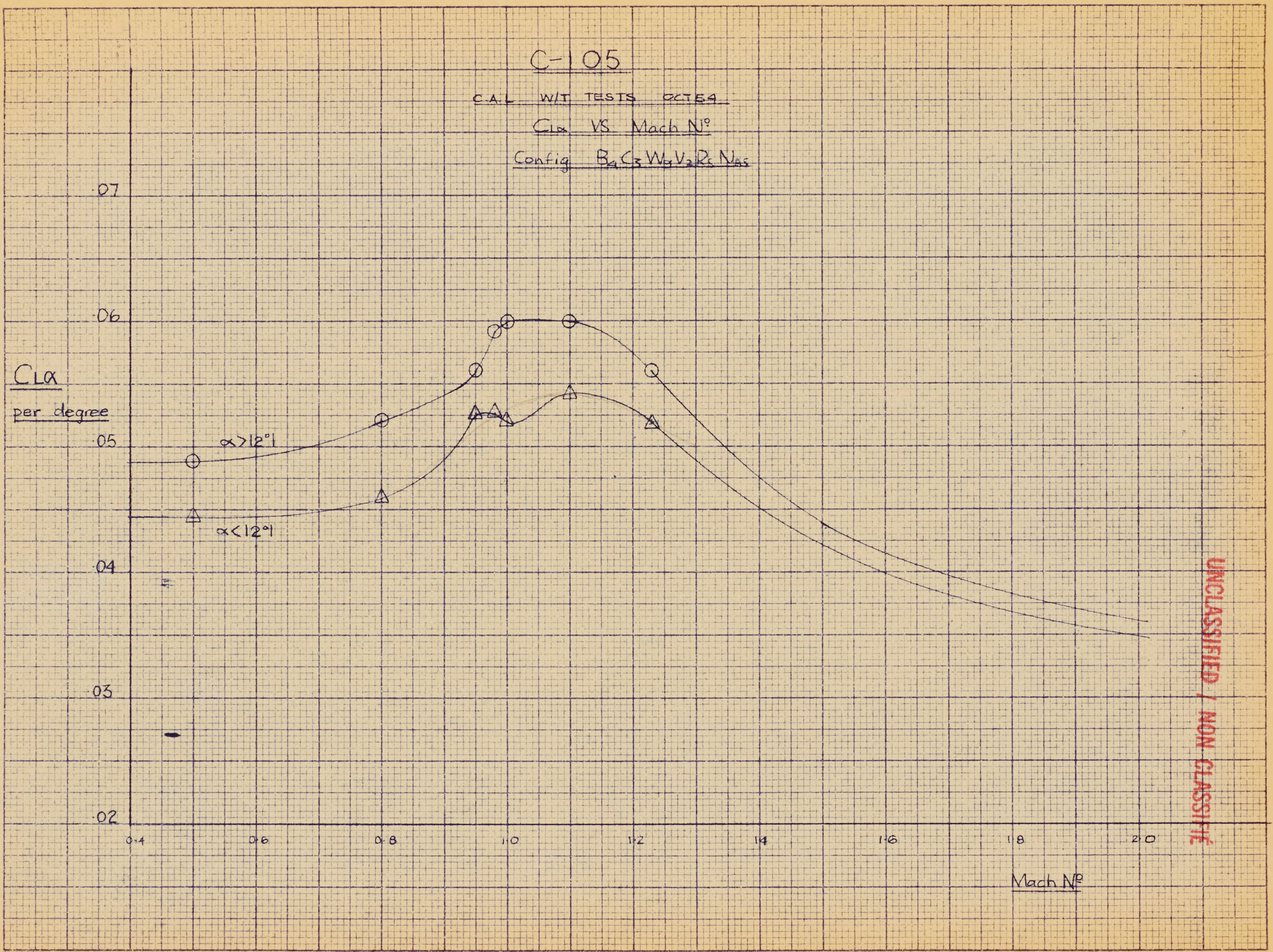
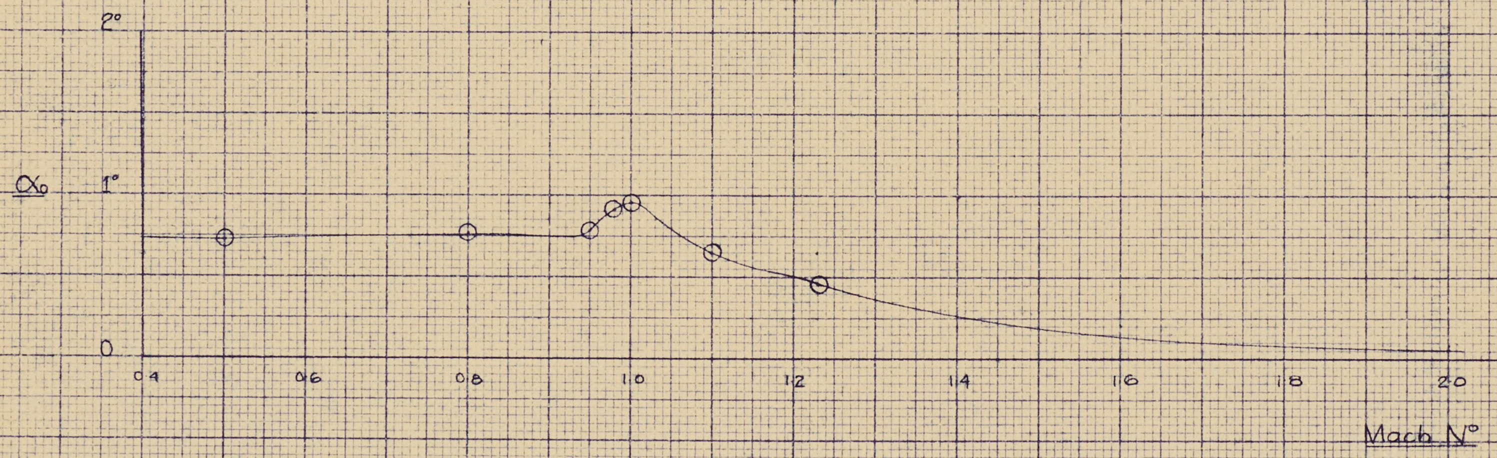


C-105

C.A.L. W/T TESTS OCT 54

α_0 VS Mach N°

Config $B_4 C_3 W_4 V_2 P_5 N_{A5}$

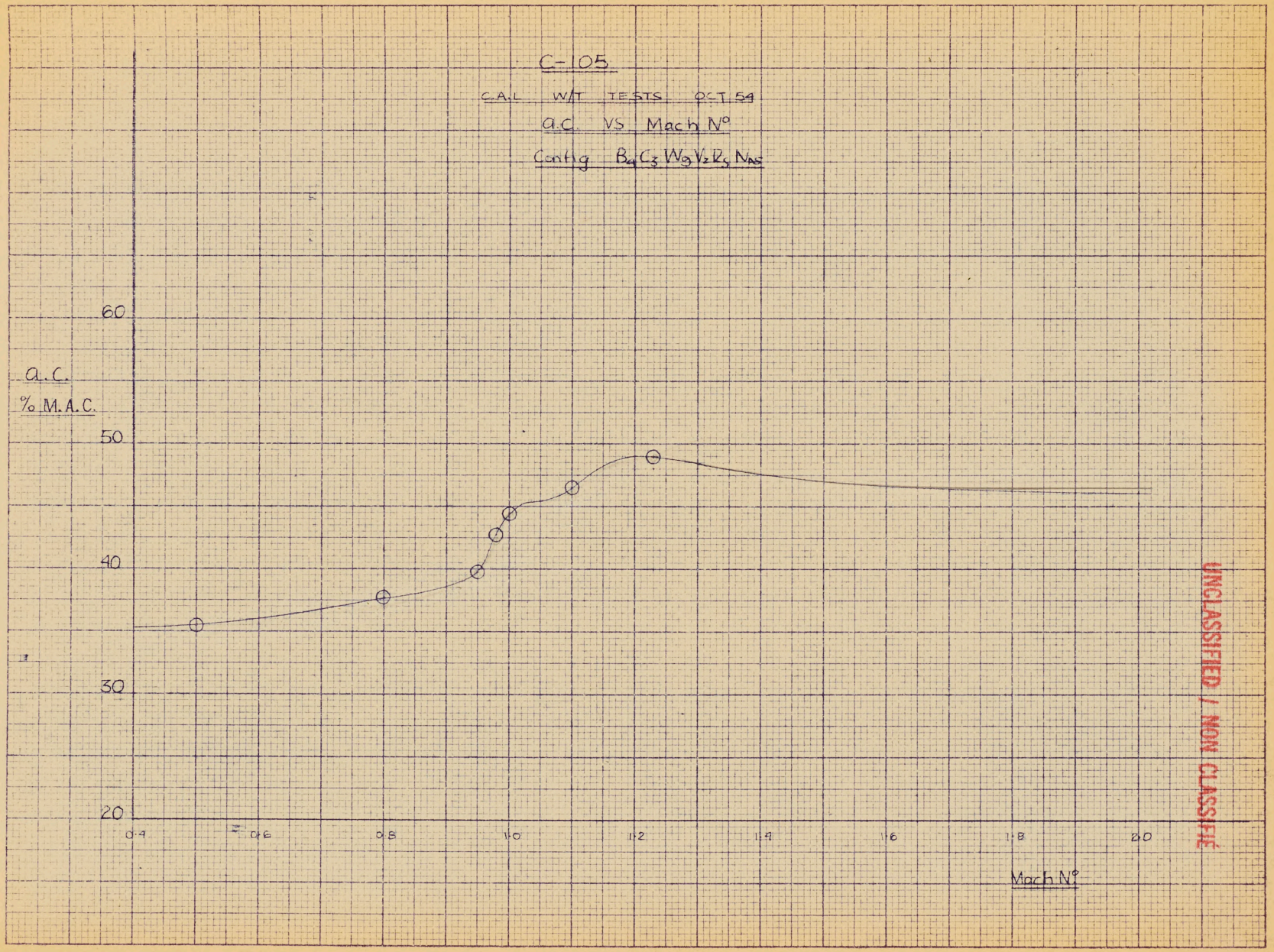


C-105

C.A.L W/T TESTS OCT 54

a.c. VS Mach N°

Config $B_4 C_3 W_9 V_2 P_5 N_{AS}$



2.1 POST 1ST

2.2 P/WT/51

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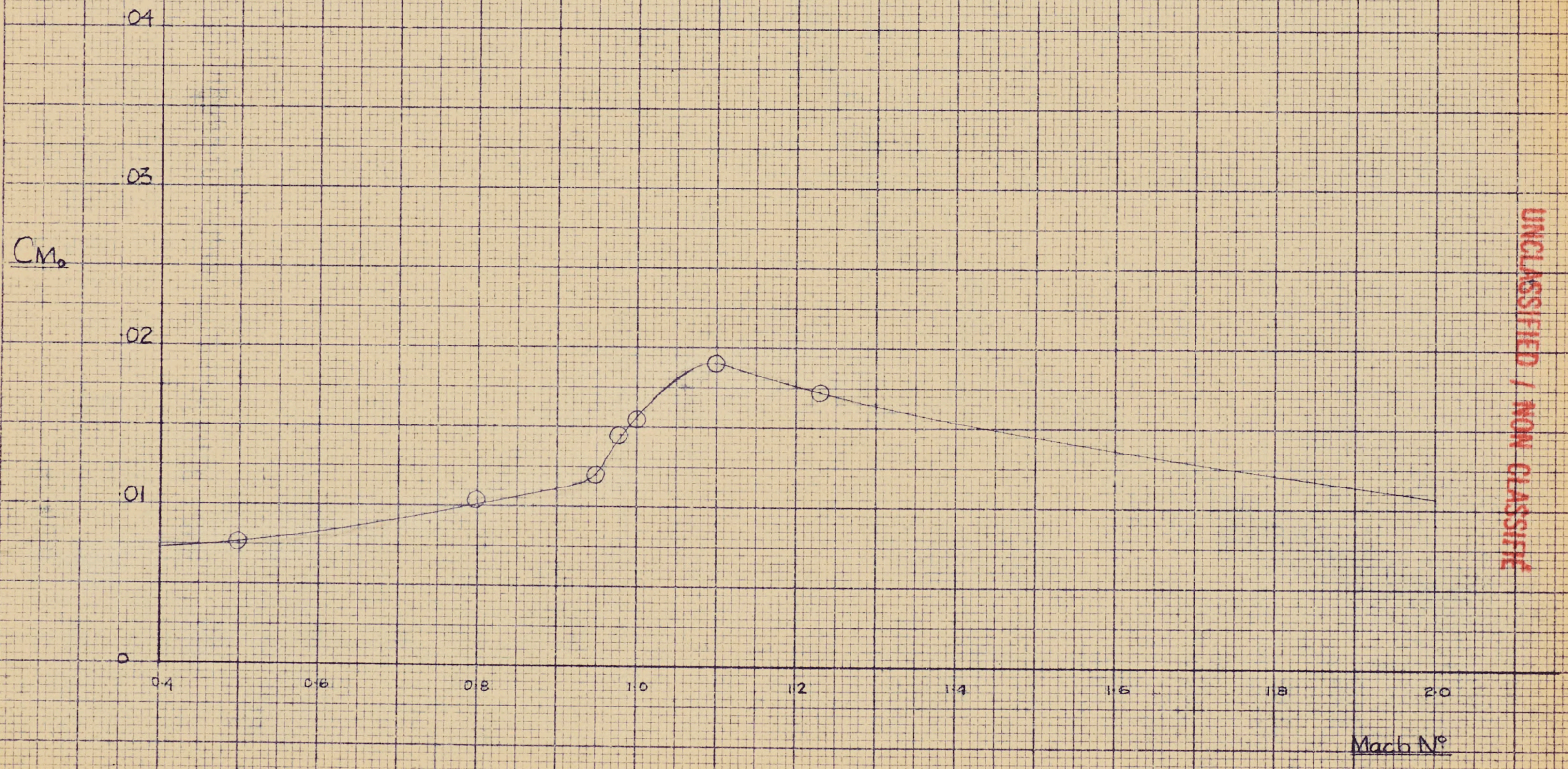
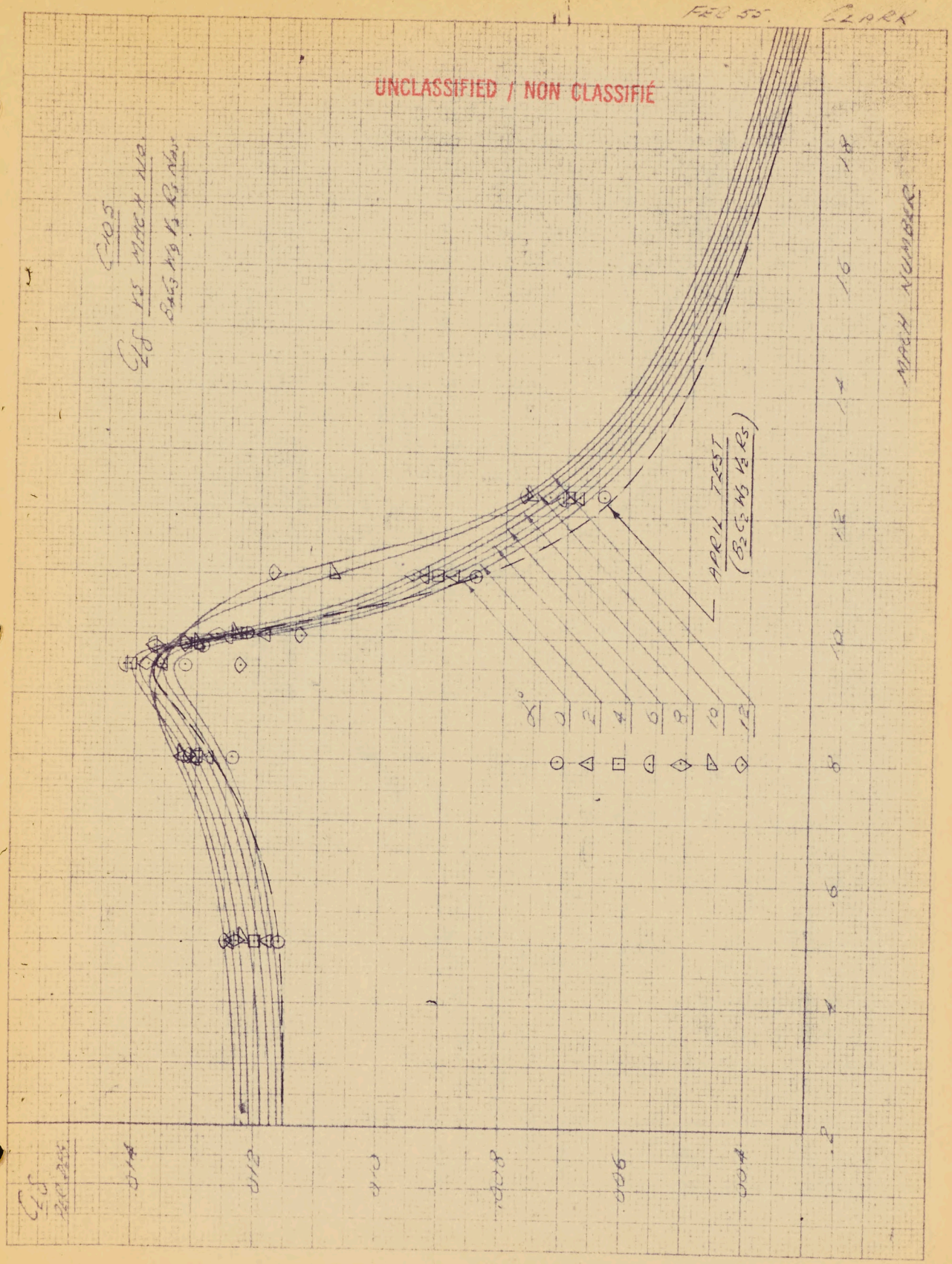
C-105

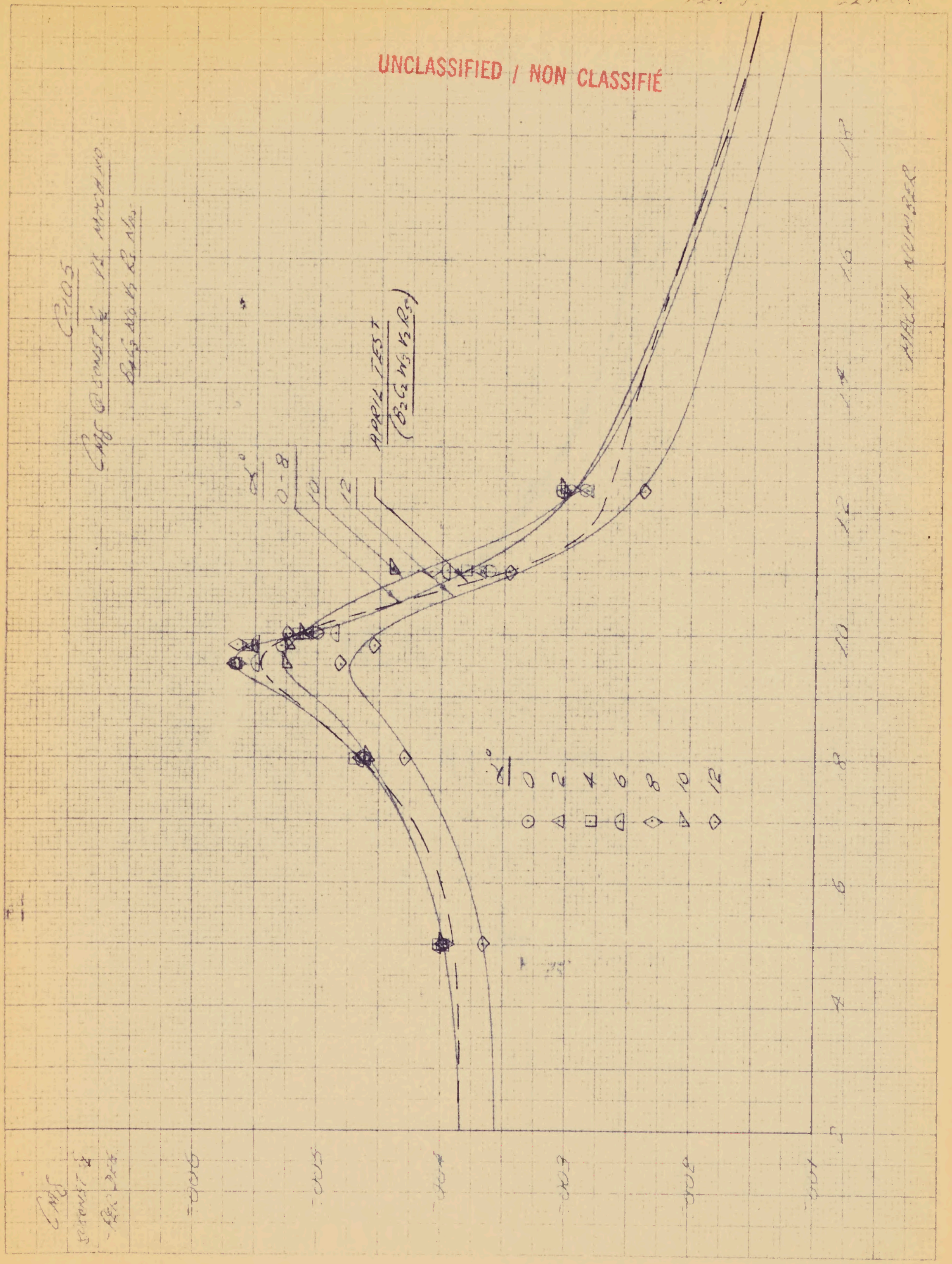
C.A.L. W/T TESTS OCT 54

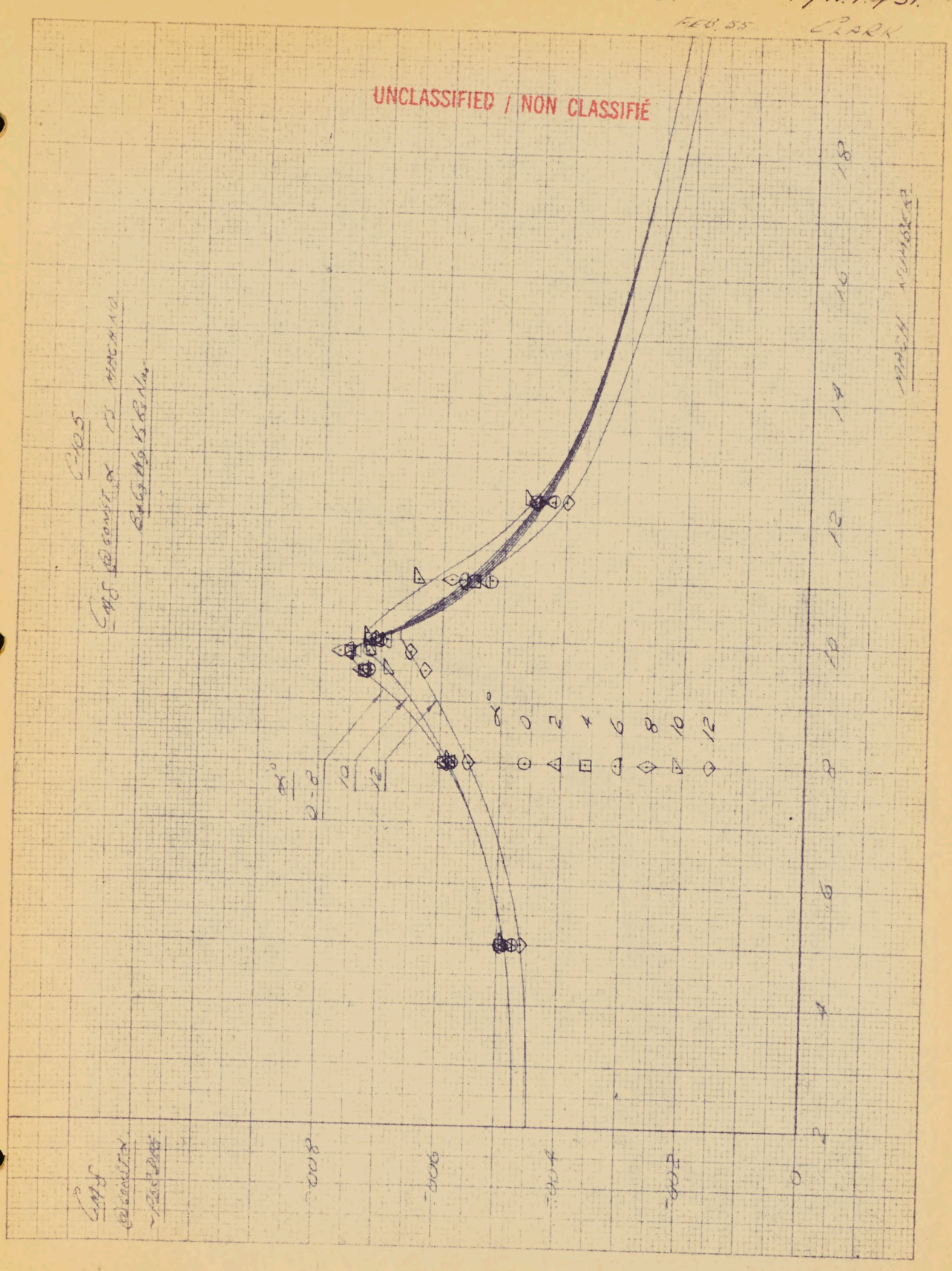
C_{M_0} VS Mach N°

Config $B_4C_3W_3V_2R_5N_{45}$

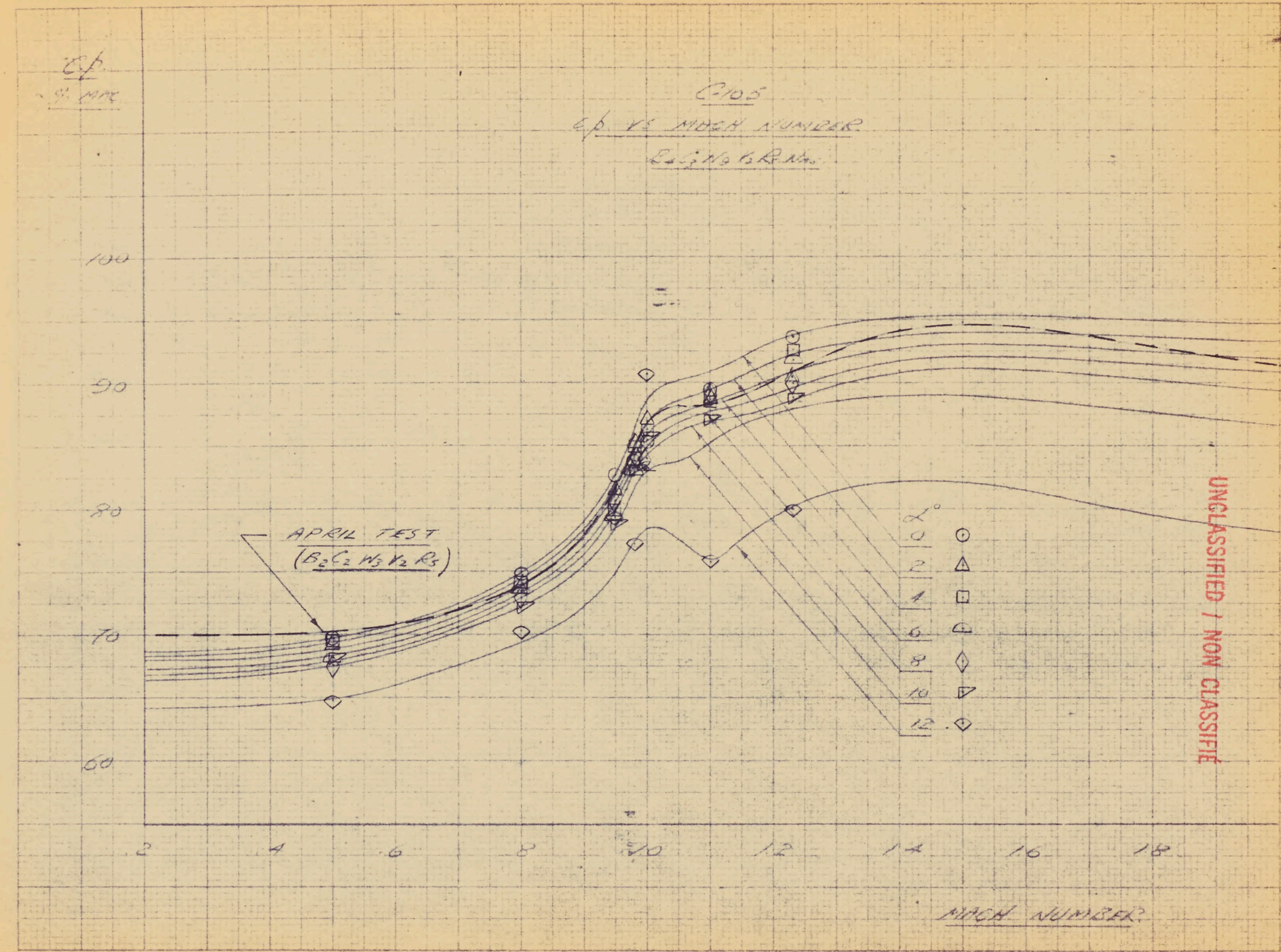






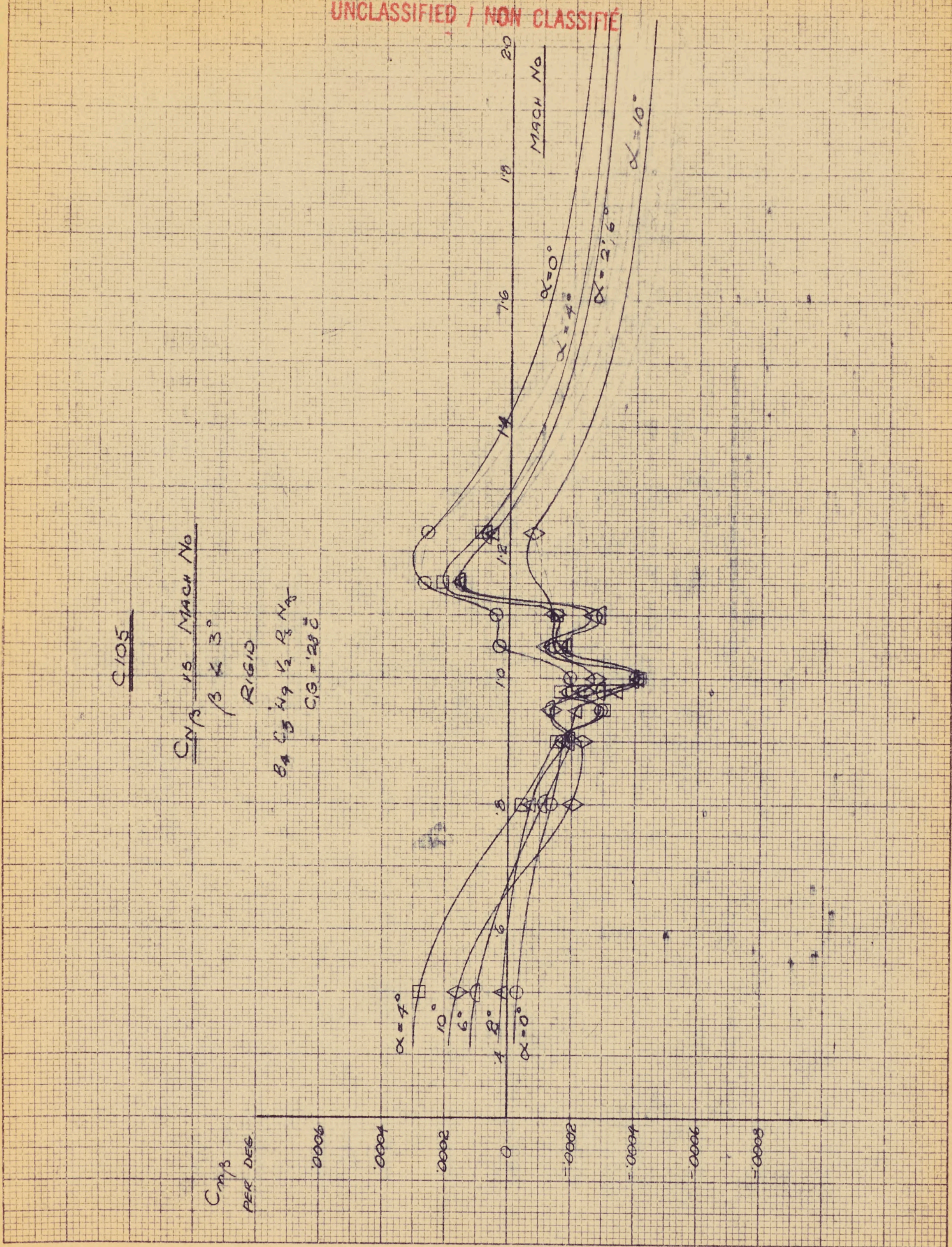


3.4. ~~22~~ P/W.T./51
FEB 55 Clark

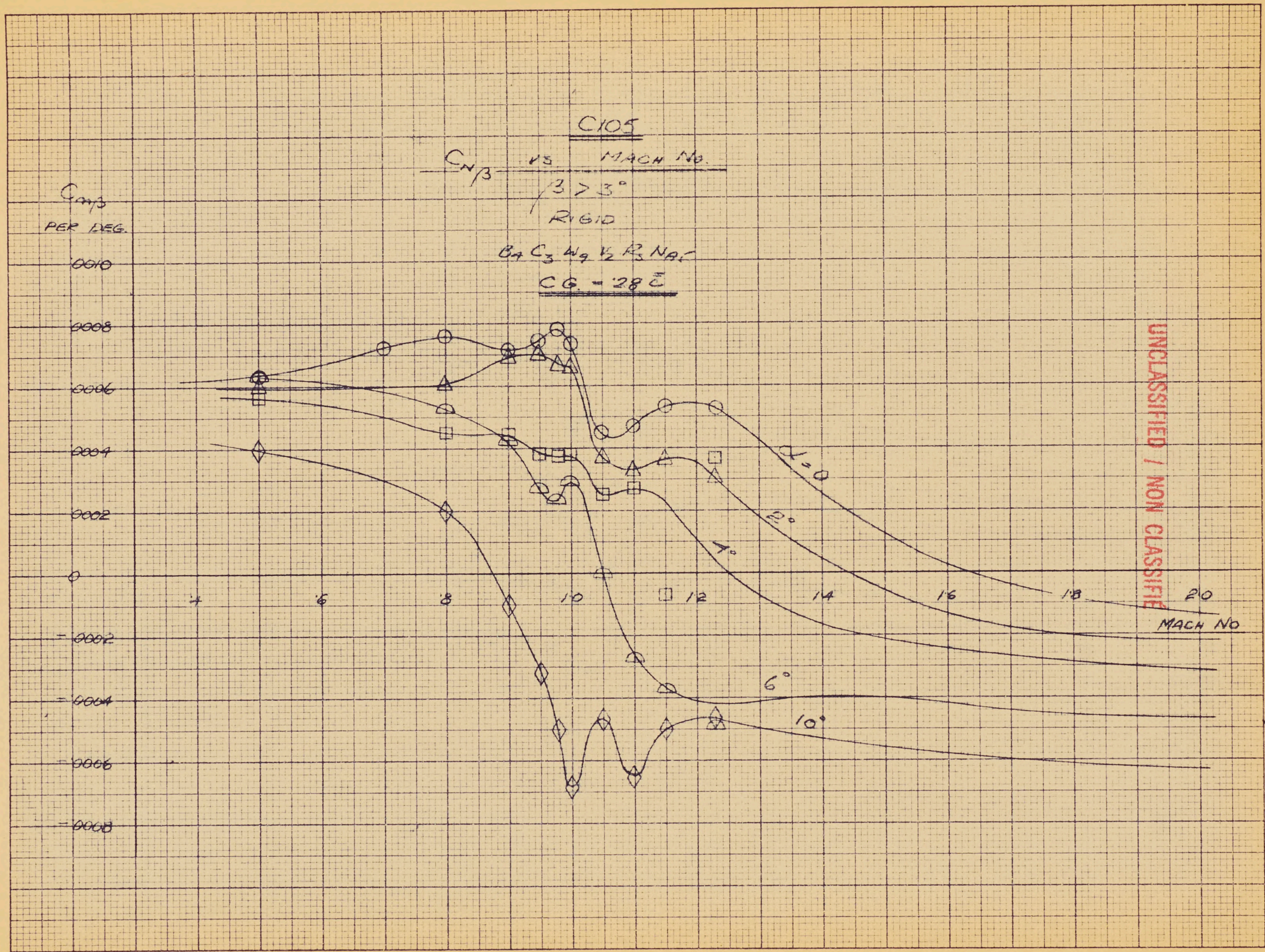


4.1.1. P/WIND TUNNEL/51

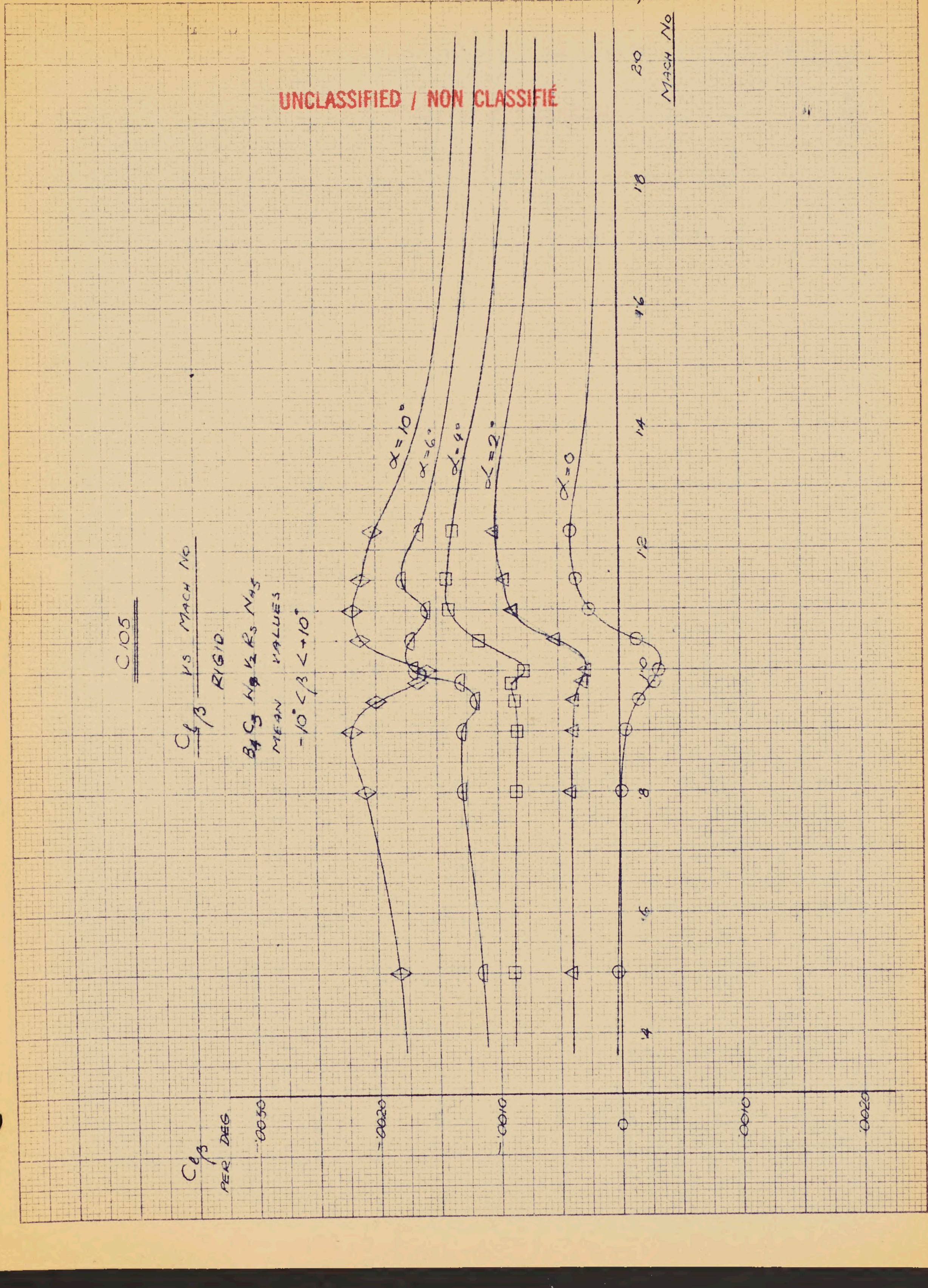
Dec/54. Kwiatkowski



4.1.2 P/WIND TUNNEL/51
Dec/51. [signature]



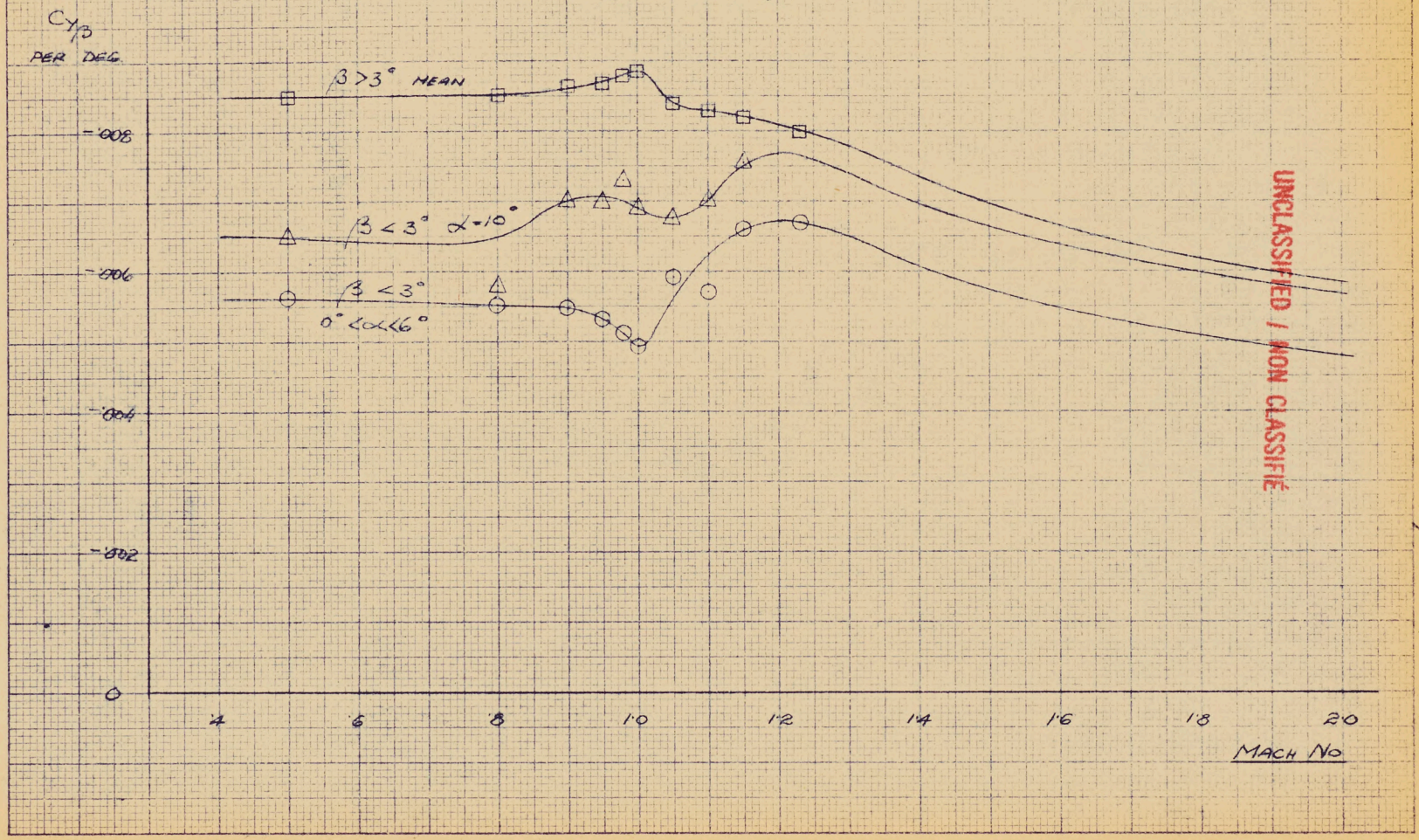
Dec /54. Kwiatkowski



C 105

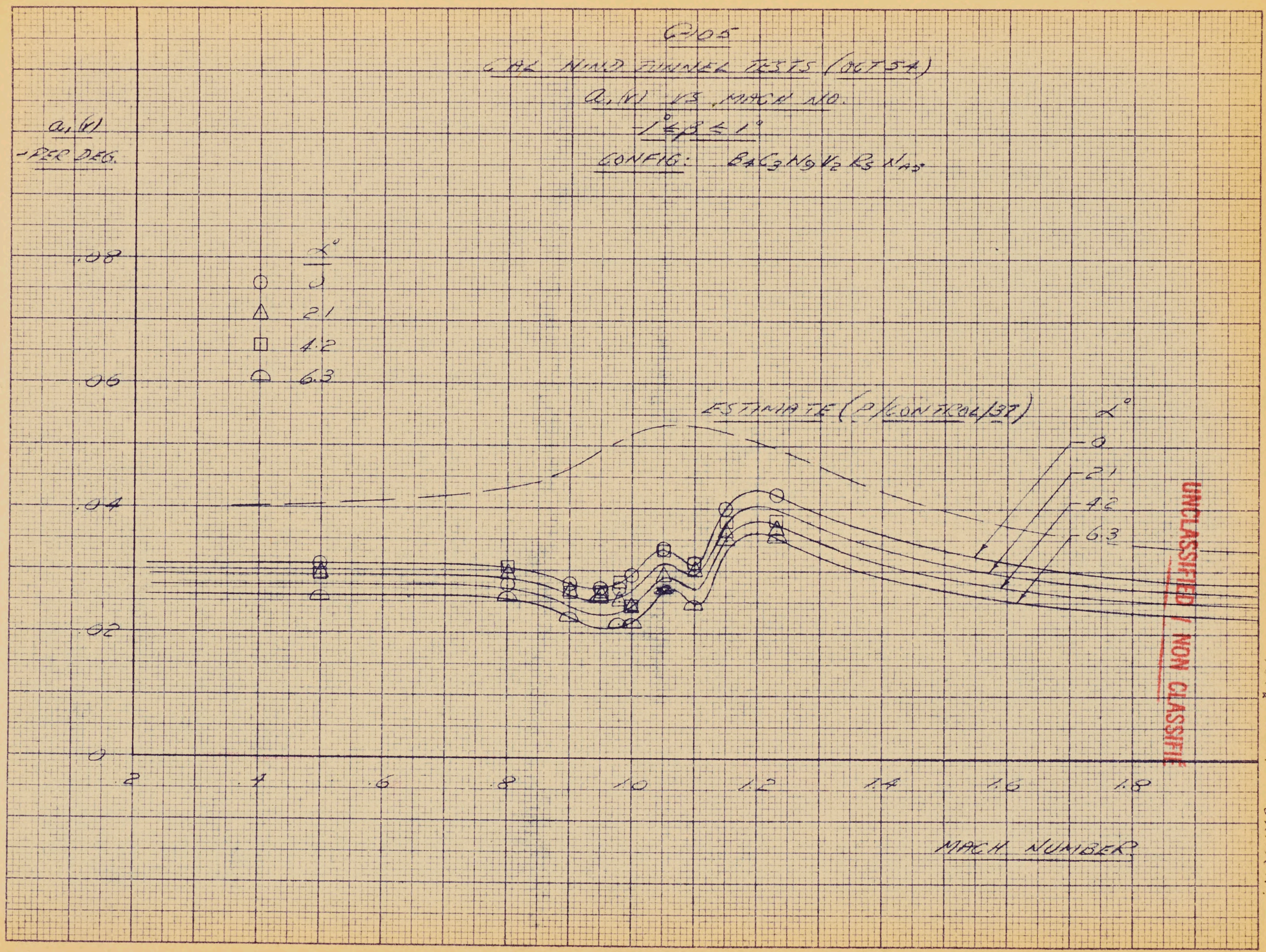
C_{y_β} VS. MACH NO.

$B_4 C_3 H_9 V_2 R_5 N_{A5}$



4.3. P/WIND TUNNEL/51
Dec/54. Kuethe

K+E 10 X 10 TO THE ½ INCH 359-12
KEUFFEL & ESSER CO. MADE IN U.S.A.



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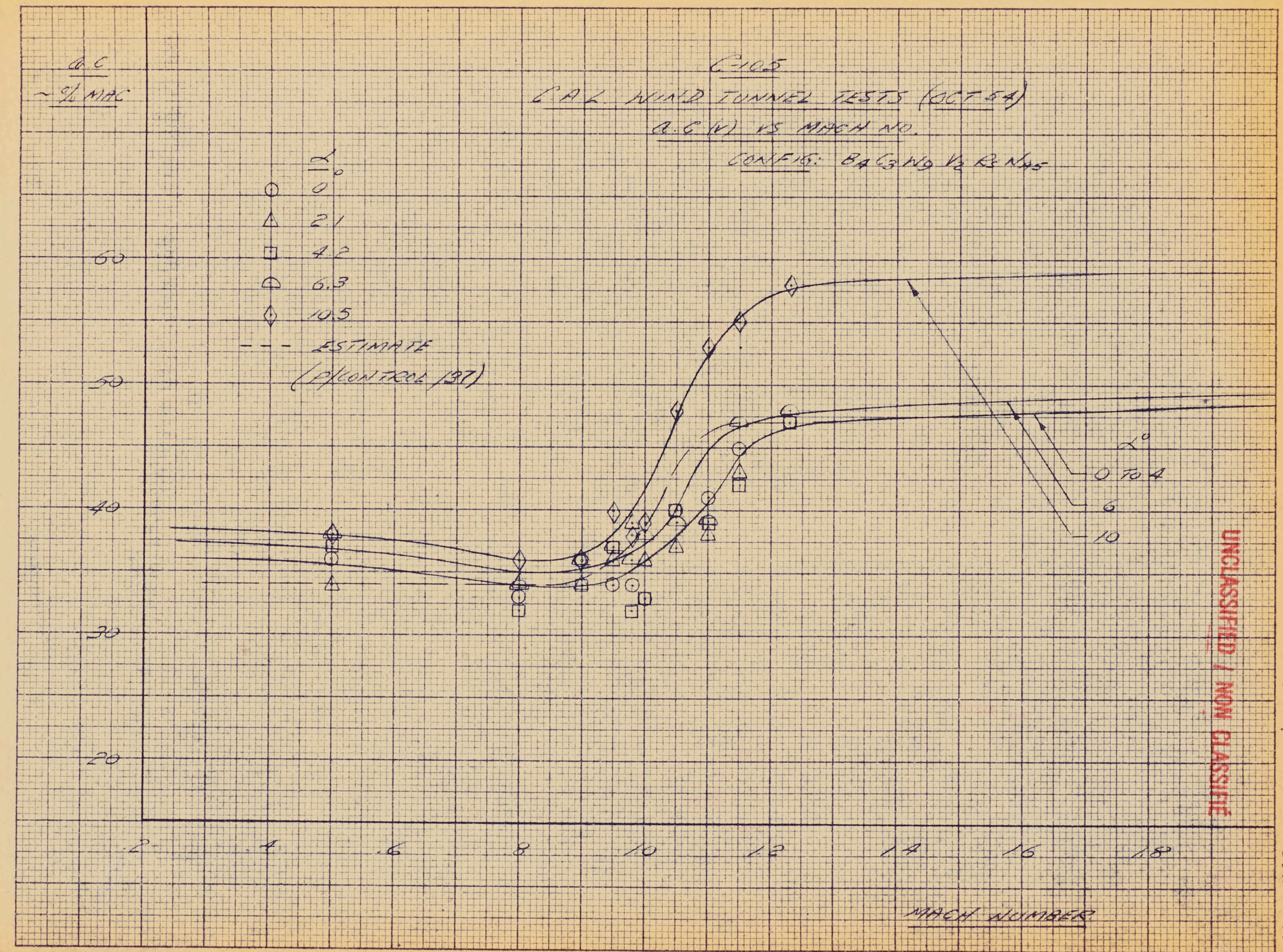
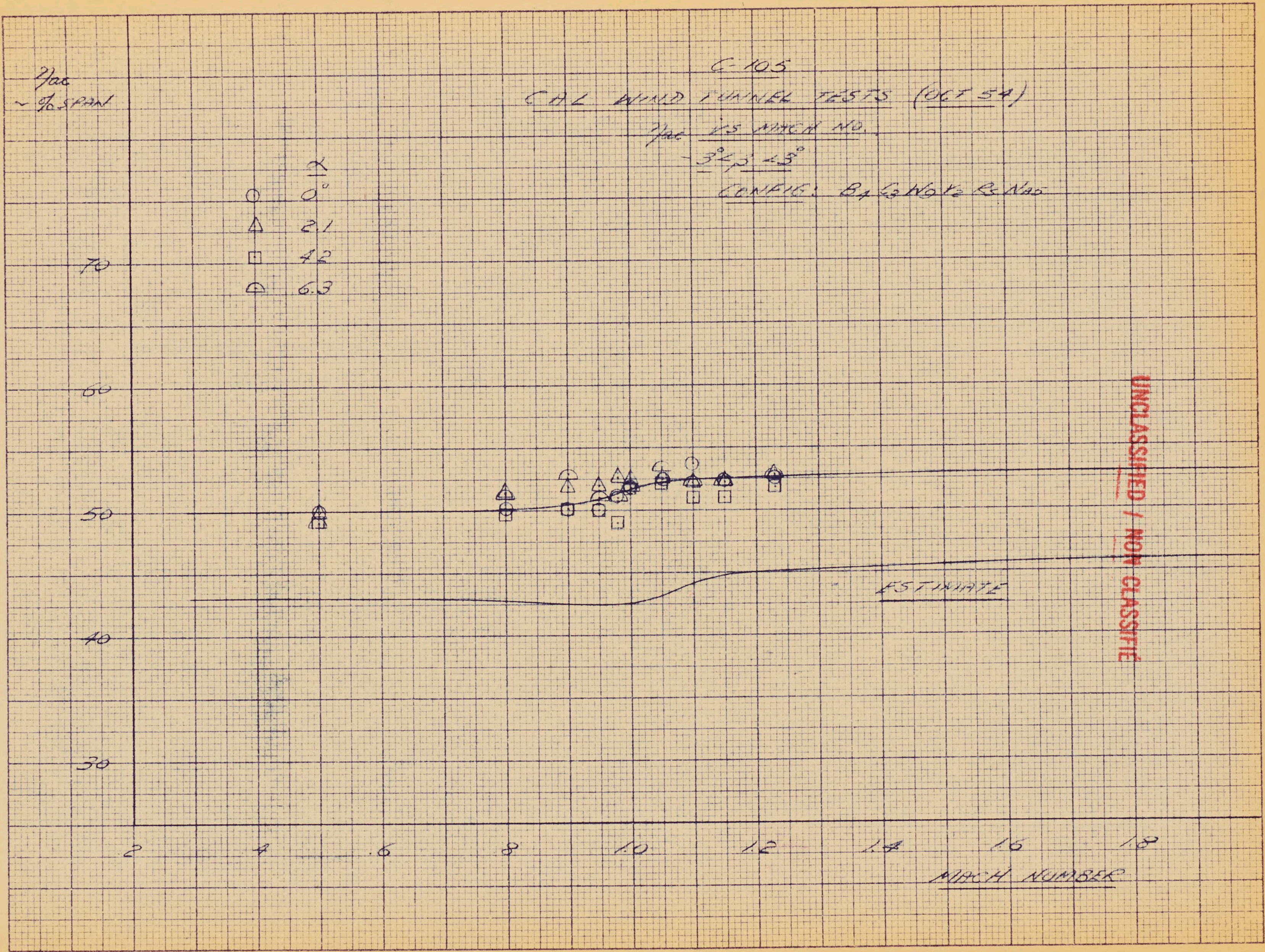
5.1. P/WT/51
NOV 54. CLARK.

5.2. P/WT/51
NOV. 54. CLARK.



K+E 10 X 10 TO THE ½ INCH 359-12
KEUFFEL & ESSER CO. MADE IN U.S.A.



5.3.
NOV 54
P/WT 151
CLARK

C-105

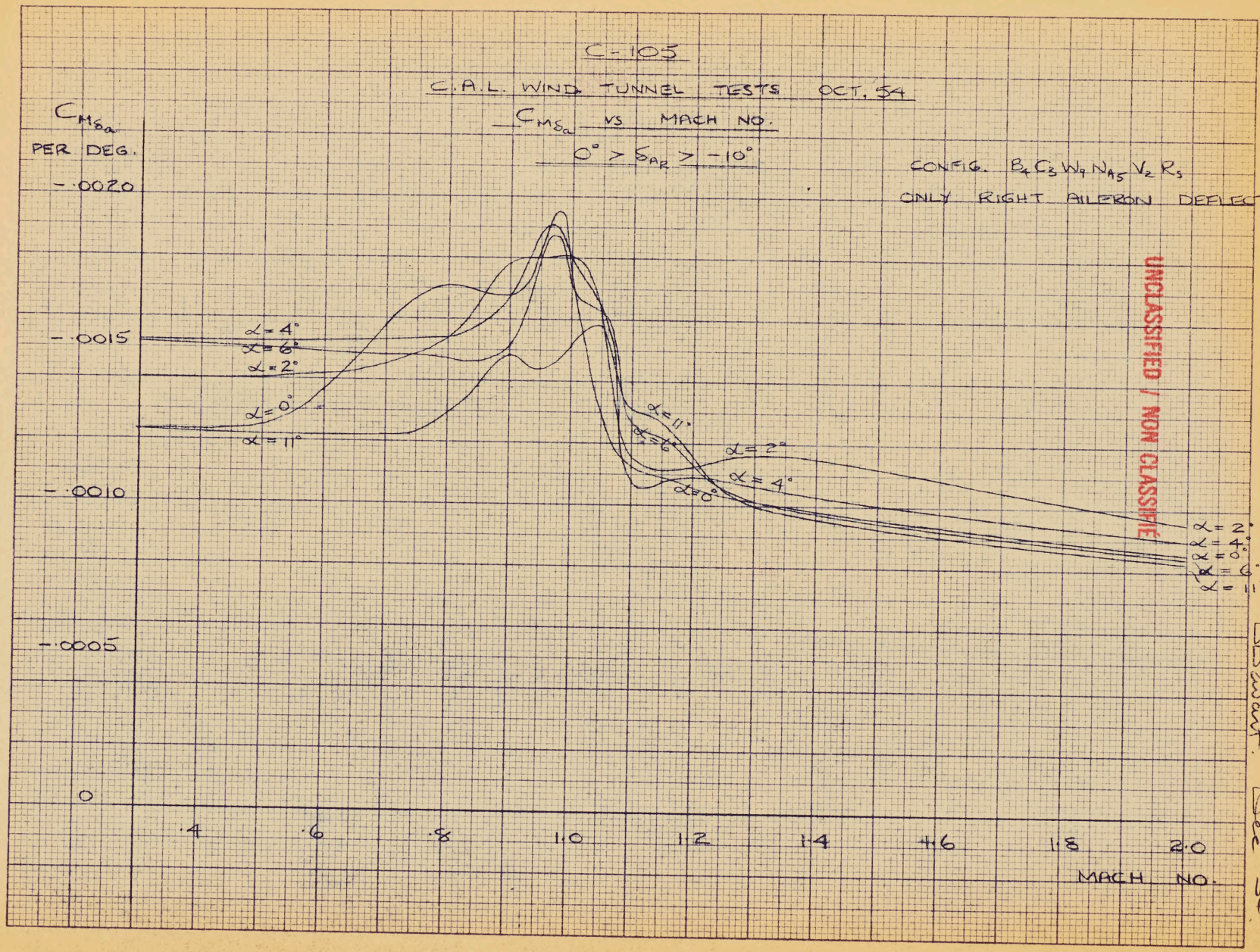
C.A.L. WIND TUNNEL TESTS OCT. 54

$C_{M\delta_a}$ VS MACH NO.

$0° > \delta_{AR} > -10°$

CONFIG. $B_4 C_3 W_4 N_{A5} V_2 R_5$

ONLY RIGHT AILERON DEFLECTED.



C-105

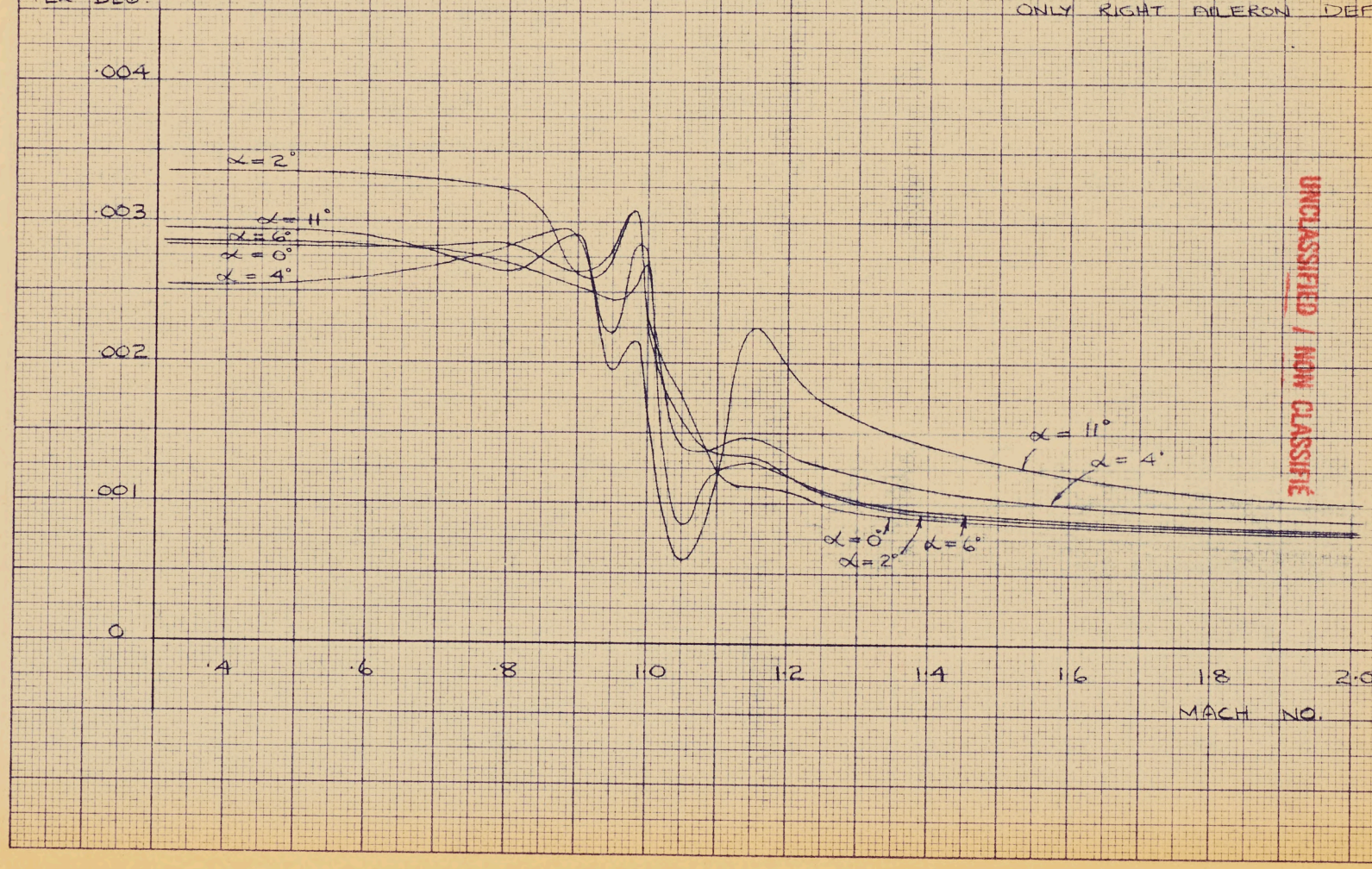
C.A.L. WIND TUNNEL TESTS OCT '54.

$C_{l_{\delta_a}}$ VS MACH NO.

$0° > \delta_{AR} > -10°$

CONFIG. $B_4 C_3 W_4 N_{A5} V_2 R_5$

ONLY RIGHT AILERON DEFLECTED



3·42 ($\alpha = 6°$) 3·05 ($\alpha = 11°$)

C-105

C.A.L. WIND TUNNEL TESTS OCT. '54

CHORDWISE POSITION OF AILERON LOAD ~ FRACTION OF OUTER WING M.A.C. AFT OF L.E.

$0° > \delta_{AR} > -10°$

CONFIG. $B_4 C_3 W_4 N A_5 V_2 R_6$

CHORDWISE C.P.

1·5

1·0

·5

0

$\alpha = 11°$
$\alpha = 6°$
$\alpha = 4°$
$\alpha = 2°$
$\alpha = 0°$
$\alpha = 4°$
$\alpha = 6°$
$\alpha = 11°$
$\alpha = 2°$

$\alpha = 2°$
$\alpha = 0°$
$\alpha = 6°$
$\alpha = 4°$
$\alpha = 11°$

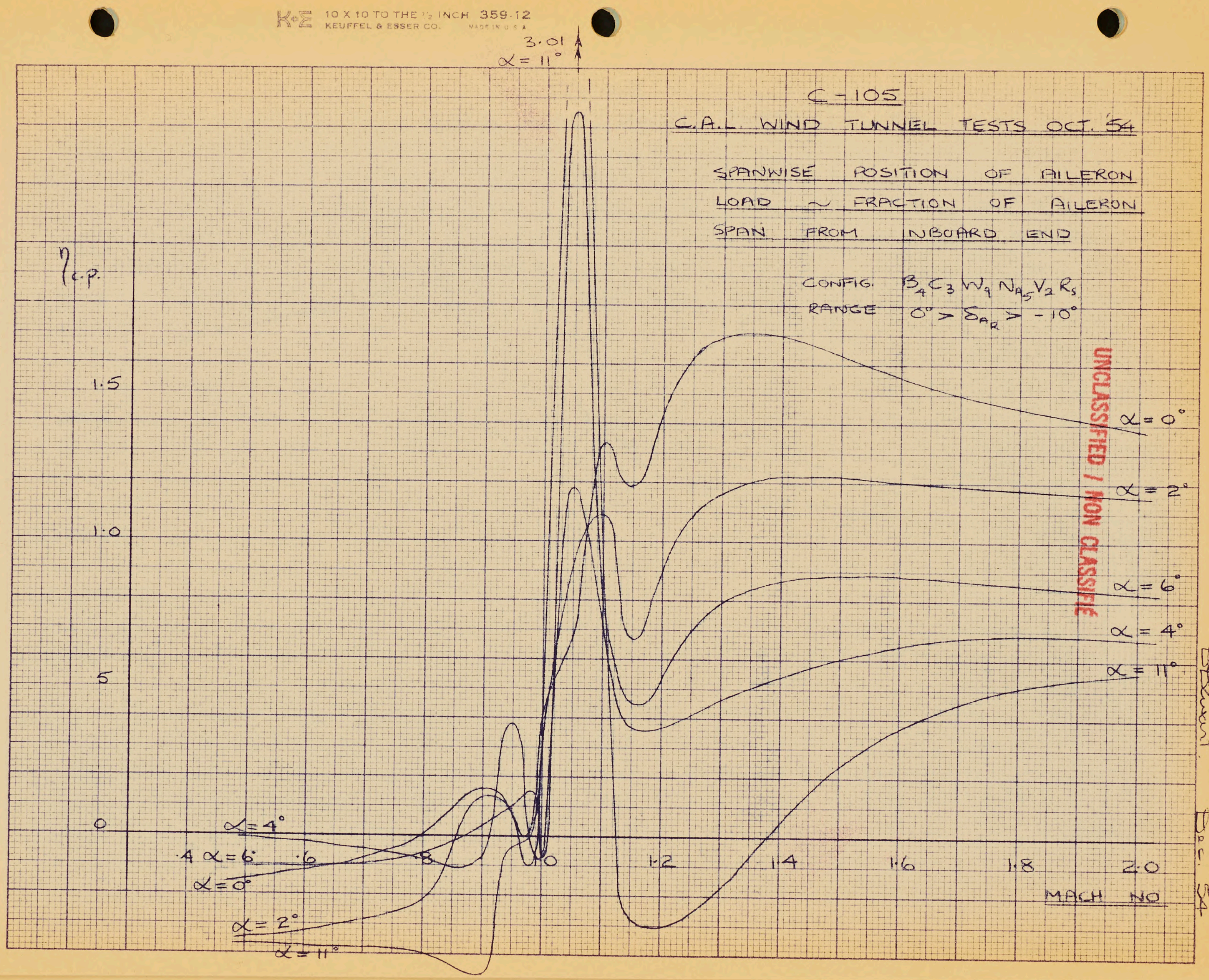
M.A.C. OF WING OUTBOARD OF X-X

X X

·4 ·6 ·8 1·0 1·2 1·4 1·6 1·8 2·0

MACH NO

P/WT/51 Sheet 6.3 Dec. '54.


K+E 10 X 10 TO THE 1/2 INCH 359-12
KEUFFEL & ESSER CO. MADE IN U.S.A.
3.01
$\alpha = 11°$
C-105
C.A.L. WIND TUNNEL TESTS OCT. '54
SPANWISE POSITION OF AILERON
LOAD ~ FRACTION OF AILERON
SPAN FROM INBOARD END
CONFIG. $B_4 C_3 W_9 N_{A_5} V_2 R_5$
RANGE $0° > \delta_{AR} > -10°$
$\eta_{c.p.}$
1.5
1.0
.5
0
.4
.6
.8
1.0
1.2
1.4
1.6
1.8
2.0
MACH NO
$\alpha = 0°$
$\alpha = 2°$
$\alpha = 6°$
$\alpha = 4°$
$\alpha = 11°$
$\alpha = 4°$
$\alpha = 6°$
$\alpha = 0°$
$\alpha = 2°$
$\alpha = 11°$
UNCLASSIFIED / NON CLASSIFIÉ

C-105

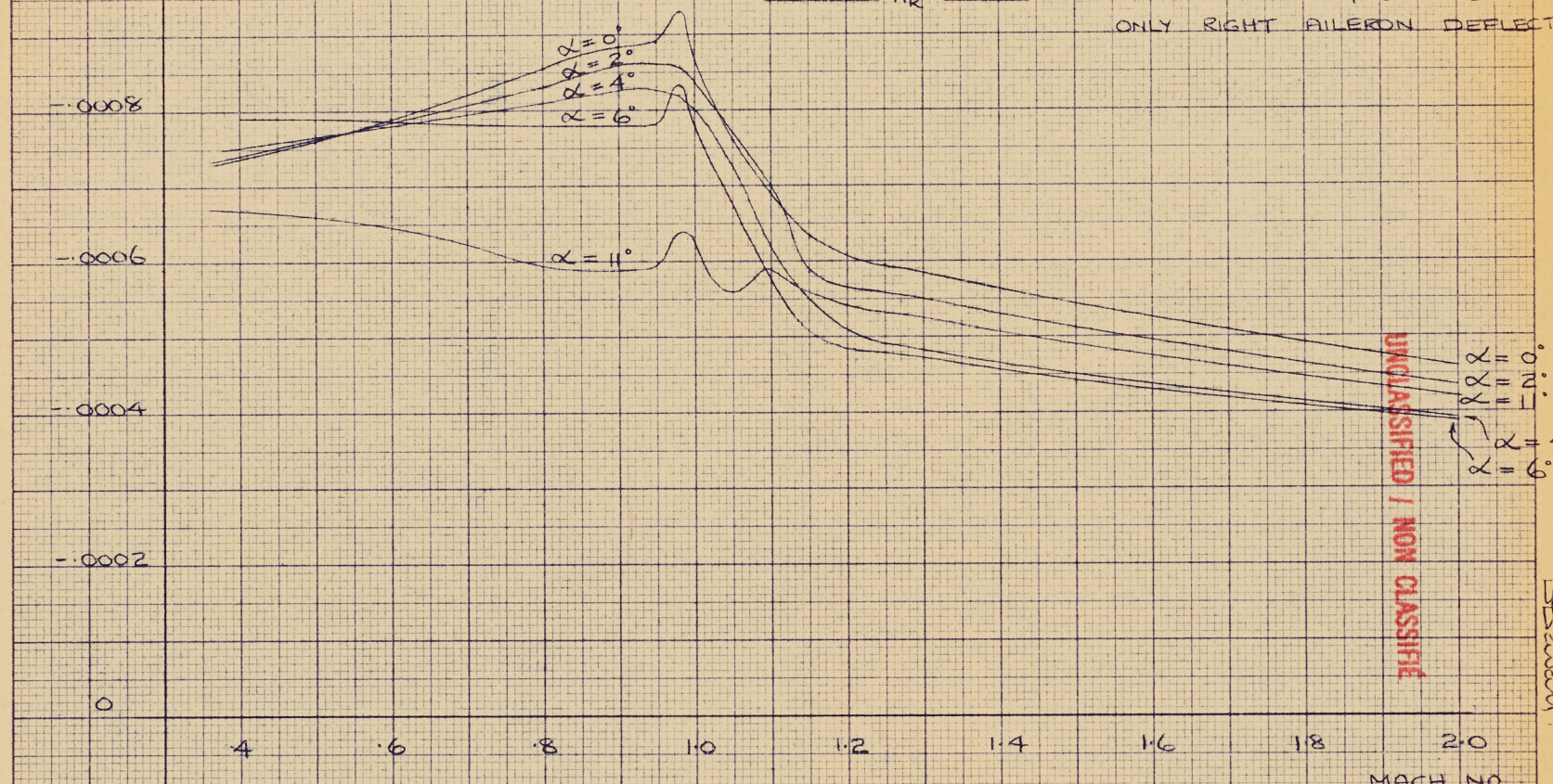
C.A.L. WIND TUNNEL TESTS OCT. '54

$C_{l_{\delta_a}}$ VS MACH NO

$0° > \delta_{A_R} > -10°$

CONFIG. $B_4 C_3 W_4 N_{A_5} V_2 R_5$

ONLY RIGHT AILERON DEFLECTED.



P/WT/51 Sheet 6.5 Dec. '54.

7.1 P/WT/51
DEC 54. CLARK

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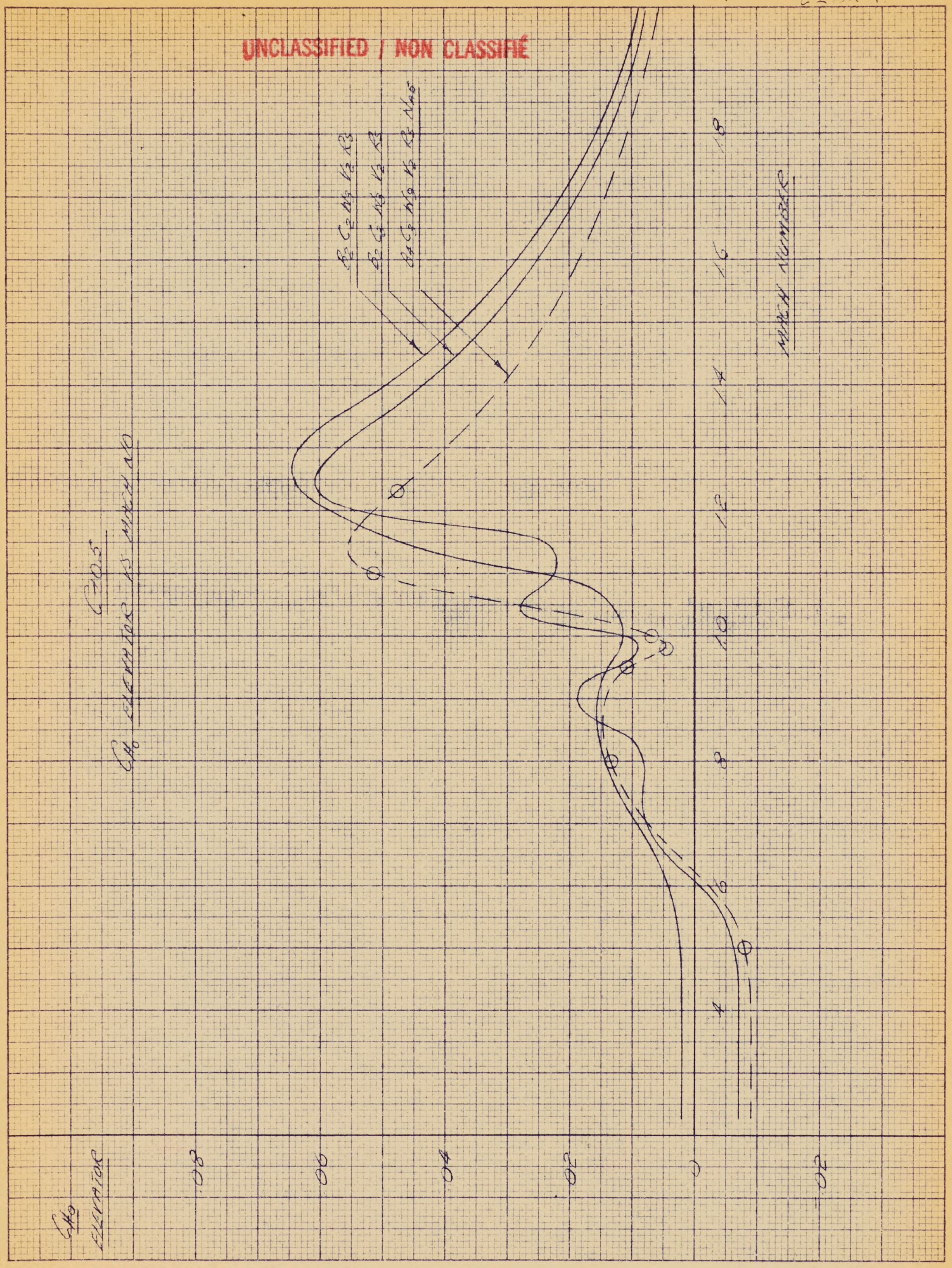
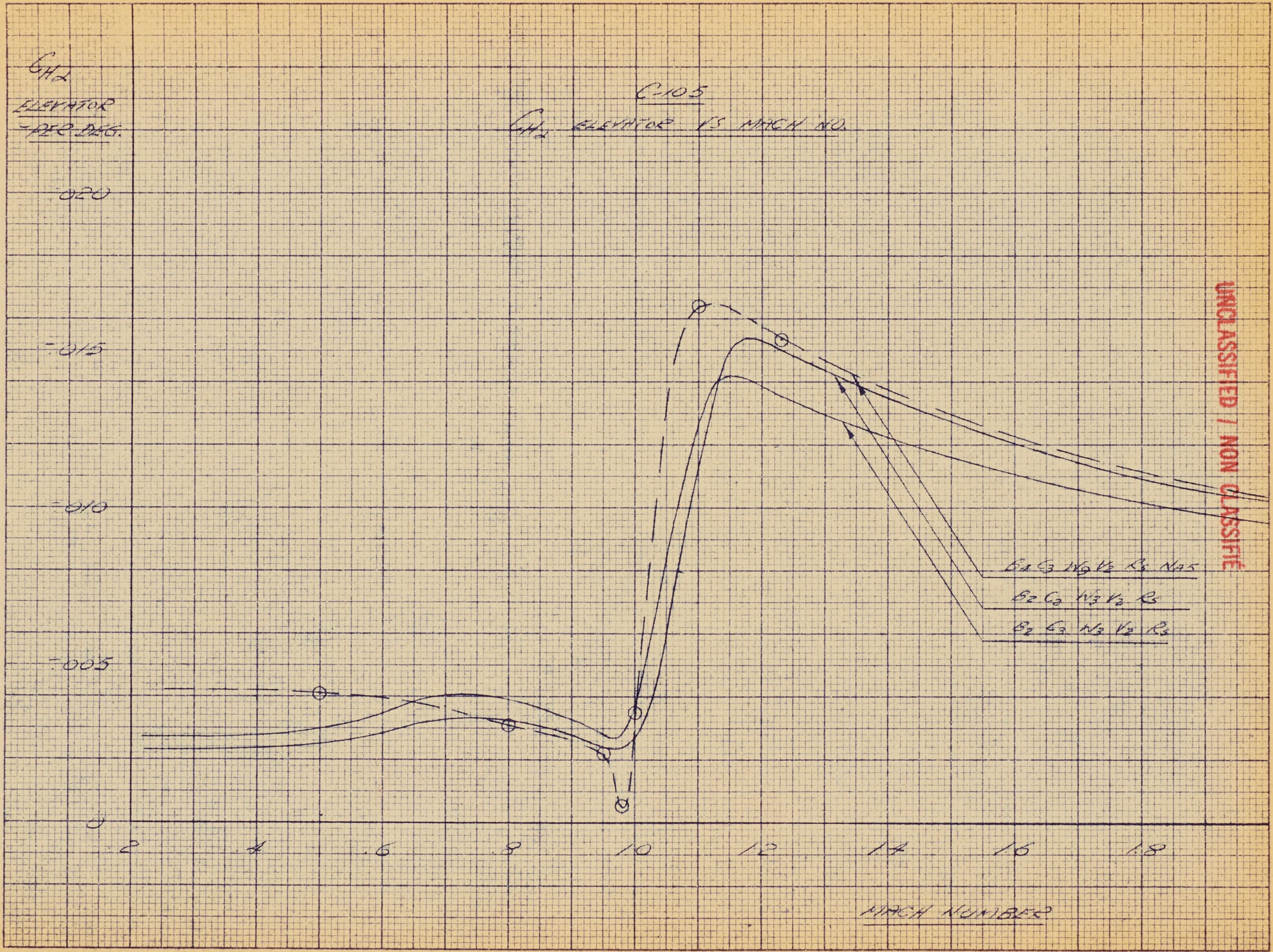
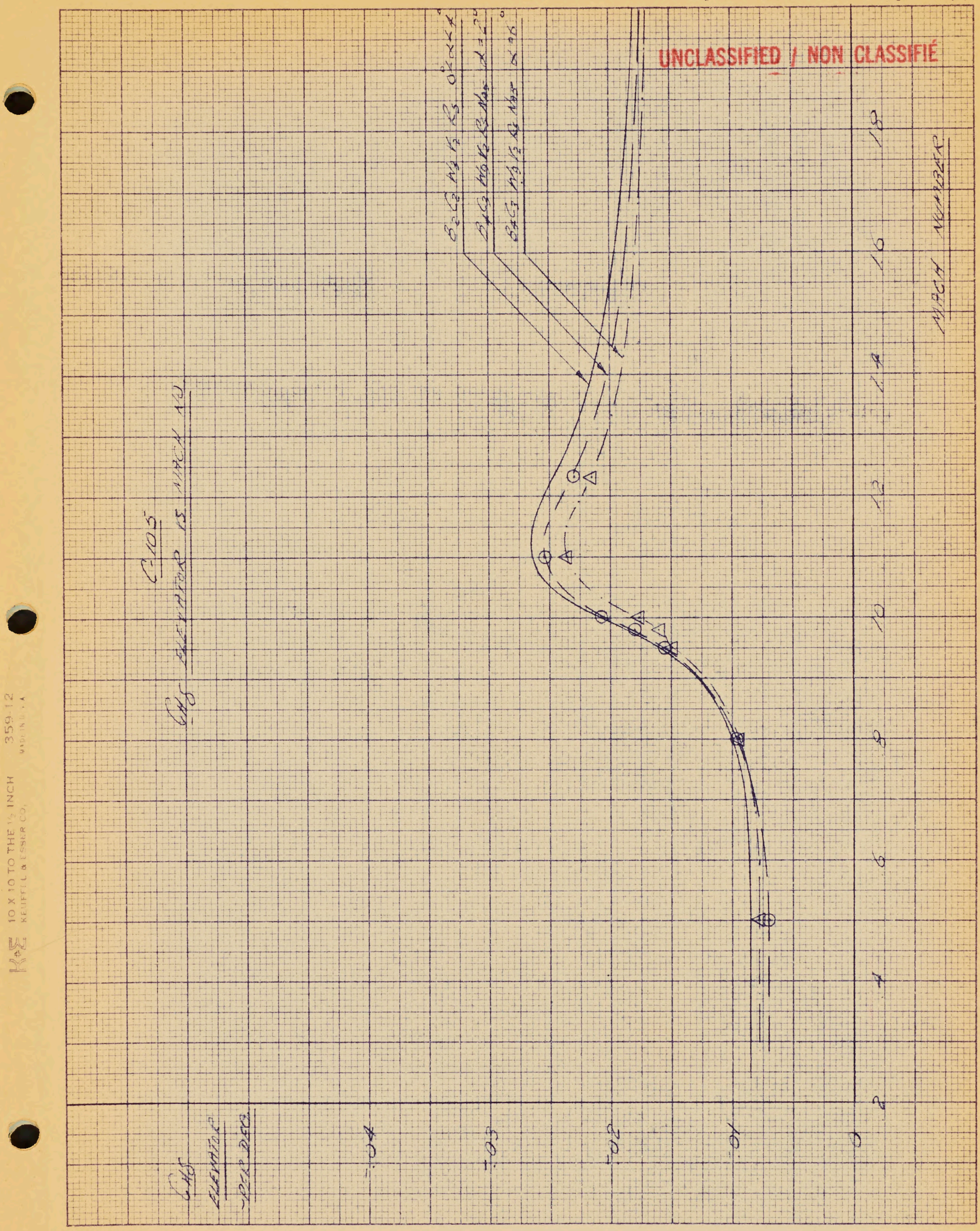


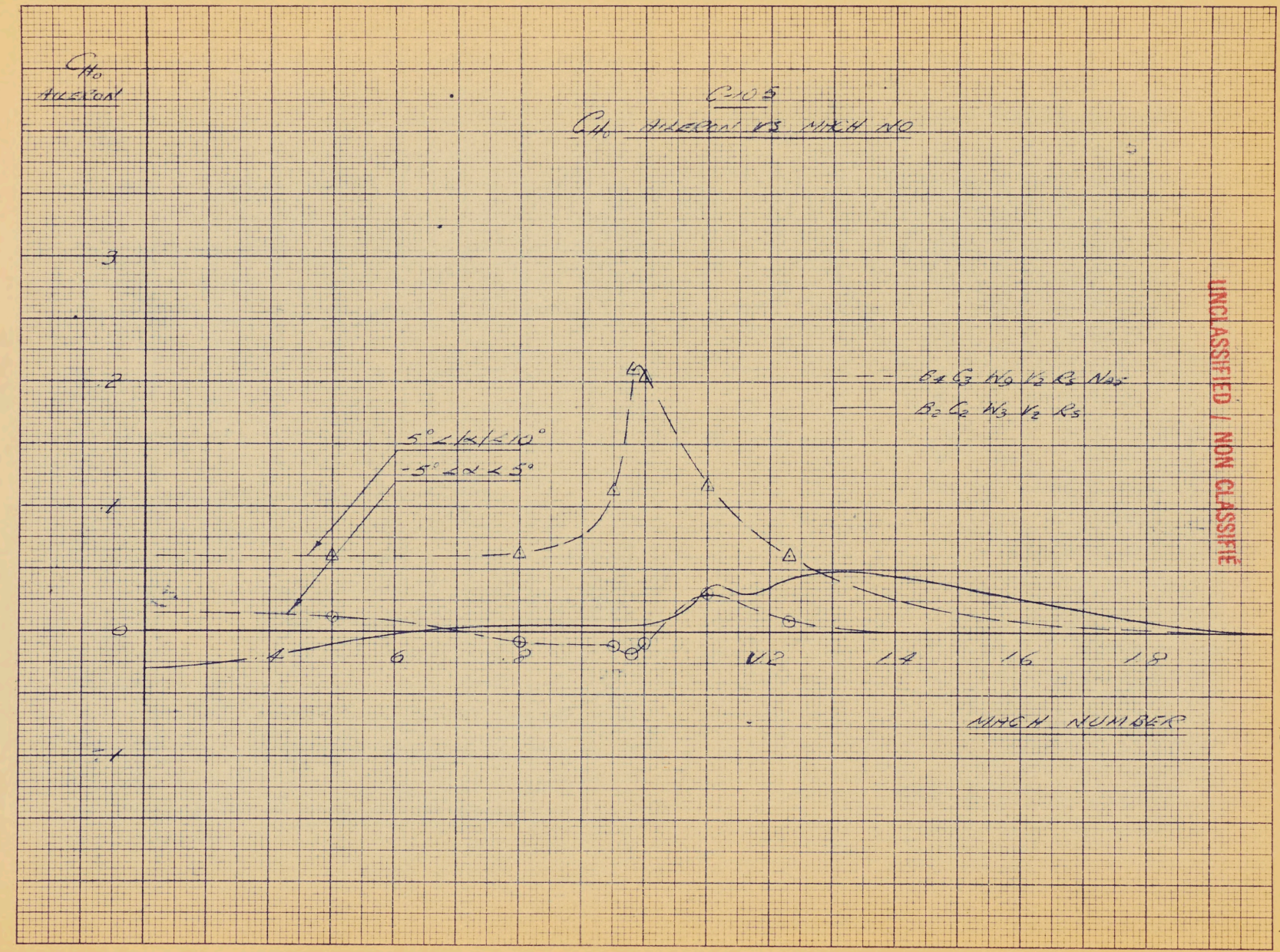
7.2 P/W.T./51
DEC. 54. CLARR.

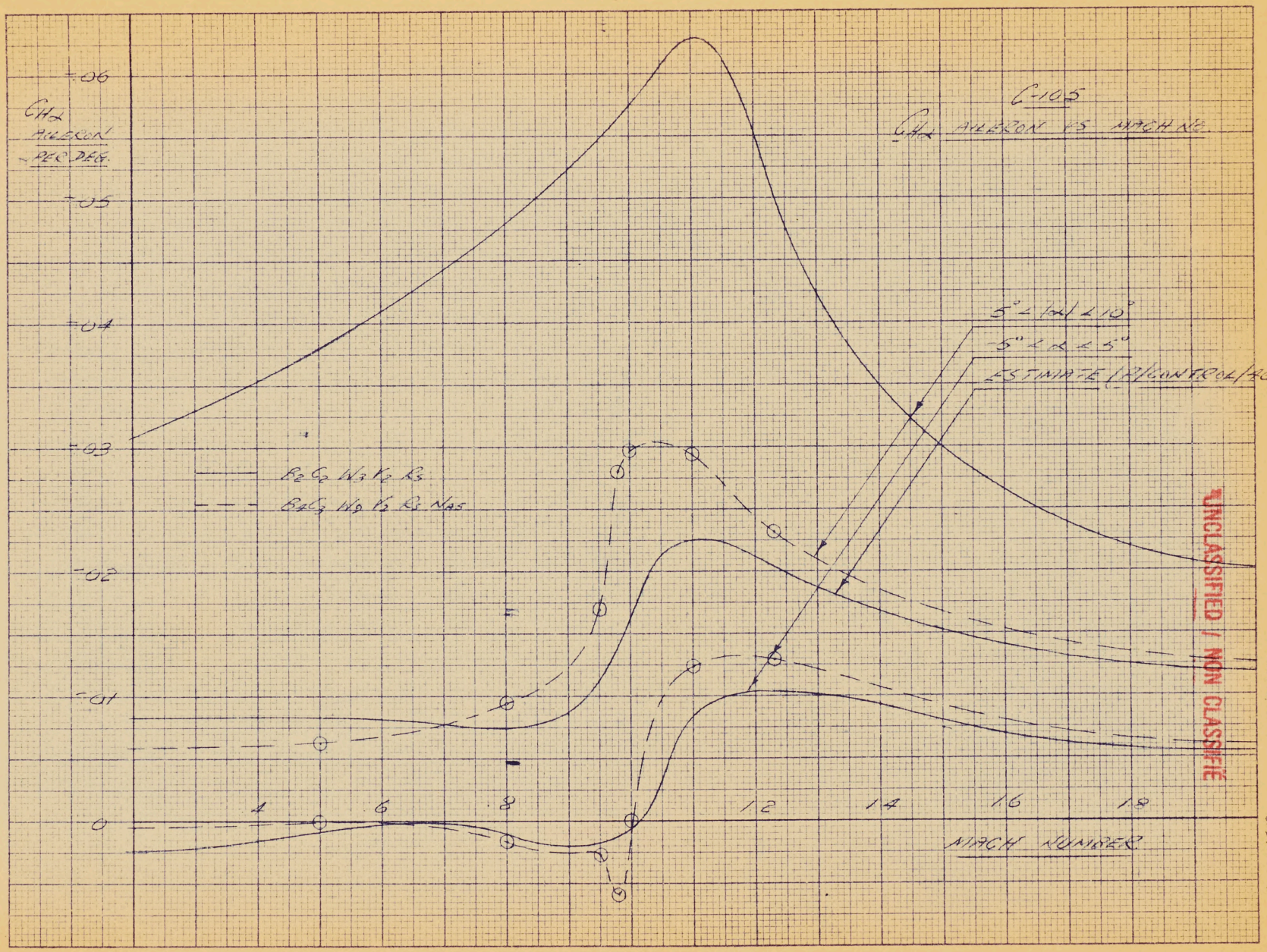


7.3 P/WT/51

DEC 54 CLARK.







8.2

8.3 A/WT/51
DEC. 54. CLARK.