

QcX
Avro
CF105
P-AD-59

C-105

P/Aero Data/59

LONGITUDINAL STABILITY DERIVATIVES

ANALYZED AND DRAG DATA

3.5% WING

Copy (5)

August '55

TECHNICAL DEPARTMENT (Aircraft)

SHEET NO. _____

AIRCRAFT

ANALYZED

PREPARED BY

DATE

S. Kwiatkowski

August 1955.

CHECKED BY

DATE

C-105

Temple

LONGITUDINAL STABILITY DERIVATIVES AND DRAG DATA

3.5% WING

★ Measured in C.A.L. Wind Tunnel up to M = 1.23.

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Classification cancelled / Changed to UNCLAS
By authority of AVRS PAGE
Date 27 Sept 66 1
Signature DBilly
Unit / Rank / Appointment AVRS

Geometry

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- | | | |
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| 3. | CL_q vs Mach No. | 1.3 |
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| 5. | CM_0 [★] vs Mach No. | 1.5 |
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NRC - CISTI
AERO / M.E.
LIBRARY

89- 05- 11

BIBLIOTHÈQUE
AÉRO / G.M.
CNRC - ICIST

15784890

AIRCRAFT: _____

PREPARED BY

DATE

S. Kwiatkowski

August 1955.

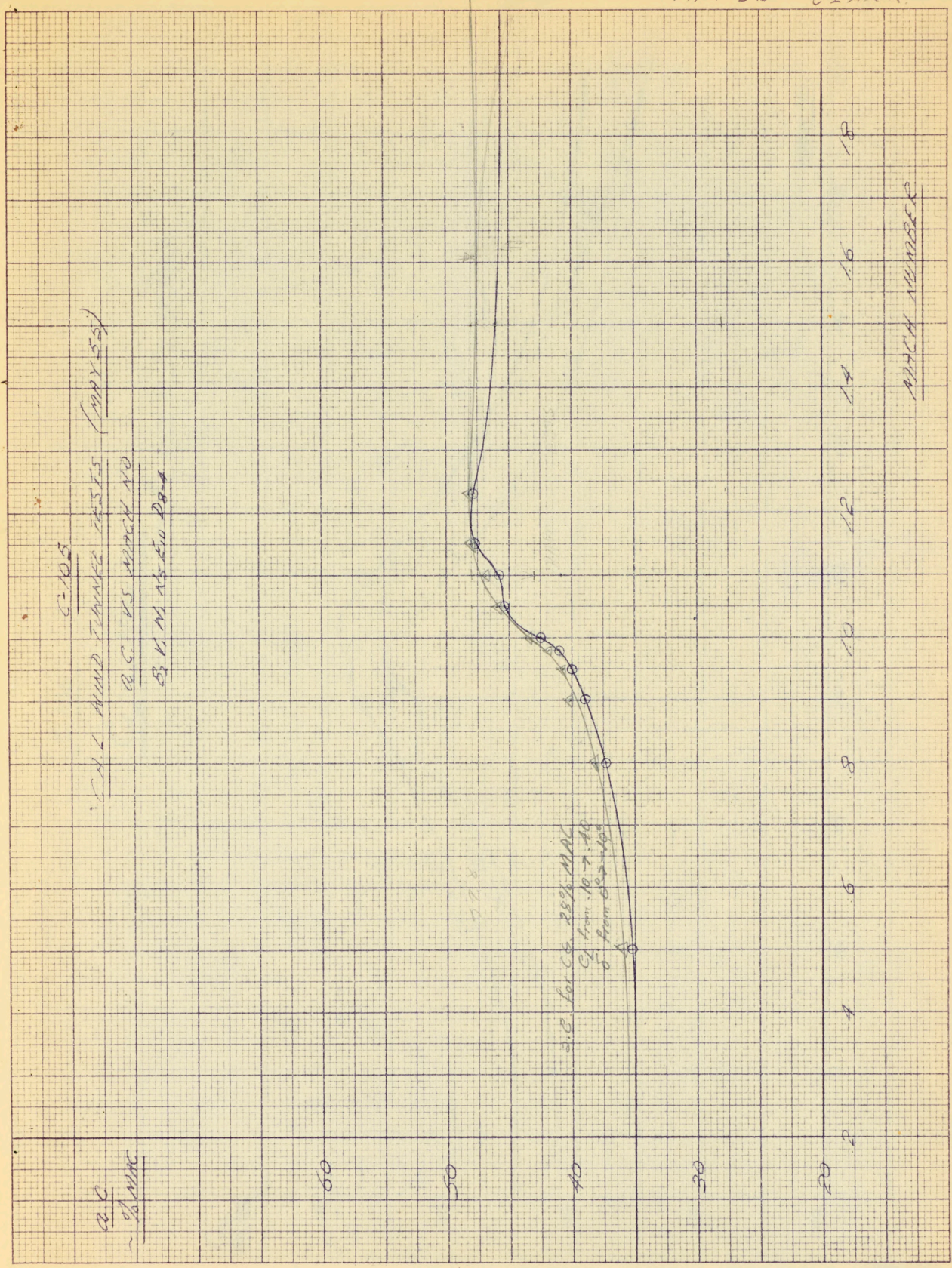
CHECKED BY

DATE

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K&E 10 X 10 TO THE 1/2 INCH 359-12 KEUFFEL & ESSER CO. MADE IN U.S.A.



P/WT/80

KE 10 X 10 TO THE 1/2 INCH
NEUFFEL & ESSER CO. MADE IN U.S.A.

C105

CL vs MACH NO.

CONF A: B₂ V₁ M₁ E₁₀ N₅ D₈₋₁₁

CL
PER DEG

.06

.05

.04

.03

.02

.2

.4

.6

.8

1.0

1.2

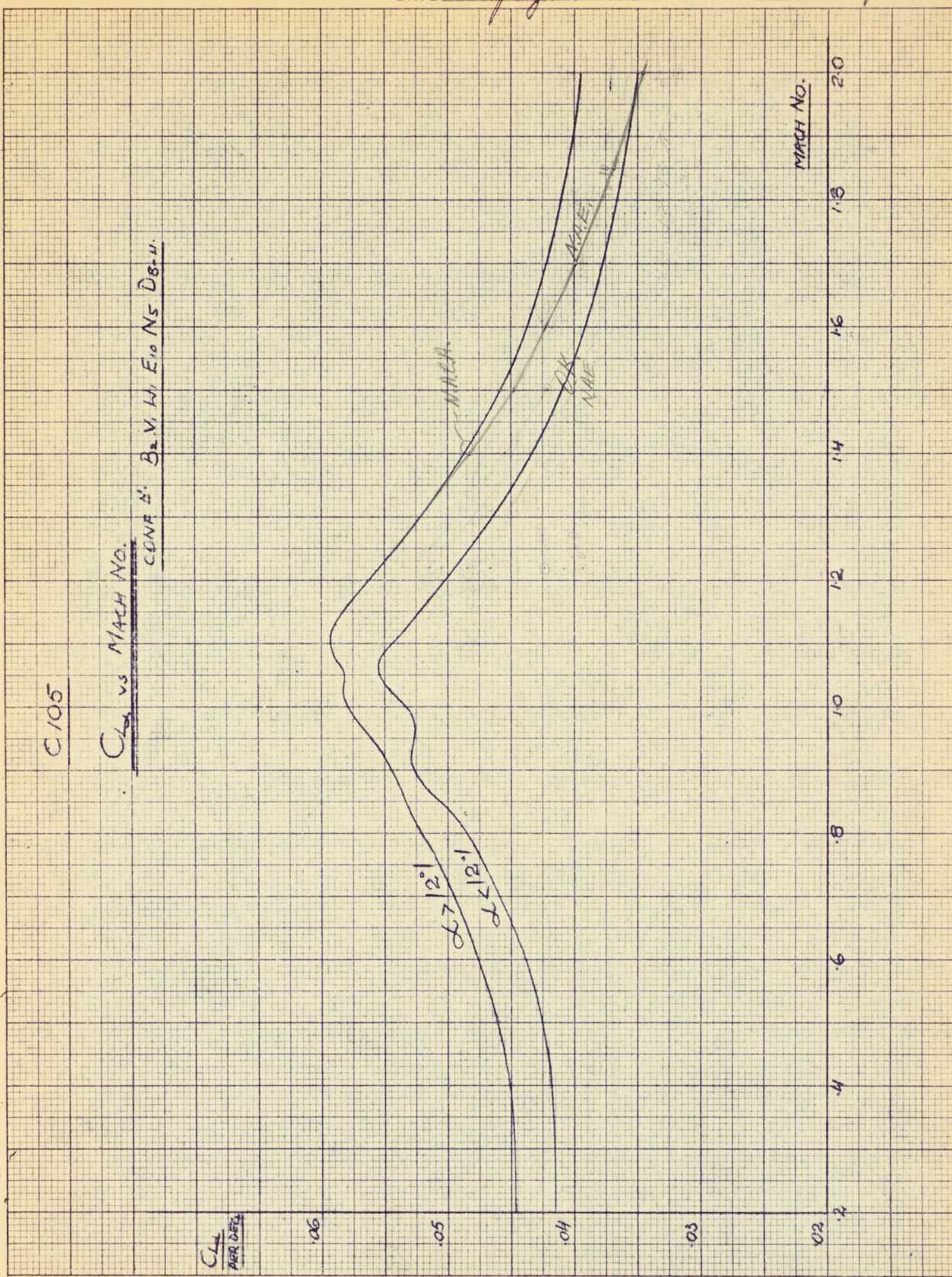
1.4

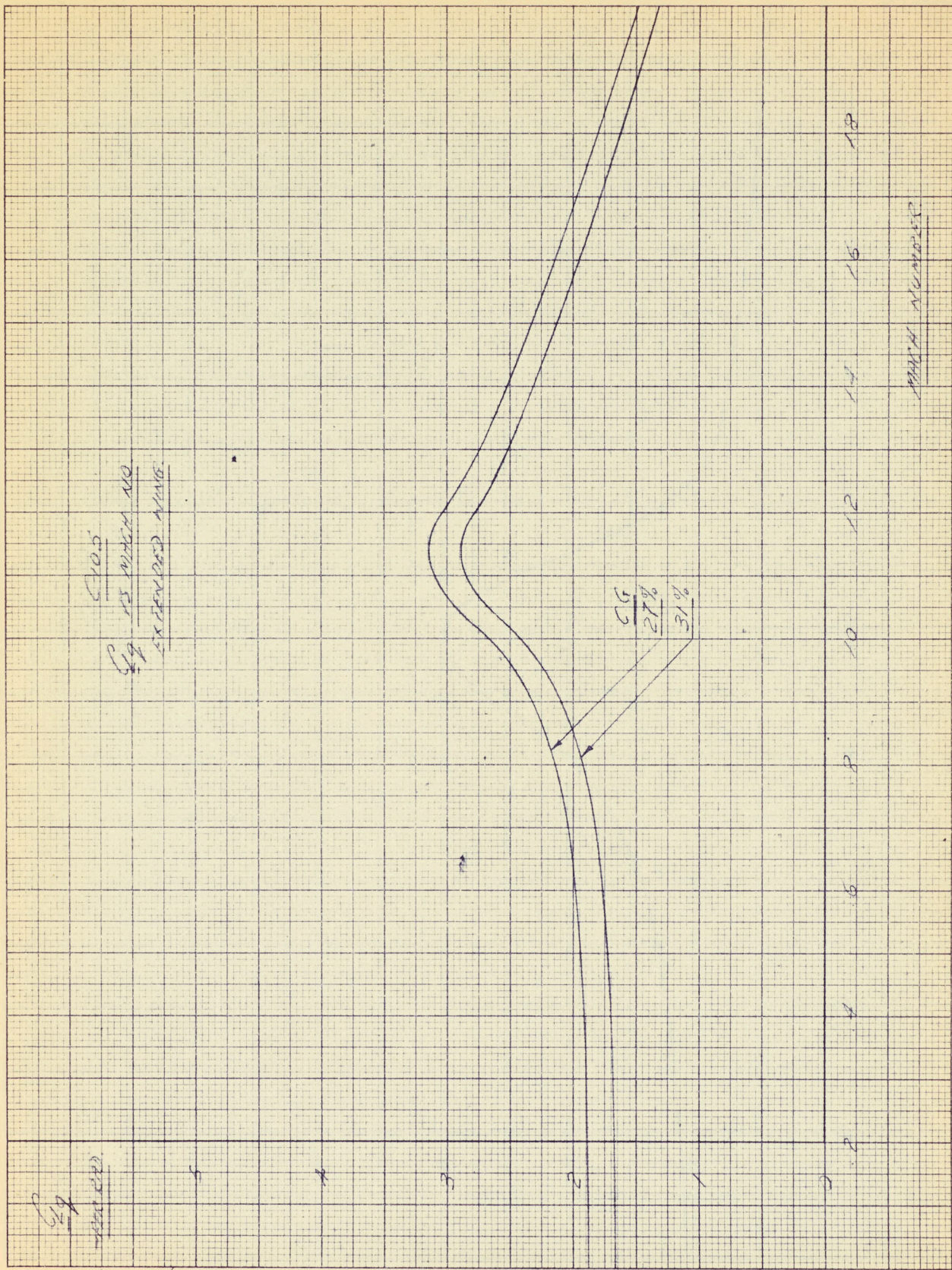
1.6

1.8

2.0

MACH NO.





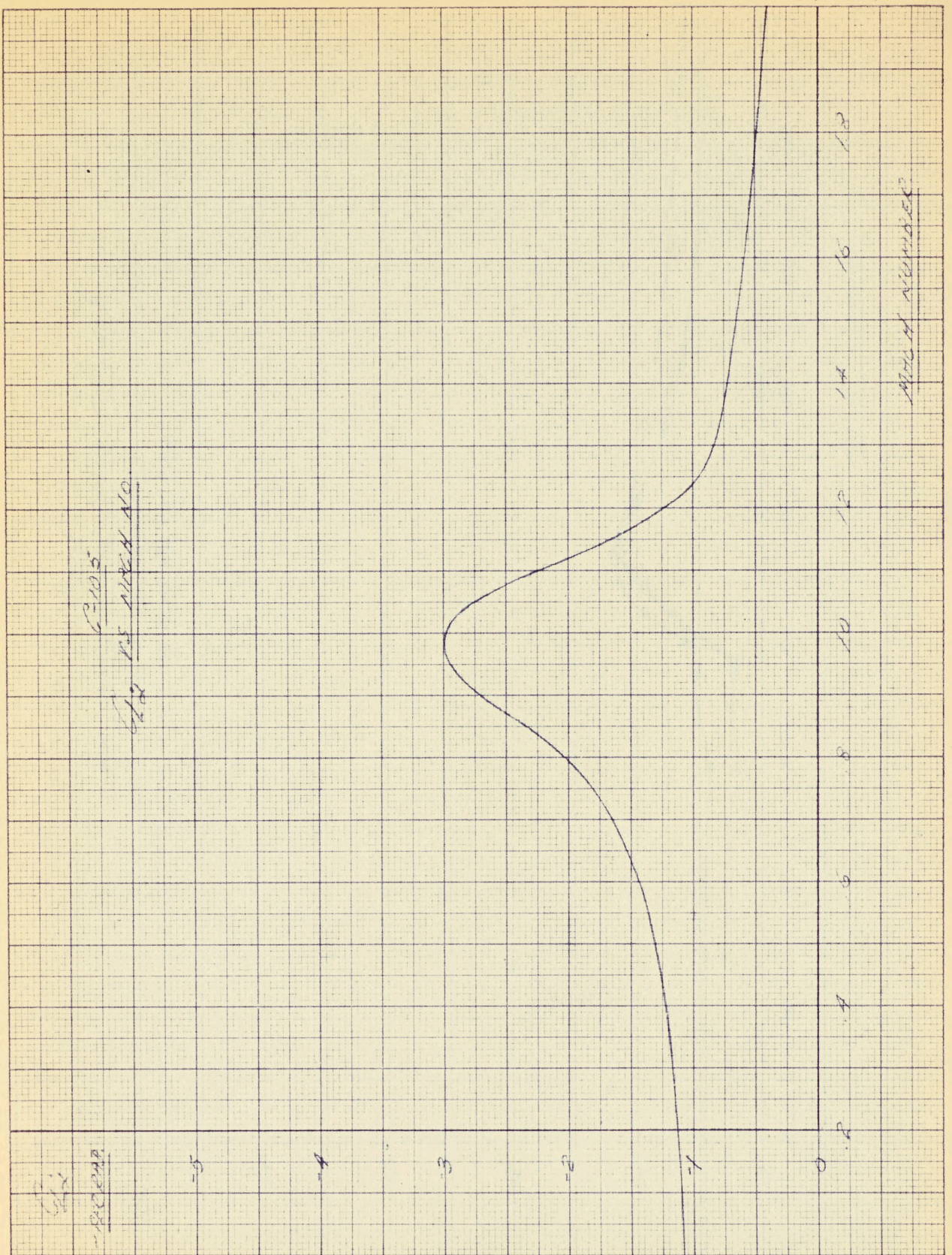
629
CHOS
15 MACH NO
EXTENDED AVG.

629
P/STAB/30

P/STAB/30

1.4 T/AERO DATA/53
PGT 52. BRANK

K&E 10 X 10 TO THE 1/2 INCH 359-12
KEUFFEL & ESSER CO. MADE IN U.S.A.



P STAB/31

C-105
CAL AND TUNNEL TESTS (MAY 55)
CAL 15 MACH NO
E2 MACH NO 15 D8-A

CAL

04

03

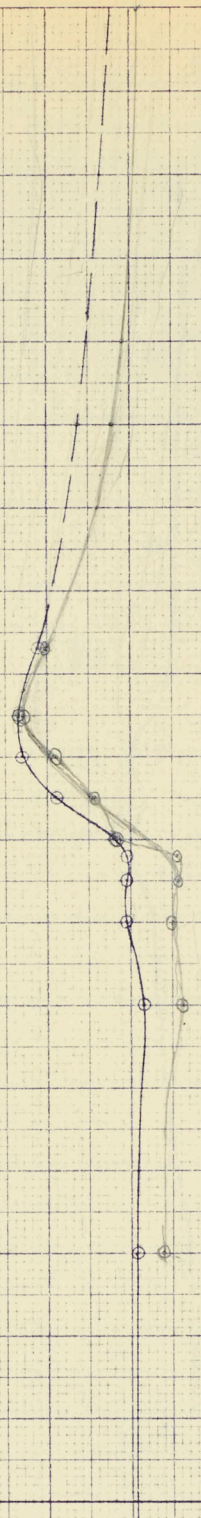
02

01

0

4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

MACH NUMBER



15 P/ALCO DATA/59
MAY 55 CLARK

AIRCRAFT
A. U. W.

COMPONENT

SHEET NO. 16
DATE June 1955

REPORT NO. P/AF ODA A 59
PREP. BY J. Kapis

KE 10 X 10 TO THE 1/2 INCH
KEUFFEL & ESSER CO.
READING, U. S. A.

C105

α_0 vs MACH NO.

CONF: B₂ V, W, E, S D₃₋₄

α_0
DEGREES.

30

20

10

4

6

8

10

12

14

16

18

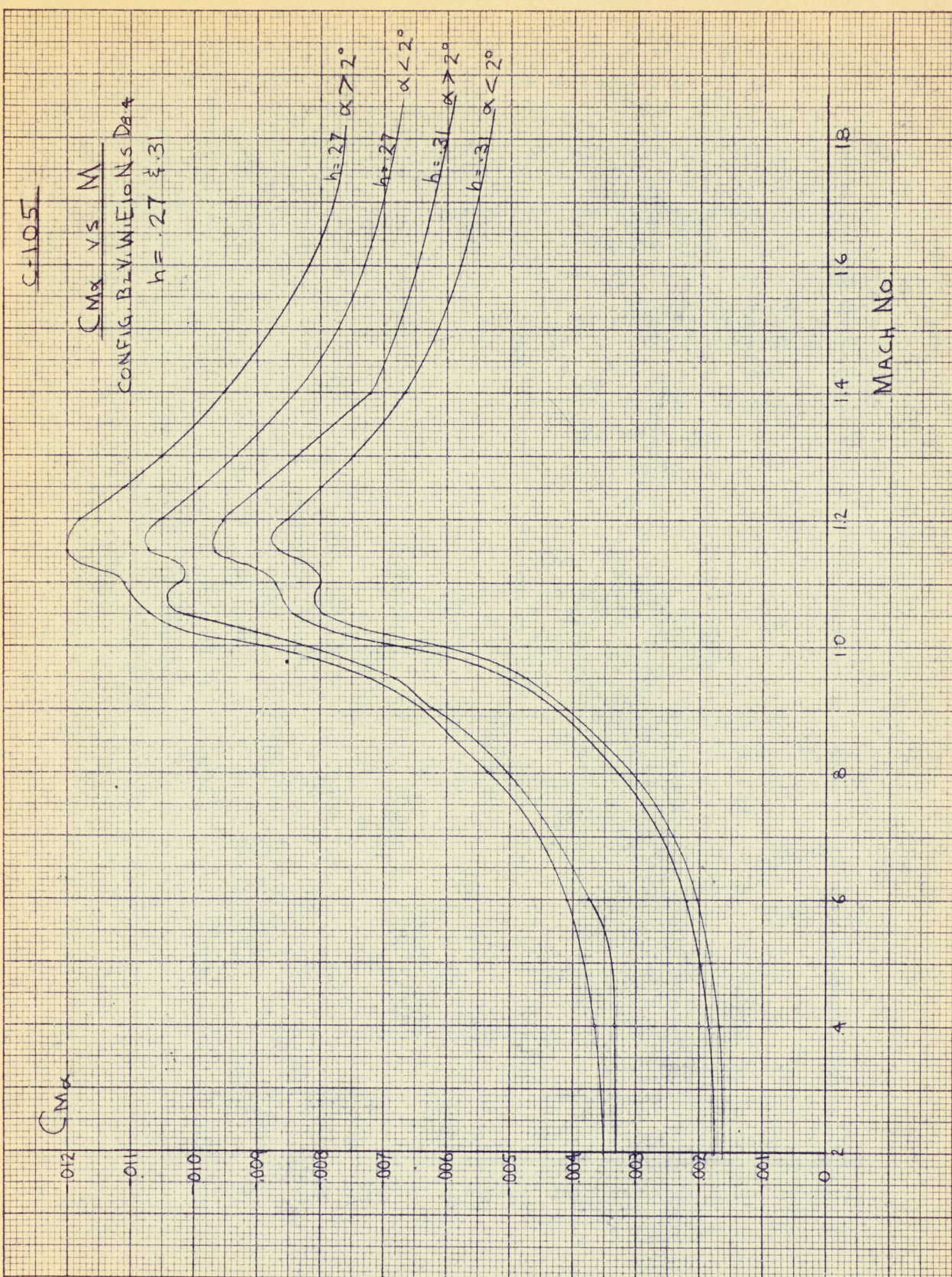
MACH NO.

P/WT/80

FORM 1743

C-105

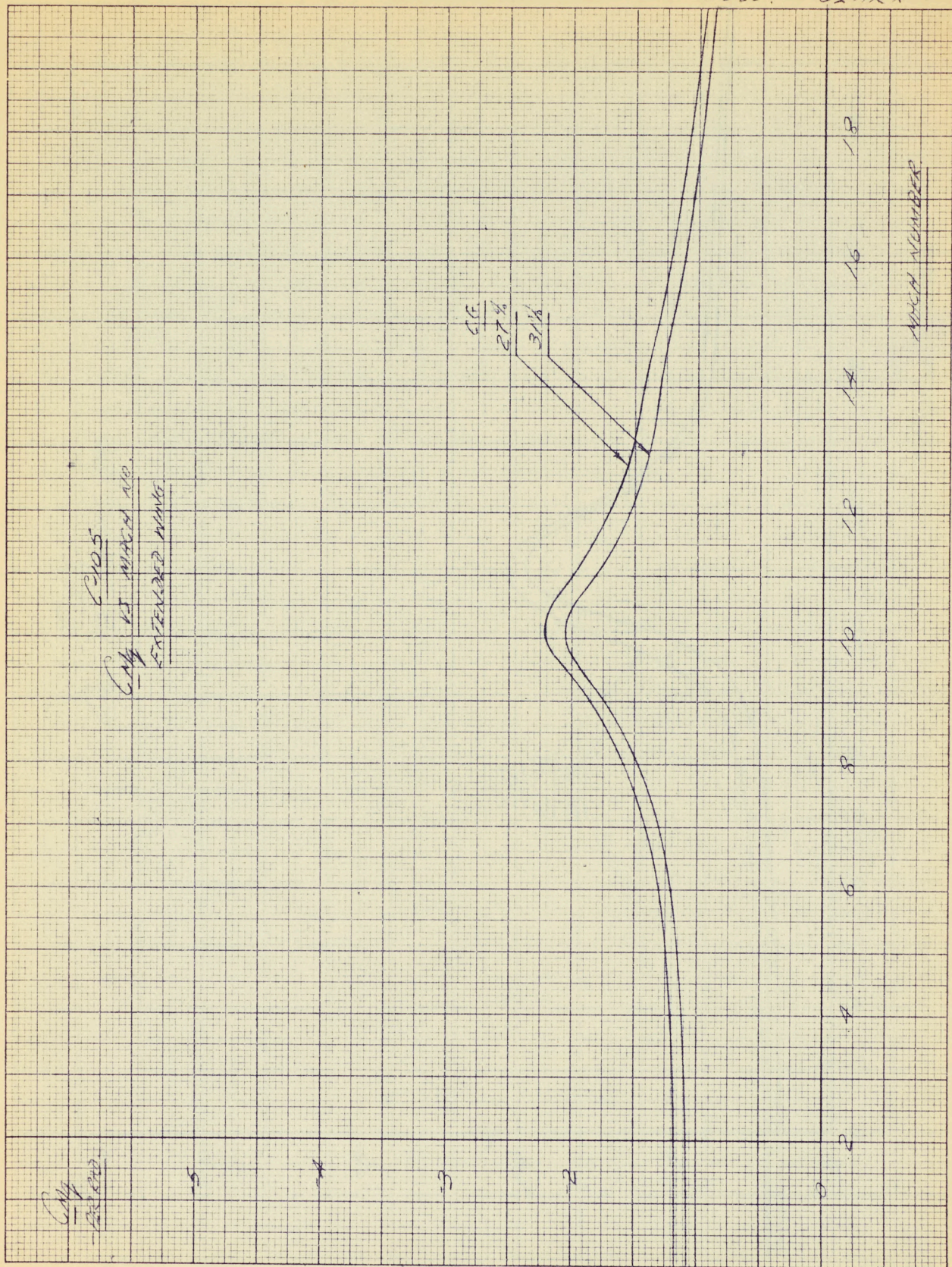
$C_{M\alpha}$ vs M
CONFIG. B-2 V. W. I. O. N. S. D. 4
 $h = .27 \pm .3$



1.8.

P/AERO DATA/59

FEB 55. CLARK



CLARK
EXTENDED WING

CLARK
EXTENDED WING

P/STAB/26

MACH NUMBER

SHEETS . 1.10.

1.11.

1.12.

NOT AVAILABLE

K&E 10 X 10 TO THE 1/2 INCH
 PAPER & ESSER CO. MADE IN U.S.A.

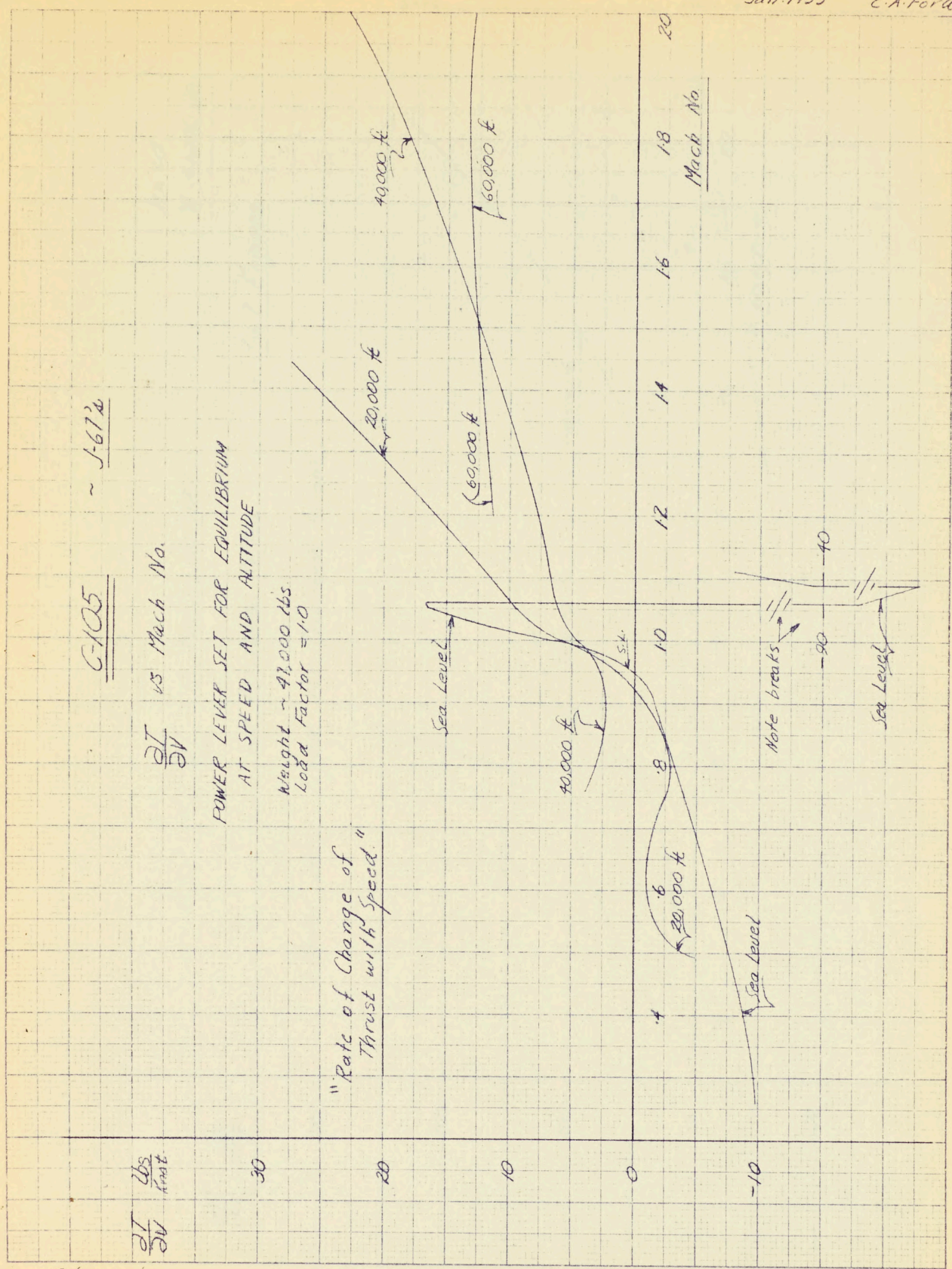
C-105 ~ J-672

$\frac{\partial Z}{\partial V}$ vs Mach No.

POWER LEVER SET FOR EQUILIBRIUM
 AT SPEED AND ALTITUDE

Weight ~ 42,000 lbs
 Load Factor = 1.0

"Rate of Change of Thrust with Speed"



$N = 1.0$
 $W = 47,000 \text{ lbs.}$

J-67 Engines

C-105

$\frac{\partial T}{\partial \alpha}$ vs Mach Number

$\partial \alpha$

for Altitudes Noted

(Power Lever Fixed for Trimmed Flight)

$\frac{\partial T}{\partial \alpha}$ lbs/deg.

300

200

100

0

-100

Sea level

30,000 ft

40,000 ft

10

12

14

16

18

20

60,000 ft

C-105 ~J-673

$\frac{\partial T}{\partial h}$ 15 Mach No.

"Rate of Change of Thrust with Altitude"

Flight Conditions ~ Weight 47,000 lbs
Load Factor = 1.0

POWER LEVER SET FOR EQUILIBRIUM
AT SPEED AND ALTITUDE.

NB $\frac{\partial T}{\partial h}$ is double-valued
at the Tropopause
(approx 35,000 ft.)
for all Mach Nos.

$\frac{\partial T}{\partial h}$ lbs/ft.

-15

-10

-5

0

2

4

6

8

10

12

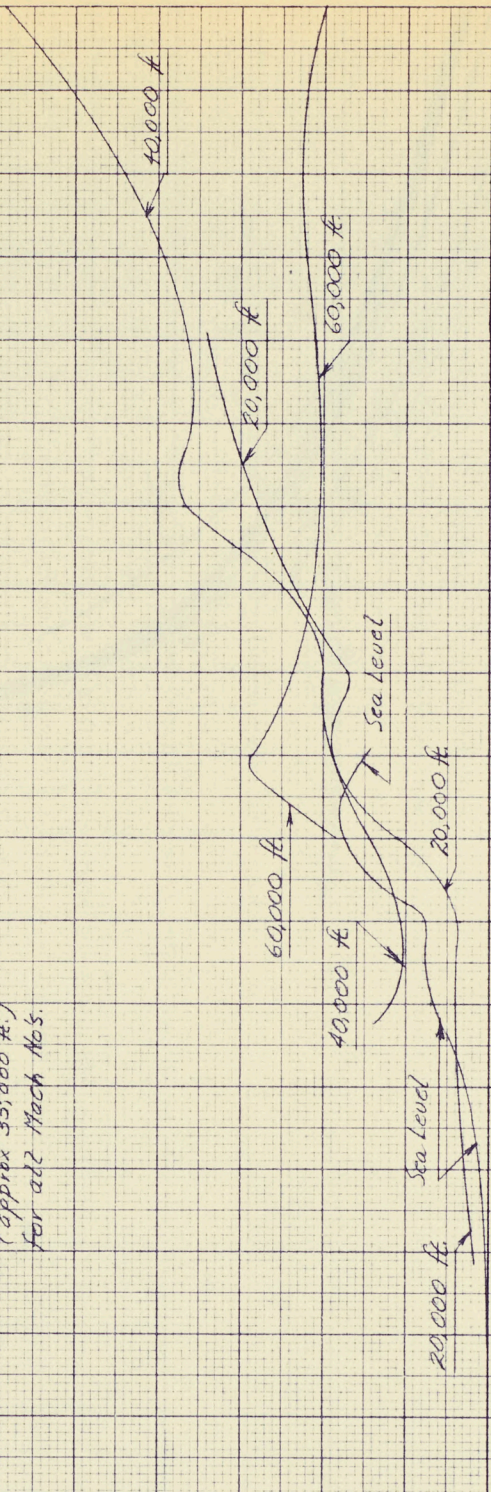
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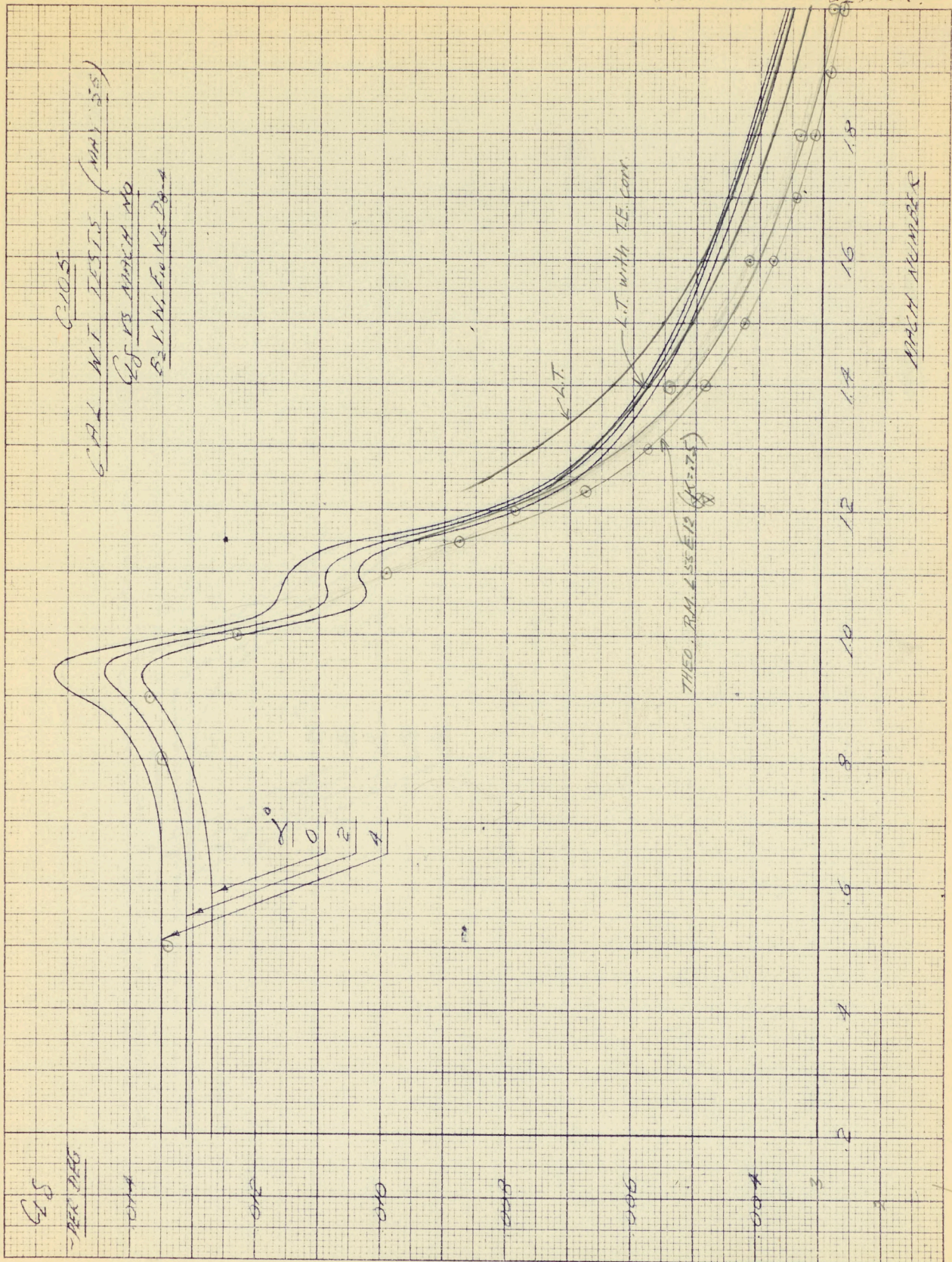
16

18

20

Mach No





CL

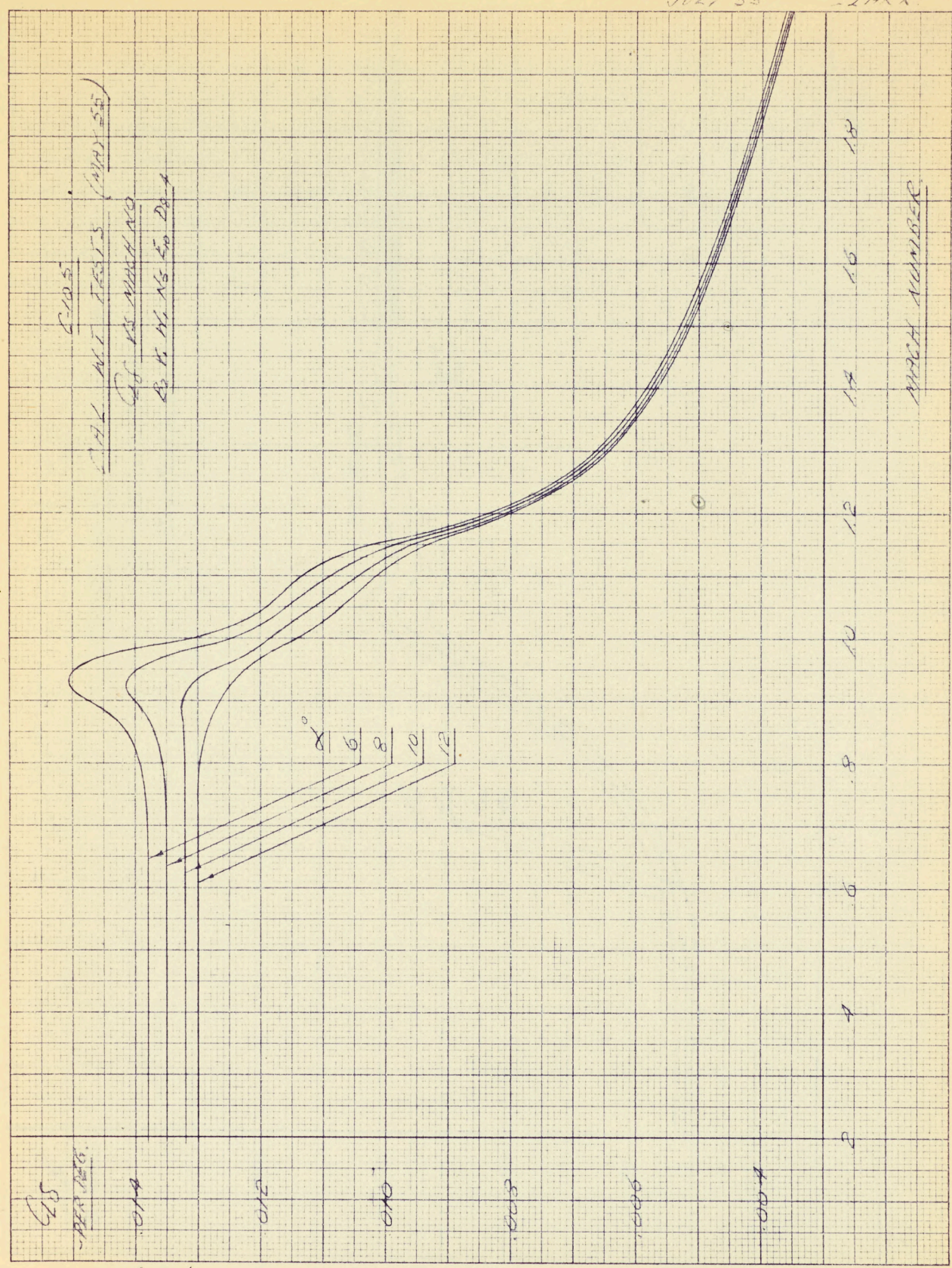
PER P/WT

P/WT/80

MACH NUMBERS

212 PARD DATA/59
 JULY 55 LNER

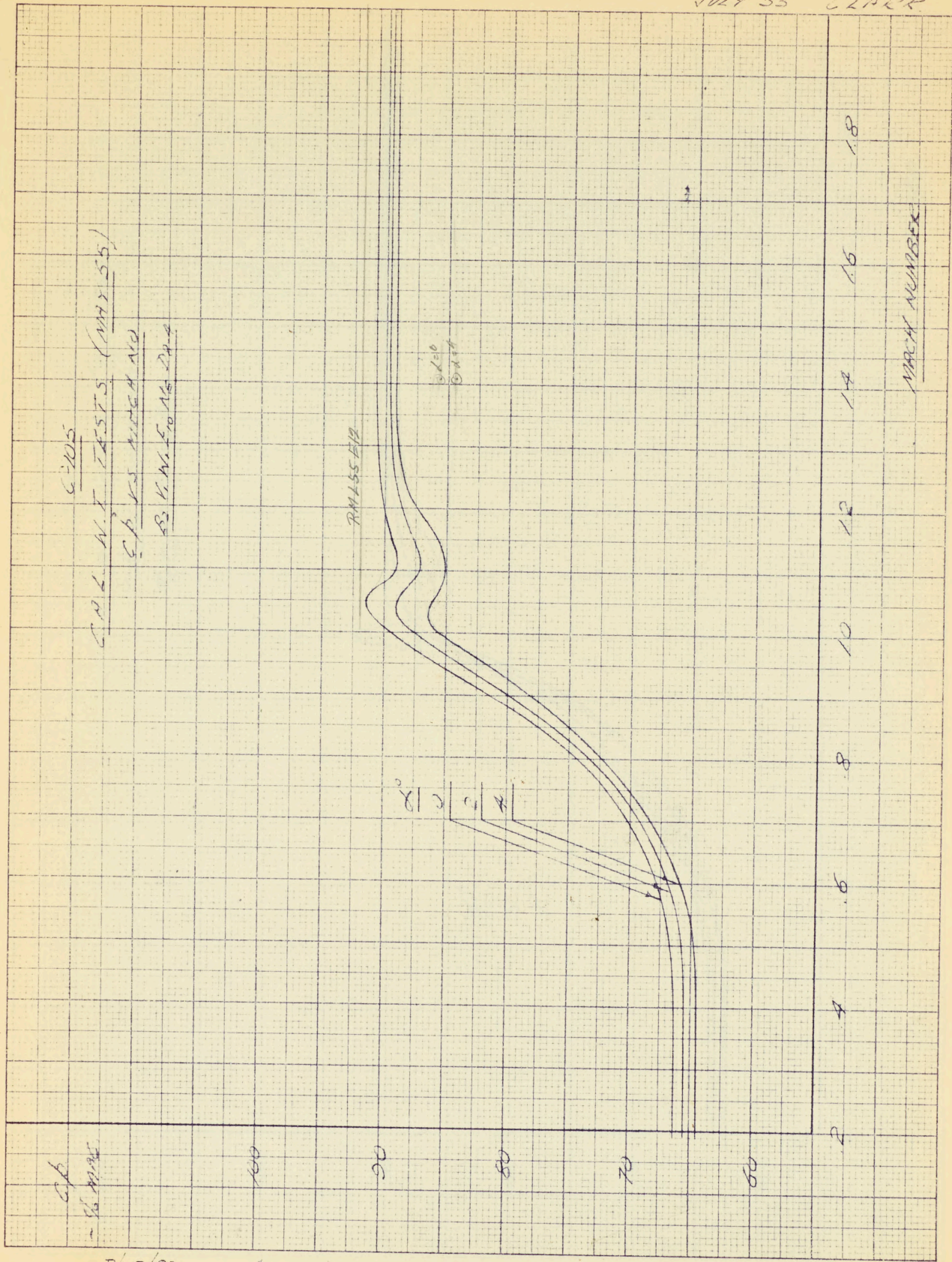
KE 10X10 TO THE 1/2 INCH
 NEUFFEL & ESSER CO.
 MADE IN U.S.A.



P/WT/80

JULY 55 CLARK

K&E 10X10 TO THE 1/2 INCH 359-12
KLUFFEL & ESSEL CO. WATERBURY, VT.



C-205
 C.M.L. N.I. TESTS (MAY 55)
 S.P. VS. MACH NO.
 B3 K.W. F₀ 16 24 4

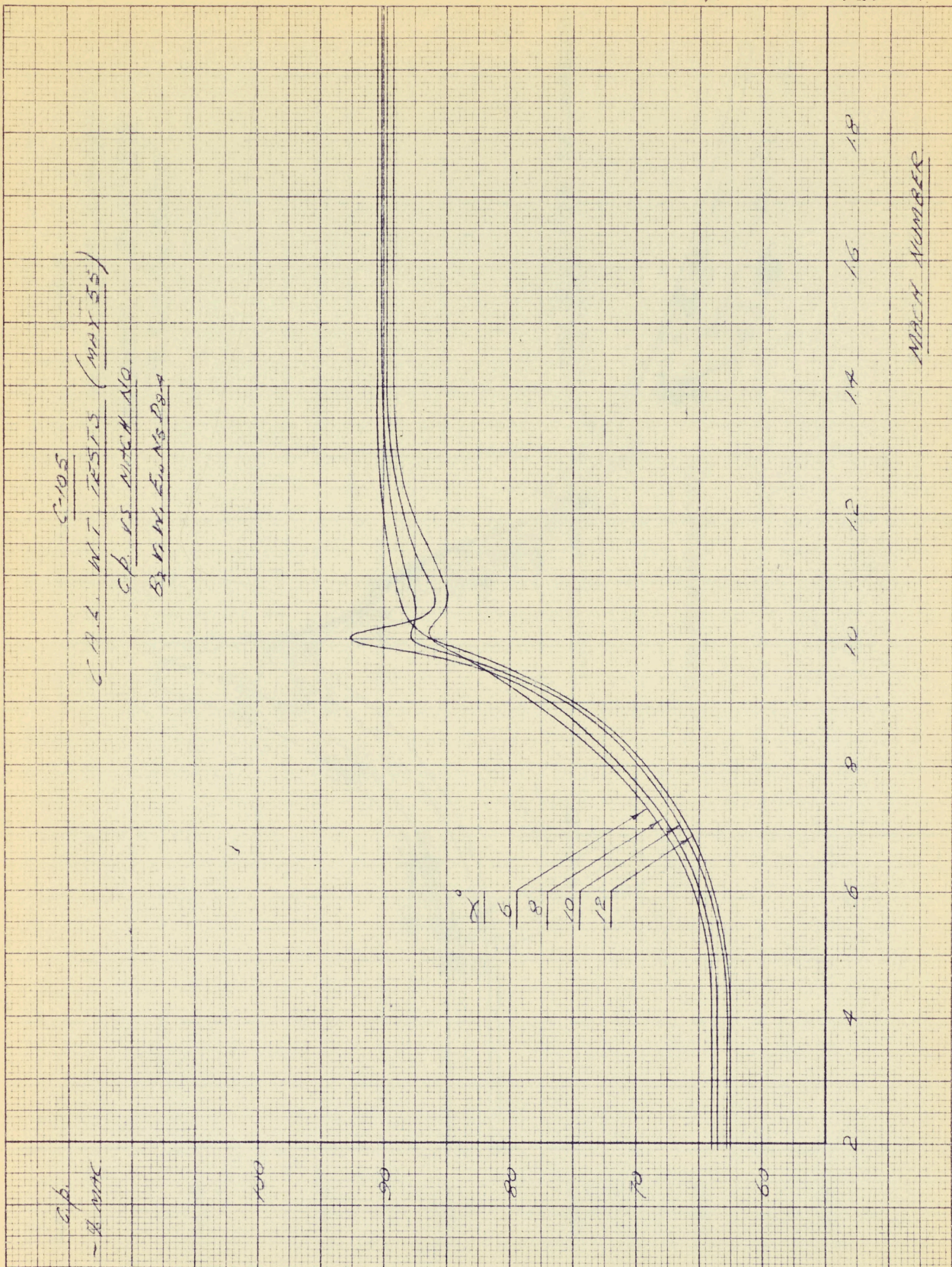
RM 155 F12

RM 155 F10

C/R

MACH NUMBER

P WT/80

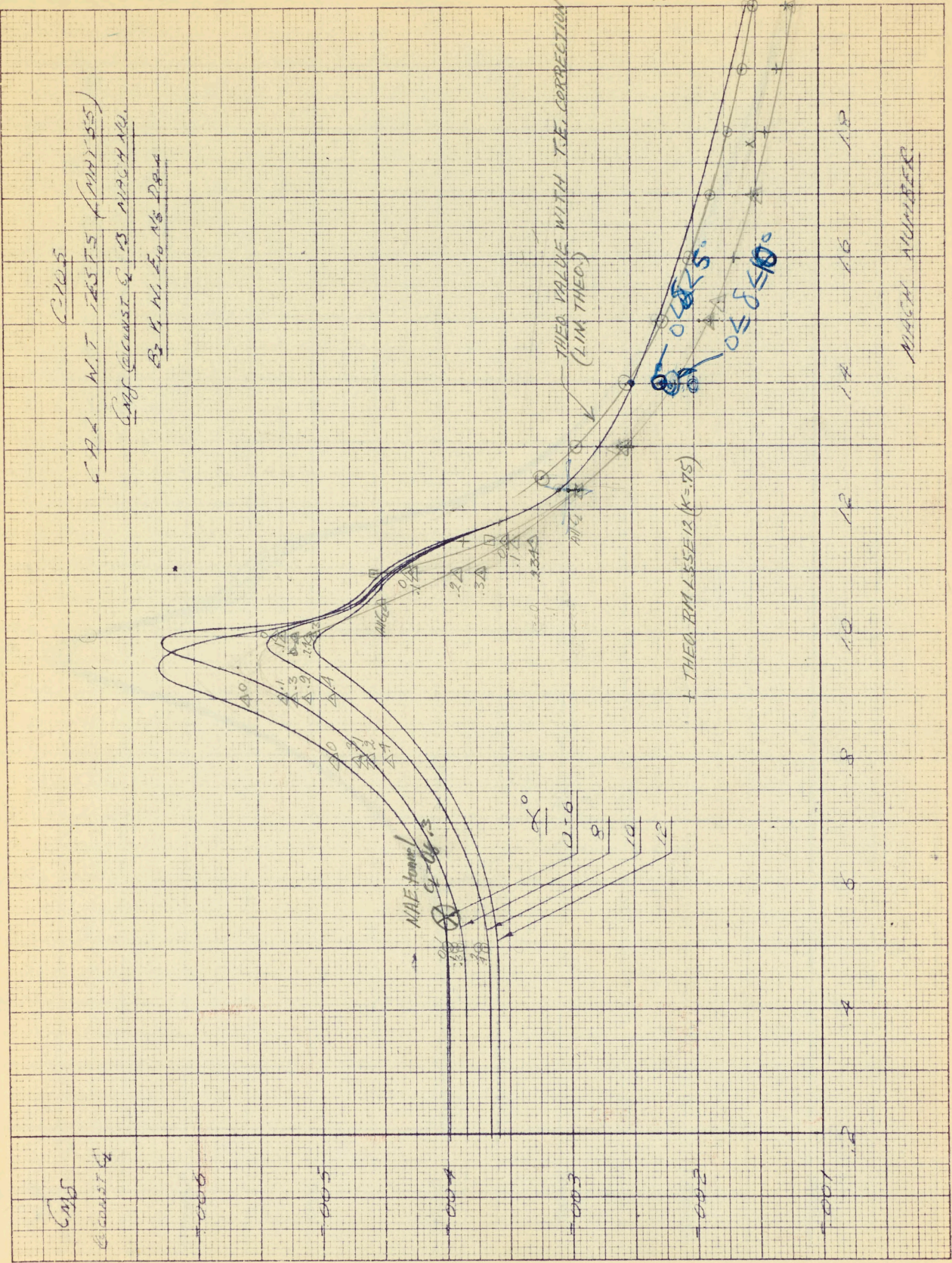


JULY 55

CLARK

KE 10X10 TO THE 1/4 INCH REUTHEL & ESSEN CO. MADE IN U.S.A. 359-12

CLARK
CLARK W/T TESTS (ANNEX 55)
CONF. COURSE & IS APPROXIMATE
B-1 W. E. 10. 18. 1944



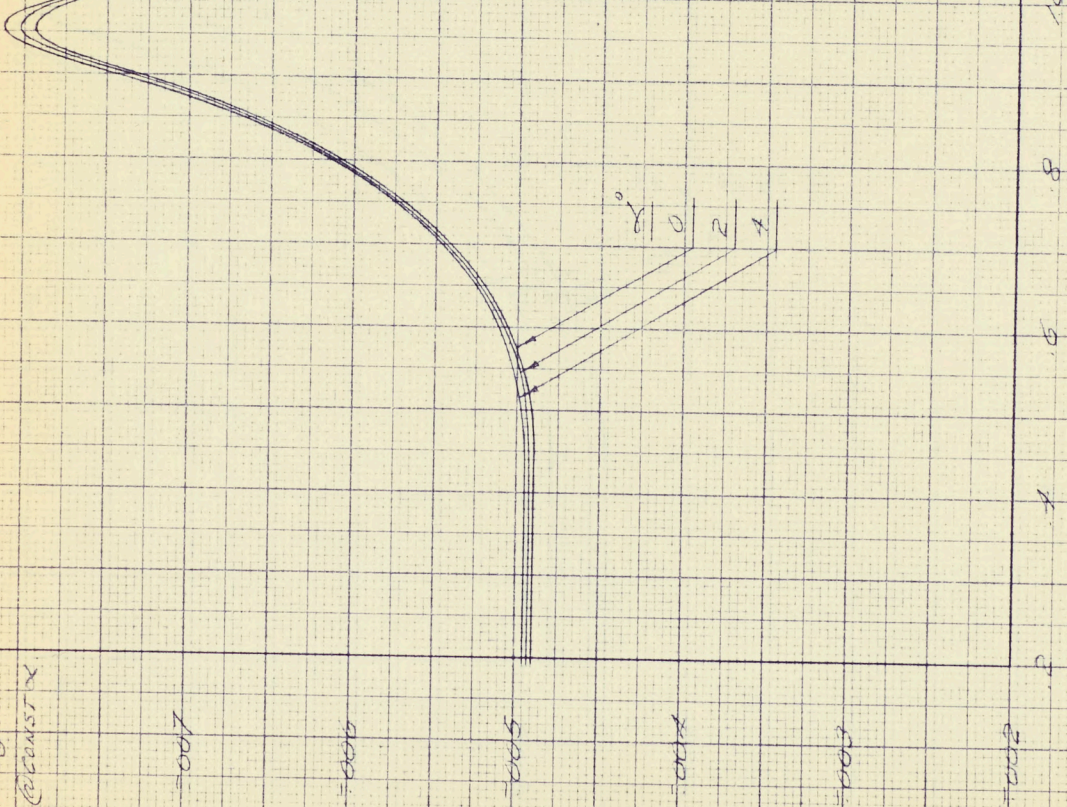
Cl
0.00
0.10
0.20
0.30
0.40
0.50
0.60
0.70
0.80
0.90
1.00

MACH NUMBER
0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8

JULY 55 2 MARK

C-105
CALC N.Y. TESTS (N.Y. 55)
CORR CONST. AS NOTED AND
D₂ N.Y. Exp No 204

SPCH NUMBERS



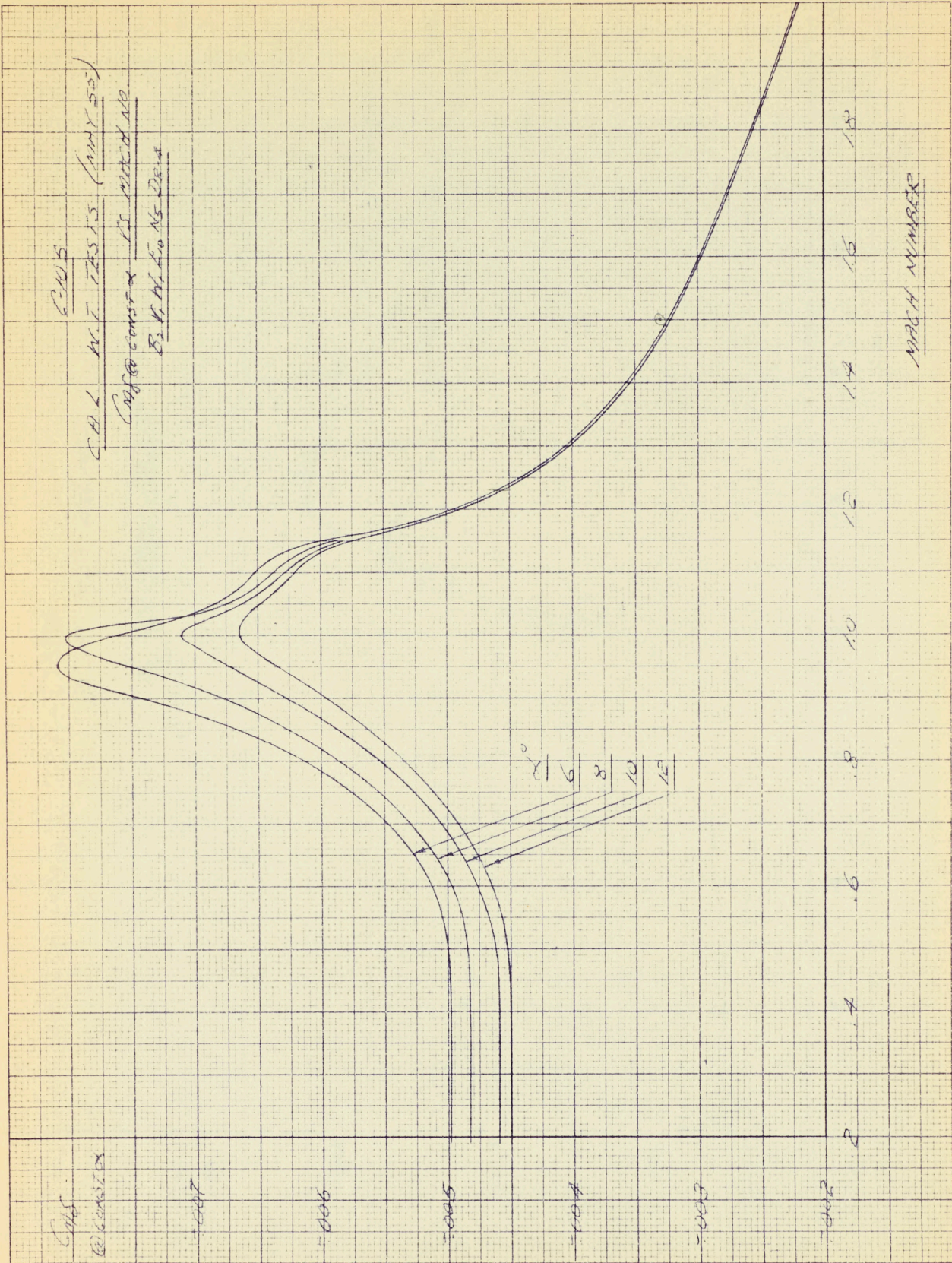
1
2
3
4

P/WT/80

155000
PMS

24.2. P Aero DATA 59
 JULY 55. GRARK

CAV
 CAL WT TESTS (MAY 55)
 CAPRO CONST & II MACH NR
 B. K. ALLEN'S DEPT



CAV
 CAPRO CONST

007

006

005

004

003

002

P/WT/80

AIRCRAFT
A. U. W.

COMPONENT

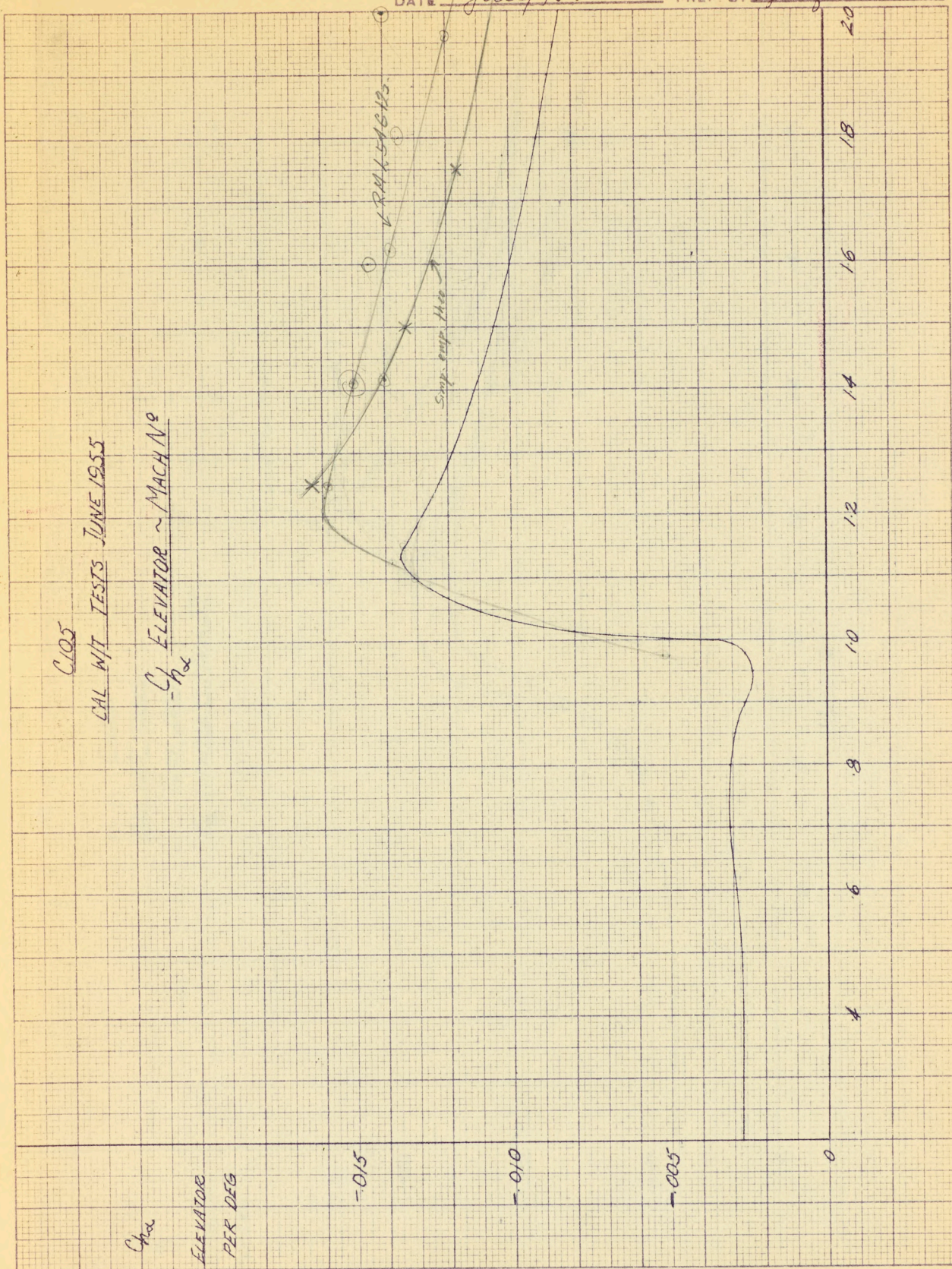
SHEET NO. 25

REPORT NO. P/AERO/DATA/59

DATE July 1555

PREP BY Sulejowski

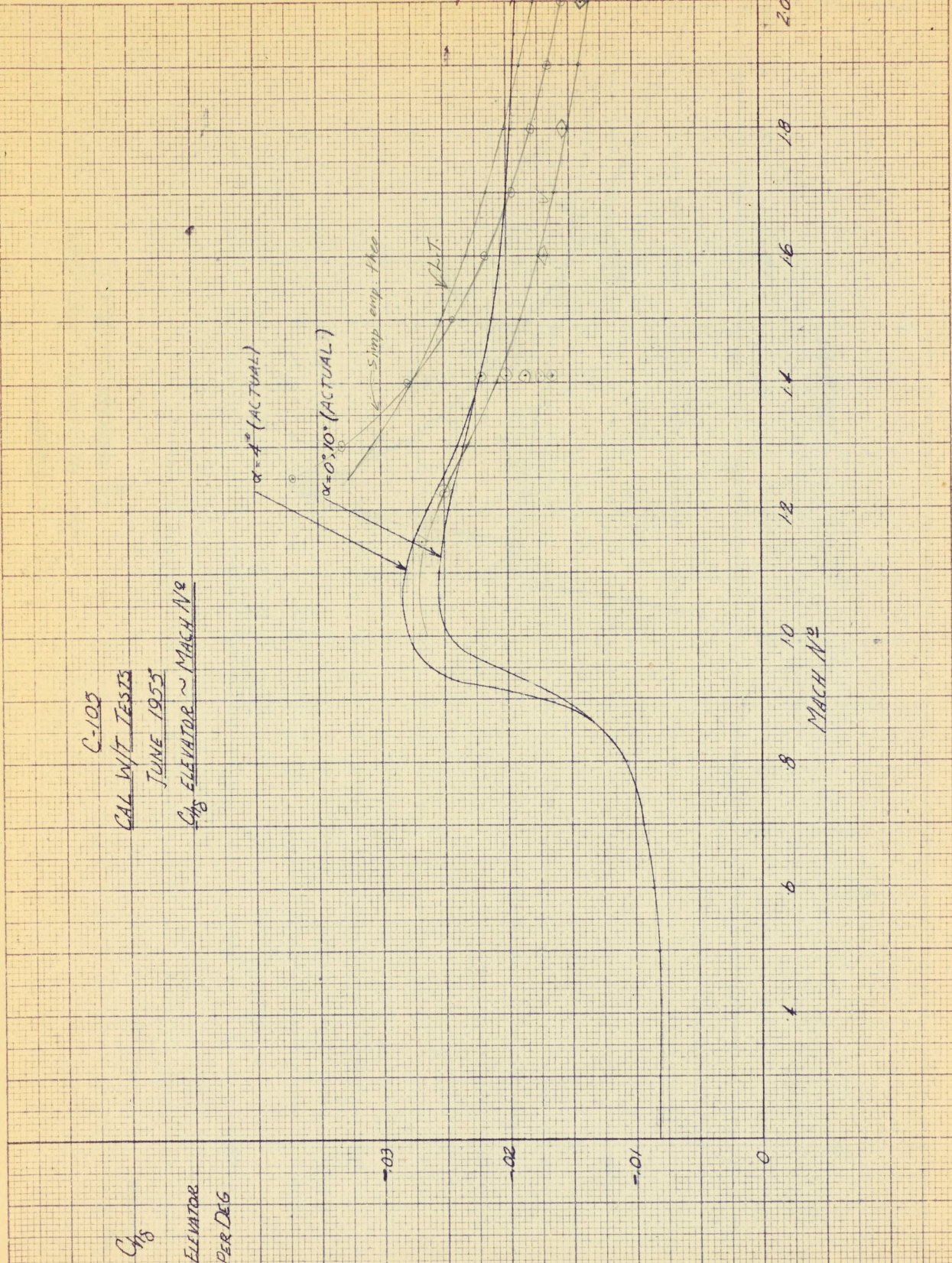
C105
CAL W/T TESTS JUNE 1955
 C_{L} ELEVATOR ~ MACH No
 $-h_{\alpha}$



K&E
10 X 10 TO THE 1/2 INCH 355-12
KUPPEL & ESSER CO

P/AERO-60

FORM 1746



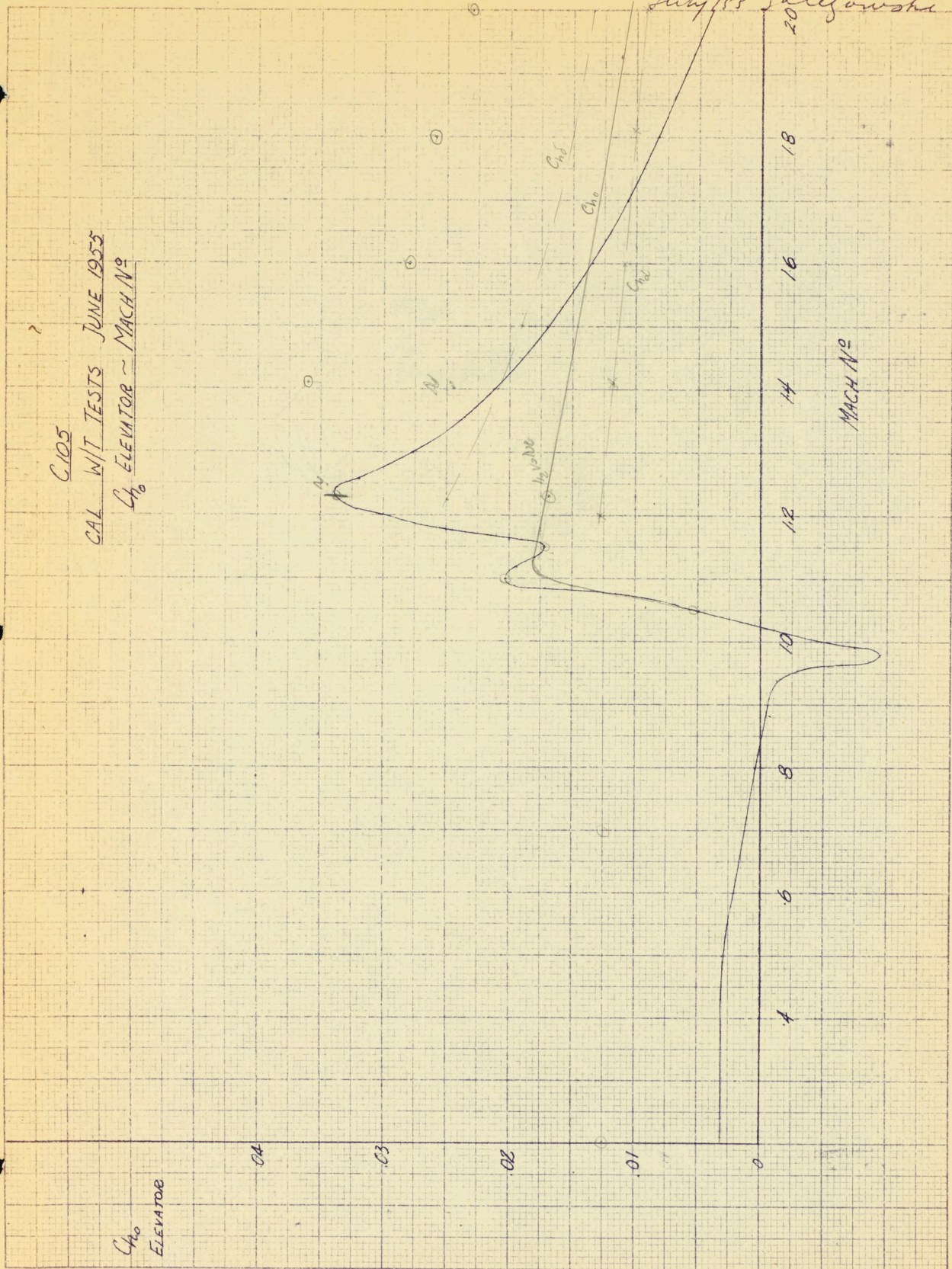
C-105
CAL W/T TESTS
JUNE 1955
CHS ELEVATOR ~ MACH N°

10 X 10 TO THE 1/2 INCH 359-12
KEUFFEL & ESSER CO. NEW YORK

C105
CAL W/T TESTS JUNE 1955
 C_{L0} ELEVATOR ~ MACH N²

2.7.

P/AERO DATA/59
July 1955 Salyowski



P/AERO - 60

SHEETS 2.8.

2.9.

Not
Available.

ATLANTA
1954
PREF-000