[redacted]

0992

UNCLASSIFIED

MAY 18 1961

File: MC-1362, 3-2
T-17663
13.283.60
Completed 4/1/61

9/28/98
RBBrauer
9/29/98
W Layne

Classification Changed to: U
Contains No DOE Classified Information
Contains UCAI: NS
Comments: Ordinarily

TCG-NNT-1; TCG-WPMU-1

To: DISTRIBUTION

Re: Parachute Deployment Test of TX-57

Object of Test

The object of this test was to fire the MC-1362 and to measure the resultant pressure in the system and the velocity imparted to the tail can. The information was requested to assist in the calculations of the energy of the tail can during development.

Authorization for Test

This test was requested by Division 7124 in a Work Order Authorization dated March 16, 1961. Mr. H. A. Mullin was the consultant. The material for test was received April 1, 1961.

Summary

Two each MC-1362 Gas Generators were fired, deploying the parachute of the TX-57. Each generator had a slightly different propellant charge giving a different pressure-time curve and different velocity and horizontal displacement.

In each of these firings the MC-1362 fired successfully and projected the tail can to the end of the shroud lines, but in neither case were all of the parachute ties broken.

Functional Measurements and Methods

The York chamber located in Bldg. 913, Area II, was used for temperature conditioning. The firing test was performed in the firing chamber located east of Bldg. 904, Area II.

Instrumentation of the pressure-time curve was accomplished by means of a 15,000 psi Norwood transducer, a Kintel strain gauge amplifier, and a CEC direct recording oscillograph.

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The velocity of the tail can was measured by Fastax camera coverage.

MAY 19 1961
CENTRAL RECORD

SANDIA SYSTEMATIC DECLASSIFICATION REVIEW
DOWNGRADING OR DECLASSIFICATION STAMP

CLASSIFICATION CHANGED TO: U	AUTHORITY: W. C. Layne
PERSON CHECKING MARKING & DATE: 9/29/98	RECORD ID: 98SN4471
PERSON VERIFYING MARKING & DATE: 9/29/98	DATED: 9/29/98

CENTRAL RECORD FILE
ACCOUNTANT
FILE No. MC-1362

[redacted]

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Procedures and Results

The tail assembly of the TX-37 was temperature conditioned at -70°F, installed in the firing chamber and fired, as soon as possible.

The MC-1362, Serial No. F4-C/1, achieved a pressure of 6,000 psi, 11 milliseconds, after the firing signal. The maximum velocity was 90 feet per second at 50 milliseconds after initiation or after the parachute moved 3.5 feet.

MC-1362, Serial No. F3-C/1, achieved a pressure of 5,200 psi, 11 milliseconds, after the firing signal. The maximum velocity was 77 feet per second at 40 milliseconds after initiation or after the parachute moved 2.5 feet.

Unit Serial No. F4-C/1 displaced the tail cam 15 feet, and unit Serial No. F3-C/1 displaced the tail cam 13.5 feet. In neither test were all of the parachute ties broken.

See Figures 1 and 2 for these results.

R. D. JONES - 7321-1

D. K. BUCHANAN - 7321-5

RDJ:7321-1:kv

Enclosures: Figures 1 and 2

DISTRIBUTION:
W. J. Denison, 7124 (2)
Attn: H. A. Mallik
F. F. McBwin
J. Stein, 1312-1
Attn: R. C. Lawvill
J. H. Wiesen, 1462
D. S. Bliss, 2344
J. E. Harrison, 7523
E. H. Copeland, 7321
R. K. Smeltzer, 3421-3

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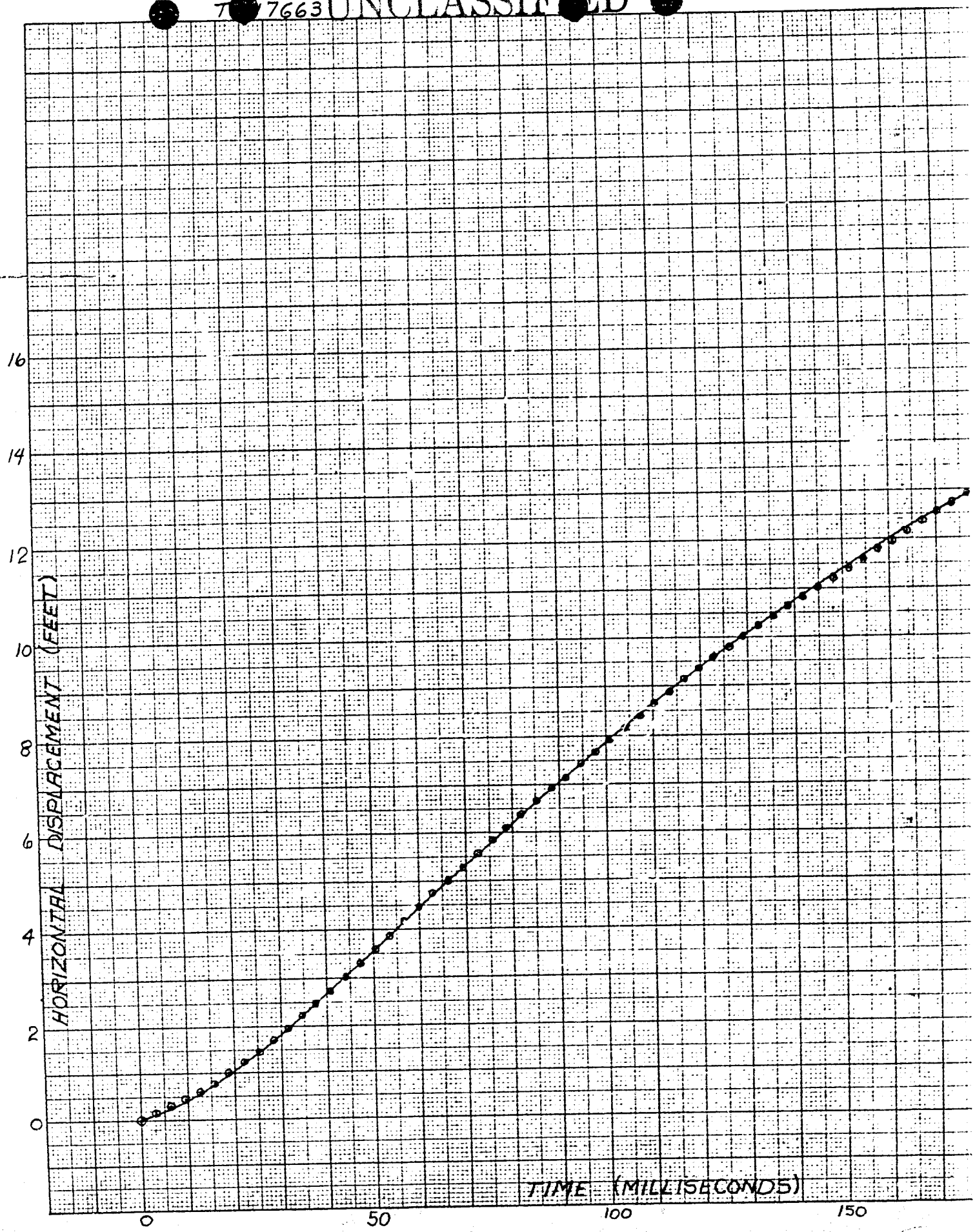
HORIZONTAL DISPLACEMENT (FEET)
0
2
4
6
8
10
12
14
16
TIME (MILLISECONDS)
0
50
100
150

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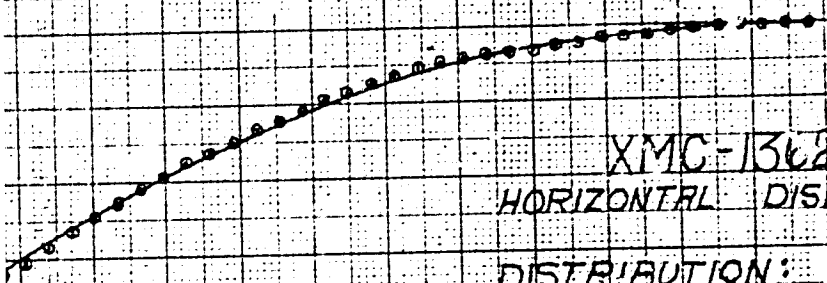

XMC-1362 TEST #1

HORIZONTAL DISPLACEMENT VS. TIME

DISTRIBUTION:

D. K.	BUCHANAN	7321-5
R. D.	JONES	7321-1
H. R.	MULLIN	7124-2
T. F.	LANEY	7241-3

FKM 7241-3 4-18-61

SER. NO. F4-C/L

NOTE: VERTICAL DISPLACEMENT WAS 0.96 FEET.

200 250 300

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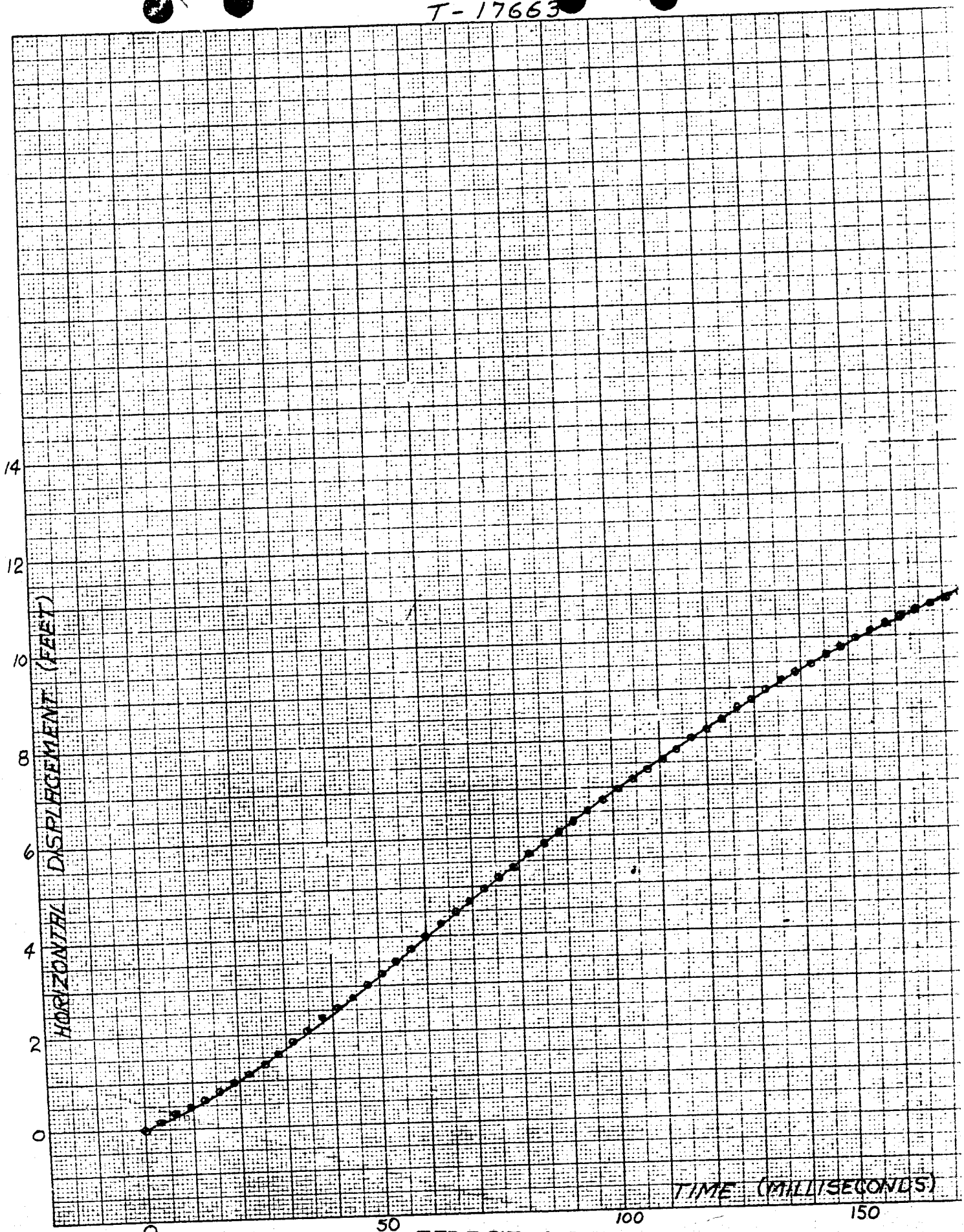

K&E 10 X 10 TO THE 1/2 INCH KEUFFEL & ESSER CO. MADE IN U.S.A.

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[redacted] FIGURE 1 [redacted] PAGE 2 OF 4

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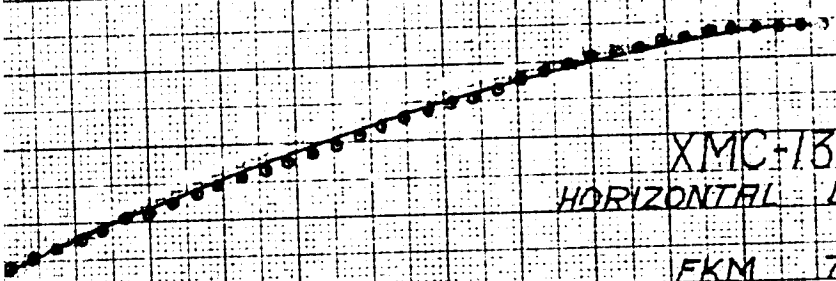

XMC-1362 TEST #2
HORIZONTAL DISPLACEMENT VS. TIME

FKM 7241-3 4-18-61

SER. NO. F3-C/1

NOTE: VERTICAL DISPLACEMENT WAS 0.76 FEET.

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(DS)

200 250 300

[redacted]

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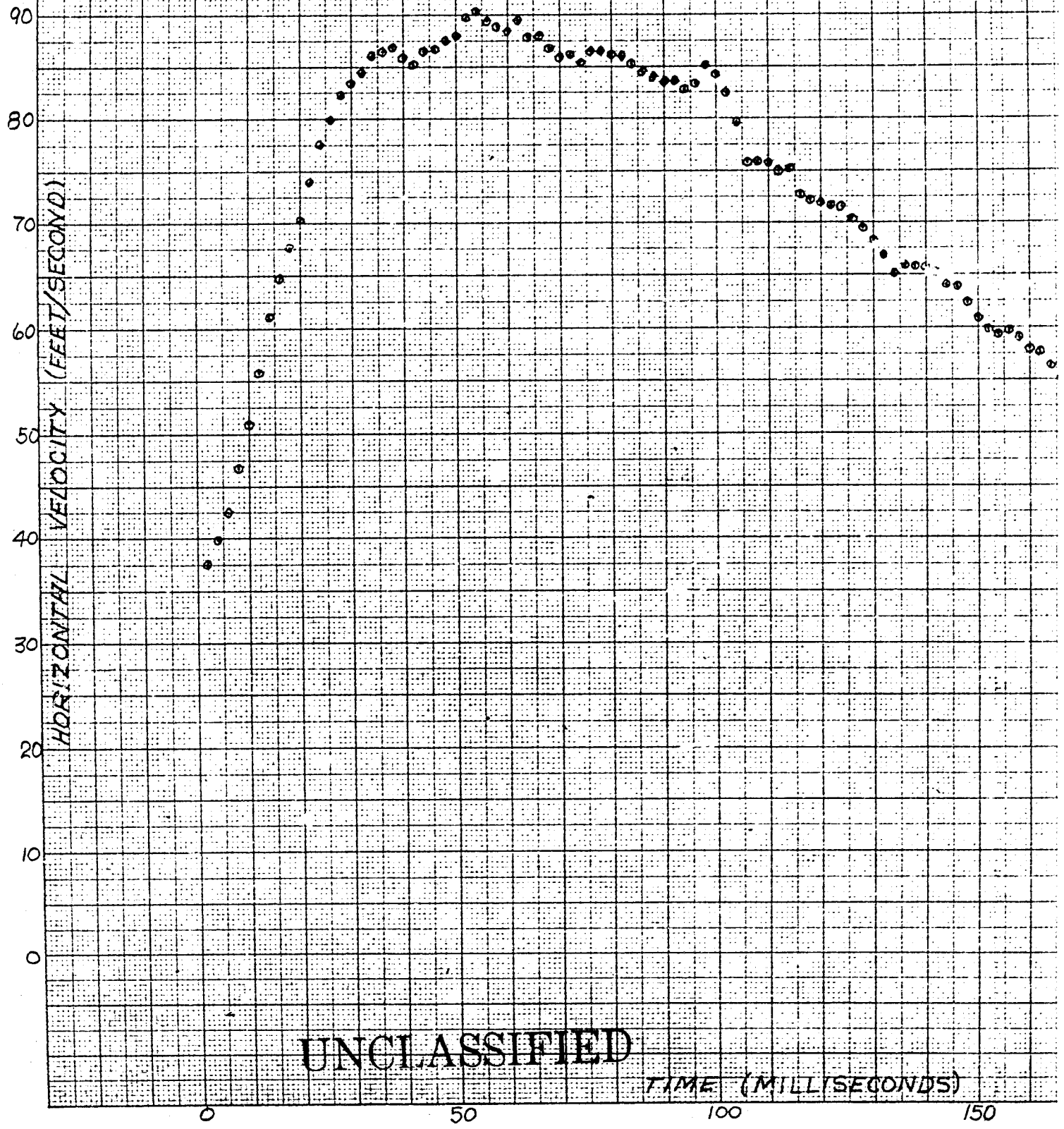

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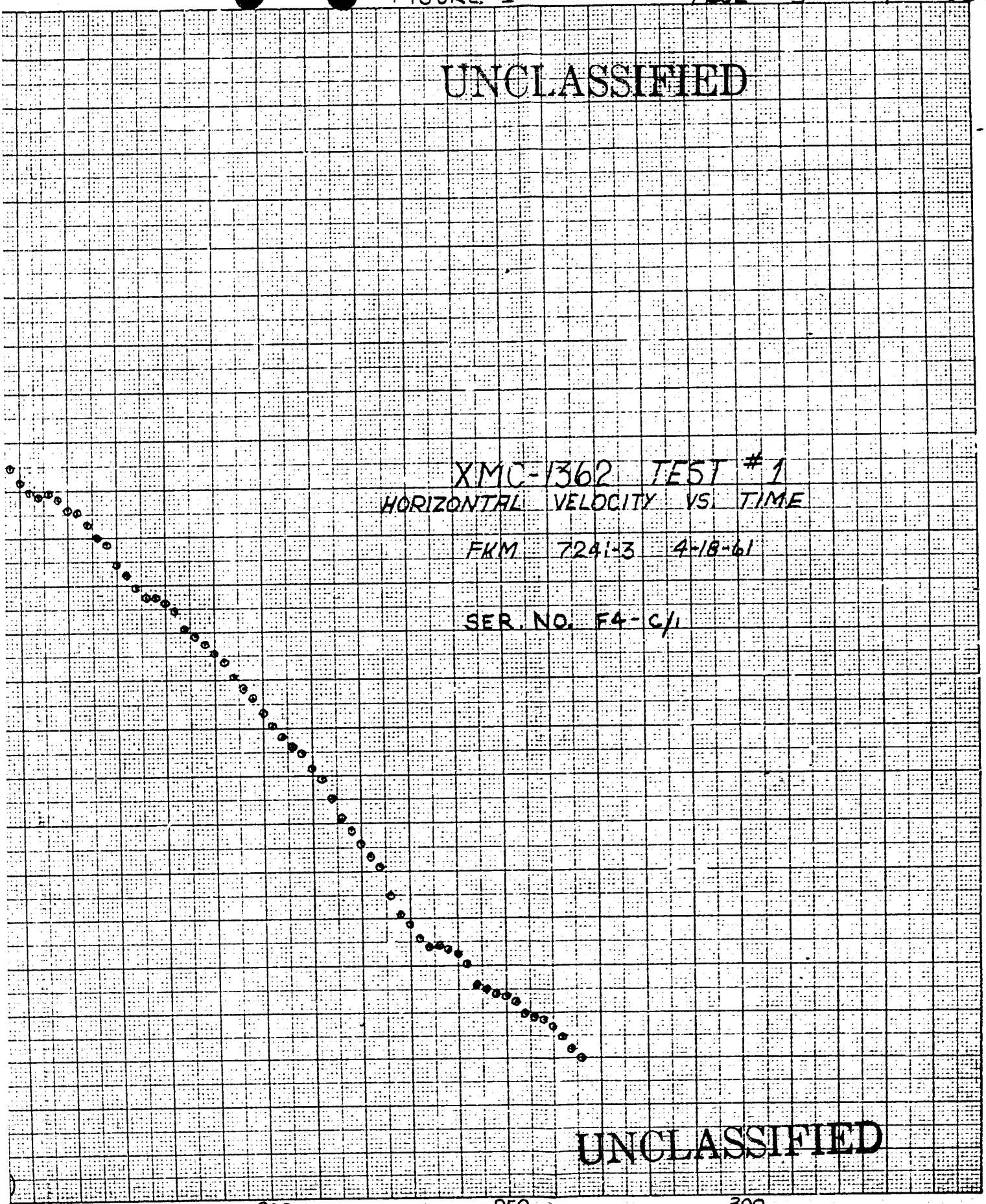

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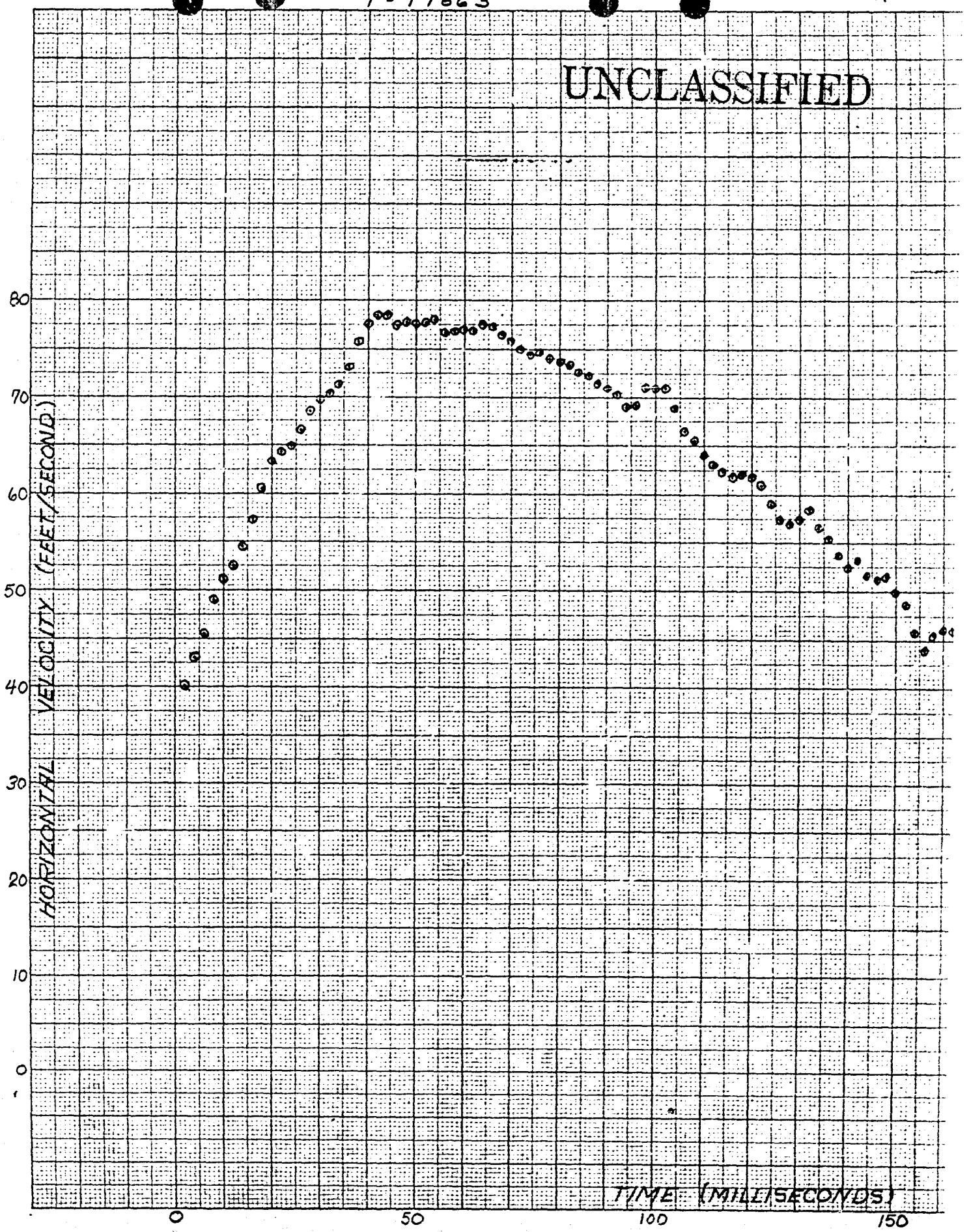

K&E 10 X 10 TO THE CM. 359-14L KEUFFEL & ESSER CO. MADE IN U.S.A.

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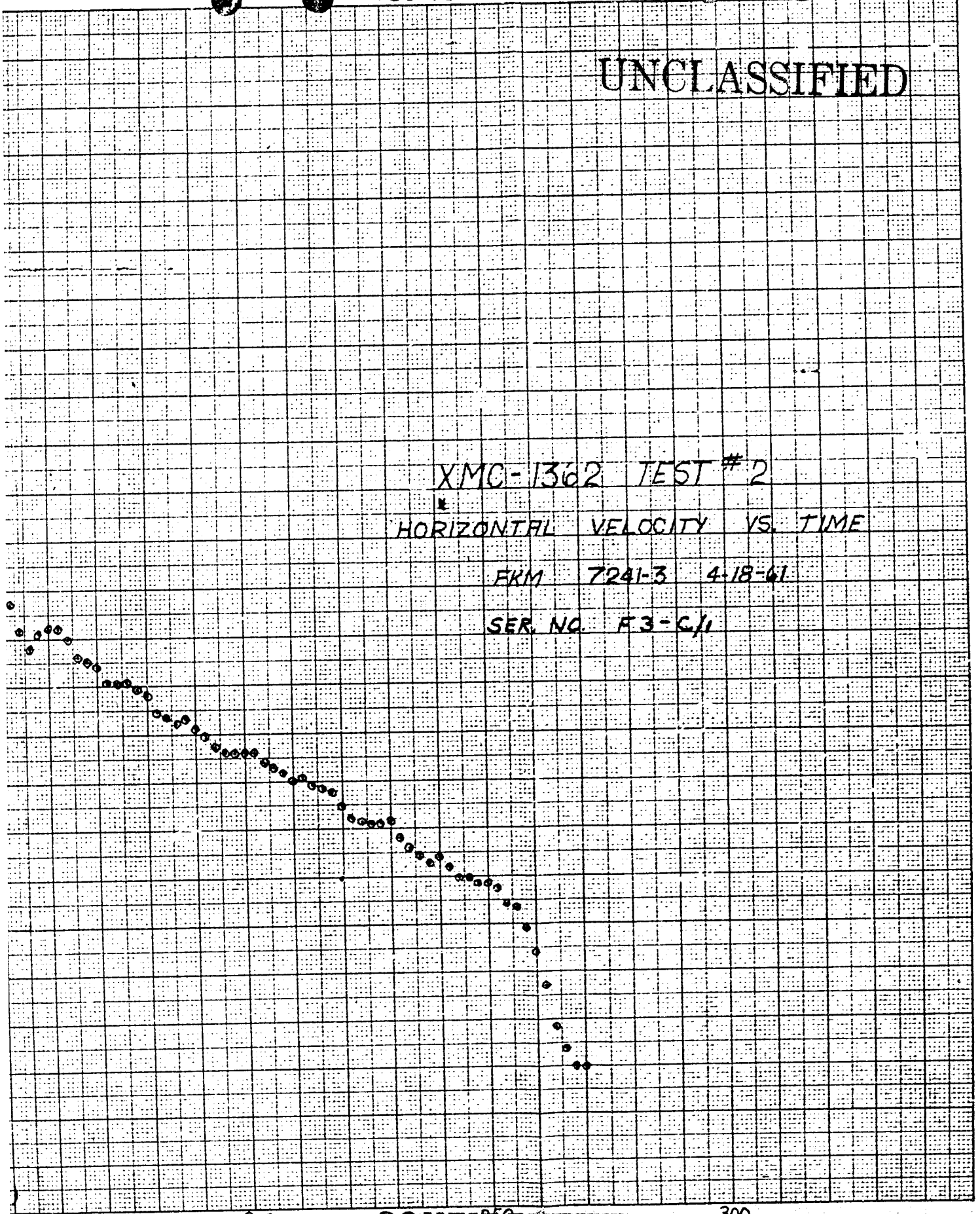

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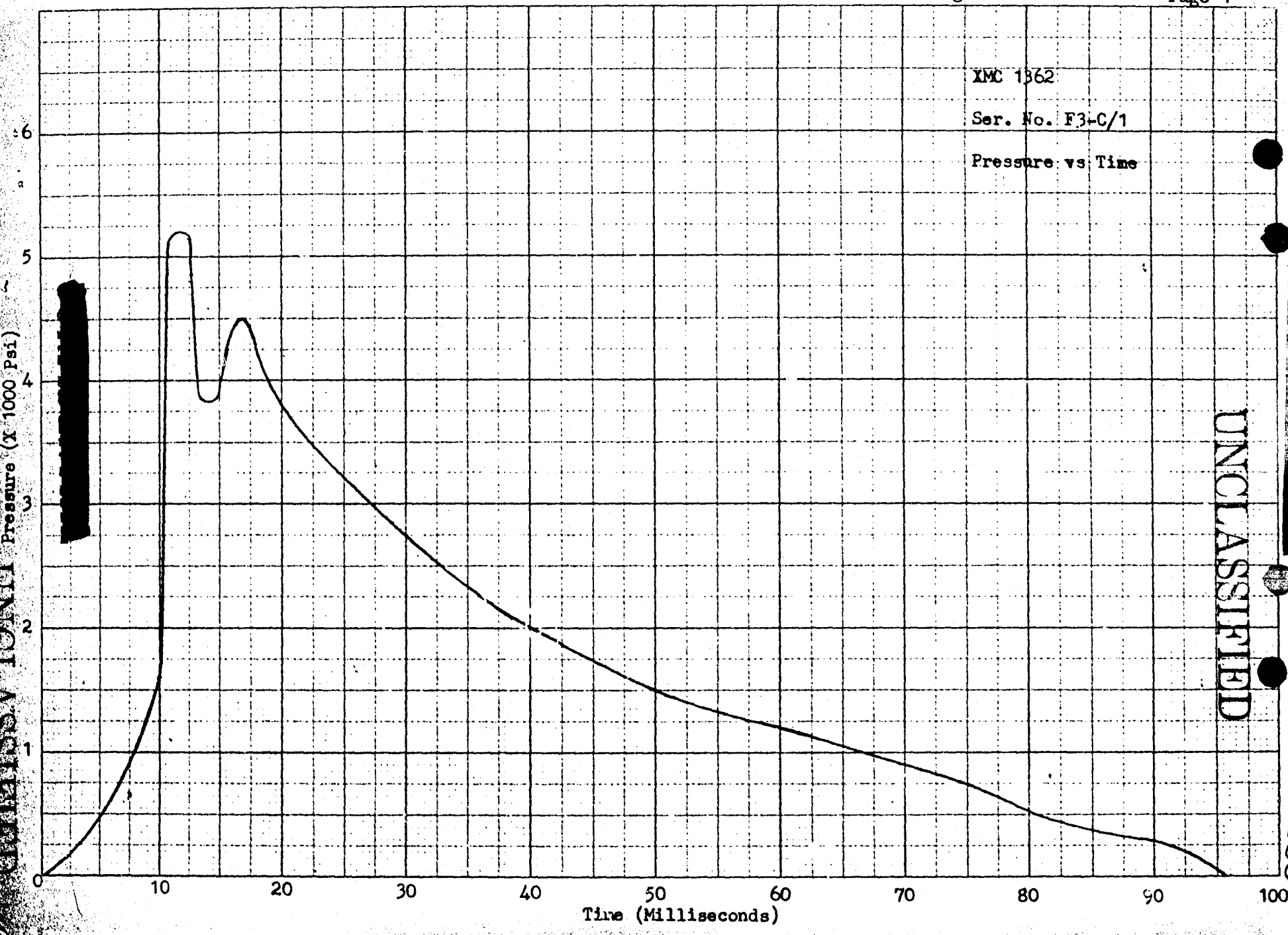
20 X 20 PER INCH



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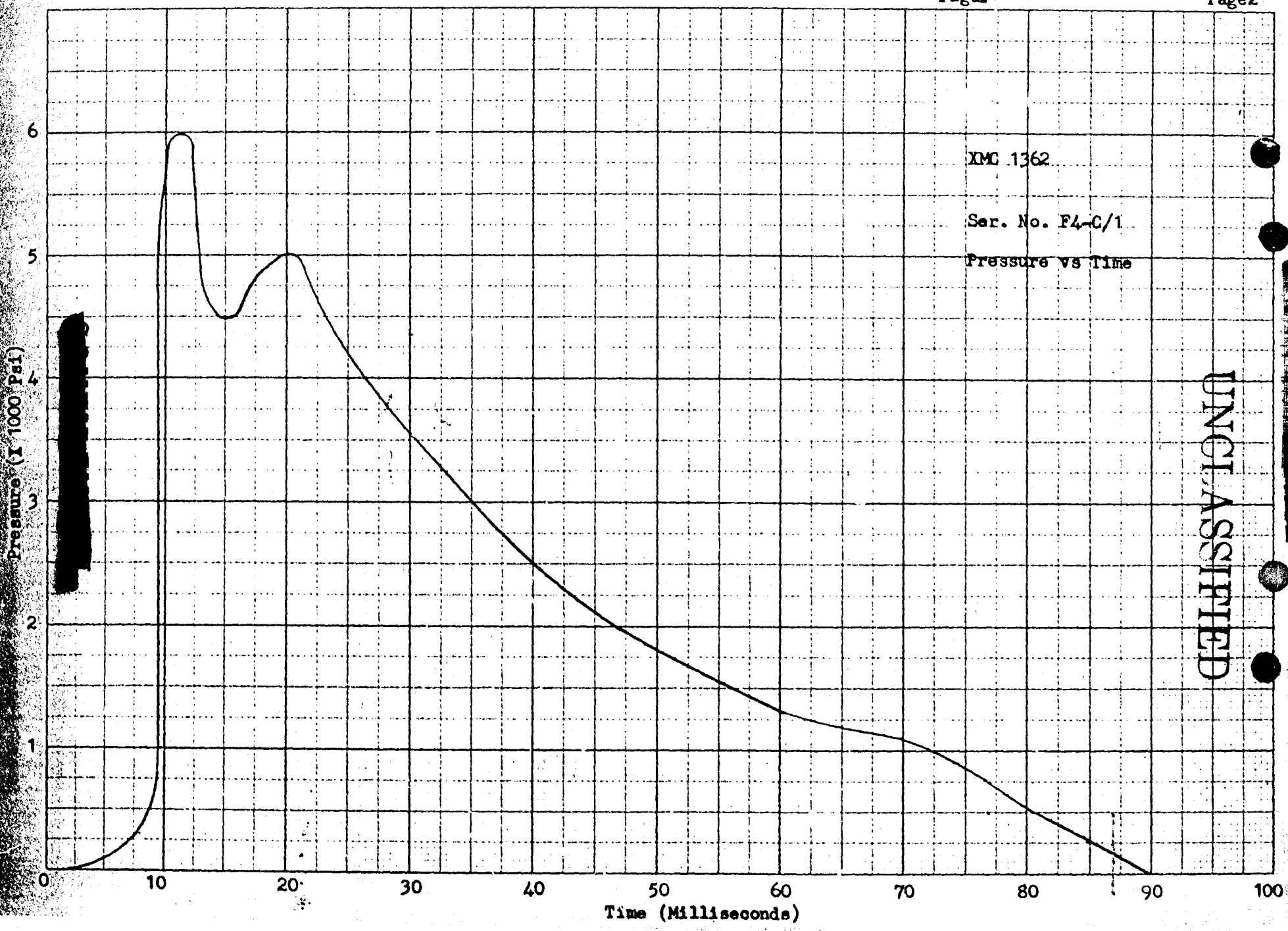
NO. 340R 20 DIETZGEN GRAPH PAPER
20 X 20 PER INCH
EUGENE DIETZGEN CO.

T-17663

Figure 2



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