

SECRET

TMG-M ²⁶

SECURITY INFORMATION
UNCLASSIFIED

*Redacted
VERSION*

SAR 700069670000
Unique Document #

THIS IS A COVER SHEET FOR A CLASSIFIED DOCUMENT

TRANSMITTAL OF THIS DOCUMENT MUST BE COVERED BY A SIGNED RECEIPT. IT MUST NOT BE LEFT UNATTENDED OR WHERE AN UNAUTHORIZED PERSON MAY HAVE ACCESS TO IT. WHEN NOT IN USE, IT MUST BE STORED IN A LOCKED FILE OR SAFE. WHILE THIS DOCUMENT IS IN YOUR POSSESSION AND UNTIL YOU HAVE OBTAINED A SIGNED RECEIPT UPON ITS TRANSFER TO AN AUTHORIZED INDIVIDUAL, IT IS YOUR RESPONSIBILITY TO KEEP IT AND ITS CONTENTS FROM ANY UNAUTHORIZED PERSON.



R E S T R I C T E D D A T A

THIS DOCUMENT CONTAINS RESTRICTED DATA AS DEEMED IN THE ATOMIC ENERGY ACT OF 1946. ITS TRANSMITTAL OR THE DISCLOSURE OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED.

WD - Family

SECRET

UNCLASSIFIED

SECURITY INFORMATION

Att 42

915020000014

RESTRICTED DATA

Group Ref: TM-M26

This document contains restricted data as defined in the Atomic Energy Act of 1946. Its transmittal or the disclosure of its contents in any manner to an unauthorized person is prohibited.

THIS DOCUMENT CONSISTS OF 9 PAGE(S) + 2 figures
~~NO. OF COPIES SERIES~~

UNCLASSIFIED

April 29, 1952

11 pgs total

MINUTES OF THE TWENTY-SIXTH MEETING OF THE THEORETICAL MEGATON GROUP

23 April 1952

1. The twenty-sixth meeting of the TMG convened at 9 a.m., Wednesday, April 23, 1952, in the W-Division Conference Room. Those present were:

- | | |
|----------------|----------------------|
| G. Bell | C. L. Longmire |
| H. A. Bethe | J. C. Mark, Chairman |
| A. A. Broyles | H. L. Mayer |
| F. de Hoffmann | L. W. Nordheim |
| J. J. Devaney | J. R. Pasta |
| C. Evans | J. C. Potts |
| F. Evans | J. R. Reitz |
| B. E. Freeman | M. Rosenbluth |
| R. W. Goranson | P. R. Stein |
| G. M. Grover | J. L. Tuck |
| M. G. Holloway | S. M. Ulam |
| F. C. Hoyt | E. J. Zadina |

DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW

1. REVIEW DATE: 8-8-97
 AUTHORITY: EAO C DADC BRDD
 NAME: [Signature]
 2ND REVIEW DATE: 9/3/97
 AUTHORITY: ADD
 NAME: [Signature]

DETERMINATION (CIRCLE NUMBER(S))
 1. CLASSIFICATION RETAINED
 2. CLASSIFICATION CHANGED TO:
 3. CONTAINS NO DOE CLASSIFIED INFO
 4. COORDINATE WITH:
 5. CLASSIFICATION CANCELLED
 6. CLASSIFIED INFO BRACKETED
 7. OTHER (SPECIFY):

Agenda Topics

- (2) Matterhorn Burning Calculations
- (3) RR SEAC Radiation Implosion Results
- (4)
- (5) Radiation Flow Computations
- (6)

b(3)
D6E
b(3)

2. Matterhorn Burning Calculations (continued from previous minutes).

Figure 1 is a plot of $(\sigma/10)^4$ vs. zone number for various times in their problem 1.



D01
b(3)

~~SECRET~~ UNCLASSIFIED

3. SEAC Radiation Shock Implosion Calculations of Richtmyer (RR-1 to RR-5)

The result of this study is reported in the previous minutes.

DOE
b(3)

Bethe has made a study of these problems from the point of view of reconciling the machine and the analytical (similarity solution) results which were in good agreement for problem RR-1.

(a) Use of different equations of state, as mentioned above.

DOE
b(3)

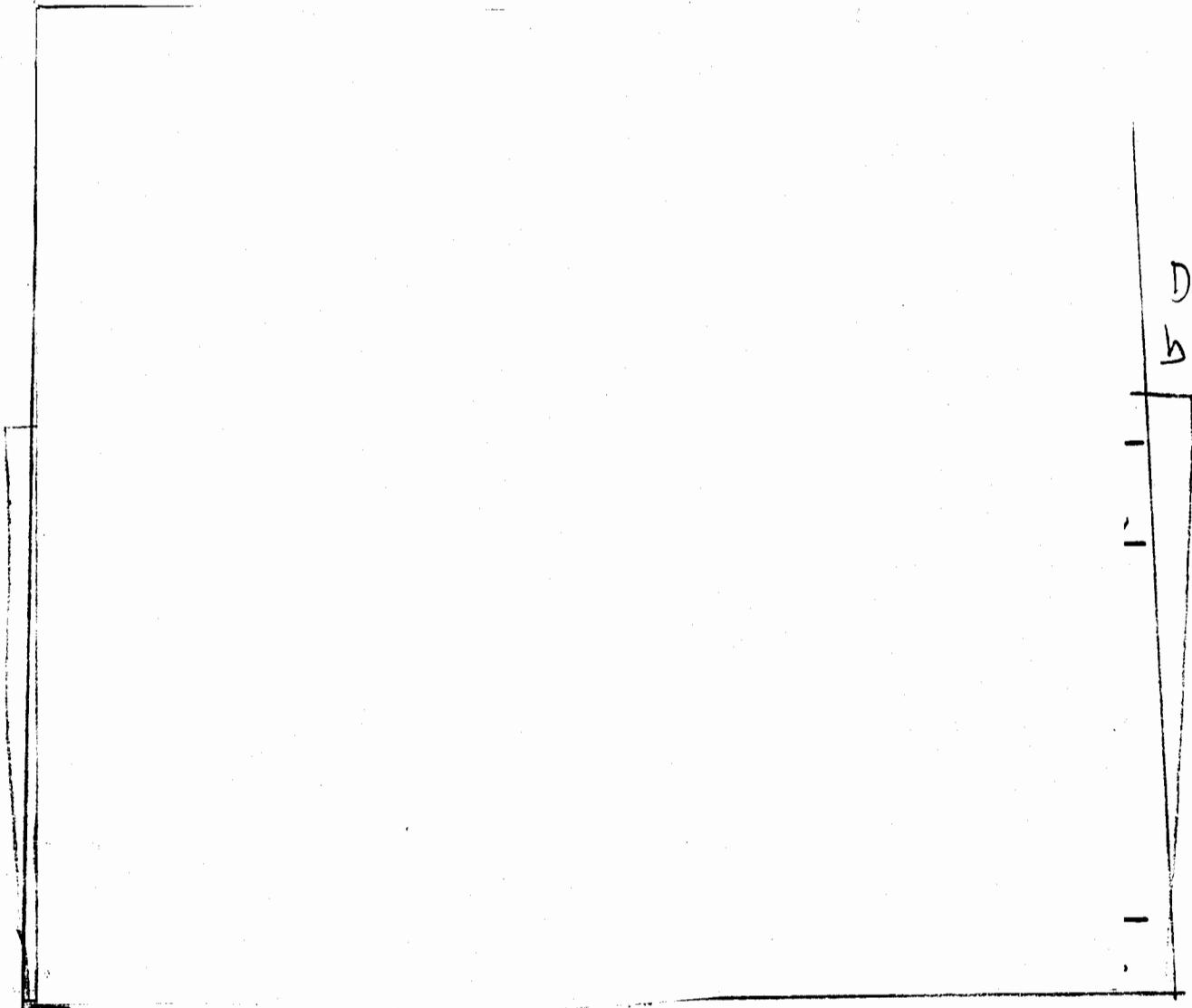
At later times the outward velocity is not affected.

DOE
b(3)

DOE
b(3)

~~SECRET~~ UNCLASSIFIED

~~SECRET~~



DOE
b(3)

Agreement with the SEAC motions can therefore be reproduced by a semianalytical procedure.



DOE
b(3)

~~SECRET~~

UNCLASSIFIED

-4-

~~SECRET~~

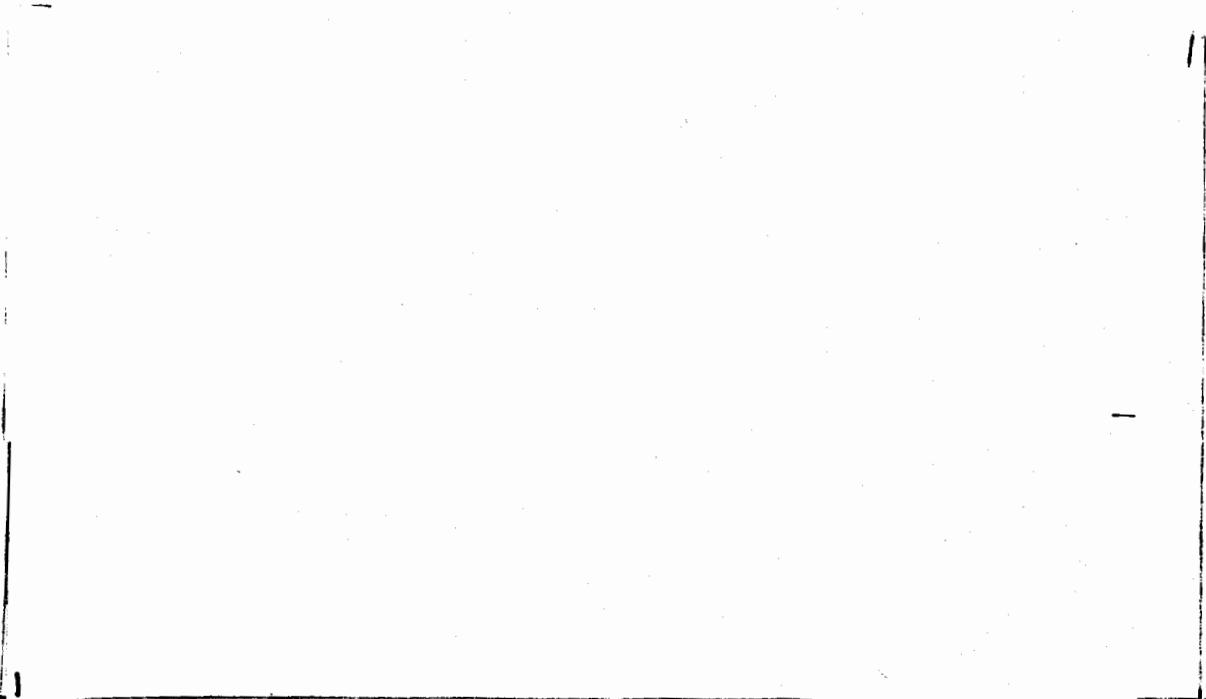
DOE
b(3)

~~SECRET~~

UNCLASSIFIED

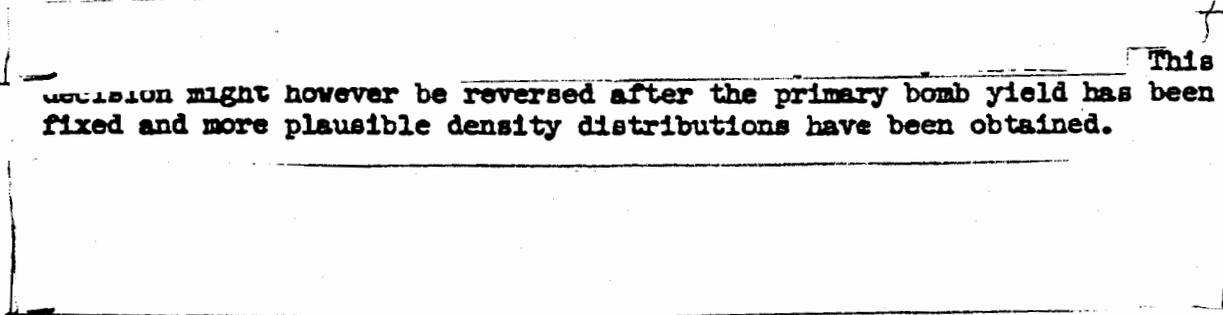
UNCLASSIFIED

~~SECRET~~



DOE
b(3)

The sudden jumps result from the artificially assumed boundary conditions indicated above.



DOE
b(3)

This decision might however be reversed after the primary bomb yield has been fixed and more plausible density distributions have been obtained.

DOE
b(3)

5. Radiation Flow Computations.

5.1) Machine calculations of the radiation flow problem as set up by Broyles and Freeman and reported in the previous minutes are now underway.



DOE
b(3)

~~SECRET~~

UNCLASSIFIED

~~SECRET~~

The zonal treatment is expected to yield more trustworthy results than those previously reported.

DOE
b(3)

5.2)

DOE
b(3)

DOE
b(3)

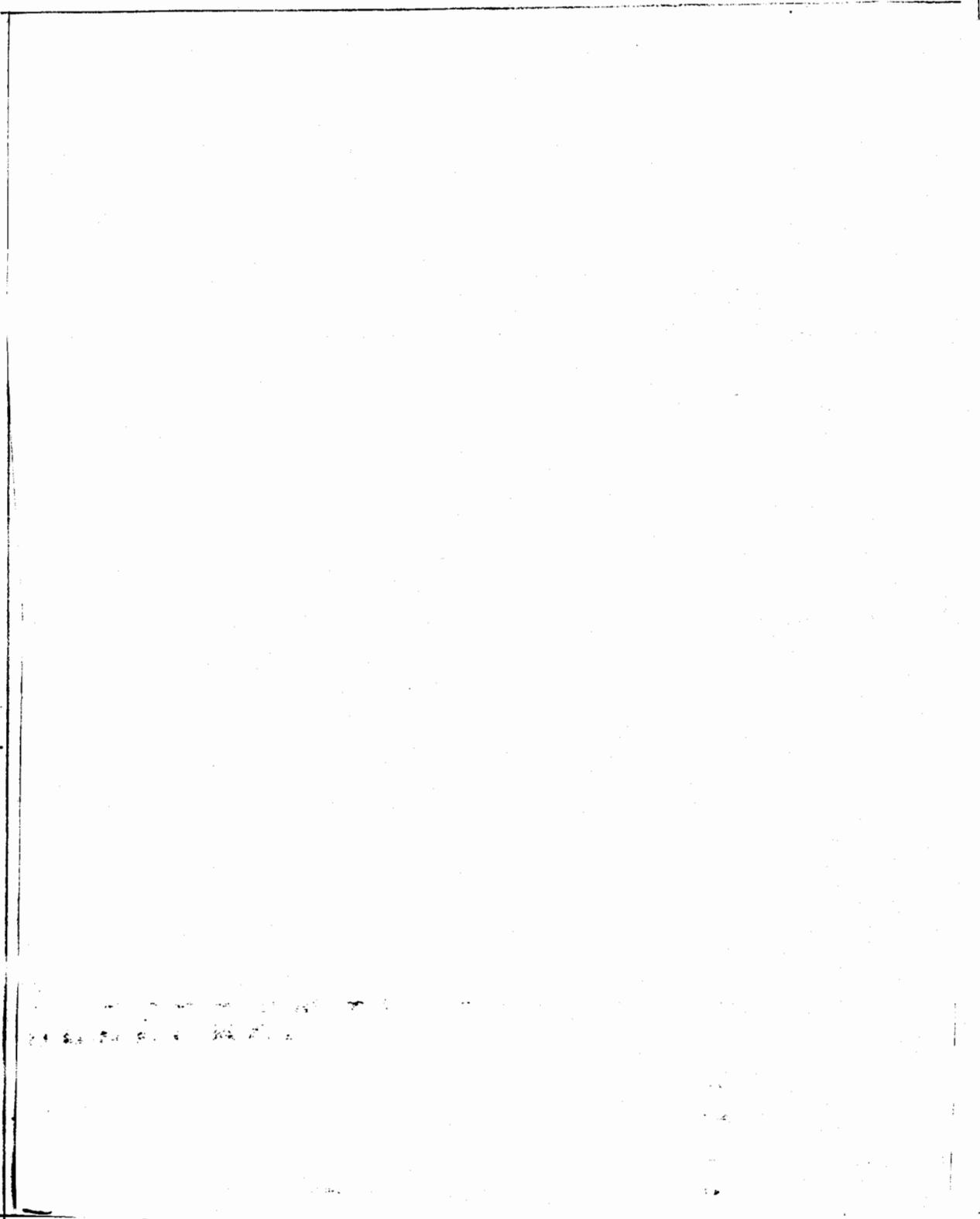
5.3) de Hoffmann reported the results of a mean free path calculation on the SWAC which Kahn of Rand had set up.

DOE
b(3)

~~SECRET~~

SECRET

~~SECRET~~



DOE
b(3)

7302040-1

~~SECRET~~

UNCLASSIFIED

~~SECRET~~

DOE
b(3)

DOE
b(3)

DOE
b(3)

DOE
b(3)

Bethe proposed making machine calculations for assumed plausible initial irregularities taking convergence into account and transition from small to large amplitude approximation.

UNCLASSIFIED

~~SECRET~~

300000-1

UNCLASSIFIED

~~SECRET~~

DOE
b(3)

UC3
entire page
figure 1 from next page

UNCLASSIFIED

UNCLASSIFIED

Fig 1

359-12 KEUFFEL & ESSER CO.
10 x 10 to the 1/2 inch. 5th lines accented.

UNCLASSIFIED

SECRET

DOE
160

~~SECRET~~
UNCLASSIFIED

FILE 3

UNCLASSIFIED

REPRODUCTION OF THIS DOCUMENT IS PROHIBITED WITHOUT THE WRITTEN PERMISSION OF THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION
REF ID: A66388