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A
HANDBOOK

for

OPERATION CASTLE

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The Pogo Staff

of

J Division

LOS ALAMOS SCIENTIFIC LABORATORY

of the

UNIVERSITY OF CALIFORNIA

Los Alamos, New Mexico

1 January 1954

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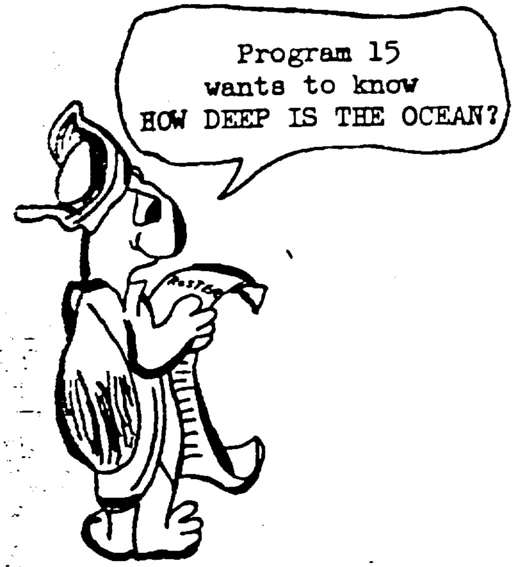
Program 15
wants to know
HOW DEEP IS THE OCEAN?


Guy from 13.5
asked me
HOW HIGH IS THE
SKY?
OP
PLAN


Look in the Handbook,
Boys!

2

ACKNOWLEDGMENT

It would not be possible, in the limited time available, to [illegible] all of the people who have contributed to this Handbook. [illegible], it seems appropriate to say that it was put together by the [illegible] Staff of J Division, using information largely supplied by [illegible] Division, W Division, and DIRX, of the Los Alamos Scientific Laboratory, and by the University of California Radiation Laboratory at Livermore. Information has been extracted from various reports of [illegible] and LASL, from field data of other operations, and from the [illegible], Ostrich, FWC, and LMG meeting notes. Thus, any value of the text should be credited to the above organizations; its faults belong to [illegible].

Directly contributing authors, who of course derived their information from all the sources mentioned above, are:

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And, as usual, D. Whitcomb put it all together.

W. Ogle

William E. Ogle

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CHAPTER 3 MISCELLANEOUS DATA (Cont'd)

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CHAPTER 3

MISCELLANEOUS DATA

This chapter is simply a collection of random information that may be of use and not otherwise easily obtainable in the field. No effort has been made to achieve the optimum organization.

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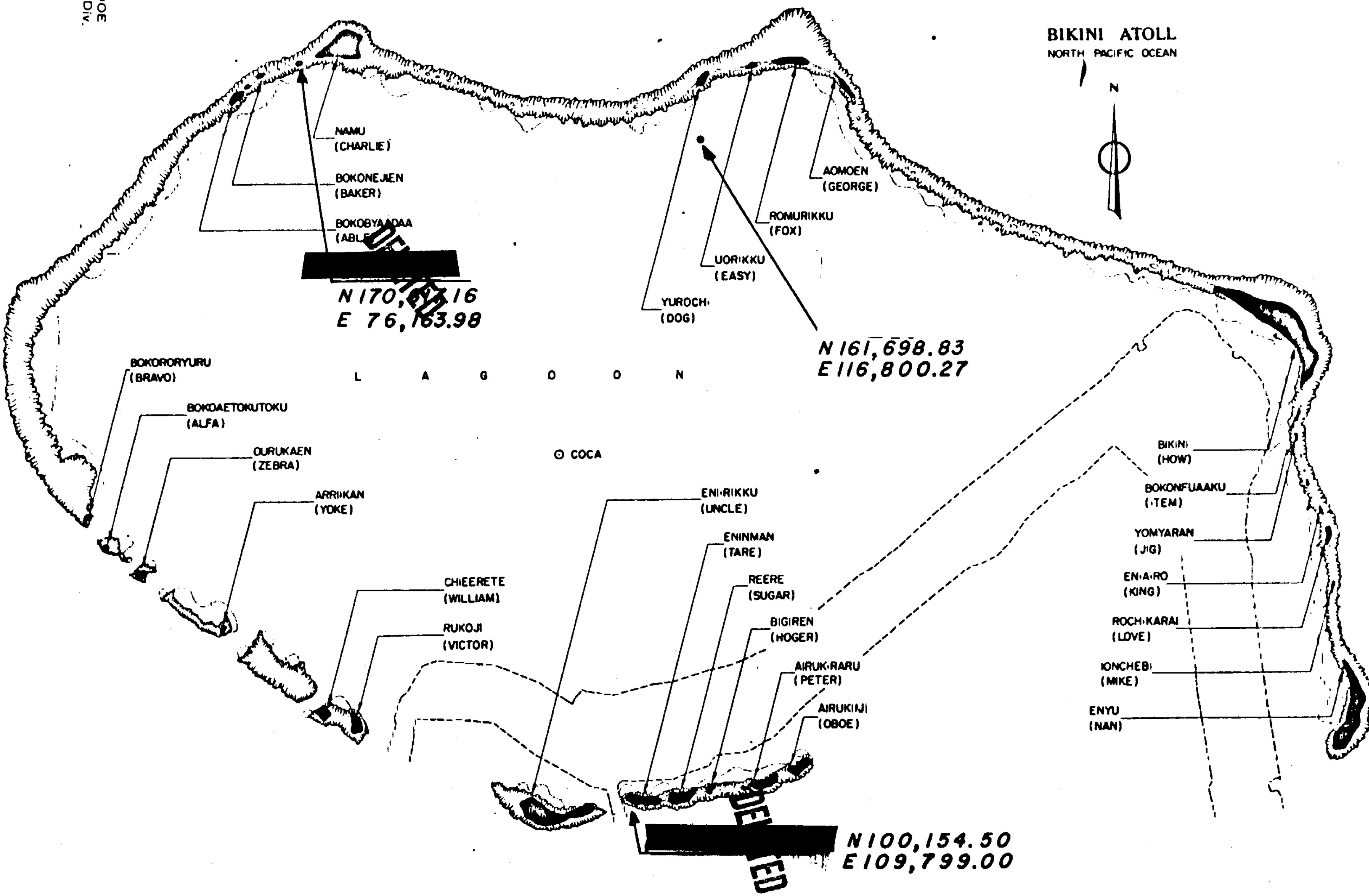

Fig. 3.1 - Sketch of Bikini Atoll, Showing Zero Points

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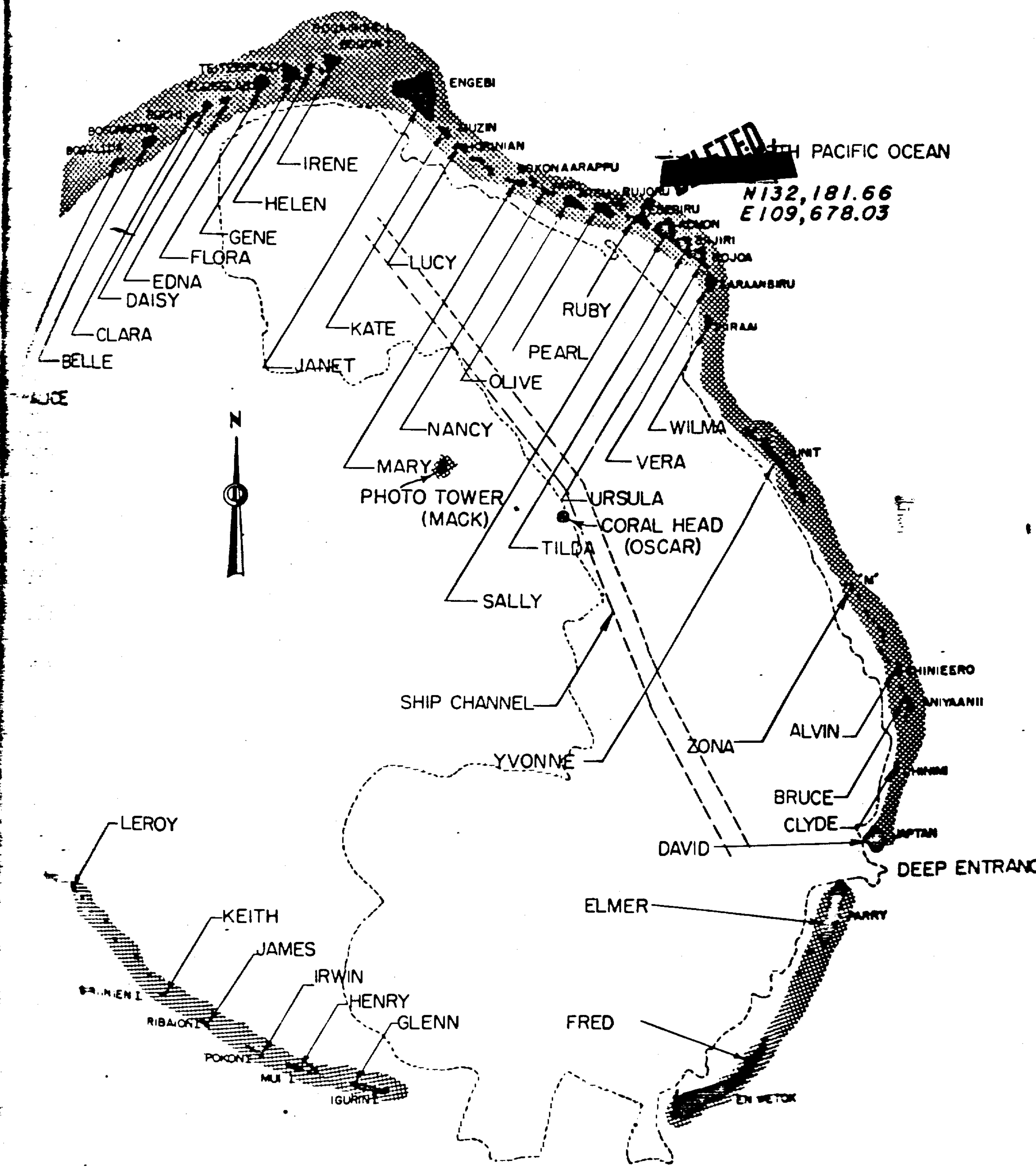

Fig. 3.2 - Sketch of Eniwetok Atoll, Showing Zero Point

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TIME IN

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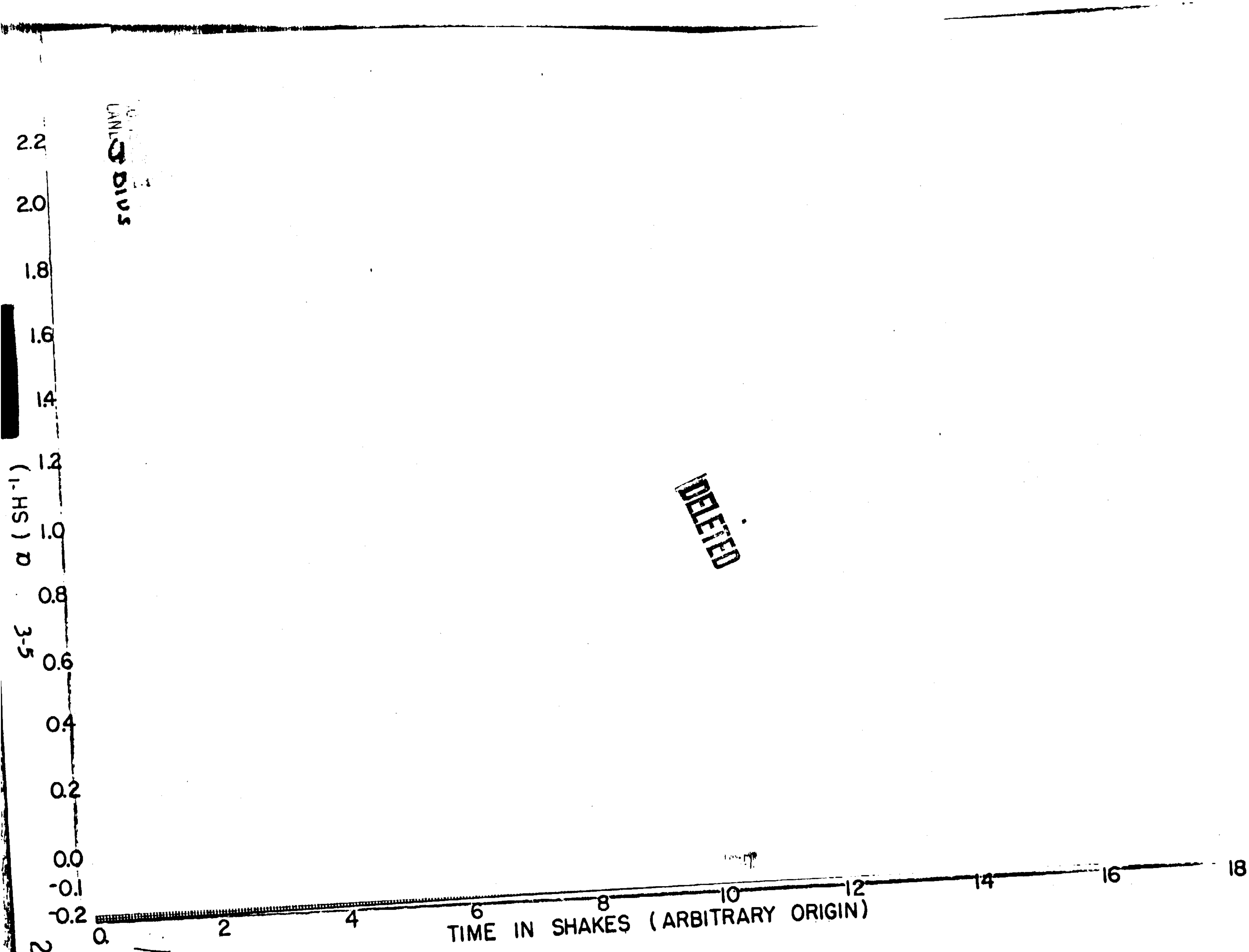
3 2 (1- HS) D 3-4



LANL 4 DIVS
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
-0.1
-0.2
α (SH⁻¹)
3-5
DELETED
0
2
4
6
8
10
12
14
16
18
TIME IN SHAKES (ARBITRARY ORIGIN)

21

ROENTGENS/SECOND

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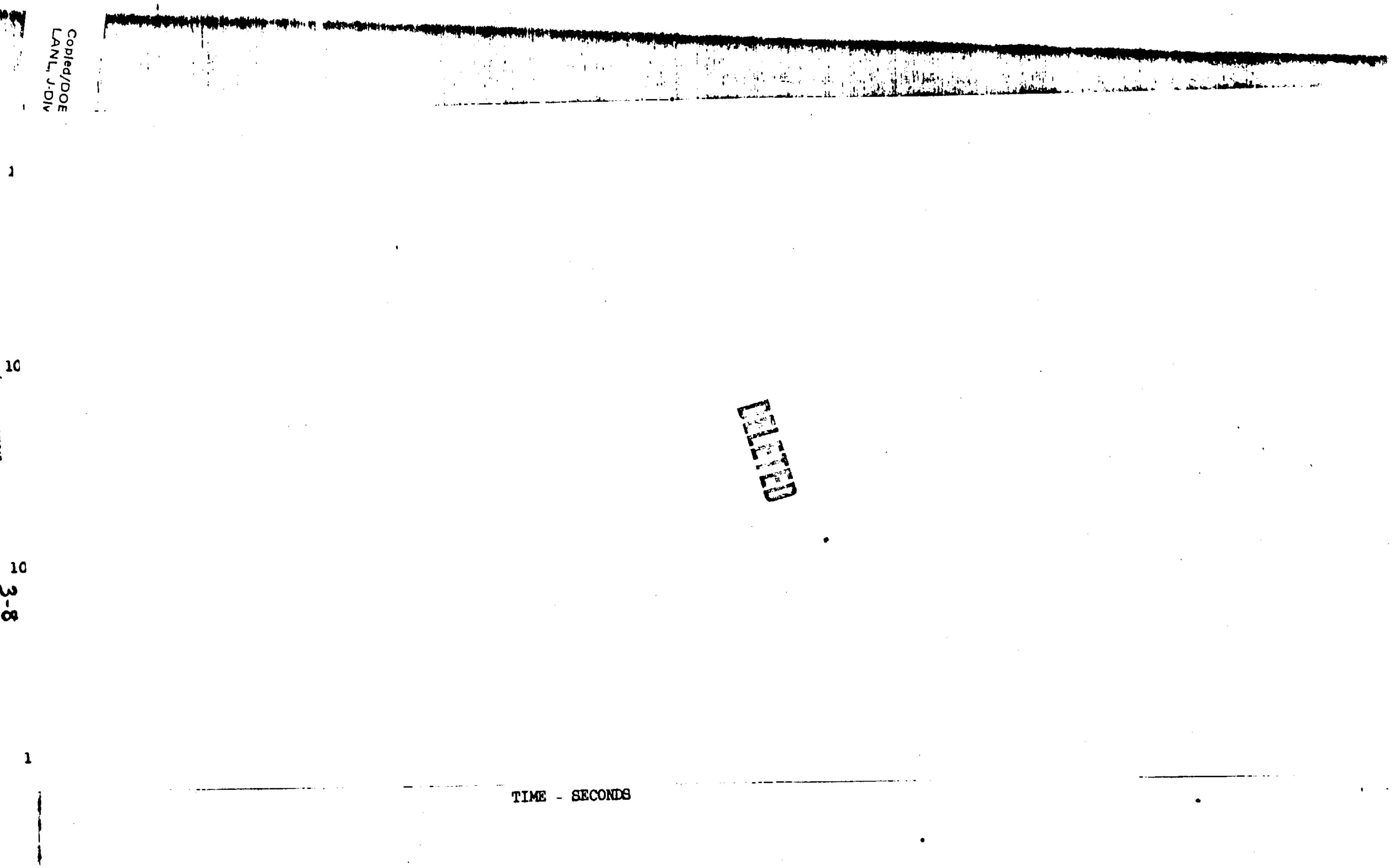

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DISTANCE - METERS

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TIME - SECONDS

[redacted] 3-10

19

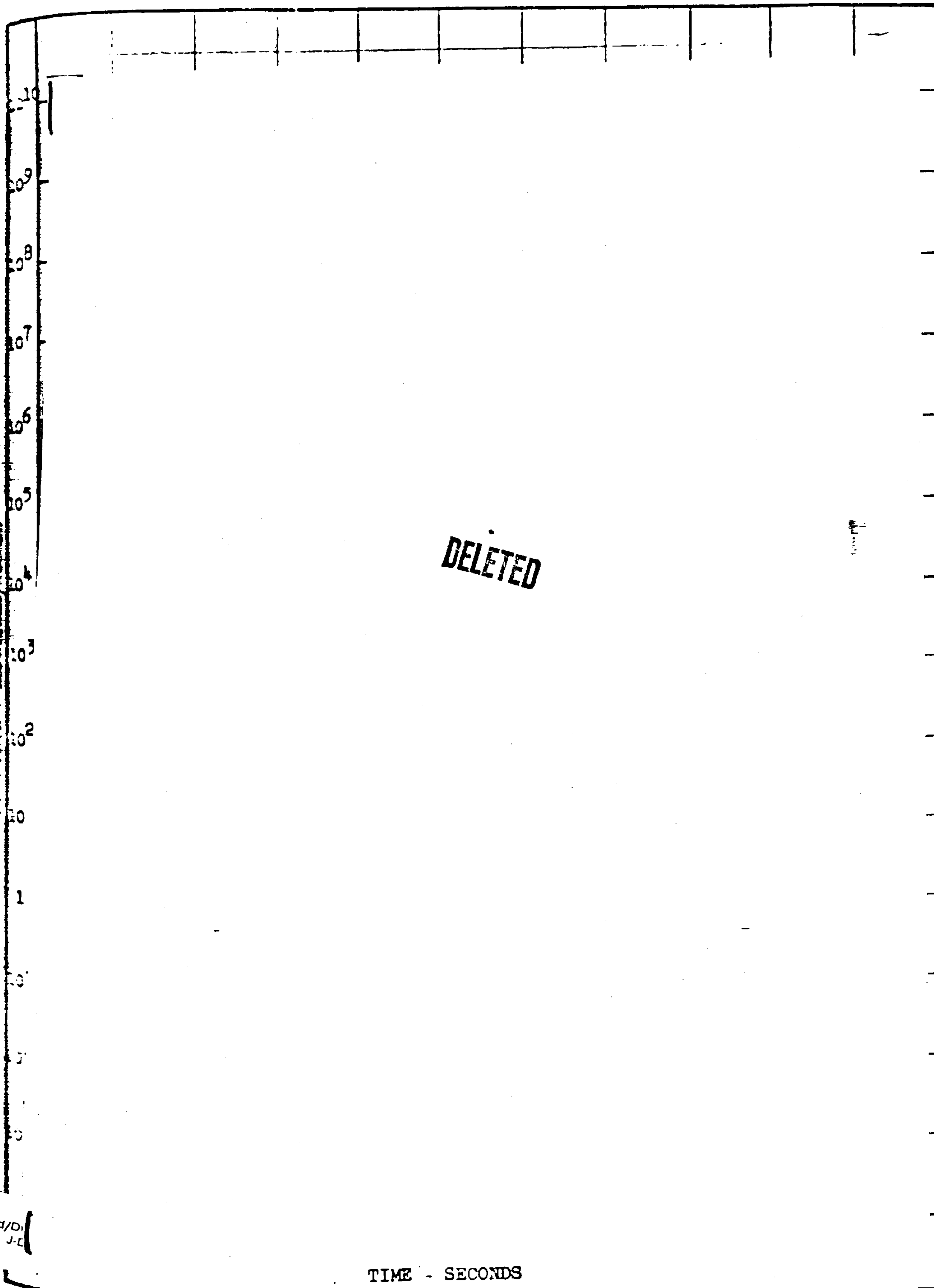
10^{10}
10^9
10^8
10^7
10^6
10^5
10^4
10^3
10^2
10
1
DELETED
TIME - SECONDS

TABLE 3.1
IVY MIKE PEAK FALL-OUT INTENSITY
(M. Klein)

Location	Intensity
Engebi	10^3 R/hr
Aomon	190 R/hr
Runit	9 R/hr
Rigili	5 R/hr
Aniyaanii	150 mR/hr
Eniwetok	1 mR/hr*

*Questionable

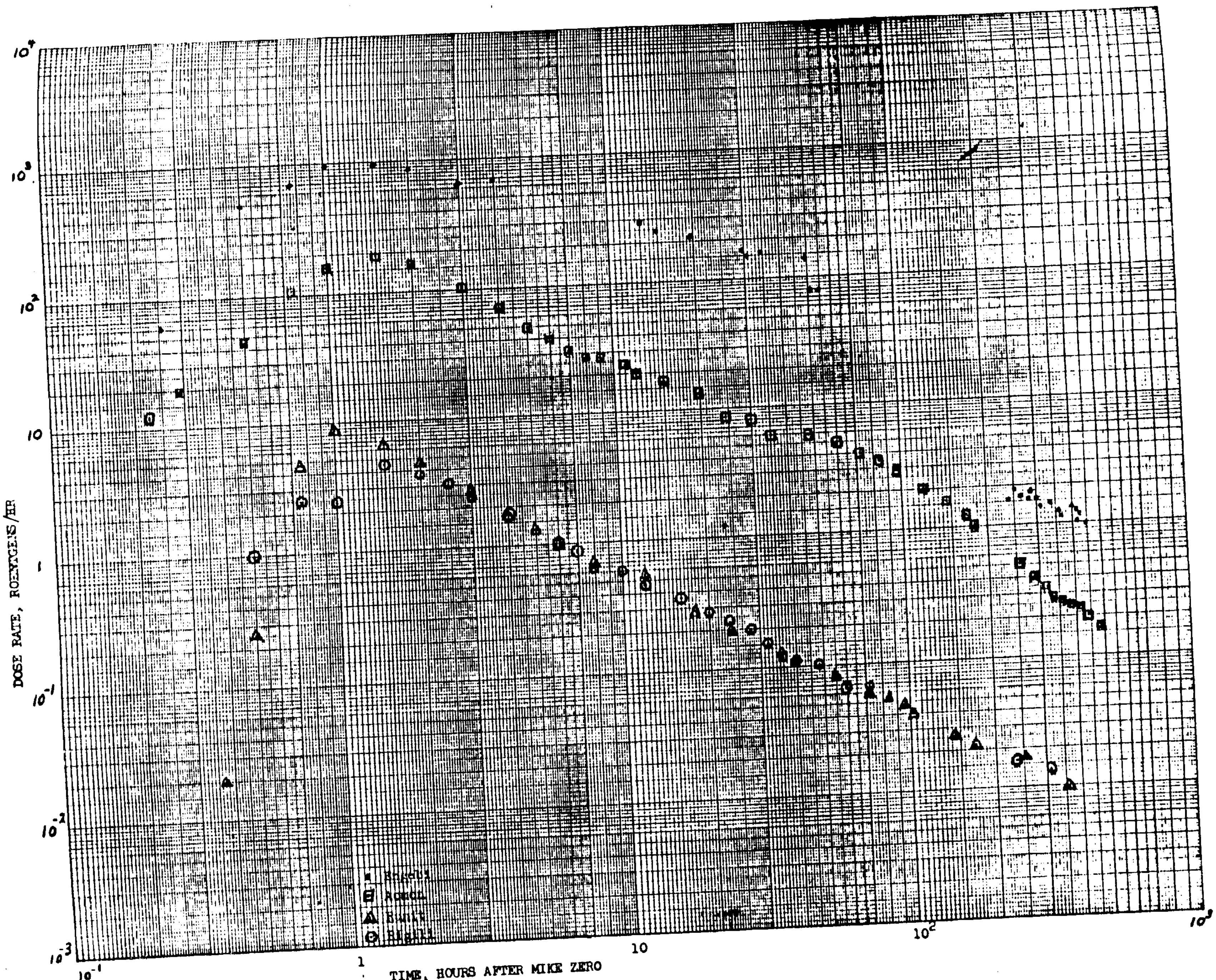

Fig. 3.11 - Mike Fall-out Intensity vs Time (M. Klein)

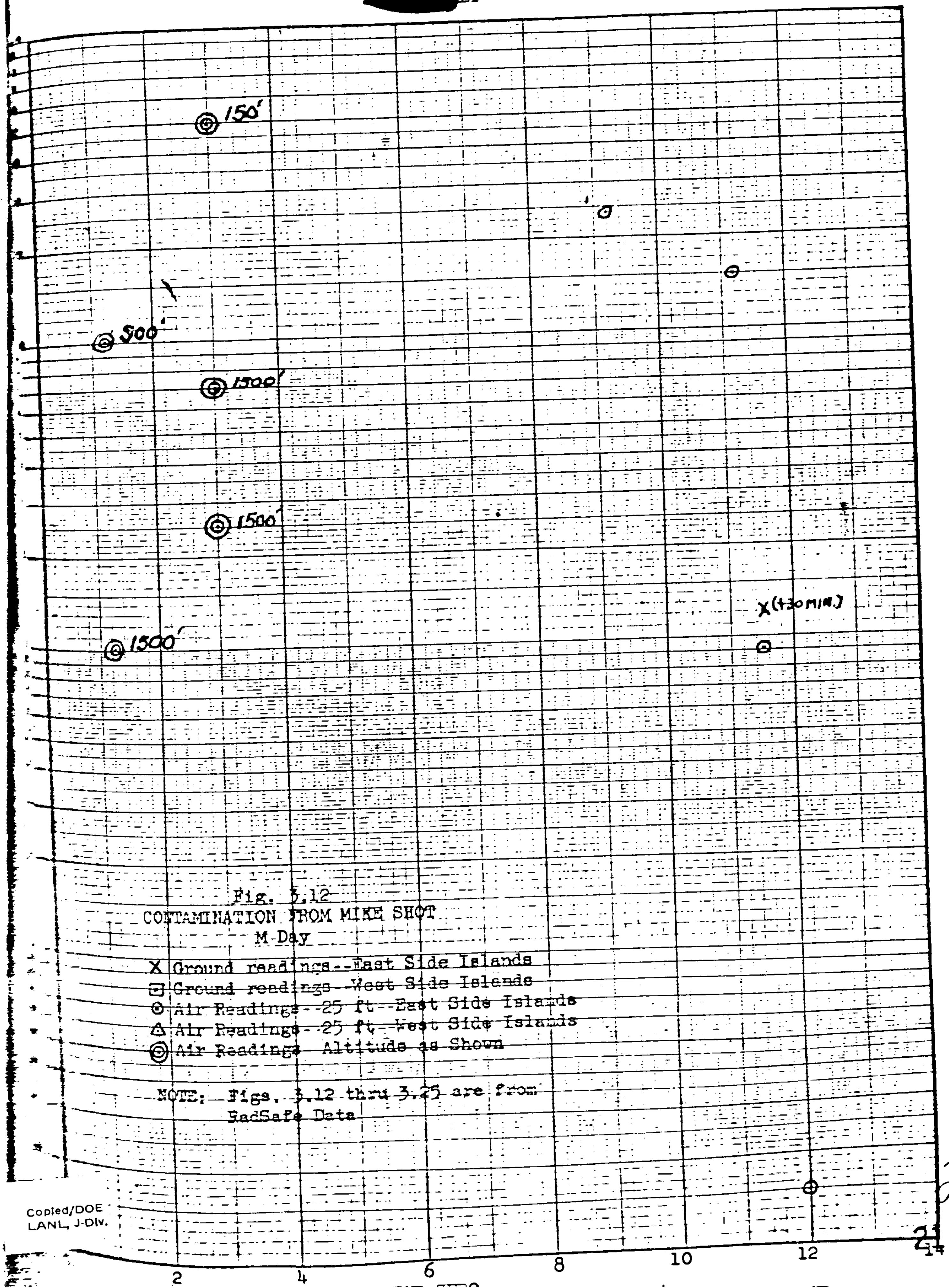

Fig. 3.12
CONTAMINATION FROM MIKE SHOT
M-Day

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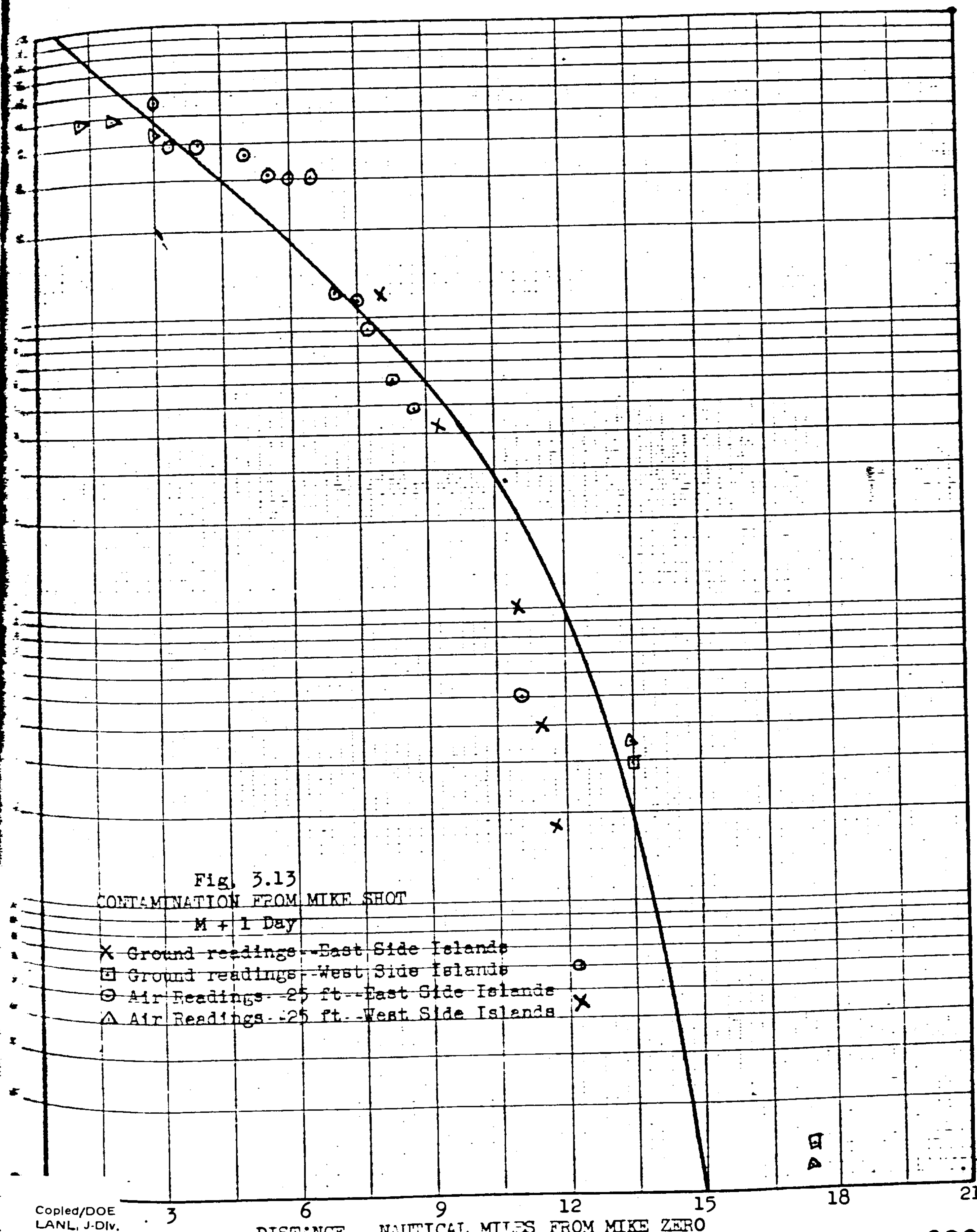

Fig. 3.13
CONTAMINATION FROM MIKE SHOT
M + 1 Day

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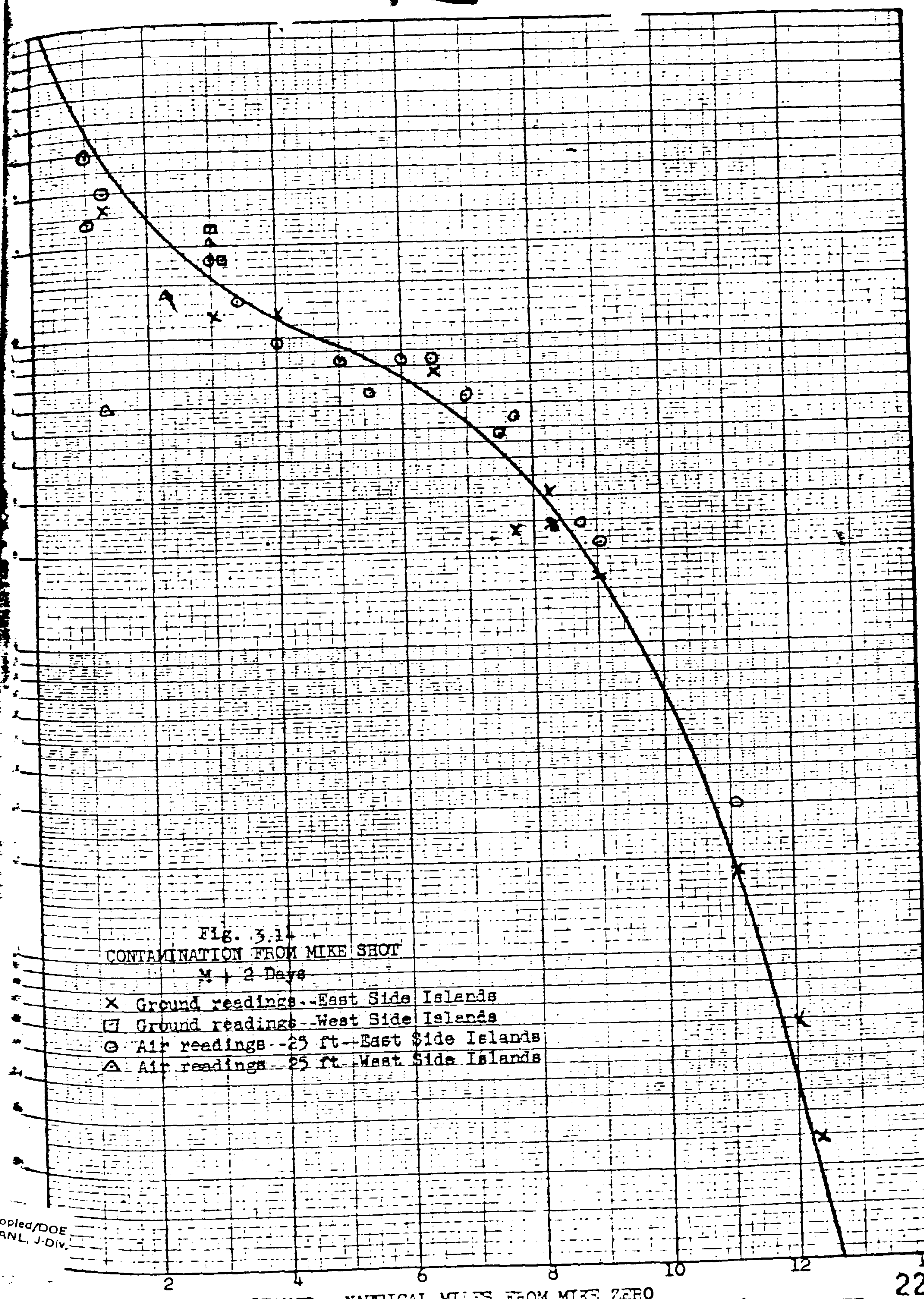

Fig. 3.14
CONTAMINATION FROM MIKE SHOT
M + 2 Days

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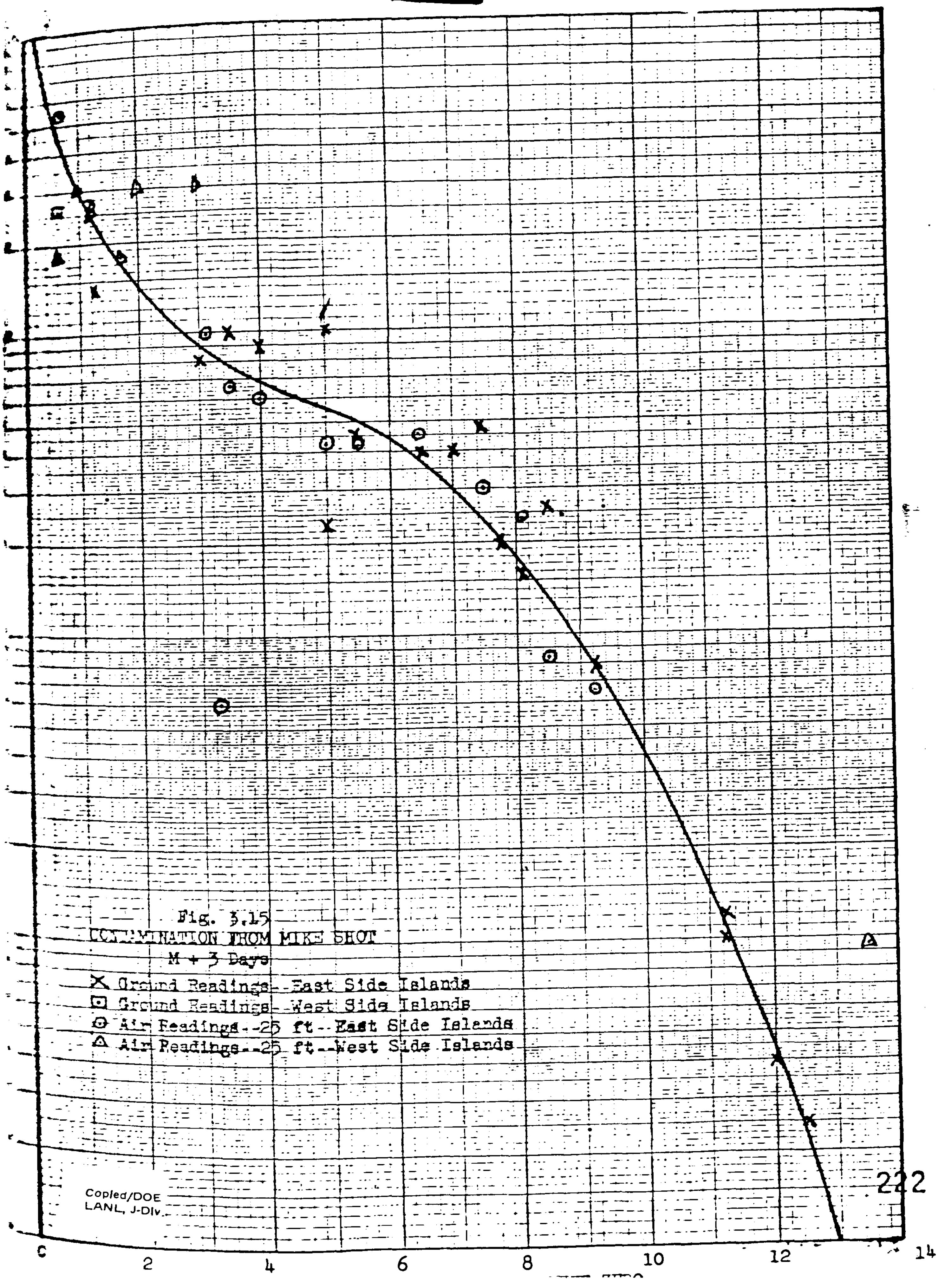

Fig. 3.15
CONTAMINATION FROM MIKE SHOT
M + 3 Days

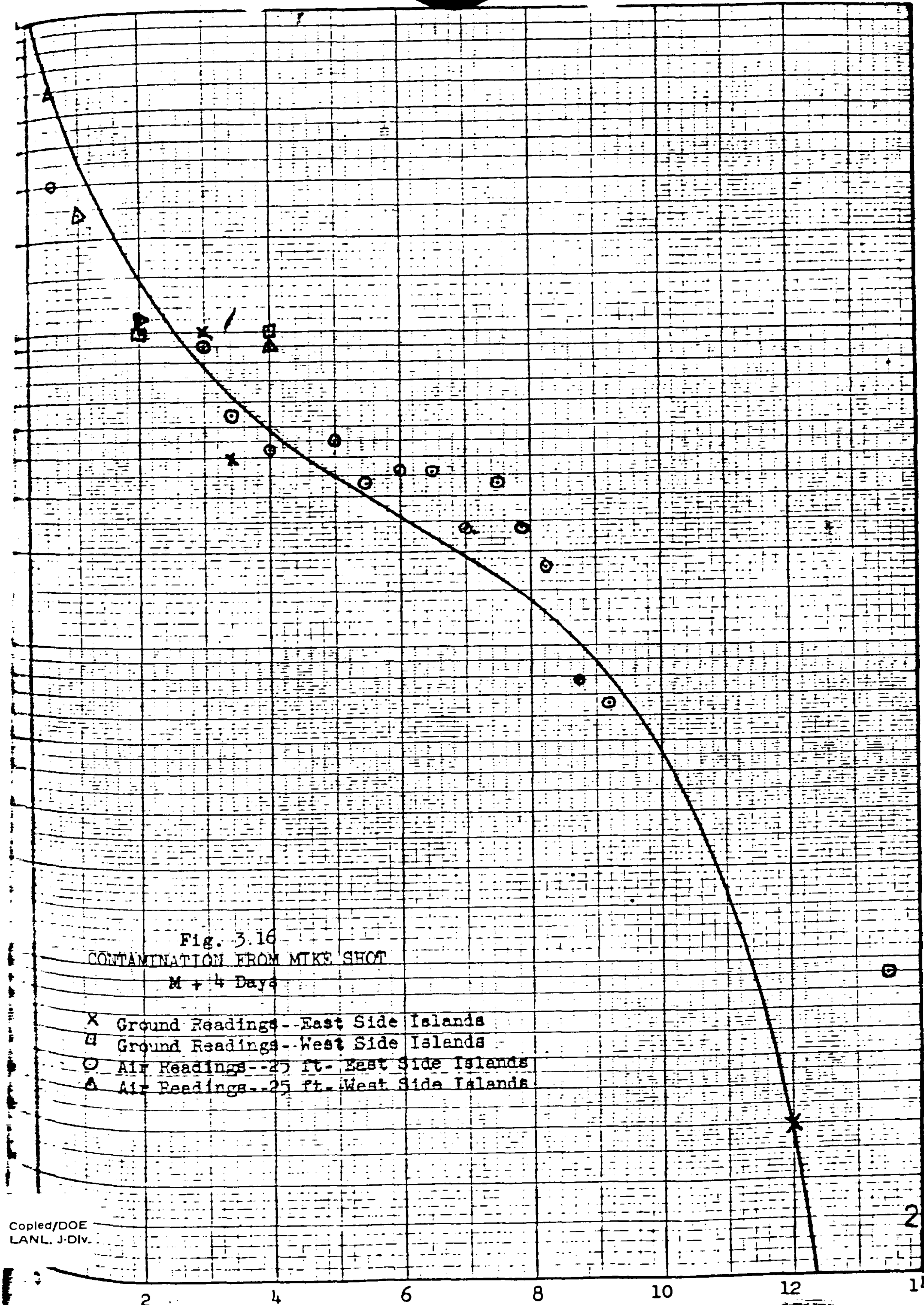

Fig. 3.16
CONTAMINATION FROM MIKE SHOT
M + 4 Days

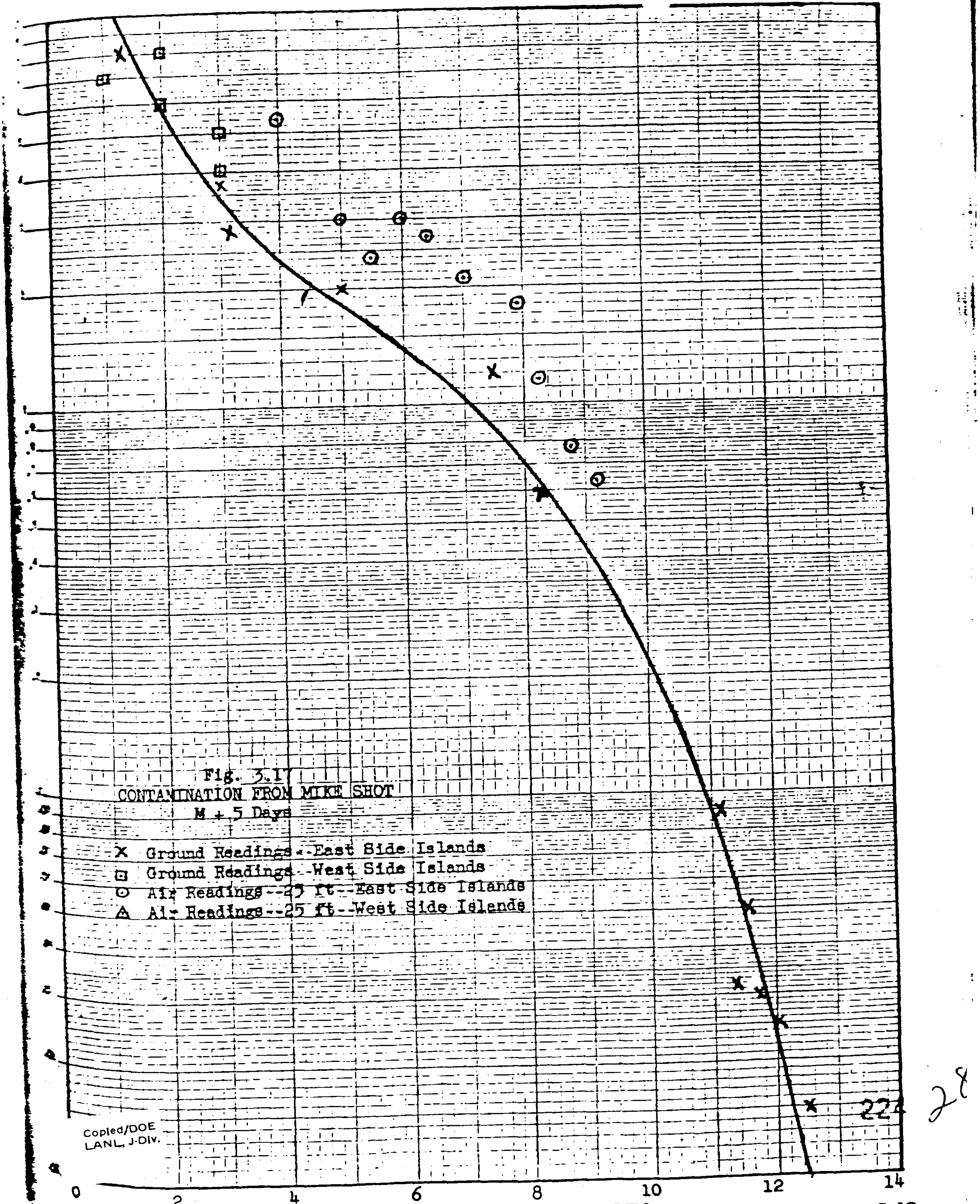

Fig. 3.17
CONTAMINATION FROM MIKE SHOT
M + 5 Days

224 28

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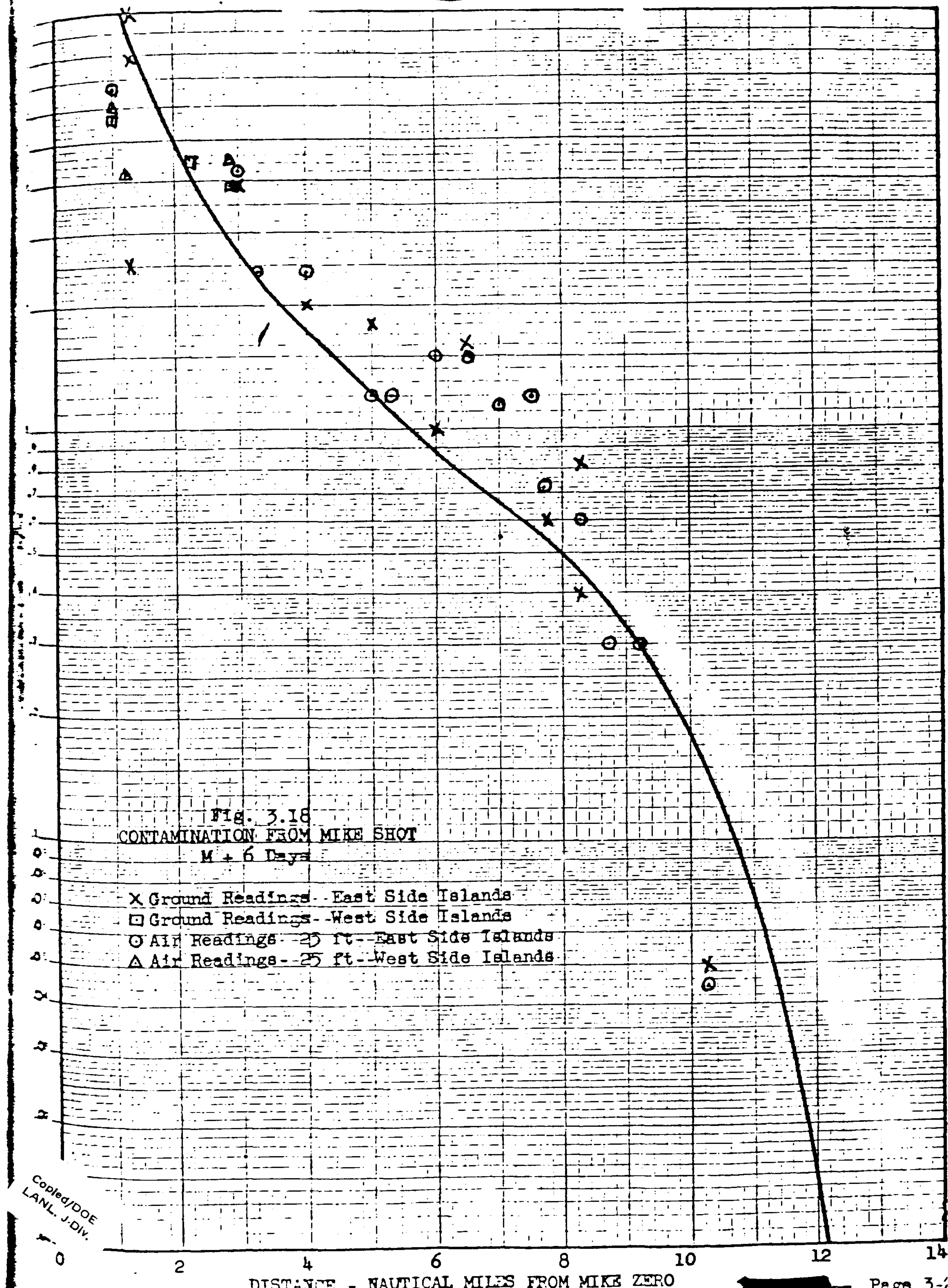

Fig. 3.18
CONTAMINATION FROM MIKE SHOT
M + 6 Days

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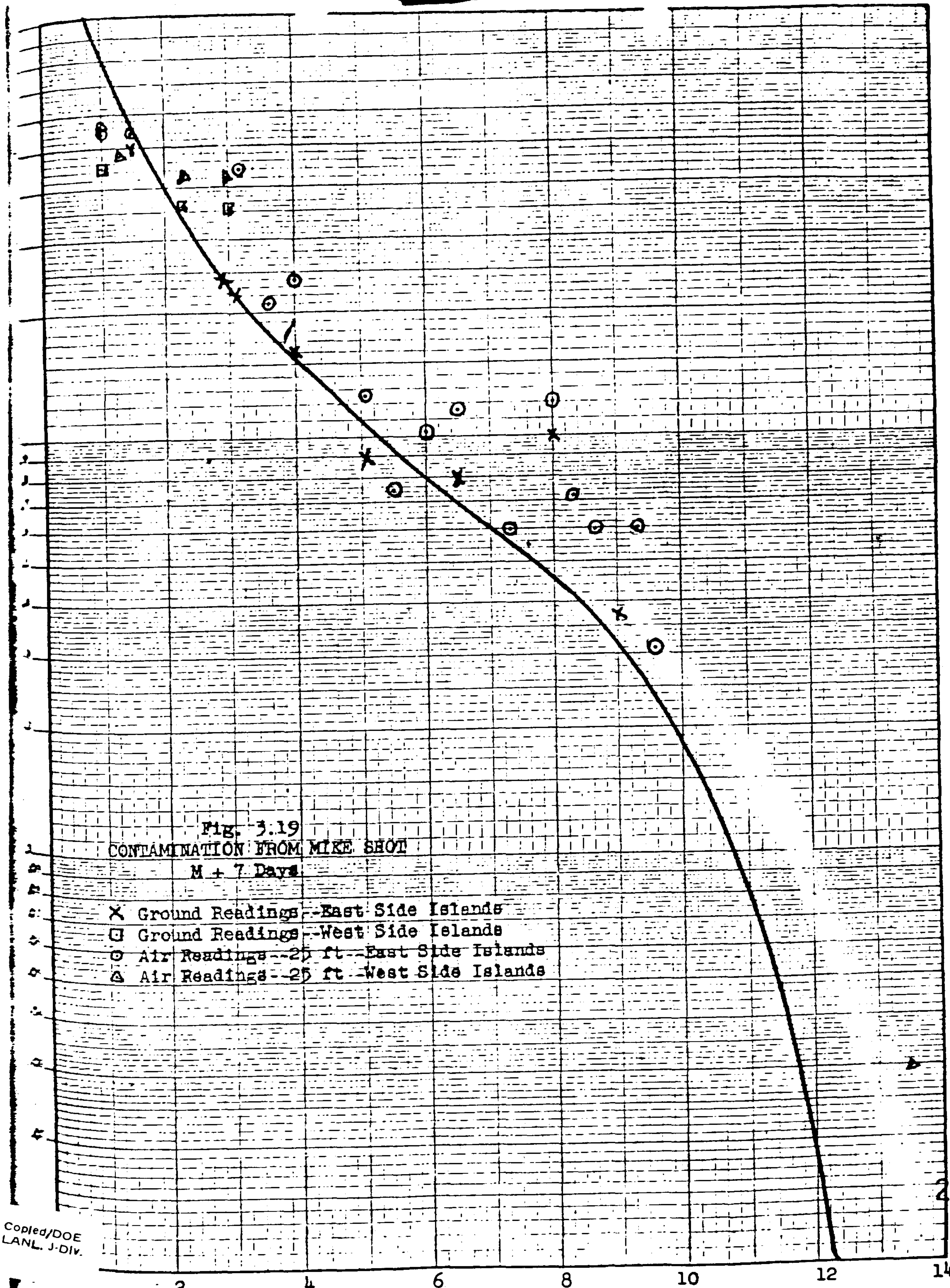

Fig. 3.19
CONTAMINATION FROM MIKE SHOT
M + 7 Days

X Ground Readings--East Side Islands
□ Ground Readings--West Side Islands
⊙ Air Readings--25 ft--East Side Islands
△ Air Readings--25 ft--West Side Islands

DISTANCE - NAUTICAL MILES FROM MIKE ZERO

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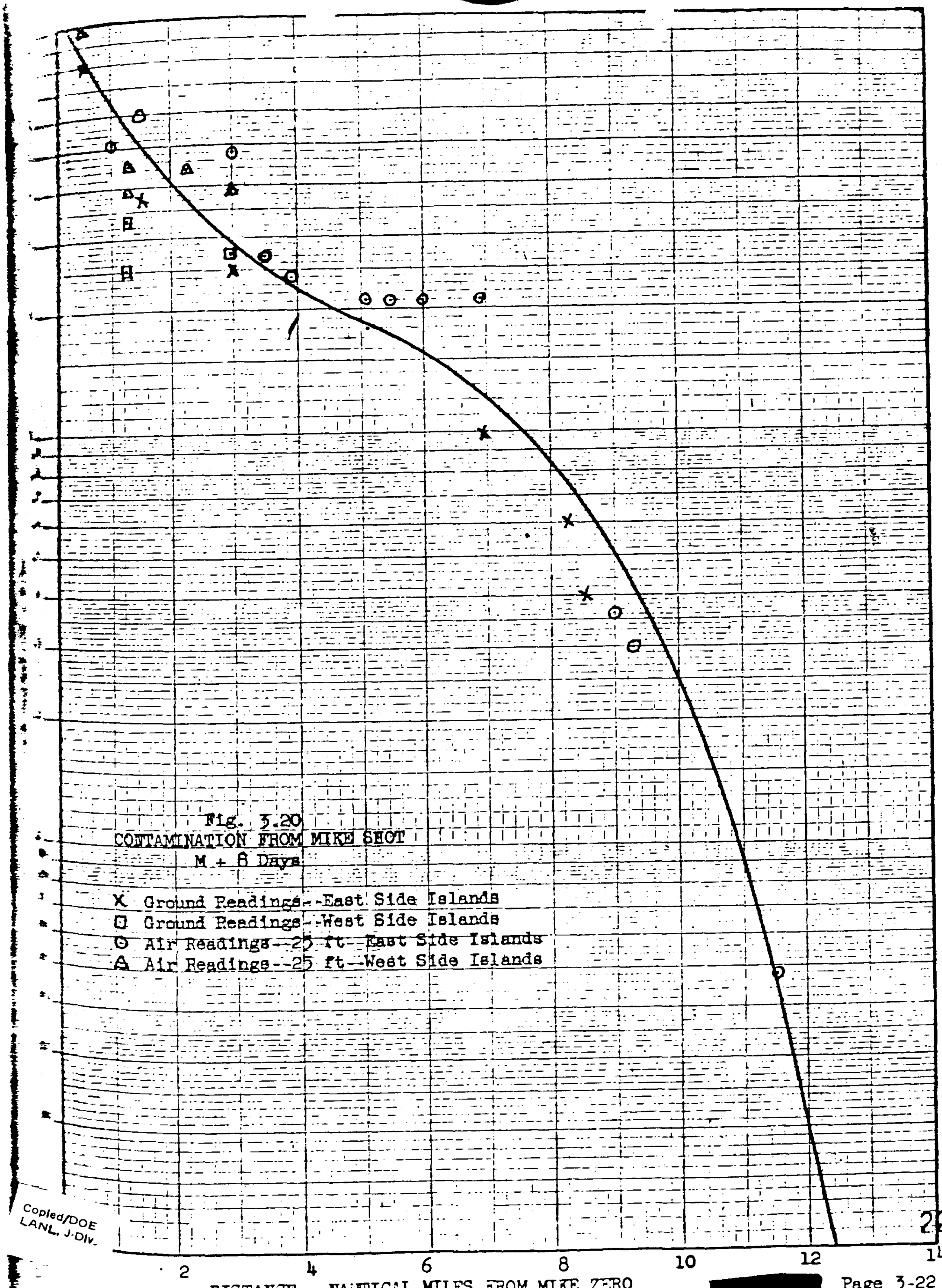

Fig. 3.20
CONTAMINATION FROM MIKE SHOT
M + 8 Days

3

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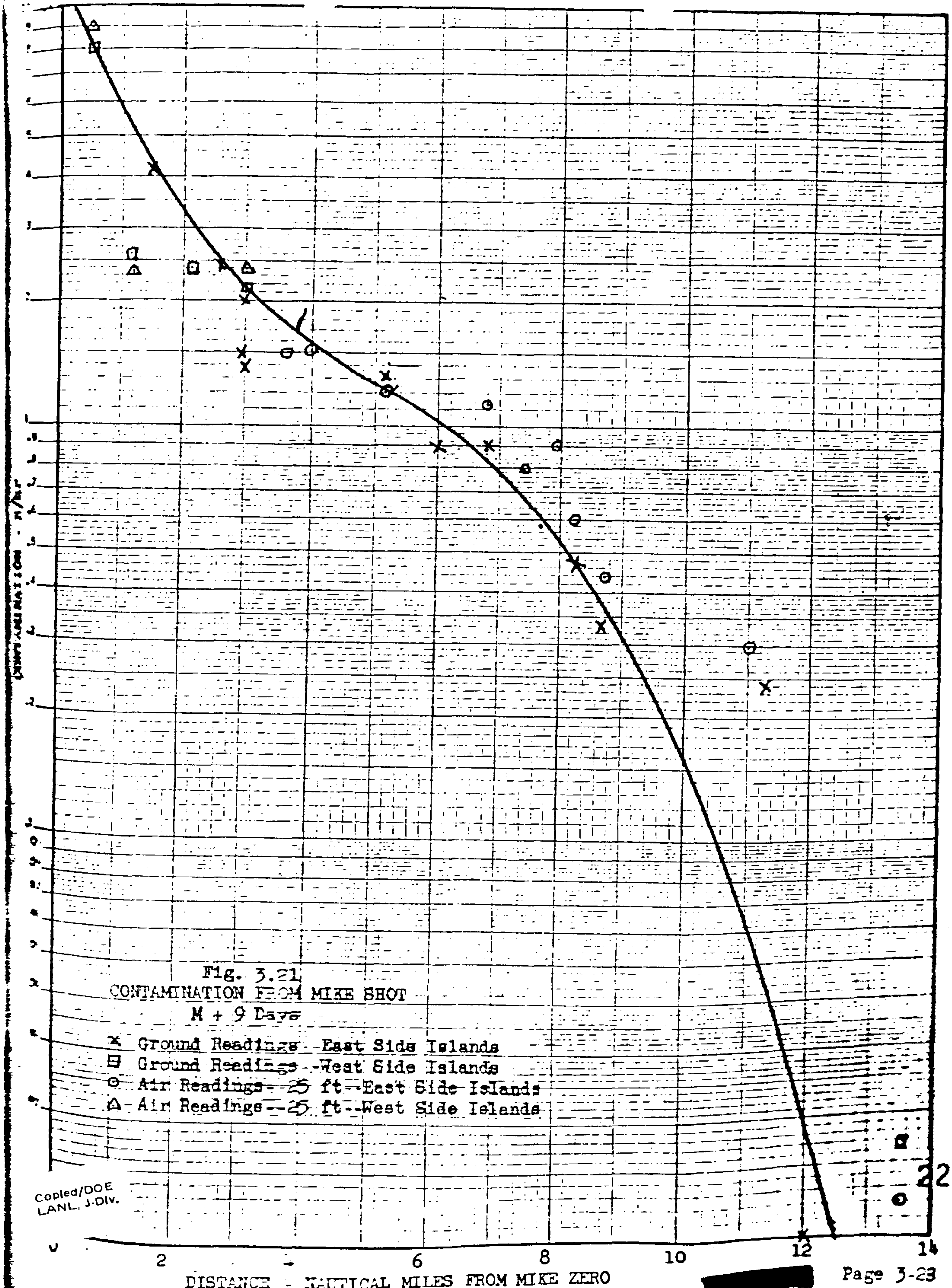

Fig. 3.21
CONTAMINATION FROM MIKE SHOT
M + 9 Days

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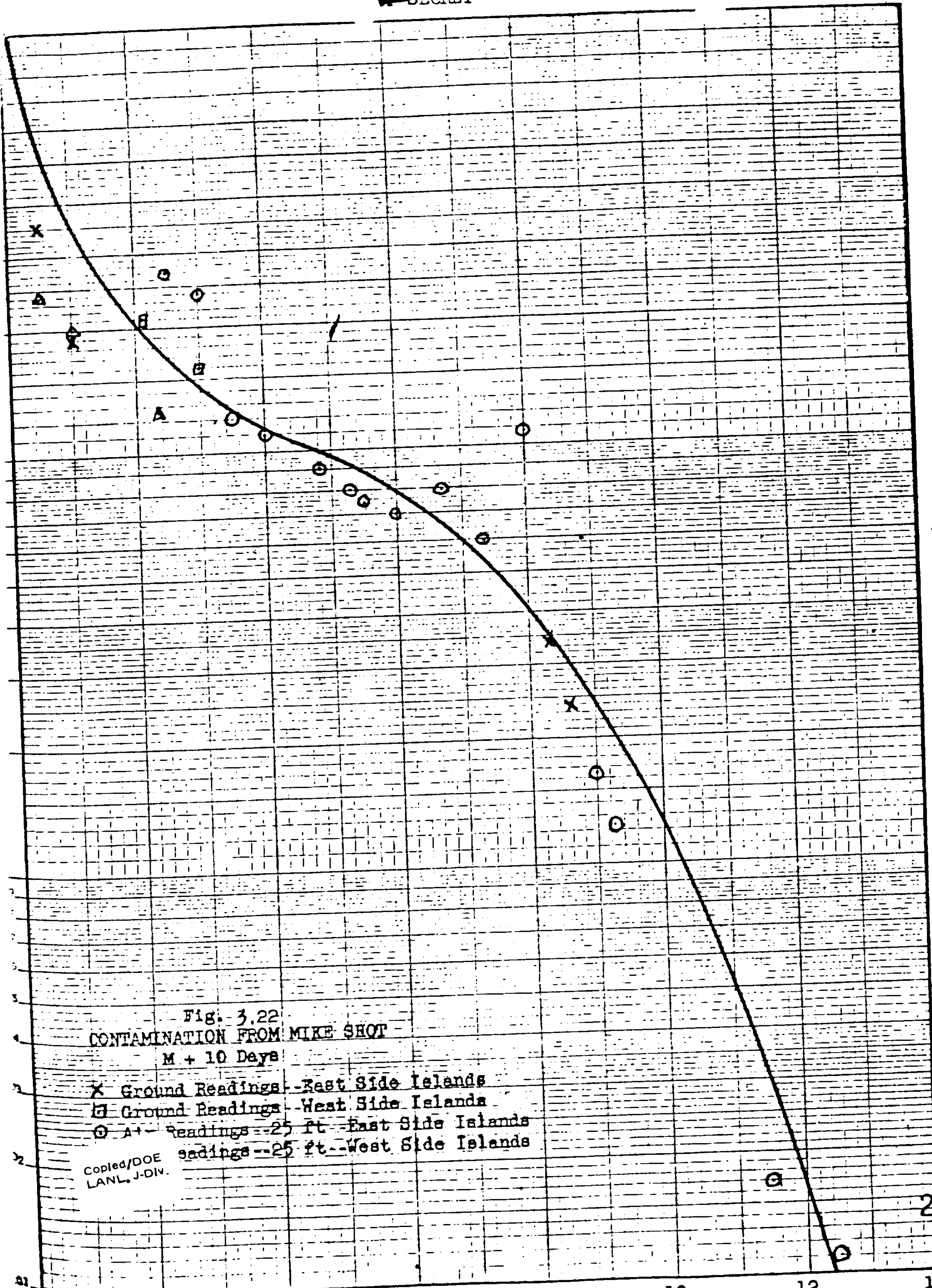

Fig. 3.22
CONTAMINATION FROM MIKE SHOT
M + 10 Days

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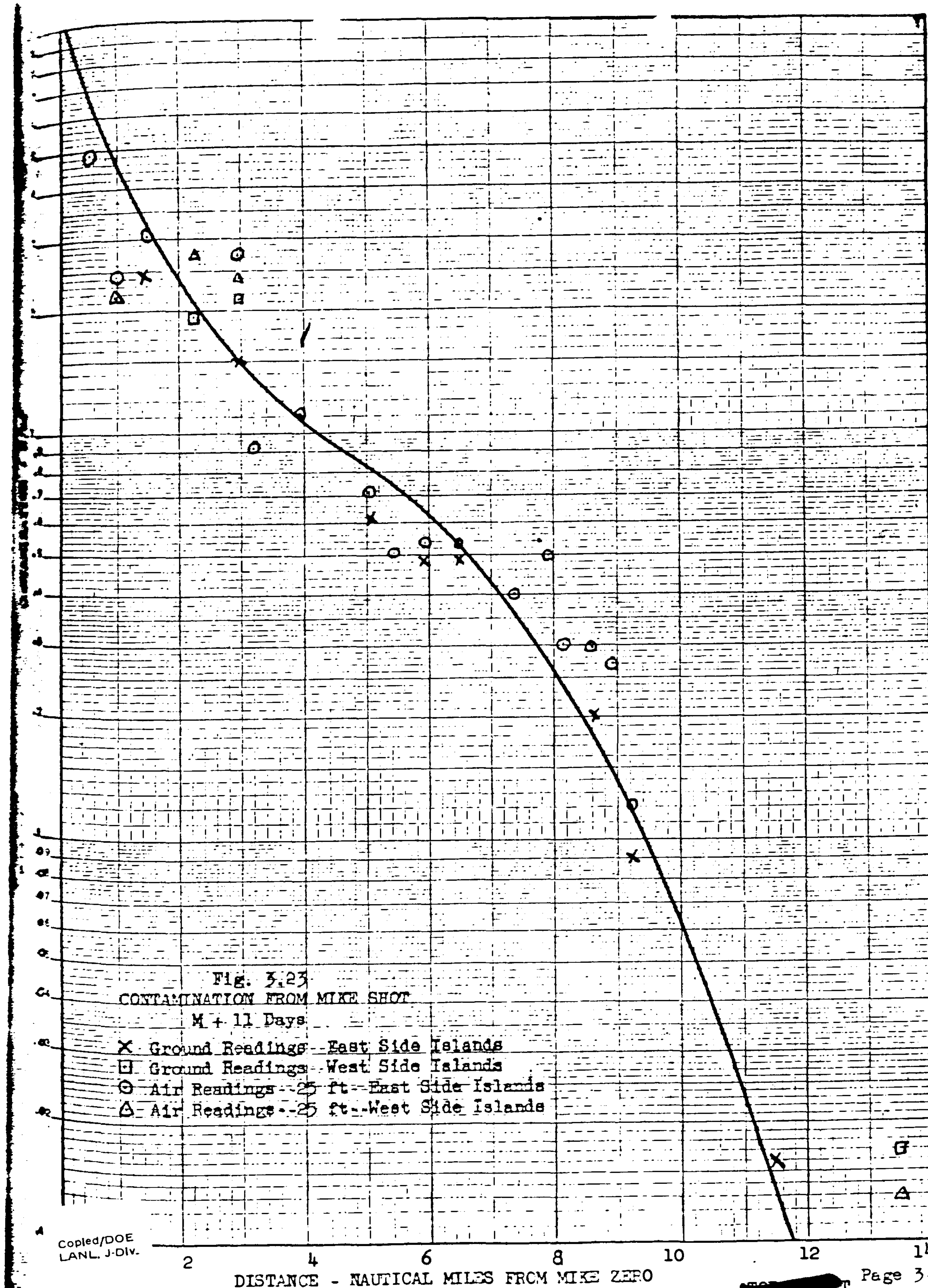

Fig. 3.23
CONTAMINATION FROM MIKE SHOT
M + 11 Days

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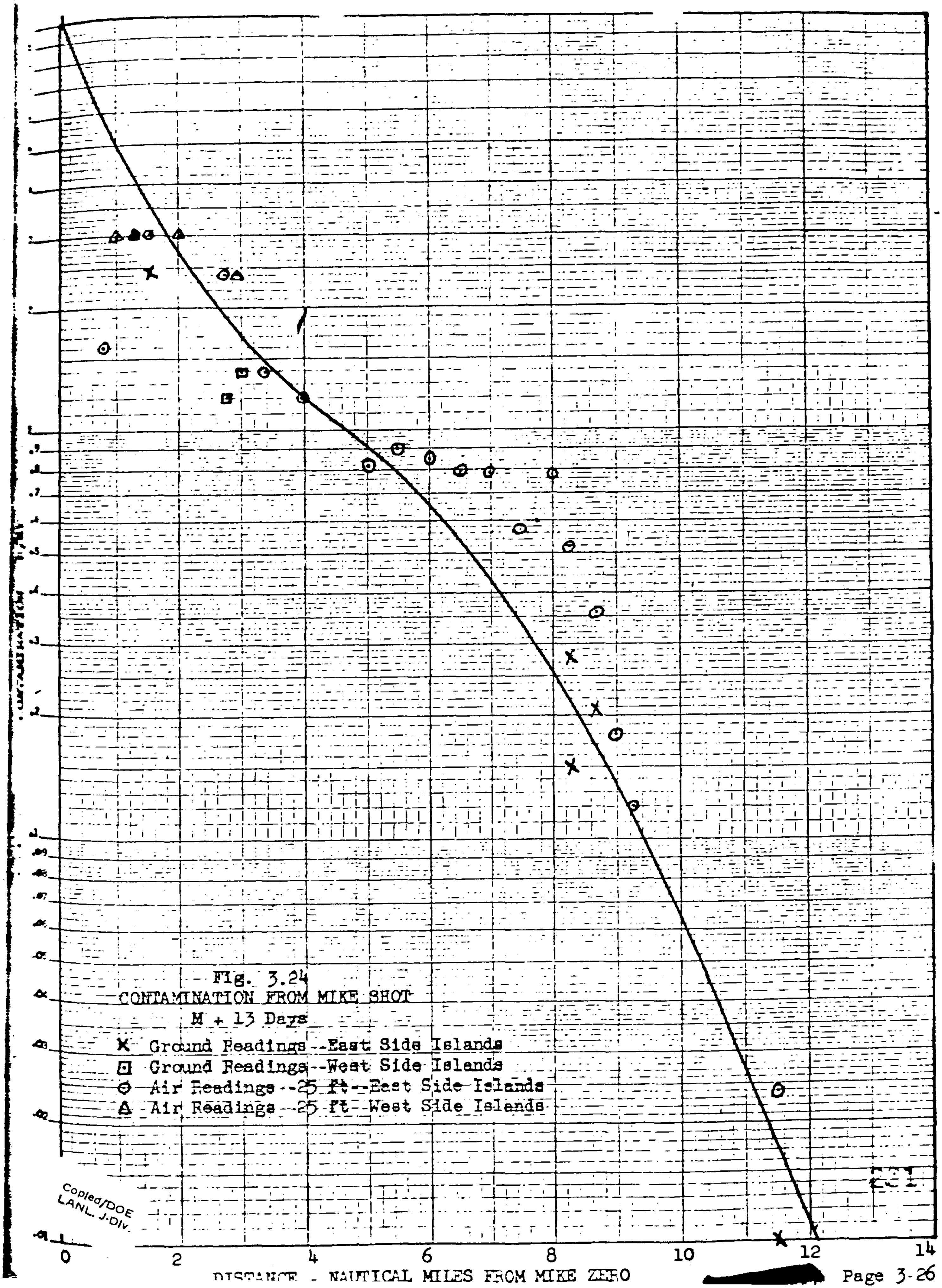

Fig. 3.24
CONTAMINATION FROM MIKE SHOT
M + 13 Days

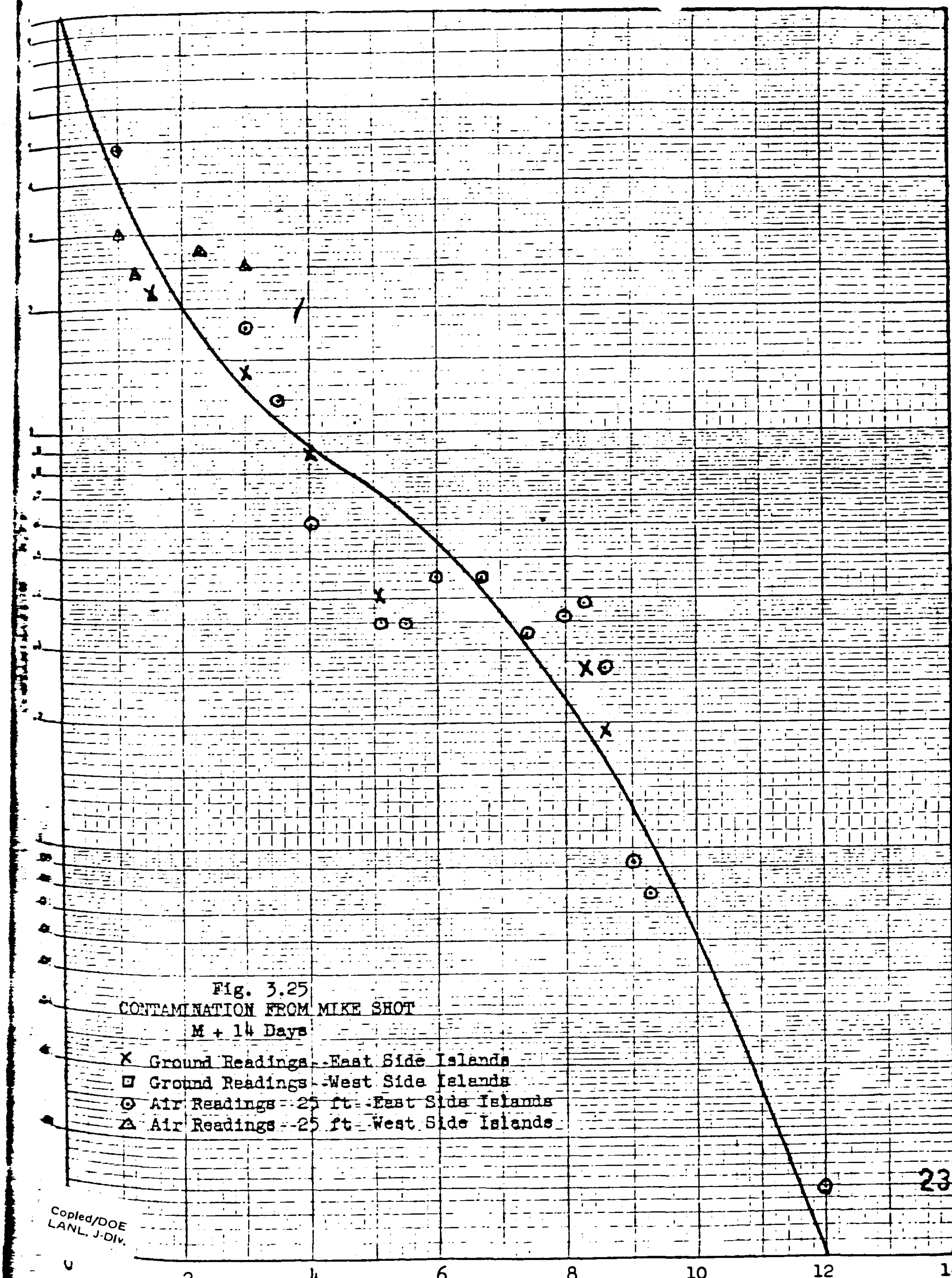

Fig. 3.25
CONTAMINATION FROM MIKE SHOT
M + 14 Days

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Radioactivity From Crossroads Baker Shot

The curves of Figs. 3.26, 3.27, and 3.28 show the radioactivity in the surface waters of Bikini Lagoon on the first three days after Crossroads Baker Shot. The values shown are in mR/hr. Since this shot was in late July, wind and current conditions were somewhat different than those to be expected in March and April, when the trade winds are blowing. The prevailing trade winds are from east-northeast, averaging 15 to 20 knots, while on B day there were light breezes estimated at less than 5 knots from south-southeast. On B + 1 the light breezes alternated with periods of calm, and on B + 2 and B + 3 the wind increased somewhat and hauled to the southeast.

(The figures shown are from an article, "Diffusion in Bikini Lagoon", by W. H. Munk, G. C. Ewing, and R. R. Revelle, of the Scripps Institution of Oceanography; Transactions of the American Geophysical Union, v. 30, pp. 59-66, 1949. The following note accompanies the figures: "Qualitative description of the diffusion of contaminated water--In examining the distribution shown . . . one should hold in mind that they are based on measurements extending over many hours, rather than on simultaneous measurements.")

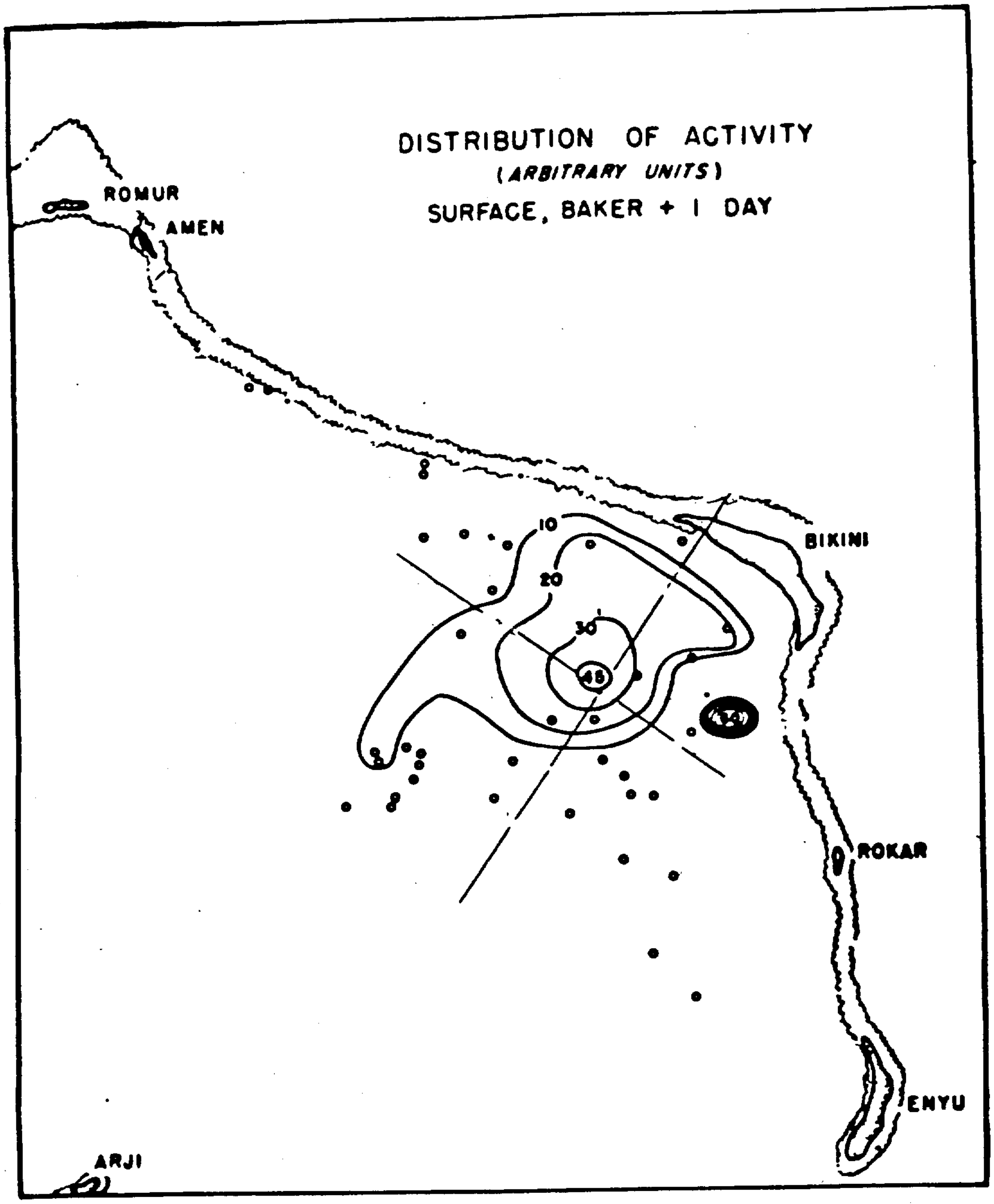

Fig. 3.26 - Distribution of Radioactivity in Surface Waters of Bikini Lagoon; Baker + 1 Day

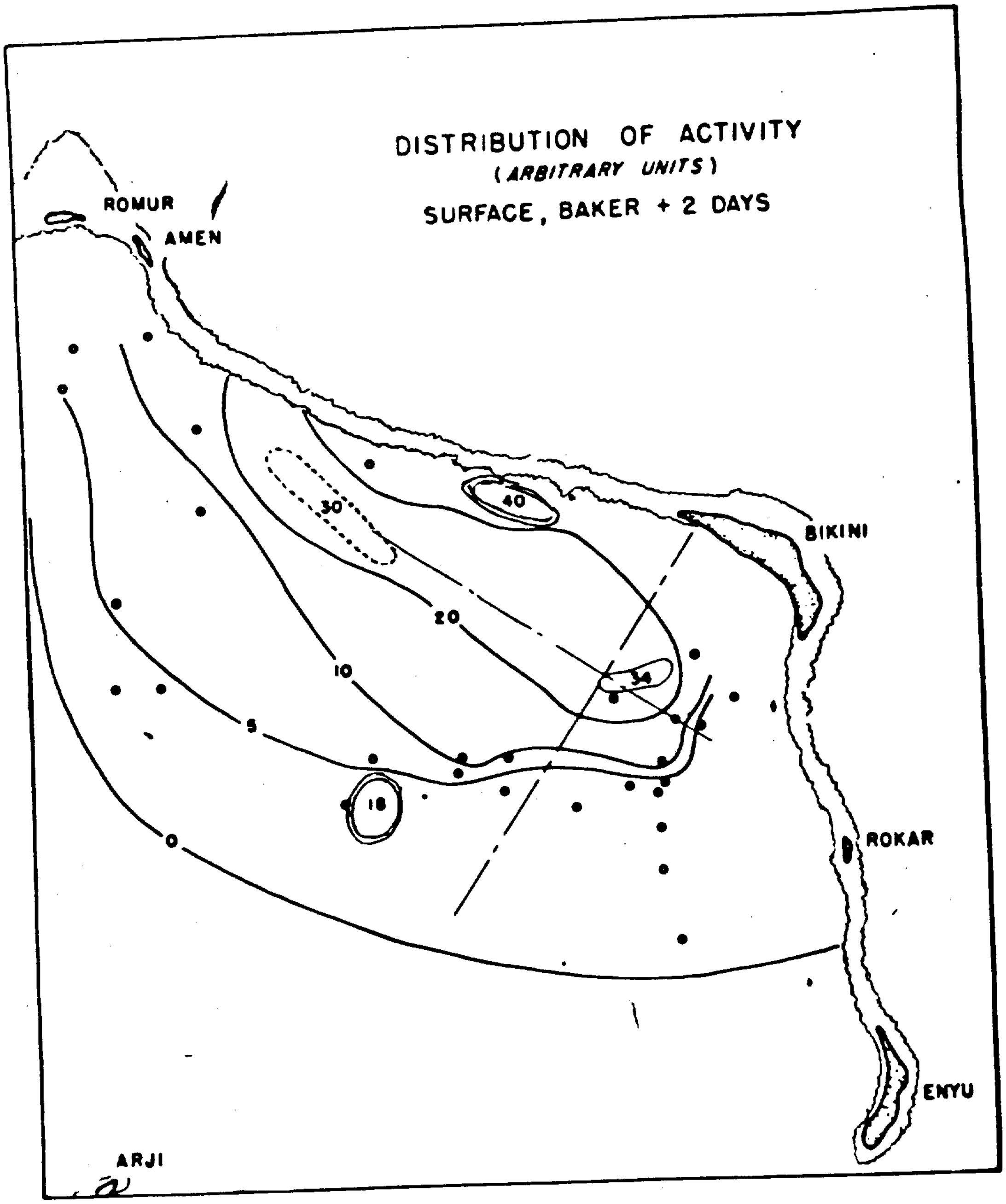

Fig. 3.27 - Distribution of Radioactivity in Surface Waters of Bikini Lagoon; Baker + 2 Days

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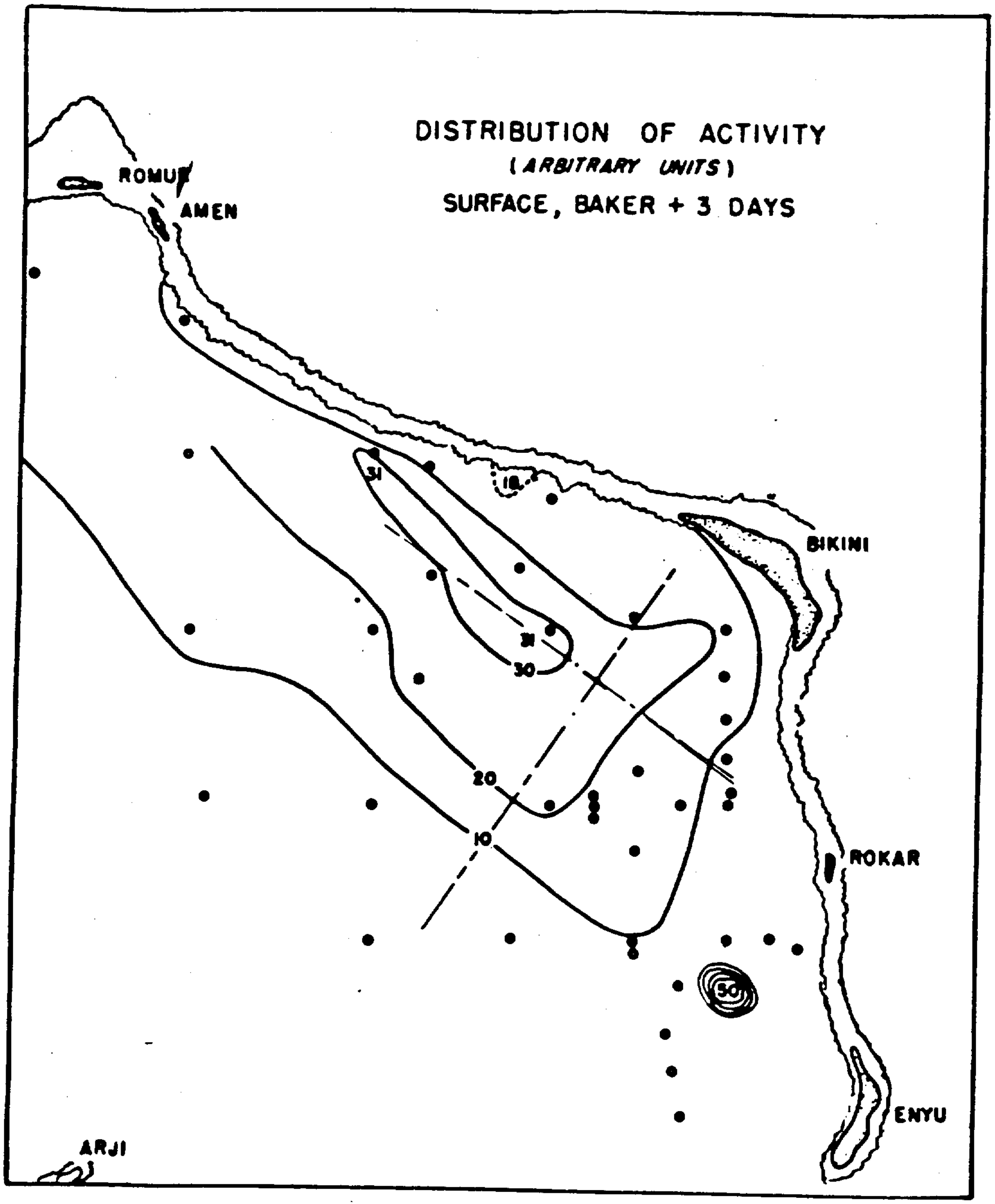

Fig. 3.28 - Distribution of Radioactivity in Surface Waters of Bikini Lagoon; Baker + 3 Days

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