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 For The Atomic Energy Commission  
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 Chief, Declassification Branch

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This document consists of 18 pages, 4 copies, Series A

INV. 4917

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VEGETATION CONTAMINATION FOR PERIOD SEPT. 3, 1946 TO DEC. 31, 1946

The accompanying graphs and maps indicate the trend of contamination observed on vegetation in the vicinity of the Hanford Engineer Works during the period Sept. 3 to December 31, 1946, as evaluated from one gram samples counted with a thin mica-window beta set. Values have been corrected for self-absorption \*, and for the decay between sampling and counting \*\*.

The observed contamination gradually increased during this period in all locations, including those locations that are 'Off-Area'.

Tolerance contamination (0.20  $\mu\text{C/kg}$ )\*\*\* was exceeded in twelve locations within 50 miles of the Hanford Engineer Works, and in two locations between 50 and 100 miles of the area.

Pasco, Kennewick, Benton City and Richland (Graphs I and II) exceeded tolerance conditions during December. Other 'On-Area' locations (Graphs III, IV and VI) also exceeded tolerance conditions in December.

Samples of vegetation taken close to the 200-E Area in a southeasterly direction (Graph V) reached a peak contamination of 48  $\mu\text{C/kg}$  in December from a level of about 1  $\mu\text{C/kg}$  in September. Several different types of vegetation were sampled at St. 49, MI. 4, but only the maximum values are plotted here for comparison with the other localities. The average values are about 60% of the maximum values.

LDE:ewc

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*L.D. Turner*  
 L. D. Turner

SEP-18 1957

DOCUMENT ADDIT. AND

- \* "Vegetation Analysis for Radio-Iodine" J.V. Fealy & L.D. Fuqua, Dec. 1, 1946, 5/2/46  
 \*\* Correction for decay is based on the half-life of radio-iodine of 3 days.  
 \*\*\* "Tolerable Concentration of Radio-Iodine on Edible Plants" H.M. Parker, 7-22-47.

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GRAPHS

Page  
Doc. No.

- (I) The Trend of Vegetation Contamination (B&G): Richland ..... ~~3-5522~~ pg. 3  
Pasco
- (II) The Trend of Vegetation Contamination (B&G): Kennewick  
Benton City ..... ~~3-5522~~ 4
- (III) The Trend of Vegetation Contamination (B&G): Hanford  
300 Area ..... ~~3-5522~~ 5
- (IV) The Trend of Vegetation Contamination (B&G): Vicinity of 100-B,  
100-D and 100-F..... ~~3-5522~~ 6
- (V) The Trend of Vegetation Contamination (B&G): Rt. 4S, MI.4  
Rt. 4S, MI.6 ..... ~~3-5522~~ 7
- (VI) The Trend of Vegetation Contamination (B&G): Meteorology 622 Bldg.  
Rt. 10, MI.1  
Rt. 10, MI. 5 ..... ~~3-5522~~ 8

MAPS

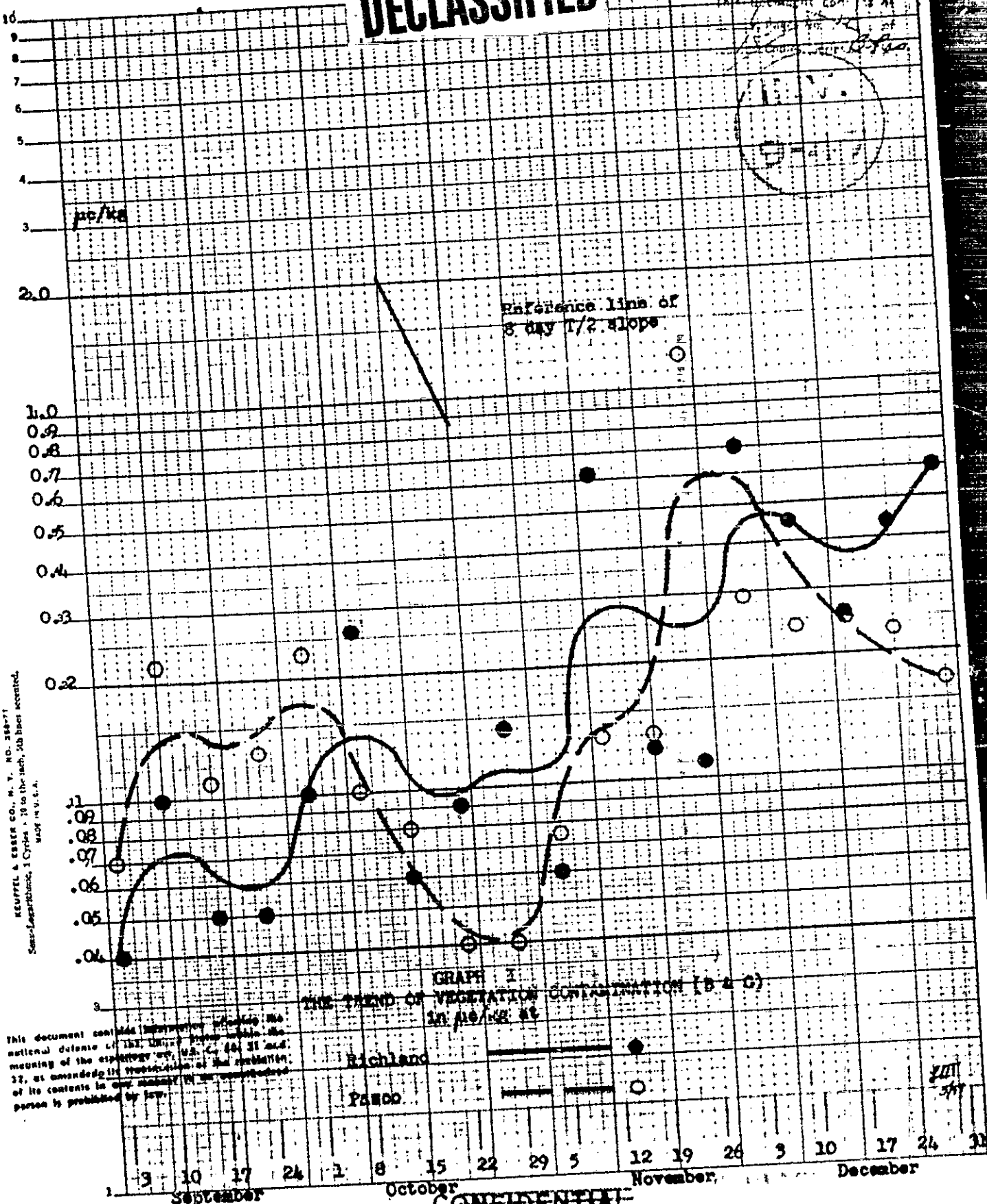
- 1. Extent of Vegetation Contamination 'On Area' Isodose Map ..... ~~3-5522~~ 9
- 2. Extent of Vegetation Contamination 'On Area' ..... ~~3-5522~~ 10
- 3. Extent of Vegetation Contamination 'Off Area' ..... ~~3-5522~~ 11
- 4. Extent of Vegetation Contamination 'Off Area' ..... ~~3-5522~~ 12

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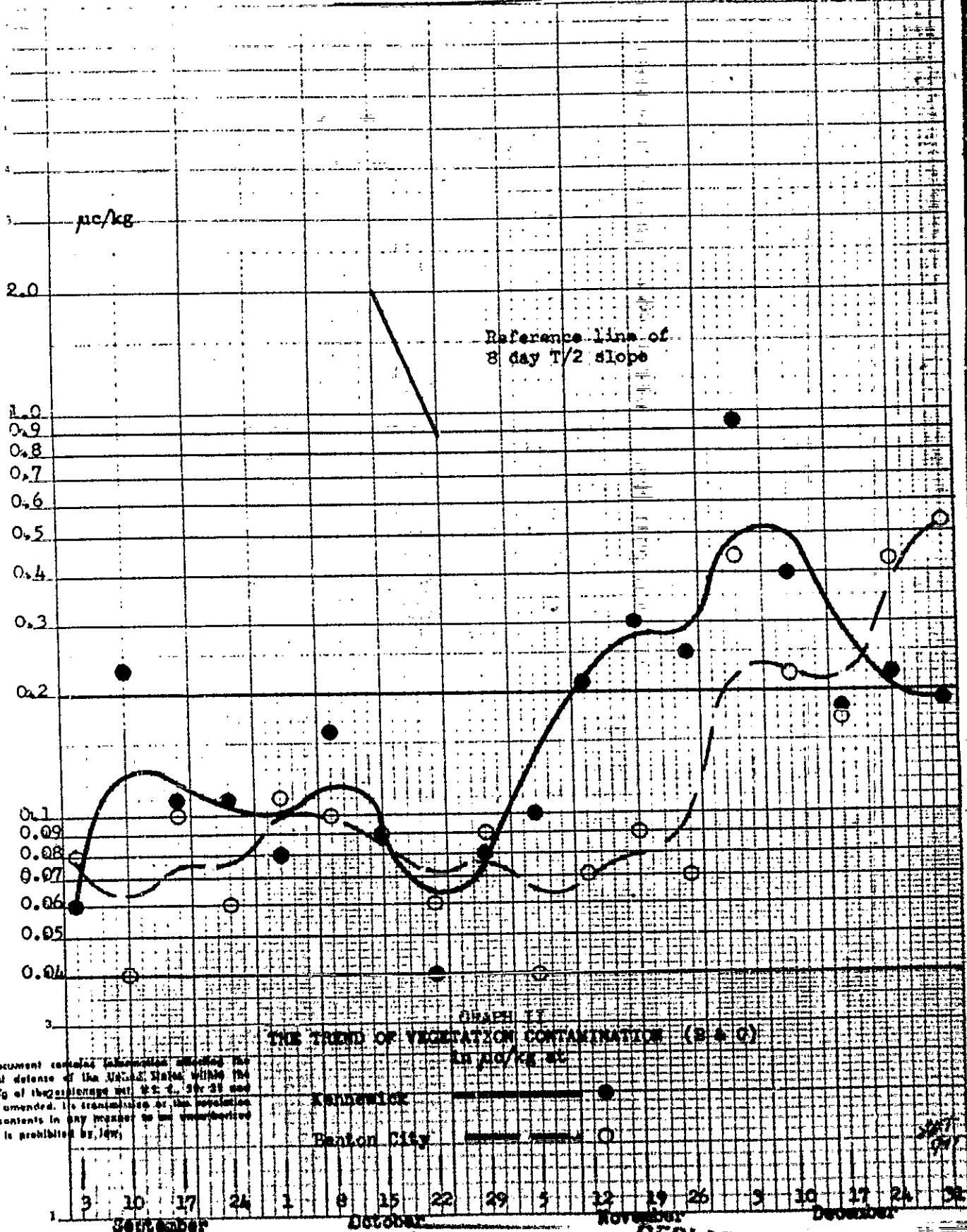
GRAPH 2  
THE TREND OF VEGETATION CONTAMINATION (B & G)  
IN 1968 AT

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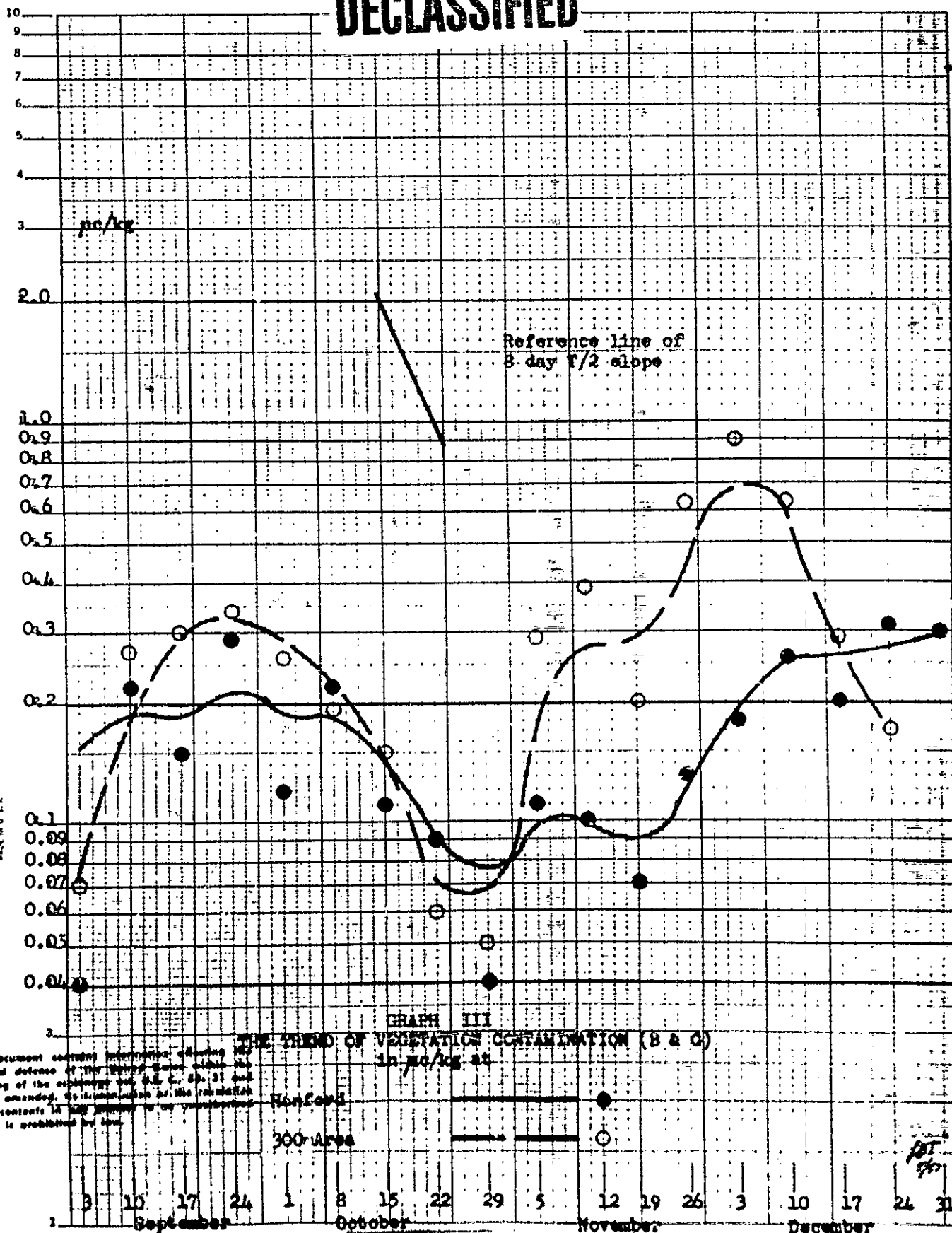
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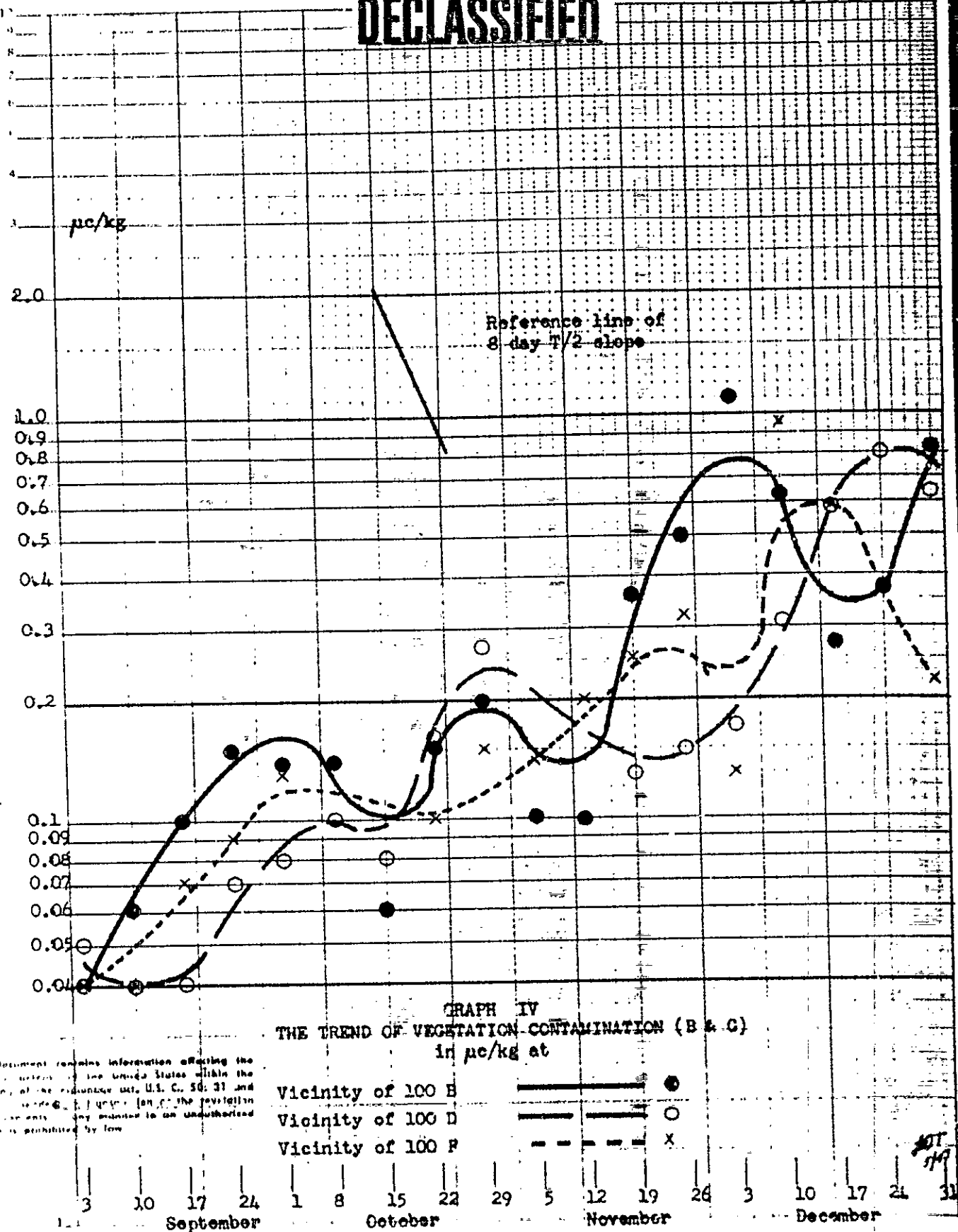
GRAPH III  
 THE TREND OF VEGETATION CONTAMINATION (B & C)  
 in pc/kg at

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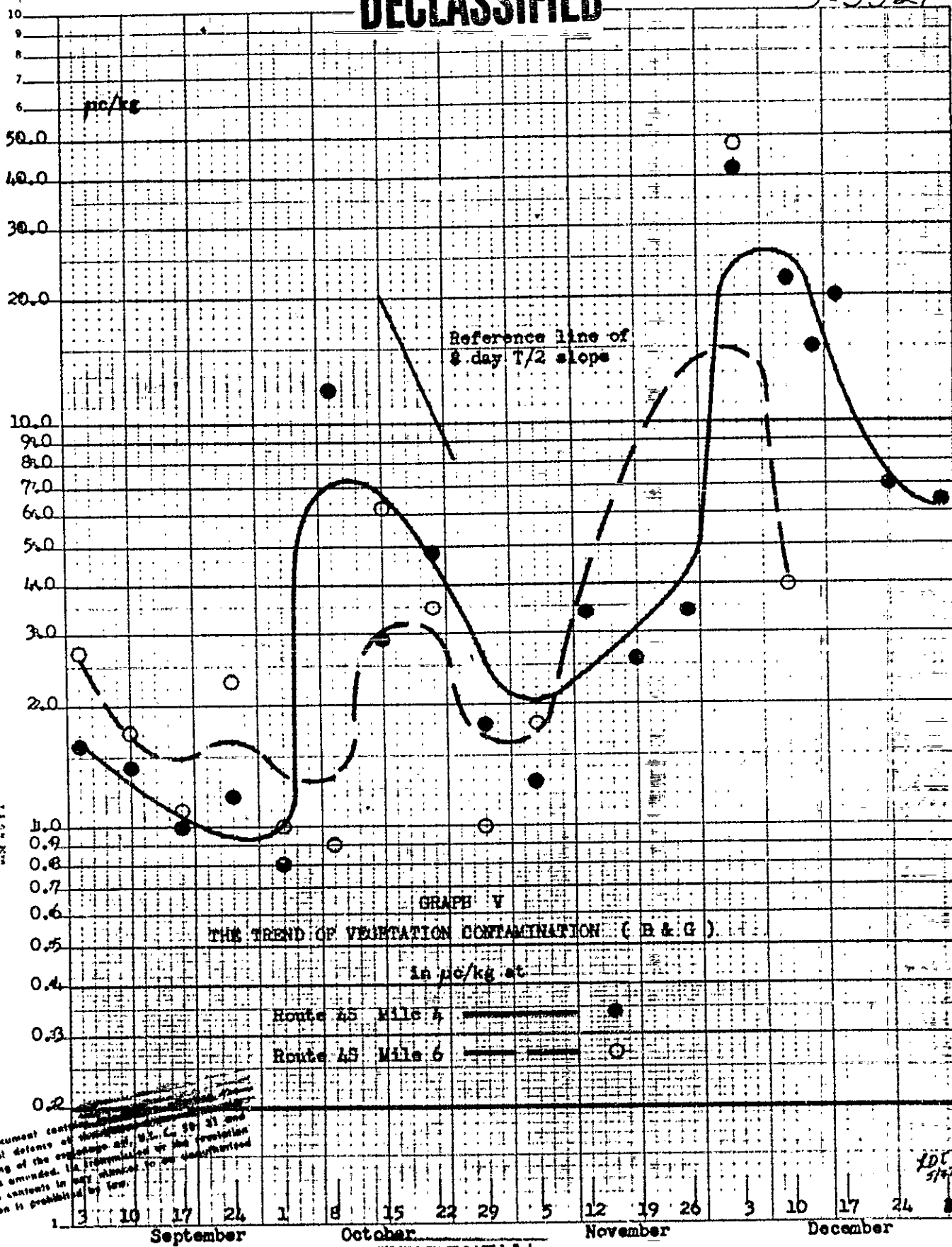


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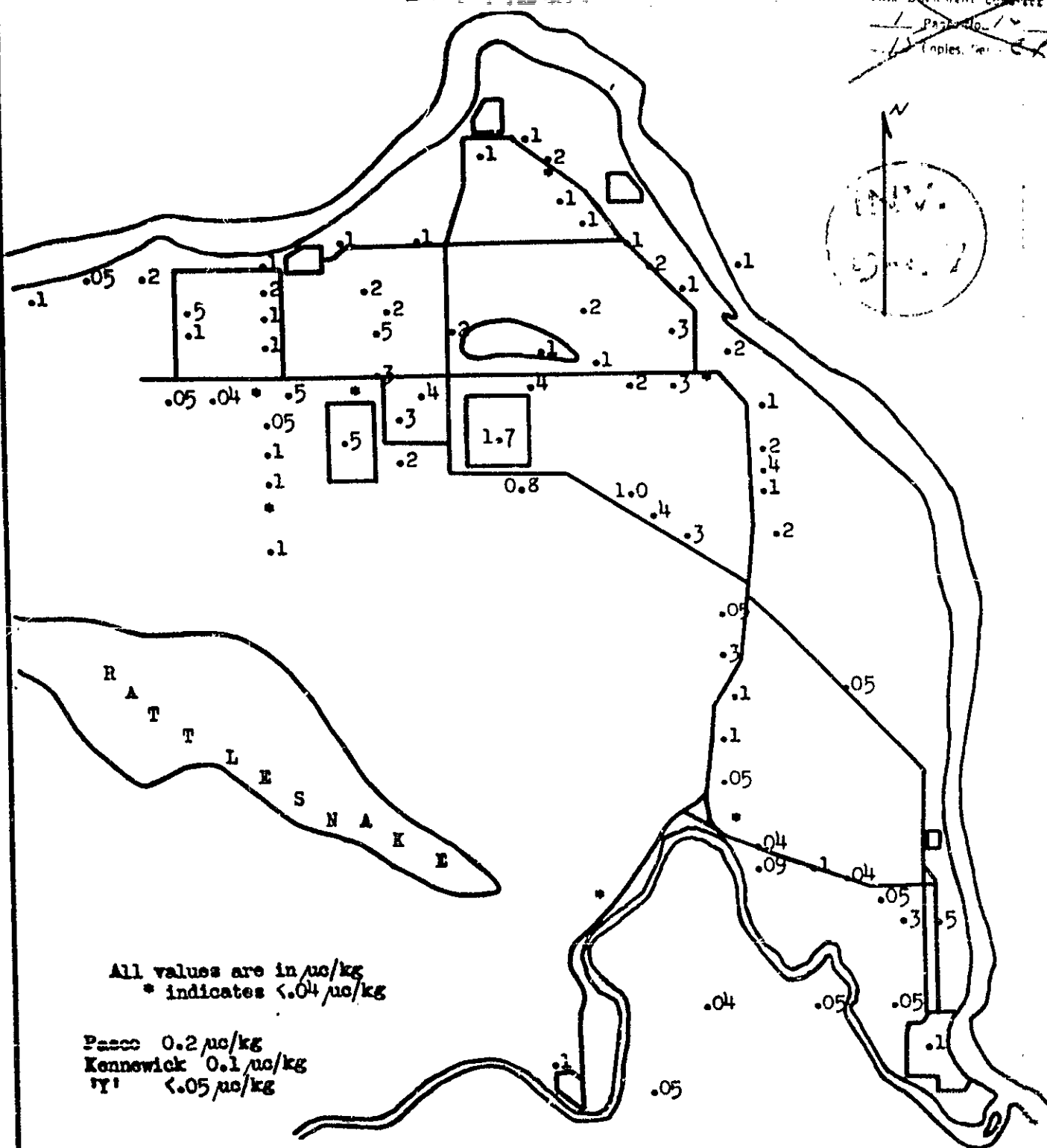
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HANFORD ENGINEER WORKS

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DATE Oct. 1, 1946 DRAWN BY LEP

EXTENT OF VEGETATION CONTAMINATION

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