

SINGLE REVIEW AUTHORIZED BY:  
 AA S. W. Green 11/16/54  
 REVIEWER (ADD):  
 NAME: M. L. KOLBARI  
 DATE: 11/16/54

UNIVERSITY OF CALIFORNIA, RADIATION LABORATORY, HEALTH PHYSICS GROUP

REPORT ON BACKGROUND STUDIES MADE IN CONNECTION WITH OPERATION GREENHOUSE

RGY DECLASSIFICATION REVIEW  
 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):

Introduction

40407B

On April 14, 1951 at the request of the Atomic Energy Commission the health physics group put into operation the necessary equipment to make background measurements of the outside atmosphere.

Description of Equipment and Methods used

Two Victoreen thin wall Al. Geiger tubes were employed to sample the outside atmosphere. The Geiger tubes were mounted at the end of a plastic cylinder whose measurements were 8' in length and 6" in diameter. Outside air was drawn through the plastic cylinder and sampled by the Geiger tubes. One Geiger tube was connected to a counting rate meter which in turn was connected to an Esterline Angus recorder. The second Geiger tube was connected to a conventional scaler and register.

Samples of rainwater were also collected and processed in the following manner: The sample was collected from the roof of one of the Laboratory buildings by means of attaching a 5 gallon receptacle to a convenient down-spout. The sample was then filtered through several pieces of #40 Whatman filter paper. The paper was ashed and an aliquot was evaporated onto a counting plate. The plate was counted with an end window Geiger tube connected to a scaler and register. Prior to taking the rain samples the roof was washed down several times for two reasons. First to remove any contamination and secondly to establish some sort of a normal background for this particular roof.

Results

On two occasions the Geiger tubes indicated an increase in background. The dates and times are as follows:

| <u>From</u>    | <u>To</u>      | <u>Factor of</u> |
|----------------|----------------|------------------|
| 2100 - 4/25/51 | 0700 - 4/26/51 | 2                |
| 1830 - 5/25/51 | 1930 - 5/25/51 | 2.5              |

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Both of the above increases were detected by the Health Chemistry group using the well known filter paper method to sample the air (see Health Chemistry report).

[REDACTED]

Samples of rainwater were taken at the following times:

| <u>From</u>    | <u>To</u>      | <u>Increase in Background</u> |
|----------------|----------------|-------------------------------|
| 2100 - 4/24/51 | 0300 - 4/25/51 | 0                             |
| 2400 - 4/27/51 | 0500 - 4/28/51 | 0                             |
| 0300 - 4/30/51 | 1030 - 5/1/51  | 0                             |
| 2200 - 5/2/51  | 1000 - 5/3/51  | 0                             |

No significant increase in background was detected in any of the rain samples. Data was taken from April 14, 1951 through June 15, 1951.

[REDACTED]