

44-10-273

A-670

10/20/44

Date PRODUCT CONTAMINATION IN THE AIR 10/20/44
Subject _____By Level
Bugay
To _____File IE 11Those Eligible
To Read the
AttachedCopy 5 - English

OK

Before reading this document, sign and date belowName John C. Corcoran Date 11/20/44Name RWS Date 11/24/44Name H. S. Ferguson Date 11-27-44Name J. D. Johnson Date 11/27/44

Name _____ Date _____

This document has been approved for release
to the public by:David R. Hamm 4/26/95
Technical Information Officer
ORNL Site

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10/20/44

K. Z. Morgan

G. Koval

PRODUCT CONTAMINATION OF THE AIR
10/9/44 to 10/14/44

1. K.Z.Morgan
2. J.E.Wirth
3. R.S.Stone
4. W.A.Bodger
5. I.Perlman
6. R.Firminhae
7. E.G.Bell
8. R.W.Richards
9. G.Koval
10. Central File
11. Readers File

Dust samples were collected in Bldgs. 706A and 205 by electro-static precipitation. The rate of air flow through the precipitron was 11.5 C.F.M. Precipitation lasted 30 minutes. Samples were counted on alpha counter #7-712. Results were corrected for radium and thorium active deposit counts.

An above tolerance concentration of $1.1 \times 10^{-9} \mu\text{gms}$ per c.c. of air was found outside the west hood of Room #54, 706A on 10/9/44. The hood was subsequently cleaned and daily tests for the rest of the week all gave results within tolerance.

An extremely high concentration of more than $1.4 \times 10^{-7} \mu\text{gms}$ per c.c. was found behind the barrier in Rm. D, Bldg. 205 during the operation of transferring supernatant from Bldg. 204 containers to tank D-8. This is done by air jetting. Tests made in front of the barrier on 10/16/44 showed no concentration greater than $1.5 \times 10^{-10} \mu\text{gms}$ per c.c. during the same operation. This operation takes place about every second day. It is necessary for an operator to be behind the barrier a considerable part of the time during the transfer. An Army assault mask has been provided for the use of this operator. Any persons entering the area behind the barrier at any time are to wear respirators. Steps are being taken to greatly increase the ventilation of D-8. Daily precipitron tests will be made until the situation is remedied.

All other concentrations of product found in the air were below the tolerance level of $5 \times 10^{-10} \mu\text{gms}$ per c.c. of air.

The results of all surveys are listed on the following page.

3/2/51

G. Koval

ex/ah

Walbur A. Strausser Jr.
Chief, Radiological Survey

<u>Location</u>			<u>Time of Survey</u>		<u>Count/min.</u>	<u>Curies product due to</u>	<u>Curies product per cc</u>	<u>Rads of air per cc of air</u>
Bldg.706A	Rm64	West Side	10-9-44	10:45AM	30	4.4×10^{-12}	6.9×10^{-11}	
Bldg.706A	Rm64	East Side	10-9-44	10:50AM	13	1.9×10^{-12}	3.0×10^{-11}	
Bldg.706A	Rm64	East Side	10-10-44	12:47AM	5	7.3×10^{-13}	1.1×10^{-11}	
Bldg.706A	Rm64	East Side	10-10-44	12:47AM	14	2.0×10^{-12}	3.1×10^{-11}	
Bldg.706A	Rm64	West Side	10-11-44	9:25AM	11	1.6×10^{-12}	2.5×10^{-11}	
Bldg.706A	Rm64	East Side	10-11-44	9:11AM	2	2.9×10^{-13}	4.5×10^{-12}	
Bldg.706A	Rm64	S.E. Hood	10-12-44	3:15PM	4	5.8×10^{-13}	9.0×10^{-12}	
Bldg.706A	Rm34	E. Hood	10-9-44	12:50PM	0	0	0	
Bldg.706A	Rm34	Inside W. Hood	10-10-44	9:34AM	25	3.69×10^{-12}	5.7×10^{-11}	
Bldg.706A	Rm34	E. Hood	10-12-44	1:45PM	3	4.4×10^{-13}	6.9×10^{-12}	
Bldg.706A	Rm34	E. Hood	10-13-44	11:00AM	5	7.3×10^{-13}	1.1×10^{-11}	
Bldg.706A	Rm34	E. Hood	10-14-44	1:50PM	4	5.8×10^{-13}	9.0×10^{-12}	
Bldg.706A	Rm54	W. Hood	10-9-44	10:15AM	480	7.0×10^{-11}	1.1×10^{-9}	
Bldg.706A	Rm54	W. Hood	10-10-44	9:18AM	26	3.8×10^{-12}	5.9×10^{-11}	
Bldg.706A	Rm54	W. Hood	10-11-44	9:50AM	16	2.3×10^{-12}	3.6×10^{-11}	
Bldg.706A	Rm54	W. Hood	10-12-44	1:05PM	0	0	0	
Bldg.706A	Rm54	W. Hood	10-13-44	10:25AM	29	4.2×10^{-12}	6.6×10^{-11}	
Bldg.706A	Rm54	W. Hood	10-14-44	11:15AM	9	1.3×10^{-12}	2.0×10^{-11}	
Bldg.706A	Rm54	N. Hood	10-9-44	12:30AM	60	8.8×10^{-12}	1.4×10^{-10}	
Bldg.706A	Rm54	N. Hood	10-12-44	1:08PM	11	1.6×10^{-12}	2.5×10^{-11}	
Bldg.706A	Rm54	N. Hood	10-13-44	10:30AM	19	2.8×10^{-12}	4.4×10^{-11}	
Bldg.706A	Rm54	Centrifuge	10-14-44	11:15AM	95	1.4×10^{-11}	2.2×10^{-10}	
Bldg.706A	Rm22	N.E. Hood	10-9-44	1:10PM	0	0	0	
Bldg.706A	Rm22	Room Center	10-10-44	2:23PM	0	0	0	
Bldg.706A	Rm22	West Hood	10-11-44	10:00AM	42	6.1×10^{-12}	9.5×10^{-11}	
Bldg.706A	Rm22	Center Bench	10-12-44	1:52PM	0	0	0	
Bldg.706A	Rm57	S.E. Hood	10-9-44	1:46PM	0	0	0	
Bldg.706A	Rm57	N.E. Hood	10-9-44	1:46PM	0	0	0	
Bldg.706A	S.W.	Cell #5	10-11-44	10:30AM	55	5.0×10^{-12}	1.2×10^{-10}	
Bldg.706A	S.W.	Cell #4	10-10-44	2:50PM	69	1.0×10^{-11}	1.6×10^{-10}	
Bldg.706A	S.W.	Cell #4	10-10-44	10:30AM	5	7.3×10^{-13}	1.1×10^{-11}	
Bldg.706A	S.W.	Door of Cell 14	10-13-44	1:25PM	16	2.3×10^{-12}	3.6×10^{-11}	
Bldg.706A	S.W.	Cell #4	10-13-44	1:16PM	7	1.0×10^{-12}	1.6×10^{-11}	
Bldg.706A	S.W.	Door of cell 14	10-14-44	10:35AM	7	1.0×10^{-12}	1.6×10^{-11}	
Bldg.706A	S.W.	Cell #4	10-14-44	10:30AM	7	1.0×10^{-12}	1.6×10^{-11}	
Bldg.706A	Rm32	W. Hood	10-12-44	2:25PM	0	0	0	
Bldg.706A	Rm62	W. Bench	10-12-44	3:15PM	10	1.5×10^{-12}	2.3×10^{-11}	
Bldg.706A	Rm62	S. Bench	10-13-44	12:50PM	3	4.4×10^{-13}	6.9×10^{-12}	
Bldg.706A	Rm57	N.W. Bench	10-12-44	2:40PM	7	1.0×10^{-12}	1.6×10^{-11}	
Bldg.205	RmE	Room Center	10-10-44	9:58AM	3	4.4×10^{-13}	6.9×10^{-12}	
Bldg.205	RmC	Room Center	10-10-44	10:30AM	0	0	0	
Bldg.205	RmD	Room Center	10-14-44	11:12AM	>600000	$>8.8 \times 10^{-9}$	$>1.4 \times 10^{-7}$	