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TN.9

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COMMUNICATIONS SECTION
COK RIDGE, TENNESSEE

12 August 1944

RECEIVED
MADISON SQUARE AREA
AUG 15 1944
7:19:10 11:12:12 12:15:15

Subject: Inspection of Warehouses at Oak Ridge.

To: The Area Engineer, Madison Square Area, New York, N.Y.
(Attention: Major Phillip Merritt)

1. The warehouses being used at Oak Ridge for the storage of foreign ore, tailings and slag were inspected 9 Aug. 1944 by representatives of the Medical Section and Captain K. E. Zimmerman.

2. In warehouse #2, at present, no one is working more than one or two days per month. In this warehouse are stored high grade ore, oxide residues and tailings. Samples of the air in the warehouse taken 23 May 44, gave the results indicated in the inclosed letter. Measurements were made of the gamma radiation to which workers might be exposed, and the following results obtained:

Location	Result
Center of aisle (12 ft. from drums of 65% ore)	0.08 r per 8 hrs.
4 ft. from drums of ore	0.13 r per 8 hrs.
2 ft. from barrels of tailings	1.5 r per 8 hrs.
8 " " " " "	0.74 r per 8 hrs.

3. In view of the high concentration of Mz in this warehouse, and the gamma radiation which may be encountered at some of the locations, the following regulations are recommended for men working in warehouse #2:

a. Workmen moving barrels of tailings should be limited to a total of 16 hours work per month.

b. Workmen moving barrels of high-grade ore should be limited to a total of 4 days work per month or 32 hours.

c. Before any workmen enter the warehouse to move barrels, the warehouse should be aired for 24-hours by keeping all the doors open.

4. Warehouse #3 contains bagged low-grade ore and some barrels of slag. About half the ore has been placed in paper bags. To rebag the remaining material will require about 2 weeks work. The paper bags on hand are too small to contain the burlap bags unless the burlap bags are slit and the material poured in. The Mz concentrations in warehouse #3, as indicated on the inclosure, are considerably lower than in warehouse #2. Measurements

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of gamma radiation which might be received in this warehouse gave the following results:

<u>Location</u>	<u>Result</u>
At bagging table	0.09 r per 8 hrs.
2 ft. from bags of ore	0.3 r per 8 hrs.
In direct contact with slag	0.01 r per 8 hrs.

5. On the basis of these measurements, and because of the dustiness of the rebagging operation, the following regulations are recommended for warehouse #3:

a. Workmen present in the warehouse while ore is being rebagged or moved, should be required to wear respirators providing protection against toxic dust (Comfo #2101 with dust filter #2133, and Clear-Vue Dustfoe Respirator with filter #2148 have been found to be acceptable).

b. Before work is resumed in the warehouse, the warehouse should be aired for 24 hours as indicated in par. 3c.

c. Workmen doing the rebagging should be limited to a total of 10 days work per month, or 80 hours, when warehouse is operating continuously.

6. Warehouse #1 contains principally slag for recovery. There is not a significant amount of gamma radiation present here, and there is no problem from #2. A number of the barrels of slag are broken and leaking. While this material is being repacked, workmen present in the warehouse should be equipped with respirators which provide protection against toxic dust. No time limit is necessary on work done in warehouse #1.

7. It is requested that this office be informed by indorsement of the action taken upon these recommendations.

For the District Engineer:

U.S. ENGINEER OFFICE
MANHATTAN DISTRICT
DISPATCHED

John L. Ferry
JOHN L. FERRY
Captain, U.S. Army
Assistant

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For Reply By PLM

Answered By _____

Reference _____

Date _____

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