

FORMERLY UTILIZED SITES
REMEDIAL ACTION PROGRAM

ELIMINATION REPORT
FOR
FORMER R. KRASBERG AND SONS MANUFACTURING COMPANY;
2501 WEST HOMER STREET;
CHICAGO, ILLINOIS

JULY 1990

U.S. Department of Energy
Office of Environmental Restoration

Elimination Report
Former R. Krasberg and Sons Manufacturing Company

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INTRODUCTION

The Department of Energy (DOE), Office of Environmental Restoration, has reviewed the past activities of the Manhattan Engineer District (MED) and the Atomic Energy Commission (AEC) at the former R. Krasberg and Sons Manufacturing Company, 2501 West Homer St., Chicago, Illinois, and has completed a preliminary radiological survey of the site. DOE has determined that the conditions at this site are in compliance with current DOE radiological guidelines (DOE 1987). Furthermore, the survey did not identify residual radioactive material on the site associated with MED or DOE predecessor activities and confirmed that radiological exposures at the site are equivalent to those associated with natural background. Therefore, this site requires no remedial action and is no longer under consideration for inclusion in the Formerly Utilized Sites Remedial Action Program.

The material in this docket consists of information from documents supporting the determination that the radiological conditions at the former R. Krasberg and Sons Manufacturing Company site are in compliance with DOE radiological guidelines determined to apply to this site (DOE, 1987) and provides assurance that use of this site will not result in any measurable radiological hazard to site occupants or the general public.

Through the Office of Administration and Human Resource Management, this elimination report is being placed in DOE's Freedom of Information Act (FOI) Public Reading Room in Washington, D.C., so that it will be accessible to the general public.

BACKGROUND

Site Function

During the period from April 1944 through December 1944, R. Krasberg and Sons Manufacturing Company entered into a subcontract with the University of Chicago for services and supplies to the Metallurgical Laboratory. The subcontract, No. 7401-37-115, provided for necessary personnel, facilities and equipment required to produce special machining of parts for special equipment, tools, jigs, fixtures, etc., from materials furnished by the University. This subcontract was executed on 1 April 1944, and was scheduled to be terminated 30 June 1944, but was extended until 30 December, 1944. Documents describing specific tasks or work accomplished by R. Krasberg and Sons Manufacturing Company have not been found. In addition, there are no records or historical information to indicate that uranium was handled at this site.

Site Description

The facility is located at the corner of West Homer and Campbell Streets, approximately 7 kilometers (4.4 miles) northwest of the Chicago Loop. It is a brick-veneer concrete block structure on a concrete slab; total floor area is about 3600 m² (38,600 ft²). Internal main walls are also concrete block;

however, there are numerous smaller rooms of wood frame construction. Floors of main processing areas are bare, while those of offices and reception areas are tiled or carpeted. The building is single story, with the exception of a mezzanine in the east-central portion and a second story room in the southwest corner. A flat, tar and gravel roof covers the building; there are multiple skylights in the main processing areas. The building is presently used for light manufacturing by the current owner, Trade Finishing Services, Inc.

Radiological History and Status

On May 23, 1989, Oak Ridge Associated Universities (ORAU) performed a preliminary survey at 2501 West Homer, Street Chicago, Illinois (Landis, 1989). The objective of this survey was to obtain sufficient radiological data upon which to base a decision for inclusion or exclusion from the Formerly Utilized Sites Remedial Action Program. Survey activities included gamma and beta-gamma scans, and measurements of total and removable surface activity levels. No residual radioactivity associated with MED or DOE predecessor activities was identified. Furthermore, all areas surveyed complied with the guidelines (DOE, 1987). Levels were within the range of natural background radiation in the area (Myrick, et al., 1981).

Gamma and beta-gamma scans of the facility perimeter, building interior, and roof did not identify any areas of elevated contact radiation. Total activity levels were <27 to 40 dpm/100 cm² for alpha and <480 to 910 dpm/100 cm² for beta-gamma. Removable activity levels ranged from <3 to 5 dpm/100 cm² for alpha and <6 to 23 dpm/100 cm² for beta-gamma. For comparison, the DOE surface contamination guideline levels for uranium are:

5,000 dpm/100 cm², averaged over 1 m²
15,000 dpm/100 cm², maximum in 100 cm²
1,000 dpm/100 cm², removable

All measurements were well below these guideline levels.

Exposure rates measured throughout the facility ranged from 7.3 to 10.2 uR/h, which are typical of background for this area. Therefore, these exposure rates are well below the DOE external gamma radiation guideline of 20 uR/h above background.

Radionuclide concentration ranges in soil samples were: U-238, 1.8 to 3.1 pCi/g; Ra-226, 1.1 to 3.7 pCi/g; and Th-232, 1.0 to 1.4 pCi/g. The U-238 concentrations are in the range of natural background and the Ra-226 and Th-232 concentrations are below the DOE guideline concentration of 5 pCi/g averaged over the first 15 cm, and 15 pCi/g averaged over 15-cm-thick layers of soil more than 15 cm below the surface.

ELIMINATION ANALYSIS

No information has been found to indicate that radioactive material was handled at this site as part of the University of Chicago subcontract. The results of the radiological survey performed by ORAU support this statement. Direct radiation levels were typical of natural background in the area. Environmental samples were also comparable to background.

Based on the information summarized in this report, DOE has determined that no remedial action is necessary at this site and has eliminated the former R. Krasberg and Sons Manufacturing Company facility in Chicago, Illinois, from consideration under the Formerly Utilized Sites Remedial Action Program.

REFERENCES

1. U.S. Department of Energy, 1987: Guidelines for Residual Radioactivity at Formerly Utilized Sites Remedial Action Program and Remote Surplus Facilities Management Program Sites. Revision 2, March.
2. Landis, M.R., 1989: Radiological Survey at 2501 West Homer Street, Chicago, Illinois. Oak Ridge Associated Universities. ORAU 89/G-74, October.
3. Myrick, T.E., B. A. Berven, and F. F. Haywood, 1981: State Background Radiation Levels: Results of measurements taken during 1975 - 1979. Oak Ridge National Laboratory, Oak Ridge, Tennessee, November.