

**FORMERLY USED SITES
REMEDIAL ACTION PROGRAM**

**DESIGNATION SUMMARY
FOR ALBA CRAFT LABORATORY
OXFORD, OHIO**

October 1, 1992

**U.S. DEPARTMENT OF ENERGY
OFFICE OF ENVIRONMENTAL RESTORATION**

**Designation Summary
Alba Craft Laboratory, Oxford**

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INTRODUCTION

The Department of Energy (DOE), Office of Environmental Restoration, has reviewed the past activities of the Atomic Energy Commission (AEC) at the former Alba Craft Laboratory site in Oxford, Ohio, and has completed a radiological survey of the site (Murray 1992a & 1992b). DOE has determined that the residual radioactive materials inside the building exceed current guidelines (DOE 1990) for use without radiological restrictions.

Based on a review of the available historical documentation and the results of the survey, DOE has concluded that this site shall be designated for remedial action under the Formerly Utilized Sites Remedial Action Program (FUSRAP). The survey results indicate that the residual radioactivity is limited in extent and poses no immediate risk to workers. Therefore, the site has been assigned a low priority. The remainder of this report summarizes the site information and the designation decision.

BACKGROUND

Site Function

The following information is based on an authority review and determination (Williams 1992) dated September 21, 1992.

Alba Craft Laboratory, Incorporated, was a subcontractor to National Lead of Ohio (NLO) from approximately October 1952 until February 1957. Alba Craft provided a variety of machine shop services on normal uranium metal for NLO. Early work included general machining and developmental machining of Savannah River threaded slugs. Final operations were on a production scale and consisted of hollow drilling and turning slugs for the Savannah River and Hanford reactors. The total quantity of uranium machined by Alba Craft is unknown; a rough estimate is several hundred tons. Records from 1953 suggest machining of 2,000 slugs; an accountability survey in July 1955 recorded 20,124 Kg of normal uranium on site; and 1956 contract records indicate machining (hollowing) approximately 110,000 slugs. During 1954, NLO supplied its own operators for machining, and quantities were not recorded.

The last contract, covering the period September 1956 to February 1957 and accounting for the bulk of site operations, provided health and safety services to Alba Craft by NLO. Also, NLO supervised and reimbursed Alba Craft for plant decontamination. Disposition of machining equipment removed from the building is unknown.

Site Description

The following is based on two trip reports (Murray 1992a & 1992b).

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The former Alba Craft Laboratory facility is located at 10-14 West Rose Avenue, Oxford, Ohio. The facility is "U" shaped (open on the south side) with a total area of approximately 7,000 to 8,000 square feet. The east wing now contains an office, a conference room, and a small water chemistry laboratory, all of which have been remodeled with carpeting, drop ceiling, and sheetrock walls. The west wing is being used to produce embroidered shirts and other items with customized logos. The area contains computerized stitching machines, supplies and other miscellaneous equipment. The north end of the building is used for warehousing packaged foods.

The building is located in a residential neighborhood. An apartment building is located approximately 20 feet from the rear of the "Alba" building.

Owner History

Butler County records indicate that Alba Craft Laboratories, Inc., owned the property until May 1988. Dr. and Mrs. Gilbert Pacey of Oxford, Ohio, are the current owners of the site.

Radiological History and Status

The following is based on two trip reports (Murray 1992a & 1992b) and the authority review (Williams 1992).

NLO conducted industrial hygiene surveys at the site in August 1954 and January 1956, prior to the July-December 1956 hollow slug campaign. The maximum dust sample measured 196 disintegrations per minute per cubic meter. The highest occupational dose was approximately 15 mR/hr. The site was decontaminated during the month of January 1957. Residual alpha readings were below current guidelines; however, surface dose rates for beta and gamma radiation measured .9 mR/hr and .03 mR/hr, respectively. The decontamination report notes that a large amount of contamination was forced out of the rear door of the building and onto the ground. The soil was drummed and shipped to Fernald. The remaining soil was sampled and the maximum uranium concentration exceeded current DOE clean-up criteria.

In 1992, soil samples contained residual radioactive contamination with most occurring in the first 6 inches of soil. The concrete pad on the south side of the building is a combination of old and new concrete and some apparently poured within the last month. Generally all of the old concrete is contaminated. There are also gamma readings with no measurable beta which indicates subsurface contamination. This was further substantiated when an excavated piece of the old concrete was found to have contamination on the underneath side.

The indoor gamma rate average fell within DOE guidelines. Generally, all of the floor surfaces were contaminated to some extent. Contamination on the walls was spotty and usually occurred near the floor. Window ledges,

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electrical switch boxes, old work benches, and other horizontal surfaces where dust could settle and be undisturbed showed contamination. Most overhead structures such as electrical junction boxes, lights, and trusses were found to be contaminated. Most of the building has levels of contamination in excess of the applicable DOE guidelines.

Authority Review

In 1992, the DOE determined that it had authority to conduct a radiological survey and on-site investigations at this site (USDOE 1986, Williams 1992). This determination was based on the following factors.

- o Available records indicate that Alba Craft was directly supervised by the AEC prime contractor. During one time period, the prime contractor furnished operators for the machine equipment. The AEC approved the use of the facility.
- o Accountability of uranium was controlled by the AEC directly.
- o As a part of the operations at the site, there were requirements concerning security, health, and safety. These were controlled by the AEC directly by approval of subcontracts and carried out through its prime contractor.
- o The uranium machined at the site was owned by the government. Other government-owned property was furnished to support the production activities.
- o Final cleanup of the facility was directly supervised by the prime contractor.

DESIGNATION DETERMINATION

Available records indicate a direct AEC involvement in the uranium machining operation conducted at the Alba Craft facility. A radiological survey indicates that uranium remains on the premises; this residual uranium is the result of the AEC work at the facility. Based on a review of the available historic documents, DOE has authority to perform the needed remedial action at the Alba Craft site.

REFERENCES

Murray, M. E. 1992a: Trip Report for the June 8, 1992, visit to the Former Alba Craft Laboratory, 10-14 West Rose Avenue, Oxford, Ohio. USDOE; June 12.

Murray, M. E. 1992b: Trip Report: Radiological Survey at the Former Alba Craft Laboratory, Oxford, Ohio, July 9, 1992. USDOE, August 12.

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USDOE, 1987: U.S. Department of Energy Guidelines for Residual Radioactive Material at Formerly Utilized Sites Remedial Action Program and Remote Surplus Facilities Management Program Sites. Revision 2, Office of Nuclear Energy, March.

USDOE, 1990: Radiation Protection of the Public and the Environment. Office of Environment, Safety, and Health, February 8.

Williams, W. A. 1992: Authority Determination -- Alba Craft Laboratory, Oxford, Ohio. USDOE, September 21.