



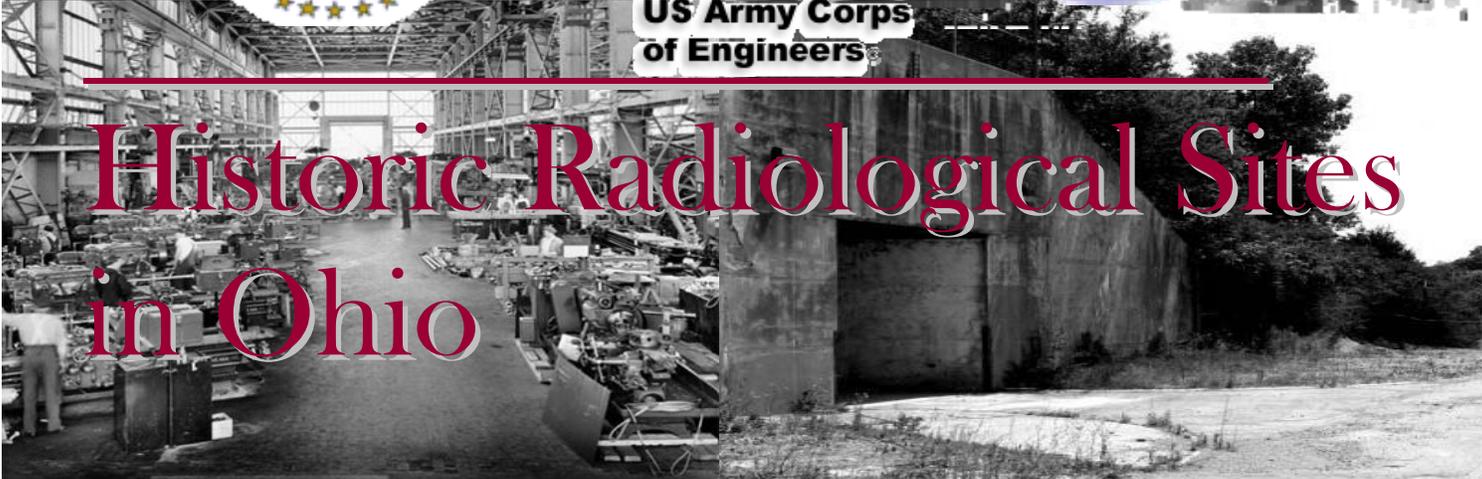
Ohio Department of Health

to protect and improve the health of all Ohioans

Bureau of Radiation Protection



Historic Radiological Sites in Ohio



OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	Date
	November 13, 2007
Program	Program File Number
Historical Radiological Sites	
Subject	TSDF Number
Site Index	HRS-07-0001
Task	PAGE
Historical Radiological Sites in Ohio Comprehensive List	1 of 65

TABLE OF CONTENTS

ASHTABULA	5
Extrusion Plant (Reactive Metals Inc.)	5
CINCINNATI	7
American Steel Foundries,	7
Cincinnati Milling Machine Co.	7
Dubois Chemical Co.	8
General Electric Co.	8
John Van Range Co.,	8
Lodge and Shipley	9
Magnus Brass Manufacturing Co.	9
Mitchell Steel Co.	10
Ohmart Corp.	10
Process Research, Inc.	10
R. W. Leblond Machine Tool Co.	11
Queen City Barrel Co.	12
University of Cincinnati	12
CLEVELAND	13
Brush Beryllium Co.	13
Clevite	14
Cooper Metallurgical Associates. Inc.	14
E.I. Du Pont de Nemours & Co.	15
Harshaw Chemical Co.	15
Horizons, Inc.	16
McKinney Tool and Manufacturing Co.	17
Motch and Merryweather	17
National ACME Machine Co.	18
National Smelting and Refining Co.	18
Osborne Co.	18
Tocco Induction Heating,	18
Western Reserve University	19

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	2 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

COLUMBUS	21
B & T Metals	21
Battelle Memorial Institute,	21
Battelle Columbus Laboratories	22
Ohio State University.....	23
Ohio State University.....	23
DAYTON.....	25
Duriron Co.	25
Monsanto Chemical Co.....	25
Dayton Project Unit 1	25
Dayton Project Unit 3	25
Dayton Project Unit 4	26
Dayton Project Warehouse	26
Vulcan Tool Co.....	26
Wright Air Development Center.....	26
ELMORE	27
Brush Beryllium Co.	27
FAIRFIELD	29
Associated Aircraft Tool and Manufacturing Co.....	29
FERNALD	31
Feed Materials Production Center	31
HAMILTON	33
Herring-Hall-Marvin Safe.....	33
LORAIN	35
Brush Beryllium Co.,	37
MARION	39
Marion Engineer Depot.....	39
Dayton Project Unit 6,	39
MIAMISBURG.....	41
Mound Plant.....	41

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	3 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

MILFORD.....	43
Tech-Art, Inc.....	43
NORWOOD.....	45
Gruen Watch Co.	45
OXFORD.....	47
Alba Craft Shop	47
PAINESVILLE.....	49
Clifton Products	49
Diamond Magnesium Co.....	49
PERRYSBURG	51
Etna Machine Co.....	51
PIKETON	53
Portsmouth Gaseous Diffusion Plant.....	53
PIQUA	55
Piqua Organic Moderated Reactor.....	55
SPRINGFIELD.....	57
Robbins and Myers Co.....	57
TOLEDO.....	59
Baker Brothers	59
Etna Machine Co.....	59
WARREN.....	61
Copperweld Steel Co.	61
WOOSTER.....	63
Ohio Agricultural Research and Development Center (OARDC).....	63
YOUNGSTOWN.....	65
Ajax Magnathermic Corp.	65

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	4 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Page intentionally blank

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	5 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

ASHTABULA

Extrusion Plant (Reactive Metals Inc.)

a.k.a.

Reactive Metals, Inc.

RMI

Ashtabula, Ohio

1962 – present

Extrusion, forging and machining of large quantities of uranium metal.

From 1962 to 1988, Ashtabula (formerly known as Reactive Metals, Inc.) received uranium billets from Fernald's Feed Materials Production Center and the Weldon Springs Plant and extruded them into feed stock for fabrication of fuel and target elements to be used in nuclear materials production reactors.

In 1988, the need for Cold War weapons production diminished and the DOE began closing the Extrusion Plant. By April of 1993 the DOE and RMI had formed a partnership to clean the site as part of decontamination and decommissioning. The DOE contracted with RMI Environmental Services (RMIES), a division of the RMI Titanium Company, to manage the cleanup project. RMIES has since changed its name to EARTHLINE Technologies.

Reactive Metals Inc. of Ashtabula, Ohio was the corporate successor of the Bridgeport Brass Company of Adrian, Michigan, which performed similar extrusion work from 1954 to 1961. The semi-production extrusion press used at Adrian was transported and installed at Ashtabula.

In addition to its work for the Department of Energy (DOE) and its predecessor agencies, Ashtabula performed work for the Department of Defense and a number of commercial entities under a Nuclear Regulatory Commission (NRC) license.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	6 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Page intentionally blank

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	7 of 65
Task	TSDF Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

CINCINNATI

**American Steel Foundries,
Elmes-King Div.**
Cincinnati, Ohio

1954 - 1956

Limited work on converting uranium compounds to metal bars.

One test in 1956 involved 2,000 pounds of uranium tetrafluoride.

Briquette operations on green salt/uranium oxide on a hydraulic press.

Records suggest the work raised radioactive dust; some decontamination done in late 1950s.

Cincinnati Milling Machine Co.
Cincinnati, Ohio

September 17, 1963

One day test of electrochemical machining techniques on uranium metal.

The Cincinnati Milling Machine Co. built electro-chemical machining units. On September 17, 1963, the company tested the feasibility of electro-chemical machining of uranium. Eight normal uranium solid cylinders 1-inch in diameter and 1-inch long (approximately 14 pounds) were used in the test.

Documentation reviewed describes the processes, material handled, radiological controls, monitoring, equipment decontamination and removal of materials and waste. This activity was limited in scope and a post-operation survey identified no residual radioactivity above background levels.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	8 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Dubois Chemical Co.
Cincinnati, Ohio

Tested compound for cleaning Uranium contaminated drums in 1960.

1960

Potential for contamination considered remote based on limited operations and quantities of material handled

General Electric Co.
a.k.a.
GE Evendale
GE Cincinnati
GE Lockland
Air Force Plant 36

Documentation reviewed indicates that Aircraft Nuclear Propulsion (ANP) work reportedly began at this General Electric facility in 1951 as a joint Air Force/AEC program, which subsequently ended in 1961.

Cincinnati, Ohio

Performed work under AEC license involving radioactive material between 1961 and 1970.

1951 - 1970

The Evendale Plant's major mission is to build aircraft engines. The AEC used this facility to work with a variety of radioactive materials, including uranium and thorium. This facility was also involved in the refining or fabrication of beryllium or beryllium oxide.

Use of radioactive materials reportedly continued at this facility for other AEC related work until 1973.

John Van Range Co.,
Div. of Edwards Manufacturing
Cincinnati, Ohio

Limited testing of stamping techniques on uranium metal.

1956

Punched washers from uranium metal slabs.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	9 of 65
Task	TSDF Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Lodge and Shipley
Cincinnati, Ohio

Research, Development and Testing involving small quantities of Uranium metal (property of the AEC).

Limited scope of activities performed

Magnus Brass Co.
a.k.a.
Magnus Metals
Moanes Brass

Machining of uranium metal ingots.

533 Reading Road and
1029 West 7th Street
Cincinnati, Ohio

The site machined various forms of uranium metal under subcontract to the National Lead Company (Fernald). Total production machining was approximately two or three hundred billets.

1954 -1957

The work was performed at two locations: Reading Road (from December 1954 through November 1955) and West 7th Street (from December 1955 through December 1957).

Machining work first performed at the 533 Reading Road facility resulted in equipment and surrounding area which were "heavily contaminated".

Operations were then moved to the West 7th Street location. Prior to this move a decontamination effort was reportedly performed but no radiological survey data is available documenting post-decontamination radioactivity levels.

The Reading Road facility was reportedly occupied by a new owner and has since been demolished (date unknown).

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	10 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Mitchell Steel Co.
Cincinnati, Ohio

1954

Mitchell Steel Company reportedly participated in the machining of a sample lot of four hollow extrusion uranium billets from ingots for National Lead of Ohio (Fernald).

There is no documentation to demonstrate whether Mitchell conducted the test or performed any additional work for NLO or the AEC.

The 1954 National Lead Company of Ohio document "Request for a Subcontract to Produce Hollow Extrusion Billets on a Lump Sum Basis" which identifies Mitchell Steel Company and four other companies suggests that the Magnus Brass Manufacturing Company of Cincinnati was the contractor selected to continue this work.

Ohmart Corp.
Cincinnati, Ohio

Operations unknown;
There was a plutonium spill; facility was licensed;
No records of AEC work.

Process Research, Inc.
2905 Vernon Place
Cincinnati, Ohio

1952

Research and development of machining methods.

Company was given contract to develop machining methods for weapons material, but scope and duration of work, while apparently limited, are unclear.

No radioactive material handled

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	11 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

R. W. Leblond Machine Tool Co.
Madison & Edwards Roads
Cincinnati, Ohio

1961

Approximately 17 tons of natural uranium metal used to test boring equipment.

National Lead Company of Ohio (Fernald) contracted with Leblond Machine for the purchase of a rapid boring machine. In 1961, acceptance tests, using 17 tons of natural uranium, were conducted at Leblond Machine.

The facility was used to conduct two billet drilling tests to demonstrate the capability of a LeBlond Carlstedt Rapid Boring Machine boring holes through the center of solid cast uranium billets - January, August and September, 1961.

For the first test, it is not clear on the exact quantity of uranium that was used; however, there are references to fourteen 7-inch x 21-inch billets being successfully drilled.

For the second test, documentation exists to support 60,000 pounds of uranium metal being shipped to the R.W. Leblond Machine Tool Co. for the test.

At the conclusion of each test, there is documentation describing decontamination of equipment, and a return of all metal, machining chips, fines, turnings and decontamination equipment to the FMPC. The cutting oil used in the process was released to Leblond after analysis showed that the uranium contamination was 2.4 mg/liter.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	12 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Queen City Barrel Co.
Cincinnati, Ohio

Cleaned and reconditioned 30- and 55-gallon drums.

Radium Bearing Material

**University of Cincinnati,
Kettering Laboratory**
Cincinnati, Ohio

The AEC funded a Kettering Laboratory researcher's investigation of the biological effects of beryllium and its compounds.

1947 - 1950

Kettering was also working on analytical methodology for beryllium for the AEC.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	13 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

CLEVELAND

Brush Beryllium Co.

a.k.a.

Brush Wellman Co.

Motor Wheel Corp.

Magnesium Reduction

3714 Chester Street, and
4201 Perkins Avenue
Cleveland, Ohio

1942-1943

1949-1953

1943-1967

Extensive research and manufacturing involving beryllium, uranium and thorium compounds at two sites.

The Brush Cleveland facility conducted research on a process for producing uranium metal (1942-1943) through magnesium reduction of molten green salt (uranium tetrafluoride).

The facility later conducted research and development with uranium (1949-1953) and extruded thorium billets into slugs which were placed in Hanford production reactors (1952-1953).

The Brush Cleveland facility also produced beryllium metal and beryllium oxide for the MED (1943-1946) and later for the AEC (1947-1965?).

This facility involved two buildings, one at Chester Street and the other at Perkins Avenue. Based on the nature of the work, there is a reasonable possibility that significant residual contamination existed after operations ceased. However, both buildings no longer exist. Records suggest workers faced substantial radioactive and toxic exposures.

The Chester Street building was demolished in 1946, and since that time has been either a vacant field or a parking lot.

It is not clear when the Perkins Avenue building was demolished and replaced. There

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	14 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

is no indication that either facility was decontaminated between 1943 and 1949.

The FUSRAP Elimination Report for the Former Brush Beryllium Company, states that a new building was present on the Perkin's Avenue facility in May of 1977.

Clevite
540 E. 105th Street
Cleveland, Ohio

Processing of uranium and thorium compounds, including manufacture of enriched uranium fuel for nuclear reactors.

1956 - 1963

Contamination identified in the building in 1993; private, government-certified cleanup done in 1998.

Research, development, and production of fuel elements and control rod sections. Commercial operation conducted under AEC source material license. Scope of work for AEC (not under license) was limited. Potential for residual radioactive contamination from this work for AEC is considered remote.

Facility was licensed by AEC

Uranium (Including Enriched Uranium)

Cooper Metallurgical Associates, Inc.
13600 Deise Avenue
Cleveland, Ohio

Development of boron and thorium processing technology, commercial production of thorium metal and powder, and recovery of elemental boron. Commercial thorium operation - source of limited quantities of thorium purchased by the

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	15 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

AEC.

Records indicate thorium product was not of acceptable quality.

Boron not an element of concern.

**E.I. Du Pont de Nemours & Co.
Grasselli Research Laboratory**

a.k.a.

Standard Oil Company of Ohio

3092 Broadway Avenue
Cleveland, Ohio

1943 – 1945

Testing of methods for fabricating uranium metal cylinders.

Tested processes for jacketing uranium slugs with zinc, aluminum, silicon and brass for the Hanford site.

Harshaw Chemical Co.

a.k.a.

Harshaw Filtrol Partners

Uranium Refinery

1000 Harvard Ave
Cleveland, Ohio

1942 - 1953

Large-scale production and refining of uranium compounds.

Harshaw Chemical Co. provided significant quantities of uranium, in various chemical forms, to the MED and AEC during the period of 1942 through 1955.

Harshaw Chemical of Cleveland, Ohio refined black oxide and sodium diuranate to orange oxide and then to brown oxide for the Manhattan Project during World War II. The final result was a "green salt", which the Manhattan Project used to produce uranium hexafluoride for enrichment into weapons grade fuel for nuclear weapons at the gaseous diffusion plants.

Harshaw also produced uranium hexafluoride

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	16 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

during the war and this production activity was expanded in 1947.

Harshaw production was reduced in 1951 and by May of 1953 the green salt plant was dismantled and the hexafluoride plant was placed on standby. The contract for removal of AEC equipment continued until September 30, 1955. This designation is limited to the Harshaw facility located at 1000 Harvard Avenue, Cleveland and generally referred to as the Harvard-Denison plant.

Records show extremely high worker exposures to radioactive dust and toxic fumes.

There is also documentation that radiological decontamination of the area and equipment was undertaken, potentially as late as 1960. However, subsequent radiological surveys performed in 1976 through 1979 for the DOE, and then again in 1984, identified widespread uranium contamination that could be attributed to MED/AEC activities.

Widespread contamination was identified by Argonne in 1976-79, particularly in "Plant C," the building that was used for AEC/MED activities.

Horizons, Inc.
a.k.a.
Celcon Metals Co.
Lamotite, Inc.
2909 East 79th Street
Cleveland, Ohio

Refining and conversion of thorium compounds into metal.

During the 1940s and 1950s, the metal handling facility was used for the production of granular thorium metal for the AEC and

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	17 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

1944-1956

conducted some thorium research work for Savannah River.

From July 1949 to November 1949, Horizons Inc. was also under AEC contract to conduct research and perform development work on a process for the preparation of ductile, high-purity zirconium by fused salt electrolysis.

Records show operation generated substantial radioactive dust. Contamination identified in two buildings, 1977, but site deemed ineligible for federal cleanup.

McKinney Tool and Manufacturing Co.

a.k.a.

Parker Rust Proof

Meister-matic Inc.

KC & F

1688 Arabella Road

Cleveland, Ohio

May to August 1944

Machining of uranium metal.

Between May and August of 1944, McKinney Tool and Manufacturing Co. of Cleveland, Ohio, turned and ground unbonded slugs to provide fuel for the first nuclear reactors, including the three Chicago piles; the Oak Ridge X-10 reactor; and the Hanford B, D, and F production reactors and 305 test pile.

Quantity of material handled and precise duration of work unclear.

Motch and Merryweather

Cleveland, Ohio

Research/Development and Testing of Uranium.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	18 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

National ACME Machine Co.
170 East 131 St.
Cleveland, Ohio 44108

Research and Development; Testing of Uranium metals.

National Smelting and Refining Co.
6800 Grand Avenue
Cleveland, Ohio

No indication of other test operations using very limited quantities of slag material. Uranium - No Indication of Anything But Trace Amounts Handled

Osborne Co.
Cleveland, Ohio

Metal Fabrication Operations - Research/Development and Testing - Uranium Metal.

Tocco Induction Heating, Division
a.k.a.
Ohio Crankshaft Co.
Tocco Heat Testing
Park Ohio Industries
Cleveland, Ohio

1967 -1968

Intermittent tests of special furnace systems on uranium metal rods.

Tocco was licensed to perform work under a contract with National Lead of Ohio (Fernald) to develop induction heating coil equipment for heating uranium fuel cores. Tocco performed operational tests of these units at its Ohio facility, which took place during 1967-1968. The company received 2000 pounds of natural uranium machined fuel cores and 5600 pounds of depleted uranium machined fuel cores from NLO for testing.

The license was amended in 1967 to authorize up to 16,000 pounds of uranium. A 1968 inspection of the facility by AEC identified several areas of low-level contamination on the working area floor (300-1500 dpm/100cm²) and on the machinery (3,000-

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	19 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

4,500 dpm/100 cm²).

In 1968, the facility sent a letter to AEC stating that all materials had been returned to NLO (Fernald), and questioning whether the license should be cancelled or allowed to expire. In January 1969, the AEC terminated the license. There was apparently no follow-up inspection of the facility.

Western Reserve University
Cleveland, Ohio

Research involving Thorium.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	20 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Page intentionally blank

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	21 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

COLUMBUS

B & T Metals

425 West Town Street
Columbus, Ohio

1943

Machining and extrusion of uranium metal into rods.

Performed metal fabrication operations (extrusion and machining) on uranium metal billets in support of the Manhattan Engineer District uranium slug procurement program in 1943.

During the early stages of nuclear weapons production, uranium reactor fuel was produced by a variety of metallurgical techniques including extrusion, casting, and machining.

In February, 1943, DuPont, acting as an agent of the MED, contracted B&T Metals to extrude rods from uranium metal billets for the Hanford reactor in Washington State. B&T Metals extruded an estimated 50 tons of uranium between March, 1943 and August 1943.

Records show the operation raised radioactive dust in work and office areas.

Contamination in building and soil found in 1990.

Battelle Laboratories - King Avenue

a.k.a.

Battelle Columbus Laboratories (BCL)

Battelle Memorial Institute (BMI)

Columbus, Ohio

1943-1986

Multiple buildings involved in nuclear research, processing of uranium and thorium.

Battelle Memorial Institute performed atomic energy research and development as well as beryllium work for the DOE and its predecessor agencies. The Battelle Laboratories have two separate locations in

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	22 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Columbus: King Avenue and West Jefferson. Battelle's research supported the government's fuel and target fabrication program, including fabrication of uranium and fuel elements, reactor development, submarine propulsion, fuel reprocessing, and the safe use of reactor vessels and piping.

The following activities were performed at the King Avenue location: processing and machining enriched, natural, and depleted uranium and thorium; fabricating fuel elements; analyzing radiochemicals; and studying power metallurgy. Beryllium work was conducted from 1947 until at least, 1961.

Substantial risks of radioactive and toxic exposure for many workers.

Battelle Laboratories – West Jefferson
a.k.a.
Battelle Memorial Institute (BMI)
Battelle Columbus Laboratories (BCL)
West Jefferson Plutonium Facilities

Columbus, Ohio

1956-1975

From 1943 to 1986, Battelle Memorial Institute performed atomic energy research and development for the DOE and its predecessor agencies. The Battelle Laboratories have two separate locations in Columbus, King Avenue and West Jefferson. Battelle participated in research on fabrication of uranium and fuel elements, reactor development, submarine propulsion, fuel reprocessing, and the safe use of reactor vessels and piping.

At the West Jefferson location, Battelle operated a large hot cell facility and a research reactor. Reactor operations began in October, 1956, and ended in December, 1974. The reactor was defueled and partially dismantled in 1975 and Battelle's license was

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	23 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

changed to possession-only status.

Multiple buildings involved in research on nuclear reactor fuels, fabrication of uranium rods and processing of various isotopic compounds.

Widespread contamination in buildings; limited outdoor waste.

**Ohio State University,
Case School of Applied Science**
Columbus, Ohio

Research and Development involving small quantities of radioactive materials in a controlled environment.

Commercial activity. AEC licensed site.
Uranium

**Ohio State University
Metallurgical Engineering Experiment
Station**
Columbus, Ohio

Ohio State ordered 130 grams of uranium from the AEC.

This commercial supply order was filled by Fernald.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	24 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Page intentionally blank

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	25 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

DAYTON

Duriron Co.
Dayton, Ohio

Production of stainless steel for use at Fernald using contaminated scrap Nickel.

Limited scope of activities performed there.

Monsanto Chemical Co.
a.k.a.
Dayton Project
Units I, III and IV

The "Dayton Project" was a large-scale polonium production.

In 1943, the Manhattan Engineer District (MED) began the Dayton Project to investigate the chemistry and metallurgy of polonium. Monsanto was chosen for the project because of its earlier work at its Scioto Research Laboratory (also in Dayton).

Dayton Project Unit 1
a.k.a.
Central Research Department
1515 Nicholas Road
Dayton, Ohio

Work for the MED was initially performed at Monsanto's facility on Nicholas Road in 1943 (Unit 1). Some work with plutonium also.

1943 - 1944

Dayton Project Unit 3
a.k.a.
Bonebroke Theological Seminary

As the project expanded, it moved into a location on West First Street (Unit 3) with all operations being transferred to Unit 3 by October 1944. Manufactured Polonium by lead dioxide and bismuth processes.

1601 W. First Street
Dayton, Ohio

October 1943 – mid 1950

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	26 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Dayton Project Unit 4

a.k.a.

Runnymede Playhouse

Dayton, Ohio

October 1943 – mid 1950

By 1944 it was clear that even this space was inadequate, and so the former Runnymede Playhouse was converted to a laboratory and referred to as Unit 4, to be operated in conjunction with Unit 3.

When space became too tight in the combined areas of Units 3 and 4, preparations were made to move the operations to the present day Mound facility in Miamisburg.

Processing began at Mound in February 1949 and shortly thereafter Units 3 and 4 were dismantled and decontaminated.

Dayton Project Warehouse

601E. Third Street

Dayton, Ohio

Conducted analyses of environmental monitoring samples and studies of biological effects of polonium on laboratory animals. Polonium, Plutonium

Vulcan Tool Co.

Dayton, Ohio

October 1959

At the request of National Lead Company of Ohio (Fernald), the Vulcan Tool Company conducted a single test involving the cutting of normal uranium slugs and tubes on a Brehm cutter in October 1959.

Wright Air Development Center

Wright Patterson AFB

Dayton, Ohio

1955 - 1957

The Center's Power Plant Laboratory participated in a joint USAF-AEC ANP Program involving uranium.

A kilocurie gamma facility was constructed and operated.

The Center operated under several AEC source material licenses during this period.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	27 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

ELMORE

Brush Beryllium Co.

3714 Chester Street
Elmore, Ohio

1957 - 2001

Beryllium Research, Development and Fabrication.

Beryllium work only, no radioactive material

Brush Beryllium plant in Elmore, OH, was built in 1953. It began producing beryllium for the AEC in 1957 after operations at the Brush Luckey, OH, facility ended. (Prior to 1957 it produced beryllium for the commercial market only.)

The plant supplied beryllium to the Y-12 plant in 1990 and Brush purchase orders show that shipments from its Elmore location continued to Los Alamos and Sandia through April 2001.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	28 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Page intentionally blank

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	29 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

FAIRFIELD

Associated Aircraft Tool and Manufacturing Co.

a.k.a.

Force Control Industries

Fairfield

Former *Dixie Machinery ownership*

3660 Dixie Highway

Fairfield, Ohio

February to September 1956

Metal fabrication facility

Associate Aircraft Tool and Manufacturing Company machined hollow uranium slugs for the Hanford and Savannah River plutonium-production reactors under a subcontract from National Lead Company of Ohio (Fernald). Associate Aircraft machined approximately 96,000 slugs during the eight-month contract period.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	30 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Page intentionally blank

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	31 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

FERNALD

Feed Materials Production Center
Fernald, Ohio

1951- 2006

The Feed Materials Production Center (FMPC) at the Fernald site was established by AEC in 1951 to convert depleted uranium, natural uranium, and low-enriched uranium compounds into uranium metal and to fabricate uranium metal into feed stock for fuel and target elements for reactors that produced weapons-grade plutonium and tritium.

The Fernald Plant, operated by National Lead of Ohio (NLO), along with the Weldon Spring Plant in Missouri, were feed materials plants built by the AEC in the 1950s to supply fuel to the increasing number of nuclear reactors located at Hanford and Savannah River.

Production operations at the Fernald site continued until July 10, 1989, when they were suspended by the Department of Energy (DOE). DOE formally shut down the facility on June 19, 1991.

During its production mission, the Fernald site produced over 225 million kilograms (500 million pounds) of high-purity uranium products to support United States defense initiatives.

Throughout the course of its operations, the potential for beryllium exposure existed at this site, due to beryllium use, residual contamination, and decontamination activities.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	32 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Page intentionally blank

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	33 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

HAMILTON

Herring-Hall-Marvin Safe Co.

a.k.a.

Herring Hall and Marvin Safe Co.

Diebold Safe Co.

HHM Safe

1550 Grand Boulevard

Hamilton, Ohio

1943 – 1951

Limited machining of uranium metal (at least six tons of material).

Intermittently from 1943 to 1951, the Herring-Hall-Marvin Safe Co. machined natural uranium metal slugs from rolled stock under subcontract to DuPont and the University of Chicago.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	34 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Page intentionally blank

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	35 of 65
Task	TSDF Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

LORAIN

Brush Beryllium Co.
1st Street and Hamilton Avenue
Lorain, Ohio

1943 - 1948

Production of beryllium metal and compounds, such as beryllium fluoride

Used isotopes in the separation of zirconium and hafnium.

The Lorain plant produced beryllium metal and beryllium oxide for the MED and the AEC.

The plant was destroyed by fire in 1948.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	36 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Page intentionally blank

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	37 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

LUCKEY

**Beryllium Production Plant
(Brush Luckey Plant)**

a.k.a.

Brush Beryllium Co.

Diamond Magnesium Company

Brush Wellman

Luckey Site

21200 Luckey Road
Luckey, Ohio

1949 - 1961

Purification, fabrication and production of beryllium material/products; conducted studies and other work with beryllium, zirconium and thorium.

Materials handled - Beryllium, Zirconium, Thorium

From 1942 through 1945, National Lead operated a magnesium processing facility on the Luckey site for the U.S. government.

In 1949, the Atomic Energy Commission (AEC) built a beryllium production facility at the site. The government built the plant to replace the production that was lost when the Brush Beryllium Lorain plant was destroyed by fire. The Brush Beryllium Company (now Brush Wellman) under contract to the AEC, produced beryllium pebbles at this site until 1958.

In 1951, AEC sent approximately 1,000 tons of radioactively contaminated scrap metal to the Luckey site. This material was to be used by the Diamond Magnesium Company to resume magnesium processing at the idle facility. Former Brush Wellman employees report that the magnesium facility never resumed operations; however, some records indicate that the facility operated in the 1950s under contract by the General Services Administration (GSA).

Records indicate that the facility produced between 40,000 and 144,000 pounds of beryllium. In 1959, the AEC contracted with

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	38 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Brush to close down the facility.

The site was sold to the Vulcan Materials Company in 1961.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	39 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

MARION

Marion Engineer Depot

South of Harding Highway (Route 309) at
County Route 98
Marion, Ohio

The Marion Engineer Depot was built in 1942 and at one time was the largest warehousing facilities of its kind in the U.S.

The facility stored metascopes, night vision equipment, that contained radium.

AEC New York Operations Office provided radiation safety support.

Dayton Project Unit 6

a.k.a.

Scioto Laboratory,

Scioto Ordnance Plant,

North of Harding Highway (Route 309) at
County Route 98
Marion, Ohio

Scioto Ordnance Plant was acquired by the AEC in 1948.

Scioto Laboratory was built on the Plant site as a backup *postum* (code name for polonium-210) and *urchin* (the code name for the neutron generating device that triggered the nuclear detonation of the earliest plutonium atomic bombs) production facility - but was never activated/used.

1948 -

No indication the plant was ever used

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	40 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Page intentionally blank

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	41 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

MIAMISBURG

Mound Plant
Miamisburg, Ohio

1947- 2006

In 1943, the Manhattan Engineer District began the Dayton Project to investigate the chemistry and metallurgy of polonium. Between 1943 and 1948, this work was performed at locations around Dayton, all of which turned out to be too small for the job. As such, the Mound Plant was constructed in 1947 in Miamisburg, Ohio to replace these earlier laboratories. Mound was first occupied in May 1948 and became operational February 1949.

The Mound Plant's first mission was to manufacture polonium-beryllium initiators for atomic weapons. As part of this process, the site extracted polonium-210 from irradiated bismuth slugs and machined beryllium parts. Mound stopped producing initiators after the Pinellas Plant in Florida began producing accelerator-type neutron generators in 1957.

In 1954, Mound began developing and producing weapons components containing tritium, and in 1969, the plant began recovering and purifying tritium from dismantled nuclear weapons.

During the 1950s and 1960s the Mound Plant also developed and produced a variety of nonnuclear weapons components including detonators, cable assemblies, firing sets, ferroelectric transducers, and explosive timers.

In 1995, Mound discontinued weapons component production.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	42 of 65
Task	TSDF Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

The Mound Plant has also performed non-weapons work. The site developed and manufactured radioisotope thermal generators (RTGs) and conducted research in the following areas: radioactive waste decontamination; the properties of uranium, protactinium-231, and plutonium-239; and separation of stable isotopes and noble gases.

Production of the RTGs which are used for remote power applications including space probes was moved to the Idaho National Laboratory.

The site has been closed and is currently being cleaned up for transfer from the Department of Energy to the City of Miamisburg for use as an industrial park.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	43 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

MILFORD

Tech-Art, Inc.
Milford, Ohio

1952

In 1952, National Lead Company of Ohio (Fernald) used Tech-Art to grind inserts as part of a study of Firth Sterling HF carbide profile inserts in conjunction with the machining development program.

Additional documentation shows that Tech-Art possessed a subcontract with NLO for "machine shop operations on Government owned materials at prescribed hourly rates of pay."

Based on the available documentation, there is little likelihood that this facility handled any radioactive material. There is a reference to "machine shop operations on government-owned materials at prescribed hourly rates of pay," but exactly what was performed is not clear. It appears that the inserts were ground by Tech Art for use in machining operations. The inserts were not radioactive.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	44 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Page intentionally blank

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	45 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

NORWOOD

Gruen Watch

a.k.a.

Gruen Watch Co.

Gruen Watch Co., Time Hall

Norwood, Ohio

May – June 1956

Shaved and stamped washers from uranium metal strips.

The Gruen Watch Co. conducted cold shaving and stamping and hot stamping washer tests for National Lead Company of Ohio (Fernald) in May and June 1956. The tests involved shaving and stamping uranium washers on a 60-ton mechanical press and stamping washers from strips of uranium heated in a salt bath. Only small quantities of radioactive materials were handled.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	46 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Page intentionally blank

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	47 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

OXFORD

Alba Craft Shop

a.k.a.

Alba Craft Laboratories

Albaugh

9 West Rose Avenue,
10-14 West Rose Avenue,
525 South Main Street, and
550 South Main Street
Oxford, Ohio

1952-1957

Performed metal fabrication services under subcontract with National Lead Company of Ohio (Fernald) on normal uranium metal.

Early work at Alba Craft included general and developmental machining of threaded reactor fuel slugs for use at the Savannah River Site.

Subsequent production-scale operations consisted of hollow drilling and turning of slugs for the Savannah River and Hanford plutonium-production reactors.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	48 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Page intentionally blank

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	49 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

PAINESVILLE

Clifton Products
Painesville, Ohio

1942-1952

Production of beryllium products including beryllium copper ingots, metal alloys and oxides.

No radioactive material handled at this site

Clifton had at least six large contracts with the AEC to supply beryllium products.

By 1949, at least 8 beryllium-related deaths had occurred at Clifton.

Health surveys done during the operation showed high levels of beryllium in plant air, up to 50 times the safety limits of the day.

Diamond Magnesium Co.
a.k.a
Uniroyal Chemical Co.
Lonza Chemical

720 Fairport-Nursery Road
Painesville, Ohio

1951 - 1953

Site received at least 1,650 tons of radioactive scrap steel for use in magnesium production.

The Painesville Site was formerly a magnesium production facility, owned by the Diamond Magnesium Company.

In 1951, 1952 and 1953, Diamond Magnesium received approximately 1650 tons of radioactively contaminated scrap steel from the Lake Ontario Ordnance Works, to be used to control chlorine emissions during the magnesium production process.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	50 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Page intentionally blank

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	51 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

PERRYSBURG

Etna Machine Co.
Perrysburg, Ohio

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	52 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Page intentionally blank

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	53 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

PIKETON

Portsmouth Gaseous Diffusion Plant Piketon, Ohio

1952 - 1998

The U.S. began construction of Portsmouth in 1952 in order to expand the nation's gaseous diffusion program.

The gaseous diffusion plants already operating in Oak Ridge, TN and Paducah, KY were not able to fulfill the nation's need for highly enriched and low-enriched uranium. Portsmouth was used for isotope separation. Beginning in 1954, Portsmouth produced highly enriched uranium to support nuclear weapons production and, later, for use by submarine, research, and test reactors. The high-enrichment portion of the diffusion cascade was shut down in 1991.

On July 1, 1993, the United States Enrichment Corporation (USEC), a government-owned corporation formed under the Energy Policy Act of 1992, assumed control of the plant's production activities. USEC, which was fully privatized in 1998, continued to produce enriched uranium for commercial use at this location until May 11, 2001, when production ceased based on a USEC business decision.

USEC currently maintains the Portsmouth plant in a cold standby mode, under a contract with the Department of Energy. The Department of Energy maintains responsibility for addressing the environmental legacy left by historic plant operations.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	54 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Page intentionally blank

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	55 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

PIQUA

Piqua Organic Moderated Reactor Piqua, Ohio

1963 -1966

The Piqua Decommissioned Reactor is located in southwestern Ohio in the city of Piqua on the east bank of the Great Miami River, about 30 miles north of Dayton. The site is about 900 feet southeast of the Piqua municipal power station and 150 feet north of the city sewage treatment plant. A limestone quarry bounds the north and east sides of the reactor site. The decommissioned reactor is about 120 feet from the Great Miami River.

The U.S. Atomic Energy Commission (AEC), a predecessor agency to the U.S. Department of Energy (DOE), built the 45.5-megawatt thermal reactor as a demonstration project. AEC selected the city of Piqua as the site of the first organically cooled and moderated reactor.

This prototype design used a commercially available mixture of aromatic hydrocarbons called terphenyls as the reactor coolant. The reactor vessel was made of low-carbon steel and had an average wall thickness of 2 inches, an inside diameter of 7.6 feet, and an overall height of 27 feet. The reactor was designed to produce 150,000 pounds per hour of superheated steam at a pressure of 450 pounds per square inch and a temperature of 550 °F. The superheated steam was pumped through pipes in a footbridge across the Great Miami River to turbogenerators in the Piqua municipal power plant to augment the city's power supply.

The City of Piqua operated the facility under contract to AEC. Operations began in June

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	56 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

1963 and continued until January 1966, when the reactor was shut down because of economic and technical considerations. AEC terminated its contract with the City of Piqua for facility operation and maintenance in 1967. Dismantling and decommissioning activities began that year and were completed in 1969. The reactor vessel was entombed in place.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	57 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

SPRINGFIELD

Robbins and Myers Co.
Springfield, Ohio

Conducted equipment testing - a pump.

Test Quantities of Contaminated Material

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	58 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Page intentionally blank

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	59 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

TOLEDO

Baker Brothers Co.

a.k.a.

Rems, Inc.

2551-2555 Harleau Place
Toledo, Ohio

1943-1944

Machining of uranium metal rods.

Between June 1943 and July 1944, DuPont and the University of Chicago subcontracted the Baker Brothers company to machine roll metal rods into uranium slugs that were used for fuel in the world's first production reactors located in Oak Ridge, TN and Hanford, WA.

Records suggest the operation raised radioactive dust. Residual contamination identified in several outdoor areas and one small indoor area, 1989.

Federal cleanup done in 1996.

Etna Machine Co.

3400 Maplewood Avenue
Toledo, Ohio

Conducted swaging experiment to reduce the diameter of a hot-rolled uranium metal rod in December 1950 (lasted only two days).

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	60 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Page intentionally blank

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	61 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

WARREN

Copperweld Steel Co.
4000 Mahoning Avenue, NW
Warren, Ohio

Performed uranium rod straightening, annealing and out-gassing research for MED during mid 1943 to early 1945.

1943-1946

The Copperweld Steel Company straightened and outgassed a large number of uranium rods for the Hanford and Oak Ridge reactors between May and August of 1943. More than 3,000 pieces handled in 1943.

Records suggest additional work may have occurred.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	62 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Page intentionally blank

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	63 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

WOOSTER

Ohio Agricultural Research and Development Center (OARDC)
Wooster, Ohio

Few, if any records are available in their respective site files to provide an historical account of past operations and their relationship, if any, with MED/AEC operations.

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	64 of 65
Task	TSDf Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

Page intentionally blank

OHIO DEPARTMENT OF HEALTH BUREAU OF RADIATION PROTECTION	PAGE
	65 of 65
Task	TSDF Number
Historical Radiological Sites in Ohio Comprehensive List	HRS-07-0001

YOUNGSTOWN

Ajax Magnathermic Corp.
Youngstown, Ohio

Performed heat treatment tests on uranium rods and tubes.

1958-1962

The Ajax-Magnathermic Corp. was involved in induction heat treatment of various forms of uranium for National Lead Company of Ohio (Fernald) and also for General Electric (Hanford).

The company fabricated an induction heating unit for NLO in 1961.