

FACILITY NAME: AC Spark Plug
Flint, Michigan

LISTED DATES: Atomic Weapons Employer; Beryllium Vendor: 1946-1947

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

AC Spark Plug performed beryllium work for the AEC. Records indicate that approximately 10 men worked with beryllium at this location in 1947. Information about AC Spark Plug is found in health hazard surveys, shipping reports, and in a MED history. The company continued to receive hundreds of pounds of beryllium for use under government contract into the 1960s. It is possible that some or all of this beryllium was being used for other, non-AEC projects. There was also a small amount of thorium procurement related to AC Spark Plug in the 1946-1947 time frame.

Information Obtained From Files Of DOE Worker Advocacy Group:

The specific name of this site is AC Spark Plug Division of General Motors, Dort Highway Plant. The time period for AEC involvement with this site goes back as far as 1943, but it appears that activities involving beryllium did not start until the Fall of 1946. At this time, they were asked to research the possibility of fabricating beryllium oxide (BeO) into the form of hexagonal bricks. They were to get 5,000 pounds of SP grade BeO from the Brush Beryllium Company. It appears that between Fall, 1946 and February, 1947 small quantities were obtained for the purpose of conducting research to see if the fabrication of the bricks was possible. This research was conducted by three employees in what probably was a specialized area. In February 1947, an AEC site visit was conducted and various recommendations were made including the need for improvements in working conditions and reducing beryllium exposures. By March 1947, the site had received about 900 pounds of BeO. In May 1947, another AEC site visit was conducted, mainly dealing with a safety and health evaluation. After the May 1947 information, there is no further documentation if in fact the site continued with the fabrication project, of specific AEC involvement, or decontamination efforts. There is documentation that in 1961 the site had obtained about 900 pounds of BeO from DOD. It could not be determined how this was used. In the AWE files, there is a report dated December 2000 that states that a 1987 evaluation of the site indicated there was little likelihood of contamination. This probably just refers to the radiation issue, but at least there is no specific mention of beryllium problems.

Summary Of Information About Listed Dates:

The documentation reviewed does not necessarily support the end date on the Website for this facility as a Beryllium Vendor for two reasons. First, beryllium probably was received long after the end date listed (e.g., at least in 1961), though there is some question whether or not the

beryllium was used in the weapons production process through this date. Second, there is no record of beryllium decontamination. Since the General Motors company still exists, site visits and record reviews could be conducted.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: Aeroprojects, Inc.
West Chester, Pennsylvania

ALSO KNOWN AS: Sonabond Ultrasonics

LISTED DATES: Atomic Weapons Employer; Beryllium Vendor, 1951-1973

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

Beginning in 1951, Aeroprojects Inc. performed research and development for the AEC. The company's work included investigation of the use of ultrasonic energy in the areas of instrumentation, welding, filling of tubes with powders, extrusion, solidification and cleaning. Materials used by the company include alloys and compounds of aluminum, beryllium, mercury, thorium and uranium.

Information Obtained From Files Of Worker Advocacy Group:

No specific information was readily available in the Beryllium Vendors files. In the AWE files, it was noted that the exact quantities of the materials mentioned above are not known. It was noted that work for the AEC decreased in the mid-1960s and that the site began doing research and development work under other government contracts. The AEC contracts were closed out in 1973, and there is no mention of decontamination activities. A report shows that workers: (1) in the late 1950s buried welding shavings and rags that were involved in an accident involving beryllium and other materials; (2) in 1966 buried in a concrete container air filters that were used to monitor beryllium and other welding activities; and (3) in 1976 buried in a glass jar small quantities of beryllium wire and other materials. There is a DOE report dated December 2000 that states that a 1991 evaluation of the site indicated there was little likelihood of contamination. This probably just refers to the radiation issue, but at least there is no specific mention of beryllium problems.

Summary Of Information About Listed Dates:

The time period for the AEC contracts (1951-1973) is well documented. However, the documentation reviewed does not necessarily support the end date on the Website for this facility as a Beryllium Vendor (since there is no record of beryllium decontamination). Of note is the fact that other government contracts were given to this site during the stated time period. It is not clear, though, what these contracts involved and if they pertained to beryllium use. However, as mentioned above, DOE conducted a "site" evaluation in 1991.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: American Beryllium Co.
Sarasota, Florida

LISTED DATES: Beryllium Vendor, 1968;1980s

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

Records, including purchase orders and shipping/receipt records, indicate that American Beryllium manufactured parts for Dow/Rocky Flats in 1968 and for Y-12 in the 1980s. While none of the purchase orders mention beryllium, the name of the vendor suggests that it was involved in beryllium work.

Information Obtained From Files Of Worker Advocacy Group:

OSHA measured beryllium at this location sometime between May 1979 and December 1999. No other records pertaining to beryllium could be specifically identified.

Summary Of Information About Listed Dates:

More information is needed to determine the listed dates. It is not clear that just because the company name mentions beryllium that it was involved in beryllium work for AEC/DOE. There is no current listing for this site or their parent company, Loral, Inc., in the yellow pages on the internet. However, OSHA did conduct monitoring at this site sometime in the last 20 years, and there is a company of this name in Akron, Ohio that currently does business with Oak Ridge National Laboratories.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

This site warrants further investigation.

FACILITY NAME: Battelle Laboratories - King Avenue
Columbus, Ohio

ALSO KNOWN AS: Battelle Columbus Laboratories-BCL
Battelle Memorial Institute-BMI

LISTED DATES: Atomic Weapons Employer, 1943-1986; Beryllium Vendor,
1947-1961; Department of Energy, 1986-present (remediation)

DESCRIPTION OF ACTIVITIES:

Information As Printed On Worker Advocacy Website:

From 1943 to 1986, Battelle Memorial Institute performed atomic energy research and development as well as beryllium work for the Department of Energy and its predecessor agencies. The Battelle Laboratories have two separate locations in 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.

Information Obtained From Files Of DOE Worker Advocacy Group:

The nonspecific words mentioned above "beryllium work" could not be further defined by a review of the available records. The following passages were noted: (1) This project concerned itself with developing methods for fabrication of beryllium oxide hexagons, research in making beryllium metal of high purity and the alloying of beryllium with uranium; (2) Research is conducted to furnish information on beryllium; (3) General metallurgical research and development is conducted; and (4) Beryllium and its compounds were supplied to the Manhattan Engineer District. The following information also was noted: (1) Beryllium deliveries were made in 1945/46; (2) There was a March 1947 beryllium inventory; (3) There was a February 1948 request to the AEC for various beryllium compounds; (4) Beryllium fabrication was briefly mentioned in an April 1948 document; (5) There was an August 1949 request to the AEC for beryllium compounds; and (6) There was a March 1950 inventory of beryllium stocks. No information was found on beryllium beyond 1950 versus the date of 1961 mentioned above. In the 1986 DOE elimination report, beryllium concerns were not raised.

Summary Of Information About Listed Dates:

The fact that this facility is listed as an AWE facility between 1943 and 1986 and then is classified as a DOE facility indicates that work was being performed for the weapons production program during the entire time period.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is little potential for significant residual contamination outside the listed period.

FACILITY NAME: Beryllium Corp. of America-Hazelton
Hazelton, Pennsylvania

ALSO KNOWN AS: Cabot Corporation
Beryllium Corp.of America-Ashmore
Berylco
Kawecki-Berylco

LISTED DATES: Beryllium Vendor, 1943-1979

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

The Manhattan Engineer District (MED) and the Atomic Energy Commission (AEC) contracted with the facility for the production of beryllium metal, beryllium oxide, and beryllium powder. The AEC contracted with the facility for the refining and fabrication of beryllium. Later, the facility produced beryllium blanks for the Y-12 plant and Dow (Rocky Flats).

Information Obtained From Files Of DOE Advocacy Group:

Very little information about this facility was found. There was one reference in March 1960 to this site's specific activity at that time. It was stated that the operation included production of high grade metal and oxide from beryl ore, and the metal was used for vacuum cast billets and sintered compacts. Also, final machining of the metal was performed there. Two references were found (June 1961;1970) that worker exposures to beryllium were extremely high and a serious problem. No information is presented regarding decontamination efforts after the MED/AEC contract period, nor is there any documentation that this work was conducted in areas separate from work for other customers.

Summary of Information About Listed Dates:

The documentation reviewed does not support the end date on the Website since there is no record of beryllium decontamination. Since this company still exists, site visits and record reviews could be conducted.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: Beryllium Corp. of America-Reading
Reading, Pennsylvania

ALSO KNOWN AS: Kawecki-Berylco
Berylco
NGK Metals Corp.
Cabot Corporation
Beryllium Corp. of America-Tuckerton

LISTED DATES: Beryllium Vendor, 1947-1979

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

In 1947, the Beryllium Corporation plant at Reading produced highly distilled and pure beryllium oxide on a small scale for the AEC. By 1960, the plant focused on alloy and oxide work. In 1961, the plant supplied beryllium parts to the Y-12 plant and produced beryllium powder for the AEC from government inventory beryllium ingots. Although all major Berylco Contracts (beyond 1961) and purchase orders reviewed to date show that the final product shipped from Hazelton, it has been clarified that but for the alloy and oxide work performed in Reading, the contracts and purchase orders fulfilled for the AEC by Hazelton could not have been completed.

Information Obtained From Files Of DOE Advocacy Group:

Very little information regarding this facility was found. There was one reference in March 1960 to this site's specific activity at that time. It was stated that the operation included alloying and oxide work. Two references were found (June 1961;1970) indicating that worker exposures to beryllium were extremely high and a serious problem. There was no indication that the MED/AEC contract work was conducted in an area separate from beryllium production for other customers and there was no information about decontamination activities after the contact periods.

Summary Of Information About Listed Dates:

The documentation reviewed does not support the end date on the Website since there is no record of beryllium decontamination. Since this company still exists, site visits and record reviews could be conducted.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: Beryllium Metals and Chemical Corp.
Bessemer City, North Carolina

ALSO KNOWN AS: BERMET

LISTED DATES: Beryllium Vendor, 1960's

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

The Beryllium Metals and Chemical Corp. (BERMET) participated in the AEC's beryllium metal study group in the 1960s. BERMET was responsive to an invitation to submit 100 pounds of beryllium metal to the AEC for purposes of qualifying for further work. According to a 1969 memo, BERMET chose not to participate beyond this initial 100-pound qualifying round. Notes from classified files at Y-12 indicate BERMET did some beryllium work for Y-12.

Information Obtained From Files Of DOE Advocacy Group:

It appears that the specific time frame for BERMET's involvement in the beryllium metal study group was March 1968. Between July 1964 and April 1965, BERMET bought about 4,000 pounds of beryllium scrap from the AEC. The information about the work for Y-12 could not be confirmed.

Summary Of Information About Listed Dates:

It is not clear that this site actually handled beryllium. They apparently just bought scrap metal from the AEC and were considering supplying beryllium metal to the AEC. The fact that they ever were actually AEC/DOE contractors is not at all clear. Therefore, more information is needed to determine the listed dates.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

This site warrants further investigation.

FACILITY NAME: Beryllium Production Plant-Brush Luckey Plant
Luckey, Ohio

ALSO KNOWN AS: Brush Beryllium
Luckey Site

LISTED DATES: Beryllium Vendor, 1949-1959; Department of Energy, 1949-1961;
1992-present (remediation)

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

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 Loraine 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. Records indicate that the facility produced between 40,000 and 144,000 pounds of beryllium. In 1959, the AEC contracted with Brush to close down the facility. The site was sold to the Vulcan Materials Company in 1961.

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). The radioactively contaminated scrap metal remained stored at the site.

Information Obtained From Files Of DOE Worker Advocacy Group:

In 1951, there is a reference to the fact that there were high worker exposures at this site and several documented cases of beryllium disease.

Summary Of Information About Listed Dates:

The fact that this facility is listed as a DOE facility between 1949 and the present indicates that work was being performed for the weapons production program during the entire time period. The listed period for this site may include 1949 to the present.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is little potential for significant residual contamination outside the listed period.

FACILITY NAME: Brush Beryllium Co.-Cleveland
Cleveland, Ohio

ALSO KNOWN AS: Brush Wellman Co.
Motor Wheel Corp.
Magnesium Reduction

LISTED DATES: Atomic Weapons Employer, 1942-1943; 1949-1953: Beryllium Vendor, 1943-1967

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

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?).

Information Obtained From Files Of DOE Worker Advocacy Group:

There was not a lot of additional information in the Beryllium Vendor files. References were made to high levels of worker exposures to beryllium. It could not be determined if the beryllium activities for the MED/AEC work were conducted in separate parts of the facility, away from work for other customers. There is no specific mention of decontamination activities after the MED/AEC contracts were terminated. However, in the AWE files, there is a report dated December 2000 that states that a 1987 evaluation of the site indicated there was little likelihood of contamination, but it does not specifically discuss beryllium.

Summary Of Information About Listed Dates:

In regard to the listed dates (1943-1967) for the site as a Beryllium Vendor, the documentation reviewed does not support the end date on the Website since there is no record of beryllium decontamination. Since this company still exists, site visits and record reviews could be conducted.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: Brush Beryllium Co.-Elmore
Elmore, Ohio

LISTED DATES: Beryllium Vendor, 1957-2001

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

Brush Beryllium plant in Elmore, Ohio was built in 1953. It began producing beryllium for the AEC in 1957 after operations at the Brush Luckey, Ohio, 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.

Information Obtained From Files Of Worker Advocacy Group:

Very little additional information was available in the Beryllium Vendor files. References were made to high levels of worker exposures to beryllium. It could not be determined if the beryllium activities for the AEC/DOE work were conducted in separate parts of the facility, away from work for other customers. There is no specific mention in the Beryllium Vendor files of decontamination activities after the DOE contracts were terminated, if in fact there is no longer DOE work there (i.e., beyond 2001). However, in the AWE files, there is a report dated December 2000 that states a 1987 evaluation of the site indicated there was little likelihood of contamination.

Summary Of Information About Listed Dates:

The listed period could well go through the present, rather than just 2001, if there are still DOE contracts, and because the documentation reviewed does not indicate any beryllium decontamination efforts in 2001. If in fact, DOE work was terminated in 2001, it might be possible to determine current residual contamination levels by site visits and review of current records. Since this company still exists, site visits and record reviews could be conducted.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: Brush Beryllium Co.- Loraine
Loraine, Ohio

LISTED DATES: Beryllium Vendor, 1943-1948

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

The Loraine plant produced beryllium metal and beryllium oxide for the MED and the AEC. The plant was destroyed by fire in 1948.

Information Obtained From Files Of Worker Advocacy Group:

Little information is available in the Beryllium Vendor files. However, in the AWE files, there is a report dated December 2000 that states that a 1987 evaluation of the site indicated there was little likelihood of contamination. It is not clear what was evaluated since the facility was destroyed in 1948.

Summary Of Information About Listed Dates:

The listed period should remain the same, unless there is some information forthcoming that would allow firefighters and cleanup workers to be included because of beryllium exposures during these activities.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is little potential for significant residual contamination outside the listed period.

FACILITY NAME: Burns & Roe, Inc.
Maspeth, New York

LISTED DATES: Beryllium Vendor, 1949

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

Documentation indicates that Burns & Roe did at least one test run with beryl in the ore chlorination process and during this run, the New York Operations Office Health and Safety Laboratory closely monitored air samples.

Information Obtained From Files Of DOE Advocacy Group:

The contract for the pilot effort was signed in 1948. Nothing was found indicating that additional work was given to the company after the test run. The air samples that were taken during the test run were very low, well below whatever evaluation criteria they were using at that time. No additional documentation was found in either the Beryllium Vendor or AWE files. Nothing was mentioned about decontamination activities or where the AEC work was conducted in relation to activities for other customers.

Summary Of Information About Listed Dates:

The time frame for the beryllium work probably should be 1948-1949, rather than just 1949. The documentation reviewed does not support an end date since there is no record of beryllium decontamination.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: Ceradyne, Inc.
Santa Ana, California

LISTED DATES: Beryllium Vendor, 1977-1988

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website: Ceradyne provided beryllium parts, and possibly powder, to the Y-12 plant.

Information Obtained From Files Of Worker Advocacy Group:

There essentially was no additional information in the AWE or Beryllium Vendor files. There was one reference to the listed time period and it was just a note jotted on a piece of paper. Also, there were three purchase/delivery orders for this time. It could not be determined if the beryllium activities for the contract work were conducted in separate parts of the facility, away from work for other customers. There is no specific mention of decontamination activities after the contracts were terminated.

Summary Of Information About Listed Dates:

The time period for the contracts (1977-1988) is not well documented. Otherwise, the documentation reviewed does not necessarily support the end date on the Website since there is no record of beryllium decontamination.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: Clifton Products Co.
Painesville, Ohio

LISTED DATES: Beryllium Vendor, 1940-1952

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

In the 1940s, Clifton had at least six large contracts with the AEC to supply beryllium products. By 1949, at least eight beryllium-related deaths had occurred at Clifton.

Information Obtained From Files Of Worker Advocacy Group:

There is a well documented file on this facility in regard to the production and process operations that were ongoing during the MED/AEC contract periods. (This site was one of the major producers for MED/AEC.) This includes information on workplace conditions and worker exposures to beryllium. It apparently was a very hazardous place to work in regard to beryllium exposures because of high exposure levels and documented cases of beryllium disease and fatalities. The contracts did cease in 1952; however, a specific start date was not found, except that work was in progress in 1942. It could not be determined if the beryllium activities for the contract work were conducted in separate parts of the facility, away from work for other customers. In 1952, after the contracts were terminated, a beryllium survey was conducted. Exposure levels were significantly lower than during production operations, but beryllium contamination was detected. It was mentioned that beryllium contaminated equipment was being removed from the site. As reported in the AWE files, when DOE conducted an evaluation for this site in 1987, there was no mention of a specific site visit and there is no specific information about decontamination activities.

Summary Of Information About Listed Dates:

The time frame for beryllium work listed on the Website (1940-1952) may be correct based on these files. However, the documentation reviewed does not support the end date on the Website since there is no record of beryllium decontamination.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: Connecticut Aircraft Nuclear Engine Laboratory-CANEL
Middletown, Connecticut

ALSO KNOWN AS: Pratt and Whitney Corp.
Connecticut Advanced Nuclear Engineering Lab.
United Aircraft Corp.

LISTED DATES: Beryllium Vendor; Department of Energy, 1958-1965

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

The Connecticut Aircraft Nuclear Engine Laboratory (CANEL) worked on an AEC program to develop a nuclear reactor with which to propel aircraft. Specifically, CANEL worked on developing high temperature materials, fuel elements, and liquid metal components and coolants. CANEL consisted of a hot laboratory facility, a nuclear physics laboratory, a fuel element laboratory, a nuclear materials research and development laboratory, and other buildings. The AEC Annual report for 1959 indicates that approximately \$4 million in AEC equipment was at CANEL. Plutonium, mixed fission products, and probably uranium were handled at CANEL. A former ORNL employee who had worked at CANEL stated that beryllium metal and oxide in a powdered form were also handled at CANEL. Although President Kennedy canceled the aircraft nuclear propulsion program in 1961, AEC work apparently continued at CANEL until 1965.

Information Obtained From Files Of Worker Advocacy Group:

No information was located in the Beryllium Vendor files. The only mention of beryllium was found in the AWE files and it just pertained to the above mentioned comment by a former ORNL employee.

Summary Of Information About Listed Dates:

The listed dates on the Website of 1958-1965 are apparently appropriate for the site as a DOE contractor. No information was found on whether or not beryllium should be included in these listed dates. Therefore, more information is needed in regard to the listed dates for the site as a Beryllium Vendor. Since this facility still exists, site visits and record reviews could be conducted.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

The site warrants further investigation.

FACILITY NAME: Coors Porcelain
Golden, Colorado

ALSO KNOWN AS: Coors Ceramic

LISTED DATES: Beryllium Vendor, 1947-1975

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

Coors Porcelain performed beryllium work for the Atomic Energy Commission. An early AEC document makes reference to Coors Porcelain's involvement in beryllium work during the period from 1947-1948. Coors Porcelain had an earlier contract with the Clinton Engineer Works but it is unclear whether beryllium was involved.

From 1957 through 1964, the company worked with Lawrence Livermore National Laboratory on Project Pluto, a project undertaken to determine the feasibility of using heat from reactors as the energy source for ramjet engines. Coors developed fuel elements from beryllium ceramics for the project, which began in 1957 and ended in 1964.

Coors Porcelain performed other beryllium work for DOE after the completion of Project Pluto. A 1993 health study of Coors workers indicated that the company produced beryllia ceramics through 1975, presumably for the AEC/DOE.

Information Obtained From Files Of Worker Advocacy Group:

There was no information found in the Beryllium Vendor files; all available information is located in the AWE files. The Website information provides an accurate summary of the AWE files. Of note is the fact that the files show a break in AEC/DOE work between 1948 and 1958, but the time period on the Website is shown as all inclusive. Air samples for beryllium were taken in 1961 and the levels were low at that time. In the 1987 DOE evaluation of this site, including a site visit, no mention is made of beryllium contamination. It is important to note that the health study mentioned above does show that workers from this facility had chronic beryllium disease. It could not be determined if the beryllium activities for the contract work were conducted in separate parts of the facility, away from work for other customers. There is no specific mention of decontamination activities after the contracts were terminated.

Summary Of Information About Listed Dates:

The documentation does not support the time period (1947-1975) on the Website if in fact there was a break in the AEC/DOE work at the site. Regardless, the documentation reviewed does not necessarily support the end date on the Website since there is no record of beryllium decontamination. Since the Coors Company still exists, site visits and record reviews could be conducted.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

<u>FACILITY NAME:</u>	Energy Technology Engineering Center-Atomics Santa Susanna (Canoga Park), California
<u>ALSO KNOWN AS:</u>	International/Rocketdyne; North American Aviation; Rocketdyne Propulsion and Power; Rockwell International; Boeing, Canoga Park; Nuclear Development Field Laboratory - NDFL; Energy Systems Group; Liquid Metal Engineering Center; Atomics International
<u>LISTED DATES:</u>	Atomic Weapons Employer, 1948-1955; Beryllium Vendor, 1959- 1966; DOE 1955-present (remediation)

DESCRIPTION OF ACTIVITIES:**Information As Printed On DOE Worker Advocacy Website:**

The Santa Susanna Field Station (SSFL) was established in the late 1940s as a test facility for the development of advanced rocket engines. The site is divided into four areas (I-IV). The site is jointly owned by Boeing (Area I, III and IV) and the National Aeronautics and Space Administration (NASA) (Area II). The site is operated by the Rocketdyne Propulsion and Power Division of Boeing.

Starting in the late 1940s, through a series of contracts, the AEC commissioned Atomics International (at the time a division of North American Aviation) to design and test nuclear reactor fuels and components. Much of this work was conducted in Area IV of the SSFL, which was called at the Nuclear Development Field Laboratory (NDFL). The AEC also supported operations at the Rockwell International Hot Laboratory (RIHL; Building 20) in support of the Office of Defense Programs. At various times over the last 53 years, other Atomics International facilities supported AEC research programs, including the systems for Nuclear Auxiliary Power (SNAP reactor) program, fuel fabrication activities, and fuel research. SSFL Areas I, II and III were never involved in nuclear research.

In the mid-1960s, the AEC established the Liquid Metal Engineering Center (LMEC), later renamed the Energy Technology Engineering Center (ETEC) on leased property in Area IV. ETEC worked primarily on the development of liquid metal heat transfer systems to support the Office of Nuclear Metal Fast Breeder Reactor program.

During the 1970s, nuclear research at Atomics International and SSFL declined and the last operating nuclear reactor was shut down. The RIHL continued to work with irradiated nuclear fuels until 1988. From 1988 to the present, work under the DOE contract has focused on remediation and cleanup.

Atomics International also performed AEC-sponsored work involving the manufacture of beryllium-containing parts.

Information Obtained From Files Of Worker Advocacy Group:

There were very few documents that could be located in either the Beryllium Vendor or AWE files pertaining to beryllium. A beryllium inventory dated 1949 and a document dealing with beryllium hazards was all that could be found.

Summary Of Information About Listed Dates:

Even though no specific files of note could be found on beryllium, the fact that this facility is listed as an AWE facility between 1948 and 1955 and then is classified as a DOE facility indicates that work was being performed for the weapons production program during the entire time period. Therefore, a more appropriate listed period would be 1948 to the present.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is little potential for significant residual contamination outside the listed period.

FACILITY NAME: Fansteel Metallurgical Corp.
North Chicago, Illinois

LISTED DATES: Beryllium Vendor, 1944

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

An October 10, 1944, memo states that the "majority of the oxide was sent to Fansteel Metallurgical Corp for fabrication into sintered shapes...and permits sale to Brush [Beryllium] of unused as well as scrap BeO." No additional information on Fansteel has been located to date.

Information Obtained From Files Of Worker Advocacy Group:

No information was located in the Beryllium Vendor files. In the AWE files, a report was filed in December 2000 describing that an evaluation of the site (without a site visit) had been conducted in 1987 and contamination (undefined) was not listed as a problem. A more specific description of the site and it's operations also was documented in these files. The site was under contract with the University of Chicago from June 1944 through June 1945. The facility conducted studies and experimental investigations and developed processes for making chemicals and fabricating metal powder. They were the sole source of columbium metal for MED/AEC. Tantalum, tungsten and beryllium products were also purchased. No information was found regarding whether the beryllium activities for the contract work were conducted in separate parts of the facility, away from work for other customers. There is no specific mention of decontamination activities after the contracts were terminated.

Summary Of Information About Listed Dates:

The listed period looks like it should be 1944-1945, rather than just 1944 as listed on the Website. Regardless, the documentation reviewed does not necessarily support an end date since there is no record of beryllium decontamination.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

<u>FACILITY NAME:</u>	Foote Mineral Co. East Whitehead Twp., Pennsylvania
<u>ALSO KNOWN AS:</u>	Formil Shieldalloy Metallurgical Cyprus Foote Mineral Company
<u>LISTED DATES:</u>	Atomic Weapons Employer, 1940s-1991; Beryllium Vendor, 1947-uncertain

DESCRIPTION OF ACTIVITIES:**Information As Printed On DOE Worker Advocacy Website:**

This Foote Mineral facility produced monazite sands on a pilot plant scale, produced zirconium metal, separated hafnium from zirconium, produced lithium chemical, processed lithium metal and other ores, developed inorganic fluxes for the metal industry, and crushed and sized minerals. When the facility closed in 1991, the site included more than 50 buildings and process areas.

The facility may have rolled some uranium metal during the mid 1940s.

Foote Mineral Company was also a major importer of beryl ore from Brazil. Under contract to the Atomic Energy Commission, Foote Mineral Company procured 500 tons of beryl ore in 1947.

Information Obtained From Files Of Worker Advocacy Group:

Little additional information was available in the AWE or Beryllium Vendor files. It is not clear that this facility closed in 1991. It appears that is when the DOE contracts ended since there are documents stating the site was still in operation through 1998. The only reference to beryllium is the purchase of beryl ore by the AEC in 1947. The DOE elimination report of 1987 indicates there would have been little likelihood of contamination at that time. No documentation is provided about decontamination efforts after the AEC/DOE contracts, nor is information provided regarding where the AEC/DOE work was conducted in relation to work for other customers.

Summary Of Information About Listed Dates:

It appears the listed dates on the Website (i.e., 1940s-1991) would encompass the radiation and beryllium contract time frames. However, it is not really clear that this facility should be considered a Beryllium Vendor in the sense that other sites are, since it just purchased beryl ore for the AEC. If it is considered a Beryllium Vendor, there is no indication that the beryllium time frame should go beyond the one year of 1947. Therefore, there is confusion about the listed

dates for beryllium work; more information is needed to determine the listed dates. Additional records may be available from the parent company.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

This site warrants further investigation.

FACILITY NAME: Franklin Institute
Boston, Massachusetts

LISTED DATES: Beryllium Vendor, 1962

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

The Franklin Institute conducted a study for the Division of Reactor Development in 1962. No information has been located on this facility to date.

Information Obtained From Files Of Worker Advocacy Group:

Nothing was found in the Beryllium Vendor files. In the AWE files, there are several documents relating to contracts with the AEC in the 1950s and 1960s dealing with reactor and rotor bearings. No mention is made of beryllium or work that would have involved radiation exposures.

Summary Of Information About Listed Dates:

It is not clear whether this facility should be on either the AWE or Beryllium Vendor list. More information is needed to determine the listed dates.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

This site warrants further investigation.

FACILITY NAME: General Astrometals
Yonkers, New York

LISTED DATES: Beryllium Vendor, 1963-1965

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

General Astrometals supplied beryllium metal and parts to the Y-12 plant and to Lawrence Livermore National Laboratory. It also purchased beryllium chips and contaminated powder from Oak Ridge.

Information Obtained From Files Of Worker Advocacy Group:

In a September 1965 trip report, the AEC was considering further production work for this company; however, it never came to pass. In the trip report it is mentioned that this company was being supported by Anaconda and was also doing other beryllium work with NASA, Franklin Institute, Watertown Arsenal and Pratt and Whitney. It also is stated the facility was crowded and limited in terms of production. No specific information was found regarding whether the beryllium activities for the contract work were conducted in separate parts of the facility away from work for other customers. However, it appears that all beryllium work might have been done in one area because of the crowding. There is no specific mention of decontamination activities after the contracts were terminated.

Summary Of Information About Listed Dates:

The documentation reviewed does not support the end date on the Website since there is no record of beryllium decontamination. There is no listing of the General Astrometals Company in the yellow pages on the internet; however, maybe records would be available from Anaconda.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: General Atomics
La Jolla, California

ALSO KNOWN AS: GA
Division of General Dynamics
John Jay Hopkins Laboratory for Pure and Applied Science

LISTED DATES: Atomic Weapons Employer, 1960-1969; Beryllium Vendor,
uncertain; DOE, 1996-1999 (remediation)

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

General Atomics was one of a number of private contractors that processed unirradiated scrap for the Atomic Energy Commission in the 1960s. In addition, the Hot Cell Facility was used for numerous post-irradiation examinations of Department fuels, structural materials, reactor dosimetry materials, and instrumentation. The Department-sponsored activities at the General Atomics Hot Cell Facility primarily supported the High Temperature Gas Cooled Reactor and the Reduced-Enrichment Research Test Reactor programs. In December 1994, General Atomics notified the Nuclear Regulatory Commission and the State of California Department of Health Services of its intent to cease operations in the Hot Cell Facility.

General Atomics was also the operating contractor for the AEC's Experimental Beryllium Oxide Reactor (EBOR). General Atomics manufactured EBOR fuel elements (UO₂-BeO) on site and examined them in the site's hot cell.

Information Obtained From Files Of Worker Advocacy Group:

These files substantiated most of the information on the Website regarding beryllium work and potential exposures. It appears that the research effort regarding EBOR can be better defined. Initial planning started in late 1950s, active work was ongoing in 1964, and the project was terminated in the Fall/Winter of 1966. No information was found regarding whether the EBOR work were conducted in separate parts of the facility away from other activities. There is a considerable amount of discussion about decontamination activities for radiation, but little about beryllium.

Summary Of Information About Listed Dates:

More information is needed to determine the listed dates. Not considering the beryllium residual contamination issue, it appears that the listed dates for the facility as a Beryllium Vendor should go from the late 1950s to 1966. However, since there is no evidence of decontamination, the potential for significant residual contamination exists outside of the listed dates, specifically between 1969 and 1996. Another issue is that it is not clear what the total listed dates should be because of the break in AEC/DOE work between the contracts and the remediation activities.

INFORMATIONAL SOURCES

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: General Electric Company-Ohio
Cincinnati/Evendale, Ohio

ALSO KNOWN AS: GE Evendale
GE Cincinnati
GE Lockland
Air Force Plant 36

LISTED DATES: Atomic Weapons Employer; Beryllium Vendor; Department of Energy, 1961-1970

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

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.

Information Obtained From Files Of Worker Advocacy Group:

This was a facility that was operated by the AEC and the Air Force. The listed dates probably should be 1951-1970. Very little information on beryllium was found in the Beryllium Vendor files. In the AWE files, it was stated that the facility was involved in the refining or fabrication of beryllium or beryllium oxide, but no details were given. In 1970, the facility was turned over to the Air Force, since the AEC work terminated. It was mentioned that the facility was still contaminated with radioactive material at this time, but that the AEC would not conduct any decontamination activities. The Air Force was to take charge of the facility under a AEC-DMC license. Beryllium contamination was not mentioned at this time.

Summary Of Information About Listed Dates:

It is not at all clear what beryllium work was conducted at this facility. Therefore, more information is needed to determine the listed dates for the site as a Beryllium Vendor. Additional records need to be obtained from the Air Force and General Electric. Listing this site as a General Electric facility seems to be a misnomer. The proper designation of this facility probably should be Air Force Plant 36.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

This site needs further investigation.

FACILITY NAME: Gerity-Michigan Corp.
Adrian, Michigan

ALSO KNOWN AS: Successor to Canton Drop Forging and Manufacturing

LISTED DATES: Beryllium Vendor, 1949-1950s

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

Gerity-Michigan operated a 2200/550 ton tube and rod extrusion press and performed the first extrusion of beryllium there on May 11, 1949 for the AEC. Documentation, specifically accountability reports, indicates that work continued there through the 1950s.

Gerity-Michigan was also under contract to the AEC to put extrusion presses into operating condition at the Adrian, Michigan facility.

Information Obtained From Files Of Worker Advocacy Group:

Information was found for a contract with AEC to conduct extrusion of beryllium and other reactor materials for April 11, 1949-November 30, 1949. No other contract information was found for later dates, but there was an inventory for beryllium dated June 30, 1950. It is not clear whether this inventory pertained to this facility or to work being done at MIT. No specific information was found regarding whether the beryllium activities for the contract work were conducted in separate parts of the facility away from work for other customers. Concerns about national security were mentioned in one document regarding how and where the beryllium work should be done. There is no specific mention of any decontamination activities.

Summary Of Information About Listed Dates:

It is not clear that the listing on the Website for the listed period should go to the "1950s" since the latest document that was found was only dated June 1950. The documentation reviewed does not necessarily support an end date since there is no record of beryllium decontamination.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: Kansas City Plant
Kansas City, Missouri

LISTED DATES: Beryllium Vendor; Department of Energy, 1949-present

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

The Kansas City Plant was constructed in 1942 to build aircraft engines for the Navy. After World War II, it was used for storage. In 1949, the AEC asked the Bendix Corporation to take over part of the facility and it began manufacturing non-nuclear components for nuclear weapons. Electrical, electro-mechanical, mechanical, and plastic components are manufactured or procured by this facility.

In 1993, the Department of Energy officially designated the Kansas City Plant as the consolidated site for all non-nuclear components for nuclear weapons.

As of 1996, production activities at the site were still occurring and are expected to continue indefinitely.

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

Information Obtained from Files Of DOE Worker Advocacy Group:

No specific information could be located.

Summary of Information About Listed Dates:

The listed dates would be 1949-present as listed on the Website, if, in fact, 1949 is when the first contract was initiated.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is little potential for significant residual contamination outside the listed period.

FACILITY NAME: Kettering Laboratory, University of Cincinnati
Cincinnati, Ohio

LISTED DATES: Beryllium Vendor, 1947-1950

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

The AEC funded a Kettering Laboratory researcher's investigation of the biological effects of beryllium and its compounds. Kettering was also working on analytical methodology for beryllium for the AEC.

Information Obtained from Files Of DOE Worker Advocacy Group:

No additional information could be found.

Summary Of Information About Listed Dates:

The analytical chemistry and biological research probably was being conducted in laboratories where other similar research was under way. Therefore, residual contamination probably would be difficult to evaluate. The documentation reviewed does not support the end date on the Website since there is no record of beryllium decontamination. Records may be available from the University.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: Ladish Co.
Cudahy, Wisconsin

LISTED DATES: Beryllium Vendor, 1959-1965

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

Ladish supplied beryllium metal and parts to the Y-12 plant.

Information Obtained from Files Of DOE Worker Advocacy Group:

No specific information about the exact work that was done, contract dates, facility description, or decontamination efforts was found. However, there is a brochure in the files about the company which is dated 2001. Based on this brochure, the company has been in business since 1905 and has and conducted extensive work in metal working.

Summary Of Information About Listed Dates:

More information is needed to determine the specific listed dates. Regardless, the documentation reviewed does not support the end date on the Website since there is no record of beryllium decontamination. Since the company still exists, records might be available to help in this regard.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: Massachusetts Institute of Technology
Cambridge, Massachusetts

ALSO KNOWN AS: MIT, Hood Building

LISTED DATES: Atomic Weapons Employer; Beryllium Vendor, 1942-1963

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

The Massachusetts Institute of Technology (MIT) was one of the institutions that contributed to early nuclear physics research in the United States. In addition to their research efforts, they also sent scientists to work at Los Alamos. For example, in 1942, MIT experimented on the process of melting and casting uranium metal, extracted uranium from low grade ores, studied the element beryllium, and experimented with nuclear propulsion systems. MIT also explored the coordination and the quality control of these processes. The building in which the research was done, was demolished in 1963.

Records indicate that workers at MIT suffered from beryllium-related illnesses as early as 1947.

Information Obtained from Files Of DOE Worker Advocacy Group:

There were no documents found in the Beryllium Vendor files. They were all found in the AWE files. The elimination report filed by DOE in December, 2000, based on the DOE evaluation in 1986, indicates that the MED/AEC period is 1942-1958. This report also indicates there was no contamination in 1986. A more detailed description of beryllium activities was found in a May 1947 document. It indicates that MIT was studying the characteristics of beryllium metal and attempting to make a satisfactory beryllium-uranium alloy. In addition beryllium oxide crucibles were made for use in the MIT activities. There were apparently over-exposures to beryllium because a good deal of the AWE files dealt with worker claims for beryllium disease. These cases supposedly were the result of the fact that the work had been conducted in buildings scattered throughout MIT. The operations were consolidated into one building (Hood Building?) in the Fall of 1946 that had been "carefully ventilated." Other documents corroborate the fact that the last MED/AEC work was completed in 1958, and the contractor moved out at that point with the building remaining vacant until it was demolished in 1963. There is no mention of any decontamination activities in the other areas of MIT where beryllium work was being conducted or in 1958 at the Hood Building.

Summary Of Information About Listed Dates:

More information is needed to determine what the listed dates should be for this site as a Beryllium Vendor. Regardless of the beryllium residual contamination issue, there is confusion about dates and locations of the beryllium work. The end date for the Hood Building could be

1958 when the contracts were terminated or 1963 when the building was demolished. An argument could be made for 1963 since people probably were in and out of the building between 1958 and 1963, and there were demolition workers there in 1963. The start date for the Hood Building should be 1946, while the encompassing dates for the other areas of MIT where beryllium work was conducted should be 1942-1946.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

The documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: McDanel Refractory Co.
Beaver Falls, Pennsylvania

ALSO KNOWN AS: Vesuvius McDanel
Vesuvius Division of Cookson Group

LISTED DATES: Beryllium Vendor, 1940s

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

The Manhattan District History indicates that the McDanel Refractory was used to fabricate oddly shaped beryllium crucibles or beryllium crucible stopper rods for the Manhattan Project, but was not used on a large-scale production basis.

Information Obtained from Files Of DOE Worker Advocacy Group:

No additional specific information about the exact work that was done, facility description or decontamination efforts was found. It does appear that the contracts for this site were from the mid-1940s.

Summary Of Information About Listed Dates:

The listed period more specifically might be the mid-1940s. Otherwise, the documentation reviewed does not necessarily support an end date since there is no record of beryllium decontamination. The correct name for this site is McDaniel and not McDanel.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: National Beryllia
Haskell, New Jersey

ALSO KNOWN AS: Cercom Quality Products
General Ceramics

LISTED DATES: Beryllium Vendor, 1968-1973

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

National Beryllia performed a demonstration of its capabilities for production of parts for Y-12 beginning in late 1968, with delivery in March 1969. Additionally, National Beryllia delivered some parts to Union Carbide (Y-12), though the records indicate that there was only partial performance for this purchase order, which was terminated in April of 1973.

Information Obtained from Files Of DOE Worker Advocacy Group:

The documents in the Beryllium Vendor files indicated that an AEC contract to produce beryllium parts was let in April 1969 after a successful demonstration project. This contract was in place until Fall 1973, rather than the April 1973 date listed on the Website. In terminating the contract, AEC agreed in a "SETTLEMENT" to pay for beryllium decontamination to meet EPA standards and facility restructuring (i.e., to get the facility back to where it was before the AEC security requirements). THIS IS THE ONLY SITE WHERE WRITTEN INFORMATION WAS FOUND THAT DEALS WITH BERYLLIUM DECONTAMINATION AND SPECIALIZED WORK AREAS.

Summary Of Information about Listed Dates:

The listed dates on the Website (1968-1873) were confirmed in the files that were reviewed. If the company actually used the AEC funds to decontaminate and restructure the facility, then the listed dates should not be extended. However, there is no documentation that these activities or subsequent monitoring for exposures took place. Therefore, at this time the end date listed on the Website is not supported.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: Norton Co.
Worcester, Massachusetts

LISTED DATES: Atomic Weapons Employer; Beryllium Vendor, 1943-1961

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website

Norton manufactured refractory products from boron, beryllium uranium and thorium for the MED and the AEC. Work was done both at the Worcester facility and at a facility in Canada. As early as 1943, Norton was providing boron to the SAM Laboratory. In late 1945, Norton was subcontracted by Brush Beryllium to fuse beryllium oxide. Norton developed methods for shaping beryllium powder into rods and hexagonal rings using molds. It also used the process to produce beryllium oxide-uranium oxide hexagonal rings. By 1949, at least one death from beryllium poisoning had been recorded at Norton. Norton also provided thorium and uranium products to the MED/AEC. The company produced uranium crucibles for Argonne and fused thoria slugs that were irradiated in Hanford reactors. Contracts indicate work Norton continued to produce refractory materials for the AEC until 1961.

Information Obtained From Files Of Worker Advocacy Group:

The AWE files documented the fact that the DOE elimination report of 1987 showed little chance of contamination at that time. All documentation indicated that the end date of MED/AEC contracts for this site was 1954, with a possibility that there was an AEC license issued through 1957. There was a considerable amount of information about over exposures to beryllium and potential beryllium disease. No specific information was found regarding whether the beryllium activities for the contract work were conducted in separate parts of the facility away, from work for other customers, nor was there any mention of any decontamination activities.

Summary Of Information About Listed Dates:

It is not clear that the listed period as listed on the Website (1943-1961) is correct since the documentation only mentions contract work through 1954. Otherwise, the documentation reviewed does not necessarily support an end date since there is no record of beryllium decontamination. Records may be available from the company.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

The documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: Nuclear Materials and Equipment Corp. (NUMEC)-Apollo
Apollo, Pennsylvania

ALSO KNOWN AS: Babcock & Wilcox
Atlantic Richfield Corp. (ARCO)

LISTED DATES: Atomic Weapons Employer; Beryllium Vendor, 1950s-1983

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

The Nuclear Material and Equipment Company (NUMEC) began operations at the Apollo and Parks Township facilities in the late 1950s. The Atlantic Richfield Company (ARCO) purchased the stock of NUMEC in 1967. In 1971, Babcock & Wilcox (B&W) purchased NUMEC and is the current owner of the Apollo and Parks Township facilities.

NUMEC processed unirradiated uranium scrap for the AEC in the 1960s. This facility also provided enriched uranium to the naval reactors program and included a plutonium plant, plutonium plant storage area, highly enriched uranium fuel facility, metals and hafnium complex and a uranium hexafluoride storage area. The facility also fabricated plutonium-beryllium neutron sources.

The B&W Apollo facility ceased manufacturing nuclear fuel in 1983.

Information Obtained From Files Of Worker Advocacy Group:

There was no information presented in the Beryllium Vendor files; all of the documentation was in the AWE files. The specific start date for the AEC contracts appears to be 1957. The end date is the same as that listed on the Website; however, there is mention that D&D was completed in 1995. This information indicated that there were two different facilities, Apollo and Parks Township. The Website doesn't make this clear. No information was found about the fabrication of plutonium-beryllium sources. Instead, there was documentation about conducting research (and production?) on using beryllium (and other metals) to coat uranium oxide spheres. Information also was presented about beryllium powder metallurgy. There was no mention of decontamination efforts after the AEC contract periods, nor was there any indication that the AEC work was being conducted in separate areas of the facilities away work for other customers. A 1960 document indicated that they were doing beryllium work at that time in a restricted area because of concerns for worker safety.

Summary of information About Listed Dates:

It appears the start date can be specified as 1957, rather than just the 1950s. The documentation reviewed does not necessarily support the end date on the Website for this facility as a Beryllium Vendor since there is no record of beryllium decontamination. Babcock and Wilcox (or a

successor) might have records. It might be useful to correct and/or clarify the overall Website information about this site.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: Nuclear Metals, Inc.
West Concord, Massachusetts

ALSO KNOWN AS: NMI
Starmet, Inc.
MIT Met Lab
Whittaker Corp., Nuclear Metals Division

LISTED DATES: Beryllium Vendor, 1954-1986; Atomic Weapons Employer,
1954-1960

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

Nuclear Metals, Inc. was incorporated in 1954. It's work evolved out of the MIT Metallurgical Laboratory. In 1958, the company moved from Cambridge (where the MIT lab had been) to Concord. The company's current name is Starmet.

In 1958, Nuclear Metals began operating as a facility that produced depleted uranium products, primarily as penetrators for armor-piercing ammunition. It also supplied copper-plated uranium billets that were used to fuel Savannah River's production reactors. Other work at this facility included the manufacture of metal powders for medical applications, photocopiers and other applications. Thorium and thorium oxide were also handled at the site under license to the NRC. During the period from 1962-1986, Nuclear Metals was the sole source supplier for beryllium alloy end closure fuel element rings used in the "N" Reactor in Richland. Records also indicate beryllium work for the AEC at various times during the 1940s and 1950s.

Information Obtained From Files Of Worker Advocacy Group:

No information was found in the Beryllium Vendor files; it was all located in the AWE files. This documentation does not help with substantiating the activities at this site or defining the listed periods as stated on the Website. For the purposes of this effort, several points are of note. The location of the facility seems to be in Concord, not West Concord. There was and is work going on at this site for DOD and other groups. There was no indication that the AEC work was conducted in separate areas, nor that any decontamination took place. Certain documents indicate AWE dates of 1955-1958; others state 1954-1963. There are several recent documents from material suppliers that question the listed dates on the Website and indicate this company is currently doing work for DOE. It also is of note that this site is an EPA Superfund Site.

Summary of Information About Listed Dates:

More information is needed to determine the listed dates. The description of the facility and its operations are not properly summarized in the Website information. It appears the listed dates should go beyond 1986; probably to the present. However, it is hard to tell if there should be any breaks in the time periods.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

The documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: Revere Copper and Brass
Detroit, Michigan

LISTED DATES: Atomic Weapons Employer, 1943-1950s; Beryllium Vendor,
1946-1950

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

Between 1943 and 1946, Revere Copper and Brass extruded uranium rods in its Detroit plant. During the late 1940s and early 1950s Revere rolled or extruded uranium rods. Revere also extruded beryllium ingots and billets into rods at its Detroit plant between 1946 and 1950. Revere had a contract with the AEC for beryllium work, but not with the MED. Revere also worked with beryllium alloys. Some of the beryllium work was done on parts or components for the Materials Testing reactor.

Information Obtained From Files Of Worker Advocacy Group:

The only information in the AWE files was a repeat of the information on the Website, except that the AEC contracts went through 1954, which ties down better the end of the listed date. Also, there was a DOE elimination report completed in 1990 and it indicated there was no radioactive contamination (no mention was made of beryllium). In the Beryllium Vendor files, there is a document that indicates the beryllium contract work extended into 1951, not 1950. Also, there are numerous documents dealing with the fact that the Army Corps of Engineers had contracts with this company in 1944. There is no documentation about any decontamination work in 1950/1951, after the beryllium contracts ended, nor after 1954 when the AWE work ended. Also, there is no indication that the AEC work was conducted in separate areas of the facility.

Summary Of Information About Listed Dates:

The end date of the AEC contracts is probably 1954, with the beryllium work ending in 1950 or 1951. The documentation reviewed does not necessarily support an end date for the site as a Beryllium Vendor since there is no record of beryllium decontamination.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

The documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: Speedring Systems, Inc.
Detroit, Michigan

ALSO KNOWN AS: Axsys Technologies
Speedring Systems, Inc.

LISTED DATES: Beryllium Vendor, 1963: 1968

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

In the spring of 1963 Speedring performed some beryllium work for Rocky Flats. In 1968, Speedring of Detroit machined some beryllium parts which Brush Beryllium was under contract to supply to Y-12.

Information Obtained From Files Of Worker Advocacy Group:

Nothing of significance was found in the Beryllium Vendor files. There was a brief mention of the 1968 AEC work in the AWE files; however, nothing was found about the 1963 date. There was no DOE elimination report and no documentation about decontamination activities or where in the facility the beryllium work for the AEC was conducted.

Summary Of Information About Listed Dates:

More information is needed to determine the specific listed dates. The documentation reviewed does not support an end date since there is no record of beryllium decontamination. The company is still in existence as Speedring Systems, Inc.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: Speedring, Inc.
Culman, Alabama

ALSO KNOWN AS: Axsys Technologies

LISTED DATES: Beryllium Vendor, 1971-1998

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

Brush Beryllium sublet some jobs for Dow/Rocky Flats to Speedring. More recently, Speedring performed work for Sandia National Laboratory. Speedring's beryllium dust and sampling practices are documented in Battelle's Defense Metals Information Center publication on "Some Notes on Safe Handling Practices for Beryllium." Speedring was part of the U.S. commercial beryllium industry in 1961 and receiving beryllium at this time, but records indicate that this beryllium was for use under another government contract, possibly for the Department of Defense. There is another Speedring facility in Detroit, Michigan.

Information Obtained From Files Of Worker Advocacy Group:

Nothing of significance was found in either the Beryllium Vendor or AWE files. It is not evident where the listed dates came from that are on the Website. However, it is known that this facility has a history of worker exposures and beryllium disease. For example, OSHA has measured beryllium exposures in this facility sometime between May 1979 and December 1999 and there was a manuscript in the AWE files relating to chronic beryllium disease in workers from this facility. No mention is made about decontamination activities after the DOE contract work, nor is there mention that the beryllium production activities for DOE took place in areas separate from other customers.

Summary Of Information About Listed Dates:

Nothing was found to substantiate the listed dates on the Website (1971-1998); more information is needed. Otherwise, the documentation reviewed does not necessarily support an end date since there is no record of beryllium decontamination. The correct spelling of the city location is Cullman, not Culman.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: Sylvania Corning Nuclear Corp.-Bayside Laboratories
Bayside, New York

ALSO KNOWN AS: Sylvania Corning Nuclear Corp.-Bayside Laboratories;
Sylvania Electric Products, Inc.; Metallurgical Laboratory;
Sylvania Electric Company, Atomic Energy Division;
Sylvania Bayside Laboratories; Sycor

LISTED DATES: Atomic Weapons Employer; Beryllium Vendor, 1947-1962

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

The Metallurgical Laboratory of the Sylvania Electric Company investigated uranium and thorium powder metallurgy. It also produced powdered metal slugs, developed bonding techniques, and plated uranium slugs with nickel. The work with slugs included the conversion of uranium metal to uranium hydride using hydrogen. A February 1948 AEC Monthly Summary of Activities indicates that the Lab's "initial program will involve determining the physical properties and the health hazards of beryllium and uranium powders and the applications of powder metallurgy to these metals and their alloys." In 1948, the work required 315 pounds of raw beryllium metal. Beryllium was handled first in the regular metallurgical building and then, after the objections of the AEC medical division, in a special AEC metallurgical development laboratory.

Information Obtained From Files Of Worker Advocacy Group:

Most of the useful documentation for this site was found in the AWE files. There is a conflict between the discussion of listed dates in various documents. It looks like the listed dates should go through 1965, instead of 1962. At some point (no date was given), the beryllium work was isolated in a "metallurgical building." There is no mention of decontamination at the point when the AEC contracts were terminated, nor are there documents that provide insight as to whether the AEC work was isolated from that of other customers. The site was declared decontaminated by the State of New York in 1985; nothing is mentioned about beryllium, just radioactivity. All original buildings have been destroyed and condos have been built on the site.

Summary Of Information About Listed Dates:

It appears the listed dates should go through 1965, rather than 1962 as listed on the Website. The documentation reviewed does not support an end date for this site as a Beryllium Vendor since there is no record of beryllium decontamination. Perhaps records can be obtained from successor companies.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: Trudeau Foundation
Saranac Lake, New York

LISTED DATES: Beryllium Vendor, 1950-1957

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

The AEC Division of Biology and Medicine supported beryllium research studies at the Trudeau Foundation.

Information Obtained From Files Of Worker Advocacy Group:

Information was found in the AWE and Beryllium Vendor files. The listed periods were substantiated. The specific research that was conducted dealt with Experimental and Clinical Studies Involving Beryllium and Berylliosis (1950-1954), Biochemical Aspects of Pulmonary Granulomatosis (1955-1957), and Studies on the Experimental Pathology and Biochemistry of Pulmonary Granulomatosis of Beryllium Workers (1954-1957). There was no documentation about decontamination activities after the research was ended or if the research was conducted in areas separate from research.

Summary Of Information About Listed Dates:

The documentation reviewed does not support the end date on the Website since there is no record of beryllium decontamination. It is not clear if the Trudeau Foundation still exists. There is currently a Trudeau Institute in Saranac Lake (100 Algonquin Avenue, Saranac Lake, New York 12983).

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: U.S. Pipe and Foundry
Burlington, New Jersey

LISTED DATES: Beryllium Vendor, 1943

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

A small amount of beryllium mesh (15 pounds) was sent to U.S. Pipe and Foundry by the MED. Some work was done, but it is unclear whether a satisfactory technique was ever developed beyond this initial attempt to manufacture beryllium tubes.

Information Obtained From Files Of Worker Advocacy Group:

Very few documents were located. It appears the site was dealing with 75 pounds of beryllium mesh and not 15 pounds as listed on the Website. The specific dates of MED/AEC involvement were listed as 1943-1944. These dates seem more appropriate than the Website's date because they were still conducting the research at the end of 1943 and the MED/AEC contact was giving them a few more months to look into the technique they were evaluating. No information was located on decontamination of the site after the MED/AEC work, or whether this work was conducted in areas separate from activities for other customers.

Summary Of Information About Listed Dates:

The listed dates probably should be 1943-1944, rather than just 1943. The documentation reviewed does not support an end date since there is no record of beryllium decontamination. The company is still in business therefore, additional records may be available.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: United Lead Co.
Middlesex, New Jersey

ALSO KNOWN AS: United Lead Co.

LISTED DATES: Atomic Weapons Employer; Beryllium Vendor, 1950-1967

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

From 1950 to 1955, United Lead, a subsidiary of National Lead Company, was the AEC's operating contractor for the Middlesex Sampling Plant. The Middlesex Sampling Plant sampled, assayed, stored, and shipped uranium, thorium, and beryllium ores. The plant discontinued uranium and beryllium assaying and sampling activities in 1955. Until 1967, the site was used as a thorium storage and sampling site.

Information Obtained From Files Of Worker Advocacy Group:

It appears that this listing and the DOE site listed as Middlesex Sampling Plant (MSP) are one in the same and should be combined into one file. The only documentation that was found and is not stated in the Website summary is that: (1) the Department of the Navy was given the site by GSA in 1967 and there were ongoing Navy/Marine activities there until 1978 when DOE became the custodian of the property; and (2) remedial activities started in 1981, versus the 1980 date listed on the MSP Website listing. No decontamination activities are mentioned for the time period of the Navy activity (1967-1978).

Summary Of Information About Listed Dates:

More information is needed to determine the specific listed dates. A considerable amount of work needs to be completed to this listing together with the one for MSP so they make sense. The listed dates look like they should be 1943-1967 and then 1980 or 1981-1998 (when the remediation work ended at MSP). Of special interest is the fact that if there were no decontamination activities at the 1967 date, there would be individuals from the Department of the Navy, et al. who probably would have been affected by residual contamination. The 1998 end date for the beryllium residual issue also is not supported, because there is no mention of decontamination. In the heading for this site on the Website, the secondary listing probably should be National Lead, instead of repeating "United Lead." Also, another name for this site that was used frequently in the past is Perry Warehouse, yet the Website does not include it.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

The documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: University of Denver Research Institute
Denver, Colorado

LISTED DATES: Atomic Weapons Employer; Beryllium Vendor, 1963-1965

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

The University of Denver Research Institute is listed as a processor of radioactive materials for National Lead of Ohio (Fernald). It appears that the University of Denver handled test quantities of radioactive metal in February 1965.

In 1963, a University of Denver Research Institute researcher (F. Perkins) held an AEC contract for work on intermediate-temperature oxidation of beryllides.

Information Obtained From Files Of Worker Advocacy Group:

Nothing additional could be found in the AWE or Beryllium Vendor Files. There is a July 1986 document that indicates that DOE was concerned at that date there might still be radioactive contamination. There is no documentation about the AEC beryllides contract other than a bibliographical citation.

Summary Of Information About Listed Dates:

More information is needed to determine the listed dates since the documentation has very little information about activities at the site. Perhaps additional records can be obtained from the University.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

This site warrants further investigation.

FACILITY NAME: University of North Carolina
Chapel Hill, North Carolina

LISTED DATES: Beryllium Vendor, 1949-1954

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

The AEC Division of Biology and Medicine supported beryllium research at the University of North Carolina.

Information Obtained From Files Of Worker Advocacy Group:

The specific research was a Radioautographic Study of Distribution and Retention of Be in the Rat. No documentation was found regarding decontamination activities subsequent to the AEC contracts, nor was information presented about where the research was conducted.

Summary Of Information About Listed Dates:

The documentation reviewed does not support the end date on the Website since there is no record of beryllium decontamination.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: Vitro Corporation of America (Tennessee)
Chattanooga, Tennessee

ALSO KNOWN AS: Chattanooga Site now owned by W.R. Grace
Vitro Chemical is Subsidiary of Vitro Corp.
Heavy Minerals Co.

LISTED DATES: Atomic Weapons Employer, 1957-uncertain; Beryllium Vendor,
uncertain

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

Records indicate that "Vitro Corporation" of Chattanooga, Tennessee performed some beryllium work for Y-12. A 1962 document also mentions that the AEC met with members of the beryllium industry, including representatives from "Vitro Chemical" (no address), but does not mention whether any contracts were involved in these discussions. The original owner of this site was Heavy Metals Inc. and possessed an AEC license to process uranium and thorium products beginning as early as 1957. Documentation indicates that the company provided price quotes to the AEC for thorium products as early as 1954, but there is no indication that it received a contract for that work. Vitro Chemical of Chattanooga, Tennessee, a subsidiary of Vitro Corporation, took over the site at the end of 1959 and was under contract to the AEC to produce thorium metal, thorium fluoride, and thorium oxide. This site is now owned by W.R. Grace.

Information Obtained From Files Of Worker Advocacy Group:

Nothing was found in either the AWE or Beryllium Vendor files that changes the information on the Website. However, it should be noted that the Beryllium Vendor files for "Vitro" contain information on both this site and the Vitro Laboratories Site in New Jersey. The only information about beryllium is secondary and is abstracted from other source documents. It is not at all clear one way or another if this is truly a Beryllium Vendor. Regardless, there is no information on decontamination activities or work locations within the facility.

Summary Of Information About Listed Dates:

More information is needed to determine the listed dates for this site as a Beryllium Vendor. The documents that were reviewed are contradictory. The listed dates probably should start at 1954, rather than 1957 as listed on the Website.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

This site warrants further investigation.

FACILITY NAME: Wolverine Tube Division
Detroit, Michigan

ALSO KNOWN AS: Div. Of Calumet Hecia Consolidated Copper Co.
Hermes Automotive
Mamif Corp.

LISTED DATES: Atomic Weapons Employer; Beryllium Vendor, 1943-1946

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

In 1943, the University of Chicago subcontracted to Wolverine Tube of Detroit, Michigan, for help in extrusion of metals that were needed as part of the Manhattan Project. Wolverine Tube performed research on the fabrication of aluminum slugs and the process of aluminum canning and also experimented with thorium and beryllium. This contract ended in 1946. Wolverine Tube received other AEC contracts because of its extrusion expertise.

Information Obtained From Files Of Worker Advocacy Group

Nothing was found in the Beryllium Vendor files. In the AWE files, the 1990 elimination report mentions no contamination, but does not clarify if this includes beryllium. It is mentioned that the facility where the AEC work was conducted is now a warehouse owned by the Hermes Automotive Manufacturing Corp. which is still in existence today. Of specific importance is the notation that the subcontracting with the University of Chicago did end in 1946, but probably this company continued work in the extrusion area through 1955 as a sub-sub contractor with DuPont (Savannah River). No documentation is provided about decontamination activities subsequent to the end of the AEC work, nor is any mention made of whether or not this work was conducted in areas separate from work for other customers.

Summary Of Information About Listed Dates:

It is not clear why the listed dates on the Website do not go through 1955, instead of stopping at 1946. The documentation reviewed does not support an end date for the site as a Beryllium Vendor since there is no record of beryllium decontamination. Additional records may be available from Hermes Automotive Manufacturing Corp.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

The documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.

FACILITY NAME: Wyman-Gordon Inc.
Grafton, North Grafton Massachusetts

LISTED DATES: Beryllium Vendor, 1959-1965

DESCRIPTION OF ACTIVITIES:

Information As Printed On DOE Worker Advocacy Website:

Wyman-Gordon supplied beryllium powder forgings and beryllium blanks to the Rocky Flats plant and beryllium metal and parts to the Y-12 plant.

Information Obtained From Files Of Worker Advocacy Group:

Nothing substantial could be found in either the Beryllium Vendor or AWE files. A 1961 document states that approximately 50% of the beryllium work at this site is for the AEC, while the remainder is for DOD. One document indicated the end date of the contracts to be 1966 and not 1965 as listed on the Website. No information is provided about decontamination activities after the AEC contracts, nor is there any mention of the AEC work being conducted in work area separate from work for other customers.

Summary Of Information About Listed Dates:

An end date of AEC contract work may be 1966, rather than 1965. The documentation reviewed does not support an end date since there is no record of beryllium decontamination. Additional records might be available since the company is still in existence.

INFORMATIONAL SOURCES:

Sources of information reviewed during this evaluation, as shown above, included the DOE Worker Advocacy Website, along with documentation provided by the DOE Worker Advocacy group consisting of written communiques by or for the DOE.

RECOMMENDATION:

Documentation reviewed indicates that there is a potential for significant beryllium residual contamination outside the listed dates.