

# Hanford Facility Beryllium Fact Sheet

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Building Number/Name: 222T Office Administration Building  
Date prepared: February 23, 2004  
Date revised: January 31, 2012  
Responsible Contractor: CHPRC  
Contact: Kristy Kimmerle, CIH

## **PAST OPERATIONS**

Beryllium brought in facility: YES

Form of beryllium: SOLID

Period of beryllium operations (dates): Start: 1952 End: 1952

Location(s) in facility that contained beryllium materials: Data on the 1952 operations indicate beryllium was used inside a ventilation hood in Room 6. However, Room 6 could not be located on 8/5/99. The earlier data may refer to Room 106. No currently marked beryllium contamination areas were noted during the 1999 assessment.

Description of beryllium activities: Experimental work using beryllium oxide powders which were incorporated into a slurry. In the hood, 15 grams of fused and ground (325 mesh) beryllium oxide were added to 150 ml of water in a 400 ml beaker. The mix was stirred, filtered and the assembly dismantled with pieces placed into cardboard boxes and sealed for disposal. No other beryllium activities were identified. Room 100 in the south end of the building was posted as a Beryllium Controlled Area (BCA) after the sample results were received from the Building Characterization in December 2010.

Building monitoring data summary: Surface wipe samples were collected from 29 sites throughout the building on 8/5/99. Results reported for these samples were below the MDL of 0.5 µg /100 cm<sup>2</sup>. Areas that were unable to be sampled but could possibly be contaminated with beryllium include the interiors of process and fume hood exhaust ducts in former laboratories. A Standard Beryllium Characterization Assessment was conducted in the 222T building on December 5, 2010. The results of the initial characterization sampling and investigative sampling indicated that a portion of Room 100 in the south end of the building was contaminated with beryllium. Two surface samples collected on top of a round 12-inch diameter duct and below a rectangular duct opening located on the south east wall in the south end of the building exceeded the Hanford Site Trigger Level of 0.1 µg/100 cm<sup>2</sup>. All other areas in the facility were found to be beryllium-cleared. Sample results are documented in the Site Wide Industrial Hygiene Database (SWIHD). The SWIHD Reports are 10-20779, 10-20782, 10-20790, 10-20783, 10-20784, 10-20789, 10-20786, 10-20787, 10-20788, 11-21390 and 11-21393.

Personnel monitoring data summary: Four air samples (2 breathing zone and two from the hood face) were collected in 1952. The two breathing zone and one hood face samples were below detection limits (<0.001 µg/m<sup>3</sup> or less) and one hood face sample was 0.07 µg/m<sup>3</sup> which was collected during the transfer of the slurry. Ambient air samples were collected on 8/4/99 in the hallways outside Rooms 102 and 108C. A personal air sample was collected on 8/5/99 in the breathing zone of a technician while wipe sampling surfaces for beryllium. Results reported for these samples were below the Method Detection Limit (MDL) of 0.004 and 0.019 µg/m<sup>3</sup>, respectively. The airborne concentrations of beryllium for the personal exposure monitoring and the area samples collected during the initial characterization on December 5, 2010 were less than the Reporting Detection Limit (RDL) and the Action Level of 0.1 µg/ m<sup>3</sup>. The SWIHD Reports are 10-20797 and 11-21392.

Specify Engineering/Administrative controls used during operations: Work was conducted in a ventilated hood. PPE worn included coveralls, rubber gloves taped to the sleeves of the coveralls, and an assault mask.

Comments, including any additional information needed (specify): This facility has been vacant for a number of years. All equipment, including the lab hoods, was removed years ago. There is no record of beryllium activities other than in 1952.

**Maximum Estimated Past Be exposure: LOW**

**CURRENT OPERATIONS**

Building still present: YES

Beryllium present: YES

Current building occupancy/activity: This building is inactive and has a BCA in Room 100 on the south end. Access to this building is currently only to conduct surveillance and D & D activities. Beryllium Work Permits are required to access the Beryllium Controlled Areas. Investigative sampling indicates that the source of the beryllium is in the rectangular duct. The origination of the duct is unknown based on the available facility information. The duct is posted as potential internal beryllium contamination.

**Maximum Estimated Current Be Exposure from Routine Operations: NONE**

Basis for above information: Beryllium Characterization Report 222T 9/27/2011 and Beryllium Facility Assessment Report 6/30/2010.

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*For questions or comments, please send email to [Kristy\\_J\\_Kimmerle@rl.gov](mailto:Kristy_J_Kimmerle@rl.gov)*