



# THE CITY OF NEW YORK

DEPARTMENT OF HEALTH AND MENTAL HYGIENE

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## **Information on Radiation Survey at the Former Wolff-Alport Chemical Corporation 1127-1129 Irving Avenue, Queens, NY September 5, 2007**

This fact sheet summarizes the results of a preliminary radiation survey performed at the former Wolff-Alport Chemical Corporation at 1127-1129 Irving Avenue and at 1133 Irving Avenue, all located at the Brooklyn/Queens border. Currently, the buildings are occupied by the Primo Auto Body Shop, LJ Iron Works, Inc., and Losquadro Ice Company. Losquadro Ice Company uses 1133 Irving Avenue for storage of equipment and salt. The survey was performed in May 2007 by the New York City Department of Health and Mental Hygiene (DOHMH) and the New York State Department of Environmental Conservation (DEC), with the U.S. Environmental Protection Agency (EPA) Region II providing observational support. The information in this fact sheet is based on preliminary findings and will be updated when a formal site assessment is completed.

### **What are the results of the radiation survey at 1127-1129 and 1133 Irving Avenue?**

In May 2007, DEC and DOHMH tested the site previously occupied by Wolff-Alport Chemical Corporation and found slightly elevated radiation levels. These levels do not indicate immediate health concerns for current building occupants or people passing by. However, more testing is needed to fully understand the nature of the radiation sources and the need for remediation. Radiation levels in the surrounding neighborhood are not elevated and do not pose any health risk for the nearby residents.

### **What is the Wolff-Alport Chemical Corporation?**

The Wolff-Alport Chemical Corporation was located at 1127-1129 Irving Avenue, at the Brooklyn/Queens border. The company operated from 1920 until 1954. In 1940, the company began processing monazite sand<sup>1</sup> to concentrate rare metals for use by industry.

### **How did the radiation get into the Wolff-Alport building?**

The monazite sand contained small amounts of thorium, a radioactive material. The process of extracting the rare metals produced a concentrated thorium residue. This residue was considered a waste product, so the company dumped it into the sewer system. It is possible that small amounts of thorium remain in the sewers, buildings and soil around the building. In 1947, the federal government ordered Wolff-Alport to stop dumping the thorium into the sewer. The company then

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<sup>1</sup> Monazite sand is naturally occurring and found in North Carolina, South Carolina, Idaho, Colorado, Montana, and Florida in the United States, and in Brazil, India, Australia, and South Africa. Monazite sand is a source of materials, such as rare metals, that are used in the manufacture of television and computer screens, fluorescent light bulbs, and highly efficient batteries, among other industrial applications. It also contains, Thorium, a radioactive material.

packaged the thorium and sold it to the government for military uses. The business closed in 1954.

### **Was the building previously tested for radiation?**

In 1987, the federal government informed the city that the site could have been contaminated with thorium during processing of the monazite sands. In 1988, the City and the EPA identified radiation slightly above background levels at several spots around 1127 Irving Avenue. These levels were below the regulatory limits that were currently in effect. In 2000, DEC and DOHMH conducted additional sampling on the sidewalks in front of the buildings. Once again, the tests revealed slightly elevated levels that were not considered a public health risk.

### **What are the background levels for radiation in NYC?**

Background levels of radiation exist from many sources including radiation from the sun, soil, rocks and water as well as man-made sources such as medical X-rays, building materials, televisions and smoke detectors (see attached chart for estimated radiation levels for sources). Allowable exposures from licensed sources are measured in millirem (mrem)<sup>2</sup> per year. In New York City, the average dose from background sources is about 360 mrem per year. Workers in industries that use or manufacture radioactive materials have an allowable dose limit of 5,000 mrem/year. The standard for public exposure to radiation has been lowered since the 1980s. For the general public, the designated limit is now 100 mrem per year above the average dose received from background sources.

### **Why are government agencies re-examining this site now?**

As part of an assessment of background levels of radiation in NYC, the DOHMH identified the former Wolff-Alport site as having levels above the typical background level in NYC. To further reassess this site, the DOHMH conducted this preliminary survey.

### **Are there any health concerns for the workers in the buildings?**

There are no immediate health concerns for workers in these buildings. Preliminary analysis suggests that people working at the former Wolff-Alport site might receive an exposure that is above the 100 mrem limit over the course of a year. The highest level in the shop area where workers performed their duties was 0.3 mrem per hour. Based on this reading and depending on how much time a worker spent in the area, the estimated exposure would range from slightly above background to twice background. These levels do not pose an immediate concern for workers in these buildings.

### **Are there any health concerns for neighborhood residents?**

Although there are some elevated radiation levels in the sidewalk in front of 1127-1129 Irving Avenue, it is unlikely that area residents would spend enough time in these areas to be exposed to radiation above background levels. Radiation readings were normal directly across the street from the Irving Avenue property, and in the surrounding areas.

### **What can be done to reduce the radiation at 1127-1129 Irving Avenue?**

The City is planning a full site assessment to better evaluate levels of contamination and any potential health risks to the workers. In order to reduce potential radiation exposure to workers at 1127-1129 Irving Avenue, the Health Department recommends some protective measures in some areas of Primo Auto Body prior to a full assessment of radiation doses. These measures

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<sup>2</sup> A rem is a large amount of radiation, so the **millirem (mrem)**, which is one thousandth of a rem, is often used for the dosages commonly encountered, such as the amount of radiation received from medical x-rays and background sources.

include reducing the time workers spend in areas with higher levels and using lead shielding on the floor areas to block radiation exposure.

In addition, both DOHMH and DEC are planning a more thorough site assessment for the affected buildings and the surrounding outdoor areas. The assessment should include:

1. A detailed study of thorium contamination under the cement floor and in the walls of the buildings and testing for the presence of radon and thoron gases in the buildings
2. A detailed dose assessment for current workers of Primo Auto Body, LJ Ironworks, Inc. and Losquadro Ice Company
3. A detailed study of the nature and extent of the contaminated soil surrounding the buildings;
4. A determination of the extent (if any) of contamination outside the site
5. A plan to identify building and outdoor areas requiring radiation source reduction and best ways to decontaminate and remediate these areas.