

Ringwood Mines/Landfill Site

Ringwood, Passaic County

A Summary of the Public Health Assessment for Public Comment

Public Comment Period: May 1 through July 3, 2006

The New Jersey Department of Health and Senior Services (NJDHSS) and the Agency for Toxic Substances and Disease Registry (ATSDR) have prepared a draft Public Health Assessment for public comment on the Ringwood Mines/Landfill site in Ringwood, New Jersey. The purpose of this document is to evaluate past and present exposures to site contaminants and to address the community's concerns about their health and the site. A draft public health assessment was developed so that citizens may provide their comments or concerns about relevant issues. For a copy of the public health assessment, please contact one of the agencies listed on the back of this Summary.

Why are the New Jersey Department of Health and Senior Services (NJDHSS) and the Agency for Toxic Substances and Disease Registry (ATSDR) evaluating this site?

In October 2003 a spokesperson for residents living closest to the Ringwood Mines/Landfill site in Ringwood, Passaic County, requested that the Agency for Toxic Substances and Disease Registry (ATSDR) determine whether historical exposures to chemicals, including lead, benzene and arsenic, created a risk of adverse health effects in the past. The ATSDR accepted this as a petition to conduct a Public Health Assessment for the site, in partnership with the New Jersey Department of Health and Senior Services (NJDHSS).

Further discussions and correspondence with residents and counsel for the community led the NJDHSS and ATSDR to better understand the residents' potential for exposure to site contamination in the past and the present, and to evaluate health concerns expressed by the community.

What are the health concerns of the residents living on the site?

Health concerns that community members believe are related to exposures to the Ringwood Mines/Landfill site contamination include cancers, respiratory diseases, reproductive and developmental effects, neurological disorders, heart disease, skin rashes and eye irritation, anemia, and diabetes.

What contaminants are on the site at levels that may harm health?

Contaminants of concern are contaminants that are present at levels higher than an environmental guideline. Contaminants of concern found in environmental media at the site are:

- lead, antimony, arsenic, chromium and other metals; and
- organic chemicals including benzene, benzo(a)pyrene, and PCBs.



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How might people have been exposed to site contaminants?

Residents and visitors to the site were likely to have been exposed to site contaminants in several ways:

- *incidental ingestion* of paint sludge, soil, sediment, surface water (ponds and other surface water areas used for recreation)
- *ingestion* of surface water (springs and seeps used for drinking water through the mid-1980s)
- *dermal contact* with paint sludge, soil, sediment, and surface water

Residents and visitors may potentially have been exposed through the following pathways, although there is currently no information on the presence or level of contamination:

- *ingestion* of biota (fish, game, plants)
- *ingestion* of groundwater (off-site potable wells)
- *inhalation* of air (off-gassing of volatile chemicals from paint sludge, mine shaft fires)

Do site contaminants pose a threat to public health?

When completed exposure pathways are identified, NJDHSS and ATSDR estimate the levels of exposure that people may have had, and compare those exposures to health-based guidelines. For some of the contaminants, if residents were exposed to the maximum concentrations, health effects are not likely. However, exposures to the following contaminants at either their maximum or average concentrations may have been at levels of health concern:

- lead: Residents who were frequently exposed to paint sludge during the time of dumping were estimated to have been at risk of having high blood lead levels, according to a USEPA mathematical model. This is especially true among children, but also may have occurred among adults. Lead can harm the nervous system, kidneys, and red blood cell production, and can affect reproduction and development. Lead presently found in some soils is at a level that may affect children's health.
- antimony: Antimony was found in paint sludge at levels that may be harmful to health, although not much is known about the effects of long term exposure in people. Exposure to antimony can cause liver and blood changes, and can affect heart muscle.
- arsenic: Arsenic was present in the surface water that was used in the past as a source of drinking water, at levels that can affect health. Health problems from arsenic exposure may include skin and neurological disorders. Arsenic exposure may also increase the risk of certain cancers.

There is a potential for increased health risks, particularly neurological effects, from exposures to the combination of lead and arsenic found in paint sludge and in surface water.

Do residents living near the site have higher rates of cancer than residents living in the other areas of Ringwood or New Jersey?

Since October 1978 New Jersey hospitals, laboratories, pathologists, physicians and others have been required to report a diagnosis of cancer among New Jersey residents to the State Cancer Registry. Several other states, including New York, also report cases of cancers among patients who are New Jersey residents but were diagnosed in those states.

The NJDHSS reviewed cancer incidence in the Ringwood Mines/Landfill area for the time period 1979 through 2002. In that period, overall cancer incidence was not elevated in the Ringwood Mines/Landfill area or in Ringwood Borough as a whole, compared to New Jersey. However, lung cancer incidence was statistically elevated in males in the area of the Ringwood Mines/Landfill site. It is not known whether past exposure pathways are related to this observation. Information on smoking history, the most important risk factor for lung cancer, was not available. Since lung cancer incidence was not elevated in females, there is little evidence that cancer incidence has been affected by Ringwood Mines/Landfill site contamination.

Do children living near the site have higher blood lead levels than children in other parts of Ringwood or New Jersey?

Childhood blood lead data were evaluated for the Ringwood Mines/Landfill area site. Data available since 1999 showed a higher proportion of children with elevated blood lead levels (>10 µg/dL) and a slightly higher average childhood blood lead level in the area closest to the Ringwood Mines/Landfill area in comparison to the rest of Ringwood Borough. Although there are multiple sources of lead in a child's environment (such as peeling lead-based paint in homes), lead in paint sludge may have contributed to these differences in blood lead levels. Since 1999, two children in the Ringwood Mines/Landfill area had blood lead levels >10 µg/dL; for one child, lead from paint sludge-contaminated soil is thought to have been a contributing factor.

What do the NJDHSS and ATSDR conclude about the site?

Based on health risks posed by exposures to lead and antimony in soils and paint sludge, the site posed a **Public Health Hazard** in the past. Since there may be on-going exposure to lead from paint sludge and soil at levels of health concern, the site currently poses a **Public Health Hazard**.

Ringwood Mines area residents and others may have been exposed to contaminated ambient air, biota, and off-site groundwater. These exposures are considered an **Indeterminate Public Health Hazard** as insufficient data are available for evaluation.

Many community health concerns are consistent with the health effects of lead or arsenic exposures identified in the scientific literature, but these health outcomes may also be caused by other environmental and non-environmental risk factors.

What do the NJDHSS and ATSDR recommend for future site activities?

NJDHSS and ATSDR recommend the following actions:

- characterize and remediate the paint sludge contamination as soon as feasible. Special consideration should be given to children's play areas and residential gardens.
- delineate groundwater contamination and consider reinstating an Environmental Monitoring Plan, particularly for off-site potable wells.
- characterize the potential contamination of local biota, particularly game consumed by area residents.
- determine the background concentration of arsenic and other contaminants of concern.
- conduct an exposure investigation of the population living on the Ringwood Mines/Landfill site, which should include biological testing of adults and children for exposure to lead, antimony, and arsenic. NJDHSS and ATSDR will develop plans for this investigation in cooperation with community members. Concurrent testing of environmental media such as indoor dust and soils close to homes should also be undertaken.

Where can I get a copy of the Public Health Assessment?

Copies of this report are available at the following locations:

Consumer and Environmental Health Services, Public Health Services Branch, NJDHSS

(609) 584-5367

or at <http://www.state.nj.us/health/eoh/cehsweb/index.html> (see "What's New")

Ringwood Public Library

30 Cannici Drive

Ringwood, NJ 07456

How can I provide comments on the document?

Comments can be mailed to:

Hazardous Site Health Evaluation Program

Consumer and Environmental Health Services

Public Health Services Branch

New Jersey Department of Health and Senior Services

PO Box 369

Trenton, NJ 08625-0369

Residents may also provide oral comment to staff of the NJDHSS or ATSDR

Written comments must be postmarked by July 3, 2006