

Site Review And Update

RINGWOOD MINES/LANDFILL

RINGWOOD, PASSAIC COUNTY, NEW JERSEY

CERCLIS NO. NJD980529739

SEPTEMBER 8, 1994

**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Atlanta, Georgia**

Site Review and Update: A Note of Explanation

The purpose of the Site Review and Update is to discuss the current status of a hazardous waste site and to identify future ATSDR activities planned for the site. The SRU is generally reserved to update activities for those sites for which public health assessments have been previously prepared (it is not intended to be an addendum to a public health assessment). The SRU, in conjunction with the ATSDR Site Ranking Scheme, will be used to determine relative priorities for future ATSDR public health actions.

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Prepared By:

**The New Jersey Department of Health
Environmental Health Services
Under a Cooperative Agreement with
The Agency For Toxic Substances And Disease Registry**

Summary of Background And History

The Ringwood Mines/Landfill Site (RML) is located in the Borough of Ringwood, Passaic County, New Jersey (Figure 1). Activities at the RML site date to the mid-eighteenth century when magnetite, a form of iron ore, was mined there. Subsequently, the site remained an operational mining area until 1960. The RML site has experienced a history of dumping; between 1967 and 1974, the shafts and pits of the RML site were utilized by an automobile manufacturer to dispose of non-chemical industrial wastes. In addition, other wastes have been disposed of at the site, and include: excavated rock and mine tailings, household and municipal refuse, industrial paint sludge, and junked automobiles. The RML site is still utilized for indiscriminate dumping of household refuse and debris; the site is remote and access is not restricted. The RML site covers about 500 acres of hilly forest, and contains abandoned shaft and surface mines, an inactive landfill, an industrial refuse disposal area, a municipal recycling facility, the Ringwood Borough garage, and approximately 50 residential homes (Figure 2).

The RML site was placed on the National Priorities List (NPL) in September of 1983. The United States Environmental Protection Agency (USEPA) has conducted four phases of remedial investigation (RI) at the site from March 1984 to April 1988, when the final remedial investigation report became available ⁽¹⁾. Paint sludge was identified at four locations at the RML site (Figure 2). The sludges were classified as toxic due to the presence of lead. The USEPA has removed approximately 7,000 cubic yards of paints sludge contaminated soils identified during the RI and disposed of these off-site. Post excavation sampling has been performed and clean fill deposited over excavated areas. Other environmental media (groundwater, surface water, sediments) contained several metals and volatile organic compounds (VOC's) at levels which are not a public health concern (i.e., not above health comparison values). The USEPA currently is conducting a long term environmental monitoring program at the RML site. ⁽²⁾ A record of Decision for the RML site was signed in September 1988. ⁽³⁾

At the request of the USEPA, the Agency for Toxic Substances and Disease Registry, performed a health consultation in September 1988. The Health Consultation reviewed soil sampling data from the paint sludge disposal areas prior to remediation to evaluate the public health significance of contaminant levels. ATSDR considered the paint sludge areas to present a possible health threat and recommended that these areas be restricted.

The Agency For Toxic Substances and Disease Registry (ATSDR) evaluated site data and issued a *Health Assessment* of the RML site in April 1989 ⁽⁴⁾. A site visit was not performed for the health assessment. The health assessment identified three potential human exposure pathways regarding the RML site:

- 1) **The ingestion and dermal absorption of contaminated soils.** This pathway is not substantiated in the light of current site data and information. Sludge containing areas have been remediated and covered with clean fill material. There is no information to evaluate possible past exposures to the paint sludge areas, but it is unlikely that persons or children would have

frequented these areas sufficiently to facilitate a significant exposure. Other on-site soils exhibit low levels of lead contamination (1.3 mg/kg) and are heavily vegetated. There is little probability that persons living near the site could ingest soils in sufficient quantity to constitute a toxicologically significant exposure dose.

2) **The ingestion, inhalation, or dermal absorption of contaminated groundwater.** This pathway is not generally substantiated in light of current site data and information. Downgradient potable wells in the area of the RML site were identified and sampled in 1992 (Table 1). Only one well of the eleven sampled exhibited possible site-related contamination in excess of ATSDR comparison values (lead at 127 ppb). Lead has no appreciable tendency to volatilize or be absorbed dermally. In addition, groundwater is not used as a potable water supply for the homes in the site study area; municipal water is available. Groundwater data do not indicate the existence of a off-site contaminant plume. Areas of groundwater contamination were localized and associated with the former paint sludge disposal areas.

3) **The ingestion and dermal absorption of contaminated surface water and sediments.** This pathway is not substantiated in light of current site data and information. There are present on the site three small, intermittent streams which drain off-site. Although low levels of contaminants have been documented in the surface water (di-n-octylphthalate; 18 ppb maximum), and sediments (lead; 20.0 mg/kg maximum, cadmium; 3.4 mg/kg maximum), it is highly unlikely any persons would be exposed to and ingest sufficient concentrations to yield a toxicologically significant exposure dose. This is due to the remoteness of the surface water features, and their lack of use for recreational or potable purposes. Contamination related to the RML site was not detected in off-site surface water, and is not influencing downstream surface water features.

4) **The consumption of contaminated biota.** This pathway is not substantiated in light of current site information. The nature and extent of contaminants present on the RML site are not consistent with tendencies for bioaccumulation in plants or animals normally expected to enter the human food chain.

The presence of the paint sludge areas and their accessibility constituted the primary public health hazard associated with the RML site. This hazard has been addressed by the removal action of the USEPA. Community concerns were not identified in the Health Assessment of 1989.

The ATSDR concluded the RML site posed a potential public health concern because of the risk to human health that could result from possible exposure to hazardous substances at levels that may result in long term adverse health effects. The recommendations made by ATSDR in the 1989 health assessment are summarized as follows:

1) Access to contaminated areas should be limited, because contaminants exist at levels of public health concern.

- 2) Provide remedial workers with adequate personal protective equipment consistent with the requirements of the Occupational Safety and Health Administration (OSHA).
- 3) Conduct real time air monitoring during remedial activities to ensure workers and nearby residents are not exposed to unacceptable levels of contaminants during excavation.
- 4) Perform a detailed well survey of all private wells within a one mile radius of the RML site.
- 5) The site was not recommended for follow-up health studies.

Current Conditions of Site

Representatives of the NJDOH (James Pasqualo) and the ATSDR's Regional Operations (Steve Jones) conducted a site visit of the RML site on May 19, 1994. Observations were consistent with available information regarding the terrain and general conditions at the site. Remediated areas have been revegetated. There was widespread evidence of continued use of the area for unauthorized disposal; household refuse was observed to be ubiquitous over the accessible portions of the site. Evidence of municipal water supplies (fire hydrants) were observed. There were observed no signs or other notices indicating the presence of a NPL site.

Since compilation of data and information for the 1989 health assessment, on-site paint sludges have been removed and clean fill material deposited in their place. As predicted in the health assessment, this action served to interrupt the potential exposure pathways associated with this media; currently, on-site soils pose no public health concern. In addition, potable well data became available in 1992 which demonstrated no site related contaminants at levels of public health concern (Table 1). One private well exhibited lead at 127 ppb, but it is unclear if this is site-related, or the result of another source or condition. Public water is available to residences within the site study area.

The conclusion in the health assessment that the site poses a potential public health concern was accurate in the context of the data and information available at the time the site was first evaluated, but will be reevaluated for this *Site Review and Update*.

Current Issues

There are few issues associated with the RML site in its present condition and state of remediation. The USEPA is currently conducting a five year environmental monitoring program as specified in the Record of Decision for the site ⁽⁹⁾.

There are no past or present community concerns which were apparent during the compilation of this site review and update.

Currently the only concern of the ATSDR and the NJDOH with regard to the RML site is for the potential physical hazards associated with the refuse on-site. Numerous household appliances and many sharp pieces of glass and steel exist on-site and pose potential for physical injury, especially to children who may enter these areas.

Conclusions

Based upon current data and information, the Ringwood Mines/Landfill site is evaluated by the ATSDR and the NJDOH to present no apparent public health concern. The former conclusion that the site presents a potential public health concern has been reevaluated and revised.

The recommendation to identify private wells in the area of the RML site has been satisfied. Furthermore, sampling of identified downgradient wells has demonstrated minimal or no impact to off-site groundwater quality. The environmental (groundwater) monitoring program serves to ensure water quality in the area and is consistent with protection of the public health.

Occupational recommendations to provide proper personal protective equipment to remedial workers and perform air monitoring during excavation were presumably satisfied. These issues are a standard component of the site safety plan approved by the USEPA as part of the overall remedial action plan.

Recommendations in the consultation and health assessment to limit access to contaminated soils have been indirectly satisfied since on-site soils have been remediated and no longer exhibit contamination at levels of public health concern.

There is no immediate need to perform additional evaluation of the data and information presently available regarding the RML site.

Although probably not site related, the lead level detected in one private well is of public health concern if used for potable purposes.

Recommendations

There are no outstanding recommendations from the previous health assessment which remain valid and unsatisfied.

Results of the ongoing environmental monitoring program for groundwater quality should be periodically reviewed for public health significance when available. Should the data indicate a

change in site conditions, a health consultation should be performed to evaluate toxicological implications.

Based upon current site data and information no further health assessment evaluation or site-related follow-up activities are recommended for the RML site.

The Ringwood Health Department should investigate the utilization of the private well exhibiting lead contamination.

The data and information developed in this SRU have been evaluated to determine whether Health Activities Recommendation Panel (HARP) follow-up actions may be indicated. No HARP evaluation is indicated at this time.

Public Health Actions

The Public Health Action Plan (PHAP) for the RML site contains a description of the actions to be taken by ATSDR and/or NJDOH at or in the vicinity of the site subsequent to the completion of this Site Review and Update. The purpose of the PHAP is to ensure that this health assessment not only identifies public health hazards, but provides a plan of action designed to mitigate and prevent adverse human health effects resulting from exposure to hazardous substances in the environment. Included, is a commitment on the part of ATSDR/NJDOH to follow up on this plan to ensure that it is implemented. The public health actions to be implemented by ATSDR/NJDOH are as follows:

Public Health Actions Taken:

1. Environmental data and proposed remedial activities have been evaluated within the context of human exposure pathways and relevant public health issues.

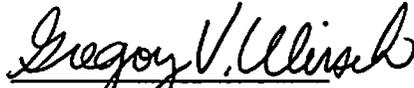
Public Health Actions Planned:

1. ATSDR and the NJDOH will evaluate subsequent environmental monitoring reports for changes in site conditions and possible public health implications.
2. ATSDR will provide an annual follow up to this PHAP, outlining the actions completed and those in progress.
- 3) The ATSDR and the NJDOH will provide a copy of this SRU to the Ringwood Health Department with a recommendation to investigate the status and utilization of the private well exhibiting lead contamination.

ATSDR will reevaluate and expand the Public Health Action Plan (PHAP) when needed. New environmental, toxicological, health outcome data, or the results of implementing the above proposed actions may determine the need for additional actions at this site.

CERTIFICATION

The Site Review and Update for the Ringwood Mines/Landfill site was prepared by the New Jersey Department of Health under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). It is in accordance with approved methodology and procedures existing at the time the Site Review and Update was initiated.



Technical Project Officer, SPS, RPB, DHAC

The Division of Health Assessment and Consultation (DHAC), ATSDR, has reviewed this Site Review and Update and concurs with its findings.



Division Director, DHAC, ATSDR

Documents Reviewed

- 1) *Final Remedial Investigation Report; Ringwood Mines/Landfill Site, Ringwood, New Jersey.* Woodward-Clyde Consultants; September 1988.
- 2) *First Semi-Annual Report, Year Two of The Environmental Monitoring Program, Ringwood Mines/Landfill Site, Ringwood, New Jersey.* Geraghty & Miller Inc.; December 1992.
- 3) *Record of Decision; Ringwood Mines /Landfill.* United States Environmental Protection Agency, Region 2; September 1988.
- 4) *Health Consultation; Ringwood Mines/Landfill Site.* Agency For Toxic Substances and Disease Registry; September 1988.
- 5) *Health Assessment; Ringwood Mines/Landfill National Priorities List Site Ringwood, Passaic County, New Jersey.* Agency For Toxic Substances and Disease Registry; April 1989.

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Table 1 - Occurrence of Groundwater Contaminants; Ringwood Mines/Landfill Site, Ringwood, New Jersey.⁽²⁾ (Maximum Concentrations)

Contaminants (ppb)	Monitoring Wells	Private Wells	Comparison Value
Methylene Chloride	19	ND	5.0 (CREG)
1,1,1 Trichloroethane	ND	1.0**	200 (USMCL)
Benzene	2	ND	1.0 (CREG)
Arsenic	56.6	ND	.02 (CREG)
Cadmium	20.0	ND	7.0 (EMEG) (Child, Chronic)
Lead	85	127*	0 (MCLG)

* = Contaminant occurred in only one well of 11 sampled in January 1992.

** = Well was used for non-potable purposes only (Car Wash).

CREG = Cancer Risk Evaluation Guide (10⁻⁶ Cancer Risk)

USMCL = USEPA Maximum Contaminant Level

MCLG = Maximum Contaminant Level Goal

EMEG = Environmental Media Evaluation Guide

Figure 1 - General Location of the Ringwood Mines Landfill Site; Ringwood Borough (Passaic County), New Jersey.

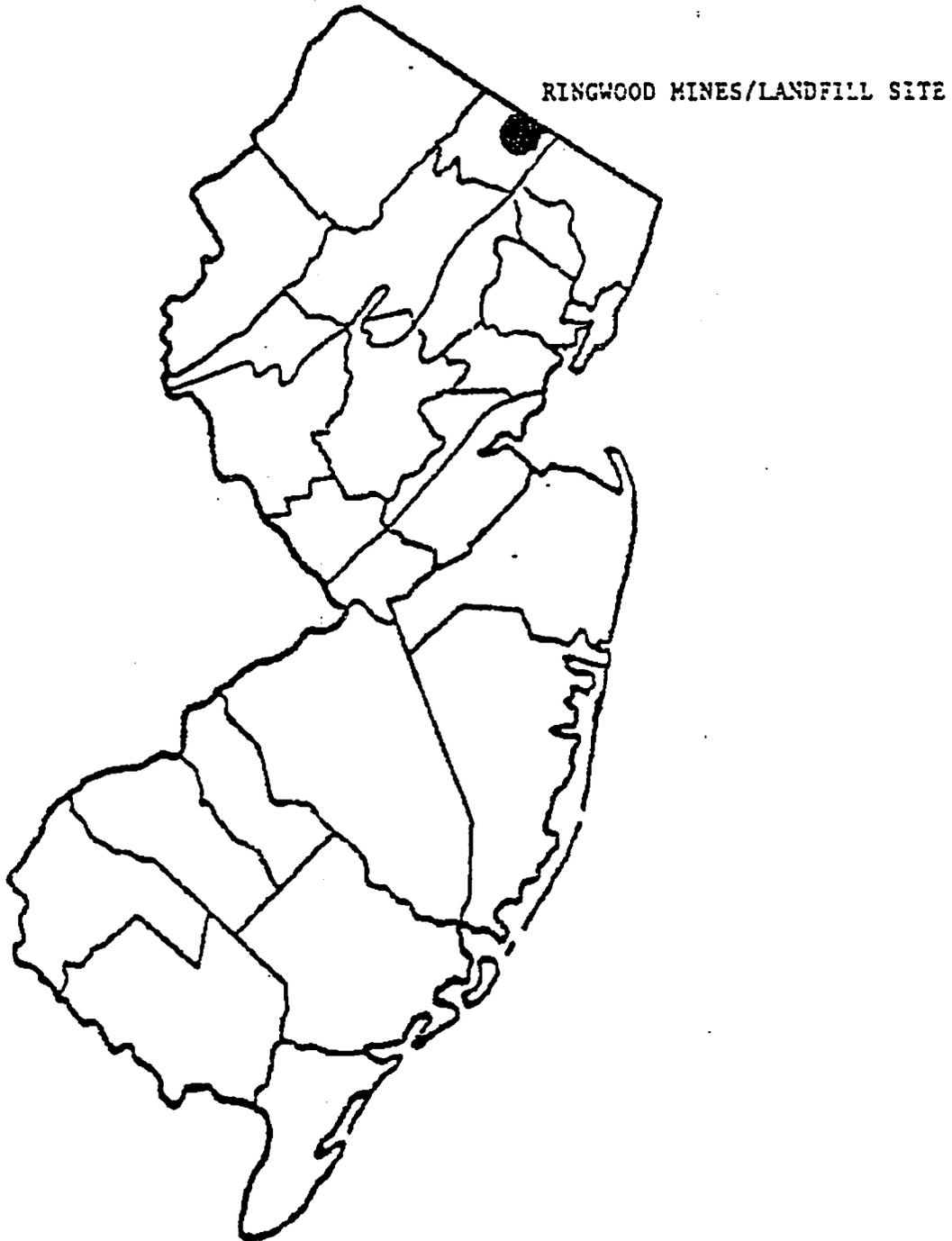


Figure 2 - Schematic of the Ringwood Mines/Landfill Site; Ringwood, New Jersey.

