

Health Assessment for

MUNISPORT LANDFILL

CERCLIS NO. FLD084535442

MIAMI, FLORIDA

APRIL 22, 1985

Agency for Toxic Substances and Disease Registry
U.S. Public Health Service

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Chief, Superfund Implementation Group

Munisport Landfill Superfund Site
Miami, Florida

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The data you submitted on the above site has been reviewed by a committee of the Center for Environmental Health, Centers for Disease Control.

The Munisport Landfill (ML) is a 291 acre hazardous waste site located within the corporate limits of the City of North Miami, Dade County, Florida. The Centers for Disease Control has been asked to review for concurrence the EPA proposal to delist (remove from the National Priorities List) the ML site.

I hope that the comments are useful.

Background

The Munisport Landfill (ML) is an inactive municipal landfill owned by the City of North Miami. No hazardous chemicals are known to be stored at the ML site; however, there have been reports of incidental hazardous and infectious waste storage/disposal on-site.

The ML site is located in a metropolitan area bounded by major thoroughfares on the north, west, and south, Florida International University to the east, and a mangrove swamp to the southeast. The mangrove swamp provides a barrier between the site and Biscayne Bay. The site is reportedly accessible to vehicular or pedestrian traffic although a full-time resident provides some measure of security.

The City originally signed an agreement with Munisport, Inc. in 1970 to develop a recreation complex. Munisport, Inc. first began filling low-lying areas with clean fill and construction debris, but by 1974 it was accepting municipal refuse. Under a temporary operating permit, the City was allowed to use refuse as fill material only above the water table and not in the wetlands. To provide cover for the refuse, eight lakes were excavated (in this area, high groundwater creates a lake of any excavation). Numerous permit violations occurred and the operating permits were revoked in 1981.

Contaminants

Limited multimedia sampling has been performed on this site. No air pollution data were available for review, although there is documentation that nuisance odors led to three citations during the time the landfill was in active operation. Elemental concentrations of soil/sediment samples were found to be characteristic of carbonate rock environments. A few sediment samples contained low levels (less than 120 ppb) of DDT metabolites and one sediment sample showed evidence of chlordane contamination (less than 80 ppb). Surface water samples from excavated ponds indicated that infiltration by landfill leachate (elevated nitrogen series) and saltwater intrusion had occurred. A further indication of leachate infiltration, inorganic and organic nitrogen levels were extremely pronounced in four groundwater samples (ammonia up to 460 mg/l and Total Kjeldahl Nitrogen up to 800 mg/l). One groundwater sample, taken from the northern-most monitoring well, contained nanogram levels (less than 130 ng/l) of several pesticides and microgram levels (less than 130 ug/l) of several purgeable organics.

Discussion

The ML site has not been extensively studied and as a result numerous issues require further delineation. A few issues, those presented in the Hazardous Waste Investigation (Field Investigation) Report, are discussed below.

As with any sanitary landfill, there is a potential for gas production accompanied by obnoxious (nuisance odors) or hazardous (explosive) conditions. Since this site is in close proximity to major thoroughfares and a university, the potential for continued, or renewed, problems relating to gas generation should be investigated.

Usually fugitive dusts cause problems at active landfills; here, the probability of wind erosion creating contaminated fugitive dusts is remote because the site is reportedly well covered with clean fill and well vegetated. Fugitive dusts should only become a problem if the site is disturbed.

The presence of DDT and chlordane metabolites in soils/sediments should not be misconstrued as evidence for, or against, the prospect of hazardous waste disposal on site. Both DDT and chlordane are broad spectrum insecticides which found widespread use in the U.S. for many years. The ubiquitous presence of these insecticides and their derivatives in a metropolitan environment is not surprising. The same may be true for the pesticides found in a water sample from one monitoring well, though those contaminants are more probably the result of landfill leachate. Leachate contaminated surface and groundwaters from the ML site impact on the Biscayne Aquifer, a major drinking water source in Florida. The groundwater in this area is considered brackish and unpalatable (result of saltwater intrusion) and is not used as a public water supply. The limited number of water samples collected (as well as the limited number of monitoring wells) do not permit definitive conclusions, though it does appear that ML leachate is contributing to the continued, general degradation of the Biscayne Acquirer. This may affect public water supplies in the future.

The impact of contaminated surface and groundwaters, which may be migrating from the ML site, on contiguous estuarine ecosystems has also not been examined. Certain organics identified on this site, in particular DDT metabolites, are known to persist in the environment and can bioaccumulate in aquatic food chains. If such contaminants are prevalent on this site, which can be disclosed only by additional sampling, there may be a potential for significant long-term environmental (and perhaps public health) impacts.

Based on the data presented, the public health threat posed by this site would appear to be minimal, primarily because humans have limited access to the soils and waters of the ML site. However, CDC has only reviewed the Remedial Action Master Plan and a Hazardous Waste Investigation (Field Investigation) Report for the ML site. Neither of these documents provide sufficient sampling, monitoring, or site investigation data to warrant comment by CDC on environmental or public health impacts. Conclusions concerning the delisting of the ML site would not be prudent at this time.

A Remedial Investigation has not been conducted at the ML site which EPA (Washington) guidelines for delisting NPL sites reportedly require prior to evaluation/approval of formal delisting. Considering the expanse of this site (170 acres of landfill) and its proximity to a population center, key municipal aquifer, and estuarine ecosystems, a Remedial Investigation appears to be a necessity. In addition, the information normally contained in a Remedial Investigation Report would allow CDC to comment on both public health issues and the delisting proposal.

Conclusions/Recommendations

1. A remedial investigation has not been performed at the ML site. Available data do not allow definitive conclusions regarding the public health or environmental impacts which may be realized from potential site contamination. A remedial investigation of the ML site should be performed prior to consideration for delisting.
2. Assuming that delisting an NPL site will preclude any future remedial actions, there must be some surety that future, incidental contamination or exposure will not occur. With any suspected hazardous waste site there are certain intangibles which may represent potential pathways for human exposure to contaminants. These intangibles are sometimes overlooked but more often are inadequately described in written documentation. Thus, at a minimum, in order to ascertain that this candidate for delisting has been accurately and thoroughly portrayed, a visual site investigation should be conducted by both CDC and EPA personnel.

Georgi A. Jones

cc:
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Documents Reviewed:

Draft Remedial Action Master Plan (November 1983) and
Hazardous Waste Investigation Report (Field Investigation conducted
January 30 to February 4, 1984), Munisport Landfill, North Miami,
Florida.