

Site Review And Update

PEPE FIELD

BOONTON, MORRIS COUNTY, NEW JERSEY

CERCLIS NO. NJD980529598

SEPTEMBER 21, 1992

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 30333

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.

SITE REVIEW AND UPDATE

PEPE FIELD

BOONTON, MORRIS COUNTY, NEW JERSEY

CERCLIS No. NJD980529598

Prepared by

New Jersey Department of Health
Under Cooperative Agreement with the
Agency for Toxic Substances and Disease Registry

SUMMARY OF BACKGROUND AND HISTORY

The Pepe Field site is in Boonton Township, Morris County, New Jersey. The site is currently an inactive municipal little league baseball field and occupies an area of approximately 3 acres between Wootton Street and Hillside Avenue, west of County Route 511 (see Figure 1). The site was originally a marshy area that was used by the E.F. Drew Company as a landfill from the 1920s to 1950. The E.F. Drew Company manufactured edible vegetable oils and cleansing/soap products for household and industrial use. The Pepe Field site received the following waste materials: 1) diatomaceous earth (filter residues from edible oil processing/purification operations); 2) incinerator ash from burning wood and paper; 3) boiler ash; 4) lime sludge from oil removal processes; 5) salt residue from glycerin processing; and 6) soap residues.

The site has been the subject of odor complaints since 1947 and was vacant from 1950 until the mid-1960s when the town of Boonton purchased the property. The town had the site filled with about 10 feet of cover soil before constructing a recreational park at the site in the late 1960s (see Figure 2). In response to continued complaints to the local health department, the town of Boonton initiated an odor abatement plan in 1969. This remedial activity consisted of a 14-foot gravel curtain drain, which extends along the southwestern end of the site for 150 feet, and a sump for leachate collection and treatment with hydrogen peroxide. Currently, the field is inactive and is enclosed by a 4-foot chain link fence.

In September 1984, the Superfund Implementation Group in the Center for Environmental Health, Centers for Disease Control, reviewed the soil and surface water analytical results. The contaminants detected appeared to be residues and/or degradation products of the wastes deposited in the fill, and, whose presence at the levels detected, did not present a human health hazard. A draft feasibility study (FS) was prepared in July 1989 (1). In the Remedial Investigation of May 1987 (2), the air quality of the site was investigated to determine the presence of hydrogen sulfide, thiols (methanethiol and ethanethiol), and methane. Several air samples showed measurable amounts of hydrogen sulfide and methane, but not thiols. Soil gas samples were obtained on-site and analyzed for these chemicals. Using atmospheric modeling, the preparers of the FS concluded that hydrogen sulfide concentrations in the air would not reach concentrations high enough to cause adverse health effects but that they are high enough to produce unpleasant odors. However, the concentration of methane in the soil gas may exceed the lower explosive limit (LEL) at certain locations on the site (maximum detected concentration, 17,000 ppm), raising the possibility that explosive mixtures could be formed in confined spaces, such as basements, if sufficient soil gas

migration occurs. However, investigation of adjacent residences (basements and crawlspaces) by the New Jersey Department of Environmental Protection and Energy (NJDEPE) have determined that off-site methane accumulation is not occurring. The Record of Decision (ROD) signed in September 1989 (3) stated that current risks presented by Pepe Field are limited. The selected remedy described in the ROD for the site includes a gas collection and treatment system, leachate collection and treatment, and maintenance of the site cover.

Treated leachate from the site is discharged to a storm sewer, which eventually terminates into the Rockaway River. The Rockaway River is used as a drinking water supply by Jersey City. The Rockaway River was analyzed upstream, downstream, and at the storm sewer leading from the site to the river. Also, the upper and lower aquifers were analyzed. The FS reported that some chemical analyses (metals) were essentially at background levels for the different matrices, and there is no consequent threat to human health or to the environment.

The U.S. Environmental Protection Agency (USEPA) requested that the Agency for Toxic Substances and Disease Registry (ATSDR) perform a health assessment for Pepe Field based on the analytical results in the 1987 RI report. ATSDR performed a health assessment (HA) of the Pepe Field site in August 1987 (4). The HA did not identify any contaminants of concern or completed human exposure pathways. The HA did identify the presence of combustible gases (possibly at levels exceeding the LEL for methane) in soil vapors. The HA concluded that there were no obvious sources of ignition in the soil or evidence of combustible gas accumulation in on-site structures. The HA recommended further investigation to assess combustible gas and hydrogen sulfide emissions, soil gas migration, and soil gas accumulation.

Past community concerns regarding the Pepe Field site relate to the intermittent emanation of odors (presumably hydrogen sulfide) and date back to 1947. No other community concerns associated with the site have been identified in site data and information, or in communication with the Boonton Health Department.

Although the HA of 1987 did not contain a specific conclusion category, the site would have been judged to be of no apparent public health hazard based on current criteria for site characterization.

CURRENT SITE CONDITIONS

On April 23, 1992, personnel from the New Jersey Department of Health (NJDOH) (James Pasqualo), ATSDR (Gregory Ulirsch, Arthur

Block), and USEPA, and the Boonton Township Health Officer visited the Pepe Field site. Figure 2 contains a map of the site. Although the site is fenced, the fence had at least one hole in it, which allowed unauthorized access. Areas of discolored soil were observed on-site. No odors were detected by any members of the visiting party. Warning signs were posted along the site perimeter. The site is in a residential area, and the closest private residences were located approximately 100 feet from the site. No permanent surface water features are associated with the site, although pooled water apparently collects on-site as the result of precipitation. The Pepe Field site is not currently being used for the recreational purposes for which the park was built.

Physical conditions at the site have remained constant since the 1987 HA. No new data have been generated for the Pepe Field site since the 1987 RI report, which would necessitate a reevaluation of the conclusions and recommendations of the HA (5).

CURRENT ISSUES

Current community concerns regarding the Pepe Field site remain essentially the same as those first referenced in 1947. Local residents are primarily concerned about the odors coming from the site, the possibility of adverse health effects resulting from the odors, and (to a lesser extent) the site's potential impact on adjacent property values.

The remedial technology selected for the site by the NJDEPE and USEPA is gas collection and treatment. However, the Boonton residents prefer excavation and off-site disposal as the remediation of choice because they believe that any other approach would leave the community to deal with risks that might occur in the future.

Public health concerns regarding the Pepe Field site are limited to the potential hazard represented by the presence of methane in soil gases at concentrations greater than the lower explosive limit for the compound.

CONCLUSIONS

The conclusion in the HA that hydrogen sulfide has been found in concentrations high enough to pose an intermittent detectable odor, but not in concentrations high enough to constitute a threat to human health is valid. The conclusion in the HA that methane has been found in soil gases in concentrations approaching and perhaps exceeding the LEL is valid, based on current data and information.

The conclusion in the HA that soil gas migration into confined spaces on and adjacent to the site may result in an unsafe physical condition is valid based on current site data and information.

The HA recommended that the potential for soil gas accumulation in adjacent residential structures be investigated. The NJDEPE has determined that such accumulation is not occurring. Thus, the conclusion in the HA that soil gas migration into off-site confined spaces may result in an unsafe physical condition is not supported by available information.

On the basis of available data and information, the conclusion in the HA that hydrogen sulfide and methane are being generated as a result of microbial breakdown is valid. Additionally, the conclusion that the landfill wastes are not considered to be hazardous remains valid.

There are no current data indicating the presence of hazardous substances in concentrations constituting a public health concern, nor evidence of completed or potential human exposure pathways at the Pepe Field site.

The data and information developed in the Site Review and Update have been evaluated to determine if follow-up actions may be indicated. No further public health actions are indicated at this time.

RECOMMENDATIONS

The recommendation in the HA that hydrogen sulfide and methane concentrations in the breathing zone and on-site structures need to be further assessed under varying climatological conditions before reopening the park to the public is considered remains valid.

The recommendation for periodic monitoring of the leachate leaving the site is valid under present site conditions and is addressed in the ROD for the Pepe Field site.

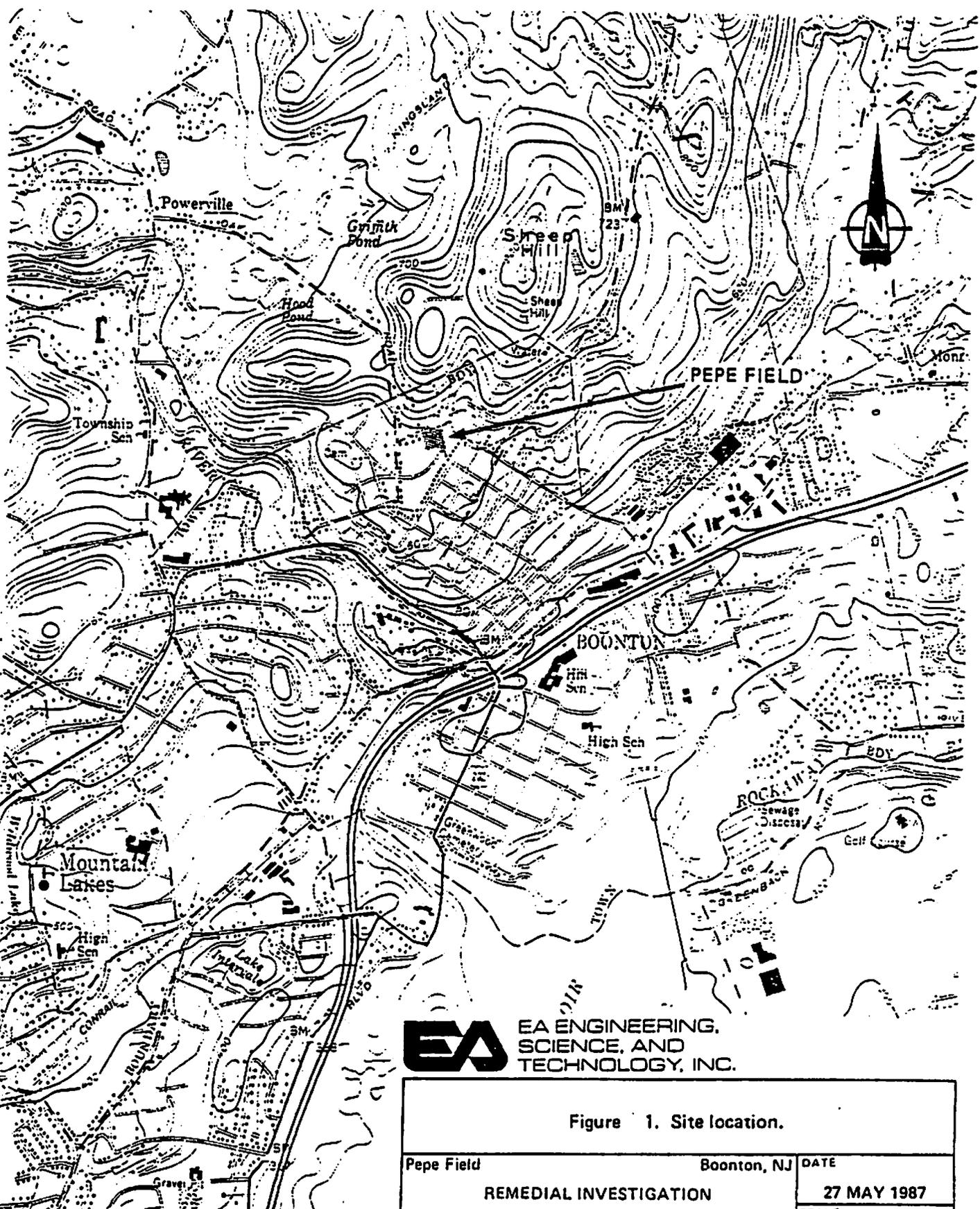
On the basis of current environmental site data and information, the health assessment of August 1987, and the ROD for remediation of Pepe Field, no further activity by ATSDR or NJDOH is recommended for this site.

DOCUMENTS REVIEWED

- 1) Feasibility Study Report, Pepe Field, Boonton, New Jersey. EA Engineering, Science, and Technology, Inc. (For the New Jersey Department of Environmental Protection); July 1989.
- 2) Remedial Investigation Report, Pepe Field, Boonton, New Jersey. EA Engineering, Science, and Technology, Inc. (For the New Jersey Department of Environmental Protection); May 1987.
- 3) Record of Decision: Pepe Field, Boonton, Morris County, New Jersey. United States Environmental Protection Agency; September 1989.
- 4) Health Assessment: Pepe Field NPL Site, Boonton Township, Morris County, N.J. Agency for Toxic Substances and Disease Registry; August 1987.
- 5) Site Status Report. New Jersey Department of Environmental Protection and Energy; November 1991.

Preparer of Site Review and Update:

Howard Rubin, Ph.D.
Environmental Health Service
New Jersey Department of Health

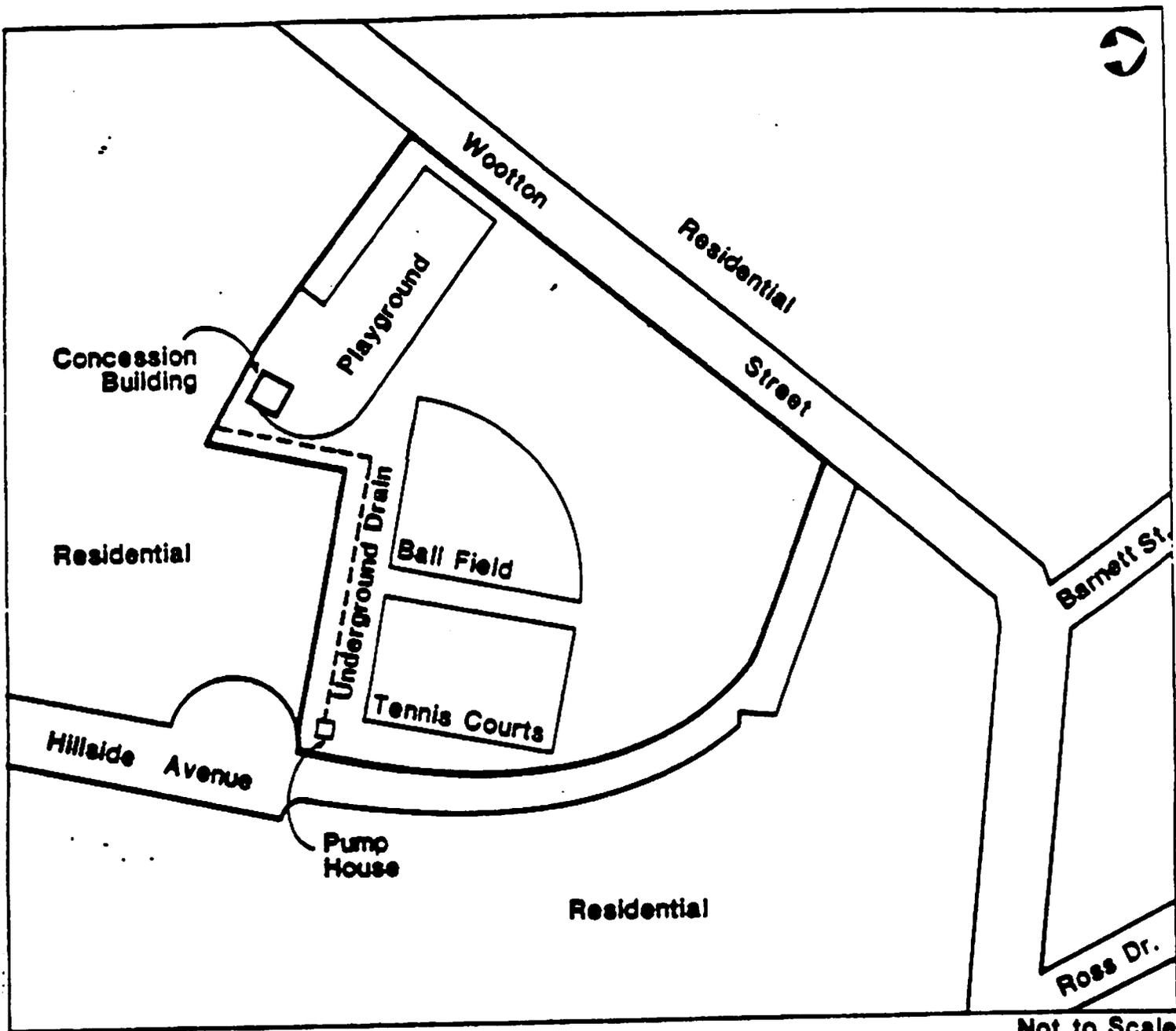


EA EA ENGINEERING,
SCIENCE, AND
TECHNOLOGY, INC.

Figure 1. Site location.

Pepe Field	Boonton, NJ	DATE
REMEDIAL INVESTIGATION New Jersey Department of Environmental Protection		27 MAY 1987
		SCALE
		1" = 2,000'

NOTE: Base map taken from a portion of the Boonton Quadrangle; USGS 7.5 minute series topographic map, 1970. Contour interval: 20 ft.



Not to Scale

**Site Layout
Pepe Field**

Boonton Town, NJ

Source: Rogers, Golden & Halpern, 1983