

Public Health Assessment for

SCOVIL INDUSTRIAL LANDFILL
(a/k/a SCOVILL INDUSTRIAL LANDFILL)
WATERBURY, NEW HAVEN COUNTY, CONNECTICUT
EPA FACILITY ID: CT000226551
FEBRUARY 6, 2001

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
PUBLIC HEALTH SERVICE
Agency for Toxic Substances and Disease Registry

PUBLIC HEALTH ASSESSMENT

**SCOVIL INDUSTRIAL LANDFILL
(a/k/a SCOVILL INDUSTRIAL LANDFILL)**

WATERBURY, NEW HAVEN COUNTY, CONNECTICUT

EPA FACILITY ID: CT000226551

Prepared by:

**Connecticut Department of Public Health
Under Cooperative Agreement with the
Agency for Toxic Substances and Disease Registry**

THE ATSDR PUBLIC HEALTH ASSESSMENT: A NOTE OF EXPLANATION

This Public Health Assessment was prepared by ATSDR pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) section 104 (i)(6) (42 U.S.C. 9604 (i)(6)), and in accordance with our implementing regulations (42 C.F.R. Part 90). In preparing this document, ATSDR has collected relevant health data, environmental data, and community health concerns from the Environmental Protection Agency (EPA), state and local health and environmental agencies, the community, and potentially responsible parties, where appropriate.

In addition, this document has previously been provided to EPA and the affected states in an initial release, as required by CERCLA section 104 (i)(6)(H) for their information and review. The revised document was released for a 30-day public comment period. Subsequent to the public comment period, ATSDR addressed all public comments and revised or appended the document as appropriate. The public health assessment has now been reissued. This concludes the public health assessment process for this site, unless additional information is obtained by ATSDR which, in the agency's opinion, indicates a need to revise or append the conclusions previously issued.

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FOREWORD

The Agency for Toxic Substances and Disease Registry, ATSDR, was established by Congress in 1980 under the Comprehensive Environmental Response, Compensation, and Liability Act, also known as the *Superfund* law. This law set up a fund to identify and clean up our country's hazardous waste sites. The Environmental Protection Agency, EPA, and the individual states regulate the investigation and clean up of the sites.

Since 1986, ATSDR has been required by law to conduct a public health assessment at each of the sites on the EPA National Priorities List. The aim of these evaluations is to find out if people are being exposed to hazardous substances and, if so, whether that exposure is harmful and should be stopped or reduced. If appropriate, ATSDR also conducts public health assessments when petitioned by concerned individuals. Public health assessments are carried out by environmental and health scientists from ATSDR and from the states with which ATSDR has cooperative agreements. The public health assessment program allows the scientists flexibility in the format or structure of their response to the public health issues at hazardous waste sites. For example, a public health assessment could be one document or it could be a compilation of several health consultations the structure may vary from site to site. Nevertheless, the public health assessment process is not considered complete until the public health issues at the site are addressed.

Exposure: As the first step in the evaluation, ATSDR scientists review environmental data to see how much contamination is at a site, where it is, and how people might come into contact with it. Generally, ATSDR does not collect its own environmental sampling data but reviews information provided by EPA, other government agencies, businesses, and the public. When there is not enough environmental information available, the report will indicate what further sampling data is needed.

Health Effects: If the review of the environmental data shows that people have or could come into contact with hazardous substances, ATSDR scientists evaluate whether or not these contacts may result in harmful effects. ATSDR recognizes that children, because of their play activities and their growing bodies, may be more vulnerable to these effects. As a policy, unless data are available to suggest otherwise, ATSDR considers children to be more sensitive and vulnerable to hazardous substances. Thus, the health impact to the children is considered first when evaluating the health threat to a community. The health impacts to other high risk groups within the community (such as the elderly, chronically ill, and people engaging in high risk practices) also receive special attention during the evaluation.

ATSDR uses existing scientific information, which can include the results of medical, toxicologic and epidemiologic studies and the data collected in disease registries, to determine the health effects that may result from exposures. The science of environmental health is still developing, and sometimes scientific information on the health effects of certain substances is not available. When this is so, the report will suggest what further public health actions are needed.

Conclusions: The report presents conclusions about the public health threat, if any, posed by a site. When health threats have been determined for high risk groups (such as children, elderly, chronically ill, and people engaging in high risk practices), they will be summarized in the conclusion section of the report. Ways to stop or reduce exposure will then be recommended in the public health action plan.

ATSDR is primarily an advisory agency, so usually these reports identify what actions are appropriate to be undertaken by EPA, other responsible parties, or the research or education divisions of ATSDR. However, if there is an urgent health threat, ATSDR can issue a public health advisory warning people of the danger. ATSDR can also authorize health education or pilot studies of health effects, fullscale epidemiology studies, disease registries, surveillance studies or research on specific hazardous substances.

Community: ATSDR also needs to learn what people in the area know about the site and what concerns they may have about its impact on their health. Consequently, throughout the evaluation process, ATSDR actively gathers information and comments from the people who live or work near a site, including residents of the area, civic leaders, health professionals and community groups. To ensure that the report responds to the community's health concerns, an early version is also distributed to the public for their comments. All the comments received from the public are responded to in the final version of the report.

Comments: If, after reading this report, you have questions or comments, we encourage you to send them to us.

Letters should be addressed as follows:

Attention: Chief, Program Evaluation, Records, and Information Services Branch, Agency for Toxic Substances and Disease Registry, 1600 Clifton Road (E56), Atlanta, GA 30333.

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The conclusions and recommendations in this health assessment are based on the data and information made available to the Connecticut Department of Public Health and the Agency for Toxic Substances and Disease Registry. The Connecticut Department of Public Health and the Agency for Toxic Substances and Disease Registry will review additional information when received. The review of any additional data could change the conclusions and recommendations listed in this document.

SUMMARY

The Scovill Industrial Landfill is located in Waterbury, New Haven County, Connecticut. The site was owned and used by the Scovill Manufacturing Company from 1919 to the mid-1970's for the disposal of ash, cinder and other waste materials generated by the facility. The site covers approximately 30 acres.

Beginning in 1941, portions of the landfilled area were subdivided and developed. The most significant development activity occurred between 1950 and 1970. Today, approximately 23 acres of the site are developed with commercial and multi-family residential buildings, two single family homes, paved areas and streets. The remaining seven acres are undeveloped. In 1988, excavation activities at the seven undeveloped acres, for a proposed elderly apartment complex, caused landfilled material to be brought to the surface.

In 1998, the Connecticut Department of Environmental Protection (CT DEP) conducted a Phase I Environmental Site Assessment. In the Spring of 1998 the CT DEP removed contaminated soil and additional capacitors that were brought to the surface during the early stages of construction in 1988. In the Spring of 1999 EPA contracted with Roy F. Weston to conduct a Site Inspection which involved the collection of environmental samples.

The most likely route of potential exposure to environmental contamination is through direct contact with soils that may have become contaminated as a result of landfilling activities. This may occur through the incidental ingestion of soil that gets on hands or inhalation of soil particles that may become airborne. Other environmental media were sampled including indoor air and sediments. None of these media contained contaminants at levels that present a health risk.

Under current conditions and based on existing data, the site presents no apparent public health hazard. Most of the surface soil samples did not contain contaminants above health comparison values. The most commonly identified contaminants above comparison values were polycyclic aromatic hydrocarbons. The levels found are not very different from levels found in soil in most urban areas. In addition, the potential for exposure is minimized due to grass cover and paving. There was no evidence of gardening on the site.

Soil samples collected from deeper soils, in general, had higher levels of contamination and there are no data available for soils deeper than two feet—this presents an indeterminate public health hazard. If site conditions were to change, such that deeper soils became more accessible, people could be exposed to contamination whose concentrations and extent have not been fully characterized. An undeveloped, seven acre

portion of the site, referred to as the Calabrese site, was found to contain very high levels of polychlorinated biphenyls (PCBs) in localized areas where landfilled capacitors had been damaged during excavation activities--this represents an indeterminate public health hazard in the past. This portion of the site was the focus of an interim removal and capping activity in 1998. Approximately four acres of the seven acre Calabrese site are currently fenced.

Site conditions should be monitored to ensure that the potential for exposure to contaminated soils does not increase and the site should be the focus of a more comprehensive investigation to further delineate the extent of contamination.

The Connecticut Department of Public Health (CT DPH) participated in four public meetings. Representatives from Environmental Protection Agency (EPA), CT DEP and the Waterbury Health Department were also present. During these public meetings, the CT DPH was available to respond to citizen's health concerns. Many of the early concerns were driven by the fact that there was no environmental sampling, except in the Calabrese portion of the site, prior to the 1999 Site Inspection. Residents were concerned about whether similar levels of contamination were in their backyards. Many of these concerns were addressed as additional sampling was conducted. The CT DPH, in conjunction with the Waterbury Department of Health, drafted and distributed three separate fact sheets as the site investigation moved forward to help respond to citizens concerns. In addition, the CT DPH responded to specific questions at the public meetings. The CT DPH and ATSDR sponsored a public comment period on this document from mid-October through the end of November to receive comments from the public. During the comment period, no comments were received from the public. The CT DPH will continue to evaluate any environmental sampling data collected from the site and work with the agencies to ensure that public health concerns and questions are addressed and answered.

PURPOSE AND HEALTH ISSUES

The purpose of this public health assessment is to review available environmental sampling data and current site conditions to evaluate whether living and/or working on the Scovill Landfill site presents a public health hazard. As part of this evaluation, the pathways by which people may be exposed to environmental contamination are identified and evaluated and community health concerns are addressed. This public health assessment is different from an EPA risk assessment. Under Superfund, EPA conducts a risk assessment that will evaluate the need for environmental clean-up based on established regulatory criteria; whereas, an ATSDR public health assessment evaluates exposures at a site and determines the need for follow-up health actions. The Scovill Landfill site was proposed to EPA's National Priorities List (NPL), or Superfund, on May 11, 2000. This report fulfills ATSDR's Congressional mandate for conducting a public health assessment within one year of EPA's proposing a site to the NPL.

Following the completion of a Phase I Environmental Site Assessment by the CT DEP in December 1998, it became apparent that this 30 acre area had been owned by the Scovill Manufacturing Company and used for landfilling of ash and debris.[1]

Residents living on and adjacent to the site have expressed a number of concerns. These have included: concern about past risks associated with playing on or visiting the Calabrese portion of the site; the safety of gardening or disturbing soils on site; the safety of drinking water; and, the impact of surface water runoff from the site to a public pond located in Hamilton Park.

BACKGROUND

The Scovill Industrial Landfill is located in Waterbury, New Haven County, Connecticut. The site was owned and used by the Scovill Manufacturing Company from 1919 to the mid-1970's for the disposal of ash, cinder and other waste materials generated by the facility.[1] The site covers approximately 30 acres. The site includes Store Avenue, north of Meriden Road, the southern end of Newbury Street and is bounded by Academy Avenue to the east and Monroe Avenue to the west. (see Site Map, Appendix A) The Scovill Manufacturing Company was located less than one mile southwest of the site.

The Scovill Manufacturing Company began operations in Waterbury around 1811, manufacturing primarily brass products including buttons, clasps and belts.[1] The company also produced other metal products including: hose nozzles; lipstick cases; pens, photographic equipment and supplies, munitions, fuses, and injection molded plastics.

Beginning in 1941, portions of the landfilled area were subdivided and developed. The most significant development activity occurred between 1950 and 1970.[1] Today, approximately 23 acres of the site are developed with commercial and multi-family residential buildings, two private residences and paved areas and streets. The remaining seven acres are undeveloped. (See Map, Appendix A)

The undeveloped 7 acre parcel is referred to as the Calabrese site. In 1988, excavation activities for a proposed elderly apartment complex caused landfilled material to be

brought to the surface. These materials included capacitors, drums, sludge materials, metal wastes and demolition debris. Following complaints by local residents, the City of Waterbury Health Department issued a cease and desist order requiring that no workers or company personnel go onto the site and restricting access to the public.[2] At this time, foundations had already been poured. In October of 1989 and January of 1990, the CT DEP issued Orders requiring the investigation of wastes and their impacts on human health and the environment. Initially, Mr. Calabrese cooperated with CT DEP and hired an environmental consultant and had visible, leaking capacitors removed from the site. All of the requirements of these orders were not carried out and the property remained unchanged for many years.

In January of 1998, CT DEP staff identified two capacitors in soil piles during a site visit. CT DEP contractors removed these from the site in February of 1998.

On April 21, 1998 Jennifer Kertanis of CT DPH conducted a site visit at the Calabrese site. Representatives from the CT DEP and Waterbury Health Department were also present. During this site visit the following observations were made:

- Site access was unrestricted by foot;
- Foot and bike paths crossed the site in a number of locations;
- A bolder blocked a potential vehicle access point on Store Avenue;
- Footings for the abandoned construction project were present and very deep and large holes surrounded these footings;
- There was graffiti present on the cement footings;
- Standing water in the footing holes was discolored;
- Piles of excavated materials were cluttered around the footing holes;
- Within these piles were remnants of rusted drums, demolition debris, cinder blocks, and ash;
- Two capacitors and/or parts of capacitors were seen on the surface of a waste pile;
- Soil in some of the piles appeared to be stained; and,
- Sampling flags were located in some of the stained soil areas where soil samples had been collected by EPA contractors.

In the Spring of 1998, the CT DEP conducted a partial remediation of the Calabrese site. These activities included the removal of 16 additional capacitors and rusted drums that contained nickel sludge. In addition, this site posed numerous physical hazards as the abandoned construction project left footings and dangerous holes on the property. The footings were backfilled and one foot of soil cover was placed over approximately 3.5 acres of the Calabrese site. A locked, chain-link fence surrounds this area of the Calabrese site to restrict access and signs are posted.

In July 1998, the Connecticut Department of Public Health and the Waterbury Health Department developed and distributed a fact sheet summarizing what was found at the Calabrese site and what was being done to clean up the site.(See Appendix B-Site Fact Sheets) A public meeting was also held on August 5, 1998 to present this information to residents and workers at the site.

In December of 1998, the CT DEP completed a Phase I Preliminary Assessment of the Scovill Industrial Landfill. This review of public documents, records and files, supported the fact that the Calabrese area, as well as the 23 surrounding acres, had been used by Scovill Manufacturing for a landfill. In March 1999, the CT DPH and the Waterbury Health Department developed and distributed another fact sheet on the Scovill Landfill. Special emphasis was placed on how residents could be exposed to landfilled material and how best to reduce or avoid that exposure until such time as environmental sampling data were available. (See Appendix B-Site Fact Sheets) A public meeting was also held on March 25, 1999 to review the Phase I Assessment and emphasize the public health message of avoiding exposure until such time as environmental sampling data could be collected.

The Roy F. Weston, Inc. Superfund Technical Assessment and Response Team was requested by the Environmental Protection Agency Region I to perform a Site Inspection of the Scovill Landfill property in the Spring of 1999. The Site Inspection report provides a preliminary evaluation of site conditions to assist EPA with site prioritization.[3] The information and data collected for this report is the primary source of environmental sampling data from which this public health assessment is written.

Currently, about 316 residents live on site in thirteen apartment buildings.[3] There are also approximately 50 workers who are employed by various small businesses located on the site.[3] There are no schools located on the site. An adult daycare facility that provided care to approximately 25 clients per day with moderate to severe mental retardation was also located on-site but closed in 1999.

ENVIRONMENTAL SAMPLING DATA

All environmental sampling data reported here, with the exception of the historical data for the Calabrese site, came from the Site Inspection conducted by Roy F. Weston. This Site Inspection occurred in the Spring of 1999 after removal activities at the Calabrese property were performed in 1998. (See Appendix C-Site Map and Sampling Locations)

Surface Soil Data Summary

Surface soil samples were collected from 41 locations within the Scovill Landfill boundary. These samples were taken from the first six inches of soil. Samples were not collected in areas of the site that are currently paved or covered by a structure. Samples were collected from areas that had recently been disturbed (i.e., installation of a fence) or areas that appeared to be stressed in some way (i.e., discolored soil, no vegetative growth). All soil samples were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), metals and cyanide. Table 1. presents the contaminants that were identified in surface soil and the number of times the contaminant was found above comparison values.

Table 1
Summary
Soil Samples Collected from 0-6 Inches
Contaminants Identified Above Comparison Values

Contaminant	Maximum Concentration Detected (ppm)	Comparison Value (ppm)	Number of Detects Above Comparison Value
benzo(a)anthracene	1.8	1 CT RSR	7
benzo(b)fluoranthene	2.7	1 CT RSR	6
benzo(a)pyrene	1.5	0.1 CREG	3
nickel	1,780	1000 RMEG child	1
chromium (not speciated)	12,900	200 RMEG child hexavalent	1
copper	27,000	2500 CT RSR	1
lead	621	500 CT RSR	1

CREG- cancer risk evaluation guide for 1×10^{-6} excess cancer risk established by ATSDR
RMEG- reference dose environmental media evaluation guide established by ATSDR, child indicates it was established to protect 10kg child at 200mg/day ingestion rate
CT RSR- CT Remediation Standard Regulations/Direct Exposure Criteria/Residential

Subsurface Soil Data Summary

Subsurface soil samples were collected from 41 locations within the Scovill Landfill boundary. The samples were taken from 6 to 24 inch depths. All samples were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), metals and cyanide. Table 2 presents the contaminants that were identified in deeper soil and the number of times the contaminant was found above comparison values.

Table 2
Summary
Soil Samples Collected from 6-24 inches
Contaminants Identified Above Comparison Values

Contaminant	Maximum Concentration Detected (ppm)	Comparison Value (ppm)	Number of Detects Above Comparison Value
benzo(a)anthracene	6.2	1 CT RSR	11
benzo(b)fluoranthene	3.8	1 CT RSR	12
benzo(a)pyrene	3.9	0.1 CREG	7
Aroclor 1254 (PCB)	19	0.4 CREG (all PCBs)	1
Aroclor 1260 (PCB)	1.4	0.4 CREG (all PCBs)	1
arsenic	15.5	0.5 CREG	5
chromium (not speciated)	19,200	200 RMEG child hexavalent	1
copper	35,300	2500 CT RSR	3
lead	746	500 CT RSR	2
nickel	2,460	1000 RMEG child	1
vanadium	474	470 CT RSR	1

CREG- cancer risk evaluation guide for 1×10^{-6} excess cancer risk established by ATSDR

RMEG- reference dose environmental media evaluation guide established by ATSDR, child indicates it was established to protect 10kg child at 200mg/day ingestion rate

CT RSR- CT Remediation Standard Regulations/Direct Exposure Criteria/Residential

Indoor Air Sampling Summary

Indoor air sampling was conducted in six basement locations on-site using 24-hour SUMMA canisters. These samples were incorporated into the Site Inspection at the request of the Waterbury and State Health Departments to determine if volatile organic compounds were migrating from landfilled materials into the interior of on-site buildings. While there were no previous soil sampling data to suggest that volatile organic compounds were present in the landfilled material, the health departments identified indoor air sampling as a prudent measure to insure that indoor environments were not being impacted in this way.

Three unoccupied basement units at the Store Avenue Apartment complex, two occupied basement units within the LaurRay Apartment complex and one basement of a single family home were sampled. The air samples were analyzed for volatile organic compounds and air constituents including hexane, propane, butane, pentane, carbon dioxide, ethane, oxygen, nitrogen and methane. One sampling cannister was removed from its intended sampling location during the 24-hour sampling period resulting in invalid results. Results from this sampling cannister were not included in the evaluation. None of the other indoor air samples contained any volatile organic compounds above health-based comparison values and the air constituents including carbon dioxide, oxygen and nitrogen, were identified within typical ranges.

Historical Sampling of 7 acre Calabrese Parcel

Several soil samples have been collected from the Calabrese portion of the site in the past, prior to the 1998 removal activities. These sampling activities have generally consisted of grab samples of potential source materials, or materials that appeared to be questionable based on proximity to a source, (i.e., capacitors or drums). These samples were collected from the surface, however, depths were not reported. The Waterbury Health Department, the CT DEP and EPA were among those agencies that have collected this type of sample over the years. The Calabrese portion of the site has never been sampled in any comprehensive way.

Very high levels of PCBs (140,230 ppm) have been identified from these types of samples. In addition, elevated levels of metals including nickel, chromium, cadmium, barium and lead have been identified.

DISCUSSION-Adult and Children's Health

Exposure Pathways and Public Health Implications:

The public health implications of a site are determined by evaluating whether people at the site have been or are being exposed to environmental contamination that may result in adverse health effects. People may be exposed to contamination through ingestion of water or soil, inhalation of air or direct contact with soil or surface water. Whether these exposures will make a person sick depends on the type of contaminant, the amount or concentration of the contaminant, the duration of exposure and the frequency of exposure. If exposure to environmental contamination does not occur, then the contamination does not present a threat to public health.

Exposures to environmental media at the Scovill Landfill site have been evaluated and are presented in this section. These evaluations are based on existing data and current site conditions. Future site conditions that include potential exposure to soils beneath the surface are not evaluated here—this is because the full extent and concentrations of contamination beneath the surface has not been characterized.

Indoor Air-Inhalation Pathway: While indoor air sampling was limited, indoor air quality does not appear to be adversely impacted by landfilled materials. None of the indoor air samples identified compounds above health-based comparison values. Indoor air quality can become contaminated if volatile organic compounds migrate from soil into basements and /or enclosed structures. No volatile organic compounds were identified in any of the soil samples further supporting the indoor air findings.

Drinking Water-Ingestion Pathway: Drinking water throughout the site is provided by a public water supply. This water comes primarily from reservoirs and is regulated and monitored routinely. While the piping and water distribution system may lie in landfilled materials beneath the surface, it is unlikely that contamination could enter the system. The public water supplied to residents and workers on the site is safe to use for drinking and other domestic uses. There have been incidents in which pipes have failed requiring

replacement. However, the positive pressure in the public water system would make it very unlikely that contamination would enter the system. If precautions are not taken, there is the potential for contamination to enter the water pipes during repair work. No private wells have been identified within one mile of the site.

Surface Soil-Direct Contact/Incidental Ingestion: Exposure to contaminated soils through direct contact and/or incidental ingestion is the most likely exposure associated with site-related contamination. Surface and deeper soils have been found to contain some contamination above health-based comparison values. Surface soils present the most significant potential for exposure because soils in the top several inches are the most accessible. The most commonly identified compounds were polycyclic aromatic hydrocarbons or PAHs. Benzo(a)anthracene, benzo(b)fluoroanthene and benzo(a)pyrene were the PAHs identified in the 0-6 inch soil samples. The highest concentrations detected were in the range of 2-2.7 parts per million (ppm), which is above the CT Residential Direct Exposure Criteria (CT soil clean up standard) of 1 ppm. The concentration of 1 ppm was set using conservative estimates about the amount of the soil one would ingest (200 milligrams per day (mg/day) for a child, 100 mg/day for an adult) and the length of time (365 days per year for 30 years) one would be exposed. Those types of exposures are not likely for most people living or working on the Scovill site under current site conditions. Most of the Scovill site is grass covered or paved. There was no evidence of gardening on the site and outdoor play by children appeared to be limited to common areas near the apartment complexes. In addition, while the maximum concentrations were used for evaluation purposes, maximum concentrations were not identified throughout the site and in fact the majority of samples did not have concentrations above the comparison values. Exposure to these concentrations are not likely to cause adverse health effects for adults or children.

There was one surface soil sample that had elevated levels of nickel, chromium, copper and lead. Metals were not identified above health-based comparison values in any of the other surface soil samples. While these concentrations are significantly above the comparison values, this sample is in a heavily wooded and overgrown area, away from the residential and commercial properties and it is unlikely that people would come in contact with the soils in this area on a regular basis. In early December of 1999, the Calabrese fence was extended to restrict access to this area further reducing the potential for exposure.

In the past, people who trespassed or played on the Calabrese portion of the site may have been exposed to elevated levels of PCBs and some metals. The most likely period of exposure would have been from 1988 through 1998. In 1988, construction activities at the site brought contamination to the surface. The site was not fully characterized and data gaps prohibit the determination of the potential health implications during this time. In 1998, the surface contamination was removed, a foot of soil was placed on the site and a chain link fence prohibits access. The most significant potential for exposure would have been to people who actually came in direct contact with the contaminated soil while playing on the site. The potential for adverse health effects from these exposures would vary depending on how long one was exposed, the levels of exposure, and how one was exposed (ingestion, inhalation, skin contact.)

Deeper Soil-Direct Contact/Incidental Ingestion: In general, soil samples collected from 6-24 inches below the surface were found to have higher levels of PAHs and metals. One sampling location, located within the fenced Calabrese portion of the site had polychlorinated biphenyls (PCBs) identified at 19 ppm. There are no data available on soils deeper than two feet. Under current site conditions, the contamination in the deeper soil is not a direct public health threat since it is not readily accessible. In other words, it is unlikely that current residents and workers are contacting contaminated soil at depth, on a regular and continuing basis, such that health effects from exposure would be expected. If invasive soil activities were to occur, residents and workers may be exposed to contamination that could contain higher levels of contamination. These invasive activities would include gardening or other activities that would require digging in the soil. In addition, workers who must disturb soil to work on underground utilities may be at increased risk of exposure if precautions are not taken.

Evaluation of Community Concerns:

Is it safe to garden or disturb soils on site?

While surface soil contamination is not present at levels of public health concern, soil beneath the first 6 inches does have higher levels of some contamination and there is no data available for soils beneath two feet. For this reason, any type of invasive soil activities including gardening and digging are strongly discouraged. These activities would increase ones risk of coming in contact with any contamination that may be beneath the surface.

Is the water safe to drink?

Drinking water for all commercial and residential buildings as well as the two private homes on site is provided by the CT Water Company. This water is required to meet health protective standards set by the state and federal government. While pipes and the water distribution system may lay in landfilled materials beneath the surface, there is little if any chance that the water could become contaminated. A positive pressure is maintained in the pipes meaning that if there is a hole in a pipe, drinking water will leak out rather than anything leaking in. There have been some instances when water pipes have failed, requiring replacement. There is the potential for contamination to enter the pipes during replacement activities if precautions are not taken. EPA is working with the utility companies to ensure that any work on pipes occurs in a manner that prevents infiltration of contamination into the pipes.

Is the pond located in Hamilton Park contaminated?

Limited data indicates that the pond is not contaminated. Carrington Brook formerly ran through the site from the north to the south. The brook was culverted and discharges to a pond in Hamilton Park approximately three-quarters of a mile southwest of the site. Surface water run-off from the site is routed to a catch basin system that is believed to be part of the Carrington Brook drainage. The Carrington Brook is hard-piped through the site minimizing the potential for site related contaminants to discharge into the Pond.

CONCLUSIONS

Under current conditions and using available data, the site presents no apparent public health hazard. The only potential exposure pathway identified is exposure to contaminated soil. Most of the surface soil samples did not contain contaminants above comparison values. The most commonly identified contaminants above comparison values were PAHs. The levels found are not very different from levels found in soil in most urban areas and are not at levels likely to result in adverse health effects. The potential for exposure and associated health effects is minimized due to grass cover, paving and the lack of evidence of gardening. However, exposure could increase if these conditions were to change or if other invasive soil activities were to occur. Activities that increase the risk of exposure to soils beneath the surface present an indeterminant public health threat.

Soil samples collected from deeper soils, in general, had higher levels of contamination; however, there are no data available for soils beneath two feet. Based on the historic use of the site as an industrial landfill, it is likely that contamination lies much deeper than the 24 inch samples that were taken. Utility workers or people that must perform invasive activities may be at risk of being exposed to contamination that is present in the deeper soils.

Exposure to very high levels of PCBs and some metals may have occurred to people who played on the Calabrese parcel from 1988 through 1998. The most significant exposure would have occurred to people who came in direct contact with contamination. Because sampling focused primarily on source materials, it is difficult to evaluate what people may have actually come in contact with throughout the site, therefore, an evaluation of health implications is difficult. This potential past exposure represents an indeterminate public health hazard. Current exposures to these contaminants have been stopped because the source materials have been removed, a one foot cover of material has been placed over the area, and a chain-link fence now prohibits access to this part of the site.

Drinking water is provided by a public water supply that is regulated and monitored—there is no current risk to residents or workers associated with drinking or using water. However, there is the potential for contamination present in soils to infiltrate the system during pipe repair activities. The EPA is working with the utility companies to reduce this potential.

Limited indoor air sampling in the basements of homes located on the landfill does not indicate a problem associated with the migration of volatile organic compounds into structures. This finding is supported by the fact that no volatile organic compounds were detected in soils.

RECOMMENDATIONS

1. Residents living on the landfill site should avoid digging, gardening or disturbing soils beneath the surface.
2. The site should be monitored by the local health department and the CT DEP to ensure that digging and invasive soil activities are not occurring.

3. Any invasive soil activities, including the repair of underground utilities, should be monitored by the CT DEP and EPA to ensure that the work is done in a way that minimizes the migration of soil and exposures to workers and others in the area.
4. The site should be the focus of a more comprehensive investigation to further delineate the extent and degree of contamination and appropriate remediation needs.

PUBLIC HEALTH ACTION PLAN

Actions Taken:

1. In July 1998, a fact sheet was prepared by the CT DPH summarizing the public health implications associated with the Calabrese portion of the site. This fact sheet was distributed door-to-door to residents living on or adjacent to the site by the Waterbury and State Health Departments.
2. In August 1998, a public meeting was held by the City of Waterbury, EPA, the CT DEP and CT DPH to discuss the Calabrese portion of the site, the health implications and future plans for the area.
3. In March 1999, a fact sheet was prepared by the CT DPH summarizing the findings of the CT DEP Phase I Environmental Site Assessment. This fact sheet focused on how residents and workers at the site could reduce or prevent exposure to landfilled materials on the 30 acre site.
4. In October 1999, a fact sheet was prepared by the CT DPH summarizing the soil sampling results collected by EPA contractors in April, 1999.
5. In October 1999, a public meeting was held by the City of Waterbury, EPA, CT DEP and CT DPH to discuss the results of the EPA Site Inspection Report.
6. The fence around a portion of the Calabrese site was extended by CT DEP contractors in December 1999 to restrict access to the area of the site with elevated levels of nickel and other metals.
7. In June 2000, a public meeting was held to discuss the results of the Public Health Assessment and the proposed NPL listing by EPA.
8. A public comment period on the Public Health Assessment was announced in local papers and ran from mid-October through the end of November.

Actions Planned:

1. CT DPH will review and evaluate additional environmental sampling data collected for the site.

2. CT DPH will continue to work with the Waterbury Health Department in responding to public health concerns and questions.

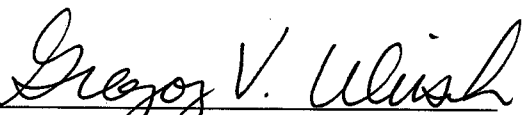
3. CT DPH will continue to work with EPA, DEP, Waterbury Health Department and the utility companies to ensure that work on utilities occurs in a manner that protects workers and local residents.

References

- [1] McDaniel, M.W. (Connecticut Department of Environmental Protection-Site Discovery and Assessment Program). 1998. Final Phase I Environmental Site Assessment Report for Scovill Industrial Landfill, Store Avenue, Waterbury, Connecticut. December, 2.
- [2] Tillman, U.J. and Jabbour, D.N. (City of Waterbury, Department of Health) 1989. Correspondence with Mr. Joseph Calabrese RE: Cease and Desist Order, March, 30.
- [3] Roy F. Weston (Superfund Technical Assessment and Response Team). 1999. Final Site Inspection Report Scovill Industrial Landfill, Waterbury, Connecticut CERCLIS No. 0002265551. December, 20.


CERTIFICATION

The Public Health Assessment for the Scovill Industrial Landfill was prepared by the Connecticut Department of Public 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 public health assessment was initiated.



Technical Project Officer, SPS, SSAB, DHAC

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



Chief, SSAB, DHAC, ATSDR

PREPARER OF HEALTH CONSULTATION

Jennifer Carnes Kertanis, MPH
Epidemiologist
Environmental Epidemiology and Occupational Health
Department of Public Health

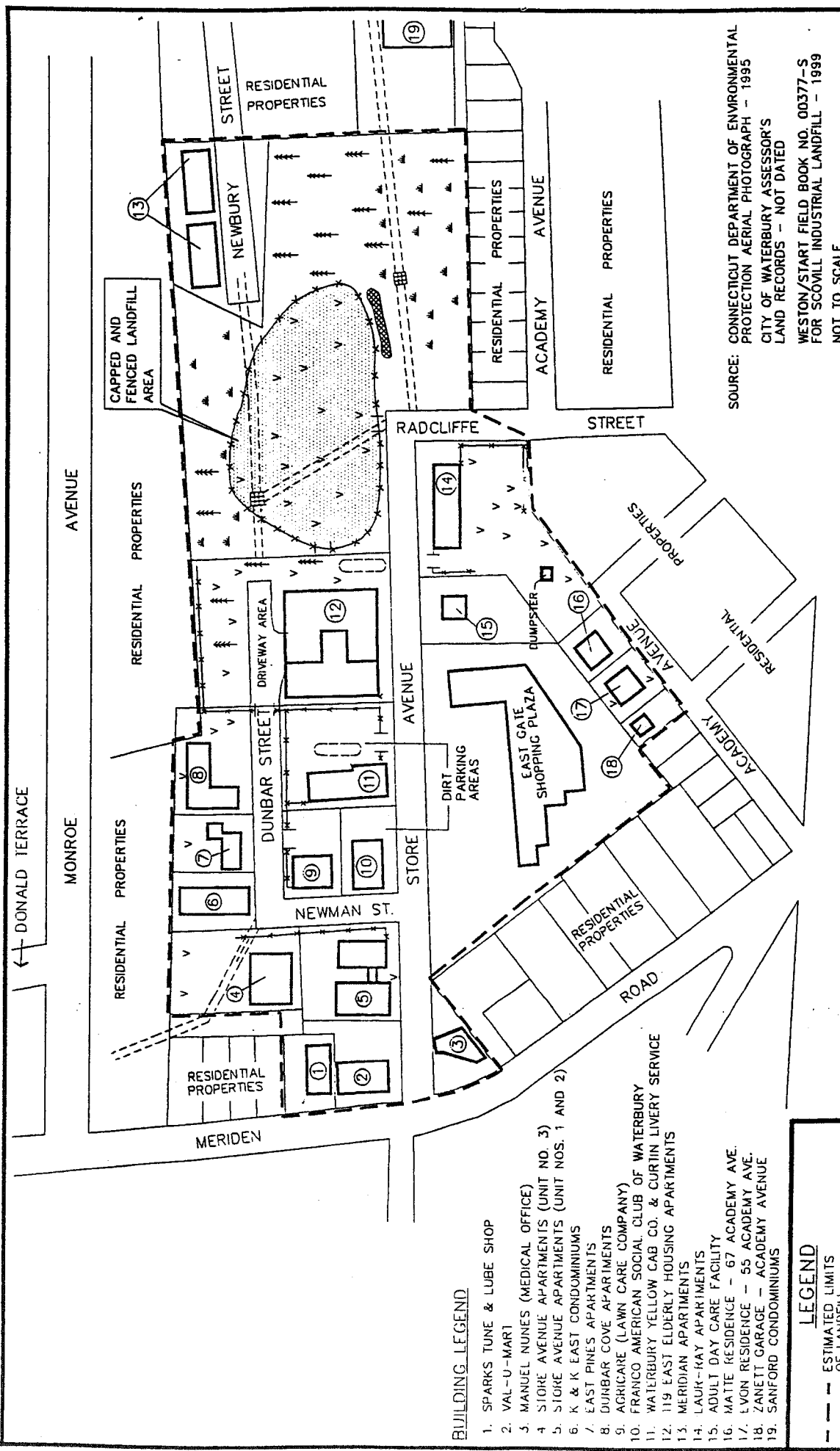
ATSDR Regional Representative:

William Sweet
EPA/New England

ATSDR Technical Project Officer:

Greg V. Ulirsch
Superfund Site Assessment Branch
Division of Health Assessment and Consultation
Agency for Toxic Substances and Disease Registry

Appendix A
Site Map



SOURCE: CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION AERIAL PHOTOGRAPH - 1995
 CITY OF WATERBURY ASSESSOR'S LAND RECORDS - NOT DATED
 WESTON/START FIELD BOOK NO. 00377-S
 FOR SCOVILL INDUSTRIAL LANDFILL - 1999
 NOT TO SCALE



WESTON[®]
 MANAGERS DESIGNERS/CONSULTANTS
 REGION I SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM

DATE: 5/21/99
 DRAWN BY: W. SHAW
 TDD #: 99-05-0096
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SITE SKETCH
 SCOVILL INDUSTRIAL LANDFILL
 STORE AVENUE
 WATERBURY, CONNECTICUT

BUILDING LEGEND

1. SPARKS TUNE & LUBE SHOP
2. VAL-U-MART
3. MANUEL NUNES (MEDICAL OFFICE)
4. STORE AVENUE APARTMENTS (UNIT NO. 3)
5. STORE AVENUE APARTMENTS (UNIT NOS. 1 AND 2)
6. K & K EAST CONDOMINIUMS
7. EAST PINES APARTMENTS
8. DUNBAR COVE APARTMENTS
9. AGRICARE (LAWN CARE COMPANY)
10. FRANCO AMERICAN SOCIAL CLUB OF WATERBURY
11. WATERBURY YELLOW CAB CO. & CURTIN LIVERY SERVICE
12. 119 EAST ELDERLY HOUSING APARTMENTS
13. MERIDIAN APARTMENTS
14. LAUR-KAY APARTMENTS
15. ADULT DAY CARE FACILITY
16. MATTIE RESIDENCE - 67 ACADEMY AVE.
17. EVON RESIDENCE - 55 ACADEMY AVE.
18. ZANETT GARAGE - ACADEMY AVENUE
19. SANFORD CONDOMINIUMS

LEGEND

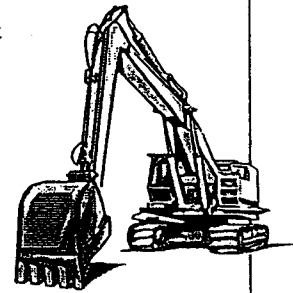
- ESTIMATED LIMITS OF LANDFILL
- ==== CULVERTED PORTION OF CARRINGTON BROOK
- - - FENCE LINE
- v GRASS
- ▣ CATCHBASIN
- ▲ WETLANDS
- ↑ WOODED AREA
- UNDERGROUND STORAGE TANK
- PROPERTY LINE
- BUILDING ID NUMBER
- TYPICAL LOT
- ▨ AREA OF STAINED SOIL

Appendix B
Site Fact Sheets

Calabrese Construction Company Site

JULY 1998

This fact sheet was developed by the CT Department of Public Health (DPH) and the Waterbury Health Department to provide information and answer questions about the Calabrese Construction site on Store Avenue.



Site Background:

The Calabrese Construction site is located at the end of Store Avenue. During the late 1980's a portion of this 7 acre site was excavated for a proposed development. As a result, landfilled materials including construction debris, capacitors and rusted drums were brought to the surface. At this time, local health authorities ordered work activities to stop in an effort to protect nearby residents and workers from being exposed to contaminants. Visible capacitors and contaminated soils were removed. However, over time waste materials re-surfaced. This area was originally part of a larger 30 acre site used by Scovill Manufacturing Company for disposing of fly ash, cinder and demolition debris.

What Hazards Were Identified On The Site?

Polychlorinated biphenyls or PCBs were found in soils and waste piles on the site. PCBs are a family of chemicals once valued for their insulating and nonflammable properties. These chemicals are very stable so they last a long time in the environment. PCBs were the result of leaking capacitors. People can be exposed to PCBs by direct contact with the skin, by eating contaminated soil, or by inhalation of contaminated dust.

Nickel plating wastes were also identified on-site. There is not enough information to say what other chemicals were present in the waste material and at what levels.

In addition to the chemical contamination, there were a lot of physical hazards on the site including open pits, tripping hazards and sharp objects.

I Live Near The Calabrese Site. Have I been Exposed And Will I Get Sick?

People who trespassed on the site may have been exposed to PCBs if they came in direct contact with contaminated soils. If you have never visited the site, it is unlikely that you have come in contact with the waste. If you did go on the site, any adverse health effects vary according to

- ⇒how long you were exposed
- ⇒how much contamination you were exposed to
- ⇒how you were exposed (skin contact, ingestion, inhalation)

Exposure to PCBs has been shown to cause increases in blood fats, increases in certain liver and kidney enzymes and chloracne, a rash similar to acne. Acute symptoms associated with exposure to PCBs are unlikely. The EPA and the federal Department of Health and Human Services have determined that PCBs probably cause cancer in humans, however, this information comes from animal studies. Studies of workers, exposed to higher levels of PCBs than expected in environmental exposures, do not provide enough information to determine if PCBs cause cancer in humans.

What Is Being Done To Clean Up The Site?

In the past, a few removals have occurred to remove the visible capacitors in waste piles. More recently, CT DEP and their consultants have removed the waste piles and back filled the holes that were on site. Waste material is still present beneath the surface. *While a 12 inch cap of sand and clean soil will prevent exposure to the contaminated waste it is important that people stay off the site to ensure that the temporary cap remains intact and exposed waste is not brought to the surface.*

In the future, the CT DEP will be investigating the boundaries of the 30 acre Scovill landfill of which the Calabrese site was a part.

Who Can I Call For More Information?

If you have questions about health issues you can call:

Jennifer Kertanis, CT DPH

860-509-7742

or

Dr. Dada Jabbour or Dr. Ulder Tillman

Waterbury Health Department

203-574-6780

If you have questions about the site clean-up you can call:

Mike McDaniel, CT DEP

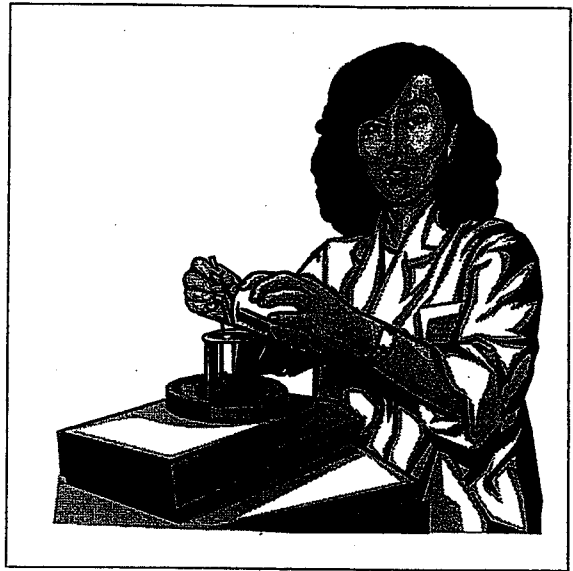
860-424-3798



SCOVILL INDUSTRIAL LANDFILL SOIL SAMPLING RESULTS

The Connecticut Department of Public Health has reviewed the environmental sampling data from the Scovill site collected by EPA contractors in April of 1999. We are currently writing a public health assessment that will provide a more detailed assessment of the public health implications of the site. This fact sheet is provided to give residents and property owners a summary of our review of the soil data and what it means to people on the site. Overall, our review indicates that under current site conditions, the levels of contamination found in surface soil (0-6 inches) do not present a health risk.

One hundred twenty-four soil samples from 55 different locations throughout the Scovill investigation area were collected and analyzed for a wide variety of chemicals including: volatile organic compounds, semi-volatile organic compounds, pesticides, polychlorinated biphenyls, metals and cyanide. Analysis was performed on samples collected from 0-6 inches and 6-24 inches.



SURFACE SOIL EVALUATION

The most commonly identified compounds above comparison values were polycyclic aromatic hydrocarbons or PAHs. Benzo(a)anthracene, benzo(b)fluoranthene and benzo(a)pyrene were the PAHs identified in the 0-6 inch soil samples. The highest concentrations detected were in the range of 2 to 2.7 parts per million (ppm), which is above the CT Residential Direct Exposure Criteria (CT soil clean up standard) of 1 ppm. However, these concentrations are not likely to cause adverse health effects. This is because the concentration of 1 ppm was set using conservative estimates about the amount of the contaminant one would ingest (200 milligrams per day (mg/day) for a child, 100 mg/day for an adult) and the length of time (365 days/year for 30 years) one would be exposed. Those types of exposure are not likely for people living or working on the Scovill site since much of the areas are grass covered or paved. In addition, these concentrations of PAHs are not very different from levels found in soils in most urban areas.

PAHs are a group of more than 100 different compounds that are formed during the incomplete combustion of coal, oil, gas, wood, garbage or other organic substances such as tobacco and charbroiled meats.

PAHs are commonly found in the air, water and soil. Some PAHs have caused cancer in laboratory animals in high dose, long term studies.

There was one surface soil sampling location that had elevated levels of nickel (1,780 ppm), chromium (12,900 ppm), copper (27,000 ppm), and lead (641 ppm). Similar concentrations of these metals were not found in any of the other surface soil samples. While these concentrations are significantly above the comparison values, this sample was in a wooded area away from the residential and commercial properties on site and it is unlikely that people would come in contact with soils in this area on a regular basis. However, it would be prudent to address this localized area in the near future.

ADDITIONAL INFORMATION

In general, soil samples collected from 6 to 24 inches below the surface were found to have higher levels of PAHs and metals. One sampling location located within the fenced Calabrese portion of the site had polychlorinated biphenyls or (PCBs) identified at 1.4 ppm, slightly above the CT Residential Direct Exposure Criteria of 1 ppm. The contamination in deeper soil is not a direct public health concern since it is not accessible. **However, residents are reminded not to dig below the surface to make sure that there is no contact with elevated levels of PAHs and metals that were identified in deeper soil samples.**

Residents living on site receive their drinking water from a public water supply. Therefore there is no risk associated with drinking contaminated water.

Some indoor air samples were collected by EPA contractors. Of those samples that were valid (one sample could not be used because it was moved during sampling) no contamination was found above levels of health concern.

IN SUMMARY:

Under current site conditions, the surface soil does not present a public health risk.

Most surface soil samples (0-6 inches) did not contain contaminants above comparison values.

The most commonly identified contaminants above comparison values were PAHs. The levels found do not present a public health threat.

Soil samples collected from deeper depths (6-24 inches) in general had higher levels of contamination.

Residents are reminded not to dig or disturb soils on the site.

If you have any questions about the sampling results and the health implications of the site, please call Jennifer Kerans, CT DPH at 860-509-7742.

March 1999

Information about the

Scovill Landfill

Waterbury, CT

This fact sheet was developed by the CT Department of Public Health and the Waterbury Health Department to provide information and answer questions about the Scovill Landfill.

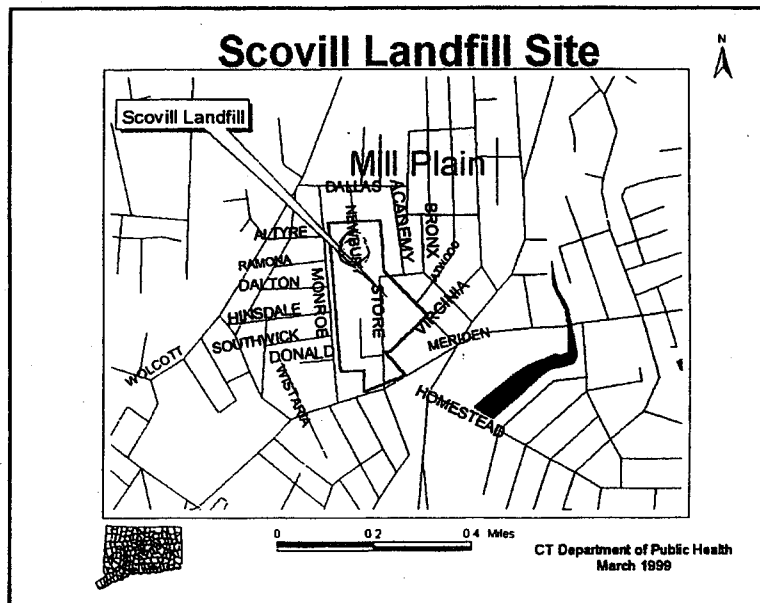
Site Background

In the fall of 1998 the Connecticut Department of Environmental Protection (CT DEP) completed a Phase I Environmental Site Assessment to determine the history of the Scovill landfill. This Assessment reviewed historical records and files for the site. CT DEP determined that a 30 acre parcel located between Monroe and Academy Avenues (See Map) was used from 1919 until approximately the mid 1970's by Scovill

Manufacturing as their ash and cinder dump. Beginning in 1941, parcels were subdivided, sold and developed.

Apartments, condominiums and commercial properties exist on approximately 23 acres of the site. Most of this area is covered with buildings, paved streets and parking lots. There are grass covered yards around some of the apartment and condominium properties.

A 7 acre parcel, referred to as the Calabrese Construction Company property was the focus of a removal, capping and fencing effort in the spring/summer of 1998. Construction activities at this site in the early 1980's caused landfilled material to be brought to the surface including leaking capacitors, construction debris and rusted drums.



Can We Be Exposed To Landfilled Materials?

- ◆ Exposure occurs when people ingest (eat), breath or have direct skin contact with a substance or waste material. At the Scovill landfill site, the most likely way in which people could be exposed is through direct contact with the landfilled material. At present, much of the material is covered either with a structure, paved road, parking lot or grass. Direct contact is therefore unlikely. While further investigation of the site moves forward, it is important that these covers be well maintained and not disturbed to prevent potential exposure.
- ◆ **It is very important that digging, gardening or other activities that might expose landfill material not occur. If you see this type of activity occurring, please contact the local health department or CT DEP (see below).**
- ◆ In the past, people who visited the Calabrese Construction site may have been exposed to PCBs if they came in direct contact with contaminated soils. Exposure to these materials can not occur now because the site has been capped and fenced.
- ◆ All businesses and residences located on the 30 acre Scovill landfill receive drinking water from a public supply, therefore there is no risk associated with drinking contaminated water.

What Are the Next Steps?

Environmental sampling will be conducted in the spring. The state and local health departments will evaluate the sampling results to determine if the levels found would present a health risk if exposure were to occur. Area residents and workers will be informed of site activities and evaluations.

For More Information:

If you have questions about health issues you can call:

Jennifer Kertanis, CT DPH

860-509-7742

or

Dr. Dada Jabbour

Waterbury Health Department

203-574-6998

If you have questions about site investigations, you can call:

Mike McDaniel, CT DEP

860-424-3798