

HEALTH CONSULTATION

Evaluation of Surface Soil Data from Short Beach Park (OU9)

RAYMARK INDUSTRIES, INCORPORATED

STRATFORD, FAIRFIELD COUNTY, CONNECTICUT

EPA FACILITY ID: CTD001186618

Prepared by:

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

The conclusions and recommendations in this health consultation 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 additional data could change the conclusions and recommendations listed in this document.

BACKGROUND

The Connecticut Department of Public Health (CT DPH) was asked by the U.S. Environmental Protection Agency (EPA) and the Stratford Health Department to evaluate surface soil sample data from Short Beach Park, located on Dorne Drive, in the southeastern part of Stratford. CT DPH was specifically asked to evaluate the soil data with respect to whether Short Beach Park surface soils present a public health hazard to adults and children using the Park for recreational activities.

Short Beach Park is a recreational area, owned by the Town of Stratford, which includes baseball, softball and soccer fields, and a nine-hole golf course. The recreational portions of Short Beach Park cover approximately 50 acres. The area now known as Short Beach Park was once a tidal wetland. Filling in this area began in the 1950s and 1960s. The Short Beach Park area was previously part of the Stratford Landfill, located directly across Dorne Drive. Historical records indicate that some of the fill placed at Short Beach Park contained waste from the former Raymark Industries facility. Raymark Industries operated in Stratford from 1919-1989 as a manufacturer of brakes, clutch parts and other friction components, primarily for the automotive industry. A system of lagoons was used to capture manufacturing wastes and as the lagoons filled, they were dredged and waste material was used on and off-site as fill materials. Short Beach Park was one of many locations in Stratford which received fill contaminated with Raymark waste. Primary chemical constituents in Raymark waste are asbestos, lead, polychlorinated biphenyls (PCBs) and copper.

The Raymark Superfund Site has been divided into nine parts (operable units) in an effort to effectively manage the various studies that have taken place throughout the site. Short Beach Park is referred to as operable unit #9 (OU9).

Between 1993 and 1994, the Connecticut Department of Environmental Protection installed a temporary cap on a portion of Short Beach Park (the soccer field area). In December 2003 and January 2004, the US Environmental Protection Agency (EPA) conducted soil sampling to (1) ensure that heavily used recreation areas for baseball, softball, soccer and golf do not contain Raymark Waste in surface, accessible soils and (2) to fully characterize OU9 in order to develop a final cleanup approach for this portion of the Raymark site.

The purpose of this health consultation is to evaluate the public health significance of surface soil samples (0-6 inches below ground surface) collected from Short Beach Park.

Environmental Contaminant Levels

Table 1 summarizes the results of the surface soil samples. Soil sampling was conducted at Short Beach Park by EPA in December 2003 and January 2004. Surface soil samples (0-6

inches below ground surface) were collected at 12 locations where screening analysis of deeper soils (0-2 feet below ground surface) indicated the presence of Raymark Waste¹. EPA did not collect a surface soil sample unless a sample at the 0-2 foot interval showed Raymark Waste. It should be noted that EPA sampled soils from the 0-2 foot depth interval at approximately 475 locations in Short Beach Park. Contaminants meeting the definition of Raymark Waste were present in only 12 of these 475 samples. CT DPH was not asked to review the entire dataset of 0-2 foot data as part of this health consultation. CT DPH was requested to focus on the surface soil data, which was available only for locations where Raymark Waste was present at depth. Figure 1 in Attachment A shows the locations of the surface soil samples and many of the soil samples collected at depth.

Overall, sample results show that in most locations where Raymark Waste is present at depth, surface soils are not contaminated. In two of the 12 locations tested, surface soils had a few contaminants present above comparison values². However, based on the available surface soil data, the exceedances of comparison values are not large and do not appear to be widespread throughout Short Beach Park..

Table 1. Summary of Surface Soil Data from Short Beach Park.(2003-2004)

Contaminant	Maximum Concentration	Comparison Value (mg/kg)	Number of Samples Exceeding Comparison Value
Copper	3740 mg/kg	2500 [^]	1 of 12
Lead	1200 mg/kg	400 [^]	2 of 12
Asbestos	24%	1% [*]	2 of 12

[^]Connecticut Residential Direct Exposure Criteria for Soil, CT Remediation Standard Regulations, 1995
^{*}Target asbestos level used to define the presence of Raymark Waste (EPA 2004).
 mg/kg-milligrams per kilogram which equals parts per million

Site Visit

On April 13, 2004, CT DPH staff participated in a site visit of Short Beach Park to observe the locations where surface soil samples were collected. The two soil samples with contaminant levels exceeding comparison values are located along the northeastern edge of the golf course. At both sample locations, there is fairly good grass cover. These sample locations are on the periphery of the golf course and not on the active "green" (see Figure 1). Therefore, frequent, direct contact with soil in these areas does not appear likely. Near one of the sample locations (SB-701), landfill debris (primarily glass), was visible in the surface soil. The area is approximately 30-40 square feet in size. This area had sparse grass cover and looks like it would be used mainly as a walkway area for golfers.

¹Raymark Waste in soil has been specifically defined as the presence of lead above 400 parts per million (ppm) and chrysotile asbestos greater than 1% and either copper above 288 ppm or polychlorinated biphenyls (PCBs) (Aroclor 1268) above 1 ppm (EPA 2004).

² Comparison values are guidelines for evaluating exposure to contaminants. When environmental concentrations of chemicals are below comparison values, we can say with relative certainty that health impacts from exposure to those levels are unlikely. When environmental concentrations exceed comparison values, exposure is examined further to determine whether the exposure could pose a health threat.

DISCUSSION

Evaluation of public health implications to adults and children

When determining the public health implications of exposure to hazardous contaminants, CT DPH considers how people might come into contact with contaminants and compares contaminant concentrations with health protective comparison values. Health-based comparison values are used as guidelines for evaluating exposures to chemicals. Comparison values are concentrations in environmental media (e.g., indoor air, soil, drinking water) that are not expected to pose adverse health risks, assuming unrestricted, long-term exposure. When contaminant levels are below comparison values, we can say with relative certainty that health impacts from exposure to those levels are unlikely. When contaminant levels exceed comparison values, it does not mean that health impacts are likely. Rather, it means that exposures should be evaluated further. In this health consultation, CT DPH used the CT Residential Direct Contact Soil Standards (CT RSRs) as comparison values. The CT RSRs were developed assuming that exposure to soil occurs 365 days per year for 30 years. For asbestos, CT DPH used the target level of 1% from the definition that was developed for Raymark Waste. As stated above, there are three contaminants (copper, lead and asbestos) present at two surface soil sample locations, at levels above comparison values.

The locations with elevated contaminant levels are located in the periphery of the golf course at Short Beach Park. People could come into direct contact with soil while they are golfing but such contact is not likely to be very frequent or intense because the locations with elevated contaminant levels are not in the active playing area of the golf course. In addition, observations made during the site visit in April indicate that grass cover in these areas is fairly good. Grass serves as a barrier to direct contact with soil. Also, it is not likely that young children would be present on the golf course on a regular and continuing basis. Children have greater potential for soil exposure than adults because children play more on the ground and in the soil and they have more hand-to-mouth contact than adults.

The amount of exposure to soil contaminants is dependent on the concentration present in the soil as well as the frequency and duration of contact with the soil. Contaminants were found in only two locations on the golf course. Levels were elevated but not significantly elevated. Contact with soil by adults is not likely to be very frequent and grass is present. CT DPH believes that based on the available data and the likely exposure scenarios, contaminants in surface soil do not pose a public health impact.

With regard to the area on the northeastern edge of the golf course (near sample location SB-701) where landfill debris was observed, this area could present a safety hazard because of the presence of glass in surface soils and the lack of good grass cover.

CONCLUSIONS

Surface soil sampling was conducted by EPA in Short Beach Park, in locations where Raymark Waste was found beneath the ground surface. In two locations along the northeastern side of the golf course, surface soils have relatively small elevations of lead, copper and asbestos. Children are not likely to be present in these areas and adults playing golf are not likely to come into

contact with soil on a regular and continuing basis. Exposures that may occur are not enough to present a public health threat. However, the small area where landfill debris is visible could present a safety hazard because of the presence of glass.

Sampling from recreational areas of Short Beach Park where children would be present on a regular basis (baseball and soccer fields) indicate that Raymark Waste is not present in surface soils. No restrictions are considered necessary for these areas.

ATSDR has a categorization scheme whereby the level of public health hazard at a site is assigned to one of five conclusion categories. CT DPH has determined that surface soils at Short Beach Park present "No Apparent Public Health Hazard".

RECOMMENDATIONS AND PUBLIC HEALTH ACTION PLAN

CT DPH recommends that when the complete dataset is available from soil samples collected at depth, it should be reviewed to determine whether contaminants are present at elevated levels that could pose a health concern.

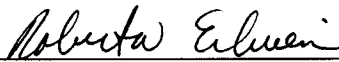
CT DPH recommends that the small area with exposed landfill debris be cleaned up or covered to eliminate the safety hazard.

REFERENCES

EPA 2004. Preliminary Draft Final Remedial Investigation, revision 1, Raymark - OU6-Additional Properties, Stratford, CT. Prepared for US Environmental Protection Agency by Tetra Tech NUS, Inc. January 2004.

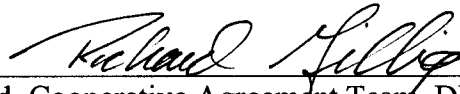
CERTIFICATION

The Health Consultation for Evaluation of Surface Soil Data from Short Beach Park, Stratford, Connecticut 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 health consultation was initiated.



Technical Project Officer, CAT, SSAB, DHAC

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



for _____
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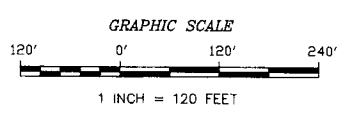
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Attachment A

Figure 1 - Sample location map of Short Beach Park



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TITLE:
 SHORT BEACH PARK
 RAYMARK INDUSTRIES, INC.
 STRATFORD, CONNECTICUT

SOURCE:

SCALE: 1" = 120'
DATE: MARCH 22, 2004
PROJ. NO.: 1369

DRAWING NO.: X-X
ACFILE NAME: DWG\1369\0140\SAMP.DWG
REV: 0



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- = surface soil sample with elevated contaminant level
- = surface soil sample