Appendix D

Evaluation of Surface Soil Data from Short Beach Park (OU9)
Prepared by Connecticut Department of Public Health

Health Consultation

FEB 17 2005

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RAYMARK INDUSTRIES, INCORPORATED

STRATFORD, FAIRFIELD COUNTY, CONNECTICUT

EPA FACILITY ID: CTD001186618

JUNE 29, 2004

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

HEALTH CONSULTATION

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RAYMARK INDUSTRIES, INCORPORATED

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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

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

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.

Roberta Erlwein

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.

Richard Gillig

for Lead, Cooperative Agreement Team, DHAC, ATSDR

PREPARER OF HEALTH CONSULTATION

Margaret L. Harvey, MPH
Epidemiologist
Environmental Epidemiology and Occupational Health
Connecticut 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

Attachment A

Figure 1 - Sample location map of Short Beach Park

GRAPHIC SCALE

120' 0' 120' 240'

1 INCH = 120 FEET

DRAWN BY: D.W. MACDOUGALL	TITLE: SHORT BEACH PARK RAYMARK INDUSTRIES, INC. STRATFORD, CONNECTICUT
PREPARED BY: D. CHISHOLM	
CHECKED BY: H. FORD	
	SOURCE:
	SCALE: 1" = 120' / DATE: MARCH 22, 2004 / PROJ. NO: 1369
PROJECT MANAGER: H. FORD	DRAWING NO: X-X / ACFILE NAME: DWG\1369\0140\SAMP.DWG / REV: 0
PROGRAM MANAGER: G. GARDNER	

TETRA TECH NU

55 JONSPIN ROAD
WILMINGTON, MASSACHUSETTS 0
(978)658-7899

= surface soil sample with elevated contaminant level

= surface soil sample

Appendix E-1

Site Diagram and Description

APPENDIX E-1

Short Beach Park and Stratford Landfill areas were divided based on current use of the property as shown on Figure E-1 and described as follows:

- Area I. This is the golf course area. Samples were collected based on a 200 foot grid. This grid dimension was based on historical records of waste disposal, knowledge that the area was covered during construction of the golf course, relatively limited physical changes such as digging and the large size of the area to be sampled. The grid was deviated from when physical features such as roads and ponds were encountered. As samples indicated Raymark waste, a closer grid spacing of 100, 50, or 25 feet was utilized.

- Area II. This includes the softball and baseball playing fields. Samples were collected based on a 50-foot grid. This grid dimension was based on historical records indicating the actual presence of "Raymark-like" contaminants during the installation of lights and bleachers and the frequent use of this area by children.

- Area III. This is located in the middle of the property where the soccer fields are located, not directly next to Dorne Drive. Samples were collected based on a 100 foot grid. This grid dimension was selected based on historical information indicating "Raymark-like" contaminants and the somewhat frequent use of this area by children. As samples indicated Raymark waste, a closer grid spacing of 50 and 25 feet was utilized.

- Area IV. This area is located directly along Dorne Drive under the geotextile cap. Samples were collected based on a 50-foot grid. This dimension was based on the knowledge that this area was the final dumping area for Raymark waste. Most sampling was along the edges to establish the boundaries of the geotextile cap. Once the cap "edge" was determined, additional sampling was limited.

- Area V. This area includes Dorne Drive, the southern side of Stratford Landfill, and the current parking around the Recreation Building. Samples were collected on a 100-foot grid based on historic knowledge of where Raymark waste was dumped and the fact that much of the area was covered by pavement.

- Area VI. This area is located on top of Stratford Landfill along the northwestern corner. This area was the final disposal area for Raymark wastes removed the Fourth Avenue removal action. No sample grid was established for this area with samples being taken throughout the area based primarily on equipment access.

- Area VII. This area is the remainder of the Stratford Landfill. No sample grid was established and sampling took place based primarily on equipment access. Samples were taken vertically through the Landfill to ascertain the extent of the Raymark waste.

LEGEND

- AREA I
- AREA II
- AREA III
- AREA IV
- AREA V
- AREA VI (10 SAMPLES)
- AREA VII (50 SAMPLES)

NOTE:

1. ALL LOCATIONS ARE TO BE CONSIDERED APPROXIMATE.
2. PLAN NOT FOR DESIGN.
3. ALL FILL AREAS ARE APPROXIMATE BASED ON HISTORIC AERIAL IMAGES FROM TOWN OF STRATFORD, CONNECTICUT

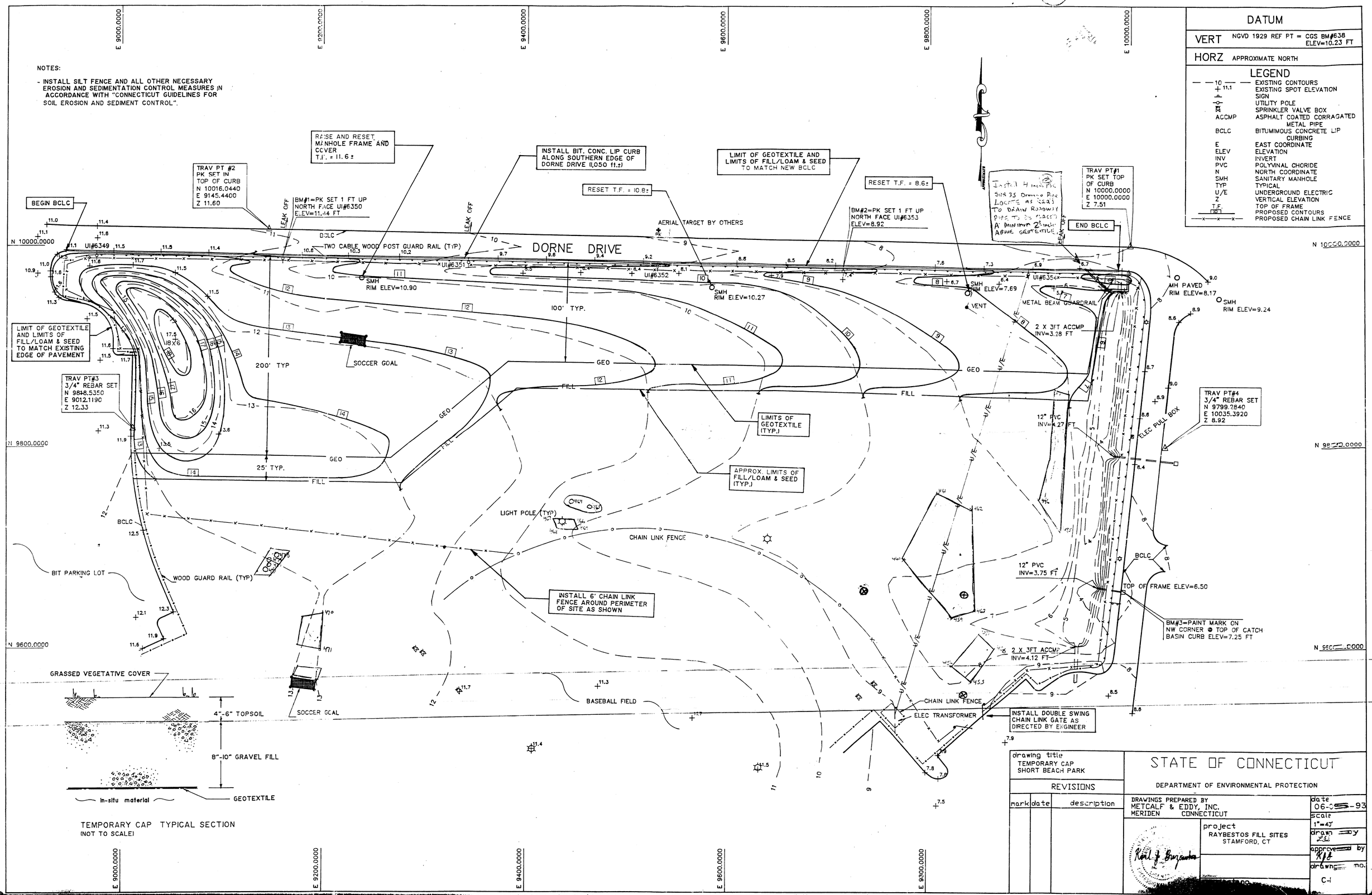
GRAPHIC SCALE

0' 300' 600'

OU9 STUDY AREA		FIGURE E-1	
SHORT BEACH PARK AND STRATFORD/BRIDGEPORT LANDFILL		TETRA TECH NUS, INC.	
RAYMARK – OU9 – STRATFORD, CT			
DRAWN BY: D.W. MACDOUGALL	REV.: 0	55 Jonspin Road Wilmington, MA 01887 (978)658-7899	
CHECKED BY: L. SEYDEWITZ	DATE: APRIL 2005		
SCALE: AS NOTED	FILE NO.: DWG\1369\0900\FIG_E-1.DWG		

Appendix E-2

As-built Cap Drawing

NOTES:

- INSTALL SILT FENCE AND ALL OTHER NECESSARY EROSION AND SEDIMENTATION CONTROL MEASURES IN ACCORDANCE WITH "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL".