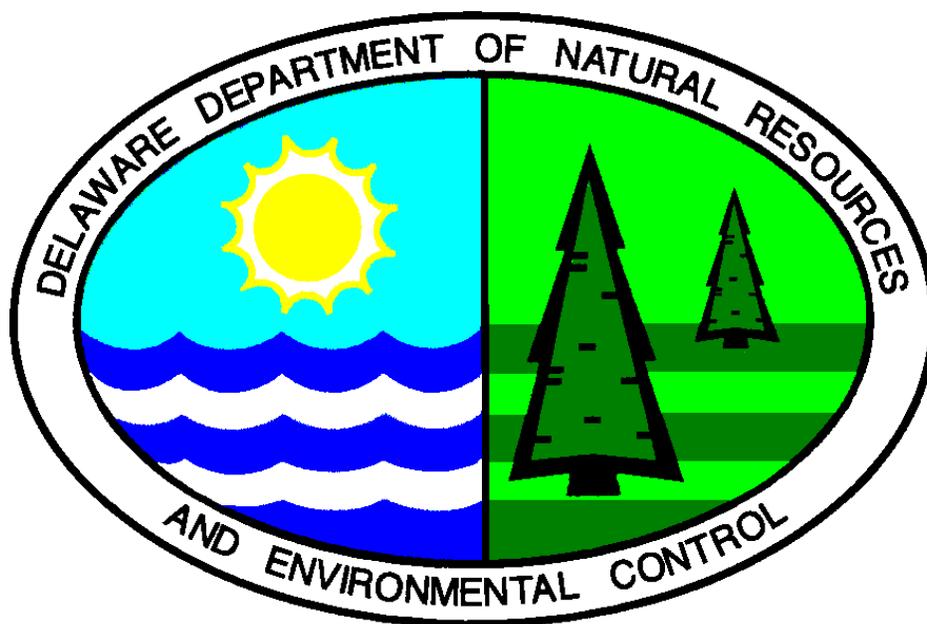


Final Plan of Remedial Action

**Speakman Property
303 East 30 Street
Wilmington, Delaware**

DNREC Project No. DE-1060



May, 1999

**Department of Natural Resources and Environmental Control
Division of Air and Waste Management
Site Investigation and Restoration Branch**

Table of Contents

1 Introduction..... 2
2 Site Description and Previous Investigations 2
3 Investigation Results 3
4 Remedial Action Objectives 4
5 Proposed Remedial Action Plan And Public Participation 4
6 Final Plan..... 4
7 Declaration..... 4

1 INTRODUCTION

The Speakman Company (Speakman) property is located at 303 East 30th Street, Wilmington, Delaware.

Speakman has been in operation since the early 1900's for the manufacture of brass castings and the operation of a foundry. The foundry and associated property were sold to Precision Casting, Inc. (PCI) in 1980. PCI operated the foundry for approximately two years before going out of business. During that time, PCI placed spent foundry sand on the Speakman property. Speakman covered the spent foundry sand with clean fill.

Speakman reacquired the foundry operations and property in 1984. In 1994, as part of a routine and voluntary environmental audit, Speakman tested the foundry sand and determined that it leached lead in the Toxicity Characteristic Leaching Procedure (TCLP) at concentrations above the EPA hazardous waste limit (40 CFR 261). Based on the results of the initial testing, Speakman voluntarily approached the Department of Natural Resources and Environmental Control (DNREC), and entered into a DNREC Voluntary Cleanup Program Agreement (VCP). Through the VCP Agreement dated January 1997, Speakman agreed to conduct a Remedial Investigation and Feasibility Study (RI/FS) consistent with a DNREC-approved work plan drafted by their consultant. The portion of the property subject to the terms of the VCP Agreement encompasses approximately one acre, located on the east side of the foundry building along 30th Street where foundry sand was placed.

This document is the DNREC's Final Plan of Remedial Action for the Property issued under the provision of the Delaware Hazardous Substance Cleanup Act ("HSCA") and the Regulations Governing Hazardous Substance Cleanup (the "Regulations"). It follows the Proposed Plan of Remedial Action, which was presented to the public on March 5, 1999. The Proposed Plan summarized the DNREC's assessment of the risk to public health and the environment posed by the Site and a comparison of the remedial alternatives. It also included information on the background and history of the property, the results of the previous investigations, and the remedial action objectives.

The DNREC provided public notice and a 20-day public comment period on the Proposed Plan in accordance with Section 12 of the Regulations. No comments were received during this period. The DNREC therefore issues this Final Plan of Remedial Action designating the selected Remedial Action. The Proposed Plan and the Final Plan will constitute the "Remedial Decision Record".

2 SITE DESCRIPTION AND PREVIOUS INVESTIGATIONS

The Speakman Company foundry (Speakman) is located along East 30th Street, north of Heald Street, in Wilmington. Land use near the foundry sand area on the west side of 30th Street is industrial. A park and a cemetery are adjacent to other areas of the property. The nearest residence is within a quarter mile of the site toward the west, northwest, and southeast.

A Preliminary Investigation was conducted in November 1994 to characterize and delineate the foundry waste. The investigation indicated that the lead-impacted foundry sand failed in the Toxicity Characteristic Leaching Procedure (TCLP) at concentrations above the EPA hazardous waste limit of 5.0 mg/l.

Subsequently, Speakman performed a Remedial Investigation/Feasibility Study (RI/FS). The objectives of the RI were to collect data to define the extent and volume of the foundry waste. The FS was to provide potential remedial alternatives based on cost-effectiveness to assess their ability to mitigate potential risks associated with the foundry sand. The field program involved retrieving soil samples from test pit excavations and subsequently having the samples analyzed for chemicals of concern in a DNREC approved laboratory. Test pit excavations determined the approximate volume of foundry sand. Samples were collected for laboratory analysis to determine total lead concentration and TCLP levels. In addition, two samples were collected for analysis of Total Compound List (TCL) and Total Analyte List (TAL). Analytical results were compared to the DNREC's screening levels for industrial surface soils.

3 INVESTIGATION RESULTS

Analytical results of samples collected from test pit excavations within the foundry sand area indicated that lead was the only compound that exceeded the industrial surface soil reporting level of 1,000 mg/Kg. The highest detected concentration was 1,260 mg/Kg. A clay layer was identified at the site from test pit activities and was found to be laterally extensive beneath the foundry sand material. The clay layer was sampled; indicating that the DNREC's screening level was not exceeded. Groundwater was not encountered beneath the lead-impacted material.

Interim action removal was conducted with the DNREC-SIRB's approval and oversight. Treatment of the lead-impacted material involved applying a patented buffered phosphate chemical blend. Small stockpiles of excavated foundry sand were treated with the stabilizing chemicals inhibiting the lead from leaching. Attainment of the remedy was demonstrated through performance standards and confirmation sampling. Post-stabilization sampling and analysis involved TCLP analytical methods to assess whether lead leaches at or above the EPA standard of five parts per million (PPM). Confirmation samples were analyzed for total lead concentration to verify complete removal of foundry sand in the lateral and vertical extent within the foundry sand area.

The Remedial Action Summary Report (November 1998) provided verification that the lead-impacted material was rendered non-hazardous through treatment and stabilization. Subsequently, all treated and stabilized material was removed, achieving a residential cleanup level below 400 mg/Kg for lead at the site. The stabilized material was properly disposed of at a non-hazardous waste landfill.

4 REMEDIAL ACTION OBJECTIVES

According to HSCA Regulation 8.4(1), Remedial Action objectives must be established for all Plans of Remedial Action. Remedial Action is evaluated based on the following considerations:

- Current and proposed land use;
- Applicable local, state, and federal laws and regulations; and
- Facility specific risk assessment.

The property is currently zoned industrial. The foundry sand area is currently an unused vegetated parcel. Anticipated future use of this parcel would remain industrial.

The qualitative remedial action objectives are to mitigate potential risks due to direct contact with foundry sand and risk to the environment. The quantitative objectives are to mitigate risks due to lead-impacted material with total concentrations of lead above 1,000 mg/Kg and TCLP concentration level of 5.0 mg/l and above.

5 PROPOSED REMEDIAL ACTION PLAN AND PUBLIC PARTICIPATION

On the basis of the Remedial Investigation results and Feasibility Study, an Interim Remedial Action was performed in order to accomplish the Remedial Action objectives. Consequently, no further action is proposed.

The Interim Remedial Action satisfies the objectives by mitigating potential risks due to direct contact with the lead-impacted material and risk to the environment. The removal of the foundry sand and lead-impacted material achieved a cleanup level not exceeding quantitative objectives for residential land use and mitigates risk to human health and the environment.

The Department of Natural Resources and Environmental Control provided public notice of its Proposed Plan of Remedial Action for the Site in the News Journal on March 5, 1999. During the comment period, the Department received no comments on the Proposed Plan.

6 FINAL PLAN

The Department adopts the Proposed Plan as the Final Plan of Remedial Action. The DNREC-SIRB requires no further action at this Site.

7 DECLARATION

This Final Plan of Remedial Action for the Speakman Property is protective of human health, welfare, and the environment and is consistent with the requirements of the Delaware Hazardous Substance Cleanup Act.

William W. Hill, Acting Director
Division of Air and Waste Management
Department of Natural Resources and
Environmental Control

ZEH:hlb
zeh99032.doc
DE-1060 B8