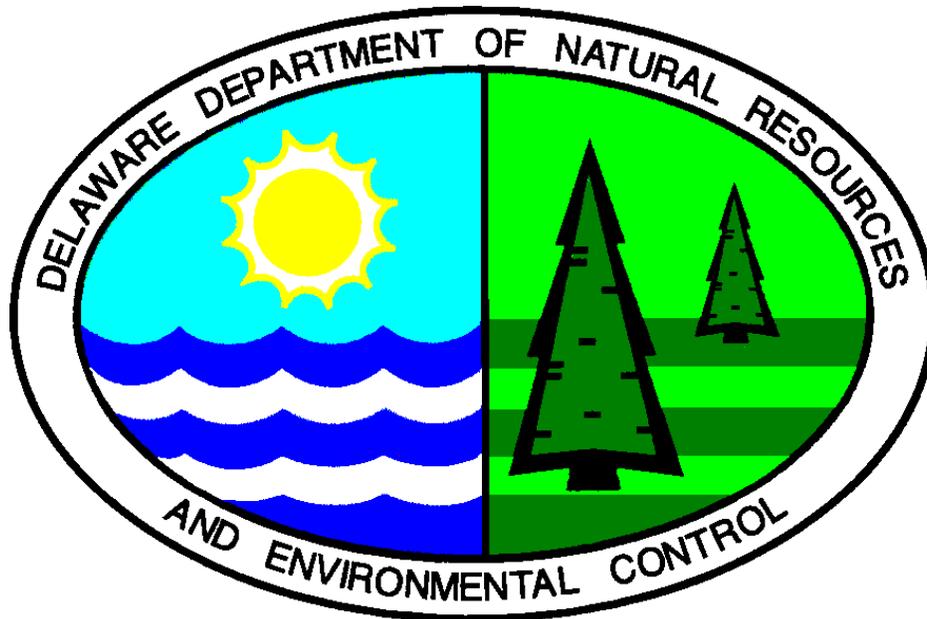


# Proposed Plan of Remedial Action

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

**DNREC Project No. DE-1060**



**February, 1999**

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

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## 1 INTRODUCTION

The Speakman Company (Speakman) property is located at 303 East 30 Street, Wilmington, Delaware. The portion of the property subject to the Delaware Regulations Governing Hazardous Substance Cleanup encompasses approximately one acre, located on the east side of the foundry building along 30<sup>th</sup> Street where foundry sand was placed.

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 1994, Speakman agreed to conduct a Remedial Investigation and Feasibility Study (RI/FS) consistent with a DNREC-approved work plan drafted by their consultant.

Under the terms of the Agreement, Speakman contracted with Cummings/Ritter Consultants, Inc., (Cummings/Ritter), a DNREC-approved consultant for performing a Remedial Investigation. On April 6, 1998, Cummings/Ritter submitted a "Voluntary Cleanup Program Investigation Summary and Remedial Alternative Evaluation Report" that outlined the areas of the site impacted by lead-bearing foundry sand, and identified stabilization as the proposed remedial alternative. On May 27, 1998, the DNREC-Site Investigation and Restoration Branch (SIRB) approved the use of stabilization as a remedial alternative, and suggested the use of stabilization combined with off-site disposal of the treated material in a Subtitle D approved landfill.

Speakman retained RMT, Inc. to proceed with stabilizing the foundry sand and lead-impacted soil using its Metals Treatment Technology, combined with off-site disposal at a Subtitle D landfill. The stabilization and removal of the waste material was conducted as an interim response activity, with DNREC approval and oversight, in order to minimize risk to the public health, welfare, and the environment.

The environmental and regulatory concerns relating to the foundry sand and lead-impacted soil include risks from direct contact with the affected soil and from potential leaching of the lead into local groundwater systems. Additionally, soil containing TCLP-lead concentrations above 5.0 mg/l could be a characteristically hazardous waste.

The purposes of the RI/FS Study were to: 1) characterize the nature and extent of contamination of the site, 2) evaluate risks to the public and environment associated with identified contamination, and 3) recommend remedial action. The owners of the property desired to obtain a Certificate of Completion of Remedy from DNREC upon completion of all required tasks.

This document is the DNREC's Proposed Plan of Remedial Action for the site. It is based on the results of previous investigations performed at the site. This Proposed Plan is issued under the provisions of the Delaware Hazardous Substance Cleanup Act ("HSCA") and the Regulations Governing Hazardous Substance Cleanup. It presents the Department's assessment of the potential health and environmental risk posed by the site.

Section 2 presents a summary of the site description, and previous investigations of the site. Section 3 provides a description of the remedial investigation results. Section 4 presents a discussion of the remedial action objectives. Section 5 presents an analysis of the completed remedial action, and rationale for performing no further action. Section 6 discusses public participation requirements.

The DNREC will provide public notice and opportunity to comment on the Proposed Plan in accordance with Section 12 of the Regulations. At the conclusion of the comment period, the DNREC, after review and consideration of the comments received, shall issue a Final Plan of Remedial Action designating the remedial action. The Proposed Plan, the comments received from the public, responses to the comments, 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 30<sup>th</sup> Street, north of Heald Street, in Wilmington. Land use near the foundry sand area on the west side of 30<sup>th</sup> 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 results indicated that the foundry sand leached lead in the Toxicity Characteristic Leaching Procedure (TCLP) at concentrations above the EPA hazardous waste limit of 5.0 mg/l.

Subsequently, Speakman entered into a Voluntary Cleanup Program (VCP) Agreement with the Department of Natural Resources and Environmental Control, Site Investigation and Restoration Branch (DNREC-SIRB) and 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). (Please see Table 1 for that analytes that make up the TAL/TCL.) Analytical results were compared to the DNREC's screening levels for industrial surface soils.

Based on the Remedial Investigation results, the Remedial Action proposed for this site was stabilization and excavation of the lead-impacted material. The Remedial Action Workplan (August 1998) was approved by the DNREC for on-site treatment of the lead-impacted material and subsequent off-site disposal at a Subtitle D landfill.

### **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. The clay layer, laterally extensive beneath the foundry sand material, 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 Subtitle D 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**

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. Subsequently, 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.

## **6 PUBLIC PARTICIPATION**

The Department of Natural Resources and Environmental Control solicits public comments or suggestions on the Proposed Plan and welcomes opportunities to answer questions. Please direct written comments to:

DNREC Site Investigation and Restoration Branch  
Attn: Zsolt E. Haverland  
391 Lukens Drive  
New Castle, DE 19720

The comment period begins \_\_\_\_\_ and ends \_\_\_\_\_.  
Comments and/or requests for a public hearing may be submitted, in writing, to Zsolt E. Haverland by the close of business (4:30 p.m.) on \_\_\_\_\_ at the above address.