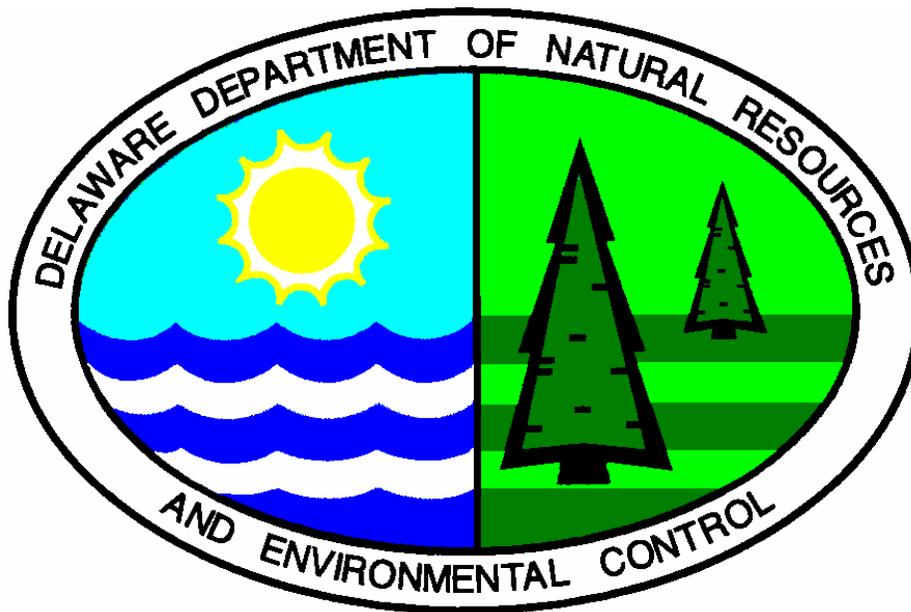


PROPOSED PLAN OF REMEDIAL ACTION

**Cobra Machine Site
Wilmington, Delaware**

DNREC Project DE-1181



December 2003

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

TABLE OF CONTENTS

1.0	INTRODUCTION	1
2.0	SITE DESCRIPTION AND HISTORY	2
2.1	SITE DESCRIPTION	2
2.2	SITE OPERATION HISTORY	2
2.3	SITE INVESTIGATION HISTORY	2
3.0	INVESTIGATION RESULTS	3
3.1	SOIL.....	3
3.2	GROUNDWATER	3
3.3	RISK EVALUATION	4
4.0	REMEDIAL ACTION OBJECTIVES	4
5.0	PROPOSED PLAN OF REMEDIAL ACTION	4
6.0	PUBLIC PARTICIPATION	5

LIST OF FIGURES

FIGURE 1	SITE LOCATION TOPOGRAPHIC MAP.....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 2:	SOIL AND GROUNDWATER SAMPLING LOCATIONS (2003).....	8

ATTACHMENTS

Attachment A. Risk Calculation for the site

1.0 INTRODUCTION

The Cobra Machine and Fabrication property (site) is located at 2 James Court, Wilmington, New Castle County, Delaware (Figure 1). The current owner, SanCo Construction Company, Inc., purchased the property from Mr. Reginald Jefferson, owner of Cobra Machine and Fabrication (Cobra) in August 2003. SanCo Construction (SanCo) contacted the Department of Natural Resources and Environmental Control (DNREC or Department) prior to purchase of the property and is in the process of entering into a Prospective Purchaser Agreement.

DNREC requested that Cobra perform a remedial investigation (RI) at the site based on the findings of previous environmental investigations that showed a release of a hazardous substance occurred while Cobra owned the property. Cobra negotiated with SanCo, the prospective purchaser of the property, to perform the RI. Duffield Associates, Inc. (Duffield) was retained by SanCo to conduct the RI at the site. An underground waste oil tank and soil adjacent to the tank were removed from the site by J&M Associates a contractor hired by Cobra. After reviewing the data, the DNREC-Tank Management Branch (TMB) issued a no further action letter for the tank removal.

The purpose of the RI was to: 1) collect additional information from the site and combine it with information from previous environmental investigations, 2) determine the nature and extent of any soil and/or groundwater contamination at the site, 3) evaluate risks to public health, welfare and the environment associated with any identified releases of hazardous substances, and 4) evaluate whether a remedial action was required at the site. The RI report was completed on August 2003. SanCo desires to obtain a Certification of Completion of Remedy (COCR) from DNREC upon completion of all required tasks.

This document is the Department's proposed plan of remedial action (proposed plan) for the site. It is based on the results of the RI, the tank removal and the previous investigations performed at the site. This proposed plan is issued under the provisions of the Delaware Hazardous Substances Cleanup Act, 7 Del. C Chapter 91 (HSCA) and the Regulations Governing Hazardous Substance Cleanup (Regulations). It presents the Department's assessment of the potential health and environmental risks posed by the site.

As described in Section 12 of the Regulations, DNREC will provide notice to the public and an opportunity for the public to comment on the proposed plan. At the comment period's conclusion, DNREC will review and consider all the comments received and issue a final plan of remedial action (final plan). The final plan shall designate the selected remedy, if required, for the site. All investigations and removal actions of the site, the proposed plan, and the comments received from the public, DNREC's responses to those comments, and the final plan will constitute the Remedial Decision Record for the site.

Section 2 presents a summary of the site description, site history and previous investigations of the site. Section 3 provides a description of the remedial investigation results. Section 4 presents a discussion of the remedial objectives. Section 5 presents the proposed plan of remedial action. Section 6 discusses public participation requirements.

2.0 SITE DESCRIPTION AND HISTORY

2.1 Site Description

The Cobra site covers an area of approximately 1.75-acres in south Wilmington, Delaware and is bounded by the street James Court to the north. The site is described on the tax maps of New Castle County, as tax parcel numbers 26-056.00001, 10-0010.0059 and 10-0010.0060. The site is fenced with restricted access and is zoned for commercial use. The major portion of the site is covered with two buildings and pavement. The remaining area to the west and south are open grass covered areas. Properties in the surrounding area are also being used for commercial purposes.

2.2 Site Operation History

Cobra, formerly known as Erectic, was a light industrial, specialty machine shop involved in cutting, milling, grinding and welding of metals. The operations included the use of cutting oil and solvent degreasing. Solvent degreasing was conducted in a small contained (unheated) degreaser. Spent solvent was recycled by Safety Clean. Metal cuttings were collected into a drum for recycling. The current owner, SanCo purchased the site in August 2003 and intends to use the property as a paved storage yard.

2.3 Site Investigation History

The site was investigated by DNREC-SIRB in July 1995 as a part of the south Wilmington Environmental Assessment. Releases of hazardous substances were detected at the site during the environmental assessment. In July 1996 this site along with other south Wilmington sites was included in a three year amnesty program for sites that did not pose an imminent and substantial threat to human health and the environment. A notice of liability was sent to the owners in November 1999 and the owners were encouraged to enter the Voluntary Cleanup Program (VCP). One 8,000 gallon diesel underground storage tank (UST), one 10,000 gallon gasoline UST, and a dispenser island were removed from the site in June 1996. Benzene, toluene, ethylbenzene and xylene (BTEX) were not detected in soils however total petroleum hydrocarbons (TPH) were detected at concentrations that exceeded action levels. Further investigation was requested by DNREC-TMB branch. A limited investigation was performed and soil and groundwater samples were collected near the former UST and the dispenser island. After reviewing the investigation results, DNREC-TMB issued a no further action letter for the area of the former UST in November 1996.

In February 2001, the DNREC-Site Investigation and Restoration Branch (SIRB) received a work plan for a Remedial Investigation (RI) which was prepared by Environmental Alliance and submitted on behalf of Cobra. The work plan indicated that Cobra Machine wanted to enter the VCP to conduct an investigation. In April 2001, DNREC-SIRB sent comments on the work plan requiring revisions and again attempted to get the owners to join the Voluntary Cleanup Program. Cobra negotiated with several prospective purchasers and DNREC-SIRB met with these groups and provided them site information and informed them of the VCP. Duffield, the consultant for SanCo a prospective purchaser of the property, submitted a work plan on May 2003 to perform the RI.

On May 23, 2003, Duffield conducted a RI and sampled soil and groundwater at the site. The sampling locations are shown on Figure 2. The RI report for the site was completed in August 2003. A waste oil UST was removed from the site in July 2003 as required by DNREC. Soil from the UST area was excavated and samples were collected. After reviewing the data, DNREC TMB issued a no further action letter for the UST area.

3.0 INVESTIGATION RESULTS

Results of the environmental investigations performed at the site are summarized below. Detailed discussion of the sampling results is included in the RI Report, dated August 2003, prepared by Duffield.

3.1 Soil

The major portion of the site is covered with pavement except for narrow grass covered areas to the west and south. Generally, the site subsurface materials consist of miscellaneous fill with varying soil textures including sands, silts, and clays that have been mixed with concrete, slag, wood, bricks and bituminous paving to depths as great as 6.8 feet below grade. Apparent undisturbed soils consisting primarily of gray silts and fine silty sand with varying amounts of vegetation underly the fill. These soils are consistent with marsh sediments. Apparently, the fill material was imported to the site to raise ground surface elevations and to allow construction in the previously marshy environment. The marsh deposit extends to the at least a depth of 10 feet below grade at the site. Groundwater was observed in the fill from 3.5 feet to 6.8 feet below grade. Soil samples were collected between 0 and 2 feet below grade with subsurface soil samples collected below 2 feet and above the top of the water table.

Soil samples were screened by DNREC- SIRB's laboratory for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs) and inorganics. Soil sampling results indicated that only certain metals such as arsenic, manganese, and iron exceeded their respective Delaware Uniform Risk-based standard (URS) concentrations for unrestricted use (i.e., residential). The Reasonable Maximum Exposure (RME) concentrations of iron measured as the 95% of the Upper Confidence Level (UCL) of the arithmetic mean and concentration of 3.88 mg/kg for arsenic are within the range of typical natural background concentrations for Delaware soils. However, the RME concentration for manganese is above the natural background concentration for Delaware soil. Benzo(a)pyrene was detected at the RME concentration of 0.62 mg/kg which is above the unrestricted use URS value of 0.09 mg/kg. No VOC, pesticides, or PCBs were detected.

Soil excavated from the waste oil UST area showed Diesel Range Organics (DRO) concentrations above DNREC-TMB action levels. Benzo(a)pyrene was detected at a concentration of 2.4 mg/Kg, which is above the URS value. However, the soil from the UST area was excavated and disposed offsite. DNREC-TMB issued a no further action letter after reviewing the post-excavation results.

2.1 Groundwater

Groundwater samples were analyzed for VOCs, SVOCs, and metals. Manganese was the only contaminant detected in groundwater above the federal secondary maximum contaminant level (SMCL) for drinking water which is based on aesthetic qualities of the water such as taste and odor and does not present a risk to human health or environment.

3.3 Risk Evaluation

DNREC's Site-Specific Standard Calculator for Multiple Analytes was used to evaluate risk associated with exposure to soil and groundwater at the site. A preliminary risk calculated for exposure to contaminants found in soil including manganese and benzo(a)pyrene as contaminants of concern showed a carcinogenic risk 7.13×10^{-6} and a non-carcinogenic risk of Hazard Index (H.I) of 0.10 respectfully based on an unrestricted land use scenario. Manganese detected in groundwater showed a non-carcinogenic risk of H.I of 0.33. These risk levels are below DNREC's cleanup level of 1×10^{-5} for carcinogenic risk and H.I. of 1.0 for non-carcinogenic risk (Attachment A).

4.0 REMEDIAL ACTION OBJECTIVES

According to Section 8.4(1) of the Regulations, site specific remedial action objectives (RAOs) must be established for all plans of remedial action. The Regulations provide that DNREC will set objectives for land use, resource use, and cleanup levels that are protective of human health and the environment.

Qualitative objectives describe, in general terms, what the ultimate result of the remedial action, if necessary, should be. The following qualitative objectives are determined to be appropriate for the site:

- Prevent human residential exposure to impacted soil; and
- Prevent human exposure to impacted groundwater.

These objectives are consistent with the current commercial use of the site for storage of construction equipment, New Castle County zoning policies, and state regulations governing water supply, and worker health and safety.

Quantitative objectives define specific levels of remedial action to achieve protection of human health and the environment. Based on the qualitative objectives, the quantitative objectives are:

- Prevent human exposure to impacted soil and groundwater that would result in a carcinogenic risk exceeding 1×10^{-5} or a non-carcinogenic risk exceeding hazard index of 1.0.

5.0 PROPOSED PLAN OF REMEDIAL ACTION

Based on DNREC's evaluation of the site information and the above remedial action objectives, the recommended action for the site will include the following:

Since the risk evaluation performed based on the results of the remedial investigation and the removal of a waste oil tank and associated soil indicate that the remedial objectives for the site have been met, DNREC recommends that no further action is required at this site.

6.0 PUBLIC PARTICIPATION

The Department actively solicits public comments or suggestions on the proposed plan of remedial action and welcomes opportunities to answer questions. Please direct written comments to:

Department of Natural Resources and Environmental Control
Site Investigation and Restoration Branch
391 Lukens Drive
New Castle, Delaware 19720
Attn: Qazi Salahuddin

The public comment period for this proposed plan begins on (Date), and ends at the close of business (4:30 p.m.) (Date). If so requested, a public hearing will be held on the proposed plan. The meeting time and place will be announced if said hearing is requested.

QS/rm
QS04007.doc
DE 1181 II B8

John Blevins, Director

Date



WILMINGTON
DELAWARE
December, 2003



Figure 1
Location of
COBRA MACHINE
AND
FABRICATION SITE

Figure 1: Soil and Groundwater Sampling Locations (2003)

Attachment A. Risk Calculation for the site