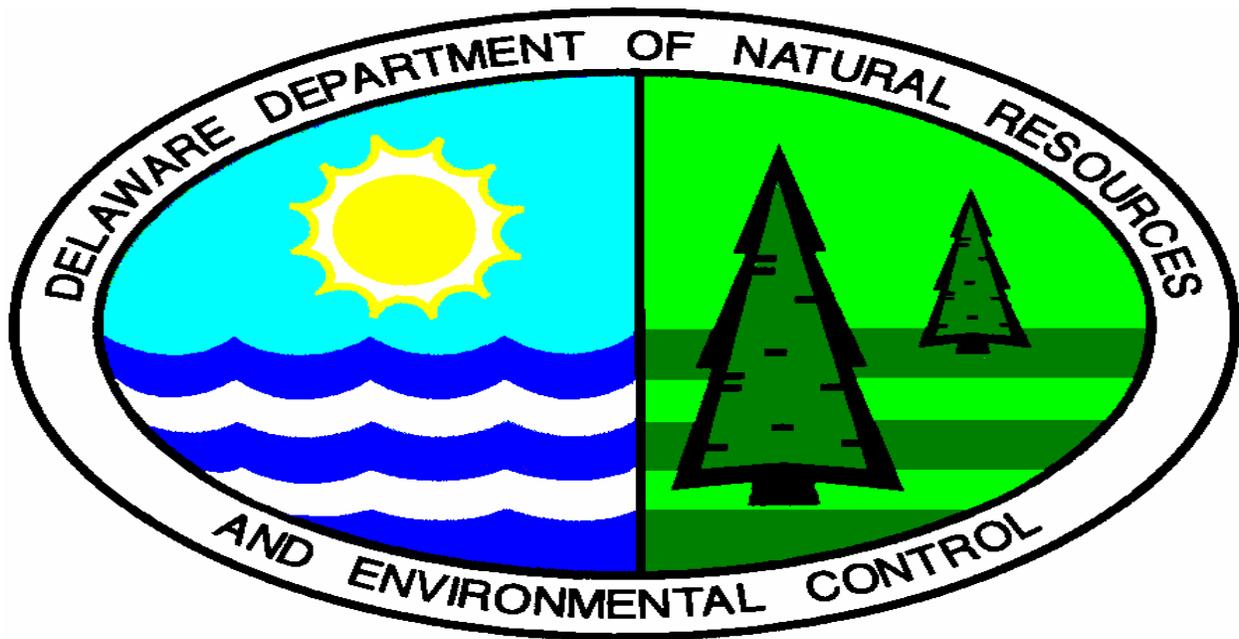


PROPOSED PLAN OF REMEDIAL ACTION

FOR THE

**TONI CLEANERS SITE
WILMINGTON, DELAWARE**



MAY, 1996

DNREC PROJECT - DE 1005

Prepared by:

**Delaware Department of Natural Resources and Environmental Control
Division of Air & Waste Management
Superfund Branch**

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I. INTRODUCTION

In February, 1994, an initial Remedial Investigation (RI) was undertaken by the Superfund Branch of the State of Delaware, Department of Natural Resources and Environmental Control (DNREC) for the area surrounding the Toni cleaners facility located at 1606 Kirkwood Highway, in Wilmington, Delaware (“site” or “property”). During the initial RI in February of 1994, sampling of environmental media (i.e. surface soils, sub-surface soils and groundwater) was collected over the course of a four (4) week period. On February 7, 1994, shallow soil samples were collected in conjunction with the installation of a groundwater monitoring well at the site. The location of the surface soil samples were from the area around the discharge point of the condenser from the vapor recovery (“sniffer”) unit and from a split spoon sample collected during groundwater monitoring well construction.

On March 1, 1994, a groundwater sample was collected. The soil samples and the groundwater indicated significant levels of Tetrachloroethylene (PCE). The levels ranged from 0.29 parts per million (ppm) to 14.2 ppm in the soil samples and 11.0 ppm in the groundwater sample. The maximum contaminant level (MCL) for PCE in groundwater is set at 5 parts per billion (ppb) by the U.S. EPA. PCE was detected in the groundwater sample at 11,000 ppb.

Based on the elevated concentration of PCE detected in the on-site soils and groundwater from the limited field sampling investigation, the DNREC undertook a subsequent environmental investigation (“Phase II RI”) in order to ascertain the lateral and vertical extent of groundwater contamination in the area of the Toni Cleaner facility.

The Phase II RI was completed in May, 1995. The objective of the “Phase II RI” groundwater sampling program was to determine the extent of the dense non-aqueous phase liquid (DNAPL) plume to the southwest, south and southeast of the site. The Phase II RI results indicated that groundwater samples collected from geo-probe boring locations in the area had significant levels of PCE present in the groundwater. The levels ranged from 15 ppb to 69,000 ppb. The Phase II indicated that the PCE found in the groundwater sample locations in the area of the site were attributed to the Toni Cleaners facility.

II. PURPOSE

The Proposed Plan of Remedial Action (“Proposed Plan”) is based on the initial RI , March 1994 and the Phase II RI, May, 1995 performed by the DNREC Superfund Branch. The Proposed Plan is issued under the provisions of the Delaware Hazardous Substance Cleanup Act, 7 Del. C., Chapter 91, (“HSCA”) and the Regulation Governing Hazardous Substance Cleanup (“Regulations”). This Proposed Plan presents the Department’s assessment of the human health and environmental risk posed by the impacted areas of concern.

SITE DESCRIPTION AND HISTORY

The Toni Cleaners site is located at 1606 Kirkwood Highway in Wilmington, Delaware (See Figure 1). The site is bordered to the north and west by Kirkwood Highway and Forest Avenue, respectively. The Veterans Administration Hospital is located to the north of the site, across Kirkwood Highway. A restaurant is located across Forest Avenue, west of the site and residential properties border the southern and eastern portions of the site.

Mrs. Isabel DiVirgillio, who holds the purchase money mortgage on the property, acquired the site in 1965 and operated it as a dry cleaning business until February, 1990, when operations of the site were transferred to Mr. & Mrs. Chung K. Chong, current operators of the dry cleaning establishment. Reportably, the facility has been as dry cleaning facility for a minimum of 25 years. On November 16, 1993, DNREC and the current owner, Mr. and Mrs. Chung K. Chong, signed a Voluntary Cleanup Consent Decree allowing DNREC to conduct an RI at the site in order to determine if hazardous wastes had been released into the environment, and whether or not these wastes would have an adverse impact on human health or the environment.

III. INVESTIGATION RESULTS

The JACA Corporation completed a "Phase I" environmental assessment of the Toni Cleaners facility in March of 1993 at the request of the title holder, the Delaware Trust Company. The "Phase I" environmental assessment identified the eastern portion of the property as a discharge area to the backyard of the facility for two separate sources, the vapor recovery unit ("sniffer"), and the 1 1/2 inch diameter building heat unit discharge pipe. The JACA report concluded that the potential existed that the discharge from the facility's vapor recovery unit contained low levels of PCE and Trichloroethylene (TCE). The JACA report recommended that soil samples be collected from around the discharge point of the condensate from the vapor recovery unit and be laboratory analyzed to identify the presence or absence of PCE or TCE in the samples.

A "Phase II" sampling activity was undertaken by the JACA Corporation at the Toni Cleaners site in April of 1993. The objective of the "Phase II" sampling activity was to determine the approximate depth and amount of potential PCE and TCE contamination at the Toni Cleaners site. Approximately four soil samples were collected and analyzed by an independent laboratory (See Figure 2). After the samples were analyzed, it was found that two of the samples showed elevated levels of PCE and TCE. These levels ranged from 1.6 ppm to 6.8 ppm. The "Phase II" sampling activity concluded that PCE and TCE levels measured in the subject site soil samples indicated that a pollutant was/is being discharged into the environment, and that this discharge was in violation of Section 3.02 of the Delaware Water Pollution Control Regulations.

The “Phase II” sampling activity conducted by the JACA Corporation did not evaluate the quality of the sub-surface soils or impact to the groundwater at the Toni Cleaners locale.

In February of 1994, the DNREC initial RI was conducted in accordance with the guidelines outlined in the VCP Consent Decree between DNREC and Mr. and Mrs. Chung K. Chong. The initial RI for the Toni Cleaners site was undertaken to determine the extent of hazardous wastes released into the environment, and whether or not these wastes would have an adverse impact on either human health or the environment. The later assessment was carried out by the performance of a preliminary toxicological evaluation of data gathered from field sampling and subsequent chemical analysis. The scope of work for the initial RI included: 1) the installation of one groundwater monitoring well for the purpose of collecting lithologic information and evaluating the quality of groundwater, 2) collection and analysis of sub-surface soil sample collected from a boring during monitor well installation, and 3) the collection of near surface soil samples (See Figure 3).

Based upon the elevated concentration of dry-cleaning solvents PCE and TCE detected in the on-site soils and groundwater from the limited field sampling investigation, the DNREC Superfund Branch recommended that a subsequent environmental investigation (“Phase II RI”) be conducted to ascertain the lateral and vertical extent of both soil and groundwater contamination in the area of the Toni Cleaners site.

In May, 1995, the “Phase II RI” was completed by the DNREC Superfund Branch. The objective of the “Phase II RI” soil and sampling program was to determine the extent of the dense non-aqueous phase liquid (DNAPL) plume to the southwest, south and southeast of the site. The “Phase II RI” results indicated that groundwater samples collected from geo-probe boring locations in the area had significant levels of PCE present in the groundwater (See Figure 4). The levels ranged from 15 ppb to 69,000 ppb. The maximum contaminant level (MCL) for PCE in groundwater is set at 5 ppb by the U.S. EPA. The “Phase II RI” determined that PCE found in the groundwater sample locations in the area of the site were attributed to the Toni Cleaners facility.

Based upon the results from the DNREC “Phase II RI”, the Department undertook a Feasibility Study (FS) for the Toni Cleaners site. The purpose of the FS was to provide the Department with the basis for the selection of a remedy to mitigate potential impacts of the site on human health, welfare and the environment. The FS was based on the findings of the “Phase I” and “Phase II RI”, which were performed to determine the nature and extent of contamination at the site and any potential threat to public health and the environment presented by the site.

The FS developed various alternatives to meet the remedial action objective, including treatment or containment of the waste, or elimination of exposure pathways. For each alternative, the FS evaluated the remaining risk based on the analytical performance of the remedial components.

Following the identification and screening of potential remedial technologies for the site, three remedial alternatives were developed for the site. The remedial alternatives consisted of: 1) No Action (Groundwater Monitoring Only), 2) Volatile Organic Compound (VOC) Removal by Soil Vapor Extraction (SVE), and 3) Excavation and Off-Site Incineration. These alternatives were screened by their effectiveness, implementability and cost. As a result, the selected alternatives were subject to a detailed evaluation against the nine evaluation criteria in the Regulations. The Regulation criteria consists of the following:

- 1) Protection of public health, welfare and the environment
- 2) Compliance with all applicable rules and regulations
- 3) Monitoring the success of remediation
- 4) To the extent practicable use of a permanent remedy
- 5) Technical practicability of the remedy
- 6) A reasonable restoration timeframe
- 7) Reduction in toxicity, mobility and volume of the hazardous substances
- 8) Long term effectiveness
- 9) Short term effectiveness

IV PROPOSED PLAN OF REMEDIAL ACTION

Based on the remedial action objective established for the Toni Cleaners site (i.e., to reduce the level of VOC contaminants to achieve a future carcinogenic risk of 1×10^{-6} or less), all the above remedial alternatives, excluding the No Action alternative, are eligible for selection for remediation of the Toni Cleaners site. However, based on the anticipated level of VOC destruction by incineration, the residual ash and soils would contain minimal concentrations of VOC's. Assuming 1% of the VOC's were to remain, and considering the effect of the placement of resulting incinerator ash, the carcinogenic risk after implementation of this alternative would be less than 0.1% of the current risk of less than 1×10^{-10} . Using this alternative would mean a complete elimination in the waste volume at the site. Finally, based upon a comparison of the cost of remedial alternatives, the excavation/incineration method is calculated to be a lower cost remedy than the SVE remedial alternative. Therefore, the excavation and off-site incineration alternative is the Department's recommended remedy for the Toni Cleaners site.

V PUBLIC PARTICIPATION

The Department welcomes any comments or questions the public may have on this proposed plan. Please call (302) 323-4540 or write to the following address:

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