Technology Section

Department of Environmental Conservation

Division of Hazardous Waste Remediation

Record of Decision

Dearcop Farm Site
Town of Gates, Monroe County
Site Number 8-28-016

March 1995

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* MICHAEL D. ZAGATA, *Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

Dearcop Farm
Inactive Hazardous Waste Site
Gates, Monroe County, New York
Site No. 8-28-016

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedial action for the Dearcop Farm Inactive Hazardous Waste Disposal Site which was chosen in accordance with the New York State Environmental Conservation Law (ECL). The remedial program selected is not inconsistent with the National Oil and Hazardous Substance Pollution Contingency Plan of March 8, 1990 (40CFR300).

This decision is based upon the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Dearcop Farm Inactive Hazardous Waste Disposal Site and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A bibliography of the documents included as part of the Administrative Record is included in the Appendix B of the ROD.

Assessment of the Site

Actual or threatened release of hazardous waste constituents from this site, if not addressed by implementing the response action selected in this ROD, may present potential threat to public health and the environment.

Description of Selected Remedy

Based upon the results of the Remedial Investigation/Feasibility Study (RI/FS) for the Dearcop Farm Inactive Hazardous Waste Disposal Site and the criteria identified for the evaluation of alternatives the NYSDEC has selected consolidation, capping and vacuum extraction of soil/fill material and institutional controls for groundwater as the remedy for this site. The components of the remedy are as follows:

- **Soil Vapor Extraction**: A pilot test will be conducted to determine the feasibility of a soil vapor extraction system to remove contaminants from the soil/fill material. Based on the results of that study a soil vapor extraction (SVE) system will be installed in the area of deep contamination at the site. A series of horizontal trenches will be installed in the area of deep soil/fill contamination. Passive vents may also be installed at the site since the site will be capped. As part of the final design it will be determined whether the SVE system off-gas

will require treatment.

- **On-site Material Removal**: If any grossly contaminated material (e.g. buried drums or free product liquid) is encountered during the installation of the SVE trenches this material will be packaged and transported off-site for treatment and/or disposal at a RCRA permitted treatment, storage and disposal facility.

- **Landfill Capping**: A final cover system which will comply with the appropriate NYS regulations (6 NYCRR part 360-2.15) will be installed at the site.

- **Institutional Controls**: Recommendations regarding the type and extent of institutional controls (which could include local regulatory restrictions on construction, land use and the use of private water wells) will be made to appropriate local agencies and boards (i.e., local planning or zoning boards).

- **Soil Consolidation**: Contaminated soil from three residential lots will be removed (the owners of these lots have already been contacted by the NYSDEC). All excavated soil/fill will be hauled to the on-site area and stored in a staging area until the landfill is capped. The excavated area will be backfilled with clean fill regraded and reseeded. This portion of the remedial action will be evaluated during the remedial design and may be separated from the total remedial action and performed as a interim remedial measure (IRM).

- **Beneficial Use**: During the design any proposed beneficial use of the capped landfill will be evaluated and modifications to the cap design may be made to facilitate that beneficial use. The Town of Gates Supervisor will be contacted for his input into the design as well as the input from neighborhood meetings held by the Town Supervisor.

New York State Department of Health Acceptance

The New York State Department of Health concurs with the remedy selected for this site as being protective of human health.

Declaration

The selected remedy, consolidation, capping and vacuum extraction of soil/fill material; institutional controls for groundwater, is protective of human health and the environment, complies with state and federal requirements that are legally applicable and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

3/29/95
Date

Michael J. O'Toole, Director
Division of Hazardous Waste Remediation

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RECORD OF DECISION

DEARCOP FARM
Gates, Monroe County, New York
Site No. 8-28-016
March 1995

SECTION 1: SITE LOCATION AND DESCRIPTION

The Dearcop Farm site is an approximately 16-acre inactive landfill located at the north end of Dearcop Drive and Varian Lane in the Town of Gates, Monroe County, New York (see Figure 1). The southern 6 acres of the site are owned commonly by Mr. William L. Dearcop and Mr. Charles R. Dearcop, Jr. The northern 10 acres of the site are owned by the New York State Department of Transportation (NYSDOT).

The site is situated in an urban area just west of the New York State Barge Canal (Barge Canal) and the City of Rochester. Presently, the interchange for Interstate Routes 390 and 490 is situated on the northern 10 acres of the original 16-acre landfill. The remaining 6 acres of the site are open in the west and central portion with evidence of past grading. The eastern portion is wooded with some low-lying, seasonally wet areas. The site is bordered to the south and southwest by a residential area consisting of 81 Residential lots along Dearcop Drive and Varian Lane. The nearest homes are located immediately adjacent to the site. The nearest business is approximately 0.5 mile south of the site along Buffalo Road (Route 33). Along the east side of the site an embankment of soil and rock from canal construction trends north-south, about 50 to 75 feet west of the canal. A biking/jogging path is located adjacent to the canal. The barge canal is commonly used for navigation and fishing in the vicinity of the site. North of Interstate Route 490 is undeveloped wooded land. During the RI trespassers were observed on-site and this area has traditionally been used as a recreation area by nearby residents.

A Class 2 inactive hazardous waste site, Olin Chemicals Corporation (Site No. 8-28-018A) is situated southeast of the site on the eastern side of the Barge Canal, and one Class 2A site, Chevron USA Tank Farm (Site No. 8-28-060) is located approximately 0.5 mile south of the site.

The portion of the site south of Interstate 490 (the vacant lot area) is well vegetated with weeds, brush, and trees. Foundry sand, slag, scrap metal, wood, glass, and other debris can be seen at the surface in this area. The terrain is uneven but basically the slope and drainage trend north and east to the canal. Access to the site is from the south off Dearcop Drive and Varian Lane. In 1990, NYSDEC installed chain-link fencing in some areas (i.e., at the end of Dearcop Drive and Varian Lane, and along the bike path) in an attempt to control site access. In January 1993, NYSDOT installed a chain-link fence along the west side of the bike path adjacent to the site, which further restricted access by trespassers.

SECTION 2: SITE HISTORY

2.1: Operational/Disposal History

The site was used as a disposal area in 1919, shortly after the property was purchased by Charles L. Dearcop, and operated until 1970.

A detailed aerial photograph analysis and maximum boundary map indicates the site was active from 1930 through 1970. Reportedly, the site received industrial wastes from General Railway Signal Company, E.I. DuPont DeNemours and Company, Inc. (DuPont), American Brakeshoe Company, and Pfaudler Company during its operation. A 1961 aerial photograph showed the highway interchange was under construction by the NYSDOT. A NYSDOT drilling log for a boring completed at the site dated November 26, 1958 suggests the property was purchased by the NYSDOT from the Dearcops around that time and dumping in the northern section had ceased.

DuPont first used the Dearcop site to dispose of waste beginning in 1945, and the practice continued for an unknown period of time. Waste disposed of at the site by DuPont included acids, heavy metals, waste oil and oil sludges, halogenated organics, and other compounds. The method of disposal was through open burning. The solvent burning area was located beneath the current location of the Interstate Route 490 (I-490) eastbound/ westbound highway median. Recent reconstruction of I-490 necessitated the placement of a geotextile liner over the former burn pit area. When construction was completed, the liner was left in place, and an additional 1 to 2 feet of fill material was regraded over the area.

2.2: Remedial History

1988:

A Phase II investigation report for the Dearcop Farm site was completed by EA Engineering, Science, and Technology, Inc. The investigation consisted of the installation and sampling of three groundwater monitoring wells, an electromagnetic (EM) conductivity survey and a magnetometer survey, surface water sampling, sediment sampling, drum sampling, and records research. Analytical results of samples collected from the three monitoring wells indicated that the groundwater beneath of the site was contaminated with halogenated and aromatic volatile organic compounds (VOCs). The highest concentrations were detected in samples from wells DR-2 and DR-3. Surface water and sediments were not found to be contaminated. The magnetometer survey detected several acres with high magnetic readings in the landfill north of the residential area, and in the I-490 median.

1990:

Sampling activities conducted by NYSDEC included the analysis of groundwater, surface water, and soil/sediment. In June, NYSDEC collected soil/sediment samples from six locations at the Dearcop Farm site. Polychlorinated biphenyls (PCBs) were detected in samples 2 and 3 at 0.34 milligrams per kilogram (mg/kg) and 0.24 mg/kg, respectively. Sample 2 also exhibited the highest concentration of cobalt (504 mg/kg). The highest concentrations of zinc (1,270 mg/kg) and copper (137 mg/kg) were detected in samples 4 and 5, respectively. Radioactive isotopes were detected in a soil sample collected on July 18, from a blue-stained surface soil deposit located on the northwest section of the vacant lot area. Radium-226 and Radium-228 were detected at 5.1 picocuries per gram (pCi/g) and 3.4 pCi/g, respectively. These results indicated that additional soil/sediment sampling was required to determine the extent of

this type of contamination at or adjacent to the site.

In September, at the request of the Monroe County Health Department (MCHD), the New York State Department of Health (NYSDOH) collected eight soil samples from residential yards. The levels of metals, pesticides, and polynuclear aromatic hydrocarbons (PAHs) in soil samples were at concentrations normally expected in a suburban residential neighborhood. PCBs were also found in some yards, but at levels far below those considered to be a health concern.

In October, groundwater samples were collected from the three existing site wells (DR-1, DR-2, and DR-3), surface water and sediment were collected upgradient and downgradient (DR-S1 and DR-S2) of the site from a stream which runs parallel and north of I-490, and a sediment sample was collected from a seasonally dried up pond located to the northeast of the north end of Varian Lane. The results of these analyses confirmed VOC contamination of the groundwater at levels exceeding New York State Class GA groundwater standards in all three wells. Numerous chlorinated organics were detected at concentrations above Class GA groundwater standards in well DR-2, which was originally thought to be an upgradient well. These findings indicated that groundwater flow direction needed further investigation to determine true upgradient conditions, and that deeper bedrock investigations for chemical contamination were necessary. Furthermore, analytical results from surface soil/sediment samples indicated levels of PCBs, heavy metals (cobalt, copper, zinc), and radioactive isotopes (Radium-226 and Radium-228) above background concentrations. No contaminants were detected in the sediment from the dried-up pond above background.

1991:

In May, representatives of NYSDEC and MCHD collected samples from basement sumps at three residences along Dearcop Drive and three along Varian Lane and analyzed them for VOCs. Five of the six samples did not contain VOCs; however, one sample from Dearcop Drive contained 1,000 ppb acetone and 14 ppb toluene. The source of these VOCs was believed to be common household paint and paint and varnish remover present in the basement of that home. When the sump was resampled in September, results indicated a lower concentration of acetone (15 ppb). Once again, the source of acetone was believed to be household products.

In July, an additional vegetable and soil sample was collected. The lead concentration in the 1991 soil sample (134 ppm) was similar to the lead concentration in the 1990 soil sample (174 ppm). The levels of lead in the vegetable samples were also similar (i.e., 0.44 ppm in 1991 and 0.48 ppm in 1990). The NYSDOH determined that these levels are within the common range of lead found in vegetable studies in New York State and other locations.

SECTION 3: CURRENT STATUS

In response to a determination that the presence of hazardous waste at the site presents a significant threat to human health and/or the environment the NYSDEC has recently completed a Remedial Investigation/ Feasibility Study (RI/FS).

3.1: Summary of the Remedial Investigation

The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site.

The RI was conducted in 3 phases. The first phase was conducted between October 1991 and

April 1993 the second phase between August 1993 and February 1994 and the third phase was conducted between March 1994 and December 1994. Four (4) reports:

Report Name	Dated
Phase I Remedial Investigation Report	January 1994
Phase II Remedial Investigation Report Addendum to the Phase I Report	July 1994
Indoor Air Quality Sampling	August 1994
Phase III Remedial Investigation Residential Lot Soil Sampling	December 1994

have been prepared describing the field activities and findings of the RI in detail.

The RI activities consisted of the following:

- Soil gas survey to screen the entire site for the presence of VOCs in the subsurface soils;
- Two (2) geophysical surveys to determine the presence of unnatural conditions such as buried waste;
- Installation of soil borings and monitoring wells for chemical analysis of soils and groundwater as well as physical properties of soil and hydrogeologic conditions;
- Excavation of test pits to determine the composition of the subsurface fill;
- Indoor air monitoring to determine if contamination from the site was migrating into homes adjacent to the landfill; and
- Collection of soil samples from lots along Dearcop Drive and Varian Lane to determine whether fill material from the site was present.

To determine which media (soil, groundwater, etc.) contain contamination at levels of concern, the analytical data obtained from the RI was compared to environmental Standards, Criteria, and Guidance (SCGs). Groundwater, drinking water and surface water SCGs identified for the Dearcop Farm site were based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part V of the NYS Sanitary Code. For the evaluation and interpretation of soil NYSDEC soil cleanup guidelines for the protection of groundwater, background conditions, and risk-based remediation criteria were used to develop site-specific remediation objectives for soil.

Based upon the results of the remedial investigation in comparison to the SCGs and potential public health and environmental exposure rates, certain areas and media of the site require remediation. These are summarized below. More complete information can be found in the RI report.

Chemical concentrations are reported in parts per billion (ppb) and parts per million (ppm) for soil sediment and water samples and micrograms per meter cubed ($\mu g/m^3$) for air samples.

Groundwater

See Tables 1 and 2 for a summary of the contaminants that were detected in groundwater and how many groundwater samples analyzed were above NYSDEC Class GA groundwater standards.

Thirty four (34) of thirty nine (39) groundwater samples had volatile organic compound (VOCs) concentrations which exceeded site specific groundwater cleanup objectives. The most commonly found contaminants were 1,1 dichloroethane (1,1-DCA), 1,2-dichloroethene (total) (1,2-DCE total), trichloroethene (TCE) and vinyl chloride. 1,1 dichloroethane was detected in thirty (30) of the thirty nine (39) samples at concentrations that ranged from seven (7) ppb to 4,300 ppb and at an average concentration of 820 ppb.

Soil-Gas

168 soil-gas samples were collected using Tedlar bags. Of these samples, seventy one (71) contained one or more VOCs. The compounds detected in the soil-gas results can be broken down into categories; 1. purgeable halocarbons (chlorinated solvents) and 2. purgeable aromatics (benzene, ethylbenzene, toluene and xylene).

The most commonly detected purgeable halocarbons were TCE, 1,1-DCA and 1,1,1 trichloroethane (1,1,1-TCA). These compounds were mainly found in the northwest portion of the vacant lot and in the I-490 median, with the highest concentration (total purgeable halocarbons above 1000 $\mu g/m^3$) found in two major plumes. The first and largest plume is 300 ft.(east/west) by 150 ft. (north/south) and centered near sample point SG-8 (see figure 3). SG-8 was the most contaminated of all soil-gas points (176,000 $\mu g/m^3$ total purgeable halocarbons). The second plume is smaller and located in the I-490 median. This plume is approximately 200 ft. (east/west) and 100 ft. (north/south).

The presence of purgeable aromatics (benzene, ethylbenzene, toluene and xylene) was also found in the same relative locations as the purgeable halocarbons; however total concentrations were of a lesser magnitude. The highest concentrations of total purgeable aromatic compounds were mainly detected in the I-490 median.

On-Site Soils/Fill Material

See Tables 3 and 4 for a summary of the contaminants detected in on-site soils and how many of the on-site soil samples analyzed exceeded NYSDEC Technical and Administrative Guidance Memoranda (TAGM) 4046 cleanup goals. These numbers are included as a reference and are not intended to be cleanup goals for waste material.

On-site sub-surface soil at the site is contaminated with a number of different compounds. Seven (7) test-pits (see figure 2) were excavated on-site to determine the presence of subsurface soil contamination. Three (3) of the seven (7) test pits that were excavated at the site encountered rusty intact drums. Free flowing liquid and saturated soils were observed in these test pits. PCBs were detected in 4 of 33 subsurface soils samples above the site cleanup objective 1 ppm total PCBs, the highest detected concentration of sub-surface PCBs was 200 ppm. This sample was of amber liquid stained fill and was collected from test pit TP-5 (see figure 2). Test pit TP-5 contained demolition debris, cloth, brick, wood, blue fines and drums, one of which was a breached drum of amber colored oily liquid. Two (2) pesticides were also detected in on-site sub-surface soils marginally above TAGM 4046 cleanup goals. Specifically heptachlor was detected in three of thirty three samples at a maximum concentration of 180 ppb and heptachlor epoxide was detected in one of thirty

three (33) samples at a concentration of 870 ppb. In addition four (4) metals (cadmium, chromium, lead and nickel) were detected in on-site sub-surface soil samples at concentrations which were above TAGM 4046 cleanup goals.

On-site surface soil at the site is also contaminated with a number of different compounds. Fifteen surface soil samples were collected to determine the presence of on-site surface soil contamination. PCBs were found in 2 of 15 surface soil samples above the site cleanup goal of 1 ppm total PCBs, the highest detected surface soil concentration was 3.3 ppm.

Radiological analyses were performed on soil samples taken during the Phase I RI and the Phase II RI. Four background soil samples were analyzed during the Phase II RI to provide a measure of background radiation. The results obtained from the four samples were averaged to provide a background result which could be compared to the Phase I RI soil radiological results. Only four (three (3) from test pits and one (1) surface soil sample) of thirty four (34) sample results were slightly above three times the average background radiation. Three times the site specific background is within the variability of background radiation across the state. The radiation is believed to be naturally occurring radioactive material (NORM) and is associated with blue-colored, sandy material which has been identified as glass fines.

Specific on-site soil sources of groundwater contamination have not been exactly identified; however based on groundwater and soil gas results and test pit visual observations of free product and drums, the northwest portion of the vacant lot south of I-490 exhibits the highest degree of contamination. The areas of deep contamination (see figure 2) represent the areas were the landfill material comprised greater amounts of hazardous material including spent solvents and other VOCs.

3.2 Summary of Human Exposure Pathways:

This section describes the types of human exposures that may present added health risks to persons at or around the site. A more detailed discussion of the health risks can be found in the Human Health Risk Assessment.

An exposure pathway is the process by which an individual comes in contact with a contaminant. The five elements of an exposure pathway are 1) the source of contamination; 2) the environmental media and transport mechanism; 3) the point of exposure; 4) the route of exposure; and 5)the receptor population. These elements may be present based on a past, present or future events. The following exposure scenarios were evaluated based on current site conditions:

- direct contact (including incidental ingestion) with contaminated soils by site trespassers;
- inhalation of resuspended soil particles by site trespassers;
- direct contact with (including incidental ingestion) with fill material in residential yards by nearby residents;
- consumption of vegetables grown in yards with fill material present; and
- Inhalation of vapors which enter residences through the migration of soil vapor gases.

A baseline human health risk assessment was prepared as part of the RI/FS process at the Dearcop Farm Site. The goal was to provide an analysis of baseline risks in the absence of any action to control or mitigate site contamination and to assist in determining the need for remediation.

Metals (cadmium, chromium, lead and nickel), and PCBs were detected in on-site surface soils at concentrations which marginally exceeded applicable criteria (i.e., NYSDEC-recommended soil cleanup goals and/or benchmark health risk values). The results of this risk assessment indicate that exposure to site related contamination poses an increased excess potential cancer risk for both adolescent trespassers and nearby residents. Results of the risk assessment indicate that the greatest excess potential cancer risk associated with exposure to contaminated on-site surface soil is due to dermal contact with PCB contaminated soil on the landfill.

The NYSDOH recommended cleanup levels for cadmium (10 ppm) and lead (400 ppm) were exceeded in two residential lots adjacent to the Dearcop Farm Site. Although some PAH results obtained from the residential lots located near the site during the RI were elevated these results cannot be directly linked to the Dearcop Farm hazardous waste site. During the Phase I RI the on-site soils were analyzed for full PAH analysis. The highest total PAH concentration reported from the on-site sampling was only 6.1 ppm. Therefore, it can be assumed that the elevated concentrations found in some residential lots may be caused by homeowner activities such as sealing driveways, burn barrels, disposal of ash from charcoal grills and wood stoves and the disposal of used motor oil. While the concentrations of PAHs are elevated in the residential area the contamination cannot be directly linked to the Dearcop Farm site and PAH concentrations present are not at levels which present a health concern.

3.3 Summary of Environmental Exposure Pathways:

This section summarizes the types of environmental exposures which may be presented by the site. The habitat based assessment included in the RI presents a more detailed discussion of the potential impacts from the site to fish and wildlife resources.

The objective of the environmental exposure pathway analysis was to determine whether there are actual or potential threats to fish and wildlife at the site posed by site related contaminants. The analysis concluded that the terrestrial resources at the site are typical for the Great Plains ecozone. No endangered, threatened or special concern species are known to exist within the vicinity of the site. Relatively few aquatic ecosystems are present within a 0.5 mile radius of the site. The Barge canal is located on the eastern edge of the site. One drainage ditch and a drainage area flowing to a ponded water wetland are also within the study area.

Three major exposure scenarios exist for environmental receptors:

- direct contact with contaminated media:
- bioconcentration of contaminants from water and sediment and subsequent bioaccummulation in the food chain; and
- plants growing next to the site may be exposed through uptake by the roots.

The habitat based assessment concluded that the concentrations of contaminants present at the site pose a moderate to high risk to potential non-human receptors.

SECTION 4: ENFORCEMENT STATUS

Potential Responsible Parties (PRPs) are those who may be legally liable for contamination at the site. This may include past or present owners and operators, waste generators and haulers.

The PRPs for the site, documented to date, include: Charles R. Dearcop, Jr., William L. Dearcop, General Railway Signal Company, E.I. DuPont DeNemours and Company, Inc.

(DuPont), American Brakeshoe Company, the NYSDOT and Pfaudler Company

The PRPs were offered the opportunity to implement the RI/FS at the site when requested by the NYSDEC, however, they did not wish to do so. With the issuance of this ROD, the PRPs will again be contacted to assume responsibility for the remedial program. If an agreement cannot be reached with the PRPs, the NYSDEC will evaluate the site for further action under the New York State Superfund. The PRPs are subject to legal actions by the State for recovery of all response costs the State has incurred.

SECTION 5: SUMMARY OF THE REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR part 375-1.10. These goals are established under the overall goal of meeting all standards, criteria, and guidance (SCGs) and protecting human health and the environment.

At a minimum, the remedy selected should eliminate or mitigate all significant threats to the public health and to the environment presented by the hazardous waste disposed at the site through the proper application of scientific and engineering principles.

The goals selected for this site are:

- Eliminate the potential for direct human or animal contact with the contaminated soils/fill material.
- Reduce, control, or eliminate the contamination present within the soils/waste on site (generation of leachate within the fill mass).
- Eliminate the threat to surface waters by eliminating any future contaminated surface run-off from the contaminated soils on site.
- Mitigate the impacts of contaminated groundwater to the environment.
- Prevent, to the extent possible, migration of contaminants in the landfill to groundwater.

SECTION 6: SUMMARY OF THE EVALUATION OF ALTERNATIVES

Potential remedial alternatives for the Dearcop Farm site were identified, screened and evaluated in a Feasibility Study. This evaluation is presented in the report entitled Feasibility Study for the Dearcop Farm Site. A summary of the detailed analysis follows.

6.1: Description of Alternatives

The potential remedies are intended to address the contaminated soil/fill and groundwater at the site.

Alternative 1: No Action

The no action alternative is evaluated as a procedural requirement and as a basis for comparison. It requires continued monitoring only, allowing the site to remain in an unremediated state.

Under this alternative as the site would remain in its present condition, and human health and the environment would not be provided any additional protection.

Present Worth:	$374,000
Capital Cost:	$0
Annual O&M:	$27,000

Alternative 2: Institutional Controls

To implement this alternative, recommendations regarding local regulatory restrictions on construction, land use and ground water use would be made to appropriate agencies or boards (i.e., local planning boards or zoning boards) as the final project plans are developed. A fence would be constructed around the site and groundwater monitoring would be implemented.

Present Worth:	$568,500
Capital Cost:	$177,000
Annual O&M:	$28,400

Alternative 3: Consolidation and Capping of Soil/Fill Material; Institutional Controls for Groundwater

This alternative includes removing contaminated material from two (2) or more residential lots and consolidating this material on the landfill. After the material is consolidated, a final cover system which meets the requirements of 6 NYCRR part 360-2.15 would be constructed on the site and in the highway median. These final cover systems would cover on-site areas exceeding cleanup objectives and/or exhibiting high soil gas measurements (see figure 2). A groundwater monitoring program would be implemented at the site, four new monitoring wells would need to be installed to replace monitoring wells which would be abandoned to allow construction of the cap. Land use restrictions similar to those described in Alternative 2 would be implemented to address groundwater contamination.

Present Worth:	$1,950,000
Capital Cost:	$1,570,000
Annual O&M:	$27,400

Alternative 4: Consolidation, Capping and Vacuum Extraction of Soil/Fill Material; Institutional Controls for Groundwater

This alternative is similar to Alternative 3. However, this alternative would be augmented with the addition of vacuum extraction of soil/fill material, in the areas of deep contamination (see figure 3), to remove volatile organic contamination. Vacuum extraction trenches would need to be installed beneath the impermeable cap in the areas of deep contamination outlined on figure 2. Grossly contaminated material (e.g. buried drums or free product liquid) that is encountered during the installation of the SVE trenches would be packaged and transported off-site for treatment and/or disposal at a RCRA permitted treatment, storage and disposal facility. Because of the presence of the cap, vent wells would be added to allow air flow. The extracted vapors would be treated and discharged. It is assumed that five years of operation would be required to achieve removal of accessible VOCs.

Present Worth:	$2,840,000
Capital Cost:	$2,130,000
Annual O&M (0-1 yr.):	$163,000
(2-5 yr.):	$92,000
(next 25 Years):	$27,400

Alternative 5: Excavation and Off-Site Disposal of Soil/Fill Material; Extraction Treatment and Disposal of Groundwater

This alternative includes the excavation and disposal of approximately 15,550 yd^3 of soil/fill material from the highway median area and about 10,000 yd^3 from the area south of the highway. Most of this material would be classified as a non-hazardous waste and taken to a traditional non-hazardous landfill. However, several areas of PCBs contaminated soil, chromium contaminated soil and any drums encountered would be classified as a hazardous waste and

would have to be sent to a RCRA-permitted landfill for treatment and/or disposal.

It is likely that contaminated soil/fill material extends beneath I-490. It is impractical to remove the fill material beneath the highway. Thus, even if all 25,550 cubic yards of the presumed highly contaminated material were removed, additional contaminated soil/fill material would remain under the roadway. However, the roadway itself acts as a cap over the area and it provides good drainage for surface waters and prevents infiltration.

Three (3) to four (4) groundwater extraction wells screened at the bedrock overburden interface would be installed at the site. The water that is extracted from these wells would be treated. The treatment would include precipitation of metals followed by carbon adsorption to remove organic contamination. The treated water would then be discharged to a publicly owned treatment works (POTW).

Present Worth:	$6,440,000
Capital Cost:	$6,040,000
Annual O&M:	$54,000

6.2 Evaluation of Remedial Alternatives

The criteria used to compare the potential remedial alternatives are defined in the regulation that directs the remediation of inactive hazardous waste sites in New York State (6 NYCRR part 375). For each of the criteria, a brief description is provided followed by an evaluation of the alternatives against that criterion. A detailed discussion of the evaluation criteria and comparative analysis is contained in the Feasibility Study.

The first two evaluation criteria are termed threshold criteria and must be satisfied in order for an alternative to be considered for selection.

1. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether or not a remedy would meet applicable environmental laws, regulations, standards, and guidance.

Alternatives 1 and 2 do not meet this criteria. The site would remain in an unremediated state and neither the groundwater nor the soil concentrations would meet SCGs. Alternative 3 meets this criteria somewhat. The concentration of contaminants would continue to exceed SCGs for both groundwater and soil, however the soil exposure pathway would be eliminated. Alternative 4 meets this criteria somewhat. This alternative would eliminate the soil exposure pathway while also addressing the source of groundwater contamination. The concentration of contaminants in groundwater would remain the same initially but should eventually meet SCGs by removing the source of the contamination and natural attenuation. Alternative 5 does meet this criteria. The attainment of groundwater SCGs may take a long time and may never be met for all contaminants. Low permeability and a constantly changing water table make effective extraction difficult.

2. Protection of Human Health and the Environment. This criterion is an overall evaluation of the health and environmental impacts to assess whether each alternative is protective.

Alternative 1 does not meet this criteria. By leaving the site in its present condition there is the possibility that human or environmental receptors may come in contact with contamination. Alternative 2 meets this criteria somewhat. The institutional controls would reduce the potential exposure routes however, they may not be fully effective in providing overall protection to human health. Alternative 3 does meet this criteria. This alternative would effectively remove all possible routes of exposure thus providing significant protection to human

health and the environment. Alternative 4 does meet this criteria. This alternative would remove all possible exposure routes at the site. In addition, vacuum extraction would provide additional permanent removal and destruction of the source of groundwater VOCs contamination. Alternative 5 does meet this criteria. The removal of contaminants from the site would provide a significant level of protection of human health and the environment.

The next five "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Short-term Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared with the other alternatives.

Alternatives 1 and 2 meet this criteria. Since no site work would be conducted, this alternative would not result in any additional risk to the community, the workers nor the environment. Alternatives 3 and 4 would require heavy construction resulting in temporary increases in dust production, noise disturbance, and truck traffic while the cap is being placed. Most of the contaminated soil would remain un-disturbed significantly reducing short-term exposure. Site workers would be required to wear appropriate personal protective equipment. Alternative 5 would require heavy construction resulting in temporary increases in dust production, noise disturbance, and truck traffic while the cap is being placed. Contaminated soil, fill and sediment would be excavated and transported off site increasing the possibility of short term exposure. Off-site transport of contaminated media poses the possibility of potential releases of hazardous waste while the material is being loaded, transported and unloaded. Site workers would be required to wear appropriate personal protective equipment.

4. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of alternatives after implementation of the response actions. If wastes or treated residuals remain on site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the controls intended to limit the risk, and 3) the reliability of these controls.

Alternative 1 does not meet this criteria. As no action would be taken at the site this alternative provides long-term protection of human health or the environment. Alternative 2 does not meet this criteria. Institutional controls limit exposure to contaminants, however, these controls may not be maintained over the long-term. Potential breakdown in control limits the long-term effectiveness of this alternative. Alternative 3 does meet this criteria somewhat. A long-term pro-active maintenance plan would be required to assure the long term effectiveness of this alternative. By capping the site, groundwater migration would be retarded through the lack of direct recharge. This would allow groundwater contamination to naturally attenuate over the long-term. Natural attenuation may or may not achieve groundwater cleanup objectives over the long-term. Alternative 4 does meet this criteria somewhat. The long-term effects of this alternative are similar to the long term effectiveness of Alternative 3, except the long term effectiveness would be enhanced through the use of vacuum extraction. Vacuum extraction would reduce the potential long-term threat and would accelerate groundwater natural attenuation through the removal of volatile organics from groundwater as vapors. Alternative 5 does meet this criteria. Off-site disposal of contaminated media would eliminate on-site exposure and the groundwater

remediation may be more effective in the long term due to active pumping.

5. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

Alternatives 1 and 2 do not meet this criteria. Since no site work would be performed there would be no reduction in toxicity, mobility nor volume with either of these alternatives. Alternative 3 meets this criteria somewhat. Although this alternative does not reduce the toxicity or volume of the contamination at the site it does reduce the mobility of contaminants at the site. The mobility of contaminants would be greatly reduced by the installation of the final cover system at the site. The final cover system would reduce infiltration of water through the contaminated soil at the site and the subsequent groundwater recharge. Alternative 4 meets this criteria somewhat. The reduction of mobility of contaminants would be similar to Alternative 3, but this alternative would also reduce the toxicity of contamination at the site. Volatile organic compounds (VOCs) would be removed from the soil and to a lesser extent the groundwater through vacuum extraction. The VOCs removed by the SVE system would be properly treated prior to discharge to the atmosphere. Alternative 5 does meet this criteria. This alternative would reduce the toxicity, volume and mobility of groundwater contaminants at the site. Metals recovered from extracted groundwater would be concentrated into a sludge which would reduce the volume of contaminants at the site. The sludge may eventually be solidified at its final disposal area in which case the mobility would also be reduced. The volume of organics from groundwater would also be reduced through adsorption onto carbon. Although this alternative provides no intrinsic reduction in the toxicity, volume or mobility of contaminated soil/fill or sediment the contaminants in these media would have restricted mobility due to their placement in a landfill, which would have controls on leachate migration.

6. Implementability. The technical and administrative feasibility of implementing each alternative is evaluated. Technically, this includes the difficulties associated with the construction, the reliability of the technology, and the ability to monitor the effectiveness of the remedy. Administratively, the availability of the necessary personal and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc..

Alternatives 1 and 2 meet this criteria. There are no technical obstacles to the implementation of either of these alternatives Alternative 3 meets this criteria. The technology and equipment necessary to implement this alternative are readily available. Alternative 4 meets this criteria. The technology and equipment necessary to implement this alternative are readily available. The vacuum extraction system would have to be developed with the results of a pilot study. This study would provide data on where to install trenches, vapor flow rates available, and whether fresh air vents would be necessary. Even with careful design some modifications to the vapor extraction system may be necessary after construction. Because the vapor extraction trenches would be located in the capped area it may be difficult to modify the vapor extraction system while maintaining the integrity of the cap. The presence of the cap would also limit direct measurement of vapor extraction. However, performance could be adequately monitored through measurement of contaminant vapor concentrations. Alternative 5 meets this criteria. The technology and equipment necessary to implement this remedy are readily available. Capacity exists to accept excavated soil/fill/sediment for disposal. Also many firms supply the equipment necessary to pump and treat the groundwater.

7. Cost. Capital and operation and maintenance costs are estimated for each alternative and compared on a present worth basis. Although cost is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the remaining criteria, cost effectiveness can be used as the basis for the final decision.

Alternative	Present Worth
Alternative 1	$374,000
Alternative 2	$568,500
Alternative 3	$1,950,000
Alternative 4	$2,840,000
Alternative 5	$6,440,000

8. **Community Acceptance** - Concerns of the community regarding the RI/FS reports and the Proposed Remedial Action Plan (PRAP) were evaluated. A "Responsiveness Summary" was prepared (see Appendix A) describes public comments received and how the Department addressed the concerns raised. The final remedy selected has not been changed from that proposed in the PRAP.

SECTION 7: SUMMARY OF THE SELECTED REMEDY

Based upon the results of the RI/FS, and the evaluation presented in Section 6, the NYSDEC has selected Alternative 4 Consolidation, Capping and Vacuum Extraction of Soil/Fill Material; Institutional Controls for Groundwater as the remedy for this site.

This selection is based upon the following reasons:

Alternatives 1 and 2 would not meet either threshold criteria. These alternatives would not meet the protection of human health and the environment criteria nor the compliance with SCGs criteria. These alternatives also would not meet the long-term effectiveness and permanence criteria nor the reduction in toxicity, mobility or volume criteria.

Alternative 3 meets all the criteria used in evaluating this alternative somewhat. This alternative provides a barrier between the waste at the site and potential wildlife and human receptors. This alternative is protective of human health and the environment as long as proper operations and maintenance are maintained at the site. The concentration of contaminants in both soil and groundwater would continue to exceed SCGs however the direct contact exposure pathways would be eliminated. Capping is a well established technique which is easily implemented and is considered an appropriate remedy as long as proper operations and maintenance are maintained at the site. This alternative reduces the mobility of contaminants at the site but does not address either the toxicity nor volume of contaminants.

Alternative 4 meets all the criteria used in evaluating this alternative. This alternative is protective of human health and the environment as long as proper operations and maintenance are maintained at the site. Capping is a well established technique which is easily implemented and is considered an appropriate remedy as long as proper operations and maintenance are maintained at the site. This alternative is similar to Alternative 3 except that the long-term effectiveness of this alternative will be enhanced by removing VOCs at the source through the use of vacuum extraction. Vacuum extraction will not only reduce potential long-term threats but will accelerate natural groundwater remediation through partial removal of VOCs from

groundwater. This alternative reduces the mobility and toxicity of contaminants at the site.

Alternative 5 does meet all of the criteria used in evaluating this alternative. This alternative does comply with applicable SCGs, is protective of human health and the environment and is a permanent solution to the environmental problems at the site. This alternative has the greatest short-term impacts to the community. Excavated material would be off-site increasing the possibility of short-term exposure. This alternative also allows for the potential release of hazardous waste while the material is being transported. This alternative also has the highest present worth cost associated with it.

The estimated present worth cost to implement the selected remedy (Alternative 4) is $2,840,000. The cost to construct the remedy is estimated to be $2,130,000 and the estimated operation and maintenance (O & M) cost for the first year of the systems operation (assuming treatment for the vapor discharge) is $163,000, the estimated annual O & M cost for the next 4 years of operation (while the vacuum extraction system is operating) is $92,000 and for the following 25 years is $27,400.

7.1 Conceptual Design

The elements of the selected remedy are as follows:

1. A remedial design program will verify the components of the conceptual design and provide the details necessary for the construction, operation and maintenance, and monitoring of the remedial program. Uncertainties identified during the RI/FS will be resolved. The remedial design program will include a soil vapor extraction (SVE) pilot study. The pilot study will be used to determine final design parameters such as; radii of influence, gas throughput and volatile concentration. The pilot study will determine the feasibility of the system to achieve the desired remedial results.

2. Remedial Action: the selected plan is as follows:

- **Residential Lot Soil Removal**: Additional sampling will be performed in the select residential lots to further delineate the areas of soil contamination. Soil contaminated with lead or cadmium above the NYSDOH recommended cleanup levels of 400 ppm and 10 ppm, respectively, in the residential area will be excavated and consolidated onto the landfill site. It is anticipated that localized soil areas from two or three residential lots will have to be excavated. Verification sampling will be conducted to determine whether sufficient soil has been excavated to meet the cleanup objectives. Excavated soil/fill will be hauled to the on-site area and stored on-site in a staging area for use in the landfill cap. This portion of the remedial action will be evaluated during the remedial design and may be separated from the total remedial action and performed as a Interim Remedial Measure (IRM).

- **Soil Vapor Extraction**: If the pilot study determines that it is feasible, a soil vapor extraction (SVE) system will be installed in the areas of deep soil/fill contamination (see figure 2) of the site. Horizontal vapor extraction lines will be installed by placing perforated pipe in the trenches and surrounding the pipe by clean sand. The trench will

then be backfilled with excavated material. The actual number and location of extraction trenches will be determined during the final design based on the results of the pilot study. Passive vents may also be installed at the site since the site will be capped. Due to the presence of a major highway which intersects the site two separate SVE systems may be required at the site depending on cost and final design issues. As part of the final design it will be determined whether the SVE system off-gas will require treatment. After one year, a determination will be made if the system has reached asymptotic conditions with respect to contaminated vapor extraction rates. Once asymptotic conditions have been reached the system will be reevaluated for possible enhancements and modifications. After possible modifications are made to the system an engineering evaluation (cost vs. additional contaminant removal) will be performed to determine when the system will be shut down.

- **On-site Material Removal**: Grossly contaminated material (e.g. buried drums or free product liquid) encountered during the installation of the SVE trenches this material will be packaged and transported off-site for treatment and/or disposal at a RCRA permitted treatment, storage and disposal facility.

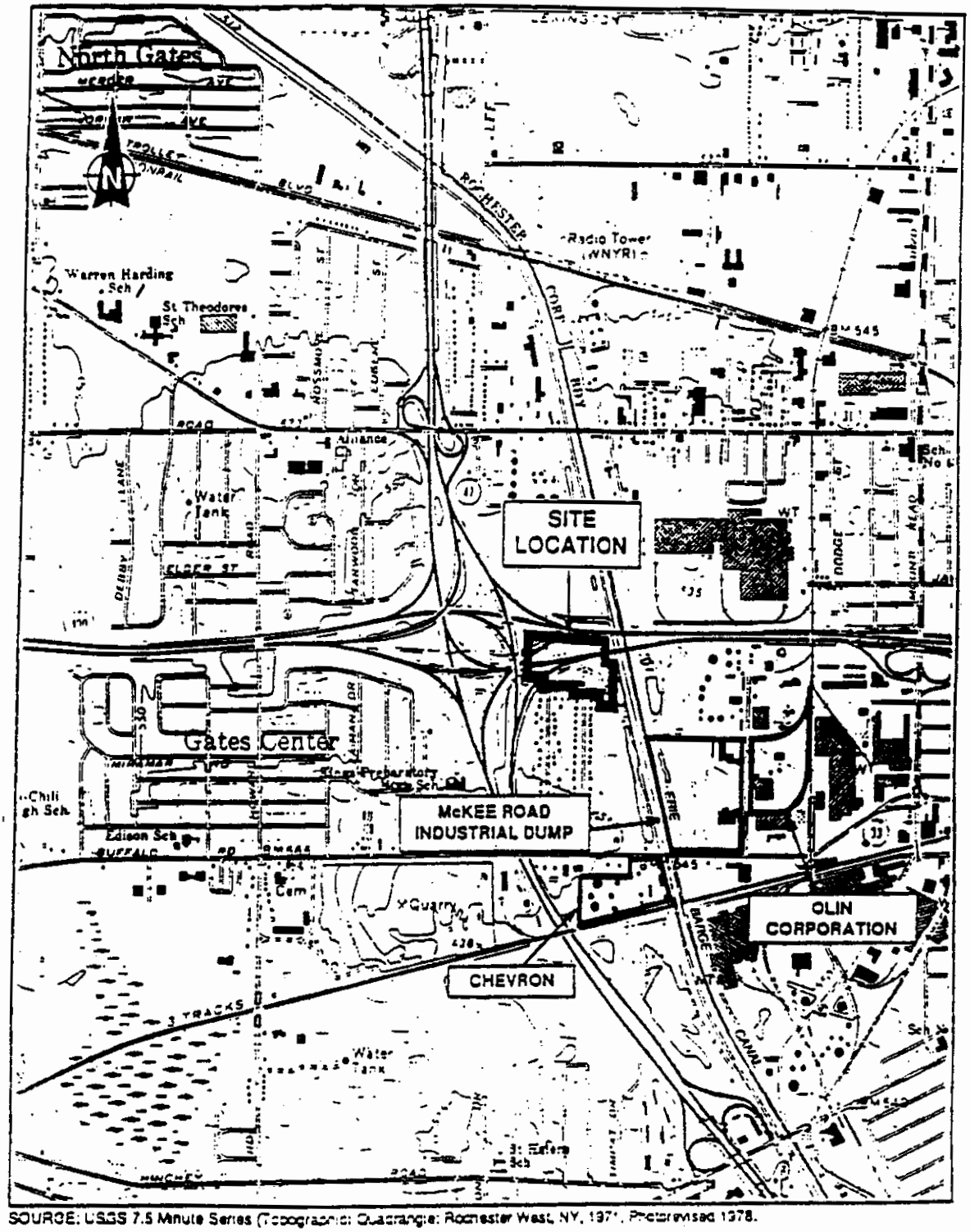
- **Soil Capping**: A final cover system which will comply with the appropriate sections of 6 NYCRR Part 360-2.15 will be installed at the site. The cover system will include approximately five (5) acres south of the highway and approximately 1.5 acres in the median (see figure 2).

- **Institutional Controls**: Recommendations regarding the type and extent of institutional controls (which could include local regulatory restrictions on construction, land use and the use of private water wells) will be made to appropriate local agencies and boards (i.e., local planning or zoning boards).

- **Beneficial Use**: During the design any proposed beneficial use of the capped landfill will be evaluated and modifications to the cap design may be made to facilitate that beneficial use. The Town of Gates Supervisor will be contacted for his input into the design as well as the input from neighborhood meetings held by the Town Supervisor.

A long term monitoring program will be instituted. This program will allow the effectiveness of the selected remedy to be monitored. This long term monitoring program will be a component of the operations and maintenance for the site. Additional Monitoring wells will be installed southeast of monitoring well cluster nine (9) to further define and monitor the plume.

A more detailed conceptual design can be found in the Feasibility Study for the Dearcop Farm Site dated January 1995.



SOURCE: USGS 7.5 Minute Series (Topographic) Quadrangle: Rochester West, NY, 1971, Photorevised 1978.

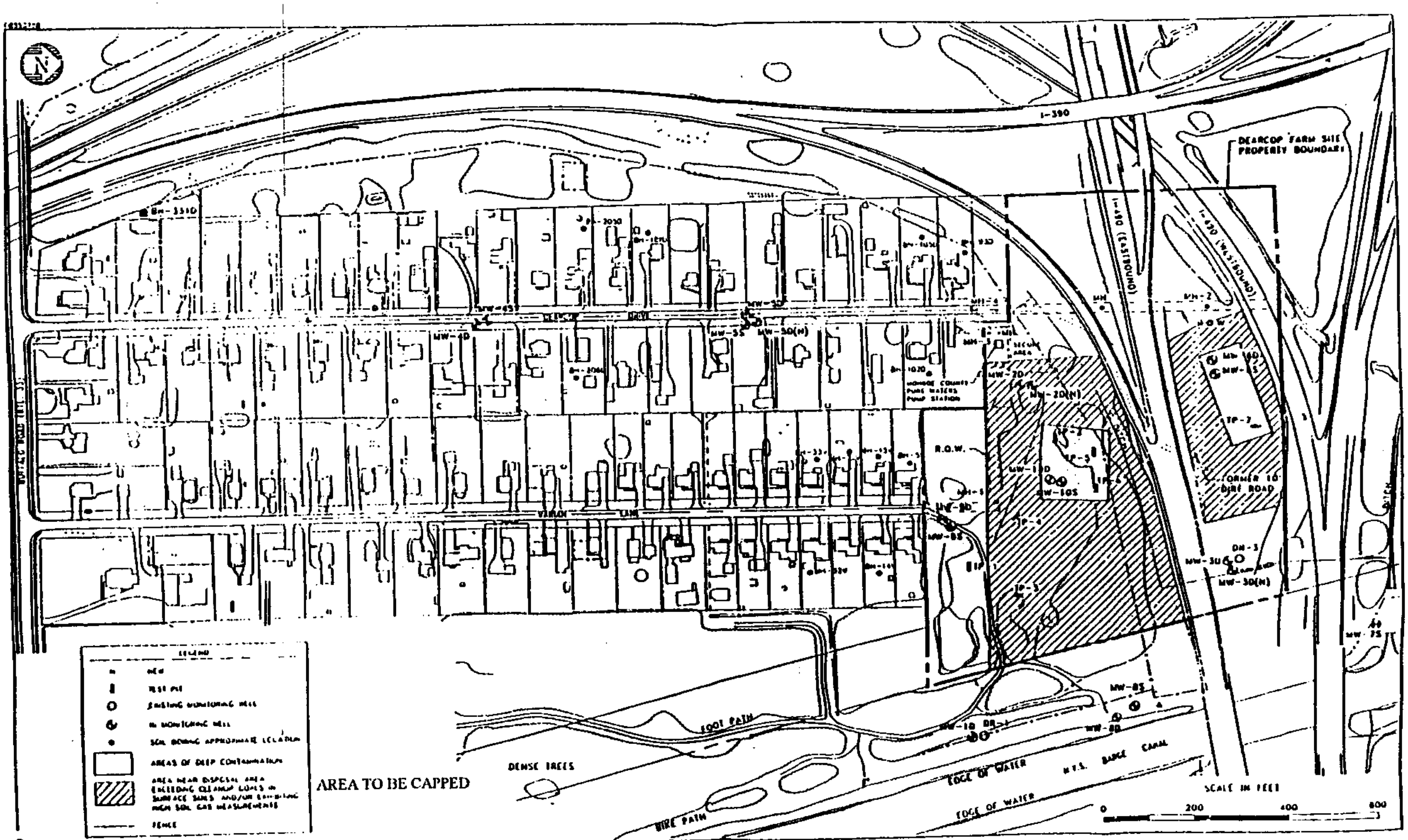
SCALE 1:24,000

0 ½ 1 Mile

0 5 1 Kilometer

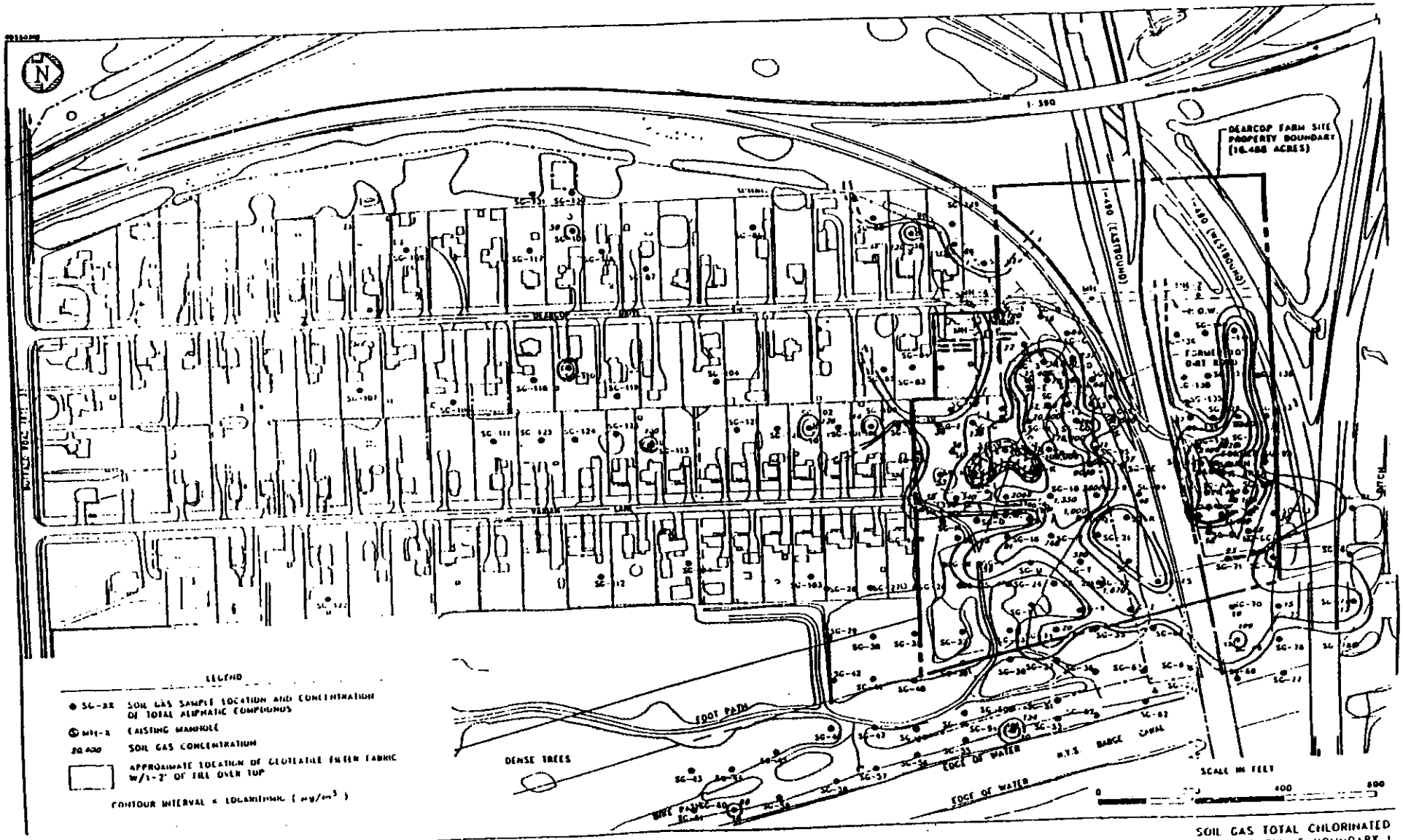
SITE LOCATION MAP, DEARCOP FARM SITE

FIGURE 1



ecology and environment

SOIL AND FILL MATERIAL AREAS NEAR DISPOSAL AREA EXCEEDING CLEANUP OBJECTIVES AND/OR EXHIBITING HIGH SOIL GAS MEASUREMENTS



SOIL GAS TOTAL CHLORINATED ALIPHATIC PLUME BOUNDARY DEARCOP FARM SITE

Table 1

Shallow Aquifer Groundwater Contaminants

All Concentrations Reported in PPB

Contaminants	Minimum Downgradient Concentration Detected	Maximum Downgradient Concentration Detected	Average Downgradient Concentration*	NYSDEC Class GA Groundwater Standards	Frequency of On-site Sample Results Exceeding Class GA Groundwater Standards
Volatiles					
Benzene	7	35	7	0.7	5/23
1,1-DCA	7	4,300	820	5.0	19/23
1,1-DCE	2	2,500	290	5.0	12/23
1,2-DCA	10	79	15	5.0	5/23
1,2-DCE (total)	7	2,900	940	5.0	19/23
Toluene	0.6	480	34	5.0	3/23
TCE	3	350	98	5.0	16/23
1,1,1-TCA	1	2,100	250	5.0	11/23
Vinyl Chloride	8	660	140	2.0	12/23
Semivolatiles					
Phenol	--	--	--	1.0	0/20
Inorganics					
Chromium	6.8	101	8	50	1/17
Cyanide	17	67	9	100	0/17

*For calculation purposes, half of the detection limit was assumed for all non-detect results

Table 2

Deep Aquifer Groundwater Contaminants

All Concentrations Reported in PPB

Contaminants	Minimum Downgradient Concentration Detected	Maximum Downgradient Concentration Detected	Average Downgradient Concentration*	NYSDEC Class GA Groundwater Standards	Frequency of On-site Sample Results Exceeding Class GA Groundwater Standards
Volatiles					
Benzene	3	57	11	0.7	7/16
1,1-DCA	7	840	75	5.0	11/16
1,1-DCE	1	15	5	5.0	1/16
1,2-DCA	--	10	5	5.0	1/16
1,2-DCE (total)	3	350	38	5.0	9/16
Toluene	1	42	11	5.0	8/16
TCE	1	45	8	5.0	3/16
1,1,1-TCA	2	100	11	5.0	2/16
Vinyl Chloride	15	270	22	2.0	2/16
Semivolatiles					
Phenol	9	72	10	1.0	3/16
Inorganics					
Chromium	6.5	27.9	6	50	0/16
Cyanide	1,020	1,090	150	100	2/16

*For calculation purposes, half of the detection limit was assumed for all non-detect results

Table 3

Subsurface Soil Contaminants

All Concentrations Reported in PPB

Contaminants	Minimum Concentration Detected	Maximum Concentration Detected	Average Concentration*	NYSDEC *TAGM 4046* Cleanup Goals	Frequency of On-site Sample Results Exceeding *TAGM 4046* Cleanup Goals
Volatile Organics					
Acetone	85	260,000	8,000	90	3/33
1,1-Dichloroethane	52	3,700	130	120	1/33
1,2-Dichloroethane	2	320,000	9,800	60	3/33
1,2-Dichloroethene (total)	1	1,100	40	310	1/33
Ethylbenzene	3	110,000	3,300	4,350	1/33
Methylene Chloride	--	70,000	2,100	80	1/33
Toluene	1	3,400,000	100,000	1,200	2/33
Trichloroethene	4	23,000	720	500	1/33
1,1,1-Trichloroethane	6	880,000	27,000	600	3/33
Xylenes (total)	6	580,000	18,000	950	2/33
Semivolatile Organics					
N-Nitrosodiphenylamine	--	140,000	4,200	--	1/33
Phenol	200	540,000	16,000	330	2/33
Pesticides and PCBs					
Total PCBs	16	200,000	6,600	10,000	4/33
Heptachlor	22	180	9	90	3/33
Heptachlor epoxide	--	870	26	17	1/33
Inorganics					
Cadmium	750	23,200	4,400	10,000**	5/28
Chromium	2,400	15,300,000	610,000	12,500***	17/28
Lead	2,000	1,900,000	140,000	400,000****	2/28
Nickel	4700	3,620,000	370,000	13,000***	20/28

**For calculation purposes, half of the detection limit was assumed for all non-detect results*

**NYSDOH recommended cleanup goal

***Site specific background concentration

****USEPA health-based recommended cleanup value

Table 4

Surface Soil Contaminants

All Concentrations Reported in PPB

Contaminants	Minimum Concentration Detected	Maximum Concentration Detected	Average Concentration*	NYSDEC TAGM 4046 Cleanup Goals	Frequency of On-site Sample Results Exceeding TAGM 4046 Cleanup Goals
PCBs					
Total PCBs	67	3,300	240	1,000	2/15
Inorganics					
Cadmium	480	8,800	4,000	10,000**	0/15
Chromium	4,100	62,900	30,000	12,500***	10/15
Lead	5,300	421,000	84,000	400,000****	1/15
Nickel	2,600	160,000	56,000	13,000***	12/15

*For calculation purposes, half of the detection limit was assumed for all non-detect results

**NYSDOH recommended cleanup goal

***Site specific background concentration

****USEPA health-based recommended cleanup value

Appendix A

Responsiveness Summary

The comment period for the proposed remedial action plan (PRAP) began on February 15, 1995 with the issuance of a fact sheet to the public announcing the availability of the PRAP at the document repositories.. A public meeting was held on March 8, 1995 at which the NYSDEC described the findings of the remedial investigation/feasibility study and the proposed remedy for the site. Comments from the public meeting are shown below with the Departments responses. No other comments were received during the comment period, which closed on March 17, 1995.

The following comments (1-33) were received at the March 8, 1995 public meeting:

1. Question: At the last meeting you said that you would do further testing in the residential yards; when will that take place?

1. Answer: Additional soil sampling will be done in late April 1995. This sampling will further delineate the limits of the soil that needs to be removed from three residential lots. Additional sampling will also be conducted in the three lots where residents at the puplic meeting indicated that they believe that additional sampling is necessary.

2. Question: Have all applicable test been performed? Are you satisfied with the results?

2. Answer: All residential lots, where permission to sample was not denied, were sampled for PAHs. Additional samples for metals analysis were taken from areas that were suspected to have high metals results. The sampling that was done in spring 1994 was biased to find areas of concern (samples were taken in gardens, under swing sets and around barbecue pits). Before samples were taken from any yard the field crew looked around the yard for obvious areas of contamination (foundry sand, bare spots or distressed vegetation) and those areas were sampled. There maybe additional areas in the neighborhood that have not been sampled but all areas that the Department identified or were pointed out by residents were sampled.

3. Question: I bought my property in 1990. In the summer of 1991, I put in a pool and deck. The material that I excavated to install the pool contained barrel tops and parts. I made a call to the Department's 1-800 number, I got no response. The Department said that they were going to come out in Sept, but they never came. I left the material in my yard for a year and a half, I finally had a backhoe come and bury it. I got a letter, no other reports, I never got any correspondence, just one letter, a scare letter. We're sitting on back burner to see what else is going to happen.

3. Answer: Additional sampling will be conducted on this person's property in spring 1995. Correspondence from the previous sampling round will also be sent to this resident.

Althought the Department's initial access letter, to the residents of Dearcop Drive and Varian Lane, may have caused some undo stress to these residents it was never the Department's intention to do anything at this site except what was needed to help the residents resolve this matter.

4. Question: Are you randomly testing yards to make sure you didn't miss something?

4. Answer: No. The Department has tested all known or suspected areas of concern. If any additional areas of concern are brought to the Department's, the NYSDOH's or the MCHD's attention these areas will be sampled during the next sampling period in the spring of 1995.

5. Question: Will you check sump pumps here and there?

5. Answer: No. At this time there is no reason to randomly check sumps. However, if in the future operations and maintenance sampling suggests that contamination may be migrating to basements sump, sampling may be conducted.

6. Question: When testing, do you group soil samples or test individual samples?

6. Answer: Most samples taken during the Phase III RI were composite samples which give the Department an overview of the concentrations of contaminants found over the entire lot. Discrete samples were also taken during this sampling event from areas which the Department, NYSDOH or MCHD thought were a concern.

7. Question: Is it still considered a class 2?

7. Answer: The Dearcop Farm Inactive Hazardous Waste Disposal Site is still a class 2 site. A class 2 site is a site at which hazardous waste constitutes a significant threat to human health and/or the environment. Once the selected remedy is implemented, this site will probably be reclassified as a class 4 site. A class 4 site is a site that has been properly closed but that requires continued operations, and maintenance, and/or monitoring.

8. Question: When the site becomes a class 4, will the hazardous waste site signs be taken down?

8. Answer: The hazardous waste site signs were put up after the first public meeting, to address some citizen's concerns regarding site access. After the selected remedy has been implemented and the direct exposure pathway has been eliminated the Department will evaluate the continued need for the signs and will take into consideration the desires of the residents near the site.

9. Question: Have you ever run across a landfill in a residential area? What about breaks on our property taxes? Who's going to be responsible when nobody buys my house?

9. Answer: The Department has investigated and remediated numerous land disposal sites, many of which were located in residential settings.

All Questions regarding property taxes were answered by the Town Supervisor Ralph Esposito. He said that the houses in the area have been selling over the past four years and that the average price has been consistent with other areas in the Town of Gates. He also stated that the average assessment for a home in the town of Gates was $6,000 and that 90% of the homes on Dearcop Drive and Varian Lane were assessed below this average value while the houses have been selling in the $60,000 - $80,000 range.

The NYSDEC has no official jurisdiction with regard to property taxes. Those issues are a local matter. We can, however, provide results from the investigation to interested local officials or citizens.

10. Question: How many years has the dump been there?

10. Answer: The area was used as a disposal area from 1919 until 1970.

11. Question: There's no public notice, to adjacent property, owners when a site is initially listed on the NYS Registry of Inactive Hazardous Waste Sites?.

11. Answer: This question has been brought up on many sites through out the state. However, when this site was originally classified there was no legal requirement that adjacent property owners be notified that they own a piece of property adjacent to an inactive hazardous waste site. Due to citizens concerns and their desire for this information, the May 1992 version of 6 NYCRR Part 375-1.8(d) was amended so that "When final decisions concerning a site's classification are made, the Department shall announce by mail or telephone the decision to the clerks of the county; the town or city (as the case may be); and (where located in one) the village, within which the site is located, the site owner and adjacent property owners."

NYS Real Property Law Section 316-b requires that "on or after July first, nineteen hundred ninety-three, each recording officer must provide, at the expense of his county, proper books for making an index of present owners of inactive hazardous waste disposal sites contained in the annual report required by section 27-1305 of the environmental conservation law. The index shall contain an alphabetical listing of all owners listed in such annual report completed by the department of environmental conservation, together with a reference, for each present owner, to the page and year of the report where information regarding the inactive hazardous waste site may be located. The index shall also contain the tax map parcel number or the section, block and lot number of the site."

12. Comment: I just bought my house a year ago. There was a big yellow sign at end of road, I asked my attorney and they did a very good research. I knew what we were getting into. The Department sent me two and a half feet of documents. It was my decision to buy the house. I have all information at my disposal.

13. Question: What about the yards, when will they be done?

13. Answer: The residential lot removal will be done as soon as possible. However, by law, we have to contact the potentially responsible parties (PRPs) and give them the opportunity to do the work. Notice letters to all PRPS were sent out on March 17, 1995. If we receive notice that none of the PRPs are willing to perform the work the Department will either design the removal or get one of our consultants to design it then the job will have to go out for bids. This will all take time. At the earliest this will be done in the summer of 1995 but more likely the fall or spring 1996.

14. Question: Fall, next year, August, do I have to sit there?

14. Answer: The Department will be sampling the residential lot areas this spring in order to better define the removal areas. But the actual removal action will take time to plan and implement.

15. Question: How are you going to do it? A couple of scrapers, dig it out?

15. Answer: The actual removal method will be determined during the design of the removal, but the contaminated soil in the residential lots will be removed from the yards and stored on the landfill.

16. Question: I live next door. What happens to my yard?

16. Answer: Part of the design of this portion of the removal will be the development of a community health and safety plan. This plan will include methods of dust suppression and monitoring for dust levels so as to prevent contaminant migration during the removal. The Department will work with the residents of the area, to address each effected individuals concerns.

17. Question: What happens if you screw up? Accidents happen. Are you going to monitor?

17. Answer: Monitoring will be conducted where the actual removal is taking place (ie. near the bucket or scraper blade) and also at the property boundaries. If dust is being produced the job may be shut down while additional ways to control dust generation are evaluated.

18. Question: So when you're done with their yard, will you test our yard?

18. Answer: The contamination that we are removing is not very mobile. However, when the contaminated material is removed from the yards, confirmatory samples will be taken to make sure that all contaminated material has been removed. If these confirmatory samples indicate that additional sampling is warranted in adjacent yards then the additional sampling will be done.

19. Question: Will you use water to keep the dust down. I don't know any other way to keep dust down. My lot is downhill from one of the lots where the removals will take place. I don't know any other way water runs. Water will run in my yard.

19. Answer: Part of the community health and safety plan that is developed for this portion of the remediation will deal with the suppression of dust during the excavation. Most probably this excavation will be done while the soil is moist. This does not mean, however, that water will be running out of the yard. Part of the workplan developed for this removal will deal with the prevention of dust suppression water running into uncontaminated yards.

20. Question: Wasn't one of the concentrations from my yard twice the lead standard?

20. Answer: The lead concentration of concern is 400 ppm. The highest detected concentration in your yard was 1470 ppm. However, only 3 of the 13 samples taken from your yard were above 400 ppm.

21 Question: What about trees, bushes, deck?

21. Answer: Any material that is removed during the excavation of contaminated material will be replaced or repaired. Trees will be dealt with on a case by case basis.

22. Question: Where was the third area of concern located?

22. Answer: The third area of concern is located behind a house on Dearcop Drive near Buffalo Rd. possibly in the I-390 right of way. This area is not frequented by people.

23. Comment: I commend you that you're trying to clean up.

24. Question: We've waited patiently, several years, you've given us 8 days for a response. I don't get it.

24. Answer: The comment period for the proposed remedial action plan (PRAP) began on February 15, 1995 and runs until March 17, 1995 (31 days). The PRAP was in the Document Repository on February 15 and a fact sheet announcing the availability of the PRAP was mailed to all people on the Departments Mailing list on February 14, 1995.

25. Question: I don't remember seeing this date on it.

25. Answer: These dates were contained in the PRAP.

26. Question: DEC didn't make the mess. Everyone's happy. What happens 10 years frrm now, when contamination from the landfill is leaking back in to the neighborhood?

26. Answer: Part of the selected remedy calls for continued operations and maintenance (O & M). As part of the design for the remedy, an O & M plan will be developed. The O & M plan will outline future sampling needed to monitor the effectiveness of the selected remedy over the next thirty years. If problems are encountered in the future the NYSDEC will act to take additional corrective measures.

27. Question: Right now, you can gain very easy access into the dump. A cheap snow fence was put up to keep kids out. Kids knocked it down. People still walk around. It was never sealed up.

27. Answer: The fences that were constructed at the beginning of this project were never meant to "seal up" the landfill. These fences were constructed to control vehicular access and as a warning to trespassers.

28. Question: Why put on this membrane? What does it take to break this membrane? There are two sites, 490 runs through; NYS comes through , renovation will expand 490 at some time in the future.

28. Answer: The final cover system will eliminate the major exposure pathway (direct contact with contaminated material) at this site. The geotextile liner ("membrane") will be covered by a minimum of two feet of soil to protect the liner. The Town Supervisor, Ralph Esposito, has indicated that the municipality is interested in turning this site into something useful for the community. If it is determined that this site can be used as an asset to the community the barrier protection layer of the cap will be increased to protect the liner even more.

The NYSDOT has been involved in this project from the start. They know the remedy that has been selected and have made no comments. This site will still remain on the NYS Registry of Inactive Hazardous Waste Sites. Because of this, any change in use of the property will require notifying the Department. The Department will not allow any uses which will comprimise the effectiveness of the selected remedy.

29. Question: What about the landowner you're talking about? Have you talked to him lately?

29. Answer: The northern 10 acres of the site is owned by the NYSDOT, the southern 6 acres are owned jointly by Charles R. Dearcop and William L. Dearcop. The Dearcops and the NYSDOT were notified at the beginning of this project and given the opportunity to implement the remedial investigation and feasibility study (RI/FS) at this site. Both the NYSDOT and the Dearcops declined to perform the work. On March 17, 1995, the Department sent out notice letters to the potentially responsible parties asking them to do the hot spot removal at the 3 residential lots.

30. Question: Can you turn it into something without connecting it to Dearcop and Varian Lanes. I wouldn't want a lot of traffic.

30. Answer: The Department is not going to build anything on top of the landfill cap, we may design the cap so that it is possible to use the area on top of the cap for something useful.

The Town Supervisor, Ralph Esposito, indicated that he would hold a neighborhood meeting during the design of the cap to explore beneficial uses of the capped landfill.

31. Question: Describe the soil vapor extraction (SVE) system.

31. Answer: If the pilot study determines that it is feasible, a SVE system will be installed in the areas of deep soil/fill contamination (see figure 2) of the site. Horizontal vapor extraction lines will be installed by placing perforated pipe in the trenches and surrounding the pipe by clean sand. The trench will then be backfilled with excavated material. The actual number and location of extraction trenches will be determined during the final design based on the results of the pilot study. Passive vents may also be installed at the site since the site will be capped. Due to the presence of a major highway which intersects the site two separate SVE systems may be required at the site depending on cost and final design issues. As part of the final design it will be

determined whether the SVE system off-gas will require treatment. After one year, a determination will be made if the system has reached asymptotic conditions (the slope of the contaminant reduction curve approaches zero) with respect to contaminated vapor extraction rates. Once asymptotic conditions have been reached the system will be reevaluated for possible enhancements and modifications. After possible modifications are made to the system an engineering evaluation (cost vs. additional contaminant removal) will be performed to determine when the system will be shut down.

32. Question: What about truck traffic during the construction of the remedy?

32. Answer: Truck traffic will be a consideration during the design of the remediation. Every effort will be made so that the construction of the selected remedy will have as little impact as possible on the neighborhood.

The following comments were recieved in a letter dated March 9, 1995, from Ralph J. Esposito, Supervisor, Town of Gates to J. Andrew Fleck, NYSDEC:

33. Comment: The Town of Gates strongly supports the selected remedy and asked that the Department act as quickly as possible "so that the residents of Dearcop Drive and Varian Lane can finally have the peace of mind that they deserve."

34. Comment: "The Town of Gates is ready to stand by it's commitment to help the restored area become a benefit to the community. And has promised that, while the cleanup is progressing, they will have a neighborhood meeting to determine what use can be made of the restored property."

34. Answer: The ROD has been modified to include the following statement: "The Town of Gates Supervisor will be contacted for his input into the design as well as the input from neighborhood meetings held by the Town Supervisor."

The following comment was recieved in a letter dated March 10, 1995, from Richard S. Elliott, MCHD to J. Andrew Fleck, NYSDEC:

35. Comment: The Monroe County Health Department stated that they had reviewed the February 1995 PRAP and attended the public meeting on March 8, 1995 and that they supported the proposed remedy.

The following comment was recieved in a letter dated February 28, 1995:

36. Comment: One resident of Dearcop Drive, a member of the Community Advisory Panel (CAP) of the Olin Manufacturing Company, wrote a letter which stated: "I have reviewed the PRAP and think that the steps of SVE, On-Site Material Removal, Soil Capping, Institutional Controls and Soil Consolidation are the right way to go to remedy the situation. I sincerely hope that some of the "rumors" I have heard of nothing being done at this site are just that --- "rumors"."

Appendix B

Administrative Record

- Record of Decision, Dearcop Farm Site, Gates, Monroe County, New York, Site #8-28-016, dated March 1995.
- Letter to Michael J. O'Toole, NYSDEC from G. Andres Carlson, NYSDOH, subject - Record of Decision, Dearcop Farm Site, Gates, Monroe County, Site ID #8-28-016, dated March dated March 27, 1995.
- Letter to J. Andrew Fleck, NYSDEC from Richard S. Elliott, MCHD, subject - Proposed Remedial Action Plan, Dearcop Farm Waste Site, Gates (T), NYS ID # 828016, dated March 10, 1995.
- Letter to J. Andrew Fleck, NYSDEC from Ralph J. Esposito, Supervisor, Town of Gates, dated March 9, 1995.
- Proposed Remedial Action Plan, Dearcop Farm Site, Gates, Monroe County, New York, Site #8-28-016, dated February 1995.
- Letter to Linda Vera, NYSDEC from Mrs. C. L. Dunne, dated February 28, 1995
- Letter to Michael J. O'Toole, NYSDEC, from G. Anders Carlson, NYSDOH, subject - PRAP, Dearcop Farm Site, Site #8-28-016, dated February 15, 1995.
- Report, Feasibility Study, Dearcop Farm Site, Gates, Monroe County, New York, Site #8-28-016, dated January 1995.
- Report, Phase III Remedial Investigation Volumes I & II, Residential Lot Soil Sampling, Dearcop Farm Inactive Hazardous Waste Site, Monroe County, New York, Site #08-28-016, dated December 1994.
- Report, Human Health Risk Assessment, Dearcop Farm Site, Gates, Monroe County, New York, Site #8-028-016, dated November 1994.
- Memo, to Michael J. O'Toole, Director, Division of Hazardous Waste Remediation from Edward R. Belmore, Director, Bureau of Western Remedial Action through A. Joseph White, Chief, Section C, subject - Dearcop Farm Work Plan Amendment Justification Memo, Site #8-28-016, W.A. 002625-10, dated November 14, 1994.
- Report, Indoor Air Quality Sampling, Dearcop Farm Site, Gates, Monroe County, New York, Site #8-28-016, dated August 1994.
- Report, Phase II RI Report, Addendum to Phase I Report, Dearcop Farm Site, Gates, Monroe County, New York, Site #8-28-016, dated July 1994.
- Memo to J. Andrew Fleck, NYSDEC from Mike Hughes, NYSDOH, subject - Indoor Air, dated July 7, 1994.

- Work Plan, Residential Surface Soil Sampling, Dearcop Farm, Inactive Hazardous Waste Site, Gates, Monroe County, New York, Site #8-28-016, dated May 1994.
- Data, Quality Assurance Protocol Review, Dearcop Farm Site, Site #8-28-016, dated 5/6/94.
- Data, Quality Assurance Protocol Review, Dearcop Farm Site, Site #8-28-016, dated 5/5/94.
- Data, Quality Assurance Protocol Review, Dearcop Farm Site, Site #8-28-016, dated 5/3/94.
- Data, Quality Assurance Protocol Review, Dearcop Farm Site, Site #8-28-016, dated 5/3/94.
- Data, Quality Assurance Protocol Review, Dearcop Farm Site, Site #8-28-016, dated 5/2/94.
- Data, Quality Assurance Protocol Review, Dearcop Farm Site, Site #8-28-016, dated 4/27/94.
- Data, Quality Assurance Protocol Review, Dearcop Farm Site, Site #8-28-016, dated 4/27/94.
- Data, Quality Assurance Protocol Review, Dearcop Farm Site, Site #8-28-016, dated 4/26/94.
- Letter to Paul Brodzick, E&E from A. Joseph White, NYSDEC, subject - NYS Standby Contract, W.A. D002625-10, Request for revised W.A. Budget Indoor Air Quality and Limited Soil Gas/Groundwater sampling Dearcop Farm Site, Site #8-28-016, dated March 25, 1994.
- Letter to David J. Chiusano, NYSDEC, from Paul Brodzick, E&E, subject - Request for Revised Work Assignment Budget Modification D002625-10.1, Indoor Air Quality and Limited Spoil Gas/Groundwater Sampling, Dearcop Farm Site, Site #8-28-016 dated March 18, 1994.
- Letter to David Napier, NYSDOH from David J. Chiusano, NYSDEC subject - Dearcop Farm Draft Phase II RI Addendum, Site #8-28-016, (T) Gates, Monroe County, dated March 16, 1994.
- Memo to Michael J. O'Toole, Director DHWR from Edward R. Belmore, Director BWRA, subject - Dearcop Farm Work Plan Amendment Justification Memo, Site #8-28-016, W.A. D002625-10, dated February 1, 1994.
- Letter to David J. Chiusano, NYSDEC from Richard S. Elliott, MCHD and David L. Napier, NYSDOH, subject - Dearcop Farms, ID #8-28-016, Indoor Air Sampling, Gates, Monroe County, dated January 19, 1994.
- Report, Phase I Remedial Investigation, Volume I & II,, Dearcop Farm Site, Gates, New York, Site #8-28-016, dated January 1994.
- Letter to Cathy Geraci, E&E, from George Harris, NYSDEC subject - Work Assignment D002625-10, Dearcop Farm Site - Gates, New York, Proposal for Phase II RI, dated August 27, 1993.

- Letter to David Chiusano, NYSDEC from M. Cathy Geraci, E&E, subject - Proposal for Phase II RI, Dearcop Farm Site, Site # 8-28-016 Work Assignment No. D002625-10, dated August 18, 1993.

- Letter to David J. Chiusano, NYSDEC from M. Cathy Geraci, E&E, subject - Dearcop Farm Site, Site #8-28-016, Work Assignment No. D002625-10, dated April 15, 1993.

- Letter to David Chiusano, NYSDEC from M. Cathy Geraci, E&E, subject - Gas Producing Monitoring Wells Dearcop Farm Site, Site #8-28-016, Work Assignment No. D002625-10 dated February 22, 1993.

- Letter to David Chiusano, NYSDEC from M. Cathy Geraci, E&E, subject - Preliminary Data, Dearcop Farm Site, Site #8-28-016, Work Assignment No. D002625-10, dated February 17, 1993.

- Letter to George Harris, NYSDEC from M. Cathy Geraci, E&E subject - Monitoring Well MW-4D, Dearcop Farm Site, Site #8-28-016, Work Assignment No. D002625-10, dated February 5, 1993.

- Letter to David Chiusano, NYSDEC from M. Cathy Geraci, E&E subject - Drilling Activities at Monitoring Well MW-4D, Dearcop Farm Site, Site #8-28-016, Work Assignment No. D002625-10, dated February 5, 1993.

- Letter Ralph Esposito, Supervisor Town of Gates from Michael J. O'Toole, NYSDEC, subject - Dearcop Farm, New York State Inactive Hazardous Waste Disposal, Site #8-28-016, Town of Gates, New York, Remedial Investigation/Feasibility Study, dated November 30, 1992.

- Letter to David Chiusano, NYSDEC from M. Cathy Geraci, E&E, subject - Preliminary Soil Gas and Geophysical Survey Results, Dearcop Farm Site, Site #8-28-016, Work Assignment No. D002625-10, dated October 13, 1992.

- Letter to Jack Wilcox, E&E from P. David Smith, NYSDEC subject - State Superfund Standby Contract Work Assignment No. D002625-10, Dearcop Farm Site, Site #8-28-016, dated September 26, 1991.

- Letter to Howard Shapiro, E&E from Michael J. O'Toole, NYSDEC, subject - State Superfund Standby Contract, Work Plan Approval, Work Assignment D002625-10, Dearcop Farm, Site #8-28-016, dated June 25, 1992.

- Work Plan Remedial Investigation/Feasibility Study, Dearcop Farm Site, Site #8-28-016, dated May 1992.

- Work Plan Phase I RI/FS, Health and Safety Plan/Quality Assurance Project Plan for the Dearcop Farm Site, Gates, New York, Site #8-28-016, dated May 1992.

- Letter to Cathy Geraci, E&E from David J. Chiusano, NYSDEC, subject - Proposed Scoping Plan, Dearcop Farm Site, Site #8-28-016, dated December 17, 1991.

- Report, Project Scoping Plan, Dearcop Farm Site, Site #8-28-016, dated November 1991.

- Citizen Participation Plan, Dearcop Farm Site, Site #8-28-016, Town of Gates, Monroe County, New York, dated November 1991.

- Memo to David Chiusano, NYSDEC from Swapan Gupta, NYSDEC, subject - WA D002625-10 Site Name: Dearcop Farm, Site #8-28-016, dated September 26, 1991.

- Memo to Michael J. O'Toole, Director, DHWR from George Harris through Edward R. Belmore, Director, BWRA, subject - Work Assignment Conceptual Approval Under the State Superfund Standby Contracts, dated September 25, 1991.

- Memo to Michael J. O'Toole, DHWR from David Markell, subject - Enforcement: Inactive Site: Dearcop Farm (828016) dated July 18, 1991.

- Memo to Glen Bailey, DEE from George Harris, BWRA, subject - Dearcop Farm, Site #8-28-016, Town of Gates, Monroe County, dated June 12, 1991.

- Letter Charles R. Dearcop, Jr., Dearcop Trucking from Glen Bailey, NYSDEC, subject - Dearcop Farm, Site #8-28-016, dated January 15, 1991.

- Memo from Glen Bailey, DEE to David J. Chiusano, BWRA, subject - Dearcop Farm, Site #8-28-016 dated July 17, 1990.

- Memo from Edward R. Belmore, Director, BWRA to Al Rockmore, Director, BCS, subject - Dearcop Farm Site, Site #8-28-016, Town of Gates, Monroe County, dated July 13, 1990.

- Letter from Della M. Dearcop to Robert L. Marino dated May 4, 1990.

- Letter to Michael J. O'Toole, NYSDEC from Ronald Tramontano, NYSDOH, subject - Dearcop Farm site, (T) gates, Monroe County, ID #8-28-016.

- Letter to Charles R. Dearcop, Dearcop Trucking from Glen Bailey, NYSDEC, subject - Dearcop Farm, Town of Gates, Site #8-28-016, dated July 3, 1990.

- Memo to David Markell, Director, DEE from Michael J. O'Toole, Director, DHWR, subject - Dearcop Farm Site, #8-28-016, Town of Gates, Monroe County, dated June 18, 1990.

- Letter to Charles Dearcop from Robert L. Marino, NYSDEC, dated April 5, 1990.

- Letter to NYSDOT from Frank T. Ricotta, NYSDEC, subject - Phase II Engineering Investigation of Inactive Hazardous Waste Disposal Sites, dated July 20, 1988.

- Memo to Frank Shattuck, Region 8 from Margaret O'Brien, BHSC, subject - Dearcop Farm (#8-28-016) Phase II Final Report, dated July 12, 1980.

- Letter E. Joseph Sciascia, NYSDEC from Carl E. Hilton, EI DuPont de Nemours & Company subject - Request for Information Concerning Waste sent to Dearcop Farm Landfill, Site #8-28-016, Town of Gates, dated October 14, 1986, dated November 13, 1986.

- Letter to Henry G. Williams, Commissioner, NYSDEC from Alan J. Knauf, Harris Beach, Wilcox, Rubin and Levey, subject - Dearcop Farm, DEC Site #8-28-016, dated April 11, 1985.

- Letter to Charles R. Dearcop, Jr., Dearcop Trucking Company, Inc. from Jeffrey J. Lacey, DEE, dated February 1, 1985.

- Report Engineering Investigations of Inactive Hazardous Waste Site Phase II Investigations, Dearcop Farm, Site #8-28-016, Town of Gates Monroe County, dated April 1988.

- Report Engineering Investigation of Inactive Hazardous Waste Sites, Phase II Investigation, Row Data Package, Dearcop Farm, Site #8-28-016, Town of Gates, Monroe County, dated April 1988.

- Report Preliminary Investigations of the Dearcop Farm Site, Town of Gates, Monroe County, New York, Phase I Summary Report, dated September 1984.