United States
Environmental Protection
Agency

Office of
Emergency and
Remedial Response

EPA/ROD/R03-92/145
December 1991

EPA

Superfund Record of Decision:

Dublin Water Supply, PA

NOTICE

The appendices listed in the index that are not found in this document have been removed at the request of the issuing agency. They contain material which supplement, but adds no further applicable information to the content of the document. All supplemental material is, however, contained in the administrative record for this site.

50272-101

REPORT DOCUMENTATION PAGE	1. REPORT NO. EPA/ROD/R03-92/145	2.	3. Recipient's Accession No.

4. Title and Subtitle
SUPERFUND RECORD OF DECISION
Dublin Water Supply, PA
First Remedial Action - Final

5. Report Date
12/30/91

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7. Author(s)

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Washington, D.C. 20460

13. Type of Report & Period Covered
800/000

14.

15. Supplementary Notes
PB93-963903

16. Abstract (Limit: 200 words)
The 4.5-acre Dublin Water Supply is a former manufacturing facility located in Dublin Borough, Bucks County, Pennsylvania. The site consists of a one-story tower building and parking lot. The surrounding area is mixed commercial and residential, with a fruit orchard bordering the site to the north and west. Groundwater beneath the site contributes to the aquifer by providing a drinking water source to area residents. The ground water flows toward residential and commercial wells in the Dublin Borough and is believed to be predominantly controlled by bedrock fractures. Surface drainage, which flows in a northward direction, is absorbed by the fruit orchard or discharges to a tributary of Morris Run located northwest of the site. Since the 1930s, the site has been used for various industrial purposes and has had several owners. From the early 1930's to 1956, the site operated as a hosiery mill. In 1956 Home Window Company of Pennsylvania used the property for the manufacture of aluminum doors and windows. In 1959, the property was purchased by Kollsman Motors Corporation (KMC) and used to manufacture mechanical and electromechanical components that are utilized in aircraft and missiles. During this time, TCE was used onsite, and spent product was either poured onto the ground or stored in perforated drums. In 1973,

(See Attached Page)

17. Document Analysis a. Descriptors
Record of Decision - Dublin Water Supply, PA
First Remedial Action - Final
Contaminated Media: gw
Key Contaminants: VOCs (PCE, TCE, vinyl chloride)

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

18. Availability Statement	19. Security Class (This Report) None	21. No. of Pages 109
	20. Security Class (This Page) None	22. Price

(See ANSI-Z39.18) *See Instructions on Reverse*

OPTIONAL FORM 272 (4-77)
(Formerly NTIS-35)
Department of Commerce

Abstract (continued)

Athlone Industries purchased the property for cleaning, stamping, and packaging softballs. TCE solvents were used as degreasing agents to assemble stamping machines. In 1986, the current owner purchased the site for antique car restoration. A portion of the site is currently leased to Laboratory Testing, Inc., for metallurgical testing. During a routine drinking water survey in 1986, the state discovered elevated levels of TCE affecting approximately 170 area homes. Under the EPA direction, the owner supplied carbon filtration to affected residential water supplies and installed ground water monitoring wells, which indicated ground water contamination with several VOC compounds. This early action ROD addresses the provision of a permanent clean drinking water supply to affected area residents and businesses. An additional RI/FS, which commenced in 1991, will focus on remediation of the soil, ground water, and surface water in a separate clean-up action. The primary contaminants of concern affecting ground water are VOCs, including TCE, PCE, and vinyl chloride.

The selected remedial action for this site includes installing and operating a new water supply well or operation of the existing well; constructing and continuing the operation of an air stripping and vapor phase carbon adsorption treatment system, or other appropriate technology, for the well; expanding the Dublin Borough public distribution system with the treated water; and monitoring the residential and commercial wells not serviced by the public distribution system. The estimated present worth cost for this remedial action is $5,000,000, which includes a capital cost of $3,100,000 and an annual O&M cost of $300,000 for 30 years.

PERFORMANCE STANDARDS OR GOALS: Chemical-specific ground water standards are based on SDWA MCLs for TCE 5 ug/l, PCE 5 ug/l; vinyl chloride 2 ug/l; cis-1,2-DCE 70 ug/l; trans-1,2-DCE 100 ug/l; 1,1-DCE 7 ug/l; and 1,1,1-TCA 200 ug/l. Performance standards for air emissions from the ground water stripping unit shall comply with the National Ambient Air Quality Standard (NAAQS) under CAA, and disposal standards for spent carbon filters shall meet RCRA requirements.

RECORD OF DECISION
DUBLIN TCE SITE

DECLARATION

SITE NAME AND LOCATION

Dublin TCE Site, Alternate Water Supply Operable Unit
Dublin Borough, Bucks County, Pennsylvania

STATEMENT OF BASIS AND PURPOSE

This decision document presents the selected remedial action for Operable Unit 1 (OU 1) of the Dublin TCE Site, in Dublin, Pennsylvania, which was chosen in accordance with Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision document explains the factual and legal basis for selecting the remedy for Operable Unit 1 of this Site.

The Commonwealth of Pennsylvania concurs with the selected remedy. This unofficial concurrence is documented in a letter from PADER to EPA, dated September 12, 1991. The information supporting this remedial action decision is contained in the Administrative Record for this Site.

ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action selected in this Record of Decision (ROD), may present an imminent and substantial endangerment to public health, welfare, or the environment.

DESCRIPTION OF THE REMEDY

This Operable Unit is the first operable unit of at least two operable units planned for the Site. This Operable Unit will provide a permanent clean drinking water supply for the residences and businesses whose ground water has been or may become contaminated by the Site. This early action remedy will be incorporated into the final action taken at the Site to remediate the groundwater, soil, and surface water at the Site. Operable Unit Two (OU 2) will address the investigation and remediation of the groundwater, surface water, and soil at the Site.

The major components of the selected remedy include:

1. Development, construction, and operation of a new water supply well within the plume of contamination or operation of an existing well within the plume of contamination. Preference will be given to use of an existing well so that this remedy can be implemented as quickly as possible, however, the decision on use of a groundwater well will be made based on a review of all relevant factors.

2. Construction and operation of an air stripping and vapor phase carbon adsorption system (or similar treatment technology which is acceptable to EPA after consultation with PADER) for treatment of the water extracted from the well described above. Treated water, which does not exceed the Maximum Contaminant Levels (MCLs) for the contaminants of concern, shall be supplied to the public water supply.

3. Expansion of the existing Dublin Borough public water distribution system with use of the well and treatment system described above to provide clean water, according to the requirements of the Federal Safe Drinking Water Regulations and the State Community Environmental Control Regulations, through the public water supply, to the affected and potentially affected residences and businesses.

4. Monitoring of residential and commercial wells at homes not addressed by the public water supply but which have the potential for contamination until a final groundwater remedy is implemented at the Site.

5. Operation and maintenance of the selected remedy.

DECLARATION OF STATUTORY DETERMINATIONS

The selected remedy is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost-effective. Although this interim action is not intended to fully address the statutory mandate for permanence and treatment to the maximum extent practicable, this action utilizes treatment and thus is in furtherance of that statutory mandate. Because this action does not constitute the final remedy for the Site, the statutory preference for remedies that employ treatment that reduces toxicity, mobility, or volume as a principal element, although partially addressed in this remedy, will be more fully addressed by the final response action. Subsequent actions are planned to address fully the threats posed by the conditions at this Site.

Because this remedy will result in hazardous substances remaining on-site above health-based levels, a review will be conducted within five years after commencement of remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment.

Edwin B. Erickson
Regional Administrator
Region III

DEC 30 [illegible]
Date

DUBLIN TCE SITE
RECORD OF DECISION

TABLE OF CONTENTS

I. Site Name, Location, and Description

The Dublin TCE Site is located at 120 Mill Street in Dublin Borough, Bucks County, Pennsylvania (Figure 1) approximately 400 feet west of State Route 313. The Site is located on approximately 4 1/2 acres in size and is surrounded by residences and businesses to the east, west and south. A fruit orchard borders the Site to the north and west. The Site consists of one one-story brick building surrounded by a parking lot. A fire tower is located at the northern boundary of the property (Figure 2).

The regional water supply primarily consists of private and public wells. The aquifer is classified as Class IIA, a current source of drinking water. Based on available information, the ground water flows from southeast to northwest beneath the Site and is controlled predominantly by fractures. Ground water beneath the Site flows towards residential and commercial wells in Dublin Borough.

Site surface water drainage is expected to flow in a northwestward direction via street drainage because the majority of the property is currently paved with asphalt. Drainage not absorbed by the fruit orchard located directly northwest of the Site, is collected by a drainage ditch situated on the northern corner of the property near the fire tower. The ditch is believed to discharge into the headwaters of an unnamed perennial tributary of Morris Run, located approximately 1/2 mile northwest of the Site.

Specific information concerning groundwater and surface water flow will be confirmed during the Remedial Investigation/ Feasibility Study (RI/FS) which is currently being performed by one potentially responsible party.

II. Site History and Enforcement Activity

The Site operated as a hosiery mill from the 1930s until 1956. Dublin Hosiery Mills operated the Site from 1945 to 1956. Home Window Company of Pennsylvania, Incorporated manufactured aluminum doors and windows at the property from 1956 to 1959.

Kollsman Motor Corporation (KMC) owned and operated the Site from 1959 to 1971 and used it to manufacture miniature precision motors, gear trains, clutches, brakes and related electro-mechanical components which were used in manned aircraft and missiles. Trichloroethylene (TCE) was used as a degreasing solvent in this operation. Between 1959 and 1971, KMC used TCE at the rate of approximately 15 gallons per week. Spent TCE was disposed of at the Site in "chip" drums (i.e. drums used to store waste metal parts from the manufacturing process) located behind

the building. These drums had drainage holes on the bottom so that the TCE drained out of the drums and onto the ground. TCE was also poured on the ground behind the building. KMC sold the property to Kollsman Instrument Corporation (KIC) in 1971.

Athlone Industries, Incorporated (Athlone) purchased the property from KIC in 1973 and operated the Site from 1973 to 1986. Athlone used the property to clean, stamp, package and store baseballs and softballs. Safety Solvent No. 2, a solvent containing approximately 10% trichloroethylene was used in 1982 by Athlone as a degreasing solvent for the assembly of three stamping machines. A partially full 30-gallon drum of this solvent was left on the premises after Athlone sold the property in 1986.

John H. Thompson purchased the property in 1986 and is the current owner and operator of the Site. Mr. Thompson uses a portion of the Site to restore antique race cars and leases a portion of the Site to Laboratory Testing, Incorporated. LTI uses the property for metallurgical testing.

During a routine drinking water survey in the summer of 1986, the Bucks County Health Department (BCHD) discovered levels of TCE up to 1000 parts per billion (ppb) in 23 tap water samples. Approximately 170 homes, apartments and businesses in Dublin Borough were affected. BCHD issued advisories to the public on the best approach to curtail water usage and prevent further exposure to TCE. For residences with TCE levels greater than 5 ppb, BCHD recommended the installation of carbon filters. For TCE levels above 500 ppb, the County cautioned residents not to use their tap water for bathing.

The EPA Region III Emergency Response Section received a request from the BCHD to evaluate the Site on September 3, 1986. A preliminary assessment, conducted by EPA, determined the current water usage status of all residential and commercial wells which were found to be contaminated with TCE.

On June 29, 1987, EPA entered into a CERCLA Section 106 Consent Agreement and Order with John H. Thompson. Mr. Thompson agreed to: (1) take action to assure that all residents and commercial employees exposed to TCE levels greater than 5 ppb would have an adequate treatment system in place or would be supplied with bottled water (as specified in the Work Plan attached to the Consent Agreement and Order), (2) conduct periodic monitoring of all carbon filters and air strippers being used by the residences and businesses to assure that the units were functioning properly, and (3) conduct periodic groundwater monitoring of wells for all residences and businesses at risk in accordance with the Work Plan.

This Consent Order and Agreement was amended in April 1991

to provide point-of-entry carbon filtration systems i.e., treatment systems installed on the water source entering the household, to all residential dwellings with groundwater contamination greater than 5 ppb TCE. At businesses, either bottled water or point-of-use carbon filtration systems are provided. This amendment addressed the risk posed by inhalation of TCE vapors released from the groundwater. Residences that were previously supplied with only point-of-use treatment systems (i.e. treatment systems located at the kitchen tap) are now being supplied with the point-of-entry systems. Residential well testing conducted under this order indicated that groundwater is contaminated with several volatile organic compounds (VOCs), including trichloroethylene (TCE), tetrachloroethylene (PCE) and vinyl chloride.

On June 4, 1990, the Commonwealth of Pennsylvania, Department of Environmental Resources (PADER) and Sequa Corporation (successor in ownership to Kollsman Motor Corporation and Kollsman Instrument Corporation) entered into a Consent Order and Agreement under the Commonwealths' Clean Streams Act. Sequa Corporation agreed to investigate and abate the groundwater contamination problems at or near the Site in accordance with the Work Plan attached to the Consent Order and Agreement. Under the Consent Order and Agreement executed by Sequa and PADER, Sequa also agreed to submit a Recommended Remedial Action Plan which will address the contaminated groundwater and provide for a water distribution system.

John H. Thompson, at the request of PADER, installed two monitoring wells at the Site in 1988. Eight additional monitoring wells were installed off of the 120 Mill Street property under a separate study by Geraghty & Miller. The monitoring wells installed both on-site as well as off-site show contamination by volatile organic compounds, including TCE and vinyl chloride. Three municipal supply wells located in the Borough were tested for VOCs in 1991 by Dublin Borough for VOCs. No contamination was detected in these wells.

Soil and soil gas at the 120 Mill Street property were sampled during studies performed by John H. Thompson in 1988 and Sequa Corporation in 1990 on behalf of PADER. Results indicated that the soil and soil gas on the property are contaminated with volatile organic compounds, including TCE and vinyl chloride.

The Site scored a 28.9 under EPA's hazard ranking system. It was proposed for inclusion on the CERCLA National Priorities List (NPL) on October 26, 1989. The Site was finalized on the NPL on August 30, 1990.

In 1991, EPA conducted a Focused Feasibility Study (FFS) for Operable Unit 1 at the Site to evaluate remedial alternatives for providing an alternate clean drinking water supply to the

affected and potentially affected residences and businesses (referred to collectively as "affected parties") . The FFS included the supply of an alternate water source to 69 homes and businesses whose well water exceeded or had the potential, due to groundwater flow, to exceed the Maximum Contaminant Levels (MCL) set by EPA, or pose an excess cancer risk level of $1x10^{-06}$ or greater for volatile organic compounds, including TCE, PCE and vinyl chloride. The MCL is an enforceable drinking water standard established within the Safe Drinking Water Act. If a chemical did not have an MCL, EPA developed a $1x10^{-06}$ level which may result in one excess cancer among one million people exposed to the contaminant. Table 1 identifies the residences and businesses where remedial action levels, i.e. , MCLs or $1x10^{-06}$ cancer risk levels, were exceeded or have the potential to be exceeded. The FFS also identified residences and businesses whose well may be contaminated by VOCs from the Site if a groundwater remedial action is not implemented by 1995.

EPA issued a proposed plan on August 8, 1991 which described the remedy EPA preferred to implement for OU 1, as well as 6 other alternatives. The remedy EPA preferred to implement was a connection to the existing Dublin Borough water system, expansion of the system to include a water supply well within the plume of contamination, and treatment of this water with air stripping and vapor phase carbon adsorption prior to distribution to the affected parties. A request for an extension of an additional 30 days to the public comment period was made on August 13, 1991. The public comment period was extended to October 9, 1991. After the 60-day public comment period closed, EPA reevaluated the 7 alternatives within the proposed plan based upon comments received. This record of decision (ROD) selects the remedial alternative for Operable Unit One which was preferred in the proposed plan.

EPA entered into a Consent Order and Agreement with Sequa Corporation on August 15, 1991. This Consent Order and Agreement requires Sequa Corporation to conduct a Remedial Investigation (RI) and Comprehensive Feasibility Study (FS) at the Site. The RI/FS is expected to be completed in 1993. This RI/FS will address the groundwater, surface water and soils at the Site.

EPA conducted potentially responsible party searches in 1987 and in 1990 and identified the following PRPs: Sequa Corporation (successor in ownership of KMC and KIC), Athlone Industries, Incorporated, and John H. Thompson. Sequa Corporation and John H. Thompson were sent "special notice" letters on August 22, 1991. The letters indicated that EPA would not begin the remedial investigation or feasibility study for the Site until 90 days from the date of the special notice letter provided that the potentially responsible parties agreed to implement the RI/FS. A general notice letter was sent to Athlone Industries, Incorporated on November 21, 1990 requesting participation in the

on-going negotiations between Sequa Corporation, John H. Thompson and EPA for implementation of a RI/FS.

At least two federal lawsuits have been filed at the Site. These include Whistlewood Commons Associates v. Sun Chemical Corporation, Athlone Industries, Incorporated, and John H. Thompson, United States District Court for the Eastern District of Pennsylvania, Civil Action No. 87-6407, and Susan Coburn, etal. v. Sun Chemical Corporation, Athlone Industries, Incorporated, and John H. Thompson, United States District Court for the Eastern District of Pennsylvania, Civil Action No. 88-0120.

III. Highlights of Community Participation

In accordance with CERCLA Section 117, the Proposed Plan and the FFS for OU 1 were released to the public on August 8, 1991. These two documents were made available to the public in the Administrative Record for this Site and the information repository maintained at the Dublin Borough Hall located at 119 Maple Avenue in Dublin, PA and the EPA Docket Room in Region III, Philadelphia, PA. The notice of availability of these documents was published in The Daily Intelligencer, The News Herald, The Morning Call, and The Philadelphia Inquirer on August 8, 1991. In addition, a copy of the Proposed Plan was mailed to approximately 100 people who requested information concerning the Site.

Due to a request for an extension to the comment period, the 30-day public comment period was expanded to 60 days. The comment period began on August 8, 1991 and was concluded on October 9, 1991. The public was given additional opportunity to comment on the Proposed Plan and Focused Feasibility Study at a public meeting held at the Dublin Fire Hall on August 26, 1991. At this meeting, representatives from EPA and PADER answered questions and received comments about the Site, the remedial alternatives under consideration and the proposed remedy. A stenographic report of the public meeting was prepared by EPA. A response to the comments received during the 60-day comment period is included as part of this ROD in the Responsiveness Summary (APPENDIX A).

The index for the Administrative Record, upon which this decision document is based, is contained within APPENDIX B. This decision document is also based upon comments contained within the stenographic report of the public meeting on August 26, 1991 and other comments received by EPA, which are also included in the Site file.

IV. Scope and Role of OU 1

This record of decision addresses the first operable unit at

the Site. The ROD for this operable unit addresses drinking water. This remedial action provides an alternate water supply for approximately seventy (70) residences and businesses affected or potentially affected by the Dublin TCE Site contamination. Table 1 lists the residences and businesses who will be supplied by an alternate water source. The provision of an alternate water supply will prevent the ingestion of and dermal contact with contaminated groundwater and the inhalation of vapors from contaminated groundwater. This remedial action also provides for monitoring for VOCs of approximately (50) residential and commercial wells which may be potentially impacted by the groundwater contamination if a final groundwater remedy is not implemented by 1995. Table 2 lists the residences and businesses whose wells will be monitored.

The primary objective of this response is to supply clean water to residences and businesses whose wells are currently or potentially affected by the Dublin TCE Site groundwater contamination. The aquifer being used by the residences and businesses at or near the Dublin TCE Site is classified as Class IIA, a current source of drinking water, in accordance with the EPA document "Guidelines for Groundwater Classification"(Final Draft, December 1986). The primary risk to human health and the environment is from ingestion of, and contact with, groundwater from wells that contain contaminants above the MCLs established under the Safe Drinking Water Act, 42 U.S.C. Sections 300f to 300j-26. The water supply must meet all federal and state applicable or relevant and appropriate standards. The response will address distribution of clean water to residences and businesses whose water supply is affected or potentially affected by contamination from the Site.

The remedy described in this ROD is only part of the total remedy for the Site. The remainder of the Site is being investigated as part of a remedial investigation and feasibility study, the results of which will be presented at a later date and used to select a remedy for the entire Site. The remedial alternative selected in this ROD will be consistent with the remedy selected for the entire Site.

V. Summary of Site Characteristics

All characteristics of the Dublin TCE Site will be fully described and discussed after the Remedial Investigation and Feasibility Study have been completed and a report of the investigation and study are approved by EPA.

During former operations at the Dublin TCE Site, chemical solvents were used to degrease machined metal parts and equipment. The amount of solvent used between 1959 and 1971 amounted to approximately 15 gallons per week. A 30-gallon drum of a solvent containing TCE was purchased for use during 1982 and

the partially full drum was left at the 120 Mill Street property at the time of the sale of the property to John H. Thompson.

The amount of solvent spilled or otherwise released into the environment at the Dublin TCE Site is unknown. However, some of the chemical solvent has migrated through the soil column and has entered the ground water system beneath the facility. Chemical sampling of ground water from wells on the Dublin TCE Site and from wells near the Dublin TCE Site indicate that volatile organic chemicals, including TCE, PCE and vinyl chloride, exist in the ground water at levels of up to 10,000 ppb, 13 ppb and 28 ppb, respectively. TCE and PCE are probable human carcinogens and vinyl chloride is a confirmed human carcinogen. These VOCs are mobile and soluble in groundwater.

The bedrock beneath the Site is fractured. Ground water moves predominantly through the fracture system. Therefore, residential or other wells penetrating the same fractures or fracture systems containing contaminated ground water from the Site may become contaminated. Some residential and commercial wells are now contaminated by volatile organic compounds similar to those found at the Dublin TCE Site, including TCE. John Thompson has, under a Consent Order with EPA, installed activated carbon units or supplied bottled water to homes and businesses with TCE levels above 5 ppb to reduce these levels to safe levels. EPA has decided to develop and screen remedial alternatives to provide a permanent supply of clean water to residences and businesses near the Site and to select a remedial alternative for an alternate water supply of drinking water in this Record of Decision.

Between 1987 and 1990, a series of field investigations and residential well monitoring at the Site confirmed the presence of TCE in the soil and groundwater at and surrounding the Site. These investigations were conducted by John H. Thompson, Sequa Corporation and Roy F. Weston for PADER, EPA and the Whistlewood Apartment Complex.

VI. Summary of Site Risks

Well sampling conducted under the Consent Order between Mr. Thompson and EPA indicates that the untreated groundwater at certain residences and businesses is contaminated with VOCs including TCE, PCE and vinyl chloride at levels which exceed the Maximum Contaminant Levels (MCLs) for these chemicals. Residential and commercial well sampling has indicated TCE levels up to 10,000 ppb, PCE levels up to 13 ppb and vinyl chloride levels up to 28 ppb in the untreated groundwater. Degradation products of TCE and PCE in addition to vinyl chloride have been identified in the residential and commercial wells. These chemicals include cis- and trans- 1,2- dichloroethylene, 1,1-dichloroethylene, and 1,1- dichlorethane. 1,1,1 trichloroethane

has also been identified.

The MCL is an enforceable drinking water standard established within the Safe Drinking Water Act. EPA will initiate a remedial action if groundwater contains a particular chemical above the standard, or MCL, for that chemical. If a MCL has not been developed for a chemical, EPA will use other criteria when considering the need for remedial action. For this remedial action, EPA has used the established MCLs or the "excess cancer risk level of $1x10^{-06}$", i.e. one excess cancer among one million people, to determine if remedial action is necessary. The criteria, i.e. remedial action level, used by EPA which would trigger the need for remedial action for this operable unit and the maximum levels identified at the Site are described in Table 3. The MCL has been exceeded for vinyl chloride, trichoroethyene, tetrachloroethylene, and 1,1-dichloroethylene at the affected residences and businesses near the Site. Therefore, a remedial action is justified.

A summary of the most recent analytical data from residential wells is contained within APPENDIX C. Average TCE concentrations in the residential wells from 1986 to March 1991 are indicated in Figure 3.

VIII. Alternatives

This section of the ROD describes the process of screening and developing remedial alternatives and discusses in detail each of the seven alternatives evaluated in the proposed plan.

The FFS studied and evaluated several options to determine if they could be applicable for use in providing an alternate water supply. The NCP requires that the "No Action" alternative be evaluated. The technologies determined to be most applicable to this action were developed into remedial alternatives. These alternatives, presented and discussed below, are:

- **Alternative 1: No Action**
- **Alternative 2: Connection to the Existing Dublin Borough Municipal Water Supply**
- **Alternative 3: Installation of a New Well or Use of an Existing Well Outside of the Plume of Contamination**
- **Alternative 4: Treatment of Water from Residential and Business Wells with Carbon Adsorption Systems**
- **Alternative 5: Treatment of Water from a New Well or Existing Well within the Plume with a Carbon Adsorption System**
- **Alternative 6: Treatment of Water from a New Well or Existing Well within the Plume with Air Stripping and Vapor-Phase Carbon Adsorption**

- Alternative 7: Treatment of Water from a New Well or Existing Well within the Plume with UV Oxidation

Applicable or relevant and appropriate requirements (ARARs) which are identified for this remedial action are listed in Table 4. Major ARARs pertaining to each alternative are identified in the alternative description sections below.

Alternative 1: NO ACTION

The NCP requires that the "No Action" alternative be evaluated at every site to establish a baseline for comparison with the other alternatives. Under this alternative, EPA would discontinue the monitoring program and discontinue the supply of bottled water or carbon adsorption units to the affected parties. As a result, residences and businesses would use water contaminated with volatile organic compounds. Because VOCs exist at levels above the MCL and/or the cancer risk level of $1x10^{-06}$, public health would not be protected under the "No Action " alternative. Alternative 1 does not satisfy the primary objective of this ROD.

Alternative 2: CONNECTION TO THE EXISTING DUBLIN BOROUGH MUNICIPAL WATER SUPPLY

The general components of this alternative are:

A. Connecting affected parties into an extension of the Dublin Borough municipal water system.

B. Removing existing carbon units or discontinuing bottled water service for the affected residences and businesses and disposing of the carbon units in accordance with all Federal and State regulations.

C. Abandoning affected and potentially affected wells within the plume of contamination and/or implementing institutional controls on the development and use of private wells within the plume of contamination.

D. Conducting periodic sampling and monitoring at certain residences and businesses not connected into the Dublin system to ensure that these homes do not become affected by contamination from the Site.

E. Conducting periodic monitoring of the Dublin Borough supply wells for volatile organic compounds to ensure that these wells do not become affected by contamination from the Site.

The Borough of Dublin operates a municipal water supply and public water distribution system. This alternative involves expanding the existing public water distribution system and supplying the affected parties with uncontaminated water from the existing water supply. The affected parties currently obtain water from private wells. The existing municipal water supply is supplied by three wells, Well #1, Well #2, and Well #3 (Figure 3). The capacity of the existing water supply system would need to be increased by approximately 50 gallons per minute (gpm) to supply the affected parties. The existing water supply is permitted by the Pennsylvania Department of Environmental Resources (PADER) and the Delaware River Basin Commission (DRBC) for this additional capacity.

The water would be distributed to the affected parties through water mains constructed along North Main Street, Mill Street and a portion of Elephant Road (see Figure 3). A connection could be made to the Dublin water distribution system at the intersection of Elephant Road and Deep Run Road. Water mains would be extended from this point south along Elephant Road to Main Street, and then north along North Main Street to Rickerts Road. A main would also be installed along Mill Street from North Main Street to Cherry Lane to supply residences along Mill Street and on the northside of Maple Avenue to Cherry Lane. Each affected party would be connected to the water main and the water use would be metered.

Dublin Borough Ordinance No. 164, requires that private wells be abandoned, as a general rule, when a borough water line exists to service a home or business. The Borough Ordinance does, however, exclude those residents and business owners and operators, who have utilized private wells prior to the construction of the borough water line.

Under this alternative, the existing residential wells would be abandoned and the existing in-house carbon filters would be removed unless an agreement is reached between the property owner and the Borough for continued use of the private well. If the property owner reached such an agreement, the property owner would maintain the in-house treatment system. These carbon filters would be disposed of in accordance with the Federal Resource Conservation Recovery Act (RCRA) and Pennsylvania's Solid Waste regulations with preference given to recycling or regenerating this filters, if possible. These regulations are considered applicable. The spent carbon filters would be considered a RCRA characteristic waste if the toxic characteristic leaching procedure (TCLP) analysis performed on this waste resulted in a VOC concentration greater that 0.5 parts per million. Otherwise, the waste would be disposed of in accordance with RCRA Subtitle D regulations.

Under this alternative, the water mains and associated

equipment would be transferred to the Dublin Borough Water Department for its use. The affected parties would be billed for water usage by the Borough at the standard rate, which would provide sufficient revenue to finance the O&M for the water line extension.

This alternative does not include provisions for additional system capacity to serve new development in the area not affected or potentially affected by the Site. This option does not provide for additional fire protection, i.e., more protection than residences currently have.

Under the Federal Safe Drinking Water Act (SDWA) and Pennsylvania's Safe Drinking Water Regulations (PASDWR), which are applicable requirements, the Borough would be required to sample the wells which supply the water distribution system periodically to ensure that all criteria identified within these regulations are met.

In addition, because these wells are outside the plume of contamination and the plume has not been fully defined, monitoring for VOCs on a quarterly basis would be necessary to ensure that the contamination from the Site does not spread to these wells. This monitoring will be required at least until a final ground water remedy is implemented at the Site.

Because Well #3 is downgradient of the Site and is a well open to many bedrock fractures, there is a possibility that this well may become affected by the contamination from the Site. Also, even though the other wells (Wells #1 and #2) are located upgradient of the Site, increased pumping from these wells may spread the contamination by redirecting the natural groundwater flow. If contamination did spread to Well #1, Well #2, or Well #3, a treatment system would be required so that water discharged from these wells meets all of the requirements of SDWA and PASDWR.

This alternative would provide the residences and businesses with a permanent, regulated water supply. This would ensure that the residences and businesses are supplied with a safe, clean drinking water source that meets all Federal and State drinking water regulations.

The estimated costs for this alternative are presented below. Detailed cost information is provided in the Focused Feasibility Study. The costs assume that each of the residences and businesses listed in Table 1 would be connected to the water main and that the wells at the residences and businesses listed in Table 2 would be monitored on a quarterly basis for volatile organic compounds until a final groundwater remedy is implemented at the Site. The present worth costs are based on a 30 year life and a 10% discount rate. The estimated time for implementation

of this alternative is 6 to 12 months.

- Capital Costs: $2,200,000
- Annual O & M Costs: $138,000
- Present Worth: $2,600,000

Alternative 3: INSTALLATION OF A NEW WELL OR USE OF AN EXISTING WELL OUTSIDE OF THE PLUME OF CONTAMINATION

The general components of this alternative are:

A. Constructing a new water supply well or using an existing water supply well outside of the plume of contamination and incorporating this well into the existing Dublin Borough municipal water distribution system.

B. Connecting the affected parties into an extension of the Dublin Borough municipal water system and supplementing the current capacity of the existing Borough supply system with enough water from the well described in A to supply the these residences and businesses.

C. Removing existing carbon units or discontinuing bottled water service for the affected residences and businesses and disposing of the carbon in accordance with all Federal and State regulations.

D. Abandoning affected and potentially affected wells within the plume of contamination and/or implementing institutional controls on the development and use of private wells within the plume of contamination.

D. Conducting periodic sampling and monitoring at certain residences and businesses not connected into the Dublin system to ensure that these homes do not become affected by contamination from the Site.

E. Conducting periodic sampling and monitoring of the new water supply well to ensure that this well does not become affected by contamination from the Site.

This option involves construction of a new water supply well or use of an existing private well outside the plume of contamination. Water from this well would be pumped into an expanded Dublin Borough water distribution system. A submersible pump capable of delivering approximately 50 gallons per minute (gpm) at the required system pressure would be installed in the

well. This well pump would be operated at a rate necessary to supply only the affected parties and would supplement the existing system with the required additional water. A water line would be installed from the well to the borough's storage tank facility located on South Main Street or another storage facility specifically constructed for the water discharged from this well. The well water would supplement the water currently being supplied to the borough's storage tank facility by the three existing municipal wells (Figure 3).

The water would be distributed to the affected parties through water mains constructed along North Main Street, Mill Street and a portion of Elephant Road. A connection could be made to the Dublin water distribution system at the intersection of Elephant Road and Deep Run Road. Water mains would be extended from this point south along Elephant Road to Main Street, and then north along North Main Street to Rickerts Road. A main would also be installed along Mill Street from North Main Street to Cherry Lane to supply residences along Mill Street and the northside of Maple Avenue to Cherry Lane. Each affected party would be connected to the water main and the water use would be metered.

Dublin Borough Ordinance No. 164, requires that private wells be abandoned, as a general rule, when a borough water line exists to service a home or business. The Borough Ordinance does, however, exclude those residents and business owners and operators, who have utilized private wells prior to the construction of the borough water line.

Under this alternative, the existing residential wells would be abandoned and the existing in-house carbon filters would be removed unless an agreement is reached between the property owner and the Borough for continued use of the private well. If the property owner reached such an agreement, the property owner would maintain the in-house treatment system. These carbon filters would be disposed of in accordance with the Federal Resource Conservation Recovery Act and Pennsylvania's Solid Waste regulations with preference given to recycling or regenerating this filters, if possible. These regulations are considered applicable because the spent carbon filters would be considered a RCRA characteristic waste if the toxic characteristic leaching procedure (TCLP) analysis performed on this waste resulted in a VOC concentration greater that 0.5 parts per million. Otherwise, the waste would be disposed of in accordance with RCRA Subtitle D regulations.

Under this alternative, the well, water mains and associated equipment would be transferred to the Dublin Borough Water Department for its use. The affected parties would be billed for

water usage by the Borough at the standard rate, which would provide sufficient revenues to finance the O&M for the supply well and the water line extension.

This alternative does not include provisions for additional system capacity to serve new development in the area not affected or potentially affected by the Site. This option does not provide for additional fire protection, i.e., more protection than residents currently have.

Under the Federal Safe Drinking Water Act and Pennsylvania's Safe Drinking Water Regulations, which are applicable requirements, the Borough would be required to sample the wells which supply their system, including the new well, to ensure that all criteria identified within these regulations are met.

The location of a new well or use of an existing well would be determined during the remedial design phase of remedy implementation. Because this new well would be outside the plume of contamination, a potential exists for the contamination from the Site to spread to this well. This potential will be reduced by properly locating and designing the well during the remedial design phase. Monitoring of this well for VOCs on a quarterly basis would be necessary to ensure that the contamination from the Site does not spread to this well. This monitoring will be required at least until a final ground water remedy is implemented at the Site.

This alternative would provide the residences and businesses with a permanent, regulated water supply. This would ensure that the residences and businesses are supplied with a safe, clean drinking water source that meets all Federal and State drinking water regulations.

The estimated costs for this alternative are presented below. Detailed cost information is provided in the Focused Feasibility Study. The costs assume that each of the residences and businesses listed in Table 1 would be connected to the water main and supplied with water from the new well and that the wells at the residences and businesses listed in Table 2 would be monitored on a quarterly basis for volatile organic compounds until a final groundwater remedy is implemented at the Site. The present worth costs are based on a 30 year life and a 10% discount rate. The project would be technically feasible and implementable. The estimated time for implementation of this alternative is 9 to 12 months.

- **Capital Costs: $2,600,000**
- **Annual O & M Costs: $169,000**
- **Present Worth: $3,300,000**

Alternative 4: TREATMENT OF WATER FROM RESIDENTIAL AND COMMERCIAL WELLS WITH CARBON ADSORPTION SYSTEMS

The general components of this alternative are:

A. Providing the affected and potentially affected residences with point-of-entry individual granular activated carbon (GAC) treatment units and providing affected and potentially affected businesses with either point-of-use carbon treatment systems or bottled water.

B. Maintaining the treatment systems by periodically monitoring the influent and effluent from the systems and replacing the spent carbon, as necessary.

C. Removing or installing a bypass system around the existing GAC units or discontinuing bottled water service for the affected parties and disposing of the carbon in accordance with all Federal and State regulations once the groundwater is completely remediated.

D. Conducting periodic sampling and monitoring at selected residences and businesses not connected into the Dublin system until a final groundwater remedy is implemented to ensure that these residences do not become affected by contamination from the Site.

In this alternative, continued individual GAC unit or bottled water service would be provided to the residential and commercial wells currently monitored under the Order between John H. Thompson and EPA in addition to the additional homes and businesses identified as potentially affected by the contamination (see Table 1). The treatment system for private residences with 5 ppb or greater of TCE would include a point-of-entry system. The untreated and treated water would be sampled periodically. Businesses would be supplied with either bottled water or a point-of-use carbon treatment system and would be monitored periodically. Treated water would meet all Federal and State drinking water quality standards for the VOCs identified at the Site.

The GAC adsorption system would include two beds of carbon operating in series. The GAC adsorption process involves contacting the contaminated groundwater with activated carbon. The organic molecules contacting the activated carbon particle surface would be held there by physical or chemical forces. Once the carbon is saturated with organics, the spent carbon must be

either removed and replaced with virgin or off-site-regenerated carbon or the spent carbon must be regenerated on-site. It was assumed that the spent carbon would be removed and replaced with either virgin or off-site-regenerated carbon. Spent carbon would be disposed of or treated in accordance with Federal Resource Conservation Recovery Act and Pennsylvania's Solid Waste regulations. These regulations are considered applicable because the spent carbon filters may be considered a RCRA characteristic waste if the TCLP analysis performed on this waste resulted in a VOC concentration greater than 0.5 parts per million. Otherwise, the waste would be disposed of in accordance with RCRA Subtitle D regulations.

Operation and maintenance of the in-house carbon systems would be required until the final ground water remediation is complete. At that time, the units could be removed or bypassed. These carbon filters would be disposed of in accordance with all Federal and State regulations. The operation and maintenance (O&M) of the system must be the responsibility of some agreed-upon authority. This authority must be able to gain access to the homes to complete O&M and sampling. This authority would be responsible for routinely sampling the water effluent from the treatment systems at the individual residences and businesses to ensure that all criteria related to the contamination at the Site are met. Because this alternative would require treatment of water prior to discharge to the individual residence or business, periodic monitoring of the effluent from the treatment system would be necessary to ensure that the treatment equipment is functioning properly.

Because this is not a public distribution system, monitoring and treatment would be provided only for contaminants related to the Site.

The estimated costs for this alternative are presented below. Detailed cost information is provided in the Focused Feasibility Study. The costs assume that each of the residences and businesses listed in Table 1 would be supplied with a individual GAC treatment systems or bottled water, as appropriate, and residences and businesses listed in Table 2 would be monitored on a quarterly basis for volatile organic compounds until a final groundwater remedy is implemented at the Site. The present worth costs are based on a 30 year life and a 10% discount rate. This remedy would be technically feasible and implementable. The estimated time for implementation of this alternative is 1 to 2 months.

- **Capital Costs: $100,000**
- **Annual O & M Costs: $390,000**
- **Present Worth: $2,800,000**

Alternative 5: TREATMENT AND SUPPLY OF WATER FROM A NEW WELL OR AN EXISTING WELL WITHIN THE PLUME WITH A CARBON ADSORPTION SYSTEM

The general components of this alternative are:

A. Developing, constructing, and operating a new water supply well within the plume of contamination or operation of an existing well within the plume of contamination and incorporating this well into the existing Dublin Borough municipal water distribution system.

B. Constructing and operating of liquid-phase GAC carbon adsorption system for treatment of the water extracted from the well described above.

C. Connecting the affected parties into an extension of the Dublin Borough municipal water system and supplementing the current capacity of the existing Borough supply system with enough treated water from the well described in A to supply the these residences and businesses.

D. Removing existing carbon units or discontinuing bottled water service for the affected residences and businesses and disposing of the carbon in accordance with all Federal and State regulations.

E. Abandoning affected and potentially affected wells within the plume of contamination and/or implementing institutional controls on the development and use of the wells within the plume of contamination.

F. Monitoring of residential and commercial wells at homes not addressed by the public water supply but which have the potential for contamination.

This option involves construction of a new water supply well or use of an existing private well inside the plume of contamination, treating the groundwater by removing the volatile organic compounds.

A submersible pump capable of delivering approximately 50 gallons per minute (gpm) at the required system pressure would be installed in the well. The well water would be pumped to an granular activated carbon (GAC) adsorption system located at the ground surface. This well pump would be operated at a rate necessary to supply the affected parties and would supplement the existing system with the required additional water. A water line

would be installed from the discharge of the GAC adsorption system to the borough's storage tank facility located on South Main Street or another storage facility specifically constructed for the water discharged from this well.

The GAC adsorption system would include two beds of carbon operating in series. The GAC adsorption process involves contacting the contaminated groundwater with activated carbon. The organic molecules contacting the activated carbon particle surface would be held there by physical or chemical forces. Once the carbon is saturated with organics, the spent carbon must be either removed and replaced with virgin or off-site-regenerated carbon or the spent carbon must be regenerated on-site. It was assumed, for costing purposes, that the spent carbon would be removed and replaced with either virgin or off-site-regenerated carbon. A final design cost may provide information indicating that on-site regeneration of carbon is more economical. The carbon filtration system would treat the water to comply with Federal and State drinking water quality standards. Spent carbon would be disposed of or treated in accordance with all Federal and State regulations.

One limitation in using GAC treatment involves the adsorption of vinyl chloride. Vinyl chloride is a degradation product of TCE and has been identified in the groundwater at the Site. Large quantities of GAC are necessary for the adsorption of vinyl chloride. Therefore, as the concentration of vinyl chloride in the groundwater increases with increased degradation of TCE, an increase in the quantity of GAC necessary for treatment of the contaminants would be required.

The treated water, initially pumped to the Borough's storage facility or similar facility, would be distributed to the affected parties through water mains constructed along North Main Street, Mill Street and a portion of Elephant Road. A connection could be made to the Dublin water distribution system at the intersection of Elephant Road and Deep Run Road. Water mains would be extended from this point south along Elephant Road to Main Street, and then north along North Main Street to Rickerts Road. A main would also be installed along Mill Street from North Main Street to Cherry Lane to supply residences along Mill Street and properties on the northside of Maple Avenue to Cherry Lane. Each affected party would be connected to the water main and the water use would be metered.

The location of a new well or use of an existing well would be determined during the remedial design phase of remedy implementation.

Dublin Borough Ordinance No. 164, requires that private

wells be abandoned, as a general rule, when a borough water line exists to service a home or business. The Borough Ordinance does, however, exclude those residents and business owners and operators, who have utilized private wells prior to the construction of the borough water line.

Under this alternative, the existing residential wells would be abandoned and the existing in-house carbon filters would be removed unless an agreement is reached between the property owner and the Borough for continued use of the private well. If the property owner reached such an agreement, the property owner would maintain the in-house treatment system. These carbon filters would be disposed of in accordance with the Federal Resource Conservation Recovery Act and Pennsylvania's Solid Waste regulations with preference given to recycling or regenerating this filters, if possible. These regulations are considered applicable because the spent carbon filters may be considered a RCRA characteristic waste if the TCLP analysis performed on this waste resulted in a VOC concentration greater than 0.5 parts per million. Otherwise, the waste would be disposed of in accordance with RCRA Subtitle D regulations.

Under this alternative, the water mains and associated equipment would be transferred to the Dublin Borough Water Department for its use. The party implementing the remedy (either the PRPs or the Commonwealth of Pennsylvania under a State Superfund Contract) will assure that the remedy is properly operated and maintained. Operation and maintenance of the well and carbon system would be required until the final groundwater remediation is complete. Once remediation is complete, the carbon filtration system could be bypassed or removed and the well could continue to be used to supply the residents. Agreements would be necessary between Dublin Borough, the party implementing the remedy and the well or property owner for access to the well. The affected parties would be billed for water usage by the Borough at the standard rate, which would provide sufficient revenues to finance the O&M for the supply well and the water line extension.

This alternative does not include provisions for additional system capacity to serve new development in the area not affected or potentially affected by the Site. This option does not provide for additional fire protection, i.e., more protection than residents currently have.

Under the Federal Safe Drinking Water Act and Pennsylvania's Safe Drinking Water Regulations, which are applicable requirements, the Borough would be required to sample the wells which supply their system, including the new well, to ensure that all criteria identified within these regulations are met.

Because this alternative would require treatment of water prior to discharge to the water storage facilities, periodic monitoring of the effluent from the treatment system would be necessary to ensure that treatment equipment is functioning properly.

This alternative would provide the residences and businesses with a permanent, regulated water supply. This would ensure that the residences and businesses are supplied with a safe, clean drinking water source that meets all Federal and State drinking water regulations.

The estimated costs for this alternative are presented below. Detailed cost information is provided in the Focused Feasibility Study. The costs assume that each of the residences and businesses listed in Table 1 would be connected to the water main and that the wells at the residences and businesses listed in Table 2 would be monitored on a quarterly basis for volatile organic compounds until a final groundwater remedy is implemented at the Site. The present worth costs are based on a 30 year life and a 10% discount rate. This alternative is technically feasible and implementable. The estimated time for implementation of this alternative is 12 to 15 months.

- Capital Costs: $3,000,000
- Annual Operation and Maintenance (O & M) Costs: $250,000
- Present Worth: $4,500,000

Alternative 6: **TREATMENT OF WATER FROM A NEW WELL OR AN EXISTING WELL WITHIN THE PLUME WITH AIR STRIPPING AND VAPOR-PHASE CARBON ADSORPTION**

The general components of this alternative are:

A. **Developing, constructing, and operating of a new water supply well within the plume of contamination or operation of an existing well within the plume of contamination and incorporating this well into the existing Dublin Borough municipal water supply system.**

B. **Constructing and operating an air stripping and vapor-phase carbon adsorption system for treatment of the water extracted from the well described above.**

C. **Connecting the affected parties into an extension of the Dublin Borough municipal water system and supplementing the current capacity of the existing**

Borough supply system with enough water from the well described in paragraph A, above, to supply the residences and businesses.

D. Removing existing carbon units or discontinuing bottled water service for the affected residences and businesses and disposing of the carbon in accordance with all Federal and State regulations.

E. Abandoning affected and potentially affected wells within the plume of contamination and/or implementing institutional controls on the development and use of the wells within the plume of contamination.

F. Monitoring of residential and commercial wells at homes not addressed by the public water supply but which have the potential for contamination until a final groundwater remedy is implemented.

This option involves construction of a new water supply well or use of an existing private well inside the plume of contamination.

A submersible pump capable of delivering approximately 50 gallons per minute (gpm) at the required system pressure would be installed in the well. The well water would be pumped to an air stripper located at the ground surface. This well pump would be operated at a rate necessary to supply the affected parties and would supplement the existing system with the required additional water. A water line would be installed from the discharge of the air stripper to the borough's storage tank facility located on South Main Street or another storage facility specifically constructed for the water discharged from this well.

A packed tower air stripper with countercurrent flow would be used to treat the contaminated groundwater. The contaminated groundwater would be pumped to the top of the tower and fed down by gravity through the loosely packed fill material in the tower. As the water moves through the packing, air would be forced through the packing from the base of the tower, and VOCs would be transferred from the water to the air. The air stripping system would treat the water to comply with Federal and State drinking water quality standards. This alternative assumes that liquid-phase GAC adsorption would not be necessary to further treat the effluent from the air stripper.

The contaminated air stream discharged from the air stripper would be treated in a vapor-phase GAC adsorption system prior to discharge to the atmosphere. The discharged air would meet the applicable requirements under the RCRA and Pennsylvania's Air

Quality Control Regulations. The GAC adsorption system would include two beds of carbon operating in series. The vapor-phase GAC adsorption process is identical to the process described for liquid-phase GAC described in Alternative 5 except a gas (air) is passed through the carbon beds instead of a liquid (water). It was assumed, for costing purposes, the spent carbon would be removed and replaced with either virgin or off-site regenerated carbon. A final design cost may provide information indicating that on-site regeneration of carbon is more economical. Spent carbon would be disposed of or treated in accordance with the applicable Federal RCRA and State Solid Waste Management regulations.

The water, once pumped to the Borough's storage facility or similar storage facility, would be distributed to the affected parties through water mains constructed along North Main Street, Mill Street and a portion of Elephant Road. A connection could be made to the Dublin water distribution system at the intersection of Elephant Road and Deep Run Road. Water mains would be extended from this point south along Elephant Road to Main Street, and then north along North Main Street to Rickerts Road. A main would also be installed along Mill Street from North Main Street to Cherry Lane to supply residences along Mill Street and properties on the northside of Maple Avenue to Cherry Lane. Each affected party would be connected to the water main and the water use would be metered.

The location of a new well or use of an existing well would be determined during the remedial design phase of remedy implementation.

Dublin Borough Ordinance No. 164, requires that private wells be abandoned, as a general rule, when a borough water line exists to service a home or business. The Borough Ordinance does, however, exclude those residents and business owners and operators, who have utilized private wells prior to the construction of the borough water line.

Under this alternative, the existing residential wells would be abandoned and the existing in-house carbon filters would be removed unless an agreement is reached between the property owner and the Borough for continued use of the private well. If the property owner reached such an agreement, the property owner would maintain the in-house treatment system. These carbon filters would be disposed of in accordance with the Federal Resource Conservation Recovery Act and Pennsylvania's Solid Waste regulations with preference given to recycling or regenerating this filters, if possible. These regulations are considered applicable because the spent carbon filters may be considered a RCRA characteristic waste if the TCLP analysis performed on this

waste results in a VOC concentration greater than 0.5 ppm. Otherwise, the waste would be disposed of in accordance with RCRA Subtitle D regulations.

Under this alternative, the water mains and associated equipment would be transferred to the Dublin Borough Water Department for its use. The party implementing the remedy (either the PRPs or the Commonwealth of Pennsylvania under a State Superfund Contract) will assure that the remedy is properly operated and maintained. Operation and maintenance of the well, air stripper and vapor-phase GAC adsorption system would be required until the final groundwater remediation is complete. Once remediation is complete, the air stripper and GAC adsorption system could be bypassed or removed and the well could continue to be used to supply the residents. An agreement would be necessary between Dublin Borough, the party implementing the remedy and the well or property owner for access to the well. The affected parties would be billed for water usage by the Borough at the standard rate, which would provide sufficient revenues to finance the O&M for the supply well and the water line extension.

This alternative does not include provisions for additional system capacity to serve new development in the area not affected or potentially affected by the Site. This option does not provide for additional fire protection, i.e., more protection that residents currently have.

Under the Federal Safe Drinking Water Act and Pennsylvania's Safe Drinking Water Regulations, which are applicable requirements, the Borough would be required to sample the wells which supply their system, including the treated water from the new well, to ensure that all criteria identified within these regulations are met.

Because this alternative would require treatment of water prior to discharge to the water storage facilities, periodic monitoring of the effluent from the treatment system would be necessary to ensure that treatment equipment is functioning property.

This alternative would provide the residences and businesses with a permanent, regulated water supply. This would ensure that the residences and businesses are supplied with a safe, clean drinking water source that meets all Federal and State drinking water regulations.

The estimated costs for this alternative are presented below. Detailed cost information is provided in the Focused Feasibility Study. The costs assume that each of the residences

and businesses affected or potentially listed in Table 1 would be connected to the water main and that the wells at the residences and businesses listed in Table 2 would be monitored on a quarterly basis for volatile organic compounds until a final groundwater remedy is implemented at the Site. The present worth costs are based on a 30 year life and a 10% discount rate. This alternative is technically feasible and implementable. The estimated time for implementation of this alternative is 12 to 15 months.

- Capital Costs: $3,100,000
- Annual Operation and Maintenance (O & M) Costs: $300,000
- Present Worth: $5,000,000

Alternative 7: TREATMENT OF WATER FROM A NEW WELL OR AN EXISTING WELL WITHIN THE PLUME WITH ULTRAVIOLET (UV) OXIDATION

The general components of this alternative are:

A. Developing, constructing, and operating of a new water supply well within the plume of contamination or operation of an existing well within the plume of contamination and incorporating this well into the existing Dublin Borough municipal water distribution system.

B. Demonstration of UV oxidation technology during a treatability study to be conducted at the Site.

C. Constructing and operating an UV oxidation system, based on information obtained during the treatability study, for treatment of the water extracted from the well described above.

D. Connecting the affected parties into an extension of the Dublin Borough municipal water system and supplementing the current capacity of the existing Borough supply system with enough treated water from the well described in paragraph A, above, to supply the these residences and businesses.

E. Removing existing carbon units or discontinuing bottled water service for the affected residences and businesses and disposing of the carbon in accordance with all Federal and State regulations.

F. Abandoning affected and potentially affected wells within the plume of contamination and/or implementing institutional controls on the development and use of

private wells within the plume of contamination.

G. Monitoring of residential and commercial wells at homes not addressed by the public water supply but which have the potential for contamination until a final groundwater remedy is implemented.

This option involves construction of a new water supply well or use of an existing private well inside the plume of contamination and treating the groundwater by destroying the volatile organic compounds. A submersible pump capable of delivering approximately 50 gallons per minute (gpm) at the required system pressure would be installed in the well. The well water would be pumped to an ultraviolet oxidation system located at the ground surface. This well pump would be operated at a rate necessary to supply the affected parties and would supplement the existing system with the required additional water. A water line would be installed from the discharge of the UV oxidation system to the borough's storage tank facility located on South Main Street or another storage facility specifically constructed for the water discharged from this well.

UV oxidation would destroy the VOCs present in the contaminated groundwater. This technology uses UV radiation alone or in tandem with ozone and/or hydrogen peroxide to oxidize organics. The contaminated groundwater is fed from the well into the reactor, which contains the UV lamps. In the reactor, hydrogen peroxide and ozone may be injected, if required. The ozone is generated through the ozone generator using air or liquid oxygen as the source. Under the influence of ultraviolet light, the ozone and hydrogen peroxide are converted into hydroxyl radicals (OH^-). The hydroxyl radicals generated or the ozone, hydrogen peroxide, or UV radiation would oxidize the organics to carbon dioxide, water and salts. Ozone which is not transferred to the reaction would be destroyed in an ozone decomposition unit. This alternative assumes that additional treatment such as liquid-phase GAC adsorption would not be necessary to further treat the effluent from the UV oxidation unit.

The discharged air from the decomposition unit would meet the applicable Federal Clean Air Act, RCRA and the Pennsylvania Air Quality Control Regulations.

Because UV oxidation technology is a relatively new technology and it has not been demonstrated at the Site, a treatability study would be required prior to full-scale implementation. This treatability study would provide information on design criteria and costs necessary for full-scale implementation. It is estimated that the treatability study

would take six months to complete.

The water, once pumped to either the Borough's storage facility or similar facility, would be distributed to the affected parties through water mains constructed along North Main Street, Mill Street and a portion of Elephant Road. A connection could be made to the Dublin water distribution system at the intersection of Elephant Road and Deep Run Road. Water mains would be extended from this point south along Elephant Road to Main Street, and then north along North Main Street to Rickerts Road. A main would also be installed along Mill Street from North Main Street to Cherry Lane to supply residences along Mill Street and properties on the northside of Maple Avenue to Cherry Lane. Each affected party would be connected to the water main and the water use would be metered.

The location of a new well or use of an existing well would be determined during the remedial design phase of remedy implementation.

Dublin Borough Ordinance No. 164, requires that private wells be abandoned, as a general rule, when a borough water line exists to service a home or business. The Borough Ordinance does, however, exclude those residents and business owners and operators, who have utilized private wells prior to the construction of the borough water line.

Under this alternative, the existing residential wells would be abandoned and the existing in-house carbon filters would be removed unless an agreement is reached between the property owner and the Borough for continued use of the private well. If the property owner reached such an agreement, the property owner would maintain the in-house treatment system. These carbon filters would be disposed of in accordance with the Federal Resource Conservation Recovery Act and Pennsylvania's Solid Waste regulations with preference given to recycling or regenerating this filters, if possible. These regulations are considered applicable because the spent carbon filters may be considered a RCRA characteristic waste if the TCLP analysis performed on this waste resulted in VOC concentrations greater than 0.5 ppm. Otherwise, the waste would be disposed of in accordance with RCRA Subtitle D regulations.

Under this alternative, the water mains and associated equipment would be transferred to the Dublin Borough Water Department for its use. The party implementing the remedy (either the PRPs or the Commonwealth of Pennsylvania under a State Superfund Contract) will assure that the remedy is properly operated and maintained. Operation and maintenance of the well and the UV oxidation system would be required until the

final groundwater remediation is complete. Once remediation is complete, the UV oxidation system could be bypassed or removed and the well could continue to be used to supply the residents. An agreement would be necessary between Dublin Borough, the party implementing the remedy, and the well or property owner for access to the well. The affected parties would be billed for water usage by the Borough at the standard rate, which would provide sufficient revenues to finance the O&M for the supply well and the water line extension.

This alternative does not include provisions for additional system capacity to serve new development in the area not affected or potentially affected by the Site. This option does not provide for additional fire protection, i.e., more protection than residents currently have.

Under the Federal Safe Drinking Water Act and Pennsylvania's Safe Drinking Water Regulations, which are applicable requirements, the Borough would be required to sample the wells which supply their system to ensure that all criteria identified within these regulations are met.

Because this alternative would require treatment of water prior to discharge to the water storage facilities, periodic monitoring of the effluent from the treatment system would be necessary to ensure that treatment equipment is functioning property.

This alternative would provide the residences and businesses with a permanent, regulated water supply. This would ensure that the residences and businesses are supplied with a safe, clean drinking water source that meets all Federal and State drinking water regulations.

The estimated costs for this alternative are presented below. Detailed cost information is provided in the Focused Feasibility Study. The costs assume that each of the residences and businesses listed in Table 1 would be connected to the water main and that the wells at the residences and businesses listed in Table 2 would be monitored on a quarterly basis for volatile organic compounds until a final groundwater remedy is implemented at the Site. The present worth costs are based on a 30 year life and a 10% discount rate. This alternative is technically feasible and implementable. The estimated time for implementation of this alternative is 18 to 21 months. This includes 6 months for a treatability study.

- **Capital Costs: $3,100,000**
- **Annual Operation and Maintenance (O & M) Costs: $260,000**
- **Present Worth: $4,600,000**

IX. Summary of the Comparative Analysis of Alternatives

Each of the remedial alternatives for this operable unit are compared and evaluated against nine criteria to determine which remedial alternative and combination of technologies and management or process options will best meet the primary objective of this ROD. These nine criteria are:

Threshold Criteria

-Overall protection of human health and the environment
-Compliance with applicable or relevant and appropriate requirements

Primary Balancing Criteria

-Reduction of toxicity, mobility, or volume
-Implementability
-Short-term effectiveness
-Long-term effectiveness
-Cost

Modifying Criteria

-Community Acceptance
-State Acceptance

A. Overall Protection of Human Health and the Environment:

A primary requirement of CERCLA is that the selected remedial action be protective of human health and the environment. A remedy is protective if it eliminates, reduces, or controls current and potential risks posed through each exposure pathway to acceptable levels through treatment, engineering controls, or institutional controls.

When properly designed and sufficiently tested, alternatives 2 through 7 would protect human health by providing a clean drinking water source to the affected parties and by monitoring additional residences which may be potentially affected by the VOC contamination. The water which would ultimately be distributed to the affected parties would meet or exceed all federal and state drinking water standards. Drinking water standards are established within the Federal Safe Drinking Water Act and Pennsylvania's Safe Drinking Water Regulations. Periodic water sampling would be employed as part of these alternatives to ensure the protection of human health.

Alternatives 4, 5, 6 and 7 would be the most protective of

human health and the environment by not only supplying a clean drinking water source to the affected parties but by also reducing and controlling the risk through treatment of the groundwater and preventing of the spread of contamination.

Alternatives 2 and 3 would not reduce the risk posed by the spread of the plume of contamination.

Alternative 1 would not be protective of human health and the environment because the affected parties would be exposed to VOCs via ingestion or dermal contact of groundwater, or inhalation of VOC vapors from the groundwater.

B. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)

Section 121(d) of CERCLA requires that remedial actions at CERCLA sites at least attain legally applicable or relevant and appropriate federal and State standards, requirements, criteria, and limitations which are collectively referred to as "ARARs", unless such ARARs are waived under CERCLA Section 121(d)(4). Applicable requirements are those substantive environmental protection requirements, criteria, or limitations promulgated under federal or State law that specifically address hazardous substances found at the Site, the remedial action to be implemented at the Site, the location of the Site, or other circumstances present at the Site. Relevant and appropriate requirements are those substantive environmental protection requirements, criteria, or limitations promulgated under federal or State law which, while not applicable to the hazardous materials found at the Site, the remedial action itself, the Site location or other circumstances at the Site, nevertheless address problems or situations sufficiently similar to those encountered at the Site that their use is well suited to the Site. ARARs may relate to the substances addressed by the remedial action (chemical-specific), to the location (location-specific), or the manner in which the remedial action is implemented (action-specific).

Table 4 identifies Applicable and Relevant or Appropriate Requirements for the alternatives developed in this ROD.

Alternatives 2 through 7 would meet the respective ARARs for the Federal and State environmental laws for this action.

Once the remedy is implemented, the water supply provided in Alternatives 2 and 3 would need to be periodically checked to ensure that the water supply does not become degraded should volatile organic compounds from the Site migrate into the wells used in these alternatives.

Once the remedy is implemented, the water supply provided in Alternatives 4, 5, 6, and 7 would need to be periodically

monitored to ensure that the treatment processes used are performing effectively. In addition, the air stream effluent from the treatment processes used in Alternatives 6 and 7 would need to be monitored periodically to ensure compliance with the Federal Clean Air Act, RCRA and Pennsylvania's Air Resource Regulations. The carbon used in Alternatives 4, 5, and 6 would need to comply with guidelines for treatment and disposal contained within the Resource Conservation and Recovery Act.

Alternative 1 would not meet the respective ARARs for the Federal and State environmental laws for this action.

C. Long-Term Effectiveness and Permanence:

Long-term effectiveness and permanence refers to the ability of a remedy to maintain reliable protection of human health and the environment over time. This criteria evaluation includes consideration of residual risk and the adequacy and reliability of controls.

Alternatives 2, 3, 5, 6, and 7 provide a permanent clean drinking water supply which would be regulated under the SDWA and Pennsylvania'a Safe Drinking Water regulations. The water supply would not only be monitored routinely for VOCs but for other contaminants as set forth in the Federal and State regulations. Operation and maintenance of the water supply system would be turned over to the Dublin Borough Water Department.

Alternatives 2 through 7 all require long-term maintenance and monitoring. Monitoring of the wells used in Alternative 2 and 3 would be required to determine if the plume of contamination has spread to these wells. Monitoring and maintenance of the treatment systems used in Alternatives 4 through 7 would be critical because the breakdown of the treatment systems would result in the distribution of contaminated water to residents. Operation of two GAC adsorption units in series in Alternative 4, 5, and 6 will reduce the risk of exposure to volatile organic compounds through the groundwater or air caused by saturation of the carbon bed. Treatment or disposal of the spent carbon generated during the operation of Alternatives 4, 5 and 6 would be required until the groundwater is remediated to an acceptable level. On-site and off-site equipment for the regeneration of spent GAC is readily available.

The treatment technologies employed in Alternatives 4, 5, and 6 are well established, reliable technologies which have been proven effective at the Site and at similar Superfund sites. These treatment technologies are capable of reducing the concentration of volatile organic compounds in the groundwater, and the air discharge in Alternative 6, to acceptable levels. The treatment technology employed in Alternative 7 has been proven effective in destroying volatile organic compounds from

groundwater at sites similar to the Dublin TCE Site, but a treatability study would have to be performed prior to full-scale operation at the Site to confirm the technology's effectiveness.

Alternatives 5, 6, and 7 are the most consistent with the long-term remediation of the Dublin TCE Site. The treatment options which are part of these alternatives would help reduce the amount of volatile organic chemicals in the environment. Sampling and monitoring required in Alternatives 5, 6 and 7 could be integrated into the final groundwater remedy employed for the entire Site.

Alternative 4 is not considered a permanent remedy. Monitoring would be required at approximately 70 residences and businesses until the groundwater is remediated to an acceptable level. Because this is not considered a public water supply, routine monitoring would only be required for identification of hazardous substances found at the Site. An authority would need to be established to perform the operation and maintenance of this alternative.

Alternative 1 is not considered a permanent remedy because an unacceptable level of risk would be associated with using the contaminated groundwater as a drinking water supply.

Because all alternatives would result in hazardous substances remaining at the Site above levels for unlimited use and unrestricted exposure, a five year review will be conducted.

D. Reduction of toxicity, mobility, or volume of the contaminants through treatment:

This evaluation criteria addresses the degree to which a technology or remedial alternative reduces toxicity, mobility, or volume of hazardous substances.

Alternatives 4, 5, 6 and 7 are the only alternatives which would result in a reduction of volatile organic chemicals in the aquifer. Alternative 7 completely destroys the contaminants in the immediate environment and, therefore, no residual waste is generated. Alternatives 4, 5 and 6 would remove contaminants from the immediate environment, although treatment or disposal of the residual (spent carbon) in a safe and effective manner would be required.

Alternatives 4, 5, 6, and 7 are the only alternatives which would help to inhibit further migration of the contaminants in the aquifer. Mobility and volume of the contaminants would be reduced. In addition, these four alternatives would reduce the toxicity of the contaminants in the aquifer via carbon treatment, air stripping or UV oxidation.

Alternatives 1, 2, and 3 would not act to reduce the volume, toxicity, or mobility of contaminants in the aquifer.

E. Short Term Effectiveness:

Short-term effectiveness addresses the period of time needed to achieve protection of human health and the environment and any adverse impacts that may be posed during the construction and operation period until remediation goals are achieved.

Alternative 4 would take the shortest amount of time to implement requiring approximately 1 to 2 months to implement. Alternative 4 would be the alternative least likely to impact the environment during construction and implementation.

Alternatives 2 and 3 would take approximately 4 to 11 months longer to implement than Alternative 4 because installation of water lines, and, possibly, installation of a well, would be necessary.

Alternative 5 and 6 could take approximately 9 to 14 months longer to implement than Alternative 4 because installation of water lines, possibly a well, and a treatment system would be necessary. Alternative 7 would take the longest time to implement because a treatability study would be required prior to remedy implementation.

Installation of a well within the plume of contamination and the treatment system, as described in Alternatives 5, 6, and 7, would pose the greatest risk to workers during implementation of the remedy. Possible exposure to volatile organic compounds during these installation processes could occur.

Installation of the wells, water lines, and treatment systems as described in Alternatives 2 through 7 would not pose a significant risk to workers or the community as long as safety procedures are properly followed.

Alternatives 2 and 3 potentially may cause the contamination to spread. Since one of the Dublin Borough municipal supply wells (Well #3) is downgradient of the plume of contamination and because a final groundwater remediation system and contaminant containment system is not in place at the Site, an increase in pumping from this well may decrease the time which it takes for the TCE and other contaminants to reach this well. Although Public Supply Wells #1 and #2 are located upgradient of the Site, testing would be necessary during the design phase of remedy implementation to determine if increased pumping from these wells would spread the contamination. This testing would also be required for the wells used in Alternative 3. As long as use of the wells in Alternative 3 would not spread the contamination, this alternative would not pose an environmental risk.

F. Implementability

Implementability refers to the technical and administrative feasibility of a remedy, from design through construction, operation, and maintenance. It also includes coordination of federal, State, and local governments to cleanup the Site.

Alternatives 4, 5, 6, and 7 would require initial operational treatment system testing and periodic sampling to ensure efficient operation of the treatment system. The treatment technologies used in Alternatives 4, 5, and 6 are well established and have been proven reliable at the Site as well as at other sites. Maintenance and monitoring of Alternatives 5, 6, and 7 would be performed much more easily than the maintenance of Alternative 4 because only one treatment system would be required instead of approximately 70 individual treatment systems.

Because vinyl chloride is a degradation product of TCE, its presence in the aquifer may increase with time. Significantly more GAC is necessary to treat vinyl chloride as compared to TCE. Therefore, Alternatives 4 and 5, which use GAC treatment, may require significantly more carbon to meet the Drinking Water Standards for vinyl chloride than originally estimated. This increase in carbon usage will impact the operation and maintenance of these alternatives because more frequent replacement of the spent carbon will be necessary.

Alternatives 3, 5, 6, and 7 would require the identification and, possibly, the installation of a well prior to implementation. This would involve additional investigations, although data generated to date at the Site under PADER and others should help to identify a well quickly.

Alternative 7 incorporates a relatively new technology which does not have the established reputation as a treatment technology for VOC-contaminated groundwater as compared to Alternatives 4, 5, and 6. A treatability study would be necessary for this alternative.

Alternative 4 accommodates new homes to the system more easily than any other alternative. Accommodation of new homes to the systems described by Alternatives 5, 6, and 7 may require additional treatment equipment and additional wells or the expansion of the existing wells. Alternative 2 and 3 also may require additional wells or the expansion of the existing wells if new homes require an alternate water supply. In addition, Alternatives 2 and 3 may require treatment equipment if the wells used in these alternatives become contaminated.

Services and materials are readily available for all alternatives.

G. Cost:

This criteria examines the estimated costs for each remedial alternative. For comparison, capital, annual O&M, and present worth costs are shown in Table 5.

The costs assume that 69 connections into a new water line would be made and that 56 residences and businesses would be monitored for four years until a final groundwater remedy is implemented. The lowest cost alternative is Alternative 2 at $2,600,000. The most expensive alternative is alternative 6 with a present worth cost of $5,000,000.

H. State Acceptance:

The Commonwealth of Pennsylvania has reviewed the Record of Decision and has concurred with the selected remedy. This unofficial concurrence is documented in a letter from PADER to EPA, dated September 12, 1991.

I. Community Acceptance:

Comments received from the Borough of Dublin and community members indicated general support for EPA's proposed alternative, Alternative 6. The Borough of Dublin believed that Alternative 2 would be the most easily implemented alternative but stated that they would be willing to work with EPA and the PRPs in implementing Alternative 6. The Borough of Dublin expressed concern over the costs and implementation time associated with Alternative 6.

One potentially responsible party indicated that this Early Action should be implemented in stages. Theses stages would include immediate connection of the affected parties to the existing public distribution system (as described in Alternative 2) and, then, once the RI/FS is complete, installing groundwater wells within the plume of contamination for both treatment and supply of groundwater. Use of the existing public distribution system would be modified to include the installation of an air stripper in case the existing supply wells became contaminated. One potentially responsible party indicated that other treatment technologies should be considered for vapor-phase treatment of the air discharged from the air stripper described in Alternative 6.

X. Selected Remedy and Performance Standards

The Selected Remedy is Alternative 6. This operable unit addresses the provision of clean water to affected parties near the Dublin TCE Site. After the RI/FS is completed, a remedy for the entire Site will be developed. To the extent practicable, the remedy selected for future operable units will be consistent

with Operable Unit One. The selected remedy consists of the following components:

- Installation and operation of a new or existing water supply well.

- Construction and operation of a system for the treatment of the water extracted from the well described above.

- Expansion of the existing Dublin Borough public distribution system with use of the well and treatment system described above to provide clean water to the affected parties.

- Monitoring of the residential and commercial wells at homes not serviced by the public distribution system.

- Operation and maintenance of the selected remedy.

Each component of the remedy and its design and performance standard(s) will be described in turn.

1. Installation and operation of a well

A. Description of the Component of the Remedy

This component will include development, construction, and operation of a new water supply well within the plume of contamination or operation of an existing well within the plume of contamination. The plume of contamination is defined as the portion of the drinking water aquifer at or near the Dublin TCE Site which contains levels of the contaminants of concern above the detection level of EPA Analytical Method 524.2, as described at 40 CFR Part 141. The chemicals of concern include but are not limited to: tetrachloroethene, trichloroethene, vinyl chloride, cis-1,2-dichloroethylene,trans-1,2-dichloroethylene, 1,1-dichloroethylene, and 1,1,1-trichloroethane. The list of the chemical of concern may be expanded by EPA based on information gathered during the Remedial Investigation/ Feasibility Study (RI/FS).

The location and construction details of the new or existing water supply well will be finalized and approved by EPA during the design stage of the selected remedial alternative. Use of an existing well will be investigated first so that this early action can be implemented as quickly as possible , however, the decision on use of a groundwater well will be made by EPA based on a review of all relevant factors.

This well shall be capable of supplying water to the affected parties identified in Table 1, and to any parties that become affected or may become affected by the contamination in the future, as determined by EPA.

B. Performance Standards

Implementation of the component of the remedy described in 1.A., above, is a performance standard.

The performance standard for disposal of the well development wastes (i.e. soil boring cuttings, pump-test water, etc.), shall be the requirements of the Resource Conservation and Recovery Act (RCRA) Regulations and the Pennsylvania Solid Waste Regulations including: 40 CFR Part 261 Subpart A Section 261.3, Subpart C Section 261.24, and Subpart D Section 261.31 (regarding the listing and identification of characteristic hazardous waste); 40 CFR Part 262 Subparts A-E (regarding standards applicable to generators) and the substantive requirements for the treatment, storage, and disposal of hazardous wastes set forth in 40 CFR Part 263 (regarding transporters of hazardous wastes) and 40 CFR Part 264 Subparts B-H (regarding general requirements for Treatment, Storage and Disposal facilities); 40 CFR 268 Subparts C Section 268.30 and Subpart E (regarding restriction of hazardous waste land disposal and storage of hazardous waste); 25 PA Code Sections 75.259 through 75.270.42 which establish State requirements for the generation, transportation, storage and treatment of hazardous wastes (specifically, 25 PA Code 75.262 requirements for generators of hazardous wastes, 25 AP Code Section 75.263 requirements for the transportation of hazardous wastes, and 25 PA Code Section 75.264 requirements for the treatment, storage and disposal of hazardous wastes; 25 PA Code 261.24 and 273.421 (regarding the handling of residual and other waste and the determination of hazardous waste by the Toxic Characteristic Leaching Procedure).

2. <u>Construction and operation of a groundwater treatment system</u>

A. Description of the Component of the Remedy

Construction and operation of an air stripping and vapor-phase carbon adsorption (or thermal destruction unit) for treatment of the water extracted from the well described in paragraph 1, above.

If necessary, based upon results of chem cal sampling, a liquid-phase carbon adsorption unit(s will be designed and installed on the water disc arge of the

air stripper to ensure that the water delivered to the residences and businesses meets the MCLs described below.

B. Performance Standards

Implementation of the component of the remedy described in 2.A., above, is a performance standard.

The performance standard for each contaminant of concern in the effluent water from the air stripper, which is supplied to public water system that will serve the affected parties, shall be the MCL for that contaminant as promulgated under the Safe Drinking Water Act, 42 U.S.C. § 300f to 300j-26, and set forth at 40 CFR § 141.61(a). The MCLs for the chemicals of concern are:

Substance	MCL(ug/l)
Tetrachloroethene	5
Trichloroethene	5
Vinyl Chloride	2
cis-1,2-dichloroethylene	70
trans-1,2-dichloroethylene	100
1,1-dichloroethylene	7
1,1,1-trichloroethane	200

The performance standard for the air emissions from the stripping unit shall be the requirements of the RCRA regulations set forth at 40 CFR 264 Subpart AA- Air Emission Standards for Process Vents. The total organic emissions from all affected process vents at the facility are required to be below 1.4 kg/hr and 2.8 mg/yr under this regulation. Because the Site lies within an ozone non-attainment area, the air emissions from the treatment unit shall comply with the National Ambient Air Quality Standards (NAAQS) under the Clean Air Act (40 CFR Part 50.1-3, 50.9, Appendix D, Appendix H) for the release of volatile organic emissions. The vinyl chloride air emissions will also comply with Section 112 of the Clean Air Act, 42 U.S.C § 7412 National Emission Standard for Hazardous Air Pollutants (NESHAPs). The relevant and appropriate NESHAP for vinyl chloride is set forth at 40 CFR Part 61, Subpart F. The air emissions will also comply with the State regulations set forth in 25 PA Code §127.12(a)(5). This regulation requires that emissions be reduced to the minimum obtainable levels through the use of best available technology, as defined in 25 PA Code §121.1.

The performance standard for disposal of spent carbon

filters from the liquid- and vapor-phase carbon treatment systems and any other hazardous waste generated during treatment system installation shall be the requirements of the Resource Conservation and Recovery Act (RCRA) Regulations and the Pennsylvania Solid Waste Regulations including: 40 CFR Part 261 Subpart A Section 261.3, Subpart C Section 261.24, and Subpart D Section 261.31 (regarding the listing and identification of characteristic hazardous waste); 40 CFR Part 262 Subparts A-E (regarding standards applicable to generators) and the substantive requirements for the treatment, storage, and disposal of hazardous wastes set forth in 40 CFR Part 263 (regarding transporters of hazardous wastes) and 40 CFR Part 264 Subparts B-H (regarding general requirements for Treatment, Storage and Disposal facilities); 40 CFR 268 Subparts C Section 268.30 and Subpart E (regarding restriction of hazardous waste land disposal and storage of hazardous waste); 25 PA Code Sections 75.259 through 75.270.42 which establish State requirements for the generation, transportation, storage and treatment of hazardous wastes (specifically, 25 PA Code 75.262 requirements for generators of hazardous wastes, 25 AP Code Section 75.263 requirements for the transportation of hazardous wastes, and 25 PA Code Section 75.264 requirements for the treatment, storage and disposal of hazardous wastes; 25 PA Code 261.24 and 273.421 (regarding the handling of residual and other waste and the determination of hazardous waste by the Toxic Characteristic Leaching Procedure).

3. Expansion of the Dublin Public Water Distribution System

A. Description of the Component of the Remedy

The water extracted from the well described in paragraph 1, above, and treated with the treatment system described in paragraph 2, above, shall be delivered to the existing Dublin Borough water supply system either through the currently existing storage facility or through a storage facility constructed specifically for the new well.

The existing Dublin Borough public water distribution system shall be expanded by the installation of water mains along North Main Street, Mill Street and a portion of Elephant Road.

Connections shall be made from these newly constructed water mains to the affected or potentially affected parties with the installation of water meters at each

residence and business.

All areas impacted by the construction activities during remedy implementation and operation and maintenance shall be graded, restored and revegetated, as necessary.

The existing residential wells shall be abandoned, if appropriate, and the existing in-house carbon filters shall be removed and disposed of.

B. Performance Standards

Implementation of the component of the remedy described in 3.A., above, is a performance standard.

The performance standard for disposal of the in-house carbon filters shall be the requirements of the Resource Conservation and Recovery Act (RCRA) Regulations and the Pennsylvania Solid Waste Regulations including: 40 CFR Part 261 Subpart A Section 261.3, Subpart C Section 261.24, and Subpart D Section 261.31 (regarding the listing and identification of characteristic hazardous waste); 40 CFR Part 262 Subparts A-E (regarding standards applicable to generators) and the substantive requirements for the treatment, storage, and disposal of hazardous wastes set forth in 40 CFR Part 263 (regarding transporters of hazardous wastes) and 40 CFR Part 264 Subparts B-H (regarding general requirements for Treatment, Storage and Disposal facilities); 40 CFR 268 Subparts C Section 268.30 and Subpart E (regarding restriction of hazardous waste land disposal and storage of hazardous waste); 25 PA Code Sections 75.259 through 75.270.42 which establish State requirements for the generation, transportation, storage and treatment of hazardous wastes (specifically, 25 PA Code 75.262 requirements for generators of hazardous wastes, 25 AP Code Section 75.263 requirements for the transportation of hazardous wastes, and 25 PA Code Section 75.264 requirements for the treatment, storage and disposal of hazardous wastes; 25 PA Code 261.24 and 273.421 (regarding the handling of residual and other waste and the determination of hazardous waste by the Toxic Characteristic Leaching Procedure).

4. Monitoring of Residential and Commercial Wells

A. Description of the Component of the Remedy

Residential and commercial wells at certain residences and businesses not addressed by the public water supply

but which have the potential for contamination shall be monitored on a quarterly basis for the chemicals of concern using EPA Analytical Method 524.2 until EPA deems that it is no longer necessary. The initial list of these residences and businesses is given in Table 2. This list may be expanded by EPA based on the results of design of this remedy and information gathered during the RI/FS.

B. Performance Standards

Implementation of the component of the remedy described in 4.A., above, is a performance standard.

5. Operation and Maintenance of the Selected Remedy

A. Description of Remedy

Operation and maintenance of the newly installed well, and treatment system shall continue until the concentrations of contaminants of concern in the water extracted from the new production well, located within the plume of contamination, have been reduced to the MCLs indicated in paragraph 2, above. The well will be sampled on a quarterly basis for at least 30 years. If sampling confirms that the MCLs have been attained at the well (prior to treatment) and remain at the required levels for twelve consecutive quarters, operation of the treatment system can be suspended. The groundwater pumped from the well shall bypass the treatment system and be distributed to the affected residences. If, subsequent to the treatment system shutdown, quarterly monitoring shows the groundwater concentration of any contaminant of concern to be above the MCLs, the treatment system shall be restarted and continued until the MCLs have once more attained for twelve consecutive quarters.

B. Performance Standards

Implementation of the component of the remedy described in 5.A., above, is a performance standard.

XI. Statutory Determinations

A. Protection of Human Health and the Environment

The selected alternative is protective of human health. This remedy will reduce the risk posed by ingestion of, dermal contact with and inhalation of vapors from TCE in the groundwater used as a water supply for the affected parties through treatment. The drinking water supplied to the residences and

businesses will meet the MCLs listed in Table 3. The air discharged from the air stripper will meet all Federal and State air quality regulations. The selected remedy will also help to contain the plume of contamination.

No unacceptable short-term or cross-media risks will be caused by implementation of this remedy. The remedial technologies employed in the selected remedy are proven to reduce the concentrations of volatile organic chemicals to acceptable levels.

B. Compliance with ARARs

The Selected Remedy will comply with all applicable or relevant and appropriate chemical-, location -, and action-specific ARARs. Those ARARs are:

1. Chemical-Specific ARARs

a. Applicable Maximum Contaminant Levels (MCLs) promulgated under the Safe Drinking Water Act, 42 U.S.C. § 300f to 300j-26, and set forth at 40 CFR § 141.61 (a) are:

Substance	MCL(ug/l)
Tetrachloroethene	5
Trichloroethene	5
Vinyl Chloride	2
cis-1,2-dichloroethylene	70
trans-1,2-dichloroethylene	100
1,1-dichloroethylene	7
1,1,1-trichloroethane	200

b. **PA 25 Code Sections 109.202(1), and 109.201(2), 109.203 and 109.503 which set forth drinking water quality standards at least as stringent as federal standards (MCLs) and additional State requirements (secondary maximum contaminant levels) for public water systems including permit design and construction, source quality and siting requirements, are applicable.**

c. **EPA Directive 9355.0-28, which sets forth risk associated with emissions from Superfund air strippers at Superfund groundwater sites, is <u>to be considered</u>.**

d. **The air discharge from the treatment system will be implemented consistent with the requirements of the Resource Conservation and Recovery Act (RCRA) regulations 40 CFR 264 Subpart AA- Air**

Emission Standards for Process Vents. These regulations are applicable. The total organic emissions from all affected process vents at the facility are required to be below 1.4 kg/hr (3 lb/hr) and 2.8 mg/yr (3.1 tons/yr) under this regulation.

e. The vinyl chloride emissions from the treatment system will comply with Section 112 of the Clean Air Act, 42 U.S.C. § 7412 National Emission Standard for Hazardous Air Pollutants (NESHAPs). The relevant and appropriate NESHAP for vinyl chloride is set forth at 40 CFR Part 61, Subpart F.

f. The air emissions from the treatment system shall comply with the National Ambient Air Quality Standards (NAAQS) under the Clean Air Act (40 CFR Part 50 Sections 50.1-3,50.9, Appendix D, Appendix H) for the release of volatile organic emissions from the air strippers (the Site lies within an ozone non-attainment area).

2. Location-Specific ARARs

a. The substantive requirements of the Delaware River Basin Commission (18 CFR Part 430) regulations are applicable. These regulations establish requirements for the extraction of groundwater within the Delaware River Basin.

3. Action-Specific ARARs

a. 25 PA Code §123.31 is applicable to the remedial alternative and prohibits malodors detectable beyond the property line.

b. 25 PA Code §127.12(a)(5) will apply to the new point source air emission, if it is not exempt under 25 PA Code §127.14, that result from the implementation of the remedial alternative, requiring that emissions be reduced to the minimum obtainable levels through the use of best available technology (BAT).

c. The groundwater treatment will be implemented consistently with the requirements of the Resource Conservation and Recovery Act (RCRA) Regulations, including: 40 CFR Part 261 Subpart A Section 261.3, Subpart C Section 261.24, and Subpart D Section 261.31 (regarding the listing and identification of characteristic hazardous waste);

40 CFR Part 262 Subparts A-E (regarding standards applicable to generators) and the substantive requirements for the treatment, storage, and disposal of hazardous wastes set forth in 40 CFR Part 263 (regarding transporters of hazardous wastes) and 40 CFR Part 264 Subparts B-H (regarding general requirements for Treatment, Storage and Disposal facilities); 40 CFR 268 Subparts C Section 268.30 and Subpart E (regarding restriction of hazardous waste land disposal and storage of hazardous waste). These regulations are applicable.

d. 25 PA Code §§ 75.259 through 75.270.42 which establish State requirements for the generation, transportation, storage and treatment of hazardous wastes (specifically, 25 PA Code § 75.262 requirements for generators of hazardous wastes, 25 PA Code § 75.263 requirements for the transportation of hazardous wastes, and 25 PA Code § 75.264 requirements for the treatment, storage and disposal of hazardous wastes) are applicable requirements.

e. The Occupational Safety and Health Act (OSHA) regulations (29 CFR 1910) are applicable for all activities conducted during this remedial action.

f. 25 PA Code §§261.24 and 273.421 are applicable regulations for the handling of residual and other waste and for the determination of hazardous waste by the Toxic Characteristic Leaching Procedure.

C. Cost-Effectiveness

The selected remedy is cost-effective in providing overall protection in proportion to cost, and meets all other requirements of CERCLA. The NCP, 40 CFR Section 300.340(f)(ii)(D), requires EPA to evaluate cost-effectiveness by comparing all the alternatives which meet the threshold criteria - protection of human health and the environment and compliance with ARARs - against three additional balancing criteria: long-term effectiveness and permanence; reduction of toxicity, mobility, or volume through treatment; and short-term effectiveness. The selected remedy meets these criteria and provides for overall effectiveness in proportion to its cost. The estimated present worth cost for the selected remedy is $5,000,000.

D. Utilization of Permanent Solutions and Alternative Treatment Technologies or Resource Recovery Technologies to the Maximum Extent Practicable

Because of the limited scope of this operable unit, a permanent remediation of the ground water was not considered. However, a permanent source of clean drinking water to residences and businesses affected or potentially affected by the Site will be developed. Secondary objectives of this operable unit are to reduce the migration of contaminants and to prevent current or future exposure to the contaminated ground water in the aquifer, through treatment and containment. Extraction and treatment of contaminants in the aquifer will achieve some reduction in the contamination at the Site, and will enhance the attainment of a permanent remedy at the Site. Subsequent actions will address fully the principal threats posed by the conditions at the Site. The remedy(ies) selected in future operable units will employ permanent solutions to the maximum extent practicable.

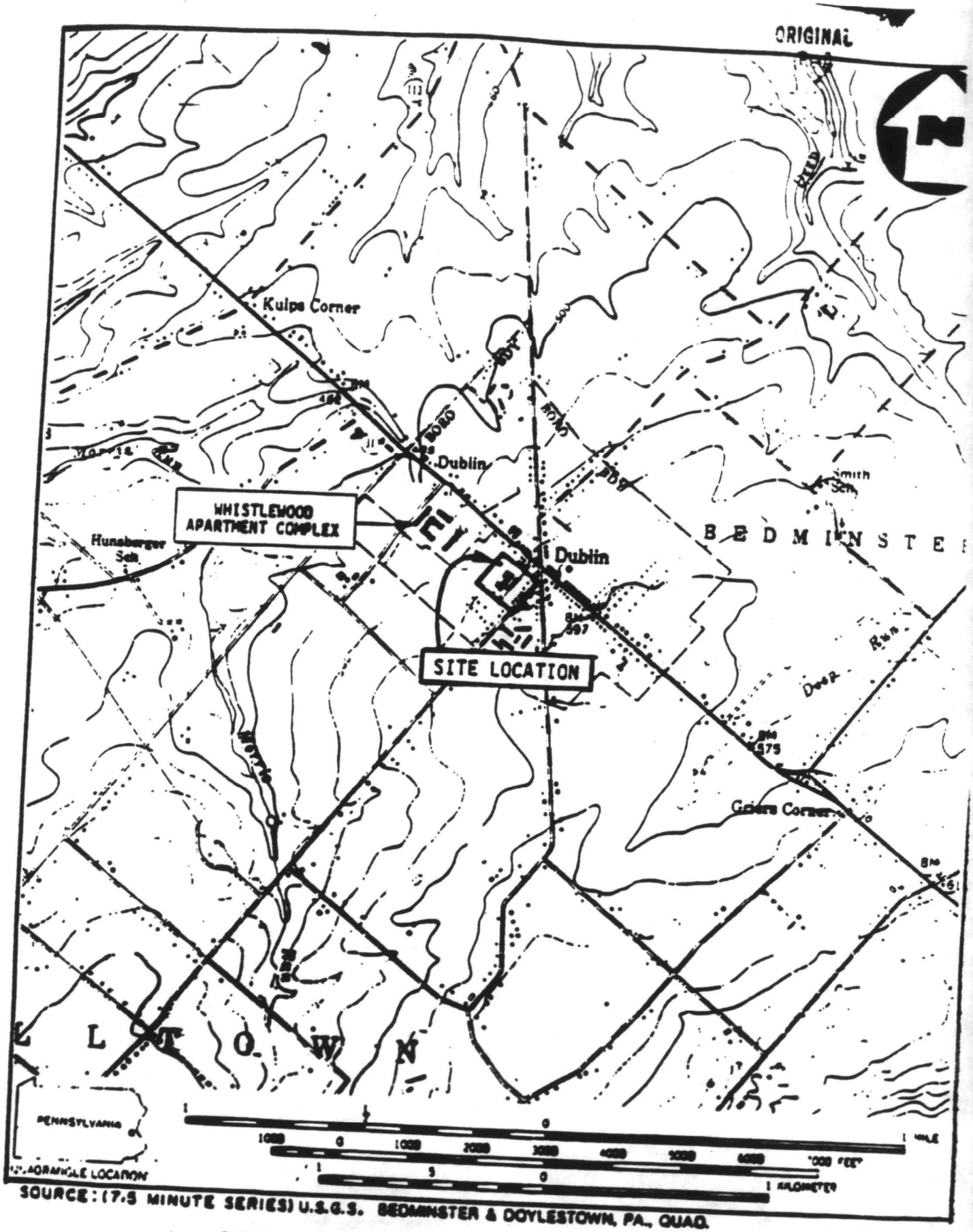
E. Preference for Treatment as a Principle Element

The selected remedy employs a treatment process which has been demonstrated to effectively reduce VOC contamination at other Superfund sites. Therefore, the statutory preference for remedies that employ treatment as a principal element is satisfied.

FIGURES 1 THROUGH 3

DUBLIN TCE EARLY ACTION ROD

ORIGINAL



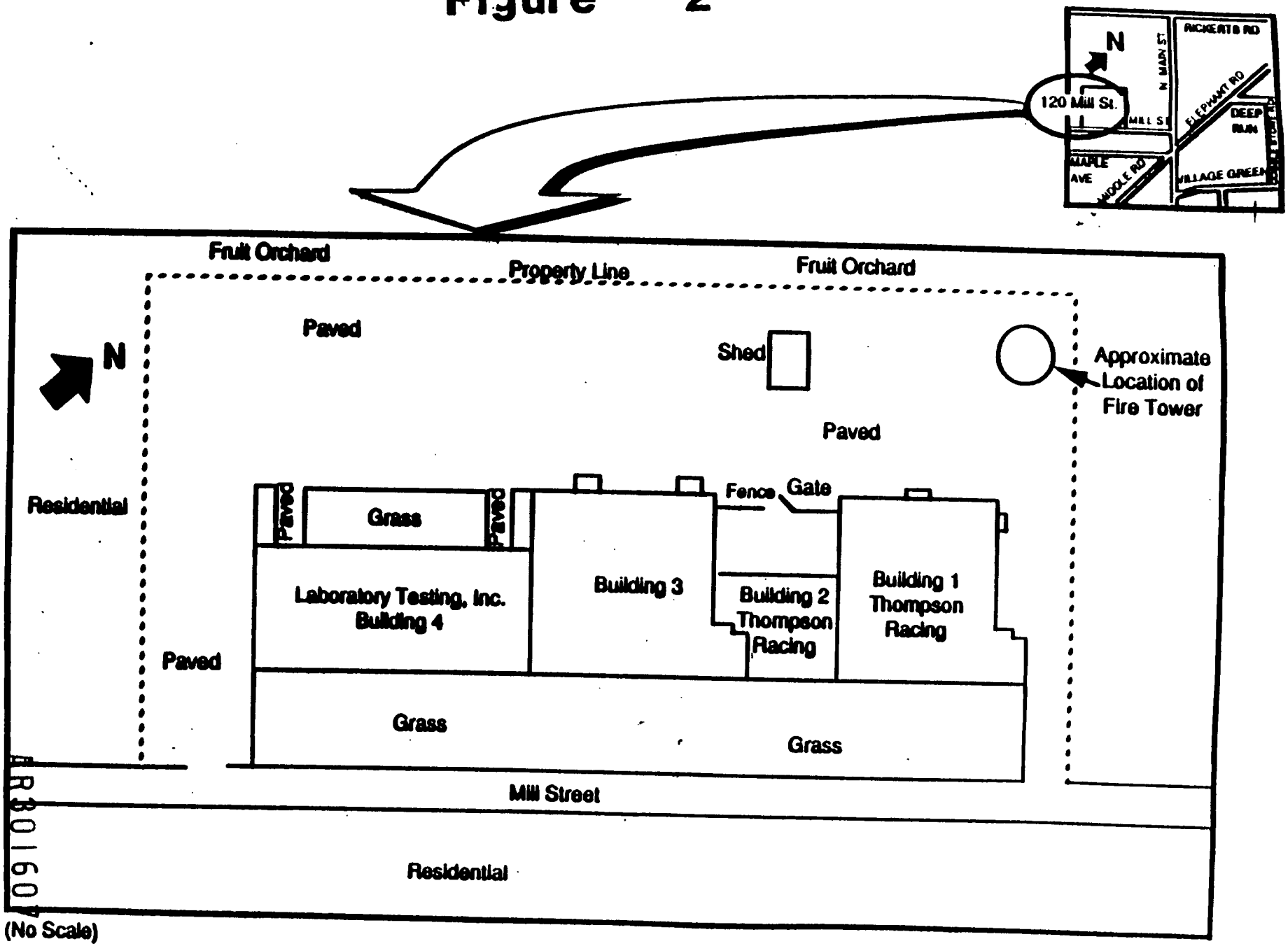
SOURCE: (7.5 MINUTE SERIES) U.S.G.S. BEDMINSTER & DOYLESTOWN, PA., QUAD.

SITE LOCATION MAP
DUBLIN WATER SUPPLY
SCALE 1: 24000

AR301160

NUS

Figure 2



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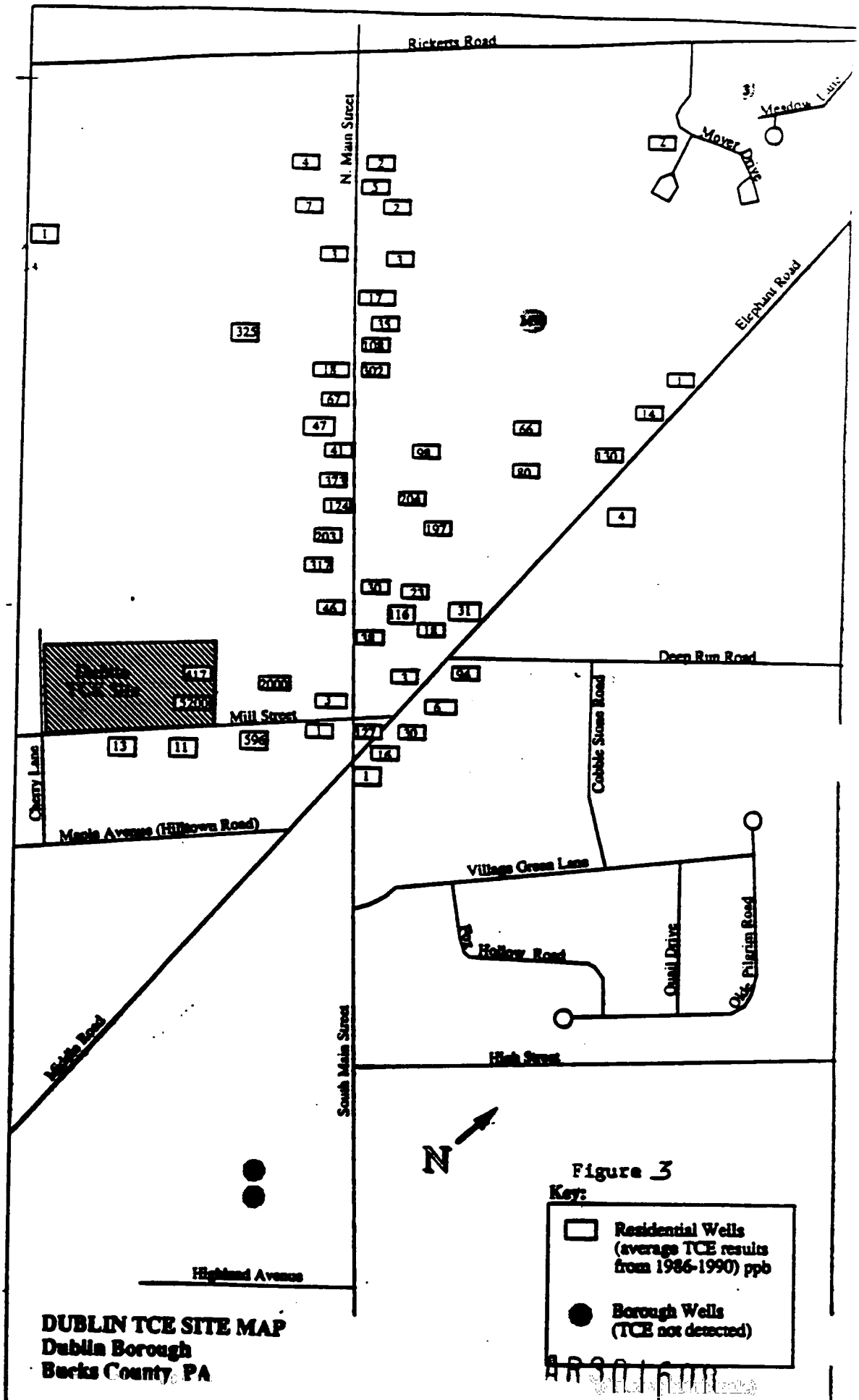
Rickerts Road
N. Main Street
Meadow Lane
Moyer Drive
Elephant Road
Deep Run Road
Mill Street
Cherry Lane
Cobble Stone Road
Main Avenue (Hilltown Road)
Village Green Lane
Hollow Road
Quail Drive
Old Pilgrim Road
Middle Road
South Main Street
High Street
Highland Avenue
N
Figure 3
Key:
Residential Wells (average TCE results from 1986-1990) ppb
Borough Wells (TCE not detected)
DUBLIN TCE SITE MAP
Dublin Borough
Bucks County, PA

APPENDICES A, B AND C

DUBLIN TCE EARLY ACTION ROD

APPENDIX B

DRAFT

DUBLIN TCE
ADMINISTRATIVE RECORD FILE *
INDEX OF DOCUMENTS

I. SITE IDENTIFICATION

1. Report: A Water Resources Study of the Dublin Area, Dublin, Pennsylvania, prepared by International Exploration, Inc., 5/7/84. P. 100001-100066.

2. Report: Analysis of Hydrologic Data gathered in 1984 for the Dublin Study Area, prepared by International Exploration, Inc., 2/12/85. P. 100067-100142.

3. Quarterly Review of Dublin Hydrologic Data, April 1985 - June 1985, 7/5/85. P. 100143-100173.

4. Quarterly Review of Hydrologic Data, July 1985 - September 1985, 10/8/85. P. 100174-100203.

5. Quarterly Review of Hydrologic Data, October 1985 - December 1985, 1/86. P. 100204-100228.

6. Quarterly Review of Hydrologic Data Collected in Dublin Borough, January 1986 - March 1986, 4/15/86. P. 100229-100284.

7. Quarterly Review of Hydrologic Data, Dublin Borough, April 1986 - June 1986, 7/28/86. P. 100285-100308.

8. Letter to Ms. Lori Acker, U.S. EPA, from Mr. Everett C. Hogg, County of Bucks, Department of Health, re: Tabulation of TCE analysis results for samples collected from wells in Dublin Borough, 8/29/86. P. 100309-100369. The following are attached:

   a) four handwritten TCE sample result forms;
   b) a map of Dublin;
   c) a handwritten memorandum dated September 2, 1986 regarding the data;
   d) a handwritten memorandum regarding Dublin Borough's wells;
   e) two ground water contour maps;
   f) a hydrologic monitoring locations map;
   g) a map illustrating the largest consumers of ground water;

* Administrative Record File available 8/5/91.

h) a map illustrating the monitor well locations surrounding the Rosenelli Test well;
i) a monitor well data sheet;
j) special analyses report, sample numbers 111108-13, 0111116-17, 0111119-24, 0161129-36, 0161149-52, 0161171-82, and 1161202;
k) Quality Control Laboratory, Inc., report numbers 86024522, 86023626, 86024875, 86024422;
l) two water quality analysis reports;
m) a well water sample report.

9. Report: Preliminary Assessment of Dublin Water Supply Site, prepared by NUS Corporation, 12/23/88. P. 100370-100778.

10. Report: Site Inspection Using Available Information of Dublin Water Supply, prepared by NUS Corporation, 8/9/89. P. 100779-101224.

11. National Oil and Hazardous Substance Contingency Plan, The National Priorities List Revisions: Amendment, Proposed Rule Public Docket Index - Update #10, 10/26/89. P. 101225-101226.

12. Letter to Mr. Larry Reed, U.S. EPA, from Mr. John P. Judge, Cohen, Shapiro, Polisher, Shiermen and Cohen, re: Supplemental public comment of Sequa Corporation to proposed listing of Dublin, Pennsylvania TCE Site on the National Priorities List, 6/15/90. P. 101227-101448.

III. REMEDIAL RESPONSE PLANNING

1. Report: Report of Hydrogeologic Analysis of the Borough of Dublin, Groundwater Supply Wells, prepared by Mercuri and Associates, Inc., 4/87. P. 300001-300080.

2. Report: Results of Soil Sampling Program, prepared by BCM Engineers, Inc., 3/88. P. 300081-300147. A transmittal letter is attached.

* 3. Exhibit List-H: Cost Study-Dublin Borough Water System, 8/8/88. P. 300148-300155.

* 4. Exhibit List-B: Geaghty & Miller Map, 8/11/88. P. 300156-300258.

5. Report: Results of Groundwater Investigation, prepared by BCM Engineers, Inc., 10/88. P. 300259-300311. A transmittal letter is attached.

6. Delaware River Basin Commission, Application for Approval of a Proposed Groundwater Withdrawal, 11/28/88. P. 300312-300509. A hydrogeological analysis of the Rosenelli well report is attached.

* 7. Exhibit List II-O: Recent information, test, etc., 4/89. P. 300510-300523.

8. Letter to Mr. George C. Elias, Delaware River Basin Commision, from Mr. John F. Fabian, PADER, re: Approval of Water Supply Application No. 0989504, 6/1/89. P. 300524-300524.

9. Letter to Mr. Robert E. Day-Lewis, Pennsylvania Department of Environmental Resources (PADER), from Mr. John Philip Diefender, Stuckert and Yates, re: Exhibits to proceedings, 7/26/89. P. 300525-300525.

10. Letter to Mr. Robert Day-Lewis, PADER, from Ms. Barbara J. Rudnick, Mercuri and Associates, Inc., re: Confirmation of discussion on ground water, 9/18/89. P. 300526-300526A.

* Only relevant portions of this document have been reproduced. The complete document can be found at U.S. EPA Region III, Philadelphia, PA.

11. Letter to Mr. John P. Diefenderfer, Stucker and Yates, from Mr. Anderson Lee Hartzell, PADER, re: Proposed permitting of the Rosenelli well in Dublin, 9/19/89. P. 300527-300529.

12. Letter to Mr. Luther L. Wonsidler, Dublin Borough, from Mr. Lewis Luchie, PADER, re: Water Supply Permit No. 0989504, 9/21/89. P. 300530-300536. The following are attached:

    a) Public Water Supply Permit No. 0989504;
    b) notification regarding quarterly analysis for trichloroethylene;
    c) Agreement between PADER and the Borough of Dublin in the issuance of the permit;
    d) letter regarding site visit;
    e) a Dublin Borough well data printout.

13. Letter to Dr. Bruno Mercuri, Mercuri and Associates, Inc., from Mr. Robert E. Day-Lewis, PADER, re: Agreement on location of monitoring well, 9/27/89. P. 300537-300537.

14. Agreement between the Borough of Dublin and PADER, 10/2/89. P. 300538-300539.

15. Letter to Mr. Robert Day-Lewis, PADER, from Ms. Barbara A. Dolce and Mr. Robert A. Saar, Geraghty and Miller, Inc., re: Additional information concerning ground water recovery and treatment on or near the 120 Mill Street property, 10/19/89. P. 300540-300545. Table 1 - Water and Trichloroethene (TCE) Volumes in Contaminated Areas, Dublin Borough, Pennsylvania and Table 2 - Pumping Rates for Remediation of High Concentration Area near 120 Mill Street Property, Dublin Borough, Pennsylvania are attached.

16. Letter to Mr. Robert E. Day-Lewis, PADER, from Mr. John A. Garges, BCM Engineers, Inc., re: Confirmation of a telephone conversation concerning the Thompson water tower leak, 1/10/90. P. 300546-300546.

17. Report: Hydrogeologic Analysis of Dublin Borough Wells no. 1 and no. 2, Consultant's Report for the Year 1989, prepared by Mercuri and Associates, Inc., 3/90. P. 300547-300759.

18. Letter to Mr. John H. Thompson, Thompson Organization, from Mr. William H. Jolly, PADER, re: Confirmation of results for investigation regarding release of TCE contaminated water, 3/27/90. P. 300760-300767. The following are attached:

a) letter regarding the investigation of the Thompson water tank;
b) a Statement of Conditions Building Permit #90-873-BZP;
c) hand drawn map of a contaminant chamber;
d) Application for Permit for Erection of New Building or Alternation of Addition to an Existing Building;
e) memorandum regarding a daily report of activity at the Thompson tank;
f) hand drawn map of Thompson tank;

19. Letter to Dr. Robert A. Saar, Geraghty and Miller, Inc., from Mr. Robert E. Day-Lewis, PADER, re: Comments regarding the Conceptual Remedial Alternatives Work Plan, 3/28/90. P. 300768-300769.

20. Letter to Mr. Mark J. Vasoli, Dublin Borough, from Mr. William D. Kee, Cowan Associates, re: Estimate of operation and maintenance costs for the proposed water treatment plant, 4/18/90. P. 300770-300777. The cost estimates and a water distribution system map are attached.

21. Letter to Mr. John Diefenderfer, Stuckert and Yates, from Mr. William D. Kee, Cowan Associates, Inc., re: Comments to a site investigation, 4/18/90. P. 300778-300780.

22. Report: Results of Source Investigation, 120 Mill Street Site, Dublin Borough, Pennsylvania, prepared by Geraghty and Miller, Inc., 6/90. P. 300781-300937. A transmittal letter is attached.

* 23. Report: Cost of Remedial Action, prepared by CH2M Hill, 7/12/90. P. 300938-300998. A transmittal letter is attached.

* Only relevant portions of this document have been reproduced. The complete document can be found at U.S. EPA Region III, Philadelphia, PA.

24. Letter to Mr. Larry Reed, U.S. EPA, from Mr. Leon T. Gonshur, PADER, re: Consent Order and Agreement between PADER and Sequa Corporation, 7/26/90. P. 300999-301011. The Consent Order and Agreement is attached.

25. Letter to Mr. Mark Vasoli, Borough of Dublin, Mr. John P. Diefenderfer, Stuckert and Yates, and Mr. William Kee, Cowan and Associates, re: Comprehensive report on drilling and construction of a TCE monitoring well, 8/15/90. P. 3011012-301014. The TCE monitoring well report is attached.

26. Letter to Ms. Diane Walker, U.S. EPA, from Mr. John P. Judge, Cohen, Shapiro, Polisher, Shiekman, and Cohen, re: Response of Sequa Corporation to letter dated August 22, 1990, 10/26/90. P. 301015-301076. A response letter dated October 24, 1990 and exhibit A: Source Investigation Work Plan 120 Mill Street Site and Conceptual Remedial Alternatives for the Bedrock Aquifer Underlying Dublin Borough, Pennsylvania are attached.

27. Letter to Mr. Edwin B. Erickson, U.S. EPA, from Mr. John Philip Diefenderfer, Stuckert and Yates, re: Recovery cleanup at the Dublin Site, 12/11/90. P. 301077-301117. The following are attached:

    a) letter by EPA in response to the December 11, 1990 correspondence;
    b) letter regarding the estimate of operation and maintenance (O and M) cost for the proposed Water Treatment Plant (WTP);
    c) Operating and Maintenance Manual;
    d) two Thompson/Sequa TCE Removal System maps.

28. Letter to Mr. Philip Rotstien, U.S. EPA, from Mr. J. Vasoli, Borough of Dublin, re: Monitoring well TCE test results, 2/9/91. P. 301118-301120. A letter regarding a laboratory report and a laboratory sample results form are attached.

29. Memorandum to file from Mr. Mark J. Vasoli, Borough of Dublin, re: Organic volatile test results, 2/21/91. P. 301121-301126. Two Certificates of Analysis, two Chemical or Radiological Analysis Input forms, and a Chain of Custody are attached.

30. Memorandum to Ms. Diane Walker, U.S. EPA, from Mr. David M. Kargbo, U.S. EPA, re: Review of March 1990 Hydrogeologic Analysis of Wells 1 and 2, 3/19/91. P. 301127-301129.

31. Phone Conversation Record of Mr. Mark Vasoli, Borough of Dublin, with Ms. Diane Walker, U.S. EPA, re: Public distribution system, 5/22/91. P. 301130-301131.

32. Phone Conversation Record of Ms. Susan Coburn, Whistlewood Apartment Complex, with Ms. Diane Walker, U.S. EPA, re: Structure and capacity of the water production well, 5/23/91. P. 301132-301132.

33. Phone Conversation Record of Mr. David Shapowal, Thompson Toyota, with Ms. Diane Walker, U.S. EPA, re: Wells located at 120 Mill Street, 5/23/91. P. 301133-301133.

34. Letter to Ms. Diane J. Walker, U.S. EPA, from Mr. Mark J. Vasoli, Borough of Dublin, re: Map with borough properties currently tied into the public water system, 5/29/91. P. 301134-301135. The map is attached.

35. Letter to Ms. Diane Walker, U.S. EPA, from Mr. Thomas R. Hartnett, PADER, re: Preliminary list of Applicable or Relevant and Appropriate Requirements (ARARs), 6/3/91. P. 301136-301138.

36. Phone Conversation Record of Mr. Mark Vasoli, Borough of Dublin, with Ms. Diane Walker, U.S. EPA, re: Water line construction estimates, 6/10/91. P. 301139-301139.

37. Letter to Mr. Mark Vasoil, Borough of Dublin, from Ms. Diane Walker, U.S. EPA, re: Water line construction estimates, 6/12/91. P. 301140-301144. The cost estimates are attached.

38. Phone Conversation Record of Mr. Bruno Mercuri, Mercuri and Associates, Inc., with Ms. Diane Walker, U.S. EPA, re: Information about the public distribution system, 6/13/91. P. 301145-301147.

39. Phone Conversation Record of Mr. Mark Vasoli, Borough of Dublin, with Ms. Diane Walker, U.S. EPA, re: Water usage in the borough, 6/21/91. P. 301148-301149.

40. Letter to Ms. Diane J. Walker, U.S. EPA, from Mr. John Philip Diefenderfer, Stuckert and Yates, re: Dublin Borough Ordinance No. 205, 6/26/91. P. 301150-301156. The ordinance is attached.

41. Memorandum to file from Ms. Diane Walker, U.S. EPA, re: A January 18, 1991 meeting to discuss water usage, (undated). P. 301157-301157.

42. Memorandum to Ms. Diane Walker, U.S. EPA, from Mr. Anderson Lee Hartzell, PADER, re: Consent Order and agreement between PADER and Sequa Corporation, (undated). P. 301158-301169. The Consent Order is attached.

43. Map of Dublin, (undated). P. 301170-301171. A partial list of wells in Dublin from a report entitled Pennsylvania Department of Internal Affairs, Groundwater Resources of Bucks County, PA is attached.

IV. REMOVAL RESPONSE PROJECTS

1. Memorandum to Mr. Gerry Heston, U.S. EPA, from Mr. Mark Tucker, Roy F. Weston, Inc., re: Carbon efficiency, 8/19/86. P. 400001-400010.

2. U.S. EPA Incoming Spill Report, Dublin Water Supply, 8/27/86. P. 400011-400011.

3. Trichloroethylene (TCE) Factual Information Sheet, prepared by Chemical Information Systems, Inc., 8/29/86. P. 400012-400018.

4. Letter to Ms. Lori Acker, U.S. EPA, from Mr. Everett C. Hogg, County of Bucks, re: Transmittal of TCE analysis results, 8/29/86. P. 400019-400023. The results are attached.

5. Pollution Report #1, Dublin Water Supply, 9/9/86. P. 400024-400025.

6. Pollution Report #2, Dublin Water Supply, 9/9/86. P. 400026-400027.

7. Hazardous Waste Site Investigation and Emergency Response Safety Plan, prepared by Roy F. Weston, Inc., 9/10/86. P. 400028-400034.

8. Memorandum to Mr. Jay Rodstein, U.S. EPA, from Mr. Greg Janice and Mr. Peter Harnett, Roy F. Weston, Inc., re: Background information on Dublin TCE Site, 9/15/86. P. 400035-400089.

9. Pollution Report #3, Dublin Water Supply, 9/15/86. P. 400090-400091.

10. Memorandum to Mr. Jay Rodstein, U.S. EPA, from Mr. Greg Janice and Mr. Peter Harnett, Roy F. Weston, Inc., re: Transmittal of Scope of Work, 9/18/86. P. 400092-400095. The Scope of Work is attached.

11. Pollution Report #4, Dublin Water Supply, 10/6/86. P. 400096-400097.

12. Pollution Report #5, Dublin Water Supply, 10/6/86. P. 400098-400099.

13. Pollution Report #6, Dublin Water Supply, 10/9/86. P. 400100-400101.

14. Pollution Report #7, Dublin Water Supply, 10/19/86. P. 400102-400103.

15. Pollution Report #8, Dublin Water Supply, 10/22/86. P. 400104-400105.

16. Memorandum to Mr. Charles J. Walters, U.S. EPA, from the Acting Director, Department of Health & Human Services, re: Health consultation for Dublin Water Supply, 10/23/86. P. 400106-400117.

17. Pollution Report #9, Dublin Water Supply, 11/7/86. P. 400118-400119.

18. Letter to Mr. John N. Thompson from Mr. Walter E. Stanley, Jr., PADER, re: Results of sampling tests, 11/12/86. P. 400120-400121.

19. Pollution Report #10, Dublin Water Supply, 11/18/86. P. 400122-400124.

20. Pollution Report #11, Dublin Water Supply, 11/21/86. P. 400125-400126.

21. Letter to Mr. Michael Mason, U.S. EPA, from Mr. Robert C. Brod, BCM Engineers, Inc., re: Residential well sampling plans, 11/25/86. P. 400127-400328.

22. Tap Water Summary, Dublin TCE Site, 12/2/86. P. 400329-400342.

23. Letter to Ms. Deane Bartlett, U.S. EPA, from Mr. Brian J. McCullough, Connolly, Chandor & McAndrews, re: Comments on BCM's proposal, 12/30/86. P. 400343-400357. The Proposal for Groundwater Contamination Investigation and Remediation Plan is attached.

24. Letter to Mr. Michael Mason, U.S. EPA, from Mr. Michael Galvin, Versar, Inc., re: Split sampling results, 1/12/87. P. 400358-400361. A data summary sheet and a chain of custody form are attached.

25. Memorandum to Mr. Michael Mason, U.S. EPA, and Mr. Robert Young, PADER, from Mr. Peter G. Noll, County of Bucks, re: Comments on ground water monitoring proposal, 2/5/87. P. 400362-400362.

26. Letter to Ms. Deane H. Bartlett, U.S. EPA, from Mr. Brian J. McCullough, Connolly, Chandor & McAndrews, re: Ground water sampling, 3/11/87. P. 400363-400368.

27. Letter to Ms. Deane H. Bartlett, U.S. EPA, from Mr. Robert C. Brod, BCM Engineers, Inc., re: Transmittal of draft Work Plan, 3/27/87. P. 400369-400377.

28. Letter to Ms. Deane H. Bartlett, U.S. EPA, from Mr. Steven F. Kemp, BCM Engineers, Inc., re: Transmittal of Work Plan, 5/21/87. P. 400378-400386.

29. Letter to Mr. Michael Mason, U.S. EPA, from Mr. Steven F. Kemp, BCM Engineers, Inc., re: Transmittal of Work Plan, 5/21/87. P. 400387-400389.

30. Consent Agreement and Order, In the Matter Of: Dublin TCE Site, John H. Thompson, Respondent, Docket No. III-87-22-DC, 6/29/87. P. 400390-400398.

31. Report: Revised Hydrogeologic Investigation Plan for Thompson Property, prepared by BCM Engineers, Inc., 7/87. P. 400399-400415.

32. Letter to Mr. Steven F. Kemp, BCM Engineers, Inc., from Mr. Robert O. Young, PADER, re: Revised hydrogeologic investigation plan, 8/31/87. P. 400416-400418.

33. Letter to Mr. Robert Wallace, Funk Water Quality Company, from Mr. Robert J. Wyatt, BCM Engineers, Inc., re: Installation of water treatment systems, 9/2/87. P. 400419-400423.

34. Letter to Mr. Robert O. Young, PADER, from Mr. Steven F. Kemp, BCM Engineers, Inc., re: Soil vapor survey results, 11/18/87. P. 400424-400431.

35. Tap Water Summary, Dublin TCE Site, 12/1/87. P. 400432-400439.

36. Letter to Mr. Michael Mason, U.S. EPA, from Mr. Robert J. Wyatt, BCM Engineers, Inc., re: Results of tap water sampling, 1/15/88. P. 400440-400444.

37. Letter to Mr. Michael Mason, U.S. EPA, from Mr. Steven F. Kemp, BCM Engineers, Inc., re: Work Plan implementation, 1/19/88. P. 400445-400457.

38. Report: Assessment of Source Contamination in Whistlewood Apartment Complex Water Supply Well, prepared by Roy F. Weston, Inc., 2/15/88. P. 400458-400495.

39. Tap Water Sampling Results, Dublin TCE Site, 2/2/88. P. 400496-400676.

40. Memorandum to Ms. Henrietta Woodward, U.S. EPA, from Mr. Cornelius F. Carr, U.S. EPA, re: File accessibility, 3/88. P. 400677-400680.

41. Memorandum to Mr. Michael Mason, U.S. EPA, from Mr. Daniel K. Donnelly, U.S. EPA, re: Transmittal of analytical reports, 3/30/88. P. 400681-400684.

42. Letter to Mr. John Galligan, Jr., John Galligan and Sons, from Mr. Robert J. Wyatt, BCM Engineers, Inc., re: Filter renewal in Dublin, 4/7/88. P. 400685-400686.

43. Letter to Mr. Steven F. Kemp, BCM Engineers, Inc., from Mr. Robert E. Day-Lewis, PADER, re: Soil sampling program, 4/8/88. P. 400687-400687.

44. Letter to Mr. Bob Day-Lewis, PADER, from Mr. Robert J. Wyatt, BCM Engineers, Inc., re: Monitoring well location modification, 4/21/88. P. 400688-400689.

45. Letter to Mr. Michael Mason, U.S. EPA, from Mr. Robert J. Wyatt, BCM Engineers, Inc., re: Sampling results, 4/22/88. P. 400690-400796.

46. Letter to Ms. Mary Letzkus, U.S. EPA, from Mr. Scott Slagley, Versar, Inc., re: Transmittal of analytical results of the volatile organics analysis samples, 7/25/88. P. 400797-400814.

47. Letter to Ms. Mary Letzkus, U.S. EPA, from Mr. Robert J. Wyatt, BCM Engineers, Inc., re: Summary of tap water sampling results, 8/18/88. P. 400815-400830. The results are attached.

48. Letter to Ms. Mary Letzkus, U.S. EPA, from Mr. Scott A. Slagley, Versar, Inc., re: Results of volatile organics water samples analysis, 8/24/88. P. 400831-400834.

49. Letter to Ms. Mary Letzkus, U.S. EPA, from Mr. Scott A. Slagley, Versar, Inc., re: September monthly report, 10/4/88. P. 400835-400845. The report is attached.

50. Letter to Ms. Mary Letzkus, U.S. EPA, from Mr. Robert J. Wyatt, BCM Engineers, Inc., re: Results of tap water sampling, 11/8/88. P. 400846-400949. The results are attached.

51. Tap Water Residential Sampling Data, 12/6/88. P. 400950-400958.

52. Memorandum to Mr. Eric Johnson, U.S. EPA, from Mr. Daniel K. Donnelly, U.S. EPA, re: Results of volatile organics analysis, 1/4/89. P. 400959-400966. The results are attached.

53. Memorandum to Mr. Eric Johnson, U.S. EPA, from Ms. Theresa A. Simpson, U.S. EPA, re: Review of organic data, 2/8/89. P. 400967-400998. The review is attached.

54. Memorandum to Mr. Eric Johnson, U.S. EPA, from Mr. Daniel K. Donnelly, U.S. EPA, re: Volatile organics analysis report, 5/2/89. P. 400999-401007. The report is attached.

55. Letter to Ms. Mary Letzkus, U.S. EPA, from Mr. John A. Garges and Mr. John V. Interrante, BCM Engineers, Inc., re: Transmittal of analytical results for tap water sampling, 5/12/89. P. 401008-401215. The results are attached.

56. Letter to Mr. Peter Kho, U.S. EPA, from Ms. Virginia H. Pohlman, Versar, Inc., re: Detection differences for TCE, 5/18/89. P. 401216-401217.

57. Residential water sampling results, 7/21/89. P. 401218-401228.

58. Memorandum to Mr. Peter Kho, U.S. EPA, from Ms. Theresa A. Simpson, U.S. EPA, re: Organic data review, 8/16/89. P. 401229-401290. The review is attached.

59. Letter to Mr. Rich Dolcey, U.S. EPA, from Mr. John A. Garges and Mr. Steffan R. Helbig, BCM Engineers, Inc., re: Transmittal of analytical results for tap water sampling, 8/28/89. P. 401291-401422. The results are attached.

60. Letter to Mr. Peter Kho, U.S. EPA, from Mr. Mark diFeliciantonio, CDM Federal Programs Corporation, re: Data base for work assignment, 8/30/89. P. 401423-401435. The tap water sampling summary is attached.

61. Memorandum to Mr. Eric Johnson, U.S. EPA, from Ms. Theresa A. Simpson, U.S. EPA, re: Organic data review, 9/7/89. P. 401436-401491. The review is attached.

62. Letter to Ms. Jean Cooper, U.S. EPA, from Mr. Paul Wooldridge, Versar, Inc., re: Transmittal of sample shipping log and chain of command records, 9/11/89. P. 401492-401495. A shipping log and two records are attached.

63. Memorandum to Mr. Peter Kho, U.S. EPA, from Mr. Daniel K. Donnelly, U.S. EPA, re: Volatile organics report, 10/16/89. P. 401496-401522. The report is attached.

64. Letter to Mr. Edwin Erickson, U.S. EPA, from Mr. John Philip Diefenderfer, Stuckert and Yates, re: Comments on the Consent Order, 6/25/90. P. 401523-401530.

65. Letter to Mr. John P. Diefenderfer, Stuckert and Yates, from Mr. Dennis P. Carney, U.S. EPA, re: Response to letter of June 25th and comments on the Consent Order, 9/5/90. P. 401531-401532.

66. Letter to Mr. Kenneth Kryszczun, U.S. EPA, from Mr. Charles Walters, Agency for Toxic Substances and Disease Registry, re: Transmittal of Draft Preliminary Health Assessment, 10/23/90. P. 401533-401557. The report and a letter are attached.

67. Dublin TCE Site, Work Plan, (undated.) P. 401558-401565.

68. Modification to the Consent Agreement and Order of June 29, 1987 Between United States of America and John H. Thompson, Docket No. III-87-22-DC, 4/91. P. 401566-401567.

V. COMMUNITY INVOLVEMENT/CONGRESSIONAL CORRESPONDENCE IMAGERY

1. Letter to the Honorable Peter H. Rostmayer, U.S. House of Representatives, from Mr. Edwin B. Erickson, U.S. EPA, re: Progress of activity by EPA at the Dublin TCE Site, 10/18/90. P. 500001-500007. A copy of the letter with concurrences and a transmittal letter regarding the site is attached.

2. Letter to the Honorable Peter H. Rostmayer, U.S. House of Representatives, from Mr. Edwin B. Erickson, U.S. EPA, re: Alternative options for the water supply for residents whose wells may be affected by contamination from the site, 5/15/91. P. 500008-500011. A copy of the letter with concurrences, a letter concerning a focus feasibility study and payments of costs related to cleanup, and a transmittal letter regarding the site are attached.

3. Letter to Ms. Elaine Spiewak, U.S. EPA, from Mr. Mark diFeliciantonio, CDM Federal Programs Corporation, re: Fact Sheet for Dublin TCE Site, 5/17/91. P. 500012-500020. The fact sheet is attached.

SITE SPECIFIC GUIDANCE DOCUMENTS INCLUDED

1. "Ultraviolet Light, Researchers Use UV Light for VOC Destruction," Hazmat World, 5/90.

2. Bucks County Water Supply Inventory, prepared by Bucks County Planning Commission, 12/88.

3. The Hazards of Using Point-of-Use Water Treatment Devices Employing Activated Carbon, prepared by Health and Welfare Canada, 12/80.

4. "Bacteria Associated with Granular Activated Carbon Particles in Drinking Water," Applied and Environmental Microbiology, 9/86.

5. "Growth and Persistence of Pathogens on Granular Activated Carbon Filter," Applied and Environmental Microbiology, 12/85.

6. Air Stripper Design Manual, prepared by Research Triangle Institute, 5/90.

7. Technology Evaluation Report: SITE Program Demonstration of the Ultrox International Ultraviolet Radiation/Oxidation Technology, 1/90.

8. Ultrox International Ultraviolet Radiation/Oxidation Technology, Applications Analysis Report, 9/90. EPA/540/A5-89/012

9. Point-of-Entry Drinking Water Treatment Systems for Superfund Applications, prepared by PEI Associates, Inc., 6/89. EPA/600/2-89/027

10. Environmental Pollution Control Alternatives Drinking Water Treatment for Small Communities, 5/90. EPA/625/5-90/025.

BIBLIOGRAPHY OF SITE SPECIFIC GUIDANCE DOCUMENTS

1. A Guide to Selecting Superfund Remedial Actions, 4/1/90.
   OSWER #9355.0-27FS

2. Control of Air Emissions from Superfund Air Strippers at Superfund Groundwater Sites.
   OSWER #9533-0-2B

3. Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, prepared by OSWER/OERR, October 1, 1988.
   OSWER #9355.3-01

4. A Compendium of Technologies Used in the Treatment of Hazardous Wastes, prepared by ORD/CERI, September 1, 1987.
   EPA-625/8-87/014

5. Carbon Absorption Isotherms for Toxic Organics, prepared by R.A. Dobbs, MERL, and J.M. Cohen, MERL, April 1, 1980.
   EPA-600/8-80-023

6. Handbook Remedial Action at Waste Disposal Sites (Revised), prepared by ORD/HWERL and OSWER/OERR, October 1, 1985.
   EPA-625/6-85/006

7. Guidance Document for Providing Alternate Water Supplies, prepared by OERR, February 1, 1988.
   OSWER #9355.3-03

8. Remedial Action Costing Procedures Manual, prepared by JRB Associates/CH2M Hill, ORD/MERL, and OSWER/OERR, October 1, 1987.
   EPA-600/8-87/049

TABLES 1 THROUGH 5

DUBLIN TCE EARLY ACTION ROD

Table 1
Affected or Potentially Affected Residences and Businesses
Known to-date

North Main Street	Property Owner	Occupancy	Water Usage (gpd)
105	DellaBadia	Business	500**
106	Dairy Queen	Business	100-314+
112	Rhine Station	Business	37-60+
113	Hinsdale	Residence	160**
115	Boyle	Residence	160**
116	Occhi	Residence	160**
117	Buchanan	Residence	160**
119	Hirst	Residence	160**
122	Rufe	Residence	160**
123	Emico	Business	B-931-1200, A-100-160+
124	Meyers	Residence	160**
126	Meyers	Residence/Business	300**
128	Fluck	Residence	160**
131	Evans	Post Office	160**
130	Moyer	Residence/Business	A-200-300+ B-54-199+
133	McVaugh	Business	900-1500+
133W.	Jacobs	Residence	160**
138	Moyer	Business	160**
139	Bishop	Business	37-52+
142	First Federal	Business	21-47+
145	Bucks Bank	Business	95-241+
146	Whistlewood	Residences	16000-17000+
149	Grady	Residence	160**
150	Daniel	Residence	160**
153	Myrick	Residence	160**
161	Shopping Cnt	Businesses	6000+
164	Haring	Residence	160**
169	Southland	Business	179-251+
170	Tenley	Residence	900-1900+
173	Myers	Residence	160**
174	James	Residence/Business	170-215+
179	Crouthamel	Residence/Business	500**
183	Moyer	Business	2235-2670+
194	Dublin Fire	Business	1000+
Mill Street			
104	Farm Bureau	Business	500**
120	Thompson/LTI	Business	1- 300**@ 2- 73-106+ 3-127-311+ 4-972-1200+

TABLE 1 (continued)

Maple Street			
100	Shultz	Residence	160**
104	Buchanan	Business/Residence	500**
108	Williams	Residence	160**
110	Bishop	Residence	160**
112	Klemco	Business	160**
114	Klembeth	Residence	160**
116	Rice	Residence	160**
118	HilltownInvest	Business	160**
120	Detweiler	Residence	160**
122	Vasconez	Residence	160**
126-132	Shaddinger	Residence	223-288+
134	Schilling	Residence	160**
136	Kohl	Residence	160**
Elephant Road			
111	Stauffer	Residence	160**
113		Residence	160**
114	Slaymaker	Residence	160**
115	Grace	Residence	160**
116	Black	Residence	160**
118	Black	Residence	160**
119	Hess	Residence	160**
139	Meyers	Residence	160**
141	Gahman	Residence	160**
146	Moyer	Residence	160**
147	Detweiler	Residence	160**
149	Fair	Residence	160**
150	Detweiler	Residence	160**
151	Sulpizio	Residence	160**
152	Rush	Residence	160**
153	Hager	Residence	160**
154	Fretz	Residence	160**
155	Worthington	Residence	160**
156	Blichasz	Residence	160**
South Main Street			
101	Dublin Inn	Business	302-364+

KEY
*Bourough Hydrogeologist's Estimate
** EPA Estimate based on similar use and Guidance Documents
+ Dublin Bourough Actual Measurements
A and B refer to two wells on site
1,2,3 and 4 refer to point measurments of water usage
@ - water supply no longer in use

Table 2

Residents and Businesses for Monitoring Program
Known to-date

South Main Street

103
105
106

Maple Street

111
113
119
121
123
127
131
Woodedge Apts.

Cherry Lane

105
107
111
115
119
121

Elephant Road

162
164
166
168
172
174
178

Deep Run Road

101
103
105
108
109
110
112
111
114

TABLE 2 (continued)

Middle Road

104
105
111
112
115
116
117

Rickerts Road

Hilltown Township

Home at corner of Rickerts and North Main Street
3304
3234
3232
3224
3212
3206
3132
3126
3020
3000
2930

Dublin Borough

Dublin Acres
State Police

Frontier Road

215
217

Table 3

Contaminant	Remedial Action Level (ppb)	Maximum On-Site Level (ppb)
1,1,1-Trichloroethane+	200[a]	53.8
Trichloroethylene	5[a]	10,000
Tetrachloroethylene	5[a]	13
1,1-Dichloroethylene	7[a]	9.8
cis-1,2-Dichloroethylene*	70[a]	14.7
trans-1,2-Dichloroethylene*	100[a]	7.4
Vinyl Chloride	2[a]	28

Notes:

a- Maximum Contaminant Level
*- Compounds have not exceeded the MCLs in the groundwater at the Site but are degradation products of Trichlorethylene and Tetrachlorethylene and, thus, may increase in concentration over time
+- Compound has not exceeded MCL

TABLE 4
APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARS)

Law, Regulations or Standard	Source of Regulation	Description	Alternative Affected
FEDERAL			
Safe Drinking Water Act	Safe Drinking Water Act, 40 CFR 141 through 143	This Act establishes maximum contaminant levels (MCL) and MCL goals (MCLG) at levels that would result in no known or potential adverse health affects. MCLs are enforceable health goals. In addition, this Act establishes guidelines for secondary drinking water standards.	This Act affects all alternatives.
Standards of Performance for New Stationary Source	Clean Air Act, 40 CFR 60	These regulations establish the general provisions and performance standards for stationary sources of air emissions.	These regulations affect the alternative 6 and 7.
National Ambient Air Quality Standards(NAAQS)	Clean Air Act, 40 CFR 50	These standards define levels of air quality which are necessary to protect public health. Standards have been established for sulfur oxides, particulate matter, carbon monoxide, ozone, nitrogen dioxide, and lead.	These standards affect the alternative 7.
National Emission Standard for Hazardous Air Pollutants (NESHAPs)	Clean Air Act, 40 CFR 61, Subpart F	This regulation establishes emission levels for vinyl chloride.	This regulation affects alternatives 6 and 7.

TABLE 4
APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARS)
(continued)

Law, Regulations or Standard	Source of Regulation	Description	Alternative Affected
FEDERAL			
Hazardous Waste Management System: General	**40 CFR 260, et.sq.**	**RCRA regulates the generation, transport, storage, treatment, and disposal of hazardous wastes. CERCLA § 104(c)(3)(B) specifically requires that hazardous substances generated from remedial action be disposed of at facilities in compliance with Subtitle C of RCRA.**	**RCRA Subtitle C affects alternatives 4, 5, and and 6.**
Resource Conservation and Recovery Act (RCRA)	**RCRA Subtitle C § 3002 40 CFR 262, Part 264 Subpart B-H, Part 268**	**Section 262 establishes standards for generators of hazardous wastes. This section requires that generators comply with the requirements for identification, accumulation, recordkeeping, and reporting. Section 264 establishes standards for the operation of hazardous waste treatment, storage and disposal facilities. Section 268 establishes restrictions on the land disposal of hazardous waste.**	**These regulations affect alternatives 4, 5, and 6.**

TABLE 4
APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARS)
(continued)

Law, Regulations or Standard	Source of Regulation	Description	Alternative Affected
STATE			
Community Environmental Control Regulations	PA 25 Code Section 109.202(1), 109.201(2), 109.203, 109.503	This Chapter sets forth drinking water quality standards at least as stringent as federal standards: maximum contaminant levels (MCLs), and additional state requirements: secondary maximum contaminant levels and health advisories for those compounds lacking MCLs for public water systems including permit design and construction, source quality and siting requirements.	This regulation affects all all alternatives.
Air Quality Control Regulations	PA 25 Code Section 127.12(a)(5), 127.14, 123.31	This Chapter on "Construction, Modification, Reactivation and Operation of Source" requires the use of Best Available Technology (BAT) for control of new sources, plan approval and operating permit requirements, and special requirements for sources in nonattainment areas.	This regulation affects alternative 6 and 7.
Waste Management Regulations	PA 25 Code Section 261.24, 273.421, 75	These chapters set forth the requirements for the handling of residual and other waste and for the determination of hazardous waste by the Toxic Characteristic Leaching Procedure Pennsylvania has been delegated to implement most but not all of federal RCRA regulations.	This regulation affects alternatives 4,5 and 6.

TABLE 4
APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARS)
(continued)

Law, Regulations or Standard	Source of Regulation	Description	Alternative Affected
FEDERAL			
RCRA and DOT standards applicable to transporters of of hazardous waste.	RCRA Subtitle C § 3003, 40 CFR 263 and 49 CFR 171 through 180	These regulations establish the responsibilities of generators and transporters of hazardous waste in the handling, transportation and management of such wastes. These regulations concern manifesting, labeling, using proper containers, recordkeeping, and reporting discharges.	These regulations affect alternatives 4, 5, and 6.
RCRA Air Emission Standards for Process Vents	RCRA 40 CFR 264 Subpart AA	The regulations set forth establish requirements for the reduction of of organic emissions from process vents used at a facility.	Affects Alternative 6.
Occupational Safety and Health Act (OSHA)	29 CFR 1910	This Act establishes guidelines, requirements, and regulations to provide for the health and safety of of workers conducting remedial action activities.	This Act affects all alternatives.
Delaware River Basin Commission	18 CFR 430	This regulation establishes requirements for the extraction of groundwater within the Delaware River Basin. As a general rule, this regulation requires that permits be obtained for wells which extract more than 10,000 gpd from a point source in groundwater protection areas.	This regulation will affect alternatives 2, 3, 5, 6, and 7.

TABLE 4
APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARS)
(continued)

Law, Regulations or Standard	Source of Regulation	Description	Alternative Affected
To Be Considered			
EPA Office of Solid Waste and Emergency Response Directive	Directive 9355.0-28	Procedures for determining the risk associated emissions from Superfund Air Strippers at Superfund Groundwater Sites	This procedure will apply to alternative 6.

TABLE 5

COST SUMMARY

ALTERNATIVE	CAPITAL ($)	O&M ($)	PRESENT WORTH* ($)
1	0	0	0
2	2,200,000	138,000	2,600,000
3	2,600,000	169,000	3,300,000
4	100,000	390,000	2,800,000
5	3,000,000	250,000	4,500,000
6	3,100,000	300,000	5,000,000
7	3,100,000	260,000	4,600,000

* Present Worth Costs are estimated over a 30 year period at a 10% discount rate

NAME, ADDRESS	TYPE OF SYSTEM (POU = Point-of-use)	CULLIGAN SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	TIER LEVEL I=TCE<5ug/L II=5to260ug/L III=TCE>260ug/L	BCM PARAMETER	BEFORE TREATMENT DATE	BEFORE TREATMENT SAMPLE NO.	BEFORE TREATMENT CONC (UG/L)	BEFORE TREATMENT DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	AFTER TREATMENT CONC (UG/L)	AFTER TREATMENT DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	VERSAR BEFORE TREATMENT CONC (UG/L)	VERSAR BEFORE TREATMENT DUP (UG/L)	VERSAR AFTER TREATMENT SAMPLE NO.	VERSAR AFTER TREATMENT CONC (UG/L)	VERSAR AFTER TREATMENT DUP (UG/L)
83 SMELL, 119 CHERRY LANE				I	Trichloroethene	05-01-89		NA	-		-	-	4617-C-23	(1.0	-	-	-	-
					1,1,1-Trichloroethane	05-01-89		NA	-		-	-	4617-C-23	3.4	-	-	-	-
84 VANDER LECUW, 166 ELEPHANT RD.				I	Trichloroethene	05-01-89		NA	-		-	-	4617-C-24	(1.0	-	-	-	-
85 SMITH, 168 ELEPHANT RD.				I	Trichloroethene	05-01-89		NA	-		-	-	4617-C-25	(1.0	-	-	-	-
86 MOYERS DAIRY, 183 N. MAIN ST.	NONE			II	Trichloroethene	05-01-89		NA	-		-	-	4617-C-02	1.3	-	-	-	-
					Trichloroethene	12-06-89		1.6	-		-	-	5120-C-03	(1.0	-	-	-	-
					Methylene chloride	12-06-89		-	-		-	-	5120-C-03	2.9B	-	-	-	-
					Trichloroethene	06-06-90		2.0	-		-	-	5429-C-03	1.3	-	-	-	-
					1,1,1-Trichloroethane	06-06-90		-	-		-	-	5429-C-03	1.0	-	-	-	-
					Trichloroethene	12-03-90		1.2	-		-	-						
					Trichloroethene	06-06-91		9.0	-		-	-						
87 BERTOLET, 101 DEEP RUN	NONE			I	Trichloroethene	02-06-90		NA	-		-	-	CBF32/CBF33	(5.0	(5.0	-	-	-
88 HESS, 119 ELEPHANT ROAD	NONE			II	Trichloroethene	02-06-90		NA	-		-	-	CBF34	130	-	-	-	-
					1,2-Dichloroethene	02-06-90		NA	-		-	-	CBF34	33	-	-	-	-
	TOTAL				Trichloroethene	03-04-91		58.6	-		(1.0	-						
					Trichloroethene	06-06-91		18.0	-		(1.0	-						

NA = NOT ANALYZED
ND = NOT DETECTED
BW = BOTTLED WATER
J = ANALYTE PRESENT. REPORTED VALUE MAY NOT BE ACCURATE OR PRECISE.
B = NOT DETECTED SUBSTANTIALLY ABOVE LEVELS REPORTED IN LABORATORY OR FIELD BLANKS
D = DILUTED SAMPLE
L = REPORTED VALUE MAY BE BIASED LOW

APPENDIX C

through 6/91

NAME, ADDRESS	TYPE OF SYSTEM (POU = Point-of-use)	CULLIGAN SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	TIER LEVEL I=TCE(5ug/L II=5to260ug/L III=TCE)260ug/L	BCM(PRP) PARAMETER	DATE	BEFORE TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	VERSAR(CPMC oversight) BEFORE TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)
1 DUBLIN HARDWARE, 105 N. MAIN	NONE		N	III	Trichloroethene	08-05-86		27.0	-		-	-						
					Tetrachloroethene	08-05-86		2.0	-		-	-						
	TOTAL	Y			Trichloroethene	12-01-86		31.2	-		(1.0	-						
					Trichloroethene	12-01-87	729309.11	9.6	10.0	729302.0	9.6	-						
					Trichloroethene	03-02-88		16.3	-		9.5	-	-	-	-	3-105905	16.0	-
					Trichloroethene	06-06-88		(1.0	-		(1.0	-						
					Trichloroethene	09-06-88		63.0	-		(1.0	-						
					Trichloroethene	12-05-88		97.0	-		2.6	-						
					Trichloroethene	03-07-89		190.0	-		36.0	-						
					Trichloroethene	06-01-89		348.0	-		14.8	-						
					Trichloroethene	09-06-89		201.0	-		(1.0	-						
					Trichloroethene	12-04-89		216.0	-		(1.0	-	5120-C-05	(1.0	-	-	-	-
					Methylene Chloride	12-04-89		-	-		-	-	5120-C-05	4.68	-	-	-	-
					Chloroform	03-05-90		-	-		-	-	900307-04	2.58	-	-	-	-
					1,1-Dichloropropene	03-05-90		-	-		-	-	900307-04	0.88	-	-	-	-
					Trichloroethene	03-05-90		186.0	-		(1.0	-	900307-04	165	-	-	-	-
					Tetrachloroethene	03-05-90		-	-		-	-	900307-04	1.68	-	-	-	-
					Trichloroethene	06-04-90		186.0	-		2.7	-						
					Trichloroethene	09-04-90		149.0	-		6.2	-						
					Trichloroethene	12-03-90		129.0	-		11.3	-	5927C-03	242.0L	-	5927C-02	16.2	-
					Trichloroethene	03-04-91		191.0	-		21.2	-						
					Trichloroethene	06-07-91		112.0	-		13.0	-						

AR301674

NAME, ADDRESS	TYPE OF SYSTEM (POU = Point-of-use)	COLLIGAN SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	TIER LEVEL I:>5to260ug/L II:<5 III:>260ug/L	BCB PARAMETER	BEFORE TREATMENT DATE	SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)
3 BRISTLEWOOD APTS, 107 N. MAIN	HOUSE		N	III	Trichloroethene	06-11-86		420.0	-		-	-						
					1,1,1-Trichloroethane	06-11-86		3.0	-		-	-						
					Trichloroethene	06-17-86		500.0	-		-	-						
					Trichloroethene	11-26-86		11.9	-		ND	-						
	TOTAL	N			Bromodichloromethane	12-22-87	A31412	<1.0	-	A31413	3.0	-						
					Bromoform	12-22-87	A31412	<1.0	-	A31413	10.5	-						
					cis-1,3-Dichloropropene	12-22-87	A31412	<1.0	-	A31413	0.6	-						
					Trichloroethene	12-22-87	A31412	306.0	-	A31413	1.6	-						
					Vinyl Chloride	12-22-87	A31412	1.8	-	A31413	<1.0	-						
					Trichloroethene	02-29-88		379.0	-		<1.0	-						
					Trichloroethene	06-07-88		342.0	-		<1.0	-	-	-	-	3-105911	9.3	-
					Trichloroethene	09-06-88		76.6	-		<1.0	-						
					Trichloroethene	12-05-88		266.0	-		<1.0	-						
					Trichloroethene	03-07-89		262.0	-		<1.0	-						
					Trichloroethene	06-01-89		312.0	-		<1.0	-						
					Trichloroethene	09-06-89		198.0	-		<1.0	-						
					Trichloroethene	12-05-89		506.0	-		<1.0	-						
					Chloroform	03-06-90		-	-		-	-	900307-15	2.2B	-	-	-	-
					Trichloroethene	03-06-90		249.0	-		<1.0	-	900307-15	12.9B	-	-	-	-
					Tetrachloroethene	03-06-90		<5.0	-		<1.0	-	900307-15	<1.0	-	-	-	-
					Vinyl Chloride	03-06-90		<5.0	-		<1.0	-	900307-15	<1.0	-	-	-	-
					Trichloroethene	06-04-90		592.0	-		<1.0	-	5429-C-11	410.0L	-	5429-C-09	<1.0	-
					Bromoform	06-04-90		592.0	-		-	-	5429-C-11	<1.0	-	5429-C-09	8.4L	-
					Bromodichloromethane	06-04-90		-	-		-	-	5429-C-11	<1.0	-	5429-C-09	1.3L	-
					Dibromochloromethane	06-04-90		-	-		-	-	5429-C-11	<1.0	-	5429-C-09	0.7L	-
					1,2-Dichloroethene	06-04-90		-	-		-	-	5429-C-11	14.9L	-	5429-C-09	<1.0	-
					1,1,1-Trichloroethane	06-04-90		-	-		-	-	5429-C-11	2.7L	-	5429-C-09	<1.0	-
					Trichloroethene	09-04-90		313.0	-		<1.0	-	900905-09	378.0	-	-	-	-
					1,1-Dichloroethene	09-04-90		-	-		-	-	900905-09	0.3J	-	-	-	-
					1,1-Dichloroethane	09-04-90		-	-		-	-	900905-09	0.3J	-	-	-	-
					cis-1,2-Dichloroethene	09-04-90		-	-		-	-	900905-09	16.7	-	-	-	-
					1,1,1-Trichloroethane	09-04-90		-	-		-	-	900905-09	2.0	-	-	-	-
					Tetrachloroethene	09-04-90		-	-		-	-	900905-09	0.3J	-	-	-	-
					Trichloroethene	12-03-90		412.0	-		<1.0	-	5927C-09	612.0L				
					1,1,1-Trichloroethane	12-03-90		-	-		-	-	5927C-09	0.3	-	-	-	-
					Trichloroethene	03-04-91		487.0	-		<1.0	-						
					Trichloroethene	06-07-91		133.0	-		0.7	-						

NAME, ADDRESS	TYPE OF SYSTEM (POD = Point-of-use)	COLLIGAN SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	TIER LEVEL I=PCE<5ug/L II=5to260ug/L III=PCE>260ug/L	BCH PARAMETER	BEFORE TREATMENT DATE	BEFORE TREATMENT SAMPLE NO.	BEFORE TREATMENT CONC (UG/L)	BEFORE TREATMENT DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	AFTER TREATMENT CONC (UG/L)	AFTER TREATMENT DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	VERSAR BEFORE TREATMENT CONC (UG/L)	VERSAR BEFORE TREATMENT DUP (UG/L)	VERSAR AFTER TREATMENT SAMPLE NO.	VERSAR AFTER TREATMENT CONC (UG/L)	VERSAR AFTER TREATMENT DUP (UG/L)
3 ARMES GULF, 312 N. MAIN	MORE		N	I/II	Trichloroethene	07-02-86		4.5	-		-	-						
		Y			Trichloroethene	11-26-87		11.9	-		-	-						
	POU				Trichloroethene	12-01-87	729313	3.2	-	729314.0	2.5	-						
					Trichloroethene	02-29-88		2.6	-		<1.0	-						
					Trichloroethene	06-07-88		<1.0	-		<1.0	-						
					Trichloroethene	09-06-88		<1.0	-		<1.0	-	-	-	-	4984C-14	<1.0	-
					Trichloroethene	12-05-88		3.1	-		<1.0	-						
					Chloroform	03-06-89		-	-		-	-	-	-	-	890308-19	1.2	-
					Trichloroethene	03-06-89		1.5	-		<1.0	-	-	-	-	890308-19	11.1	-
					Trichloroethene	06-01-89		1.6	-		<1.0	-	-	-	-	4678C-6	<1.0	-
					Trichloroethene	09-05-89		<1.0	-		<1.0	-						
					Trichloroethene	12-04-89		<1.0	-		NA	-	5120-C-04	<1.0	-	-	-	-
					Methylene Chloride	12-04-89		-	-		-	-	5120-C-04	3.0B	-	-	-	-
					Trichloroethene	03-05-90		1.4	-		NA	-						
	MORE				Trichloroethene	06-04-90		1.3	-		-	-						
					Trichloroethene	12-03-90		1.8	-		-	-						
					Trichloroethene	06-06-91		1.5	-		-	-						
4 HINSDALE, 113 N. MAIN	MORE	N		N	II	Trichloroethene	07-15-86		9.4	-		-	-					
					Trichloroethene	12-01-86		17.3	-		-	-						
					Methylene Chloride	12-01-87	729342	1.5	-		-	-						
					trans-1,2-Dichloroethene	12-01-87	729342	2.7	-		-	-						
					Trichloroethene	12-01-87	729342	34.5	-		-	-						
	DU				Trichloroethene	03-22-88		15.6	-		-	-						
					Trichloroethene	06-06-88		11.0	-		-	-						
					Trichloroethene	09-06-88		74.0	-		-	-	4984C-8	<1.0	-	-	-	-
					Chloroform	09-06-88		-	-		-	-	4984C-8	2.2	-	-	-	-
					Trichloroethene	12-06-88		67.2	-		-	-						
					Trichloroethene	03-07-89		78.3	-		-	-						
					Trichloroethene	06-01-89		19.3	-		-	-	4678C-9	20	19	-	-	-
					Trichloroethene	09-06-89		36.6	-		-	-						
					Trichloroethene	12-06-89		65.0	-		-	-						
	TOTAL				Trichloroethene	03-05-90		16.7	-		<1.0	-						
					Trichloroethene	06-04-90		31.6	-		<1.0	-						
					Trichloroethene	12-03-90		30.2	-		<1.0	-						
					Trichloroethene	06-06-91		25.0	-		<1.0	-						

BASE, ADDRESS	TYPE OF SYSTEM (POU = Point-of-use)	COLLIGAN SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	VISA LEVEL II=PCE<5ug/L III=5to260ug/L III=PCE>260ug/L	BCM PARAMETER	BEFORE TREATMENT DATE	BEFORE TREATMENT SAMPLE NO.	BEFORE TREATMENT CONC (UG/L)	BEFORE TREATMENT DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	AFTER TREATMENT CONC (UG/L)	AFTER TREATMENT DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	VERSAR BEFORE TREATMENT CONC (UG/L)	VERSAR BEFORE TREATMENT DUP (UG/L)	VERSAR AFTER TREATMENT SAMPLE NO.	VERSAR AFTER TREATMENT CONC (UG/L)	VERSAR AFTER TREATMENT DUP (UG/L)
5 BOYLE, 115 N. MAIN	BOTH		N	II	Trichloroethene	08-05-86		40.0	-		-	-						
	TOTAL	Y			Methylene Chloride	12-01-87	729343	4.8	-	729344	(1.0	-						
					trans-1,2-Dichloroethene	12-01-87	729343	4.1	-	729344	(1.0	-						
					Trichloroethene	12-01-87	729343	43.3	-	729344	(1.0	-						
					Trichloroethene	03-02-88		82.2	-		(1.0	-						
					Trichloroethene	07-07-88		82.1	-		(1.0	-						
					Trichloroethene	09-07-88		82.1	-		(1.0	-	4084C-13	(1.0	-	-	-	-
					Chloroform	09-07-88		-	-		NA	-	4084C-13	31.0	-	-	-	-
					Trichloroethene	12-06-88		96.0	-		(1.0	-						
					Trichloroethene	03-07-89		157.0	-		(1.0	-						
					Trichloroethene	06-01-89		NA	-		(1.0	-						
					Trichloroethene	09-06-89		98.1	-		(1.0	-						
					Trichloroethene	01-16-90		232.0	-		(1.0	-						
					Chloroform	03-05-90		-	-		-	-	900307-12	2.0B	-	-	-	-
					Trichloroethene	03-05-90		237	-		(1.0	-	900307-12	208	-	-	-	-
					Tetrachloroethene	03-05-90		<5.0	-		(1.0	-	900307-12	(1.0	-	-	-	-
					Vinyl Chloride	03-05-90		<5.0	-		(1.0	-	900307-12	(1.0	-	-	-	-
					cis-1,2-Dichloroethene	03-05-90		-	-		-	-	900307-12	10.3	-	-	-	-
					Trichloroethene	06-04-90		127.0	-		(1.0	-	5429-C-13	130.0L	-	5429-C-14	(1.0	-
					1,1-Dichloroethene	06-04-90		-	-		-	-	5429-C-13	3.3L	-	5429-C-14	2.1L	-
					Trichloroethene	12-03-90		112.0	-		(1.0	-						
					Trichloroethene	06-06-91		104.0	-		(1.0	-						
6 RUSSEL, 116 N. MAIN	BOTH	N	N	III	Trichloroethene	07-02-86		2.3	-		-	-						
					Trichloroethene	11-26-86		4.1	-		-	-						
					Trichloroethene	11-30-87	729188	(1.0	-		-	-						
					Trichloroethene	06-06-88		1.4	-		-	-						
					Methylene chloride	12-06-88		-	-		-	-	13-105929/30	0.2 J	-	-	-	-
					cis-1,2-Dichloroethene	12-06-88		-	-		-	-	13-105929/30	1.5	-	-	-	-
					Trichloroethene	12-06-88		2.7	-		-	-	13-105929/30	1.7	-	-	-	-
					Trichloroethene	06-01-89		288.0	-		-	-	4678C-3	370.0	-	-	-	-
					cis-1,2-Dichloroethene	06-01-89		-	-		-	-	4678C-3	6.5	-	-	-	-
					Trichloroethene	09-06-89		10	(1.0		-	-						
	TOTAL				Trichloroethene	12-04-89		48.6	-		(1.0	-						
					Trichloroethene	03-05-90		(1.0	-		(1.0	-						
					Trichloroethene	06-04-90		(1.0	-		(1.0	-						
					Trichloroethene	09-04-90		(1.0	-		(1.0	-						
					Trichloroethene	12-03-90		(1.0	-		(1.0	-						
					Trichloroethene	03-04-91		10.4	-		(1.0	-						
					Trichloroethene	06-06-91		(1.0	-		(1.0	-						

NAME, ADDRESS	TYPE OF SYSTEM (POU = Point-of-use)	COLLIGAN SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	TIER LEVEL I=TCE<5ug/L II=5to260ug/L III=TCE>260ug/L	DCE PARAMETER	BEFORE TREATMENT DATE	SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)
7 BUCHANAN, 117 N. MAIN	HOUSE		N	II	Trichloroethene	07-15-86		15.0	-		-	-						
					Trichloroethene	11-26-86		10.2	-		-	-						
	POU				Methylene Chloride	12-01-87	729336	9.5	-	729337	10.7	-						
					trans-1,2-Dichloroethene	12-01-87	729336	1.4	-	729337	<1.0	-						
					Trichloroethene	12-01-87	729336	7.8	-	729337	<1.0	-						
					Trichloroethene	03-02-88		5.1	-		<1.0	-						
					Tetrachloroethene	03-02-88		<1.0	-		2.6	-						
					Trichloroethene	06-07-88		4.8	-		<1.0	-	-	-	-	3-105986	0.7	-
					Trichloroethene	09-07-88		19.7	-		13.4	-						
					Trichloroethene	12-06-88		27.0	-		62.3	-						
					Trichloroethene	03-07-89		53.1	-		<1.0	-						
					Trichloroethene	06-01-89		3.6	-		<1.0	-	-	-	-	4678C-5	<1.0	-
					Trichloroethene	09-06-89		113	-		<1.0	-						
					Trichloroethene	12-04-89		14.3	-		<1.0	-	-	-	-	5120-C-06	<1.0	<1.0
					Methylene Chloride	12-04-89		-	-		-	-	-	-	-	5120-C-06	2.7B	1.1B
					Trichloroethene	06-04-90		7.9	-		<1.0	-						
					Trichloroethene	12-03-90		11.4	-		<1.0	-						
					Trichloroethene	06-11-91		9.1	-		0.7	-						
8 BUDDY, 119 N. MAIN	HOUSE		N	II	Trichloroethene	07-02-86		19.3	-		-	-						
					Tetrachloroethene	07-02-86		1.0	-		-	-						
					Trichloroethene	11-26-86		34.1	33.0		-	-						
	TOTAL	Y			Methylene Chloride	12-01-87	729338	6.5	-	729339	7.4	-						
					trans-1,2-Dichloroethene	12-01-87	729338	4.8	-	729339	3.8	-						
					Trichloroethene	12-01-87	729338	5.6	-	729339	5.6	-						
					Trichloroethene	03-02-88		19.3	-		14.2	-	-	-	-	3-105821	14.6	-
					Trichloroethene	06-06-88		20.0	-		<1.0	-						
					Trichloroethene	09-07-88		40.4	43.0		<1.0	-						
					Trichloroethene	12-05-88		45.0			<1.0	-						
					Trichloroethene	03-07-89		52.1	-		<1.0	-						
					Trichloroethene	06-01-89		10.0	-		<1.0	-						
					Trichloroethene	09-06-89		16.5	-		<1.0	-						
					Trichloroethene	12-04-89		28.2	BA		<1.0	<1.0	5120-C-09	<1.0	<1.0	-	-	-
					Methylene Chloride	12-04-89		-	-		-	-	5120-C-09	1.2B	1.1B	-	-	-
					Trichloroethene	03-05-90		45	-		<1.0	-						
					Trichloroethene	06-04-90		25.9	-		<1.0	-						
					Trichloroethene	12-03-90		33.3	-		<1.0	-						
					Trichloroethene	06-06-91		9.1	-		<1.0	-						

BANK, ADDRESS	TYPE OF SYSTEM (POD = Point-of-use)	CULLIGAN SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	TIER LEVEL I=TCE<5ug/L II=5to200ug/L III=TCE>200ug/L	BCM PARAMETER	BEFORE TREATMENT DATE	BEFORE TREATMENT SAMPLE NO.	BEFORE TREATMENT CONC (UG/L)	BEFORE TREATMENT DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	AFTER TREATMENT CONC (UG/L)	AFTER TREATMENT DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	VERSAR BEFORE TREATMENT CONC (UG/L)	VERSAR BEFORE TREATMENT DUP (UG/L)	VERSAR AFTER TREATMENT SAMPLE NO.	VERSAR AFTER TREATMENT CONC (UG/L)	VERSAR AFTER TREATMENT DUP (UG/L)
9 OFFS, 133 N. MAIN	NONE			III	Trichloroethene	07-02-86		250.0	-		-	-						
					Trichloroethene	12-02-86		283.0	-		-	-						
	TOTAL	Y	N		1,1,1-Trichloroethane	11-30-87	729171	1.2	-	729172	<1.0	-						
					trans-1,2-Dichloroethene	11-30-87	729171	7.2	-	729172	<1.0	-						
					Trichloroethene	11-30-87	729171	179	-	729172	2.2	-						
					Trichloroethene	01-27-88		195.0	-		<1.0	-						
					Trichloroethene	02-23-88		287.0	-		<1.0	-						
					Tetrachloroethene	02-23-88		5.1	-		<1.0	-						
					Trichloroethene	03-02-88		233.0	240.0		<1.0	-						
					Trichloroethene	04-22-88		170.0	-		<1.0	-						
					Trichloroethene	05-16-88		257.0	-		<1.0	-						
					Trichloroethene	06-07-88		235.0	-		<1.0	-						
					Trichloroethene	07-07-88		267.0	-		<1.0	-						
					Trichloroethene	08-17-88		202.0	-		<1.0	-						
					Trichloroethene	09-06-88		227.0	-		<1.0	-						
					Trichloroethene	10-18-88		223.0	-		<1.0	-						
					cis-1,2-Dichloroethene	12-05-88		-	-		-	-	13-105914/17	0.5 J	-	-	-	-
					Chloroform	12-05-88		-	-		-	-	13-105914/17	1.5	-	-	-	-
					1,1,1-Trichloroethane	12-05-88		-	-		-	-	13-105914/17	0.3 J	-	-	-	-
					Trichloroethene	12-05-88		218.0	-		<1.0	-	13-105914/17	42.8	-	-	-	-
					Trichloroethene	01-26-89		447.0	-		<1.0	-						
					Trichloroethene	02-23-89		333.0	-		5.9	-						
					Vinyl Chloride	02-23-89		35.4	-		<1.0	-						
					Trichloroethene	03-07-89		479.0	-		<1.0	-						
					Trichloroethene	04-25-89		488.0	-		<1.0	-						
					Trichloroethene	05-16-89		546.0	-		<1.0	-						
					Vinyl Chloride	05-16-89		<1.0	-		3.0	-						
					Trichloroethene	06-01-89		516.0	-		<1.0	-						
					Trichloroethene	07-21-89		163.0	-		<1.0	-						
					Trichloroethene	08-10-89		263.0	-		<1.0	-						
					Trichloroethene	09-06-89		342.0	-		<1.0	-						
					Trichloroethene	11-01-89		294.0	-		<1.0	-						
					Trichloroethene	12-04-89		386.0	-		<1.0	-	5120-C-08	4400	-	-	-	-
					Methylene Chloride	12-04-89		-	-		-	-	5120-C-08	30.7B	-	-	-	-
					Chloroform	12-04-89		-	-		-	-	5120-C-08	1.7	-	-	-	-
					Trichloroethene	01-16-90		487.0	-		<1.0	-						
					Trichloroethene	03-06-90		375.0	-		<1.0	-						
					Tetrachloroethene	03-06-90		<5.0	-		<1.0	-						
					Vinyl Chloride	03-06-90		<5.0	-		<1.0	-						
					Trichloroethene	06-04-90		447.0	-		<1.0	-						
					Trichloroethene	09-04-90		368.0	-		<1.0	-	900905-05	467.0	-	900905-06	<1.0	-
					1,1-Dichloroethene	09-04-90		-	-		-	-	900905-05	0.32	-	900905-06	<1.0	-
					cis-1,2-Dichloroethene	09-04-90		-	-		-	-	900905-05	2.8	-	900905-06	<1.0	-
					Tetrachloroethene	09-04-90		-	-		-	-	900905-05	0.13	-	900905-06	<1.0	-
					Trichloroethene	12-03-90		366.0	-		<1.0	-						
					Trichloroethene	03-04-91		332.0	-		<1.0	-						
					Trichloroethene	06-06-91		NA	-		5.0	-						

NAME, ADDRESS	TYPE OF SYSTEM (POU = Point-of-use)	COLLIGAN SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	TIER LEVEL I=PCE<5ug/L III=5to260ug/L III=PCE>260ug/L	BCM PARAMETER	BEFORE TREATMENT DATE	SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)
10 ERICO, INC. 133 B. MAIN; #1	HOME			III	Tetrachloroethene	06-23-86		1.0	-		-	-						
					Trichloroethene	06-23-86		360.0	-		-	-						
					1,1,1-Trichloroethane	06-23-86		3.8	-		-	-						
					Trichloroethene	11-26-86		231.0	-		-	-						
					1,1,1-Trichloroethane	11-26-86		1.9	-		-	-						
	BP		B		*cis-1,3-Dichloropropene*	12-01-87	729307.05	<1.0	2.8		-	-						
					trans-1,2-Dichloroethene	12-01-87	729307.05	3.5	3.9		-	-						
					Trichloroethene	12-01-87	729307.05	126.0	157.0		-	-						
					Trichloroethene	02-29-88		204.0	-		-	-						
					Trichloroethene	06-07-88		147.0	149.0		-	-						
					Trichloroethene	09-06-88		150.0	196.0		-	-						
					Trichloroethene	12-05-88		137.0	-		-	-						
					Trichloroethene	03-07-89		121.0	-		-	-						
					Trichloroethene	06-01-89		284.0	-		-	-						
					Trichloroethene	09-05-89		146	-		-	-	890907-13,14	123.0	129	-	-	-
					1,1-Dichloroethene	09-05-89		-	-		-	-	890907-13,14	9.2	9.8	-	-	-
					1,1-Dichloroethane	09-05-89		-	-		-	-	890907-13,14	2.2J	2.1J	-	-	-
					cis-1,2-Dichloroethene	09-05-89		-	-		-	-	890907-13,14	3.5J	3.1J	-	-	-
					1,1,1-Trichloroethane	09-05-89		-	-		-	-	890907-13,14	53.8	36.8	-	-	-
					1,2-Dichloropropane	09-05-89		-	-		-	-	890907-13,14	27.7	29.4	-	-	-
					Methylene Chloride	09-05-89		-	-		-	-	890907-13,14	<1.0	31.2	-	-	-
					Trichloroethene	12-04-89		156.0	-		-	-						
					Trichloroethene	03-06-90		233.0	-		-	-						
					Trichloroethene	06-04-90		258.0	-		-	-						
					Vinyl Chloride	06-04-90		26.0	-		-	-						
					Trichloroethene	09-04-90		223.0	-		-	-	900905-07	314.0	-	-	-	-
					1,1-Dichloroethene	09-04-90		-	-		-	-	900905-07	0.3J	-	-	-	-
					1,1-Dichloroethane	09-04-90		-	-		-	-	900905-07	0.2J	-	-	-	-
					cis-1,2-Dichloroethene	09-04-90		-	-		-	-	900905-07	2.2	-	-	-	-
					1,1,1-Trichloroethane	09-04-90		-	-		-	-	900905-07	8.8	-	-	-	-
					Trichloroethene	12-03-90		206.0	-		-	-						
					Trichloroethene	03-04-91		221.0	238.0		-	-						
					Trichloroethene	06-06-91		232.0	-		-	-						

NAME, ADDRESS	TYPE OF SYSTEM (POU = Point-of-use)	COLLIGAN SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	TICH LEVEL I=TCE<5ug/L II=5to200ug/L III=TCE>200ug/L	BCM PARAMETER	BEFORE TREATMENT DATE	BEFORE TREATMENT SAMPLE NO.	BEFORE TREATMENT CONC (UG/L)	BEFORE TREATMENT DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	AFTER TREATMENT CONC (UG/L)	AFTER TREATMENT DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	VERSAR BEFORE TREATMENT CONC (UG/L)	VERSAR BEFORE TREATMENT DUP (UG/L)	VERSAR AFTER TREATMENT SAMPLE NO.	VERSAR AFTER TREATMENT CONC (UG/L)	VERSAR AFTER TREATMENT DUP (UG/L)
11 KRICO, INC. 133 B. MAIN; 12	HOUE			III	1,1,1-Trichloroethane	06-23-86		5.9	-		-	-						
					Trichloroethene	06-23-86		500.0	-		-	-						
					1,1,1-Trichloroethane	11-26-86		3.5	-		-	-						
					Trichloroethene	11-26-86		156.0	-		-	-						
	DD		B		1,1,1-Trichloroethane	12-01-87	729306	15.0	-		-	-						
					1,2-Dichloropropane	12-01-87	729306	21.0	-		-	-						
					Methylene Chloride	12-01-87	729306	76.2	-		-	-						
					trans-1,2-Dichloroethene	12-01-87	729306	2.3	-		-	-						
					Trichloroethene	12-01-87	729306	331.0	-		-	-						
					Trichloroethene	02-29-88		343.0	-		-	-						
					Trichloroethene	06-07-88		133.0	133.0		-	-	3-105919	145.0	-	-	-	-
					Methylene Chloride	06-07-88		-	-		-	-	3-105919	7.9	-	-	-	-
					Trichloroethene	09-06-88		167.0	188.0		-	-						
					Trichloroethene	12-05-88		194.0	-		-	-						
					Trichloroethene	03-07-89		230.0	234.0		-	-						
					Trichloroethene	06-01-89		159.0	-		-	-						
					Trichloroethene	09-05-89		197.0	-		-	-						
					Trichloroethene	12-04-89		182.0	-		-	-						
					Chloroform	03-05-90		-	-		-	-	900307-03	2.3B	-	-	-	-
					1,1-Dichloroethene	03-05-90		-	-		-	-	900307-03	3.1	-	-	-	-
					1,3-Dichloropropene	03-05-90		-	-		-	-	900307-03	21.2	-	-	-	-
					Trichloroethene	03-05-90		220.0	-		-	-	900307-03	175	-	-	-	-
					1,2-Dichloropropane	03-05-90		-	-		-	-	900307-03	22.3	-	-	-	-
					Trichloroethene	06-04-90		238.0	-		-	-						
					Trichloroethene	12-03-90		169.0	-		-	-	5927C-06	288.0L	-	-	-	-
					1,1-Dichloroethene	12-03-90		-	-		-	-	5927C-06	1.4	-	-	-	-
					1,1,1-Trichloroethane	12-03-90		-	-		-	-	5927C-06	15.0	-	-	-	-
					1,2-Dichloropropane	12-03-90		-	-		-	-	5927C-06	6.5	-	-	-	-
					1,1-Dichloroethane	12-03-90		-	-		-	-	5927C-06	0.5	-	-	-	-
					Trichloroethene	06-06-91		135.0	-		-	-						

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NAME, ADDRESS	TYPE OF SYSTEM (POU = Point-of-use)	COLLIGARD SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	TCE LEVEL I=TCE<5ug/L II=5to260ug/L III=TCE>260ug/L	BCM PARAMETER	BEFORE TREATMENT DATE	BEFORE TREATMENT SAMPLE NO.	BEFORE TREATMENT CONC (UG/L)	BEFORE TREATMENT DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	AFTER TREATMENT CONC (UG/L)	AFTER TREATMENT DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	VERSAR BEFORE TREATMENT CONC (UG/L)	VERSAR BEFORE TREATMENT DUP (UG/L)	VERSAR AFTER TREATMENT SAMPLE NO.	VERSAR AFTER TREATMENT CONC (UG/L)	VERSAR AFTER TREATMENT DUP (UG/L)
13 MYERS TERRY, 124 N. MAIN	HOUSE			III	1,1,1-Trichloroethane	11-26-86		1.4	-		-	-						
					Trichloroethene	11-26-86		179.0	-		-	-						
	TOTAL	Y	N		trans-1,2-Dichloroethene	11-30-87	729206	1.4	-	729203	<1.0	-						
					Trichloroethene	11-30-87	729206	140.0	-	729203	<1.0	-	30391	160.0	-	30392	<0.5	-
					Trichloroethene	03-02-88		170.0	-		<1.0	-						
					Trichloroethene	06-06-88		162.0	-		<1.0	-						
					Trichloroethene	09-06-88		274.0	-		<1.0	-						
					Trichloroethene	12-06-88		130.0	155.0		<1.0	-						
					Trichloroethene	01-26-89		151.0	-		<1.0	-						
					Trichloroethene	02-23-89		267.0	-		8.1	-						
					Vinyl Chloride	02-23-89		12.3	-		<1.0	-						
					Trichloroethene	03-07-89		172.0	-		<1.0	-						
					Trichloroethene	04-25-89		250.0	-		<1.0	-						
					Trichloroethene	05-16-89		<1.0	-		<1.0	-						
					Trichloroethene	06-01-89		397.0	-		<1.0	-						
					Trichloroethene	07-21-89		124			<1.0							
					Trichloroethene	08-10-89		277	-		<1.0	-						
					Trichloroethene	09-06-89		<1.0	-		<1.0	-						
					Trichloroethene	10-26-89		56.4	-		<1.0	-						
					Trichloroethene	11-09-89		180.0	-		<1.0	-						
					Trichloroethene	01-16-90		209.0	220.0		<1.0	3.6						
					Tetrachloroethene	01-16-90		<1.0	<1.0		<1.0	1.7						
					Chloroform	03-05-90		-	-		-	-	900307-09	2.7B	-	-	-	-
					1,1-Dichloropropene	03-05-90		-	-		-	-	900307-09	2.6B	-	-	-	-
					Trichloroethene	03-05-90		172.0	-		8.8	-	900307-09	167	-	-	-	-
					Tetrachloroethene	03-05-90		<5.0	-		<1.0	-	900307-09	<1.0	-	-	-	-
					Vinyl Chloride	03-05-90		<5.0	-		<1.0	-	900307-09	<1.0	-	-	-	-
					Trichloroethene	06-04-90		255.0	-		<1.0	-						
					Trichloroethene	09-04-90		193.0	-		<1.0	-						
					Trichloroethene	12-03-90		176.0	-		<1.0	-						
					Trichloroethene	03-04-91		166.0	-		<1.0	-						
					Trichloroethene	06-07-91		161.0	-		<1.0	-						

NAME, ADDRESS	TYPE OF SYSTEM (POE = Point-of-use)	COLLIGAN SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	TCE LEVEL I=TCE<5ug/L II=5to260ug/L III=TCE>260ug/L	DCE	PARAMETER	BEFORE TREATMENT DATE	BEFORE TREATMENT SAMPLE NO.	BEFORE TREATMENT CONC (UG/L)	BEFORE TREATMENT DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	AFTER TREATMENT CONC (UG/L)	AFTER TREATMENT DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	VERSAR BEFORE TREATMENT CONC (UG/L)	VERSAR BEFORE TREATMENT DUP (UG/L)	VERSAR AFTER TREATMENT SAMPLE NO.	VERSAR AFTER TREATMENT CONC (UG/L)	VERSAR AFTER TREATMENT DUP (UG/L)
33 MYERS, 136 N. MAIN	HOME			II		1,1,1-Trichloroethane	12-02-86		12.7	-		-	-						
						Trichloroethene	12-02-86		160.0	-		-	-						
	TOTAL	Y	N			1,1,1-Trichloroethane	11-30-87	729178	9.0	-	729191	<1.0	-						
						Trichloroethene	11-30-87	729178	151.0	-	729191	<1.0	-	30389	190.0	-	30390	<0.5	-
						Trichloroethene	03-02-88		109.0	-		<1.0	-						
						Trichloroethene	06-06-88		109.0	-		<1.0	-						
						Trichloroethene	09-06-88		192.0	-		<1.0	-						
						Trichloroethene	12-06-88		140.0	-		<1.0	-						
						Trichloroethene	03-07-89		<1.0	-		5.1	-						
						Tetrachloroethene	03-07-89		<1.0	-		2.5	-						
						Trichloroethene	06-01-89		61.2	-		<1.0	-						
						Trichloroethene	09-05-89		165	-		<1.0	-						
						Trichloroethene	12-04-89		<1.0	-		<1.0	-	-	-	-	5120-C-10	<1.0	-
						Methylene Chloride	12-04-89		-	-		-	-	-	-	-	5120-C-10	1.20	-
						Trichloroethene	03-05-90		63.9	-		<1.0	-						
						Trichloroethene	06-04-90		48.8	-		<1.0	-						
						Trichloroethene	12-03-90		139.0	-		<1.0	-	5927C-07	290.06	-	-	-	-
						Chloroform	12-03-90		-	-		-	-	5927C-07	7.0	-	-	-	-
						1,1,1-Trichloroethane	12-03-90		-	-		-	-	5927C-07	13.0	-	-	-	-
						Trichloroethene	06-06-91		99.0	102.0		<1.0	-						

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NAME, ADDRESS	TYPE OF SYSTEM (POU = Point-of-use)	COLLIGAN SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	TIER LEVEL I=PCE<5ug/L III=5to260ug/L IIII=PCE>260ug/L	BCH PARAMETER	BEFORE TREATMENT DATE	SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)
14 BISHOP, 320 N. MAIN (FLORE)	HOME			III	Trichloroethene	07-15-86		217.0	-		-	-						
					Trichloroethene	12-02-86		1.6	-		-	-						
	TOTAL	Y	N		1,1,1-Trichloroethane	12-01-87	729334	3.7	-	729335	<1.0	-						
					Chloroethane	12-01-87	729334	<1.0	-	729335	4.0	-						
					Methylene Chloride	12-01-87	729334	13.6	-	729335	<1.0	-						
					trans-1,2-Dichloroethene	12-01-87	729334	10.6	-	729335	<1.0	-						
					Trichloroethene	12-01-87	729334	217.0	-	729335	<1.0	-						
					Trichloroethene	03-02-88		406.0	-		<1.0	-						
					Trichloroethene	06-06-88		390.0	-		<1.0	-	-	-	-	3-105907	9.5	-
					Trichloroethene	07-07-88		293.0	331.0		<1.0	-						
					Vinyl Chloride	07-07-88		16.3	-		14.1	-						
					Trichloroethene	08-17-88		246.0	-		<1.0	-						
					Trichloroethene	09-07-88		308.0	-		<1.0	-	-	-	-	4084C-7	<1.0	-
					Trichloroethene	10-18-88		240.0	-		<1.0	-						
					Trichloroethene	12-06-88		373.0	-		<1.0	-						
					Trichloroethene	01-26-89		329.0	-		<1.0	-						
					Trichloroethene	02-23-89		367.0	-		7.8	-						
					Trichloroethene	03-07-89		352.0	-		<1.0	-						
					Tetrachloroethene	03-07-89		3.1	-		<1.0	-						
					Trichloroethene	04-25-89		420.0	-		<1.0	-						
					Trichloroethene	05-16-89		466.0	-		<1.0	-						
					Trichloroethene	06-01-89		219.0	-		<1.0	-						
					Trichloroethene	07-21-89		<1.0	-		<1.0	-						
					Trichloroethene	08-10-89		253	-		<1.0	-						
					Trichloroethene	09-05-89		356.0	-		<1.0	-						
					Trichloroethene	10-26-89		222.0	-		6.8	-						
					Trichloroethene	11-20-89		282.0	-		<1.0	-						
					Trichloroethene	12-06-89		651.0	-		<1.0	-						
					Trichloroethene	01-16-90		534.0	-		<1.0	-						
					Trichloroethene	03-05-90		821.0	-		<1.0	-						
					Tetrachloroethene	03-05-90		<10.0	-		<1.0	-						
					Vinyl Chloride	03-05-90		<10.0	-		<1.0	-						
					Trichloroethene	06-06-90		508.0	-		<1.0	-						
					Trichloroethene	09-04-90		492.0	-		<1.0	-						
					Trichloroethene	12-03-90		478.0	-		<1.0	-						
					Trichloroethene	03-04-91		706.0	-		<1.0	-						
					Trichloroethene	06-07-91		389.0	-		<1.0	-						

NAME, ADDRESS	TYPE OF SYSTEM (POU = Point-of-use)	COLLEGIATE SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	TIER LEVEL I=TCE<5ug/L II=5to260ug/L III=TCE>260ug/L	BCH PARAMETER	BEFORE TREATMENT DATE	SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)
15 BOYER AUTO BODY, 130 N. MAIN	BODY			II	Trichloroethene	06-23-86		<1.0	-		-	-						
					Trichloroethene	11-26-86		55.1	-		-	-						
	POU	Y	N		1,1,1-Trichloroethane	11-30-87	729182	<1.0	-	729175	1.9	-						
					trans-1,2-Dichloroethene	11-30-87	729182	5.1	-	729175	<1.0	-						
					Trichloroethene	11-30-87	729182	47.6	-	729175	<1.0	-						
					Trichloroethene	03-02-88		<1.0	-		<1.0	-						
					Trichloroethene	06-06-88		41.3	-		<1.0	-						
					Trichloroethene	09-07-88		60.3	-		<1.0	-						
					cis-1,2-Dichloroethene	12-05-88		-	-		-		13-105913/14	.5J	-	-	-	-
					Trichloroethene	12-05-88		65.3	-		<1.0	-	13-105912/14	53.3	-	-	-	-
					Trichloroethene	03-07-89		47.5	-		3.8	-						
					Tetrachloroethene	03-07-89		<1.0	-		2.6	-						
					Trichloroethene	06-01-89		44.5	-		<1.0	-						
					Trichloroethene	09-05-89		54	-		<1.0	-	890907-21	42.3	-	890907-20	<1.0	-
					cis-1,2-Dichloroethene	09-05-89		-	-		-	-	890907-21	3.6J	-	890907-20	<1.0	-
					1,1,1-Trichloroethane	09-05-89		-	-		-	-	890907-21	0.9J	-	890907-20	<1.0	-
					Toluene	09-05-89		-	-		-	-	890907-21	3.0J	-	890907-20	<1.0	-
					Trichloroethene	12-04-89		46.9	-		<1.0	-						
					Trichloroethene	03-05-90		37.5	-		<1.0	-						
					Trichloroethene	06-04-90		40.8	-		NA	-						
					Trichloroethene	12-03-90		46.2	-		NA	-	5927C-11	94.0L	-	-	-	-
					1,1,1-Trichloroethane	12-03-90		-	-		-	-	5927C-11	2.9	-	-	-	-
					Trichloroethene	06-06-91		31.0	-		NA	-						
16 BOYER BOMB, 130 N. MAIN	POU	Y	N	II	trans-1,2-Dichloroethene	12-01-87	729182	5.1	-	729315	<1.0	-						
					trans-1,3-Dichloropropene	12-01-87	729182	<1.0	-	729315	5.7	-						
					Trichloroethene	12-01-87	729182	47.6	-	729315	<1.0	-						
					Trichloroethene	03-01-88		28.4	-		<1.0	-						
					Trichloroethene	06-06-88		41.3	-		<1.0	-						
					Trichloroethene	09-07-88		114.0	-		<1.0	-						
					Trichloroethene	12-05-88		43.8	-		<1.0	-						
					Trichloroethene	06-01-89		35.3	-		<1.0	-						
					Trichloroethene	09-05-89		NA	-		<1.0	-	-	-	-	890907-22	<1.0	-
					2-Hexanone	09-05-89		-	-		-	-	-	-	-	890907-22	2.0J	-
					Trichloroethene	01-16-90		40.8	-		<1.0	-						
					Trichloroethene	03-05-90		37.9	-		<1.0	-						
					Trichloroethene	06-06-91		28.0	-		NA	-						

NAME, ADDRESS	TYPE OF SYSTEM (POU = Point-of-use)	COLLIGATE SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	TIER LEVEL (1=TCE<5ug/L (11=5to260ug/L (111=TCE>260ug/L	BCH PARAMETER	BEFORE TREATMENT DATE	BEFORE TREATMENT SAMPLE NO.	BEFORE TREATMENT CONC (UG/L)	BEFORE TREATMENT DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	AFTER TREATMENT CONC (UG/L)	AFTER TREATMENT DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	VERSAR BEFORE TREATMENT CONC (UG/L)	VERSAR BEFORE TREATMENT DUP (UG/L)	VERSAR AFTER TREATMENT SAMPLE NO.	VERSAR AFTER TREATMENT CONC (UG/L)	VERSAR AFTER TREATMENT DUP (UG/L)
17 ROYER FLOWER SHOP, 138 N. MAIN	BORE			II	Trichloroethene	11-26-86		85.2	-		-	-						
	TOTAL	Y	N		trans-1,2-Dichloroethene	11-30-87	729188	5.0	-	729199	<1.0	-						
					Trichloroethene	11-30-87	729188	258.0	-	729199	<1.0	-	30397	70.0	-	30398	<0.5	-
					Trichloroethene	02-29-88		28.6	-		<1.0	-	3-105-899,901	49.0	26.0	-	-	-
					Trichloroethene	06-06-88		54.6	52.7		<1.0	-						
					Trichloroethene	09-07-88		41.1	-		<1.0	-						
					Trichloroethene	12-06-88		48.4	-		<1.0	-						
					Trichloroethene	03-07-89		<1.0	-		<1.0	-						
					Trichloroethene	06-01-89		<1.0	-		<1.0	-						
					Trichloroethene	09-06-89		39.3	-		<1.0	-						
					Trichloroethene	12-05-89		58.9	-		<1.0	-						
					Trichloroethene	03-05-90		59.2	-		<1.0	-						
					Trichloroethene	06-04-90		61.2	-		<1.0	-	5429-C-12	56.0L	-	-	-	-
					1,2-Dichloroethene	06-04-90		-	-		-	-	5429-C-12	1.9L	-	-	-	-
					Trichloroethene	12-03-90		62.9	-		<1.0	-						
					Trichloroethene	06-06-91		48.0	-		<1.0	-						
18 DUBLIN GARAGE, 139 N. MAIN	BORE			II	Trichloroethene	08-04-86		17.0	-		-	-						
					Trichloroethene	11-26-86		8.3	-		-	-						
	POU	Y	N		cis-1,3-Dichloropropene	12-21-87	A31384	<1.0	-	A31385	1.9	-						
					Trichloroethene	12-21-87	A31384	4.1	<1.0	A31385	<1.0	-						
					Trichloroethene	02-29-88		5.1	-		<1.0	-						
					Trichloroethene	06-06-88		3.0	-		<1.0	-						
					Trichloroethene	09-06-88		18.7	-		2.2	-						
					cis-1,2-Dichloroethene	12-05-88		-	-		-	-	13-105931/32	1.3	-	-	-	-
					Trichloroethene	12-05-88		10.8	-		<1.0	-	13-105931/32	7.0	-	-	-	-
					Trichloroethene	03-07-89		5.0	-		<1.0	-						
	BORE				Trichloroethene	06-01-89		2.0	-		-	-						
					Trichloroethene	09-06-89		3	-		-	-	890907-15	1.6J	-	-	-	-
	POU				Trichloroethene	12-05-89		2.9	-		<1.0	-						
					Chloroform	03-05-90		-	-		-	-	900307-10	2.3B	-	-	-	-
					Trichloroethene	03-05-90		<5.0	-		<1.0	-	900307-10	6.9B	-	-	-	-
					Tetrachloroethene	03-05-90		<5.0	-		<1.0	-	900307-10	<1.0	-	-	-	-
					Vinyl Chloride	03-05-90		<5.0	-		<1.0	-	900307-10	<1.0	-	-	-	-
					Trichloroethene	06-04-90		2.1	-		NA	-						
					Trichloroethene	12-03-90		<1.0	-		NA	-	5927C-08	<1.0	-	-	-	-
					Trichloroethene	06-06-91		1.7	-		NA	-						

BASE, ADDRESS	TYPE OF SYSTEM (POU = Point-of-use)	COLLIGAN SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT? (Y=yes) (N=no)	TIER LEVEL I=TCE<5ug/L II=5to260ug/L III=TCE>260ug/L	DCH PARAMETER	BEFORE TREATMENT DATE	BEFORE TREATMENT SAMPLE NO.	BEFORE TREATMENT CONC (UG/L)	BEFORE TREATMENT DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	AFTER TREATMENT CONC (UG/L)	AFTER TREATMENT DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	VERSAR BEFORE TREATMENT CONC (UG/L)	VERSAR BEFORE TREATMENT DUP (UG/L)	VERSAR AFTER TREATMENT SAMPLE NO.	VERSAR AFTER TREATMENT CONC (UG/L)	VERSAR AFTER TREATMENT DUP (UG/L)
39 FIRST FEDERAL BANK, 142 N MAIN	BOTH			II	Trichloroethene	07-02-86		1.0	-		-	-						
	POU	Y			Trichloroethene	12-02-86		64.5	-		4.3	-						
			B		1,1,1-Trichloroethane	11-30-87	729196	2.0	-	729205	<1.0	-						
					1,2-Dichloropropane	11-30-87	729196	<1.0	-	729205	2.2	-						
					Trichloroethene	02-29-88		<1.0	-		<1.0	-	3-105-898	2.1	-	-	-	-
					Trichloroethene	06-06-88		2.3	-		<1.0	-						
					Trichloroethene	09-06-88		<1.0	-		<1.0	-						
					Trichloroethene	12-05-88		<1.0	-		<1.0	-						
					cis-1,2-Dichloroethene	03-06-89		-	-		-	-	-	-	-	890308-17	1.1	-
					Tetrachloroethene	03-06-89		1.6	-		<1.0	-	-	-	-	890308-17	<1.0	-
					Trichloroethene	03-06-89		5.3	-		<1.0	-	-	-	-	890308-17	3.6	-
					Trichloroethene	06-01-89		<1.0	-		<1.0	-						
					Trichloroethene	09-05-89		<1.0	-		<1.0	-	890907-19	<1.0		890907-18	<1.0	-
					1,1,1-Trichloroethane	09-05-89		-	-		-	-	890907-19	0.84		890907-18	<1.0	-
					1,2,3-Trichloropropane	09-05-89		-	-		-	-	890907-19	0.84		890907-18	<1.0	-
					Trichloroethene	12-05-89		<1.0	-		<1.0	-						
					Chloroform	03-05-90		-	-		-	-	-	-	-	900307-11	2.28	-
					Trichloroethene	03-05-90		<1.0	-		<1.0	-	-	-	-	900307-11	<1.0	-
					Trichloroethene	06-04-90		<1.0	-		NA	-						
					Trichloroethene	12-03-90		<1.0	-		NA	-						
					Trichloroethene	06-06-91		5.9	-		NA	-						

NAME, ADDRESS	TYPE OF SYSTEM (POD = Point-of-use)	COLLIGAN SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	TIER LEVEL I=TCE<5ug/L II=5to260ug/L III=TCE>260ug/L	RCH PARAMETER	BEFORE TREATMENT DATE	BEFORE TREATMENT SAMPLE NO.	BEFORE TREATMENT CONC (UG/L)	BEFORE TREATMENT DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	AFTER TREATMENT CONC (UG/L)	AFTER TREATMENT DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	VERSAR BEFORE TREATMENT CONC (UG/L)	VERSAR BEFORE TREATMENT DUP (UG/L)	VERSAR AFTER TREATMENT SAMPLE NO.	VERSAR AFTER TREATMENT CONC (UG/L)	VERSAR AFTER TREATMENT DUP (UG/L)
20 BUCKS COUNTY MALL, 145 N. MAIN	HOME			III	Trichloroethene	06-26-86		242.0	-		-	-						
					Trichloroethene	11-26-86		223.0	-		-	-						
					1,1,1-Trichloroethane	11-26-86		2.6	-		-	-						
	POU	Y	N		1,1,1-Trichloroethane	12-01-87	729316	3.3	-	729317	<1.0	-						
					trans-1,2-Dichloroethene	12-01-87	729316	7.4	-	729317	<1.0	-						
					trans-1,3-Dichloropropene	12-01-87	729316	<1.0	-	729317	9.1	-						
					Trichloroethene	12-01-87	729316	398.0	-	729317	<1.0	-						
					Trichloroethene	02-29-88		406.0	-		<1.0	-	3-105865	>50	-	3-105865	<1.0	-
					Trichloroethene	06-06-88		416.0	-		<1.0	-						
					Trichloroethene	09-06-88		225.0	-		<1.0	-						
					Trichloroethene	12-05-88		278.0	-		<1.0	-						
					cis-1,3-Dichloroethene	03-06-89		-	-		-	-	890308-15,16	3.0	2.8	-	-	-
					Chloroform	03-06-89		-	-		-	-	890308-15,16	1.8	<1.0	-	-	-
					1,1,1-Trichloroethane	03-06-89		-	-		-	-	890308-15,16	3.2	2.8	-	-	-
					Trichloroethene	03-06-89		271.0	-		<1.0	-	890308-15,16	102.0	94.1	-	-	-
					Trichloroethene	06-01-89		288.0	-		<1.0	-						
					Trichloroethene	09-05-89		289	-		<1.0	-	890907-17	386.0	-	890907-16	<1.0	-
					1,1-Dichloroethane	09-05-89		-	-		-	-	890907-17	1.3J	-	890907-16	<1.0	-
					cis-1,2-Dichloroethene	09-05-89		-	-		-	-	890907-17	10.5	-	890907-16	<1.0	-
					1,1,1-Trichloroethane	09-05-89		-	-		-	-	890907-17	4.0J	-	890907-16	<1.0	-
					Trichloroethene	12-05-89		358.0	-		<1.0	-						
					Chloroform	03-05-90		-	-		-	-	900307-07	2.3B	2.5B	-	-	-
					1,1-Dichloroethane	03-05-90		-	-		-	-	900307-07	<1.0	0.7J	-	-	-
					1,1-Dichloroethene	03-05-90		-	-		-	-	900307-07	1.0	1.3	-	-	-
					1,3-Dichloropropene	03-05-90		-	-		-	-	900307-07	2.0B	2.0B	-	-	-
					Trichloroethene	03-05-90	236.0	259.0		<1.0	<1.0		900307-07	199	237	-	-	-
					Tetrachloroethene	03-05-90	<5.0	<5.0		<1.0	<1.0		900307-07	<1.0	<1.0	-	-	-
					Vinyl Chloride	03-05-90	<5.0	<5.0		<1.0	<1.0		900307-07	<1.0	<1.0	-	-	-
					Trichloroethene	06-04-90	311.0	343.0		NA	NA							
					Trichloroethene	09-04-90	336.0	-		NA	-		900905-02,03	974.0	620.0	-	-	-
					1,1-Dichloroethene	09-04-90	-	-		-	-		900905-02,03	0.3J	0.3J	-	-	-
					1,1-Dichloroethane	09-04-90	-	-		-	-		900905-02,03	0.6J	0.3J	-	-	-
					cis-1,2-Dichloroethene	09-04-90	-	-		-	-		900905-02,03	2.2	1.1	-	-	-
					1,1,1-Trichloroethane	09-04-90	-	-		-	-		900905-02,03	2.6	1.4	-	-	-
					Trichloroethene	12-04-90		251.0	-		<1.0	-						
					Trichloroethene	03-04-91		285.0	-		NA	-						
					Trichloroethene	06-06-91		240.0	-		NA	-						

NAME, ADDRESS	TYPE OF SYSTEM (POU = Point-of-use)	COLLIGAN SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	TIER LEVEL I=TCE<5ug/L II=5to260ug/L III=TCE>260ug/L	BCH PARAMETER	BEFORE TREATMENT DATE	SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)
21 SCHOOL, 149 N. MAIN (GRADY)	NONE			II	Trichloroethene	07-15-86		105.0	-		-	-						
					Trichloroethene	12-02-86		<1.0	-		-	-						
	TOTAL	Y	N		1,1,1-Trichloroethane	12-01-87	729340	1.5	-	729341	1.1	-						
					1,1-Dichloroethane	12-01-87	729340	1.7	-	729341	<1.0	-						
					1,1-Dichloroethene	12-01-87	729340	<1.0	-	729341	1.2	-						
					trans-1,2-Dichloroethene	12-01-87	729340	5.2	-	729341	3.7	-						
					Trichloroethene	12-01-87	729340	83.8	-	729341	68.6	-						
					Trichloroethene	03-02-88		127.0	-		31.7	-	-	-	-	3-105900	47.1	-
					Trichloroethene	06-07-88		131.0	-		3.9	-						
					Trichloroethene	09-06-88		129.0	-		<1.0	-						
					Trichloroethene	12-06-88		66.7	-		116.0	-						
					cis-1,2-Dichloroethene	03-06-89		-	-		-	-	890308-13	1.9	-	890308-16	<1.0	<1.0
					Chloroform	03-06-89		-	-		-	-	890308-13	1.6	-	890308-16	1.2	2.0
					Trichloroethene	03-06-89		96.0	-		27.2	-	890308-13	49.0	-	890308-16	3.1	8.0
					Trichloroethene	03-08-90		104.0	-		<1.0	-						
					Trichloroethene	06-04-90		131.0	-		<1.0	-	-	-	-	5629-C-10	<1.0	-
					Trichloroethene	06-07-91		89.0	-		<1.0	-						
23 HERRICK, 153 N. MAIN	POU	Y	N	II	Trichloroethene	12-02-86		62.6	-		<1.0	-						
					trans-1,2-Dichloroethene	11-30-87	729194	1.9	-	729197	<1.0	-						
					Trichloroethene	11-30-87	729194	19.6	-	729197	<1.0	-						
					Trichloroethene	03-02-88		48.4	-		<1.0	-						
					Trichloroethene	06-06-88		35.4	-		<1.0	-						
					Trichloroethene	09-07-88		44.6	-		1.7	-						
					Trichloroethene	12-06-88		3.8	-		<1.0	-						
					Chloroform	03-06-89		-	-		-	-	-	-	-	890308-12	16.0	-
					Trichloroethene	03-06-89		36.7	-		<1.0	1.5	-	-	-	890308-12	<1.0	-
					Trichloroethene	06-01-89		14.3	-		<1.0	-						
					Vinyl Chloride	06-01-89		7.3	-		<1.0	-						
					Trichloroethene	09-06-89		30.9	-		<1.0	-						
					Trichloroethene	12-05-89		47.6	-		<1.0	-						
					Trichloroethene	03-08-90		35.2	35.2		<1.0	-						
					Trichloroethene	06-04-90		39.9	-		NA	-						
					Trichloroethene	12-03-90		45.0	-		NA	-						
					Trichloroethene	06-06-91		17.0	-		NA	-						
WAIN VILLE PLAZA 161 N MAIN (A)	NONE			II	Trichloroethene	07-02-86		<1.0	-		-	-						
					Trichloroethene	12-02-86		16.3	-		-	-						
	TOTAL	Y	Y		Trichloroethene	11-30-87	729177	5.9	-	729195	<1.0	-	30387	10.0	-	30386	<0.5	
					Trichloroethene	03-02-88		12.9	-		<1.0	-						
					Trichloroethene	06-06-88		24.1	-		<1.0	-						
					Trichloroethene	09-06-88		16.6	-		<1.0	-						
					Trichloroethene	12-06-88		35.3	-		<1.0	-						
					Trichloroethene	03-07-89		16.8	-		<1.0	-						
					Trichloroethene	06-01-89		19.1	-		<1.0	-						
					Trichloroethene	09-05-89		21.3	-		<1.0	-						
					Trichloroethene	12-06-89		<1.0	<1.0		<1.0	NA						
					Trichloroethene	03-05-90		18.8	-		<1.0	-						
					Trichloroethene	06-05-90		<1.0	-		<1.0	-						
					Trichloroethene	12-03-90		33.3	-		28.0	-						
					Trichloroethene	06-07-91		20.0	-		<1.0	-						

NAME, ADDRESS	TYPE OF SYSTEM (POU = Point-of-use)	COLLIGAN SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	TIER LEVEL 1=TCE<5ug/L 11=5to260ug/L 111=TCE>260ug/L	DCE PARAMETER	BEFORE TREATMENT DATE	SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)
24 OAKES (7-11), 169 N. MAIN	NONE		N	II	Trichloroethene	12-02-86		3.8	-		-	-						
					Trichloroethene	12-01-87	729318	2.8	-		-	-						
					Trichloroethene	06-06-88		4.3	-		-	-						
					Chloroform	09 06-88		-	-		-	-	4084C-10	2.1	-	-	-	-
					Trichloroethene	12-05-88		3.0	-		-	-						
					Trichloroethene	06-01-89		2.4	-		-	-	4678C-7	4.0	-	-	-	-
					Trichloroethene	12-04-89		3.3	-		-	-						
					Trichloroethene	06-04-90		3.6	-		-	-						
					Trichloroethene	12-03-90		3.1	-		-	-						
					Trichloroethene	06-06-91		16.0	-		-	-						
25 MORRIS (APT 8) 170 N. MAIN	NONE		N	I	Trichloroethene	08-04-86		3.7	-		-	-						
					Trichloroethene	12-02-86		2.2	-		-	-						
					Trichloroethene	11-30-87	729174	3.9	-		-	-						
					Trichloroethene	06-07-88		4.8	-		-	-						
					Methylene Chloride	12-06-88		-	-		-	-	3-105933/34	0.3J	-	-	-	-
					Chloroform	12-06-88		-	-		-	-	3-105933/34	2.0	-	-	-	-
					1,1,1-Trichloroethane	12-06-88		-	-		-	-	3-105933/34	0.3J	-	-	-	-
					Trichloroethene	12-06-88		4.2	-		-	-	3-105933/34	2.3	-	-	-	-
					Carbon Tetrachloride	12-06-88		-	-		-	-	3-105933/34	0.7J	-	-	-	-
					1,1,2,2-Tetrachloroethene	12-06-88		-	-		-	-	3-105933/34	0.3J	-	-	-	-
					Bromoform	12-06-88		-	-		-	-	3-105933/34	0.3J	-	-	-	-
					Trichloroethene	06-01-89		3.0	-		-	-						
					Trichloroethene	12-05-89		4.6	-		-	-						
					Trichloroethene	06-05-90		3.2	-		-	-						
					Trichloroethene	12-03-90		2.6	-		-	-						
					Trichloroethene	06-07-91		2.6	-		-	-						
26 FAMILY HEALTH CARE, 174 N MAIN	NONE			II	Trichloroethene	06-23-86		7.8	-		-	-		4.6	-	-	-	-
					Trichloroethene	12-02-86		2.5	-		-	-						
	NO		N		1,1,1-Trichloroethane	11-30-87	729198	3.3	-		-	-						
					Chloroform	11-30-87	729198	1.8	-		-	-						
					trans-1,2-Dichloroethene	11-30-87	729198	2.9	-		-	-						
					Trichloroethene	11-30-87	729198	36.4	-		-	-						
					Trichloroethene	02-29-88		4.7	-		-	-	3-105864	4.4	-			
					Trichloroethene	06-06-88		2.5	-		-	-						
					Trichloroethene	09-07-88		1.5	-		-	-						
					Trichloroethene	12-06-89		3.2	-		-	-	5120-C-15	2.4	-	-	-	-
					Trichloroethene	03-05-90		2.6	-		-	-						
					Trichloroethene	12-03-90		3.0	-		-	-						
					Trichloroethene	06-07-91		1.9	-		-	-						

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NAME, ADDRESS	TYPE OF SYSTEM (POU = Point-of-use)	COLLIGAN SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	TIER LEVEL I=TCE<5ug/L II=5to260ug/L III=TCE>260ug/L	BCM PARAMETER	BEFORE TREATMENT DATE	BEFORE TREATMENT SAMPLE NO.	BEFORE TREATMENT CONC (UG/L)	BEFORE TREATMENT DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	AFTER TREATMENT CONC (UG/L)	AFTER TREATMENT DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	VERSAR BEFORE TREATMENT CONC (UG/L)	VERSAR BEFORE TREATMENT DUP (UG/L)	VERSAR AFTER TREATMENT SAMPLE NO.	VERSAR AFTER TREATMENT CONC (UG/L)	VERSAR AFTER TREATMENT DUP (UG/L)
27 DUBLIN FIRE COMPANY,194 N MAIN	HOUSE		N	I/II	Trichloroethene	07-15-86		2.5	-		-	-						
					Trichloroethene	12-02-86		4.0	-		-	-						
					Trichloroethene	11-30-87	729204	8.6	-		-	-	30393	<0.5	-	-	-	-
					Trichloroethene	06-06-88		2.4	-		-	-	3-105916	6.1	-	-	-	-
					Trichloroethene	09-07-88		<1.0	-		-	-	4084C-5	<1.0	-	-	-	-
					Trichloroethene	12-06-88		2.7	<1.0		-	-						
					Trichloroethene	03-07-89		2.0	-		-	-						
					Trichloroethene	06-01-89		<1.0	-		-	-						
					Trichloroethene	09-05-89		<1.0	-		-	-						
					Trichloroethene	12-05-89		<1.0	-		-	-						
					Trichloroethene	03-05-90		<1.0	-		-	-						
					Trichloroethene	06-04-90		<1.0	-		-	-						
					Trichloroethene	12-03-90		<1.0	-		-	-						
					Trichloroethene	06-06-91		<1.0	-		-	-						
28 DUBLIN DINER, NORTH MAIN	HOUSE			II	Trichloroethene	06-26-86		58.9	-		-	-						
					1,1,1-Trichloroethane	06-26-86		2.3	-		-	-						
	TOTAL	Y			Trichloroethene	11-26-86		64.6	-		<1.0	-						
					trans-1,2-Dichloroethene	11-30-87	729190	1.5	-	729181	6.2	-						
					Trichloroethene	11-30-87	729190	<1.0	-	729181	12.7	-						
					Trichloroethene	03-02-88		96.2	-		21.2	-	-	-	-	3-105826	40.0	-
					Trichloroethene	06-06-88		145.0	-		2.2	-						
					Trichloroethene	09-07-88		<1.0	-		<1.0	-						
					Trichloroethene	12-06-88		<1.0	-		<1.0	-						
					Trichloroethene	06-01-89		<1.0	-		13.0	-						
					Trichloroethene	09-06-89		93.2	-		10.1	-						
					Trichloroethene	12-04-89		168.0	-		<1.0	-						
					Trichloroethene	03-05-90		143.0	-		<1.0	-						
					Tetrachloroethene	03-05-90		<5.0	-		<1.0	-						
					Vinyl Chloride	03-05-90		<5.0	-		<1.0	-						
					Trichloroethene	06-05-90		66.5	-		<1.0	-						
					Trichloroethene	12-03-90		130.0	-		<1.0	-						
					Trichloroethene	06-07-91		160.0	-		91.0	-						

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29 BURLIN POST OFFICE, WEST MAIN	POU	Y	N	II	Trichloroethene	12-02-86		33.7	-		<1.0	-	?	3.8	-	-	-	-
					1,1,1-Trichloroethane	12-02-86		27.9	-		2.4	-						
					1,1,1-Trichloroethane	11-30-87	729193	3.0	-	729200	<1.0	-						
					trans-1,2-Dichloroethene	11-30-87	729193	6.6	-	729200	<1.0	-						
					Trichloroethene	11-30-87	729193	73.5	-	729200	<1.0	-						
					Trichloroethene	02-29-88		245.0	-		<1.0	-	3-105824	318.0	-	-	-	-
					Trichloroethene	06-06-88		34.4	-		<1.0	-	-	-	-	3-105925	0.5	-
					Trichloroethene	09-06-88		38.5	-		<1.0	-	4084C-1	13.0	-	-	-	-
					Chloroform	09-06-88		-	-		-	-	4084C-1	3.7	-	-	-	-
					Trichloroethene	12-05-88		10.4	-		<1.0	-	-	-	-	-	-	-
					Vinyl Chloride	12-05-88		16.5	-		<1.0	-	-	-	-	-	-	-
					Chloroform	03-06-89		-	-		-	-	890308-11	1.7	-	-	-	-
					1,1,1-Trichloroethane	03-06-89		-	-		-	-	890308-11	20.7	-	-	-	-
					Trichloroethene	03-06-89		13.2	-		<1.0	-	890308-11	6.7	-	-	-	-
					1,2-Dichloropropane	03-06-89		-	-		-	-	890308-11	6.3	-	-	-	-
					Trichloroethene	06-01-89		22.6	-		<1.0	-						
					1,1-Dichloroethane	09-06-89		-	-		-	-	890907-10	3.12	-	890907-11	<1.0	-
					1,1,1-Trichloroethane	09-06-89		-	-		-	-	890907-10	28.4	-	890907-11	<1.0	-
					1,2-Dichloropropane	09-06-89		-	-		-	-	890907-10	8.7	-	890907-11	<1.0	-
					Trichloroethene	09-06-89		10.6	-		<1.0	-	890907-10	11.1	-	890907-11	<1.0	-
					Trichloroethene	12-06-89		111.0	-		<1.0	-						
					Trichloroethene	01-16-90		94.7	-		<1.0	-						
					Trichloroethene	03-05-90		123	-		<1.0	-						
					Trichloroethene	06-04-90		154.0	160.0		NA	NA	15429-C-07,08	150.0	82.0	-	-	-
					Vinyl Chloride	06-04-90		3.9	1.1		NA	NA	15429-C-07,08	<1.0	<1.0	-	-	-
					1,2-Dichloroethene	06-04-90		-	-		-	-	15429-C-07,08	2.9	3.2	-	-	-
					Trichloroethene	12-03-90		NA	-		<1.0	-						
					Trichloroethene	06-06-91		13.0	-		<1.0	-						

BARR, ADDRESS	TYPE OF SYSTEM (POU = Point-of-use)	COLLIGAN SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	TIER LEVEL 1=TCE<5ug/L 11=5to260ug/L 111=TCE>260ug/L	BCH PARAMETER	BEFORE TREATMENT DATE	BEFORE TREATMENT SAMPLE NO.	BEFORE TREATMENT CONC (UG/L)	BEFORE TREATMENT DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	AFTER TREATMENT CONC (UG/L)	AFTER TREATMENT DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	VERSAR BEFORE TREATMENT CONC (UG/L)	VERSAR BEFORE TREATMENT DUP (UG/L)	VERSAR AFTER TREATMENT SAMPLE NO.	VERSAR AFTER TREATMENT CONC (UG/L)	VERSAR AFTER TREATMENT DUP (UG/L)
30 JACOBS AUTO BODY, 133 N. MAIN	HOUSE		X	II	Trichloroethene	12-02-86		16.5	-		-	-						
					1,1,1-Trichloroethane	12-02-86		29.3	-		-	-						
	DO				1,1,1-Trichloroethane	11-30-87	729202	6.2	-		-	-						
					trans-1,2-Dichloroethene	11-30-87	729202	10.5	-		-	-						
					Trichloroethene	11-30-87	729202	142.0	-		-	-						
					Trichloroethene	02-29-88		174.0	-		-	-	3-105897	>50	-	-	-	-
					Trichloroethene	06-07-88		36.2	-		-	-						
					Trichloroethene	09-07-88		16.7	-		-	-						
					Trichloroethene	12-05-88		12.1	-		-	-						
					Vinyl Chloride	12-05-88		16.8	-		-	-						
					Chloroform	03-06-89		-	-		-	-	890308-18	1.3	-	-	-	-
					1,1,1-Trichloroethane	03-06-89		-	-		-	-	890308-18	20.5	-	-	-	-
					Trichloroethene	03-06-89		12.8	-		-	-	890308-18	5.7	-	-	-	-
					1,2-Dichloropropane	03-06-89		-	-		-	-	890308-18	5.5	-	-	-	-
					Trichloroethene	06-01-89		22.7	-		-	-						
					Trichloroethene	09-06-89		18.8	-		-	-	890907-12	14.9	-	-	-	-
					1,1-Dichloroethene	09-06-89		-	-		-	-	890907-12	4.63	-	-	-	-
					1,1-Dichloroethane	09-06-89		-	-		-	-	890907-12	0.84	-	-	-	-
					1,1,1-Trichloroethane	09-06-89		-	-		-	-	890907-12	30.6	-	-	-	-
					1,2-Dichloropropane	09-06-89		-	-		-	-	890907-12	9.4	-	-	-	-
					Trichloroethene	12-04-89		121.0	-		-	-						
					Trichloroethene	03-05-90		139.0	-		-	-						
					Trichloroethene	06-04-90		120.0	-		-	-						
					Trichloroethene	12-03-90		16.6	-		-	-						
					Trichloroethene	06-06-91		9.6	-		-	-						
31 MILLER, 113 ELEPHANT RD	HOUSE			II	Trichloroethene	12-02-86		<1.0	-		-	-						
			X		Trichloroethene	12-01-87	729331	3.8	-		-	-						
					Trichloroethene	06-07-88		6.7	-		-	-						
					Trichloroethene	09-07-88		<1.0	-		-	-						
					Methylene Chloride	12-06-88		-	-		-	-	13-105947/48	0.28	-	-	-	-
					Chloroform	12-06-88		-	-		-	-	13-105947/48	1.9	-	-	-	-
					Trichloroethene	12-06-88		<1.0	-		-	-	13-105947/48	3.3	-	-	-	-
					Trichloroethene	03-07-89		117.0	-		-	-						
	DO				Trichloroethene	06-01-89		8.0	-		-	-	4670C-11	7.6	-	-	-	-
					Trichloroethene	09-05-89		<1.0	-		-	-						
					Trichloroethene	12-06-89		42.4	-		-	-						
					Trichloroethene	03-06-90		<1.0	-		-	-						
	TOTAL				Trichloroethene	06-04-90		1.2	-		<1.0	-						
					Trichloroethene	12-03-90		<1.0	-		<1.0	-						
					Trichloroethene	06-07-91		6.7	6.9		<1.0	-						

BARS, ADDRESS	TYPE OF SYSTEM (POU = Point-of-use)	COLLIGAN SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	TIER LEVEL (I=TCE<5ug/L (II=5to260ug/L (III=TCE>260ug/L	BCH PARAMETER	BEFORE TREATMENT DATE	SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)
32 SLATHAKER, 114 ELEPHANT RD	BOTH			I	Trichloroethene	07-01-86		<1.0	-		-	-						
					Trichloroethene	11-26-86		<1.0	-		-	-						
	TOTAL	Y	N		Trichloroethene	11-10-87	729192	<1.0	-	729179	<1.0	-						
					Trichloroethene	06-07-88		<1.0	-		<1.0	-						
					Chloroform	12-05-88		<1.0	-		<1.0	-	3-105941/42	1.2	-	-	-	-
					Trichloroethene	12-05-88		<1.0	-		<1.0	-	3-105941/42	1.0	-	-	-	-
					Trichloroethene	06-01-89		<1.0	-		<1.0	-						
					Trichloroethene	12-05-89		3.1	-		<1.0	-						
					Trichloroethene	06-05-90		3.7	-		<1.0	-						
					Trichloroethene	12-03-90		NA	-		<1.0	-						
					Trichloroethene	06-06-91		<1.0	-		<1.0	-						
33 GRACE, 115 ELEPHANT RD	BOTH			II	Trichloroethene	06-26-86		<1.0	-		-	-						
					Trichloroethene	12-02-86		5.3	-		-	-						
					1,1,1-Trichloroethane	12-02-86		1.5	-		-	-						
			N		trans-1,3-Dichloropropene	12-01-87	729330	9.6	-		-	-						
					Trichloroethene	02-29-88		<1.0	-		-	-						
					Trichloroethene	06-07-88		<1.0	-		-	-						
					Trichloroethene	09-07-88		<1.0	-		-	-	4-84C-13	<1.0	-	-	-	-
					Trichloroethene	12-05-88		<1.0	-		-	-						
					Trichloroethene	03-07-89		15.9	-		-	-						
					Trichloroethene	06-01-89		<1.0	-		-	-	6678C-13	<1.0	-	-	-	-
					Trichloroethene	09-05-89		<1.0	-		-	-						
					Trichloroethene	12-05-89		<1.0	-		-	-						
					Trichloroethene	03-06-90		2.1	1.4		-	-						
					Trichloroethene	06-04-90		<1.0	-		-	-						
					Trichloroethene	12-03-90		4.2	-		-	-						
34 BLACK, 116 ELEPHANT RD	BOTH			II	Trichloroethene	06-05-86		5.6	-		-	-						
					Trichloroethene	11-26-86		5.9	-		-	-						
	POU	Y	N		Chloroform	12-01-87	729325	<1.0	-	729326	13.0	-						
					Methylene Chloride	12-01-87	729325	17.3	-	729326	15.5	-						
					Trichloroethene	12-01-87	729325	5.5	-	729326	<1.0	-						
					Trichloroethene	02-29-88		<1.0	-		<1.0	-						
					Trichloroethene	06-07-88		2.0	-		<1.0	-						
					Trichloroethene	09-07-88		2.4	-		<1.0	-						
					Trichloroethene	12-05-88		1.4	-		<1.0	-						
					Chloroform	03-06-89		-	-		-	-	890308-10	1.8	-	-	-	-
					Trichloroethene	03-06-89		11.0	7.8		1.4	-	890308-10	0.6	-	-	-	-
					Trichloroethene	03-06-89		<1.0	2.3		3.0	-	890308-10	1.2	-	-	-	-
					Trichloroethene	06-01-89		22.4	23.7		<1.0	-						
					Trichloroethene	09-05-89		8.7	-		<1.0	-						
					Trichloroethene	12-05-89		10.3	-		<1.0	-	5120-C-12	0.4	-	-	-	-
					Methylene Chloride	12-05-89		-	-		-	-	5120-C-12	1.48	-	-	-	-
					Trichloroethene	03-06-90		13.3	-		<1.0	-						
					Trichloroethene	06-04-90		168.0	-		NA	-						
					Trichloroethene	12-03-90		1.8	1.6		NA	-						
					Trichloroethene	06-06-91		50.0	-		NA	-						

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NAME, ADDRESS	TYPE OF SYSTEM (POU = Point-of-use)	CULLIGAN SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	TIER LEVEL I=TCE<5ug/L II=5to<200ug/L III=TCE>200ug/L	PARAMETER	DATE	BEFORE TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)
35 LABS, 118 ELEPHANT RD	POU	Y		II	Methylene Chloride	12-01-87	729325	17.5	-	729327	20.2	-						
					Trichloroethene	12-01-87	729325	5.5	-	729327	(1.0	-						
					Trichloroethene	02-29-88		(1.0	-		(1.0	-						
					Trichloroethene	06-07-88		2.0	-		(1.0	-						
					Trichloroethene	09-07-88		(1.0	-		(1.0	-	-	-	-	40840	(1.0	-
					Trichloroethene	12-05-88		-	-		(1.0	-						
					Trichloroethene	06-01-89		14.8	-		(1.0	-						
					Trichloroethene	09-05-89		25.5	-		(1.0	-						
					Trichloroethene	12-06-89		7.7	-		(1.0	-						
					Trichloroethene	03-06-90		18.2	-		(1.0	-						
					Trichloroethene	06-06-90		72.2	72.9		NA	-						
					Trichloroethene	12-03-90		2.4	-		NA	-						
					Trichloroethene	06-06-91		60.0	-		NA	-						
36 MYERS, 139 ELEPHANT RD	NONE			II	Trichloroethene	05-09-86		1.5	-		-	-						
					1,1,1-Trichloroethane	05-09-86		2.7	-		-	-						
					Trichloroethene	11-26-86		1.2	-		-	-						
			N		1,1,1-Trichloroethane	11-30-87	729207	5.1	-		-	-						
					Trichloroethene	11-30-87	729207	1.7	-		-	-						
					Trichloroethene	06-07-88		3.4	-		-	-						
					Trichloroethene	06-01-89		3.3	-		-	-						
					Trichloroethene	12-05-89		7.0	-		-	-						
					Trichloroethene	03-08-90		5.6	-		-	-						
					Trichloroethene	12-03-90		4.5	-		-	-						
					Trichloroethene	06-06-91		2.6	-		-	-						
37 MOYER, 146 ELEPHANT RD	NONE			II	Trichloroethene	06-04-86		150.0	-		-	-						
					Trichloroethene	11-26-86		106.0	-		-	-						
	TOTAL	Y	N		1,1-Dichloroethene	11-26,30	729173	2.2	-	729189	(1.0	-						
					trans-1,2-Dichloropropene	11-26,30	729173	4.4	-	729189	(1.0	-						
					Trichloroethene	11-26,30	729173	86.0	-	729189	(1.0	-	-	-	-	30399	(0.5	-
					Trichloroethene	03-02-88		126.0	-		(1.0	-	3-105822	185.0	-	-	-	-
					Trichloroethene	06-06-88		149.0	-		(1.0	-						
					Trichloroethene	09-07-88		114.0	-		(1.0	-						
					Trichloroethene	12-06-88		136.0	-		(1.0	-						
					Trichloroethene	03-07-89		107.0	-		(1.0	-						
					Trichloroethene	06-01-89		155.0	-		(1.0	-						
					Trichloroethene	09-06-89		118.0	-		(1.0	-						
					Trichloroethene	12-05-89		151.0	-		(1.0	-						
					Trichloroethene	03-06-90		135.0	-		(1.0	-						
					Tetrachloroethene	03-06-90		(5.0	-		(1.0	-						
					Vinyl Chloride	03-06-90		(5.0	-		(1.0	-						
					Trichloroethene	06-05-90		159.0	-		(1.0	-						
					Trichloroethene	12-03-90		135.0	-		(1.0	-						

NAME, ADDRESS	TYPE OF SYSTEM (POU = Point-of-use)	CULLIGAN SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	TIER LEVEL I=TCE<5ug/L II=5to260ug/L III=TCE>260ug/L	BCM PARAMETER	BEFORE TREATMENT DATE	SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)
38 DETWEILER, 150 ELEPHANT RD	NONE			II	Trichloroethene	09-09-86		2.0	-		-	-						
					Trichloroethene	11-26-86		2.2	-		-	-						
					1,1,1-Trichloroethene	11-26-86		1.3	-		-	-						
			N		Methylene Chloride	12-01-87	729331	16.6	-		-	-						
					trans-1,2-Dichloroethene	12-01-87	729331	2.6	-		-	-						
					Trichloroethene	12-01-87	729331	7.6	-		-	-						
					Trichloroethene	06-06-88		8.0	-		-	-	3-105908,09	6.8	9.8	-	-	-
					Trichloroethene	09-07-88		9.3	-		-	-						
					Trichloroethene	12-05-88		17.6	-		-	-						
					Trichloroethene	03-07-89		12.2	-		-	-						
					Trichloroethene	05-01-89		NA	-		-	-	4617-C-03	(1.0	(1.0	-	-	-
					Trichloroethene	06-01-89		5.5	-		-	-						
	SW				Trichloroethene	09-05-89		17.4	22.3		-	-						
					Trichloroethene	12-05-89		24.5	-		-	-	5120-C-11	22	-	-	-	-
					Methylene Chloride	12-05-89		-	-		-	-	5120-C-11	1.68	-	-	-	-
					Trichloroethene	03-06-90		22.9	-		-	-						
					Trichloroethene	06-04-90		21.9	-		-	-	5429-C-02	11.8	-	-	-	-
					1,2-Dichloroethene	06-04-90		-	-		-	-	5429-C-02	1.3	-	-	-	-
					Trichloroethene	12-04-90		20.4	21.4		-	-						
					Trichloroethene	06-06-91		8.7	-		-	-						
39 RUSH, 152 ELEPHANT RD	NONE			I	Trichloroethene	?		1.0	-		-	-						
					Trichloroethene	11-26-86		(1.0	-		-	-						
			N		Trichloroethene	12-01-87	729332	(1.0	-		-	-						
					Trichloroethene	06-07-88		(1.0	-		-	-						
					Methylene Chloride	12-05-88		-	-		-	-	3-105939/40	0.33	-	-	-	-
					Chloroform	12-05-88		-	-		-	-	3-105939/40	1.1	-	-	-	-
					1,1,2,2-Tetrachloroethene	12-05-88		-	-		-	-	3-105939/40	0.33	-	-	-	-
					Trichloroethene	12-05-88		(1.0	-		-	-	3-105939/40	(1.0	-	-	-	-
					Trichloroethene	06-01-89		(1.0	-		-	-						
					Trichloroethene	12-05-89		(1.0	-		-	-						
					Trichloroethene	06-04-90		(1.0	-		-	-						
					Trichloroethene	12-03-90		(1.0	-		-	-						
					Trichloroethene	06-06-91		(1.0	-		-	-						

NAME, ADDRESS	TYPE OF SYSTEM (POU = Point-of-use)	COLLIGAN SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	TCE LEVEL I:=5to260ug/L II:=TCE>260ug/L	DCE PARAMETER	BEFORE TREATMENT DATE	SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)
0 BEAUTY SHOP, 104 MAPLE	TOTAL			III	Trichloroethene	11-26-86		82.0	104		99.7							
					1,1,1-Trichloroethane	11-26-86		2.9	-		2.9	(1.0						
		Y	N		1,1,1-Trichloroethane	11-30-87	729319	1.5	-	729320	(1.0	-						
					Trichloroethene	11-30-87	729319	464.0	-	729320	(1.0	-						
					Trichloroethene	03-02-88		159.0	-		(1.0	-	3-105867	245.0	-	-		-
					Trichloroethene	06-07-88		2320.0	-		2.3	-	3-105921	230.0	-	-		-
					Trichloroethene	07-07-88		266.0	-		(1.0	-						
					Vinyl Chloride	07-07-88		(1.0	-		14.6	-						
					Trichloroethene	09-07-88		501.0	-		(1.0	-	-	-	-	4084C-17	(1.0	-
					Trichloroethene	10-18-89		246.0	-		(1.0	-						
					Trichloroethene	12-05-88		1230.0	1102.0		(1.0	-						
					Trichloroethene	01-26-89		690.0	-		240.0	-						
					Tetrachloroethene	01-26-89		3.6	-		(1.0	-						
					Trichloroethene	02-23-89		606.0	-		151.0	-						
					cis-1,2-Dichloroethene	03-06-89		-	-		-	-	890308-08	(1.0	-	890308-09	1.3	-
					Chloroform	03-06-89		-	-		-	-	890308-08	1.5	-	890308-09	1.9	-
					Trichloroethene	03-06-89		537.0	-		111.0	-	890308-08	75.9	-	890308-09	230.0	-
					Trichloroethene	04-25-89		630.0	-		856.0	-						
					Trichloroethene	05-16-89		913.0	-		(1.0	-						
					Trichloroethene	06-01-89		700.0	-		(1.0	-	-	-		4678C-4	(1.0	-
					Trichloroethene	06-01-89		1.3	-		(1.0	-						
					Trichloroethene	07-21-89		393.0	-		6.7	-						
					Trichloroethene	08-10-89		296	-		(1.0	-						
					Tetrachloroethene	08-10-89		(1.0	-		(1.0	-						
					Vinyl Chloride	08-10-89		(1.0	-		(1.0	-						
					Trichloroethene	09-05-89		302.0	-		(1.0	-						
					Trichloroethene	10-26-89		436.0	-		(1.0	-						
					Trichloroethene	11-09-89		967.0	-		(1.0	-						
					Tetrachloroethene	11-09-89		2.0	-		(1.0	-						
					Trichloroethene	12-05-89		1201.0	-		(1.0	-						
					Tetrachloroethene	12-05-89		2.2	-		(1.0	-						
					Trichloroethene	01-16-90		RA	-		(1.0	-						
					Tetrachloroethene	03-06-90		1.9	-		(1.0	-						
					Trichloroethene	03-06-90		573.0	-		(1.0	-						
					Trichloroethene	06-05-90		314.0	-		(1.0	-						
					Trichloroethene	09-04-90		190.0	-		(1.0	-	900905-09	240.0	-	-	-	-
					1,1-Dichloroethene	09-04-90		-	-		-	-	900905-09	0.33	-	-	-	-
					cis-1,2-Dichloroethene	09-04-90		-	-		-	-	900905-09	1.5	-	-	-	-
					Carbon Tetrachloride	09-04-90		-	-		-	-	900905-09	0.23	-	-	-	-
					Tetrachloroethene	09-04-90		-	-		-	-	900905-09	0.33	-	-	-	-
					Trichloroethene	12-03-90		545.0	-		(1.0	-	5927C-13	744.04	-	5927C-12	(1.0	-
					1,1,1-Trichloroethane	12-03-90		-	-		-	-	5927C-13	9.7	-	5927C-12	(1.0	-
					Tetrachloroethene	12-03-90		-	-		-	-	5927C-13	2.6	-	5927C-12	(1.0	-
					Trichloroethene	03-04-91		518.0	-		26.7	-						
					Trichloroethene	06-06-91		233.0	-		167.0	-						

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41 DUDLEY SPORTS, 112 MAPLE AVE	HOME			I/II	1,1,1-Trichloroethane	06-26-86		2.0	-		-	-						
					Trichloroethene	11-02-86		0.3	-		-	-						
					1,1,1-Trichloroethane	11-02-86		1.5	-		-	-						
	BB		B		1,1,1-Trichloroethane	11-30-87	729201	3.8	-		-	-						
					Trichloroethene	02-29-88		<1.0	-		-	-						
					Trichloroethene	06-07-88		14.2	-		-	-	3-105922	19.3	-	-	-	-
					Trichloroethene	09-07-88		<1.0	-		-	-						
					Trichloroethene	12-05-88		<1.0	-		-	-						
					Trichloroethene	03-07-89		<1.0	-		-	-						
					Trichloroethene	06-01-89		<1.0	-		-	-	4678C-8	<1.0	-	-	-	-
					Trichloroethene	09-05-89		<1.0	-		-	-						
					Trichloroethene	12-05-89		<1.0	-		-	-						
					Chloroform	03-05-90		-	-		-	-	900307-02	2.0B	-	-	-	-
					Trichloroethene	03-05-90		<1.0	<1.0		-	-	900307-02	<1.0	-	-	-	-
					Trichloroethene	06-04-90		<1.0	-		-	-						
					Trichloroethene	12-03-90		<1.0	-		-	-	5927C-14,15	1.4	<1.0	-	-	-
					Trichloroethene	06-06-91		<1.0	-		-	-						
42 DRAKE, 110 MAPLE AVE	HOME			I/II	Trichloroethene	11-26-86		12.5	-		-	-						
					Trichloroethene	12-01-87		<1.0	-		1.6	-						
	TOTAL	Y	Y		Methylene Chloride	12-01-87	729308,03	<1.0	13.3	729304	<1.0	-						
					Trichloroethene	03-02-88		<1.0	-		<1.0	-						
					Trichloroethene	06-07-88		<1.0	-		<1.0	-						
					Trichloroethene	09-07-88		<1.0	-		<1.0	-						
					Methylene Chloride	12-05-88		-	-		-	-	13-105937/38	0.2 J	-	-	-	-
					Chloroform	12-05-88		-	-		-	-	13-105937/38	1.8	-	-	-	-
					Trichloroethene	12-05-88		<1.0	-		<1.0	-						
					Trichloroethene	03-07-89		<1.0	-		<1.0	-						
					Trichloroethene	06-01-89		<1.0	-		<1.0	-						
					Trichloroethene	09-06-89		<1.0	-		<1.0	-						
					Trichloroethene	12-05-89		<1.0	-		<1.0	-						
					Trichloroethene	03-05-90		<1.0	-		<1.0	-						
					Trichloroethene	06-04-90		<1.0	-		<1.0	-						
					Trichloroethene	12-03-90		<1.0	-		<1.0	-				5927C-04	<1.0	-
43 DUBLIN ACRES WELL#1,RICKETS RD	HOME			I	Trichloroethene	06-25-86		3.2	-		-	-						
			Y		Trichloroethene	12-01-87	729333	<1.0	-		-	-						
					Trichloroethene	06-07-88		<1.0	-		-	-						
					Chloroform	12-06-88		BB	-		-	-	13-105918/920	5.1	-	-	-	-
					Trichloroethene	12-06-88		BB	-		-	-	13-105918/920	0.3J	-	-	-	-
					Bromodichloromethane	12-06-88		BB	-		-	-	13-105918/920	2.2	-	-	-	-
					Dibromochloromethane	12-06-88		BB	-		-	-	13-105918/920	1.6	-	-	-	-
					Bromoform	12-06-88		BB	-		-	-	13-105918/920	1.0	-	-	-	-
					Trichloroethene	06-01-89		<1.0	-		-	-						
					Trichloroethene	12-06-89		<1.0	-		-	-						
					Trichloroethene	06-06-91		<1.0	-		-	-						

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44 DUBLIN ACRES WELLS,RICKETS RD	HOUSE			I	Trichloroethene	06-25-86		<1.0	-		-	-						
					Trichloroethene	12-02-86		1.4	-		-	-						
			T		Trichloroethene	12-21-87	A31387	<1.0	-		-	-						
					Trichloroethene	06-07-88		<1.0	-		-	-						
					Trichloroethene	12-06-88		2.6	-		-	-						
					Trichloroethene	06-05-90		<1.0	-		-	-						
					Trichloroethene	12-03-90		<1.0	-		-	-						
45 OTT, 105 RIDDLE RD	HOUSE			I	Trichloroethene	07-15-86		2.1	-		-	-						
			B		Trichloroethene	12-01-87	729312,10	<1.0	<1.0		-	-						
					Trichloroethene	06-07-88		<1.0	-		-	-						
					Trichloroethene	12-05-88		<1.0	<1.0		-	-						
					Trichloroethene	06-01-89		<1.0	-		-	-						
					Trichloroethene	12-05-89		<1.0	-		-	-	5120-C-13	<1.0	-	-	-	-
					Methylene Chloride	12-05-89		-	-		-	-	5120-C-13	1.28	-	-	-	-
46 WOOD EDGE APTS, 126 RIDDLE RD	HOUSE			I	Trichloroethene	06-27-86		<1.0	-		-	-						
					Trichloroethene	12-21-87	A31387	<1.0	-		-	-						
					Trichloroethene	06-07-88		<1.0	-		-	-						
					Trichloroethene	12-05-88		<1.0	-		-	-						
					Trichloroethene	06-01-89		<1.0	-		-	-						
					Trichloroethene	12-05-89		<1.0	-		-	-						
47 DUBLIN INN, 101 S. MAIN ST	HOUSE			I/II	Trichloroethene	09-09-86		<1.0	-		-	-						
	HOUSE				Bromodichloromethane	12-21-87	A31386	49.0	-		-	-						
					Chloroform	12-21-87	A31386	2.8	-		-	-						
					cis-1,3-Dichloropropene	12-21-87	A31386	3.7	-		-	-						
					Trichloroethene	12-21-87	A31386	1.2	-		-	-						

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48 PARK BUREAU, 104 HILL ST	BOWR			III	Trichloroethene	06-26-86		1000.0	-		-	-						
					Tetrachloroethene	06-26-86		1.4	-		-	-						
					1,1,1-Trichloroethane	06-26-86		6.0	-		-	-						
					Trichloroethene	11-26-86		357.0	-		<1.0	-						
					1,1,1-Trichloroethane	11-26-86		2.3	-		<1.0	-						
	POU	Y/N	N		1,1-Dichloroethene	11-30-87	729185	<1.0	-	729184	<1.0	-						
					trans-1,2-Dichloroethene	11-30-87	729185	<1.0	-	729184	<1.0	-						
					Trichloroethene	11-30-87	729185	1590.0	-	729184	76	-	30395	1600	-	30386	<0.5	-
					Trichloroethene	02-29-88		3260.0	3189.0		217	-	3-105863	>50				
					Tetrachloroethene	02-29-88		4.0	<1.0		<1.0	-						
					Trichloroethene	06-07-88		1911.0	-		<1.0	-	3-105910	245.0	-	-	-	-
					Tetrachloroethene	06-07-88		1.1	-		<1.0	-						
					Trichloroethene	09-07-88		3970.0	-		<1.0	-						
					Tetrachloroethene	09-07-88		2.9	-		<1.0	-						
					Trichloroethene	12-05-88		<1.0	-		<1.0	-						
					cis-1,2-Dichloroethene	03-06-89		-	-		-	-	1890308-07	2.9	-	-	-	-
					Chloroform	03-06-89		-	-		-	-	1890308-07	2.3	-	-	-	-
					1,1,1-Trichloroethane	03-06-89		-	-		-	-	1890308-07	11.1	-	-	-	-
					Trichloroethene	03-06-89		4650.0	-		<1.0	-	1890308-07	476.0	-	-	-	-
					Tetrachloroethene	03-06-89		2.3	-		<1.0	-	1890308-07	<1.0	-	-	-	-
					Trichloroethene	06-01-89		1460.0	-		<1.0	-						
					Trichloroethene	09-06-89		932	-		<1.0	-						
					Trichloroethene	12-05-89		15.1	-		<1.0	-						
					Chloroform	03-06-90		-	-		-	-	900307-13	2.2B	-	900307-14	2.2B	-
					Trichloroethene	03-06-90		12.6	15.7		<1.0	<1.0	900307-13	11.0B	-	900307-14	2.7B	-
					Trichloroethene	09-04-90		1930.0	1930.0		NA	NA						
					Trichloroethene	12-03-90		4620.0	-		31.0	-						
					Trichloroethene	03-04-91		3749.0	-		NA	-						
					Trichloroethene	06-07-91		1733.0	1742.0		NA	-						

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49 THOMPSON PLANT WELL#1,130 MILL	NONE			III	Trichloroethene	06-23-86		5000.0	*******		-	-						
					Tetrachloroethene	06-23-86		8.6	-		-	-						
					1,1,1-Trichloroethane	06-23-86		27.0	-		-	-						
					Trichloroethene	07-15-86		10000.0	-		-	-						
					1,1,1-Trichloroethane	07-15-86		25.0	-		-	-						
					Trichloroethene	11-26-86		514.0	-		-	-						
					1,1,1-Trichloroethane	11-26-86		2.0	-		-	-						
	DW		N		Trichloroethene	11-30-87	729187	4800.0	-		-	-						
					Trichloroethene	02-29-88		5127.0	5871.0		-	-	3-105866	>50	-	-	-	-
					Tetrachloroethene	02-29-88		12.2	10.2		-	-						
					Trichloroethene	06-07-88		5600.0	5900.0		-	-	3-105913	400.0	-	-	-	-
					Chlorobenzene	06-07-88		-	-		-	-	3-105913	11.6	-	-	-	-
					1,1-Dichloroethene	12-05-88		-	-		-	-	13-105923/24	3.4	3.1	-	-	-
					Methylene Chloride	12-05-88		-	-		-	-	13-105923/24	0.34	0.34	-	-	-
					trans-1,2-Dichloroethene	12-05-88		-	-		-	-	13-105923/24	0.34	-	-	-	-
					1,1-Dichloroethane	12-05-88		-	-		-	-	13-105923/24	1.0	0.34	-	-	-
					cis-1,2-Dichloroethene	12-05-88		-	-		-	-	13-105923/24	-	1.0	-	-	-
					Chloroform	12-05-88		-	-		-	-	13-105923/24	3.2	3.2	-	-	-
					1,1,1-Trichloroethane	12-05-88		-	-		-	-	13-105923/24	13.4	13.5	-	-	-
					Trichloroethene	12-05-88		5340.0	2880.0		-	-	13-105923/24	659	581	-	-	-
					Carbon Tetrachloride	12-05-88		-	-		-	-	13-105923/24	1.0	1.3	-	-	-
					1,1,2,2-Tetrachloroethene	12-05-88		-	-		-	-	13-105923/24	5.2	5.3	-	-	-

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50 THOMPSON PLANT WELL	2,120 MILL	NONE			III	Trichloroethene	06-23-86		300.0	-		-	-							
						1,1,1-Trichloroethane	06-23-86		2.0	-		-	-							
						Trichloroethene	11-26-86		3900.0	-		-	-							
						1,1,1-Trichloroethane	11-26-86		18.0	-		-	-							
		DD		N		1,1,1-Trichloroethane	11-30-87	729176,83	2.6	3.6		-	-							
						trans-1,2-Dichloroethene	11-30-87	729176,83	2.6	2.5		-	-							
						Trichloroethene	11-30-87	729176,83	360.0	237.0		-	-	30385,96	560.0	530.0	-	-	-
						Tetrachloroethene	11-30-87	729176,83	<1.0	<1.0		-	-	30385,96	<5.0	8.7	-	-	-
		PS				Trichloroethene	02-29-88		208.0	183.0		<1.0	-	3-105825	>50	-	3-105825	<1.0	-
						Trichloroethene	06-07-88		117.0	235.0		<1.0	-						
						Trichloroethene	09-06-88		-	-		1.1	-	-	-	-	4084C-15	<1.0	-
						Trichloroethene	12-05-88		10.1	-		<1.0	-						
						Chloroform	03/06/89		-	-		ND	-	1890308-06	1.4	-	-	-	-
						Trichloroethene	03/06/89		77.4	-		11.8	-	1890308-06	46.8	-	-	-	-
						Trichloroethene	06-01-89		141.0	-		<1.0	-	4678C-12	130	-	-	-	-
						Trichloroethane	06-01-89		-	-		-	-	4678C-12	2.9	-	-	-	-
						Trichloroethene	09-06-89		203	-		220	-						
						Trichloroethene	12-05-89		426.0	431.0		<1.0	<1.0	-	-	-	5120-C-14	<1.0	-
						Methylene Chloride	12-05-89		-	-		-	-	-	-	-	5120-C-14	1.48	-
						1,1,1-Trichloroethane	12-05-89		-	-		-	-	-	-	-	5120-C-14	5.1	-
						Chloroform	03-05-90		-	-		-	-	-	-	-	900307-08	2.38	-
						1,1-Dichloroethene	03-05-90		-	-		-	-	-	-	-	900307-08	1.6	-
						1,1-Dichloropropene	03-05-90		-	-		-	-	-	-	-	900307-08	9.38	-
						Trichloroethene	03-05-90		277.0	-		62.7	-	-	-	-	900307-08	36.7	-
						Trichloroethene	06-05-90		191.0	-		338.0	-						
						Trichloroethene	09-04-90		587.0	-		<1.0	-	900905-04	633.0	-	-	-	-
						1,1-Dichloroethene	09-04-90		-	-		-	-	900905-04	0.13	-	-	-	-
						cis-1,2-Dichloroethene	09-04-90		-	-		-	-	900905-04	0.63	-	-	-	-
						1,1,1-Trichloroethane	09-04-90		-	-		-	-	900905-04	2.9	-	-	-	-
						Carbon Tetrachloride	09-04-90		-	-		-	-	900905-04	0.13	-	-	-	-
						Tetrachloroethene	09-04-90		-	-		-	-	900905-04	0.83	-	-	-	-
						Trichloroethene	12-03-90		348.0	295.0		116.0	113.0	5927C-05	546.06	-	-	-	
						Tetrachloroethene	12-03-90		-	-		-	-	5927C-05	0.8	-	-	-	
						1,1,1-Trichloroethane	12-03-90		-	-		-	-	5927C-05	36.0	-	-	-	
						Trichloroethene	03-06-91		186.0	188.0		<1.0	<1.0						
						Trichloroethene	06-06-91		349.0	-		439.0	-						

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NAME, ADDRESS	TYPE OF SYSTEM (POU = Point-of-use)	COLLIGAN SYSTEM? (Y=yes) (N=no)	BIO-TREATMENT (Y=yes) (N=no)	TIER LEVEL 1=TCE<5ug/L 11=5to260ug/L 111=TCE>260ug/L	DCH PARAMETER	BEFORE TREATMENT DATE	SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	VERSAR BEFORE TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)	AFTER TREATMENT SAMPLE NO.	CONC (UG/L)	DUP (UG/L)
51 DAIRY QUEEN, MAIN STREET	NON			I	Trichloroethene	06-26-86		1.0	-		-	-						
					Trichloroethene	06-06-88		<1.0	-		-	-	3-105915	6.6	-	-	-	-
					Chloroform	09-06-88		-	-		-	-	4084C-4	2.5	-	-	-	-
					Trichloroethene	09-06-88		-	-		-	-	4084C-4	<1.0	-	-	-	-
					Trichloroethene	06-01-89		<1.0	1.2		-	-	4678C-2	3.5	-	-	-	-
					Trichloroethene	06-04-90		<1.0	-		-	-						
					Trichloroethene	06-06-91		<1.0	-		-	-						
52 HARRIS,315 FRONTIER ST,WELL 6	NON			I	Trichloroethene	08-04-86		1.0	-		-	-						
					1,1,1-Trichloroethane	12-02-86		1.1	-		-	-						
			N		Trichloroethene	12-01-87	729329	<1.0	-		-	-						
					Trichloroethene	06-07-88		<1.0	-		-	-						
					Chloroform	12-05-88		-	-		-	-	3-105935/36	1.2	-	-	-	-
					Trichloroethene	12-05-88		<1.0	-		-	-						
					Trichloroethene	06-04-90		<1.0	-		-	-	5429-C-05	<1.0	-	-	-	-
					Trichloroethene	12-03-90		<1.0	-		-	-						
					Trichloroethene	06-07-91		<1.0	-		-	-						
53 HARRIS,315 FRONTIER ST,WELL 8	NON			I	Trichloroethene	12-02-86		<1.0	-		-	-						
					Trichloroethene	12-21-87		<1.0	-		-	-						
					Trichloroethene	06-07-88		<1.0	-		-	-						
					Trichloroethene	12-05-88		<1.0	-		-	-						
54 SUPPLEE, 105 CHERRY LANE	NON			I	Trichloroethene	06-26-86		<1.0	-		-	-						
55 PASQUA, 111 CHERRY LANE	NON			I	Trichloroethene	06-23-86		<1.0	-		-	-						

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56 ALLEN, 115 CHERRY LANE	HOUSE			I	Trichloroethene	08-05-86		<1.0	-		-	-						
57 AYERS, 120 CHERRY LANE	HOUSE			I	Trichloroethene	06-26-86		<1.0	-		-	-						
58 BOBLIN VIL APTS, CHERRY LANE	HOUSE			I	Trichloroethene	06-23-86		<1.0	-		-	-						
59 HOYER, CHERRY LANE	HOUSE			I	Trichloroethene	06-23-86		<1.0	-		-	-						
60 WILLIAMS, 114 MAPLE AVE, APT A	HOUSE			I	Trichloroethene	12-02-86		<1.0	-		-	-						
61 HESTER, 123 MAPLE AVE	HOUSE			I	Trichloroethene	12-02-86		<1.0	-		-	-						
62 HOUGAN, 126 MAPLE AVE	HOUSE			I	Trichloroethene	12-02-86		<1.0	-		-	-						
63 DIRSBERGER, 140 MAPLE AVE	HOUSE			I	Trichloroethene	06-26-86		<1.0	-		-	-						
64 BOROUGH HALL, MAPLE AVE	HOUSE			I	Trichloroethene	06-26-86		<1.0	-		-	-						
65 GULF, MAPLE AVE	HOUSE			I	Trichloroethene	06-26-86		<1.0	-		-	-						
66 SLAYBAKER, 163 S. MAIN	HOUSE			I	Trichloroethene	07-01-86		<1.0	-		-	-						
					Trichloroethene	06-07-88		<1.0	-		-	-						
					Trichloroethene	12-06-88		<1.0	-		-	-						
					Trichloroethene	06-01-89		<1.0	-		-	-						
					Trichloroethene	12-06-89		<1.0	-		-	-						
67 WORTHINGTON, 155 ELEPHANT RD.				I	Trichloroethene	05-01-89		NA	-		-	-	4617-C-05	<1.0	-	-	-	-
68 FAIRBANKS, 3206 HICKORY RD				I	Trichloroethene	05-01-89		NA	-		-	-	4617-C-06,07	<1.0	<1.0	-	-	-
69 RESIDENT, 3313 HICKORY RD				I	Trichloroethene	05-01-89		NA	-		-	-	4617-C-08	<1.0	-	-	-	-
70 RACHAD, 164 ELEPHANT RD.				I	Trichloroethene	05-01-89		NA	-		-	-	4617-C-09	<1.0	-	-	-	-
71 KRIFF, 170 ELEPHANT RD				I	Trichloroethene	05-01-89		NA	-		-	-	4617-C-10	<1.0	-	-	-	-

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72 STATE POLICE, 3218 RICKERT RD.				I	Trichloroethene	05-01-89	NA	-		-	-	4617-C-11	<1.0	-			
73 BEDFORDS, 3232 RICKERTS RD.				I	Trichloroethene	05-01-89	NA	-		-	-	4617-C-12	<1.0	-			
74 SIMON, 100 DEEP RUN RD.				I	Trichloroethene	05-01-89	NA	-		-	-	4617-C-13	<1.0	-			
75 BUCHNER, 111 DEEP RUN RD.				I	Trichloroethene	05-01-89	NA	-		-	-	4617-C-14	<1.0	-			
76 CROSTHWAITE, 179 N. MAIN ST.				II	Trichloroethene	05-01-89	NA	-		-	-	4617-C-15	1.6	-			
					Trichloroethene	12-05-89	2.8	-		-	-						
					Trichloroethene	06-05-90	7.4	-		-	-	5429-C-15	6.76	-			
77 BYERS, 173 N. MAIN ST.				I	Trichloroethene	05-01-89	NA	-		-	-	4617-C-16	1.8	-			
				I	Trichloroethene	06-04-90	2.1	-		-	-						
78 FRANKLIN, 104 RIDDLE RD-WELL 1				I	Trichloroethene	05-01-89	NA	-		-	-	4617-C-17	<1.0	-			
79 FRANKLIN, 104 RIDDLE RD-WELL 2				I	Trichloroethene	05-01-89	NA	-		-	-	4617-C-18	<1.0	-			
80 SUBBERRS,N MAIN & RICKERT RD.				I	Trichloroethene	05-01-89	NA	-		-	-	4617-C-20	<1.0	-			
81 SCHULTZ, 100 MAPLE AVE.				I	Trichloroethene	05-01-89	NA	-		-	-	4617-C-21	<1.0	-			
82 STAUFFER, 111 ELEPHANT RD.				II	Trichloroethene	05-01-89	NA	-		-	-	4617-C-22	7.7	-			
	POU				Trichloroethene	12-05-89	<1.0	-		9.9	-						
					Trichloroethene	03-06-90	47.9	-		<1.0	-						
					Trichloroethene	06-04-90	6.9	-		NA	-	5429-C-04	3.4	-			
					Trichloroethene	12-04-90	7.3	-		3.2	-						
					Trichloroethene	06-06-91	<1.0	-		<1.0	-						

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83 SHELL, 119 CHERRY LANE				I	Trichloroethene	05-01-89		NA	-		-	-	4617-C-23	(1.0	-	-	-	-
					1,1,1-Trichloroethane	05-01-89		NA	-		-	-	4617-C-23	3.4	-	-	-	-
84 VANDER LECUW, 166 ELEPHANT RD.				I	Trichloroethene	05-01-89		NA	-		-	-	4617-C-24	(1.0	-	-	-	-
85 SMITH, 168 ELEPHANT RD.				I	Trichloroethene	05-01-89		NA	-		-	-	4617-C-25	(1.0	-	-	-	-
86 MOYERS DAIRY, 183 N. MAIN ST.	NONE			II	Trichloroethene	05-01-89		NA	-		-	-	4617-C-02	1.3	-	-	-	-
					Trichloroethene	12-06-89		1.6	-		-	-	5120-C-03	(1.0	-	-	-	-
					Methylene Chloride	12-06-89		-	-		-	-	5120-C-03	2.98	-	-	-	-
					Trichloroethene	06-04-90		2.0	-		-	-	5429-C-03	1.3	-	-	-	-
					1,1,1-Trichloroethane	06-04-90		-	-		-	-	5429-C-03	1.0	-	-	-	-
					Trichloroethene	12-03-90		1.2	-		-	-						
					Trichloroethene	06-06-91		9.0	-		-	-						
87 BERTOLET, 101 DEEP RUN	NONE			I	Trichloroethene	02-06-90		NA	-		-	-	CBF32/CBF33	(5.0	(5.0	-	-	-
88 HESS, 119 ELEPHANT ROAD	NONE			II	Trichloroethene	02-06-90		NA	-		-	-	CBF34	130	-	-	-	-
					1,2-Dichloroethene	02-06-90		NA	-		-	-	CBF34	33	-	-	-	-
	TOTAL				Trichloroethene	03-04-91		58.6	-		(1.0	-						
					Trichloroethene	06-06-91		18.0	-		(1.0	-						

NA = NOT ANALYZED
ND = NOT DETECTED
BW = BOTTLED WATER
J = ANALYTE PRESENT. REPORTED VALUE MAY NOT BE ACCURATE OR PRECISE.
B = NOT DETECTED SUBSTANTIALLY ABOVE LEVELS REPORTED IN LABORATORY OR FIELD BLANKS
D = DILUTED SAMPLE
L = REPORTED VALUE MAY BE BIASED LOW