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# Superfund Record of Decision:

## Rockaway Borough Well Field, NJ



<b>TECHNICAL REPORT DATA</b> <i>(Please read Instructions on the reverse before completing)</i>		
1. REPORT NO. EPA/ROD/R02-86/034	2.	3. RECIPIENT'S ACCESSION NO.
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16. ABSTRACT <p>The Rockaway Borough Well Field site is located in Rockaway Borough, Morris County, New Jersey, and consists of three municipal supply wells which are in a glacial aquifer designated by EPA as the sole source aquifer for Rockaway Borough and the surrounding communities. High concentrations of TCE and PCE have been detected in the aquifer since 1980, but no sources of contamination have been identified. In 1981, the Borough of Rockaway constructed a three-bed granular activated carbon adsorption system to treat contaminated well water. Treatment has effectively reduced volatile organic contaminant concentrations in finished water to less than 1 part per billion (ppb). Although thirteen VOCs have been detected in the well water, TCE and PCE are the primary contaminants of concern. The site was listed on the NPL in December of 1982, and the RI/FS was initiated in 1985.</p> <p>The selected remedial action for the Rockaway Borough site includes: Rockaway Borough maintaining the existing filtration system and modifying operations to ensure compliance with Safe Drinking Water Act standards; and EPA continuing the RI/FS in an attempt to identify the source and extent of contamination and evaluate additional remedial action alternatives to address source control. Estimated capital cost of this remedial action is zero with annual O&amp;M costs of \$74,800.</p>		
17. KEY WORDS AND DOCUMENT ANALYSIS		
a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Record of Decision Rockaway Borough Well Field, NJ Contaminated Media: gw Key contaminants: TCE, PCE, VOCs		
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RECORD OF DECISION  
ROCKAWAY BOROUGH WELL FIELD

Site Rockaway Borough Well Field, Rockaway Borough, New Jersey

Documents Reviewed

I am basing my decision on the following documents:

- Remedial Investigation and Feasibility Study Report, prepared by Science Applications International Corporation, August 1986
- Responsiveness Summary, September 1986.
- Staff summaries and recommendations
- Borough request for reimbursement, June 1983
- Agency correspondence denying request, August 1983

Background

In 1981, the Borough of Rockaway installed a granular activated carbon filtration system to treat contaminated groundwater from its well field. The results of the remedial investigation and feasibility study indicated that the most appropriate and cost-effective means of providing safe, potable water which meets relevant and appropriate standards is the continued operation of the Borough's existing filtration system.

Description of Appropriate Remedy

- The Borough should maintain the existing granular activated carbon treatment system. Operations should be modified to ensure compliance with current Safe Drinking Water Act standards. In EPA's judgment, the spent carbon should be regenerated off-site.
- EPA will continue the remedial investigation and feasibility study in an attempt to positively identify the contaminant source(s), further delineate the full extent of contamination, and evaluate additional remedial action alternatives to address those sources.

### Reimbursement

Rockaway Borough officials requested that CERCLA funds be used to reimburse the Borough for the water supply treatment system which it installed. However, the action and related expenditures did not occur during the CERCLA "window" period. The CERCLA "window" period includes the years 1978 to 1980. The filtration system was installed in 1981 after expiration of the period.

Although EPA can pre-authorize or provide prior approval of specific remedial actions with the intent of reimbursing the costs of such actions, the Borough did not request approval prior to installing the water treatment system. In fact, it was not until 1983 that Borough officials first inquired about the possibility of reimbursement. At that time, the Assistant Administrator for Solid Waste and Emergency Response responded to the Borough's inquiry and formally notified officials that costs incurred for the water treatment system were not eligible for reimbursement.

For the foregoing reasons, I have decided that the Borough cannot be reimbursed for the cost of the filtration system.

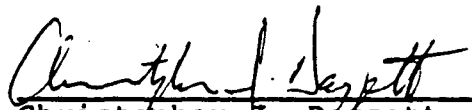
### Declarations

Consistent with the Comprehensive Environmental Response, Compensation and Liability Act of 1980, and the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300), I have determined that the remedy described above is an operable unit involving treatment of a drinking water supply which is cost-effective and consistent with a permanent remedy.

I have further determined that this remedy is the lowest-cost alternative that is technologically feasible and reliable, and which effectively mitigates and minimizes damages to and provides adequate protection of public health, welfare and the environment. Continued operation of this operable unit by the Borough is appropriate at this time.

The State of New Jersey has been consulted and agrees with this decision.

September 29, 1986  
Date

  
Christopher J. Daggett  
Regional Administrator

SUMMARY OF REMEDIAL ALTERNATIVE SELECTION  
ROCKAWAY BOROUGH WELL FIELD

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## SUMMARY OF REMEDIAL ALTERNATIVE SELECTION

### ROCKAWAY BOROUGH WELL FIELD SITE Rockaway Borough, New Jersey

#### SITE LOCATION AND DESCRIPTION

The Rockaway Borough Well Field site ("the site") is located near the intersection of Union and Maple Streets in Rockaway Borough, Morris County, New Jersey (Figure 1). The site consists of three municipal supply wells which are in a glacial aquifer designated by the Environmental Protection Agency (EPA) as the sole source aquifer for Rockaway Borough and the surrounding communities. The Rockaway Borough Water Department currently operates the well field and treats the water supply by activated carbon adsorption. No sources of contamination have been identified at this time, although several potential sources exist.

The site is located in a suburban residential setting and is surrounded by homes, businesses and municipal property. The wells are set within the Upper Rockaway watershed and provide water service to approximately 11,000 people in Rockaway Borough and portions of neighboring Denville and Rockaway Townships. In addition, Rockaway Borough sells water to Rockaway Township for distribution within its own system. High concentrations of tetrachloroethylene (PCE) and trichloroethylene (TCE) have been detected in the aquifer since 1980.

#### SITE HISTORY

Volatile organic contamination was detected in the municipal wells in Rockaway Township in 1979. These findings prompted the New Jersey Department of Environmental Protection (NJDEP) to test the water quality in neighboring areas. Samples taken in March, June and July of 1980 found contamination in three of Rockaway Borough's municipal supply wells (Nos. 1, 5 and 6) and at points within the Borough's distribution system. Concentrations of PCE as high as 678 ppb (parts per billion) and TCE up to 172 ppb were identified in the supply well water along with lesser concentrations of 1,1,1-trichloroethane, trans-1,2-dichloroethene, toluene, methylene chloride, chloroform, trichlorofluoromethane, carbon tetrachloride, benzene, chlorobenzene, 1,1-dichloroethene, bromodichloromethane, and 1,1,2-trichloroethane (Table 1). The highest initial concentrations of PCE and TCE were observed in Wells 1 and 6 with detectable but lower levels observed in Well 5.

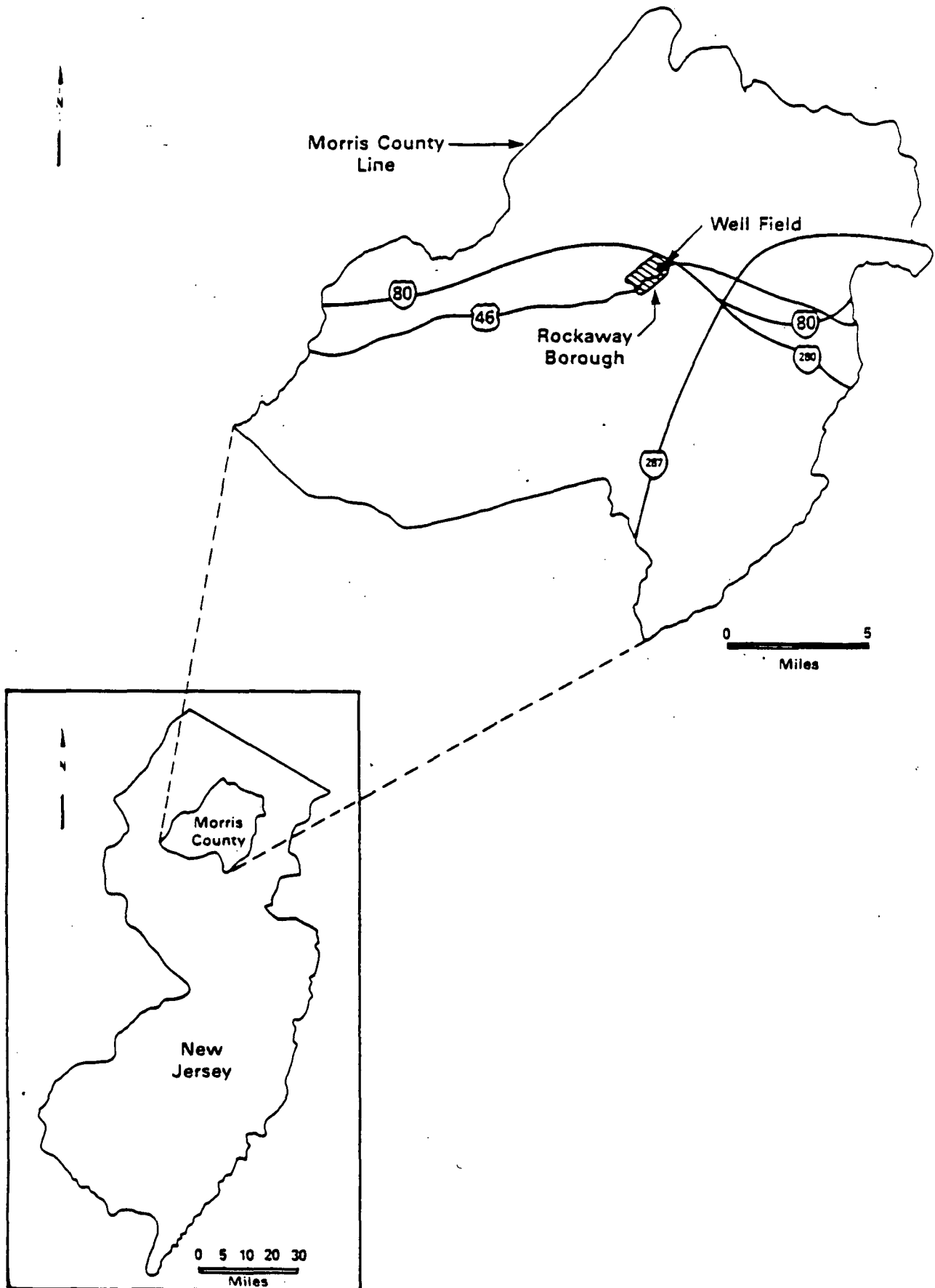
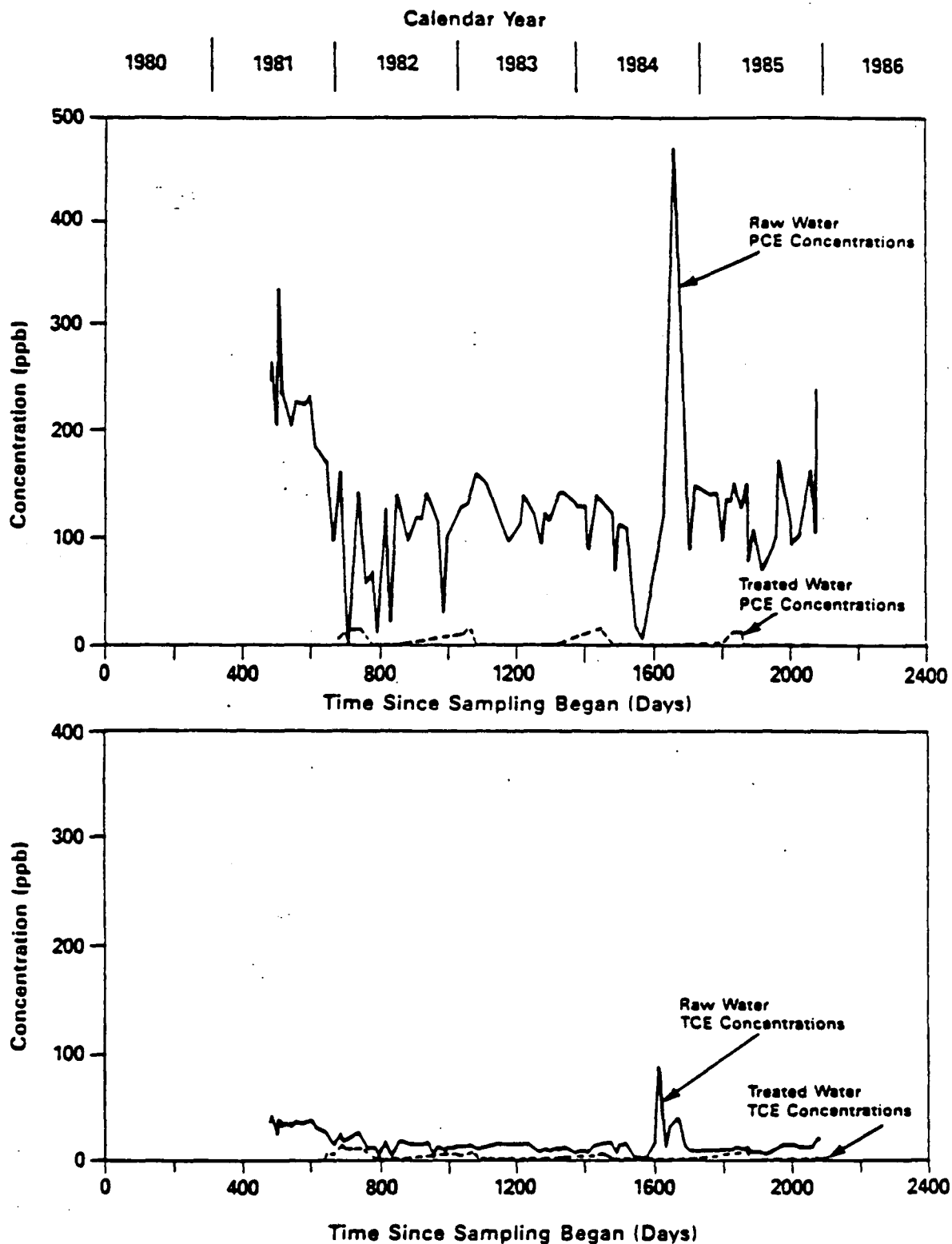


Figure 1 Location of Well Field Site  
in Rockaway Borough, Morris County, New Jersey



Data from Borough of Rockaway Sampling Program (1980-1985);  
Laboratory Analyses Conducted by Industrial Corrosion  
Management Incorporated. Treatment System Startup on 7-7-81.

**Note:**

Sampling of blended raw water began  
approx. 480 days following the beginning  
of the Rockaway Sampling Program.

**Figure 2 Contaminant Concentrations in Drinking Water  
Before and After Activated Carbon Treatment**

Table 1

CONCENTRATION RANGES OF VOLATILE ORGANIC COMPOUNDS DETECTED  
IN ROCKAWAY BOROUGH WATER SYSTEM<sup>1</sup>

Contaminant	CONCENTRATIONS IN PARTS PER BILLION (ppb)					
	WELL NO. 1	WELL NO. 5	WELL NO. 6	RAW WATER	TREATED WATER	WQC <sup>2</sup>
Trichloroethylene (TCE)	1.0-9.7	0.5-76	5.7-172	1.0-41.2	ND-14.8	2.7
Tetrachloroethylene (PCE)	61.6-568	2-169	5-678	1.5-335	ND-25.4 <sup>3</sup>	0.8
1,1,1-Trichloroethane	<1-9	<1-5	<1-7	0.5-1.8	ND-0.86	18,400
Trans-1,2-dichloroethylene	3.1-2.0	5.9-23.9	0.9-8.8	0.08-3.0	ND-1.5	-
Trichlorofluoromethane	-	-	4.2-27.3	-	-	0.19 <sup>4</sup>
Chloroform	ND-6	<1-27.7	ND-8	-	-	0.19
Carbon tetrachloride	1.0	-	<1	-	-	0.40
Benzene	8.6	0.8	-	-	-	0.66
Methylene chloride	ND-2.0	ND-2.0	ND	-	2.5	-
Chlorobenzene	5.1	1.3	-	-	-	-
1,1,1-Dichloroethylene	-	-	0.9	-	-	0.033
Bromodichloromethane	<1	-	<1	-	-	0.19 <sup>4</sup>
1,1,2-Trichloroethane	-	-	-	-	4.3	0.6

<sup>1</sup>From analytical reports from: Hackensack Water Company Analytical Laboratories, Orandell, New Jersey; Industrial Corrosion Management, Inc., Randolph, New Jersey; New Jersey Department of Environmental Protection.

<sup>2</sup>WQC = Federal Water Quality Criteria 10<sup>-6</sup> increased cancer risk, Federal Register, November 28, 1980, Part V.

<sup>3</sup>Detectable concentrations of tetrachloroethylene and/or trichloroethylene in treated water indicate that the granular activated carbon adsorption medium within the treatment units needs to be replaced (i.e., is "spent"). Granular activated carbon has been replaced in April 1982, February 1983, March 1984, April 1985, and April 1986.

<sup>4</sup>Total halomethanes.

ND = not detected.

- = data not available (may mean not detected, not clear in the reference reports).

As these wells provided virtually all of the water utilized by the public within the Borough and also supplied users in Rockaway and Denville Townships, NJDEP directed the Borough of Rockaway to: (1) give immediate preference to the use of Well No. 5, and to use Well No. 6 as a backup source, and Well No. 1 for peaking purposes only; (2) provide an acceptable treatment technique; and (3) sample each well monthly and analyze for volatile organics. Between March 1980 and June 1981, groundwater samples from the producing wells were tested approximately once a month and the contaminant levels quantified. Concurrent with the testing of well water samples, water from various points of usage within the Borough was sampled and analyzed. Well No. 1 was removed from the distribution system in September 1980 and a water emergency was declared on February 28, 1981 when Well No. 6 showed high concentrations of PCE and TCE. Residents were advised to discontinue using tap water for drinking and cooking and temporary drinking water supplies were made available to the public in tank trucks provided by the National Guard.

In general, initial PCE concentrations were highest at Borough Well No. 1 (up to 568 ppb), but declined markedly after pumping was stopped in 1980. Approximately coincident with the shutdown of Well No. 1, PCE concentrations rose dramatically in Well No. 6, rising from an average pre-shutdown concentration of approximately 15 ppb to a post-shutdown peak concentration of 678 ppb. PCE concentrations in Well No. 5 (up to 400 ppb) were variable and showed a more gradual increase over time than in the other Borough wells. TCE concentrations were generally low (less than 10 ppb) in Well Nos. 1 and 5, with the exception of a 76 ppb peak observed in Well No. 5 in August 1980. TCE concentrations in Well No. 6 were substantially higher and more persistent (5.7 to 172 ppb) than those observed in Well Nos. 1 and 5 (Figure 2).

Water samples collected from various points in the Borough water distribution system before water treatment was implemented roughly followed the trends observed in the well samples. PCE concentrations fluctuated over time between 6 and 473 ppb. Contaminant concentrations in untreated water samples peaked during September and October of 1984, when PCE concentrations rose to approximately 473 ppb. As observed in the well samples, TCE was consistently present, varying between 2 and 89 ppb.

The Borough of Rockaway constructed a three-bed granular activated carbon adsorption system during the water emergency period, with the assistance of Calgon Corporation. The system began treating raw water pumped from the Borough wells in July 1981. The water emergency was lifted when chemical testing indicated that total concentrations of volatile organic compounds had been reduced to levels below 100 ppb, the limit established by the State of New Jersey.

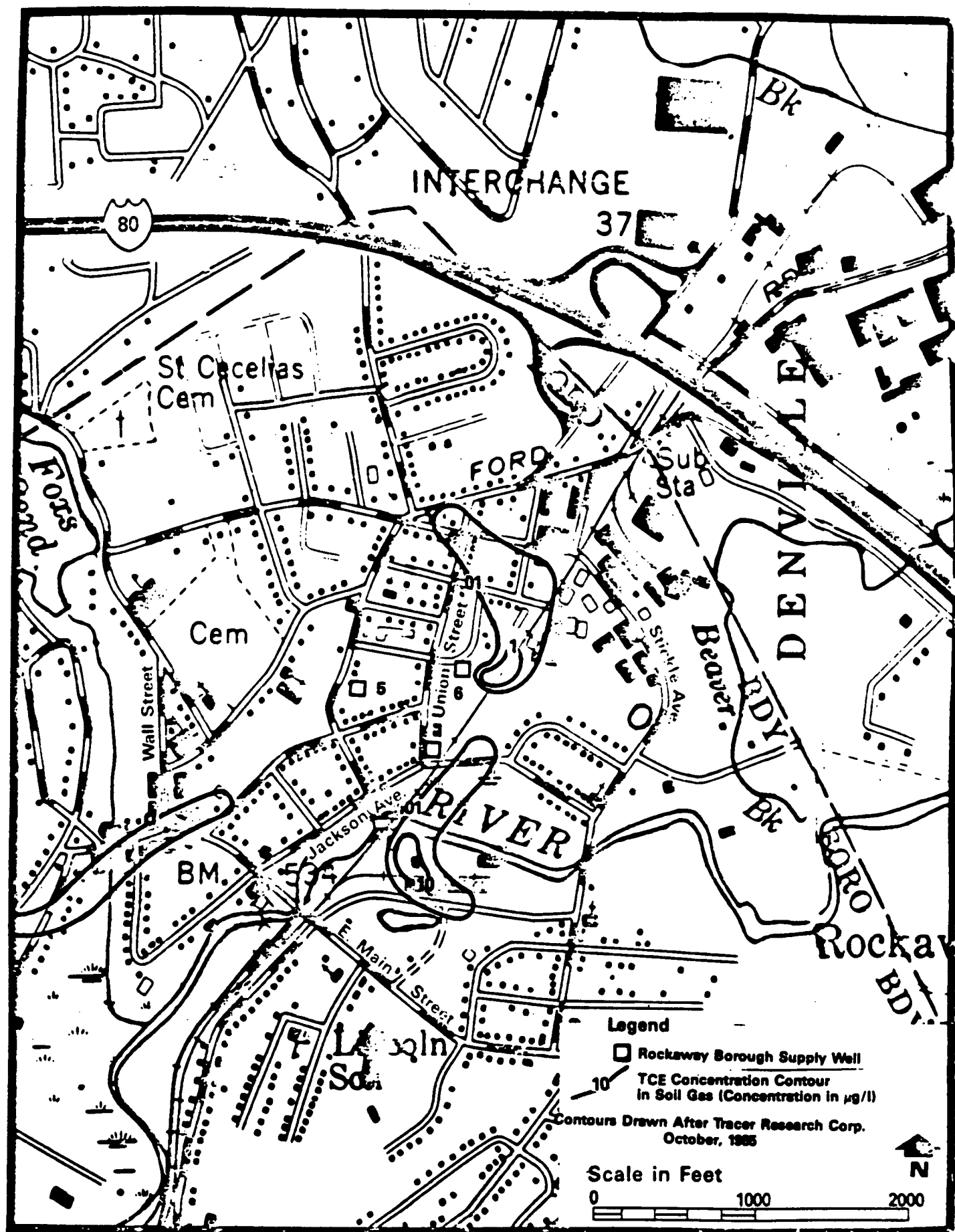


Figure 3 Soil Gas Concentration Contours for TCE

**Figure 4 Soil Gas Concentration Contours for PCE**

Each of the three adsorbers is 10 feet in diameter and 20 feet high and is filled with approximately 20,000 pounds of granular activated carbon. When the carbon in any one of the three adsorbers becomes saturated with impurities (usually after 10-12 months in service), the adsorber is taken out of service and the spent carbon is replaced with virgin Filtrasorb 300 activated carbon. The spent carbon is then transferred as a slurry under air pressure to a trailer for removal from the facility. This system has effectively reduced contaminant concentrations in the finished water to below 1 ppb.

Since the discovery of contamination in the Rockaway Borough Well Field in 1980, water quality monitoring of water pumped from the supply wells has been conducted by the NJDEP and by the Borough of Rockaway. Water samples have been collected predominantly from the presently producing wells and at various points of usage within the Borough, including several of the existing privately operated wells within the Borough. Water quality monitoring of influent and effluent flow through the treatment system is presently being conducted by the Borough of Rockaway on a monthly basis.

The NJDEP submitted the well field contamination problem to the EPA for consideration for funding under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA, also known as Superfund). CERCLA is the Federal program for identifying, investigating, and remediating uncontrolled hazardous waste sites and related public health and environmental problems. Subsequently, EPA proposed that the Rockaway Borough site be placed on the National Priorities List (NPL) of uncontrolled hazardous wastes sites to make it eligible to receive CERCLA funding. Following a public comment period, the site was placed on the NPL in December 1982.

#### CURRENT SITE STATUS

The existing problem in the Rockaway Borough Well Field results from contamination of the water supplied from three production wells by volatile organic compounds (VOCs), predominantly PCE and TCE. Thirteen VOCs have been detected within the Borough's three active wells, as well as within the water supply system and at various usage points within the Borough. Eleven of these compounds have occurred infrequently and at low concentrations. TCE and PCE, however, have shown greater persistence and markedly higher concentrations (Figures 3 and 4). Accordingly, they have been the focus of concern and activities relating to the maintenance of a safe, potable public water supply. Water quality data associated with samples regularly collected by the Borough from various points of usage indicate generally higher concentrations of PCE relative to TCE.

It is not known how long the volatile compounds have been contaminating the aquifer penetrated by the Rockaway Borough water supply wells, but their presence was detected upon the first testing for the substances in 1980. Although the vertical and areal extent of groundwater contamination has not been fully determined, three areas containing potential sources of groundwater contamination by volatile organics have been identified using the technique of soil gas sampling (Figure 5).

Until the sources of groundwater contamination can be defined and their associated hazards assessed, the major concern associated with the contamination at the Rockaway Borough Well Field is consumption of the water by the general public. Approximately 11,000 people receive potable water from the Borough's public supply system.

A granular activated carbon treatment system which was installed in July 1981 has been effectively treating the groundwater prior to distribution. Exposure of the service population to volatile organic contamination has been greatly reduced as a result.

#### ENFORCEMENT

Three discrete areas of contamination have been found but no responsible parties have been positively identified. A supplemental remedial investigation and feasibility study will be conducted to attempt to pinpoint the source or sources of groundwater contamination. In addition, several other investigations are currently being conducted in this regard by the NJDEP outside of the Superfund Program. It is anticipated that information resulting from the above investigations may result in enforcement activities which would attempt to recover costs incurred by EPA, the State of New Jersey and the Borough of Rockaway.

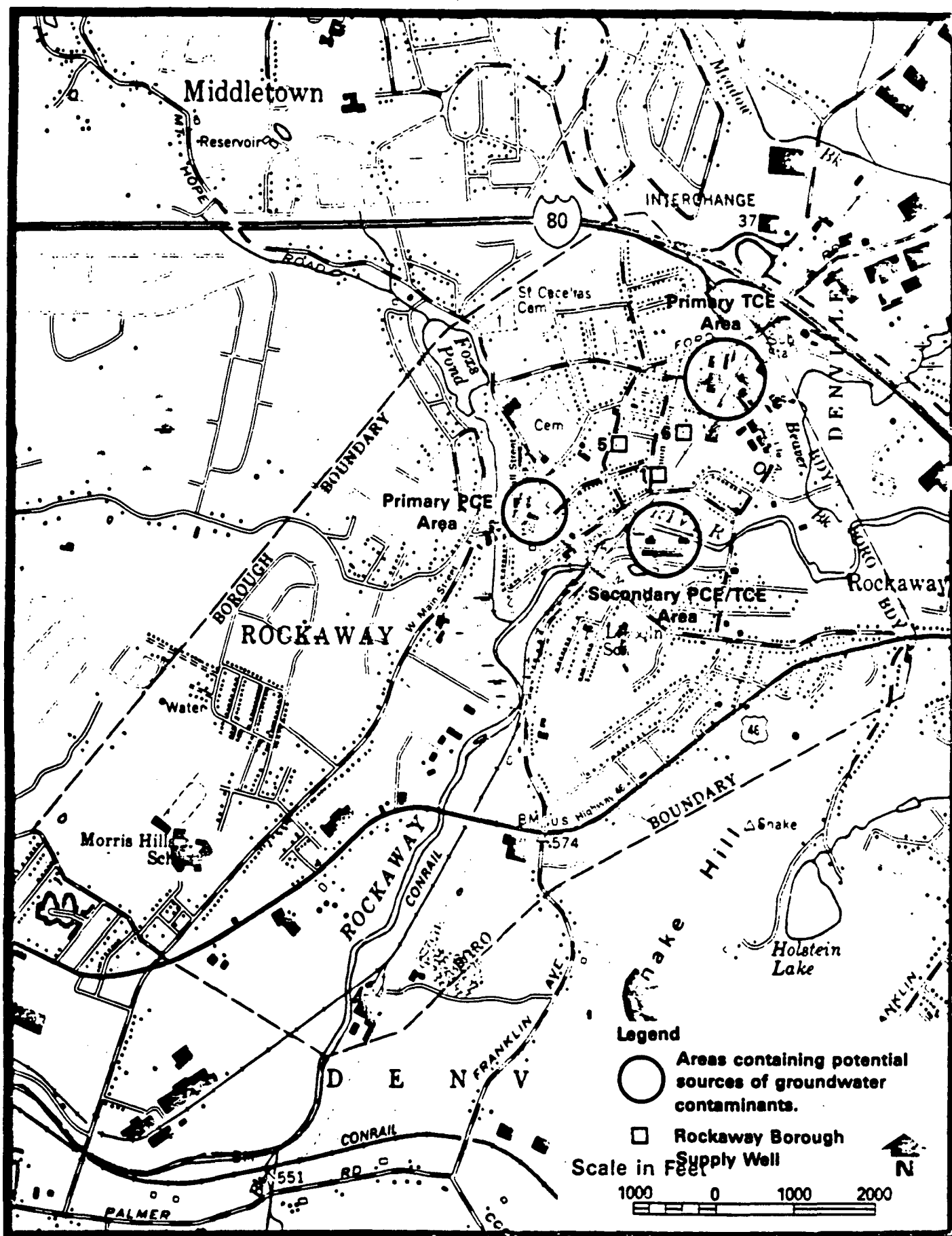
#### ALTERNATIVES EVALUATION

The feasibility study process involves, as a first step, selecting technologies that are appropriate for remedying the public health and environmental concerns associated with a particular site. For the Rockaway Borough Well Field site, one of the remedial objectives is to restore a safe drinking water supply to the affected residences. Consequently, in performing the study, alternatives were evaluated as if there were no treatment unit currently in operation. In comparing costs, however, the capital expenditures of the existing treatment system were considered and incorporated into the cost-effective remedial action recommendation. This Record of Decision does not address any source control measures, as no source has yet been positively identified. The remedial alternatives are outlined in Table 2.

TABLE 2

DESCRIPTION OF REMEDIAL ALTERNATIVES

- Alternative #1 - No Action (No Treatment)
- Alternative #2 - Treatment by Granular Activated Carbon  
- spent carbon either regenerated, incinerated  
or landfilled
- Alternative #3 - Treatment by Packed-Tower Aeration with  
Off-Gas Treatment  
- spent carbon (off-gas filters) either regenerated,  
incinerated or landfilled
- Alternative #4 - Treatment by Packed-Tower Aeration and Polishing  
with Granular Activated Carbon  
- spent carbon either regenerated, incinerated  
or landfilled
- Alternative #5 - Provide a Replacement Well Field:  
- deeper in the glacial aquifer  
- in the lower bedrock aquifer  
- relocated in the glacial aquifer
- Alternative #6 - Purchase Water from Morris County Municipal  
Utility Authority:  
- Denville Route  
- Dover Route



**Figure 5 Areas That May Contain Sources of Contaminants Affecting the Rockaway Borough Well Field**

An operable unit is a discrete response measure that is consistent with a permanent remedy, but is not the permanent remedy in and of itself. This is consistent with the practice of phasing remedial actions at sites that present complex cleanup problems.

The primary objective of this operable unit is to protect public health by providing a reliable supply of safe, potable water to those consumers currently dependent on the Rockaway Borough Well Field.

Numerous operable unit alternatives were developed and evaluated for the Rockaway Borough Well Field in accordance with the NCP and developmental EPA guidance for providing alternate drinking water supplies. The alternatives were grouped into four general categories: 1) no action, 2) new water supply, 3) supplementary water supply, and 4) treatment. The alternatives were evaluated in terms of their ability to protect public health and their technical feasibility and implementability.

The following treatment alternatives were advanced to further screening: air stripping, granular activated carbon adsorption, and air stripping followed by granular activated carbon adsorption. In addition to the ability to protect public health and implementability, these alternatives were also evaluated in terms of complexity, reliability, environmental impact, community impact, compatibility with final remedy, and relative cost.

All three alternatives presented below are designed to achieve the same removal efficiencies and drinking water quality. A Maximum Contaminant Level of 5 ppb for each of the two compounds of concern, trichloroethylene and tetrachloroethylene, was recommended in the November 15, 1985 Federal Register. Influent concentrations were based on a mass balance of the highest concentrations of the various volatile organic contaminants found in each well. This conservative design approach was taken to ensure proper operational conditions and efficiencies regardless of gaps in the data.

#### Alternative 1 - No Action

The results of the Remedial Investigation indicate that significant groundwater contamination exists at the Rockaway Borough Well Field site. This alternative, no treatment of the area's groundwater, does not adequately protect public health and has a negative impact on the environment.

#### Alternative 2 - Granular Activated Carbon Adsorption

This alternative utilizes granular activated carbon (GAC) to meet the objectives of the operable unit. Contaminated water from the wells is pumped through contact units filled with GAC, which adsorbs the volatile organic compounds (VOCs). The GAC

adsorption system would likewise be designed to achieve sufficient removal efficiencies to provide drinking water at less than a  $1 \times 10^{-6}$  excess lifetime cancer risk. Treated water would be pumped directly into the distribution system.

#### Alternative 3 - Air Stripping

This alternative utilizes packed-tower air strippers with off gas carbon treatment to meet the objectives of the operable unit. Contaminated water from the wells is pumped through the air stripping towers to remove VOCs. Treated water would be pumped directly into the distribution system.

The air stripping treatment system would be designed to achieve 5 ppb for both TCE and PCE, the main contaminants frequently detected at Rockaway Borough Well Field. This removal efficiency would provide treated water at less than a  $1 \times 10^{-6}$  excess lifetime cancer risk.

#### Alternative 4 - Air Stripping Followed by Granular Activated Carbon Adsorption

This alternative is a combination of the previous two treatment technologies. Contaminated water is pumped through air stripping units to remove approximately 70 percent of the contamination, and then through granular activated carbon adsorption units for removal of any residual contamination. Treated water would be pumped directly into the distribution system.

As with the previous two alternatives, this treatment system would be designed to achieve sufficient removal efficiencies to provide drinking water at less than a  $1 \times 10^{-6}$  excess lifetime cancer risk.

The three treatment alternatives identified above were further evaluated in accordance with the NCP to determine the most appropriate cost-effective remedy.

Until the second phase of the remedial investigation for the Rockaway Borough Well Field site is completed, the full nature and extent of groundwater contamination will remain unknown. The implementation of the appropriate operable unit as an interim remedy will minimize the contamination of the drinking water provided by Rockaway Borough Well Field and reduce the associated health threat to those dependent on the municipal water supply system. Without the implementation of such a measure, the users of the system would be exposed to an unacceptable health risk. Therefore, the no action alternative is not appropriate, as already discussed.

Alternate water supply, including a surface water system, re-location of the well field both vertically and laterally, and purchasing water from another source all have limited feasibility. Any surface water sources would require a long time to implement and have overwhelming institutional constraints. Any attempt to relocate the well field will likely encounter contamination. There is no known aquifer in the area sufficiently isolated from potential contamination to accommodate a new well field. Neighboring municipal water systems do not have sufficient existing surplus capacities to provide the necessary quantities. The Morris County Municipal Utility Authority is currently expanding its system. Unfortunately, at this time, the Authority does not have any surplus capacity. In addition, the Authority's system is located at the other side of the County. Therefore, only treatment alternatives remain for further consideration.

The remaining three alternatives -- air stripping, granular activated carbon (GAC) adsorption, and air stripping followed by GAC adsorption -- are comparable in regard to several of the screening criteria used to select the appropriate alternatives for the Rockaway Borough Well Field site. The following criteria were utilized in screening these alternatives: ability to protect public health, time required to implement, complexity, technical feasibility, reliability, environmental impact, community impact, ability to meet demand, compatibility with final remedy, and relative cost. The ability to protect public health is of primary importance, followed closely by the time required for implementation. Table 3 summarizes the detailed cost comparison of these three alternatives.

#### COMMUNITY RELATIONS

On August 18, 1986, NJDEP made the draft RI/FS report available for public comment by placing four copies in public repositories at the Morris County and Rockaway Borough Libraries, the Rockaway Borough Municipal Building and the NJDEP offices in Trenton. The public was notified of the availability of the documents by letter to all those on the Rockaway Borough mailing list. A public meeting to discuss the results of the RI/FS was held in Rockaway Borough on August 28. The public comment period extended from August 18 to September 10, 1986. The written public comments and consequent responsiveness summary are appended to this document.

#### CONSISTENCY WITH OTHER ENVIRONMENTAL LAWS

The applicable law that regulates and protects public drinking water supplies is the Federal Safe Drinking Water Act. New standards have recently been promulgated in the November 15, 1985 Federal Register. These new standards have been considered while evaluating the existing carbon treatment unit and its operation.

## RECOMMENDED ALTERNATIVE

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR Part 300.68(j)) states that the appropriate extent of remedy shall be determined by the lead agency's selection of the remedial measure which the agency determines is cost-effective (i.e., the lowest-cost alternative that is technologically feasible and reliable and which effectively mitigates and minimizes damage to and provides adequate protection of public health, welfare, and the environment). Based on the evaluations of cost and effectiveness for each proposed alternative, the comments received from the public, and applicable State and Federal environmental requirements, Alternative 2 has been determined to be the cost-effective alternative.

The recommended alternative is considered an operable unit remedial action. Operable units, as defined in Section 300.68 (e)(1) of the NCP, are similar to initial remedial measures (IRMs). This operable unit remedial action for provision of an alternate water supply is appropriate because there was contamination of drinking water as measured at the tap. The objective of this action is to provide those consumers currently dependent on the Rockaway Borough Well Field for drinking water with a reliable supply of safe, potable water until the final remedial measure(s) may be implemented. A supplemental groundwater RI/FS will examine appropriate final response action(s).

The recommended alternative provides for continued operation of the existing carbon treatment unit for 1.26 mgd (million gallons per day) of contaminated groundwater. This capacity represents the average rate of potable water distribution. The recommended alternative has been designed and constructed to allow flexibility relative to which wells to treat. Pumping strategies therefore can be optimized. The carbon treatment system has been designed to achieve removal of both trichloroethylene (TCE) and tetrachloroethylene (PCE), the critical contaminants, to 5 ppb and consists of three carbon adsorption units. This removal efficiency would provide drinking water at less than a  $1 \times 10^{-6}$  excess lifetime cancer risk. The carbon treatment system is designed to treat water with influent VOC concentrations based on the highest concentrations of contaminants detected individually in each of the wells to be treated plus a safety factor. Performance of the carbon system should be frequently monitored to ensure that removal efficiencies required to protect public health are maintained.

The capital cost of this alternative is considered to be zero in the cost-effective analysis since the treatment system has been installed and the related costs incurred by the Borough (\$504,600) in the past. The operation and maintenance (O&M) costs are estimated to be \$74,800 per year for electric power, operating labor, and carbon regeneration. The 30-year present worth for the recommended alternative is \$705,400.

Table 3

<u>Summary of Costs</u>			
	<u>Capital Cost*</u>	<u>Annual Cost*</u>	<u>Present Worth**</u>
Alternative #1 No action	0	9,300	88,000
Alternative #2 (assuming no system is in place)			
Treatment by granular activated carbon, with spent carbon:	504,600***		
- regenerated		74,800	1,210,000
- incinerated		281,400	3,157,800
- landfilled		95,200	1,402,300
Alternative #2 (considering capital costs are sunk costs)			
Treatment by granular activated carbon, with spent carbon:	0		
- regenerated		74,800	705,400
- incinerated		281,400	2,653,200
- landfilled		95,200	897,700
Alternative #3			
Treatment by packed-tower aeration and gas phase carbon, with spent carbon:	524,800		
- regenerated		40,700	908,200
- incinerated		51,300	1,008,700
- landfilled		45,000	948,600
Alternative #4			
Treatment by packed- tower aeration and carbon polishing, with spent carbon:	925,900		
- regenerated		45,500	1,354,600
- incinerated		129,000	2,142,300
- landfilled		53,400	1,429,500

Table 3 (Continued)

Alternative #5

Provide a replacement well field:

- deeper in glacial aquifer	582,000	9,300	669,900
- in bedrock aquifer	2,252,000	9,300	2,340,000
- relocated in glacial aquifer	1,275,200	9,300	1,363,200

Alternative #6

Purchase water from MCMUA

- Denville Route	790,300	335,200	3,950,600
- Dover Route	476,700	320,200	3,495,600

\*1980 costs

\*\*Discount rate of 10 percent; present worth annuity factor for 30 years = 9.427

\*\*\*Represents an adjusted estimate of actual cost incurred by Rockaway Borough for installation of the treatment system.

### Operation and Maintenance

The operation and maintenance will continue under the supervision of and expense to the Borough of Rockaway. The carbon will have to be changed more frequently to comply with the new Safe Drinking Water Standards for TCE and PCE, the contaminants of concern at the site.

### SCHEDULE

Scheduling for this remedial action is a moot point, since a granular activated carbon system has already been installed by the Borough of Rockaway.

### Future Actions

A supplemental RI/FS will be conducted to identify the source(s) of contamination and define the boundaries of the contaminant plume, along with appropriate, additional response actions.

ROCKAWAY BOROUGH WELL FIELD SITE  
Rockaway Borough, Morris County, New Jersey

RESPONSIVENESS SUMMARY

Public Comment Period:  
August 18, 1986 to September 10, 1986

This community relations responsiveness summary, prepared as part of the Record of Decision (ROD), is divided into the following sections:

I. Background on Community Involvement and Concerns

This is a brief history of community involvement, activity and concerns in Rockaway Borough regarding the contamination of the well field and a summary of activities conducted by the New Jersey Department of Environmental Protection (NJDEP) and the Environmental Protection Agency (EPA) prior to and during the remedial investigation and feasibility study (RI/FS).

II. Summary of Major Questions and Comments Received During the Public Comment Period and NJDEP/EPA Responses

This includes a summary of major questions and comments directed to NJDEP and EPA during the August 28, 1986 public meeting on the results of the feasibility study, as well as written comments sent to NJDEP during the public comment period. Responses by NJDEP and EPA are included in this section.

III. Remaining Concerns

This section briefly outlines the remaining community concerns which NJDEP and EPA should be aware of in conducting the next phase of the investigation at the Rockaway Borough Well Field site.

List of Attachments

- A - Attendance Sheet, May 9, 1985 Public Meeting
- B - Information Package, May 9, 1985 Public Meeting
- C - Attendance Sheet, August 28, 1986 Public Meeting
- D - Information Package, August 28, 1986 Public Meeting
- E - Mayor Smith's Written Comments on the RI/FS
- F - EPA letter of response to Mayor Smith's Comments

## I. Background on Community Involvement and Concerns

The public first became aware of the Rockaway Borough Well Field site in September 1980 when Borough officials announced that one of three municipal wells was being closed due to contamination and that residents should reduce their water consumption by one-third. Initially, some residents objected to the fact that Borough officials had known of the contamination for many months. The contamination and the limited water supply continued to be issues of concern through the fall of 1980.

The Borough received national media attention when a water emergency, which lasted four months, was declared in February 1981. Information was disseminated by the Borough through the media, public meetings, publication of a newsletter, house-to-house distributions by the Fire Department and Boy Scouts, extensive telephone contacts, and public relations by the firm hired to install the water treatment system.

Public interest declined substantially once the system was installed. The remaining public concerns involve locating the source(s) of contamination and the continuing financial burdens to the community associated with the past installation and future operation and maintenance of the ground water treatment system.

On May 9, 1985, NJDEP/EPA held a public meeting to discuss: (1) background history of the site and (2) an overview of the remedial investigation and feasibility study (RI/FS) workplan. Notification of the meeting was accomplished through press releases and direct mailing of notices to local, State and Federal officials, as well as concerned citizens. Approximately 25 people attended the meeting (see Attendance Sheet, Attachment A). An information package was distributed to all who attended (see Attachment B). Issues and concerns raised during the meeting follow:

- The expenditures on the treatment system incurred by the Borough
- Indiscriminant dumping by local industrial companies
- Contamination of all three municipal supply wells
- Is the source continuing to release contamination into the ground water?
- Potential health risks associated with consumption of the water
- Can a source be positively identified? Will the scope of the study be expanded if necessary to identify a source?
- Adequacy of sampling and testing methodologies
- Surface water contamination

II. Summary of Major Questions and Comments Received During the Public Comment Period and NJDEP Responses

On August 18 1986, the RI/FS report was placed in the following repositories for review: Rockaway Borough Library, Morris County Public Library in Whippany, Rockaway Borough Hall, and NJDEP, Division of Hazardous Site Mitigation in Trenton. NJDEP issued press releases and notices regarding the availability of the RI/FS at these repositories.

On August 28, 1986, NJDEP and EPA held a public meeting to discuss the results of, and receive comments/questions regarding the RI/FS. Notification of the public meeting was accomplished through press releases and direct mailing of notices to local, State and Federal officials, as well as concerned citizens. Approximately 25 people attended the meeting (See Attendance Sheet, Attachment C). Information packages were distributed to everyone who attended, (see Attachment D). The public comment period extended from August 18, 1986 through September 10, 1986. In addition to the comments made during the public meeting, one letter was received by NJDEP during this period (see Attachment E).

During the meeting, Kevin Boyer of Science Applications International Corporation (SAIC), NJDEP's consultant, presented the remedial action alternatives considered in the feasibility study. These included:

- ° No action;
- ° Continuation of treatment through the existing granular activated carbon (GAC) system with modifications;
- ° Treatment with the existing GAC system in combination with a packed tower aeration system;
- ° Treatment by packed tower aeration;
- ° Installation of new water supply wells, the location and/or depths of which would be selected with the intention of avoiding the plume of contaminants; and
- ° Purchase of water from another municipal supplier.

Dr. Merry Morris, Assistant Director of the Division of Hazardous Site Mitigation, then discussed NJDEP's recommended remedial alternative which included: maintaining the existing GAC treatment system, with modified operations to ensure compliance with current Safe Drinking Water Act standards; regeneration of spent carbon off-site; and the continuation of the remedial investigation to identify the source(s) of the contamination.

The following is a summary, organized by subject, of all major questions and comments received by NJDEP and EPA at the public meeting and during the comment period.

#### Source of Contamination

The primary concern expressed by both local officials and residents was locating the source of the contamination. The citizens of the Borough are extremely concerned about the contamination of their potable water supply and the financial effects on their community, both immediate and long-term. Several residents and officials, including Mayor Smith, expressed some disappointment that the source had not been located in this phase of the RI/FS. For the most part, however, the community clearly appreciates the importance and complexity of identifying the contaminant source, and doing so as expeditiously as possible. The following questions and comments pertaining to this issue were raised:

Question: What do you think your chances of finding the source(s) of contamination are?

Response: At the present time, the study has identified general areas where these sources may be located and we are reasonably assured that we will be able to identify the source(s). NJDEP/EPA plan to review the industrial and commercial facilities which operate within the areas of suspected contamination in the next phase of the investigation.

Question: The Industrial Survey conducted by the Borough was not able to locate any industries in the Borough using PCE (tetrachloroethylene) and TCE (trichloroethylene). Are you inferring that they are coming from a dump?

Response: The source need not be actively producing chemicals now. The possibility of an abandoned source (i.e. a filled in lagoon, buried drums, etc...) still exists. The Rockaway Borough Board of Health stated the survey did not indicate that industries were not using PCE or TCE, only that they were not abusing or misusing these chemicals.

Question: Do you have information on ground water flow?

Response: It is known that the well field controls the direction of ground water flow in the area (i.e. the well literally pulls the ground water towards itself), but it is not known how far this influence extends. The lateral spread of contamination is also unknown and there is a high degree of contamination overall throughout this area, including Rockaway, Dover, and Denville Townships.

Q: Wouldn't it be advantageous to try to locate a new uncontaminated well field or drill deeper wells rather than using all of our economic resources trying to find the source?

R: Our geologists advise us that the probability of locating a "clean" well in this area is highly unlikely. Again, many neighboring towns are experiencing similar problems and consequently are treating their water supplies.

Q: Do Dover and Denville use the same aquifer as Rockaway Borough?

R: The aquifer, though made up of similar deposits, is not the same; nor is the contamination in the Dover and Denville systems the same as that present in the Rockaway Borough aquifer.

Q: Why is there no mention in the recommended alternative of removing the source?

R: The source(s) is unknown. Once identified, a supplemental feasibility study will be conducted which will consider containment, excavation and/or treatment of the source(s). At this time, it is premature to talk about source control measures.

Q: If the Borough itself was responsible i.e., it is a Borough dump under the park that is causing the contamination, who would pay for the cleanup, NJDEP and EPA or the Borough?

R: If this were the case, the existing Superfund legislation establishes a liability of 50/50 between the local/State governments and the Federal government for the costs of remedial actions.

#### Nature of Contamination

Closely related to the issue of locating the source of the contaminants is the issue of defining the nature of the contamination. Citizens and officials asked numerous questions regarding the contaminants themselves and any related contaminant patterns.

Q: Do we have enough data to say whether the contamination is maintaining a steady concentration rate?

R: The concentrations do fluctuate, as outlined in Figure 2 of the ROD, Contaminant Concentrations of Drinking Water Before and After Activated Carbon Treatment, (this graph was passed around at the meeting). NJDEP/EPA or the Borough have not been able to correlate the peaks and declines with any trend in rainfall, season, etc...

Q: Was any correlation found between the water table and the concentrations of contaminants?

R: No

Q: Can you explain the drop in the contaminant level in Well #1 since no one has been using it?

R: Well #1 has not been in operation since 1981. The contamination is drawn in the direction of the operating wells, and away from the non-operating wells.

Q: Would reopening Well #1 relieve the contamination in the other wells?

R: No, because the contamination would be drawn to the operating well. Any change in the pumping scheme would not relieve the contaminant problem.

Q: The level of PCE peaked in 1984 at 1100 parts per billion (ppb). Does this indicate that the Borough can expect another peak sometime in the future?

R: A slug of contaminants can occur at any time and, therefore, a "peak" is always possible. A carbon system of this type can adequately treat a slug of contamination. In addition, the fact that there are two wells in operation would help to provide some dilution prior to treatment, thereby dampening any peaking effect.

Q: If contaminants flowing into the aquifer were to cease, how long would it take to remove all of the contamination from the aquifer?

R: There is no estimate as to how quickly the aquifer could cleanse itself. This would depend on several factors, including the amount of contamination present and the clay content of the soils. Certain contaminants may be bound in clay and could be released over a long period of time.

Q: How would contaminants be released from the clay?

R: As the ground water in contact with the clay became cleaner, the trend of contaminants would be to flow from the clay and soil into the water. The flow would be from higher contaminant concentrations to lower ones until an equilibrium condition is reached.

Q: Have you any idea of the amount of contamination? Could it be a number of buried drums; how many gallons a day are being released?

R: We do not have sufficient information to estimate the amount of contamination that exists. For organic solvents like PCE, two or three drums of pure chemical could contaminate a ground water system such as this.

Q: Could you comment on the high concentrations of metals contained in the stream sediments? Are they indicative of past practices?

R: The concentrations are not of concern. In most cases, they are in the ppb range. However, 100 ppb in sediment would not be as much of a concern as 100 ppb in potable water. This concentration in stream sediments is not uncommon in developed areas.

Q: What effect will the Environmental Cleanup Responsibility Act (ECRA) have on people who own businesses within the encircled areas on the map?

R: The purpose of ECRA is to ensure that any business being transferred or sold from one owner to another is investigated and declared environmentally clean prior to the transaction. Under the provisions of this law, any business in the three areas under consideration for sale would be investigated under ECRA, regardless of our investigation under Superfund.

Q: Since 1981, I can not drink the water. Even with the treatment system, it has an odor and I don't drink or use it; I use bottled water. What can be done?

R: Based on the RI/FS report and other data, the water being supplied by the Borough is of good quality.

#### Cost Issues

In regard to the State of New Jersey, payment to the Borough to cover capital costs of the water treatment system can not be provided under the New Jersey Spill Compensation Fund (Spill Fund). The Borough was advised of the contamination problem in 1980, installed the GAC system in 1981, but did not submit a claim to the State until 1985, which was past the deadline for submitting a Spill Fund claim.

In addition, Exxon-vs-Hunt makes it unclear whether the State can properly utilize Spill Fund monies to pay for O&M (operation and maintenance) in this particular instance. In order not to prejudice the State's position in the remand of that case, the O&M cost will not be paid from the Spill Fund.

In regard to EPA, there is a "window" period under CERCLA extending from 1978 to 1980. Under certain circumstances, costs incurred during this time period may be counted as a credit towards the costs of future response actions at a site. Prior approval, on the other hand, addresses reimbursement more directly (rather than a credit towards future costs). EPA can pre-authorize or provide approval of specific remedial actions with the intent of reimbursing the costs of such actions. The Borough had not requested approval prior to installing the water treatment system. In fact, it was not until 1983 that Borough officials first inquired about the possibility of reimbursement.

Q: Mayor Smith commented that the Borough was not informed, early on, that it could apply for Spill Fund monies. When Borough officials became aware of this, they did apply, however, the deadline had passed. The Borough is not looking for an "outright gift" but would be interested in a low interest loan.

R: NJDEP (Division of Water Resources) currently has a loan program for water supplies. However, this program was not in existence when the Borough's water treatment system was installed. Under this program, an application would have to be filed before the installation of such a system. Also, please note Attachment F, EPA letter of response to Mayor Smith's letter.

\*Q: We are a town of 37 percent lower income families. Will we be required to spend, by my estimation, \$100,000 per year to change the carbon?

R: The recommendation to change the carbon in the GAC system more frequently is a result of updated Safe Drinking Water Act standards. Every municipal water system will be required to comply with these new standards. As a result, these costs should be borne by the utility.

\*Q: When we discovered the contamination, we reached out to the government for help and we hit a brick wall. We had to solve our own problem and now we're being penalized. Where was the information available about the time limitation to apply for reimbursement under the Spill Fund? I want to know where the lack of communication was five years ago in dealing with this problem.

**STEPS INVOLVED IN A MAJOR HAZARDOUS WASTE SITE CLEANUP**

(1) Site Identified and Referred	(2) Initial Site Investigation	(3) Secure Site	(4) Site Analysis Evaluation and Assessment
(5) Prioritization	(6) Determination of Lead	(7) Community Relations Plan Activated	(8) Signing of Contract or Cooperative Agreement
(9) Hiring of Contractor for Remedial Investi- gation/Feasibility Study	(10) Preparation of Feasibility Study	(11) Selection of Remedial Action Alternative	(12) Hiring of Contractor for Engineering Design
(13) Hiring of Construction/ Removal Cleanup Contractor	(14) Cleanup Evaluation	(15) Contractor Audit and Close out	

ATTACHMENT C

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIVISION OF HAZARDOUS SITE MITIGATION

Public Meeting to Discuss  
Results of Remedial Investigation/Feasibility Study

at  
Rockaway Borough Wellfield Site  
Thursday, August 28, 1986  
7:30 P.M.  
All Purpose Room - Washington School  
Academy Road  
Rockaway, NJ

PLEASE PRINT

<u>NAME</u>	<u>AFFILIATION</u>	<u>ADDRESS</u>
1. Joseph LeSar		83 Chestnut Terrace Rockaway
2. Jacqueline Koury	Bd. of Health	18 Hibernia Ave. Rockaway 07866
3. Jean Ruster	Bd. of Health	12 Rockaway Ave. Rockaway 07866
4. Herbert Marx	Bd. of Health	80 Hambley Rd Rockaway 07866
5. Betty Wierke	(Corydon Manor Hall)	22 N. Sussex St. Dover 07801
6. Daniel J. Van Alst	Sarac River Coalition	
7. Joseph Rossi	ROCKAWAY WATER DEPT.	20 MAPLE AVE. ROCKAWAY 07866
8. W. Beeman		121 Slogland Rockaway 07866
9. Rose Modato		59 Beach St. Rockaway 07866
10. Alicia C. Purwin		516 New St. Rockaway 07866
11. Mr + Mrs Purwin		516 New St. Rockaway 07866
12.		
13.		

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIVISION OF HAZARDOUS SITE MITIGATION

Public Meeting to Discuss  
Results of Remedial Investigation/Feasibility Study

at  
Rockaway Borough Wellfield Site  
Thursday, August 28, 1986  
7:30 P.M.  
All Purpose Room - Washington School  
Academy Road  
Rockaway, NJ

PLEASE PRINT

<u>NAME</u>	<u>AFFILIATION</u>	<u>ADDRESS</u>
1. Mr. & Mrs. R. DeBaer		34 Crestwood Rd. Rockaway
2. Patrick P. Dineen		131 Hill St Rockaway
3. Mr. & Mrs. W. W. Warner		55 Elycroft Ave., Rockaway N.J.
4. Sal Boocamenti	USEPA	
5. Diane Nelson	RD 20 Box 254	Boonton 07005
6. Michelle Harkins		Dillie Road
7. Mary E. Rockwood		Cornellwoman
8. Rustin Federico		NJ Advance
9. Pa. Lu		11 Jay St
10. James Derratus		L. J. Pirelli Assoc.
11.		
12.		
13.		

ATTACHMENT D

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIVISION OF HAZARDOUS SITE MITIGATION

Public Meeting  
on  
Results of  
Remedial Investigation/Feasibility Study

at  
Rockaway Borough Wellfield Site  
Rockaway Borough  
Morris County  
Thursday, August 28, 1986  
7:30 P.M.  
All Purpose Room  
Washington School  
Academy Street  
Rockaway, NJ

AGENDA

- |   |   |
|---|---|
| 1. Opening Remarks;<br>Introduction of NJDEP Personnel<br>and Contractor: Science<br>Applications International<br>Corporation (SAIC) | Dr. Merry L. Morris, Assistant Director<br>Division of Hazardous Site Mitigation                      |
| 2. Overview of Past History<br>and Current Situation  | David Paley, P.E., Site Manager<br>Bureau of Site Management<br>Division of Hazardous Site Mitigation |
| 3. Presentation:<br>Remedial Investigation/<br>Feasibility Study  | Kevin Boyer, P.E., Project Manager<br>SAIC  |
| 4. NJDEP Recommended<br>Alternative   | Dr. Merry L. Morris   |
| 5. Comments and Questions   | The floor will be open for comments and<br>questions at this time.                                    |



STATE OF NEW JERSEY  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

FACT SHEET

Public Meeting  
on  
Results of  
Remedial Investigation/Feasibility Study  
at  
Rockaway Borough Wellfield Site  
Rockaway Borough  
Morris County  
August 28, 1986

Site Description:

The three contaminated Rockaway Borough municipal wells are located in the downtown area of the Borough within 1,200 feet of the Rockaway River. The general area under investigation extends from the wellfield to Interstate Highway 80. It includes the wellfield itself, a 40-acre industrial area, residential and commercial areas, some vacant land, an old Borough dump and a small dump within the industrial area. The three wells produce over 1.1 million gallons of water per day and serve approximately 10,000 people.

Elevated concentrations of volatile organics, predominantly trichloroethylene (TCE) and tetrachloroethylene (PCE), have persisted in the wells since their detection in 1980. The source of the contamination is unknown although a number of potential sources have been identified.

Background:

An activated carbon adsorption treatment system, which purifies the contaminated water, was installed in July 1981 and is presently being maintained at the expense of the Borough. The quality of the Borough's drinking water is now well within regulatory requirements, but PCE, TCE and other contaminants remain in untreated ground water.

In August 1983 the United States Environmental Protection Agency (USEPA) drafted a Remedial Action Master Plan and submitted it to the New Jersey Department of Environmental Protection (NJDEP) for review. The NJDEP and USEPA signed a Cooperative Agreement in January 1984 to commit \$330,000 for a Remedial Investigation/Feasibility Study (RI/FS). The Cooperative Agreement was amended in July 1985 to commit approximately \$421,000 for the RI/FS. A contract to conduct the study was awarded to Science Applications International Corporation (SAIC), formerly JRB Associates, of McLean, Virginia. Of 97 New Jersey sites on the National Priorities List, the Rockaway Borough Well Field is ranked 54th in priority.

over...

Status:

The Draft RI/FS was completed in August 1986. This draft report has been available to the public since August 18, 1986 at the following repositories: Rockaway Borough Library, Morris County Public Library in Whippany, Rockaway Borough Hall, and NJDEP, Division of Hazardous Site Mitigation in Trenton. The public comment period will extend until September 10, 1986. Any comments on the study should be submitted to Jeffrey Folmer at NJDEP, Bureau of Community Relations, CN 028, 432 East State Street, Trenton, NJ 08625. After considering all public comments, NJDEP and USEPA will sign a Record of Decision detailing the selected remedial alternative.

Summary of Remedial Investigation/Feasibility Study

The Remedial Investigation included the following activities:

- ° Sampling and laboratory analysis of water samples from existing residential, commercial, industrial and Borough supply wells.
- ° Sampling and laboratory analysis of surface water and sediment samples from Beaver Brook and the Rockaway River.
- ° Sampling and on-site analysis of subsurface soil gases to provide an indication of the presence of PCE, TCE and other volatile organic compounds in underlying ground water.
- ° Drilling and installation of ground water monitoring wells and on-site chemical screening analysis of soil and ground water samples obtained during drilling.
- ° Sampling and laboratory analysis of ground water monitoring wells.
- ° Mapping of ground water flow patterns, evaluating the areal and vertical distribution of contaminants, and identifying areas that are probable sources of contamination.

The results of the Remedial Investigation revealed that:

- ° PCE and TCE remain the primary ground water contaminants of concern. The detected concentrations of PCE are consistently greater than TCE, but both have affected all three Borough wells.
- ° Water withdrawn from the Borough wells remains unacceptable for use as potable water unless treatment to reduce the concentrations of PCE and TCE is maintained.
- ° There are no significant levels of contamination in area surface water, soils or subaqueous sediments.
- ° Contaminants may be emanating from a number of different sources.
- ° PCE appears to have originated from a commercial area approximately one-half mile southwest of the wellfield.
- ° TCE appears to have originated from a light industrial area approximately one-half mile northeast of the wellfield.

- ° Additional investigation is needed to definitively identify the exact sources of the contaminants.

The remedial action alternatives identified are:

- ° Alternative 1: No Action (The Superfund law requires that this alternative be investigated.)

Entails the pumping of contaminated ground water from the operating Borough wells directly into the distribution system without treatment.

- ° Alternative 2: Treatment with a Granular Activated Carbon (GAC) System

Entails the continuation of treatment through the existing GAC system with modifications. The activated carbon would be changed at more frequent intervals in order to meet current and/or pending water quality standards.

- ° Alternative 3: Treatment by Packed Tower Aeration

Entails installing a packed tower aeration air stripping system to reduce concentrations of PCE and TCE in water withdrawn from the existing wells. This includes a gas phase carbon adsorption system to prevent PCE and TCE from being released to the atmosphere.

- ° Alternative 4: Treatment by GAC and Packed Tower Aeration

Consists of a packed tower aeration stripping system operating in combination with the existing GAC treatment system.

- ° Alternative 5: Replacement Well Field

Involves installing new water supply wells, the locations and/or depths of which would be selected with the intention of avoiding the plume of contaminants affecting the existing well field.

- ° Alternative 6: Purchase of Water from Another Municipal Supplier

Includes the purchase of potable water from future suppliers of the Morris County Municipal Utilities Authority through either the Dover Town system or the Denville Township system.

For further information, please contact Jeffrey Folmer of NJDEP's Bureau of Community Relations at (609) 984-3081.

R: Correspondence from EPA to the Rockaway Borough Administrator, dated April 27, 1983, discussed the procedure for claims against CERCLA and also informed the Borough to inquire to the State about the possibility of recovering costs from the Spill Fund. It was not incumbent upon the State to advise municipalities of applicable State laws. When contamination was discovered in Rockaway Borough, the Spill Fund was administered through the New Jersey Department of Treasury. At that time, the only NJDEP office which dealt with Spill Fund issues was the Office of Hazardous Substances Control which would not have been involved in the installation of the water treatment system. The Division of Water Resources, which has pervue over potable water issues, was not involved in utilizing the Spill Fund at that time.

\*Q: Can this system ever attain the values in the criteria table, or are we going to go broke?

R: We feel it is technically achievable with an estimate cost of \$74,000 a year, an increase of \$24,000 over current spending.

Q: When is the next phase of the investigation going to start? Are you at a stand still until funding is allocated? Who will pay for Phase II? How do we go about getting that funded?

R: EPA will perform the additional RI/FS. While we hope to identify the sources of contamination through this effort, we can not forecast with certainty our success. The funding for the effort is dependent on the reauthorization of the Superfund legislation and, consequently, so is any schedule of investigations. Other funding arrangements with the State of New Jersey are being considered if Superfund is not reauthorized shortly. Additionally, if responsible parties are identified, they are liable for the costs of the RI/FS. If necessary, we would seek to recover costs through court action.

Q: Will there be another public meeting?

R: There will be a formal public meeting at the beginning and the end of the new study, and we will also communicate with you while work is in progress.

\* Questions and comments submitted by Borough Council

### III. Remaining Concerns

Borough officials and members of the community are disturbed that neither State nor Federal funding may be available to cover the capital costs and operation and maintenance costs for the existing treatment system. There is a feeling that, although the Borough acted responsibly, it is now being "penalized".

Disappointment has also been expressed because the RI/FS did not identify the source(s) of the contamination. A supplemental study will be conducted in conjunction with a potentially responsible party search in a further attempt to positively identify the source(s) of contamination. If a responsible party is identified, the Borough may seek to recover both capital and operation and maintenance costs.

## ATTACHMENT A

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 DIVISION OF WASTE MANAGEMENT  
 HAZARDOUS SITE MITIGATION ADMINISTRATION  
 Public Meeting to Discuss Commencement of  
 Remedial Investigation/Feasibility Study

at

Rockaway Borough Wellfield Site  
 Thursday, May 9, 1985  
 Washington School - All Purpose Room  
 Academy Street  
 Rockaway, NJ  
 Morris County

	<u>NAME</u>	<u>AFFILIATION</u>	<u>ADDRESS</u>
1.	KEN & ANNE WILLIAMS		12 JOHN ST. ROCKAWAY N. 07866
2.	VI DREFFMAN		15 JOHN ST ROCKAWAY NJ
3.	J. Applequist		13 Wall St Rockaway
4.	B. Hulsebrook		36 W Main St Rockaway
5.	J. Santiveri		142 Rockaway Ave
6.	Steve Anderson		125 Rockaway Ave.
7.	Bita Lattig		16 Ann St.
8.	Chen Fernando		9 James Ct Hackettstown
9.	Mrs Andrew Klusick		39 Van Dyke Ave
10.	Mrs Margaret Baldwin		15 Route Rd Towaco. 07082
11.	Diane Nelson		RD 2 Box 254 Boonton 07001
12.	Darryl & Ray DeBore		34 Chestwood Rd Rockaway
13.	Ralph Ryall		35 Union St. Rockaway

NAMEAFFILIATIONADDRESS

14. Jacqueline Koury 18 Hibernia Ave
15. Jean Ruster 12 Rockaway Ave
16. Berit WENNER 55 Elycroft Ave
17. Denise Montalto-Rook 23 Barnet St
18. Ellen Tullio 60 White Meadow Ave
19. Pai Lu 11 Jay St.
20. John Chvat 29 Broad St. Rockaway N.J.
21. Andrew J. Konecni 63 Hibernia Ave.
22. JOHN WILLER 34 Valley View Rd
23. G. J. GASS 44 Mountain Rd
24. Grace Grete @ 30 Freeman Lane  
City of Morris Cnty. Danville, NJ 07834
25. Len Pooler ?
- 26.
- 27.
- 28.
- 29.
- 30.

ATTACHMENT B

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIVISION OF WASTE MANAGEMENT  
HAZARDOUS SITE MITIGATION ADMINISTRATION

Public Meeting  
on  
Commencement of  
Remedial Investigation/Feasibility Study  
at the  
Rockaway Borough Wellfield Site  
Thursday, May 9, 1985  
8:00 p.m.  
All Purpose Room  
Washington School  
Rockaway, NJ

AGENDA

- 1) Opening Remarks; Ms. Grace L. Singer, Chief  
Introduction of NJDEP Personnel Office of Community Relations  
NJDEP
- 2) Overview of Past History and Mr. David A. Paley, Site Manager  
Current Situation; Introduction Bureau of Site Management  
of Contractor: JRB Associates NJDEP
- 3) Presentation: Remedial Mr. Kevin R. Boyer, P.E.  
Investigation/Feasibility Study Senior Engineer  
JRB Associates
- 4) Questions/Answers



STATE OF NEW JERSEY  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

FACT SHEET

on  
Commencement of  
Remedial Investigation/Feasibility Study  
at  
Rockaway Borough Wellfield Site  
Rockaway Borough  
Morris County  
May 9, 1985

Site Description:

The three contaminated Rockaway Borough municipal wells are located in the downtown area of the Borough within 1,200 feet of the Rockaway River. The general area under investigation extends from the well field to Interstate Highway 80. It includes the well field itself, a 40-acre industrial area, residential areas, some vacant land, public streets and other related urban features, an old Borough dump and a small dump within the industrial area.

Three municipal wells in the Borough were contaminated with volatile organics, including trichloroethylene (TCE) and tetrachloroethylene (PCE), from an unknown source. Currently there is no evidence of surface water contamination, but such a potential exists due to the close proximity of the wells to the Rockaway River. The Rockaway Borough wells serve approximately 10,000 people. The ground water from which the well water is drawn is the sole source of potable water for Borough residents.

Background:

An activated carbon filtration system which purifies the contaminated water was installed in July, 1981 and is being maintained at the expense of the Borough. The quality of the Borough's drinking water is now well within minimum regulatory requirements, but PCE, TCE, and other contaminants remain in untreated groundwater. Monitoring and treatment will continue.

In August, 1983 the United States Environmental Protection Agency (USEPA) drafted a Remedial Action Master Plan (RAMP) and submitted it to the New Jersey Department of Environmental Protection (NJDEP) for review. The NJDEP and USEPA signed a Cooperative Agreement on January 9, 1984 to commit \$330,000 for a Remedial Investigation/Feasibility Study (RI/FS). An amendment to increase this amount of money is pending. A contract to conduct the RI/FS has been awarded to JRB Associates of McLean, Virginia.

Of 97 New Jersey sites on the National Priorities List, the Rockaway Borough Well Field is ranked 49th in priority.

FACT SHEET  
REMEDIAL INVESTIGATION/FEASIBILITY STUDY  
ROCKAWAY BOROUGH WELL FIELD

Purpose of the RI/FS:

- ° Ensure that all contaminants in the groundwater have been identified and that their concentrations are known.
- ° Identify interim measures, if needed, to maintain drinking water quality and to protect the environment.
- ° Identify source or sources of the contaminants.
- ° Determine the most appropriate method of maintaining a high-quality drinking water supply for the Borough in the future.

The Study will include:

- ° Sampling and analysis of water from the three Borough groundwater wells.
- ° Sampling and analysis of water from private wells.
- ° Sampling and analysis of water and sediments from the Rockaway River and two tributary streams.
- ° Drilling and installation of new monitoring wells and further sampling and analysis of groundwater to determine the direction and location of the contaminant source or sources.
- ° Identification of specific alternative measures that can correct the problems.
- ° Evaluation and ranking of the alternative corrective measures.
- ° Selection of the most appropriate corrective measure for review and implementation by NJDEP and USEPA.

What can the public do?

- ° Provide access to private property for field activities, if requested by NJDEP.
- ° Alert NJDEP or Borough officials of past or present dumping of chemicals or any other activity that could contribute to or aggravate the groundwater contamination problem.

## Explanatory Terms

### What is "Superfund"?

Superfund is the common name for the Comprehensive Environmental Response, Compensation and Liability Act enacted by Congress in December 1980. The Act authorized the United States Environmental Protection Agency (USEPA) to provide long-term remedies at hazardous waste sites. The Act established a \$1.6 billion fund, raised over five years (ending in 1985) from special taxes and general revenues, to accomplish the cleanup of these sites.

### What is the National Priorities List (NPL)?

The NPL is a list of the highest priority releases or potential releases of hazardous substances, based upon State and EPA Regional submissions of candidate sites and the criteria and methodology contained in the Hazard Ranking System (HRS), for the purpose of allocating funds for remedial response. Published by USEPA, the NPL is updated periodically.

### What is a remedial investigation?

A remedial investigation involves field activities for collecting information to make decisions in controlling contaminants. The investigation usually includes sampling and analysis of ground water, surface water, soils, and other natural and man-made substances for the presence of contaminants.

### What is a feasibility study?

A feasibility study is an evaluation of alternative remedial measures for controlling the contaminants and selection of the most appropriate alternative.

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF WASTE MANAGEMENT

HAZARDOUS SITE MITIGATION ADMINISTRATION

A Community Relations Program at Superfund Hazardous Waste Sites

As part of the federal/state program of cleanup at hazardous waste sites, a Community Relations Program is conducted to receive local input and to advise local residents and officials about the planned remedial actions at the three major stages of the cleanup: 1) remedial investigation/feasibility study 2) engineering design and 3) removal/treatment/construction. Local briefings and meetings are conducted with elected officials and residents and generally take place at:

- 1) The commencement of a remedial investigation/feasibility study so that local concerns can be addressed early in the process.
- 2) The completion of a feasibility study to discuss the alternative courses of remedial action. There is a 30-day comment period after public presentation of the alternatives during which the feasibility study is available in local repositories.
- 3) The engineering design stage to carry out the mandates of the selected remedial alternative.
- 4) The commencement of the removal/treatment/construction stage to advise of the expected physical remedial action.
- 5) The completion of the remedial action.

In addition to the activities outlined above, there is generally ongoing communication with local officials and residents as required. Depending upon whether the New Jersey Department of Environmental Protection (DEP) or the United States Environmental Protection Agency (EPA) has the lead in remedial action at a site, community relations activities are conducted by the relevant State or Federal agency.

In New Jersey, the DEP Community Relations Program is directed by Grace Singer, Chief, Office of Community Relations (609) 984-3081. At Region II, EPA, the contact person is Lillian Johnson, Community Relations Coordinator (212) 264-2515.

NJDEP RECOMMENDED REMEDIAL ACTION ALTERNATIVE

The following remedial action alternative is being recommended pending comments from the public and USEPA approval:

- ° Maintain the existing granular activated carbon treatment system, with modified operations which would ensure compliance with current drinking water standards; spent carbon will be regenerated off-site.
- ° Continue the investigation in an attempt to positively identify the contaminant source(s) and to further delineate the full extent of contamination.

## Glossary of Terms

Administrative Consent Order (ACO): A binding legal document between a government agency and a responsible party. It is issued by the government in the form of an order that specifies site mitigation activities to be undertaken by the responsible party.

Contract: The legal agreement that outlines federal and state government responsibilities at USEPA-lead sites on the National Priorities List (Superfund sites) as authorized by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

Cooperative Agreement: An agreement whereby USEPA transfers funds and other resources to a state for the accomplishment of certain remedial activities at sites on the National Priorities List (Superfund sites) as authorized by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

Engineering Design (Remedial Design): Following a feasibility study, an engineering design is executed to translate the selected remedy in accordance with engineering criteria in a bid package, enabling implementation of the site remedy.

Focused Feasibility Study (FFS): A limited feasibility study which is performed on a certain aspect of site remediation and/or when more than one remedial measure is considered technically viable for the immediate control of a threat.

Immediate Removal Actions (IRAs): Actions taken to prevent or mitigate immediate and significant risk to human life, health or to the environment.

Initial Remedial Measures (IRMs): Actions that can be taken quickly to limit exposure or threat of exposure to a significant health or environmental hazard at sites where planning for remedial actions is underway.

Monitoring Well: A well installed under strict design specifications that, when sampled, will reveal hydrogeologic data at its point of installation. Monitoring wells are installed at predetermined locations, usually in groups, to gain knowledge of site conditions including: extent and type of ground water contamination, soil types, depth to ground water and direction of ground water flow.

National Contingency Plan (NCP): The basic policy directive for federal response actions under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). It sets forth the Hazard Ranking System and procedures and standards for responding to releases of hazardous substances, pollutants, and contaminants. The NCP is a regulation subject to regular revision.

National Priorities List (NPL): A list of the highest priority releases or potential releases of hazardous substances, based upon State and U.S. Environmental Protection Agency (USEPA) Regional submissions of candidate sites and the criteria and methodology contained in the Hazard Ranking System (HRS), for the purpose of allocating funds for remedial response under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Published by the USEPA, the NPL is updated periodically. Sites on the NPL are commonly called Superfund sites.

NJDEP: New Jersey Department of Environmental Protection.

NJDEP's Management Plan for Hazardous Waste Site Cleanups: The New Jersey plan used to develop a work schedule and a systematic approach to remedial action at hazardous waste sites and discharges of hazardous materials which pose a threat to public health or the environment.

Remedial Action: (e.g., Removal/Treatment/Construction) The physical action consistent with the selected remedy for a release or threatened release of a hazardous substance into the environment. The term includes, but is not limited to such actions as removal, storage, confinement, protection using dikes, trenches, ditches, slurry walls, clay cover, neutralization, cleanup of released hazardous substances or contaminated materials, recycling or reuse, diversion, destruction, segregation of reactive wastes, dredging or excavations, repair or replacement of leaking containers, collection of leachate and runoff, on-site or off-site treatment or incineration, provision of alternate water supplies, and monitoring required to assure that such actions protect public health and the environment.

Remedial Investigation/Feasibility Study (RI/FS): The Remedial Investigation (RI) portion of a RI/FS in remedial planning involves a physical and other investigation to gather the data necessary to determine the nature and extent of problems at the site; establish remedial response criteria for the site; and identify technical and cost analyses of the alternatives. The Feasibility Study (FS) portion of a RI/FS in remedial planning involves a study to evaluate alternative remedial actions from a technical, environmental, and cost perspective; recommend the most effective remedy for adequate protection of human health and the environment; and prepare a conceptual design, cost estimates for budgetary purposes, and a preliminary implementation schedule for that action.

Responsible Party: Any person who has discharged a hazardous substance or is in any way responsible for any hazardous substance which the NJDEP has removed or is removing pursuant to the New Jersey Spill Compensation and Control Act and/or the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

Spill Compensation Fund: The Spill Compensation Fund was created in 1976 with enactment of the Spill Compensation and Control Act and became effective on April 1, 1977. It provides compensation to qualified individuals and businesses that have suffered damages as a result of a discharge of hazardous substances.

Superfund: The common name for the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) enacted by Congress in December 1980. The Act authorized the United States Environmental Protection Agency (USEPA) to provide long-term remedies at hazardous waste sites. The Act established a fund from special taxes and general revenues, to accomplish the cleanup of these sites.

USEPA: United States Environmental Protection Agency.

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIVISION OF HAZARDOUS SITE MITIGATION

A Community Relations Program at Superfund Hazardous Waste Sites

As part of the federal/state program of cleanup at hazardous waste sites, a Community Relations Program is conducted to receive local input and to advise local residents and officials about the planned remedial actions at major stages of the cleanup. Local briefings and meetings are conducted with elected officials and residents and generally take place at:

- 1) The commencement of a remedial investigation/feasibility study so that local concerns can be addressed early in the process.
- 2) The completion of a feasibility study to discuss the alternative courses of remedial action. There is a 21-day comment period on the alternatives during which the feasibility study is available in local repositories.
- 3) The commencement of the removal/treatment/construction stage to advise of the expected physical remedial action.
- 4) The completion of the remedial action.

In addition to the activities outlined above, there is generally ongoing communication with local officials and residents as required. Depending upon whether the New Jersey Department of Environmental Protection (DEP) or the United States Environmental Protection Agency (EPA) is the lead agency in remedial action at a site, community relations activities are conducted by the relevant State or Federal agency.

In New Jersey, the DEP Community Relations Program is directed by Grace Singer, Chief, Bureau of Community Relations (609) 984-3081. At Region II, EPA, the Community Relations Coordinator is Lillian Johnson, (212) 264-2515.

**STEPS INVOLVED IN A MAJOR HAZARDOUS WASTE SITE CLEANUP**

(1) Site Identified and Referred	(2) Initial Site Investigation	(3) Site Secured	(4) Site Analysis Evaluation and Assessment
(5) Prioritization	(6) Determination of Agency Lead (NJDEP or USEPA)	(7) Community Relations Plan Activated	(8) Signing of Contract or Cooperative Agreement
(9) Hiring of Contractor for Remedial Investi- gation/Feasibility Study	(10) Preparation of Feasibility Study	(11) Selection of Remedial Action Alternative	(12) Hiring of Contractor for Engineering Design
(13) Hiring of Construction/ Treatment/Removal Cleanup Contractor	(14) Cleanup Evaluation	(15) Contractor Audit and Close out	

# Borough of Rockaway

MUNICIPAL BUILDING • 1 EAST MAIN STREET • ROCKAWAY, NEW JERSEY 07866



New Jersey Department of  
Environmental Protection  
Office of Community Relations  
CN 028  
432 East State Street  
Trenton, New Jersey 08625

Attention: Mr. Jeffrey Folmer

Re: Feasibility Study - Rockaway Borough Well Field

Dear Mr. Folmer:

Enclosed for the public record is our "List of Questions and Concerns" on the "Remedial Investigation and Feasibility Study of the Rockaway Borough Well Field Site" as prepared by our water consultants, Lee T. Purcell Associates. Your response to these items as well as any financial assistance that can be provided to the Borough regarding our well contamination problem, will be greatly appreciated.

Very truly yours,

BOROUGH OF ROCKAWAY

David L. Smith  
Mayor

DS:  
attachment

### LIST OF QUESTIONS AND CONCERNS

The following list of concerns or questions should be made a part of the public record during the Public Hearing to be held on August 28, 1986.

1. How long is the record kept open for public comment from the date of the public hearing on August 28, 1986?
2. On several occasions in the report, the Borough's existing method of treatment, (GAC) is considered by the consultant as an interim remedial action. Does this mean that there is a possibility that this method of treatment may be deemed unacceptable or inappropriate as a result of the studies? If GAC is no longer considered appropriate as a final solution, who will pay for the capital cost and O&M cost to date?
3. There are indications in the report of "areas of possible contamination". Have any specific industries or commercial establishments been identified as contributing to the pollution problem?
4. A great deal of time and effort has been expended on this study and by the Borough of Rockaway since this contamination problem became known. The report indicates however, that additional "investigation is needed to definitely identify specific contaminant sources". Can you say with any degree of certainty that sources will be identified when these additional investigations are concluded and is there a projected time period to complete this so-called "additional investigation", and who will pay for this additional work?
5. Will there be further studies to ascertain the aerial extent and depth of contamination, who will conduct these studies and what is the time frame for completion and who will pay for same?
6. The report refers to on-going investigations of groundwater contamination outside the Borough of Rockaway which may affect the Borough water supply. Who is conducting these studies, what is the projected time frame for completion and will the Borough be kept apprised of the findings?
7. Is it fair to say that Rockaway Borough is now considered as a generator of hazardous waste because it is producing spent carbon media containing PCE, TCE and possibly other VOC's? As such, who will pick up costs incurred by the Borough to satisfy the regulatory requirements imposed upon a hazardous waste generator? If packed tower aeration is utilized with vapor phase treatment, will these hazardous waste requirements and attendant annual costs be greatly reduced?
8. Is the alternative of packed tower aeration with vapor phase treatment, the most cost effective alternative which will satisfy the public health requirement?

9. There is a disparity between the total initial capital cost surrounding restoration of the Borough's water supply to potable quality. The Borough contends this initial cost is \$700,000 and NJDEP/USEPA is claiming only \$504,600. Can you explain the substantial difference in dollar amounts?
10. No matter which alternative or alternatives are finally selected for implementation, who will be paying for the costs to date, the costs for implementing the recommended alternative/alternatives, both capital cost and recurring annual costs? Will NJDEP and/or USEPA pick up both the capital costs and the annual O&M cost for as long as the treatment is required?
11. Are there currently appropriated Federal and/or State monies to pay for these capital costs and recurring annual O&M costs?
12. Potable water standards for the Borough of Rockaway's treatment facility have recently been made more stringent resulting in the carbon media being replaced on a more frequent and thus more costly basis. Present carbon replacement costs approximate \$50,000/year and this cost could conceivably double. Couldn't this cost be picked up by USEPA/NJDEP since the standards were recently made more stringent by these federal and state agencies?



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II

26 FEDERAL PLAZA

NEW YORK, NEW YORK 10278

September 29, 1986

Honorable David L. Smith  
Mayor, Borough of Rockaway  
Municipal Building  
1 East Main Street  
Rockaway, New Jersey 07866

Dear Mayor Smith:

Thank you for your letter to the New Jersey Department of Environmental Protection (NJDEP) regarding the feasibility study for the Rockaway Borough Well Field. Your letter and "List of Questions and Concerns" are appended to the Environmental Protection Agency's Record of Decision (ROD) and are part of the public record. Included in the Responsiveness Summary, our formal response to public comment, shall be this letter of response.

First, I would like to commend Rockaway Borough personnel and officials for the timely remedial actions they have taken to restore a safe and reliable drinking water supply to Borough residents. In addition, we would like to stress that the remedial investigation will continue to attempt to positively identify the source(s) of contamination. A responsible party search will also be conducted.

Specifically, your questions and comments are addressed below.

1. The Public Comment Period was open from August 18 to September 10, 1986 as specified in NJDEP's press releases and notices to the public.
2. The existing granular activated carbon (GAC) treatment system is treating your municipal water supply adequately. The ROD has recommended a more frequent change of carbon to comply with the Safe Drinking Water Act standards promulgated as of November 13, 1985. The GAC system is considered an appropriate final solution to treatment of the water supply. It is considered interim in the sense that further remedial actions may be appropriate to address the source(s) of the contamination.

3. At this point in time, three suspected contaminant sources have been identified. A potentially responsible party search will be conducted in conjunction with supplemental remedial investigation and feasibility study (RI/FS) activities to positively identify the sources of contamination. As you know, we can not take action against responsible parties without sufficient evidence.
- 4&5. EPA will fund the additional RI/FS. While we hope to identify the sources and further define the contaminant plume through this effort, we can not forecast our success with absolute certainty. The funding for this effort is dependent on the reauthorization of the Superfund legislation and, consequently, so is any schedule of further investigations. Other funding arrangements with the State of New Jersey are being considered if Superfund is not authorized shortly. Additionally, if responsible parties are identified, they are liable for the costs of the RI/FS. Should it become necessary, we would seek to recover our expenditures through a cost recovery action.
6. There are a number of investigations that are being undertaken by NJDEP that may relate to the contamination of the Rockaway Borough Well Field. If any conclusions from these studies affect the Borough, for example if any potentially responsible parties are identified, the Borough will be notified promptly.
7. If the Borough contracts with Calgon Corporation to handle the replacement and regeneration of carbon for its treatment system, Calgon would need to have all applicable permits and further, be responsible as a hazardous waste generator/transporter/disposer. Therefore, this should not be a concern of the Borough. If a packed tower aeration unit were to be utilized, the operation and maintenance costs, as listed in the feasibility study, would be approximately \$45,000 per year compared to the carbon treatment system with a \$74,000 annual cost.
8. The ROD has identified the Borough's GAC system as the appropriate remedy. In comparing the various alternatives, there was no cost associated with the GAC system because it was already in operation. Thus, it was determined to be the most cost-effective alternative. The RI/FS did find, however, that a somewhat different water treatment system would be less expensive to operate, namely packed tower aeration. Because the capital costs of the two systems are similar and the packed tower aeration unit would be cheaper to operate, it would have been recommended had the GAC system not already been installed.

9. The \$504,600 figure was arrived at by deleting certain legal and upgrading costs from the \$700,000 total expended by the Borough of Rockaway in 1981. We acknowledge that this was a judgement call.
- 10& Your request for reimbursement for the expenses incurred
11. must meet the requirements of Sections 111 and 112 of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) which authorized Superfund and the National Contingency Plan (NCP) (40 CFR Part 300) in order to be compensable as a claim against the Fund. Section 300.25(d) of the NCP provides:

If any person other than the Federal Government or a State or person operating under contract or cooperative agreement with the United States, takes response action and intends to seek reimbursement from the Fund, such actions to be in conformity with this Plan for purposes of Section 111(a)(2) of CERCLA may only be undertaken if such person notifies the Administrator of EPA or his/her designee prior to taking such actions and receives prior approval to take such actions.

Section 111(a)(2) of CERCLA provides that the Fund may only reimburse claims which have been "approved under [the NCP] and certified by the responsible Federal official."

By requiring the necessary approval and certification before cleanup begins, EPA can more effectively fulfill its role as manager of the Hazardous Substance Response Trust Fund and ensure appropriate responses and sound uses of Fund monies. The expenses already incurred by Rockaway Borough may not be reimbursed from the Fund because EPA did not give its prior approval for these expenditures.

12. Recent Amendments to the Safe Drinking Water Act now require both PCE (tetrachloroethylene) and TCE (trichloroethylene) to be treated to 5 parts per billion before distribution in a public water system. Our estimates for the increased carbon usage and consequent operation and maintenance costs are approximately \$74,000 per year. Again, these costs reflect a change in standards for all municipal water treatment system suppliers and, therefore, should be borne by the Borough.

If you have any further questions or comments, please feel free to call me or Christine Beling of my staff at (212) 264-1870.

Sincerely yours,

*John S. Frisco*

John S. Frisco, Chief  
New Jersey Remedial Action Branch

cc: Jeffrey Folmer, NJDEP  
Bureau of Community Relations