United States
Environmental Protection
Agency

Office of
Emergency and
Remedial Response

EPA/ROD/R05-86/046
September 1986

EPA

# Superfund Record of Decision:

# Seymour Recycling, IN

## TECHNICAL REPORT DATA
*(Please read Instructions on the reverse before completing)*

| 1. REPORT NO. | 2. | 3. RECIPIENT'S ACCESSION NO. |
|---|---|---|
| EPA/ROD/R05-86/046 | | |

| 4. TITLE AND SUBTITLE | 5. REPORT DATE |
|---|---|
| SUPERFUND RECORD OF DECISION<br>Seymour, IN | September 30, 1986<br>6. PERFORMING ORGANIZATION CODE |
| 7. AUTHOR(S) | 8. PERFORMING ORGANIZATION REPORT NO |
| 9. PERFORMING ORGANIZATION NAME AND ADDRESS | 10. PROGRAM ELEMENT NO.<br>11. CONTRACT/GRANT NO. |
| 12. SPONSORING AGENCY NAME AND ADDRESS<br>U.S. Environmental Protection Agency<br>401 M Street, S.W.<br>Washington, D.C. 20460 | 13. TYPE OF REPORT AND PERIOD COVERED<br>Final ROD Report<br>14. SPONSORING AGENCY CODE<br>800/00 |

15. SUPPLEMENTARY NOTES

16. ABSTRACT

The Seymour Recycling Corporation (SRC) site, encompassing a fourteen-acre area, is approximately two miles southwest of Seymour, IN. Approximately one hundred homes are located within a one-mile radius of the site in a predominately agricultural area. From about 1970 until early 1980 SRC operated a processing center for waste chemicals. Over the years toxic and hazardous wastes, including solvents, metal finishing wastes and other materials, accumulated on the site in 55-gallon drums, bulk tanks and other containers. Wastes leaked and spilled from the drums creating fire and odor problems. A Consent Decree, reached in the fall of 1982 after a May 1980 suit filed by the United States against the owners and site operators, resulted in the removal of approximately the upper one foot of contaminated soil from about 75 percent of the site's surface. Contaminated soil remains, however, and extends throughout the shallow and deep aquifer. The site is fenced and partially covered with a temporary soil cap. Homes surrounding the site have recently been connected to the city water distribution system due to the threat of ground water contamination. The primary contaminants of concern include: VOCs, organics, TCE, DCE, benzene, toluene, and heavy metals.

The selected remedial alternative for the site is the implementation of a plume stabilization system which will extract, treat, and discharge approximately 101,690,000 gallons of contaminated ground water to the Seymour Wastewater Treatment Plant. The estimated capital cost for this remedy is $300,000. O&M costs are estimated to be

17. (See Attached Sheet) KEY WORDS AND DOCUMENT ANALYSIS

| a. DESCRIPTORS | b. IDENTIFIERS/OPEN ENDED TERMS | c. COSATI Field. Group |
|---|---|---|
| Record of Decision<br>Seymour, IN<br>Contaminated Media: soils, gw<br>Key contaminants: VOCs, organics, TCE, DCE, toluene, benzene, heavy metals | | |

| 18. DISTRIBUTION STATEMENT | 19. SECURITY CLASS (This Report)<br>None | 21. NO. OF PAGES<br>52 |
|---|---|---|
| | 20. SECURITY CLASS (This page)<br>None | 22. PRICE |

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EPA/ROD/R05-86/046
Seymour, IN

16. ABSTRACT (continued)

either $100,000 per year or $250,000 total costs for the 2.5 year period required to implement a final remedial action.

# RECORD OF DECISION
# PLUME STABILIZATION PROJECT
# SEYMOUR RECYCLING CORPORATION
# SEYMOUR, INDIANA

SEP 30 1986

## Documents Reviewed

I am basing my decision on the following documents describing the effectiveness of remedial alternatives for the Seymour Recycling site:

- Correspondence from John Glass, $CH_2M$ Hill, to Dorothy McGlincy, Geraghty and Miller, Inc., May 5, 1986.
- Seymour Recycling Corporation, Remedial Investigation, $CH_2M$ Hill, May 12, 1986.
- Preliminary Plume Stabilization for the Seymour Recycling Corp. Site, Geraghty and Miller, Inc., June 3, 1986.
- Correspondence from Neil Meldyin, U.S. EPA, to David G. Miller, Geraghty and Miller, Inc., June 20, 1985.
- Correspondence from Neil Meldyin, U.S. EPA, to David G. Miller, Geraghty and Miller, Inc., July 11, 1986.
- Correspondence from Syed Mahmood, $CH_2M$ Hill, to David Favero, EPA, July 25, 1986.
- Phased Feasibility Study, Groundwater Contamination Operable Unit for the Seymour Recycling Corporation Site, U.S. EPA, August, 1986.
- Public Comment Feasibility Study, Seymour Recycling Corporation, Seymour, Indiana, $CH_2M$ Hill, August 29, 1986 (Attached).
- Community Relations Responsiveness Summary, for the Public Comment Period, Phased Feasibility Study for Groundwater Contamination, September 25, 1986.
- Summary of the Alternative Evaluation for a Plume Stabilization Project at the Seymour Recycling Corporation Site, U.S. EPA, September, 1986 (Attached).

## Description of Selected Remedy

- Contaminated groundwater will be extracted from the shallow aquifer northwest of the site.
- The contaminated groundwater will be treated to the extent required to meet the pretreatment requirements of the Seymour Wastewater Treatment Plant.
- This operable unit can be integrated as a part of the final remedial action selected for the site.

Declaration

Consistent with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the National Contingency Plan (NCP), 40 CFR Part 300 , I have determined that plume stabilization is an effective interim remedial action to address groundwater contamination at the Seymour Recycling site. This interim remedy is consistent with the permanent remedies being considered for the site and provides adequate protection of public health, welfare and the environment. The State of Indiana has been consulted and agrees with this interim remedy. This interim remedy will require operation and maintenance (O&M), which is considered part of the approved action.

A Feasibility Study to determine the final remedy for this site has been made available for public comment. The plume stabilization system is a component of U.S. EPA's recommended alternative. Additional remedial actions will be described in a subsequent Record of Decision.

By: Valdas V. Adamkus

Valdas V. Adamkus
Regional Administrator
United States Environmental Protection Agency
Region V

Attachments

SEP 30 1986

# Summary of the Alternative Evaluation for for a Plume Stabilization Project at the Seymour Recycling Corporation Site

## Site Location and Description

This 14-acre site is located roughly 2 miles southwest of Seymour, Indiana, near the northwest corner of Freeman Municipal Airport and Industrial Park (Figure 1). Most of the nearby land is used for agriculture. The site is located on a nearly level plain; surface drainage is towards the East Fork of the White River, which is approximately 1 1/2 miles northwest of the site.

The city of Seymour has a population of approximately 15,300. About 100 homes are located within a one-mile radius of the site. Most of these homes are in the Snyde Acres subdivision to the north of the site. These homes used private wells until most of them were recently connected to the city water distribution system because of the threat of contamination from the site.

## Site History

From about 1970 until early 1980 Seymour Recycling Corporation (SRC) operated a processing center for waste chemicals at the site. Over the years toxic and hazardous wastes, including solvents, metal finishing wastes and other materials, accumulated on the site in 55-gallon drums, bulk tanks and other containers. These wastes leaked and spilled from their containers thus creating fire and odor problems. On May 9, 1980 the United States filed suit against the owners and operators of the site. In the fall of 1982 the United States and certain companies who allegedly sent waste to the site reached a settlement agreement. Under the terms of a Consent Decree the settling defendants removed accumulated wastes and approximately the upper one foot of contaminated soil from about 75% of the site's surface between 1982 and 1984. Contaminated soil remains, however, and extends throughout the shallow aquifer and into the deep aquifer. The site is fenced and for the most part covered with a temporary soil cover. Several abandoned buildings also remain on site.

## Enforcement Status

There is an existing case before the United States District Court, Southern District of Indiana. The United States has claims pending against over 60 defendants. Another approximately 45 parties have been added by certain defendants as third party defendants.

A case management order in effect calls for a negotiation period that begins when the final feasibility study is made available, September 1, 1986 and will run until about December 19, 1986. If an agreement cannot be reached, the case is scheduled to go to trial.

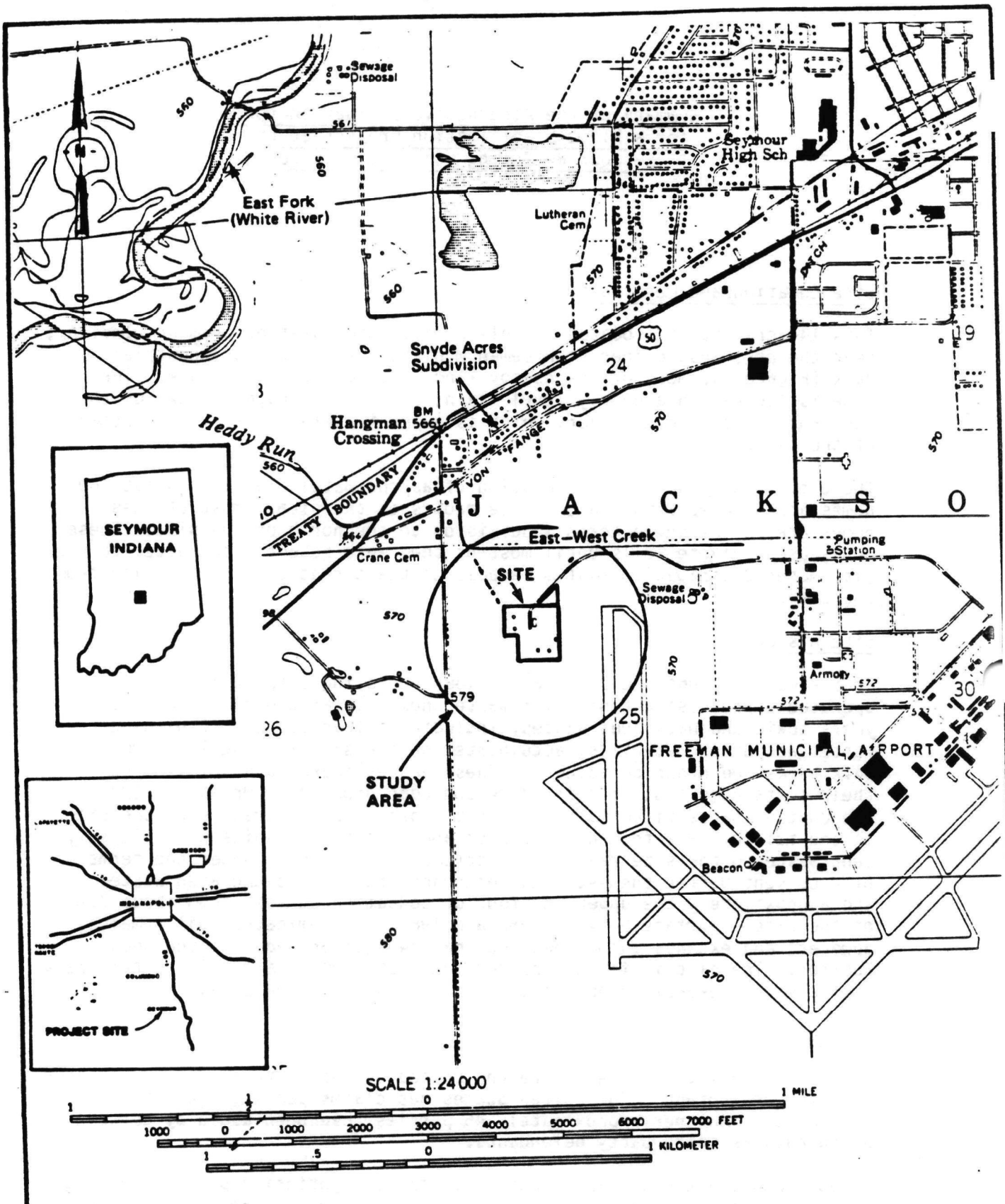



**FIGURE 1**
**SITE LOCATION/STUDY AREA**

**SEYMOUR RECYCLING CORPORATION**
**REMEDIAL INVESTIGATION EPA WA 50.5 VO1.1**

Currently an order is being negotiated between the United States and the defendants to implement the plume stabilization system recommended in this document. The order, when finalized, will be submitted to Judge William E. Steckler for approval.

If an order cannot be agreed upon, there are three possible alternatives that could develop. First, EPA could proceed with the implementation of the plume stabilization project using Superfund monies. Second, EPA could unilaterally approach the court to request that court held settlement monies be used to implement the plume stabilization project. Last, and most probable, because of the speed with which they can take action, the defendants would petition the court to request that the court settlement funds be used to implement the project.

The defendants' consultant was involved with the conceptual development of this operable unit and prepared the detailed work plan for its implementation.

## Current Site Status

A Remedial Investigation was completed on May 12, 1986. A Feasibility Study was completed on August 29, 1986. The Remedial Investigation notes that the greatest soil contamination with heavy metal and organics occurs in the upper six feet. The investigation also found a plume of contaminated groundwater in the shallow aquifer. Contaminants include vinyl chloride, chlorinated ethanes and ethenes, cresols, benzene, chloroform, toluene, phenol and acetone. Groundwater in the shallow aquifer is flowing toward the north-northwest at a rate of approximately 150 feet per year. Contaminants are moving at various rates through the shallow aquifer; some at rates greater than the flow, and others much slower than the flow rate. The closest residential well which is now used for watering cattle belongs to Mrs. Otte and is about 1300 feet northwest of the site.

Other receivers of contaminated groundwater could be East-West Creek and Von Fange Ditch, both tributaries to the East Fork of the White River. In this scenario the general public as well as biota in the creek and the ditch drainage area could be exposed to contaminated ground/surface water.

Contaminants in the shallow aquifer are present in concentrations which are hazardous to public health and the environment. Table 9.15 of the Remedial the Remedial Investigation shows the risks onsite while Table 9.19 examines off-site risks. These tables are included for your reference. Potential health effects from ingesting the contaminated groundwater include cancer (benzene and and vinyl chloride are known carcinogens), liver damage and kidney damage.

## Determination of Alternatives for Evaluation in the Phased Feasibility Study

1. Groundwater Extraction

TABLE 9.15
EXCESS LIFETIME CANCER RISK: SHALLOW ONSITE GROUNDWATER RESIDENTIAL USE
SEYMOUR RECYCLING CORPORATION SITE

| COMPOUND[a] | U.S. EPA[b] CARCINOGENIC POTENCY FACTOR (kg-day/mg) | MAXIMUM REPORTED CONCENTRATION ug/l | EXCESS[c] LIFETIME CANCER RISK based on LADI= 0.029 l/kg-day | MEAN CONCENTRATION ug/l | EXCESS[c] LIFETIME CANCER RISK based on LADI= 0.029 l/kg-day |
|---|---|---|---|---|---|
| Benzene | 0.045 | 9700 | 1E-02 | 710 | 9E-04 |
| Chloroform | 0.07 | 3300 | 7E-03 | 280 | 6E-04 |
| 1,2-Dichloroethene | 0.069 | 32000 | 6E-02 | 1600 | 3E-03 |
| Tetrachloroethene | 0.051 | 500 | 7E-04 | 36 | 5E-05 |
| 1,1,2-Trichloroethane | 0.0573 | 2200 | 4E-03 | 120 | 2E-04 |
| Trichloroethene | 0.011 | 15000 | 5E-03 | 440 | 1E-04 |
| Vinyl chloride | 2.3 | 40000 | 9E-01 | 4100 | 2E-01 |
| TOTAL | | | 1E+00 | | 2E-01 |

NOTE: This based on site development. This exposure does not currently exist.

[a]Chemicals which are carcinogens by inhalation but not by ingestion are excluded from this risk estimation. This includes: methylene chloride, 1,1-dichloroethene, cadmium, and chromium.

[b]Based on "Superfund Public Health Evaluation Manual" (U.S. EPA 1985g).

[c]Occupational risks would be 1/5th that of the residential risks. Based on a LADI = 0.0054 l/kg-day.

WDR148/069

TABLE 9.19
OFFSITE SHALLOW GROUNDWATER INGESTION: SUMMARY OF RISKS - RESIDENTIAL USE
SEYMOUR RECYCLING CORPORATION SITE

| CHEMICAL | U.S. EPA[a] ACCEPTABLE INTAKE CHRONIC (AIC) ug/day | COMPARISON OF DAILY INTAKE TO ACCEPTABLE INTAKE MAXIMUM REPORTED CONCENTRATION | | | |
|---|---|---|---|---|---|
| | | CONCENTRATION ug/l | DAILY INTAKE (DI) (MG/DAY) at 2 l/DAY | EXCEEDS AIC | DI/AIC |
| Barium | 3.57 | 428 | 0.856 | - | 0.2397 |
| 2-Butanone * | 3.22 | 13000 | 26 | ♦ | 8.0745 |
| Copper | 2.59 | 23 | 0.046 | - | 0.0177 |
| Cresol(2-methylphenol) | 3.57 | 80 | 0.16 | - | 0.0448 |
| Cresol(4-methylphenol) * | 3.57 | 8100 | 16.2 | ♦ | 4.5378 |
| 1,1-Dichloroethane | 8.4 | 5600 | 11.2 | ♦ | 1.3333 |
| Manganese | 15.4 | 953 | 1.906 | - | 0.1237 |
| Methylene chloride | 3.5 | 2200 | 4.4 | ♦ | 1.2571 |
| Nickel | 7 | 59 | 0.118 | - | 0.0168 |
| Phenol | 7 | 120 | 0.24 | - | 0.0342 |
| Toluene | 20 | 50 | 0.1 | - | 0.005 |
| Zinc | 14.7 | 28 | 0.056 | - | 0.0038 |
| HAZARD INDEX (SUM of DI/AIC) | | | | | 15.69 |

| COMPOUND | EXCESS LIFETIME CANCER RISK | | |
|---|---|---|---|
| | U.S. EPA[b] CARCINOGENIC POTENCY FACTOR (kg-day/mg) | MAXIMUM REPORTED CONCENTRATION ug/l | EXCESS LIFETIME[c] CANCER RISK based on LAWI= 0.029 l/kg-day |
| Benzene | 0.045 | 60 | 8E-05 |
| Chloroform | 0.07 | 6 | 1E-05 |
| 1,2-Dichloroethane | 0.069 | 30 | 6E-05 |
| Tetrachloroethene | 0.051 | 6.3 | 9E-06 |
| Vinyl chloride | 2.3 | 3500 | 2E-01 |
| TOTAL | | | 2E-01 |

NOTE: This exposure is currently not occurring. Requires groundwater use.

[a]Based on "Superfund Public Health Evaluation Manual"(U.S. EPA 1985g). Based on a 70 kg-adult.

[b]Based on "Superfund Public Health Evaluation Manual "(U.S. EPA 1985g).

[c]Occupational risks would be 1/5th that of the residential risks, based on a LAWI = 0.0058

* Also exceeds AIC under occupational use.
♦ Exceeds Acceptable Intake Levels.

MDR148/073

Only a limited number of alternatives were evaluated in the Phased Feasibility Study (PFS). The decision to evaluate an unusually limited number was based on the Public Comment Draft Feasibility Study (FS) which was available at the time of the preparation of the PFS. The FS contains the detailed discussion of the technology screening for methods to collect and treat groundwater. The technologies remaining after the initial screening were extraction, containment and migration control.

Extraction wells proved to be the only practical alternative for withdrawing groundwater. Subsurface drains were eliminated because they would not allow for flexibility in pumping rates which would be needed as the concentration and configuration of the plume changes. Other factors, although not mentioned in the FS, are the depth (approximately 30 feet) and the length (approximately 700 feet perpendicular to groundwater flow) the drain would have to be to capture the plume. The costs and installation problems associated with such a drain add to its unpracticality. Extraction would hydraulically control groundwater flow and remove contaminants; which are the objectives of aquifer cleanup.

Containment is a viable alternative. Specific methods of containment are a multi-layer cap and the use of gradient control through extraction wells with or without slurry walls.

Capping is effective in reducing infiltration into and through the contaminated soil but does nothing to stop the downgradient spread of contaminants already in the groundwater. According to the FS, if infiltration in the groundwater is stopped immediately, it would still take over 100 years to naturally reach a concentration of $10^{-6}$ increase cancer risk level.

Gradient control using extraction wells and a slurry wall was evaluated in the FS for the area immediately surrounding the site. A slurry wall is not practical at the edge of the plume because of the large land area that would need to be surrounded or long distance that would have to be cut-off. In order to make the slurry wall an effective barrier, extraction well(s) would be needed to control the water level (i.e. the gradient) inside or behind the slurry wall. Pumping rates for gradient control are less than for extraction because the objectives is to control the groundwater flow and not cleanup the aquifer. An extraction well can by itself control the migration of the plume so a slurry wall would add unnecessary cost to a system with plume stabilization as its objective.

As a result of the evaluation in the FS, a detailed evaluation of five groundwater collection schemes using the technologies that passed the initial screening was performed. The five schemes are: (1) extraction wells only, (2) extraction wells preceded by an interim plume stabilization well, (3) extraction wells in combination with an injection well, (4) extraction wells combined with partial containment in a slurry wall around the site, and (5) a well to limit plume migration.

The plume stabilization system which is the subject of this document, is identified and evaluated in the PFS and is specifically evaluated in one potential

scheme in the FS. In addition, as is stated in the FS, if the plume stabilization well is installed in 1987, it could replace the downgradient off-site well included in all the schemes (excluding scheme 2 which includes the plume stabilization well).

A numerical groundwater contaminant transport model was used to simulate the effect of various groundwater extraction schemes. It should be noted that because of the inherent problems of precisely modeling the natural environment, assumptions must be made. In addition, the mathematical equations used are limited in various ways so additional error is introduced into the results. Also, in this case there was not a long enough period of groundwater monitoring results available to historically match the observed contaminant distribution pattern with modeling results (this is referred to as calibration).

Because of the qualifications that must be applied in this case to the results of groundwater modeling. The results should be used only as a basis of relative comparison.

In order to keep the computer runs to a manageable number, indicator compounds were selected from the contaminants detected in the groundwater at and near the Seymour site. The indicator compound analyses was performed taking into consideration the mobility, concentration, toxicity and treatability of the contaminants identified in the groundwater. Based upon the analysis, the following compounds were used in the groundwater modeling:

- 1,2 dichloroethane
- tetrachloroethene
- vinyl chloride

Tetrachloretnene is used as the indicator of ultimate groundwater restoration because of its relatively low-mobility. The mobility of vinyl chloride is not well understood and the literature contains partition coefficients that could make vinyl chloride either one of the most mobile compounds or one of the least mobile compounds. Because of this uncertainty, vinyl chloride was not considered in the FS when evaluating extraction schemes.

The following 6 figures (Figures 4.2, 4.3, 4.5, 4.6, A.17 and A.18) depict the relative distribution in 1989 of three contaminants of different mobility with and without the plume stabilization well. As can be seen on the figures, the area of the vinyl chloride plume is significantly reduced but does still reach the nearest receptor well; the 1,2 dichloroethane plume is noticeably reduced; and the tetrachloroetnene plume is virtually unaltered in configuration. The difference in projected plume size and configuration are due largely to mobility differences of the contaminants. The plume stabilization well is effective, although not totally so, in preventing downgradient migration of contaminants past the well. Tetrachloroethene, the key compound in terms of groundwater should not migrate past the plume stabilization well.

Also using the groundwater modeling, the peak concentrations vinyl chloride, 1,2 dichloroethane and tetrachloroethene were predicted over time. Figures A.13, A.14 and A.19 graphically represent the greater effectiveness of groundwater extraction scheme 2, which includes the plume stabilization well.

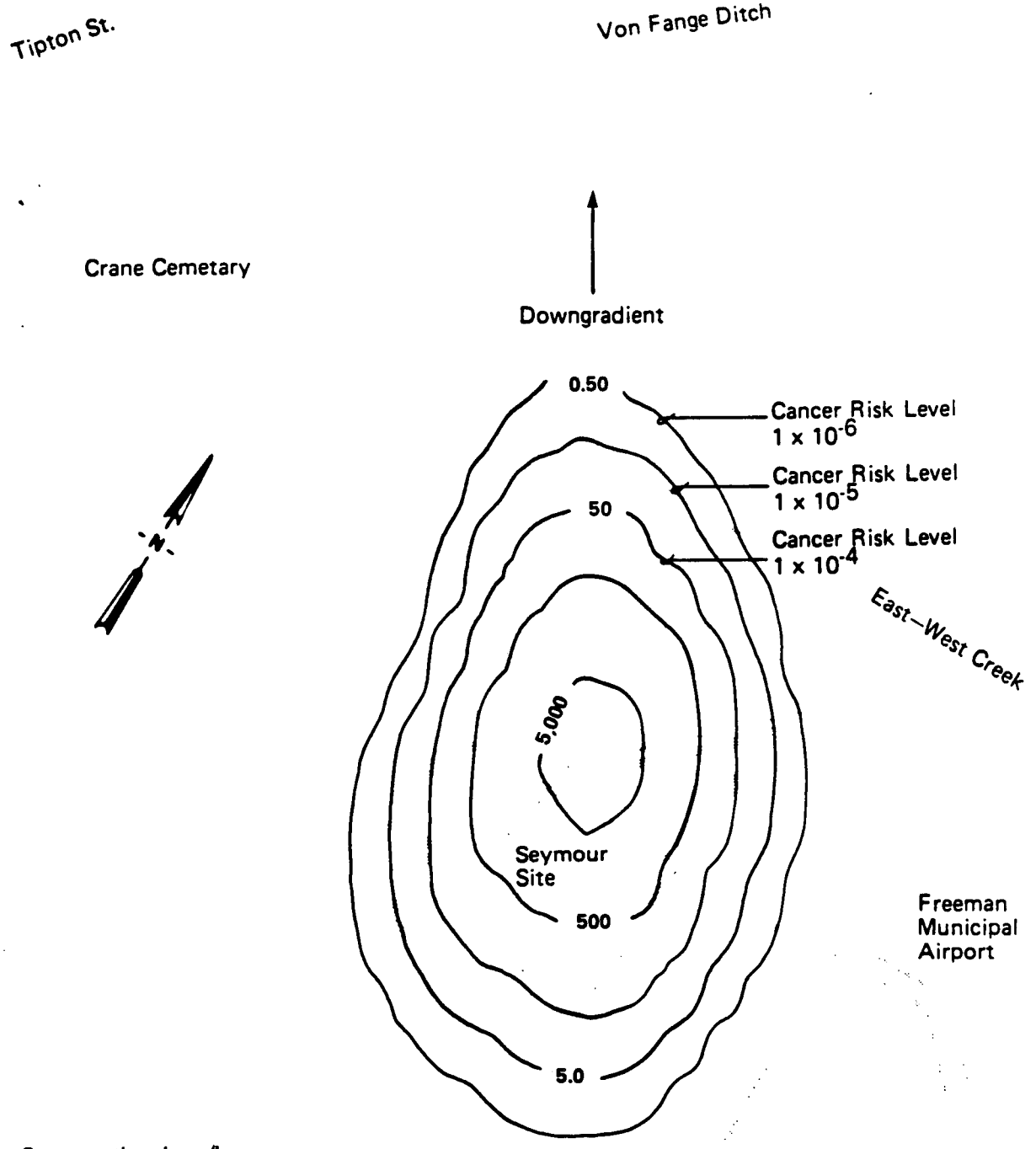



**FIGURE 4.2**
PREDICTED DISTRIBUTION OF 1,2 DICHLOROETHANE IN FALL 1989 (ASSUMING UNALTERED NATURAL GROUND WATER FLOW).

SEYMOUR RECYCLING CORPORATION
FEASIBILITY STUDY
EPA WA 70-5L01.0

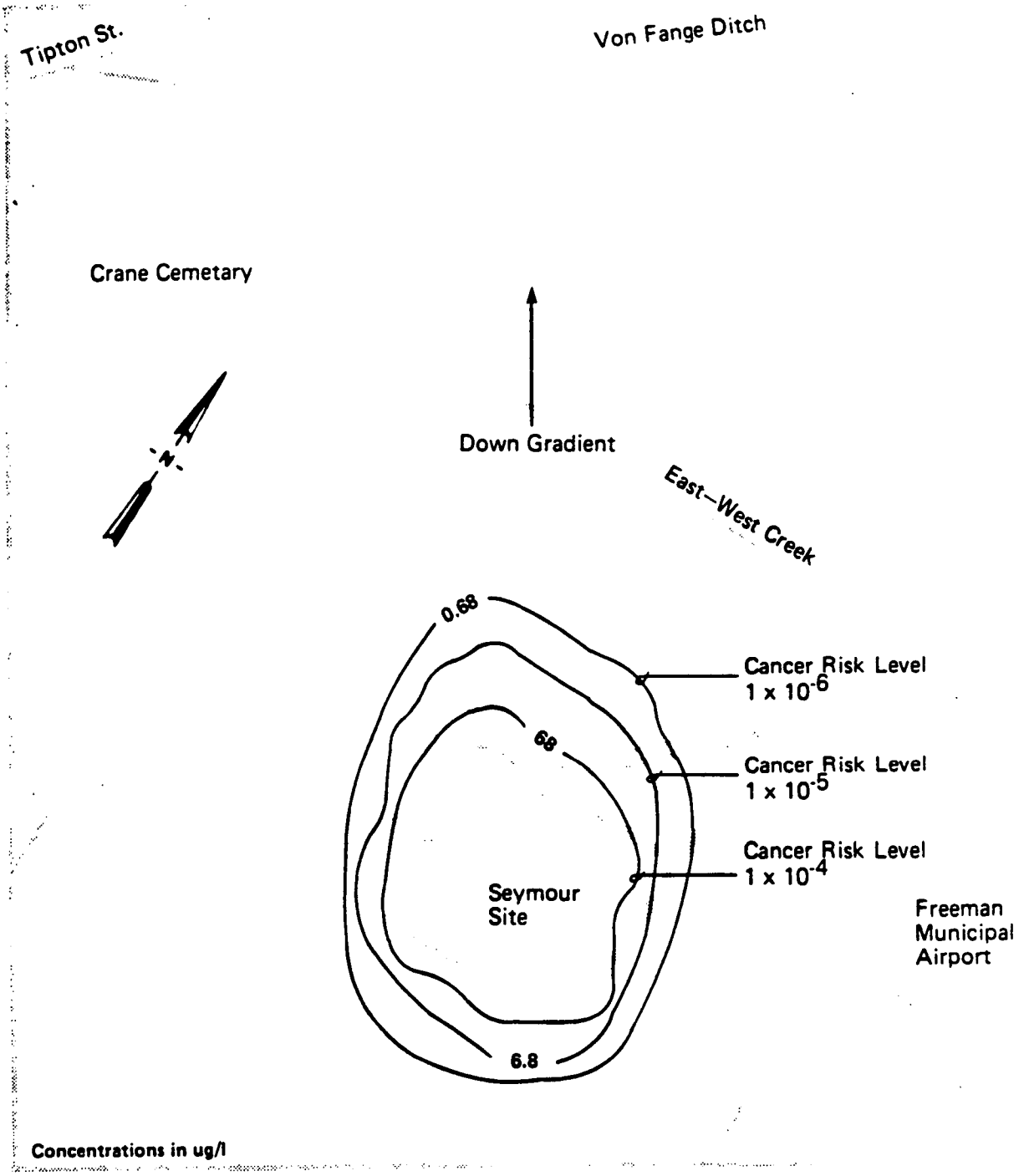



**FIGURE 4.3**
PREDICTED DISTRIBUTION OF TETRACHLOROETHENE IN FALL OF 1989 (ASSUMING UNALTERED NATURAL GROUNDWATER FLOW).

SEYMOUR RECYCLING CORPORATION
FEASIBILITY STUDY
EPA WA 70-5L01.0

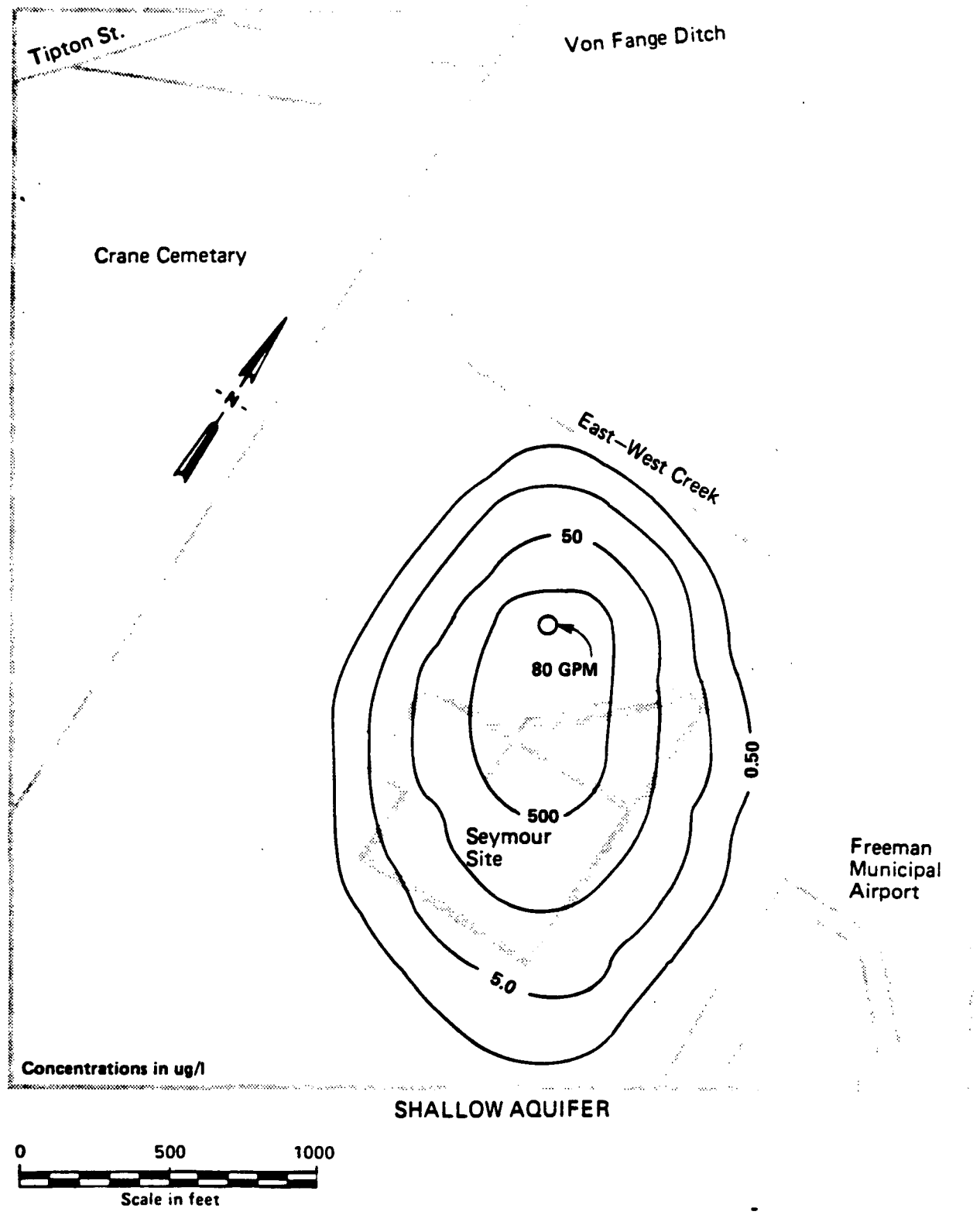



**FIGURE 4.5**

PLUME STABILIZATION WELL AND RESULTING PLUME OF 1,2 DICHLOROETHANE PREDICTED FOR THE FALL OF 1989.

SEYMOUR RECYCLING CORPORATION
FEASIBILITY STUDY
EPA WA 70-5L01.0

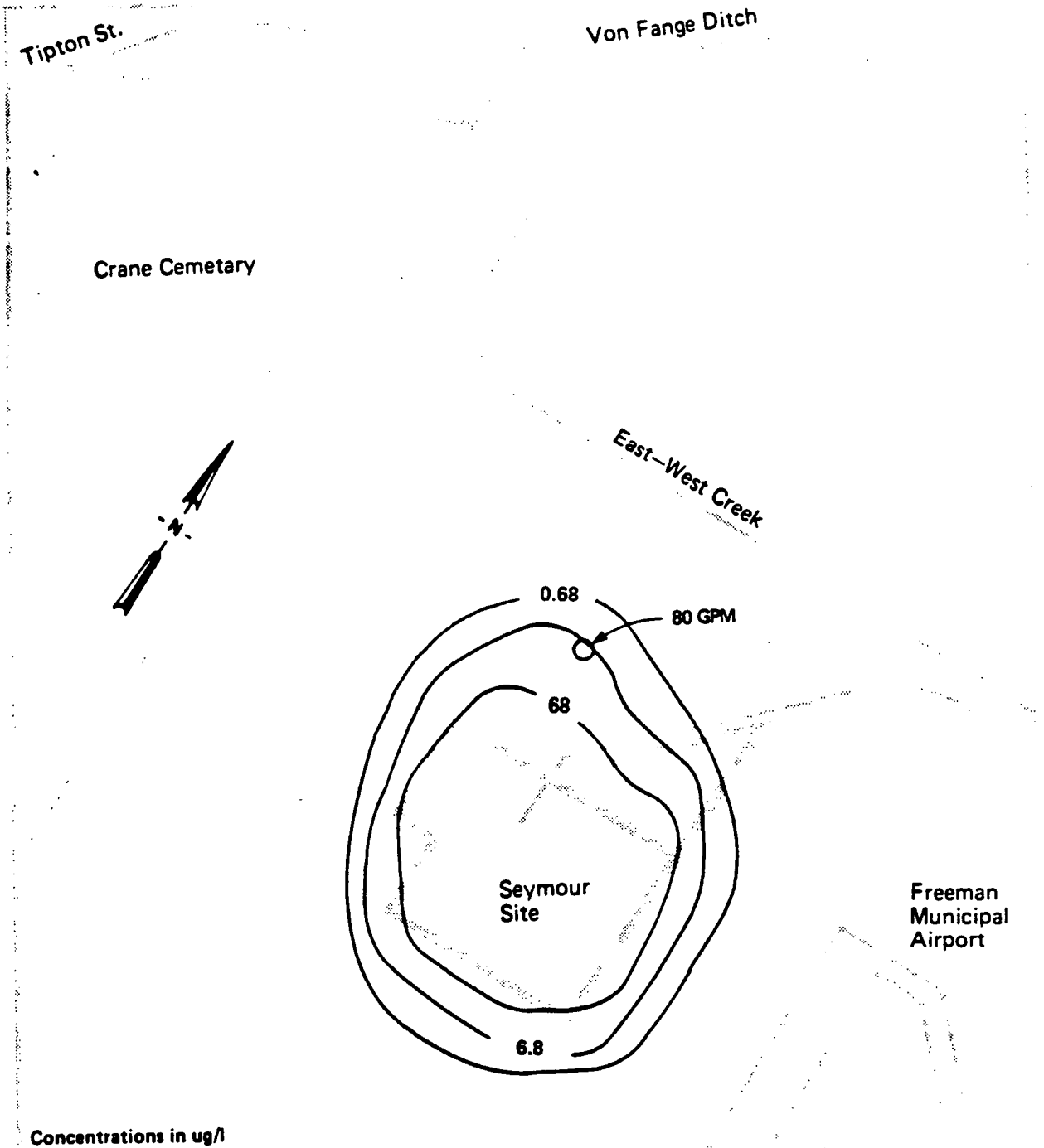



**FIGURE 4.6**
PLUME STABILIZATION WELL AND RESULTING PLUME OF TETRACHLOROETHENE PREDICTED FOR THE FALL OF 1989.

SEYMOUR RECYCLING CORPORATION
FEASIBILITY STUDY
EPA WA 70-5L01.0

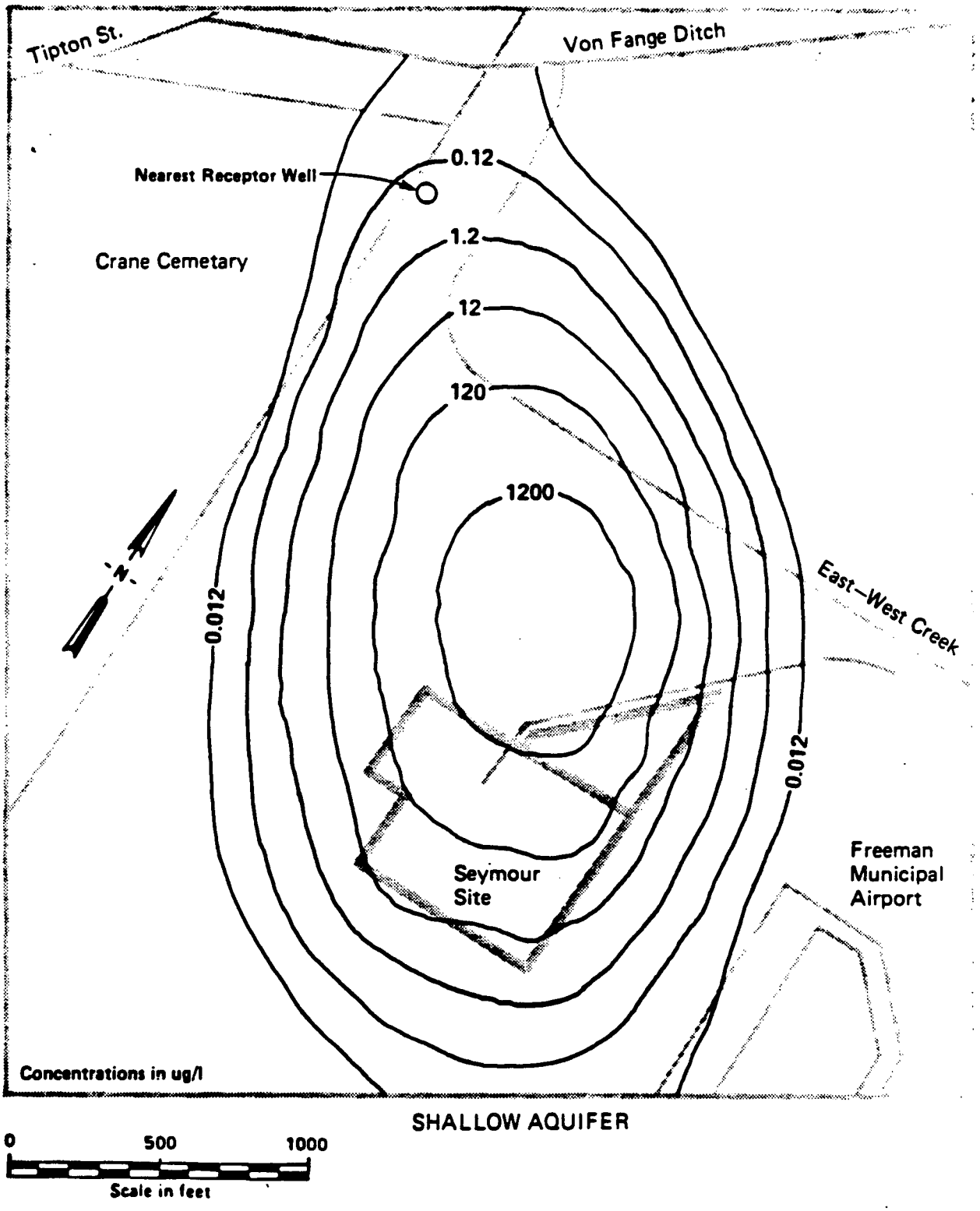



**FIGURE A.17**
1989 DISTRIBUTION OF VINYL CHLORIDE WITHOUT PLUME STABILIZATION ASSUMING LOWEST REPORTED RETARDATION

SEYMOUR RECYCLING CORPORATION
FEASIBILITY STUDY
EPA WA 70-5L01.0

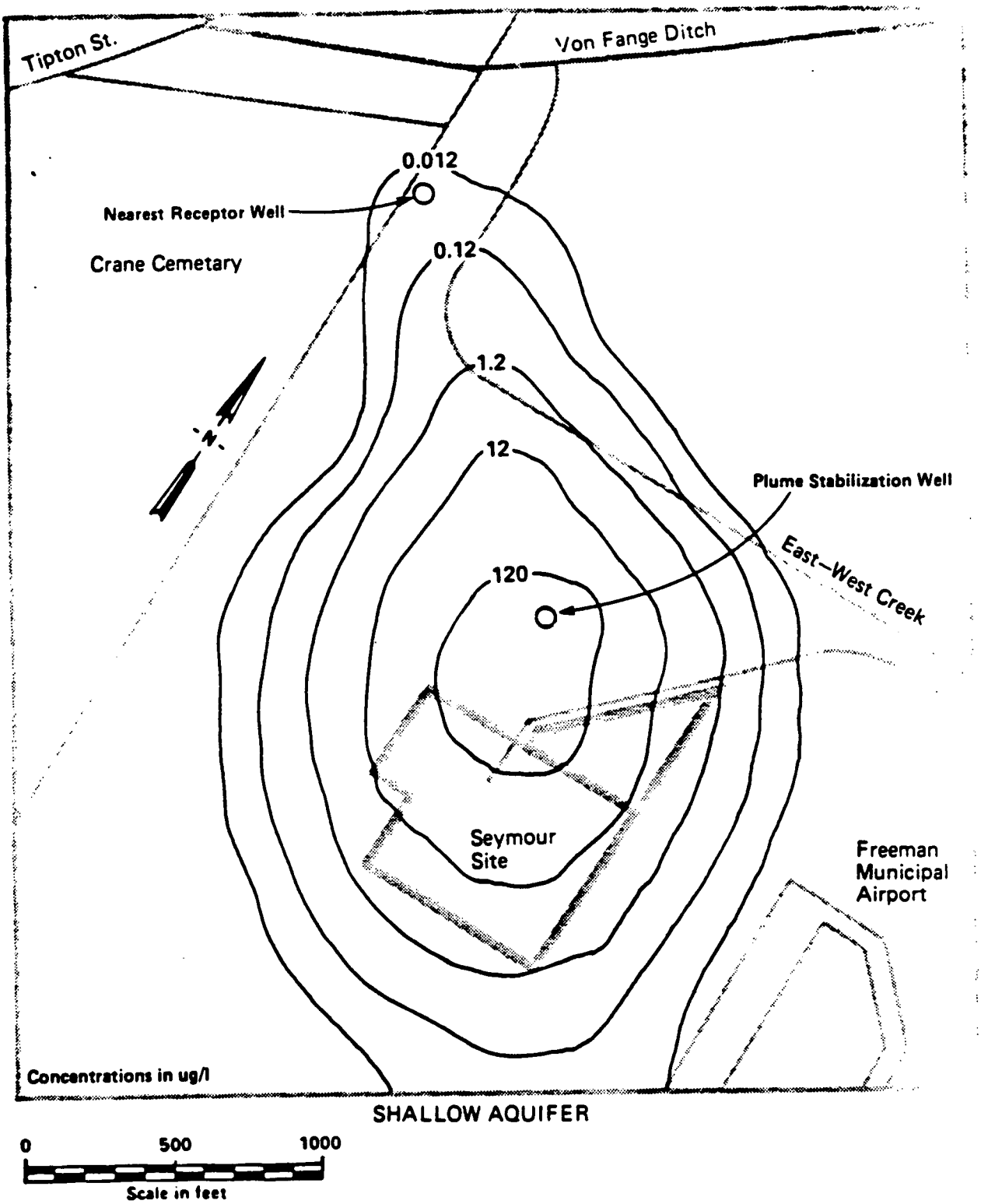



**FIGURE A.18**
**1989 DISTRIBUTION OF VINYL CHLORIDE WITH PLUME STABILIZATION ASSUMING LOWEST REPORTED RETARDATION**

SEYMOUR RECYCLING CORPORATION
FEASIBILITY STUDY
EPA WA 70-5L01.0

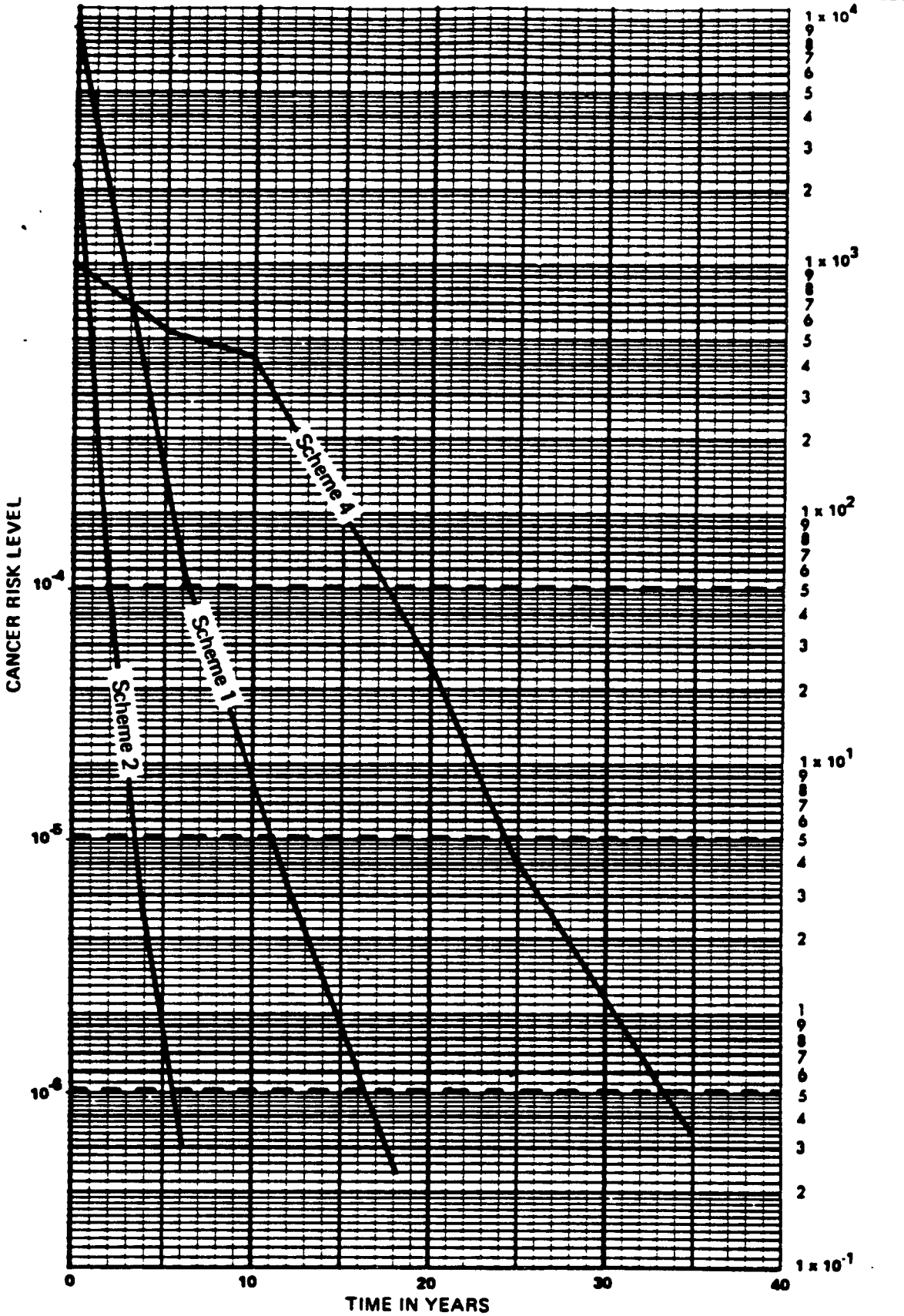



**FIGURE A.13**
**TIME VARIATION OF PEAK 1,2 DICHLOROETHANE CONCENTRATION FOR THREE EXTRACTION SCHEMES**

SEYMOUR RECYCLING CORPORATION
FEASIBILITY STUDY
EPA WA 70-5L01.0

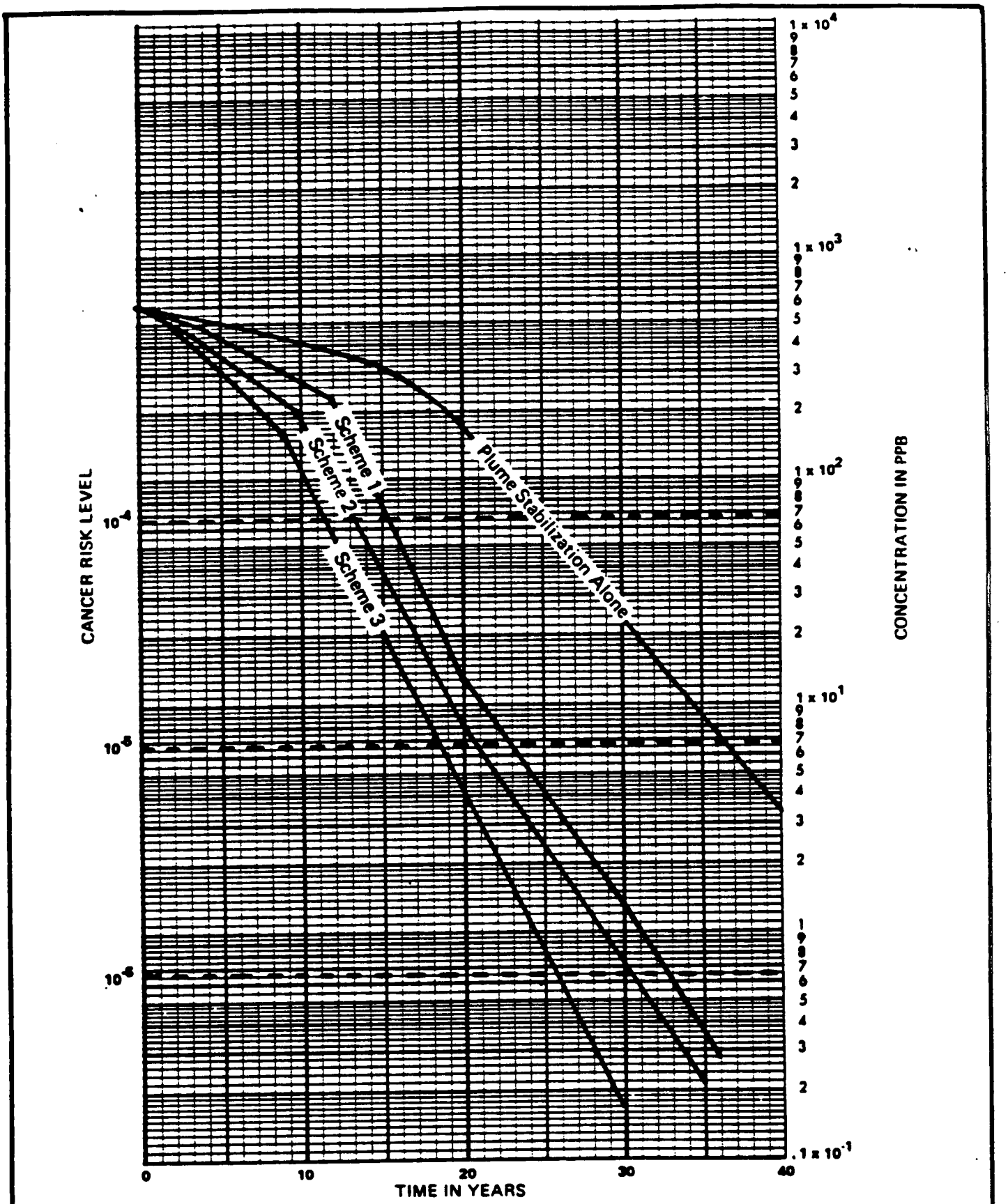



**FIGURE A.14**
**TIME VARIATION OF PEAK TETRACHLOROETHENE CONCENTRATION FOR FOUR EXTRACTION SCHEMES**

SEYMOUR RECYCLING CORPORATION
FEASIBILITY STUDY
EPA WA 70-5L01.0

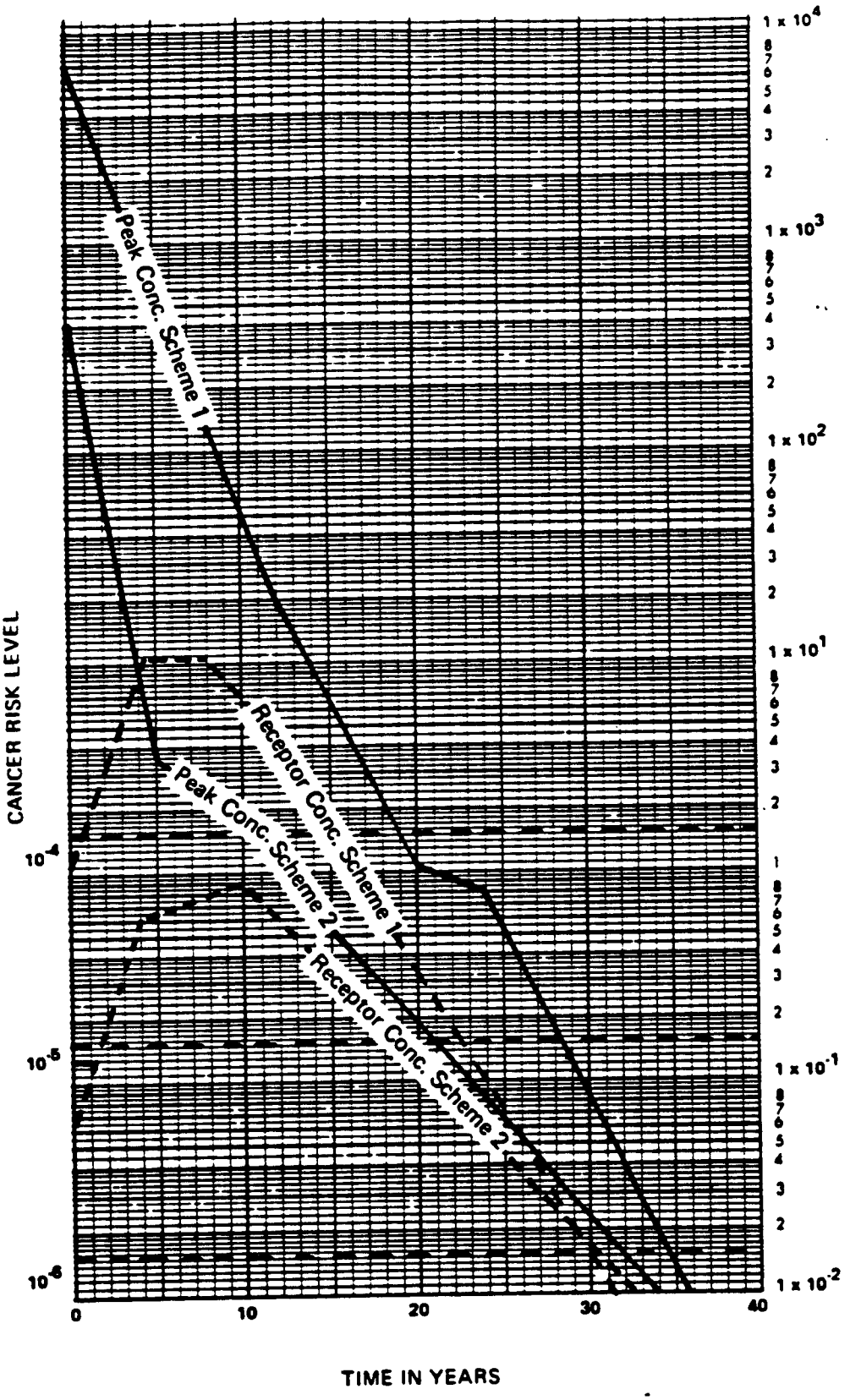



**FIGURE A.19**
TIME VARIATION OF PEAK VINYL CHLORIDE CONCENTRATION AND CONCENTRATION AT NEAREST RECEPTOR, SCHEMES 1 and 2

SEYMOUR RECYCLING CORPORATION
FEASIBILITY STUDY
EPA WA 70-5L01.0

The peak concentration of 1,2 dichloroethane under scheme 2 is consistently below the peak concentrations predicted to occur under scheme 1. For 1,2 dichloroethane, the time required to restore the aquifer to a $10^{-6}$ cancer risk level is approximately 11 years shorter under scheme 2 than scheme 1.

For tetrachloroethene, the peak concentration is also always less under scheme 2 than under scheme 1. The effectiveness of scheme 3 is even greater than scheme 2 in reducing peak concentration over time of tetrachloroethene. By combining scheme 3 with a plume stabilization well, its effectiveness in reducing peak concentration over time would increase. Scheme 3 with a plume stabilization well is a part of the recommended alternative. This combination, however, was not modeled due to limitations in the model and an attempt to keep the number of simulation runs at a reasonable number.

The time to achieve a $10^{-6}$ cancer risk level for tetrachloroethene is only slightly reduced (approximately 2 years) under scheme 2 in comparison to scheme 1. However, scheme 3 reduces the aquifer restoration time over scheme 1 by approximately 7 years. Again, installing a plume stabilization well should increase the effectiveness of scheme 3. The magnitude of that increase is not known precisely but reasonably may be assumed to be the incremental increase in effectiveness the plume stabilization well had on scheme 1. Refer to the slope of the lines in Figure A.14.

Vinyl chloride is discussed here, however the information on vinyl chloride should be viewed with considerable caution. For vinyl chloride, the effectiveness of scheme 2 in reducing peak concentration is substantial, approximately an order of magnitude difference. However, the difference is greatest around 5-10 years after pumping starts. An important factor Figure A.19 illustrated is the reduction of the peak concentration of vinyl chloride at the nearest receptor well that is observed under scheme 2 versus scheme 1. The nearest receptor well is used for watering cattle. Under scheme 2 the peak concentration of vinyl chloride is approximately .9 parts per billion (ppb) under scheme 2 and 10 ppb under scheme 1. This is a significant reduction because the Safe Drinking Water Act proposed maximum contaminant level (MCL) for vinyl chloride is 1 ppb.

Because of the effectiveness of the plume stabilization system in minimizing downgradient contaminant migration, it is recommended in the FS in combination with the extraction/injection scheme as the groundwater extraction component of the recommended alternative.

2. Groundwater Discharge and Treatment

After the initial screening of technologies in the FS, the remaining technologies for discharge of groundwater were 1.) surface discharge to a nearby creek, 2.) aquifer reinjection, and 3.) discharge to the Seymour Wastewater Treatment Plant (POTW). In all of these discharge options, treatment of the groundwater would be necessary.

Based upon the initial screening of groundwater treatment technologies, air stripping and carbon adsorption were retained for further evaluation. The FS determined that based upon the wide variety of organics present in the groundwater, both technologies would be needed to adequately treat the water. The organics in the groundwater include 1,1,1 trichloroethane, tetrachloroethene, trichloroethene, methylene chloride, toluene, benzene, xylenes, phenols and acetone. Metals have not been detected in the groundwater at significant concentration.

In addition to air stripping and carbon adsorption, mixed-media filtration is also necessary for cost-effective treatment. The mixed-media filter will remove iron precipiation and other suspended solids prior to the water flowing through the carbon adsorption unit. This filtration will prevent clogging of the carbon which would reduce it's effectiveness.

The POTW has a pretreatment program which sets standards for allowable discharges to the sewer system. The anticipated flow of the plume stabilization well, approximately 80-85 gallons per minute (gpm) or 115,200-122,400 gallons per day, will not pose a hydraulic loading problem on the POTW. The POTW has a design capacity of 4.3 million gallons per day (mgd) and the current average flow is approximately 3.2 mgd. The POTW has a good compliance record and is currently in compliance. Because of the POTW's compliance program, the pretreatment program, the pretreatment of the groundwater, and the additional treatment at the POTW, discharge to the POTW is protective of public health and the environment.

An NPDES permit would be necessary in order to discharge groundwater to a nearby creek. The discharge limitations of such a permit, although not known precisely, can be expected to be very strict because the receiving stream is an intermittent creek. Therefore no dilution factor can be considered when setting discharge criteria. To meet these anticipated discharge requirements a biological treatment process may have to be added to the sequence identified above. The addition of biological treatment would raise the cost of this option considerably in relation to discharge to the POTW. Another factor that makes an NPDES discharge less practical for the plume stabilization system is the time that it may take to get a permit.

Reinjection of groundwater requires a permit from the Indiana Department of Environmental Management. As with the NPDES permit discharge limitations, the injection limitations are not precisely known. However, the IDEM has indicated that they strongly discourage reinjection, but have not commented on data submitted to them containing expected effluent quality from the air stripping, mixed-media filter, and carbon adsorption.

Based upon the cost and implementability of the discharge to the POTW after air stripping, mixed-media filtration, and carbon adsorption, this discharge and treatment option is the component of the recommended alternative in the FS.

3. Alternatives in the Phased Feasibility Study

Based on the cost and the effectiveness of the plume stabilization well and associated discharge and treatment processes, which were evaluated in the FS and summarized above, a phased feasibility study (PFS) was performed to evaluate whether the plume stabilization system should be implemented as soon as possible, whether remedial action with respect to groundwater should be delayed until the final remedy is selected and implemented, or whether no action in regard to groundwater contamination is appropriate.

An evaluation of these three alternatives follows.

Alternative Evaluation

The alternatives under consideration in the phased feasibility study were: 1.) No action; 2.) Wait until the final remedial action is selected and implemented; and 3.) Installation of a plume stabilization system.

The no action alternative is not appropriate because of the existing threat to public health, welfare and the environment from the high concentrations of contaminants beneath and migrating with the groundwater from the site. Additional potential threats to the public health, welfare and the environment exist as contaminated groundwater migrates away from the site and affects a larger area. The existing and potential public health and environmental threats are detailed in the Remedial Investigation Report, Chapter 9-Endangerment Assessment of the No Action Alternative. Because of the findings of this endangerment assessment, the draft feasibility study contemplates either aquifer restoration or plume stabilization as a part of any final remedial action.

There are no monetary costs associated with the implementation of the no action alternative.

Alternative 2, waiting until the final remedial action is selected and implemented amounts to no action in the short term. During the estimated 2.5 year period (Spring 1987 to Fall 1989) that it may take to select, take appropriate enforcement action, and implement a final remedial action, a minimum of approximately $3.07 \times 10^6$ cubic feet (22,963,600 gallons) groundwater will flow beneath the site and potentially become contaminated. The actual volume of groundwater that will become contaminated is dependent upon the mobility of different contaminants and the actual increase in the 3-dimensional extent of that particular contaminant. The main body of the contaminant plume will advance 375 feet during this 2.5-year period according to computer modeling predictions. The edge of the plume as defined by the $1x10^{-6}$ cancer risk level will advance different distances for different compounds over 2.5 years. For example, the edge of the vinyl chloride plume could advance 800 feet; the 1,2 dichloroethane plume could advance 450 feet; and the tetrachloroethane plume could advance 200 feet. Refer back to the earlier figures for graphic representation of the areal increase of the respective contaminant plumes. Also previously discussed was the increased effectiveness of the various groundwater extraction schemes if the plume stabilization well is installed.

Monetary costs associated with this alternative are limited to groundwater monitoring costs that would be necessary during the interim period. However the installation and start-up costs of the plume stabilization system would be incurred during the final remedial action if U.S. EPA's recommended alternative is ultimately implemented.

A reasonable assumption is that the costs for installation and start-up of the plume stabilization system, $300,000, would be necessary as a pilot study or a portion of the design phase of the final remedial action. This alternative merely delays the implementation of aquifer and treatability tests which are included in the installation and start up costs of the plume stabilization system. Therefore, this cost was included as a cost under this alternative. In addition, some groundwater monitoring would be necessary during the intervening 2.5 year period. A minimum of one round of groundwater sampling and analysis every six months is estimated. This would result in 5 rounds of monitoring for approximately twelve wells at a cost approximately $800 per sample. This amounts to approximately $48,000. This cost, in addition to the installation and start up costs, total $348,000.

Implementation of alternative 3, the plume stabilization system will minimize the migration of contaminants downgradient from the extraction well during the duration of the public comment period, the negotiation and/or litigation period with potential responsible parties, and the design and implementation of a final remedy. Assuming an 85 gallon per minute (gpm) pumping rate is continuously maintained for the 2.5 year period assumed for this operable unit, 101,690,000 gallons of contaminated groundwater will be extracted, treated and discharged to the Seymour Wastewater Treatment Plant. This system increases the effectiveness of any of the groundwater extraction schemes by reducing the area (and volume) of contaminated groundwater, by reducing the peak concentration of contaminants in the groundwater and by reducing the time needed to restore the aquifer. The PRPs consultant, Geraghty & Miller, estimates that installing the plume stabilization system will reduce the time for aquifer cleanup by several years. Further, the area where institutional controls may be needed is reduced. Institutional controls are a component of EPA's recommended alternative identified in the FS.

The experience gained from implementation of this system would be extremely useful and help expedite and refine the remedial design of a final response action.

The plume stabilization well will also reduce, although slightly the vertical gradient that exists in the confining layer between the shallow and deep aquifers. This would reduce contaminant migration into the deep aquifer.

The plume stabilization system is consistent with all final remedies for the site with the exception of no action. Key pieces of information that would be obtained are: aquifer behavior under stress (pumping), including pumping rates, and drawdown, and treatability results that can be used to maximize efficiency of any final extraction and treatment system.

As previously stated, the no action alternative is not acceptable and therefore the draft FS contemplates either aquifer restoration or plume stabilization as a component of any final remedy. Any remedial alternative selected will be refined based upon the information obtained from implementing this operable unit.

Geraghty & Miller provided the estimate of the installation and start up costs. EPA provided the estimate of the O&M costs.

The estimated costs of this alternative are $300,000 for installation and start up of the plume stabilization system. Operation and maintenance (O&M) costs for the system are estimated at $100,000 per year or a total of $250,000 for the 2.5 year period prior to implementation of the final remedial action. The estimated total cost for this alternative is $550,000.

Table 1 provides a summary of the alternative evaluation.

Recommended Alternative

Alternative 3, the plume stabilization system, is recommended because it will stabilize the migration of contaminants in the shallow aquifer for a relatively small cost, ($550,000 - $348,000 = $212,000). The real cost results from the operation and maintenance of the treatment system and additional monitoring associated with the effluent and the POTW. This action will minimize the area in which the public could potentially be exposed to contaminants migrating from the site and the area that could require institutional controls. This will also reduce peak concentrations of contaminants and may reduce the time and the cost of the final remedy. In addition, the information gained during implementation of this system will expedite and allow optimization of the design of any groundwater alternative selected as part of the final remedy.

This system is an effective way of addressing groundwater contamination caused by and migrating from the SRC site.

The plume stabilization system is consistent with the National Contingency Plan, 40 CFR Part 300.

The plume stabilization system includes an extraction well, an observation well and a pretreatment system prior to discharge to the Seymour Wastewater Treatment Plant. The wells will be located north of the western portion of the site (Figure 2). Groundwater flow in the shallow aquifer is north-northwest from the site.

Prior to the installation of the plume stabilization and observation wells, samples will be collected from selected monitoring wells. This set of monitoring results will provide data on current water quality in the vicinity of the plume stabilization well.

The plume stabilization well will be installed by the cable tool method to a depth of approximately 45 feet below the land surface (Figure 3). The well will be completed with an 8 inch diameter casing and screen. The observation well will be drilled in a similar manner.

Both wells will be constructed with black steel pipe; 8 inch diameter for the plume stabilization well and 6 inch diameter for the observation well.

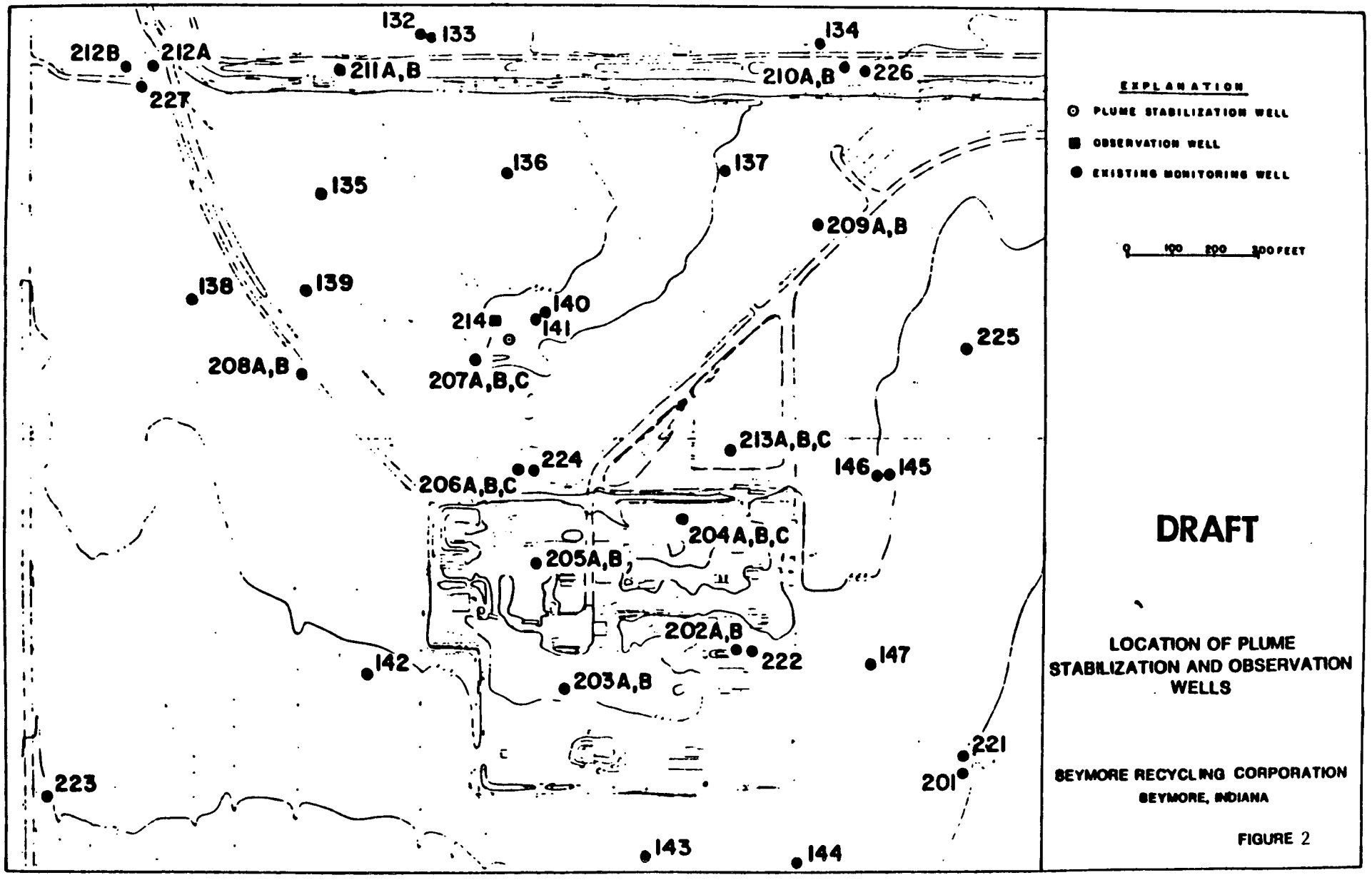
Stainless steel screens 10 feet in length will be installed at the bottom of the upper aquifer. The slot size of the screens will be determined from the results of sieve analyses of cuttings from the lower 10 feet of the upper aquifer.

TABLE 1

ALTERNATIVE EVALUATION
SUMMARY MATRIX

| | Alternative 1 No Action | Alternative 2 Wait Until Selection of Final RA | Alternative 3 Plume Stabilization System |
|---|---|---|---|
| Technical | Allows continued migration of hazardous substances causing unacceptable health risk. | See discussion for Alternative 1. Release is for shorter period (2.5 years is assumed). | Groundwater pumping will minimize migration of contaminant plume past extraction well. |
| Public Health and Welfare Criteria | Public Health risk exists for ingestion and absorption of groundwater. Cancer risk level in groundwater ranges from $1x10^{0}$ to $1x10^{-2}$. Duration of potential exposure is greater than 100 years for shallow groundwater. | See discussion for Alternative 1. Duration of potential exposure reduced when final remedial action is implemented. | Limits potential exposure to groundwater on-site and a short distance downgradient. Risk levels remain the same because the source is still present. |
| Environmental Criteria | Contaminated groundwater plume continues to expand and may discharge to surface water. | See discussion for Alternative 1. Duration of expansion will end when final remedial action is implemented. | Groundwater degradation and public health risk minimized downgradient of extraction well. |
| Institutional Criteria | Uncontrolled hazardous waste site does not meet criteria for RCRA and cannot be deleted from the NPL. | See discussion for Alternative 1. RCRA and CERCLA requirements may be met when final remediation is implemented. | All applicable requirements will be met for extraction, treatment and discharge. |
| Estimated Cost | 0 | $348,000* | $550,00 |

*Includes costs that would not be incurred in the final remedial action if the plume stabilization system was installed.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208A,B
207A,B,C
213A,B,C
224
146
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206A,B,C
204A,B,C
205A,B
202A,B
222
147
142
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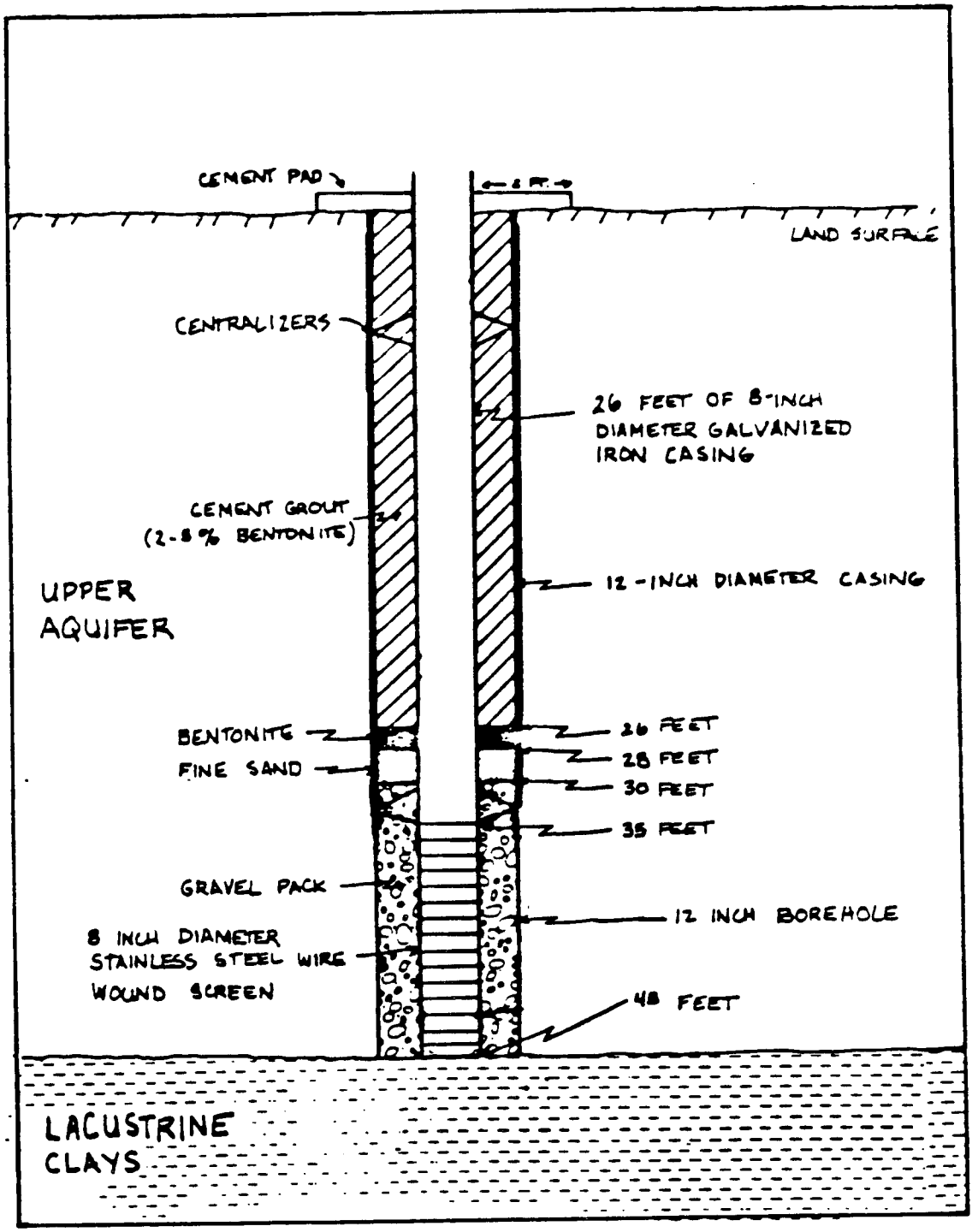
EXPLANATION
PLUME STABILIZATION WELL
OBSERVATION WELL
EXISTING MONITORING WELL
0 100 200 300 FEET
DRAFT
LOCATION OF PLUME STABILIZATION AND OBSERVATION WELLS
SEYMORE RECYCLING CORPORATION
SEYMORE, INDIANA
FIGURE 2

FIGURE 3




**GENERALIZED WELL CONSTRUCTION DIAGRAM FOR PROPOSED PLUME STABILIZATION WELL SEYMOUR, INDIANA**

DRAFT

A gravel pack will be installed around the well screens to 5 feet above the top of the screen. The gravel will be followed by 2 feet of fine sand and then 2 feet of bentonite pellets. The sand prevents any bentonite from entering the screened zone. The bentonite prevents migration of fluids through the annular space into the screened zone. The remainder of the annular space is filled with a cement/bentonite grout.

Both wells will be developed by pumping and surging. Development will take approximately two days for the plume stabilization well. A good hydraulic connection with the aquifer must be established. In addition, the pumping rate of the well will be determined during the development period. The observation well will be developed for a period of approximately 8 hours. Upon completion of the plume stabilization well and the observation well, a step test and an aquifer test will be performed on the plume stabilization well. The step test will begin with a pumping rate of 30 gallons per minute (gpm), will increase to 60 gpm and will end at 80-85 gpm. Each step will be run for at least two hours. The pumping rates and the time allotted to each step may be changed during the test based upon the data generated.

Water levels during the step test will be measured at appropriate intervals so specific capacity values for the stabilization well can be estimated. Water levels will be measured in the observation well and several well clusters in the vicinity of the plume stabilization well.

The aquifer test will be run at a pumping rate of 80-85 gpm for a period of not less than five days. Based upon the data generated during the test, the pumping rate may be increased and the time period extended.

During the aquifer test, water levels will be measured in the observation well and several monitoring wells at frequent, specific time intervals over the entire testing period. In the remaining monitoring wells, water levels will be measured daily.

Water quality sampling and analyses will be conducted during the aquifer test.

All water generated during the step and aquifer tests will pass through the pretreatment system before discharging to the sewer system which will carry the water to the Seymour Wastewater Treatment Plant.

The water withdrawn from the aquifer by the plume stabilization well will be piped to the pretreatment system in the southeast portion of the triangular area, just north of the fenced portion of the site.

The pretreatment system was developed taking into account the Seymour Wastewater Treatment Plant and the East Fork of the White River, which is the ultimate receiving stream. Preventing a plant upset and meeting the plant's pretreatment requirements were the major concerns. The first precaution to prevent a plant upset is to acclimate the plant with small volumes of contaminated water from the site. The volume of water would be increased over a several week period to build up a bacteria population that can tolerate and degrade the contaminants of concern.

The pretreatment system will consist of an air stripper, a sand filter, and a carbon adsorption unit.

The air stripper will be first in the pretreatment series. The air stripper will remove a high percentage of volatile organic compounds. Air is forced upward into a packed tower counter current to the flow of water. This counter current flow of air increases the removal efficiency. The amount of air emissions is not expected to be large enough to require emission controls.

The sand filter will remove iron as it precipitates from the extracted groundwater. Iron precipitates out of solution when the extracted groundwater is exposed to atmospheric conditions (oxidizing conditions) in the air stripper and the iron oxidizes and precipitates as an iron oxide. The precipitate can clog the carbon particles in the carbon adsorption unit thereby reducing the unit's organic removal efficiency. Increased frequency of carbon replacement would then be necessary.

The carbon adsorption unit is the final step in the pretreatment system. Organic compounds including some of the volatile organic compounds that passed through the air stripper, will adsorb onto carbon particles as the water flows through the carbon bed. Preliminary plans call for a carbon unit with approximately 13,000 pounds of carbon. Carbon replacement costs are minimized by placing the carbon unit last in the pretreatment system.

The degree and sequencing of pretreatment may be altered based upon both the influent and effluent water quality in order to develop an understanding of the pretreatment system's effectiveness under varying operating conditions.

After pretreatment at the site, the water will be discharged to an existing manhole at the site from which the sewer system will carry the water to the Seymour Wastewater Treatment Plant. The pretreatment system described here will allow the discharge requirements of the Seymour Wastewater Treatment Plant to be met.

Compliance With Other Environmental Laws

The plume stabilization will be operated in compliance with all applicable laws.

At this time the following environmental requirement is expected to apply.

- Pretreatment requirements for discharge to the Seymour Wastewater Treatment Plant.

# COMMUNITY RELATIONS RESPONSIVENESS SUMMARY

for the Public Comment Period

PHASED FEASIBILITY STUDY FOR GROUNDWATER CONTAMINATION

SEYMOUR RECYCLING CORPORATION
Seymour, Indiana

September 25, 1986

Seymour Recycling Corporation Responsiveness Overview

The U.S. Environmental Protection Agency (U.S. EPA) has completed a Phased Feasibility Study (PFS) to evaluate an interim remedy for ground water contamination at the Seymour Recycling Corporation (SRC) Superfund site in Seymour, Indiana. The PFS was completed in August, 1985 under the authority of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. 9601 et seq., and in accordance with the National Contingency Plan (NCP), 40 C.F.R. Part 300.

EPA recommended a system be implemented to stabilize the ground water contamination plume. The public comment period to review the PFS was opened August 15, 1986 and closed September 8, 1986. Notice of the Public Comment period was published in the local Seymour newspaper (Attachment 1). Because the completion of the final Feasibility Study was scheduled for September 1, a public meeting for the PFS was unnecessary. Two written comments on the PFS were received during the public comment period and the action is viewed as a positive step toward remedying the contamination problems at the site.

The public will have an opportunity to comment on the document containing EPA's recommended final remedial action. The final action as recommended by EPA will incorporated the plume stabilization system.

Background of the Phased Feasibility Study The remedial response activities at the SRC site are being conducted under a case management order issued by Judge Wm. E. Steckler of the Federal District Court, South District of Indiana.

In addition a "Stipulation and Order Regarding Meeting of Expert Consultants" was entered into by the United States and the generator defendants in the Spring of 1986. As a result of discussions held pursuant to the above stipulation, the plume stabilization concept was developed. It was included and evaluated in the final FS. In order to expediate implementation of the plume stabilization EPA initiated the PFS to prevent the continued spread of groundwater contamination. This system provides the following benefits: the area of the shallow aquifer that may become contaminated is reduced, the cost of the overall groundwater remedial action may be reduced, the design of the final groundwater remedial action is expedited and the effectiveness of all of the potential ground water extraction schemes is increased.

Community Involvment and Concerns

Community interest at the Seymour Recycling Corporation site dates back to 1976 when the site was reported by residents to the Indiana State Board of Health. Community interest seems to have peaked in early 1980 when the state court placed the site under receivership as a result of SRC failure to abide by a 1978 agreement with the State of Indiana. Residents became aware of the situation and were concerned with the potential danger of soil and ground water contamination from hazardous organic chemicals. The site covers about 14 acres in a predominately agricultural area about

1/2 mile south of the Snyde Acres subdivision. The main concern continued to be the health hazards associated with groundwater contamination.

In the early stages of EPA's involvment the community felt it had not received adequate information about the health hazards. The overall image of EPA in the Community was regarded as "poor " and was generally due to a lack of communication. The community continued to show interest in the progress of EPA's studies.

A community relations program to address citizen's concerns is in place. It provides for information concerning site activities to be available to the citizens, involved agencies, elected officials and the media in a timely manner. Information on the scope, progress and findings of the Remedial Investigation/ Feasibility Study (RI/FS) has been released through fact sheets reporting Superfund work and the settlement of monies. Repositories have been established at the Seymour City Hall, the Seymour Public Library and the Seymour Chamber of Commerce. It provides interested parties the opportunity to review all site related documents.

The focus on the community concerns remains the possible health effects from the contamination at the site and the need for communicating this information to the community.

Interest and concerns of residents

Two letters were received from the public that commented on the PFS and recommended alternative. Both letters were in favor of implementing the plume stabilization system. Copies of the two public comment letters and U.S. EPA's specific responses are attached (Attachment III).

ATTACHMENT 1

PUBLIC COMMENT PERIOD NOTICE

THE UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY

is accepting

PUBLIC COMMENTS

on the proposed Plume Stabilization System
for
SEYMOUR RECYCLING CORPORATION
Superfund Site

U.S. EPA invites public comments on the "mini Feasibility Study" prepared for the proposed Plume Stabilization System.

Copies of the Remedial Investigation and the "mini Feasibility Study" are available for review at the Seymour Public Library, the Seymour City Hall and the Seymour Chamber of Commerce.

Comments on the proposed Plume Stabilization System must be received by EPA no later than SEPTEMBER 8, 1986.

Questions about the findings of the Remedial Investigation and comments on the "mini Feasibility Study" for the Plume Stabilization System may be addressed to:

ART GASIOR
Community Relations Coordinator
U.S.EPA Region V
230 S. Dearborn St.,
Chicago, Il. 60604
(312) 886-6128
TOLL FREE - 1-800-621-8431 (9:00 - 4:30 Central Time)

U.S. EPA will conduct a public meeting and another public comment period on the full feasibility study after the study is released in September, 1986.

ATTACHMENT 2

LETTER FROM THE DEPARTMENT OF JUSTICE TO THE

DEFENDANTS PROVIDING NOTICE OF THE PUBLIC COMMENT PERIOD

U.S. Department of Justice

DTB:EH:gak
62-26S-19

*Washington, D.C. 20530*

August 26, 1986

All Counsel of Record
United States v. Seymour Recycling Corporation, et al.

Re: Phased Feasibility Study and Opportunity to Comment

Dear Counsel:

The Environmental Protection Agency (EPA) has issued a phased Feasibility Study which proposes the installation of a plume stabilization system for contaminated ground water at the Seymour Recycling Corporation site near Seymour, Indiana. Enclosed is a "Superfund Fact Sheet/Update" for the Seymour site for Summer 1986. The report provides an overview of the Remedial Investigation and the proposed plume stabilization system. The public, including the defendants, are invited to submit any comments that they may have on the phased Feasibility Study or the proposed remedial action by no later than September 8, 1986. Directions for obtaining copies of the report or submitting comments are on the last page of the report.

Notice of this public comment period was first published on August 15, 1986 in the Seymour local newspaper and sent to persons on the mailing list for the public maintained by the EPA Region V Office of Public Affairs. A form for placement on the mailing list is also found on the last page of the report.

A copy of the phased Feasibility Study was provided last week to Geraghty & Miller, consultants for the generator defendants. This study follows technical discussions between those consultants and EPA consultants and program staff.

The full Feasibility Study (FS) is scheduled to be available by September 1, 1986. Shortly thereafter a notice of an opportunity for public comment will be made. After the public comment period EPA will issue its final decision on a remedy for the Seymour site. Copies of the FS will be available for review

at public repositories. In addition, copies will be sent to lead liaison counsel for the generator defendants and to their consultants Geraghty & Miller. Copies will also be available under the Freedom of Information Act.

Thank you for your attention to this matter.

Sincerely,

Assistant Attorney General
Land and Natural Resources Division

By:

Larry Kyte by EH
Larry Kyte
Assistant Regional Counsel
U.S. Environmental Protection Agency
Region V

Eva Heffernan Attorney
Environmental Enforcement Section

Enclosure

cc w/enclosure:
All Counsel of Record (Distribution List Attached)
Honorable William E. Steckler
Charles Goodloe
Anna Thode, EPA HQ
Art Gasior, EPA Region V, Office of Public Affairs

# ATTACHMENT 3

## PUBLIC COMMENT LETTERS AND U.S. EPA'S RESPONSES

224 South Chestnut Street
P. O. Box 312
Seymour, Indiana 47274

GREATER
SEYMOUR
CHAMBER of COMMERCE

Telephone:
812-522-3681
Telex: 276253

August 26, 1986

Honorable Art Gasior
Community Relations
U.S. EPA Region V
230 S. Dearborn Street
Chicago, Illinois 60604

Dear Art,

Enclosed is a copy of my letter to Valdas Adamkus which will serve as our comments on the SRC "Phased" Feasibility Study.

There are several other questions that have come to my mind since writing the letter, but I will save them for the public meetings to be held in September concerning the Remedial Investigation.

I have written Judge William E. Steckler to get a clarification on the "Phased" Feasibility Study vs. the Final Feasibility Study. I hope to hear from both Judge Steckler and Mr. Adamkus before the public comment period is over.

Sincerely,

John D. Bottorff
President

JDB:gls

Enclosure

224 South Chestnut Street
P. O. Box 312
Seymour, Indiana 47274

GREATER
SEYMOUR
CHAMBER of COMMERCE

Telephone:
812-522-3681
Telex: 276253

August 19, 1986

RECEIVED

AUG 21 1986

U. S. EPA REGION 5
OFFICE OF REGIONAL ADMINISTRATOR

Honorable Valdas V. Adamkus
United States Environmental Protection Agency
Region V
230 S. Dearborn Street
Chicago, Illinois 60604

Dear Mr. Adamkus,

I am in receipt of a copy of the E.P.A.'s "PHASED" Feasibility Study for Seymour Recycling Corporation, which your agency is allowing 21 days for public comment.

Let me say first that I was shocked to read the term "PHASED" in the heading of the feasibility study. It was our understanding that the E.P.A. had made a commitment to Federal Judge William E. Steckler that you would present to him by September 1, 1986, a Feasibility Study to clean up the subsurface at S.R.C. At no time have we heard the term "PHASED" used in conjunction with Feasibility Study. That phrase distorts everything we have been promised by the E.P.A. for the past two years and, in our view, is not in keeping with the mandate of Judge Steckler. I plan to bring this issue to Judge Steckler's attention.

Let me say, secondly, that the 14-page E.P.A. "PHASED" Feasibility Study report must be one of the shortest documents in the history of the E.P.A. Your agency has taken literally thousands of pages of history and test results and reduced them to this 14-page document. For that we are thankful, except for the fact that the final product is not what was promised.

Of the three alternatives stated in your study, the best alternative is obviously number three, which calls for plume stabilization and will assist in holding down the spreading of the contaminated ground water.

Our questions to you are:

1. Why are you recommending this stop gap 2 1/2 year plume stabilization measure instead of a total subsurface cleanup which was promised?

2. What is the E.P.A. going to do over the next 2 1/2 years that you have not done in the last 2 1/2 years?

3. How many more delays do you expect after 2 1/2 years?

4. Is there a scientific method available to achieve a true subsurface cleanup or is the government just buying itself another 2 1/2 year delay and hoping for a method to be developed?

C. WMD
cc: ~~WATER~~ RF
Little

Mr. Adamkus, we are not trying to be offensive or uncooperative. We would just like to have your agency be honest with us. Just tell us the truth instead of adding delay after delay which creates frustration and distrust.

If plume stabilization is the best and only method available at this time, then we will accept that, but if the technology is available for a total cleanup then we expect your agency to act responsibly or tell us why you cannot.

Sincerely,

John D. Bottorff
President

cc: Judge William E. Steckler
Senator Richard Lugar
Senator Dan Quayle
Congressman Lee Hamilton
Mayor William Bailey
Dr. Joe Black
Board of Directors
Environmental Issues Committee
Duge Butler

224 South Chestnut Street
P. O. Box 312
Seymour, Indiana 47274

GREATER
SEYMOUR
CHAMBER of COMMERCE

Telephone:
812-522-3681
Telex: 276253

August 19, 1986

Honorable William E. Steckler, Judge
United States District Court
204 U.S. Court House
Indianapolis, Indiana 46204

Dear Judge Steckler,

Enclosed is a copy of my letter to Valdas Adamkus in response to receiving the E.P.A.'s "PHASED" Feasibility Study for Seymour Recycling.

I believe the letter is self explanatory, but we did want you to know of our shock at the E.P.A.'s latest delaying tactic.

Are you as surprised as I that they termed this a "PHASED" Feasibility Study and not a Final Feasibility Study?

I hope my letter finds you in good health. I look forward to your response.

Sincerely,

John D. Bottorff
President

JDB/cjh

5RA-14

09 SEP 1986

Mr. John D. Bottorff
President
Greater Seymour Chamber of Commerce
224 South Chestnut Street
P.O. Box 312
Seymour, Indiana 47274

Dear Mr. Bottorff:

Thank you for your interest in the Seymour Recycling Corporation (SRC) Superfund site.

The phased feasibility study evaluates the implementation of a plume stabilization system. This phased or "mini" feasibility study should not be confused with the feasibility study for the comprehensive remedial action for the site. The plume stabilization system is only one component of the U.S. Environmental Protection Agency's (U.S. EPA) recommended remedial action.

You are correct in your understanding that a feasibility study was due to Federal Judge William E. Steckler, on September 1, 1986. A final report was sent to him, as well as yourself, on August 29, 1986. As you can see from the substance of that report, all pertinent site information was taken into consideration. That report contains the recommended final comprehensive remedial action.

U.S. EPA agrees with you that the best alternative in the phased feasibility study is number three: the plume stabilization system.

Answers to your specific questions follow:

Question 1:

U.S. EPA is recommending the plume stabilization system in order to prevent further downgradient migration of contaminated groundwater from the site. U.S. EPA recommends this system be installed as soon as possible to allow for adequate time to work through the appropriate administrative and enforcement procedures necessary

to implement a final comprehensive remedial action. Two and one-half years is the period estimated that it may take to initiate the final remedial action.

Question 2:

Over the next 2 1/2 years, several actions must be taken. Pursuant to an existing court order, U.S. EPA must negotiate with the remaining potentially responsible parties (PRPs) to determine if the PRPs are willing and capable of implementing the selected remedial action. If a settlement cannot be reached, litigation will be pursued or money from the Hazardous Substance Response Fund (Superfund) may be used. In addition, a design phase which could be complicated and time-consuming must be conducted. When a multi-million-dollar project is being undertaken, it is essential for a cost-effective and technically sound implementation that the design phase provide precise and accurate engineering plans and specifications.

The design phase will include the preparation, review and approval of several documents, as well as additional field work. After design is completed, a qualified contractor will be necessary to implement the design. Preparing bidding documents and reviewing contractor proposals take additional time, as does working out acceptable contract language with the selected bidder. Another factor in the 2 1/2-year estimate is the Superfund reauthorization bill that is being discussed by Congress. The impacts of a new law on response actions at the SRC site may take time to sort out.

Question 3:

U.S. EPA does not expect additional delays after the estimated 2 1/2-year period prior to initiation of the remedial action. Delays have occurred in the past and may occur in the future. However, U.S. EPA will do everything in its power to avert or minimize any delays.

Question 4:

There are technologies available to achieve cleanup of the groundwater, and there are several technologies to achieve at least a partial cleanup of the subsurface soil. U.S. EPA's recommended alternative includes groundwater extraction, which will cleanup the saturated subsurface over a long period of time. To address subsurface soil cleanup, U.S. EPA recommends vapor extraction. This technology will remove the volatile organic compounds which are generally the most mobile and toxic organic compounds.

U.S. EPA believes that it is justified, both from a scientific and environmental perspective, to take advantage of any new technologies that may become available between now and the completion of the vapor extraction process (approximately 3-5 years). Therefore, prior to installing a cap on the SRC site, U.S. EPA recommends an evaluation of the available technologies to determine if a cost-effective technology exists to supplement or replace the cap recommended for the site.

Again, thank you for your comments, and if you have additional questions feel free to contact Art Gaisor, Community Relations Coordinator at (312) 886-6128, or David Favero, Remedial Project Manager, at (312) 886-4749.

Sincerely yours,

/s/ original signed by
Valdas V. Adamkus

Valdas V. Adamkus
Regional Administrator

bcc: Larry Kyte, 5CS-16
Art Gaisor, 5PA-14
ORA
Irene Little
Carol Kavcic (control copy)
Denise Reape

26.

Seymour, Indiana
September 5, 1986

Mr Art Gasior
Community Relations Coordinator E.P.A.
Chicago, Illinois

Mr. Gasior:

After reading the summer update on Seymour Recycling site I have some questions and concerns regarding possible contamination in my well. Even though I am hooked up to city water for drinking and household purposes we still use well water for the cattle and other agricultural purposes. The well is about 600 ft NW from well no 131 on my farm.

My questions are:

When was well no. 131 last tested?

Do you plan to test again in the near future?

Will the chemicals which are moving at a faster rate be concentrated enough to be harmful to cattle?

I would appreciate a reply soon. This farm is set up for a cattle operation and to hook up to city water for them will be very costly. However, I do need to know the dangers of contamination.

Given favor of the pumping station.

Sincerely,

Glenna Otte
812-522-5938

SEP 22 1986

5HE-12

Mrs. Glenna Utte
Route 6
Seymour, Indiana 47274

Dear Mrs. Utte:

This is in reply to your letter of September 5, 1986 to Art Gasior regarding the water quality of monitoring well no. 131, potential effects of cattle drinking contaminated groundwater and the plume stabilization project.

Monitoring well no. 131 near the Seymour site was last sampled in June, 1985. No volatile organic contaminants, the contaminants of concern in the groundwater, were detected in well no. 131. At present there are no plans to test this well in the near future. However, there are plans to test wells nos. 212A and B in late fall or winter. These wells are located approximately 200 feet south-southeast of well no. 131. These test results will provide us with information on the progress of groundwater contamination migrating between the site and your well.

If the plume stabilization system that EPA is recommending is installed, contamination should not reach your well. If contamination would possibly reach your well, the fastest moving contaminants are not expected to be there until 1989. The concentrations that would be expected are a $1 \times 10^{-6}$ increase lifetime cancer risk level. This means that if a human weighing 70 kilogram (approximately 154 pounds) drinks 2 liters (approximately 2 quarts) of contaminated water per day for 70 years, that person would have a 1 in a million would have a 1 in a million greater chance of developing cancer than a person not drinking contaminated water. Other potential toxic effects on body organs, the liver or kidneys for example) would not occur until greater concentrations of contaminants are present and consumed over a long period of time. This health risk for humans can be used as a rough guide for what effects consuming contaminated water may have on cattle.

Continued groundwater monitoring is necessary to verify our contaminant migration predictions. If significant contaminant concentrations originating from the Seymour site reach your well, we can then take an appropriate action. You should not be financially responsible for any needed response.

I hope this answers your questions. Don't hesitate to contact Art Gaisor or myself at EPA's toll free number 1-800-621-8431.

Sincerely,

David Favero
Remedial Project Manager
CERCLA Enforcement Section, III/Ind Unit

bcc: Art Gaisor, 5PA-14
Larry Kyte, 5CS-16

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