Department of Environmental Conservation

Division of Hazardous Waste Remediation

Schatz Federal Bearing Site

Site Number 3-14-003
Dutchess County, New York

New York State Superfund

Record of Decision

Amendment to the 1989 Record of Decision

March 1994

New York State Department of Environmental Conservation
MARIO M. CUOMO, *Governor* LANGDON MARSH, *Acting Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

Schatz Federal Bearing Inactive Hazardous Waste Site
Town of Poughkeepsie, Dutchess County, New York
Site No. 314003

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedial action for the Schatz Federal Bearing inactive hazardous waste disposal site which was chosen in accordance with the New York State Environmental Conservation Law (ECL). The remedial program selected is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300).

This decision is based upon the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Schatz Federal Bearing inactive hazardous waste site and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A bibliography of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

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

Description of Selected Remedy

Based upon the results of the Remedial Investigation/Feasibility Study (RI/FS) and the Remedial Design (RD) Studies for the Schatz Federal Bearing site, including the criteria identified for evaluation of alternatives, the NYSDEC has selected the following remedy to address the contaminant problems at this site:

- Removal and off-site disposal of wastes with PCB concentrations exceeding 500 ppm.
- Stabilization/solidification of metal-bearing slag wastes.
- Consolidation of the various waste types (pond sediments, stabilized slag waste, municipal waste and outlying Schatz waste) to the central waste area. This also includes waste material from the Schatz Plant Site (ID #3-14-074) with PCB concentrations between 1 and 50 ppm.

- Construction of a cover system for the waste area which conforms with the requirements of a hazardous waste landfill.
- Perimeter fencing and institutional controls.
- Long-term groundwater monitoring.

New York State Department of Health Acceptance

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

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

March 30, 1994
Date

Ann Hill DeBarbieri
Deputy Commissioner

TABLE OF CONTENTS

APPENDICES

PAGE

A. LIST OF FIGURES

B. ADMINISTRATIVE RECORD

C. RESPONSIVENESS SUMMARY

1. BASIS FOR REOPENING THE 1989 RECORD OF DECISION

In March, 1989 a Record of Decision was issued by NYSDEC which presented the Department's selection of remedial alternatives to clean up the Schatz Federal Bearing Site. The major components of the selected remedy are summarized briefly as follows:

- Extraction of contaminated groundwater, treatment of groundwater using air stripping, carbon adsorption and chemical precipitation treatment technologies, and reinjection of treated water into the aquifer of withdrawal
- Excavation of the municipal waste, backfilling the excavated area with clean fill to above the water table, installation of a liner system, returning the waste above the liner and capping with an impermeable landfill cover
- Excavation of the Schatz and slag waste and on-site pond sediments, stabilization/ solidification of these wastes, backfilling of the treated waste to the excavated area and covering with a clean soil
- Additional design support activities to assess the feasibility and effectiveness of the selected remedies. These include further definition of the waste areas, additional groundwater monitoring and treatability studies to verify the applicability of the selected technologies.

When this ROD was issued, the selected remedy was designed to be protective of human health and the environment, comply with applicable State environmental quality standards and be cost effective.

Since this ROD was issued, additional data was collected during the Remedial Design Support Testing phase of the Design Study. This report was issued by Metcalf & Eddy in July, 1992 and addressed the following objectives:

- Further assess the extent of contamination at the site.
- Evaluate and assess the extent of ecological impacts from contamination at the site.
- Verify the groundwater extraction/recharge well system developed at a conceptual level in the RI/FS.
- Establish bench-scale treatability design data for the groundwater treatment system.
- Verify the technical feasibility and effectiveness of the waste stabilization/solidification process.
- Establish waste incineration design criteria, if required.

Addressing the above objectives was essential in the Schatz Design program prior to proceeding with detailed Design plans for the various remedial processes. The RI/FS often provides recommendations which are conceptual in nature and require design support data before implementation. The basis for a recommendation by NYSDEC to amend the selected remedial actions set forth in the 1989 ROD is, in part, due to the supplemental Design data which is not compatible with the technologies outlined in this ROD.

2. SITE BACKGROUND

The Schatz Waste Site is located two miles northeast of downtown Poughkeepsie, Dutchess County, New York on Van Wagner Road as shown in **Figure 1**. The Site occupies approximately five-acres of a 22-acre parcel that also includes wetlands and hills **(Figure 2)**. Access to the Site is through two gates along unpaved roads leading from Van Wagner Road to the south and Grand Avenue to the north. There are no utilities or structures located on the Site. Abandoned railroad tracks run along the southwest border to the property. The surrounding area is sparsely developed with both residential and commercial use. Three residences are adjacent to the Site, the nearest residence being approximately 100-feet east of the waste area. The Poughkeepsie Recreation Department and Top Job Sanitation are located 100 feet southwest of the Site across the railroad tracks. Approximately 1/2 mile northeast of this facility is the Dutchess County Sanitation (FICA) landfill, also a Class 2 Inactive Hazardous Waste Site (Site I.D. #3-14-047).

The Site area was originally a wetland and was filled to its present elevation by waste disposal and transfer of overlying soils and overburden from surrounding hills. Disposal of waste materials began prior to 1935 and lasted through the end of 1973. The major contributor was the Schatz Federal Bearing Company which operated the Site from 1949 through 1973. Manufacturing wastes including cutting oils, lubricants, grinding sludges, solvents, coolants and metal parts, were disposed of in pits at the Site. Historical photographs show areas of solid waste, liquids and drums within Site boundaries.

Disposal was discontinued and the Site area covered in 1973. Since that time, personnel from the Dutchess County Health Department and the New York State Department of Environmental Conservation have periodically inspected the Site and collected samples. PCBs have been detected in samples taken from both the landfill and in on-site pond sediments. Concern was raised over the potential for migration of PCBs into nearby groundwater wells and into Casper Creek which eventually flows into the Hudson River, a source for public water supply.

A Remedial Investigation/Feasibility Study (RI/FS) was undertaken by Metcalf & Eddy of New York, Inc. in July 1986 to determine the nature, extent and source(s) of contamination at the Site, to assess the risks to the public and to the environment, and to evaluate alternatives for reducing and/or eliminating those risks. The RI/FS was completed by Metcalf & Eddy in September, 1988; the results of the RI identified several contaminant problems:

- The Schatz Site contains an estimated 124,000 yd^3 of waste material from four primary waste areas including manufacturing waste (90,000 yd^3), municipal wastes (24,000 yd^3), slag waste (5,000 yd^3) and sediment in on-site ponds (5,000 yd^3).

- Soils and on-site pond sediments at Schatz are contaminated with elevated levels of chlorinated solvents, volatile organic compounds, polyaromatic hydrocarbon compounds, PCBs and low levels of metals including arsenic, cadmium, lead, barium, chromium and zinc.

- Surficial (overburden) groundwater at the Schatz Site is contaminated with elevated levels of chlorinated solvents and low levels of PCBs and metals including barium, chromium and zinc.

- Bedrock groundwater at the Schatz Site is contaminated with chlorinated solvents and low levels of PCBs and metals including barium, cadmium, chromium, lead, mercury and zinc.

- Off-site migration of contaminants may be occurring via the bedrock aquifer and surface runoff. Groundwater movement is in a southerly direction. Some downgradient and upgradient private wells were found to be marginally contaminated and may be the result of on-site contamination.

The following table presents a summary of contamination levels for the primary contaminants or indicator chemicals (those contaminants which pose the greatest public health and environmental concern for a particular site) in groundwater and soil/waste samples at Schatz along with the associated New York State cleanup levels or Standards, Criteria and Guideline (SCGs).

	Groundwater (ppb)		Soil/Waste (ppm)		
	Max.	Cleanup	Max.		
	Conc.	Standard	Conc.	Cleanup Goals	
Contaminant	(a)	(b)		(c)	(d)
Benzo (a) pyrene	ND	ND	0.75	0.061	0.043
Bis(2-ethylhexyl)phthalate	380	50	12.7	50	12.7
1,1-dichloroethene	76	5	0.61	0.4	0.004
1,1-dichloroethane	780	5	<.05	0.2	1.0
1,1,1-trichloroethane	290	5	2.2	0.8	1.0
Polychlorinated biphenyls	4	0.1	290	10*	10
Vinyl chloride	190	2	ND	0.2	0.0005
Arsenic	29	25	27.9	7.5 or SB	20
Barium	1,300	1,000	2,000	300 or SB	400
Cadmium	60	10	50	1.0 or SB	10
Chromium	190	50	1,900	10 or SB	100
Lead	1,400	25	2,660	30 or SB	200
Mercury	3	2	0.2	0.1 or SB	1.0
Zinc	1,400	300	1,500	20 or SB	350

(a) - results from unfiltered samples
(b) - based on 6 NYCRR Part 703.5 and 10 NYCRR Part 5 groundwater quality standards
(c) - based on NYSDEC recommended cleanup goals outlined in DHWR Technical and Administrative Guidance Memorandum (TAGM) #4046, Determination of Soil Cleanup Objectives and Cleanup Levels
(d) - based on 1989 Record of Decision

* The cleanup goal for PCBs in soil at 1 foot or greater below ground surface. The cleanup goal for PCBs in surface soils (the top foot) and stream or pond sediments is 1 ppm

SB - site background
ND - non-detectable

3. ENFORCEMENT STATUS

The Schatz Federal Bearing Company has been identified as the major contributor of waste at the Schatz Site. Disposal activity occurred from sometime prior to 1935 through the end of 1973.

In 1982, the McKebe Corporation was created to purchase the landfill property from the bankrupt Schatz Federal Bearing Company. McKebe stockholders (Mr. Richard McCabe, Mr. Michael Kerrigan and Mr. George Bennett) were former officers of the Schatz Company.

Throughout 1985, there were notifications letters and correspondence with the McKebe Corporation seeking funds for a Remedial Investigation of the Site. They refused claiming "an undue and insurmountable financial burden," and the project was undertaken using State Superfund monies. Prior to 1985, the Bureau of Hazardous Site Control had contacted the principals. Mr. McCabe has since died and the McKebe Corporation has been sold to Mrs. Myrna Green and Mr. Richard Curly.

On October 5, 1988, a 60-day letter was mailed to owners of the McKebe Corporation, informing them of our intent to conduct a Design Study. On December 1, 1988, NYSDEC was informed by Mr. Richard Curly that the McKebe Corporation does not have funds to conduct a site remediation.

The PRP refused to conduct an RI/FS at the site when requested by the NYSDEC. Prior to future Remedial Design and Construction activities, the PRP will again be contacted to assume responsibility for the remedial program. If an agreement cannot be reached with the PRP, the NYSDEC will evaluate the site for further action under the State Superfund program. The PRP is subject to legal actions by the State for recovery of all response costs the State has incurred.

4. EVALUATION AND SCREENING OF ALTERNATIVES PRESENTED IN THE 1988 RI/FS

An evaluation and screening of remedial alternatives was carried out for the Schatz Federal Bearing Site in accordance with all State and Federal laws and guidelines. The selection and screening process is presented in detail in the 1988 RI/FS report. Briefly, four screening and evaluation criteria were used in the remedial alterative selection process:

Technical

Alternatives which utilize technologies that are readily available, proven, implementable and meet the stated response objectives (as outlined in the RI/FS) in a timely manner.

Environmental/Public Health

Alternatives with the least adverse impact and provide the largest reduction of risk for the greatest duration.

Cost

Alternatives with costs significantly lower than other alternatives offering similar technical and environmental/public health effectiveness.

Institutional

Alternatives which attain or exceed NYS Standards, Criteria and Guidelines (SCGs). SCGs are the State public health and environmental regulations and laws which have been used to establish cleanup standards for the Schatz Site.

The above screening criteria were used prior to issuance of the 1990 DHWR Technical and Administrative Guidance Memorandum (TAGM) #4030 Selection of Remedial Actions at Inactive Hazardous Waste Sites and the 1990 National Oil and Hazardous Substances Pollution Contingency Plan (NCP) which specify seven screening criteria. These seven criteria are discussed and applied later in this document to assess the revised remedial alternatives.

Based on the above described screening and evaluation process, a preferred remedial action was proposed to the public and after community input, was selected by the State and includes extraction and recharge along with treatment by air stripping, carbon adsorption and chemical precipitation of contaminated groundwater, landfilling of municipal waste and stabilization/ solidification (S/S) of the Schatz and slag wastes (including sediment from on-site ponds). The cost for this alternative was estimated to be $23.9 million; a detailed breakdown of the costs associated with this alternative is presented in the 1989 ROD.

Based on an evaluation of data presented in the RI/FS, the selected remedial alternatives best met the response objectives as outlined in the RI/FS and best satisfied the technical, environmental/public health, cost and institutional screening criteria, meeting the NYS Superfund objective of protecting human health and the environment.

5. REMEDIAL DESIGN STUDY

In October, 1989 a contract amendment between Metcalf & Eddy and NYSDEC was approved to conduct a Remedial Design Study of the Schatz Federal Bearing Site. The purpose of this contract was to verify and design the selected alternatives for the site as presented in the 1989 ROD. The work plan for this Design study was divided into five tasks as follows:

1. Design Support Testing - obtain additional data to further verify the applicability of the selected alternatives and further define the extent of contamination.

2. Design the excavation, handling and disposal of waste materials, and design the groundwater extraction and recharge well system.

3. Design a groundwater treatment plant.

4. Design for stabilization and solidification (S/S) of the Schatz and slag wastes as well as pond sediments.

5. Design an on-site incinerator for Schatz and municipal wastes (optional based on the outcome of S/S treatability studies).

In July 1992, Metcalf & Eddy submitted a report for Task 1 of this study, "Remedial Design Support Report." Tasks 2 through 5 were not carried out because Task 1 data did not support the remedial

technologies presented in the 1989 ROD.

The basis for the Task 1 data collection phase (beyond that of the RI/FS) is described below under six main headings.

1. **Further assess the extent of contamination at the site**

   Chemical analysis of test pit and soil boring samples taken in the vicinity of the Schatz, slag and municipal waste areas and also from surface soils in perimeter areas were used to define the horizontal and vertical limits of contamination and further identify the magnitude of waste volumes that require excavation and dewatering. Off-site bedrock monitoring wells were installed to evaluate hydrogeological conditions and potential plume migration.

2. **Evaluate and assess the extent of ecological impacts from contamination at the site**

   Fish and wildlife studies were conducted in order to assess ecological impacts from on-site contamination and to insure that any impacts were addressed in the remedial design.

3. **Verify the groundwater extraction and recharge well system developed during the conceptual design portion of the feasibility study**

   A three dimensional groundwater flow and transport model was used to determine the number and location of extraction and recharge wells as well as the required flow rates for the well system. Supplemental modeling input data on the physical and chemical characteristics of the aquifer system was obtained from additional groundwater monitoring and observation wells installed in both bedrock and overburden. Aquifer pump tests were conducted to further define aquifer parameters and provide transient data necessary for model construction and calibration.

4. **Establish bench scale treatability design data for a groundwater treatment system**

   Treatability testing of groundwater utilizing variations in contaminant loading was conducted for several processes (air stripping, carbon adsorption and chemical precipitation) to establish chemical requirements, equipment size and finalize process treatment.

5. **Verify the technical feasibility and effectiveness of the stabilization and solidification process**

   Physical testing by three stabilization and solidification vendors was conducted on samples obtained from the Schatz, slag and municipal waste areas during test pit excavations. The samples were mixed and cast in the vendor's laboratory, cured and tested for both physical and chemical parameters, and then tested to determine if contaminants are fixed or immobilized. The results were evaluated to determine if the processes of the three vendors met the performance objectives in the ROD.

6. **Establish incineration design criteria**

   Samples of contaminated waste were collected from the Schatz and municipal waste areas to obtain information for the design of an on-site incinerator and associated auxiliary equipment. Data was provided on waste and residual ash characteristics for use in determining on-site

disposal requirements.

In order to address the six above described data objectives of Task 1, Design Support Testing, the following activities were conducted and data collected:

- **Installation of nine new on-site groundwater wells to further characterize the surficial and bedrock aquifers**

  Two extraction wells, one recharge well and six observation wells were installed on-site and used to conduct two aquifer pumping tests; one in the bedrock aquifer and one at the bedrock/overburden interface. In addition, packer tests were conducted in the bedrock extraction and recharge wells. The purpose of the pump and packer tests were to evaluate the applicability of a groundwater extraction/recharge system to be used in remediating contaminated groundwater.

- **Installation of six new off-site bedrock groundwater monitoring wells**

  These wells were installed both upgradient and downgradient of the site to monitor off-site impacts to groundwater quality from the Schatz Site.

- **Sampling all new and existing groundwater monitoring wells**

  A total of 24 wells were sampled for target compound list (TCL) and/or water quality parameters to assess the current nature and extent of contamination and design the processes for groundwater treatment as proposed in the 1989 ROD. In addition, current water quality data was compared to previous sampling events to assess contaminant trends through time.

- **Drilling and sampling of ten on-site soil borings**

  Soil borings were drilled to further define the vertical and lateral extent of waste material.

- **Surficial soil sampling and analysis**

  A total of 163 surficial soil samples were taken outside the perimeter of known waste areas to verify the limits of contamination. Samples were collected at a depth of 0 to 14 inches and analyzed for lead and chromium These two metals were used as waste indicator chemicals because they have been found to be associated with Schatz waste material.

- **Excavation of 25 test pits on-site**

  Thirteen test pits were excavated with a backhoe up to 12' in depth within the various waste areas. Composite samples were collected of each waste type and used to conduct treatability studies for the stabilization/solidification process. Twelve additional test pits were excavated up to a depth of seven feet to further define the lateral and vertical extent of the Schatz waste area.

- **Groundwater modeling**

  Data from the groundwater pump tests and packer tests were used to conduct a three-dimensional groundwater flow and contaminant transport model. This model was being conducted to help develop the operational parameters of a pump and treat system for the site.

5.1 Conclusions of the Remedial Design Support Study

The following represent the major conclusions from this study. Of these, several impact the applicability of those remedial alternatives set forth in the 1989 ROD:

- Concentrations of contaminants detected in the groundwater samples collected during the Remedial Design study were generally significantly lower than those concentrations detected during the 1988 Remedial Investigation. A comparison of total VOCs between the 1988 RI and the Remedial Design study show a 33% decrease for those groundwater wells impacted at the site.

- ROD cleanup levels were exceeded only by a relatively small number of surficial soil samples for lead and chromium and by groundwater samples from wells S-3, B-3, S-4, S-5, E-1 and E-2 for the following volatile organics: 1,1-dichloroethane, 1,1,1-trichloroethane, 1,1-dichloroethene, and vinyl chloride. These monitoring wells are located in the central waste area or in the southern (downgradient) portion of the site.

- No contaminants were detected in the off-site groundwater monitoring wells.

- Based on aquifer pump test data, extraction/recharge well yields are substantially lower than the 35 gpm predicted during the FS. This would require the use of significantly more recharge and extraction wells than once thought to effectively capture the known contamination and meet existing NYS groundwater standards.

- Groundwater modeling studies estimate that it will take between 7 and 10 years to remove the most widespread site contaminant, 1,1-dichloroethane, and as much as 30 years to remove 1,1,1-trichloroethane down to health-based levels from the aquifer.

- Groundwater treatability data indicate that the use of activated carbon alone, rather than the combined air stripping and carbon adsorption as recommended in the ROD, would address organic contaminants in the groundwater at the Schatz Site.

- Surficial soil and soil boring data confirm those waste boundaries delineated in the 1988 Remedial Investigation. An additional Schatz waste area was discovered east of the municipal waste area adjacent to an on-site pond. Approximately 4,000 yd^3 of waste material are estimated in this new waste area.

- Based on solidification and stabilization (S/S) treatability testing of the three waste types present at Schatz, only inorganics (including cadmium, chromium, lead and zinc) showed a reduction in leachable contaminants when subjected to this process. Lead, however, was the only inorganic of concern since it was the only contaminant, when left untreated, leached at levels exceeding regulatory criteria. Organic contaminants did not leach from any waste samples at concentrations exceeding regulatory levels, treated or untreated.

- Although elevated levels of several contaminants exist in on-site soils, these contaminants do not appear to pose a significant threat to terrestrial organisms. Sediment data, however, indicate that significant bioaccumulation of PCBs is occurring. Based on this data, sediments should be remediated in the two small ponds along the southwestern edge of the site to levels protective of wildlife which feed on water habitat. In addition, restoration of affected habitat should be

considered part of the remedial activity, including regrading to original contours. Additional sediment sampling should be conducted in the larger pond to the northwest to determine if remediation of these sediments is also necessary. Locations of on-site remediation facilities should be selected to have the least impact on fish and wildlife resources.

5.2 Impact of Design Support Testing Data on the Selected Remedial Alternative Presented in the 1989 ROD

Data from the Design Support Testing Task for the Schatz Site significantly impacts the technologies set forth in the 1989 ROD, eliminating or modifying all of those alternatives presented in that document. Stabilization and solidification of the Schatz waste and landfilling of the municipal wastes would no longer be applicable. This would eliminate the need for most waste excavation and handling activities. In addition, the groundwater pump and treat alternative as proposed in the 1989 ROD would be unnecessary because VOC levels are decreasing with time and off-site migration is not occurring. These fundamental changes in the scope and direction of this project, and the basis for these changes, are presented below:

5.2.1 Stabilization/Solidification of Schatz and Slag Wastes and Pond Sediments

This alternative, described in detail in the 1989 ROD, calls for mixing waste material with various binders and additives to form a solidified mass which would serve to immobilize contaminants by chemical stabilization and physical encapsulation. Treated waste would be left on-site. This alternative would effectively meet the environmental/public health and response objectives by reducing direct contact with waste and immobilization of contaminants. In addition, the treated waste is expected to meet or exceed the soil cleanup guidelines for the site.

The measures of performance of this technology are based on leachability testing including the Toxic Characteristic Leaching Procedure (TCLP) and the Extraction Procedure Toxicity Characteristic Test (EPTOX); criteria used for identifying the characteristics of a hazardous waste as specified in 6 NYCRR Part 371.

Leachability testing was carried out during Design Support Testing for the three waste areas at the Schatz site; Schatz, slag and municipal waste areas. Composite samples from each waste area were sent to three stabilization/solidification (S/S) vendors. Vendors were tasked to perform a series of physical tests on treated waste including permeability, unconfined compressive strength and freeze-thaw. In addition, vendors were asked to submit samples of treated waste to an analytical laboratory for leachability testing; all vendors were instructed to use the same lab to insure consistency. Samples of untreated waste were also analyzed using the same testing methods. In addition, untreated samples were analyzed for full TCL.

The results of this leachability testing are as follows:

- When both treated and untreated wastes were subjected to EPTOX or TCLP leach testing, leaching of the indicator chemicals was minimal or non-existent with concentrations in the leachate falling well below regulatory levels in all but one sample. Lead from the untreated slag waste sample leached at concentrations above this level, however, the lead concentrations of the test sample was uncharacteristically high at 0.3%.

- With the exception of some of the metals (cadmium, lead and zinc) there were no significant differences in the leachability of contaminants when comparing treated and untreated samples.

- Only the Schatz manufacturing waste contained significant levels of organics, primarily PCBs and semivolatiles. Results from leachability tests of this waste showed that the organic constituents did not leach from treated or untreated Schatz waste, indicating that this technology is both ineffective and unnecessary when treating Schatz waste.

The above data indicate that the Stabilization/Solidification process is only effective when applied toward immobilizing certain inorganics present at Schatz and is not effective or necessary for applications directed toward PCBs and other organics present in Schatz waste.

5.2.2 **Landfilling of Municipal Wastes**

This alternative, described in detail in the 1989 ROD, was recommended because the character of the waste (coarse debris) makes it unsuitable for stabilization. This alternative calls for excavation of the municipal waste, construction of a 6 NYCRR Part 360 liner after backfilling with cleanfill above the water table, replacing the waste and capping with a 6 NYCRR Part 360 cover. In addition, a gas and leachate collection and treatment system would be constructed if concentrations of pollutants warrant.

While no design data was collected to specifically address the feasibility of this alternative, certain observations were made during the Design which impact this alternative:

- Additional investigation to delineate the boundaries of the various waste areas revealed an area northeast of the municipal waste area with mixed municipal and Schatz waste indicating that the boundaries between the various waste areas are not always clearly defined.

- Because Stabilization/Solidification treatability testing of municipal wastes (as well as Schatz and slag wastes) showed little or no leaching of contaminants from untreated waste, a liner does not appear to be necessary to mitigate groundwater contamination. Capping alone would serve to restrict direct contact with the waste, the only existing route of exposure. As previously indicated, no off-site migration of contaminated groundwater has been shown to occur.

The above data suggests that a cap for the municipal waste would provide the same level of protection as a combined cap and liner. A cap alone would prevent further leachate production and eliminate possible direct contact with the waste, the only verified route of contaminant exposure.

5.2.3 **Groundwater Pump and Treat**

This alternative, described in detail in the 1989 ROD, would include drilling a series of downgradient extraction wells and upgradient recharge wells for the purpose of extracting contaminated groundwater and controlling migration of contaminants off site. The groundwater treatment system in the 1989 ROD calls for combined air stripping, carbon adsorption and chemical precipitation. Air stripping removes volatile organic compounds (VOCs) and serves as a pre-treatment process for carbon adsorption. Carbon adsorption is effective in removing all other organics present at Schatz including PCBs. Chemical precipitation is used to remove metals from the groundwater prior to organics removal. This multi-treatment process would effectively address all contaminant concerns for Schatz groundwater.

Data collected in the Design Study to evaluate pump and treat include the following:

- Pump tests were conducted in each of two bedrock extraction wells; one in the shallow bedrock, one in the deeper bedrock. In addition, packer tests were conducted in the deep bedrock extraction well and the recharge well. This data was collected to determine the feasibility of pumping contaminated groundwater.

- Bench scale treatment units were set up on-site to assess the effectiveness of air stripping, carbon adsorption and chemical precipitation on representative samples of contaminated groundwater. In some cases, groundwater samples were spiked with contaminants typically found at Schatz to simulate worst-case conditions.

The results of pump and treat testing are as follows:

- Aquifer test data indicates that many more extraction/recharge wells would be required to achieve the optimal pumping rate thought necessary to restore the aquifer. An individual well pumping rate of 35 gallons per minute (gpm) was predicted based on 1988 RI data, however pump test well yields were only 3 to 6 gpm.

- Groundwater modeling studies estimate that it will take between 7 and 10 years to extract the most widespread site contaminant, 1,1 dichloroethane, and as much as 30 years to extract 1,1,1 trichloroethane from the aquifer.

- The cost of designing, constructing and operating a remediation system employing numerous extraction and recharge wells over several acres while attempting to lower contaminant concentrations to meet NYS groundwater standards may prove to be cost-prohibitive due to the low well yields and the small area impacted by pumping.

Other factors to be considered which question the necessity of groundwater pump and treat altogether are as follows:

- Concentrations of VOCs were, on average, 33% lower in groundwater samples taken on-site during the Design study in 1990 as compared to the RI/FS study in 1988.

- Six off-site bedrock monitoring wells within 400 feet of the site boundary were installed during the Design study to evaluate potential off-site migration of contaminants. No contaminants were detected in these wells, indicating that contaminants are not migrating off-site.

The above observations from the Design study indicate that groundwater contamination at the site is diminishing with time and is not migrating off-site. The largest concentration of total VOCs in any monitoring well was 1.1 ppm, consisting primarily of 1,1,1 trichloroethane and 1,1 dichloroethane. While it appears that carbon adsorption alone could successfully treat worst-case groundwater at Schatz, the low well yields would necessitate the drilling of numerous extraction and recharge wells and require up to 30 years to treat contamination to meet NYS groundwater standards.

5.3 Summary of Impacts of Design Support Testing Data on the Remedial Alternative Presented in the 1989 ROD

The most significant findings of the Design Support Testing Study which profoundly impact the feasibility or applicability of the alternative outlined in the 1989 ROD are as follows:

- The Stabilization/Solidification process was found to be effective only when applied toward immobilization of certain inorganics and is largely ineffective (and unnecessary) when applied toward PCBs and other organics found at Schatz. In addition, the organic contaminants found in on-site waste are very insoluble and tend to remain in place.

- Very little evidence exists for hazardous constituents within the municipal waste area. Leachability tests on this waste reveal that no hazardous contaminants are leached out of either the treated or untreated waste exceeding the regulatory limits. As a result, the requirement for a landfill liner as proposed in the 1989 ROD to mitigate the leaching of hazardous constituents from municipal waste no longer appears to be a concern. The primary route of contaminant exposure would be direct contact, an exposure route which would be mitigated by capping.

- Groundwater contamination at the site is diminishing with time and is not migrating off site. The largest concentration of total VOCs in any monitoring well was 1.1 ppm, consisting primarily of 1,1,1 trichloroethane and 1,1 dichloroethane. While it appears that carbon adsorption alone could successfully treat worst-case groundwater at Schatz, the low well yields would necessitate the drilling of numerous extraction and recharge wells and require up to 30 years to treat contamination to meet NYS groundwater standards.

6. PCB CHARACTERIZATION STUDY

In August, 1993 a PCB Characterization Study was carried out in order to identify the extent and distribution of PCBs in the Schatz waste area. A total of 129 borings on 40-foot spacing were drilled through the waste material and soil samples were collected every four feet down to undistributed soil or bedrock. Samples were analyzed for PCBs. The results of these findings (presented in **Appendix A**) indicate that PCBs exist in very discrete pockets in the northwestern and central portions of the Schatz waste area at depths below six feet. The shallow sample interval (two to four feet) showed a more random distribution of PCBs. This is believed to be a function of significant surface disturbances coupled with an erratic distribution of clean cover material which varies from zero to three feet thick throughout the site. In the center of the well delineated, deeper PCB area, a pocket of PCBs exceeding 500 ppm was found between six and twelve feet in depth. The total volume of soil

exceeding 500 ppm is estimated at 365 yard^3. In addition, approximately 11,300 yd^3 of soil has PCB concentrations between 50 and 500 ppm and approximately 28,500 yd^3 of soil has PCB concentrations between 10 and 50 ppm.

7. SELECTED REVISED REMEDIAL ALTERNATIVE FOR THE SCHATZ FEDERAL BEARING SITE

Results of the Design Support Testing treatability studies and analytical data have demonstrated that the selected alternatives outlined in the 1989 ROD are no longer applicable for this site. This section will present a revised remedial alternative which is supported by the remedial design data, previously outlined in this document.

7.1 Goals for Selection of a Revised Remedial Plan

The revised alternative selected for the Schatz Federal Bearing Site must be in accordance with the New York State Environmental Conservation Law (ECL) and not inconsistent with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), 42 USL Section 9601, et.seq., and as amended by the Superfund Amendment and Reauthorization Act of 1986 (SARA). Any selected alternatives must meet the following seven screening criteria:

Overall Protection of Human Health and the Environment

This criterion will provide a final check to assess whether each alternative provides adequate protection of human health and the environment. The overall assessment of protection draws on the assessments conducted under other evaluation criteria, especially long-term effectiveness and permanence, short-term effectiveness and compliance with applicable standards.

Evaluation of the overall protectiveness of an alternative will focus on whether a specific alternative achieves adequate protection and will describe how site risks posed through each pathway being addressed by the FS are eliminated, reduced or controlled through treatment, engineering, or institutional controls. This evaluation will allow for consideration of whether an alternative poses any unacceptable short-term or cross media impacts.

Compliance with New York State Standards, Criteria and Guidelines

This evaluation criterion will be used to determine whether each alternative will meet all identified federal and state requirements. The detailed analysis will summarize which requirements are applicable, relevant, and appropriate to an alternative and describe how the alternative meets these requirements.

Long-Term Effectiveness and Permanence

The evaluation of alternatives under this criterion will address the results of the remedial action in terms of the risk remaining at the facility after response objectives have been met. The primary focus of this evaluation will be the extent and effectiveness of the controls that may be required to manage the risk posed by treatment of residuals and/or untreated wastes. Such an evaluation is particularly important to all alternatives.

Reduction of Toxicity, Mobility, or Volume through Treatment

This evaluation criterion will address the regulatory preference for selecting remedial actions that employ treatment technologies which permanently and significantly reduce the toxicity, mobility, or volume of the contaminants. This preference is satisfied when treatment is used to reduce the principal risks at a site through destruction of contaminants, for a reduction of total mass of contaminants, to attain irreversible reduction in mobility, or to achieve reduction of the total volume of contaminated media.

Short-Term Effectiveness

This evaluation criterion will address the effects of the alternatives during the construction and implementation phase until remedial response objectives are met. Under this criterion, alternatives will be evaluated with respect to their effects on human health and the environment during implementation of the remedial action.

Implementability

The implementability criterion will address the technical and administrative feasibility of implementing an alternative and availability of various services and materials required during its implementation.

Cost

Detailed cost analysis of the selected remedial alternative will include the following steps:

- Estimation of capital, operations and maintenance (O&M), and institutional costs;
- Present worth analysis.

Costs developed during the FS are expected to provide an accuracy of +50% to -30%.

7.2 Selection of a Remedial Alternative

The selected revised remedial action for the Schatz Federal Bearing Site consists of the following elements:

- Removal of PCB wastes above 500 ppm

  Soils with PCB concentrations exceeding 500 ppm will be excavated and removed from the site. It is estimated that approximately 365 yd^3 of soil have PCB levels exceeding 500 ppm. PCBs will be disposed of at a secure facility approved to receive this type of waste.

- Stabilization/Solidification (S/S) of Slag Waste

  Treatability testing of the various waste types present at Schatz showed that only the untreated Slag waste, shown to have a high metals content, leached lead at levels which exceed TCLP regulatory limits. Lead was successfully treated using S/S technology. Based

on this data, the Slag waste, with an estimated volume of 5,000 yd^3, will be stabilized prior to consolidation with the other waste types.

- Waste Consolidation

  Prior to implementing a cover system for this site, the various waste types will be consolidated into the central Schatz waste area. Pond sediments, stabilized slag waste, municipal and other outlying Schatz wastes will be excavated and moved to the central waste area before the final cover application. The soil/waste cleanup goals presented in the 1989 ROD (summarized on page 7 of this document) will be used as a basis for waste consolidation. As part of this consolidation effort, and as outlined in the March 1993 Record of Decision for the Schatz Plant Site (ID #3-14-074), waste material with PCB concentrations of 1 - 50 ppm may be transported to the Schatz Federal Bearing Site and remediated with this waste. No more than 5,200 yd^3 of waste from Schatz Plant is expected to meet this criteria, increasing the waste mass at the Federal Bearing Site by four percent or less.

- Construction of a Landfill Cover

  Once the waste has been consolidated into a single contiguous area, an impermeable barrier will be constructed over the waste mass to minimize infiltration of precipitation or surface water, thus reducing the likelihood for leaching of contaminants into the groundwater. The cap should be keyed to underlying impermeable strata to prevent lateral migration of contaminants to on-site surface water bodies. In addition, a cap will prevent direct exposure to the waste.

  The cover system selected for this waste area will comply with NYSDEC design requirements for a hazardous waste management facility (6 NYCRR Part 373). The technology needed for capping the site is reliable and well established. Long-term monitoring and maintenance as well as institutional controls will be required. Future land use restrictions will apply.

- Perimeter Fencing and Institutional Controls

  A fence will be constructed around the perimeter of the Schatz Federal Bearing Site to restrict access to contaminated areas during and following site remediation. Warning signs will be posted along the perimeter fence to identify the nature of the hazard and all access points will have locked gates. In addition to restricting site access, institutional controls such as deed restrictions and regulatory restrictions will be implemented to ensure that contact with site-related contaminants does not occur.

- Groundwater Monitoring

  The waste material to be capped lies partially beneath the water table, providing the potential for contaminant migration away from the waste area to off-site receptors. Extensive on-site and off-site groundwater sampling has been conducted to determine groundwater impacts from this waste. While on-site groundwater has levels of VOCs and metals which exceed regulatory limits, the data clearly shows that groundwater outside the site boundary shows no current impacts by on-site contaminants. In addition, all businesses and homes adjacent to the Site are served by public water.

This alternative calls for the installation of additional on-site and off-site monitoring wells. These, along with existing monitoring wells, will be monitored annually to ensure that off-site impacts are not occurring. In addition, stream sediments will be monitored to evaluate any possible impacts. In the event that groundwater contamination has been found to migrate off-site or discharge to the on-site stream which borders the western boundary of the Site, remedial alternatives will be evaluated and, if necessary, be implemented should any impacts occur. This would include the monitoring of homes with private wells which may be at risk of impact by site-related contaminants, and connection to public water if deemed necessary.

Based on an evaluation of all of the data available for this site, including data obtained subsequent to the issuance of the 1989 ROD, this remedial alternative best satisfies the seven above described screening criteria, meeting the New York State Superfund objectives of protecting human health and the environment.

7.3 Detailed Assessment of the Selected Alternative

The following provides a technical comparison of the components of the remedial alternative as presented in the 1989 ROD and the selected revised alternative. These alternatives are also compared with respect to the seven previously described screening criteria. Those wishing to learn more about the detailed data which provides the basis for the selected alternative are encouraged to refer to the RI/FS and Design Reports.

7.3.1 Technical Comparison

1989 Record of Decision

- Extraction of contaminated groundwater, treatment of groundwater using air stripping, carbon adsorption and chemical precipitation treatment technologies, and reinjection of treated water into the aquifer of withdrawal.

- Excavation of the municipal waste, backfilling the excavated area with clean fill to above the water table, installation of a liner system, returning the waste above the liner and capping with an impermeable landfill cover.

- Excavation of the Schatz and slag waste and on-site pond sediments, stabilization/solidification of these wastes, backfilling of the treated waste to the excavated area and covering with a clean soil.

Selected Revised Alternative

- Removal of wastes with PCB concentrations exceeding 500 ppm.

- Stabilization/solidification of metal-bearing slag wastes.

- Consolidation of the various waste types (pond sediments, stabilized slag waste, municipal waste and outlying Schatz waste) to the central waste area. This may include waste material from the Schatz Plant Site (ID #3-14-074) with PCB concentrations between 1 and 50 ppm.

- Construction of a cover system for the waste area which conforms with the requirements of a hazardous waste landfill.

- Perimeter fencing and institutional controls.

- Long-term groundwater monitoring.

7.3.2 Comparison of Alternatives Relative to the Seven Screening Criteria

Overall Protection of Human Health and the Environment

Both the 1989 ROD alternative and the revised alternative offer off-site disposal, containment and/or treatment technologies in which potential exposure to contaminants is minimized, offering overall protection of human health and the environment. For the alternative selected in this document, all contaminated soils with PCBs exceeding 500 ppm will be disposed of off-site while the remaining waste will be consolidated into a single waste pile to be addressed utilizing a single contiguous protective barrier. The only waste type which poses a significant long-term threat in terms of contaminant leaching to the environment is slag waste. This waste will be encapsulated using stabilization and solidification technology prior to consolidation with other wastes. Potential exposure to contaminants via the air and soil routes will be significantly reduced by capping the waste. Long-term monitoring of groundwater will be necessary to ensure that off-site impacts are not occurring. In the event that contaminants do migrate off-site or are found to discharge to the on-site stream at levels exceeding regulatory criteria, remedial alternatives to address this problem will be evaluated and implemented, if necessary. Institutional controls will be implemented to ensure that this remedial alternative provides long term protection as required.

Compliance with New York State Standards, Criteria and Guidelines (SCGs)

Both the 1989 ROD alternative and the selected revised alternative will meet action-specific, location-specific and chemical-specific SCGs.

Action-specific SCGs address the implementation of specific remedial alternatives for the site. Several action-specific SCGs concerning the handling and disposal of waste materials apply to both alternatives including TSCA, RCRA and NYS regulations.

Location-specific SCGs address requirements for certain types of activities based on site characteristics. Both alternatives will require actions which address contaminated sediments and, as such, must include consideration of impacts to pond and stream biota.

Chemical-specific SCGs set limits on the allowable concentrations of hazardous substances in various media. Both alternatives will meet chemical specific SCGs for soil and air exposure routes by off-site disposal, treatment or isolation of contaminated soil and sediment. Groundwater and stream sediments will be monitored to ensure that off-site impacts do not occur. Remedial alternatives will be evaluated and, if necessary, be implemented should any impacts occur, including the monitoring of homes with private wells which may be at risk of impact by site-related contaminants. A potable water supply would be provided to those homeowners who are impacted at levels exceeding drinking water criteria.

Long Term Effectiveness and Permanence

The remedial alternative set forth in the 1989 ROD and the selected revised alternative will both provide long-term effectiveness and permanence through off-site removal, treatment and/or containment of all contaminated soil, sediment and waste. Operation and maintenance along with long-term monitoring would be required for both alternatives because some contaminated soil, waste and sediment would remain on-site. Groundwater and surface water/sediments will be monitored for any off-site impacts. Further, both alternatives reduce the mobility and potential exposure pathways of contaminants by off-site removal, treatment and/or containment of the waste. Institutional controls will be implemented to ensure the integrity of the recommended remedial alternative and minimize any potential exposure to contaminants left on-site.

Reduction of Toxicity, Mobility or Volume

The alternative presented in the 1989 ROD and the selected revised alternative will both be effective in reducing the mobility of contaminants by isolating waste through off-site disposal, containment or encapsulation technologies, preventing direct exposure to humans and the environment. The toxicity and volume of contaminants left on-site would be unaffected by either alternative because they will remain unchanged. PCB wastes with concentrations exceeding 500 ppm which are removed from the site, will result in the reduction of toxicity and volume of these contaminants alone. While the toxicity and volume of the remaining waste will be unaffected, because it is being isolated through treatment or containment technologies and monitored, it will not pose a threat to human health or the environment.

Short Term Impacts and Effectiveness

There are no significant short-term risks to the community or environment associated with either alternative evaluated as long as possible dust emissions during excavation, transportation and consolidation of contaminated soils and sediment is properly controlled. Small volumes of PCB waste are proposed to be excavated and trucked off-site. Excavation, handling and transportation safety procedures will ensure that short-term impacts to on-site workers and the community are minimized. A health and safety plan will be followed to control dust generation and to minimize potential work exposure to waste constituents. Ambient air monitoring will be performed to monitor particulate and VOC emissions during remediation. The construction area will be wetted if needed to minimize emissions.

Implementability

Both the 1989 ROD alternative and the selected revised alternative meet the technical feasibility, administrative feasibility and availability components of the implementability criterion. The services and materials required to implement either alternative are readily available. The technologies required for both alternatives are conventional and well proven.

The application of S/S for organic contaminants present at Schatz as specified in the 1989 ROD appears to be ineffective and unnecessary based on leachability testing. Waste samples in which both S/S treated and untreated samples were tested showed no leaching of organics exceeding regulatory levels. Because of this and the fact that no off-site migration of organics has been found, this technology, while implementable, appears to have little value.

Cost

The selected alternative presented in the 1989 ROD include three primary components; groundwater pump and treat, landfilling of municipal waste and S/S of Schatz and slag waste. These three components were estimated in 1989 to have a present worth cost of 23.4 million dollars, including capital costs and operation and maintenance costs. Using an inflationary adjustment of 3.0% per annum, these costs are now estimated at approximately 27.2 million dollars.

The selected revised remedial alternative includes six primary components: excavation and off-site disposal of PCB wastes exceeding 500 ppm, S/S of slag wastes, waste consolidation, construction of a solid or hazardous waste cap, perimeter fencing and groundwater monitoring. Present worth cost for these six components is estimated at $3.4 million and includes capital costs and operation and maintenance costs.

8. SUMMARY OF THE SELECTED REMEDIES

Based on the results of the Remedial Investigation/Feasibility Study (RI/FS), Remedial Design (RD), and PCB-Characterization Study, summarized in this document, the NYSDEC has selected the following alternative to remediate the Schatz Federal Bearing Site:

- Removal of PCB wastes above 500 ppm

  Soils with PCB concentrations exceeding 500 ppm will be excavated and removed from the site. It is estimated that approximately 365 yd^3 of soil have PCB levels exceeding 500 ppm. PCBs will be disposed of at a secure facility approved to receive this type of waste.

- Stabilization/Solidification (S/S) of Slag Waste

  Treatability testing of the various waste types present at Schatz showed that only the untreated Slag waste, shown to have a high metals content, leached lead at levels which exceed TCLP regulatory limits. Lead was successfully treated using S/S technology. Based on this data, it is recommended that the Slag waste, with an estimated volume of 5,000 yd^3, will be stabilized prior to consolidation with the other waste types.

- Waste Consolidation

  Pond sediments, stabilized slag waste and other outlying Schatz wastes will be excavated and moved to the central waste area before application of the final cover. As part of this consolidation effort, and as outlined in the March 1993 Record of Decision for the Schatz Plant Site (ID #3-14-074), waste material with PCB concentrations of 1 - 50 ppm will be transported to the Schatz Federal Bearing Site and remediated with this waste. No more than 5,200 yd^3 of waste from Schatz Plant is expected to meet this criteria, increasing the waste mass at the Federal Bearing Site by four percent or less.

- Construction of a Landfill Cover

  Once the waste has been consolidated into a single contiguous area, an impermeable barrier will be constructed over the waste mass to minimize infiltration of precipitation or surface water, thus reducing the likelihood for leaching of contaminants into the groundwater. The

cap should be keyed in to underlying impermeable strata to prevent lateral migration of contaminants to on-site surface water bodies. In addition, a cap will prevent direct exposure to the waste.

The cover system selected for this waste area will comply with NYSDEC design requirements for a hazardous waste management facility (6 NYCRR Part 373). The technology needed for capping the site is reliable and well established. Long-term monitoring and maintenance as well as institutional controls will be required. Future land use restrictions will apply.

- Perimeter Fencing and Institutional Controls

  A fence will be constructed around the perimeter of the Schatz Federal Bearing Site to restrict access to contaminated areas during and following site remediation. Warning signs will be posted along the perimeter fence to identify the nature of the hazard and all access points will have locked gates. In addition to restricting site access, institutional controls such as deed restrictions and regulatory restrictions will be implemented to ensure that contact with site-related contaminants does not occur.

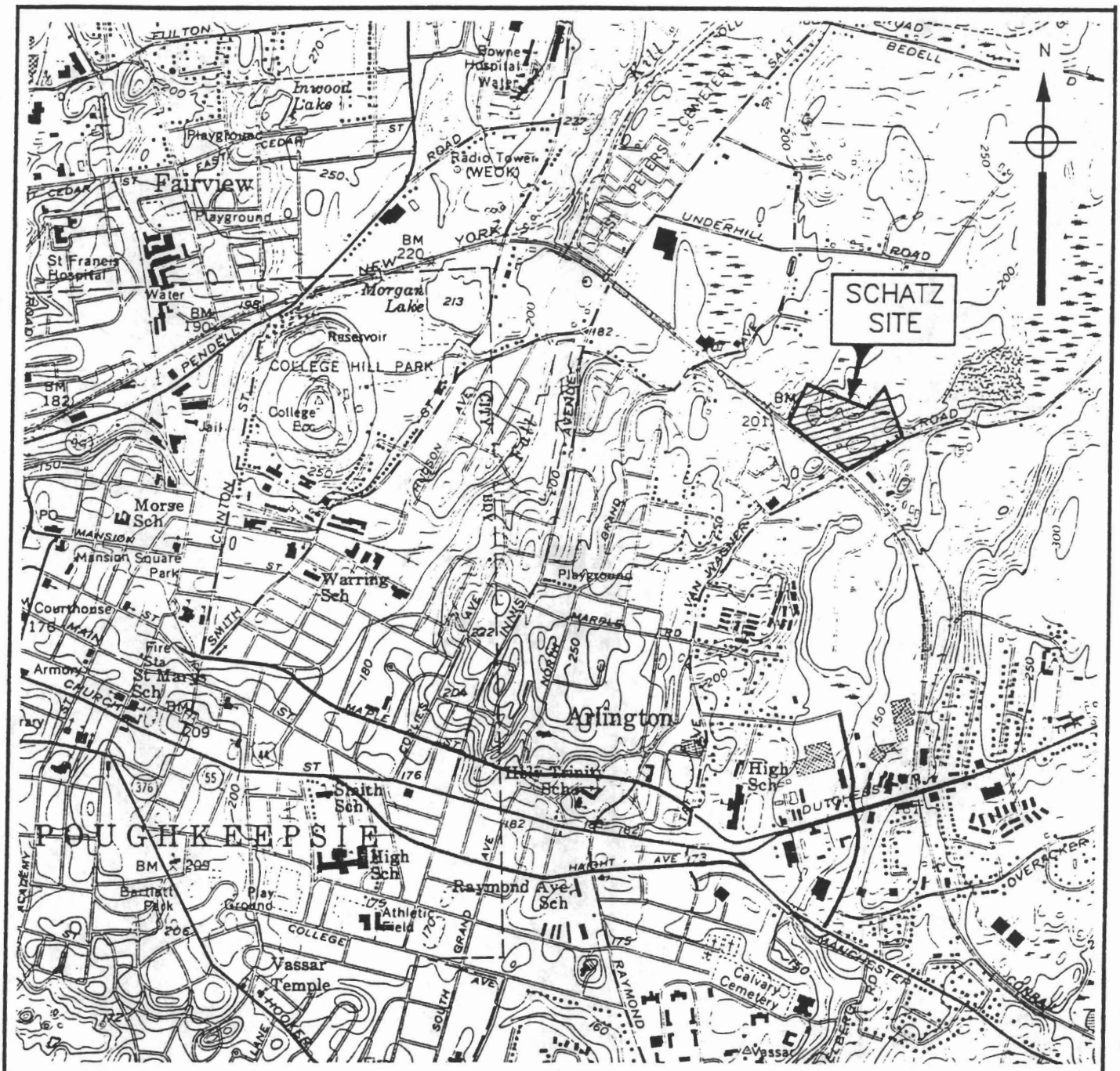
- Groundwater Monitoring

  On-site groundwater has levels of VOCs and metals which exceed regulatory limits, however, data clearly shows that groundwater outside the site boundary shows no current impacts by on-site contaminants. In addition, all businesses and homes adjacent to the Site are served by public water.

  This alternative calls for the installation of additional on-site and off-site monitoring wells. These, along with existing monitoring wells, would be monitored annually to ensure that off-site impacts are not occurring. In addition, stream sediments will be monitored to evaluate any possible impacts. In the event that groundwater contamination has been found to migrate off-site or discharge to the on-site stream which borders the western boundary of the Site, remedial alternatives will be evaluated and, if necessary, be implemented should any impacts occur. This would include the monitoring of homes with private wells which may be at risk of impact by site-related contaminants, and connection to public water if deemed necessary.

APPENDIX A

FIGURES



SOURCE:
USGS 7.5 Minute Series Topographic Map
Poughkeepsie Quadrangle (1957)
Photorevised 1982

1000 0 1000 2000 3000 4000 5000 6000

SCALE IN FEET
CONTOR INTERVAL 10 FEET

Metcalf & Eddy of New York, Inc. A Metcalf & Eddy Company	SCHATZ FEDERAL BEARING SITE POUGHKEEPSIE, NEW YORK	FIGURE 1 LOCATION OF THE SCHATZ FEDERAL BEARING SITE

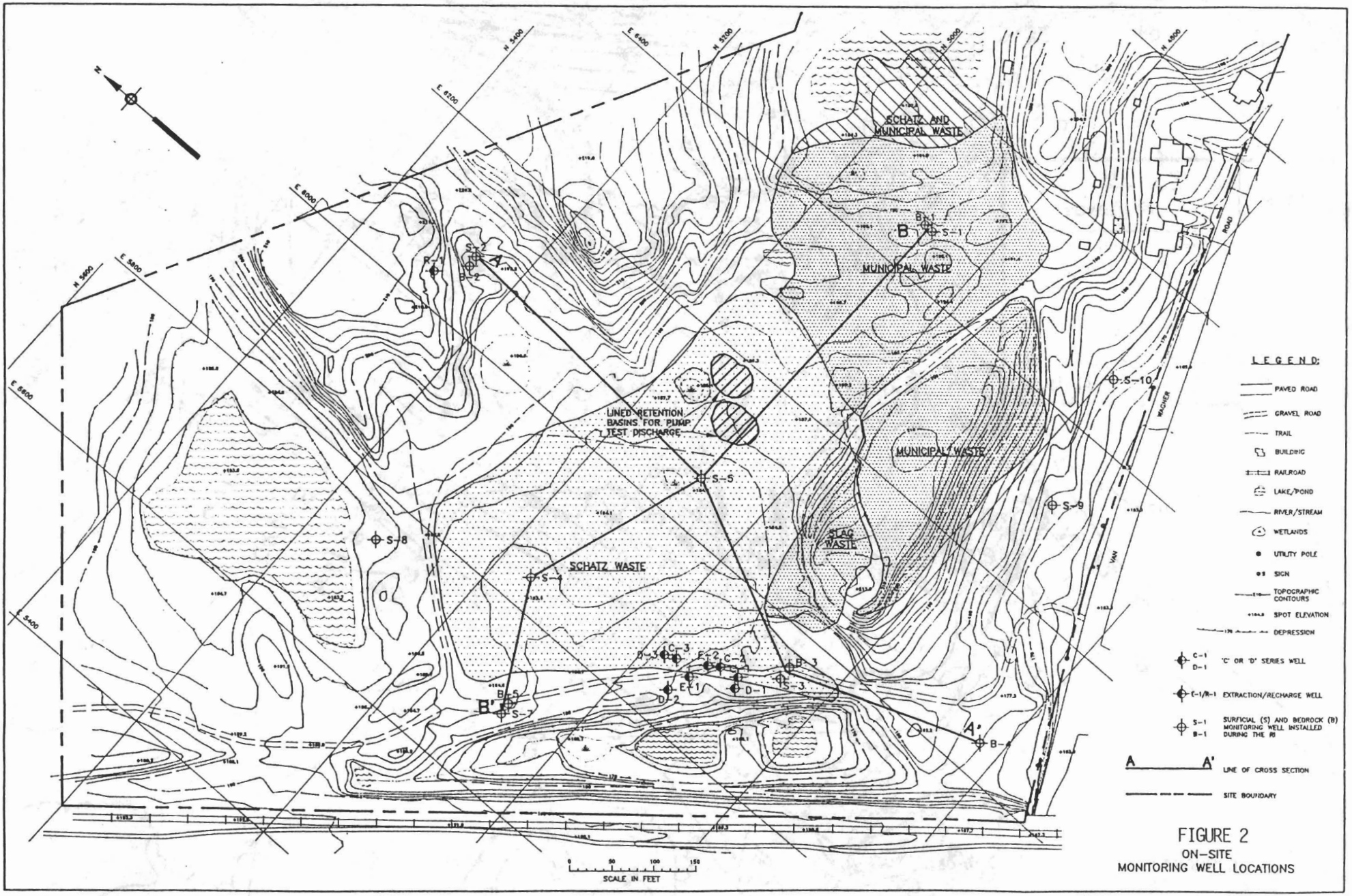
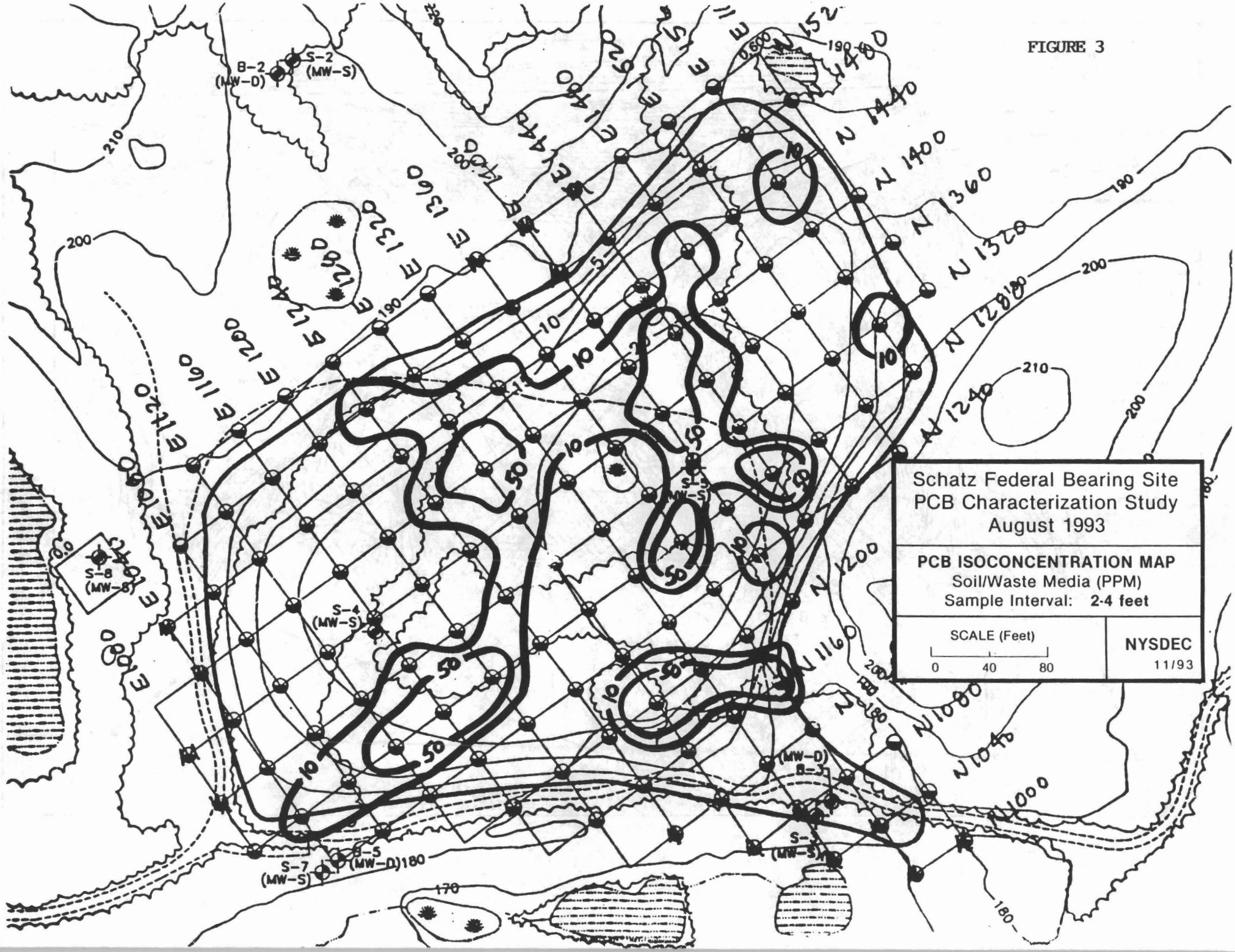


FIGURE 2
ON-SITE
MONITORING WELL LOCATIONS

FIGURE 3


Schatz Federal Bearing Site
PCB Characterization Study
August 1993
PCB ISOCONCENTRATION MAP
Soil/Waste Media (PPM)
Sample Interval: 2-4 feet
SCALE (Feet)
0 40 80
NYSDEC
11/93
B-2 (MW-D)
S-2 (MW-S)
S-8 (MW-S)
S-4 (MW-S)
S-7 (MW-S)
B-5 (MW-D)
S-5 (MW-S)
B-3 (MW-D)
S-3 (MW-S)
S-1 (MW-S)
N 1440
N 1400
N 1360
N 1320
N 1280
N 1240
N 1200
N 1160
N 1120
N 1080
N 1040
N 1000
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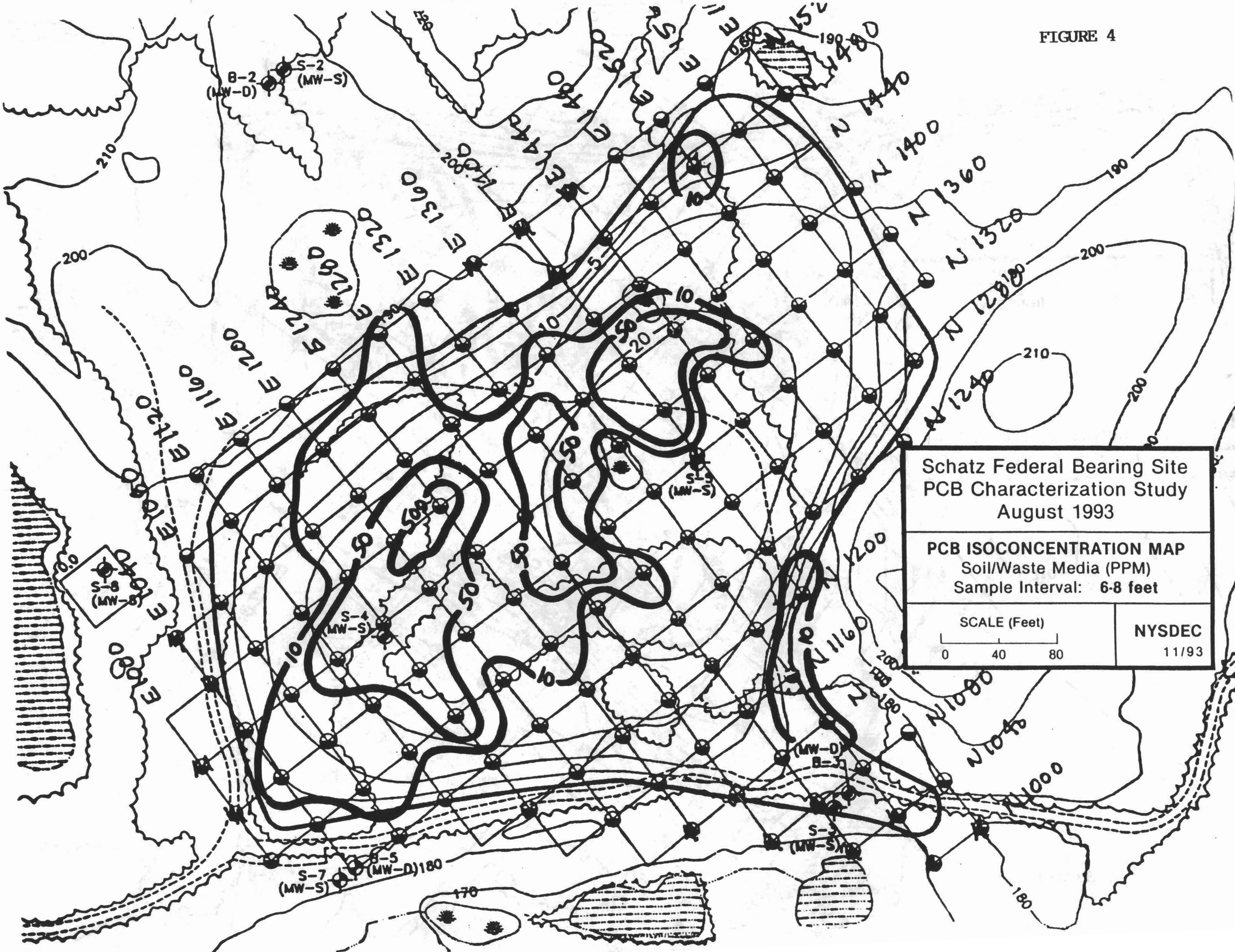
E 1240
E 1200
E 1160
E 1120
E 1080
E 1040

FIGURE 4


Schatz Federal Bearing Site
PCB Characterization Study
August 1993
PCB ISOCONCENTRATION MAP
Soil/Waste Media (PPM)
Sample Interval: 6-8 feet
SCALE (Feet)
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40
80
NYSDEC
11/93
B-2 (MW-D)
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S-8 (MW-S)
S-4 (MW-S)
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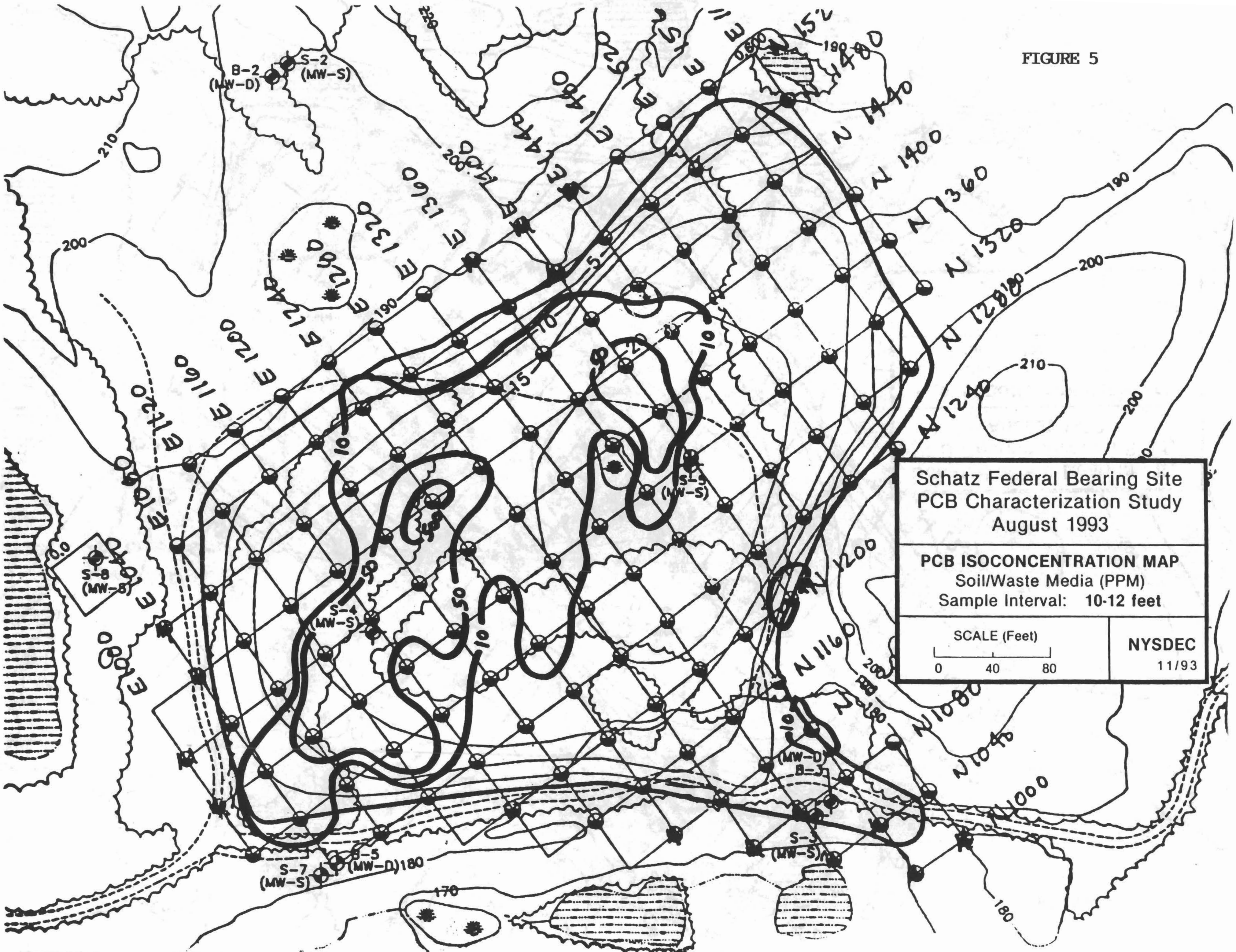
S-7 (MW-S)
B-5 (MW-D)
B-3 (MW-D)
S-1 (MW-S)

FIGURE 5



Schatz Federal Bearing Site
PCB Characterization Study
August 1993
PCB ISOCONCENTRATION MAP
Soil/Waste Media (PPM)
Sample Interval: 10-12 feet
SCALE (Feet)
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NYSDEC
11/93
B-2 (MW-D)
S-2 (MW-S)
S-8 (MW-S)
S-4 (MW-S)
S-5 (MW-S)
S-7 (MW-S)
B-5 (MW-D)
S-3 (MW-S)
B-3 (MW-D)
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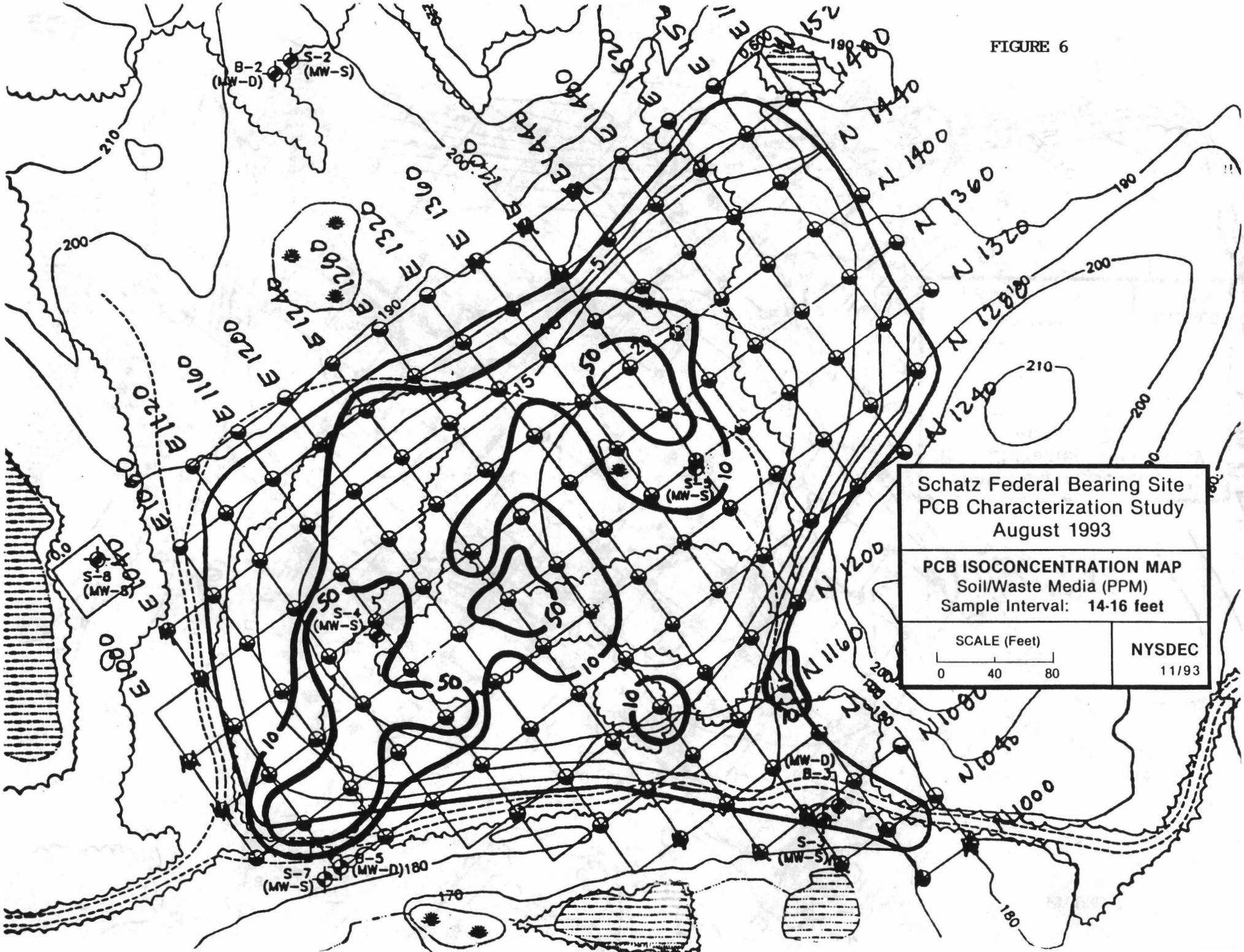
FIGURE 6


Schatz Federal Bearing Site
PCB Characterization Study
August 1993
PCB ISOCONCENTRATION MAP
Soil/Waste Media (PPM)
Sample Interval: 14-16 feet
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NYSDEC
11/93
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B-5 (MW-D)
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N 1080
N 1040
E 1480
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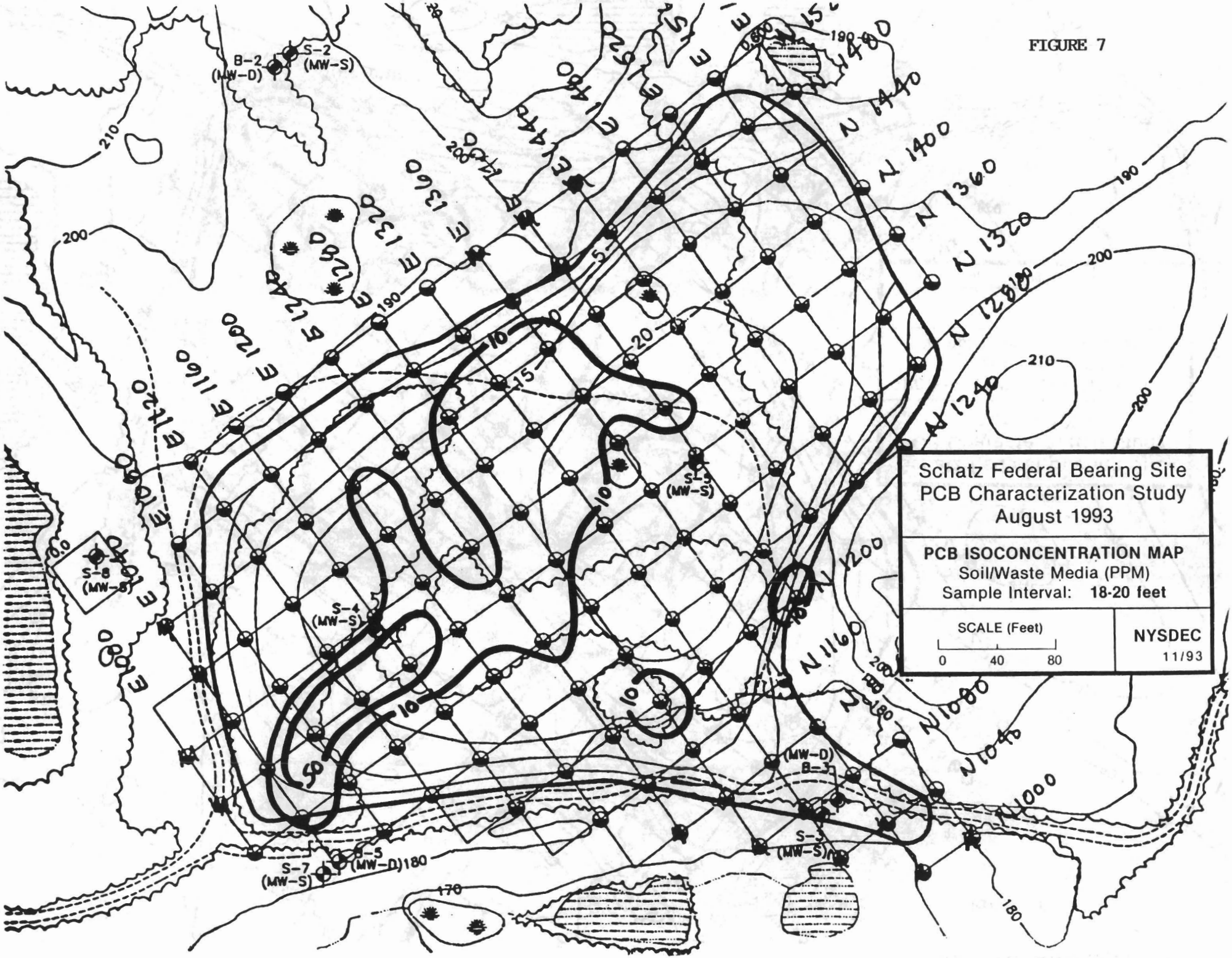
FIGURE 7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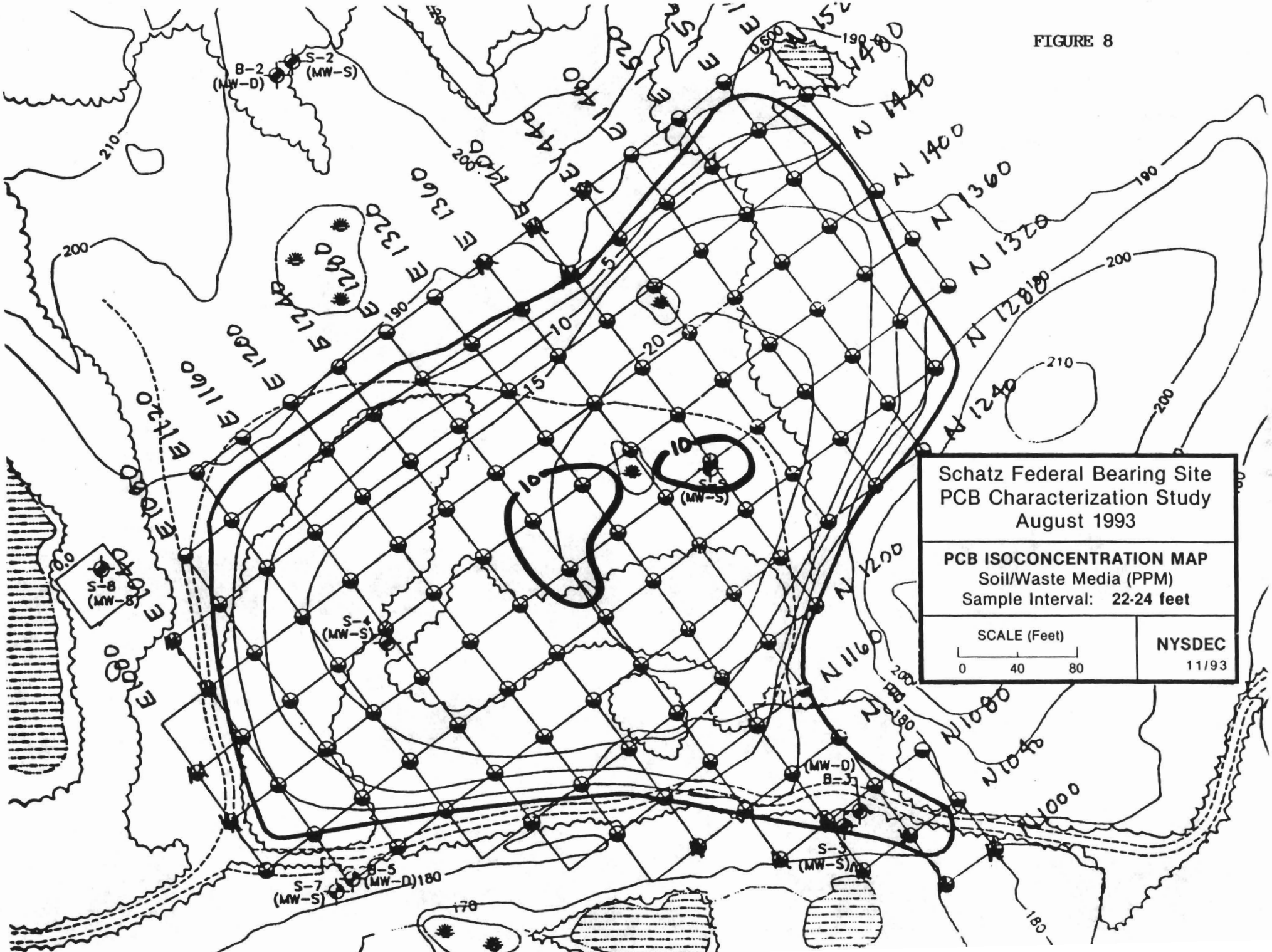
S-8 (MW-S)
(MW-D) B-3
Schatz Federal Bearing Site
PCB Characterization Study
August 1993
PCB ISOCONCENTRATION MAP
Soil/Waste Media (PPM)
Sample Interval: 18-20 feet
SCALE (Feet)
0 40 80
NYSDEC
11/93

FIGURE 8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S-7 (MW-S)
B-5 (MW-D)
B-3 (MW-D)
S-3 (MW-S)
10
15
20
5
Schatz Federal Bearing Site
PCB Characterization Study
August 1993
PCB ISOCONCENTRATION MAP
Soil/Waste Media (PPM)
Sample Interval: 22-24 feet
SCALE (Feet)
0 40 80
NYSDEC
11/93

APPENDIX B

ADMINISTRATIVE RECORD

ADMINISTRATIVE RECORD

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APPENDIX C
RESPONSIVENESS SUMMARY

RESPONSIVENESS SUMMARY

SCHATZ FEDERAL BEARING SITE
SITE NO. 314003

SUMMARY OF MAJOR COMMENTS AND RESPONSES

The following comments were raised during the public meeting held on February 17, 1994 at 7:30 PM at the Poughkeepsie Town Hall, Poughkeepsie, New York concerning the proposed amendment to the 1989 ROD. No written comments were received within the comment period of February 4, 1994 to March 4, 1994.

Comment

What was the cost of all of the studies you have conducted to date?

Response

The Remedial Investigation/Feasibility Study cost approximately $476,000, the Remedial Design Study cost approximately $1,056,000, and the PCB Characterization Study cost approximately $120,000. The total cost to date is approximately $1,652,000.

Comment

When will the actual cleanup begin?

Response

The contract to begin the design of the various components of the selected remedy should be issued in May or June of 1994. We expect that the design should be completed in about one year. The actual cleanup will begin shortly after the design is completed.

Comment

How much will the truck traffic and other day-to-day activities impact our daily living?

Response

Only 365 yd^3 of waste material is expected to be taken off-site. This waste should be removed in a matter of days. Less than 5000 yd^3 of waste material from the Schatz Plant Site is expected to be brought on-site. This should take a few weeks. In addition, some clean fill material brought to the site will be required to shape the landfill. This should take a few weeks to a month. No odors will be generated as a result of any of these activities.

Comment

Please explain the NYSDEC classification system for inactive waste disposal sites. How is the Schatz Federal Bearing Site classified?

Response

Inactive waste disposal sites fall into the following six categories:

1. Causing, or presenting an imminent danger of causing, irreversible or irreparable damage to the public health or environment - immediate action required;

2. Significant threat to the public health or environment - action required;

2a. Temporary classification assigned to sites that have inadequate and/or insufficient data for inclusion in any of the other classifications;

3. Does not present a significant threat to the public health or the environment - action may be deferred;

4. Site is properly closed - requires continued management;

5. Site properly closed, no evidence of present or potential adverse impact - no further action is required.

The Schatz Federal Bearing Site is a Class 2 site, posing a significant threat to the public health or the environment with some remedial action required.

Comment

How will the site be classified once it has been cleaned up and when will this classification go into effect?

Response

This site will become a Class 4, which is a site that is closed but requires continued management. This classification will go into effect once construction activities have ceased, in two to three years.

Comment

Please explain bioaccumulation?

Response

PCBs are an example of a compound which bioaccumulates in organisms. This contaminant accumulates in fatty tissues in organisms such as a fish, which feeds among contaminated sediments. This contaminant impacts other organisms up the food chain which feed on impacted fish. Relatively low levels of these contaminants in sediments can bioaccumulate such that toxic levels in organisms are reached.

Comment

Do the on-site ponds contain fish?

Response

There are a few, very small minnow-sized fish in these very small ponds (about 50 to 75 feet long) which tested positive for PCBs.

a:rod.sfb