Department of Environmental Conservation

Division of Environmental Remediation

Record of Decision

American Valve Manufacturing
OPERABLE UNIT 2
Inactive Hazardous Waste Site
Coxsackie, Greene County, New York
Site No. 420002

March 1999

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* JOHN P. CAHILL, *Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

American Valve Manufacturing Inactive Hazardous Waste Site
Coxsackie, Greene County, New York
Site No. 4-20-002

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedial action for Operable Unit 2 of the American Valve Manufacturing 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 Operable Unit 2 of the American Valve Manufacturing 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) for the American Valve Manufacturing Inactive Hazardous Waste Site, and the criteria identified for evaluation of alternatives the NYSDEC has selected Alternative F: Building Demolition Soil Treatment and Natural Attenuation, as the remedy for Operable Unit 2 (the building complex, contaminated soil and groundwater at the site). The components of the remedy are as follows:

1. A remedial design program to verify the components of the conceptual design and provide the details necessary for the construction, operation and maintenance, and monitoring of the remedial program. Any uncertainties identified during the RI/FS would be resolved.

2. Clearing and grubbing of the site will occur, with removal and disposal of all asbestos containing materials and PCB containing ballasts, followed by demolition of the building complex. Following demolition, debris will be disposed of off-site at an approved landfill.

3. All contaminated soils will be excavated and treated with an on-site treatment unit (low temperature thermal desorption) to levels below site cleanup goals. Treated soils will be reused on site as backfill or general fill.

4. Following soil source removal, groundwater will naturally attenuate by naturally-occurring mechanisms (biodegredation, oxidation, sorption, dilution, and volatilization).

5. Regrading and revegetation will occur in the areas from which the building complex and contaminated soils will be removed.

6. Since the remedy results in untreated hazardous waste remaining at the site, a long term monitoring program would be instituted. This program would allow the effectiveness of the selected remedy to be monitored and would be a component of the operation and maintenance for the site.

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 31, 1999
Date

Michael J. O'Toole, Jr., Director
Division of Environmental Remediation

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SECTION 1: SUMMARY OF THE RECORD OF DECISION

The New York State Department of Environmental Conservation (NYSDEC) in consultation with the New York State Department of Health (NYSDOH) has selected the remedy to address the significant threat to human health and/or environment created by the presence of hazardous waste at the American Valve Manufacturing Site, Operable Unit No. 2. As more fully described in Sections 3 and 4 of this document operation of a brass foundry has resulted in the disposal of a number of hazardous wastes, including heavy metals and industrial solvents, at the site, some of which were released or have migrated from the site to surrounding areas, including the adjacent residential properties.

American Valve Manufacturing's operations at its former plant site in the Village of Coxsackie have resulted in the disposal of a hazardous wastes, including industrial solvents containing volatile organic compounds ("VOCs") and foundry sands containing heavy metals at the site. These disposal activities gave rise to significant threats to the public health and the environment, including:

- significant environmental damage associated with the impacts of volatile organic compounds (VOCs) on the water bearing geologic units beneath the site, which have been usable in the past for human water consumption, and are now unusable due to the presence of VOCs above applicable standards.

- the New York State Department of Health has determined that the presence of hazardous waste within the building complex poses a significantly increased risk to public health, due to the potential for unacceptable exposures to workers and others, including trespassers, who may come in contact with the hazardous wastes.

- the New York State Department of Health has determined that the presence of hazardous waste (volatile organic compounds) within the soils beneath and in the vicinity of the building complex poses a significantly increased risk to public health, due to the potential for unacceptable exposures to nearby residences if future migration of the contaminants in soil vapor extends into the neighboring residences.

In order to restore Operable Unit 2 of the American Valve Manufacturing inactive hazardous waste disposal site to predisposal conditions to the extent feasible and authorized by law, but at a minimum to eliminate or mitigate all significant threats to the public health and the environment that the hazardous waste disposed at the site has caused, as discussed in detail in Section 7 of this document, the New York State Department of Environmental Conservation (NYSDEC), in consultation with the New York State Department of Health (NYSDOH), has selected Alternative F, building complex demolition, soil excavation and treatment, and natural groundwater attenuation.

The elements of the selected remedy are:

- The building complex will be decontaminated and demolished, the debris disposed of at an off-site location.

- Contaminated soil beneath and adjacent to the building complex will be removed, treated and reused as clean backfill at the site.

- Contaminated groundwater will be addressed by natural attenuation coupled with long-term monitoring.

- The OU2 site area will be backfilled to original grade, topsoiled and seeded.

SECTION 2: SITE LOCATION AND DESCRIPTION

The American Valve Manufacturing (AVM) Site is located at 170 Mansion St. in the Village of Coxsackie, Greene County, New York. The site covers approximately 15.5 acres, and is bounded to the west by a Conrail right of way, to the northwest by Cato St., to the northeast by Mansion St., and to the south by Spencer Blvd. Residential homes are present on Cato St, Mansion St., and Spencer Blvd. A village cemetery is present adjacent to the site to the east-southeast. See the attached Figure 1 for a map of the site location.

Operable Unit No. 2, which is the subject of this PRAP, consists of the building complex, and solvent contaminated soils beneath and adjacent to the building complex, and the contaminated groundwater beneath and adjacent to the structure.

An Operable Unit represents a portion of the site remedy which for technical or administrative reasons can be addressed separately to eliminate or mitigate a release, threat of release or exposure pathway resulting from the site contamination.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

1904-1986: The AVM foundry operations resulted in the on-site disposal of waste foundry sand along with shell molds and cores. No containment or liners were used in the disposal of these wastes. Also, there was use of industrial solvents which resulted in releases to the environment

3.2: Remedial History

1987: Wehran Engineering, on behalf of the NYSDEC, conducted a Phase 1 Site Investigation of the AVM site. Wehran identified heavy metals and phenols as potential contaminants of concern.

1989: NYSDOH collected surface soils samples from neighboring properties, and sampled a limited number of vegetables from residential gardens. NYSDOH also conducted a voluntary blood lead screening program and reviewed the incidence of cancer rates within the Village of Coxsackie.

1991: State Superfund referral by the Division of Environmental Enforcement (DEE).

1992: NYSDEC retained contractors to implement remedial measures including:

- fencing the site;

- removal and disposal of drummed hazardous waste from within the building;
- crushing and stockpiling of peripheral empty drums and debris;
- removal foundry sand on adjacent properties and relocation of the sands on site;
- prevention of off-site migration of foundry sand via surface water by drainage modifications;
- removal of foundry sands from within the municipal sewer system, to eliminate the sewer system as a source of contaminants from the site to the municipal wastewater treatment plant.

1993: NYSDEC retained Malcolm Pirnie, Inc. (MPI) under State Superfund to conduct remedial investigations.

1993-1994: Malcolm Pirnie, inc. (MPI), on behalf of NYSDEC, conducted the Phase I Remedial Investigation (RI). The Phase I RI included the following activities:

- collection of soil and foundry sand waste samples to provide the necessary analytical results to determine the appropriate regulatory status of the site.
- characterization of the nature, extent and magnitude of contamination associated with the foundry sands and the impact of the foundry sands on the environment.

1995-1996: MPI, on behalf of NYSDEC conducted the Phase 2 RI which included the following activities:

- Installation of monitoring wells to characterize the nature, extent and magnitude of solvent Volatile Organic Compounds (VOC's) contamination associated with cleaning and degreasing operations.
- Collection of building media samples to determine extent of building contamination.
- Collection of bulk foundry sand samples for bench scale testing of potential technologies applicable to foundry sand remediation.

1996-1997: MPI conducted the Feasibility Study to address foundry sand waste at the site.

March 1997: NYSDEC issued the OU1 PRAP/ROD to address foundry sands.

The OU1 Record of Decision selected clearing and grubbing of the site, demolition of small outbuildings, salvage of the large fuel storage tanks, consolidation of foundry sand waste and construction of a geomembrane cap over the foundry sand waste. The remedy includes management of site surface water and institutes a long term monitoring program as part of the operation and maintenance for the site.

SECTION 4: CURRENT STATUS

This RI/FS for Operable Unit 2 sought to evaluate the remaining contamination present at the site not addressed in the Operable Unit 1 Record of Decision, and to evaluate alternatives to address the significant threat to human health and the environment posed by the presence of hazardous waste within the soils, groundwater, and building complex identified in earlier studies.

4.1: Summary of the Remedial Investigation (Operable Unit 2)

The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site on the site groundwater, and in the building complex and related soils.

1997 - 1998: MPI, on behalf of NYSDEC, conducts Phase 2 RI which included the following activities:

- Installation of additional monitoring wells to define the extent of VOC contamination on and off-site;
- Completion of a geoprobe study (sampling of both groundwater and soils) beneath and in the vicinity of the building complex to define the extent of VOC contamination;
- Pilot testing of potential remedial technologies to withdraw contaminated groundwater for treatment;
- Collection of samples from the building surfaces.

To determine which media (soil, groundwater, etc.) Contain contamination at levels of concern, the RI analytical data was compared to environmental Standards Criteria, and Guidance values (SCGs). Groundwater, drinking water and surface water SCGs identified for the American Valve site are based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part V of NYS - 10NYCRR Part 5 and Part 170 Sanitary Code. For soils, NYSDEC TAGM 4046 provides soil cleanup guidelines for the protection of groundwater, background conditions and health-based exposure scenarios.

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

Chemical concentrations are reported in parts per billion (ppb), or parts per million (ppm). For comparison purposes, where applicable, SCGs are provided for each medium.

4.1.1 Nature of Contamination:

As described in the RI Report, many soil, groundwater and waste samples were collected at the American Valve Manufacturing Site to characterize the nature and extent of groundwater contamination. The main categories of contaminants which exceed their SCGs are inorganics (metals) and volatile organic compounds (VOCs). The inorganic contaminant of concern is lead. Lead is a primary compound of brass and is found in the foundry sands of OU1 and on building media and surfaces of OU2. Volatile organic compounds such

as tetrachloroethene, trichloroethene, dichloroethene, and monochloroethene (vinyl chloride)are found in groundwater, soils, sediments within old pipelines and sewer lines, and sewer line bedding Tetrachloroethene, an industrial solvent (also commonly known as perchloroethene, or "perc"), was used in cleaning and degreasing operations. Over time, tetrachloroethene biodegrades in the environment to "daughter products" trichloroethene, dichloroethene, and monochloroethene.

Much of the tetrachloroethene found was present as a non-aqueous phase liquid, or "NAPL", meaning that much of this chemical was not sorbed onto the soil or dissolved into the groundwater. Instead, much of the tetrachloroethene was present as an oily material beneath the building complex. Tetrachloroethene liquid is denser than water, which means that it can migrate by gravity through the soils beneath the site independently of the movement of groundwater. A NAPL which is denser than water is referred to as a dense NAPL, or "DNAPL".

4.1.2 Extent of Contamination

Table 1 summarizes the extent of the contaminants of concern in building, soil and groundwater media and compares the data with the SCGs for the Site.

SCGs are generally divided into three categories; chemical specific, location specific, and action specific.

SCGs identified for use in this remedy selection process are State and Federal hazardous waste treatment, storage and disposal laws and regulations, State and Federal solid waste disposal laws and regulations, and State environmental quality standards, criteria and guidelines.

The following are the media which were investigated and a summary of the findings of the investigation.

Building Media

Wipe samples of building media indicate widespread high level lead contamination leftover from the brass smelting. Of concern, is the additional presence of asbestos used in insulation, roofing and flooring materials.

Soil

Soils tested beneath the degreaser pit in the southeastern portion of the building and in the former drum crusher pit in the western portion of the building exhibited significant concentrations of TCE, TCA and DCE. Geoprobe soil samples were obtained through the concrete floor surrounding the source areas and exhibited high solvent concentrations. Drainage pipes for sewer and storm water management within the building are connected to the degreaser pit and have conveyed contaminants to the sewer bedding lines along the entire south side of the building. Approximately 9600 tons of soil which exceeds SCGs were identified beneath and in the vicinity of the building, and associated with sewer bedding outside of the building complex.

Groundwater

Monitoring wells were installed as appropriate to delineate the potential spread of VOC contamination from the degreaser pit. Significant concentrations of VOC's have been documented and groundwater flow directions are defined. The VOCs from the degreaser pit have migrated both preferentially through sewers and in the shallow aquifer east off-site into the adjacent residential neighborhood. A soil gas survey was conducted to delineate potential plume movement off-site. Although significant concentrations of VOC's exist in the soil gas at the site, no significant concentrations have yet reached the adjacent neighborhood. However, given the nature of contamination (much of the mass of VOCs is in the DNAPL phase in the vadose zone, above the water table), and the proximity of the neighboring residences, possible migration of the VOCs in soil vapor is reasonably foreseeable in the future

4.2 Interim Remedial Measures:

Interim Remedial Measures (IRMs) are conducted at sites when a source of contamination or exposure pathway can be effectively addressed before completion of the RI/FS. Interim Remedial Measures completed during the RI/FS were:

- The removal of high concentration VOC containing liquids and sediments from the interior degreaser pit and associated piping. Sediment samples obtained from the degreaser pit exhibited significant concentrations of TCE, TCA and DCE. Approximately two cubic yards and 1,200 gallons of contaminated media were extracted from the pit in October 1998 and properly disposed of at a permitted RCRA facility. Once removed, the contaminated pipe sediments within the building complex were eliminated as a source of groundwater contamination.

4.3 Summary of Human Exposure Pathways:

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

An exposure pathway is how an individual may come into contact with a contaminant. The five elements of an exposure pathway are 1) the source of contamination; 2) the environmental media and transport mechanisms; 3) the point of exposure; 4) the route of exposure; and 5) the receptor population. These elements of an exposure pathway may be based on past, present, or future events.

Pathways which are known to or may exist at the site include:

- ingestion; the shallow groundwater aquifer is used by nearby residences,
- inhalation; direct contact and ingestion of building surface dusts generated by physical disturbance or wind,
- inhalation; migration of VOCs in soil vapor to the nearby residences (potential future pathway).

4.4 Summary of Environmental Exposure Pathways:

This section summarizes the types of environmental exposures which may be presented by the site. The Fis and Wildlife Impact Assessment included in the RI presents a more detailed discussion of the potential impact from the site to fish and wildlife resources.

Buildings, pavement, bare soils, and foundry sands comprise the majority of the site. Thus, the habitat valu of the site is considered moderate to low. Although contaminants, including tetrachloroethene trichloroethene, dichloroethene have been detected in the soils within Operable Unit 2 at the site, they do nc present a potential risk to wildlife. No endangered species or significant habitats are present at the site.

SECTION 5: ENFORCEMENT STATUS

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

The Potential Responsible Parties (PRP) for the site, documented to date, include the American Valv Manufacturing Co., and it's successors.

The PRPs declined to implement the RI/FS at the site when requested by the NYSDEC. After the remed is selected, the PRPs will again be contacted to assume responsibility for the remedial program. If a agreement cannot be reached with the PRPs, the NYSDEC will evaluate the site for further action under th State Superfund. NYSDEC has referred this site to the NYS Department of Law, Attorney General, for cos recovery. The PRPs are subject to legal actions by the State for recovery of all response costs the State ha incurred.

SECTION 6: SUMMARY OF THE REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in (NYCRR Part 375-1.10. The overall remedial goal is to meet all Standards, Criteria, and Guidance (SCGs and be protective of human health and the environment. At a minimum, the remedy selected should eliminat or mitigate all significant threats to the public health and/or the environment presented by the hazardous wast disposed at the site through the proper application of scientific and engineering principles.

The goals selected for Operable Unit 2 of this site are:

- Eliminate, to the extent practicable, significant threats to human health and/or the environment relate to exposures to contaminated building surfaces and media.

- Eliminate, to the extent practicable, significant threats to human health and/or the environmen associated with the impacts of groundwater affected by the site that does not attain NYSDEC Clas GA Ambient Water Quality Criteria.

- Eliminate, to the extent practicable, significant threats to human health and/or the environment associated with the impacts of soils contaminated by the disposal of hazardous waste at the site that exceeds SCGs.

SECTION 7: SUMMARY OF THE EVALUATION OF ALTERNATIVES

The selected remedy should be protective of human health and the environment, be cost effective, comply with other statutory laws and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. Potential remedial alternatives for Operable Unit 2 of the American Valve Manufacturing Site were identified, screened and evaluated in a Feasibility Study. This evaluation is presented in the report entitled "Operable Unit 2 Feasibility Study", by Malcolm Pirnie Inc. dated January, 1999.

Presumptive remedy strategies were considered and tested and deemed inappropriate to manage the groundwater contamination. Following an unsuccessful attempt to collect groundwater via traditional pumping, two remedial strategies were pilot tested; the first, in-situ soil vapor extraction, the second, hydro-pneumatic soil fracturing. Due to the colloidal impermeable soils, (tight fine clays), all presumptive pumping alternatives were eliminated from further consideration.

The three types of OU 2 contaminated media (building complex, soil, and groundwater) were treated separately for the development and evaluation of alternatives in the Feasibility Study (FS).

After consideration of the various remedial alternatives that were developed and evaluated in the FS, NYSDEC has developed for evaluation, in this document, six combinations of the remedial alternatives developed and evaluated in the FS. These six alternatives will be evaluated as comprehensive remedial scenarios to address all of the significant threats posed by the hazardous wastes within Operable Unit 2 of this site. These comprehensive remedial scenarios are described below, and are denoted Alternatives A through F.

The selection of the elements of the six remedial alternatives presented below was based upon the following:

Building complex: Alternatives developed included either allowing the building to remain, or to demolish the building complex and dispose the debris off-site. For alternatives involving removal or treatment of the soils beneath the building, building demolition would be a necessary element. For alternatives which do not involve removal or treatment of the soils beneath the building, the demolition would not be necessary, and not included.

Contaminated soils: Alternatives developed include institutional controls to prevent exposures to the soils, capping, and treatment of the contaminated soils. The treatment option selection (ex-situ thermal desorption) is the most effective and reliable treatment option of the treatment technologies evaluated in the FS, and is the most cost-effective of the treatment options evaluated in the FS which can meet the SCGs.

Contaminated groundwater: Alternatives developed include natural attenuation (allowing for natural biodegradation), installation of a passive treatment wall to treat the contaminants in place, and groundwater pumping and treatment.

A summary of the detailed analysis follows. As presented below, the time to implement reflects only the time required to implement the remedy, and does not include the time required to design the remedy, procure contracts for design and construction or to negotiate with responsible parties for implementation of the remedy.

7.1: Description of Alternatives

The potential remedies are intended to address the contaminated subsurface soils, groundwater and building media at the site. Relative cost of alternatives are compared using present worth calculations. Present Worth is calculated by adding the capital cost to the value of the Operation and Maintenance costs computed, with interest, for the expected duration of the operation of the remedy or 30 years which ever is less.

Alternative A:

No Further Action

This alternative would consist of continued monitoring only, allowing the building to remain in its present condition, and the contaminated soils would remain at the site. Natural attenuation, coupled with long-term monitoring would rely on natural-occurring mechanisms, such as biodegradation, oxidation, sorption, dilution and volatilization, would be relied upon to remediate the dissolved chlorinated solvents in the groundwater.

This alternative would result in the site remaining in it's present state, and would not provide any additional protection to human health or the environment

Present Worth:	$766,000
Capital Cost:	$51,000
O&M:	$46,000
Time to Implement:	less than 1 year

Alternative B:

Institutional Controls

This alternative includes implementing institutional controls, access controls and monitoring inclusive of structural inspections. This action would include maintaining existing site control (i.e. perimeter fence and warning signs) and further detouring building egress using plywood panels over door and window openings. Deed restrictions would be placed on the property notifying potential purchasers that contamination is present and that future using is restricted. A long-term monitoring plan would be established to monitor the movement of contamination within the property boundary. If contamination is found to extend past the set compliance points, additional remedial actions may need to be initiated. Natural attenuation, coupled with long-term monitoring would rely on natural-occurring mechanisms, such as biodegradation, oxidation,

sorption, dilution and volatilization, would be relied upon to remediate the dissolved chlorinated solvents in the groundwater.

Present Worth:	$1,630,000
Capital Cost:	$122,000
O&M:	$97,000
Time to Implement:	less than 1 year

Alternative C:

Building Demolition, Soil Capping, Passive Groundwater Treatment

This Alternative includes building demolition and transportation for disposal of debris at appropriate off-site facilities, plus the use of physical barriers that would be installed to minimize further migration of the contaminant plume and prevent human exposure to contaminated soils and groundwater. Physical barriers would include both horizontal and vertical barriers to create a cell which would physically and hydraulically isolate the contaminated media.

The horizontal barrier would consist of a surface synthetic cap system which would be consistent with those for solid waste landfills as specified in NYCRR Part 360. Vertical barriers would consist of sheet pilings placed around the perimeter of the groundwater contaminant plume.

Contaminated soils associated with other areas from the AVM site (underground utility lines) would be excavated and placed under the cap system.

Present Worth:	$4,498,000
Capital Cost:	$3,720,000
O&M:	$50,000
Time to Implement:	1-2 years

Alternative D:

Building Demolition, Soil Treatment, Passive Groundwater Treatment

This alternative involves excavation of all source area soils after building demolition, followed by low-temperature thermal desorption treatment on-site. Groundwater would be addresses by placement of a permeable reaction wall.

The building complex would be demolished and transported for disposal at appropriate off-site facilities

All excavated soil could be treated to levels below the Universal Treatment Standard levels, negating any off-site disposal to a permitted RCRA TSD facility. All treated soils would then be placed back at the site.

Low temperature thermal desorption (LTTD) would be the treatment method to remove the solvents from the soils. For LTTD, soils would need to be at 20 percent moisture or less. Since much of the excavated soils would be taken from the saturated zone, additional additives (e.g., lime) would be required to lower the moisture content and increase potential for handling the soil.

For this LTTD application, soil would be fed into a rotary dryer. Soils in contact with the heated air in the rotary drum would be volatilized. After the contaminants have been volatilized, the soil would then pass through a cooler, stockpiled for confirmation sampling, and if meeting Universal Treatment Standard levels be placed on-site. The exhaust air stream would be treated with a baghouse, to remove suspended particulates, and a catalytic oxidizer, to destroy the volatile contaminants remaining in the air stream. Treated exhaust would then discharge to the atmosphere.

To address the groundwater contamination, this alternative would employ the placement of a vertical reactive wall at the leading edge of the dissolved-phase plume. Hydraulic controls would also be needed to control the flow of groundwater exclusively to and through the reactive wall. Groundwater passing through the reactive wall would be chemically oxidized rendering the chlorinated solvents to benign end-products.

Present Worth:	$5,758,000
Capital Cost:	$4,980,000
O&M:	$50,000
Time to Implement:	1-2 years

Alternative E:

<u>Building Demolition, Soil Treatment, Groundwater Pump and Treat</u>

This alternative involves excavation of all source area soils after building demolition, followed by low-temperature thermal desorption treatment on-site. Groundwater would be addresses by implementation of a pump and treat system at the site.

The building demolition, and soil excavation and treatment, would be done as described for Alternative D, above.

To address the groundwater contamination, this alternative would employ a pump and treat system consisting of horizontal extraction trenches and an above grade treatment process (i.e. air stripper, GAC), with discharge to surface water or the sanitary sewer.

Present Worth:	$5,861,000
Capital Cost:	$4,500,000
O&M:	$87,500
Time to Implement:	1-2 years

Alternative F:

Building Demolition, Soil Treatment, Natural Attenuation

This alternative involves excavation of all contaminated soils after building demolition, followed by low-temperature thermal desorption treatment on-site. Groundwater would be addressed by natural attenuation and monitoring.

The building demolition, and soil excavation and treatment, would be done as described for Alternative D, above.

Present Worth:	$4,959,000
Capital Cost:	$4,290,000
O&M:	$43,000
Time to Implement:	1-2 years

7.2 Evaluation of Remedial Alternatives

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

1. Compliance with New York State Standards, Criteria and Guidance (SCGs).

Compliance with SCGs addresses whether or not a remedy will meet applicable environmental laws, regulations, standards, and guidance

Alternatives A, B and C would not comply with SCGs. Alternatives D, E and F would comply with SCGs, but achieving the groundwater standards would potentially take several years after the soil remediation is complete.

2. Protection of Human Health and the Environment. This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

Alternatives A and B are not protective of human health and the environment, as the significant threats posed by the hazardous wastes disposed at the site would continue to exist. Alternatives C, D, E, and F are protective.

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

Alternatives A and B have the highest short-term effectiveness, as little intrusive activities would be done. Alternatives C, D, E, and F would pose some additional risk of exposures while building complex demolition and soil excavation and treatment would be ongoing; however, reliable technologies to control and minimize the potential for releases are available. A community health and safety plan would be developed and implemented to address these concerns.

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

Alternative A has low long-term effectiveness and permanence, as the remaining risks associated with the impacts of the hazardous wastes disposed in Operable Unit 2 at the site would be uncontrolled. Alternative B also has low long-term effectiveness, and the only controls would be the institutional controls, which are only somewhat reliable. Alternative C has moderate long term effectiveness, as the containment system would reduce the risks associated with impacts posed by the tetrachloroethene within the soils. However, long-term maintenance would be required, and the containment system may not be able to completely contain the DNAPL present in the soils at the site, which may continue to migrate downward by gravity beyond the containment system. Alternatives D, E, and F have high long-term effectiveness, as the remaining risks would be related to the remaining groundwater contamination after the building and soil removals. Under either D, E, or F the remaining risks posed by the groundwater contamination can be controlled by monitoring, which is reliable.

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

Alternatives A, B, and C do not involve treatment. Alternatives D, E, and F all achieve a high degree of treatment.

6. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction and the ability to monitor the effectiveness of the remedy. For administrative feasibility, the availability of the necessary personnel and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc.

Alternatives A and B are the most implementable, as little additional work would be required. Alternatives C, D, E, and F all utilize proven technologies which can be done using locally available resources.

7. Cost. Capital and operation and maintenance costs are estimated for each alternative and compared on a present worth basis. Where two or more alternatives have met the requirements of the remaining criteria, cost effectiveness can be used as the basis for the final decision. The costs for each alternative are presented in Table 2.

8. Community Acceptance. Concerns of the community regarding the RI/FS reports and the Proposed Remedial Action Plan have been evaluated. The "Responsiveness Summary" attached as Appendix A presents the public comments received and how the Department will address the concerns raised. In general the public comments received were supportive of the selected remedy.

SECTION 8: SUMMARY OF THE SELECTED REMEDY

Based upon the results of the RI/FS, and a thorough analysis of the criteria for evaluation, NYSDEC is selecting Alternative F (building complex demolition, soil excavation and on-site treatment with high-temperature thermal desorption, and natural attenuation of groundwater for Operable Unit 2 of the American Valve Manufacturing Site.

The selection of Alternative F as the preferred alternative is based upon:

Alternative F would meet SCGs, would be protective of human health and the environment, would have high long-term effectiveness and permanence, good short-term effectiveness, would utilize treatment to a high degree, and would be implementable.

Alternatives A and B would not meet SCGs and would not be protective. Alternative C would not utilize treatment and would have only moderate long-term effectiveness. Alternatives D and E would also be protective, comply with SCGs, have similar long-term and short-term effectiveness and implementability, and would utilize treatment, but Alternative D and E have higher estimated costs.

The estimated present worth cost to implement the remedy is $4,959,000. The cost to construct the remedy is estimated to be $4,290,000 and the average annual operation and maintenance cost, estimated for a 30 year period is $43,000.

The elements of the selected remedy are as follows:

1. A remedial design program to verify the components of the conceptual design and provide the details necessary for the construction, operation and maintenance, and monitoring of the remedial program. Any uncertainties identified during the RI/FS would be resolved.

2. The building complex will be demolished after appropriate decontamination and abatement, and the demolition debris properly disposed off-site.

3. The soils beneath and in the vicinity of the building complex, and associated with the sewer pipeline in the vicinity of the building complex, which contain VOCs above SCGs will be excavated and treated on-site by low-temperature thermal desorption to meet SCGs. The treated soils will then be used as backfill at the site.

4. Since the remedy results in untreated hazardous waste remaining at the site, a long term monitoring program will be instituted. This program will allow the effectiveness of the soil treatment remedial actions to be monitored and would be a component of the operation and maintenance for the site.

SECTION 9: HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the remedial investigation process, a number of Citizen Participation activities were undertaken in an effort to inform and educate the public about conditions at the site and the potential remedial alternatives. The following public participation activities were conducted for the site:

- A repository for documents pertaining to the site was established
- A site mailing list was established which included nearby property owners, local political officials local media, and other interested parties.
- Fact sheets were distributed to local residents and to the people on the mailing list.
- An Availability Session for informal question and answer with interested parties was held at the Coxsackie Village Hall from 3:00 pm to 5:00 pm on March 11, 1999.
- A public Meeting was held at the Coxsackie Village Hall from 7:00 pm to 9:00 pm on March 11, 1999 to present the findings of the RI/FS, explain the remedial alternatives developed for the site, describe the remedy selection process, and present the proposed alternative.

Table 1
Nature and Extent of Contamination

MEDIA	CLASS	CONTAMINANT OF CONCERN	CONCENTRATION RANGE	FREQUENCY of EXCEEDING SCGs	SCG
Groundwater (well points in building)	Volatile Organic Compounds (VOCs)	Vinyl chloride	ND to 11 ug/l	4/20	2 ug/l
		1,2-dichloroethene	ND to 380 ug/l	6/13	5 ug/l
		cis-1,2-dichloroethene	ND to 140 ug/l	2/7	5 ug/l
		trans-1,2-dichloroethene	ND to 24 ug/l	2/7	5 ug/l
		Tetrachloroethene	ND to 3500 ug/l	10/20	5 ug/l
		4-methyl-2-pentanone	ND to 6 ug/l	0/20	50 ug/l
Groundwater (monitoring wells)	Volatile Organic Compounds (VOCs)	1,2-Dichloroethene	ND to 5 ug/l	0/11	5 ug/l
		cis-1,2-dichloroethene	ND to 1100 ug/l	1/19	5 ug/l
		Chloroform	ND to 2 ug/l	0/30	7 ug/l
		Trichloroethene	ND to 4300 ug/l	5/30	5 ug/l
		Tetrachloroethene	ND to 31,000 ug/l	7/30	5 ug/l
		Acetone	ND to 5 ug/l	0/30	50 ug/l
Groundwater	Heavy Metals	Copper	ND to 1010 ug/l	9/21	200 ug/l
		Lead	ND to 408 ug/l	8/21	25 ug/l
		Zinc	ND to 3260 ug/l	6/21	300 ug/l

Table 1 (Continued)

MEDIA	CLASS	CONTAMINANT OF CONCERN	CONCENTRATION RANGE	FREQUENCY of EXCEEDING SCGs	SCG
Soils	Volatile Organic Compounds (VOCs)	Methylene chloride	ND to 6 mg/kg	9/14	0.4 mg/kg
		Acetone	ND to 640 mg/kg	9/14	0.8 mg/kg
		2-Butanone	ND to 64 mg/kg	2/14	1.2 mg/kg
		Trichloroethene	ND to 9 mg/kg	2/14	2.8 mg/kg
		Tetrachloroethene	ND to 400 mg/kg	8/14	5.6 mg/kg
		Toluene	ND to 2 mg/kg	0/14	6 mg/kg
		Chlorobenzene	ND to 2 mg/kg	0/14	6.8 mg/kg
		Carbon disulfide	ND to 17 mg/kg	1/14	10.8 mg/kg
		Ethylbenzene	ND to 11 mg/kg	0/14	22 mg/kg
		Xylenes	ND to 53 mg/kg	1/14	4.8 mg/kg
Well points	Dense Non-aqueous Phase Liquid (DNAPL)	Tetrachloroethene	35,000,000 ug/l (3.5%)	N/A	N/A
Pipeline Sediments	Heavy Metals	Copper	949 mg/kg	1/1	34.2 mg/kg
		Lead	204 mg/kg	1/1	30 mg/kg
		Zinc	789 mg/kg	1/1	59.9 mg/kg

Table 1 (Continued)

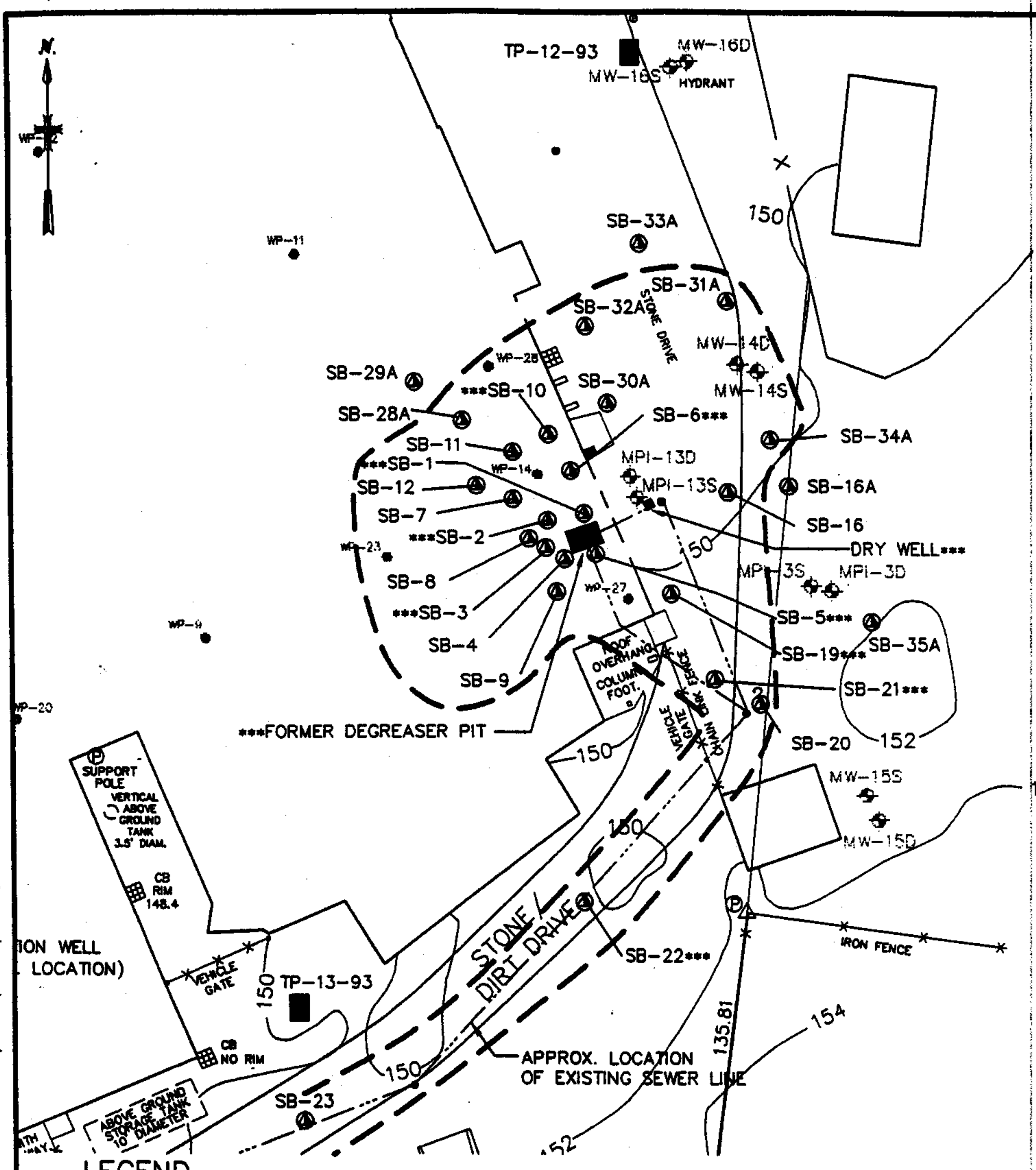
MEDIA	CLASS	CONTAMINANT OF CONCERN	CONCENTRATION RANGE	FREQUENCY of EXCEEDING SCGs	SCG
Soils	Volatile Organic Compounds (VOCs)	Methylene chloride	ND to 6 mg/kg	9/14	0.4 mg/kg
		Acetone	ND to 640 mg/kg	9/14	0.8 mg/kg
		2-Butanone	ND to 64 mg/kg	2/14	1.2 mg/kg
		Trichloroethene	ND to 9 mg/kg	2/14	2.8 mg/kg
		Tetrachloroethene	ND to 400 mg/kg	8/14	5.6 mg/kg
		Toluene	ND to 2 mg/kg	0/14	6 mg/kg
		Chlorobenzene	ND to 2 mg/kg	0/14	6.8 mg/kg
		Carbon disulfide	ND to 17 mg/kg	1/14	10.8 mg/kg
		Ethylbenzene	ND to 11 mg/kg	0/14	22 mg/kg
		Xylenes	ND to 53 mg/kg	1/14	4.8 mg/kg
Well points	Dense Non-aqueous Phase Liquid (DNAPL)	Tetrachloroethene	35,000,000 ug/l (3.5%)	N/A	N/A
Pipeline Sediments	Heavy Metals	Copper	949 mg/kg	1/1	34.2 mg/kg
		Lead	204 mg/kg	1/1	30 mg/kg
		Zinc	789 mg/kg	1/1	59.9 mg/kg

Table 2

Remedial Alternative Costs

Remedial Alternative	Capital Cost	Annual O&M Cost	Total Present Worth
Alternative A: No Further Action	51,000	46,000	766,000
Alternative B: Institutional Controls	122,000	97,000	1,630,000
Alternative C: Building Complex Demolition, Soil Capping, Passive Groundwater Treatment	3,720,000	50,000	4,498,000
Alternative D: Building Complex Demolition, Soil Excavation and Treatment, Passive Groundwater Treatment	4,980,000	50,000	5,758,000
Alternative E: Building Complex Demolition, Soil Excavation and Treatment, Groundwater Recovery and Treatment	4,500,000	87,000	5,861,000
Alternative F: Building Complex Demolition, Soil Excavation and Treatment, Natural Attenuation	4,290,000	43,000	4,959,000

(Costs are in dollars)



LEGEND

- PRODUCTION WELL
- MANHOLE
- SOIL BORING (1998) (SB-1)
- TEST PIT
- WELL POINT (WP-12)
- MONITORING WELL (MW-14S)
- EXISTING SEWER LINE

AREA OF SOILS EXCEEDING TAGM GUIDANCE.
*** DNAPL PRESENT IN SAMPLE.

SCALE IN FEET
0 35 70

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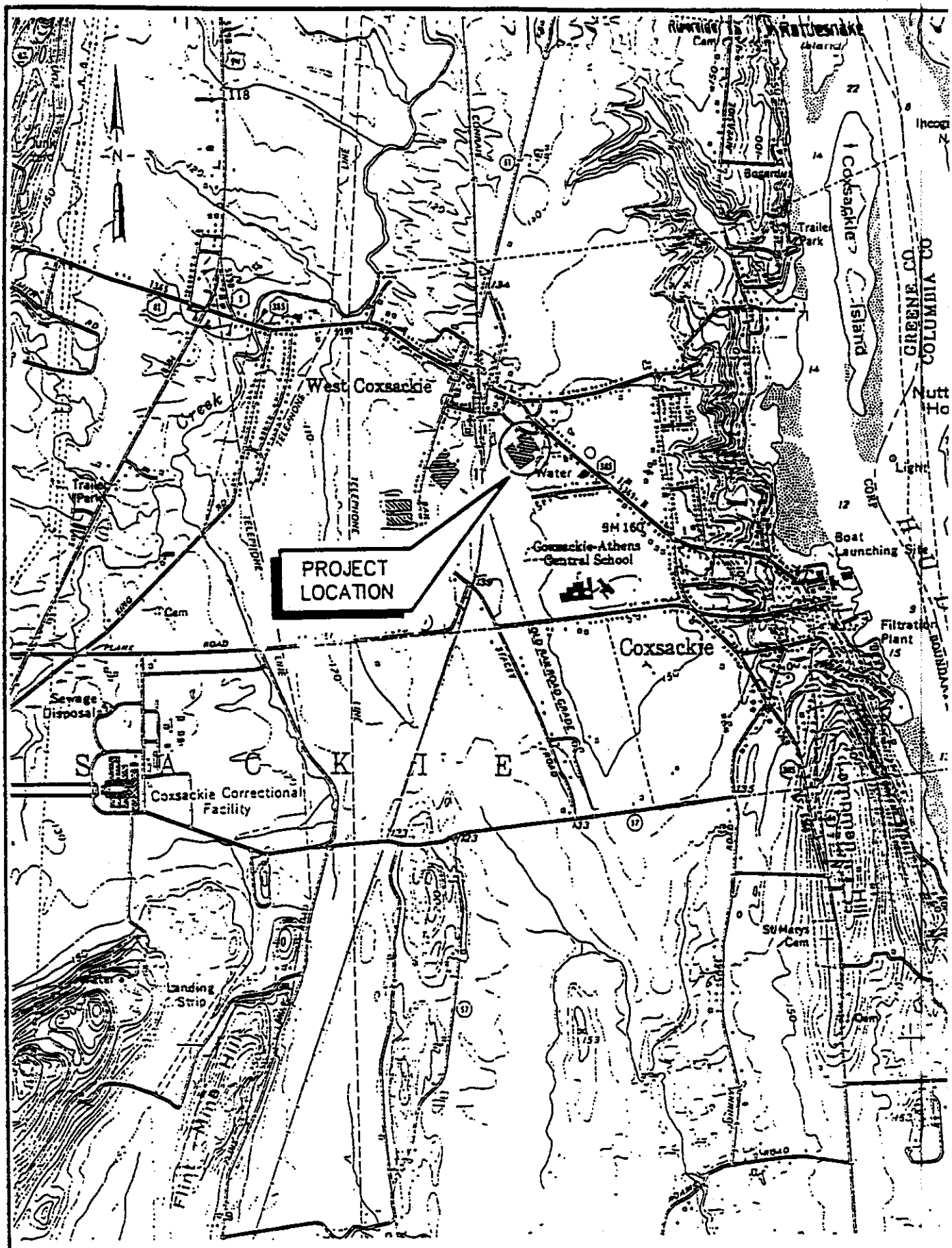
SOIL ANALYTICAL RESULTS

FIGURE 1



NYSDOT QUAD: HUDSON NORTH
7.5 MINUTE SERIES, 1976

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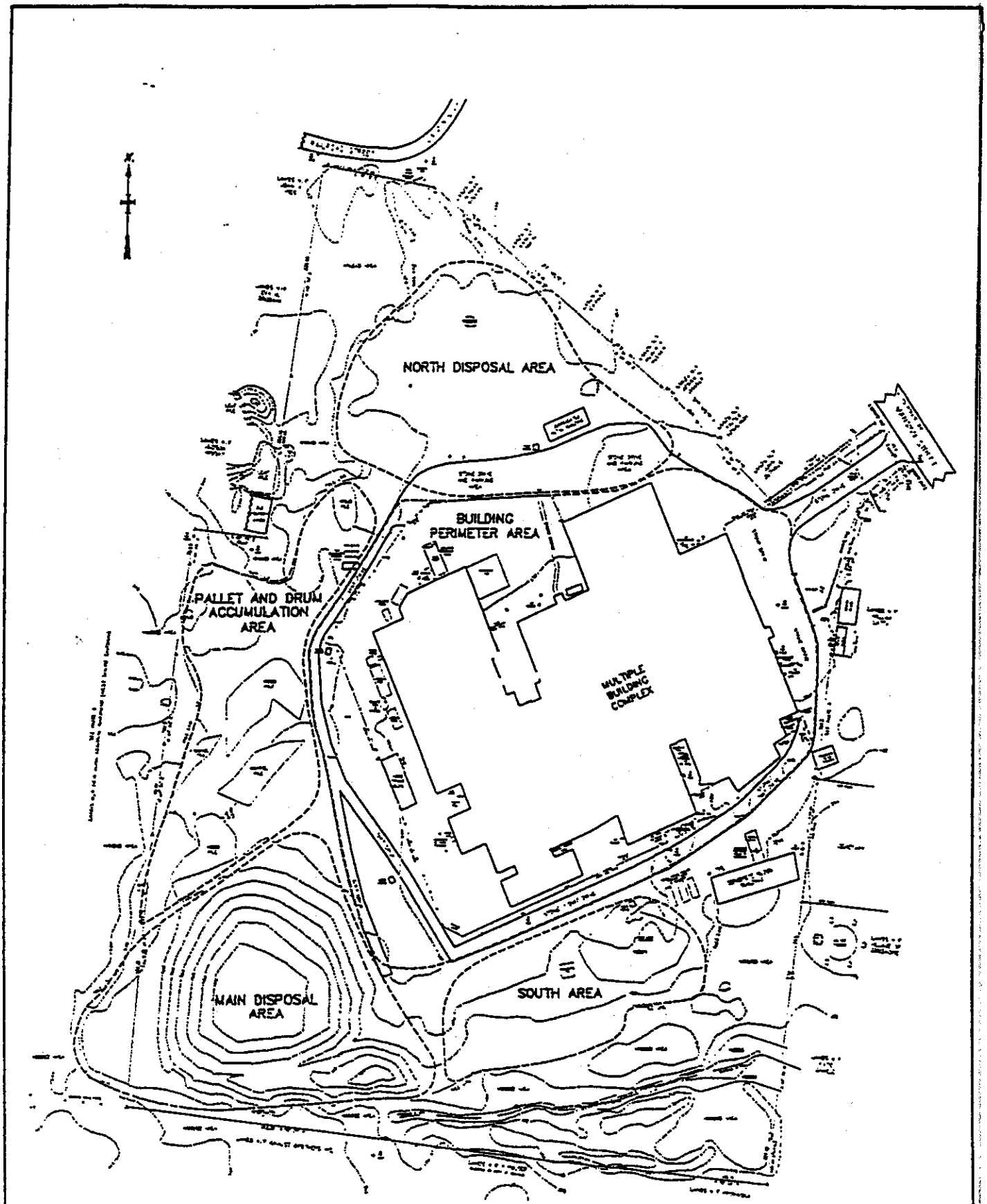
COXSACKIE, NEW YORK



SCALE IN FEET

0 75 150 300

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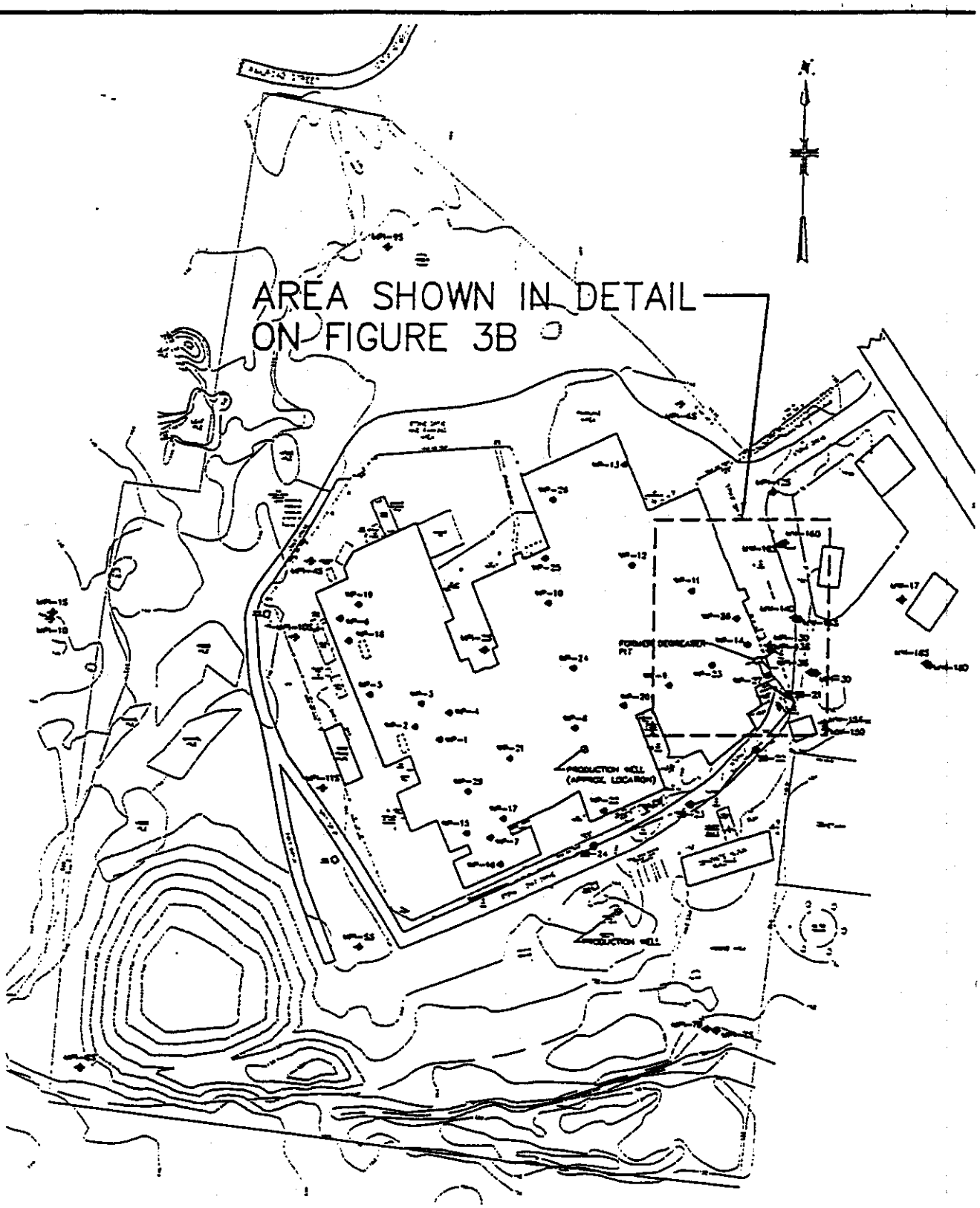
FIGURE 2



LEGEND

- WELL POINT
- MONITORING WELL LOCATION
- PRODUCTION WELL LOCATION
- SOIL BORING (1998)
- MONITORING POINT
- EXTRACTION WELL
- FRACTURE WELL
- MANHOLE
- SEWER LINES
- POSSIBLE UNDERGROUND STORAGE TANK LOCATION

SCALE IN FEET

0 75 150

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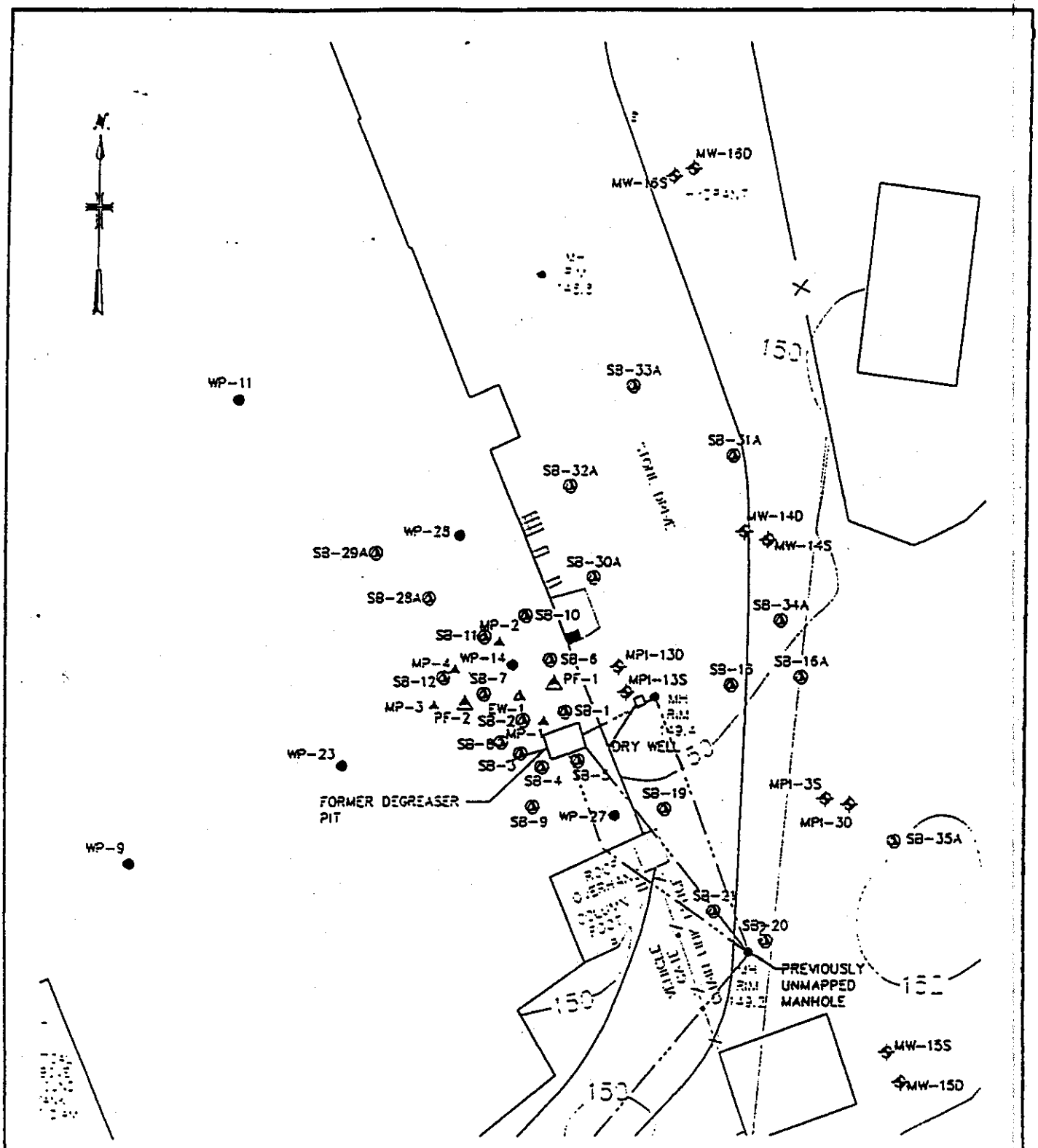
FIGURE 3A



LEGEND

- WELL POINT
- MONITORING WELL LOCATION
- PRODUCTION WELL LOCATION
- SOIL BORING (1998)
- MONITORING POINT
- EXTRACTION WELL
- FRACTURE WELL
- MANHOLE
- SEWER LINES
- POSSIBLE UNDERGROUND STORAGE TANK LOCATION

SCALE IN FEET

0 15 30 60

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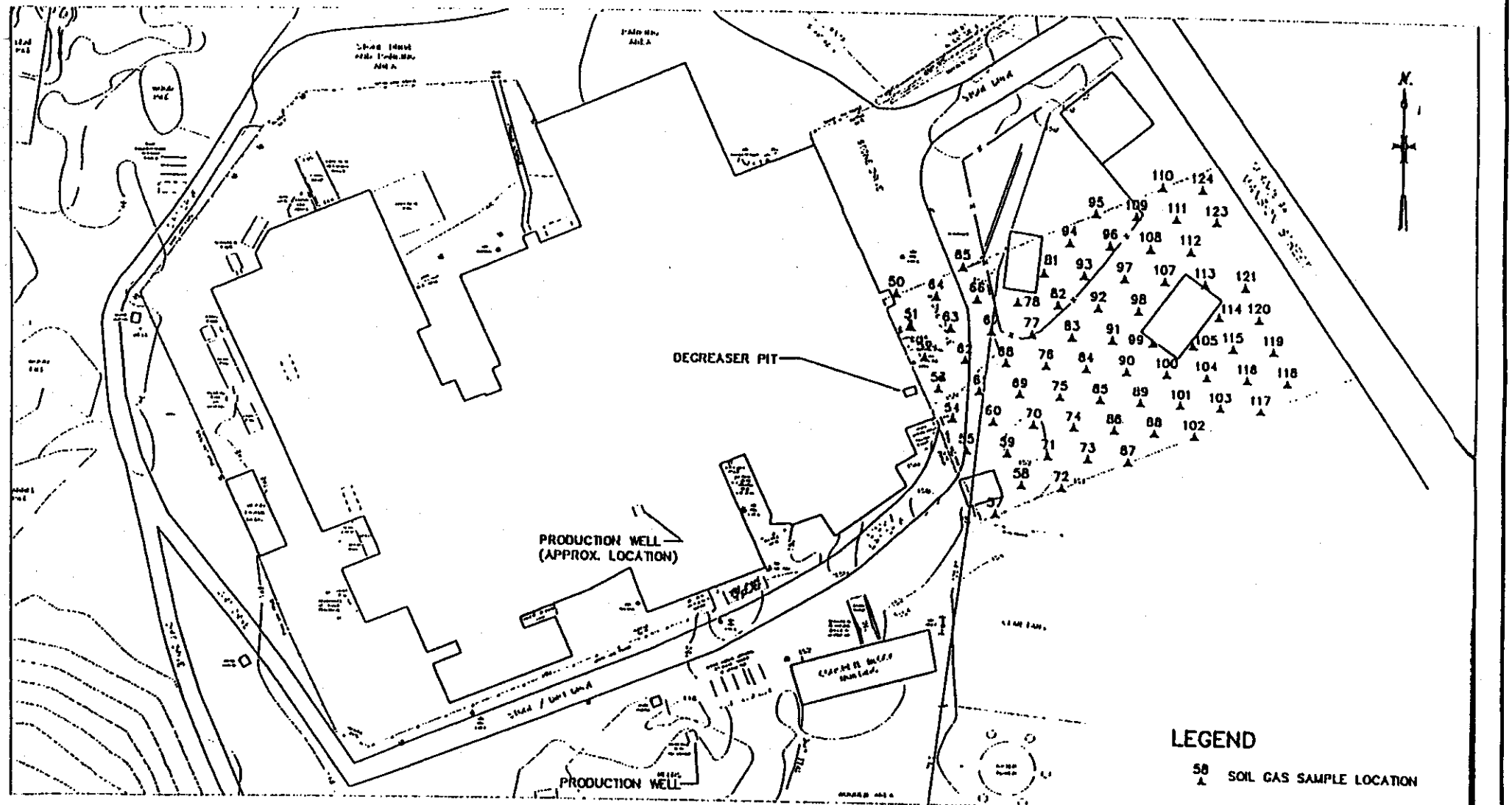
FIGURE 3B



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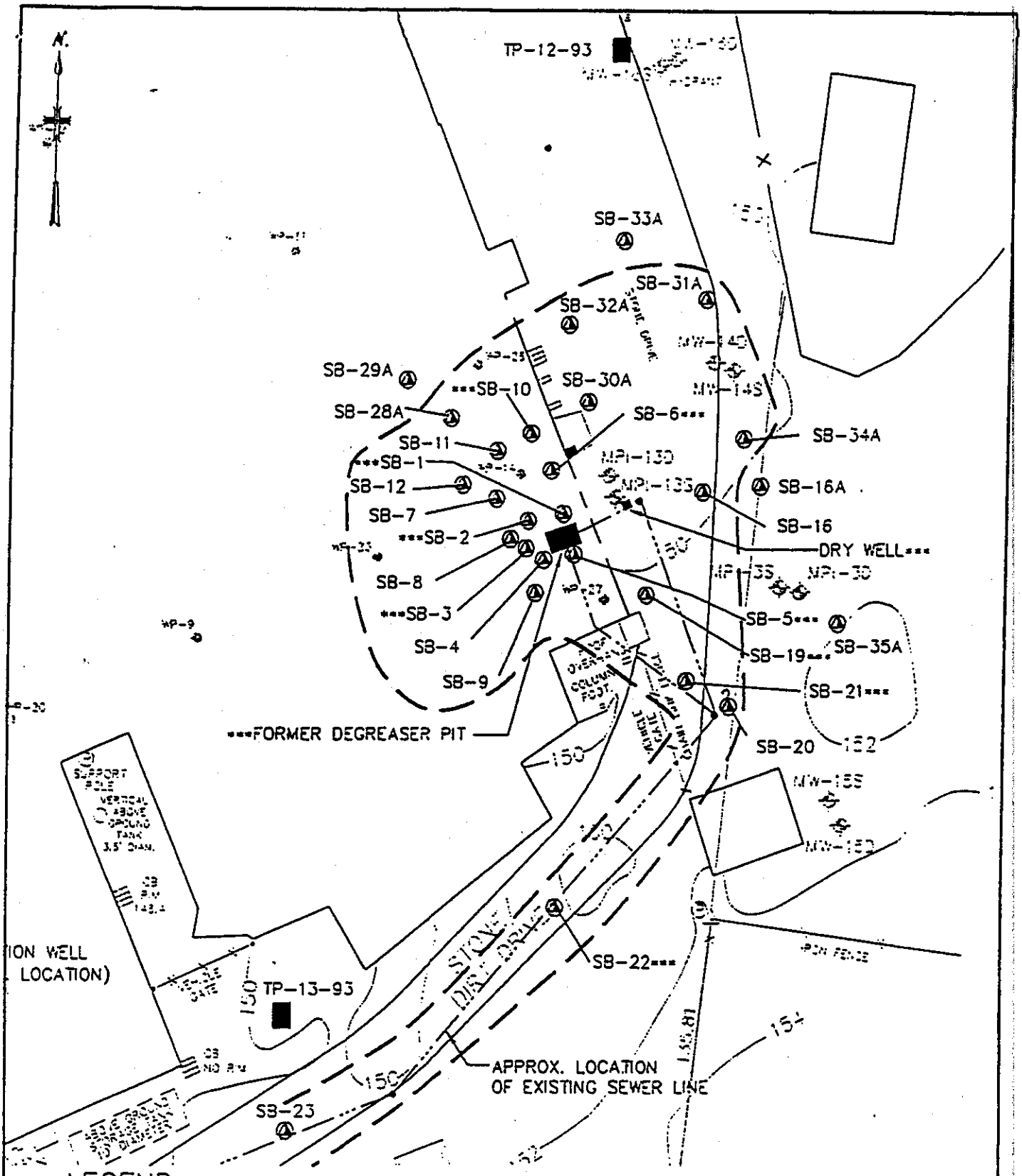
MALCOLM PIRNIE



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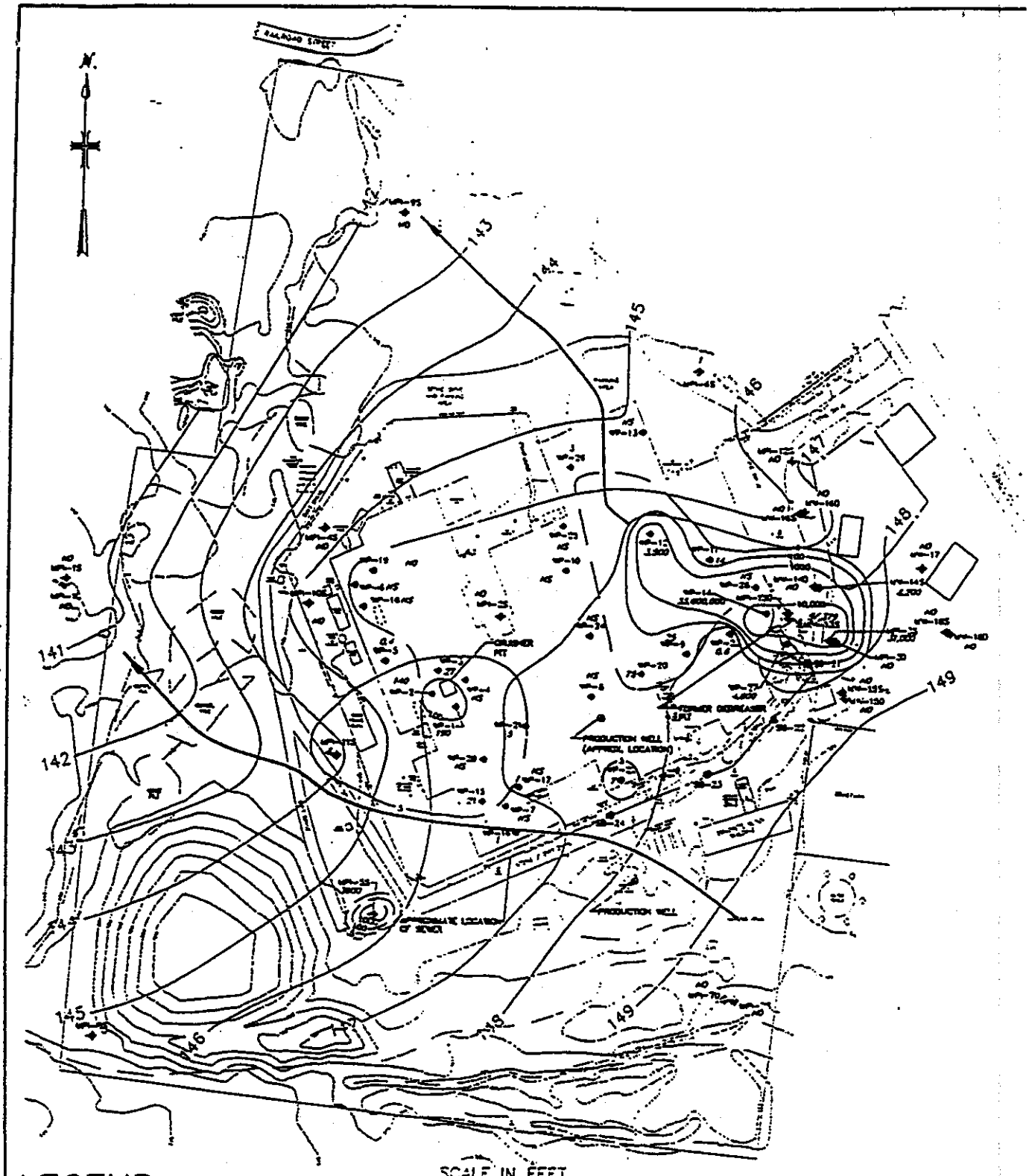
AMERICAN VALVE MFG. CORP., COXSACKIE, NEW YORK

FIGURE 5



LEGEND

●	WELL POINT	←	SCHEMATIC GROUNDWATER FLOW
⊕	MONITORING WELL	NS	NOT SAMPLED
⊕	PRODUCTION WELL	—5—	TETRACHLOROETHENE ISOPLETH (UG/
▭	POSSIBLE UNDERGROUND STORAGE TANK	—140—	POTENTIOMETRIC CONTOUR (FEET AMSL)(10/19/98)
31,000	MAXIMUM TETRACHLOROETHENE CONCENTRATION DETECTED (UG/L)	·	MANHOLE
ND	NOT DETECTED	— ·· —	SEWER LINE

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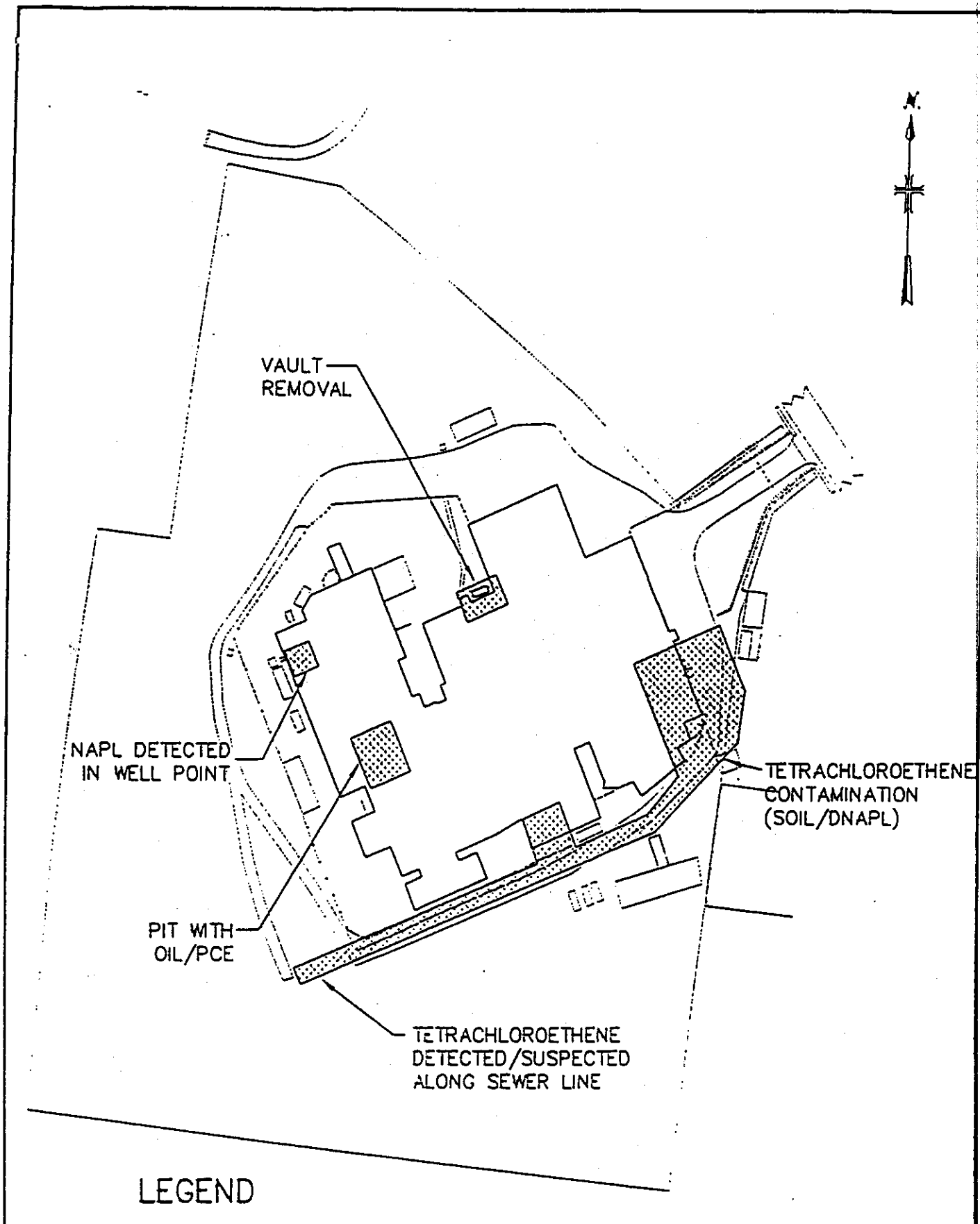
AMERICAN VALVE MFR. CORP., COXSACKIE, NEW YORK

TETRACHLOROETHENE ISOPLETHS FOR SHALLOW GROUNDWATER

FIGURE 6



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COXSACKIE, NEW YORK

FIGURE 7

APPENDIX A

RESPONSIVENESS SUMMARY

American Valve Manufacturing Site
Operable Unit No. 2 - Building Complex, Contaminated Soil and Groundwater
Coxsackie (V), Greene County
Site No. 420002

The Proposed Remedial Action Plan (PRAP) for Operable Unit No. 2 at the American Valve Manufacturing Site, was prepared by the New York State Department of Environmental Conservation (NYSDEC) and issued to the local document repositories on February 25, 1998. This plan outlined the preferred remedial measure proposed for the remediation of the building complex, contaminated soil and groundwater at the American Valve Manufacturing Site. The preferred remedy is building demolition, soil treatment and natural attenuation of groundwater.

The release of the PRAP was announced via hand delivered notice to the neighborhood near the site, mailing direct to approximately 100 addresses identified in the Citizens Participation Plan and publication in the local newspapers (Daily Mail, Greene County News and the Daily Freeman).

An availability session and public meeting were held on March 11, 1999 which included a presentation of the Remedial Investigation and Feasibility Study as well as a discussion of the proposed remedy. The meetings provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become a part of the Administrative Record for this site.

The public comment period for the PRAP officially closed March 27, 1999.

The Responsiveness Summary responds to all questions and comments raised during the 30 day comment period.

The following are the comments received at the public meeting, with NYSDEC's responses:

Comment 1: Will the site go off the Registry?

Response 1: One half of the site, where the landfilled foundry sands will be located, will remain on the Registry as a Class 4 site. A Class 4 site classification is assigned to a site that has been substantially remediated and/or closed, but that requires continued operation, maintenance and/or monitoring.

The other half of the site, where the building is currently located, will be delisted after the groundwater concentrations decrease below standards.

Comment 2: Is there a chance the PCE groundwater contamination will migrate off-site?

Response 2: PCE contamination is limited to the area below the discharge pipes and has not migrated off-site.

There are monitoring wells that border the site. These monitoring wells were sampled and showed non-detect values. Private homeowner wells along Mansion Street were also sampled and showed non-detect values as well. A soil gas survey was performed at the adjacent residential properties. No contamination was found in a grid of 58 samples.

Comment 3: Where does the sewer from Spencer Street go?

Response 3: The sewer line from Spencer Street will be relocated around the future location of the landfill. This line which runs under the landfill will be filled with concrete to prevent any water flow.

Comment 4: How deep are the bottoms of the brick manholes and are they contaminated?

Response 4: The bottoms of the holes are between 3 to 10 feet below grade. Each progressive manhole away from the source shows less concentration. The PCE contaminated water did not migrate off-site.

Comment 5: What is the location of the soil sample which was 3.5% PCE?

Response 5: This sample was taken near the degreaser pit. The excavation of the contaminated soils around the old degreaser pit will remove the high PCE concentrations. When the soils are excavated, we expect to have some of this groundwater contaminated with PCE. This groundwater will be pumped out and disposed of properly. The residual contamination will be at a very low level and will naturally attenuate. An active groundwater treatment system is not feasible due to the dense soil.

Comment 6 What special precautions will be made to prevent exposure to highly concentrated material?

Response 6: The excavation and handing of the contaminated material will be done taking precautions that will limit volatilization of the PCE. Air monitoring requirements to assure effectiveness of the precautions will be specified in an approved Health & Safety Plan.

Comment 7: What fill will regrade the site?

Response 7: The PCE contaminated soil will be treated to remove contaminants and then used as clean fill.

Comment 8: Is there lead contamination in the PCE contaminated soil?

Response 8: No. This soil has been tested and does not show any signs of lead. The lead contamination is associated with the foundry sand and is in a different part of the property.

Comment 9: Where will the building go?

Response 9: The building will be decontaminated to remove lead contaminated dust, PCE sludge and asbestos. The demolition of the building will occur systematically and dust suppression will be used to minimize dust migration. The debris/demolition will be rendered non-hazardous and sent to an industrial landfill facility.

Comment 10: When will this construction/demolition start?

Response 10: The construction phase of this operable unit (OU2) will not require as much design as the foundry sand landfill. The construction of both operable units could be performed concurrently. The construction will probably not occur for OU2 until next calendar year, but OU1 construction will start this fall.

Comment 11: How long will the construction take?

Response 11: Approximately six months.

Comment 12: Why not place the demolished building materials in the foundry sand landfill?

Response 12: The lead in the landfill has been documented not to leach back into the soil, whereas the PCE would. The brick contaminated with PCE would require additional testing before disposal, which would make this option less cost-effective.

Comment 13: What about the surface water lying near Spencer Boulevard?

Response 13: We are aware of, and have directed our consultant to address the excess water on-site near Spencer St. and Cato St. The on-site surface water drainage system will be changed significantly. A retention basin or trench will be created for collection of rain water in the northwest corner of the site prior to discharge to Coxsackie Creek.

Comment 14: Where will this excess rainwater, turned into groundwater, go?

Response 14: This is not a recharge basin. It will not allow the rainwater to recharge into the ground. It will allow the water to accumulate and then flow, in a controlled manner, to the stream (to the northwest).

Comment 15: Will the asbestos be removed before the building is demolished?

Response 15: Yes. Asbestos removal is required before the demolition project.

Comment 16: Will the fence come down?

Response 16: The existing fence will be removed and following remediation a new fence will be installed around the landfill.

Comment 17: Will the perimeter berm be gone?

Response 17: Yes, that was from an IRM to prevent the water from leaving the site. A new berm or swale will be part of the new surface management system.

Comment 18: Will a public meeting be held for the design?

Response 18: We can have a meeting, if there is interest. It is not a requirement, but it has been done for some sites.

Comment 19: We are happy to hear that the building is coming down. Two years ago at the last public meeting, we were not as pleased because of the fact that the landfill was going to be put in and the building was going to stay. We understand that the cost of $25 million of taking the soils away compared to the $2 million to keep them on-site is an issue, but taking the building down is better news. This will make the surrounding area look better.

Response 19: Thank you for your comment.

Comment 20: Who currently owns the property? How can we get it back onto the tax roll?

Response 20: American Valve has been operating recently in North Carolina. Active cost recovery by New York State is in the works. Part of this action could be the recovery of back taxes. Then the County could take over the property where the building now exists after the remedial actions are completed without many restrictions. The landfill portion of the site will be taken by the State, rather the State will assume maintenance and operational needs and cost.

Comment 21: Will the State Superfund pay the old taxes?

Response 21: No. If the State recovers the cost from the PRP, then the County and local governments can attempt to recover taxes, if there are any assets left.

Comment 22: What precautions during construction have been made for people with asthma?

Response 22: The community health and safety plan contains action levels that are very low, and that take more sensitive people into account.

Comment 23: I want to thank you for coming tonight. This was a very good presentation. We could have 50 to 75 people here tonight, due to the amount of interest with this site. What we do not want to convey is that the local people are complacent with this site. We are concerned with the site and want to see the action taken and completed. I was satisfied to hear the progress during this presentation until I hear the words, "Not in this calendar year." (In reference to the completion of the construction.) I know we are close with this site, but I think our attitude is that "We will believe it when we see it." I know you have other projects that are more important than this site.

Response 23: Advancing this project through remedy selection, design and into construction is a high priority. Regarding this schedule, I have already talked to the project manger from the Construction Bureau. He said that it will take a period of 150 days once the design is complete to start mobilization. This is due to the fact that we have to send the project out to bid, and prepare the Health and Safety Plans for the site. The design for the landfill (OU1) is now 95% complete, and will take another month or two to finalize. Then it will take 150 days for the Contract to be bid and finalized. The OU1 construction should start sometime this fall and continue for as long as the weather permits. The demolition of the building will probably not start until next spring.

Comment 24: What will be on the deeds of the properties that are next to the landfill that will remain on the site?

Response 24: After the construction of the landfill is complete, then the site will be reclassified to from a Class 2 to a Class 4 site. The deeds could be changed to say something like "Borders a remediated hazardous waste site." The key words "remediated" and class 4".

Comment 25: I am a resident in this town who owns a house adjacent to this property. I haven't been able to sell my house for years now. What is the difference between a Class 2 and a Class 4 site?

Response 25: A Class 4 site is a site which remedial actions have been complete. The site is considered to be remediated and no longer poses a significant threat to human health or the environment. Some degree of maintenance will be required, along with continued monitoring.

Comment 26: What will the site boundary be after the remediation?

Response 26: The definition of the site will be determined by which parts are remediated. It does not have to be the entire site. It could be a portion, such as only the landfill section, and not the entire property. The rest of the property could be delisted.

Comment 27: The lending corporations are instructed to set certain restrictions on homes adjacent to hazardous waste sites. This causes the value of our houses to decrease anywhere from $8,000 to $15,000. Is there any way that the difference between a Class 2 and Class 4 could be explained to each of them?

Response 27: We could hold a meeting with any of the lending corporations to explain these differences of how the site will be remediated and no longer poses a significant threat to human health or the environment.

Comment 28: Thank you very much for coming down to talk to us.

Response 28: You are welcome. Thank you for attending.

No written comments were received by NYSDEC.

APPENDIX B

ADMINISTRATIVE RECORD

The following documents, which have been available at the document repositories, constitute the Administrative Record for the American Valve Manufacturing Site (OU-1), Remedial Investigation/Feasibility Study.

MAY 1993:	Work Plan
APRIL 1994:	Phase I Remedial Investigation Report
AUGUST 1995:	Revised Work Plan
NOVEMBER 1996:	Bench-Scale Testing Work Plan
UNDATED:	Analytical Data Summaries
FEBRUARY 1997:	Qualitative Risk Assessment
FEBRUARY 1997:	Habitat Assessment Report
FEBRUARY 1997:	Proposed Remedial Action Plan, Operable Unit No. 1
MARCH 1997:	Feasibility Study Report; Operable Unit No.
FEBRUARY 1999:	Phase II Remedial Investigation Report
FEBRUARY 1999:	Operable Unit Number 2, Feasibility Report
MARCH 1999:	Proposed Remedial Action Plan, Operable Unit No. 2

TABLE 4-1
BUILDING SAMPLES SUMMARY - VOLATILE ORGANIC COMPOUNDS
OPERABLE UNIT 2 - REMEDIAL INVESTIGATION
AMERICAN VALVE MANUFACTURING
COXSACKIE, NEW YORK

Sample ID	AVM-BS-2B	AVM-BS-51(a)	AVM-BS-6B
Matrix	WATER	WATER	WATER
Units	µg/L	µg/L	µg/L
Dilution Factor	1	1	1
VOLATILE ORGANICS			
Methylene Chloride	ND	ND	ND
1,2-Dichloroethene (total)	15 J	14 J	17 J
1,1,1-Trichloroethane	ND	ND	44
Trichloroethene	12 J	10 J	18 J
Tetrachloroethene	190	150	87

NOTES:
(a) AVM-BS-51 is a duplicate of AVM-BS-2B.
ND - Not Detected.
J - Estimated value.

TABLE 4-1
BUILDING SAMPLES SUMMARY - VOLATILE ORGANIC COMPOUNDS
OPERABLE UNIT 2 - REMEDIAL INVESTIGATION
AMERICAN VALVE MANUFACTURING
COXSACKIE, NEW YORK

Sample ID	AVM-BS-6A	AVM-BS-6ADL	AVM-BS-52 (a)	AVM-BS-52DL	AVM-BS-20	AVM-BS-21	AVM-BS-53 (b)
Matrix	SOIL	SOIL	SOIL	SOIL	WOOD CHIP	SOIL	SOIL
Units	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg
Dilution Factor	1	1	1	1	1	1	1
VOLATILE ORGANICS							
Vinyl Chloride	1,600 J	ND	1,800	ND	ND	ND	ND
Acetone	ND	ND	ND	ND	12	ND	36
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	400 J	ND	460 J	ND	ND	ND	ND
1,2-Dichloroethene (total)	39,000 E	43,000 DJ	50,000 E	62,000 DJ	ND	ND	ND
2-Butanone	ND	ND	ND	ND	5 J	ND	6 J
Trichloroethene	140,000 E	210,000 D	150,000 E	250,000 D	ND	290 J	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	ND	ND	6 J
2-Hexanone	ND	ND	ND	ND	ND	ND	2 J
Tetrachloroethene	250,000 E	2,300,000 D	280,000 E	3,000,000 D	5 J	1,900	2 J
Toluene	320 J	ND	380 J	ND	1 J	ND	3 J
Ethylbenzene	330 J	ND	380 J	ND	ND	ND	ND
Total Xylenes	2,500	ND	3,000	ND	ND	710 J	ND

NOTES:

(a) AVM-BS-52 is a duplicate of AVM-BS-6A.

(b) AVM-BS-53 is a duplicate of AVM-BS-21.

ND - Not Detected.

J - Estimated value.

E - Concentration exceeds calibrated range of instrument.

D - Analyzed at a secondary dilution factor.

NA - Not Analyzed

TABLE 4-2
SOIL SAMPLING DATA SUMMARY
OCTOBER 1998
OPERABLE UNIT 2 -.REMEDIAL INVESTIGATION
AMERICAN VALVE MANUFACTURING
COXSACKIE, NEW YORK

Sample ID Date Sampled Units Matrix	NYSDEC TAGM 4046 Value (ug/kg)	AVM-SB-11-0-2 10/05/98 ug/kg Soil	AVM-SB-11-6-8 10/05/98 ug/kg Soil	AVM-SB-12-4-6 10/05/98 ug/kg Soil	AVM-SB-12-10-12 10/05/98 ug/kg Soil	AVM-SB-16-6-8 10/06/98 ug/kg Soil	AVM-SB-16-10-12 10/06/98 ug/kg Soil
VOLATILE ORGANIC COMPOUNDS							
Vinyl chloride	200	ND	ND	ND	ND	ND	ND
Methylene chloride	100	4 J	ND	ND	13 J	ND	6 J
Acetone	200	11 JB	ND	163	24 JB	ND	ND
Carbon disulfide	2,700	ND	ND	17 J	ND	ND	ND
1,1-Dichloroethene	400	ND	ND	ND	ND	ND	ND
1,2-Dichloroethene (total)	700	32	ND	[redacted]	ND	ND	ND
1,2-Dichloroethane	100	ND	ND	ND	ND	ND	ND
2-Butanone	300	ND	ND	ND	ND	ND	ND
Trichloroethene	700	67	ND	62 J	ND	ND	2 J
Benzene	60	ND	ND	ND	ND	ND	2 J
Tetrachloroethene	1,400	[redacted]	[redacted]	242 B	15 JB	[redacted]	172 J
Toluene	1,500	ND	ND	ND	ND	ND	4 J

NOTES:
ND - Not Detected
J - Estimated Value
D - Sample analyzed at a secondary dilution factor.
E - Result exceeds calibrated range of instrument.
B - Analyte detected in laboratory blank.
Concentrations highlighted exceed the corresponding NYSDEC TAGM

TABLE 4-2
SOIL SAMPLING DATA SUMMARY
OCTOBER 1998
OPERABLE UNIT 2 - REMEDIAL INVESTIGATION
AMERICAN VALVE MANUFACTURING
COXSACKIE, NEW YORK

Sample ID	NYSDEC	AVM-SB-4 -10-12	AVM-SB-6-6-8	AVM-SB-6-10-12	AVM-SB-7-2-4	AVM-SB-7-11-12
Date Sampled	TAGM	10/05/98	10/06/98	10/06/98	10/05/98	10/05/98
Units	4046	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Matrix	Value (ug/kg)	Soil	Soil	Soil	Soil	Soil
VOLATILE ORGANIC COMPOUNDS						
Vinyl chloride	200	ND	ND	ND	ND	ND
Methylene chloride	100	ND	ND	2 J	6 J	3 J
Acetone	200	18 JB	14 JB	18 JB	5 JB	33 J
Carbon disulfide	2,700	ND	ND	ND	ND	ND
1,1-Dichloroethene	400	ND	ND	ND	ND	ND
1,2-Dichloroethene (total)	700	ND	10 J	ND	2 J	ND
1,2-Dichloroethane	100	ND	ND	ND	2 J	ND
2-Butanone	300	ND	ND	ND	ND	ND
Trichloroethene	700	ND	10 J	3 J	5 J	2 J
Benzene	60	ND	ND	ND	ND	ND
Tetrachloroethene	1,400	2 J	[redacted]	91 JB	37 B	30 JB
Toluene	1,500	ND	ND	R	ND	R

NOTES:
ND - Not Detected
J - Estimated Value
D - Sample analyzed at a secondary dilution factor.
E - Result exceeds calibrated range of instrument.
B - Analyte detected in laboratory blank.
Concentrations highlighted exceed the corresponding NYSDEC TAGM 4046 Values.

TABLE 4-2
SOIL SAMPLING DATA SUMMARY
OCTOBER 1998
OPERABLE UNIT 2 - REMEDIAL INVESTIGATION
AMERICAN VALVE MANUFACTURING
COXSACKIE, NEW YORK

Sample ID Date Sampled Units Matrix	NYSDEC TAGM 4046 Value (ug/kg)	AVM-SB-33A-4-6 10/06/98 ug/kg Soil	AVM-SB-34A-6-8 10/06/98 ug/kg Soil	AVM-SB-35A-6-8 10/06/98 ug/kg Soil
VOLATILE ORGANIC COMPOUNDS				
Vinyl chloride	200	ND	ND	ND
Methylene chloride	100	2 J	ND	2 J
Acetone	200	9 JB	13 JB	6 JB
Carbon disulfide	2,700	ND	ND	ND
1,1-Dichloroethene	400	ND	ND	ND
1,2-Dichloroethene (total)	700	5 J	25	1 J
1,2-Dichloroethane	100	ND	ND	ND
2-Butanone	300	ND	ND	ND
Trichloroethene	700	3 J	255	5 J
Benzene	60	ND	ND	ND
Tetrachloroethene	1,400	6 J	[redacted]	45
Toluene	1,500	ND	ND	ND

NOTES:
ND - Not Detected
J - Estimated Value
D - Sample analyzed at a secondary dilution factor.
E - Result exceeds calibrated range of instrument.
B - Analyte detected in laboratory blank.
Concentrations highlighted exceed the corresponding NYSDEC TAGM