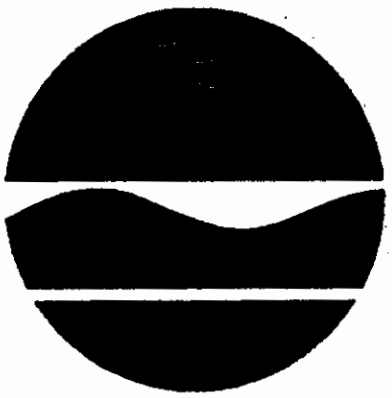
Abandoned Solvent Center
Inactive Hazardous Waste Site

Pompey, Onondaga County, New York
Site No. 7-34-035

RECORD OF DECISION

March 1993



Prepared by:

New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233

Thomas C. Jorling
Commissioner

DECLARATION STATEMENT - RECORD OF DECISION (ROD)

Abandoned Solvent Center Inactive Hazardous Waste Site
Pompey, Onondaga County, New York
Site No. 7-34-035

Statement of Purpose

The Record of Decision (ROD) sets forth the selected Remedial Action Plan for the Abandoned Solvent Center Inactive Hazardous Waste Site. This Remedial Action Plan was developed in accordance with the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, and the New York State Environmental Conservation Law (ECL). The selected remedial plan complies to the maximum extent practicable with the National Oil and Hazardous Substance Pollution Contingency Plan, 40 CFR Part 300, of 1985.

Statement of Basis

This decision is based upon the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Abandoned Solvent Center 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 A of the ROD.

Description of Selected Remedy

The selected remedy for the Abandoned Solvent Center site includes capping the entire area of contamination with groundwater collection and treatment. This alternative was selected as it is expected to meet or exceed all Applicable Standards, Criteria, and Guidance (SCGs), is relatively easy to implement, has less severe short term impacts, and has a much lower cost than any of the other alternatives. The components of the selected remedy are as follows:

- Installation of a groundwater barrier for the overburden aquifer which surrounds and contains the entire site, consisting of 1) a bentonite slurry wall upgradient to act as a deflector to prevent groundwater from entering the site and; 2) a subsurface collection drain downgradient to collect contaminated groundwater, which may be treated on site or preferably will be sent off site for treatment and disposal;

- Installation of a low permeability cap consistent with 6NYCRR Part 360, extending beyond the groundwater barrier system;

- Excavation of contaminated sediments from the roadside ditches, to be placed under the cap;

- Continued operation, monitoring and maintenance of existing residential drinking water treatment systems. Also perform an evaluation of the existing systems to determine if modification could result in improvements towards efficiency and cost effectiveness.

- Acquisition and fair compensation for the relocation of the Village Pump Tavern property and business. Removal of the building will be necessary for implementation of the remedy.

- Operation, Maintenance and Monitoring of the remedy and performance of reviews at least every five years to determine the effectiveness of the remedy and to insure continued protection of human health and the environment.

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 Remedial Action Plan is protective of human health and the environment. The remedy selected will meet the substantive requirements of the Federal and State laws, regulations and standards that are applicable or relevant and appropriate to the remedial action. Implementation of this remedy will fully contain and prevent any further migration of contaminants, thereby eliminating the potential for future exposure.

March 30, 1993
DATE

Ann Hill DeBarbieri
Deputy Commissioner

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SECTION 1: SITE DESCRIPTION

The Abandoned Solvent Center site occupies approximately 6.5 acres at the intersection of US Route 20 and Ridge Road (County Road 128) in the Town of Pompey, Onondaga County, New York. US Route 20 and Ridge Road form the northwestern and eastern borders of the site respectively. The site slopes to the northeast. The surrounding area is rural agricultural with several residential properties and one business immediately adjacent to the site.

SECTION 2: SITE HISTORY

The site originally operated as a gas station in the 1950s. In the 1960s, it was operated as a solvent recycling center.

Until recently, three underground storage tanks (USTs) were buried on site between the roadside ditch along US Route 20 and the building foundation. These tanks have been excavated, drained, and punctured and remained on site within 40 feet of the intersection of the roads, until removed for disposal on March 1, 1993. A garage used for on-site operations has been demolished, and the debris was bulldozed into a small pile to the southeast of the remaining foundation. Local residents have alleged that solvents, oils, and caustics were stored in drums on site and dumped on the ground behind the garage during recycling operations. During a 1986 site investigation, EPA noted the presence of at least 100 55-gallon drums. Historical photographs show 55-gallon drums littered across the site. Those drums were apparently removed by the site owner shortly after EPA's investigation.

A still used to recycle spent solvents was located in front of the site with two aboveground storage tanks. At one time, based on historical photographs, a large aboveground storage tank was adjacent to the northwest corner of the building foundation.

During sampling of the local residential wells near the site by the Onondaga County Department of Health (OCDOH) in March and April 1986, groundwater contamination was first identified. The Shedlock and Bumpus residential wells, located downgradient of the site and north of US Route 20, contained volatile organic contamination (VOC).

In May 1986, the EPA conducted a site inspection through NUS Corporation's Field Investigation Team (FIT). Analytical results confirmed organic contamination in the two residential wells. Surface soil samples collected between the USTs (which have since been excavated) identified similar contaminants to those in the residential wells, along with low levels of PCBs. The sediment in the drainageway was also contaminated by organic compounds on the site.

EPA conducted a magnetometer survey to locate any drums below the surface. No anomalies were found that would suggest buried drums.

In May 1986 the EPA supplied bottled water to the affected residents, which continued until air strippers were fitted to the Bumpus and Shedlock wells in August 1986. Larger multi-stage airstrippers operated outside while small single-stage units operated in the basements.

After approximately one year of operation, three successive months of analytical test data showed negligible contaminated levels in the wells. The EPA, therefore, deactivated the multistage systems in September 1987 while continuing to operate the single-stage recirculating units. The larger units were removed in April 1988 with smaller units being left in the basements operating at the property owners' expense.

In October 1988, recontamination of the aquifer was identified, indicating a continued source of contamination. In April 1989, the larger air stripper was put back into operation. EPA demobilized the large aquifer treatment stripper system in September 1991, giving all on-site jurisdiction to the NYSDEC. The single-stage recirculating units remained on-line in the two residences.

Due to recurring contamination in the Shedlock and Bumpus wells, household carbon treatment units were installed by the NYSDEC in May 1992. These units consist of a filtration unit, followed by two carbon columns in series. Samples taken in June, September and December 1992 show complete removal of the contaminants from the extracted groundwater after the first of the two columns. A carbon treatment system was also installed at the Village Pump Tavern (Penoyer Property), although their well water was not found to be contaminated during recent sampling.

SECTION 3: CURRENT STATUS

The NYSDEC, under the State Superfund Program, initiated a Remedial Investigation/Feasibility Study (RI/FS) in December, 1990 to address the contamination at the site. The NYSDEC also has installed and is maintaining and monitoring the carbon filter units on three private wells as described above.

3.1: SUMMARY OF THE REMEDIAL INVESTIGATION

The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The RI was conducted in two phases. The first phase was conducted between January 1991 and March 1992, the second phase between March 1992 and December 1992. A report entitled ***Phase I and Phase II Remedial Investigation Report - December 1992*** has been prepared describing the field activities and findings of the RI in detail. A summary of the RI follows:

The Phase I/II RI activities consist of the following:

- Background data compilation.
- Surveying and develop base map of site.
- Geophysical survey to determine depth to bedrock.
- Soil gas survey.
- Installation of soil borings and monitoring wells for analysis of soils and groundwater as well as physical properties of soil and hydrogeologic conditions.
- Sampling and analysis of surface water and sediments.

- Excavation of test pits to locate underground drainage/leachfields.
- Pump tests to evaluate possible groundwater collection/control.

The analytical data obtained from the RI was compared to Applicable Standards, Criteria, and Guidance (SCGs) in determining remedial alternatives. Groundwater, drinking water and surface water SCGs identified for the Abandoned Solvent Center site were based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part V of NYS Sanitary Code. For the evaluation and interpretation of soil and sediment analytical results, NYSDEC soil cleanup guidelines for the protection of groundwater, background conditions, and risk-based remediation criteria were used to develop remediation goals for soil.

Based upon the results of the remedial investigation in comparison to the SCGs, certain areas and media of the site require remediation. Areas of surface soils, subsurface soils, groundwater and drainage ditch sediments exceeding the remediation goals have been identified.

Soils: The extent of surface and subsurface soils exceeding the remediation goals is depicted in Figure 2.1. Contamination in the shallow surface soils (1 to 2 feet) that exceeds remediation goals consists of low level polychlorinated biphenyls (PCBs). There is no apparent pattern, but rather the PCB contamination is scattered about the site. The deeper subsurface soils, to a depth of 18 feet, are contaminated with volatile organic compounds that exceed remediation goals, primarily 1,1-dichloroethane up to 1,800 parts per billion (ppb), 1,2-dichloroethene up to 12,000 ppb, trichloroethene up to 11,000 ppb and toluene up to 10,000 ppb. High levels of these compounds are present in the groundwater at greater depths (more than 30 feet), which is contaminating the soil at those depths by contact. Surface soil contamination with the PCBs is limited to the site and the VOCs extend to the northeast under Ridge Road onto the western portion of the Village Pump Tavern property. In addition, based on the contaminants identified in the soil and groundwater at the MW2 and MW7 locations, it has been concluded that VOCs may have also migrated part way under Route 20. The shaded area on Figure 2-1 shows the extent of the soil where contamination is believed to exist.

Groundwater: Two water-bearing zones exist at the Abandoned Solvent Center site. The first water bearing zone is present within the overburden and the second within the fractured bedrock beneath the site. The general direction of groundwater movement and, therefore, contaminant migration is northeast in both the overburden and bedrock aquifers. The overburden aquifer was found to contain very high concentrations (up to 80,000 ppb total VOCs) of chlorinated aliphatic compounds and toluene. The contaminant plume exceeding remediation goals in the overburden aquifer extends east of Ridge Road to the monitoring well approximately 165 feet downgradient (MW-11S) of Ridge Road along the US Route 20 drainage ditch. Approximately 170 feet further downgradient MW-4S has not been impacted at all, based on three sampling events yielding non-detect for VOCs. This overburden plume has not migrated north of US Route 20, as shown by all overburden wells north of Route 20 (MW-5S, MW-6S, MW-8S, and MW-8I).

The bedrock aquifer was observed to contain lower concentrations (up to 2,100 ppb total VOCs) of chlorinated aliphatic compounds as demonstrated by the analytical results of samples collected from MW-2D, MW-8D, and the Shedlock residential well. The groundwater contaminant plume in the bedrock has

most probably been affected by the pumping of residential wells in the vicinity of the site and been diverted primarily towards the Shedlock residential well through fractures in the rock.

The extent of groundwater contamination is depicted in Figure 2-2.

Drainage Ditch: Sediments and surface waters from the roadside ditches in the vicinity of the site were sampled during the RI. Sampling results indicate that sediments and surface waters adjacent to and downgradient of the site have low concentrations (up to 1,200 ppb total VOCs at the site, decreasing to non-detect further down stream) of halogenated aliphatic compounds similar to the types of contaminants identified in the groundwater and soil. These contaminants may have reached the drainage ditches via overland flow or groundwater discharge.

Figure 2-3 depicts the area of the drainage ditch contaminated to levels that exceed the remediation guidelines.

Summary: The composite area of soil, groundwater and drainage ditch sediments exceeding remediation goals and criteria and, therefore, requiring remediation, is depicted as the shaded area in Figure 2-4. Approximately 25,000 cubic yards of soil must be addressed as part of the remedy.

3.2 INTERIM REMEDIAL MEASURES:

Two Interim Remedial Measures (IRMs) were conducted at the site based on findings as the RI progressed. An IRM is implemented when a source of contamination or exposure pathway can be effectively addressed before completion of the RI/FS.

Granular Activated Carbon Filters: Based on historic data and RI groundwater data, it was determined that granular activated carbon (GAC) filter systems would eliminate the threat of contact with contaminants in the drinking water at three of the private wells immediately downgradient of the site. The GAC filters were installed in May 1992 and will remain as determined necessary by NYSDOH. Monitoring of the systems will continue on a quarterly basis.

Source Removal: During the test pit excavation, a concrete septic tank was discovered containing a sludge contaminated with up to 3% volatile organic compounds. It is believed that this was the primary continuing source of contamination to groundwater. An IRM was initiated which consisted of removing the sludge, washing the septic tank, backfilling the tank with clean fill, and sending the sludge off site for incineration. This source was removed in July 1992.

3.3 Summary of Human Exposure Pathways:

In the Human Exposure Pathways Assessment for the Abandoned Solvent Center site, the analytical results of site samples taken during Phases I and II of the RI were compared to applicable or relevant and appropriate requirements. Compounds of Potential Concern (COPCs) were chosen as a result of this comparison process and are listed in Table 2-1. These contaminants include ethylbenzene, toluene, xylenes, various chlorinated aliphatic compounds, PAHs, and the PCB Aroclor-1248.

Potential pathways by which humans might be exposed to site contaminants were also discussed in this Human Exposure Pathways Assessment. The possible pathways of exposure for those who may be on the site itself include direct skin contact with soil, accidental ingestion of soil, and inhalation of contaminated soil particulates or vapors. If the site were to become residential, construction activities would take place and exposures similar to those listed above could occur with the subsurface soil. Both construction workers and nearby residents could be receptors in this case.

At present, however, the likely route by which nearby residents could be exposed to site contaminants is the inhalation of contaminated air in basements, which could occur as a result of the diffusion of volatiles that have traveled with groundwater. All current soil gas and shallow groundwater data indicate this most likely has not yet occurred and should be prevented by the selected remedy.

SECTION 4: ENFORCEMENT STATUS

The Potential Responsible Parties (PRP) for the site include: Bristol-Myers Company, General Electric Company, General Motors Company, Sperry Corporation, Carrier Corporation, GTE Corporation, Sam DiPaula and the site owner John J. Doyle.

The PRPs failed to implement the RI/FS at the site when requested by the NYSDEC. After the remedy is selected, the PRPs will again be contacted to assume responsibility for the remedial program. If an agreement cannot be reached with the PRPs, the NYSDEC will evaluate the site for further action under the State Superfund. The PRPs are subject to legal actions by the State for recovery of all response costs the State has incurred.

SECTION 5: SUMMARY OF THE REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6NYCRR 375-1.10. These goals are established under the guideline of meeting all standard, criteria, and guidance (SCGs) and protecting human health and the environment.

The media of concern identified for the Abandoned Solvent Center site are contaminated soils and groundwater on and off site and contaminated sediments in the roadside drainage. The remedial action goals and objectives for the site are as follows:

- Eliminate the exposure to contamination present in on and off site soils to prevent unacceptable risks to human health and the environment and reduce the potential for further off-site migration;
- Remove contaminated sediments from the roadside drainage ditch; and
- Remove contaminated groundwater to eliminate the potential of off-site migration of contamination.

SECTION 6: DESCRIPTION OF REMEDIAL ALTERNATIVES

Potential remedial alternatives for the Abandoned Solvent Center site were identified, screened and evaluated in a three-phase Feasibility Study. This evaluation is presented in the report entitled ***"Feasibility Study (February 1993)***. A summary of the detailed analysis follows.

The potential remedies are intended to address the contaminated soils, sediments, surface water and groundwater at the site. All potential remedies listed below would include institutional controls, as applicable, which could include local regulatory restrictions on the construction and use of private water wells, and other land use restriction on and in the immediate vicinity of the site.

Recommendations regarding the type or extent of such restrictions will be made to appropriate agencies or boards (i.e., local planning or zoning boards) as the final project plans develop.

No Action

The no-action alternative, which involves only continued monitoring, was evaluated in the FS as a statutory requirement. This is an unacceptable alternative as the site would remain in its present condition, and human health and the environment would not be adequately protected.

Capping and Groundwater Collection via Subsurface Drains with Off-Site Groundwater Treatment/Disposal

Present Worth:	$ 2,100,000
Capital Cost:	$ 950,000
Annual O&M:	$ 68,000
Time to Implement:	6 months - 1 year

The primary components include capping of the contaminated soil and excavated sediments from the roadside site drainage ditch, installation of subsurface barriers upgradient of the site, and collection via a subsurface drain of the contaminated groundwater. The total area considered for capping is approximately 10% larger than the shaded area indicated on Figure 2-4 as contaminated soil, about one acre. The cap would meet state solid-waste landfill closure requirements with the exception of omitting the gas-venting layer. At a minimum, the cap would consist of a layered system meeting the following requirements: a low-permeability barrier layer and a barrier protection layer meeting the requirements of 6NYCRR Part 360-2.13(q) or 6NYCRR Part 360-2.13(r); and a topsoil layer meeting the requirements of 6NYCRR Part 360-2.13(s). A vegetative cover would be established and maintained on the final topsoil layer. Drainage-control structures (e.g., dikes and berms, ditches, etc.) would be included to prevent ponding or erosion of the cap and to direct surface run-off from the site. Annual inspections of the cap would be required. Maintenance of the cap would be limited to periodic mowing of the vegetation layer to prevent naturally occurring invasion by deep-rooted vegetation and/or burrowing animals.

A groundwater remediation program consisting of the following elements has been developed as part of this alternative:

- Installation of a groundwater interceptor drain to extract groundwater from the overburden aquifer. The location of the drain would be established to intercept (i.e., downgradient of) groundwater contaminated with VOCs at levels equal to or greater than SCGs. The location of US Route 20 poses some restrictions with regard to placing the drain down gradient of all contaminated groundwater within the over burden. Because the pavement would act as an extension of the cap reducing infiltration from the surface, the influence of the drain is expected to be extended to the north side of the highway beyond any detected contaminants in the over burden groundwater, where possible. Due to the geology and relatively steep hydraulic gradient in the area of concern, the remaining north-south portion of the drain would be constructed downgradient of the MW-11 location in order to achieve compliance with SCGs and to reduce the short term impacts with excavation of the trench. This location would require relocation of the Village Pump Tavern. During construction of the drain, excavated soils would be backfilled on site in conjunction with capping activities. Extracted groundwater would be collected and hauled to a RCRA-permitted Treatment, Storage, and Disposal (TSD) facility for treatment/disposal; and

- Installation of a groundwater barrier consisting of a soil bentonite slurry wall to reduce groundwater flow from upgradient of the site within the overburden into the contaminated area, thereby reducing leachate formation and remedial costs. The slurry wall combined with the collection drain would fully encompass the site in order to optimize the reduction in groundwater flow to the containment area.

Because this alternative leaves contaminated soil on site, long-term monitoring of the groundwater would be required.

Continued treatment and monitoring of private wells would be included as needed with this alternative to provide a safe and reliable source of drinking water to presently affected residences.

<u>On-Site Incineration</u>

Present Worth:	$ 24,000,000
Capital Costs:	$ 23,500,000
Annual O&M:	$ 18,000 - 27,000
Time to Implement:	2+ years

On-site incineration, involves the thermal destruction of the organic contaminants in the soil. A transportable incinerator would be set up on the site and would process contaminated soils after they are excavated. Site preparation activities such as clearing and grubbing, establishment of utilities, and construction of a concrete pad for the treatment unit would be required prior to installation of the unit. These site preparations apply to all alternatives involving on-site treatment.

There is the potential for significant air emissions due to high levels of contaminants during the excavation, handling and storage of the soils to be treated. If necessary, these operations would be performed under enclosed structures with air collection and treatment to ensure that vapor emissions do not occur. Other considerations during excavation include the protection of US Route 20 as well as interference with the Tavern. These considerations apply to all alternatives requiring excavation.

An extensive air monitoring program would also be implemented on site and at the perimeter to monitor the effectiveness of the emission control procedures.

The incinerator would be designed and operated under all applicable regulations for hazardous waste and PCB incinerators. Air pollution control devices would treat the gaseous emissions from the incinerator so that no pollutants are emitted at unacceptable levels.

Air emissions would be required to meet applicable State and Federal air quality standards, although actual permitting would not be required

It is assumed that approximately 1,000 gallons per day of groundwater would be removed during this period. The actual volume of water would be dependent upon excavation/dewatering techniques employed and field conditions encountered. This water would be collected and shipped off site to a RCRA hazardous waste treatment facility.

Off-Site Incineration

Present Worth:	$ 58,500,000
Capital Costs:	$ 58,250,000
Annual O&M:	$ 18,000 - 27,000
Time to Implement:	1-2 years

Under this alternative, the waste material and contaminated soil at the site would be excavated and transported off site for incineration at the most economical commercial facility capable of accepting the contaminated soils.

The contaminated soil (approximately 25,000 yd^3) could be incinerated in a RCRA-permitted incineration facility.

Air emissions, ambient air monitoring groundwater and other concerns during excavation are the same as for on-site and off-site incineration.

Off-Site Disposal

Present Worth:	$ 14,100,000
Capital Costs:	$ 13,750,000
Annual O&M:	$ 18,000 - 27,000
Time to Implement:	6 months - 1 year

Under this alternative, waste material and contaminated soil at the site would be excavated, transported, and disposed of in an off-site RCRA-permitted or RCRA- and TSCA-permitted facility, depending upon the concentration of PCBs. Additionally, this alternative would include the groundwater components discussed under on-site incineration and similar concerns relative to the excavation.

Low-Temperature Thermal Desorption

Present Worth:	$ 18,100,000
Capital Costs:	$ 17,800,000
Annual O&M:	$ 18,000 -27,000/yr
Time to Implement:	1-2 years

This alternative contains the groundwater remedial alternatives and site preparation involving excavation but would include on-site low-temperature thermal desorption for treatment of contaminated soils.

The thermal desorption unit would be a fully mobile system owned and operated by one of several commercial vendors.

(ECL Article 27, Title 13) Any wastewater generated by the treatment unit could be hauled to a RCRA hazardous waste treatment facility for disposal; however, most application of low-temperature thermal desorption use the condensed water as a dust suppressant for the treated medium.

The treated material has been assumed to be nonhazardous (subject to verification sampling) by virtue of being treated to below de minimis VOC and PCB levels. For costing purposes, it has been assumed that all treated material would be backfilled to the excavation pit.

SECTION 7: EVALUATION OF REMEDIAL ALTERNATIVES

The remedial alternatives have been compared against the criteria identified in the NYSDEC's Technical and Administrative Guidance Memorandum (TAGM) 4030, "Selection of Remedial Actions at Inactive Hazardous Waste Sites". Table 2-3 provides a scoring summary of each alternative against each of the evaluation criteria. A detailed discussion of the evaluation criteria and comparative analysis is contained in the report entitled ***"Feasibility Study" (FS)***. The following is a brief summary of the comparative analysis contained in the FS.

The first two evaluation criteria are termed threshold criteria, indicating that each alternative evaluated at this stage must satisfy the criteria.

1. Protection of Human Health and the Environment. *This criterion is an overall assessment of* protection based on a composite of all the other evaluation criteria. Each of the alternatives, except no-action, would be protective of human health and the environment.

2. Compliance with Applicable Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether or not a remedy will meet applicable environmental laws, regulations, standards, and guidance. Each of the alternatives, except no-action, would meet all of the SCGs, including groundwater in the bedrock, as described below.

   Each alternative, except no-action, would result in significant reduction of contaminant loading to the bedrock. It was determined in the RI/FS that it is not technically feasible to actively address (i.e., by pumping) the bedrock aquifer due to groundwater flow being restricted to the

few relatively tight fractures within the bedrock. Contamination in the bedrock is apparently restricted to a narrow area between the site northward to the Shedlock residential well. It is apparent that use of the residential well is controlling contaminant migration within the bedrock. SCGs would be met through treatment of residential water with the carbon filters until residual contaminants remaining after containment of the source are no longer present above ARARs in the bedrock.

The next five "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Long-term Effectiveness and Permanence. 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.

   The on-site treatment alternatives and off-site incineration, are the most effective in meeting these criteria. The organic contaminants would either be destroyed on site or separated on site and destroyed off site.

   Capping with groundwater containment leaves all contaminated wastes at the site and would, therefore, be less effective in the long term because no treatment or removal of the waste material and contaminated soil would be employed. This alternative relies upon a cap, subsurface groundwater barriers, groundwater collection trenches, and institutional controls (e.g., deed restrictions) to prevent human exposure to contaminants.

   All alternatives include household water treatment for the private wells adjacent to the site presently or with the potential to be affected by residual bedrock groundwater contamination, eliminating the present risk of ingesting contaminated groundwater.

   All alternatives but no action would be effective in the long term.

4. Reduction of Toxicity, Mobility or Volume. In the remedy selection process, preference is given to alternatives that permanently reduce the toxicity, mobility or volume of the wastes at the site.

   On-site incineration, off-site incineration and low temperature thermal desorption provide for reduction of toxicity by removing or destroying organic contaminants contained in the waste material and contaminated soil. These three alternatives would satisfy the statutory preference for treatment as the principal element. All alternatives (except no action) would provide a reduction in toxicity of the collected groundwater through treatment at the RCRA-permitted TSD facility. The containment alternative while not addressing volume or toxicity of contaminants in the soil, would reduce mobility, while treating those contaminants leaching to the groundwater as noted previously.

5. Short-term Impacts and Effectiveness. The adverse impacts to the community, remedial workers, and the environment resulting from the implementation of each remedy are compared. Also, the

estimated time necessary to implement each remedy is considered in comparing the time periods associated with the adverse impacts.

The three treatment alternatives would not be the most effective in meeting this criterion, since each treatment involves substantial excavation and handling of contaminated soils which would release vapors and odors. Engineering and operational controls would be necessary to address these emissions. Although capping with subsurface collection drain would involve some excavation, the air emission, and thus the short-term impacts, would be less severe since the majority of the excavation would take place in areas beyond the limits of contamination with only some limited areas along Route 20 in areas impacted by contaminants. Off-site disposal and off-site incineration would result in the same significant short-term impacts associated with the excavation, and would also involve potential impacts resulting from the transportation of large volumes of contaminated soils.

6. Implementability. This criterion compares the technical and administrative difficulties in implementing each alternative.

Capping with subsurface collection drains would be the simplest alternative to construct and operate. Yearly inspections of the cap and proper maintenance should control its reliability in the future. The groundwater monitoring program would determine the effectiveness of the cap and groundwater collection/diversion system at curtailing future off-site groundwater contamination migration.

On-site incineration, off-site incineration, off-site disposal and low temperature thermal desorption all incorporate contaminant source removal. Excavation would be subject to several implementability obstacles. The soil contamination at this site is very heterogeneous. For the most part, very little volatile organic contamination was found in the shallow soils, with greatest levels being at 10 to 20 feet. However, in some cases, contamination must reach all the way to bedrock, most likely along the vertical migration fractures.

This necessitates deep excavation up to 30 or more feet in depth. Implementability obstacles associated with the deep excavation include engineering controls to maintain structural integrity of US Route 20 and the tavern building, since the excavation would be immediately next to both. Another obstacle is the management of the soils on site and backfilling operations, either with clean fill or treated soils.

Depending on the type and direction of contaminant migration pathways revealed during excavation (e.g., fractures or zones of coarser soils), searching for all contaminated soils may take the remedial contractor far from the expected zones of contamination. It is likely that contaminated soil extends beneath Route 20, although it is impractical to remove this soil.

Air emissions would also be a severe implementability obstacle during excavation and management of the soils on site.

7. Cost. Total costs for each alternative are compared on a 30 year present-worth basis. The present worth costs include capital costs and operational maintenance (O&M) costs. Initial

estimates for the range of costs are $2.1 million for capping and groundwater containment to $58.5 million for off-site incineration. The costs are presented in Table 2-2.

SECTION 8: SUMMARY OF THE SELECTED ALTERNATIVE

The selected remedy for the Abandoned Solvent Center site is capping the entire area of contamination in conjunction with groundwater containment, collection and treatment. This alternative was selected as it is expected to meet or exceed all Applicable Standards, Criteria And Guidance, is relatively easy to implement, has less severe short term impacts, and has a much lower cost than any of the other alternatives. The components of the preferred remedy are as follows:

- Installation of a groundwater barrier for the overburden aquifer consisting of (1) a bentonite slurry wall upgradient as a deflector to prevent groundwater from entering the site and; (2) a subsurface collection drain downgradient of the contaminant plume to collect contaminated groundwater. The bentonite slurry wall and subsurface collection drain will be combined to fully encompass the site.

- Installation of a low permeability cap consistent with 6NYCRR Part 360 extending over the subsurface drain and slurry wall to prevent precipitation infiltration, erosion of contaminated soils, and human contact with the soils and the concrete pad on site. The cap in conjunction with the groundwater barrier system will significantly lower the water table which will reverse the downward hydraulic gradient and thereby reverse the tendency for contaminants to migrate into the bedrock and prevent further contamination of the bedrock aquifer. Surface water drainage will be modified to flow around the cap with no contact with the contaminants contained within the cap. Ridge Road will be restored to its current location or possibly re-routed slightly to the west of the contaminant area but still on the Abandoned Solvent Center site property.

- Excavation of contaminated sediments from the roadside drainage ditch. All sediments will be placed on site and covered with the cap.

- Continue operation and maintenance of treatment units for the private drinking water wells currently in place, until quarterly monitoring deems it is no longer necessary. The remedy will evaluate the existing systems to determine if modifications towards efficiency and permanence are necessary.

- Since the selected remedy results in hazardous wastes remaining on site, at a minimum, five year reviews of the effectiveness of the remedy will be required. These reviews will be conducted to evaluate whether the implemented remedy continues to provide adequate protection of human health and the environment.

- The cap and groundwater barrier system will have to be extended off-site onto the Village Pump Tavern property in order to fully contain contaminated soil and groundwater. In order to fully contain the groundwater contamination off site, the location of the drain will extend under or just east of the existing building. The portion of the collection trench that will run along US Route 20 is expected to recover any contaminants that have migrated under the highway. This will be accomplished due to the paved road acting as an extension of the cap in the capacity that it will

also reduce precipitation infiltration to the groundwater, thereby extending the influence of the collection trench. Full containment is necessary to 1) achieve compliance with SCGs, 2) eliminate further migration of contaminants that could otherwise impact future use of property downgradient of the plume, and 3) reduce negative short term impacts during construction. Relocation of the building will be necessary either for construction of the drain or construction of the cap, depending on the exact location of the drain. The appropriate compensation for the relocation will be incorporated in the remedy in accordance with 6NYCRR Part 590 (Payment of Expenses upon Acquisition of Real Property).

- Institutional controls for this selected remedy are expected to be restricted to the site and related monitoring well locations since all contaminated soil, sediment and groundwater will be addressed. Such controls will most likely include scheduled monitoring and well construction recommendations, The property involved with the actual cap and groundwater collection system will be fully restricted for any future residential or commercial use.

SECTION 9: Statutory Determinations

The following discussion describes how the remedy complies with the decision criteria in the law and regulations.

1. Protection of Human Health and the Environment: The selected remedy will eliminate potential threats to human health and the environment by significantly reducing the mobility of hazardous wastes at the site. The selected remedy involves containment, collection, and treatment of contaminated groundwater from the site. The contaminated groundwater will be subject to treatment at a permitted off-site facility or if applicable an on-site treatment facility. Although fully contained, contaminated soils will remain in place at the site.

2. Compliance with Standards, Criteria, and Guidelines (SCGs): The implementation of the remedy will result in the attainment of all relevant SCGs.

3. Cost Effectiveness: Of all the alternatives evaluated for the site, the selected remedy's cost is competitive and offers the most reliable estimate.

4. Utilization of Permanent Solutions and Alternative Treatment Technologies or Resource Recovery Technologies to the Maximum Extent Practical: Primarily due to negative short term impacts and cost to a lesser extent, alternatives offering permanent solutions and alternative treatment technologies were eliminated during the evaluation process.

5. Preference for Treatment as Principle Element: Although contaminated soils and sediments will be left in place and contained at the site, the preference for treatment is partially met by collection and treatment of groundwater, irreversibly detoxifying the collected groundwater.

FIGURES

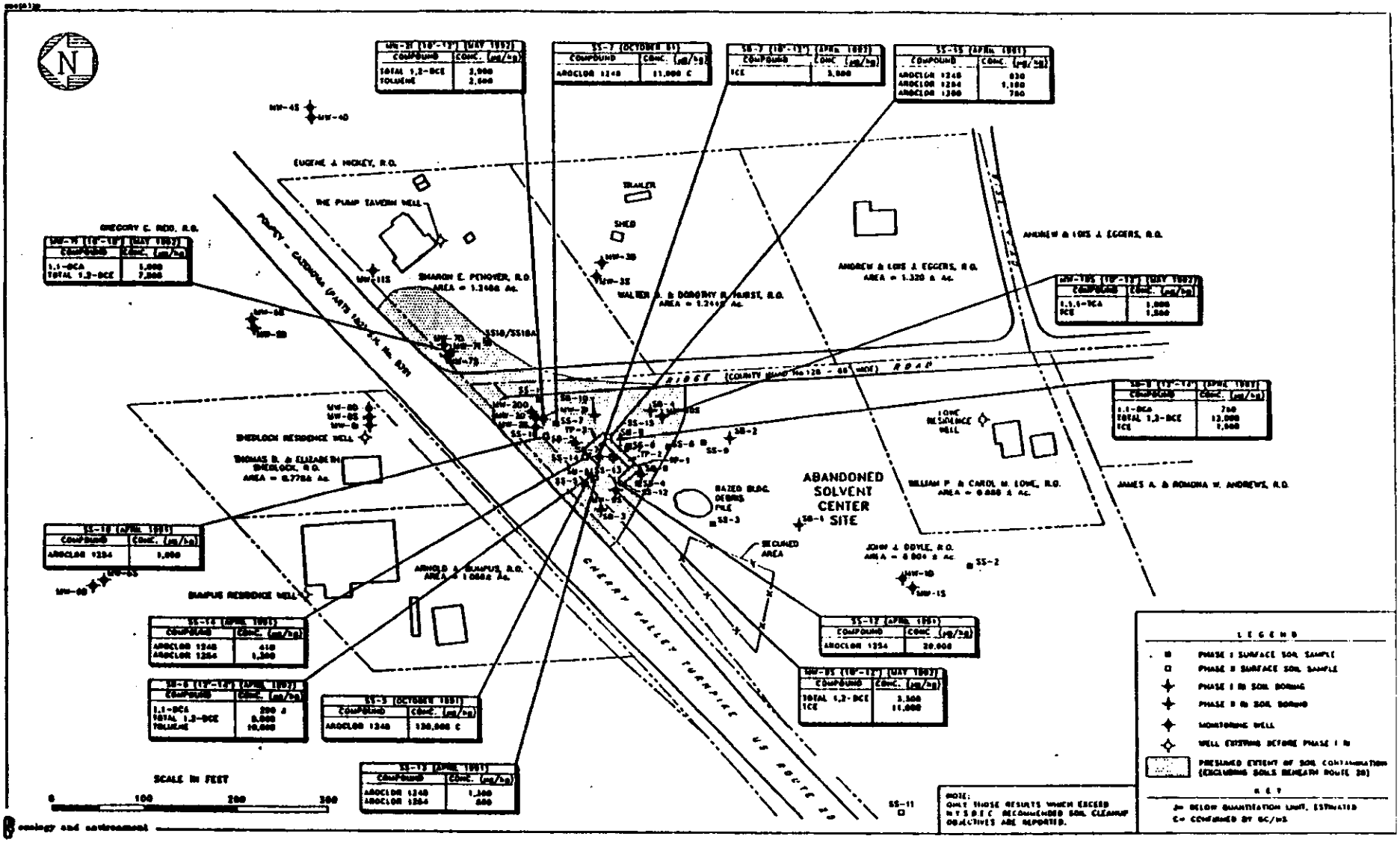


Figure 2-1 ABANDONED SOLVENT-CENTER EXTENT OF SOIL CONTAMINATION

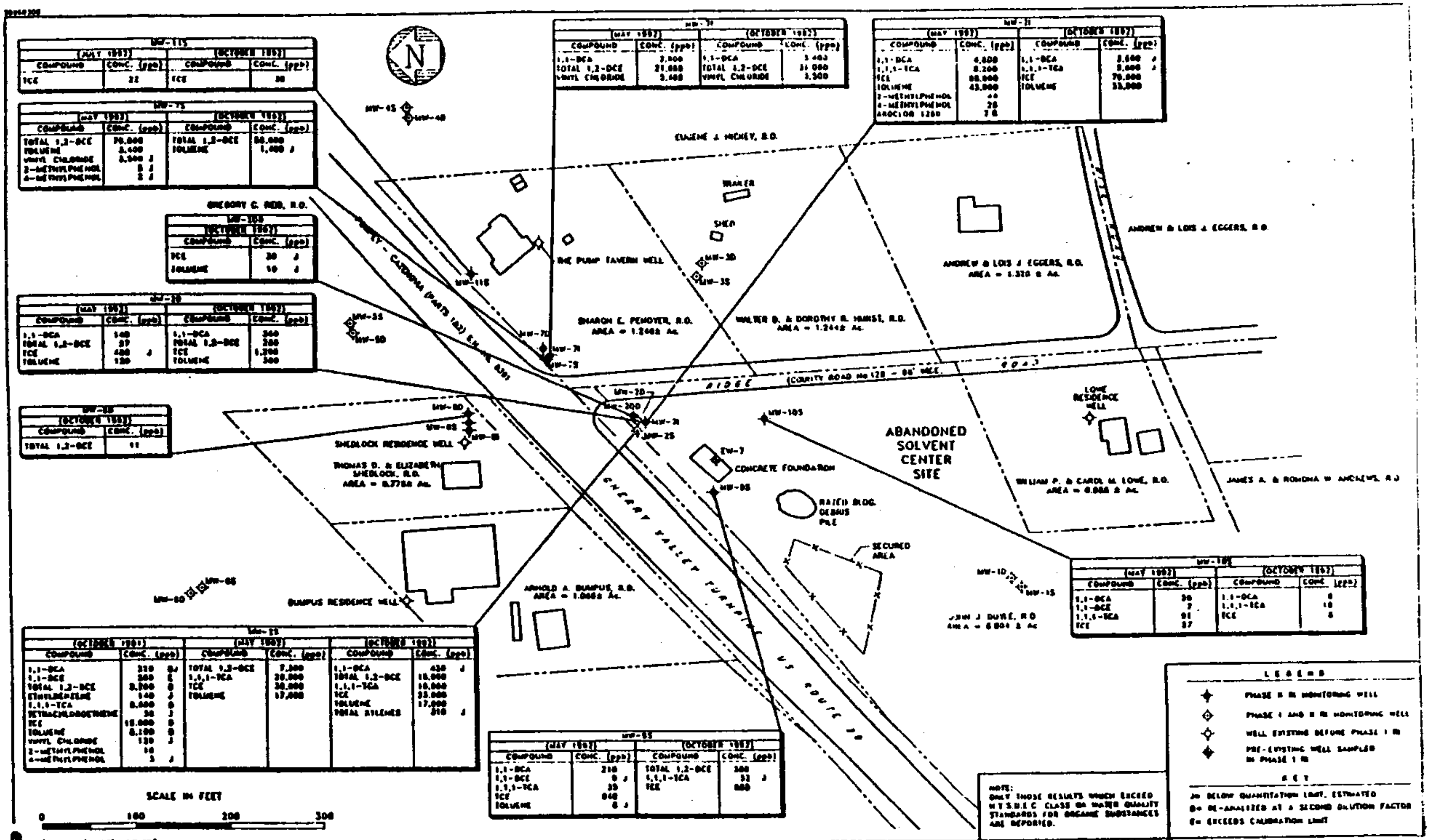
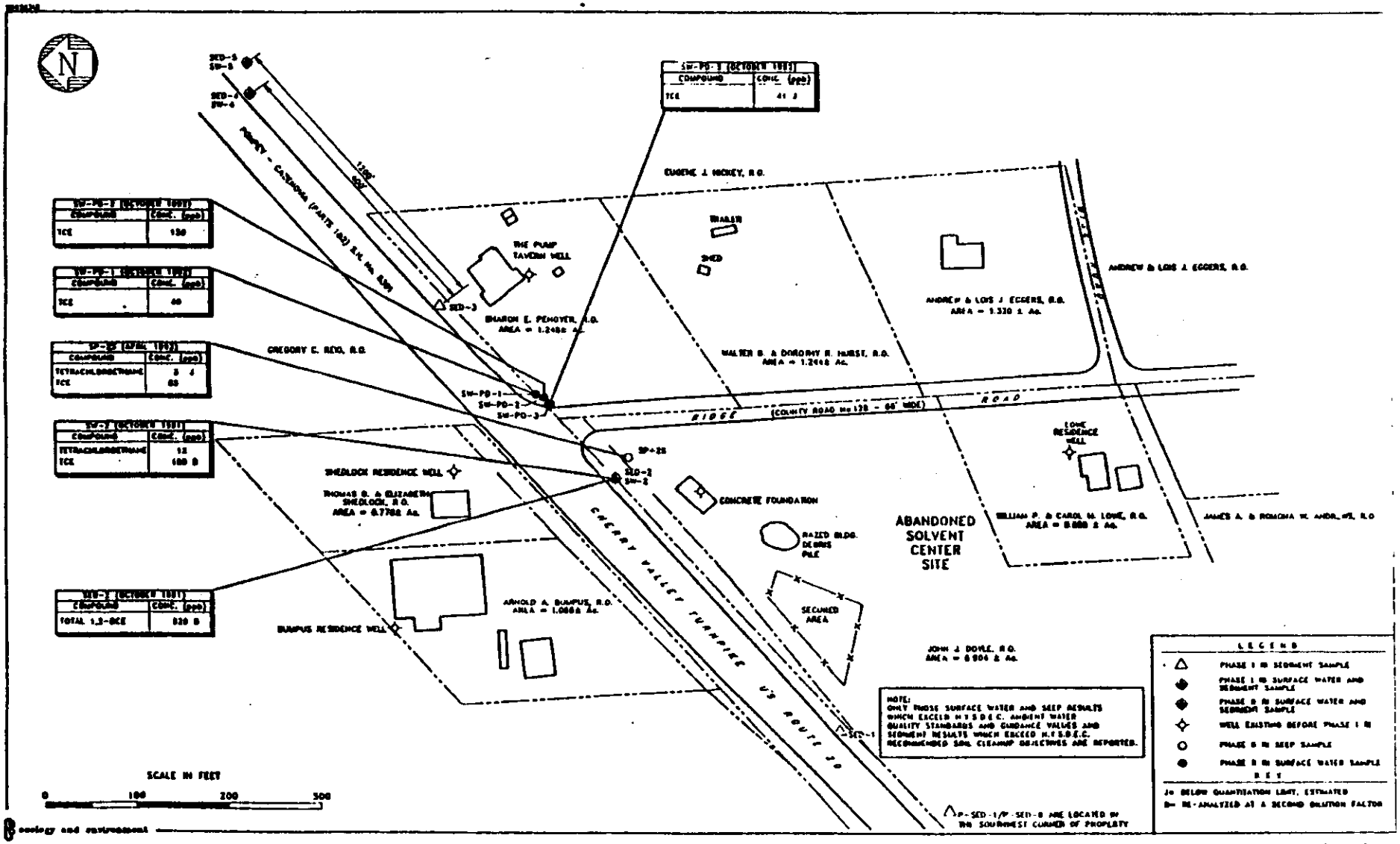


Figure 2-2 ABANDONED SOLVENT CENTER PHASE I AND PHASE II RI GROUNDWATER SAMPLE RESULTS MAP



ecology and environment

Figure 2-3 ABANDONED SOLVENT CENTER PHASE I AND PHASE II RI SEEP SURFACE WATER, AND SEDIMENT SAMPLE RESULTS MAP

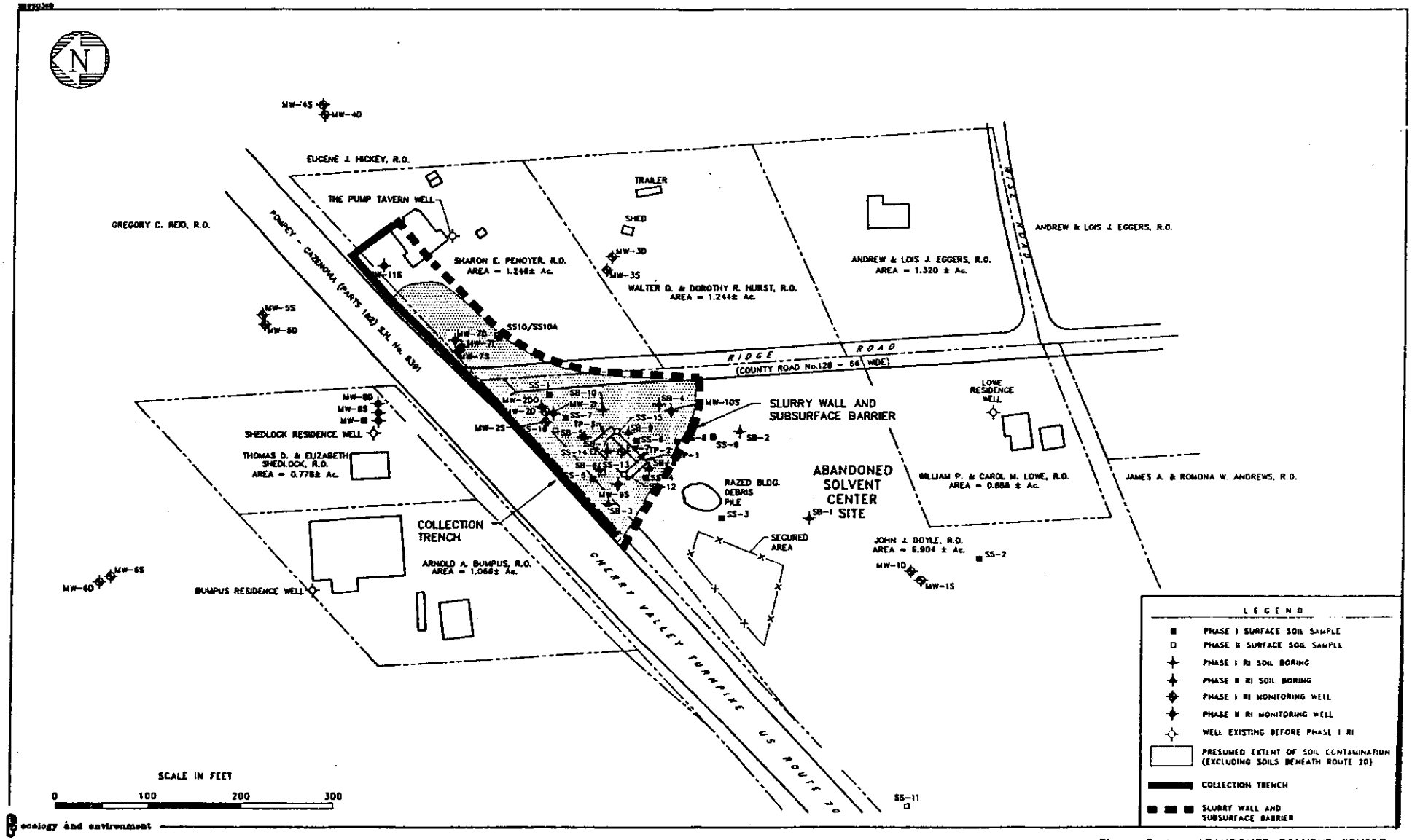


Figure 2-4 ABANDONED SOLVENT CENTER LOCATION OF SLURRY WALL AND COLLECTION TRENCH FOR GROUNDWATER ALTERNATIVE 3

TABLES

Table 2-1

SUMMARY OF CONTAMINANTS OF POTENTIAL CONCERN

Volatiles
1,1-Dichloroethane
1,1-Dichloroethene
Total 1,2-Dichloroethene
Ethylbenzene
Tetrachloroethene
1,1,1-Trichloroethane
Trichloroethene
Toluene
Vinyl chloride
Xylene
Semi-Volatiles
2-Methyl phenol
4-Methyl phenol
PCBs
Aroclor - 1248
PAHs
Acenaphthene
Acenaphthylene
Anthracene
Benzo(a)anthracene
Benzo(b)fluoranthene
Benzo(k)fluoranthene
Benzo(a)pyrene
Benzo(g,h,i)perylene
Chrysene
Dibenzo(a,h)anthracene
Fluoranthene
Fluorene
Indeno(1,2,3-cd)pyrene
Phenanthrene
Pyrene

Source: Ecology and Environment Engineering, P.C. 1992.

TABLE 2-2

COST SUMMARY
COMBINED SOIL AND GROUNDWATER REMEDIAL ACTIVITIES

ALTERNATIVES	CAPITAL	1ST YEAR ANNUAL O&M	PRESENT WORTH
1 (No Action)	No capital costs	$30,650 1st year	$365,000
2 (Capping & Groundwater Collection & Institutional Controls)	$946,800	$75,400 1st year $67,600 subsequent years	$2,022,700
3 (On-Site Incineration & Institutional Controls)	$23,498,100	$27,150 1st year $21,050 years 2-10 $18,350 years 11-30	$23,813,700
4 (Off-Site Incineration & Institutional Controls)	$58,279,900	See Alternative 3	$58,595,500
5 (Off-Site Disposal & Institutional Controls)	$13,753,100	See Alternative 3	$14,068,700
6 (Low-Temperature Thermal Desorption & Institutional Controls)	$17,826,800	See Alternative 3	$18,142,400

TABLE 2-3

Detailed Analysis of Remedial Alternatives

	Compliance w/ARARs and SGC Max 10 points	Protection of Human Health & Environment Max 20 points	Short Term Effectiveness Max 10 points	Long Term Effectiveness and Permanence Max 15 points	Reduction in Toxicity, Mobility & Volume Max 15 points	Implementability Max 15 points	Cost Max 15 points	TOTAL Max 100 points
No Action	0	5	10	0	0	12	15	42
Capping and Groundwater collection	7	20	10	7	6	14	15	79
On-Site Incineration	7	20	4	14	14	10	9	78
Off-Site Incineration	7	20	6	12	14	10	0	69
Off-Site Disposal	7	20	6	11	0	10	11	65
Low Temperature Thermal Desorption	7	20	6	14	12	10	10	79

APPENDIX A

ADMINISTRATIVE RECORD

The following documents constitute the Administrative Record for the Abandoned Solvent Center site Remedial Investigation/ Feasibility Study.

May 1986	NUS Corporation Site Inspection Report
July 1991	Remedial Investigation/Feasibility Study Work Plan
July 1991	Remedial Investigation/Feasibility Study Quality Assurance Project Plan
February 1992	Interim Remedial Measure Work Plan (Household Carbon Treatment Systems)
March 1992	Interim Remedial Measure Design
March 1992	Phase I Remedial Investigation Report
April 1992	Phase II Remedial Investigation/Feasibility Study Work Plan
December 1992	Phase II Remedial Investigation Report
January 1993	Feasibility Study Report
February 1993	Proposed Remedial Action Plan
March 1993	Transcript of Public Meeting
March 1993	Letter - Comments on Proposed Remedial Action Plan from General Electric/Pristol-Myers-Squibb Company
March 1993	Letter - Comments on Proposed Remedial Action Plan from Bristol-Myers-Squibb Company
March 1993	Letter - Comments on Proposed Remedial Action Plan from Mr. and Mrs. Penoyer
May 1990	New York State Department of Environmental Conservation Technical and Administrative Guidance Memorandum #4030 - Selection of Remedial Action at Inactive Hazardous Waste Site

Abandon Solvent Center
Inactive Hazardous Waste Site

Pompey (T), Onondaga County, New York
Site No. 7-34-035

RESPONSIVENESS SUMMARY for the Proposed Remedial Action Plan

Public Meeting Date
March 3, 1993

Issue Date
March 1993

Prepared by:

New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation

RESPONSIVENESS SUMMARY

Abandoned Solvent Center
Inactive Hazardous Waste Site
Proposed Remedial Action Plan
Pompey, Onondaga County
Site No. 7-34-035

The Proposed Remedial Action Plan (PRAP) was prepared by the New York State Department of Environmental Conservation (NYSDEC) and issued to the local document repository on February 8, 1993. This Plan outlined the preferred remedial measure proposed for remediation of the Abandoned Solvent Center site. The preferred remedy consists of containment of the contaminated soil, groundwater and storm ditch sediments with collection and treatment of groundwater.

The release of the PRAP was announced via a notice to the mailing list, informing the public of the PRAPs availability.

A public meeting was held on March 3, 1993 which included a presentation of the PRAP and the proposed remedy. The meeting provided an opportunity for citizens to provide their comments on the proposed remedy. The comments were recorded and transcribed and have become part of the administrative record for this site. Several written comments were received during the comment period and these are also addressed by the Responsiveness Summary.

This Responsiveness Summary responds to all questions and comments raised at the March 3, 1993 public meeting and written comments received by the close of the comment period. Appendix A contains the written comments received. This Responsiveness Summary and all appendices are part of the Administrative Record. The transcript from the meeting is available in the document repositories.

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

Commentor: Tom Shedlock

1. COMMENT: As I understand it, there is no contamination of groundwater on the north side of US Route 20, but it is contaminated under US Route 20. What is keeping that contamination from not coming onto my property?

   RESPONSE: Two water-bearing zones exist at the Abandoned Solvent Center site. The first water bearing zone is present within the overburden and the second within the fractured bedrock beneath the site. The general direction of groundwater movement and, therefore, contaminant

migration is northeast in both the overburden and bedrock aquifers. Contaminated groundwater within the first unit, the overburden or soil, has been detected immediately next to US Route 20 on the south side in monitoring wells MW-2S, MW-2I, MW-7S, MW-7I, MW-9S and MW-11S. No contaminants have been detected in similar monitoring wells on the north side of the highway at MW-5S, MW-8S, and MW-8I. It is reasonable to conclude, from a conservative standpoint, that contamination has migrated in the overburden to some point under US Route 20 based on groundwater flow direction and the occurrence of contamination as described above. Flow direction and the very slow flow rate is controlled by geologic conditions that are apparently channeling groundwater parallel rather than across US Route 20.

Contaminated groundwater in the second (bedrock) water bearing unit has migrated north of US Route 20 as evidenced in the two residential wells and monitoring well MW-8D. Contaminant levels are much lower in the bedrock groundwater. Flow direction towards residential wells apparently is being controlled by domestic water usage.

2. COMMENT: Are there any problems with our water now? We were notified it is safe to drink.

RESPONSE: Treatment systems on the domestic wells are consistently removing contaminants to levels well below drinking water standards, in fact below the detection limits of the laboratory instruments. Contaminants in the bedrock groundwater are expected to diminish after the remedy is implemented, but treatment will be provided until the NYSDOH determines it is no longer necessary based on the continued monitoring.

Commentor: Frank Valletta

3. COMMENT: How often will the impacted residential water supplies be monitored?

RESPONSE: The treatment systems and pre-treated water are being sampled every three months. The systems and monitoring plan are designed to give an early warning that a filter change is due. The frequency of sampling was determined from very conservative calculations of the treatment capabilities of the carbon units to insure safe drinking water at all times.

4. COMMENT: The NYSDEC should investigate further than MW-11, 165 feet east of the site, regarding groundwater contamination. Sampling should be performed on both sides of US Route 20 and extending down to bedrock.

RESPONSE: Monitoring well locations MW-4 and MW-5 are located on the south and north sides of US Route 20 respectively. Both locations are further east (downgradient) than MW-11, and both locations have a shallow overburden well and a deeper bedrock well. Based on three rounds of sampling, both the overburden and bedrock groundwater has not been impacted at those locations. Details can be found in the Remedial Investigation Report.

5. COMMENT: The soil and groundwater should be sampled at the house 200 to 300 feet east.

RESPONSE: The extent of contamination has been defined as not being present at MW-4 and MW-5. It is not appropriate to continue further down gradient once the extent of a plume has

been defined. Long-term monitoring will be incorporated into the remedy to measure its effectiveness and make sure no contaminants continue to migrate.

Commentor: Tom Shedlock

6. COMMENT: There is a shade tree in my front yard that until recently has always been healthy, but is now dying according to a tree expert. Is it dying because of contaminants from the site, and if so, what else could be affected in the area?

RESPONSE: Based on the groundwater sampling and soil gas testing performed during the RI, elevated levels of site contaminants are not present in the vicinity of this tree. The soil gas survey did show the presence of low levels of volatile compounds which are components of gasoline and other petroleum products in this vicinity, however, they are probably related to runoff from Route 20 or the vehicle parking in this area. These compounds, at the very low levels identified, are not normally toxic to trees or other plants. Impacts to trees located in proximity to well traveled highways can be the result of runoff of water contaminated by highway salt or, in some cases, from vehicle exhaust fumes.

Commentor: Frank Valletta

7. COMMENT: What will the impacts to Ridge Road be?

RESPONSE: Ridge Road will most likely be closed between US Route 20 and Wise Road during implementation of the remedy. That short section of Ridge Road may be slightly re-routed to the west around the containment area, but will be re-opened after the remedial construction is complete. If rerouted, it is anticipated that the road will remain within the boundaries of the property which makes up this site. Any decision to reroute Ridge Road will be made in consultation with the NYSDOT and the local governments responsible for the roadway.

Commentor: Tom Shedlock

8. COMMENT: Are you (NYSDEC) going to move Ridge Road to another section as described at the last meeting?

RESPONSE: See response to previous question.

Commentor: Ruth Hotaling

9. COMMENT: How wide of an area is expected to need restrictions on buildings in the area?

RESPONSE? The construction of the containment remedy will impact parts of the property identified as the Abandoned Solvent Center site and that of the Village Pump, as well as the property on which Ridge Road is located. Continued access will also be needed to some of the existing monitoring wells located on the properties surrounding the site. These wells, which will

be incorporated into the long term monitoring system for the completed project, will be identified as the project design proceeds.

No restrictions on building in the area around the site are currently anticipated. The property necessary for the actual containment system and access for operation and maintenance will be further defined as the design progresses. This is the only property on which any restrictions are expected.

Commentor: Frank Valletta

10. COMMENT: Are there going to be any indicators such as signs and a fence identifying the site?

RESPONSE: Typically these sites are fenced and posted to restrict unauthorized access and to protect the capping system. However, if alternative uses for the site consistent with the remedy are identified by the local government or other means of protecting the integrity of the containment system and the public can be designed, the need for a fence can be evaluated during the design phase.

11. COMMENT: What is going to be done once it is capped?

RESPONSE: Once the remedy is constructed and is being operated, there will continue to be a monitoring program which will insure the physical integrity of the containment system through inspections and continued groundwater monitoring of conditions inside and outside the system. As part of this program, at least every five years, a comprehensive evaluation of the overall effectiveness of the remedy will be performed which will evaluate whether the system is functioning as designed and whether a more effective remedy should be considered. Both of these activities were discussed in the PRAP and are also addressed by the ROD.

In addition to monitoring, operation and maintenance of the groundwater collection system will be necessary, as will routine maintenance of the cap such as grass mowing and fertilizing. Also should an on-site treatment system be utilized, continuous operation and maintenance will also be needed.

It is also anticipated that the site will be eligible to be reclassified in the NYS Registry of Inactive Hazardous Waste Disposal Sites from a Class 2 site, which is defined as a site which poses a potential threat to human health or the environment; to a Class 4 site, which represents a site which has been remediated but requires continued monitoring. This reclassification can only take place once construction of the remedy is complete.

12. COMMENT: How are people not familiar with the site or area going to find out about it?

RESPONSE: The site will remain on the Registry, as discussed in the previous question, which provides a central location for public information relative to inactive hazardous waste disposal sites. Also, some posting of the site will also be included as discussed in Comment No. 10. If reclassified, a notice of this action will be provided by the NYSDEC to the local municipality,

county clerks office and all adjacent property owners as required by New York State Statute and Regulations.

13. COMMENT: Who has responsibility right now for whatever might happen at the site?

RESPONSE: The property owner of record is responsible for the site, but the NYSDEC will continue to exercise oversight.

Commentor: Tom Shedlock

14. COMMENT: Why have the ditches along US Route 20 not been cleaned out by DOT? Is it because of contamination? Is it known what contaminants are in the ditch?

RESPONSE: The NYSDEC does not have the information to address maintenance of the highway ditches. Contaminants have been identified in the ditches along Ridge Road adjacent to the site and in the ditch along the south side of Route 20, extending from adjacent to the site to a point approximately 1500 feet to the east. These ditches will be excavated and the contaminated sediments encapsulated under the site cap.

Included in Appendix B is a letter to the NYSDOT from the NYSDEC notifying them of the presence of this contamination and requesting they coordinate any future ditch cleaning with the Department in order to assure the material is properly handled and disposed.

Commentor: Frank Valletta

15. COMMENT: Previous question brings up the point of looking further down the road half a mile or further. There should be some sampling further downstream in the ditch.

RESPONSE: As stated above sampling was conducted in the ditch on the south side of Route 20 from a point upgradient of the site to a point approximately 1500 feet down the hill (to the east) from the site. Levels of site contaminants above background were identified in the ditch in the area which has been designated for sediment removal by the ROD. Levels of contaminants in the water and sediment in the ditch are low, to the point that they cannot be considered a source of contamination to groundwater.

Commentor: Dennis Smith

16. COMMENT: Commentor points out that NYSDEC sampled soil and water several years ago on his property at Watervale Road and US Route 20, and water samples only over the past couple years. There have been no soil samples collected lately on his property. There is also a well behind his property that has not been sampled. If development begins across the road from his property, how will his 27 foot deep well be impacted? Can NYSDEC do anything about such impacts?

RESPONSE: Sampling of the groundwater from wells down gradient of the site, and upgradient of the subject property, have indicated that contaminant migration has not reached these well

locations. For this reason no additional sampling was performed in the vicinity, of Watervale Road.

Relative to NYSDEC involvement in future development, the Hazardous Waste Site Remedial Program does not anticipate a role in the review of future development plans. The Department however may be involved if the development requires any regulatory permits or else as part of the general SEQRA reviews which are required for many development activities.

The Department has insufficient information at this time to speculate as to any future impacts to the commentor's well which could be attributable to future development.

The following are written comments received during the PRAP comment period. Copies of all letters are included in Appendix A.

A letter dated March 12, 1993 was received from Mr. Michael Ianniello of General Electric Corporate Environmental Programs (GE) which provided the following comments (17-24) generated by GE and the Bristol-Myers Squibb Company on the PRAP:

17. COMMENT: The design objective for the installation of an upgradient bentonite deflector wall should be clarified.

RESPONSE: The location of the bentonite slurry barrier wall has been redefined. The objective is to eliminate, to the extent possible, any horizontal flow of groundwater within the overburden into the contaminated area. It will, therefore, connect to each end of the collection drain to form a closed system as shown in the revised Figure 2-4 in the ROD.

18. COMMENT: The specifics for the design of the upgradient deflector wall should not be included in the ROD, but rather evaluated during the RD/RA.

RESPONSE: The FS and the ROD contain the specifications necessary to achieve a stated objective, in this case that stated in response No. 17. The RD/RA should address further evaluation of specifications with all viable design variables being considered.

19. COMMENT: The decision for on or off-site treatment of collected groundwater should be made in the RD/RA.

RESPONSE: The ROD has been modified to allow either on site or off site treatment, with the stated preference for the use of an off-site facility.

20. COMMENT: The extent of the clay cap off site may not be necessary based on soil gas and surface water samples. This should be further evaluated during the RD/RA.

RESPONSE: The clay cap, while providing protection from contact with contaminated surface soils and control of any possible volatilization of site contaminants, is primarily intended to restrict the infiltration of precipitation to the shallow groundwater aquifer. The cap is an integral

part of the overall site containment system which is intended to allow the establishment of a upward vertical gradient within the containment area preventing further contaminant migration to the bedrock aquifer.

21. The data does not indicate a clay cap is necessary to eliminate the dermal exposure pathway.

RESPONSE: See previous response.

22. Clarification is necessary in the Site History regarding potential contaminant contributions from past gas station activities.

RESPONSE: The Site History section currently references the site was previously operated as a gas station. No further reference is deemed necessary.

23. Clarification is necessary in the discussion on inhalation of contaminated basement air as an unlikely human exposure pathway.

RESPONSE: Clarification has been included in Section 3.3., third paragraph of the ROD.

24. Site History should be updated to reflect removal of the excavated underground storage tanks.

RESPONSE: Site History in the ROD will include the March 1, 1993 removal of the excavated underground storage tanks.

A letter dated March 10, 1993 was received from Richard and Sharon Penoyer owners of the Village Pump Tavern, which provided the following comments (25-35) on the PRAP:

25. COMMENT: Will there be reimbursement for loss of revenue (business) during the RI/FS and for current and future loss resulting from NYSDEC activities?

RESPONSE: At this time, the entity which will be responsible for negotiating and acquiring the property in question is still undefined. Under the current State regulations governing property acquisition and relocation, reimbursement can be provided for the land, building and moving expenses as specified in Environmental Conservation Law (ECL) 30305 as implemented by 6NYCRR Part 590. No administrative mechanism currently exists for the State to provide reimbursement for loss of business revenue.

26. COMMENT: The proposed barrier wall and collection trench should be extended to protect our existing well.

RESPONSE: As outlined in the Record of Decision, it is anticipated that the present location of the containment system will require the demolition of the Village Pump Tavern (VPT) and subsequent abandonment of this well.

27. COMMENT: Will additional monitoring wells be installed on VPT property to better determine actual extent of contamination? If so, when and where will slurry wall/collection trench be installed?

RESPONSE: Additional work will be required to confirm placement of the barrier drain, however, as stated in the ROD, in order to address contaminants above groundwater standards the drain will be installed downgradient of MW-11S which will require removal of the VPT structure. Further testing will be needed during the design phase to locate the exact position of the wall which will encompass the area which exceeds groundwater standards.

28. COMMENT: When will a decision be made regarding how much of the VPT property will be taken? Will the building be taken? What is the projected time table between a decision and actual vacating of the property?

RESPONSE: As described in the ROD, it is now expected that the Village Pump Tavern structure will have to be demolished, since it has been determined necessary to extend the containment system to a point beyond the area of groundwater contamination. The wall is expected to be located to the east of MW-11S as shown on Figure 2-4. It is not anticipated that it will be necessary to vacate the property until late in 1994 or early in 1995, however negotiations relative to the relocation can be expected to begin by the Spring of 1994.

29. COMMENT: The PRAP states that "measures to compensate for all adverse impacts will be incorporated in the remedy". Will we be reimbursed by the State, then the State seeks reimbursement from the PRPs? Does this mean we are not to initiate appropriate legal proceedings against the PRPs while the State is in negotiations with them?

RESPONSE: The State will negotiate with the PRP's to implement the full remedy identified by the ROD for this site. The identified need to relocate the VPT in order to implement the remedy will be included in these negotiations. The State's negotiations will deal with the acquisition of the property and relocation of the business. Any additional claims will be the responsibility of the property owner.

30. COMMENT: If the State's negotiations with the PRPs break down and legal action is taken against the PRPs, would such legal actions attempt to recover for "all adverse impacts"?

RESPONSE: The State's cost recovery efforts under the scenario identified by this comment would encompass the costs incurred by the State to date and any future costs to be incurred by the State to implement, operate, and maintain the remedy. To the extent the State incurred costs to mitigate an adverse impact, these costs would be recoverable under this scenario. In the event that a landowner or other affected private party may have incurred costs or damages due to contamination, they have an opportunity to consider taking action directly against the PRP.

31. COMMENT: What is/is not included in the term "all adverse impacts"?

RESPONSE: The phrase " Measures to compensate for all adverse impacts will be incorporated in the remedy.", in the PRAP addressed the possible impacts to the existing structures or

appurtenances which may result from the construction of the remedy. Potential impacts contemplated included, the replacement of the well or septic system, pavement restoration if damaged during construction, or landscape restoration. With the identified need to relocate the VPT most if not all of these measures will no longer be required.

32. COMMENT: Can it be expected there will be compensation for the value of the land, building and existing and ongoing business? Can confirmation of such compensation as well as for loss of business from the start of the RI/FS to the re-establishment of the business at another location be provided?

RESPONSE: Please refer to Response for Comment No. 25.

33. COMMENT: Due to the proximity of contamination, the decreased or precluded ability to obtain mortgage financing both for ourselves or future buyers should be included in any reimbursement calculations.

RESPONSE: Based upon the extent of the area required to implement the remedy, it is anticipated that the entire VPT property will be taken, therefore no future buyers or sellers are expected.

34. COMMENT: If relocation is necessary, increased costs will be incurred achieving compliance with present day zoning and building codes. This should be included in reimbursement calculations.

RESPONSE: As stated in the ROD, it has become apparent that relocation is necessary. The specifics of the reimbursement calculations will be consistent with the minimum requirements of the statutes governing any State sponsored relocation.

35. COMMENT: We request that the State provide written assurance that the State will not enter into any settlement or agreement with the PRPs unless we have knowledge and consent.

RESPONSE: The State will keep the VPT property owners appraised of the status of the negotiations, however, cannot agree to seek their consent prior to entering into an Order.

A letter dated March 22, 1993 was received from Mr. James Wright of Weinberg, Gergson, and Neuman (WBN) on behalf of Bristol which contained the following comments (36-39 on the PRAP, RI, and FS reports:

36. COMMENT: No basis exists to characterize historic solvent recovery operations at the site.

RESPONSE: The site history presented in the RI, FS and the PRAP was prepared to provide the basis for defining the areas to be investigated. Information was collected from the NYSDEC and the NYSDOH files, however, the majority came from the NUS FIT (Field Investigation Team) Report prepared for the USEPA, August 1986. This was a field inspection consisting of field observations, limited sampling, file search, and conversations with residents in the area. Observations identified over 100 fifty-five gallon drums on site, 26 being located in the field.

Statements regarding storage and dumping of solvents, oils, and caustics were taken directly from the above referenced report. This type of background information was the basis for development of an RI work plan that would result in full characterization of the site. The purpose of the site history section was not to present an exhaustive summary of all available information relative to the site but rather to provide a general foundation to better understand the investigative methods and findings described in the reports. The NYSDEC believes the data support the statements regarding past operation and, therefore, the RI, FS and the PRAP will remain as written.

37. COMMENT: Contaminants detected by the NYSDEC are likely attributable to past gas station operations.

RESPONSE: The NYSDEC acknowledges that past gasoline station operations may have contributed to the groundwater contamination at the site. There is, however, significant analytical data that clearly supports the source of contamination to groundwater, surface water, soils, sediment, and source areas (USTs and septic tank) as the past solvent recycling. Some examples are as follows:

- October 3, 1986 - immediately after the three USTs were excavated and spilled, NYSDEC collected a surface water sample containing:

  900,000 ppb methylene chloride
  11,000 ppb TCE
  1,100 ppb Toluene

  It is important to note that the occurrence of toluene was not accompanied by benzene, xylenes, or ethylbenzene in this particular sample. These compounds are usually found with toluene when gasoline or other petroleum products are present. The toluene could very well have been from past solvent recovery operations, as it is also used for chemical extractions and pharmaceuticals, to name a few. (ATSDR, Toxilogical Profile for Toluene, December 1989, p. 73.)

- The WBN reference "that one would expect to find" 1,1,1-trichloroethane (1,1,1-TCA) and tetrachloroethane (PCA) at comparable quantities to trichloroethene (TCE) if the contamination was in fact from solvent recycling operations is supported by the analytical data. It should be noted that both compounds (1,1,1-TCA and PCA) were found with TCE at comparable or higher quantities in most of the sampled media -

  - Soil gas

PCA	6.2 to 4,300 $\mu g/m^3$
1,1,1-TCA	320 to 4,700 $\mu g/m^3$
TCE	3.2 to 3,500 $\mu g/m^3$

  - On-site shallow groundwater

PCA	36 ppb (Phase I)
1,1,1-TCA	16 to 8,600 ppb
TCE	16 to 98,000 ppb

- Surface Water (adjacent to site)

PCA	12 ppb
1,1,1-TCA	760 ppb
TCE	180 ppb

- Septic Tank sludge (source)

1,1,1-TCA	17,000,000 ppb
TCE	11,000,000 ppb

Methylene Chloride was also detected in the sludge at 780,000 ppb.

Due to the types of contaminants detected at the site, the NYSDEC will not be deleting statements from the RI, FS, PRAP or the ROD that attribute contamination to past solvent recovery operations.

38. COMMENT: Methylene Chloride, Acetone, Carbon Disulfide and Bis(2-ethylhexyl)phthalate were not detected and are not contaminants of concern.

RESPONSE: There are inconsistencies between the data tables in Section 4 and the data summary tables in Section 6. This is most likely due to QA/QC samples not being included in the Section 4 tables, but then inadvertently being included in the Section 6 tables. The RI will be corrected and clarified to make Sections 4 and 6 consistent. Higher levels of acetone and methylene chloride were detected in the septic tank water and high methylene chloride levels in the septic tank sludge. The levels are significantly higher than could be attributed to laboratory contamination and are considered valid. The 1986 surface water sample containing 900,000 ppb methylene chloride (see Response 37) further indicates that methylene chloride was at one time a significant contaminant stored, processed, or handled at the site. Due to the physical properties of methylene chloride, (i.e., very light and volatile), it is reasonable to expect it to have significantly dispersed over the time interval from disposal to the recent RI sampling.

None of the four contaminants listed in this discussion have been considered "Contaminants of Concern" (Table 609). The NYSDEC will review the RI/FS and revise appropriate sections with regard to carbon disulfide and bis(2-ethylhexyl)phthalate being considered laboratory contaminants. Due to the higher levels of acetone and methylene chloride detected in the source area and the fact that sampling was limited to what was sufficient to define the nature and extent of contamination, references and statements indicating the compounds are present at the site will remain as written.

39. COMMENT: The RI data does not support the conclusion that Bristol-Myers Squibb is a potentially responsible party.

RESPONSE: The technical/scientific goals of this remedial program, as set forth in this ROD, must be kept distinct from a legal determination of liability for spilling or otherwise releasing contaminants. The primary objectives of an RI/FS do not specifically include collection of evidence to prove or disprove a PRP is guilty of waste deposition at a particular site based solely on the RI/FS. The NYSDEC Division of Environmental Enforcement (DEE) and the New York State Attorney General's Office (AG) may review this matter and decide to concurrently conduct an investigation to collect this evidence. The goal of this project is currently to determine what is technically required to eliminate or significantly reduce a threat to human health and the environment. The PRAP is a summary of that determination. Based on this fact and the current files it is inappropriate to modify the PRP list at this time.

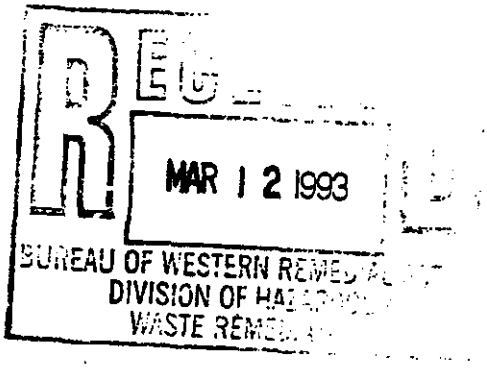
APPENDICES

APPENDIX A

GE Corporate
Environmental Programs

Michael Iannielio

March 12, 1993



Mr. Bradley Brown
Project Manager
New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation
50 Wolf Road - Room 222
Albany, New York 12233-7010

Reference: **Proposed Remedial Action Plan**
Abandoned Solvent Center; Pompey, New York

Dear Mr. Brown:

General Electric Company and the Bristol Myers-Squibb Company (the "Commenters") have reviewed the recently issued Proposed Remedial Action Plan ("PRAP") for the Abandoned Solvent Center Site ("Site") in the town of Pompey, New York. The Site is listed by the New York State Department of Environmental Conservation ("NYSDEC") as a New York State Inactive Hazardous Waste Site and work at the Site has been previously undertaken by the NYSDEC and the United States Environmental Protection Agency ("USEPA"). The Commenters appreciate the opportunity to submit these comments on the PRAP.

In general, we believe the selected remedial alternative proposed by the NYSDEC appropriately and more than adequately addresses conditions of concern at the Site. As more fully set forth below, the Commenters believe that the combined elements of capping surficial areas of concern and collection and treatment of ground water, among other requirements presented in "Section 8 - Summary of the Preferred Alternative," represents an effective and relatively non-disruptive method of managing residual risks posed by potential exposures related to the Site. The Commenters would suggest that certain modifications be made to the proposed remedy when finalized in the ROD, to minimize the impact of the remedy on the surrounding community and to maximize the success and timeliness of the remedy. In addition, we would suggest that certain aspects of the PRAP be revised or clarified in the ROD to correct certain statements and to avoid unnecessary confusion regarding the results of the Remedial Investigation/Feasibility Study ("RI/FS") and the remedy selected.

The Commenters are appreciative of the NYSDEC's efforts at the Site. We feel that the early actions of USEPA, NYSDEC and the New York State Department of Health (together, the "Governments"), including the point of entry treatment and the removal of USTs, etc., have effectively controlled site risks in a timely fashion. These efforts have also been responsive to the concerns expressed by the community.

I. THE GOVERNMENTS' EARLY ACTIONS LARGELY HAVE CONTROLLED THE POTENTIAL EXPOSURE PATHWAYS

The Commenters generally support the Governments' early response to stabilize the Site and control potential exposures to the public. These response actions included the installation of point of entry residential water supply treatment, and removing the contents of the aboveground storage tanks, the underground storage tanks and the septic tanks, among other actions. This approach has been protective of human health and the environment and the Commenters feel that these measures will lead to lower overall cost for the remedy of the Site.

Moreover, the Governments' risk management decision to focus on the ground water-user exposure pathways was validated by the subsequent findings of the Human Health Risk Evaluation ("HHRE"), which show that this pathway is being properly managed. We note, however, that the HHRE was performed, ostensibly, as a comparison of the levels found at the Site versus the NYS standards and guidance for various media.[1]

II. NYSDEC'S PROPOSED REMEDY OF GROUND WATER CONTROLS AND CAPPING OF THE SITE SOILS EFFECTIVELY ELIMINATES REMAINING SITE RISKS

A. The selection of ground water migration controls for the overburden aquifer ground water plume and the selection of natural attenuation for the bedrock water-bearing zone is consistent with the new science concerning ground water remediation.

"Section 8: Summary of the Preferred Alternative" states the objectives for the ground water system as follows: "installation of a bentonite slurry wall upgradient as a deflector to *prevent ground water from entering the Site*" and secondly, "installation of a subsurface collection drain downgradient of the Site *to collect*

[1]As a general position, the Commenters feel that the use of a quantitative risk assessment offers several advantages in comparison to a qualitative health evaluation, such as conducted at the Site. Risk management decisions such as which exposure pathways are significant can be more accurately compared to one another and commonly used risk management benchmarks, such as the Superfund 1x10-4 to 1x10-6 excess (incremental) cancer risk range. In addition, risk management decision making can be made more uniformly from site to site. Notwithstanding these reservations regarding the health evaluation, the Commenters agree, as qualified in the following, with the risk management decision to undertake the above-noted response actions.

contaminated ground water" (emphasis added). A schematic example of the trench and the deflector wall alignments is shown in Figure 2-4 of the PRAP.

The Commenters feel that the design objectives for the ground water system are realistic and obtainable. Given the current state of remedial technology, the control of the ground water flow field, i.e. migration control, in the overburden aquifer at the Site is an obtainable remedial design objective. This technology of lowering water levels using a subsurface collection drain is proven and has been verified at several analogous remedial Sites. Migration control offers an advantage over other design objectives because the proof of an installed system's effectiveness can be established, relatively easily, by monitoring water levels in strategically placed piezometers. Trench systems, while more costly to construct, allow for a more uniform lowering of water levels across the targeted zone than vertical wells. Migration control was examined in detail by the USEPA in the report Evaluation of Ground Water Extraction Remedies.[2] That report was a case study approach which found that migration control was demonstrated at 16 of the 19 Sites examined (the other Sites relied upon well head treatment as the design objective).

A recent review of ground water migration control by the Waterloo Centre for Ground Water Research, Contaminant Migration in Imperfectly Known Heterogeneous Ground Water Systems,[3] also suggests that migration control as a remedial-design objective is likely to be the most protective of the realistically obtainable objectives. This review, as well as others before and since, show that many of the remedial design efforts aimed at media restoration were unlikely to succeed, and were in practice no more protective of human health or the environment.

On a related matter, the Commenters feel that the design objective for the installation of the upgradient bentonite wall deflector should be clarified. The schematic alignment of the deflector wall, shown in Figure 2-4 of the PRAP, suggests that this measure is being proposed to substantially reduce the horizontal flux of water through the overburden aquifer into the Site area. For clarity, the

[2] *Evaluation of Ground Water Extraction Remedies*, Office of Solid Waste and Emergency Response, EPA/504/0289/054 (1989).

[3] Sudicky, E.A. and Huyakorn, P.S., *Contaminant Migration in Imperfectly Known Heterogeneous Ground Water Systems*". Contribution to the U.S. national Committee report to the IUGG General Assembly; accepted for publication in *Review of Geophysics*.

stated design objective is more precisely stated as *to reduce the flow*, rather than as *preventing* the flow, of ground water entering the Site.

The Commenters support the Governments' selected approach of natural attenuation for addressing the bedrock conditions at the Site. Currently, all empirical studies suggest that secondary porosity features (i.e., fractures, jointing, faults) are more pronounced in bedrock than in non-indurated media, that these features add complexity to understanding of Site conditions and that these heterogeneities and complexities add to the remedial time frame. The Commenters feel that the Governments' analysis is correct and that natural attenuation will be permanent and effective in the long term. This point regarding the intractable nature of the problem, i.e. restoring ground water to pre-release conditions, is made clearly in the FS: "The bedrock plume cannot be directly removed or treated due to *the complex fracture network in the bedrock aquifer. This precludes a systematic,* effective extraction or in situ treatment program in this water bearing zone."

The Commenters support the notion that efforts to more aggressively restore the bedrock water bearing zone will be unlikely to succeed. Moreover, the Commenters note that the Site does not exhibit ideal conditions. The influence of non-ideality on remediation was examined by the researchers Mackay and Cherry,[4] who concluded that pumping and treating ground water in fractured bedrock was ineffective.

This finding is supported by several points, is described in the FS, and is based on previous efforts at this Site as well as those efforts experienced by USEPA at numerous other Sites. The Commenters feel that, based upon a review of the RI/FS report (and the boring logs shown in the appendix), the ground water component of the selected alternative for the Site is reasonable and appropriate. This position is bolstered both by recent USEPA policy directives and by the finding of researchers in the peer-reviewed ground water science literature.

[4]Mackay and Cherry have noted that "the prognosis for cleanup of fractured rock aquifers, particularly those containing NAPL contaminants, is worse than for sand and gravel aquifers." They theorize that "*this is because the NAPL pathways through the* fracture system are exceptionally complex and distribute the NAPL into many small and scattered amounts. When attempts are made to clean such fractured rock aquifers by pumping water, major improvements in water quality are exceedingly slow because little or no water flushes through dead-end fractures or through the porous but impervious rock matrix, both of which are likely to retain the bulk of the contaminated mass." These researchers and others have concluded that even when the bedrock fracture lengths, widths and apertures are wide enough to transmit water effectively, the molecular diffusion of contaminants out of the rock matrix greatly limits the mass transfer rates (and thus cleanup rates) at all sites examined thus far. Mackay, D.M., and Cherry, J.A., "*Ground Water Contamination: Pump and Treat Remediation.*" *Environmental Science and Technology,* Vol. 23, No. 6, 1989.

In summary, the Commenters agree that the use of a ground water migration control system is indicated in hydrogeologic settings such as found in the overburden aquifer, and that natural attenuation, as aided by the migration control system, is indicated in the bedrock water-bearing zone at the Site. This approach incorporates proven techniques, is relatively easily implemented and has a high success rate in a variety of settings.[5]

III. FLEXIBILITY REGARDING ASPECTS OF THE REMEDIAL DESIGN SHOULD BE INCORPORATED INTO THE LANGUAGE OF THE RECORD OF DECISION

The Commenters suggest that flexibility be crafted into the Record of Decision ("ROD") language for this Site so that fine tuning and modifications to the existing remedial systems can be undertaken during the RD/RA process without the burdensome administrative paperwork requirements and delays associated with a ROD Amendment or an Explanation of Significant Differences ("ESD"). This flexibility will accommodate potential adjustments that have value in the Remedial Design process. Aspects of the proposed remedy that potentially could be left for professional engineering judgment and, where indicated, a more thorough quantitative examination during the remedial design and remedial action (RD/RA) are as follows:

A. *Specifying the design details for the ground water upgradient deflector wall is potentially too restrictive.*

The Commenters support the objective of the upgradient deflector wall, which is to substantially reduce the horizontal flux of water that enters the Site. Flexibility in the ROD on making this decision would allow for it to be made during the RD/RA once actual pricing and value-engineering approaches are presented. This flexible

[5]The Commenters support the goal, as qualified, for the ground water component of the selected alternative and further note that this goal has been tempered with an acknowledgment of the realistic time frame. The Commenters agree with the position in the FS that this goal will be achieved through natural attenuation processes facilitated by implementation of ground water collection (alternative 2)". The new science concerning natural attenuation suggests that this process is expected to be effective at this Site in the long term. The recognition of this reality is implicit in the FS, which notes that "[t]he time frame estimated for compliance through natural attenuation is tens of years." A number of researchers have come to the same understanding at similar sites. For example, in the United States Department of Energy review, *Risk Management at Hazardous Waste Sites*, the researchers Doty and Travis found that even under ideal conditions and aggressive pumping, the time frame for restoration is considerable. The Commenters agree with the NYSDEC that the time frame noted is realistic and, furthermore, that conveying this time frame is good public policy and builds public acceptance. Travis, C.C. and Doty, C.B., *Risk Management at Hazardous Waste Site*, Office of Risk Analysis, Health and Safety Research Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee (prepared for the August 1990 meeting of the American Chemical Society).

approach is suggested by the existing language of the PRAP (e.g. noting that the wall might be extended if it is shown to be more cost effective). The benefits of this approach is that it will allow for a decision to be made once the remedial designers have analyzed the options. This will lead to a more cost effective and potentially more timely remediation (i.e., avoiding the need for an ESD or ROD amendment), and for a remedy that is just as protective of human health and the environment. Therefore, we would suggest that in the ROD language be limited to specifying the objective (i.e., reducing the amount of water that requires treatment thus increasing the remedy cost effectiveness) and that a provision for specifying design details be left for engineering evaluation during the RD/RA.

B. Specifying the use of off-Site RCRA treatment versus other on-Site treatment is potentially too restrictive.

The threshold at which on-Site treatment of ground water is preferable to off-Site treatment varies from one site to another. Flexibility in the ROD on making this decision would allow for it to be made during the RD/RA once actual steady state effluent parameters and actual flow quantities are known. A flexible approach to this matter in the ROD also may allow for a more timely RD/RA by avoiding the need for time-consuming administrative changes. Therefore, we suggest that the ROD language include the option of allowing for an engineering evaluation of the best treatment method during the RD/RA.

C. The use of a clay cap on the Village Pump Tavern property is potentially not warranted, given the current findings.

A component of the "Section 8 Summary of the Preferred Alternative" specifies that "the cap and ground water barrier system will have to be extended off-Site onto the Village Pump Tavern property in order to fully contain contaminated soil and ground water." We do not believe, based upon review of the available data, that the necessity of extending the cap onto the Tavern property is currently indicated. Moreover, the soil gas distribution shown in the RI, Figure 4-13, combined with the surface water sampling data, arguably suggest that there might be a non-Site related source of contaminants on the Village Pump Tavern property. Given the

inconclusive nature of the source of the Village Pump Tavern property contamination, we would propose that the ROD provide for further analysis of the need for and effectiveness of the cap beyond the Site boundaries. The Commenters feel that whether this measure is undertaken is best left for examination during the RD/RA.

The necessity for an on-Site cap to eliminate the dermal exposure pathway is not indicated by the data. Currently, as described in the RI section on Human Health Risk Evaluation, the on-Site surface samples collected to date showed virtually no locations with concentrations above NYSDEC-specified cleanup levels (except for two isolated locations on the Site that indicated the presence of aroclor 1248). Additionally, the only subsurface soil concentrations that were found above NYSDEC-specified cleanup levels were located deep in the subsurface, at depths of 10 to 18 feet below grade. These depths are well below the limits of typical human endeavors, such as hypothetical exposure scenarios involving short term incidental exposure during utility work. As such, the risks posed by these soils is infinitesimally small. Moreover, clay capping would not provide any protection for this unlikely exposure scenario.

At most, the use of a clay cap should be limited to areas of surface soil contamination that exceed a human health risk-based criteria (i.e., capping is likely not indicated for areas with soil gas and or subsurface contamination). In addition, it appears that if it is found during the RD/RA that there is surface soil contamination at the Pump Tavern property, that the volume of soil is likely to be relatively low. If this assumption holds, then the most efficient way to handle it (or any other off-Site, Site-derived soil contamination) may be to consolidate the soil on-Site using the Area of Contamination concept[6] rather than extending the clay cap beyond the Site boundaries.

At a minimum, the commenters recommend that the ROD language should allow for an engineering assessment during RD/RA to determine the extent of the clay cap on the Site and further, whether the cap needs to be extended beyond the Site. This assessment is indicated for several reasons, summarized as follows: First, it might be more cost effective to treat more water than to extend the cap off-Site. The

[6] Preamble to the Final Rule of the National Contingency Plan, 55FR8758.

analysis should compare whether the potential saving by use of a clay cap to reduce the infiltration of precipitation (and thus treatment costs) outweigh the construction costs. Second, it might be more cost effective and more constructable to limit the cap extents by consolidating any off-Site soil contamination associated with the Site to burial beneath the on-Site cap. Third, by limiting the extent of the cap to the Site, a great reduction in disruptive activity can be achieved. This would be achieved by eliminating the need to reroute Ridge Road and by eliminating the need to go permanently upon off-Site property. In addition, this off-Site cap extension would have to be constructed over a relatively small parcel, and would have to match existing grades while not causing potentially hazardous runoff problems, e.g. flooding at the intersection. The benefits of allowing flexibility in determining whether the cap needs to be extended is that it will allow for a more cost-effective remedy and will be just as protective of human health and the environment.

IV. THE PROPOSED REMEDY HAS SIGNIFICANT ADVANTAGES OVER OTHER ALTERNATIVES.

A. On-Site thermal desorption was correctly rejected

The Commenters fully support the Governments' rejection of on-Site thermal desorption as being too costly and impracticable Site due to complex Site geology. The Commenters also feel that the description of the myriad complications associated with potential excavation of large, deep quantities of contaminated soil are accurate. As the Government noted, undermining Route 20, a major roadway, would be likely as the excavation expanded to mine out the thin flat layers within which contaminants have probably migrated. This work would potentially be very disruptive and stigmatizing to the community, as well as hazardous for the workers, and yet would not reduce the Site-derived risk.

Thermal desorption of a 30,000 cubic yard volume of soil would require a large scale treatment unit. These units have a several draw backs. Typically, they require that activities be conducted around the clock, and the process noise associated with this work is considerable. Both of these aspects could be disruptive to the community. Also, it should be noted that the footprint of these units is large and not well-suited for residential areas. Some units require up to 40 trailers and support vehicles.

The Commenters also agree with the Government on the matter of the cost effectiveness of this remedy. In fact, the cost ineffectiveness of thermal desorption may be even more pronounced than the FS estimates. In the FS the unit cost of $350 per cubic yard was used (the "fully loaded" number, i.e., remedial cost divided by yardage of soil treated, is $517 per cubic yard). The source of the price estimate used in the FS, however, is not given. Based upon our experience, as well as knowledge of other Sites, we believe that the costs for thermal desorption would be considerably higher than the FS estimate. For example, we are familiar with the Wide Beach, New York project. This is a New York State NPL Site with similar fine-grained soils, in which we understand the original contract was let for 15.5 million dollars in order to treat 21,000 tons of soil, as well as some associated work. Using a 1.5 ton per cubic yard Conversion Factor, the "fully loaded" cost for that work would be $1107 per cubic yard. Assuming that these prices are more realistic, then the estimated on-Site thermal desorption costs estimated in the FS would roughly double to over 30 million dollars.

B. Neither off-Site nor on-Site incineration would be a cost effective alternative. In addition, use of an enclosure to control fugitive emissions would increase dramatically the costs of such an alternative.

The Commenters note that the unit cost of $1000 per cubic yard for off-Site incineration is less than any vendor's unit price of which we are aware. The typical gate price for this service is about one dollar per pound, meaning that the cost would be about $3000 per cubic yard for off-Site incineration. Since the incinerators that can accept bulk soil are usually backlogged, there is seldom opportunity for substantial volume-based discounting of the unit price. This unit cost, $3000 per cubic yard, would drive the total estimate for the cost of FS Alternative 4, off-Site incineration, up to over 108 million dollars.

The Commenters note that a description of the on-Site Incineration option "Section 7: Description of Alternatives" also mentions the use of an enclosure to control fugitive emissions during the excavation of soil. The costs and practicality for doing so were recently examined by the USEPA Superfund Innovative Technology Evaluation[7] program at the McColl Superfund Site in Fullerton, California. The cost

[7]U.S. Environmental Protection Agency, *Applications Analysis Report: SITE Program Demonstration, Demonstration of a Trial Excavation at the McColl Superfund Site*, EPA/540/AR-92/105, 1992.

for excavation using an enclosure-type system to control fugitive emissions was determined by USEPA to be $593 per in-place ton. Using the above Conversion Factor, that would add $889 per cubic yard to the costs for on-Site incineration. The Commenters feel that this added cost further supports the Governments' assessment that neither off-Site nor on-Site incineration are cost effective at the Site.

V. CERTAIN STATEMENTS IN THE PRAP SHOULD BE REVISED IN THE ROD TO ELIMINATE CONFUSION AND TO PROVIDE CLARIFICATION.

A. The Commenters suggest that the PRAP description of Site history could be misleading and should more clearly indicate the potential contribution of prior gas station operations to Site concerns.

In the PRAP summary, the history of Site operations is described. However, little mention is given to the fact that the Site operated as a gas station for a number of years before being operated as a solvent recycling business. As noted in the draft RI Report, past gas station activities likely contributed to contamination at the Site. For example, the RI assumes that "toluene originally entered the overburden aquifer 40 years ago (during gasoline operations at the Site)." RI at 5-14. In addition, a number of the contaminants of potential concern are of the type traditionally used in gas station operations. Therefore, the Commenters suggest that the discussion of Site history in the ROD should clearly indicate the likelihood that gas station operations contributed to Site conditions. We would suggest the following:

> During the Site's operation as a gas station, it appears that contaminants such as toluene, as well as other gas station-related compounds, may have been released into the environment at the Site.

B. The Commenters suggest that the PRAP summary of human exposure pathways could be misinterpreted and request that such discussion in the ROD be revised to eliminate confusion of the public.

In the PRAP summary, the statement is made that "the likely route by which residents could be exposed to Site contaminants is the inhalation of contaminated air in basements, which could occur as a result of the diffusion of volatiles that have

traveled with ground water." The Commenters believe that this summary statement is incomplete and could be misleading to readers of the PRAP and the ROD. As stated in the RI, there was no contamination in the soils near either of the nearby residences. RI at 6-3. The only ground water sample obtained near the residences (other than samples from the two residential supply wells) which indicated contamination was MW-8D, which is over seventy feet deep in bedrock. That sample contained only 11 ppb total 1.2-DCE. Although the PRAP does state that this exposure to vapors "likely has not yet occurred," we believe that the summary should be further clarified to indicate the likelihood of such occurrence, given Site conditions, so as to avoid misinterpretation or confusion of the public. The Commenters would suggest that the section be revised, if included in the ROD, as follows:

> At present, a potential route by which nearby residents could be exposed to Site contaminants is the inhalation of contaminated air in basements, which could occur as a result of the diffusion of volatiles that have traveled with ground water. *All current soil gas, soil and ground water data indicate that this potential exposure is unlikely to occur. Furthermore, the selected remedy will make this potential exposure even more unlikely to occur.*

C. The Commenters suggest that the Site history be revised to reflect the removal of the excavated USTs.

Given the removal of the previously-excavated USTs on March 1, 1993, by Conestoga Rovers & Associates on behalf of the Commenters, we would propose that the statement in Section 3, paragraph two, be revised to state:

> These tanks have been excavated, drained, punctured and recently removed from the Site for disposal.

VI. CONCLUSION

As stated above, the Commenters support NYSDEC's efforts at the abandoned Solvent Center Site. We believe that the proposed remedy represents an appropriate, effective, protective and non-disruptive method of managing the

residual risks associated with the Site. The early efforts of the Government have been effective at controlling the principal exposure pathways in a timely way. The Commenters would propose, however, that certain modifications discussed above be made in the ROD for the Site to allow for flexibility in addressing Site conditions and in limiting the impact of remedial activities to the surrounding community.

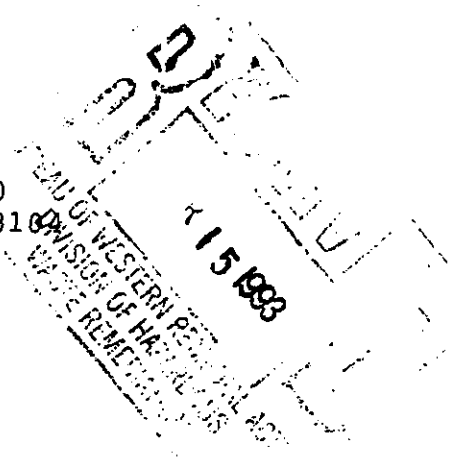
If you have any questions regarding the above, please do not hesitate to call us.

Respectfully submitted,

Michael Ianniello

Michael L. Ianniello

Village Pump
RD #2, Route 20
Manlius, NY 13104
March 10, 1993



Robert W. Schick, P.E.
Section Chief, Remedial Section A
Bureau of Western Remedial Action
Division of Hazardous Waste Remediation
50 Wolf Road
Albany, NY 12233-7010

RE: Abandoned Solvent Center
Inactive Hazardous Waste Site
Pompey, Onondaga Co., New York
Site No. 07-34-035

Dear Mr. Schick:

As owners and operators of the Village Pump. restaurant and tavern, located across the street (to the east) from the above abandoned solvent center site, we would like to submit our comments and concerns regarding the Proposed Remedial Action Plan for the site.

We are obviously concerned about the actual and prospective adverse impact that the existence and continued existence of the abandoned solvent center site has had, is having, and is expected to have in the future on our business.

From the fact sheet provided to us at one of the public hearings, and as well as our own observations, we learned that the NYSDEC initiated an RI/FS in January 1991 to determine the existence of contamination, and apparently the RI was completed in two phases from July 1991 to December 1992, as a result of which contamination was discovered off site to the east, on our property.

As you may guess, we incurred a noticeable loss of business even during these initial exploration and evaluation stages of your investigation. Understandably, patrons were turned away by the sight of "yellow" danger construction ribbons and white-suited workers about our premises, both from a safety concern aspect as well as the inconvenience factor. We are concerned about reimbursement for loss of revenue during this period as well as at the present, and in the future as your departmental activities continue on and around the site.

We have noticed in the diagrams and drawings that you provided at the public hearing you have provided for a slurry wall and collection trench, as part of your proposed remedial action. Again, testing for and construction of this type of remedial action will continue to have the same type of adverse effect on

our business as outlined above. Regarding the wall and trench, we notice from the diagram that its approximate location stops near the northwest corner of our building. It is our belief that such a wall and trench should be in an extended southerly direction so as to protect our presently existing well, which, to date, shows no evidence of contamination. Also, the diagram shows the "presumed extent of soil contamination". Will additional test wells be dug on our property to better determine the actual extent of soil contamination prior to construction of the wall and trench? If so, when do you anticipate such additional wells, and/or construction of the wall and trench will be performed?

Obviously we need to know which of the proposed remedial action plans will be taken by you, and even more importantly, what is your time table for the implementation and conclusion of the final plan. This is important to us because in addition to the outlined impact on our business during the interim testing and studies, this "cloud" of being on a potentially contaminated site hangs over us on a day to day basis, both from a personal standpoint, as well as a business standpoint. We are constantly getting calls from regular customers and potential customers inquiring as to whether we are still open or not.

Our above concerns relate to the adverse impact on our business if the final remedial action leaves our business in place. If the final remedial action involves the taking of our business, then our concerns and problems become even greater. Therefore, we need to know if your final action will include the taking of our property, or any portion of it. That is to say, our property consists of our business on approximately 1½ acres. Would a taking involve a portion of our real estate and/or would it also involve a taking of the building in which our business is conducted? If so, when do you anticipate this decision will be made? Further, if a decision is made to take our business, do you have a projected time table between your notice of decision and any actual date to vacate the property?

It is our understanding that you have identified the Potential Responsible Parties and are in the process of attempting negotiations with them for purposes of reimbursement to the New York State Super Fund for any and all expenses incurred for clean up of the site. On page 11 of your Proposed Remedial Action Plan which was handed out at one of the public hearings, the very last sentence indicates that "measures to compensate for all adverse impacts will be incorporated in the remedy." Is this to be taken to mean that you will reimburse us for "all adverse impacts", and you will then seek reimbursement from the PRPs for those expenditures? Further, does this mean that we are not to initiate appropriate legal proceedings against the PRPs during and while you are in the course of negotiations with them?

Also, it was indicated that if your negotiations with the PRPs should break down, you would pursue the appropriate legal action against the PRPs. Again, would such legal action attempt to recover "all adverse impacts"?

We are concerned about what is/is not included in the term "all adverse impacts". We note from the literature that was disseminated that there are regulations and statutes for the purpose of assisting displaced persons as far as relocation assistance, and property acquisition. The literature seems to indicate that there is a limited plan for payment of reasonable and necessary moving expenses, supplemental relocation payments, loss of favorable mortgage financing and closing costs to occupants of property which is ultimately acquired by you. However, it is unclear as to your methods and procedures regarding payment for our actual building, land, and more importantly the value of our business. Can we expect that, if our business property is ultimately taken, we will be compensated for the value of our land, building, and our existing and going business? We understand that appraisals conducted by you may conflict with appraisals conducted by us, and that is the reason for the fine art of negotiation. We would nevertheless like to confirm that a taking would involve reimbursement for our land, building, and business. This, in addition to our loss of business during this lengthy intervening period from the date of initial testing through the date of re-establishment of our business at another location.

Our concerns are just as real whether remedial action leaves our building and land intact, or whether it involves the taking of our land and building. By either scenario, there is an obvious adverse impact on our business. Also, the existence and labeling of our location near or on a contaminated site will involve a decreased (if not precluded) ability to obtain mortgage financing, both for ourselves or for any prospective purchaser in the future. This, of course, should be considered in any reimbursement calculations.

In addition, if the final plan involves the taking of our land and building, forcing us to move and re-establish in another location, there is an entire new host of problems. Present day zoning would most likely force us to obtain more acreage than we presently have, incur more stringent zoning regulations, more cumbersome and stringent building and code regulations, all of which involve increased expenditures of money and labor.

Another item of utmost concern is that we do receive written assurance from you that you will not enter into any settlement or agreement with the PRPs until and unless we have knowledge and consent. Obviously, satisfaction of your claims may not amount to satisfaction of our claims. It would certainly be easier to achieve a settlement which is satisfactory to <u>all</u> parties rather than leaving us to fend for ourselves regarding any unresolved claims. We would like to believe the purpose and intent of the

State's involvement within the statutory and regulatory framework, is to resolve the matter to an agreed upon conclusion, rather than merely to some intermediate close-the-file point leaving us "holding the bag".

We do thank you, both in your individual capacities, as well as New York State representatives in your efforts to point out the problems, provide for our safety and welfare, and solve the problem. We appreciate your willingness to take the time in these regards, and also to take the time to address our questions insofar as allowable under the present set of facts and circumstances. Certainly, you can understand our concerns for our safety and our livelihood, and not withstanding such concerns we are making an earnest effort to work with you in a non emotional and rational manner.

Thank you.

Very truly yours,

Richard H. Penoyer

Richard H. Penoyer

Sharon E. Penoyer

Sharon E. Penoyer

cc Mr. Bradley Brown

(132)

WEINBERG, BERGESON & NEUMAN
1300 EYE STREET, N.W.
SUITE 1000 WEST
WASHINGTON, D. C. 20005

JAMES C. WRIGHT

TELEPHONE: 202-962-8585
FACSIMILE: 202-962-8599

March 12, 1993

Via Fax and Regular Mail

Mr. Bradley Brown
New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation
50 Wolf Road, Room 222
Albany, NY 12233-7010

Re: Abandoned Solvent Center Site, Pompey, New York

Dear Mr. Brown:

The Bristol-Myers Squibb Company ("Bristol") and the General Electric Company have submitted under separate cover joint comments to the Proposed Remedial Action Plan ("PRAP"). On behalf of Bristol, the enclosed comments separately address the draft Remedial Investigation Report ("RI"), the draft Feasibility Study Report ("FS"), and additional aspects of the PRAP for the Abandoned Solvent Center Site.

Although Bristol generally supports the NYSDEC's selected remedy, it nonetheless is concerned that aspects of the PRAP, the draft Remedial Investigation Report and the draft Feasibility Study Report may be in error or misleading. Those issues are discussed below.

No Basis Exists To Characterize Historic Solvent Recovery Operations At The Site

The RI, FS and PRAP include loose, conclusary statements regarding past solvent recovery operations at the Site. For example, the RI and FS state in several places that contamination detected by the NYSDEC was caused by "the indiscriminate deposition of wastes" during solvent recovery operations at the Site. RI at ES-7, 5-7, 5-9 and 8-7; FS at 2-2, 2-4 and 2-5. In addition, the PRAP alleges that 55-gallon drums were "littered across the site." PRAP at 2. The RI also states that "solvents, oils, and caustics" were stored and dumped on the ground during recycling operations. RI at 1-2, 5-8 and 6-1; FS at 1-2; PRAP at 2.

These statements are not supported by any evidence referenced by the NYSDEC and presumably arise from conversations and other anecdotal information regarding site operations. Indeed, the claim that drums were "littered across the site" is directly contradicted by photographs reproduced in the RI. Those photographs show drums neatly stacked at the site during solvent recovery operations. RI at A-54 and A-55.

The RI also states that "Mr. Hough accepted waste solvents from various companies, recycled them, and sold them back to the companies." RI at 1-2. Again, this statement is not supported by any evidence referenced in the RI and may not in fact properly characterize past solvent recovery operations at the site. For example, trial testimony presented in the case of State of New York v. Allied Corp., No. 83-CIV-1619 (E.D.N.Y.), (involving other sites utilized by Mr. Hough) indicated that when Mr. Hough obtained spent methylene chloride, he routinely stored and then transshipped it to other locations, rather than recovering it in his still.

Bristol does not contest that a gas station and then a solvent recovery business operated at the Site. However, we are aware of no information to support the statements in the RI, FS or PRAP regarding specific activities associated with those operations. In addition, the unsubstantiated characterizations regarding past solvent recovery operations are not necessary for evaluating current conditions at the Site or for selecting a remedy. For these reasons, Bristol requests that statements characterizing specific activities or the degree of care exercised during those activities be deleted from the final versions of the RI and FS. Bristol also requests that such statements not be included in the ROD or any other document.

Contaminants Detected By The NYSDEC Are Likely Attributable To Past Gas Station Operations

There is no basis for concluding, based on the data presented in the RI, that current contamination is due to past solvent recovery operations. In fact, most if not all of the contaminants detected by the NYSDEC logically could be ascribed to past gas station operations. For example, the RI recognizes that past gas station operations likely contributed to contamination at the Site when it postulates that "toluene originally entered the overburden aquifer 40 years ago (during gasoline operations at the site)." RI at 5-14. The amount of aromatic hydrocarbons detected at the Site is entirely consistent with gas station operations, and are not characteristic of the type of compounds handled during the solvent recovery operations

which occurred at the Site in the 1960s.

In addition, the chlorinated volatile organic compounds found at the Site primarily were trichloroethene ("TCE"), 1-2-dichloroethene and vinyl chloride. The relative amounts of these three chemicals indicate that they resulted from the anaerobic biodegradation of TCE. For example, the groundwater analytical results for MW-2S and MW-7S indicate that TCE has biodegraded to a fairly large extent.

Such results are consistent with gasoline operations in the 1950s, which commonly used liberal quantities of TCE to degrease brakes, engine parts, etc., as well as to "wash" the concrete station floor to remove oil and grease. The material likely was drained into the septic tank, where the biologic organic wastes provided the food source and anaerobic bacteria necessary to biodegrade the TCE.

If the source of the TCE which entered the septic tank was from solvent recovery operations, one would expect to find comparable quantities of other solvents in the environmental media, such as 1,1,1-trichloroethane and tetrachloroethene. These other solvents were reportedly recovered by Mr. Hough in his still at the Site. The relative absence of these other compounds strongly indicates that the contaminants of concern originated from gas station operations and not from solvent recovery operations.

For these reasons, Bristol requests that statements attributing contamination to past solvent recovery operations be deleted from the final versions of the RI and FS. Bristol also requests that such statements not be included in the ROD or any other document.

In addition, the PRAP does not list as a potentially responsible party ("PRP") any company which might be associated with the operation of the gas station. Rather, the PRAP exclusively focuses on companies, such as Bristol, which allegedly generated substances taken to the site by Mr. Hough's solvent recovery business. PRAP at 5. Bristol does not believe it is necessary or appropriate to list suspected PRPs in the ROD. Should the State choose to do so, Bristol requests that the ROD identify companies associated with past gas station operations at the Site.

<u>Methylene Chloride, Acetone, Carbon Disulfide and Bis(2-ethylhexyl)phthalate Were Not Detected And Are Not Contaminants of Concern</u>

According to the data validation done for the RI, low levels of methylene chloride, acetone, carbon disulfide and bis(2-ethylhexyl)phthalate detected in the RI samples were due to "laboratory background contamination" and "were present in the laboratory and/or field blanks at comparable levels." RI at 4-35 and 4-37. Despite these conclusions, the RI and FS erroneously state that these chemicals exist both at the Site and in surrounding areas.

For example, the RI states that treated water from the Shedlock well contained methylene chloride. RI at 1-4. Likewise, the FS states that methylene chloride was detected above criteria concentrations in two samples. FS at 2-66.

In addition, Table 6-1 in the RI is a "Summary of Volatile Organics Detected In Phase I and II RI Soil Gas." It lists carbon disulfide. Table 6-2 is a "Summary of Contaminants Detected In Phase I and II RI Surface Soil." It lists acetone. Table 6-3 is a "Summary of Contaminants Detected In Phase I and II RI Subsurface Soil." It lists acetone and bis(2-ethylhexyl)phthalate. Table 6-4 is a "Summary of Contaminants Detected in Phase I and II RI Groundwater." It lists acetone, carbon disulfide, methylene chloride, and bis(2-ethylhexyl)phthalate. Table 6-5 is a "Summary of Contaminants Detected in Phase I and II RI Surface Water and Seep." It lists carbon disulfide. Table 6-6 is a "Summary of Contaminants Detected in Phase I and II RI Sediment." It lists acetone. Table 6-7 is a "Summary of Contaminants Detected in Phase II Septic Tank Sediment Sample." It lists methylene chloride. Finally, Table 6-8 is a "Summary of Contaminants Detected in Phase II Septic Tank and UST Liquid Samples." It lists acetone and methylene chloride.

Consistent with the conclusions of the data validator, the PRAP does not list methylene chloride, acetone, carbon disulfide or bis(2-ethylhexyl)phthalate as contaminants of concern at the Site. Based upon the results of the data validation, Bristol requests that all references and statements indicating that these compounds are currently present at the Site and surrounding areas be deleted from the final RI and FS. Bristol further requests that such statements not be included in the ROD.

<u>The RI Data Does Not Support The Conclusion That Bristol-Myers Squibb Is A Potentially Responsible Party</u>

Neither the RI data nor information referenced in the PRAP supports the assertion that Bristol is a PRP, as stated in

the PRAP. PRAP at 5. In fact, the RI demonstrates that the chemicals which Dale Hough allegedly obtained from Bristol and took to the Site (e.g. methylene chloride) are not present at the Site and, according to the PRAP, are not contaminants of concern.[1]

Because none of the contaminants of concern associated with the Site are of the type purportedly generated by Bristol, Bristol requests that the State not list it as a PRP in the ROD or in any other document.

If you have any questions regarding the issues addressed in these comments, please feel free to contact me.

Sincerely,

James C. Wright

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[1] As previously stated, the data validator concluded that the "low levels" of methylene chloride detected in various samples were due to laboratory contamination. It is unclear whether this conclusion applies to methylene chloride detected in the samples obtained from inside the septic tank. Even if this compound was previously present in the septic tank, the NYSDEC removed the contents of the septic tank for off-Site disposal. It then filled the tank with clean material. As such, the RI data confirms that methylene chloride currently is not present at the Site and the data also indicates that even if it previously was in the septic tank, it did not migrate from the septic tank.

APPENDIX B

T. Brown

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233

Thomas C. Jorling
Commissioner

Mr. Harry Carlson
Regional Director
Region 3
New York State Department of Transportation
333 E. Washington Street
Syracuse, New York 13202

Dear Mr. Carlson:

Re: Abandoned Solvent Center, Pompey (T), Onondaga County, New York, Site No. 7-34-035

The New York State Department of Environmental Conservation (NYSDEC) has completed a Remedial Investigation (RI) and Feasibility Study (FS) at the above-referenced site. This is to notify the New York State Department of Transportation (NYSDOT) that contaminated sediments have been identified in the roadside ditch for US Route 20 adjacent to and downgradient of this inactive hazardous waste disposal site. The NYSDEC is informing the NYSDOT of the presence of these contaminated sediments and requesting they not be disturbed by NYSDOT in the course of their maintenance activities (i.e. routine ditch cleaning) for this highway. These sediments will be removed and the ditch restored as part of the remedy for the site. The enclosed Figure 1 shows the location of the site at the intersection of US Route 20 and Ridge Road in the Town of Pompey. The ditch containing the sediments runs along the south side of US Route 20, flowing east. The area of concern extends from 300 feet west of Ridge Road to 1500 feet east of Ridge Road (see enclosed Figure 2).

Should it become necessary to remove sediments or otherwise disturb these ditches, please contact Mr. Robert W. Schick, P.E., Chief, Remedial Section A, Division of Hazardous Waste Remediation, 50 Wolf Road, Albany, New York 12233-7010 prior to initiating any work. In this way the NYSDEC can insure that an adequate Health and Safety plan to protect workers and the public is in place and that the material will be removed, managed and disposed in an environmentally acceptable manner, consistent with applicable rules and regulations, and requirements for the handling of hazardous waste.

The selected remedy for the site involves construction of a groundwater collection system and capping of the site, with the contaminated sediments being consolidated under the cap. The enclosed Proposed Remedial Action Plan (PRAP) presents details on the alternatives considered and the basis for selection of the preferred remedy. Of the alternatives considered, the preferred remedy was evaluated taking into account the proximity of the site to Route 20 and was selected as having the least difficult implementation and least severe short-term impacts to the highway. The NYSDEC recognizes that there remains significant engineering considerations to be addressed prior to construction which will need to

be evaluated during the design phase of the project. Potential difficulties requiring engineering controls are all related to the relatively deep excavations in close proximity to US Route 20. The NYSDEC expects to be in frequent contact with the NYSDOT during the design of the remedy to ensure all applicable requirements for work adjacent to the highway are addressed by the design.

If you have any questions regarding this project, please contact Robert W. Schick, P.E., of my staff, at 518/457-4343.

Sincerely,

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

cc: H. Hamel, DOH

Enclosure

BB/td
bcc: M. O'Toole (2)
C. Goddard
E. Belmore
R. Schick
B. Brown