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1996

EPA Superfund
Record of Decision:

LITTLE VALLEY
EPA ID: NY0001233634
OU 01
LITTLE VALLEY, NY
09/30/1996

RECORD OF DECISION

Little Valley Site

Town of Little Valley, Cattaraugus County, New York

United States Environmental Protection Agency Region II New York, New York September 1996

RECORD OF DECISION FACT SHEET EPA REGION II

Site name: Little Valley Site

Site location: Town of Little Valley, Cattaraugus County, New York

HRS score:

Listed on the NPL: 6/17/96

Record of Decision:

Date signed: September --, 1996 Selected remedy: Installation of air stripper treatment units at individual wells

Capital cost: $567,125

Construction Completion: 6 months

R & M cost: $52,000/yr

Present-worth cost: (7% discount rate for 10 years): $932,685

Lead:

Site is fund lead - EPA is the lead agency

Primary Contact: Christos Tsiamis, Remedial Project Manager, (212) 637-4257

Secondary Contact: Joel Singerman, Chief, Central New York Remediation Section, (212) 637-4258

Main PRPs:

Have not been identified.

Waste:

Waste Type: Volatile organics (Trichloroethylene)

Waste origin: Hazardous waste

Contaminated medium: Groundwater

DECLARATION FOR THE RECORD OF DECISION

SITE NAME AND LOCATION

Little Valley Site

Town of Little Valley, Cattaraugus County, New York

STATEMENT OF BASIS AND PURPOSE

This Record of Decision (ROD) documents the U.S. Environmental Protection Agency's selection of a remedial action for the provision of an alternate water supply to the residents affected by groundwater contamination at the Little Valley site, in accordance with the requirements of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. § 9601-9675, and to the extent practicable the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR Part 300. This decision document explains the factual and legal basis for selecting the remedy for the site. The attached index (Appendix III) identifies the items that comprise the Administrative Record upon which the selection of the remedial action is based.

The New York State Department of Environmental Conservation (NYSDEC) has been consulted on the planned remedial action in accordance with CERCLA § 121(f), 42 U.S.C. § 9621(f), and it concurs with the selected remedy (see Appendix IV).

ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from the site, if not addressed by implementing the response action selected in this ROD, may present an imminent and substantial endangerment to public health, welfare, or the environment.

DESCRIPTION OF THE SELECTED REMEDY

The selected remedy includes:

- Installation of air stripper treatment units on the affected private water supply wells until, through the identification and control of the source of contamination, drinking water Maximum Contaminant Levels (MCLs) are met. Air stripping units will be installed on approximately 65 private wells that are affected by groundwater contamination. The wells will be periodically monitored and the treatment systems will be maintained to ensure their effectiveness.

- An evaluation, within 5 years of the implementation of this interim remedy, to determine its efficacy. This evaluation will consider the data collected during the source identification investigating and any subsequent remediation, which will indicate whether the groundwater contamination persists (and a more permanent alternate water supply system is required), or whether the contamination is being mitigated by any source control measures that are implemented and by natural attenuation.

DECLARATION OF STATUTORY DETERMINATIONS

The selected remedy meets the requirements for remedial actions set forth in CERCLA § 121, 42 U.S.C. § 9621 in that it: (1) is protective of human health and the environment; (2) attains a level or standard of control of the hazardous substances, pollutants and contaminants, which at least attains the legally applicable or relevant and appropriate requirements (ARARs) under federal and state laws; (3) is cost-effective; (4) utilizes alternative treatment (or resource recovery) technologies to the maximum extent practicable; and (5) satisfies the statutory preference for remedies that employ treatment to reduce the toxicity, mobility, or volume of the hazardous substances, pollutants or contaminants at a site.

<IMG SRC 0296275>

RECORD OF DECISION

DECISION SUMMARY

Little Valley Site

Town of Little Valley, Cattaraugus County, New York

United States Environmental Protection Agency Region II New York, New York September 1996

SITE NAME, LOCATION AND DESCRIPTION

The area of overlying plume of contaminated groundwater, which stretches for a distance of approximately 7 to 8 miles between the Village of Little Valley and the northern portion of the City of Salamanca along Route 353, constitutes the Little Valley Superfund site. While the site is located in a rural, agriculture area, a number of active and inactive small industrial facilities are located within a mile of the site. (See figure 1.)

There are over one hundred residential properties situated along Route 353, the main transportation route between the Village of Little Valley and the City of Salamanca, in the immediate vicinity of the site. Private wells constitute the only source of drinking water for these properties. Approximately 3,000 people live within one mile of the contaminated plume.

SITE HISTORY AND ENFORCEMENT ACTIVITIES

In 1982, the Cattaraugus County Health Department (CCHD) and NYSDEC, while investigating trichloroethene (TCE) contamination around Luminite, a small manufacturing facility along Route 353, detected TCE in nearby private wells. In 1989, the CCHD and the New York State Department of Health (NYSDOH) documented that the TCE contamination plume extended approximately 7 to 8 miles from the Village of Little Valley to the northern edge of the City of Salamanca. Although several investigations were conducted in the area by NYSDEC and NYSDOH to locate the source(s) of the contamination, including investigations at a former drum storage area, a private disposal site next to the former drum storage area, an inactive municipal landfill which accepted industrial wastes, and several industrial facilities, to date, the source of the groundwater contamination has not been determined. The site was listed on the Superfund National Priorities List on June 17, 1996.

The Environmental Protection Agency (EPA) intends to send information request letters to identify potentially responsible parties (PRPs) and, if appropriate, notice letters to PRPs, offering them the opportunity to carry out, among other things, the source identification and control remedial investigation and feasibility study (a work plan is currently under development by EPA).

HIGHLIGHTS OF COMMUNITY PARTICIPATION

An alternate water supply focused feasibility study (FFS) report and a Proposed Plan were released to the public for comment on August 16, 1996. These documents were made available to the public in the administrative record file at the Docket Room in EPA Region II, 290 Broadway, New York, New York, and the information repository at the Town of Little Valley Municipal Building, 103 Rock City Street, Little Valley, New York. The notice of availability for the above-referenced documents was published in the Olean Times Herald on August 16, 1996. The public comment period which related to these documents was held from August 16, 1996 to September 14, 1996.

On September 11, 1996, EPA and NYSDEC conducted a public meeting at the Little Valley Fire Hall in Little Valley, New York. The purpose of this meeting was to inform local officials and interested citizens about the Superfund process, to review planned remedial activities at the site, to discuss the Proposed Plan and receive comments on the Proposed Plan, and to respond to questions from area residents and other interested parties.

Responses to the comments received at the public meeting and in writing during the public comment period are

included in the Responsiveness Summary (see Appendix V).

SCOPE AND ROLE OF OPERABLE UNIT ONE

This is the first action taken at this site by EPA. The objective of this first operable unit (OU1) is to prevent exposure of area residents to contaminated groundwater. A second operable unit (OU2) will be undertaken to identify and remediate the source(s) of the groundwater contamination, to reduce and minimize the downgradient migration of contaminants in the groundwater, and to minimize any potential future health and environmental impacts.

SUMMARY OF SITE CHARACTERISTICS

The presence of TCE has been documented in private drinking water wells at levels above the New York State drinking water standards for public water supplies since 1989. While the levels of the contaminant may not pose an immediate threat to public health, many of these wells have been contaminated since at least the early 1980s, presenting the residents with a potential long-term exposure risk.

Although the CCHD issued health advisories to the exposed residents in 1989, affected well owners were not provided with alternate water sources. About six well owners have independently installed granular activated carbon filter systems and several are purchasing bottled water.

Between 1989 and September 1995, the CCHD and the NYSDOH have sampled a number of private water supplies in the area. Of the 74 wells that were sampled, 55 had TCE contamination with levels ranging from 1 :g/l to 50 :g/l; 42 of those sampled results were equal to or greater than the NYSDOH drinking water standard of 5 :g/l. Additional sampling conducted during December 1995 by the CCHD indicated that 51 private wells had been concentrations of TCE exceeding the federal and state standards. A complete list of all sampling results to date is provided in Table 1. The sampling locations are shown in Figure 2.

Since 1990, the CCHD and NYSDOH have sampled 14 private wells on a regular basis (approximately three times per year) for the purpose of determining whether the TCE contamination in the affected area tends to increase or decrease with time. A preliminary review of the data indicates a decreasing pattern for certain wells and no significant trend for others particularly for those with the lower initial concentrations). This data is presented in Table 2.

The groundwater at a nearby industrial facility has TCE concentrations as high as 280 micrograms per liter (:g/l) and cis-1, 2-dichloroethene at concentrations exceeding federal and New York State drinking water standards.

SUMMARY OF SITE RISKS

On the basis of existing site information and analytical results, a preliminary public health risk assessment was performed for the site. The objective of this assessment was to characterize the health risks that would prevail in the absence of providing an alternate supply of safe drinking water to the affected residents. The methodology supporting this preliminary assessment is described below. TCE was chosen for evaluation, since it represents the principal contaminant detected in the residential wells. The private well sampling, in September and December 1995, indicates TCE concentrations ranging from 1 to 23 :g/l. TCE, which has been demonstrated to be mutagenic (capable of causing biological mutation) and carcinogenic (capable of causing cancer) in several strains of mice by the inhalation and oral routes, is classified by EPA as a probable human carcinogen.

Since the purpose of this actions is to address the need for provision of an alternative water supply to the affected residents, this preliminary public health risk assessment addressed only those pathways related to the existing groundwater contamination. These pathways include ingestion of groundwater and inhalation volatilized contaminants during showering.

EPA has promulgated health-protective MCLs, which are enforceable standards established pursuant to the Safe Drinking Water Act for various drinking water contaminants. For these contaminants, target reference risk

range associated with these standards is one in ten thousand (10-4) to one in one million (10-6) (i.e., a one-in-ten-thousand to a one-in-a-million excess cancer risk).

EPA and NYSDOH have established a drinking water standard of 5 :g/l for TCE in public water supplies. As discussed above, the private well sampling results indicate the continued presence of TCE in several wells at concentrations which exceed the drinking water standard of 5 :g/l.

Using a maximum TCE concentration of 25 :g/l in private wells, in conjunction with the carcinogenic potency factor developed for this contaminant, a worst-case scenario carcinogenic risk estimate was calculated for the residents affected by groundwater contamination in the area. Carcinogenic potency factors represent the upper 95% confidence limit of the probability of adverse response per unit intake of a chemical over a lifetime. Using these values, and assuming a daily water ingestion of two liters over a 30-year period, the resultant risk estimate associated with the ingestion of TCE contaminated groundwater was 3.2 x 10-5. In addition to groundwater ingestion, the potential exists for residents to be exposed to contaminants through bathing. Evidence suggests that this pathway of exposure presents significantly less health risk than ingestion. The risk associated with the bathing (shower) pathway of exposure was estimated to be 1.6 x 10-6. The resulting total risk due to exposure to the contaminated groundwater is 3.4 x 10-5, or approximately three in one hundred thousand.

As is illustrated above, the estimated carcinogenic risk associated with TCE contaminated water in private wells at the site is within the target reference risk range of 10-4 to 10-6 referred to previously.

In summary, releases of hazardous substances from currently unidentified sources have affected private wells. Although the carcinogenic risk associated with existence of TCE in private wells at the site is within EPA's target reference risk range, the concentration of TCE in several wells exceeds the concentration of 5 :g/l deemed to be protective of human health, and if not addressed by the active measures considered, it will continue to present a threat to public health.

Uncertainties

The procedures and estimates used to assess risks in this evaluation, as in all such assessments, are subject to a wide variety of uncertainties. In general, the main sources of uncertainty include:

- environmental chemistry sampling and analysis
- environmental parameter measurement
- fate and transport modeling
- exposure parameter estimation
- toxicology data

Uncertainty in environmental sampling arises in part from the potentially uneven distribution of chemicals in the media sampled. Consequently, there is significant uncertainty as to the actual levels present. Environment chemistry analysis error can stem from several sources including the errors inherent in the analytical methods and characteristics of the matrix being sampled.

Uncertainties in the exposure assessment are related to estimates of how often an individual would actually come in contact with the chemicals of concern, the period of time over which such exposure would occur, and in the models used to estimate the concentrations of the chemicals of concern at the point of exposure.

Uncertainties in toxicological data occur in extrapolating both from animals to humans and from high to low doses of exposure, as well as from the difficulties in assessing the toxicity of a mixture of chemicals. These uncertainties are addressed by making conservative assumptions concerning risk and exposure parameters throughout the assessment. As a result, the baseline risk assessment provides upper bound estimates of the risks to populations near the site, and it is highly unlikely to underestimate those actual risks related to the site.

More specific information concerning public health risks, including a quantitative evaluation of the degree of risk associated with various exposure pathways, is presented in the FFS report.

REMEDIAL ACTION OBJECTIVES

Remedial action objectives are specific goals to protect human health and the environment. These objectives are based on available information and standards such as applicable or relevant and appropriate requirements (ARARs) and risk-based levels established in the risk assessment.

The remedial objective that has been established for this operable unit is to prevent exposure of the public to contaminated groundwater.

DESCRIPTION OF REMEDIAL ACTION ALTERNATIVES

CERLCA §121(b)(1), 42 U.S.C. §9621(b)(1), mandates that a remedial action must be protective of human health and the environment, cost- effective, and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. Section 121(b)(1) also establishes a preference for remedial actions which employ, as a principal element, treatment which permanently and significantly reduces the volume, toxicity, or mobility of the hazardous substances, pollutants and contaminants at a site. CERCLA §121(d), 42 U.S.C. §9621(d), further specifies that a remedial action must attain a level or standard of control of the hazardous substances, pollutants, and contaminants, which at least attains ARARs under federal and state laws, unless a waiver can be justified pursuant to CERCLA §121(d)(4), 42. U.S.C. §9621(d)(4).

This ROD evaluates, in detail, five remedial alternatives for addressing the threat to the private water supplies located in the vicinity of the site until a source control measures can be implemented to remediate the contaminated groundwater to MCLs, and/or until a permanent alternate water supply can be provided (if necessary). Cost and construction time, among other criteria, were evaluated for each remedial alternative. The time to implement a remedial alternative reflects the estimated time required to construct or implement the remedy including the time required to design the remedy and to procure contracts for its design and construction.

The remedial alternatives are:

Alternative 1: No Action

Capital Cost: $0 Operation and Maintenance Cost: $104,000/yr

Present-Worth Cost: $731,000

Construction Time: 0

The Superfund program requires that the "no-action" alternative be considered as a baseline for comparison with the other alternatives. The no-action remedial alternative does not include any physical remedial measures to protect the public from the contaminated groundwater.

Under this alternative, the affected private wells would be periodically monitored.

This alternative would also include the development and implementation of a public awareness and education program for the residents in the area surrounding the site. This program would include the preparation and distribution of informational press releases and circulars and convening public meetings. These activities would serve to enhance the public's knowledge of the existing site conditions. This alternative would also require the involvement of the local government, various health departments, and environmental agencies.

Alternative 2A: Connection to the Public Water Supply of the City of Salamanca

Capital Cost: $4,399,000

Operation and Maintenance Cost: $138,000/yr

Present-Worth Cost (30 yrs): $6,111,500

Construction Time: 3 years

This alternative consists of constructing a waterline to the City of Salamanca and purchasing water from the Salamanca Board of Public Utilities, which supplies water to the City of Salamanca. This proposed water supply system would connect to the existing waterline near the intersection of Forest Avenue and Center Street at the City of Salamanca's northern corporate limit. A 8-inch diameter waterline would be installed along New York State Highway 353 (with branches to New York State Highway 242 and Baker Road) as the main transmission pipe for a total length of approximately 8 miles. Construction of the water main would entail at least three creek crossings (by submerged installation) and one railway bed crossing.

A booster pumping station would be required to provide adequate flow and pressure for domestic use conditions in the northern portion of the site. In addition, a small storage reservoir may be required in the Whig Street/Elkdale area in order to satisfy peak flow conditions.

Approximately 20,000 feet of 2-inch diameter branch and service piping would be installed along the streets and private properties along New York State Highways 353 and 242 to supply each affected residence. At this time, it is estimated that 65 residences would be connected to the water distribution system.

Alternative 2B: Connection to the Public Water Supply of the Village of Little Valley

Capital Cost: $4,269,000

Operation and Maintenance Cost: $133,000/yr

Present-Worth Cost (30 yrs): $5,919,000

Construction Time: 3 years

This alternative consists of constructing a waterline to the Village of Little Valley and purchasing water from the Public Water Supply of the Village of Little Valley, which supplies water to residents approximately one- quarter mile south of the Village's corporate limits along New York State Highway 353. The construction outline for the proposed water supply system for this alternative would be similar to the Alternative 2, above. However, due to the high elevation of the Village's water storage reservoir, a booster pump station would not be required for servicing the affected area. The Village of Little Valley, though, may require redevelopment of its auxiliary well or development of a new well in order to meet the demands of an extended service area.

Alternative 3A: Installation of Activated Carbon Treatment Units at Individual Wells

Capital Cost: $729,625

Operation and Maintenance Cost: $117,000/yr

Present-Worth Cost (10 yrs): $1,552,135

Construction Time: 6 months

Under this alternative, activated carbon units would be installed on an estimated 65 private wells affected by groundwater contamination. (Ultraviolet light units would also be installed to disinfect the water.) To ensure the effectiveness of the treatment systems, the treated water would need to be periodically monitored and the treatment systems would need to be properly maintained.

Granular activated carbon (GAC) adsorption can be used to remove organic compounds from groundwater. GAC has an exceptionally high surface area to volume ration. This method causes organic compounds to preferentially adsorb to the surface of the GAC and thereby be removed from the water. In this process, contaminated

groundwater is passed through canisters or drums containing GAC, which adsorb the organics until the breakthrough capacity (the point at which no more contaminants can be adsorbed by the carbon) of the unit is reached.

Various types of GAC are available to remove various groundwater contaminants. The level of affinity of the specific compounds of concern to the GAC determines which type of GAC system is best suited for use in a particular application. Periodically, the GAC media will become saturated with contaminants and will require replacement. Used GAC has to be disposed of off-site at a hazardous waste treatment facility. GAC adsorption systems must be protected from freezing with an enclosure or a heat source. Other than periodic media replacement, GAC systems are relatively maintenance free, as long as proper pretreatment is provided. Full-time operator attention is normally not required. A GAC adsorption system may be placed in operation with commonly available construction techniques and equipment.

Alternative 3B: Installation of Air Stripper Treatment Units at Individual Wells

Capital Cost:	$567,125
Operation and Maintenance Cost:	$52,000/yr
Present-Worth Cost (10 yrs):	$932,685
Construction Time:	6 months

Under this alternative, air stripping units would be installed on an estimated 65 private wells affected by groundwater contamination. (Ultraviolet light units would also be installed to disinfect the water.) To ensure the effectiveness of the treatment systems, the treated water would need to be periodically monitored and the treatment systems would need to be properly maintained.

Air stripping is a process through which volatile contaminants may be transferred from the aqueous phase to an air stream. Air stripping has been effectively used to remove over 99 percent of volatile organic compounds from groundwater at numerous hazardous waste and spill sites. The process, in general, involves blowing large quantities of air through a stream of extracted groundwater to volatilize the contaminants. Nozzles, dispersive media, and turbulence are commonly employed to maximize the surface area of the water, thus promoting themaximum mass transfer of contaminants to the air. A number of types of air strippers are commercially available, including:

- Shallow Tray Strippers
- Bubble Diffusion Strippers

All can remove volatile organic compounds such as TCE. Each type of air stripper transfers contaminants from water to the vapor phase. The resultant discharges are subject to the State and Federal guidance criteria for air emissions.

Air strippers are often protected from physical damage and the accumulation of oxidized metals by pre-filtering the water stream. The blowers, compressors, or pumps used in conjunction with air strippers require power to operate. The stripper must be protected from freezing with an enclosure or heat source. Shallow tray strippers and bubble diffusers are modular and thus may be readily modified to attain the requisite level of treatment. Maintenance requirements for air strippers include periodic cleaning of dispersive media and the removal of scale to preclude clogging and fouling. Full-time operator attention is not required. The units may be assembled and placed in operation with commonly available construction techniques and equipment.

SUMMARY OF COMPARATIVE ANALYSIS OF ALTERNATIVES

In selecting a remedy, EPA considered the factors set out in CERCLA §121, 42 U.S.C. §9621, by conducting a detailed analysis of the viable remedial alternatives pursuant to the NCP, 40 CFR §300.430(e)(9) and OSWER

Directive 9355.3-01. The detailed analysis consisted of an assessment of the individual alternatives against each of nine evaluation criteria and a comparative analysis focusing upon the relative performance of each alternative against those criteria.

The following "threshold" criteria are most important and must be satisfied by any alternative in order to be eligible for selection:

1. Overall protection of human health and the environment addresses whether or not a remedy provides adequate protection and describes how risks posed through each exposure pathway (based on a reasonable maximum exposure scenario) are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.

2. Compliance with ARARs addresses whether or not a remedy would meet all of the applicable (legally enforceable), or relevant and appropriate (pertaining to situations sufficiently similar to those encountered at a Superfund site such that their use is well suited to the site) requirements of federal and state environmental statutes and requirements or provide grounds for invoking a waiver.

The following "primary balancing" criteria are used to make comparisons and to identify the major trade-offs between alternatives:

3. Long-term effectiveness and permanence refers to the ability of a remedy to maintain reliable protection of human health and the environment over time, once cleanup goals have been met. It also addresses the magnitude and effectiveness of the measures that may be required to manage the risk posed by treatment residuals and/or untreated wastes.

4. Reduction of toxicity, mobility, or volume through treatment refers to a remedial technology's expected ability to reduce the toxicity, mobility, or volume of hazardous substances, pollutants or contaminants at the site.

5. Short-term effectiveness addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation periods until cleanup goals are achieved.

6. Implementability refers to the technical and administrative feasibility of a remedy, including the availability of materials and services needed.

7. Cost includes estimated capital and operation and maintenance costs, and present-worth costs.

The following "modifying" criteria are considered fully after the formal public comment period on the Proposed Plan is complete:

8. State acceptance indicates whether, based on its review of the RI/FS reports and the Proposed Plan, the State supports, opposes, and/or has identified any reservations with the selected alternative.

9. Community acceptance refers to the public's general responses to the alternatives described in the Proposed Plan and the RI/FS reports. Factors of community acceptance to be discussed include support, reservation, and opposition by the community.

A comparative analysis of the remedial alternatives based upon the evaluation criteria noted above follows.

Overall Protection of Human Health and the Environment

Alternative 1, no action, would be the least protective of human health, because private well users would continue to be exposed to contaminated groundwater. Consequently, this alternative would not address the

remedial action objective established for this operable unit.

Alternatives 2A and 2B, which entail the installation of water distribution systems connected to nearby existing municipal water supplies, would be protective of human health, since the use of an alternative drinking water source would prevent the use of contaminated groundwater, thereby eliminating the existing exposure pathways of ingestion, inhalation and direct contact. The public health protection provided by this alternative is, therefore, high and long-term.

Alternatives 3A and 3B, installation of individual treatment units, would protect the affected residents from exposure to contaminants in the groundwater by directly treating the contaminated water from their wells.

Alternatives 2A, 2B, 3A, and 3B would address the remedial action objective for this operable unit.

Compliance with ARARs

Since private well users would still be exposed to contaminated groundwater, Alternative 1, no action, would not meet MCLs and would, therefore, not comply with chemical-specific ARARs. The water provided by a public water supply under Alternatives 2A and 2B would comply with MCLs, and the treatment provided by the individual treatment units under Alternatives 3A and 3B would be effective in reducing groundwater contaminant concentrations below MCLs. Therefore, Alternatives 2A, 2B, 3A and 3B would comply with chemical-specific ARARs.

It is expected that the trench excavation and stream crossings associated with Alternatives 2A and 2B would comply with location-specific ARARs related to fish and wildlife, historic preservation, floodplains, and wetlands. Location-specific ARARs do not apply to Alternatives 1, 3A, and 3B.

It is expected that the trench excavation associated with Alternatives 2A and 2B would comply with action-specific ARARs related to fugitive dust emissions. Action-specific ARARs do not apply to Alternatives 1, 3A, and 3B.

Long-Term Effectiveness and Permanence

Since Alternative 1, no action, would provide no treatment of the contaminated groundwater, it would be ineffectual in providing any protection to the public. Alternatives 2A and 2B, connection to an existing public water supply system, would be required to comply with established drinking water criteria, thereby providing reliable, long-term protection to the users of the affected individual water supply wells. Under Alternatives 2A and 2B, the new water distribution system would become part of the existing public water supply districts. With proper operation and maintenance (O&M), the new system would be effective and permanent. However, additional major work might be required in the future for both alternatives in order to ensure long-term effectiveness and permanence. Specifically, since low levels of TCE have been detected in the past in the water supply system of the City of Salamanca, monitoring and future treatment of the water prior to distribution might be required under Alternative 2A. Finally, under Alternative 2B, the Village of Little Valley water supply system may require redevelopment of its auxiliary well or development of a new well in order to meet the demands of an extended service area.

As long as the individual treatment units are properly maintained, Alternative 3A and 3B would effectively reduce the potential risks associated with the contaminants in the groundwater by treating it to MCLs. The O&M of the treatment units consists primarily of periodic sampling to monitor the working effectiveness of the units and replacement of the activated carbon filters once they have reached saturation for Alternative 3A, and cleaning of the air stripping units from potential scaling and bio-fouling, for Alternatives 3B. It is estimated that at the present levels of contamination in the affected wells, under Alternative 3A, monitoring of the carbon treatment units would be required twice a year, while replacement of the carbon filters would be required once every three years. For Alternatives 3B, it is estimated that monitoring and cleaning, if necessary, of the air stripper units would be required once a year.

Reduction in Toxicity, Mobility, or Volume Through Treatment

Alternative 1 would not include any active treatment or contaminated groundwater. Therefore, it would not effect any reduction in the toxicity, mobility, or volume of the groundwater contamination.

Alternatives 2A and 2B, connection to a public water supply, would reduce the private well users' exposure to contaminants in the groundwater. It would not, however, reduce the toxicity, mobility, or volume of the contaminants present in the groundwater, since the alternative does not entail any treatment of the contaminated groundwater.

Alternatives 3A and 3B, installation of individual treatment units, would reduce the toxicity, mobility, and volume of contaminants in the groundwater by extraction from the individual wells and treatment. Under Alternative 3A, the chemical residuals that would be adsorbed on the carbon would have to be disposed of at a hazardous waste treatment facility.

Short-Term Effectiveness

Alternative 1, no action, and Alternatives 3A and 3B, installation of individual treatment units, might present some risk to on-site workers through dermal contact and inhalation related to exposure to contaminated groundwater through groundwater sampling activities conducted during the installation of water treatment systems, and during the replacement of the carbon filters and the cleaning of the air stripping units. These risks, however, could be minimized by utilizing proper protective equipment. While Alternatives 2A and 2B might include activities that could result in potential exposure of residents and workers to contaminated soils or groundwater during the installation of the waterline system, mitigative measures to reduce the probability of such exposure would be implemented. Finally, construction of the waterline support trench under the creek crossings might involve complex and potentially dangerous working conditions.

Construction activities associated with the installation of the water distribution pipeline in Alternatives 2A and 2B might result in moderate short-term environmental impacts. Those impacts would include the potential for contaminated surface water runoff during the trench excavation, particulate (dust) dispersion, and high noise levels from operating heavy construction equipment. Portions of the waterline installation might encounter shallow groundwater and require dewatering and treatment of the contaminated groundwater collected in the trench. The potential of shallow groundwater contamination within the construction area can not be determined at this time. In addition, the construction of submerged trenches during at least three creek crossings would require the short-term diversion of the creek flow at the crossing locations. This diversion would temporarily alter the existing flow patterns. In the long term, after construction is complete, the installation of submerged trenches in the creek would not change the flow patterns, raise the water level, or increase the possibility of flooding, and would not have any adverse effects on aquatic flora or fauna.

Since only long-term monitoring would be performed under Alternative 1, no action, there would be no implementation time. Alternatives 2A and 2B, connection to a public water supply, would require approximately 3 years to implement. It is estimated that it would take approximately 6 months to install treatment units on the estimated 65 contaminated private water supplies under Alternatives 3A and 3B.

Implementability

Alternative 1, no action, would be the easiest alternative to implement, in that it would only require the continuation of the on-going monitoring of the affected wells. Alternatives 2A and 2B, connection to a public water supply, would require the excavation of at least 3-foot wide and 5-foot deep trench for the installation of approximately 8 miles of transmission and 20,000 feet of branch piping along New York State Highways 353 and 242. This operation may be moderately difficult to implement considering several creek crossings. Also, given the historical background of the area, parts of the construction could be delayed or diverted as a result of possible archeological concerns. However, these concerns would be minimized by the fact that the water lines would likely be installed within the highway right-of-way, which constitutes an area previously distributed. Finally, these alternatives would require the establishment of two new water districts, one in the Town of Little Valley and one in the Town of Salamanca, would require numerous permits, and might require several easements and rights-of-way. Services

and materials required for the implementation of Alternatives 2A and 2B are readily available.

The carbon adsorption and air stripping technologies that might be used for treatment of individual private wells under Alternatives 3A and 3B are proven and reliable technologies to achieve the specified performance goals. All equipment is readily available and easily installed.

Cost

The present-worth costs are calculated using a discount rate of 7 percent. The estimated capital, annual O&M, and present-worth costs for each of the alternatives are summarized below.

Alternative		Capital Cost	Operation and Maintenance Cost	Present-Worth Cost
1	No Action	$0	$104,000	$731,120
2A	Connection to Salamanca's Water Supply	$4,399,000	$138,000	$6,111,500
2B	Connection to Little Valley's Water Supply	$4,269,000	$133,000	$5,919,000
3A	Activated Carbon	$729,625	$117,000	$1,552,135
3B	Air Stripper	$567,125	$52,000	$932,685

For purposes of this analysis, calculations were based upon the assumption that the public water system will have a 30-year useful life before replacement is required. Further, the water distribution systems are expected to operate throughout their entire useful lives once installed, regardless of the status of the groundwater contamination. For the foregoing reasons, the present-worth cost for these alternatives is based on a 30-year time interval. The individual treatment units, though, would be intended as an interim measure, pending further monitoring and evaluation of the trends in the groundwater contamination, the identification and treatment of the source(s) of the groundwater contamination and, if necessary, the provision of a permanent water supply. As a result, the present-worth costs for the treatment alternatives (Alternatives 3A and 3B) have been based on a 10-year time interval.

As is indicated from the cost estimates, there is a significant cost increase between the costs associated with the installation and maintenance of the individual treatment units (Alternatives 3A and 3B) and the cost of connecting to the existing municipal water supply systems in the area (Alternatives 2A and 2B). Costs for the waterline alternatives do not include the users' annual costs related to purchasing the water.

State Acceptance

NYSDEC concurs with the selected alternate water supply interim remedy.

Community Acceptance

Comments received during the public comment period indicate that the public generally supports the selected remedy. Comments received during the public comment period are summarized and addressed in the Responsiveness Summary, which is attached as Appendix V to this document.

SELECTED REMEDY

Based upon consideration of the requirements of CERCLA, the detailed analysis of the alternatives, and public comments, EPA and NYSDEC have determined that Alternative 3B is the appropriate remedy for the site because it best satisfies the requirements of CERCLA §121, 42 U.S.C. §9621, and the NCP's nine evaluation

criteria for remedial alternatives, 40 CFR §300.430(e)(9).

Alternative 3B includes the installation of air stripper treatment units on the affected private water supply wells until, through the identification and control of the source of contamination, drinking water MCLs are met. This interim remedy will be re-evaluated within 5 years of its implementation to determine its efficacy. This evaluation will consider the data collected during the source identification investigation and any subsequent remediation, which will indicate whether the groundwater contamination persists (and a more permanent alternate water supply system is required), or whether it is being mitigated by any source control measures that are implemented and by natural attenuation.

While the construction of a waterline would provide permanent protection to the public from exposure to contaminated groundwater, at this time, an interim protective measure is deemed more appropriate that the construction of a permanent water line based upon the following: 1) the contaminant levels in the private wells are not significantly above MCLs; 2) there appears to be a downward trend of contaminants in certain private wells; and 3) EPA believes that by identifying and remediating thesource(s) of the groundwater contamination within a relatively short period of time (10 years or less), the levels of contaminants in the private wells would meet MCLs.

The selected water supply treatment alternative is believed to be able to achieve the ARARs more quickly and at less cost than the other alternatives. Also, when compared to Alternative 3A (carbon filters), the selected alternative presents the additional advantage of reduced requirements for maintenance and handling hazardous residuals (spent carbon). Therefore, the selected alternative will provide the best balance of trade-offs among alternatives with respect to the evaluating criteria. EPA and NYSDEC believe that the selected alternative will be protective of human health, comply with ARARs, be cost-effective, and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. The selected alternative also will meet the statutory preference for the use of treatment as a principal element.

STATUTORY DETERMINATIONS

As was previously noted, CERCLA §121(b)(1), 42 U.S.C. §9621(b)(1), mandates that a remedial action must be protective of human health and the environment, cost-effective, and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. Section 121(b)(1) also establishes a preference for remedial actions which employ treatment to permanently and significantly reduce the volume, toxicity, or mobility of the hazardous substances, pollutants, or contaminants at a site. CERCLA §121(d), 42 U.S.C. §9621(d), further specifies that a remedial action must attain a degree of cleanup that satisfies ARARs under federal and state laws, unless a waiver can be justified pursuant to CERCLA §121(d)(4), 42 U.S.C. §9621(d)(4).

For the reasons discussed below, EPA has determined that the selected remedy meets the requirements of CERCLA §121, 42 U.S.C. §9621.

Protection of Human Health and the Environment

The selected remedy, Alternative 3B, would be equally protective of human health and the environment as the other treatment alternative and connection to a public water supply alternatives because it would protect the affected residents from exposure to contaminants in the groundwater by directly treating the contaminated water from the wells.

Compliance with ARARs

The selected remedy would be effective in achieving ARARs, since it ensures that groundwater contaminant concentrations would be reduced to levels below MCLs.

A summary of the chemical-specific ARARs is presented below. Action-, and location-specific ARARs do not apply to the selected remedy.

Chemical-specific ARARs:

- Safe Drinking Water Act Maximum Contaminant Levels and Maximum Contaminant Level Goals (MCLs and MCLGs, respectively, 40 CFR Part 141)
- 40 CFR 50, Air Quality Standards
- 6 NYCRR Part 257, Air Quality Standards
- 6 NYCRR Parts 700-705 Groundwater and Surface Water Quality Regulations
- 10 NYCRR Part 5 State Sanitary Code

Cost-Effectiveness

The selected remedy provides effectiveness proportional to its cost. The total capital and present-worth costs for the selected remedy are estimated to be $567,125 and $932,685, respectively.

Utilization of Permanent Solutions and Alternate Treatment Technologies to the Maximum Extent Practicable

The selected interim remedy is intended to provide immediate protection to the residents affected by groundwater contamination at the site. A permanent solution to the groundwater contamination will be sought following the source identification and control RI/FS. This interim remedy, though, utilizes alternative treatment technologies to the maximum extent practicable. The extraction and subsequent treatment of groundwater will permanently reduce the toxicity, mobility, and volume of contaminants in the groundwater.

Preference for Treatment as a Principal Element

The statutory preference for remedies that employ treatment as a principal element is satisfied by treating the contaminated groundwater from the private wells in the vicinity of the site.

DOCUMENTATION OF SIGNIFICANT CHANGES

There are no significant changes from the selected alternative presented in the Proposed Plan.

APPENDIX I

FIGURES

Little Valley Site Area TCE Occurrence Area

<IMG SRC 0296275A>
<IMG SRC 0296275B>

APPENDIX II

TABLES

Trichloroethylene Sampling Results Residential Well Data

TABLE 1

TRICHLOROETHENE SAMPLING RESULTS LITTLE VALLEY CREEK
AREA TOWNS OF LITTLE VALLEY &
SALAMANCA 1/27/89 TO 12/13/95

SAMPLE ID	NAME	SAMPLE DATE	RESULT (MCG/L)	COLLECTED BY	ANALYZED BY	COMMENTS
1.01		01/27/89	12	NYSDEC	NUS	1.02
		06/15/89	<2	PEC	PEC	POST-FILTER 1.03
	02/22/90	9	NYSDEC	NYSDOH	1.04	
	07/01/91	1.01	AES	AES	1.05	
	12/14/93	1.6	LUMINITE	AES	1.06	
	06/16/94	ND	LUMINITE	FREE-COL	PRE-FILTER 1.07	
	06/16/94	1	LUMINITE	FREE-COL	POST-FILTER 2.00	
	02/22/90	ND	NYSDEC	NYSDOH	2.01	
	01/27/89	12	NYSDEC	NUS	2.02	
	03/24/89	9	NYSDOT	LOZIER	2.03	
	02/22/90	10	NYSDEC	NYSDOH	2.04	
	09/10/91	22	NYSDOT	ALFRED	2.05	
	05/13/94	1.4	NYSDOT	MICROBAC	PRE-FILTER 2.06	
	05/13/94	2.6	NYSDOT	MICROBAC	POST-FILTER 3.01	
	08/22/89	4	CCHD	NYSDOH	3.02	
	12/11/95	9.6	CCHD	NYSDOH	4.01	
	03/22/89	5	CCHD	NYSDOH	5.01	
	02/22/90	5	CCHD	NYSDOH	5.02	
	09/23/91	7	CCHD	NYSDOH	5.03	
	01/06/92	11	CCHD	NYSDOH	5.04	
	06/23/92	14	CCHD	NYSDOH	5.05	
	09/28/92	10	CCHD	NYSDOH	5.06	
	12/18/92	15	CCHD	NYSDOH	5.07	
	03/09/93	10	CCHD	NYSDOH	5.08	
	07/20/93	13	CCHD	NYSDOH	5.09	
	09/21/93	12	CCHD	NYSDOH	5.10	
	12/28/93	10	CCHD	NYSDOH	5.11	
	07/14/94	8.8	CCHD	NYSDOH	5.12	
	12/20/94	9.9	CCHD	NYSDOH	5.13	
	06/19/95	8.9	CCHD	NYSDOH	5.14	
	12/11/95	8.8	CCHD	NYSDOH	6.01	
	02/22/90	4	CCHD	NYSDOH	7.01	
	02/22/90	8	CCHD	NYSDOH	8.01	
	02/22/90	11	CCHD	NYSDOH	8.02	
	05/09/90	9	CCHD	NYSDOH	8.03	
	09/23/91	3	CCHD	NYSDOH	8.04	
	01/06/92	7	CCHD	NYSDOH	8.05	
	06/23/92	11	CCHD	NYSDOH	8.06	
	09/28/92	6	CCHD	NYSDOH	8.07	

12/12/92 11 CCHD NYSDOH 8.08
03/09/93 7 CCHD NYSDOH 8.09
07/20/93 9.4 CCHD NYSDOH 8.10
09/21/93 7 CCHD NYSDOH 8.11
12/28/93 7.6 CCHD NYSDOH 8.12
06/14/94 5.4 CCHD NYSDOH 8.13
06/19/95 4.1 CCHD NYSDOH 8.14
12/11/95 6.9 CCHD NYSDOH PRE-FILTER

8.15 12/11/95 ND CCHD NYSDOH
POST-FILTER 9.01 03/30/90 11.5 JUSKO AES 9.02
05/09/90 12 CCHD NYSDOH 9.03 09/23/91 8
CCHD NYSDOH 9.04 01/06/92 9 CCHD NYSDOH
9.05 06/23/92 16 CCHD NYSDOH 9.06
09/28/92 8 CCHD NYSDOH 9.07 12/18/92 16
CCHD NYSDOH 9.08 03/09/93 13 CCHD NYSDOH
9.09 07/20/93 14 CCHD NYSDOH 9.10
09/21/93 11 CCHD NYSDOH 9.11 12/28/93 10
CCHD NYSDOH 9.12 06/14/94 16 CCHD NYSDOH
9.13 12/20/94 11 CCHD NYSDOH 9.14
06/19/95 7.2 CCHD NYSDOH 9.15 12/11/95 9
CCHD NYSDOH 10.01 05/08/90 3 CCHD NYSDOH
11.01 05/08/90 9 CCHD NYSDOH 12.01
05/09/90 14 CCHD NYSDOH 13.01 05/09/90 8
CCHD NYSDOH 14.01 05/09/90 ND CCHD NYSDOH
14.02 12/11/95 7.7 CCHD NYSDOH 15.01
05/09/90 11 CCHD NYSDOH 16.01 05/09/90 ND
CCHD NYSDOH 17.01 05/09/90 12 CCHD NYSDOH
18.01 07/09/90 20 CCHD NYSDOH 18.02
09/23/91 7 CCHD NYSDOH 18.03 01/06/92 19
CCHD NYSDOH 18.04 06/23/92 ND CCHD NYSDOH
FILTERED SAMPLE, METH. CHLOR.= 2 18.05 09/28/92
13 CCHD NYSDOH 18.06 12/18/92 20
CCHD NYSDOH 18.07 03/09/93 13 CCHD
NYSDOH 18.08 07/20/93 16 CCHD NYSDOH
18.09 09/21/93 12 CCHD NYSDOH 18.10
12/28/93 13 CCHD NYSDOH CIS-1,2-DCE = 0.5 18.11
06/13/94 10 CCHD NYSDOH 18.12 12/19/94 11
CCHD NYSDOH 18.13 06/19/95 7.6 CCHD NYSDOH
18.14 09/05/95 7.1 CCHD NYSDOH PRE-FILTER
18.15 09/05/95 8 CCHD NYSDOH POST-FILTER 18.16
12/11/95 10 CCHD NYSDOH PRE-FILTER 18.17
12/11/95 ND CCHD NYSDOH POST-FILTER 19.01 07/09/90
9 CCHD NYSDOH 19.02 09/23/91 12 CCHD NYSDOH 19.03

01/06/92 13 CCHD NYSDOH 19.04 06/23/92 10
CCHD NYSDOH 19.05 09/28/92 5 CCHD NYSDOH 19.06 12/18/92
7 CCHD NYSDOH 19.07 03/09/93 5 CCHD NYSDOH 19.08
07/20/93 7.6 CCHD NYSDOH 19.09 09/21/93 8
CCHD NYSDOH 19.10 12/28/93 6.2 CCHD NYSDOH 19.11
06/13/94 5.2 CCHD NYSDOH 19.12 12/20/94 4.3
CCHD NYSDOH 19.13 06/19/95 4.5 CCHD NYSDOH 19.14
12/11/95 5.1 CCHD NYSDOH 20.01 07/09/90 ND
CCHD NYSDOH 21.01 07/09/90 45 CCHD NYSDOH
21.02 09/23/91 31 CCHD NYSDOH 21.03
01/06/92 41 CCHD NYSDOH 21.04
06/23/92 50 CCHD NYSDOH 21.05
09/28/92 45 CCHD NYSDOH CIS-1,2-DCE = 0.5 21.06
12/17/92 8 CCHD NYSDOH 21.07 03/09/93 30
CCHD NYSDOH TCA = 0.5, CIS-1,2-DCE = 0.5, PCE = 0.5 21.08
07/20/93 32 CCHD NYSDOH CIS-1,2-DCE = 3.5 21.09
09/21/93 22 CCHD NYSDOH 22.01 07/09/90 ND
CCHD NYSDOH 23.01 07/09/90 ND CCHD NYSDOH
23.02 12/11/95 0.5 CCHD NYSDOH PRESENT
LESS THAN 24.01 07/09/90 ND CCHD NYSDOH 25.01 07/09/90
2 CCHD NYSDOH 26.01 07/16/90 1 CCHD NYSDOH 26.02
09/23/91 1 CCHD NYSDOH 26.03 01/06/92 3
CCHD NYSDOH 26.04 06/23/92 2 CCHD NYSDOH 26.05 09/28/92
2 CCHD NYSDOH 26.06 12/18/92 SL CCHD NYSDOH
SAMPLE LOST IN TRANSIT 26.07 03/09/93
2 CCHD NYSDOH 26.08 07/20/93 2.3 CCHD
NYSDOH 26.09 09/21/93 2 CCHD NYSDOH
26.10 12/28/93 2 CCHD NYSDOH 26.11
06/14/94 1.3 CCHD NYSDOH 26.12 12/20/94
2.1 CCHD NYSDOH 26.13 06/19/95 1.5 CCHD
NYSDOH 27.01 07/16/90 25 CCHD NYSDOH
27.02 09/23/91 13 CCHD NYSDOH 27.03
01/06/92 21 CCHD NYSDOH 27.04 06/23/92
24 CCHD NYSDOH 27.05 09/28/92 16 CCHD
NYSDOH 27.06 12/18/92 24 CCHD NYSDOH
27.07 03/09/93 16 CCHD NYSDOH 27.08
07/20/93 20 CCHD NYSDOH 27.09 09/21/93
18 CCHD NYSDOH 27.10 12/28/93 16 CCHD
NYSDOH 27.11 06/14/94 10 CCHD NYSDOH
27.12 12/20/94 15 CCHD NYSDOH 27.13
06/19/95 12 CCHD NYSDOH 27.14 12/11/95
13 CCHD NYSDOH 28.01 07/16/90 18 CCHD
NYSDOH 29.01 07/16/90 18 CCHD NYSDOH
29.02 09/05/95 9.7 CCHD NYSDOH 30.01

07/16/90 8 CCHD NYSDOH 31.01 07/16/90
ND CCHD NYSDOH 32.01 07/16/90 5 CCHD
NYSDOH 32.02 09/23/91 3 CCHD NYSDOH
32.03 01/06/92 6 CCHD NYSDOH 32.04
06/23/92 8 CCHD NYSDOH 32.05 09/28/92
3 CCHD NYSDOH 32.06 12/18/92 SL CCHD
NYSDOH SAMPLE LOST IN TRANSIT 32.07 03/09/93 5 CCHD
NYSDOH 32.08 07/20/93 7 CCHD NYSDOH 32.09 09/21/93
7 CCHD NYSDOH 32.10 12/28/93 5.6 CCHD NYSDOH
32.11 06/14/94 5.7 CCHD NYSDOH 32.12 12/20/94
5.8 CCHD NYSDOH 32.13 06/19/95 4.4 CCHD
NYSDOH
32.14 12/11/95 5 CCHD NYSDOH 33.01
07/16/90 8 CCHD NYSDOH 33.02
09/23/91 4 CCHD NYSDOH 33.03
01/06/92 7 CCHD NYSDOH 33.04
06/23/92 11 CCHD NYSDOH 33.05
09/28/92 6 CCHD NYSDOH 33.06
12/18/92 SL CCHD NYSDOH SAMPLE LOST IN TRANSIT 33.07
03/09/93 7 CCHD NYSDOH 33.08 07/20/93 9.8
CCHD NYSDOH 33.09 09/21/93 9 CCHD NYSDOH 33.10 12/28/93
7.2 CCHD NYSDOH 33.11 06/14/94 7.8 CCHD
NYSDOH 33.12 12/20/94 7.6 CCHD NYSDOH 33.13 06/19/95
6.7 CCHD NYSDOH 33.14 12/11/95 6.3 CCHD
NYSDOH 34.01 08/07/90 ND CCHD NYSDOH 35.01 08/07/90
31 CCHD NYSDOH 35.02 09/11/95 23 CCHD NYSDOH
CIS-1,2-DCE = 0.5 36.01 08/07/90 21
CCHD NYSDOH 36.02 09/05/95 12 CCHD
NYSDOH PRE-FILTER 36.03 09/05/95 15 CCHD
NYSDOH POST-FILTER 36.04 12/12/95 15 CCHD NYSDOH
37.01 08/07/90 ND CCHD NYSDOH 38.01 08/07/90 3
CCHD NYSDOH 39.01 08/07/90 8 CCHD NYSDOH 39.02
09/05/95 9.4 CCHD NYSDOH 40.01 08/07/90 19
CCHD NYSDOH 41.01 08/07/90 16 CCHD NYSDOH 41.02 09/23/91
20 CCHD NYSDOH 41.03 01/06/92 12 CCHD NYSDOH 41.04
06/23/92 19 CCHD NYSDOH 41.05 12/17/92 18
CCHD NYSDOH 41.06 03/09/93 15 CCHD NYSDOH 41.07 07/20/93
16 CCHD NYSDOH 41.08 09/21/93 8 CCHD NYSDOH 41.09
12/28/93 13 CCHD NYSDOH 41.10 06/13/94 13
CCHD NYSDOH 41.11 12/20/94 13 CCHD NYSDOH 42.01 10/09/90
ND CCHD NYSDOH TCE IN FIELD BLANK 43.01
10/09/90 ND CCHD NYSDOH " " " " 44.01
10/09/90 16 CCHD NYSDOH " " " " 44.02 12/11/95
ND CCHD NYSDOH PRE-FILTER 44.03 12/11/95

ND CCHD NYSDOH POST-FILTER 45.01 10/09/90 20
CCHD NYSDOH " " " " 46.01 10/09/90 32
CCHD NYSDOH " " " " , 2 MCG/L CIS-1,2-DCE 47.01
10/09/90 19 CCHD NYSDOH " " " " 48.01 10/09/90
3 CCHD NYSDOH " " " " 49.01 10/23/90
ND CCHD NYSDOH 50.01 10/23/90 ND
CCHD NYSDOH 51.01 10/24/90 7 CCHD
NYSDOH 52.01 10/24/90 ND CCHD NYSDOH
53.01 10/24/90 33 CCHD NYSDOH 54.01
10/24/90 10 CCHD NYSDOH 54.02
06/19/95 5.2 CCHD NYSDOH THMS = 2.5 MCG/L 54.03
09/05/95 6.1 CCHD NYSDOH THMS = 3.5 55.01 10/24/90
2 CCHD NYSDOH 55.02 12/20/94 2.8 CCHD NYSDOH
56.01 10/24/90 ND CCHD NYSDOH
56.02 12/12/95 0.5 CCHD NYSDOH
PRESENT LESS THAN 57.01 01/29/91 19 CCHD
NYSDOH 57.02 09/23/91 10 CCHD NYSDOH 57.03
01/06/92 15 CCHD NYSDOH 57.04 06/23/92 18
CCHD NYSDOH 57.05 09/28/92 11 CCHD NYSDOH
57.06 12/18/92 15 CCHD NYSDOH 57.07
03/09/93 10 CCHD NYSDOH 57.08 07/20/93 13
CCHD NYSDOH 57.09 09/21/93 9 CCHD NYSDOH
57.10 06/14/94 11 CCHD NYSDOH 57.11
06/19/95 7.9 CCHD NYSDOH 58.01 03/11/91 ND
CCHD NYSDOH 58.02 12/11/95 0.5 CCHD NYSDOH
59.01 03/11/91 1 CCHD NYSDOH 60.01
03/11/91 ND CCHD NYSDOH 61.01 03/11/91 ND
CCHD NYSDOH 62.01 03/11/91 7 CCHD NYSDOH
63.01 03/11/91 21 CCHD NYSDOH 63.02
06/19/95 18 CCHD NYSDOH CIS-1,2-DCE = 0.5 MCG/L 63.03
12/11/95 21 CCHD NYSDOH 64.01 03/11/91 15
CCHD NYSDOH 64.02 09/23/91 11 CCHD NYSDOH 64.03 01/06/92
21 CCHD NYSDOH 64.04 06/23/92 30 CCHD NYSDOH
METH. CHLOR. = 2 64.05 09/28/92 18
CCHD NYSDOH 64.06 12/17/92 23 CCHD
NYSDOH 64.07 03/09/93 17 CCHD NYSDOH
64.08 07/20/93 20 CCHD NYSDOH 64.09
09/21/93 17 CCHD NYSDOH 64.10
12/28/93 15 CCHD NYSDOH CIS-1,2-DCE = 0.5 64.11
06/13/94 16 CCHD NYSDOH 64.12 12/19/94 12
CCHD NYSDOH 64.13 06/19/95 14 CCHD NYSDOH
64.14 12/11/95 13 CCHD NYSDOH 65.01
03/11/91 33 CCHD NYSDOH 66.01 03/11/91 ND
CCHD NYSDOH 67.01 03/11/91 ND CCHD NYSDOH

68.01 03/11/91 ND CCHD NYSDOH 69.01
03/18/91 2 CCHD NYSDOH 70.01 03/18/91 ND
CCHD NYSDOH 71.01 03/18/91 2 CCHD NYSDOH
72.01 03/18/91 1 CCHD NYSDOH 73.01
03/19/91 ND CCHD NYSDOH 74.01 03/19/91 ND
CCHD NYSDOH 75.01 05/29/91 ND D&M
RECRA 75.02 07/13/92 ND NYSDOH NYSDOH 75.03
12/07/92 ND NYSDEC NYSDOH 76.01 05/29/91
ND D&M RECRA 77.01 05/29/91 49
D&M RECRA TOTAL 1,2-DCE = 17 MCG/L 77.02 07/13/92
45 NYSDOH NYSDOH 77.03 12/07/92 186 NYSDEC
NYSDOH 1,1-DCE = 3.7, CIS-1,2-DCE = 78 78.01
05/29/91 280 D&M RECRA TOTAL 1,2-DCE = 110 MCG/L
78.02 07/12/92 81 NYSDOH NYSDOH 2 OTHER DETECTS,
TOTAL = 54 MCG/L 78.03 12/07/92 27 NYSDEC
NYSDOH CIS-1,2-DCE = 7.2 MCG/L 79.01 09/23/91 10
CCHD NYSDOH 79.02 01/06/92 15 CCHD NYSDOH 79.03 06/23/92
13 CCHD NYSDOH TCA = 0.6 MCG/L

TABLE 2 Residential Well
Trichloroethylene Data Comparison

Sampling Date

Location 1990 1991 1992 1993 1995

1Q 2Q 3Q 1Q 3Q 1Q 2Q 3Q 4Q 1Q 3Q
4Q 4Q

19 - - 9 - 12 13 10 5 7 5
8 6 5 57 - - - 19 10 15 18 11
15 10 11 - 8 21 - - 45 - 31 41
50 45 8 30 27 - -
64 - - - 15 11 21 30 18 23 17
19 15 13
18 - - 20 - 7 19 ND 13 20 13
14 10 10
26 - - 1 - 1 3 2 2 - 2
2 2 1
27 - - 25 - 13 21 24 16 24 16
19 16 13
79 - - - - 10 15 18 9 18 13
13 11 9
41 - - 16 - 20 12 19 - 18 15
12 13 1
09 12 12 - - 8 9 16 8 16 13
13 10 9
08 11 9 - - 3 7 11 6 11 7
8 8 7
05 5 - - - 7 11 14 10 15 10
13 10 9
32 - - 5 0 3 6 8 3 - 5
7 6 5
33 - - 8 - 4 7 11 6 - 7
10 7 6

Key:

ND = Non detect - = Sample not collected 1Q, 2Q, 3Q, 4Q = 1st quarter (January, February, March), 2nd quarter (April, May, June), 3rd quarter (July, August, September), and 4th quarter (October, November, December), respectively.

All samples were collected by the Cattaraugus County Health Department and analyzed by the New York State Department of Health.

APPENDIX III

ADMINISTRATIVE RECORD INDEX

LITTLE VALLEY SITE OPERABLE UNIT ONE ADMINISTRATIVE RECORD
INDEX OF DOCUMENTS

3.0 REMEDIAL INVESTIGATION

3.4 Remedial Investigation Reports

P. 300001- Report: Geotechnical Investigation Little Valley, 300049
Towns of Little Valley and Salamanca, Cattaraugus County, New York, prepared by the New York State Department of Environmental Conservation Division of Water, May 1994.

4.0 FEASIBILITY STUDY

4.3 Feasibility Study Reports

P. 400001- Report: Focused Feasibility Study for the 400054
Alternate Water Supply for the Little Valley Superfund Site, Cattaraugus County, New York, prepared by the U.S. Environmental
Protection Agency, August 1996.

4.6 Correspondence

P. 400055- Letter to Mr. Gregory P. Sutton, Project Engineer, 400056
Division of Hazardous Waste Remediation, New York State Department of Environmental Conservation, from Mr. Christos Tsiamis, Project Manager, U.S. EPA, Region II, re: request for an updated definitive list of contaminated private wells that exceed the groundwater standard for TCE, May 13, 1996.

P. 400057- Letter to Mr. Christos Tsiamis, U.S. EPA, Region 400067
II, from Mr. Gregory P. Sutton, Project Engineer, Division of Hazardous Waste Remediation, New York State Department of Environmental Conservation, re: response to the May 13, 1996 letter concerning the TCE contamination of groundwater in the Little Valley area, June 3, 1996. (Attachments: A: Letter to Mr. Gregory Sutton, New York State Department of Environmental Conservation, Division of Hazardous Waste Remediation, form Mr. Eric W. Wohlers, P.E., Director, Cattaraugus County Health Department, re: Little Valley Creek Area - Trichloroethene Study IHWS# - 905813 N, Towns of Little Valley and Salamanca, Cattaraugus County, N.Y., May 30, 1996. B: Table 1, Trichloroethene Sampling Results, Little Valley Creek Area, Towns of Little Valley and Salamanca. 1/28/89 to 12/13/95. C: Village of Little Valley, Water Rates, effective July 1, 1993. D: City of Salamanca Board of Public Utilities, Water Rate Schedule, effective with the billing period ending March of 1995.)

P. 400068- Facsimile to Mr. Bill McCabe, U.S. EPA, from Mr. 400068
Michael J. O'Toole, Jr., Director, Division of Environmental Remediation, New York State Department of Environmental Conservation, re: letter to Mr. Richard Caspe, Director, Emergency and Remedial Response Division, U.S. EPA, Region II, from Mr. Michael J. O'Toole, Jr., Director, Division of Environmental Remediation, re: Little Valley Route 353 Site #9-05-026, August 9, 1996.

8.0 HEALTH ASSESSMENT

8.1 Health Assessment

P. 800001- Memorandum to Mr. Christos Tsiamis, Project 800036
Manager, U.S. EPA, Region II, from Mr. Arthur Block, Senior Regional Representative, Department of Health and Human Services, re: Final Health Consultation for the Little Valley Site, Towns of Little Valley and Salamanca, Cattaraugus County, NY, June 6, 1996. (Attached report: Health Consultation, Little Valley Site, Towns of Little Valley and Salamanca, Cattaraugus County, New York, CERCLIS # NY0001233634, prepared by the New York State Department of Health under cooperative agreement with the Agency for Toxic Substances and Disease Registry, May 21, 1996.

10.0 PUBLIC PARTICIPATION

10.6 Fact Sheets and Press Releases

P. 1000001- News article: "Contamination Cleanup: Little 1000001-
Valley area to get filters", Buffalo News June 28, 1996.

1000002- Fact Sheet: "Little Valley Site makes EPA's 1000003
Superfund National Priority List", July 1996.

10.9 Proposed Plan

P. 1000004- Superfund Proposed Plan, Little Valley Site, 1000012 Little
Valley, Cattaraugus County, New York, prepared by U.S. EPA, Region II, August 1996.

APPENDIX IV

STATE LETTER OF CONCURRENCE

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION Wolf Road, Albany, New York 12233-7010

<IMG SRC 0296275C> Mr. Richard L. Caspe SEP 27 1996
Michael D. Zagata Director Commissioner Emergency & Remedial Response
Division U.S. Environmental Protection Agency Region II 290 Broadway -
19th Floor New York, New York 10007

Dear Mr. Caspe:

Re: Little Valley Route 353, Site No. 9-05-026

The Operable Unit 1 (OU1) Record of Decision (ROD) for the Little Valley Site has been reviewed by the New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH). The OU1 ROD identifies an interim remedial measure (IRM) to be implemented by the U.S. Environmental Protection Agency (USEPA) to provide potable water, meeting New York State drinking water standards, to those residents currently having contaminated water supplies. The selected remedy consists of installing individual air stripper treatment units at the affected private wells.

Since we are anxious to see the contaminated wells at the Little Valley Site addressed as rapidly as possible, the NYSDEC and NYSDOH concur with the Little Valley OU1 ROD. It is understood that USEPA will provide operation and maintenance (O&M) for all the air strippers for five years. During this time, the USEPA will undertake a Remedial Investigation/Feasibility Study (RI/FS) to attempt to identify and control the source(s) of contamination. At the end of five years, this interim remedy will be revaluated based on the results of the RI/FS.

If you have any questions, please contact Mr. Martin Doster at (716) 851-7220.

Sincerely,

<IMG SRC 0296275D>

cc: Commissioner Zagata J. LaPadula (USEPA) J. Singerman (USEPA) C.
Tsiarris (USEPA) A. Carlson (NYSDOH)

APPENDIX V

RESPONSIVENESS SUMMARY

Little Valley Superfund Site

INTRODUCTION

A responsiveness summary is required by Superfund regulation. It provides a summary of citizens' comments and concerns received during the public comment period, and the United States Environmental Protection Agency's (EPA's) and the New York State Department of Environmental Conservation's (NYSDEC's) responses to those comments and concerns. All comments summarized in this document have been considered in EPA's and NYSDEC's final decision for selection of a remedial alternative to address the contamination at the Little Valley Site.

OVERVIEW

The public generally supports the preferred remedy, which comprises the installation of air stripper treatment units on the affected private water supply wells until, through the identification and control of the source of contamination, Maximum Contaminant Levels (MCLs) are met; the periodic monitoring of the treatment systems so as to ensure their effectiveness; and the evaluation, within five years of the implementation of this interim remedy, to determine its efficacy. This evaluation will consider the data collected during the ongoing source identification investigation and any subsequent remediation, which will indicate whether the groundwater contamination persists (and a more permanent alternate water supply system is required), or whether it is being mitigated by any source control measures that are implemented and by natural attenuation.

The public's concerns relate, primarily, to issues regarding the responsibility for the maintenance of the air stripper units, the responsibility for any property damage due to a malfunction of the treatment unit, the eligibility for air stripper unit installation and monitoring of private wells (including private wells installed in the future), and the accuracy of the estimate of the number of contaminated private wells.

These concerns, which are addressed in this responsiveness summary, are summarized as follows: EPA and/or the State New York will maintain the treatment units until the groundwater meets the federal and state groundwater standards or until a permanent public water supply has been installed and operated, if a permanent public water supply is ultimately determined to be necessary. In addition, EPA and/or the State of New York will be responsible for repairing any damages to the homeowner's property caused by any malfunction or mechanical failure of the treatment units, unless the malfunction or mechanical failure resulted from unauthorized tampering in the unit by the homeowner. All of the private wells in the affected area, including any new wells, will be monitored on an annual basis until the groundwater standards have been met or a permanent solution for the protection of the public from the contaminated groundwater has been implemented. All of the private wells in the affected area, including any new wells, which exceed drinking water standards and any private wells which exceed drinking water standards in the future, will be eligible for protection. EPA's estimate of the number of contaminated private wells is based on information provided by the Cattaraugus County Department of Health and will by updated after all of the private wells in the affected area are sampled, following the signing of the Record of Decision for the alternate water supply remedy.

SUMMARY OF COMMUNITY RELATIONS ACTIVITIES

An alternate water supply Focused Feasibility Study report and a Proposed Plan were released to the public for comment on August 16, 1996. These documents were made available to the public in the administrative record file at the EPA Docket Room in Region II, New York and the information repository at the Town of Little Valley Municipal Building. The notice of availability for the above- referenced documents was published in the Olean Times Herald on August 16, 1996 to September 14, 1996.

On September 11, 1996, EPA and NYSDEC conducted a public meeting at the Little Valley Fire Hall in Little

Valley, New York to inform local officials and interested citizens about the Superfund process, to review planned remedial activities at the site, to discuss and receive comments on the Proposed Plan, and to respond to questions from area residents and other interested parties.

SUMMARY OF COMMENTS AND RESPONSES

The following correspondence (see Appendix V-a) was received during the public comment period:

- Letter to Christos Tsiamis, dated September 12, 1996, from Ann M. Heidrick, Town of Salamanca resident.
- Letter to Christos Tsiamis, dated September 12, 1996, from Timothy L.Jackson, Town of Salamanca resident.
- Letter to Christos Tsiamis, dated September 12, 1996, from Patrick W. Luther, representative of The Whole You Company.
- Letter to Christos Tsiamis, dated September 13, 1996, from Robert W. Pease, Town of Salamanca resident.
- Letter to Christos Tsiamis, dated September 12, 1996, from Sylvia J. Schultz on behalf of Stanley and Matilda Gongol, Town of Salamanca residents.

A summary of the comments contained in the above letters and the comments provided by the public at the September 11, 1996 public meeting, as well as EPA's and NYSDEC's response to those comments, follows.

Letters

Letter to Christos Tsiamis, dated September 12, 1996, from Ann M. Heidrick, Town of Salamanca resident.

Comment #1: Will there be annual sampling performed on all private wells at the site? Are wells that are currently below the drinking water standard for trichloroethene (TCE) going to be sampled on a regular basis to monitor the level of TCE?

Response #1: All private wells in the affected area, including any new wells, will be monitored on an annual basis until the groundwater standards have been met or a permanent solution for the protection of the public from the contaminated groundwater has been implemented.

Comment #2: If, based upon the sampling, contamination in a private well is found to be above the drinking water standards, will an air stripper treatment unit be immediately installed at no cost to the property owner?

If a new home is built on property in the Little Valley site, will EPA test the new well upon request of the property owner? If the sample results are above the drinking water standards, will an air stripper treatment unit be installed by EPA at no cost to the property owner?

Response #2: Any existing private wells where contamination is found to be above the drinking water standards, either initially or during the monitoring program, will be eligible for the installation of an air stripper treatment unit at no cost to the property owner. The installation of treatment units on any new homes' wells where contamination is found to be above the drinking water standards in a new home's well after occupancy, it would be eligible for the installation of an air stripper treatment unit at no cost to the property owner.

Comment #3: If the source(s) of the groundwater contamination is located, will the responsible party be required to compensate property owners in the Little Valley Site for the devalue of their property due to the contamination of the groundwater? If the source of the contamination cannot be determined, who will be held accountable to the property owners in the Little Valley Site for the devalue of their property?

Response #3: If parties responsible for the contamination can be found, then they may be required under the Superfund law to investigate and clean up the contamination. The Superfund law does not provide for compensation of private property owners for any devaluation of their property as a result of contamination which is being addressed under the provisions of that law. It is, however, anticipated that the identification and remediation of the source(s) of the groundwater contamination, and the provision of air stripping units in the interim, might have a positive influence on the homeowners' property values.

Comment #4: If air stripper treatment units are installed at this time and it is later determined that a public water supply system, is necessary, will EPA see to it that Little Valley site is included in the appropriate water district(s)?

Response #4: If, upon re-evaluating the interim remedy, it is decided that the affected area has to be connected to a public water supply system, EPA will make every effort to negotiate with the owner of that public water supply for equitable water usage rates for the residents in the new water district(s). However, EPA does not have the authority to regulate water usage rates for public water supply systems.

Comment #5: Will additional public meetings be held to keep the residents informed of the progress at this site?

Response #5: Fact sheets, press releases, public meetings, and public availability sessions will be utilized, as necessary or as appropriate, to keep the public informed as to the progress at the site.

Letter to Christos Tsiamis, dated September 12, 1996, from Timothy L. Jackson, Town of Salamanca resident.

Comment #1: Rather than there being 65 contaminated private wells as was estimated by EPA, there might be as many as 110 to 120. EPA should have compiled its own data, and checked every home, farm, and business in the affected area in order to have a more accurate estimate.

Response #1: EPA's estimate of the number of private wells that might be contaminated is based on information provided by the Cattaraugus County Department of Health, which has been sampling private wells in the area since the late 1980's. EPA intends to update and supplement these data with an all-inclusive sampling of the private wells in the affected area, as soon as an alternate water supply remedy is selected.

Comment #2: Since the groundwater contamination could take decades to diminish, it might be more economical to begin work on the installation of a permanent water line at the time of the installation of the air stripper interim remedy.

Response #2: EPA will be conducting a remedial investigation/feasibility study (RI/FS) to identify the source(s) of the contamination and to evaluate remedial alternatives to address the contamination. Given the fact that the contaminant levels in the private wells are not significantly above the groundwater standards and that the levels appear to be decreasing in certain wells, EPA believes that by identifying and treating the source (by actively pumping and treating the groundwater, for example), it is possible that the contaminant levels in private wells would meet the standards within a reasonable time frame (i.e., a permanent waterline may not be necessary). EPA intends to

re-evaluate the technical and economic viability of the interim remedy within five years, in the light of the results of the RI/FS. In the interim period, the cost of maintaining the air stripper units would be less than 10% of the cost of constructing a permanent public water supply system.

Letter to Christos Tsiamis, dated September 12, 1996, from Patrick W. Luther, representative of The Whole You Company, a vendor of water filtration systems.

Comment #1: The Whole You filtration system will meet or exceed the criteria to which the air strippers were evaluated. In other words, we feel that our process, when tested, will not only meet the criteria of the preferred method, but will also show advantages above and beyond the current solution.

Response #1: EPA has evaluated several individual treatment systems, including The Whole You filtration system and still considers the proposed air stripping units as the most appropriate for this application.

Letter to Christos Tsiamis, dated September 13, 1996, from Robert W. Pease, Town of Salamanca resident.

Comment #1: Who will own the air stripping treatment units after they are installed in a resident's home? Who will maintain the aforementioned units after installation?

Response # 1: The air stripping treatment units will be the property of EPA. EPA and/or NYSDEC will maintain the treatment units until the groundwater meets federal and state standards, or until a permanent public water supply has been installed in the area affected by the groundwater contamination.

Comment #2: In the event of a mechanical failure of the air stripping treatment unit or in the event of a mechanical failure of the air stripping treatment unit which cause damage of the property in which it is installed, who is responsible for repairing the air stripping unit and repairing any damage caused to the homeowner's property?

Should there be a mechanical failure of the air stripping treatment unit which cause health problems for the residents of the home in which the failure has occurred, who will be responsible for the medical expenses involved as well as any long-term health effects?

Response #2: EPA will be responsible for repairing a malfunctioning air stripping unit and for repairing any damages to the homeowner's property caused by mechanical failure of the treatment unit at no cost to the resident (as long as the failure was not the result of unauthorized tampering with the unit by the homeowner). Any mechanical failure of the air stripping treatment units, should be brought to EPA's attention immediately so that the unit could be repaired or replaced by EPA.

Given the low concentrations of contaminants detected in the groundwater in the private wells in the area, no adverse health effects are expected from short-term exposures to the contaminated groundwater.

Letter to Christos Tsiamis, dated September 12, 1996, from Sylvia J. Schultz on behalf of Stanley and Matilda Gongol, Town of Salamanca residents.

Comment #1: Why are only those private wells with contaminants above EPA standards to be protected with air stripper units? All homes in the affected area should be protected.

Response #1: EPA has promulgated health-protective MCLs, which are enforceable standards established pursuant to the Safe Drinking Water Act for various drinking water contaminants. For TCE, the MCL is 5 micrograms/liter (:g/l). Under EPA's National

Oil and Hazardous Substances Contingency Plan, in order to qualify for action under EPA's remedial program (i.e., be eligible for the installation of treatment units), MCLs have to be exceeded. Therefore, only those private wells that exhibit concentrations of TCE above 5 :g/l would be eligible for the installation of treatment units. However, in certain cases where the MCLs are not currently exceeded, the installation of treatment units may be justified based on other considerations, such as contamination in the past, or the threat of future contamination based on the analysis of groundwater flow patterns. Annual sampling will be performed on all private wells in the affected area, including those that register below the 5 :g/l TCE action level, until the groundwater standards have been met or a permanent solution for the protection of the public from the contaminated groundwater has been implemented. Any private wells that are found to be above the drinking water standards, either initially or during the monitoring program, will be eligible for the installation of an air stripper treatment unit.

Comment #2: It would be more effective and more economical for every home to receive an air stripper unit now, than to install a new water system five years in the future.

Response #2: The installation of the air stripper treatment units would be the most effective and economical way of immediately preventing exposure of the public to the contaminated groundwater in the short term. An evaluation of the remedy within five years of its implementation will be undertaken to determine its efficacy. This evaluation will consider the data collected during the source identification investigation and any subsequent remediation, which will indicate whether the groundwater contamination persists (and more permanent alternate water supply system is required), or whether it is being mitigated by any source control measures that are implemented and by natural attenuation. A permanent water supply would only be installed if it is deemed necessary based upon this evaluation. For the long term, the Superfund regulations denote a preference for a permanent solution. Under this criterion, only the connection of the private homes to a public water supply or the remediation of the contaminated groundwater would qualify as permanent solutions.

Comments from the Public Meeting

At the public meeting, which was held on Wednesday, September 11, 1996, at the Little Valley Fire Hall, 103 Third Street, Little Valley, New York, the major issues discussed and concerns expressed by the community regarding the site were as follows (comments which were addressed at the public meeting and were provided in letters are only addressed in the responses to the letters):

Comment #1: A resident expressed concern regarding the maintenance of the air strippers and the possible build-up of iron deposits in the trays.

Response #1: Experience has shown that the tray openings on the proposed air strippers are large enough to prevent iron deposits from occurring. If maintenance is necessary to remove deposits, the air stripper unit that is proposed can easily be flushed out with water.

Comment #2: A resident questioned the disparity in the costs for the installation of a water line between the government's estimate in the Proposed Plan and an estimate that has been provided to this resident by the City of Salamanca.

Response #2: In general, EPA's contractors and subcontractors, who would be responsible for the construction of a waterline are bound by various federal procurement, wage requirements, and regulations related to actions taken at Superfund sites. EPA's cost estimate reflects those considerations, as well as contingencies.

Comment #3: A commenter complained about the length of time this process has taken and the fact that she had never received a notification letter regarding the problem.

Response #3: Under New York State's original groundwater standard for TCE of 50 :g/l, the private wells in the area were not deemed a public health problem. From a regulatory point of view, the problem arose after the groundwater standards for TCE and other volatile organics were lowered to 5 :g/l in 1990. Since the levels of contamination are less than 300 :g/l, EPA could not use its emergency authorities to protect the public. Therefore, the only mechanism for action to be undertaken to protect the public was for the site to be listed on the National Priorities List (NPL) of Superfund sites. Once the site was listed on the NPL in June 1996, EPA prepared a Focused Feasibility Study and a Proposed Plan, which were released to the public in August 1996.

It is EPA's understanding that the State of New York held a public meeting in 1992 to discuss the problems at the site. In addition, New York State sent letters to those residents whose wells had been sampled and had TCE concentrations in their wells exceeding 5 :g/l.

Comment #4: A commenter questioned how the cancer risk figure in the Proposed Plan was derived.

Response #4: Using a maximum TCE concentration of 25 :g/l in private wells, in conjunction with the carcinogenic potency factor developed for this contaminant, a worst-case scenario carcinogenic risk estimate was calculated for the residents affected by groundwater contamination in the area, Carcinogenic potency factors represent the upper 95% confidence limit of the probability of adverse response per unit intake of a chemical over a lifetime, Using these values, and assuming a daily water ingestion of two liters over a 30-year period, the resultant risk estimate associated with the ingestion of TCE contaminated groundwater was 3.2 x 10-5. In addition to groundwater ingestion, the potential exists for residents to be exposed to contaminants through bathing. Evidence suggests that this pathway of exposure presents significantly less health risk than ingestion. The risk associated with the bathing (shower) pathway of exposure was estimated to be 1.6 x10-6. The resulting total risk due to exposure to the contaminated groundwater is 3.4 x 10-5, which means that 3.4 people out of one hundred thousand will have an increased cancer risk

Comment #5: A commenter asked whether the contamination has decreased in the last 14 years, and if it has, why has EPA decided to wait an additional five years.

Response #5: Available data show that, in some wells with low levels of contamination, such as 7 or 8 :g/l TCE, levels have not decreased, but some wells with levels of 20 to 40 :g/l have shown some trends of decreasing concentrations. EPA will not be "waiting" five more years. Immediate relief will be provided through proposed remedy, the installation of air strippers at private wells, while further investigation related to the identification and cleanup of the source(s) of the contamination is undertaken.

Comment #6: A commenter complained that it was not made clear to people that they could get their wells sampled upon request, and as a result some paid to have them sampled privately.

Response #6: In 1992, several requests for sampling were received by the County and the State. However, the County and State agencies only had funds available to sample 10 wells at a time in trying to establish a trend for the contamination in the area. As part of the remedy, EPA will test all of the private wells in the affected area.

Comment #7: Several commenters wanted to know whether initial sample results registering below the 5 :g/l TCE action level would exclude them from further sampling during the five-year period.

Response #7: Yearly sampling will be performed on all private wells, including those that register below the 5 :g/l TCE action level, in the affected area until the groundwater standards have been met or a permanent solution for the protection of the public from

the contamination has been implemented.

Comment #8: A commenter asked whether EPA would commit funds to help establish a water district so that water lines could be put in place.

Response #8: The Superfund program cannot pay for local administrative costs related to the creation of water districts.

Comment #9: Some residents asked whether the air strippers will provide results consistently below the 5 :g/l TCE level and whether there was a need to be concerned about the levels of contamination that would be emitted into the atmosphere from the air stripper.

Response #9: Based upon EPA's experience with these units, the air strippers will consistently provide water that is below the 5 :g/l groundwater standard for TCE. The volume of contaminants that would be released into the atmosphere by the air stripper would be so low that they would be probably not detectable.

Comment #10: A citizen asked whether, after the air strippers are installed and, subsequently, a decision is made to connect the private wells to a public water supply system, if the air strippers would be abandoned. Also, could an owner choose to keep their air stripper?

Response #10: In the event that a public water supply is installed in the future (after the installation of air stripping units), citizens who choose not to connect to a public water supply would be allowed to keep their air strippers but, from that time on, they would be responsible for their upkeep and maintenance.

APPENDIX V-a

RESPONSIVENESS SUMMARY

LETTERS SUBMITTED DURING THE PUBLIC COMMENT PERIOD

Ann M. Heidrick 4766 Route 353 Salamanca, New York 14779

September 12, 1996

Christos Tsiamis Remedial Project Manager USEPA Region 2 290 Broadway, 20th Floor
New York, New York 10007-1866

Re: Proposed Plan for the Little Valley Site

Dear Mr. Tsiamis:

After attending the public meeting held on September 11, 1996 relative to the above-referenced topic, I have the following questions which I would like you to address:

1) Will there be an annual sampling performed on all wells in the Little Valley Site during the interim period (3-5 years)?

2) Are wells currently below the NYSDOH drinking water standard going to be sampled on a regular basis to monitor the level of TCE?

3) If the wells referred to in Question 2 are found to be above the standard level, will an air stripper treatment unit be immediately installed at no cost to the property owner?

4) If a new home is built on property in the Little Valley Site, will the EPA test the new well dug upon request of the property owner? If the well results are above the standard level, will an air stripper treatment unit be installed by the EPA at no cost to the property owner?

5) If the source of contamination is located and the business responsible is fined by the EPA and/or NYSDEC and required to assist in the cost of clean-up, will this business also be required to compensate property owners in the Little Valley Site for the de-value of their property due to the contamination of the groundwater?

6) If the source of contamination cannot be pinpointed, what party or agency will be held accountable to the property owners in the Little Valley Site for the de-value of their property?

If air stripper treatment units are installed at this time and it is later determined that a public water supply system is necessary, it is my opinion that it is the EPA's responsibility to see that the Little Valley Site is included in the appropriate water district/districts at the same usage cost as those residents currently in the district/districts. This should be negotiated at the same time the EPA negotiates to connect to the public water system.

I would also recommend a public hearing be held on an annual basis to keep the residents in the Little Valley Site informed of the progress in this matter.

I look forward to a response from the EPA to the questions above. Thank you for your time and consideration.

Sincerely,

<IMG SRC 0296275E>

amh

<IMG SRC 0296275F>

September 12, 1996

Christos Tsiamis Remedial Project Manager USEPA Region 2 290 Broadway, 20th Floor New York, NY 10007-1866

Dear Mr. Tsiamis:

This letter is in response to the public meeting that was held in Little Valley, NY, on September 11, 1996.

I was one of the residents who spoke at the meeting, and you have my comments on the record.

I would like to remind you, partner, (your phrase) that there are two goals here. The first, is to get the people off the contaminated water as soon as possible and your alternative 3B assures that will be accomplished. The second, relies on cost- effectiveness from the federal point of view. At the meeting you stated that you had to rely on the documentation provided you by the State and County and you weren't sure of the number of residences that were affected by the contamination. Your gray bound Superfund Proposal literature stated that you were looking at 65 homes. That is not the case. A lot of people didn't show up at the meeting for one reason or another; work, another meeting or appointment, or the old if I don't acknowledge the problem, it will go away syndrome. We both know this isn't the case. My 2 homes and my business have never been tested by the state or county officials, and I know of a lot more residents that have never been tested. My estimate is in the area of 110 to 120 private water systems are affected by the contamination. This means that your estimated figure could easily double, that would put it in the $1.2 million area very quickly.

In my estimation the-federal government and the EPA, attempting to move quickly and cost-effectively, didn't take the time to do a thorough investigation of their own, an now are attempting to soft sell the quick and easy (cheap) idea of the air stripper to solve our water problems.

Here is where you made an errant turn in your logic:

1. You should have compiled your own data, and checked every home, farm, and business in the affected area. You would have had accurate numbers when making your estimate of cost. Showing you that the stripper method would cost you more than first estimated. You didn't even mention the residents along county route 94 (N. State St.) in the town of Salamanca. Have you included them in your estimate? Are they affected?

2. You indicated that if you don't see a reduction in the TCE content in 3 to 5 years, you will put in a permanent water line system. Why wait? All of the data collected by the County and by the State over the last 10 years show very little if any drop in the TCE levels. Eric Wholers of the Cattaraugus County Health Dept. told us at a town meeting that the TCE would take a lifetime, decades and decades to diminish. Everyone seems to know that the problem isn't going away very soon but you. Do you know something that we don't?

3. Your financial estimates of the pipeline from Salamanca was $4.399 million and that was today's cost. If you wait until the year 2001 to make a decision about the pipeline, the costs will be double, if not more, and it will take, by your estimate 3 years to install. That means, if you act in the year 2001, we will have the pipeline in the year 2004 or 2005.

4. Let's take a look at the costs from the taxpayers' point of view. You could act now. Put in the strippers at a cost of $1 million (my figures, higher than yours) and implement the start of the pipeline that would be completed in the year 1999. A permanent installation, over and done with. The total cost to the taxpayer would be $5.399 million. This figure is based on your estimate of $4.399 million for the pipeline and $1 million my guess ($567,125 your guess). Let's see how much it would cost the taxpayer in the future, in the year 2001, this is the date in which you would presumably start the pipeline. If we start with the air stripper at a cost of $1 million, we can add $10.8 million in 2001 dollars, plus the additional cost of maintenance of the air stripper, for an additional 3 years. Your estimate in 1996 was $52,000 per year, that's another $156,000 if costs don't go up and cows can fly. That brings our grand total to $11.956 million, if you wait.

5. We are talking about a savings of $ 6.557 million. No wonder this country is in terminal debt.

Don't you think that it is time you took another look at your figures, statistics and guesses and come to an appropriate solution that not only helps the people now, but also in the future? Solving the problem is the goal. A goal that we can all agree upon. But we need to do it with calm, intelligent contemplation with the people in mind. If solving one problem causes another, are we any better off? The citizens of this county know the value of a dollar. We also know how hard it is to come by. Please don't waste our dollars. Be brave, take the first step in ending our trillion dollar national debt, with a sensible outcome.

Sincerely,

<IMG SRC 0296275G>

cc: Michael J. Basile Community Relations Coordinator USEPA Public Information Office 345 Third St., Suite 14303 Niagara Falls, NY 14303

All Residents in Affected Area

THE WHOLE YOU <IMG SRC 0296275H>

"returning to purity"

12 Sep 96

Project Manager Christos Tsiamis US EPA Region 2 290 Broadway, 20th Floor 10007-1866

Dear Mr. Tsiamis,

This letter is a follow up to our correspondence submitted to you on 2 September 1996. After attending the town meeting last night in Little Valley we hope to ensure active communication with the EPA occurs.

Since we did not receive any response from our first letter we will gladly resubmit it, and well assume it will be considered even though it will be past the public comment period. The intent of the information is to ensure the citizens and the EPA have all of their options for the least intrusive, most economical, and most efficient remedy for the problem at hand.

We understand many private parties will submit "superior quality methods" etc., our intent is to help the EPA utilize better, high quality technology as well as to use tax dollars more efficiently. We wish to work to this end any way the EPA deems appropriate. Mr. DeGuardia mentioned a program we may pursue (CITE) to determine and/or to prove the effectiveness of the alternative filtration method. We would greatly appreciate any information you have to get the ball rolling in that area. Please understand we feel our filtration alternative meets or exceeds the criteria to which the air strippers were evaluated. In other words, we feel this method when tested will not only meet the criterias of the preferred method, but will also show advantages above and beyond the current solution.

We would like to answer all of the questions you and your organization may have concerning this information with specific, documented literature. We also wish to follow all of the prescribed procedures for possibly implementing new filtration methods for the EPA in the future; if indeed we have a better alternative. Thank you sincerely for your time,

Patrick W. Luther (716) 372-7017

Robert W. Pease 4768 Route 353 Salamanca, New York 14779

September 13, 1996

Christos Tsiamis Remedial Project Manager USEPA Region 2 290 Broadway, 20th Floor
New York, New York 10007-1866

Re: Proposed Plan for the Little Valley Site

Dear Mr. Tsiamis:

After attending the public meeting held on September 11, 1966 relative to the above-referenced topic, I have the following questions which I would like you to address:

1) Who will own the air stripping treatment units after they are installed in a resident's home.

2) Who will maintain the aforementioned units after they installation?

3) In the event of a mechanical failure of the air stripping treatment unit causing health problems for the residents of the home in which the failure has occurred, who will be responsible for the medical expenses involved as well as any long-term health effects?

5) In the event of mechanical failure of the air stripping treatment unit causing damage to the property in which it is installed, who is responsible for the damage caused and cost of repair?

I look forward to a response from the EPA to my questions. Thank you for your time and consideration.

Sincerely,

<IMG SRC 029625I>

amh

Stanley and Matilda Gongol 4522 NYS Route 353
Salamanca, New York 14779
September 12, 1996

Mr. Christos Tsiamis Remedial Project Manager USEPA Region 2 290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis:

I am writing on behalf of my parents, Mr. and Mrs. Stanley Gongol, who reside on NYS Route 353 in the Town of Little Valley. This area has been cited by the EPA for TCE clean up within the guidelines of your Super Fund Project.

We attended your public meeting which was held Wednesday, September 11, 1996, in Little Valley, New York. We were disappointed to learn that only those homes with high levels (above EPA standards) were to be benefitted with air stripper units as a remedial remedy. My parents' home is located between two homes with very high levels (Felts and Halls). These homeowners installed their own systems to protect their water supply. My parents' level is below the EPA standard but any presence of TCE should not be acceptable in any water supply. My parents are not financially able to afford to install a unit in their home as they are both living on Social Security income.

My mother retired in 1980 to take care of my four year old son, when I returned to work in the work force. My parents fed my son, bathed him and took care of him for at least eight hours each day. My son, therefore, has been exposed to at least 8 years of TCE contamination from their water supply.

I disagree with your recommendation that only homes with high levels should be treated. My parents and I feel that all homes in the affected area should have the government's protection immediately. You may never find the source of the contamination which probably originated over one hundred years ago.

All homes receiving an air stripper unit would more effective now and more economical than installing a new water system five years down the road. We ask that you consider this alternative now.

Very truly yours

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