

## **RECORD OF DECISION**

Hopewell Precision Superfund Site  
Hopewell Junction, Dutchess County, New York

United States Environmental Protection Agency  
Region 2  
New York, New York  
September 30, 2008

## **DECLARATION FOR THE RECORD OF DECISION**

### **SITE NAME AND LOCATION**

Hopewell Precision Superfund Site  
Hopewell Junction, Dutchess County, New York

Superfund Site Identification Number: NYD066813064

### **STATEMENT OF BASIS AND PURPOSE**

This Record of Decision (ROD) documents the U.S. Environmental Protection Agency's selection of an alternate water supply remedy for the Hopewell Precision Superfund Site (Site) Operable Unit (OU) 2, which is chosen in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. Section 9601, *et seq.*, and 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 OU 2 remedy for the Site. The attached index (see Appendix III) identifies the items that comprise the Administrative Record upon which the selection of the remedy is based.

The New York State Department of Environmental Conservation (NYSDEC) was consulted on the planned remedy in accordance with CERCLA Section 121(f), 42 U.S.C. Section 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 alternate water supply remedy for OU 2 includes the following components:

- Provision of an alternate water supply to all properties within the Hopewell hook-up area. The water supply is expected to be drawn from new wells on the Little Switzerland water district property. If, based upon design considerations or other factors, it is determined that another source of water is preferable or necessary (e.g., if testing reveals that the capacity of the aquifer in the vicinity of the Little

Switzerland well field may not be adequate), another source of water supply (e.g., the Dutchess Central Utility Corridor Waterline or the Beekman/Legends system) may be selected or established to supply water to the Hopewell hook-up area.

- Performance of pumping tests of two existing Little Switzerland water supply wells to determine the capacity of the aquifer. If capacity testing indicates that the aquifer in the vicinity of the Little Switzerland wellfield can support the required volume of water for the Hopewell hook-up area, and it is determined that wells at this location are the appropriate source of the water supply, two or more wells may be needed since a standby well will also be required. The final number of wells will be determined after the capacity testing is completed.
- Construction of a water storage tank either at the Little Switzerland wellfield or on nearby property.
- Construction of water mains to deliver water from the storage tank to the Hopewell area which is to be connected to the alternate water supply. A service connection from the main will be extended to each house and/or commercial building.
- Disconnection of private well piping within the Hopewell hook-up area following connection to the public water supply.

## **DECLARATION OF STATUTORY DETERMINATIONS**

The selected remedy for OU 2 meets the requirements for remedial actions set forth in CERCLA Section 121, 42 U.S.C. Section 9621, because it: 1) is protective of human health by providing a clean source of drinking water to residents; 2) meets 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 under federal and state laws; 3) is cost-effective; and 4) utilizes permanent solutions to the maximum extent practicable.

Because this alternate water supply remedy for OU 2 will result in hazardous substances, pollutants, or contaminants remaining on Site above levels that allow for unlimited use and unrestricted exposure, a statutory review will be conducted within five years after initiation of the remedial action to ensure that the alternate water supply remedy is protective of human health.

## **ROD DATA CERTIFICATION CHECKLIST**

The OU 2 ROD contains the remedy selection information noted below. More details may be found in the Administrative Record file for this Site.

- Site-related contaminants of concern and their respective concentrations (see ROD, pages 7-9);
- Baseline risk represented by the contaminants of concern (see ROD, pages 10-15);
- Cleanup levels for contaminants of concern and the basis for these levels are not applicable to the OU 2 ROD;
- Manner of addressing source materials constituting principal threats are not applicable to the OU 2 ROD (See ROD, page 25);
- Current and reasonably-anticipated future land use assumptions and current and potential future beneficial uses of groundwater used in the baseline risk assessment and ROD (see ROD, pages 10-14);
- Potential land and groundwater use that will be available at the Site as a result of the selected remedy (see ROD, page 29);
- Estimated capital and present-worth costs; discount rate; and the number of years over which the remedy cost estimates are projected (see ROD, page 29); and
- Key factors used in selecting the remedy (*i.e.*, how the selected remedy provides the best balance of tradeoffs with respect to the balancing and modifying criteria, highlighting criteria key to the decision) (see ROD, pages 25-29).

**AUTHORIZING SIGNATURE**



George Pavlou, Acting Director  
Emergency and Remedial Response Division

9/30/08  
Date

**RECORD OF DECISION FACT SHEET  
EPA REGION 2**

**Site**

Site name: Hopewell Precision Superfund Site  
Site location: Hopewell Junction, Dutchess County, New York  
HRS score: 100.00  
Listed on the NPL: April 27, 2005

**Record of Decision**

Date signed: September 30, 2008

Selected remedy:

(i) Provision of an alternate water supply to all properties within the Hopewell hook-up area. The water supply is expected to be drawn from new wells on the Little Switzerland water district property. If, based upon design considerations or other factors, it is determined that another source of water is preferable or necessary (e.g., if testing reveals that the capacity of the aquifer in the vicinity of the Little Switzerland well field may not be adequate), another source of water supply (e.g., the Dutchess Central Utility Corridor Waterline or the Beekman/Legends system) may be selected or established to supply water to the Hopewell hook-up area.

(ii) Performance of pumping tests of two existing Little Switzerland water supply wells to determine the capacity of the aquifer. If capacity testing indicates that the aquifer in the vicinity of the Little Switzerland wellfield can support the required volume of water for the Hopewell hook-up area, and it is determined that wells at this location are the appropriate source of the water supply, two or more wells may be needed since a standby well will also be required. The final number of wells will be determined after the capacity testing is completed.

(iii) Construction of a water storage tank either at the Little Switzerland wellfield or on nearby property.

(iv) Construction of water mains to deliver water from the storage tank to the Hopewell area which is to be connected to

the alternate water supply. A service connection from the main will be extended to each house and/or commercial building.

(v) Disconnection of private well piping within the Hopewell hook-up area following connection to the public water supply.

Capital cost: \$18,879,900

Present-worth cost: \$18,899,000

**Lead**

EPA

Primary Contact: Lorenzo Thantu, Remedial Project Manager, (212) 637-4240

Secondary Contact: Angela Carpenter, Chief, Eastern New York Remediation Section, (212) 637-4263

**Main PRPs**

Hopewell Precision, Inc.

**Waste**

Waste type: Chlorinated Volatile Organic Compounds in Groundwater

Waste origin: Spills/discharges at the former and current Hopewell Precision facilities (15 and 19 Ryan Drive, Hopewell Junction, New York).

Contaminated media: Groundwater, Air

## **DECISION SUMMARY**

Hopewell Precision Superfund Site  
Hopewell Junction, Dutchess County, New York

United States Environmental Protection Agency  
Region 2  
New York, New York  
September 30, 2008

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## **SITE NAME, LOCATION, AND DESCRIPTION**

The Hopewell Precision Site (Site) is located in Hopewell Junction, Dutchess County, New York (Figure 1). The Site consists of the former and current Hopewell Precision, Inc. facilities (referred to herein as one single “facility”) and the hydraulically downgradient area affected by the contaminated groundwater plume and its vapors (Figure 2). The extent of the currently identified groundwater plume is shown on Figure 3. The Hopewell Precision facility was located at 15 Ryan Drive from 1977 to 1980. The facility moved to the adjacent property at 19 Ryan Drive in 1980 and still operates at that location. The combined size of the two properties is 5.7 acres. The remainder of the Site consists mostly of residential neighborhoods, all of which are served by private wells and septic systems. Almost 27,000 people live within 4 miles of the Hopewell Precision facility. Commercial development (e.g., strip malls, businesses, gas stations) in the area is primarily along New York State Route 82, which traverses the area in a northeast-southwest direction. An area of farmland borders the eastern side of a section of Route 82. Whortlekill Creek flows in a southerly direction across the residential area and along the western border of the Site. Several ponds are present within the area, including two large former quarries (Redwing Lake and the gravel pit) that are partially fed by groundwater.

## **SITE HISTORY AND ENFORCEMENT ACTIVITIES**

### ***Site History***

Hopewell Precision, Inc. is a manufacturer of sheet metal parts that are assembled into furniture. The property at 19 Ryan Drive was vacant land prior to 1980. From 1980 to the present Hopewell Precision has been the sole occupant of the building on that property. Since 1981, the former facility at 15 Ryan Drive has been used by Nicholas Brothers Moving Company for equipment storage and office space.

Processes at Hopewell Precision include shearing, punching, bending, welding, and painting. The painting process includes degreasing prior to the wet spray paint application. Hopewell Precision currently uses a water-based degreaser. The company used trichloroethene (TCE) and 1,1,1-trichloroethane (1,1,1-TCA) in a vapor degreasing machine until 1998. On July 23, 1980, Hopewell Precision filed a Notification of Hazardous Waste Activity as a generator of hazardous waste and obtained EPA ID. No. NYD 990881492. Hopewell Precision purchased 12 drums (7,020 pounds) of 1,1,1-TCA in 1980 and 15 drums (9,000 pounds) in 1994. The company generated 1,675 gallons (32 drums) of 1,1,1-TCA waste for off-Site disposal from 1986 through 1998. The company purchased 48 drums (31,680 pounds) of TCE in 1996 and 1997, but it does not have any hazardous waste manifests for off-Site disposal of TCE. Hopewell Precision reportedly no longer uses TCE or 1,1,1-TCA for degreasing.

In October 1979, EPA received a letter from a former Hopewell Precision employee alleging improper disposal practices. EPA performed an inspection of what is now the former facility located at 15 Ryan Drive in November 1979. EPA observed solvent odors coming from an open disposal area. At the time of the inspection, Hopewell Precision was alleged to have been dumping one to five gallons per day of waste solvents, paint pigments, and sodium nitrate directly on the ground. The results of EPA's November 1979 inspection were sent to the New York State Department of Environmental Conservation (NYSDEC), the responsible lead agency, along with a memorandum recommending that the facility be required to drum the solvent and dispose of it in a proper manner rather than by open dumping.

The facility was inspected by NYSDEC in 1987 and 2002. At the Hazardous Waste Compliance Inspection of Hopewell Precision in May 1987, the inspector observed eleven 55-gallon drums of waste paint and thinners; six 55-gallon drums of waste 1,1,1-TCA; and one 55-gallon drum of unknown material at the facility. NYSDEC determined that Hopewell Precision was in violation of the hazardous waste regulations because it was operating as a hazardous waste storage facility without a permit or interim status authorization. Hopewell Precision subsequently identified the drum of unknown material as paint thinner and performed corrective measures, including waste disposal, which NYSDEC found to be satisfactory.

During an inspection in October 2002, NYSDEC observed four full or partially full 55-gallon drums of waste paint and solvent at the facility. The NYSDEC inspector reported that a spray booth/paint finishing operation generated waste paint and paint thinner. As a result of the inspection, NYSDEC cited the facility for 10 violations of the hazardous waste regulations. Hopewell Precision subsequently corrected the violations. The 2002 inspection report found that the company was at that time a small quantity generator of hazardous waste. In August 2003, a former employee stated that the common practice for disposal of waste solvents at the former facility was to pour the material on the ground outside the building. Waste paints and thinners were dumped on a daily basis and waste solvents from the degreaser were dumped on a biweekly basis while he worked at Hopewell Precision in 1979 and 1980.

The former facility at 15 Ryan Drive was served by a 25-foot deep well that was sampled in March 1980 (sample collection point was a rest room faucet). The analytical results indicated the presence of 1,1,1-TCA at 3.6 micrograms per liter ( $\mu\text{g/L}$ ) and TCE at 0.6  $\mu\text{g/L}$ . NYSDEC installed 3 monitoring wells, each 39 to 40 feet deep, at the former facility in May 1985 and sampled the wells in March 1986. The analytical results for monitoring well B-3, located between the current and former buildings, indicated the presence of 1,1,1-TCA at 23  $\mu\text{g/L}$  and TCE at an estimated 4  $\mu\text{g/L}$ . Samples collected from the on-Site monitoring wells by Hopewell Precision in April 1993 showed the continuing presence of 1,1,1-TCA and TCE. In 1985, the Dutchess County Department of Health sampled four private drinking water wells near the Site, and no volatile organic compounds (VOCs) were detected in any of the samples.

In February 2003, EPA sampled 75 private wells near the Hopewell Precision facility. Analysis of these samples revealed that 5 private wells were contaminated with TCE ranging from 1.2 µg/L to 250 µg/L. At that time, NYSDEC, on behalf of New York State Department of Health (NYSDOH), requested that EPA conduct a removal action at the Site, including installation of carbon filter systems on the affected private wells.

From February to November 2003, EPA collected groundwater samples from hundreds of private drinking water wells in the vicinity of Hopewell Precision. Both TCE and 1,1,1-TCA were detected in numerous private well samples, at individual concentrations of up to 250 µg/L for TCE and 11.7 µg/L for 1,1,1-TCA. In addition, 1,1-dichloroethene (1,1-DCE), a breakdown product of TCE or 1,1,1-TCA, was detected in two samples. Several instances of TCE detection exceeded the compound's Maximum Contaminant Level (MCL) of 5 µg/L. EPA installed point-of-entry treatment (POET) systems to remove VOCs at 39 homes where TCE exceeded or approached the MCL. NYSDEC installed POET systems at 14 homes in the southern part of the groundwater plume to remove 1,1,1-TCA that exceeded its New York State Drinking Water Standard but that fell below the Federal MCL.

In April 2003, EPA collected water and sediment samples from small unnamed ponds located about 300 feet south-southwest (downgradient) of the Hopewell Precision facility. TCE was detected at concentrations of 4 µg/L and 3.4 µg/L in the water samples and 88 micrograms per kilogram (µg/kg) in one of the two sediment samples. EPA collected additional samples from two unnamed ponds located approximately 900 and 4,500 feet southwest of Hopewell Precision in May 2003. TCE was detected at an estimated concentration of 3.6 µg/kg in a sediment sample from the proximal pond, but was not detected in a water sample from the same proximal location or in sediment and water samples collected from the distal pond on Creamery Road.

In July 2003, EPA collected samples at the Hopewell Precision facility property and beyond its boundaries. TCE was detected in two soil samples at the facility property, and 1,1,1-TCA was detected in one sample, but neither contaminant was detected in any samples beyond the former facility property. EPA completed test borings and collected additional soil samples in December 2003, concentrating the investigation between the current and former Hopewell Precision facilities. Background samples were collected from test borings near the northern property boundaries. TCE was detected in 5 soil samples, at depths ranging from 0 to 12 feet. The maximum detected concentration was 3.7 µg/kg; TCE was not detected in background samples (i.e. areas unaffected by contamination) from the same depth range.

On September 26, 2003, EPA authorized a removal action at the Site to provide bottled water to residents whose water supplies had been contaminated with TCE. In October and December 2003, EPA also installed and sampled temporary shallow monitoring wells on both facility properties at 15 and 19 Ryan Drive. The analytical results indicated TCE concentrations up to 144 µg/L in groundwater at depths ranging from 10 to 30 feet below the ground surface (bgs).

EPA's Removal Action Branch conducted vapor intrusion indoor air testing at the Site. Since February 2004, EPA has collected sub-slab and/or indoor air samples from over 200 homes in the area above the groundwater plume to determine if there is an impact from contaminants related to the Site. EPA has installed sub-slab ventilation systems (SVs) at 53 homes where vapors exceeded the action level in an effort to reduce the residents' exposure to indoor air contaminants associated with the Site. In addition, EPA conducts annual vapor sampling during the winter heating season to monitor the migration of vapors to structures throughout the area of the groundwater plume.

The Site was listed on the National Priorities List in April 2005.

### ***Enforcement Activities***

To date, EPA has sent request for information letters to potentially responsible parties to ascertain whether certain businesses that formerly operated at Ryan Drive in Hopewell Junction, New York may have disposed of or caused releases of volatile organic contaminants there. In addition, EPA has been evaluating certain potentially responsible parties' ability-to-pay related to the costs of the remedy. A Notice of Potential Liability pursuant to Section 107(a) of CERCLA, 42 U.S.C. Section 9601(a), was sent to Hopewell Precision, Inc., the operator of the facility, in March 2004.

## **HIGHLIGHTS OF COMMUNITY PARTICIPATION**

EPA conducted a Remedial Investigation/Feasibility Study (RI/FS) at the Site from 2005-2008. The findings are presented in a remedial investigation report<sup>1</sup> and focused feasibility study report<sup>2</sup>. EPA's preferred remedy and the basis for the preferred remedy was identified in a Proposed Plan. These documents were made available to the public in information repositories maintained at the following locations: (1) EPA Docket Room in the Region 2 offices at 290 Broadway in Manhattan and (2) Town of East Fishkill Community Library at 348 Route 376, Hopewell Junction, New York. A notice of the commencement of the public comment period, the public meeting date, a summary of the preferred remedy, EPA contact information, and the availability of the above-referenced documents was published in the *Poughkeepsie Journal* on July 6, 2008. The public comment period was originally scheduled to run from July 7, 2008 to August 5, 2008. At the request of the public, EPA extended the comment period to August 19, 2008, giving the public an additional 14 days to comment on the Proposed Plan. The extended comment period was

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<sup>1</sup> *Final Remedial Investigation Report, Hopewell Precision Site, Hopewell Junction, New York, Volumes I and II, CDM Federal Programs Corporation, June 30, 2008.*

<sup>2</sup> *Final Focused Feasibility Study Report, Hopewell Precision Site, Hopewell Junction, New York, CDM Federal Programs Corporation, June 17, 2008.*

announced to the public in a notice published in the *Poughkeepsie Journal* on August 4, 2008. EPA held a public meeting on July 17, 2008, at 7:00 P.M. at the Town of East Fishkill Town Hall to present the Proposed Plan and to answer questions from the public about the Site and the remedial alternatives under consideration. Approximately 140 people, including residents, local business people, and local, state, and federal government officials, attended the public meeting. On the basis of comments received during the public comment period, EPA modified the preferred alternative as specified under the "Documentation of Significant Changes" section of this ROD. Many of the public comments were related to the operation and capacity of the Little Switzerland water system, leaks and water pressure in the Little Switzerland water system, the effect of adding the Hopewell area to the Little Switzerland water system, the mandatory nature of the Hopewell hook-up area, the future cost of water bills, and a schedule for implementation of the remedy. Responses to written comments that were received during the public comment period and to comments received at the public meeting are included in the Responsiveness Summary (see Appendix V).

Public meetings and availability sessions were also held for the Site during the removal action and the RI/FFS, including an informal meeting on March 25, 2004; a public information meeting on May 5, 2004; a meeting sponsored by the NYSDOH on January 22, 2007; a Congressional field hearing held by the House Transportation and Infrastructure Subcommittee on Water Resources and the Environment on April 11, 2008, and a meeting on September 8, 2008 with Congressman John Hall's District Director, the Town Supervisor for East Fishkill, members of the Little Switzerland Water District and residents from the Hopewell hook-up area.

## **SCOPE AND ROLE OF THE OPERABLE UNIT**

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Section 300.5, defines an operable unit (OU) as a discrete action that comprises an incremental step toward comprehensively addressing Site problems. A discrete portion of a remedial response eliminates or mitigates a release, threat of a release, or pathway of exposure. The cleanup of a site can be divided into a number of operable units, depending on the complexity of the problems associated with the site. This response action for OU 2 includes provision of an alternate water supply to the area with private drinking water wells that have been or have the potential to be affected by the groundwater plume from the Hopewell Precision facility. OU 1 includes other exposures to contaminated or potentially contaminated media such as the groundwater, soils, surface water, sediments and vapors associated with the Hopewell plume. OU 1 will be documented in a separate ROD.

The primary objective of the action for OU 2 is to address human health risks associated with contaminants identified in private drinking water wells at the Site.

## SUMMARY OF SITE CHARACTERISTICS

Dutchess County is located in the southeast region of New York State and is bordered by the State of Connecticut to the east and the Hudson River to the west. The topography of Dutchess County is comprised of rolling hills and plains, with valleys having narrow stream bottom lands and wetlands. The irregular topography has been shaped by glaciation and orogeny (mountain building). The Hudson River is the major topographic feature in the county. Several major creeks are prevalent in the county and flow southward; the majority of the creeks flow toward the Hudson River.

The Site is located in the south-central region of Dutchess County, in a flat, northeast-southwest trending valley between higher bedrock ridges to the east and west. These ridges slope upward to approximately 400 feet above mean sea level (msl). The Site lies at a general elevation of 290 feet above msl, with the southern portion gradually sloping downward to approximately 240 feet above msl. A small hill is present in the central portion of the Site; it rises to approximately 320 feet above msl. The hamlet of Hopewell Junction occupies the southern region of the valley.

The Site is situated in a glaciated valley underlain by the Hudson River Formation in the northern portion of the Site and the Stockbridge Limestone in the southern portion of the Site. The bedrock is overlain by unconsolidated sediments deposited by glaciers and glacial meltwater. The glacial outwash deposits are a complex mixture of boulders, gravel, sand, silt, and clay which form discontinuous beds or lenses. Because of multiple glaciation events, subsurface units are heterogeneous and highly localized. Glacial till deposits are also present in some areas of the Site, including a tear drop shaped mound between Creamery Road and Clove Branch Road. Glacial tills generally have low permeability and limited ability to transmit groundwater.

The unconsolidated deposits at the Site have been grouped into three hydrostratigraphic units: 1) sand and gravel unit (including silty sand, silty gravel, and mixtures of sand, silt, and gravel), 2) silt and clay (including silty clay), and 3) the till mound between Creamery Road and Clove Branch Road. The sand and gravel units transmit groundwater more readily than the silt and clay units and act as preferential flow paths for groundwater contamination. All of these units are localized and discontinuous, and they are likely to create multiple complex flow pathways throughout the unconsolidated deposits.

The higher conductivity sand and gravel units in the overburden at the Site are a major source of groundwater for residential and commercial wells in the area. In addition, some residential and commercial wells are completed in the bedrock underlying the glacial outwash deposits. The glacial outwash and bedrock are interconnected and generally are considered a single aquifer unit.

In general, groundwater flow is towards the valley from the upland areas on the east and west sides of the valley. In the valley, groundwater flow is generally towards the southwest

along the valley axis. The glacial till mound located between Creamery Road and Clove Branch Road impedes groundwater flow within the valley. Groundwater flows preferentially in silty sand and gravel units. The vertical gradient in most monitoring wells is upwards, indicating groundwater discharges into the valley and Whortlekill Creek which runs along the axis of the valley and also flows toward the southwest. The contaminant flow velocity at the Site was estimated to average from 0.8 to 1.1 feet/day in the permeable preferential flow pathways. The depth to water across the Site varies but is generally about 15 feet below the ground surface. The groundwater at the Site is classified by NYSDEC as Class GA, indicating it is considered a source of drinking water. The groundwater contamination is limited to the glacial (unconsolidated) portion of the aquifer.

## **SUMMARY OF PRIVATE WELL SAMPLING RESULTS**

The primary field activity performed as part of the RI for OU 2 included several rounds of groundwater sampling of private wells in the area downgradient of the Hopewell Precision facility. The first round was a limited sampling event that included 48 private wells in the southern portion of the groundwater plume and near already identified, impacted wells with POET systems. The second round was a large-scale sampling event which included 195 private wells in the portions of the plume contaminated with TCE and 1,1,1-TCA. The private wells sampled during the RI were not outfitted with POET systems. Wells with POET systems (installed during earlier response actions) are sampled and maintained by EPA and NYSDEC. The analytical results of the sampling events were compared to the New York State Drinking Water Standards. The following summary focuses on the seven contaminants that were determined to be related to activities at the Hopewell Precision facility. The Site-related contaminants of concern include TCE, 1,1,1-TCA, 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (cis-1,2-DCE), chloromethane, methyl ethyl ketone (MEK) and tetrachloroethene (PCE). Although the discussions below do not include the results from the private wells outfitted with POET systems, the results from these wells were included in all mapping of the groundwater contaminant plumes.

### ***Round 1 Sampling Results***

Six of the seven Site-related contaminants have the same screening criterion: 5 µg/L. The screening criterion for MEK is 50 µg/L. None of the private well samples exceeded these criteria in Round 1.

1,1,1-TCA was detected in 12 of the 48 private wells. Levels in these wells ranged from 0.11 estimated (J) µg/L to 2.2 µg/L. The highest results were detected near the corner of Baris Lane and Clove Branch Road (2.2 µg/L), along Hamilton Road (1.1 µg/L), and along Route 82, just north of the intersection with Clove Branch Road (1.0 µg/L). Results below

1.0 µg/L are clustered north of the intersection of Route 82 and Creamery Road (two wells), and near the intersection of Clove Branch Road and Cavelo Road. PCE was detected in one private well located along Route 82, just north of the intersection with Clove Branch Road (0.17 J µg/L); the same private well had 1,1,1-TCA at 1.0 µg/L.

Eight of the 48 private wells contained TCE with levels ranging from 0.13 J µg/L to 4.7 µg/L. The distribution of TCE in private wells is similar to 1,1,1-TCA. The highest results were detected near the corner of Baris Lane and Clove Branch Road (4.7 µg/L), and near the intersection of Clove Branch Road and Cavelo Road (1.3 and 2.6 µg/L). Results below 1.0 µg/L were detected north of the intersection of Route 82 and Creamery Road (one well), north of the intersection of Route 82 and Clove Branch Road (two wells), and at the intersection of Clove Branch Road and Cavelo Road (one well).

Low levels of chloromethane were detected in three private wells along Route 82: near the intersection with Creamery Road (0.12 J µg/L), near the intersection with Mary Lane (0.16 J µg/L), and near the intersection with Clove Branch Road (0.35 J µg/L).

1,1-DCE was detected in one private well located on Hamilton Road (0.11 J µg/L). *Cis*-1,2-DCE and MEK were not detected in any of the private wells.

### **Round 2 Sampling Results**

1,1,1-TCA was detected in 23 of the 195 private wells, with levels ranging from 0.5 J µg/L to 3.3 µg/L. The highest results were detected on Baris Lane (2.2 µg/L), south of Cavelo Road (3.3 µg/L and 2.7 µg/L), and along Route 82, just north of the intersection with Clove Branch Road (1.0 µg/L). Results below 1.0 µg/L are clustered north of the intersection of Route 82 and Creamery Road (two wells) and near the intersection of Clove Branch Road and Cavelo Road.

TCE was detected in 16 of the 195 private wells, with levels ranging from 0.53 µg/L to 7.4 µg/L. The highest results were detected near the corner of Baris Lane and Clove Branch Road (7.4 µg/L), clustered near the intersection of Clove Branch Road and Cavelo Road (4.0, 3.7, 3.4, and 2.7 µg/L), and along Route 82, just south of the Creamery Road intersection (3.5 µg/L). Lower results were detected along Route 82 (0.53 µg/L to 0.98 µg/L), clustered along Cavelo Road (0.67 µg/L to 1.8 µg/L), and near the intersection of Creamery Road and Hamilton Road (1.2 µg/L and 1.9 µg/L).

MEK was detected in two wells, at concentrations ranging from 0.77 µg/L to 1.6 µg/L, which are below the screening criterion.

The Site-related contaminants PCE, 1,1-DCE, *cis*-1,2-DCE, and chloromethane were not detected in private well samples.

## ***Summary of Private Well and Groundwater Contamination***

The majority of private well samples did not contain detectable levels of VOCs. 1,1,1-TCA, which was the most prevalent Site-related contaminant during both sampling rounds, was detected in 25 percent of wells sampled in Round 1, and in approximately 13 percent of wells sampled in Round 2. TCE was detected in approximately 17 percent of wells in Round 1 and 8 percent in Round 2. The majority of 1,1,1-TCA and TCE results for both rounds are clustered in the area along Clove Branch Road, between Baris Lane and Route 82, and in areas just downgradient. In wells with detectable VOCs, concentrations were generally well below the Site-specific groundwater screening criteria, and in many cases, they were only detected at trace levels.

Wells outfitted with POET systems were also sampled by EPA or NYSDEC. These wells have higher levels of TCE and 1,1,1-TCA than wells sampled during the RI (summarized above). TCE in wells with POETs sampled by EPA ranged from 0.6 µg/L to 70 µg/L. 1,1,1-TCA in wells with POETs sampled by NYSDEC ranged from 0.7 µg/L to 5.7 µg/L in July 2007. Figure 3 shows the TCE and 1,1,1-TCA groundwater contaminant plumes.

The shape of the TCE plume is indicative of the heterogeneous nature of the aquifer and the presence of preferential flow paths. The area of highest concentrations has levels which exceed 50 µg/L and extends from just south of Oak Ridge Road to just north of Creamery Road (Figure 3). The shape of the plume is complex as it flows preferentially between a low conductivity till to the north and the till mound to the south. The 1,1,1-TCA plume extends further to the south than the TCA plume, to Redwing Lake and the gravel pit (Figure 3). The contaminant flow velocity at the Site was estimated to average from 0.8 to 1.1 feet/day in the permeable preferential flow pathways. The groundwater contamination is limited to the glacial (unconsolidated) portion of the aquifer.

## ***Contamination Fate and Transport***

The persistence of contaminants is determined by the rate of degradation, velocity of the groundwater, the geochemical conditions in the aquifer, and the retardation coefficient (Kd) of the individual compounds. The Kd values for the Site-related VOCs show that they have low adsorption to the materials in the aquifer. Soil sampling during the RI indicated that no residual sources in the unsaturated zone remain at the Hopewell Precision facility.

The Site-related VOCs are mobile and are expected to move with the groundwater, although at a slower rate. Natural attenuation via biodegradation appears to be limited, and because of the high oxygen levels found in the aquifer, it is not likely to reduce contaminant levels significantly. Limited natural attenuation, however, is expected to occur through dilution and dispersion.

## **CURRENT AND POTENTIAL FUTURE SITE AND RESOURCE USES**

The Site is predominantly residential, with nearly 400 homes in the affected area. Limited commercial development is present along parts of Route 82. EPA does not anticipate that the use of the Site in the future is likely to change.

Currently each home or business has a private well for its water supply and a septic system. Some of the private wells tap the contaminated groundwater in the shallow glacial aquifer. The depth to water across the Site varies but is generally about 15 feet bgs. The groundwater at the Site is classified by NYSDEC as Class GA, indicating it is considered a source of drinking water. The groundwater contamination is limited to the glacial (unconsolidated) portion of the aquifer.

## **SUMMARY OF SITE RISKS**

As part of the RI/FFS, EPA conducted a baseline risk assessment to estimate the current and future effects of contaminants on human health and the environment. A baseline risk assessment is an analysis of the potential adverse human health and ecological effects of releases of hazardous substances from a site in the absence of any actions or controls to mitigate such releases under current and future land uses. The baseline risk assessment includes a human health risk assessment and an ecological risk assessment. It provides the basis for taking action and identifies the contaminants and exposure pathways that need to be addressed by the remedial action. This section of the ROD summarizes the results of the baseline risk assessment for the Site.

### ***Human Health Risk Assessment***

A four-step process is utilized for assessing Site-related human health risks for a reasonable maximum exposure scenario: *Hazard Identification* – uses the analytical data collected to identify the contaminants of potential concern at the Site for each medium, with consideration of a number of factors explained below; *Exposure Assessment* - estimates the magnitude of actual and/or potential human exposures, the frequency and duration of these exposures, and the pathways (e.g., ingesting contaminated well-water) by which humans are potentially exposed; *Toxicity Assessment* - determines the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure (dose) and severity of adverse effects (response); and *Risk Characterization* - summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of Site-related risks. The risk characterization also identifies contamination with concentrations which exceed acceptable levels, defined by the NCP as an excess lifetime cancer risk greater than  $1 \times 10^{-6}$  –  $1 \times 10^{-4}$  or a Hazard Index greater than 1.0; contaminants at these concentrations are considered chemicals of concern (COCs) and are typically those that will require remediation at the Site. This section includes a discussion of the uncertainties associated with these risks.

## Hazard Identification

In this step, the chemicals of potential concern (COPCs) in each medium were identified based on such factors as toxicity, frequency of occurrence, fate and transport of the contaminants in the environment, concentrations, mobility, persistence, and bioaccumulation. Analytical information that was collected to determine the nature and extent of contamination revealed the presence of TCE, PCE, and arsenic in the groundwater at concentrations of potential concern. Only PCE and TCE are associated with operations of Hopewell Precision. Based on this information, the risk assessment focused on groundwater contaminants which may pose significant risk to human health.

A comprehensive list of all COPCs can be found in the Baseline Human Health Risk Assessment (BHHRA), entitled "Human Health Risk Assessment Report – Hopewell Precision Site" (USEPA, 2008). This document is available in the Administrative Record file. As this ROD focuses on OU 2 (an alternate water supply), only the COCs, or these chemicals requiring remediation at the Site related to groundwater, are listed in Table 1.

## Exposure Assessment

Consistent with Superfund policy and guidance, the BHHRA is a baseline human health risk assessment is conducted based on the assumption that no remediation or institutional controls will be utilized to mitigate or remove hazardous substance releases. Cancer risks and noncancer hazard indices were calculated based on an estimate of the reasonable maximum exposure (RME) expected to occur under current and future conditions at the Site. The RME is defined as the highest exposure that is reasonably expected to occur at a site. For those contaminants for which the risk or hazard exceeded the acceptable levels, the central tendency estimate (CTE), or the average exposure, was also evaluated.

The area above the groundwater plume is currently zoned for commercial and residential use. It is anticipated that the future land use for this area will remain consistent with its current use. The BHHRA evaluated potential risks to populations associated with both current and potential future land uses.

Exposure pathways were identified for each potentially exposed population and each potential exposure scenario for exposure to groundwater. Exposure pathways assessed in the BHHRA for the groundwater include ingestion of tap water, dermal contact with tap water, and inhalation from the showerhead by adult and child residents. In addition, ingestion of tap water was evaluated for on-Site workers. A summary of the exposure pathways that were associated with groundwater exposure can be found in Table 2. Typically, exposures are evaluated using a statistical estimate of the exposure point concentration, which is usually an upper-bound estimate of the average concentration for each contaminant, but in some cases they may be the maximum detected concentration. A summary of the exposure point concentrations for the COCs in groundwater can be found

in Table 1, while a comprehensive list of the exposure point concentrations for all COPCs can be found in the BHHRA.

### Toxicity Assessment

Under current EPA guidelines, the likelihood of carcinogenic risks and noncancer hazards that are due to exposure to Site chemicals are considered separately. Consistent with current EPA policy, it was assumed that the toxic effects of the Site-related chemicals would be additive. Thus, cancer and noncancer risks associated with exposures to individual COPCs were summed to indicate the potential risks and hazards associated with mixtures of potential carcinogens and noncarcinogens, respectively.

Toxicity data for the human health risk assessment were provided by the Integrated Risk Information System database, the Provisional Peer Reviewed Toxicity Database, or another source that is identified as an appropriate reference for toxicity values consistent with EPA's directive on toxicity values. This information is presented in Table 3 (noncancer toxicity data summary) and Table 4 (cancer toxicity data summary). Additional toxicity information for all COPCs is presented in the BHHRA.

### Risk Characterization

Noncarcinogenic risks were assessed using a hazard index (HI) approach, based on a comparison of expected contaminant intakes and benchmark comparison levels of intake (reference doses, reference concentrations). Reference doses (RfDs) and reference concentrations (RfCs) are estimates of daily exposure levels for humans (including sensitive individuals) which are thought to be safe over a lifetime of exposure. The estimated intake of chemicals identified in environmental media (e.g., the amount of a chemical ingested from contaminated drinking water) is compared to the RfD or the RfC to derive the hazard quotient (HQ) for the contaminant in the particular medium. The HI is obtained by adding the hazard quotients for all compounds within a particular medium that impacts a particular receptor population.

The HQ for oral and dermal exposures is calculated as below. The HQ for inhalation exposures is calculated using a similar model that incorporates the RfC, rather than the RfD.

$$\text{HQ} = \text{Intake}/\text{RfD}$$

Where:       HQ = hazard quotient  
              Intake = estimated intake for a chemical (mg/kg-day)  
              RfD = reference dose (mg/kg-day)

The intake and the RfD will represent the same exposure period (*i.e.*, chronic, subchronic, or acute).

As previously stated, the HI is calculated by summing the HQs for all chemicals for likely exposure scenarios for a specific population. An HI greater than 1.0 indicates that the potential exists for noncarcinogenic health effects to occur as a result of Site-related exposures, with the potential for health effects increasing as the HI increases. When the HI calculated for all chemicals for a specific population exceeds 1.0, separate HI values are then calculated for those chemicals which are known to act on the same target organ. These discrete HI values are then compared to the acceptable limit of 1.0 to evaluate the potential for noncancer health effects on a specific target organ. The HI provides a useful reference point for gauging the potential significance of multiple contaminant exposures within a single medium or across media. A summary of the noncarcinogenic risks associated with these chemicals for each exposure pathway is contained in Table 5.

It can be seen in Table 5 that the HI for noncancer effects as a result of potential exposure to TCE, PCE, and arsenic in groundwater is 3.9 for the adult resident and 12 for the child resident. The noncarcinogenic hazard for the residential populations was attributable primarily to TCE and arsenic, and all are above the acceptable EPA value of 1. The noncancer HI for the on-Site facility worker was below 1.

For carcinogens, risks are generally expressed as the incremental probability of an individual developing cancer over a lifetime as a result of exposure to a carcinogen, using the cancer slope factor (SF) for oral and dermal exposures and the inhalation unit risk (IUR) for inhalation exposures. Excess lifetime cancer risk for oral and dermal exposures is calculated from the following equation, while the equation for inhalation exposures uses the IUR, rather than the SF:

$$\text{Risk} = \text{LADD (lifetime average daily dose)} \times \text{SF}$$

Where: Risk = a unitless probability (e.g.,  $2 \times 10^{-5}$ ) of an individual developing cancer  
LADD = lifetime average daily dose averaged over 70 years (mg/kg-day)  
SF = cancer slope factor, expressed as  $[1/(\text{mg/kg-day})]$

These risks are probabilities that are usually expressed in scientific notation (such as  $1 \times 10^{-4}$ ). An excess lifetime cancer risk of  $1 \times 10^{-4}$  indicates that one additional incidence of cancer may occur in a population of 10,000 people who are exposed under the conditions identified in the assessment. As stated in the NCP, the acceptable risk range for Site-related exposure is  $10^{-6}$  to  $10^{-4}$ .

Results of the BHHRA presented in Table 6 indicate that the adult ( $6.5 \times 10^{-4}$ ) and child ( $1.4 \times 10^{-3}$ ) resident exceed the acceptable EPA risk range because of exposure to TCE, PCE, and arsenic in groundwater.

In summary, TCE, PCE, and arsenic in groundwater contribute to unacceptable risks and hazards to receptor populations that may use the contaminated groundwater. However, arsenic is not related to any activities at the Hopewell Precision facility, and it was only

detected in one monitoring well sample. Therefore, risks from arsenic are likely to be minimal. The non-cancer hazards and cancer risks from all COPCs can be found in the BHHRA.

A remedial action is necessary to protect the public health or welfare of the environment from actual or threatened releases of contaminants into the environment.

### Uncertainties

The procedures and inputs 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
- Toxicological 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. Environmental 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 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 risk assessment provides upper-bound estimates of the risks to populations near the Site, and thus it is highly unlikely to underestimate 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 risk assessment report.

## ***Ecological Risk Assessment***

This Record of Decision is focused on evaluating potential risk to residents who rely on groundwater as their source of potable water. Given that ecological receptors are not exposed to tap water, potential hazards to ecological receptors are not expected. Potential exposure of ecological receptors to the contaminated groundwater where it discharges to surface water bodies will be addressed in OU 1.

## ***Basis for Action***

Based upon the results of the private well sampling and human health risk assessment, EPA has determined that a response action is necessary to protect the public health or welfare of the residents from actual or threatened releases of hazardous substances into the environment.

## **REMEDIAL ACTION OBJECTIVES**

Remedial action objectives (RAOs) are media-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), to-be-considered (TBC) guidance, and risk-based levels established in the risk assessment.

The overall RAO is to ensure the protection of human health and the environment. The specific RAO identified for OU 2 at the Site is to:

Prevent or minimize current and future human exposure to VOC-contaminated drinking water.

## **SUMMARY OF REMEDIAL ALTERNATIVES**

CERCLA Section 121(b)(1), 42 U.S.C. Section 9621(b)(1), mandates that remedial actions must be protective of human health and the environment, cost-effective, and utilize permanent solutions and alternative treatment technologies and resource recovery alternatives to the maximum extent practicable. Section 121(b)(1) also establishes a preference for remedial actions which employ, as a principal element, treatment to permanently and significantly reduce the volume, toxicity, or mobility of the hazardous substances, pollutants, and contaminants at a site. CERCLA Section 121(d), 42 U.S.C. Section 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 Section 121(d)(4), 42 U.S.C. Section 9621(d)(4).

The objective of the FFS for OU 2 was to identify and evaluate remedial action alternatives for providing an alternate source of drinking water for the affected area. Figure 3 shows the area proposed for an alternate source of drinking water and the groundwater contaminant plume.

Detailed descriptions of the remedial alternatives for alternate water supplies for the Site are presented below. Alternatives AWS-2 and AWS-3 were evaluated for a duration of 30 years because it is the standard default timeframe used for comparison purposes. The use of the 30-year timeframe does not imply that the remedy would become ineffective or be removed after 30 years.

### ***Alternative AWS-1 – No Action***

Capital Cost:	\$0
Annual Cost:	\$0
Present-Worth Cost:	\$0
Duration Time:	0 years

The “No Action” alternative is considered in accordance with NCP requirements and provides a baseline for comparison with other alternatives. If this alternative were implemented, the current status of the Site would remain unchanged. No remedial actions would be implemented as part of this alternative. Groundwater would continue to migrate and contamination would continue to attenuate through dilution. This alternative does not include institutional controls or long-term groundwater monitoring.

### ***Alternative AWS-2 – Installation and Operation of POET Systems***

Capital Cost:	\$3,292,000
Annual Cost:	\$978,000
Present-Worth Cost:	\$15,448,000
Duration Time:	30 years

This alternative provides water to the Hopewell hook-up area by treating the potentially contaminated groundwater through installation of POET systems on the private wells. Alternative AWS-2 consists of on-Site treatment of the existing water supply.

#### **Point-of-Entry Treatment of Private Wells**

Groundwater extracted by the existing private wells would be treated via a POET system prior to the points of use within the home/building. The POET system would remove suspended solids via bag filtration, VOCs via carbon adsorption, and bacteria via ultraviolet (UV) disinfection.

Bag filters are filtration systems commonly used in water treatment. Based on the design of systems installed within the area by EPA and NYSDEC, it is assumed that each POET system would employ one 5-micron bag filter for the removal of suspended solids from the water.

Carbon adsorption is a process by which VOCs are transferred from the water to the activated carbon by physical adsorption. Granular activated carbon (GAC) is the most commonly used carbon to remove contaminants for water. Usually one or more vessels filled with GAC are connected in series or parallel and operate under atmospheric or positive pressure. Raw water would be pumped through these vessels, and contaminants would be adsorbed to the GAC. As the GAC becomes saturated, its ability to adsorb contaminants would gradually be expended. Based on analytical monitoring and the estimated operational life of the GAC, it would be replenished prior to saturation or upon observance of breakthrough. The spent GAC would be sent offsite for disposal or regeneration.

Following the carbon adsorption treatment, water would be disinfected via inline ultraviolet radiation units. The UV radiation units would effectively destroy bacteria within the water supply. The UV units would be outfitted with alarms to detect decreased intensity in the bulbs.

Daily water usage estimates are necessary to design the POET systems, including estimates of GAC that would be needed. Estimated average daily household water usage demands vary. NYSDOH recommends 75 gallons per day (gpd) per user. Based on the 2000 census, the Town of East Fishkill has used an estimate of 3 users per lot to perform past calculations, resulting in a daily household demand of 225 gpd. NYSDEC recommends estimating usage based on an average of 150 gpd per bedroom. An estimate of 3 bedrooms per lot would give an average daily household demand of 450 gpd. The Town's 2006 Annual Drinking Water Quality Reports show average daily household usage rates between 160 and 200 gpd for the Pinewood Knolls, Revere Park, and Brettview Water Districts. Annual Drinking Water Quality Reports for the Little Switzerland Water District for 2005 and 2006 show average daily household usage rates of 453 and 639 gpd. The higher rates are attributed by the Town to leaks in the distribution system. Most of these leaks have been repaired, and metered usage rates are reported to be approximately 225-250 gpd. Systems operation for residential properties will be based on a mean daily water usage estimate of 250 gpd. For commercial properties, system operation will be based on an approximate mean usage rate of 670 gpd.

There are 377 parcels within the Hopewell hook-up area. Fifty-two of these parcels currently use POET systems installed and operated by either EPA (38 systems) or NYSDEC (14 systems). The FFS assumed that these POET systems will continue to be used. It was assumed that each property within the hook-up area (that currently does not have a POET system) would be provided with a new POET system equal to the existing

systems which continue to operate successfully within the hook-up area. The number of systems to be installed is estimated to be 325, including 14 properties with commercial zoning designations.

### Operation, Maintenance, and Monitoring of POET Systems

The operation, maintenance, and monitoring (OMM) of the POET systems would be conducted including maintenance of the filters, GAC vessels, UV units, and other equipment and appurtenances. In addition, costs associated with long-term maintenance of the POET systems are included. POET systems are mainly used as short-term solutions because they are prone to operational issues such as breakthrough, fouling and breakdown.

As part of the system OMM program, a long-term water sampling program would be instituted to determine the effectiveness of the individual POET system at each property. Quarterly samples of the effluent and annual samples of the influent would be collected to ensure the effectiveness of the systems to provide an alternate water supply and to monitor groundwater quality. It is assumed that sampling events will be combined with maintenance events. Under this alternative, annual samples of POET system influent (raw water) would also continue to monitor groundwater quality. The aqueous samples (quarterly and annual) would be analyzed for trace-level VOCs.

### Duration of Alternative

Contaminants have been detected in monitoring and private wells throughout the Hopewell hook-up area; however, the higher levels of groundwater contamination are currently located near Clove Branch Road. It is expected that non-destructive natural attenuation processes would be the only mechanism to reduce contaminant concentrations. It is assumed that the treatment of groundwater prior to use would be required for the 30-year FFS evaluation period.

The long-term OMM program would monitor the migration and reduction of the contaminants over time. Every five years, an evaluation of the remedial action would be performed, including an evaluation of OMM data to determine if any of the POET systems should be eliminated or any additional systems are required.

### ***Alternative AWS-3 – Provision of Alternate Water Supply***

Capital Cost:	\$18,879,900
Annual Cost:	\$0
Present-Worth Cost*:	\$18,899,000 *
Duration Time:	30 years

\* Present-worth cost includes costs for five year reviews.

This alternative provides water to the Hopewell hook-up area by installing a system to deliver water from new wells to be installed within a nearby existing public water wellfield. The Little Switzerland wellfield was initially proposed to provide the water required by the Hopewell hook-up area because of its proximity to the Hopewell area. While the water supply is expected to be drawn from new wells on the Little Switzerland water district property, if, based upon design considerations or other factors, it is determined that another source of water is preferable or necessary (e.g., if testing reveals that the capacity of the aquifer in the vicinity of the Little Switzerland well field may not be adequate), another source of water supply (e.g., the Dutchess Central Utility Corridor Waterline or the Beekman/Legends system) may be selected or established to supply water to the Hopewell hook-up area. A Town of East Fishkill code states that properties within a municipal water district within the Town shall connect to the public water supply.

To implement Alternative AWS-3 and determine which of the above-mentioned options is most appropriate, EPA would work closely with the Town of East Fishkill whether in developing a new or expanded water district for the Hopewell hook-up area.

Alternative AWS-3 would consist of the following components:

- Capacity Testing of the Aquifer
- Installation of Supply Wells and Water Storage Tank
- Construction of Water Distribution System
- Disconnection of Private Well Piping

#### Capacity Testing of the Aquifer

The aquifer which EPA presumes is the most appropriate to supply the water for the affected Hopewell hook-up area is the aquifer from which the Little Switzerland wellfield extracts drinking water for its system. The Little Switzerland wellfield system includes two six-inch diameter bedrock supply wells on Dogwood Road. Well #1 is reported to be 189 feet (ft) deep, with a 25-horsepower (hp) pump motor; Well #2 is reported to be 200 ft deep, with a 15 hp pump motor. The operators of the wellfield currently report flow rates of 125 gallons per minute (gpm) for Well #1 and 80 gpm for Well #2, with approximate run times between two and seven hours per day. The wells currently are not operated simultaneously. Assuming a maximum of 12 hours of operation per well per day, the calculated maximum total yield is 147,600 gpd. However, according to discussions held with the Town and Dutchess County, the well yields have not been determined. Therefore, during the design phase of the project, the existing Little Switzerland wellfield wells would need to be pump tested to determine the capacity of the aquifer and the well yields. Based on the determined yields of the existing wells, the capacity of the aquifer would be estimated to determine whether the aquifer can supply the required additional volume of water for the Hopewell hook-up area. Capacity testing may indicate that more than two wells are needed since a standby well would also be required. The final number of wells would be determined after the capacity testing is completed. If capacity testing or other

information indicates that the Little Switzerland wellfield area cannot provide the required volume of water, other alternate water supply sources such as the Beekman/Legends system or the Dutchess Central Utility Corridor Waterline would be considered.

### Installation of Supply Wells and Water Storage Tank

Based upon usage estimates (250 gpd and 670 gpd) described under Alternative AWS-2, the Hopewell hook-up area properties would require a mean daily supply of 100,130 gallons. Conservatively estimating the maximum daily demand at 300% of the average daily demand gives a maximum daily demand of 300,390 gpd. It is assumed that two new wells (one duty, one standby) would be installed under AWS-3. The two new wells would not be operated concurrently; therefore, the two wells can be installed in close proximity to each other and one would act as a standby well when the other well is pumping. The final determination would be made during the design phase of the project. It is assumed that these wells could be installed within the existing, Town-owned wellfield. The new wells would require a new electrical system and chlorination facility.

A new storage tank would be constructed at the Little Switzerland wellfield site or nearby property. It is currently estimated that the volume of this tank would be approximately 400,000 gallons, based on the projected water demand and an estimated fire protection need of 2,500 gpm for 2 hours. If adequate space is not available at the Little Switzerland wellfield for the required tank or if space were not available for any other reason, the new tank would be located on a nearby property.

### Construction of Water Distribution System

If the Little Switzerland wellfield were used, the water distribution system for the Hopewell hook-up area would include approximately 37,850 feet of water main to be installed along Dogwood Road from the new supply wells in the wellfield (located south of Mountain Pass Road) to the Hopewell hook-up area via Oak Ridge Road and along Oak Ridge Road to State Route 82. It is estimated that approximately 3,750 feet of piping in Dogwood Road would be underlain by shallow bedrock and would require some rock removal. Piping would also be installed in or along State Route 82, creating a 10,000-ft main distribution trunk. Water distribution mains (approximately 24,100 ft) would be constructed to deliver water within the Hopewell area streets.

During the installation of all water supply lines, fire hydrants would be installed every 500 linear feet of supply line. The proposed water main delivery route is presented in Figure 4.

All properties within the Hopewell hook-up area would be provided with a connection to the new water supply. Each property would be connected from the water main to the house with piping. Soil cuttings from the connection of the private properties to the water mains would remain on the property.

No deed restrictions would be implemented under this alternative because the operation and maintenance of the water system would become the responsibility of the Town of East Fishkill.

#### Disconnection of Private Well Piping

Pursuant to the Town Code, piping at the private wells must be disconnected between the wellhead and house/building following connection to the public water supply. As a result of the well disconnection, annual sampling of private wells would be terminated.

#### Operation, Maintenance, and Monitoring

Under this alternative, the Town of East Fishkill would be responsible for the OMM of the system. Therefore, no costs are included for OMM.

### **COMPARATIVE ANALYSIS OF ALTERNATIVES**

In selecting a remedy for a site, EPA considers the factors set forth 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 consists 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 the most important and must be satisfied by any alternative in order to be eligible for selection:**

- Overall protection of human health and the environment addresses whether 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.
- Compliance with applicable or relevant and appropriate requirements addresses whether a remedy would meet all of the applicable or relevant and appropriate requirements of other federal and state environmental statutes and regulations or provide grounds for invoking a waiver.

**The following "primary balancing" criteria are used to make comparisons and to identify the major tradeoffs between alternatives:**

- Long-Term effectiveness and permanence refer 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.

- Reduction of toxicity, mobility, or volume through treatment is the anticipated performance of the treatment technologies with respect to these parameters that a remedy may employ.
- 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 period until cleanup goals are achieved.
- Implementability is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.
- Cost includes estimated capital and annual operation and maintenance costs, and net present-worth costs.

**The following "modifying" criteria are used in the final evaluation of the remedial alternatives after the formal comment period, and may prompt modification of the preferred remedy that was presented in the Proposed Plan:**

- State acceptance indicates whether, based on its review of the RI/FFS reports and the Proposed Plan, the State concurs with, opposes, or has no comment on the preferred remedy at the present time.
- Community acceptance will be assessed in the ROD, and refers to the public's general response to the alternatives described in the Proposed Plan and the RI/FFS reports.

A comparative analysis of the remedial alternatives for OU2, based upon the evaluation criteria noted above, is presented below.

#### Overall Protection of Human Health and the Environment

Currently, there are unacceptable risks to human health if untreated contaminated groundwater at the Site is used as a source of drinking water. Alternative AWS-1 would not provide protection of human health because exposure to contaminated groundwater would not be restricted and contamination would remain in groundwater and residential water supplies for some time into the future. Alternatives AWS-2 and AWS-3 would be protective of human health through elimination of current and future exposure to contaminated groundwater. Alternative AWS-2 would utilize treatment processes at individual wells to eliminate contaminants from Site groundwater prior to use as potable water. Some potential for exposure to contaminated water remains if the GAC filter in a

POET system becomes saturated with contaminants and contaminants pass through the filter and remain in the drinking water. However, this should not occur if the quarterly sampling program, which would be a requirement, is effective in ensuring the continued effectiveness of the POET systems. Alternative AWS-3 would provide potable water from a new or existing public supply system. Alternative AWS-3 would be more permanent and reliable in the long-term than the POET systems proposed under Alternative AWS-2.

### Compliance with ARARs

Alternative AWS-1 would not comply with the chemical-specific ARARs for groundwater; location- and action-specific ARARs are not applicable to AWS-1. Alternatives AWS-2 and AWS-3 would meet the chemical-specific ARARs because the new potable water supply would not contain contaminants at concentrations above MCLs. Under Alternative AWS-3, the aquifer or other source of potable water that would be utilized for the Hopewell hook-up area would be tested in accordance to the Safe Drinking Water Act for public water supplies, administered by New York State. Routine testing would be conducted to ensure the water meets State and federal standards for drinking water. Alternatives AWS-2 and AWS-3 would also comply with location- and action-specific ARARs.

### Long-Term Effectiveness and Permanence

Alternative AWS-1 would not be effective or permanent because the contaminants would not be destroyed and there would be no mechanism to prevent current and future exposure to contaminated groundwater. Alternative AWS-3 would be effective and permanent because it involves permanent infrastructure to convey water from a reliably clean source. Alternative AWS-2 would be effective in the short-term, yet would require significantly more maintenance to remain reliable. Monitoring and servicing over 300 POET systems for contaminant breakthrough, fouling, and breakdown, and implementing the periodic sampling program would be cumbersome and would require highly coordinated efforts. In addition, if filters are not properly maintained, they can serve as a source of microbial contamination in the water system.

### Reduction in Toxicity, Mobility or Volume

Alternatives AWS-1 and AWS-3 would not reduce the VOC mass through treatment since no active treatment of contaminated groundwater occurs. Under Alternative AWS-2, the POET systems would remove contaminants from the groundwater, albeit only at their point-of-use. The continued pumping of the private wells would remove contaminants from the aquifer and would accelerate the overall remediation of the groundwater plume. The contaminants would be treated by the POET systems installed on each private well. Alternatives AWS-2 and AWS-3 would reduce the toxicity in potable water supplied to residents, although only AWS-2 would potentially reduce the toxicity, mobility, or volume of groundwater contamination through continued pumping of the aquifer by the private wells. It should be noted that the remedial action objective for this remedy is not intended to

address restoration of the aquifer but is intended to prevent or minimize current and future human exposure to VOC-contaminated groundwater by providing a safe, potable water supply. Restoration of the aquifer will be addressed under OU 1 and will take the OU 2 selected remedy into consideration.

Short-Term Effectiveness

Alternative AWS-1 would have no impact to nearby communities. Under Alternative AWS-1, protection of the community and workers would not be applicable since no remedial action would occur.

Alternative AWS-2 would be minimally disruptive to the existing residents and workers since disruption would be of very short duration and on a property-by-property basis. Alternative AWS-3 would be the most disruptive in the short-term since construction activities involving water main and service connection installations would create inconveniences to traffic flow within the community for longer periods of time. No major adverse health impacts would be expected under Alternatives AWS-2 and AWS-3. Under Alternative AWS-3, the community and workers would be protected by appropriate worker personal protective equipment and engineering controls including air monitoring.

Implementability

Alternative AWS-1 has no technical or administrative regulations to implement. Of the two action alternatives, Alternative AWS-3 would be more difficult to implement technically and administratively based on the type and amount of construction required within the hook-up area. Alternative AWS-2 would be easier to implement initially, but would require significant ongoing efforts associated with OMM.

Cost

The estimated capital, annual OMM, and present-worth costs for each of the alternative water supply alternatives are presented in the table below. All costs are presented in U.S. dollars and were developed using a discount rate of 7%.

<b>Alternative</b>	<b>Capital Cost</b>	<b>Annual Cost</b>	<b>Total Present Worth</b>
AWS-1	\$0	\$0	\$0
AWS-2	\$3,292,000	\$978,000	\$15,448,000
AWS-3	\$18,879,900	\$0	\$18,899,000

According to the capital cost, OMM cost and present-worth cost estimates, Alternative AWS-1 has the lowest cost and AWS-3 has the highest cost when comparing all alternatives.

## State Acceptance

NYSDEC concurs with the proposed remedy, as revised.

## Community Acceptance

EPA revised Alternative AWS-3 based on comments received during the public comment period. The comments are summarized and addressed in the Responsiveness Summary, which is attached as Appendix V to this document.

## **PRINCIPAL THREAT WASTE**

No materials which meet the definition of “principal threat wastes” were identified during the RI/FFS. As part of the OU 1 FS, EPA will evaluate remedial alternatives for other groundwater exposure scenarios for environmental media associated with the Site.

## **SELECTED REMEDY**

### ***Summary of the Rationale for the Selected Remedy***

Based upon consideration of the requirements of CERCLA, the detailed analysis of the alternatives, and public comments, EPA has determined that OU 2 Alternative AWS-3, Provision of an Alternate Water Supply, best satisfies the requirements of CERCLA Section 121, 42 U.S.C. Section 9621, and provides the best balance of tradeoffs among the remedial alternatives with respect to the NCP's nine evaluation criteria listed at 40 CFR Section 300.430(e)(9).

Implementation of Alternative AWS-3 will provide the best overall protection of human health and eliminate the potential for exposure to contaminated groundwater from private drinking water wells that currently serve nearly 400 homes and/or businesses. EPA believes it will be the most protective of human health in the long-term. It is also cost effective and will be a permanent solution. The hot spot of the groundwater plume (see Figure 3) may continue to migrate toward the south-southwest and could impact more private drinking water wells as it migrates; this has been taken into consideration in developing the boundaries of the area to be supplied with potable water.

The Little Switzerland wellfield, located east and slightly southeast of the Hopewell Precision facility, was initially proposed as the location for new supply wells for Alternative AWS-3 because of its proximity to the affected area. Other potential sources of water will be evaluated during the design phase of the project. Testing during the design phase of the project will also be conducted to determine the capacity of the aquifer. If testing

indicates the aquifer cannot support additional wells, alternate sources of water will be evaluated, such as the Beekman/Legends water system or the Dutchess Central Utility Corridor Waterline.

### ***Description of the Selected Remedy***

#### ***Alternative AWS-3 – Provision of Alternate Water Supply***

Capital Cost:	\$18,879,900
Annual Cost:	\$0
Present-Worth Cost*:	\$18,899,000 *
Duration Time:	30 years

Present-worth cost includes costs for five year reviews.

This alternative provides water to the Hopewell hook-up area by installing a system to deliver water from new wells to be installed within a nearby existing public water wellfield. The Little Switzerland wellfield was initially proposed to provide the water required by the Hopewell hook-up area because of its proximity to the Hopewell area. While the water supply is expected to be drawn from new wells on the Little Switzerland water district property, if, based upon design considerations or other factors, it is determined that another source of water is preferable or necessary (e.g., if testing reveals that the capacity of the aquifer in the vicinity of the Little Switzerland well field may not be adequate), another source of water supply (e.g., the Dutchess Central Utility Corridor Waterline or the Beekman/Legends system) may be selected or established to supply water to the Hopewell hook-up area. A Town of East Fishkill code states that properties within a municipal water district within the Town shall connect to the public water supply.

To implement Alternative AWS-3 and determine which of the above-mentioned options is most appropriate, EPA would work closely with the Town of East Fishkill whether in developing a new or expanded water district for the Hopewell hook-up area.

Alternative AWS-3 will consist of the following components:

- Provision of an alternate water supply to all properties within the Hopewell hook-up area. The water supply is expected to be drawn from new wells on the Little Switzerland water district property. If, based upon design considerations or other factors, it is determined that another source of water is preferable or necessary (e.g., if testing reveals that the capacity of the aquifer in the vicinity of the Little Switzerland well field may not be adequate), another source of water supply (e.g., the Dutchess Central Utility Corridor Waterline or the Beekman/Legends system) may be selected or established to supply water to the Hopewell hook-up area.
- Performance of pumping tests of two existing Little Switzerland water supply wells to determine the capacity of the aquifer. If capacity testing indicates that the aquifer in

the vicinity of the Little Switzerland wellfield can support the required volume of water for the Hopewell hook-up area, and it is determined that wells at this location are the appropriate source of the water supply, two or more wells may be needed since a standby well will also be required. The final number of wells will be determined after the capacity testing is completed.

- Construction of a water storage tank either at the Little Switzerland wellfield or on nearby property.
- Construction of water mains to deliver water from the storage tank to the Hopewell area which is to be connected to the alternate water supply. A service connection from the main will be extended to each house and/or commercial building.
- Disconnection of private well piping within the Hopewell hook-up area following connection to the public water supply.

### Capacity Testing of the Aquifer

The aquifer which EPA presumes is the most appropriate to supply the water for the affected Hopewell hook-up area is the aquifer from which the Little Switzerland wellfield extracts drinking water for its system. The Little Switzerland wellfield system includes two six-inch diameter bedrock supply wells on Dogwood Road. Well #1 is reported to be 189 feet (ft) deep, with a 25-horsepower (hp) pump motor; Well #2 is reported to be 200 ft deep, with a 15 hp pump motor. The operators of the wellfield currently report flow rates of 125 gallons per minute (gpm) for Well #1 and 80 gpm for Well #2, with approximate run times between two and seven hours per day. The wells currently are not operated simultaneously. Assuming a maximum of 12 hours of operation per well per day, the calculated maximum total yield is 147,600 gpd. However, according to discussions held with the Town and Dutchess County, the well yields have not been determined. Therefore, during the design phase of the project, the existing Little Switzerland wellfield wells would need to be pump tested to determine the capacity of the aquifer and the well yields. Based on the determined yields of the existing wells, the capacity of the aquifer would be estimated to determine whether the aquifer can supply the required additional volume of water for the Hopewell hook-up area. Capacity testing may indicate that more than two wells are needed since a standby well would also be required. The final number of wells would be determined after the capacity testing is completed. If capacity testing or other information indicates that the Little Switzerland wellfield area cannot provide the required volume of water, other alternate water supply sources such as the Beekman/Legends system or the Dutchess Central Utility Corridor Waterline would be considered.

### Installation of Supply Wells and Water Storage Tank

Based upon usage estimates (250 gpd and 670 gpd) described under Alternative AWS-2, the Hopewell hook-up area properties will require a mean daily supply of 100,130 gallons.

Conservatively estimating the maximum daily demand at 300% of the average daily demand gives a maximum daily demand of 300,390 gpd. It is assumed that two new wells (one duty, one standby) will be installed under AWS-3. The two new wells will not be operated concurrently; therefore, the two wells can be installed in close proximity to each other and one will act as a standby well when the other well is pumping. The final determination will be made during the design phase of the project. It is assumed that these wells could be installed within the existing, Town-owned wellfield. The new wells will require a new electrical system and chlorination facility.

A new storage tank would be constructed at the Little Switzerland wellfield site or nearby property. It is currently estimated that the volume of this tank would be approximately 400,000 gallons, based on the projected water demand and an estimated fire protection need of 2,500 gpm for 2 hours. If adequate space is not available at the Little Switzerland wellfield for the required tank or if space were not available for any other reason, the new tank would be located on a nearby property.

### Construction of Water Distribution System

If the Little Switzerland wellfield is used, the water distribution system for the Hopewell hook-up area will include approximately 37,850 feet of water main to be installed along Dogwood Road from the new supply wells in the wellfield (located south of Mountain Pass Road) to the Hopewell hook-up area via Oak Ridge Road and along Oak Ridge Road to State Route 82. It is estimated that approximately 3,750 feet of piping in Dogwood Road would be underlain by shallow bedrock and will require some rock removal. Piping will also be installed in or along State Route 82, creating a 10,000-ft main distribution trunk. Water distribution mains (approximately 24,100 ft) will be constructed to deliver water within the Hopewell area streets.

During the installation of all water supply lines, fire hydrants will be installed every 500 linear feet of supply line. The proposed water main delivery route is presented in Figure 4.

All properties within the Hopewell hook-up area will be provided with a connection to the new water supply. Each property will be connected from the water main to the house with piping. Soil cuttings from the connection of the private properties to the water mains will remain on the property.

No deed restrictions will be implemented under this alternative because the operation and maintenance of the water system will become the responsibility of the Town of East Fishkill.

### Disconnection of Private Well Piping

The Town Code requires that piping at the private wells be disconnected between the wellhead and house/building following connection to the public water supply. As a result of the well disconnection, annual sampling of private wells will be terminated.

### Operation, Maintenance, and Monitoring

Under this alternative, the Town of East Fishkill will be responsible for the OMM of the system. Therefore, no costs are included for OMM.

### ***Summary of the Estimated Remedy Costs***

The estimated capital and total present-worth cost for the selected alternate water supply remedy are \$18,879,900 and \$18,899,000, respectively. Table 7 provides the basis for the cost estimate for Alternative AWS-3.

It should be noted that these cost estimates are order-of-magnitude engineering cost estimates that are expected to be within +50 to -30 percent of the actual project cost. These cost estimates are based on the best available information regarding the anticipated scope of the selected remedy. Changes in the cost elements are likely to occur as a result of new information and data collected during the engineering design of the remedy.

### ***Expected Outcomes of the Selected Remedy***

The results of the risk assessment indicate that there is an unacceptable cancer risk from exposure to contaminated groundwater through ingestion, inhalation, and dermal contact to residents if they utilize contaminated water from their private wells in their homes.

The selected remedy will allow for the following potential land and groundwater use.

#### Land Use

The land use at the Site is not expected to change in the future. The residential area includes nearly 400 homes and will remain residential. Commercial development will be limited to the area around Route 82 that traverses the Site in a northeast-southwest direction.

#### Groundwater Use

Under the selected remedy, residential and commercial use of groundwater will be terminated after the remedy is fully operational. The Town Code requires that piping from existing wells be disconnected between the wellhead and the house. Groundwater will no longer be used as a source of drinking water accessed through private wells.

## STATUTORY DETERMINATIONS

Under CERCLA Section 121 and the NCP, the lead agency must select remedies that are protective of human health and the environment, comply with ARARs (unless a statutory waiver is justified), are 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.

For the reasons discussed below, EPA has determined that the selected alternate water supply remedy meets these statutory requirements.

### ***Protection of Human Health and the Environment***

Numerous private water wells have been contaminated with TCE and/or 1,1,1-TCA from the groundwater plume associated with the Hopewell Precision facility. Although all homes with contamination above the Federal MCLs or New York State Drinking Water Standards have been provided with POET systems, provision of an alternate source of water will permanently protect human health by eliminating potential exposure to contaminated groundwater.

### ***Compliance with ARARs and Other Environmental Criteria, Advisories or Guidance***

A summary of the ARARs and other federal or state advisories, criteria, or guidance and To-Be-Considered (TBCs) is presented below. TBCs may be very useful in determining what is protective at a Site or how to carry out certain actions or requirements.

#### Federal ARARs and TBCs

- National Primary Drinking Water Standards (40 CFR 141). Drinking water standards (MCLs and non-zero maximum contaminant level goals [MCLGs]). Note that these MCLs are considered applicable for groundwater which is a current source of drinking water (CERCLA Section 300.430[e][2][i][B]).
- Safe Drinking Water Act
- Statement on Procedures on Flood plain Management and Wetlands Protection (40 CFR 6 Appendix A).
- Policy on Floodplains and Wetland Assessments for CERCLA Actions (OSWER Directive 9280.0-12, 1985).
- RCRA Location Standards (40 CFR 264.18).
- National Environmental Policy Act (NEPA) (42 United States Code [USC] 4321: 40 CFR 1500 to 1508).

- Clean Water Act (CWA) Section 404 (b)(1) Guidelines for Specification of Disposal Sites for Dredge or Fill Material; Section 404(c) Procedures; 404 Program Definitions; 404 State Program Regulations.
- Occupational Safety and Health Administration (OSHA) Record keeping, reporting, and related regulations (29 CFR 1904).
- OSHA General Industry Standards (29 CFR 1910).
- OSHA Construction Industry standards (29 CFR 1926).
- Resource Conservation and Recovery Act (RCRA): Identification and Listing of Hazardous Waste (40 CFR 261); Standards Applicable to Generators of Hazardous Waste (40 CFR 262); Standards for Owners/Operators of permitted hazardous waste facilities (40 CFR 264.10-164.18); Preparedness and prevention (40 CFR.30-264.31); Contingency Plan and Emergency procedures (40 CFR 264.50-264.56).
- Department of Transportation (DOT) Rules for Transportation of Hazardous Materials (49 CFR 107, 171, 172, 177, and 179).
- RCRA Standards Applicable to Transporters of Hazardous Waste (40 CFR 263).
- Land Disposal Restrictions (40 CFR 268)

#### New York State ARARs and TBCs

- New York State Department of Health Drinking Water Standards (10 NYCRR Part 5).
- New York State Department of Health Drinking Water Standards (10 NYCRR) Part 5, Subpart 5-1, Public Water Systems.
- Wetlands and Flood Plains Standards and Regulations (6 NYCRR):
  - New York Wetland Laws (Articles 24-25).
  - New York Freshwater Wetland Permit Requirements and Classification (Articles 663 and 664)
  - Flood Plain Management Regulations - Development Permits (500 ECL Article 36)
- Wildlife Habitat Protection Standards and Regulations (6 NYCRR):
  - Endangered and Threatened Species of Fish and Wildlife (Part 182)
- Transportation of Hazardous Waste (6 NYCRR):
  - Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities (Part 372).
  - Waste Transporter Permit Program (Part 364).
- Disposal of Hazardous Waste (6 NYCRR):
  - Standards for Universal Waste (Part 374-3).
  - Land Disposal Restrictions (Part 376).

#### Local ARARs and TBCs

- Town of East Fishkill Code, Part II, Article I, Standards for Installation of Water Mains, Valves and Hydrants §186-21, Cross connections with nonpotable water supplies.

### ***Cost-Effectiveness***

A cost-effective remedy is one whose costs are proportional to the remedy's overall effectiveness (NCP Section 300.430(f)(1)(ii)(D)). Overall effectiveness is based on the evaluations of: long-term effectiveness and permanence; reduction in toxicity, mobility, and volume through treatment; and short-term effectiveness. Based on the comparison of overall effectiveness to cost, the selected remedy meets the statutory requirement that Superfund remedies be cost-effective in that it is a permanent remedy and thereby eliminate consumption of contaminated or potentially contaminated water.

Each of the alternatives has undergone a detailed cost analysis. In that analysis, capital and annual operation and maintenance costs have been estimated and used to develop present-worth costs. In the present-worth cost analysis, annual operation and maintenance costs were calculated for the estimated life of an alternative using a 7% discount rate. The estimated present-worth cost of the selected OU 2 alternate water

supply remedy is \$18,899,000. EPA believes that the cost of the selected alternative is proportional to its overall effectiveness because it eliminates exposure to contaminated water.

### ***Utilization of Permanent Solutions and Alternative Treatment Technologies to the Maximum Extent Practicable***

The selected remedy provides the best balance of tradeoffs among the alternatives with respect to the balancing criteria set forth in NCP Section 300.430(f)(1)(i)(B), such that it represents the maximum extent to which a permanent solution can be utilized for OU 2 at the Site. The selected remedy provides protection of human health, provides long-term effectiveness, is permanent, and is, therefore, cost-effective.

The selected OU 2 alternate water supply remedy is considered a permanent remedy and offers the best protection of human health among the alternatives evaluated.

### ***Preference for Treatment as a Principal Element***

The statutory preference for remedies that employ treatment as a principal element is not satisfied under the selected alternate water supply remedy since no treatment is included. The feasibility study for OU 1, which includes remediation of the groundwater resource, will further evaluate the groundwater at the Site, including the preference for treatment.

### ***Five-Year Review Requirements***

Hazardous substances remain at this Site above levels that would allow for unrestricted use. Pursuant to Section 121(c) of CERCLA, EPA will review site remedies no less often than every five years. The first five year review will be due within five years of the initiation of construction.

### **DOCUMENTATION OF SIGNIFICANT CHANGES**

The Proposed Plan, released for public comment on July 7, 2008, identified Alternative AWS-3 (provision of alternate water supply) as the preferred alternative. That proposed remedy specifically identified the Little Switzerland Water District as the source of the alternate potable water supply for the affected area. Since that time, and based upon its review of the written and oral comments submitted on the Proposed Plan, EPA has determined that the following significant changes to the remedy, as originally identified in the Proposed Plan, were necessary or appropriate.

- Provision of an alternate water supply to all properties within the Hopewell hook-up area. The water supply is expected to be drawn from new wells on the Little Switzerland water district property. If, based upon design considerations or other factors, it is determined that another source of water is preferable or necessary (e.g., if testing reveals that the capacity of the aquifer in the vicinity of the Little Switzerland well field may not be adequate), another source of water supply (e.g., the Dutchess Central Utility Corridor Waterline or the Beekman/Legends system) may be selected or established to supply water to the Hopewell hook-up area.
- Performance of pumping tests of two existing Little Switzerland water supply wells to determine the capacity of the aquifer. If capacity testing indicates that the aquifer in the vicinity of the Little Switzerland wellfield can support the required volume of water for the Hopewell hook-up area, and it is determined that wells at this location are the appropriate source of the water supply, two or more wells may be needed since a standby well will also be required. The final number of wells will be determined after the capacity testing is completed.
- Construction of a water storage tank either at the Little Switzerland wellfield or on nearby property.
- Construction of water mains to deliver water from the storage tank to the Hopewell area which is to be connected to the alternate water supply. A service connection from the main will be extended to each house and/or commercial building.
- Disconnection of private well piping within the Hopewell hook-up area following connection to the public water supply.

In addition, for administrative reasons, EPA determined that the Alternate Water Supply FFS evaluation of the Site would be known as OU 2. The separate remedial investigation/feasibility study, the results of which will be documented in a separate Proposed Plan and ROD, is designated as OU 1.

**HOPEWELL PRECISION SUPERFUND SITE  
RECORD OF DECISION**

**APPENDIX I**

**FIGURES**

## **SUMMARY OF FIGURES**

Figure 1: Site Location Map

Figure 2: Site Map

Figure 3: Focused Feasibility Study Area and TCE/1,1,1-TCA plumes

Figure 4: Alternate Water Supply Delivery Route

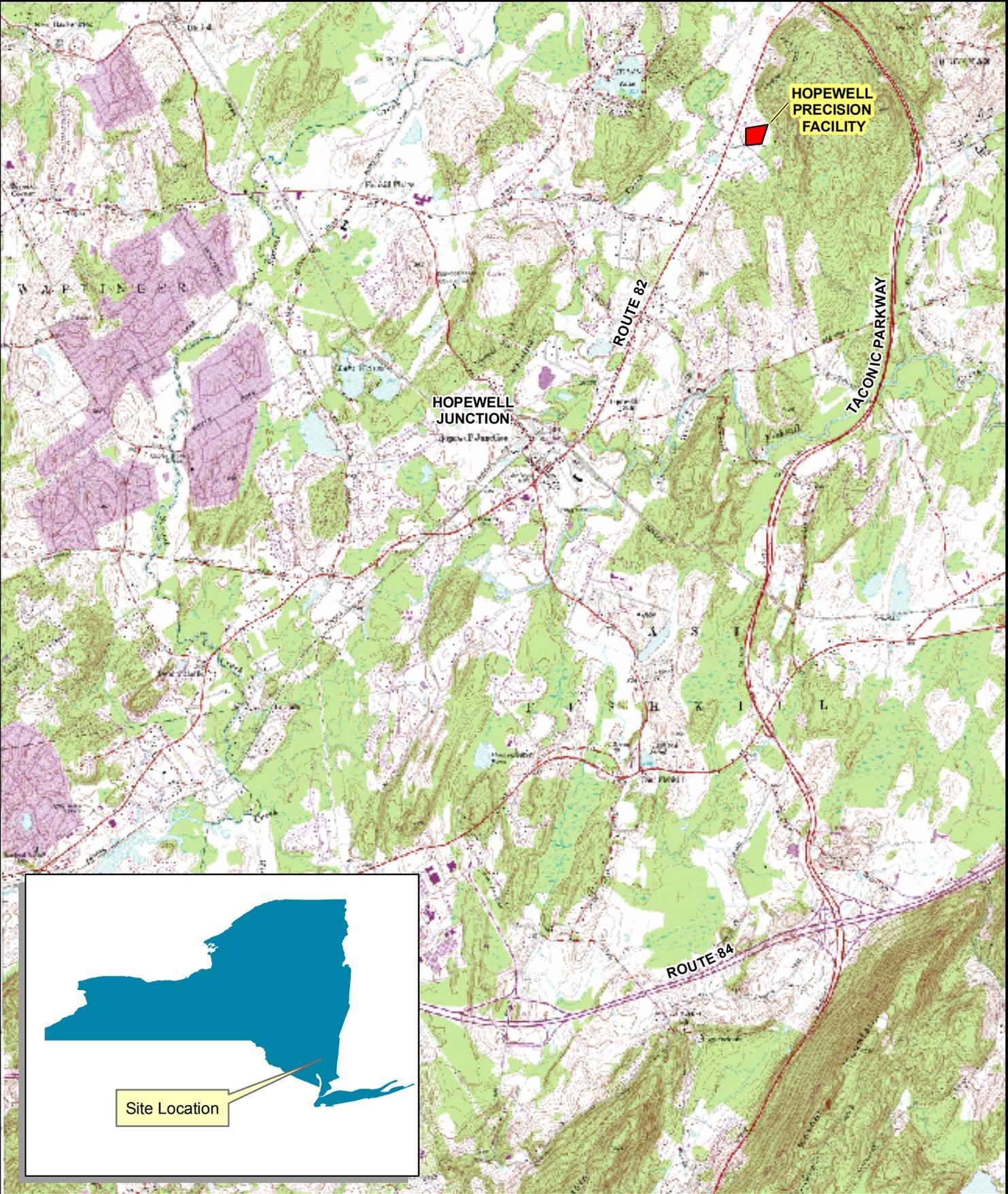


Figure 1  
Site Location Map  
Hopewell Precision Site  
Hopewell Junction, New York



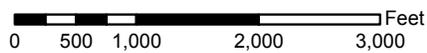
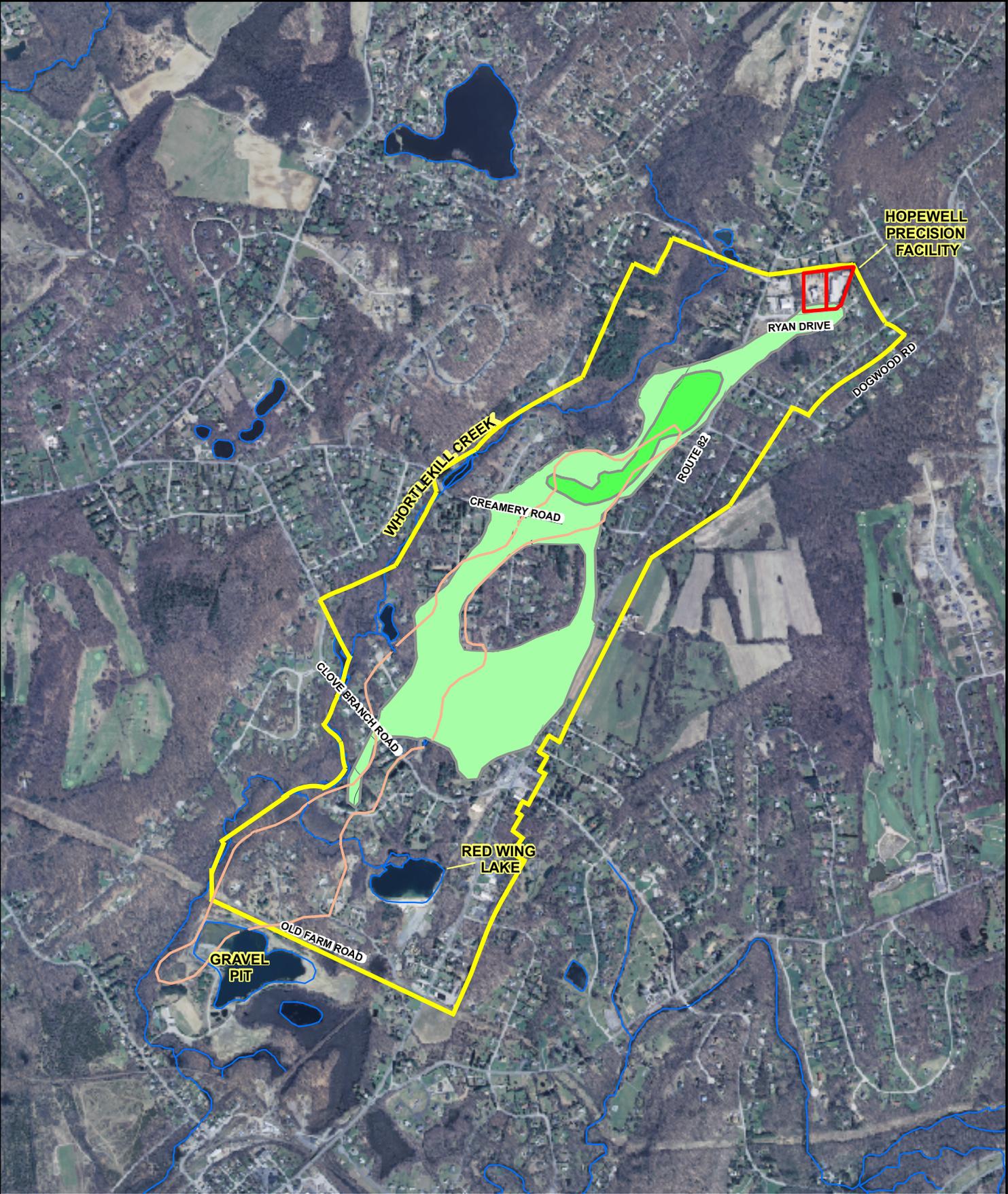


Figure 2  
Site Map  
Hopewell Precision Site  
Hopewell Junction, New York



-  FFS Study Area
-  1,1,1-Trichloroethane plume (1 ug/L)
-  Trichloroethene plume (5 ug/L)
-  Trichloroethene plume (50 ug/L)

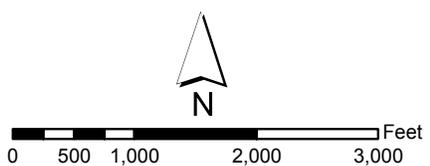
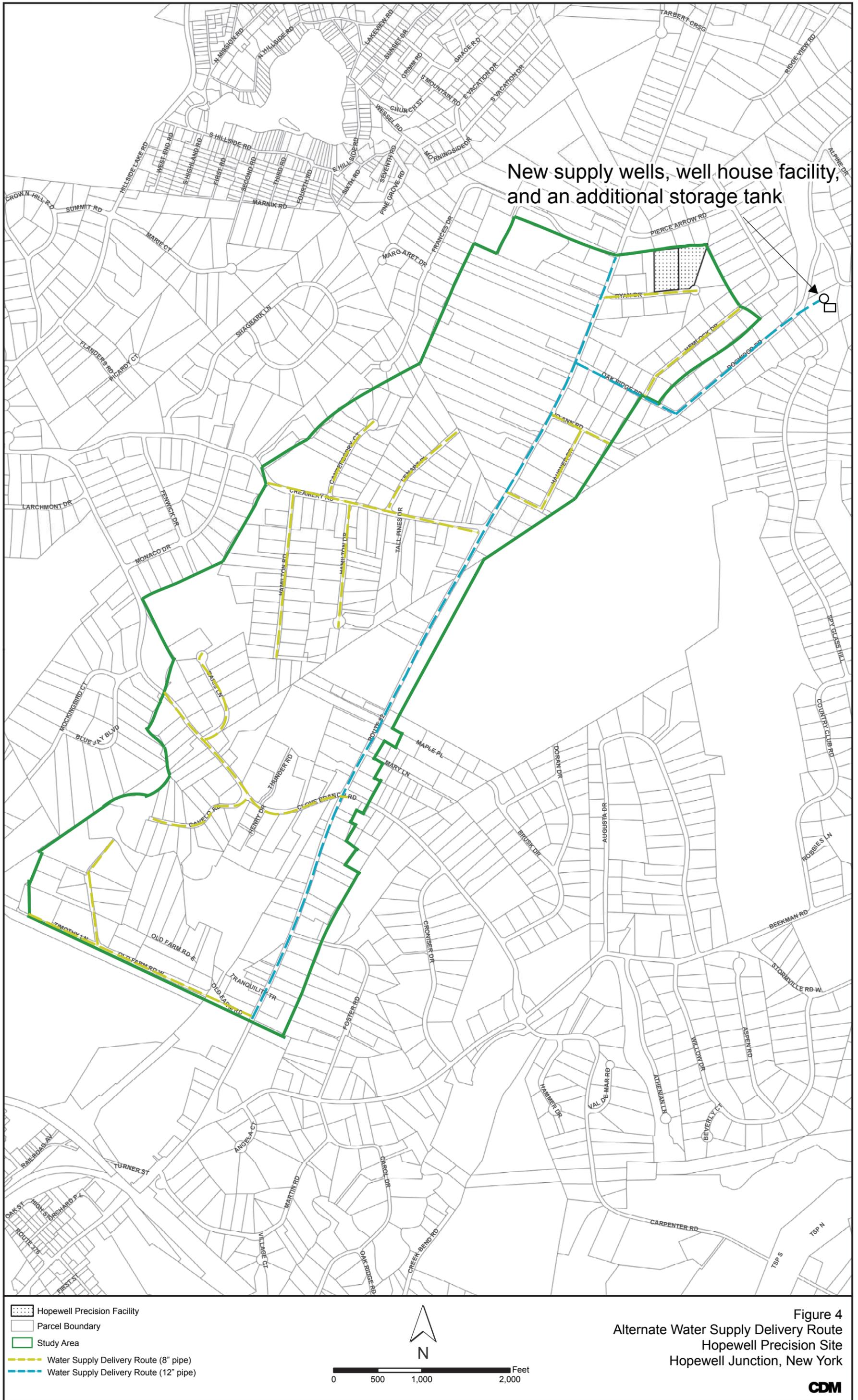


Figure 3  
Focused Feasibility Study (FFS) Area  
and TCE/1,1,1-TCA Plumes  
Hopewell Precision Site  
Hopewell Junction, New York



**HOPEWELL PRECISION SUPERFUND SITE  
RECORD OF DECISION**

**APPENDIX II**

**TABLES**

## SUMMARY OF TABLES

- Table 1: Summary of Chemicals of Concern and Medium Specific Exposure Point Concentrations
- Table 2: Selection of Exposure Pathways
- Table 3: Non-Cancer Toxicity Data Summary
- Table 4: Cancer Toxicity Data Summary
- Table 5: Risk Characterization Summary – Noncarcinogens
- Table 6: Risk Characterization Summary – Carcinogens
- Table 7: Alternative AWS-3: Provision of Alternate Water Supply - Cost Estimate Summary

**TABLE 1**  
**Summary of Chemicals of Concern and**  
**Medium-Specific Exposure Point Concentrations**

**Scenario Timeframe:** Current/Future  
**Medium:** Groundwater  
**Exposure Medium:** Groundwater

Exposure Point	Chemical of Concern	Concentration Detected		Concentration Units	Frequency of Detection	Exposure Point Concentration (EPC)	EPC Units	Statistical Measure
		Min	Max					
Tap Water	Tetrachloroethene	0.099	0.66	µg/l	11/62	0.27	µg/l	UCL-N
	Trichloroethene	0.1	94	µg/l	23/62	20	µg/l	UCL-NP
	Arsenic	16	16	µg/l	1/60	16	µg/l	Maximum

UCL-N – 95% Modified –t Upper-Confidence Limit  
UCL-NP – 97.5% Chebyshev (mean, Sd) Upper Confidence Limit  
Maximum – Maximum Detected Concentration

**Summary of Chemicals of Concern and Medium-Specific Exposure Point Concentrations**

This table presents the chemicals of concern (COCs) and exposure point concentrations (EPCs) for each of the COCs detected in groundwater (i.e., the concentration that will be used to estimate the exposure and risk from each COC). The table includes the range of concentrations detected for each COC, as well as the frequency of detection (i.e., the number of times the chemical was detected in the samples collected at the site), the EPC and how it was derived.

**TABLE 2  
SELECTION OF EXPOSURE PATHWAYS**

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/ Future	Groundwater	Groundwater	Tap Water	Facility Worker	Adult	Ingestion	On-site	Quant	Facility workers may use groundwater as a potable supply of water.
				Residents	Adult	Ingestion/Dermal/ Inhalation	Off-site	Quant	Current and future residents may use groundwater as a potable supply of water.
					Child	Ingestion/Dermal/ Inhalation	Off-site	Quant	Current and future residents may use groundwater as a potable supply of water.

Quant = Quantitative risk analysis performed.

**Summary of Selection of Exposure Pathways**

The table describes the exposure pathways associated with the groundwater that were evaluated for the risk assessment, and the rationale for the inclusion of each pathway. Exposure media, exposure points, and characteristics of receptor populations are included.

**TABLE 3**

**Non-Cancer Toxicity Data Summary**

**Pathway: Oral/Dermal**

Chemical of Concern	Chronic/ Subchronic	Oral RfD Value	Oral RfD Units	Absorp. Efficiency (Dermal)	Adjusted RfD (Dermal)	Adj. Dermal RfD Units	Primary Target Organ	Combined Uncertainty /Modifying Factors	Sources of RfD: Target Organ	Dates of RfD:
Tetrachloroethene	Chronic	1.0E-02	mg/kg-day	-----	1.0E-02	mg/kg-day	Liver	1000	IRIS	12-03/07
Trichloroethene	Chronic	3.0E-04	mg/kg-day	-----	3.0E-04	mg/kg-day	CNS Liver	3000	EPA	2001
Arsenic	Chronic	3.0E-04	mg/kg-day	-----	3.0E-04	mg/kg-day	Skin	3	IRIS	12/03/07

**Pathway: Inhalation**

Chemical of Concern	Chronic/ Subchronic	Inhalation RfC	Inhalation RfC Units	Inhalation RfD	Inhalation RfD Units	Primary Target Organ	Combined Uncertainty /Modifying Factors	Sources of RfD: Target Organ	Dates:
Tetrachloroethene	Chronic	-----	-----	1.4E-01	mg/kg-day	Liver	na	NCEA	10/01/04
Trichloroethene	Chronic	4.0E-02	mg/m <sup>3</sup>	1.0E-02	mg/kg-day	CNS Liver	1000	EPA	2001
Arsenic	na	na	na	na	na	na	na	IRIS	12/03/07

**Key**

na: No information available  
 IRIS: Integrated Risk Information System, U.S. EPA  
 NCEA: National Center for Environmental Assessment  
 HEAST: Health Effects Assessment Summary Tables  
 EPA: Environmental Protection Agency  
 CNS: Central Nervous System

**Summary of Toxicity Assessment**

This table provides non-carcinogenic risk information which is relevant to the contaminants of concern in groundwater. When available, the chronic toxicity data have been used to develop oral reference doses (RfDs) and inhalation reference doses (RfDi).

**TABLE 4**

**Cancer Toxicity Data Summary**

**Pathway: Oral/Dermal**

Chemical of Concern	Oral Cancer Slope Factor	Units	Adjusted Cancer Slope Factor (for Dermal)	Slope Factor Units	Weight of Evidence/ Cancer Guideline Description	Source	Date
Tetrachloroethene	5.4E-01	(mg/kg/day) <sup>-1</sup>	5.4E-01	(mg/kg/day) <sup>-1</sup>	2B	CalEPA	12/03/07
Trichloroethene	4.0E-01	(mg/kg/day) <sup>-1</sup>	4.0E-01	(mg/kg/day) <sup>-1</sup>	C-B2	EPA	2001
Arsenic	1.5E+00	(mg/kg/day) <sup>-1</sup>	1.5E+00	(mg/kg/day) <sup>-1</sup>	A	IRIS	12/03/07

**Pathway: Inhalation**

Chemical of Concern	Unit Risk	Units	Inhalation Slope Factor	Slope Factor Units	Weight of Evidence/ Cancer Guideline Description	Source	Date
Tetrachloroethene	5.9E-06	(µg/m3) <sup>-1</sup>	2.1E-02	(mg/kg/day) <sup>-1</sup>	2B	CalEPA	12/03/07
Trichloroethene	1.1E-04	(µg/m3) <sup>-1</sup>	4.0E-01	(mg/kg/day) <sup>-1</sup>	C-B2	EPA	2001
Arsenic	na	na	na	na	na	IRIS	12/03/07

**Key:**

CalEPA – California Environmental Protection Agency  
 EPA – U.S. Environmental Protection Agency  
 IRIS: Integrated Risk Information System. U.S. EPA  
 na: No information available

**EPA Weight of Evidence:**

- A - Human carcinogen
- B1 - Probable Human Carcinogen-Indicates that limited human data are available
- B2 - Probable Human Carcinogen-Indicates sufficient evidence in animals associated with the site and inadequate or no evidence in humans
- C - Possible human carcinogen
- D - Not classifiable as a human carcinogen
- E- Evidence of noncarcinogenicity

**Summary of Toxicity Assessment**

This table provides carcinogenic risk information which is relevant to the contaminants of concern in groundwater. Toxicity data are provided for both the oral and inhalation routes of exposure.

**TABLE 5**

**Risk Characterization Summary - Noncarcinogens**

<b>Scenario Timeframe:</b>		Future						
<b>Receptor Population:</b>		Resident						
<b>Receptor Age:</b>		Adult						
Medium	Exposure Medium	Exposure Point	Chemical of Concern	Primary Target Organ	Non-Carcinogenic Risk			
					Ingestion	Dermal	Inhalation	Exposure Routes Total
Groundwater	Groundwater	Tap Water	Tetrachloroethene	Liver	7.3E-04	5.4E-05	na	7.8E-04
			Trichloroethene	CNS/Liver	1.8E+00	5.0E-02	2.2E-01	2.1E+00
			Arsenic	Skin	1.5E+00	3.3E-03	na	1.5E+00
<b>Hazard Index Total</b>								3.9E+00
<b>Scenario Timeframe:</b>		Future						
<b>Receptor Population:</b>		Resident						
<b>Receptor Age:</b>		Child						
Medium	Exposure Medium	Exposure Point	Chemical of Concern	Primary Target Organ	Non-Carcinogenic Risk			
					Ingestion	Dermal	Inhalation	Exposure Routes Total
Groundwater	Groundwater	Tap Water	Tetrachloroethene	Liver	1.7E-03	1.7E-04	na	1.9E-03
			Trichloroethene	CNS/Liver	4.3E+00	1.5E-01	3.2E+00	7.6E+00
			Arsenic	Skin	3.4E+00	1.0E-02	na	3.4E+00
<b>Hazard Index Total</b>								1.2E+01
na – not applicable Inhalation – Inhalation at showerhead CNS – Central nervous system								
<b>Summary of Risk Characterization - Non-Carcinogens</b>								
The table presents hazard quotients (HQs) for each route of exposure and the hazard index (sum of hazard quotients) for all routes of exposure for groundwater. The Risk Assessment Guidance for Superfund states that, generally, a hazard index (HI) greater than 1 indicates the potential for adverse non-cancer effects.								

**TABLE 6**  
**Risk Characterization Summary - Carcinogens**

<b>Scenario Timeframe:</b>		Current/Future					
<b>Receptor Population:</b>		Resident					
<b>Receptor Age:</b>		Adult					
Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Dermal	Inhalation	Exposure Routes Total
Groundwater	Groundwater	Tap Water	Tetrachloroethene	1.3E-06	1.0E-07	2.2E-07	1.7E-06
			Trichloroethene	7.6E-05	2.0E-06	3.5E-04	4.3E-04
			Arsenic	2.3E-04	5.1E-07	na	2.3E-04
<b>Total Risk =</b>						6.5E-04	
<b>Scenario Timeframe:</b>		Current/Future					
<b>Receptor Population:</b>		Resident					
<b>Receptor Age:</b>		Child					
Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Dermal	Inhalation	Exposure Routes Total
Groundwater	Groundwater	Tap Water	Tetrachloroethene	7.9E-07	7.7E-08	7.9E-07	1.7E-06
			Trichloroethene	4.4E-05	1.6E-06	1.2E-03	1.3E-03
			Arsenic	1.3E-04	3.9E-07	na	1.3E-04
<b>Total Risk =</b>						1.4E-03	
na – not applicable							
Inhalation – Inhalation at showerhead							
<b>Summary of Risk Characterization - Carcinogens</b>							
The table presents cancer risks for groundwater exposure for all routes of exposure combined. As stated in the National Contingency Plan, the acceptable risk range for site-related exposure is 10 <sup>-6</sup> to 10 <sup>-4</sup> .							

**TABLE 7**  
**Alternative AWS-3: Provision of Alternate Water Supply - Cost Estimate Summary**  
**Hopewell Precision Site**

Item No.	Item Description	Quantity	Unit Cost	Unit	Extension
<b>CAPITAL COSTS</b>					
<i>Construction Costs</i>					
1.	Work Plans/HASP/CQCP	1	\$ 70,600	LS	\$ 70,600
2.	Mobilization/Demobilization	1	\$ 72,000	LS	\$ 72,000
3.	Construction Management	1	\$ 1,131,300	LS	\$ 1,131,300
4.	Well House, Supply Well, and Storage Tank Installation	1	\$ 2,010,000	LS	\$ 2,010,000
5.	Alternate Water Supply (within study area)	1	\$ 9,302,700	LS	\$ 9,302,700
<b>SUBTOTAL CONSTRUCTION COSTS</b>					\$ 12,586,600
General Contractor Fee (10% construction)					\$ 1,258,660
Design Engineering (10% construction)					\$ 1,258,660
Resident Engineering/Inspection (10% construction)					\$ 1,258,660
Contingency (20%)					\$ 2,517,320
<b>TOTAL CAPITAL COSTS</b>					<b>\$ 18,879,900</b>
<b>ANNUAL OMM COSTS</b>					
6.	Annual Maintenance	1	\$ -	LS	\$ -
7.	Project Planning and Organizing	1	\$ -	LS	\$ -
8.	Field Sampling Labor	1	\$ -	LS	\$ -
9.	Sampling Equipment, Shipping, Consumable Supplies	1	\$ -	LS	\$ -
10.	Sample Analysis and Data Validation	1	\$ -	EA	\$ -
11.	Data Evaluation and Reporting	1	\$ -	LS	\$ -
<b>Total Annual OMM Costs</b>					<b>\$ -</b>
<b>FIVE YEAR REVIEW</b>					
12.	Five Year Review Report	1	\$ 8,400	LS	\$ 8,400
<b>PRESENT WORTH OF COSTS</b>					
13.	Total Capital Costs				\$ 18,879,900
14.	Annual OMM Costs (30 year duration)				\$0
15.	Five Year Review Costs (30 year duration)				\$ 18,126
<b>TOTAL PRESENT WORTH</b>					<b>\$ 18,899,000</b>

**HOPEWELL PRECISION SUPERFUND SITE  
RECORD OF DECISION**

**APPENDIX III**

**ADMINISTRATIVE RECORD INDEX**

**HOPEWELL PRECISION SUPERFUND SITE  
RECORD OF DECISION**

**APPENDIX III**

**ADMINISTRATIVE RECORD INDEX**

Data are summarized in several of the documents that comprise the Administrative Record. The actual data, quality assurance/quality control, chain of custody, etc. are compiled at various EPA offices and can be made available at the record repository upon request. Bibliographies in the documents and in the references cited in this Record of Decision are incorporated by reference in the Administrative Record. Many of the documents referenced in the bibliographies and cited in this Record of Decision are publically available and readily accessible. Most of the referenced guidance documents are available on the EPA website ([www.epa.gov](http://www.epa.gov)). If copies of the documents cannot be located, contact the EPA Project Manager Lorenzo Thantu at (212) 637-4042. Copies of the Administrative Record documents that are not available in the Administrative Record repository file at the Town of East Fishkill Community Library can be made available at this location upon request.

**HOPEWELL PRECISION SITE  
ADMINISTRATIVE RECORD FILE  
INDEX OF DOCUMENTS**

**3.0 REMEDIAL INVESTIGATION**

**3.1 Sampling and Analysis Plans**

- P. 300001 - Report: Final Vapor Intrusion Sub-Slab and Indoor  
300001 Air Sampling, Quality Assurance Project Plan,  
Hopewell Precision Site, Remedial Investigation/  
Feasibility Study, Hopewell Junction, New York,  
prepared by CDM Federal Programs Corporation,  
prepared for U.S. Environmental Protection Agency,  
Region 2, January 10, 2006.

**3.3 Work Plans**

- P. 300002 - Report: Final Work Plan, Volume I, Hopewell  
300002 Precision Site, Remedial Investigation/Feasibility  
Study, Hopewell Junction, New York, prepared by CDM  
Federal Programs Corporation, prepared for U.S.  
Environmental Protection Agency, Region 2,  
April 28, 2006.
- P. 300003 - Report: Final Quality Assurance Project Plan,  
300003 Hopewell Precision Site, Remedial Investigation/  
Feasibility Study, Hopewell Junction, New York,  
prepared by CDM Federal Programs Corporation,  
prepared for U.S. Environmental Protection Agency,  
Region 2, June 22, 2006.

**3.4 Remedial Investigation Reports**

- P. 300004 - Report: Final Remedial Investigation Report,  
300004 Text, Tables, Figures and Appendices, Hopewell  
Precision Site, Hopewell Junction, New York,  
prepared by CDM Federal Programs Corporation,  
prepared for U.S. Environmental Protection  
Agency, Region 2, June 30, 2008.

- P. 300005 - Report: Final Human Health Risk Assessment, Hopewell Precision Site, Hopewell Junction, New York, prepared by CDM Federal Programs Corporation, prepared for U.S. Environmental Protection Agency, Region 2, June 30, 2008.
- P. 300006 - Report: Final Screening Level Ecological Risk Assessment, Hopewell Precision Site, Hopewell Junction, New York, prepared by CDM Federal Programs Corporation, prepared for U.S. Environmental Protection Agency, Region 2, June 30, 2008.

**4.0 FEASIBILITY STUDY**

**4.3 Feasibility Study Reports**

- P. 400001 - Report: Final Focused Feasibility Study Report, Hopewell Precision Site, Hopewell Junction, New York, prepared by CDM Federal Programs Corporation, prepared for U.S. Environmental Protection Agency, Region 2, June 17, 2008.

**10.0 PUBLIC PARTICIPATION**

**10.9 Proposed Plan**

- P. 10.00001 - Superfund Proposed Plan, Hopewell Precision Area Groundwater Contamination Site, Hopewell Junction, Dutchess County, New York, prepared by U.S. Environmental Protection Agency, Region 2, July 2008.

**HOPEWELL PRECISION SUPERFUND SITE  
RECORD OF DECISION**

**APPENDIX IV**

**STATE LETTER OF CONCURRENCE**

**New York State Department of Environmental Conservation**  
**Division of Environmental Remediation, 12<sup>th</sup> Floor**  
625 Broadway, Albany, New York 12233-7011  
Phone: (518) 402-9706 • FAX: (518) 402-9020  
Website: www.dec.ny.gov



SEP 30 2008

Mr. George Pavlou  
Acting Director  
Emergency and Remedial Response Division  
USEPA Region II  
290 Broadway  
New York, NY 10007-1866

Re: Hopewell Precision Area Groundwater  
Contamination Site, No. 314052  
Town of East Fishkill, Dutchess County  
OU 2 Record of Decision

Dear Mr. Pavlou:

The New York State Department of Environmental Conservation (Department) and the New York State Department of Health (NYSDOH) have reviewed the September 2008 Record of Decision for the Hopewell Precision Superfund Site in the Town of East Fishkill, Dutchess County. The primary objective of the action for OU 2 is to address human health risks associated with contaminants identified in private drinking water wells at the Site.

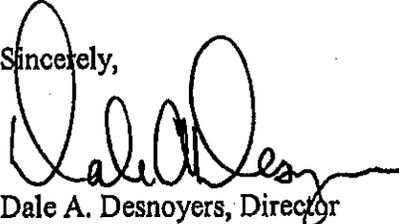
The Record of Decision for OU2 is based on EPA's Proposed Plan to install a waterline and distribution system to provide potable water to homes in the impacted area. The Proposed Plan was issued in July 2008 and a public meeting was held on July 17, 2008 to present the plan to the public. The public comment period, originally scheduled to run from July 7 through August 5, 2008, was extended until August 19, 2008 to provide additional time for public comment. The extension was due, in large part, to concerns voiced by the existing Little Switzerland water district users for the selection of their existing water system to supply the Hopewell Precision groundwater contamination area. On the basis of comments received during the public comment period, EPA revised the preferred alternative to one that does not extend the Little Switzerland Water district to the Hopewell Precision study area.

The selected remedy includes provisions for an alternate water supply to all properties within the Hopewell hook-up area. The water supply is expected to be drawn from new wells on the Little Switzerland water district property. If, based upon design considerations or other factors, it is determined that another source of water is preferable or necessary (e.g., if testing reveals that the capacity of the aquifer in the vicinity of the Little Switzerland well field may not be adequate), another source of water supply (e.g., the Dutchess Central Utility Corridor or the Beekman/Legends system) may be selected or established to supply water to the Hopewell

hook-up area. As part of design studies, the EPA will conduct aquifer tests in the Little Switzerland wellfield to determine if the well field can support the required volume of water for the Hopewell hook-up area and determine the number of new supply wells required. Also, EPA will construct water storage tanks, water mains to deliver the water, and service connections to private homes. Finally, private well piping will be disconnected.

Based on this information, the Department concurs with the proposed remedy for OU 2 and believe it is protective of human health and the environment. If you have any questions, please contact Mr. David Crosby at (518) 402-9662.

Sincerely,

A handwritten signature in black ink, appearing to read "Dale Desnoyers", written over a horizontal line.

Dale A. Desnoyers, Director  
Division of Environmental Remediation

cc: K. Kulow, NYSDOH

ec: G. Litwin, NYSDOH  
S. Bates, NYSDOH  
M. VanValkenburg, NYSDOH  
A. Carpenter, USEPA  
L. Thantu, USEPA

ebc: S. Ervolina  
E. Moore, Reg. 3  
R. Schick  
D. Crosby  
K. Maiurano

**HOPEWELL PRECISION SUPERFUND SITE  
RECORD OF DECISION**

**APPENDIX V**

**RESPONSIVENESS SUMMARY**

## **SUMMARY OF DOCUMENTS**

Section V-A: July 2008 Proposed Plan

Section V-B: Public Notices

Section V-C: July 17, 2008 Public Meeting Transcript

Section V-D: Letters Received During the Comment Period

**RESPONSIVENESS SUMMARY  
FOR THE  
RECORD OF DECISION  
HOPEWELL PRECISION SUPERFUND SITE  
HOPEWELL JUNCTION, DUTCHESS COUNTY, NEW YORK**

On July 7, 2008, the U.S. Environmental Protection Agency (EPA) released for public comment the Proposed Plan for the Hopewell Precision Superfund Site (Site). The public comment period was originally scheduled to be from July 7, 2008 through August 5, 2008. The public requested an additional 14 days. Therefore, the comment period was extended through August 19, 2008. During the public comment period, EPA held a public meeting on July 17, 2008 to discuss the Proposed Plan and receive comments on it. EPA received oral comments at the public meeting as well as written and email comments on the Proposed Plan during the public comment period. EPA also attended a meeting sponsored by Congressman John Hall on September 8, 2008 to discuss the preferred alternative. This document summarizes comments from the public at the public meeting on July 17, 2008, and those submitted via mail and email during the public comment period. EPA's response to each comment follows the comment.

On the basis of comments received during the public comment period, EPA modified the preferred alternative as specified under the "Documentation of Significant Changes" section of the ROD. Public comments were related to the operation and capacity of the Little Switzerland water system, leaks and water pressure in the Little Switzerland water system, the effect of adding the Hopewell area to the Little Switzerland water system, the mandatory nature of the Hopewell hook-up area, the future cost of water bills, and a schedule for implementation of the remedy. EPA has determined that the Hopewell hook-up area will not have to rely on the existing Little Switzerland supply wells, infrastructure or expansion of the Little Switzerland Water District. The selected remedy will provide sufficient flexibility to allow the Hopewell hook-up area to be an independent water district (if appropriate), while still allowing for water to be obtained from the Little Switzerland wellfield. Furthermore, these modifications would not preclude the Hopewell hook-up area from being part of an expanded Little Switzerland Water District. Specifically, EPA determined that the following significant changes to the remedy, as originally identified in the Proposed Plan, are necessary or appropriate.

- Provision of an alternate water supply to all properties within the Hopewell hook-up area. The water supply is expected to be drawn from new wells on the Little Switzerland Water District property. If, based upon design considerations or other factors, it is determined that another source of water is preferable or necessary (e.g., if testing reveals that the capacity of the aquifer in the vicinity of the Little Switzerland well field may not be adequate), another source of water supply (e.g.,

the Dutchess Central Utility Corridor Waterline or the Beekman/Legends system) may be selected or established to supply water to the Hopewell hook-up area.

- Performance of pumping tests of two existing Little Switzerland water supply wells to determine the capacity of the aquifer. If capacity testing indicates that the aquifer in the vicinity of the Little Switzerland wellfield can support the required volume of water for the Hopewell hook-up area, and it is determined that wells at this location are the appropriate source of the water supply, two or more wells may be needed since a standby well will also be required. The final number of wells will be determined after the capacity testing is completed.
- Construction of a water storage tank either at the Little Switzerland wellfield or on nearby property.
- Construction of water mains to deliver water from the storage tank to the Hopewell area which is to be connected to the alternate water supply. A service connection from the main will be extended to each house and/or commercial building.
- Disconnection of private well piping within the Hopewell hook-up area following connection to the public water supply.

The comments are grouped generally into the following categories:

- Little Switzerland Water Supply
- Water Quality
- Alternative AWS-3
- Groundwater/Aquifer Testing
- Other Issues

### **Little Switzerland Water Supply**

**Comment 1:** I am concerned that the water capacity numbers in EPA's Proposed Plan (page 10) ignore any possibility of additional leaks in the new system and do not consider "the expected repair of leaks within the Little Switzerland loop." Leaks have been a way of life for 26+ years and continue to this day. EPA needs to consider leaks appearing in the new system and continuing in the current system - even if the EPA proposal includes improvements to the current system. Assuming the continuation of leaks as well as leaks in the new system, the capacity projections could become dangerously close to or exceed the projected capacity.

**Response 1:** While EPA believes that the project design could have addressed concerns regarding capacity issues, EPA has modified the selected alternative to reflect the comments and concerns of Little Switzerland residents regarding the fragile nature of the

pipes and the frequency of leaks in the Little Switzerland distribution loops. EPA cannot, by law, operate a public water system. EPA cannot repair or replace areas of the Little Switzerland distribution system that would not be directly affected by an expansion of the water district to include the Hopewell hook-up area. As a result of this limitation, and concerns raised by Little Switzerland residents and Hopewell area residents regarding the quality of the existing infrastructure of the Little Switzerland system, EPA has determined that the Hopewell hook-up area will not have to rely on the existing Little Switzerland supply wells, infrastructure or expansion of the Little Switzerland Water District. The selected remedy will provide sufficient flexibility to allow the Hopewell hook-up area to be an independent water district (if appropriate), while still allowing for water to be obtained from the Little Switzerland. Furthermore, these modifications would not preclude the Hopewell hook-up area from being part of an expanded Little Switzerland Water District.

EPA will conduct capacity testing of the two existing Little Switzerland supply wells during the design phase of the project to determine the capacity of the aquifer. If the aquifer can supply an adequate volume of water for the Hopewell hook-up area, EPA will investigate potential locations to install supply wells for the Hopewell area.

**Comment 2:** I have no way to quantify this, but water pressure has been a problem in Little Switzerland. What will happen when 75% of the water demands are at the lower Rt. 82 elevation?

**Response 2:** EPA has determined that the Hopewell hook-up area will be provided an alternate water supply through creation of a separate water district. An independent Hopewell system will have no impact on water pressure in the Little Switzerland area.

**Comment 3:** Would it make sense to consider another well with a new water system, separate from Little Switzerland?

**Response 3:** EPA will consider at least another well with a new water system as part of the design phase of the project. EPA will provide an alternate water supply to all properties within the Hopewell hook-up area. The water supply is expected to be drawn from new wells on the Little Switzerland Water District property. If, based upon design considerations or other factors, it is determined that another source of water is preferable or necessary (e.g., if testing reveals that the capacity of the aquifer in the vicinity of the Little Switzerland well field may not be adequate), another source of water supply (e.g., the Dutchess Central Utility Corridor Waterline or the Beekman/Legends system) may be selected or established to supply water to the Hopewell hook-up area.

**Comment 4:** The Little Switzerland water system has frequent water main breaks. These are an ongoing and continuing reality and relate to shoddy construction when the distribution system was built. Fixing of the current leaks will not improve the underlying poor reliability of the system as a whole. More leaks and water main breaks will occur in the future. I believe it is important that the Little Switzerland distribution system be

replaced along the three primary legs of the system: Innsbruck Blvd, Mountain Pass Road, and Dogwood Road. Those sections have the worst reliability history and are the main and oldest portions of the distribution system. It is doubtful to me that the OU1 Alternative 3 will be effective if the poor reliability of the existing distribution system is allowed to continue with connection to the proposed larger system.

**Response 4:** As stated in Response #1, EPA has determined that the design of the alternate water supply remedy should allow for the Hopewell hook-up area to obtain water from a distribution system that is independent of the Little Switzerland Water District. Responsibility for repairing leaks in the Little Switzerland water supply pipes or correcting the problem of frequent water main breaks remains with the water district.

**Comment 5:** With a system using the two existing wells at full capacity every day, it will be essential that the Water District has spare pumps available at all times in the event of pump failure. This may be a responsibility of the Water District, but a mandate should be created prior to approval of Alternative 3.

**Response 5:** As stated in Response #1, EPA has determined that the Hopewell hook-up area will be provided an alternate water supply through creation of a separate distribution system and that the existing LSWD wells would not need to be utilized. Therefore, it will not be necessary for EPA to make significant changes or repair to the Little Switzerland Water District system infrastructure. Based on the new approach to the remedy, there is likely no longer a need for spare pumps or a standby well for the Little Switzerland Water District.

**Comment 6:** The location of the additional storage tank unnecessarily increases the capital cost of the project. A location closer to the wells than the current tank may provide reduction in capital costs through reduction of pipe installation requirements and still provide adequate pressure to the expanded distribution system which is at lower elevations

than the current distribution system. The savings to be realized from re-siting the storage tank may then be applied to expanded reconstruction of the current Little Switzerland distribution system.

**Response 6:** As stated in Response #1, EPA has determined that the Hopewell hook-up area will be provided an alternate water supply through creation of a separate distribution system and that the existing LSWD wells would not be utilized. EPA will conduct capacity testing during the design phase of the project of the two existing Little Switzerland supply wells to determine the capacity of the aquifer. If the aquifer can supply an adequate volume of water for the Hopewell hook-up area without compromising the Little Switzerland supply, EPA will install supply wells for the Hopewell area at a location to be determined during the design phase of the project. EPA will also build a new water storage tank in an area to be determined during the design phase of the project.

**Comment 7:** The long term capacity of the supply wells to deliver the needed water is a

critical issue. Without a detailed understanding of the sustainability of water supply wells, and the impact of >165% increase on the supply well and the aquifer, the Little Switzerland community has serious reservations about the proposal to adequately supply the Hopewell Precision Area. About twenty to twenty-five years ago, the original Little Switzerland supply well went unexpectedly dry. We would not like this kind of surprise again. The Town of East Fishkill water department has constantly reminded the residents of Little Switzerland, through mailings and posted signs that we need to conserve water due to the limitations of the water supply system. It thus seems counterintuitive to the residents that the system would be able to supply 2-3 times the current output.

**Response 7:** During the design phase of the project, EPA will perform capacity testing on the two existing Little Switzerland wells to determine the capacity of the aquifer. If testing indicates the aquifer can safely supply the additional volume of water required for the Hopewell hook-up area, new supply wells will be installed within the wellfield or at another location to be determined during the design phase of the project. If capacity testing indicates the wellfield cannot produce the required amount of water for both water districts, EPA will work closely with the Town to find an alternate source of water for the Hopewell area. EPA will determine during the design phase of the project whether the aquifer in question is very prolific and capable of producing a substantial quantity of water, in excess of what would be needed for both the Little Switzerland and the Hopewell hook-up area.

**Comment 8:** Will the increased volume of water from an expanded water load in the current system have unintended consequences to the current pipes in the Little Switzerland water system? Will the increased load cause an even higher leak rate? Will pipe breakage increase? Will the water system be constantly shut down for increased repairs?

**Response 8:** See response to comment #1 regarding leaks and breakage.

**Comment 9:** The two Little Switzerland wells presently provide some degree of supply contingency for the old and porous system that exists. It makes no sense to quadruple the users and not provide another high flow well system. The EPA report displays a peak demand of 482K gpd demand vs. 518K gpd supply (only a 7% difference), utilizes zero contingency on both the supply and demand sides to cover estimation uncertainty, supply variations, higher peak usage rates, very high business demands, and other eventualities. The proposal, in its present state, exposes the current Little Switzerland rate payers to an extremely high supply risk, one that is clearly unacceptable.

**Response 9:** As indicated in previous responses, EPA has determined that the best option to supply clean water to the Hopewell hook-up area is to create an independent distribution system and that the existing LSWD wells would not be utilized. Therefore, the water demands for the new water district will not be affected by leaks in the Little Switzerland water distribution system.

**Comment 10:** The current Little Switzerland ratepayers will be exposed to substantial financial risk when it becomes apparent that a third well is required. Similarly, an interim step to reduce leakages further will have a financial impact. This data is not included in the EPA financial analysis because they are not assumed to be part of EPA's obligation.

**Response 10:** As indicated in previous responses, EPA has determined that the best option to supply clean water to the Hopewell hook-up area is to create an independent water district. EPA will conduct extensive testing during the design phase of the project to determine the capacity of the aquifer tapped by the two existing Little Switzerland wells. If testing indicates the aquifer can provide adequate volume of water for the two water districts, additional supply wells would be installed to supply the Hopewell hook-up area with a system that is independent of Little Switzerland.

**Comment 11:** The Little Switzerland Water District indicated that the fire hydrants in the Little Switzerland area are not fire rated and that they are flushing hydrants (used only to clean out the water supply pipes, not to supply pressure for fighting fires). Since the Little Switzerland area already has pressure that is too low to have our hydrants fire rated, will the EPA preferred remedy affect our pressure even more? I am very concerned that without upgrades to all the pipes in our system (not just the pipes associated with the EPA remedy) we will lose even more pressure.

**Response 11:** Regarding leaks and water pressure see the responses to comments #1, 2, 4, and 8. Under the selected alternative, no changes will be made to the existing Little Switzerland water distribution system.

### **Water Quality**

**Comment 12:** I am concerned that the expansion of pumping on a daily basis may alter the course of the toxic plume and pull it back in the direction of the water district pumps. EPA stated that that was an unlikely occurrence due to the nature of the valley and its terrain and geology. That view may very well be correct, however, it will be essential to have a flawless and consistent monitoring system in place which is adhered to without fail. Actions should also be identified in advance in the event that the monitoring system indicates incursion of VOC's into the system. These actions need to be identified in advance so that, if ever needed, there is no delay in implementation.

**Response 12:** Regarding the movement of the contaminant plume, see response to comment # 25. The water from the supply wells is tested regularly in accordance with the Safe Drinking Water Act. EPA will conduct aquifer testing during the design phase to determine the cone of depression of the expanded wellfield. This information will be utilized to ensure that the pumping will not draw the contamination to the supply wells.

**Comment 13:** The Little Switzerland water was never tested for radon. Could the EPA please do a test just to make sure the water does not have any radon issues? The last lead test was done in 2002. The results were 4.5 micrograms per liter. Why hasn't the water been tested for lead for the last 6 years? Why isn't the water tested more fully more often? It also does not appear that the water was tested for the contaminants that are affected by the Hopewell Precision plume.

**Response 13:** The Little Switzerland wells are tested in compliance with the Safe Drinking Water Act which is administered by the New York State Department of Health (NYSDOH). The water district has worked closely with NYSDOH over the years to establish schedules for testing of the different parameters required by the law. For example, initially wells are tested for the established parameters on a quarterly basis. If results routinely indicate levels are below established limits, less frequent sampling is often established with the NYSDOH. Many of the constituents are now tested every three years, which is an indication of acceptable water quality.

Regarding regular radon testing, the water is currently tested for some radioactive compounds (e.g., radium) and if or when radon is added to the SDWA, then it will be included as a required testing parameter. Additionally, there is currently no standard for radon in drinking water for comparison if testing were to be required at this time.

To reassure the public about the safety of the Little Switzerland water supply, EPA will analyze water samples for the contaminants of concern for the Hopewell Precision Site. Samples are expected to be collected in October or November 2008.

### **Alternative AWS-3**

**Comment 14:** Alternative AWS-3 states that its annual cost will be \$0. Does this fail to account for such things as: 1) periodic sampling and lab analysis costs? 2) costs of Town of East Fishkill employees who do routine maintenance of pumps, emergency generators and other parts of the system? and 3) costs of locating and repairing leaks?

**Response 14:** The annual costs in the FFS refer to costs expected to be incurred on an annual basis once the remedy is in place. The operation and maintenance of the public water supply system would become the responsibility of the Town of East Fishkill after the construction is completed and the system is tested. EPA cannot, by law, operate a public water system. Therefore, the annual cost for EPA must be \$0.

**Comment 15:** Alternative AWS-3 selects the Little Switzerland Water District as the alternate water supply, with no mention of any other source being considered. EPA should be aware that the Legends development has a much newer water system, and a tank that is actually closer to the Hopewell Precision impacted area. Use of the Legends water should be evaluated on the basis of water quality and quantity, ease of connecting to the impacted area, and overall cost.

**Response 15:** As indicated in responses in the section entitled “Little Switzerland Water Supply”, the selected alternative has been modified to supply the Hopewell hook-up area through a separate distribution system and that the existing LSWD wells would not be utilized. In addition, EPA is aware of the Beekman/Legends water district. If testing performed during the design phase of the project indicates the aquifer tapped by the Little Switzerland wellfield cannot support the expanded number of homes/businesses, EPA will consider other options, including, but not limited to use of the Beekman/Legends well field.

**Comment 16:** Instead of using the Little Switzerland well area, a much more efficient and less expensive system would be to build an unpressurized water storage facility at a lower elevation closer to the area affected by the Hopewell Precision plume, thereby saving the energy to pump water up 380 feet and eliminating the pressure reduction equipment. This would also eliminate the need for 2,000 feet of 10 inch water main pipe. The well pumps could be used to fill the new, unpressurized storage facility. Instead of building an expensive elevated water tower or pressurized storage facility, a second set of pumps could provide pressurized water to the distribution system. A feedback loop from the pressure pumps back to the unpressurized storage facility could provide safe, constantly controlled pressure to the customers.

**Response 16:** As indicated in previous responses, EPA will conduct capacity testing of the aquifer at the Little Switzerland wellfield. If testing indicates the aquifer can support additional supply wells, EPA will install wells for the Hopewell hook-up area and construct a new tank storage tank at a location to be determined during the design phase of the project.

**Comment 17:** EPA’s preferred remedy calls for the construction of an additional 250,000 gallon water tower in the footprint of the former water supply house. Why build the new tower in the Little Switzerland neighborhood? If you are trying to supply the Hopewell Precision Area with water, why not build it closer to the area by locating the water tower on the town owned land where the pumping station is situated? The height of 30-60 feet above the Hopewell area should provide sufficient water pressure to the residents.

**Response 17:** As indicated in the previous response, the location of a new water tank will be determined during the design phase of the project.

**Comment 18:** Access to the proposed location of the new 250,000 gallon water tower is right through our driveway and backyard. This additional water tower would be visible to us every day and would dwarf our house, since the footprint of the original water house is within a few feet of our property. We are currently having our property appraised by a specialist to assess the effective real loss in property value to us, if the new tower is implemented as per the proposal.

**Response 18:** See response to comment #17.

**Comment 19:** Before EPA's plan to use the Little Switzerland water, the Little Switzerland water system had a standby well. The increased demand means we no longer have a standby well. In addition, who would be responsible for obtaining water "from another source"? Does this mean trucking in water or connecting to another nearby system?

**Response 19:** As indicated in previous responses, EPA will conduct capacity testing of the aquifer at the Little Switzerland wellfield. If testing indicates the aquifer can support additional supply wells, EPA will install wells for the Hopewell hook-up area. The new wells would be operated independently from the two existing Little Switzerland wells, so Little Switzerland would still have a standby well. The design of the new wells for the Hopewell water district would include standby capacity, as required by New York State regulations.

**Comment 20:** What assurance do residents of Little Switzerland have that our annual cost of water (including the assessments for the replacement of the water tank) will not be increased or prolonged due to the implementation of EPA's preferred remedy (e.g., additional well or distribution refurbishment required due to increased demand, interconnection to another system for backup, etc.)? Will the new residential and commercial users from the Hopewell area be assessed to help pay down the existing bond (for replacement of the water tank and other capital improvements) if it is still unpaid when they join the system?

**Response 20:** EPA's selected alternative is not expected to have any financial impact on the annual cost of water to the residents of Little Switzerland.

**Comment 21:** How large will the water tank be? Can it be made to look like the old water tank which resembled a house? Can the water tank be placed next to the pump station?

**Response 21:** The final size, appearance, and location of the new water tank will be determined during the design phase of the project. EPA currently plans to locate the tank at the wellfield.

**Comment 22:** For alternative AWS-3, will the water pipes on Dogwood Drive be on the eastern or western side of the street? Will this affect any of the properties along Dogwood Drive? The Dogwood Drive area has flooding problems because of the Legends

Development above Dogwood. Will EPA construction cause additional flooding problems?

**Response 22:** The final location of the water pipes on Dogwood Drive (south of the wellfield) will be determined during the design phase of the project. The pipes will be buried at a depth below the frost line, and, after installation, should have no visual impact to the homes on Dogwood Drive or contribute to any flooding issues.

### **Groundwater/Aquifer Testing**

**Comment 23:** Plumes, by their very nature are constantly moving. The plume, which started at Hopewell Precision, has moved about 2.5 miles in about 30 years. Did EPA take into consideration the future movement of the plume when the hookup area was determined? Is there a model which predicts the direction and rate of future movements? Will EPA lay pipe to cover these areas that will likely be contaminated in the next 5, 10, 15 or even 30 years? Does the hookup area only include homes that are currently contaminated? In the future, is EPA assuming that, when the plume moves, any newly contaminated homes will use POET systems? Will areas on the edge of the plume be continuously tested over the next few years or will EPA say that their work is done once the pipes are laid?

**Response 23:** Some plumes are constantly moving, but some plumes reach a steady state condition. The processes which act upon the plume in the subsurface (flow boundaries, sorption, diffusion, biological dechlorination, etc.) can actually slow or stop the plume movement. Hopewell site data suggest the plume has reached steady state. EPA has been monitoring contamination levels for 5 years, and wells directly downgradient of the "plume core" (those areas greater than 50 parts per billion [ppb]) are not increasing in contamination. In fact, some are decreasing. Our investigations have also shown that there are some natural boundaries which stop plume movement. Whortlekill Creek is a flow boundary on the west side of the plume (i.e., the plume cannot cross the stream.) To the south (in the direction of plume movement), there also appear to be effective flow boundaries. The creek and the lakes lie on the distal end of the plume, and our data suggest that all or most of the groundwater comes to the surface into one or all of these surface water bodies. In summary, EPA does not believe that the TCE or TCA plumes will flow past the area proposed for water service.

EPA did not construct a solute transport model during the remedial investigation. As described above, EPA believes that the plume will not expand due to the fact it has reached natural flow boundaries. EPA's contractor is, however, constructing a model to aid in remedial system design and hypothesis testing for groundwater alternatives that will be part of OU 1. The "core" of the plume may travel downgradient, but current data suggest that the "core" is not moving, and the areas downgradient of the "core" will be within the alternate water supply boundaries.

Once the alternate water supply is fully operational, EPA does not anticipate that additional homes would need POET systems. The edges of the plume will be monitored on a regular schedule until data suggest that there is no longer a need to monitor. The Long Term Monitoring Plan (LTMP) will be an important part of the remedy for Operable Unit 1. EPA currently has monitoring wells strategically placed throughout the Hopewell area to monitor any expansion of the plume.

**Comment 24:** I am concerned that the underlying aquifer may be stressed to provide a 300 to 400% expansion of water distribution on a daily basis. EPA stated that the existing wells have previously been rated and tested for this level of output. However, any testing that may have been performed would have been performed with limited time duration and would not have tested the full capacity over a prolonged period of time. I understand that the aquifer recharges over time, but nevertheless, the long term effect of continuous pumping at capacity upon the aquifer supply is unknown. Are there any records available which document the actual testing of the system when it was constructed 35 to 40 years ago? This would not be the first instance of something that was claimed to have been done, which, in reality, was not.

**Response 24:** EPA will test the capacity of the aquifer at the Little Switzerland wellfield during the design phase of the project. Testing will ensure that the aquifer can support additional wells to supply the needs of the Hopewell hook-up area. Additional investigation into the well capacity numbers provided to EPA from the Town of East Fishkill indicates the capacity used in the Focused Feasibility Study represents the capacity of the pumps in the wells, not the true capacity of the wells or the aquifer. For this reason, and to allay concerns expressed by the public, EPA will conduct several types of tests early in the design phase to assure ourselves and the public that the aquifer can, in fact, support additional supply wells and produce the required amount of water for both Little Switzerland and Hopewell.

**Comment 25:** EPA must provide credible technical proof of whether or not there is any hydraulic connection between the groundwater affected by the contamination plume and the aquifer which the Little Switzerland wells pump from, taking into account dry and wet years.

**Response 25:** The groundwater flow path in the glacial aquifer at the Hopewell Precision facility is toward the west; groundwater flow then shifts toward the southwest. Thus, the movement of groundwater and contamination is away from the Little Switzerland well field. The hydraulic conductivity in the area of the facility is low, ranging from 0.5 to 0.82 foot per day, which limits the amount of water which could flow into the bedrock aquifer. In addition, an upward vertical gradient has been measured at the MW-08 monitoring well cluster at the Hopewell Precision facility, indicating the groundwater flow is upward from the bedrock into the overburden glacial sediments.

The deepest monitoring well at the facility is screened at 77 feet below the ground surface (bgs) (or 226 above mean sea level [amsl]). Samples from this well contained no TCE or TCA, the indicator contaminants associated with Hopewell Precision. Drilling of this well also indicated the presence of significant low hydraulic conductivity (clay) material in the deeper parts of the borehole (as deep as 135 feet bgs). This monitoring well is screened at a comparable depth to the two supply wells (approximately 230 feet amsl). However, the supply wells are completed in bedrock whereas the monitoring wells at Hopewell Precision are screened in glacial sediments. Based on the detections of very low levels of volatile organic compounds (VOCs) at the Hopewell Precision facility (mostly at trace levels and not VOCs associated with Hopewell) and the presence of significant amounts of clay at depth at Hopewell Precision, it is highly unlikely that increased pumping in the Little Switzerland well field would draw contaminated water into the cone of depression created by pumping by the supply wells. In addition, the northern part of the contaminant plume originating at the Hopewell Precision facility is over 1,400 feet west/slightly northwest of the two supply wells.

Based on the shallow depths (25 to 40 feet bgs) of most residential wells in the area, wet and dry years are expected to have very minimal impact on the water levels in the glacial overburden aquifer. The water supply wells are recharged from a large geographic area and their depth (200 feet in bedrock) should ensure that they can remain productive during dry years.

**Comment 26:** The proposed plan states that the contamination plume will continue to migrate south-southwest and impact more private wells. This raises several questions: 1) How many additional wells are in the path? Does the Figure 3 study area encompass all homes EPA expects will ever be impacted? 2) If the plume migrates further than the Figure 3 study area, how many additional homes can the Little Switzerland Water District wells support? 3) Will the plume move further and faster when the 377 private wells stop pumping?

**Response 26:** EPA has been sampling and monitoring the contaminant plume for five years. During that time, contaminant levels in many of the residential wells have declined, indicating that contamination is decreasing due to natural conditions in the aquifer. In addition, the core of the plume (the area with the highest observed contamination), has remained stable and has not moved downgradient. Based on these observations, the area to be connected to public water includes all private wells that EPA believes could be at risk to intercept contamination. At the distal southern end of the plume, a natural “buffer” zone is provided by the undeveloped area around the gravel pit. The termination of pumping should have virtually no impact on the movement of the groundwater since natural forces exert a much more dominant influence on groundwater flow than intermittent pumping from private wells.

**Comment 27:** Why isn't EPA proposing to install a series of extraction wells around the perimeter of the plume to pump and treat the groundwater and prevent the further spread of

the plume? It would appear that this would be a more proactive approach than injecting microbes into the groundwater which will involve a factor of uncertainty about where they could migrate to.

**Response 27:** EPA is currently working on the feasibility study for OU 1. The feasibility study will include several alternatives for remediation of the groundwater resource. EPA will present its preferred alternative for the groundwater remedy in a proposed plan and public meeting similar to the plan and meeting for OU 2, the alternate water supply.

**Comment 28:** In the Summary of Remedial Alternatives, it states that an evaluation of the groundwater contamination indicated a 30 year timeframe for the contamination to naturally decrease to levels below the drinking water maximum contaminant levels (MCLs). Please provide the study report and all data that lead to that conclusion. Also, if that is the case, why isn't AWS-2 the preferred remedy, as it can be implemented in 4 months rather than 4 years, requires no new tank and no excavation of miles of roads, and would only be needed for 30 years?

**Response 28:** The evaluation of the time frame for the contamination to naturally attenuate is part of the feasibility study for OU 1 which includes remediation of the groundwater resource. The evaluation will be included in the feasibility study report for OU 1.

EPA did not select AWS-2 as the preferred remedy because POET systems are generally installed as part of a removal action to rapidly address risks related to consumption of contaminated groundwater. Because of the complexity of a POET system, the potential for break through of contaminants, and concerns over potential bacterial growth, POET systems are generally not considered a permanent remedy for groundwater contamination.

**Comment 29:** Regarding well test data to support the reported yields of 140 and 220 gpm for the Little Switzerland Water District supply wells, 1) Who performed the tests? Was it an EPA commissioned test? 2) When were the tests performed? 3) Was the test performed before or after the neighboring Legends subdivision water system was put in service? 4) What were the details of the test, including but not limited to duration, pumping rate, total gallons pumped, recovery levels and rate, allowable yield, constant yield, drawdown, etc.? 5) The FFS cites that the draught recharge rate is estimated to be 373,190 gpd. What is the impact of the draught recharge rate of 373,190 gpd not meeting the projected peak demands of 482,640 or 401,640 gpd?

**Response 29:** The reported well yields were provided to EPA by the Town of East Fishkill, the operators of the Little Switzerland Water District. The well yields are based on very short term tests of the pumps in each well and reflect the capacity of the pump rather than the actual capacity of the well to produce water. Recent tests produced lower yield numbers (80 and 125 gpm) because the pumps are now required to lift the water to the higher elevation of the new water storage tank. Based on concerns over the aquifer

capacity, the well capacities, and the lack of accurate well capacity tests, EPA will conduct tests during the design phase of the project to clarify the actual capacity of the aquifer and the two existing wells. EPA would then be able to more accurately assess whether the aquifer can support additional supply wells for an independent Hopewell water district.

**Comment 30:** In the Proposed Plan for Alternative AWS-2, how can the continued pumping of groundwater accelerate remediation? The solvents are in all likelihood floating on the top of the underground water of body. The well water is probably being withdrawn from under this top layer of solvents. Continued pumping of the ground water would make the underground VOCs concentration higher since you're not tapping into the top layer of solvents. Would continued well pumping make the plume move slower, causing more environmental damage?

**Response 30:** The chlorinated solvent plume originating from the Hopewell Precision facility is dissolved in the groundwater. The solvents used by Hopewell Precision – TCE and TCA – are heavier than water and therefore would not float on top of the groundwater. If these chemicals were in sufficient quantity, they would form a dense non-aqueous phase liquid (DNAPL) and travel through the groundwater until they hit a clay layer that would not transmit water. Testing throughout the Hopewell plume has not indicated the presence of DNAPL. The intermittent pumping by residential wells has a limited impact on the overall movement of the groundwater. Natural forces on the groundwater are more dominant than periodic pumping of residential wells.

**Comment 31:** If the current annual cost of AWS-2 is \$978,000, why is this figure treated as a fixed annual payment discounted back to the present at a 7% rate? It is a figure driven by inflation, fuel, filters, labor, etc., and if the 7% rate is to account for inflation, then the present worth of \$978,000 of today's services for 30 years would be \$29.34 million (30 years x \$978,000 dollars). This \$29.94 million dollars plus the \$3.292 million for AWS-2 capital cost, makes the grand total of AWS-2 in present worth dollars equal \$32,632,000 dollars. Therefore AWS-3 is less than half the cost of AWS-2.

**Response 31:** In developing remedial action cost estimates, a present worth analysis is used to evaluate expenditures that occur over different time periods (e.g., annual O&M costs) by discounting all future costs to a common base year (e.g., 2008). This allows the cost of remedial action alternatives to be compared on the basis of a single figure representing the amount of money that, if invested in the base year and disbursed as needed, would be sufficient to cover all costs associated with the remedial action over its planned life. In conducting a present worth analysis, assumptions must be made regarding the discount rate. EPA's Office of Solid Waste and Emergency Response (OSWER) currently recommends a discount rate of seven percent. The present worth of the O&M for AWS-2 is equal to \$978,000 (the annual O&M cost) multiplied by 12.409 (the discount factor for 30 uniform annual payments at a 7 percent discount rate), or approximately \$12.136 million. Adding the capital cost of \$3.292 million gives a total estimated cost for AWS-2 of \$15.428 million.

**Comment 32:** Has the home owners' facility expenses (square footage, electricity, leakage damage, loss of property value) of the POET filter system been included in the economic analysis?

**Response 32:** In developing the cost estimates for the FFS, only remedial implementation costs associated with implementation of the remedy (e.g., design, construction, O&M) that will be borne by EPA are included in evaluation and costing of each alternative.

**Comment 33:** While my water and air sub-slab results came back "negative" for toxins and it appears as though my home is not affected by the plume, will there be additional testing as we move forward? Were any homes north of the Hopewell Precision facility affected by the contamination? Is it possible that, while I'm not affected today, I could be in the future? I think EPA should keep testing homes to make sure they are not impacted.

**Response 33:** Private wells at homes immediately north (upgradient) of the Hopewell Precision facility were tested several times by EPA. No Hopewell-related contaminants were detected in any test in any of these private wells. As noted in Response #26, EPA believes the plume is stable and that boundaries for the homes to be supplied alternate water are conservative. EPA will continue monitoring of the Hopewell residential private wells until the construction of the public water supply system is completed. Then, EPA will prepare a plan for periodic sampling of monitoring wells and air. In the unlikely event that the monitoring wells indicate that the plume has expanded, EPA may then assess whether it is appropriate to sample additional residential private wells, as needed, for homes believed to be at risk.

**Comment 34:** I believe that an engineering analysis is required to determine the change in the cone of depression surrounding the Little Switzerland pumps reflecting the significant increase in the pumping rate that will be experienced as the water system is expanded dramatically to provide service to the Hopewell community.

**Response 34:** Based on concerns regarding the aquifer and well capacities and lack of accurate well capacity tests, EPA will conduct capacity tests during the design phase of the project to clarify the actual capacity of the aquifer and the two existing wells. These tests will include an evaluation of the cone of depression created by the wells. EPA would then be able to more accurately assess whether the aquifer can accommodate additional wells to supply an independent Hopewell water district.

### **Other Issues**

**Comment 35:** EPA's designated hook-up area for public water excludes my home. I have had several tests with no contamination in my well water but I don't think it would be wise to cut my home out of the area of study given most of my street is on it and there is no telling

what could happen with groundwater.

**Response 35:** EPA's hook-up area was based on extensive sampling of both private wells and monitoring wells. EPA determined the outline of the contaminant plume from the large database that has been generated over five years of work in the Hopewell area. The hook-up area includes those homes that currently and in the future may be at risk from the contamination from the Hopewell Precision facility. In determining the hook-up area, EPA included all the homes on both sides of streets that could be affected by the plume. Homes that are outside the area that may in the future be at risk from the contamination were not included. However, EPA will monitor the groundwater plume through regular sampling of the monitoring well network to insure that the plume is not moving toward homes not included in the hook-up area.

**Comment 36:** I prefer not to hook-up to the new water system, as we are definitely not willing to pay for something that we now get for free. Our water has tested fine, and so has our air. Why should I have to pay for my water when Hopewell Precision has paid nothing? They seem to be getting away with no responsibilities in this case, and they have caused the problems. Why should the people in our area be forced to pay for water they wouldn't have needed if Hopewell Precision hadn't been so negligent in the first place?

**Response 36:** Under the Comprehensive Environmental, Response, Compensation, and Liability Act, "when there is a release or a substantial threat of release into the environment of any pollutant or contaminant which may present an imminent and substantial danger to the public health or welfare," EPA is authorized to provide for remedial action, as it proposes to do in this matter. EPA will provide funding for an alternative public water supply for homes affected by the contamination from the Hopewell Precision site. EPA is also continuing to investigate the potentially responsible parties for the Site and their ability to pay a portion of the costs associated with the selected remedy. The goal of the Superfund law is to ensure that the government provides funding to address a release or a threat of release in situations where adequate funds are not available from responsible parties. As for Hopewell area homes being hooked up to alternate water supply under EPA preferred remedy, a Town of East Fishkill code states that properties within a municipal water district shall connect to the public water supply.

**Comment 37:** The Proposed Plan states that there were approximately 67 residences with elevated TCE contamination yet only 53 residences had vapor extraction systems installed. I understand that participating is voluntary but do these individuals really understand the impact of not having this remediated? I believe the EPA should follow-up with these homeowners again in order to make them aware of the potential risks of not taking any action.

**Response 37:** EPA conducted extensive residential well testing and air testing throughout the Hopewell area. All wells with contamination above EPA's MCLs and NYSDEC's drinking water standards were provided with POET systems. EPA offered vapor mitigation

systems to all homes identified with indoor air contamination that was not from an indoor (non-groundwater) source. EPA installed vapor mitigation systems for all homeowners who consented to the installation of a system. The numbers for wells with POET systems and vapor mitigation systems differ because the testing was done on a home-by-home basis and each home was unique with regard to whether it had contaminated water or indoor air contamination, or both.

**Comment 38:** The "dumping" occurred when Hopewell Precision was located at their former site of 15 Ryan Drive and, when they moved to 19 Ryan Drive (which is directly behind my home), they were compliant and no further dumping occurred. Is that accurate? Given the close proximity to my home (and the yard where my kids play), I need some level of assurance that there are no risks and that I understand the history correctly.

**Response 38:** EPA collected 75 soil samples from 25 borings on the two properties (15 and 19 Ryan Drive) occupied by Hopewell Precision. Very few VOCs were detected and none exceeded EPA or NYSDEC action levels. EPA's soil risk assessment indicated no risks from soil to site workers. EPA expects to have another public meeting this winter to discuss the results of its investigations at these properties and the remainder of the study area. At that time EPA will also present a Proposed Plan for addressing contamination present in other Site media.

**Comment 39:** Are we sure that Hopewell Precision's current operations are "okay"? Given their history I expect that they should be subject to surprise inspections by EPA, DEC, or others to ensure that they are now compliant. While I understand that there have been management/ownership changes since the 1980's, they should be subject to a higher level of scrutiny in order to protect the well-being of those in the area.

**Response 39:** During the removal actions and remedial investigation performed by EPA at the Hopewell Precision facility, EPA and its contractors performed sampling and during the sampling events were on the Hopewell Precision property. Sample results indicate that no dumping of hazardous materials has occurred since EPA and its contractors have been involved at the facility.

**Comment 40:** My water and air have not been tested since 2007. Will EPA continue to test our air and water until either POET systems are installed in all homes (alternative AWS-2) or the alternate water supply (alternative AWS-3) is connected?

**Response 40:** EPA will continue monitoring of the Hopewell residential wells until the construction of the public water supply system is completed. Then, EPA will prepare a plan for periodic sampling of monitoring wells and air. In the unlikely event that the monitoring wells indicate that the plume has expanded, EPA may then assess whether it is appropriate to sample additional residential private wells, as needed, for homes believed to be at risk.

**Comment 41:** I disagree with EPA's decision to split the Hopewell Precision Site into two

operable units. Splitting the Site into two OUs will delay action on removing soil contamination, assuming no action would take place for OU 1 until OU 2 (an alternate water supply) construction is completed. This will also delay the groundwater remedy. EPA may also be doing construction (of the OU 2 remedy) in contaminated soil. Treating the Site as one operable unit would get all the remedies in place sooner.

**Response 41:** The remedy for OU 1 (remedial investigation/feasibility study) would not be contingent on completion of the OU 2 (alternate water supply) remedy, and would not delay the selection or implementation of a remedy for OU 1. EPA is working toward completion of the feasibility study for OU 1 and will present the preferred remedy in a proposed plan to the public prior to a public meeting similar to the one held for OU 2 (alternate water supply). EPA expects to complete the OU 1 Record of Decision in 2009.

EPA performed soil sampling at the Hopewell Precision facility as part of the RI. Seventy-five soil samples were collected around the two buildings occupied by the business. Sample depths ranged from two feet to just above the water table. No soil samples exceeded soil screening criteria, indicating that no residual soil contamination remains at the facility properties. In addition, no soil contamination is expected to be encountered during construction of the pipelines associated with the OU 2 alternate water supply. The source of the groundwater plume was limited to the area around the Hopewell Precision facility.

**RESPONSIVENESS SUMMARY**

**APPENDIX V-A**

**JULY 2008 PROPOSED PLAN**

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## Superfund Proposed Plan

# Hopewell Precision Area Groundwater Contamination Site

Hopewell Junction, Dutchess County, New York



July 2008

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### **PURPOSE OF THE PROPOSED PLAN**

This Proposed Plan identifies the preferred remedy for Operable Unit (OU) 1 at the Hopewell Precision site (the Site), and provides the rationale for this preference. The U.S. Environmental Protection Agency's (EPA's) preferred remedy consists of the following components:

- Provide potable water to all properties within the study area by installing a system to deliver water from a nearby existing public water supply system.
- Construct additional storage capacity near the existing Little Switzerland Storage Tank.
- Construct water mains to deliver water from the nearby Little Switzerland Water District to the study area. A service connection from the main would be extended to each house and/or commercial building.
- Abandon private residential wells within the study area following connection to the public water supply. Abandonment would result in the elimination of annual sampling of the private wells.

The Site consists of the Hopewell Precision facility and the hydraulically downgradient area affected by the contaminated groundwater plume and vapors. This Proposed Plan was developed by the EPA in consultation with the New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH). The preferred remedy for OU 1 addresses human health risks associated with contaminants identified in private drinking water wells at the Site (see Figures 1 and 2).

EPA divides Superfund sites into OUs to prioritize and accelerate selection of a remedy, when warranted. EPA has divided the Site into two OUs. OU 1 includes provision of an alternate water supply to the area (see Figures 1 and 2) with private drinking water wells that have been or have the potential to be affected by the groundwater plume from the Hopewell Precision facility. OU 2 will include other exposures to contaminated or potentially contaminated media such as the groundwater, soils, surface water, sediments and vapors associated with the Hopewell plume. The nature and extent of the contamination at the Site and the alternatives for OU 1 summarized in this Proposed Plan are further described in the June 2008 Remedial Investigation (RI) Report and the June 2008 Focused Feasibility Study (FFS) Report, respectively. EPA and NYSDEC encourage the public to review these documents to gain a more comprehensive understanding of the Site and the Superfund activities that have been conducted at the Site.

### **Mark Your Calendar**

**July 7, 2008 – August 5, 2008:** Public Comment Period on the Proposed Plan.

**July 17, 2008 at 7:00 p.m.:** The U.S. EPA will hold a Public Meeting to explain the Proposed Plan. The meeting will be held at the Town of East Fishkill Town Hall, 330 Route 376, Hopewell Junction, New York 12533. Telephone: (845) 221-4303.

**For more information, see the Administrative Record file (which will include the Proposed Plan and supporting documents), which is available at the following locations:**

Town of East Fishkill Community Library  
348 Route 376  
Hopewell Junction, NY 12533  
Telephone: (845) 221-9943  
Website: [www.eastfishkilllibrary.org](http://www.eastfishkilllibrary.org)  
*Hours:* Monday-Thursday: 10 am – 8 pm  
Friday: 10 am – 6 pm  
Saturday: 10 am – 5 pm

and

USEPA-Region II  
Superfund Records Center  
290 Broadway, 18th Floor  
New York, NY 10007-1866  
(212) 637-4308  
*Hours:* Monday-Friday, 9:00 a.m. - 5:00 p.m.

Written comments on this Proposed Plan should be addressed to:

Lorenzo Thantu  
Remedial Project Manager  
Eastern New York Remediation Section  
U.S. Environmental Protection Agency  
290 Broadway, 20<sup>th</sup> Floor  
New York, New York 10007-1866  
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Telefax: (212) 637-3966  
Email address: [Thantu.lorenzo@epa.gov](mailto:Thantu.lorenzo@epa.gov)

The EPA has a web page for the Hopewell Precision Site at [www.epa.gov/region2/superfund/npl/hopewell](http://www.epa.gov/region2/superfund/npl/hopewell).

EPA is issuing this Proposed Plan as part of its public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA, also commonly known as the federal "Superfund" law), and Sections 300.430(f) and 300.435(c) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

The Proposed Plan is being provided to inform the public of EPA's preferred remedy and to solicit public comments on the preferred remedy and the remedial alternatives that were evaluated.

The remedy described in this Proposed Plan is the EPA's and NYSDEC's preferred remedy for OU 1 at the Site, the provision of an alternate water supply. Changes to the preferred remedy or a change from the preferred remedy to another remedy may be made if public comments or additional data indicate that such a change will result in a more appropriate remedial action. The final decision regarding the selected remedy for OU 1 will be made after EPA has taken into consideration all public comments. EPA is soliciting public comment on all of the alternatives considered in this Proposed Plan.

A separate Proposed Plan will be issued for OU 2 and will provide details on EPA's preferred remedy for the groundwater, surface water, sediments, soils, and vapors.

### **COMMUNITY ROLE IN SELECTION PROCESS**

EPA and NYSDEC rely on public input to ensure that the concerns of the community are considered in selecting an effective remedy for each Superfund site. To meet this goal, the Proposed Plan, along with the supporting Remedial Investigation and Focused Feasibility Study Reports, has been made available to the public for a public comment period which begins on July 7, 2008 and concludes on August 5, 2008.

A public meeting will be held on July 17, 2008 at 7:00 P.M. during the public comment period at the Town of East Fishkill Town Hall, 330 Route 376, Hopewell Junction, New York to present the preferred remedy (or "Proposed Plan") and to receive public comments.

Comments received at the public meeting, as well as written comments that EPA receives during the comment period, will be documented in the Responsiveness Summary Section of the Record of Decision (ROD), the document which formalizes the selection of the remedy.

### **SCOPE AND ROLE OF ACTION**

This Proposed Plan presents the preferred remedy for OU 1 at the Site. The objective of the preferred remedy is to provide an alternate water supply to eliminate the current and future human exposure to contaminated groundwater associated with the Hopewell Precision Site. OU 2 will be addressed in a separate Proposed Plan and ROD.

## **SITE BACKGROUND**

### **Site Description**

The Hopewell Precision Site is located in Hopewell Junction, Dutchess County, New York. The Site consists of the Hopewell Precision facility and the hydraulically downgradient area affected by the groundwater plume and its vapors. The Hopewell Precision facility was located at 15 Ryan Drive from 1977 to 1980. The facility moved to the adjacent property at 19 Ryan Drive in 1980 and continues to operate at that location. The combined size of the two properties is 5.7 acres. The rest of the Site consists mostly of residential neighborhoods, all of which are served by private wells and septic systems. Almost 27,000 people live within 4 miles of the Hopewell Precision facility. Commercial development (e.g., strip malls, businesses, gas stations) in the area is primarily along New York State Route 82, which traverses the area in a northeast-southwest direction. An area of farmland borders the eastern side of a section of Route 82. Whortlekill Creek flows in a southerly direction across the residential area and along the western border of the Site. Several ponds are present within the area, including two large former quarries (Redwing Lake and the gravel pit) that are partially fed by groundwater.

### **Site Geology/Hydrogeology**

The Site is situated in a glaciated valley underlain by the Hudson River Formation in the northern portion of the Site and the Stockbridge Limestone in the southern portion of the Site. The bedrock is overlain by unconsolidated sediments deposited by glaciers and glacial meltwater. The glacial outwash deposits are a complex mixture of boulders, gravel, sand, silt, and clay which form discontinuous beds or lenses. Due to multiple glaciation events, subsurface units are heterogeneous and highly localized. Glacial till deposits are also present in some areas of the Site, including a tear drop shaped mound between Creamery Road and Clove Branch Road. Glacial tills generally have low permeability and limited ability to transmit groundwater.

The unconsolidated deposits at the Site have been grouped into three hydrostratigraphic units: 1) sand and gravel unit (including silty sand, silty gravel, and mixtures of sand, silt, and gravel), 2) silt and clay (including silty clay), and 3) the till mound between Creamery Road and Clove Branch Road. The sand and gravel units transmit groundwater more readily than the silt and clay units and act as preferential flow paths for groundwater contamination. All of these units are localized and discontinuous, and they are likely to create multiple complex flow pathways throughout the unconsolidated deposits.

In general, groundwater flow is towards the valley from the upland areas on the east and west sides of the valley. In the valley, groundwater flow is generally towards the southwest along the valley axis. The glacial till mound located between Creamery Road and Clove Branch Road impedes groundwater flow within the valley. Groundwater

flows preferentially in silty sand and gravel units. The vertical gradient in most monitoring wells is upwards, indicating groundwater discharges into the valley and Whortlekill Creek which runs along the axis of the valley and also flows toward the southwest. The contaminant flow velocity at the Site was estimated to average from 0.8 to 1.1 feet/day in the permeable preferential flow pathways. The depth to groundwater across the Site varies but is generally about 15 feet below the ground surface. The groundwater at the Site is classified by NYSDEC as Class GA, indicating it is considered a source of drinking water.

### **Site History**

Hopewell Precision is a manufacturer of sheet metal parts that are assembled into furniture. The property at 19 Ryan Drive was vacant land prior to 1980, and the company has been the sole occupant of the building. Since 1981, the former facility at 15 Ryan Drive has been used by Nicholas Brothers Moving Company for equipment storage and office space.

Processes at Hopewell Precision include shearing, punching, bending, welding, and painting. The painting process includes degreasing prior to application of the wet spray paint application. Hopewell Precision currently uses a water-based degreaser, but the company used trichloroethene (TCE) and 1,1,1-trichloroethane (1,1,1-TCA) in a vapor degreasing machine until 1998.

EPA was made aware of Hopewell Precision in October 1979 through a letter from a former Hopewell Precision employee. During an on-Site inspection at the former facility (15 Ryan Drive) in November 1979, EPA observed solvent odors coming from an open disposal area. At the time of the 1979 inspection, Hopewell Precision was dumping one to five gallons per day of waste solvents, paint pigments, and sodium nitrate directly onto the ground. In August 2003, a former employee stated that the common practice for disposal of waste solvents at the former facility was to pour the material on the ground outside the building. Waste paints and thinners were dumped on a daily basis and waster solvents from the degreasers were dumped on a biweekly basis while he worked at Hopewell Precision in 1979 and 1980. The results of EPA's November 1979 inspection were sent to the NYSDEC, along with a memorandum recommending that the facility be required to drum the solvent and dispose of it in a proper manner rather than open dumping.

NYSDEC installed 3 monitoring wells at the former facility in May 1985 and sampled the wells in March 1986. The analytical results for monitoring well B-3, located between the current and former buildings, indicated the presence of 1,1,1-TCA at 23 micrograms per liter ( $\mu\text{g/L}$ ) and TCE at an estimated 4  $\mu\text{g/L}$ . In 1985, the Dutchess County Department of Health sampled four private drinking water wells near the Site, and no volatile organic compounds (VOCs) were detected in any of the samples.

NYSDEC performed a Hazardous Waste Compliance Inspection of Hopewell Precision in May 1987. The inspector

observed eleven 55-gallon drums of waste paint and thinners; six 55-gallon drums of waste 1,1,1-TCA; and one 55-gallon drum of unknown material. During another inspection in October 2002, NYSDEC observed four full or partially full 55-gallon drums of waste paint and solvent at the facility.

In February 2003, as part of an effort to make decisions on historic sites, EPA sampled 75 residential wells near the Hopewell Precision facility. Analysis of these samples revealed that five residential wells were contaminated with TCE ranging from 1.2  $\mu\text{g/L}$  to 250  $\mu\text{g/L}$ . At that time, NYSDEC, on behalf of NYSDOH, requested that EPA conduct a removal action at the Site, including installation of carbon filter systems on the residential wells.

From February to November 2003, EPA collected groundwater samples from hundreds of private drinking water wells in the vicinity of Hopewell Precision. TCE and 1,1,1-TCA were detected in numerous private well samples, at individual concentrations up to 250  $\mu\text{g/L}$  for TCE and 11.7  $\mu\text{g/L}$  for 1,1,1-TCA. EPA subsequently installed point of entry treatment (POET) systems to remove VOCs at 39 homes where TCE exceeded or approached the maximum contaminant level (MCL). NYSDEC installed POET systems to remove 1,1,1-TCA that exceeded its New York State drinking water standard, but that fell below the Federal MCL, at 14 homes in the southern part of the groundwater plume.

In April 2003, EPA also collected water and sediment samples from small, unnamed ponds located about 300 feet south-southwest (downgradient) of the Hopewell Precision facility. TCE was detected at concentrations of 4  $\mu\text{g/L}$  and 3.4  $\mu\text{g/L}$  in the water samples and 88 micrograms per kilogram ( $\mu\text{g/kg}$ ) in one of the two sediment samples. EPA collected additional samples from two unnamed ponds located approximately 900 and 4,500 feet southwest of Hopewell Precision in May 2003. TCE was detected at an estimated concentration of 3.6  $\mu\text{g/kg}$  in a sediment sample from the closer pond, but was not detected in a water sample from the same location or in sediment and water samples collected from the distal pond on Creamery Road.

In July 2003, EPA collected 19 soil samples at and downgradient of the Hopewell Precision facility. TCE was detected in two soil samples on the facility property and 1,1,1-TCA was detected in one sample on the facility property; neither contaminant was detected in any samples collected downgradient (south) of the facility. Additional sampling was conducted at the Hopewell Precision facility in December 2003. TCE was detected in five soil samples, at depths ranging from 0 to 12 feet. The maximum detected concentration was 3.7  $\mu\text{g/kg}$ ; TCE was not detected in background samples from the same depth range.

In October and December 2003, EPA installed and sampled temporary shallow monitoring wells on both properties, 15 and 19 Ryan Drive. The analytical results indicated TCE concentrations up to 144  $\mu\text{g/L}$  in

groundwater at depths ranging from 10 to 30 feet below the ground surface (bgs).

EPA has conducted vapor intrusion indoor air testing at the Site. Since February 2004, EPA has collected sub-slab and/or indoor air samples from over 200 homes in the area above the groundwater plume. EPA has installed sub-slab ventilation systems (SVSs) at 53 homes with vapors above the action level to reduce the residents' exposure to indoor air contaminants associated with the Site. In addition, EPA conducts annual vapor sampling during the winter heating season to monitor the migration of vapors to structures throughout the area of the groundwater plume. Remediation of vapors will be addressed as part of OU 2.

The Site was listed on the National Priorities List in April 2005.

### **SUMMARY OF RESIDENTIAL WELL SAMPLING**

In December 2005, EPA initiated a remedial investigation and feasibility study (RI/FS) as part of the long-term Site cleanup phase. The RI/FS will evaluate the nature and extent of groundwater, soil, sediment, surface water, and vapor contamination at the Site, and will help EPA determine the appropriate cleanup alternatives for the identified contamination prior to selection of a comprehensive cleanup plan for the Site. EPA completed all RI field activities during the Summer of 2007 and publicly releases both the RI Report and the OU 1 FFS Report, subject of this Proposed Plan, in June 2008.

The primary field activity performed as part of the RI for OU 1 included several rounds of groundwater sampling of private wells in the area downgradient of the Hopewell Precision facility. Additional media, as described above, were sampled as part of the RI/FS for OU 2 and will be summarized in a separate Proposed Plan. The results of the sampling related to OU 1 are summarized below.

#### Residential Well Results

During the RI, two rounds of groundwater samples were collected from residential wells in the vicinity and downgradient of the Hopewell Precision facility. The first round was a limited sampling event that included 48 residential wells in the southern portion of the groundwater plume and near wells with POET systems. The second round was a large-scale sampling event which included 195 residential wells in the TCE and 1,1,1-TCA portions of the plume. The residential wells sampled during the RI were not outfitted with POET systems. Wells with POET systems are sampled and maintained by EPA and NYSDEC. The analytical results were compared to the Federal MCLs and the New York State Drinking Water Standards. The following summary focuses on the seven contaminants that were determined to be related to activities at the Hopewell Precision facility. The Site-related contaminants include TCE, 1,1,1-TCA, 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (cis-1,2-DCE), chloromethane, methyl ethyl ketone (MEK) and tetrachloroethene (PCE). Although the

discussions below do not include the results from the residential wells outfitted with POET systems, the results from these wells were included in all mapping of the groundwater contaminant plumes.

#### *Round 1 Sampling Results*

Six of the seven Site-related contaminants have the same screening criterion: 5 µg/L. The screening criterion for MEK is 50 µg/L. None of the residential well samples exceeded these criteria in Round 1.

1,1,1-TCA was detected in 12 of the 48 residential wells. Levels in these wells ranged from 0.11 estimated (J) µg/L to 2.2 µg/L. The highest results were detected near the corner of Baris Lane and Clove Branch Road (2.2 µg/L); along Hamilton Road (1.1 µg/L); and along Route 82, just north of the intersection with Clove Branch Road (1.0 µg/L). Results below 1.0 µg/L are clustered north of the intersection of Route 82 and Creamery Road (two wells), and near the intersection of Clove Branch Road and Cavelo Road. PCE was detected in one residential well located along Route 82, just north of the intersection with Clove Branch Road (0.17 J µg/L); the same residential well had 1,1,1-TCA at 1.0 µg/L.

Eight of the 48 residential wells contained TCE with levels ranging from 0.13 J µg/L to 4.7 µg/L. The distribution of TCE in residential wells is similar to 1,1,1-TCA. The highest results were detected near the corner of Baris Lane and Clove Branch Road (4.7 µg/L), and near the intersection of Clove Branch Road and Cavelo Road (1.3 and 2.6 µg/L). Results below 1.0 µg/L were detected north of the intersection of Route 82 and Creamery Road (one well); north of the intersection of Route 82 and Clove Branch Road (two wells) and at the intersection of Clove Branch Road and Cavelo Road (one well).

Low levels of chloromethane were detected in three residential wells along Route 82: near the intersection with Creamery Road (0.12 J µg/L); near the intersection with Mary Lane (0.16 J µg/L); and near the intersection with Clove Branch Road (0.35 J µg/L).

1,1-DCE was detected in one residential well located on Hamilton Road (0.11 J µg/L). Cis-1,2-DCE and MEK were not detected in any of the residential wells.

#### *Round 2 Sampling Results*

1,1,1-TCA was detected in 23 of the 195 residential wells, with levels ranging from 0.5 J µg/L to 3.3 µg/L. The highest results were detected on Baris Lane (2.2 µg/L); south of Cavelo Road (3.3 µg/L and 2.7 µg/L); and along Route 82, just north of the intersection with Clove Branch Road (1.0 µg/L). Results below 1.0 µg/L are clustered north of the intersection of Route 82 and Creamery Road (two wells), and near the intersection of Clove Branch Road and Cavelo Road.

TCE was detected in 16 of the 195 of the residential wells, with levels ranging from 0.53 µg/L to 7.4 µg/L. The highest

results were detected near the corner of Baris Lane and Clove Branch Road (7.4 µg/L); clustered near the intersection of Clove Branch Road and Cavelo Road (4.0, 3.7, 3.4, and 2.7 µg/L); and along Route 82, just south of the Creamery Road intersection (3.5 µg/L). Lower results were detected along Route 82 (0.53 µg/L to 0.98 µg/L); clustered along Cavelo Road (0.67 µg/L to 1.8 µg/L); and near the intersection of Creamery Road and Hamilton Road (1.2 µg/L and 1.9 µg/L).

MEK was detected in two wells, at concentrations ranging from 0.77 µg/L to 1.6 µg/L, which are below the screening criterion.

The Site-related contaminants PCE, 1,1-DCE, *cis*-1,2-DCE, and chloromethane were not detected in residential well samples.

#### *Summary of Residential Well Contamination*

The majority of residential well samples did not contain detectable levels of VOCs. 1,1,1-TCA, which was the most prevalent Site-related contaminant during both sampling rounds, was detected in 25 percent of wells sampled in Round 1, and in approximately 13 percent of wells sampled in Round 2. TCE was detected in approximately 17 percent of wells in Round 1 and 8 percent in Round 2. The majority of 1,1,1-TCA and TCE results for both rounds are clustered in the area along Clove Branch Road, between Baris Lane and Route 82, and in areas just downgradient. In wells with detectable VOCs, concentrations were generally well below the Site-specific groundwater screening criteria, and in many cases were only detected at trace levels.

Wells outfitted with POET systems were also sampled by EPA or NYSDEC. These wells have higher levels of TCE and 1,1,1-TCA than wells sampled during the RI (summarized above). TCE in wells with POETs sampled by EPA ranged from 0.6 µg/L to 70 µg/L. 1,1,1-TCA in wells with POETs sampled by NYSDEC ranged from 0.7 µg/L to 5.7 µg/L in July 2007. Figure 1 shows the TCE and 1,1,1-TCA groundwater contaminant plumes.

### **RISK SUMMARY**

The purpose of the risk assessment is to identify potential cancer risks and noncancer health hazards at the Site assuming that no further remedial action is taken. This Proposed Plan presents the results of the risk assessment for groundwater. Risks posed by other Site media will be presented in the Proposed Plan for OU 2.

#### **Human Health Risk Assessment**

As part of the RI/FS, a baseline human health risk assessment was conducted to estimate the current and future cancer risks and noncancer health hazards associated with the current and future effects of contaminants on human health and the environment. A baseline human health risk assessment is an analysis of the potential adverse human health effects caused by hazardous-substance exposure in

#### **WHAT IS RISK AND HOW IS IT CALCULATED?**

A Superfund baseline human health risk assessment is an analysis of the potential adverse health effects caused by hazardous substance releases from a site in the absence of any actions to control or mitigate these under current- and future-land uses. A four-step process is utilized to assess site-related human health risks for reasonable maximum exposure scenarios.

*Hazard Identification:* In this step, the chemicals of potential concern (COPCs) at a site in various media (*i.e.*, soil, groundwater, surface water, and air) are identified based on such factors as toxicity, frequency of occurrence, and fate and transport of the contaminants in the environment, concentrations of the contaminants in specific media, mobility, persistence, and bioaccumulation.

*Exposure Assessment:* In this step, the different exposure pathways through which people might be exposed to the contaminants identified in the previous step are evaluated. Examples of exposure pathways include incidental ingestion of contaminated groundwater. Factors relating to the exposure assessment include, but are not limited to, the concentrations that people might be exposed to and the potential frequency and duration of exposure. Using these factors, a “reasonable maximum exposure” scenario, which portrays the highest level of human exposure that could reasonably be expected to occur, is calculated.

*Toxicity Assessment:* In this step, the types of adverse health effects associated with chemical exposures and the relationship between magnitude of exposure and severity of adverse effects are determined. Potential health effects are chemical-specific and may include the risk of developing cancer over a lifetime or other noncancer health effects, such as changes in the normal functions of organs within the body (*e.g.*, changes in the effectiveness of the immune system). Some chemicals are capable of causing both cancer and noncancer health effects.

*Risk Characterization:* This step summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site risks. Exposures are evaluated based on the potential risk of developing cancer and the potential for non-cancer health hazards. The likelihood of an individual developing cancer is expressed as a probability. For example, a  $10^{-4}$  cancer risk means a “one-in-ten-thousand excess cancer risk”; or one additional cancer may be seen in a population of 10,000 people as a result of exposure to site contaminants under the conditions explained in the Exposure Assessment. Current Superfund guidelines for acceptable exposures are an individual lifetime excess cancer risk in the range of  $10^{-4}$  to  $10^{-6}$  (corresponding to a one-in-ten-thousand to a one-in-a-million excess cancer risk) with  $10^{-6}$  being the point of departure. For noncancer health effects, a “hazard index” (HI) is calculated. An HI represents the sum of the individual exposure levels compared to their corresponding reference doses. The key concept for a non-cancer HI is that a “threshold level” (measured as an HI of less than 1) exists below which non-cancer health effects are not expected to occur.

the absence of any actions to control or mitigate these exposures under current and future land uses.

A four-step human health risk assessment process was used for assessing Site-related cancer risks and noncancer health hazards. The four-step process is comprised of: Hazard Identification of Chemicals of Potential Concern (COPCs), Exposure Assessment, Toxicity Assessment, and Risk Characterization (see adjoining box "What is Risk and How is it Calculated").

The baseline human health risk assessment began with selecting COPCs in the groundwater, using monitoring well data, which could potentially cause adverse health effects in exposed populations. These populations included current and future residents who may be exposed to contaminants through ingestion and inhalation of untreated groundwater used as a potable water supply and current and future facility workers who may be exposed to contaminants through ingestion of untreated contaminated groundwater used as a potable water supply. In this assessment, exposure point concentrations were estimated using either the maximum detected concentration of a contaminant or the 95 percent upper confidence limit of the average concentration. Chronic daily intakes were calculated based on the reasonable maximum exposure (RME), which is the highest exposure reasonably anticipated to occur at the Site. The RME is intended to estimate a conservative exposure scenario that is still within the range of possible exposures. Central tendency exposure (CTE) assumptions, which represent typical average exposures, were also developed. A complete summary of all exposure scenarios can be found in the baseline human health risk assessment, including media designated as OU 2.

**Groundwater**

Risks and hazards were evaluated for current and future adult and child residents for ingestion of untreated tap water, dermal contact with untreated tap water, and inhalation of vapors during showering or bathing. Risks and hazards were evaluated for current and future facility workers for ingestion of untreated tap water at the Hopewell Precision facility. The total incremental lifetime cancer risk estimates were:

- Adult: RME =  $7 \times 10^{-4}$ ; CTE =  $4 \times 10^{-5}$
- Child: RME =  $1 \times 10^{-3}$ ; CTE =  $2 \times 10^{-4}$
- Facility Worker: RME =  $2 \times 10^{-5}$ ; CTE =  $6 \times 10^{-6}$

The estimates of risk for the adult and child residential exposure exceed EPA's acceptable target range of  $1 \times 10^{-6}$  to  $1 \times 10^{-4}$ . Exposure to TCE and arsenic in groundwater accounts for approximately 65 and 35 percent, respectively, of the total excess cancer risk. Arsenic is considered a known human carcinogen (Group A) by EPA.

Hazard indices (HIs) greater than 1 indicate the potential for noncancer hazards. The calculated HIs were:

- Adult: RME HI = 4; CTE HI = 3
- Child: RME HI = 12; CTE HI = 4
- Facility Worker: RME HI = 0.2; CTE HI = 0.1

The total HI for the adult and child resident, based on individual health endpoints, is above EPA's acceptable threshold of 1 and could possibly have adverse effects on the liver, kidney, central nervous system, fetus, endocrine, and skin. TCE and arsenic contribute most of the potential noncancer hazard.

The installation of a public water supply in the area affected by the Hopewell groundwater plume will eliminate risks to residents from consumption of and contact with contaminated drinking water. The hot spot of the groundwater plume (see Figure 1) will continue to migrate toward the south-southwest and will impact more private drinking water wells as it migrates. A preliminary assessment of the groundwater plume indicates that it will take 20 to 30 years for the groundwater contamination to naturally attenuate to levels below the MCLs.

**REMEDIAL ACTION OBJECTIVES**

Remedial action objectives (RAOs) are media-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), to-be-considered (TBC) guidance, and risk-based levels established in the risk assessment.

The overall RAO is to ensure the protection of human health and the environment. The specific RAO identified for OU 1 at the Site is to:

- Prevent or minimize current and future human exposure to VOC-contaminated groundwater by providing an alternate water supply.

**Preliminary Remediation Goals**

Preliminary Remediation Goals (PRGs) for OU 1 were selected based on federal and state promulgated ARARs known as groundwater Federal MCLs and New York State Drinking Water Standards, respectively. These PRGs or MCLs were then used as a benchmark in the technology screening, alternative development and screening, and detailed evaluation of alternatives presented in the FFS Report. The PRGs for groundwater are the most conservative of Federal MCLs or New York State Drinking Water Standards and are shown in Table 1 below.

**Table 1: Preliminary Remediation Goals**

Site-Related Contaminants	PRG for Groundwater (ug/L) *
Trichloroethene (TCE)	5
1,1,1-Trichloroethane (1,1,1-TCA)	5
1,1-Dichloroethene (1,1-DCE)	5
Cis-1,2-Dichloroethene (cis-1,2-DCE)	5
Chloromethane	5
Methyl ethyl ketone (MEK)	50
Tetrachloroethene (PCE)	5

\* Groundwater PRGs for Site-related contaminants are based on the more conservative of the Federal MCLs and the New York State Drinking Water Standards.

### **SUMMARY OF REMEDIAL ALTERNATIVES**

CERCLA Section 121(b)(1), 42 U.S.C. Section 9621(b)(1), mandates that remedial actions must be protective of human health and the environment, cost-effective, comply with ARARs, and utilize permanent solutions and alternative treatment technologies and resource recovery alternatives to the maximum extent practicable. Section 121(b)(1) also establishes a preference for remedial actions which employ, as a principal element, treatment to permanently and significantly reduce the volume, toxicity, or mobility of the hazardous substances, pollutants, and contaminants at a site. CERCLA Section 121(d), 42 U.S.C. Section 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 Section 121(d)(4), 42 U.S.C. Section 9621(d)(4).

The objective of the FFS for OU 1 was to identify and evaluate remedial action alternatives for providing an alternate source of drinking water for the affected area. Figure 1 shows the area proposed for an alternate source of drinking water and the groundwater contaminant plume.

Detailed descriptions of the remedial alternatives for alternate water supplies for the Site can be found in the FFS report. The sections below present a summary of the three alternatives that were evaluated. Alternatives AWS-2 and AWS-3 were evaluated for a duration of 30 years because it is the standard default timeframe used for comparison purposes. However, an evaluation of the groundwater contamination indicated a similar timeframe for the contamination to naturally decrease to levels below the MCLs. The use of the 30-year timeframe does not imply that the remedy would become ineffective or be removed after 30 years.

#### Alternative AWS-1 – No Action

Capital Cost:	\$0
Annual Cost:	\$0
Present-Worth Cost:	\$0
Duration Time:	0 years

The “No Action” alternative is considered in accordance with NCP requirements and provides a baseline for comparison with other alternatives. If this alternative were implemented, the current status of the Site would remain unchanged. No remedial actions would be implemented as part of this alternative. Groundwater would continue to migrate and contamination would continue to attenuate through dilution. This alternative does not include institutional controls or long-term groundwater monitoring.

#### Alternative AWS-2 – Installation and Operation of POET Systems

Capital Cost:	\$3,292,000
Annual Cost:	\$978,000
Present-Worth Cost:	\$15,448,000
Duration Time:	30 years

This alternative would provide potable water to all properties within the study area that utilize private wells for drinking water. Individual POET systems would be installed at each property near the wellhead to ensure that water extracted from the existing private wells is treated prior to consumption or other household use by the residents/workers. This alternative includes the implementation of a quarterly sampling program to monitor the effectiveness of the POET systems. The alternative also includes the comprehensive long-term operation, maintenance, and monitoring (OMM) associated with the implementation of this alternative. It would take approximately four months to implement AWS-2.

#### Alternative AWS-3 – Provision of Alternate Water Supply

Capital Cost:	\$15,599,000
Annual Cost:	\$0
Present-Worth Cost*:	\$15,617,000
Duration Time:	30 years

\* Present-worth cost includes costs for 5 year reviews.

This alternative would provide an alternate water supply to all properties within the study area by installing a system to deliver water from a nearby existing public water supply system. The Little Switzerland Water District, located north-northeast of the Hopewell Precision facility, was selected as the representative water district for this alternative because of its proximity to the affected area. Additional storage capacity would be constructed near the existing Little Switzerland Storage Tank. Water mains would be constructed to deliver water from the nearby Little Switzerland Water District to the study area (see Figure 2). A service connection from the main would be extended to each house and/or commercial building.

Following connection to the public water supply, private wells within the study area would be abandoned in accordance with applicable requirements. Abandoned wells would be completely unusable even for non-potable purposes. Abandonment would result in the elimination of annual sampling of the private residential wells. Properties connected to the public water supply would be responsible for payment of water bills once the connections are complete. POET systems would be disconnected, removed, and properly disposed of by EPA or NYSDEC after the property is connected to the public water supply. It would take approximately two years to implement AWS-3.

## EVALUATION OF ALTERNATIVES

In selecting a remedy for a site, EPA considers the factors set forth 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 consists 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.

- 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.
- Compliance with applicable or relevant and appropriate requirements addresses whether or not a remedy would meet all of the ARARs of federal and state environmental statutes and regulations or provide grounds for invoking a waiver.
- Long-Term effectiveness and permanence refer 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.
- Reduction of toxicity, mobility, or volume through treatment is the anticipated performance of the treatment technologies, with respect to these parameters, that a remedy may employ.
- 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 period until cleanup goals are achieved.
- Implementability is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.
- Cost includes estimated capital and annual operation and maintenance costs, and net present-worth costs.
- State acceptance indicates whether, based on its review of the RI/FFS reports and the Proposed Plan, the State concurs with, opposes, or has no comment on the preferred remedy at the present time.
- Community acceptance will be assessed in the ROD, and refers to the public's general response to the

alternatives described in the Proposed Plan and the RI/FFS reports.

A comparative analysis of the remedial alternatives for OU 1, based upon the evaluation criteria noted above, is presented below.

### Comparative Analysis for Groundwater

#### • Overall Protection of Human Health and the Environment

Currently, there are unacceptable risks to human health if untreated contaminated groundwater at the Site is used as a source of drinking water. Alternative AWS-1 would not provide protection of human health because exposure to contaminated groundwater would not be restricted and contamination would remain in groundwater for some time into the future. Alternatives AWS-2 and AWS-3 would be protective of human health through elimination of current and future exposure to contaminated groundwater. Alternative AWS-2 would utilize treatment processes at individual wells to eliminate contaminants from Site groundwater prior to use as potable water. Some potential for exposure to contaminated water remains if the granular activated carbon (GAC) filter in a POET system becomes saturated with contaminants and contaminants pass through the filter and remain in the drinking water. However, this should not occur if the quarterly sampling program, which would be a requirement, ensures the continued effectiveness of the POET systems. Alternative AWS-3 would provide potable water via a public supply system. Alternative AWS-3 would be more permanent and reliable in the long-term than the POET systems under Alternative AWS-2.

#### • Compliance with ARARs

Alternative AWS-1 would not comply with the chemical-specific ARARs for groundwater; location- and action-specific ARARs are not applicable to AWS-1. Alternatives AWS-2 and AWS-3 would meet the chemical-specific ARARs because the new potable water supply would not contain contaminants at concentrations above MCLs. Alternatives AWS-2 and AWS-3 would also comply with location- and action-specific ARARs.

#### • Long-Term Effectiveness and Permanence

Alternative AWS-1 would not be effective or permanent because the contaminants would not be destroyed and there would be no mechanism to prevent current and future exposure to contaminated groundwater. Alternative AWS-3 would be effective and permanent because it involves permanent infrastructure to convey water from a reliably clean source, but it would require pressure hookups to be made. Town of East Fishkill regulations restricting use of private wells within a public water district would also assist in ensuring the long-term effectiveness of this alternative. Alternative AWS-2 would be effective in the short-term, yet it would require significantly more maintenance to remain reliable. Monitoring and servicing over 300 POET systems

for contaminant breakthrough, fouling, and breakdown and regular sampling would be cumbersome and would require highly coordinated efforts. In addition, if filters are not properly maintained, they can serve as a source of microbial contamination in the water system.

- Reduction in Toxicity, Mobility or Volume

Alternatives AWS-1 and AWS-3 would not reduce the VOC mass through treatment since no active treatment of contaminated groundwater occurs. Under Alternative AWS-2, the POET systems would remove contaminants from the groundwater, albeit only at their point-of-use. The continued pumping of the residential wells would remove contaminants from the aquifer and would accelerate the overall remediation of the groundwater plume. The contaminants would be treated by the POET systems installed on each private well. Alternatives AWS-2 and AWS-3 would reduce the toxicity in potable water supplied to residents, although only AWS-2 would potentially reduce the toxicity, mobility, or volume of groundwater contamination through continued pumping of the aquifer by the private wells. Under AWS-3, if residents are no longer utilizing the groundwater as a source of drinking water, the range of potential treatment alternatives for the groundwater resource (to be evaluated in the OU 2 FS for the Site) would be expanded to include technologies that would inject remedial materials (e.g., microbes) into the aquifer to reduce the toxicity, mobility or volume of contaminants.

- Short-Term Effectiveness

The short-term impact from Alternative AWS-1 would be no impact to nearby communities. Under Alternative AWS-1, protection of the community and workers during implementation would not be applicable since no remedial action would occur.

Alternative AWS-2 would be minimally disruptive to the existing residents and workers since disruption would be of very short duration and on a property-by-property basis. Alternative AWS-3 would be the most disruptive in the short-term since construction activities involving water main and service connection installations would create inconveniences to traffic flow within the community for longer periods of time. No major adverse health impacts would be expected under Alternatives AWS-2 and AWS-3. Under Alternative AWS-3, the community and workers would be protected by appropriate worker personal protective equipment and engineering controls, including air monitoring.

- Implementability

Alternative AWS-1 has no technical or administrative regulations to implement. Of the two action alternatives, Alternative AWS-3 would be more difficult to implement technically and administratively based on the type and amount of construction required within the study area as well as the administrative and legal controls necessary to ensure that no one uses groundwater. Alternative AWS-2 would be easier to implement initially, but would require significant ongoing efforts associated with OMM.

- Cost

The estimated capital, annual OMM, and present-worth costs for each of the alternative water supply alternatives are presented in Table 2. All costs are presented in U.S. dollars and were developed using a discount rate of 7%.

Table 2: Cost Comparison for Alternate Water Supply Alternatives

Remedial Alternative	Capital Cost	Annual Cost	Present Worth	Duration
AWS-1	0	0	0	N/A
AWS-2	3,292,000	978,000	15,448,000	30 years
AWS-3	15,599,000	0	15,617,000	30 years

According to the capital cost, OMM cost and present-worth cost estimates, Alternative AWS-1 has the lowest cost and AWS-3 has the highest cost when comparing all alternatives.

- State Acceptance

NYSDEC concurs with the preferred remedy.

- Community Acceptance

Community acceptance of the preferred remedy will be assessed in the ROD following review of the public comments received on the Proposed Plan.

### **PREFERRED REMEDY**

Based upon an evaluation of the three alternatives, EPA recommends Alternative AWS-3: Provision of Alternate Water Supply as the preferred remedy for OU 1. Implementation of this alternative would provide the best overall protection of human health and eliminate the potential for exposure to contaminated groundwater from private drinking water wells. The hot spot of the groundwater plume (see Figure 1) will continue to migrate toward the south-southwest and will impact more private drinking water wells as it migrates. A preliminary assessment of the groundwater plume indicates that it will take 20 to 30 years for the groundwater contamination to naturally attenuate to levels below the MCLs.

The Little Switzerland Water District, located north-northeast of the Hopewell Precision facility, was selected as the representative water district for Alternative AWS-3 because of its proximity to the affected area.

Alternative AWS-3 would provide an alternate water supply to the area shown in Figure 2 via the delivery of water from a nearby existing public water supply. Private properties within the area would be provided with a connection to the nearby Little Switzerland Water District located approximately a half-mile northeast of the Hopewell Precision facility. The water supplied by the Little Switzerland Water District undergoes regular testing to ensure the quality of the water is in compliance with New

York State regulations. Results for 2005 and 2006 indicated the drinking water is free of VOCs.

The Little Switzerland Water District is currently supplied by a system that includes two 200-foot supply wells and one 210,000-gallon storage tank, located at the topographic high point within the district. The supply wells have reported yields of 140 gallons per minute (gpm) and 220 gpm, giving a maximum yield of 518,000 gallons per day (gpd). Extracted groundwater is chlorinated prior to distribution; the raw water is not filtered.

The 210,000-gallon storage tank was installed in 2007. The Little Switzerland Water District currently serves approximately 135 homes. Annual Drinking Water Quality Reports for the Little Switzerland Water District for 2005 and 2006 show average daily household usage rates of 453 and 639 gpd. The rates are reportedly high because of leaks in the distribution system. The Town of East Fishkill reports that most of these leaks have been repaired, and although metered usage rates are reportedly approximately 250 gpd, current rates are approximately 450 gpd because of losses along approximately 2,000 feet of the Little Switzerland distribution loop. Based on the Town's current estimated household usage rate of 450 gpd, the average daily water need is approximately 60,750 gallons. The Hopewell connection area includes an assumed 363 residential properties and 14 commercial properties to be connected to the public water supply. A survey would be conducted during the design phase to provide a more accurate count of residences requiring public water. Based upon usage estimates (250 gpd for residential properties and 670 gpd for commercial properties), the Hopewell area properties would require a mean daily supply of 100,130 gallons, bringing the total mean daily water usage to 160,880 gpd. Peak demand within Little Switzerland is currently estimated to be 40% greater than the annual mean demand; however, this rate fluctuation is likely dampened because of the loss within the existing loop. Estimating the peak daily usage at 300% of the mean daily usage gives a peak demand of 482,640 gpd. Following the expected repair of leaks within the Little Switzerland loop (and dropping the usage estimates to 250 gpd for existing users) this peak demand would fall to 401,640 gpd (300% of 133,880 gpd). Such demands could be served via the operation of both of the existing supply wells. Although such operation would not provide for a standby well, it is assumed that such conditions would be of short duration and understood that provisional service agreements could be established as necessary (e.g., short-term use of drinking water from another source).

These calculations suggest that the additional water needed to supply the Hopewell area could not be supported by the existing Little Switzerland storage capacity, but could be supplied by the Little Switzerland wells. Therefore, an additional storage tank would be constructed adjacent to the existing storage tank, within the footprint of the former storage tank.

A ten-inch diameter water main would be installed along Dogwood Road, 800 feet of which is estimated to be underlain by shallow bedrock. Ten-inch diameter piping would also be installed in or along State Route 82, creating a main distribution trunk. New eight-inch water mains would be constructed to deliver water from the main within study area streets. Some rehabilitation of the existing distribution system and some upgrading from six-inch to eight-inch diameter pipes may also be required to establish appropriate connections to the existing system. During the installation of the water supply line, fire hydrants will be installed every 500 linear feet of supply line. The proposed water main delivery route is presented in Figure 2.

Under this alternative, connection from the water main to the house would be provided in the form of ¾ inch copper piping, typical of the connections made within the Little Switzerland district. Soil cuttings from the connection of the private properties to the water mains would remain on the property.

Following connection to a public water supply, private wells in the hook-up area would be abandoned. As a result of the well abandonment, annual sampling of private residential wells would be terminated.

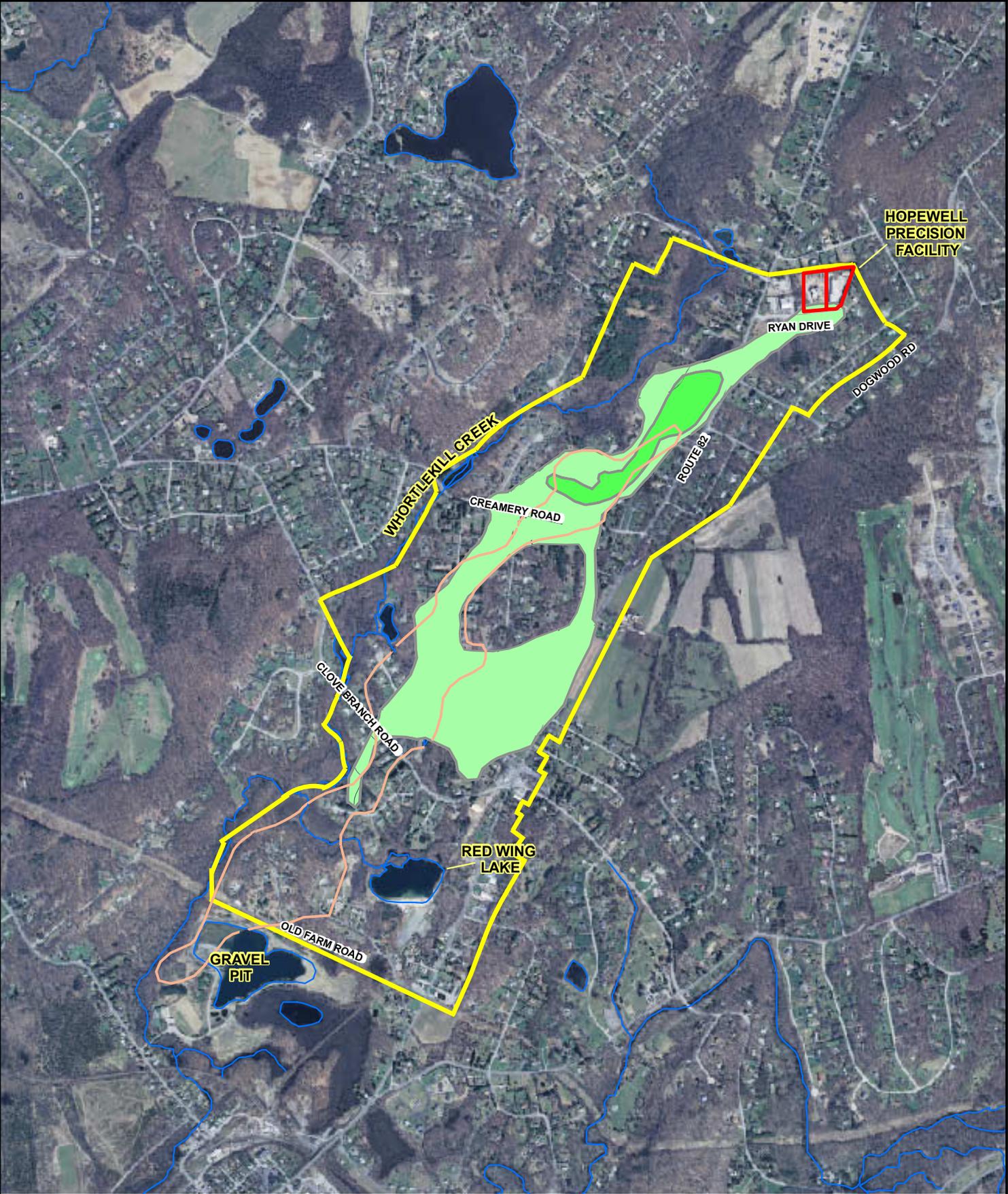
OMM is currently provided by the existing public water utility. Under this alternative, the utility would continue to oversee the OMM of the system.

#### **Basis for the Remedy Preference**

EPA is proposing Alternative AWS-3 to eliminate any potential exposure to contaminated groundwater through private drinking water wells. The Agency believes it would be the most protective of human health in the long-term. While Alternative AWS-2 would include installation of POET systems on all private water wells, such systems are generally not considered to be a permanent remedy and breakthrough of contaminants could occur in the future, resulting in exposure to contaminants. In the short-term, Alternative AWS-2 would be protective of human health, but it would not provide a permanent solution. While Alternative AWS-3 would be more difficult to implement in the short term, the overall long-term benefits of a clean and reliable source of drinking water would be the most beneficial outcome.

Alternative AWS-1, No Action, would rely solely on natural processes to restore groundwater quality to beneficial use, and it does not include any long-term groundwater monitoring to assess the effectiveness of this remedy.

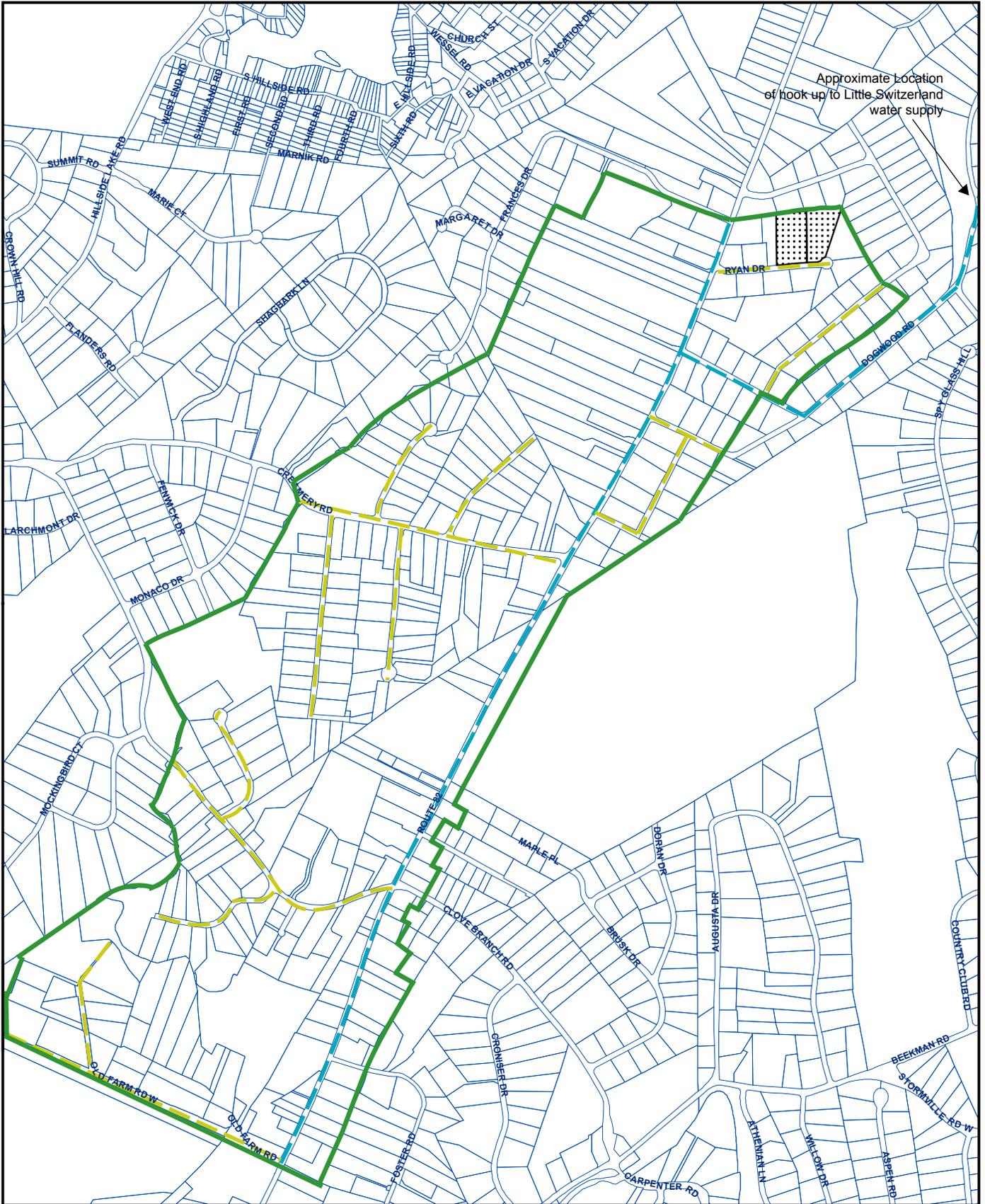
Therefore, EPA and NYSDEC believe that Alternative AWS-3, Provision of Alternate Water Supply, would eliminate the potential for exposure to contaminated drinking water at the Site while providing the best balance of tradeoffs among the alternatives with respect to the evaluation criteria.



-  FFS Study Area
-  1,1,1-Trichloroethane plume (1 ug/L)
-  Trichloroethene plume (5 ug/L)
-  Trichloroethene plume (50 ug/L)



Figure 1  
Focused Feasibility Study (FFS) Area  
Hopewell Precision Site  
Hopewell Junction, New York



Approximate Location of hook up to Little Switzerland water supply

-  Hopewell Precision Facility
-  Parcel Boundary
-  Study Area
-  Water Supply Delivery Route (8" pipe)
-  Water Supply Delivery Route (10" pipe)



Figure 2  
Alternate Water Supply Delivery Route  
Hopewell Precision Site  
Hopewell Junction, New York

**RESPONSIVENESS SUMMARY**

**APPENDIX V-B**

**PUBLIC NOTICES PUBLISHED IN THE  
*POUGHKEEPSIE JOURNAL*  
ON  
JULY 6, 2008 and AUGUST 4, 2008**



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
INVITES PUBLIC COMMENT ON THE  
PROPOSED PLAN FOR THE  
HOPEWELL PRECISION SUPERFUND SITE  
HOPEWELL JUNCTION, DUTCHESS COUNTY, NEW YORK**

The U.S. Environmental Protection Agency (EPA) announces the opening of a **30-day comment period** on the Proposed Plan and preferred cleanup alternative to address contamination at the Hopewell Precision Superfund site in Hopewell Junction, Dutchess County, New York. The comment period **begins on July 7, 2008 and ends on Aug 5, 2008**. As part of the public comment period, EPA will hold a **Public Meeting on Thursday, July 17, 2008 at 7:00 PM at the East Fishkill Town Hall**, 330 Route 376, Hopewell Junction, New York. To learn more about the meeting you can contact Ms. Cecilia Echols, EPA's Community Involvement Specialist, at 212-637-3678 or 1-800-346-5009 or visit our website at [www.epa.gov/region2/superfund/npl/hopewell](http://www.epa.gov/region2/superfund/npl/hopewell).

The Hopewell Precision site is listed on the Superfund National Priorities List. EPA recently concluded a remedial investigation/focused feasibility study (RI/FFS) for the site to assess the nature and extent of contamination in site media and to evaluate cleanup alternatives for the site. Based upon the results of the RI/FFS, EPA has prepared a Proposed Plan which describes the findings of the remedial investigation and potential remedy evaluations detailed in the feasibility study and provides the rationale for recommending the preferred cleanup alternative.

The preferred cleanup alternative for the site:

- Provide potable water to all properties within the study area by installing a system to deliver water from a nearby existing potable water supply system.
- Construct additional storage capacity near the existing Little Switzerland Storage Tank.
- Construct water mains to deliver water from the nearby Little Switzerland Water District to the study area. A service connection from the main would be extended to each house and/or commercial building.
- Properly abandon private residential wells within the study area following connection to the public water supply. Abandonment would result in the cessation of annual sampling of the wells.

During the **July 17, Public Meeting**, EPA representatives will be available to further elaborate on the reasons for recommending the preferred cleanup alternative and public comments will be received.

The RI Report, FFS Report, Risk Assessment, Proposed Plan and other site-related documents are available for public review at the information repositories established for the site at the following locations:

**East Fishkill Town Hall Community Library:** 348 Route 376, Hopewell Junction, New York 112533 (845) 221-9943  
Hours: Mon. – Thurs., 10 AM – 8 PM; Fri., 10 AM – 6 PM; Sat., 10 AM – 5 PM

**USEPA Region 2:** Superfund Records Center, 290 Broadway, 18<sup>th</sup> Floor, New York, NY 10007-1866,  
(212) 637-4308  
Hours: Mon. - Fri., 9 AM - 5 PM

EPA relies on public input to ensure that the selected remedy for each Superfund site meets the needs and concerns of the local community. It is important to note that although EPA has identified a preferred cleanup alternative for the site, no final decision will be made until EPA has considered all public comments received during the public comment period. EPA will summarize these comments along with EPA's responses in a Responsiveness Summary, which will be included in the Administrative Record file as part of the Record of Decision. **Written comments and questions regarding the Hopewell Precision Superfund site, postmarked no later than August 5, may be sent to:**

Mr. Lorenzo Thantu, Project Manager  
U.S. Environmental Protection Agency  
290 Broadway, 20th Floor  
New York, New York 10007-1866  
Telefax: (212) 637-4240  
email: [thantu.lorenzo@epa.gov](mailto:thantu.lorenzo@epa.gov)



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
EXTENDS THE PUBLIC COMMENT PERIOD ON THE  
PROPOSED PLAN FOR THE  
HOPEWELL PRECISION SUPERFUND SITE  
HOPEWELL JUNCTION, DUTCHESS COUNTY, NEW YORK**

The U.S. Environmental Protection Agency (EPA) announces a **14 day extension to the public comment period** on the Proposed Plan and preferred cleanup alternative to address contamination at the Hopewell Precision Superfund site in Hopewell Junction, Dutchess County, New York. The comment period **began on July 7, 2008 and will end on August 19, 2008**. As part of the public comment period, EPA held a **Public Meeting on Thursday, July 17, 2008 at 7:00 PM at the East Fishkill Town Hall**, 330 Route 376, Hopewell Junction, New York. To learn more about the meeting contact Ms. Cecilia Echols, EPA's Community Involvement Specialist, at 212-637-3678 or 1-800-346-5009 or visit our website at [www.epa.gov/region2/superfund/npl/hopewell](http://www.epa.gov/region2/superfund/npl/hopewell).

The Hopewell Precision site is listed on the Superfund National Priorities List. EPA recently concluded a remedial investigation/focused feasibility study (RI/FFS) for the site to assess the nature and extent of contamination in site media and to evaluate cleanup alternatives for the site. Based upon the results of the RI/FFS, EPA has prepared a Proposed Plan which describes the findings of the remedial investigation and potential remedy evaluations detailed in the FFS and provides the rationale for recommending the preferred cleanup alternative.

The preferred cleanup alternative for the site consists of the following components:

- Provide potable water to all properties within the study area by installing a system to deliver water from a nearby existing potable water supply system.
- Construct additional storage capacity near the existing Little Switzerland Storage Tank.
- Construct water mains to deliver water from the nearby Little Switzerland Water District to the study area. A service connection from the main would be extended to each house and/or commercial building.
- Properly abandon private residential wells within the study area following connection to the public water supply. Abandonment would result in the cessation of annual sampling of the wells.

During the **July 17th Public Meeting**, EPA representatives were available to further elaborate on the reasons for recommending the preferred cleanup alternative and to receive public comments.

The RI Report, FFS Report, Risk Assessment, Proposed Plan and other site-related documents are available for public review at the information repositories established for the site at the following locations:

**East Fishkill Town Hall Community Library:** 348 Route 376, Hopewell Junction, New York 112533 (845) 221-9943  
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(212) 637-4308  
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EPA relies on public input to ensure that the selected remedy for each Superfund site meets the needs and concerns of the local community. It is important to note that although EPA has identified a preferred cleanup alternative for the site, no final decision will be made until EPA has considered all public comments received during the public comment period. EPA will summarize these comments along with EPA's responses in a Responsiveness Summary, which will be included in the Administrative Record file as part of the Record of Decision. **Written comments and questions regarding the Hopewell Precision Superfund site, postmarked no later than August 19th, may be sent to:**

Lorenzo Thantu, Project Manager  
U.S. Environmental Protection Agency  
290 Broadway, 20th Floor  
New York, New York 10007-1866  
Telefax: (212) 637-3966  
email: [thantu.lorenzo@epa.gov](mailto:thantu.lorenzo@epa.gov)

**RESPONSIVENESS SUMMARY**

**APPENDIX V-C**

**JULY 17, 2008 PUBLIC MEETING TRANSCRIPT**

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2       - - - - -x  
3       ENVIRONMENTAL PROTECTION AGENCY  
4       HOPEWELL PRECISION SUPERFUND SITE

4       TOWN OF EAST FISHKILL  
5       HOPEWELL JUNCTION, NEW YORK  
5       - - - - -x

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8       TRANSCRIPTION of EPA Superfund Meeting held at the  
9       East Fishkill Town Hall, Route 376, Hopewell Junction,  
10      New York on Thursday, July 18, 2008, before Rosemarie  
11      Cummings, a Professional Reporter, and Notary Public  
12      within and for the State of New York.

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1 Hopewell Precision 7/18/08

2 CECILIA ECHOLS: Hi. I'm  
3 Cecilia Echols. I'm the Community  
4 Involvement Coordinator for this site  
5 at Hopewell Precision Superfund Site.

6 I want to thank everyone for  
7 coming here tonight. We chose this  
8 venue, because we were interested in  
9 having the air conditioning. There  
10 have been times we've had meetings in  
11 schools, and the air conditioning has  
12 broken, and unfortunately --  
13 fortunately the air conditioning does  
14 work.

15 We didn't anticipate this many  
16 people, but I'm happy to see everyone  
17 here, and I hope that the presentation  
18 will be of your liking, and if you  
19 have a lot of questions, please hold  
20 them until the end; take some notes on  
21 the handouts for the presentation  
22 we've given you tonight.

23 I would like to apologize. We  
24 ran out of copies of the presentation.  
25 However, you could get copies of them.

1 Hopewell Precision 7/18/08  
2 On the bottom of the proposed plan on  
3 the right-hand side, there is a web  
4 site. However, if you do not have  
5 Internet access, you can indicate on  
6 the sign-in sheet with an asteric, and  
7 I can mail it to you.

8 I would like to introduce  
9 everyone here today, who will be  
10 giving a presentation. We have Ed Al.  
11 He is the Acting Section Chief with  
12 Eastern New York Remediation Section.  
13 Grant Anderson, a Geologist, myself,  
14 Charles Nace --

15 CHARLES NACE: Hello.

16 CECILIA ECHOLS: -- Risk  
17 Assessor; Lorenzo Thantu, Project  
18 Manager, and I would also like to  
19 mention Don Graham. He has done a lot  
20 of work here. The coordinator is not  
21 here. He's on vacation with his  
22 family.

23 We also have two EPA  
24 consultants, Brendan MacDonald and  
25 Susan Schofield. In addition we have

1 Hopewell Precision 7/18/08

2 Karen Morano from New York State DEC  
3 right over here.

4 Chris Vincalo from the New  
5 York State DOH. Oh, he's over there  
6 as well. I'm sorry. And Jim Bowers.  
7 He's also from New York State. We're  
8 all over the place. I'm sorry. We  
9 also have George Salem representing  
10 Assemblyman --

11 GEORGE SALEM: Mark Molinaro.  
12 Mark had a conflict, but just wanted  
13 everyone to know that he wants me to  
14 tell everyone that he remains  
15 committed to this process makes -- and  
16 then if there are any questions for or  
17 any issue, Mark will continue to make  
18 sure that things move along at a good  
19 pace --

20 CECILIA ECHOLS: Thank you.

21 GEORGE SALEM: -- would  
22 attempt to -- and I am an owner. I  
23 live just above the site on 82. I'm  
24 committed myself, involved in this  
25 process as well.

1 Hopewell Precision 7/18/08

2 CECILIA ECHOLS: Thank you.

3 UNIDENTIFIED SPEAKER: There  
4 is some feedback off the microphone.

5 (Pause in proceedings, 7:10  
6 p.m. to 7:11 p.m.)

7 Okay. I just wanted to  
8 discuss tonight's meeting is for the  
9 Hopewell Precision area groundwater  
10 contamination site. We're here to  
11 discuss the operable unit one, and as  
12 the Community Involvement Coordinator,  
13 it is my responsibility to make sure  
14 everyone in the community is informed  
15 about the site. If you never received  
16 anything from me regarding any  
17 meetings in the past, you may not have  
18 attended any meetings, or you may have  
19 come and didn't sign in. So I hope  
20 everyone is signed in tonight, so that  
21 you can receive future mailings about  
22 this site.

23 We want to bring everyone into  
24 the decision-making process and you  
25 have a public comment period that has

1 Hopewell Precision 7/18/08  
2 started on July 7th and ends on  
3 August 5th. There was a public notice  
4 placed in the Poughkeepsie Journal on  
5 July 7th. There is an information  
6 repository. There are two.

7 (Interruption, inaudible.)

8 There's an information  
9 repository. There are two; one at the  
10 library across from here as well as in  
11 Manhattan. There is also 800  
12 community relations toll free number  
13 1-800-346-5009. We also have prepared  
14 a web page for this site that will  
15 have all of the documents pertaining  
16 to this site. So the proposed plan,  
17 as well as the presentation, are on  
18 the web page. So you can have access  
19 that way.

20 We also have a stenographer.  
21 Please state of your questions loudly  
22 and clearly for her. Please indicate  
23 your name and who you are  
24 representing.

25 And with that note, we will

1 Hopewell Precision 7/18/08

2 open it up, and please hold all  
3 questions to the end. We'll open it  
4 up to Lorenzo.

5 LORENZO THANTU: Can you all  
6 in the back hear me? Let me just  
7 quickly go through the agenda. We  
8 have quite a few agenda items to  
9 cover, and I'll be covering six of the  
10 follow agenda items starting with the  
11 brief site history and then Acting  
12 Chief Ed Als will talk about the clean  
13 up site process, and then I'm going to  
14 also talk about the current schedule  
15 on the phase clean-up plan that we  
16 have for the Hopewell site, and then  
17 I'll briefly talk about the remedial  
18 investigation study that we just  
19 conducted, and then the human risks  
20 assessment conducted as part of the  
21 RI, and then the subject of tonight's  
22 meeting, which we call it unit one,  
23 Focused Feasibility Study and then  
24 after that, what the EPA's preferred  
25 remedy is, and after that we'll have

1 Hopewell Precision 7/18/08  
2 time; we'll get to your questions and  
3 answers.

4 Just a quick site background  
5 on Hopewell site and the Superfund  
6 Remedial Action that we have conducted  
7 at the site. Don Graham, is an  
8 institutional name here in the  
9 Hopewell area. Unfortunately he's not  
10 here this week, and he's been involved  
11 with the site since early 2003.

12 And Hopewell Precision  
13 operated from 1977 to 1980 at the  
14 previous location, 15 Ryan Drive.  
15 That's when most of the dumping took  
16 place, as far as the dumping. They  
17 were dumping, like, up to five gallons  
18 of waste solvents a day, and then in  
19 1980 they moved to the adjacent  
20 property, 19 Ryan Drive.

21 Now, 15 Ryan Drive, since  
22 1980, has been used by a company by  
23 the name of Nicholas Brothers Moving  
24 Company for equipment storage and  
25 office space.

1 Hopewell Precision 7/18/08

2 This is the site map that, you  
3 know, we have prepared, and here is 15  
4 Ryan Drive and 19 Ryan Drive and a  
5 study area extends all the way down to  
6 Gravel Pit. That's the Gravel Pit  
7 used by the Whortlekill Gun and Rod  
8 Club, Red Wing Lake, and this entire  
9 area, as the way down to southern end  
10 of Gravel Pit, was part of the RIFS,  
11 Remediation Investigation Feasibility  
12 Study, study area.

13 And over here is the Route 82;  
14 just to get you familiarized with the  
15 boundaries and the west side is the  
16 Whortlekill Creek. And so with the  
17 site ground removal action we got  
18 involved early 2003. Don Graham has  
19 been involved with the site since  
20 then, and through his work we  
21 identified two primary groundwater  
22 contaminants. Both are organic  
23 solvents, which were used as  
24 degreasing solvents in the earlier  
25 days, when the Hopewell Precision

1 Hopewell Precision 7/18/08  
2 operated at the original location, 15  
3 Ryan Drive.

4 The first one is the  
5 trichloroethene. From now on we'll  
6 call it TCE. Second is one, one, one,  
7 trichloroethane, TCA.

8 So as part of Don Graham's  
9 work, we collected over 450 private  
10 water well samples over the, you know,  
11 year and a half from 2003, on  
12 February, 2003. And as part of that  
13 work, we identified 39 private wells  
14 that exceeded our drinking water  
15 standard for TCE, and similarly we  
16 identified 14 wells that exceeded New  
17 York State drinking water standards  
18 for TCA.

19 So when we first found out  
20 this exposure that was taking place to  
21 private well water contamination  
22 removal program under the work of  
23 Don Graham, then we immediately  
24 started providing bottled water to  
25 those homes that were impacted, and

1 Hopewell Precision 7/18/08  
2 then subsequent to that, for those 39  
3 private wells that had TCE  
4 contamination we installed POET.  
5 That's called Point of Entry Treatment  
6 System, which is basically a carbon  
7 filtration system coupled with  
8 ultraviolet disinfectant system at 39  
9 homes, and similarly DOC installed  
10 POET System at 14 other homes, where  
11 there was TCA contamination, and in  
12 addition to private well sampling, we  
13 also did extensive amount of  
14 investigation; subslab sampling and  
15 indoor sampling.

16 Basically, it was a two-phase  
17 approach. First we go to a home, take  
18 samples from subslab below the  
19 basement floor slab. If that comes  
20 back high for EPA criteria or various  
21 organic contaminants, we go back in  
22 and do indoor sampling. All this work  
23 was done through the removal program  
24 to most of it.

25 In all of the -- we did

1 Hopewell Precision 7/18/08  
2 subslab floor gas sampling at about  
3 280 homes, and based on those results,  
4 we found out how elevated TCE  
5 contamination and subslab air at about  
6 67 of those homes, and of those 67, 53  
7 exceeded EPA safe levels.

8 So we went back to those 53  
9 residences and installed subslab  
10 ventilation system, which is almost  
11 identical to how a radon system works.  
12 So to date, we have installed 53 SVS  
13 assistants, and POET, we have  
14 installed 39 POETs and the State  
15 POETs. And with all these homes that  
16 have been impacted and the homes that  
17 have been impacted in the future we  
18 continue to sample all the at-risk  
19 homes for either indoor air problems  
20 or private well contamination. And  
21 with the 39 POETs and 14 POETs EPA and  
22 New York State DEC continue to  
23 quarterly sample, inspect them to make  
24 sure these POETs are continuing to  
25 operate as designed.

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2 So in the future should we  
3 find any new homes that have  
4 contaminated well water or indoor air  
5 problem, we would install a POET as an  
6 assistant in those impacted homes, and  
7 that was the end of my brief  
8 presentation of the removal action to  
9 date, and now, I think we're going to  
10 talk about how the EPA selection  
11 process works.

12 ED ALS: Okay. Good evening.

13 The first bullet out there is  
14 the famous NPL, which is the Superfund  
15 Initial Priority List listing  
16 Superfund sites throughout the  
17 country. This site was listed in  
18 2005. Prior to that, or independent  
19 of that, certain removal actions were  
20 taken, as Lorenzo just mentioned,  
21 and -- and involving Don Graham. I  
22 think several of you know.

23 The removal -- the removal  
24 program is a little separate. It's  
25 still under the same Superfund laws as

1 Hopewell Precision 7/18/08  
2 is what we call remedial program. The  
3 removal program deals with more acute  
4 issues, short-term acute risks,  
5 whereas our remedial program tends to  
6 deal with the aftermath, the long-term  
7 chronic-type risks, and what type of  
8 clean up's necessary for that.

9 So you've heard about the  
10 removal evaluation, and the program  
11 what we're here for tonight is really  
12 the remedial program. The remedial  
13 program -- which, actually, gets  
14 triggered by an NPL listing. If the  
15 site makes the NPL, the remedial  
16 program will kick in and do what they  
17 call a Remedial Investigation  
18 Feasibility Study.

19 Actually, we may do several of  
20 these on a site. We might phase the  
21 remedial part of the project in  
22 several phases before we observe the  
23 units, as mentioned earlier. But  
24 the -- the one that we're worried  
25 about tonight is the first operable

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2 unit process, and we'd done a Remedial  
3 Investigation Feasibility Study, and  
4 we'd done a proposed plan. Those are  
5 the next bullets, three and four. We  
6 haven't done the rest yet. So that's  
7 where you're at, at the process.

8 The remedial investigation,  
9 very quickly, it investigates the  
10 nature and extent of the  
11 contamination, identifies the  
12 contaminants of potential concern,  
13 what kind of chemicals have been  
14 released into the environment;  
15 typically uses various types of  
16 investigative mechanisms, like soil  
17 borings, wells, geophysics, what have  
18 you, to try to get a handle on the  
19 nature and extent of the  
20 contamination.

21 As part of the remedial  
22 investigation, we also do human health  
23 and environmental risk analysis, and  
24 in general what we're doing during the  
25 remedial investigation is we are

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2 gathering all the information that's  
3 necessary to support feasibility study  
4 alternatives.

5 The feasibility study,  
6 basically, the beginning of that  
7 process we need to establish our  
8 objectives; what we want to accomplish  
9 here. We also establish preliminary  
10 remedial goals, which are typically  
11 numbers, concentration limits that we  
12 think make sense to apply here. We  
13 also, as part of this early part of  
14 the feasibility study, we identify  
15 applicable or relevant appropriate  
16 requirements, which are typically  
17 aspects of other laws that might apply  
18 to this particular site. We then  
19 identify and screen potential  
20 technologies that could be possibly  
21 used, and again, this is our general  
22 process. Every site is different. We  
23 may manipulate these to fit the site.

24 So after we screen  
25 technologies, we assemble them into

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2 alternatives. Then we screen those  
3 alternatives for implementability,  
4 cost, and practicability, and we  
5 actually do something like this, and  
6 screen out several alternatives,  
7 alternatives for various reasons. The  
8 alternatives that make it through, we  
9 analyze them through something called  
10 EPA Superfund Nine Evaluation  
11 Criteria, and that brings us to the  
12 proposed plan.

13 The proposed plan looks at the  
14 alternatives with these nine  
15 evaluation criteria and then make a  
16 preferred alternative that we like,  
17 that we think makes the most sense,  
18 and we propose it to the State of New  
19 York and to the public at large, and  
20 based on that portion of the process  
21 we then determine whether we are going  
22 to go ahead and make that our Record  
23 of Decision.

24 I will just quickly list the  
25 nine criteria. If you have it in your

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2 proposed plans, you can see it. There  
3 are protection of human health,  
4 compliance with ARAR's, long-term  
5 effectiveness and permanence,  
6 reduction in toxicity, mobility, and  
7 volume, and treatment; short-term  
8 effectiveness; implementability; cost;  
9 public acceptance and state  
10 acceptance. Those are the nine  
11 criteria, and we evaluate each  
12 alternative against each other, and in  
13 respect to those criteria, which one  
14 does the job better, when it come to  
15 each of those criteria.

16 If you go through the public  
17 comment period, receive our comments  
18 from the public, examine the comments  
19 that are made here tonight, evaluate  
20 how they affect the preferred remedy,  
21 if they affect it, will we have to  
22 tweak it in certain ways, or do we  
23 have to, to start at ground zero. We  
24 do that over the next few months and  
25 we probably go out with a Record of

1 Hopewell Precision 7/18/08  
2 Decision, assuming that things work as  
3 they typically do, which is to go  
4 ahead with the Record of Decision.

5 The Record of Decision  
6 embodies the selected remedy, which  
7 was the preferred alternative,  
8 although it be possibly tweaked, and  
9 any documents EPA selected remedy.  
10 After that we go into design,  
11 construction, and if necessary,  
12 operation and maintenance.

13 I'm not quite sure how the  
14 next slide goes, but I think back to  
15 Lorenzo. So Lorenzo will take you  
16 through the rest of the presentation,  
17 but he will also present the preferred  
18 alternative and the -- and hopefully  
19 explain it in a little bit more detail  
20 maybe than what you've seen on the  
21 proposed plan. Thank you.

22 LORENZO THANTU: Let's talk  
23 about the first step of the clean up  
24 selection process, which is the NPL,  
25 National Priorities List, site that

1 Hopewell Precision 7/18/08  
2 lists the NPL, and makes the site  
3 eligible for the funding, and  
4 investigation, and subsequent design,  
5 and construction.

6 Well, the Hopewell site --  
7 site was listed formally on the NPL on  
8 April, 2005. And, quickly, on the  
9 clean-up schedule often times when one  
10 wants to expedite the overall clean up  
11 work for a Superfund site we divide  
12 the site into various several use. We  
13 have done just that to the Hopewell  
14 site. The Hopewell site we have to  
15 establish operable unit one, operable  
16 unit two, and operable unit one is the  
17 subject of tonight's meeting, which is  
18 alternate water supply, which we will  
19 get into much more detail in the next  
20 five to ten minutes.

21 Operable unit one, as I said,  
22 it looks into how to provide this  
23 alternate water supply to those homes  
24 affected by the Hopewell Precision  
25 contaminated plume, and operable unit

1 Hopewell Precision 7/18/08  
2 two is moving forward and we have had  
3 a separate post plan in operable unit  
4 two in about six or seven months,  
5 because we are still currently  
6 preparing a separate focused -- I'm  
7 sorry -- a feasibility study for  
8 operable unit two. Operable unit two  
9 addressed all of the environmental  
10 media, specifically groundwater,  
11 service water and vapors associated  
12 with the Hopewell contaminated plume.

13 For the RIFS medial  
14 investigation that we completed, all  
15 of the field work, and the report was  
16 finalized, and released to the public  
17 last month, June 2008. The primary  
18 objective is to look at the nature and  
19 extent of these five environmental  
20 bullets that I just listed. That's  
21 been all done, and the purpose is to  
22 enable the EPA to determine what best  
23 appropriate clean-up alternative to  
24 address those environmental medial  
25 would be, and that would be part of

1 Hopewell Precision 7/18/08

2 the operable unit two.

3 This is a conceptual schematic  
4 that we have prepared. It's very  
5 general to tell you precisely what we  
6 are dealing with, with contamination;  
7 particular groundwater contaminant  
8 plume emanating from with the Hopewell  
9 site. Excuse me for a second.

10 And if you look at this  
11 conceptual figure from right to left,  
12 that's going in the southwesterly  
13 direction. Here is the Hopewell  
14 Precision facility, and all of that  
15 historical dumping took place right on  
16 site. This shows you how the organic  
17 solvents TCA and TCE were penetrated  
18 into the subsurface soils into  
19 groundwater, and this also shows you  
20 home private wells and monitoring  
21 wells, and then the water table here  
22 was at the site was about 15 feet  
23 below the ground surface, and also  
24 shows you on various geologic  
25 formation that we are dealing with.

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2 We have our standard gravel and  
3 subsurface soils, and below it is  
4 primarily silt and till, and over here  
5 about a mile and a half southwest of  
6 the Hopewell site you have Red Wing  
7 Lake, and here's the Gravel Pit.

8 And as the OC are slowly  
9 leached into groundwater, it becomes  
10 dissolved in groundwater. The  
11 groundwater flows in a southwesterly  
12 direction. And as the groundwater  
13 flows, then obviously the VOC have a  
14 high tendency to volatilize into  
15 subsurface soils, and they can find  
16 their way through various channels  
17 into people's basement homes  
18 especially in cracks within the -- the  
19 foundation slabs.

20 That's how we identified back  
21 in early 2003 that some of these homes  
22 are actually having really problems  
23 with indoor air, and then over here is  
24 the Whortlekill Creek and somewhere  
25 over here.

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2 And just quickly going over  
3 the summary of the RI Field, I'm not  
4 going to go into -- so instead, I'm  
5 just going to give you the statistics  
6 on the extent of RI Field work that we  
7 have done. As I said earlier,  
8 investigated all five media; soil,  
9 subsurface water, groundwater, and  
10 indoor air. For the on-site soils at  
11 the site, we collected 75 samples, and  
12 surface water would be from the  
13 Whortlekill Creek and three small  
14 ponds just located south of the  
15 Hopewell site, and two large ponds,  
16 which would be Red Wing Lake and the  
17 Gravel Pit, and we also collected ten  
18 samples at Red Wing Lake and at Gravel  
19 Pit, and the subslab air we did two  
20 rounds.

21 The first round was 2006. We  
22 selected subslab from 64 properties  
23 including commercial building, and  
24 round two we extended that to 136  
25 properties, and as a result of these

1 Hopewell Precision 7/18/08  
2 two rounds of subslab, slash, indoor  
3 sampling, we put in the subslab  
4 ventilation system in both to homes,  
5 because we found out the indoor air  
6 was in excess of the EPA's safe indoor  
7 level. That was done by Don Graham.

8 And now, the groundwater we  
9 also did a lot of groundwater  
10 sampling. We have done two rounds of  
11 bottle water sampling. Round one we  
12 did 48. Round two we did 195, and we  
13 also do extensive groundwater  
14 sampling. Initially, we put in  
15 temporary wells to get a good idea on  
16 what the groundwater contaminant was,  
17 before we invest the money to put in  
18 permanent monitoring wells.

19 From the groundwater we  
20 collected 191 samples. Based on that  
21 we installed 35 new permanent  
22 monitoring wells. They are permanent,  
23 meaning we can always go back to the  
24 wells to sample on a future -- on  
25 as-needed basis. Then we did two

1 Hopewell Precision 7/18/08  
2 rounds of 38 monitoring wells sampling  
3 including three on site wells at the  
4 Hopewell Precision facility.

5 Based on all of the sampling  
6 results from the remedial  
7 investigations as well as the  
8 groundwater sampling done by  
9 Don Graham we have delineated the  
10 groundwater contaminant plume  
11 attributed to the Hopewell site. If  
12 you look at this figure closely  
13 enough, this shows you two plumes.  
14 One for TCA and the other one for TCE.  
15 Starting with the TCE you see separate  
16 plumes; two plumes with the same  
17 contaminant, two different  
18 concentrations. TCE, we have this hot  
19 spot where the bulk of TCE  
20 concentration is concentrated this  
21 dark green shaded area. That's like  
22 between like a -- a above -- above the  
23 Clove Branch Road and Creamery Road.  
24 This is contour, actual concentration  
25 contour to about 50 parts per billion

1 Hopewell Precision 7/18/08  
2 for TCE, and drinking water standard  
3 for TCE is five parts per billion. So  
4 that's where we are on the drinking  
5 water standard.

6 And then outside this dark  
7 shade green it starts to dissipate,  
8 but still detected levels of TCE.  
9 This larger area is contoured at one  
10 PPB, and you have this long narrow  
11 plume of TCA contour at one part per  
12 million. Parts per million are the  
13 same as micro grams per liter. So if  
14 you look at the liters here, it will  
15 say micro grams per liter. It's the  
16 same as parts per billion. Excuse me.

17 This is not really my area,  
18 but I'm going to spend three or four  
19 minutes to talk about the baseline  
20 Human Health Risk Assessment that we  
21 have done. As part of the our --  
22 Chuck may introduce himself to you as  
23 the EPA Risk Assessor, and feel free  
24 to ask him any questions you might  
25 have on the risk assessment that we

1 Hopewell Precision 7/18/08

2 have done during the Q and A.

3 On the health risk assessment  
4 we have done, you go through the  
5 four-step process to find out what the  
6 human health risks are developed by  
7 current risk scenario and future land  
8 use scenario in absence of any clean  
9 up action. That's the requirement by  
10 the national contingency plan, which  
11 set the regulations for the Superfund  
12 clean up program.

13 The first map is the -- has an  
14 identification. As part of the  
15 sampling we look at what all the  
16 samplings are, and we identify those  
17 site related contaminants of concern  
18 based on frequency of infection,  
19 concentrations, and transport of those  
20 containment, and then based on those  
21 results we do an exposure assessment;  
22 that is to identify those exposure  
23 pathways by which people could be  
24 exposed to these contaminants, and  
25 then the toxicity assessment, and that

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2 is to look at what the toxicity nature  
3 of these contaminants that we are  
4 dealing with, and as part of that we  
5 look at both cancer risk and also  
6 noncancer risk. Noncancer risk we  
7 also call that hazard.

8 With the cancer risk we are --  
9 express cancer risk in the form of  
10 probability; say like one in 10,000.  
11 Incremental lifetime cancer risk, that  
12 means that you would have one cancer  
13 case for a population of 10,000. And  
14 the EPA acceptable risk range for  
15 cancer risk is one in 10,000 to one in  
16 a million, and then for the hazard  
17 risk we have what we call a hazard  
18 index, and that is to look at  
19 noncancers risk. That's to look at  
20 there might be any changes in the  
21 normal function of organs in the body;  
22 kidney, et cetera, and then based on  
23 that we look at the exposure levels,  
24 and we compare them to what we call  
25 rapid cells to ratio.

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2 So rapid cells we reference  
3 those is as a safe level above which  
4 they will not be put on any kind of a  
5 hazard risk. So the ratio is one.  
6 Anything below one would be -- is  
7 considered safe. Hazard index of one,  
8 and we would, you know, include that  
9 as a potential risk to lung cancer  
10 risk or hazard.

11 And the final step is risk  
12 characterization. And this final step  
13 is simply quantify by combining both  
14 the results from the exposure  
15 assessment and the toxicity assessment  
16 to quantify what the risks are for  
17 cancer risks and hazards.

18 So based on this Human Health  
19 Risk Assessment we have conducted, we  
20 estimated risk cancer and hazards of  
21 current and future adult and child  
22 resident. Adult is anyone over the  
23 age of 18. Child is zero to six years  
24 old, and exposure pathways that we  
25 looked at were ingestional and

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2 contaminated water, general contact  
3 with contaminated water, and also  
4 inhalation of organic solvents that  
5 could volatilize from water, when you're  
6 showering and bathing.

7 So based on this quantifying  
8 risk, we did identify cancer risks for  
9 adult and child residents, and we also  
10 estimated some potential risks for  
11 hazards index for also developed child  
12 risks.

13 Now, the Focused Feasibility  
14 Study, which we also released to the  
15 public, June, 2008, we looked at three  
16 alternatives in the FFS. The first  
17 one is the no action. No action  
18 alternative, which is required by  
19 the NCP, which I mentioned earlier, to  
20 use as a baseline for comparison  
21 against other active remedial  
22 alternative action and some form of  
23 the clean up. So obviously the cost  
24 for no action the total cost would be  
25 zero.

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2 And second one is Alternative  
3 Two. That has to do with a POET  
4 System that I talked about earlier.  
5 This alternative were a different type  
6 of -- different form of providing  
7 potable water to those homes impacted  
8 or potentially impacted in the future  
9 in the study area, and for these  
10 homes, about 325 homes, 325, we  
11 installed POET System to those homes.  
12 The treatment well had to take out the  
13 VOCs and the total cost would be about  
14 15, five -- \$15.4 million for that  
15 alternative. This cost is quite high,  
16 because of the significance expense  
17 associated with a quarterly water test  
18 that we would have to do for these 325  
19 homes every three months.

20 Alternative Water Supply-3,  
21 that's the alternative that we will be  
22 talking to you about as the EPA's  
23 preferred remedy. This would provide  
24 alternate water supply to all those  
25 homes in the study area installing a

1 Hopewell Precision 7/18/08  
2 public water supply system to deliver  
3 water from a nearby public water  
4 supply system, naming the Little  
5 Switzerland, and the total cost would  
6 be \$15.6 million. And this  
7 alternative cost has no annual cost,  
8 because it's strictly a capital, and  
9 constructing, and installing this new  
10 public water supply infrastructure.

11 So with alternative water  
12 supply three, it has a lot of  
13 significant benefits that we see over  
14 the other two benefits. First, we  
15 will provide to all those homes, about  
16 380 homes in the study area,  
17 installing systems to deliver water  
18 from a nearby water supply system.  
19 That would be Little Switzerland. We  
20 did a study on Little Switzerland, and  
21 we found out that Little Switzerland  
22 has the capacity in terms of water  
23 yield to supply wells at about half a  
24 million gallons per day. However, it  
25 doesn't have the storage capacity

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2 to -- to make this alternative happen.

3 We would install -- install  
4 and construct a second storage tank  
5 within the fingerprints of the old  
6 storage tank that was replaced by this  
7 new one in 2007. So under this  
8 alternative and we would bring water  
9 from the Little Switzerland this way,  
10 and then we would put in place a  
11 service connection from a public water  
12 supply main to each house and  
13 commercial building, and that is part  
14 of all the existing private wells at  
15 these homes would be abandoned. So  
16 they could never be used again. They  
17 would be for nonpotable purposes, and  
18 another good benefit about this  
19 alternative, which is shown on the  
20 slide, is that there is an ordinance  
21 within the Town of East Fishkill is  
22 that any home that is within the  
23 district is prohibited from private  
24 wells. So that would become kind of  
25 like a restriction once all of these

1 Hopewell Precision 7/18/08  
2 homes incorporated to expand the water  
3 district.

4 So this shows you the hook up  
5 area for the Hopewell study area. So,  
6 basically, the water line would be  
7 extended to Little Switzerland, which  
8 is about half a mile northeast of the  
9 Hopewell Precision site, and it would  
10 run a ten inch public water supply  
11 pipeline along Route 82 and along the  
12 other side of the study area. And  
13 then within the study area we would  
14 install smaller eight inch piping, and  
15 then the hook up would be through a  
16 standard three quarter inch pipeline  
17 piping to each house, and if you look  
18 at this map in the lobby, you saw lots  
19 of big -- these lots are very, very  
20 big in the Hopewell area, very  
21 rectangular.

22 So this extends all the way to  
23 Old Farm Road down here, Route 82,  
24 east of it, and just by the  
25 Whortlekill Creek on the west of the

1 Hopewell Precision 7/18/08  
2 public supply hook up area. So I was  
3 talking about the -- about the  
4 evaluation that we are required to do  
5 through the remedy selection process.

6 Again, each of the nine  
7 evaluation criteria with the exception  
8 of community acceptance criterion, we  
9 obviously have to address that after  
10 tonight's meeting and after the public  
11 comment period that ended on  
12 August 5th, and all other criteria  
13 have been fully met including state  
14 acceptance, and the New York State  
15 Department of Conservation and New  
16 York State Department of Health both  
17 have to concur on this proposed plan;  
18 so, the remedy for this Alternative  
19 Three provision of water supply.

20 So as I have said, I think  
21 that Alternative Three would provide  
22 best overall protection of human  
23 health and eliminate all potential for  
24 exposure of contaminated groundwater  
25 from any private drinking wells that

1 Hopewell Precision 7/18/08  
2 might be used or installed within the  
3 Hopewell contaminated plume area, and  
4 it would also provide very high  
5 quality drinking water from the Little  
6 Switzerland Water District. And in  
7 all districts in New York State you're  
8 required to sample the water on a  
9 quarterly basis, and looked at the  
10 results from 2005 and 2006, I believe,  
11 which have shown the drinking water to  
12 be very high quality and free of all  
13 volitive contaminants, of course,  
14 including TCE and TCA.

15 And this is the last slide,  
16 and this is what we expect feedback  
17 from you all on the proposed plan and  
18 the rest of the supported documents,  
19 which are located at the Town of East  
20 Fishkill Library and also at the EPA  
21 record center at EPA building Downtown  
22 Manhattan, and your comments as  
23 provided tonight verbally will be  
24 addressed as well as all written  
25 comments submitted to me.

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2 ED ALS: Okay. We're going to  
3 open it up for questions now, and if  
4 you have a question, could you first  
5 state your name and speak clearly and  
6 loud, or if you need the mike, or you  
7 can come up to use the mike.

8 (Audience raising hands.)

9 Oh, what a choice. Okay. Why  
10 don't we start with the gentleman  
11 right here.

12 MIKE GUSHER: I want to ask  
13 you a question. My name is Gusher,  
14 Mike. I live at the Hamilton Road off  
15 Creamery. I'd like to know how long  
16 does that contamination get into the  
17 wells? How long did it take? In  
18 other words, the contamination that  
19 they had in the plant how long did it  
20 get into the ground? How long did it  
21 take?

22 ED ALS: When it first went  
23 into the ground, and how long did it  
24 take?

25 MIKE GUSHER: Yeah, right.

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2 GRANT ANDERSON: My name is  
3 Grant Anderson. I'm the  
4 Hydrogeologist. I'll answer the  
5 geology-type questions.

6 In this case we know that the  
7 contamination couldn't have been in  
8 the ground before 1977. That's when  
9 they began working, and they  
10 stopped -- stopped dumping in 1980.  
11 So it's a small -- very small window  
12 of time, when they were dumping. So  
13 we know this entire plume was created  
14 since 1977.

15 MIKE GUSHER: All right. I've  
16 been -- I came up here 1947. So --  
17 come up here in '46 I should say that  
18 I came out of the service, and I drank  
19 that Hopewell water for many, many  
20 years, and it was darn good. But I  
21 just wanted to know just -- just that  
22 situation.

23 ED ALS: Okay. I'm just going  
24 to be going clockwise. I think that  
25 might help here. Next? Sir?

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2 PETER VEROSI: Okay. My name  
3 is Peter Verossi, and I live in the  
4 Little Switzerland neighborhood, and  
5 my question is related to the  
6 aquifers, and do we have enough  
7 knowledge of the nature of the  
8 aquifers to know that the Little  
9 Switzerland aquifer is separate, is  
10 truly separate, from the water source  
11 that feeds into the contaminated area,  
12 and the reason I ask that because if  
13 we dramatically increase the pumping  
14 out of the Little Switzerland --

15 ED ALS: Could you draw it  
16 out?

17 PETER VEROSI: -- could we  
18 draw in from there?

19 GRANT ANDERSON: Good  
20 question. We believe that the Little  
21 Switzerland's water supply is located  
22 in what we say is an upgraded  
23 direction, and not even -- it's a good  
24 distance away. So we do not believe  
25 that that could possibly harm --

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2 (Interruption by audience  
3 member.)

4 PETER VEROSI: But do we know  
5 that the water sources are separate or  
6 are they -- do they have interchange  
7 between them?

8 GRANT ANDERSON: Everything is  
9 probably connected in some way or  
10 another, and we all know that water  
11 flows from high to low. So water is  
12 flowing into the valley from sides,  
13 and it's also flowing down the center  
14 of the valley from the upgrade  
15 portion. Okay.

16 LORENZO THANTU: Just to get  
17 something to the question, as I said  
18 earlier we are not going to be putting  
19 in any new supply wells. Right now  
20 there are two supply wells pumping at  
21 a -- I think 1.2 billion. That's  
22 adequate yearly to accommodate 140,000  
23 gallons a day delivered to Hopewell  
24 impacted homes. So the yield is not  
25 going to be expanded. So it's going

1 Hopewell Precision 7/18/08  
2 to be the same amount of pumpage that  
3 Little Switzerland had --

4 GRANT ANDERSON: Same  
5 fundamental capacity that it's had all  
6 along.

7 ED ALS: But it's only the  
8 storage --

9 PETER VEROSI: But it hasn't  
10 exercised that capacity previously.

11 LORENZO THANTU: Probably not,  
12 but I just wanted -- I thought you  
13 might have thought we looked to add  
14 another well.

15 GRANT ANDERSON: No. It's a  
16 storage that's being added.

17 LORENZO THANTU: Also Little  
18 Switzerland is about a half a mile  
19 north of --

20 GRANT ANDERSON: Yes.

21 CHAT BERRY: My name is Chat  
22 Berry. I lived in Little Switzerland  
23 for over 25 years. I am concerned --  
24 it wasn't necessarily addressed today,  
25 but it has to do with the capacity

1 Hopewell Precision 7/18/08

2 question. You said there's a capacity  
3 of -- of a distributing 500,000 --  
4 about 500,000 gallons per day. The  
5 estimate I see, if you're looking at  
6 the household and businesses,  
7 residential businesses, which I  
8 think it's 14, but it's quite still  
9 not used to the usage of 37 homes.  
10 You're talking about adding 400 homes,  
11 which basically quadrupling the  
12 system, and I look at some of the  
13 numbers that you gave in the proposal  
14 even taking into account peak usage.  
15 And there is no account for, like,  
16 leaks in the new system at all in the  
17 numbers that you used.

18 Did you take into account  
19 leaks that -- that are lost daily in  
20 the system, and leaks have arrived,  
21 basically, in the 25 years that I've  
22 been there. So to me it's unrealistic  
23 to think to not allow for leaks in the  
24 system, and there's three quarters of  
25 these new homes that you're saying

1 Hopewell Precision 7/18/08  
2 homes new to the system, would not  
3 be -- you're not taking into account  
4 any leaks in the system.

5 So I'm going to put this in  
6 writing, but I really am concerned  
7 that the people and the overage are  
8 not realistic.

9 GRANT ANDERSON: Just missed  
10 that last thing --

11 CHAT BERRY: Just I have a  
12 concern about the capacity numbers  
13 that were used in terms of -- the  
14 proposal makes a point of leaks versus  
15 metered usage. And, as I said, leaks  
16 are a reality, and there is nothing  
17 accounted for leaks in the new system  
18 and shows peak usage limits at the  
19 500,000.

20 BRENDAN MacDONALD: I do think  
21 that the estimates are conservative,  
22 and the metered rate that you see are  
23 also real rates. It's not like you're  
24 saying they're leaking is a real  
25 issue. They're metered. They're

1 Hopewell Precision 7/18/08  
2 direct measurements. There will also  
3 be efficiencies involved with the  
4 installation of the distribution  
5 system. When we designed this system  
6 we're not going to estimate there will  
7 be certain amounts of loss. It will  
8 be improved efficiency needs to the  
9 system, but improvements are done. So  
10 associated with that --

11 CHAT BERRY: But leaks still  
12 use water, whether they are metered or  
13 not; a large contributor to the usage  
14 of water today. I just had a concern  
15 about those capacity concerns not  
16 realistic from a resident's point of  
17 view.

18 BRENDAN MacDONALD: One more  
19 moment. It's the same numbers used  
20 for homes versus commercial property.  
21 You understood --

22 CHAT BERRY: Yeah.

23 BRENDAN MacDONALD: -- both  
24 residential rates applied --

25 CHAT BERRY: Right. I

1 Hopewell Precision 7/18/08  
2 understand the residential. The  
3 businesses were 14, which based on the  
4 usage provided is about 37 homes plus  
5 363 homes -- yes, that's 400 -- you're  
6 still looking at 400 homes, and that's  
7 compared to 135 at capacity. The  
8 numbers concern me.

9 LORENZO THANTU: I want to say  
10 a few words. FFS focus is a detailed  
11 cost back up appendix for this  
12 alternative three. We're talking  
13 about \$15.6 million remedy. When we  
14 design the system we aren't going to  
15 be looking only at the infrastructure  
16 of the Hopewell study area. We will  
17 also look at the entire 2,000 feet of  
18 piping within the Little Switzerland  
19 District and talked to engineer from  
20 the Town of East Fishkill. I think  
21 Brian -- I forget the last name, and  
22 we are aware of all the leaks, and  
23 that is part of the remedy. We know  
24 that a lot has been fixed by the Town  
25 of East Fishkill. Part of the cost

1 Hopewell Precision 7/18/08  
2 has accounted for fixing remaining  
3 leaks, and a proposed demand of 300  
4 percent. So that makes it a little  
5 conservative too. That --  
6 (interruption by multiple speakers) --  
7 and they have to be accounted for. I  
8 want to assure you that during the  
9 design we will be looking at the  
10 details of the existing Switzerland,  
11 all of the 2000 feet of pipe.

12 ED ALS: Okay. Continuing;  
13 sir, in the back there. You -- no  
14 that's you.

15 CLARK JOSEPHS: Thank you. My  
16 name is Clark Josephs. I'm a 32-year  
17 resident of Dogwood Road, Little  
18 Switzerland.

19 We just found out about this  
20 recently, and I'm sorry, but I don't  
21 spend much time in the library to look  
22 on the wall to see what the appending  
23 stuff is that is coming down on us. I  
24 have a few problems, a few concerns,  
25 and I'd like to state them all, and I

1 Hopewell Precision 7/18/08  
2 don't necessarily need an answer right  
3 now, but I think they need to be said.

4 Number one, we recently had a  
5 new pump installed at a cost of almost  
6 \$30,000. That was a 20-year old pump,  
7 and if the pump that's installed is  
8 going to handle the new tank that  
9 recently went in, and we don't have it  
10 clear under our belts yet on how  
11 Little Switzerland is handling the new  
12 tank and the associated increase in  
13 pressure that some of us have felt, I  
14 certainly have, I'm not sure that one  
15 pump is going to survive 20 years  
16 without being repaired or replaced  
17 given that we're going to have yet  
18 another well to serve 350 plus homes  
19 plus residential businesses down the  
20 road; number one. So that's a concern  
21 for me.

22 Number two, as I said, this is  
23 our first summer with the new tank,  
24 and we have know idea how well this  
25 going to perform over the test of

1 Hopewell Precision 7/18/08  
2 time. Certainly, the old system  
3 worked, but provided really crummy  
4 water pressure to many of the  
5 residents in Little Switzerland. I'm  
6 hoping that the new tank remedies  
7 that. We haven't got enough history  
8 on it to know that's really what's  
9 going on in the neighborhood.

10 The existing distribution  
11 system for the water of Little  
12 Switzerland is woefully inadequate.  
13 It's antiquated. It breaks. For 32  
14 years I have had water main break,  
15 after water main break, after water  
16 main break adinfinitum. I get  
17 nauseous just thinking about it.

18 Now, I don't not mind living  
19 with a water main break, but consider  
20 that we are about to put a load on our  
21 existing well structure for another  
22 350 homes in addition to business  
23 residences. I'm not sure that we can  
24 handled the limit for Little  
25 Switzerland, 350 homes plus, and the

1 Hopewell Precision 7/18/08

2 water main breaks. So I haven't seen  
3 anywhere in the proposal that there  
4 might be something to address the  
5 antiquated system that services Little  
6 Switzerland, and I just can't believe  
7 that we would be willing to live with  
8 that given how much we are about to  
9 spend to build a piping structure to  
10 go on down to the west to provide a  
11 remedy to people, who are suffering  
12 from the toxicity put in the ground by  
13 irresponsible people.

14 So we have been assessed for  
15 this new water tank, by the way, and  
16 we pay five or six years of an  
17 additional assessment for the tank,  
18 which finally went in, and we have yet  
19 another five years of additional money  
20 to pay to satisfy, I believe, the  
21 bond, or the loan, or whatever it took  
22 to make this tank really real. So we  
23 naturally have concerns about the cost  
24 overall, and how much more cost may  
25 affect us, because the cost has gone

1 Hopewell Precision 7/18/08

2 up. Our yearly assessments have gone  
3 up, because the original price has  
4 been superseded by yet an inflationary  
5 curve in addition to other things that  
6 people didn't think about at the time  
7 that the planning took place.

8 So I have no way to say that  
9 what is in front of us is totally  
10 accurate and will be the truth for  
11 what goes on for the next five to ten  
12 years. So I have my concerns about  
13 that, and if I confused you, I'm  
14 sorry. I'm really trying to lay it  
15 out to show that there is more than  
16 one thing to -- as an issue here, and  
17 yet I'm not against getting  
18 satisfaction for people, who need the  
19 water that we have from that well, and  
20 why isn't there another property in  
21 Dutchess County that a new well can't  
22 be done and provide that. So that's  
23 another question that came up and I  
24 have no answer to that. Thank you for  
25 my time.

1 Hopewell Precision 7/18/08

2 ED ALS: Does anyone want to  
3 address a number of, or all of those  
4 points, or at least the general  
5 philosophy of the point? I think part  
6 of it was the part that we will be  
7 looking at the existing piping that  
8 addressed point one --

9 BRENDAN MacDONALD: Maybe  
10 that's accurately reflected clear  
11 enough as part of the installation --

12 UNIDENTIFIED SPEAKER: Can't  
13 hear you. Use the mike.

14 BRENDAN MacDONALD: Can you  
15 hear me? Is that all right?

16 It may not be reflected  
17 accurately enough or clear enough to  
18 you. Along with the installation of a  
19 new distribution system is a  
20 rehabilitation of the Little  
21 Switzerland, which may be taxed by  
22 this distribution of water. So I'm  
23 not sure if that alleviates any  
24 concern you're having.

25 CLARK JOSEPHS: I was

1 Hopewell Precision 7/18/08  
2 concerned about the breakages that  
3 happen year after year --

4 BRENDAN MacDONALD: Right.

5 CLARK JOSEPHS: -- and now  
6 we're going to place the additional  
7 responsibility of these 350 other  
8 homes plus with water that we enjoy in  
9 addition to the breakages. I'm  
10 surprised since so many thousands of  
11 gallons of water are wasted every year  
12 with those breakages that that remedy  
13 isn't there, that -- that -- that the  
14 existing structure there is no plan to  
15 make that a better structure like the  
16 structures that are going to go in to  
17 service the other 350 homes.

18 BRENDAN MacDONALD: The part  
19 of the system is associated with  
20 Little Switzerland is going to be  
21 rehabilitated. That is shown -- it's  
22 not in the plans in your hand, but  
23 it's in the feasibility study. It's  
24 stated within there. I cannot speak  
25 on behalf of the Town or the folks

1 Hopewell Precision 7/18/08  
2 that are supplying the water up there  
3 now, but I do know that they have been  
4 repairing some of the leaks up there,  
5 and as a result of that we've seen  
6 lowered usage rates at the homes that  
7 have been measured.

8 ED ALS: I'll tell you what.  
9 You're going to be next after this  
10 gentleman, because he's had his hand  
11 up for a while. Sir?

12 ED BLANK: Thank you. My name  
13 is Ed Blank. I'm a resident of Helton  
14 Drive. And my question is concerning  
15 the time line of approval of getting  
16 the budgetary money to do this from  
17 the time construction begins to the  
18 time construction is actually complete  
19 and hooked up so we won't have to  
20 drink the toxicity or shower with  
21 toxicity. What do you anticipate  
22 based on your experience we're looking  
23 at; two years, five years, eight  
24 years; what?

25 LORENZO THANTU: The POETs --

1 Hopewell Precision 7/18/08

2 to answer your question -- I'm just  
3 going to jump on as posed by the  
4 gentleman. Based on the (inaudible)  
5 completed EPA settlement, but as I  
6 said earlier, the Focus Feasibility  
7 Study as detailed as may be. So it's  
8 going to be nothing like the remedial  
9 designing. Designing that they're  
10 going to be doing that will entail  
11 technical status, drawing of the new  
12 infrastructure not only the Hopewell  
13 site. We would also look at the  
14 safety existing within the Switzerland  
15 district, and also as Brendan just  
16 said that is a separate costing part  
17 of this \$15.6 million to replace some  
18 of the existing eight inch piping  
19 segments within the Little Switzerland  
20 district replacing them  
21 with eight-inch piping. So that is  
22 significant cost also associated as  
23 part of the \$15.6 million.

24 But the point that I'm trying  
25 to make is we're not going to be

1 Hopewell Precision 7/18/08

2 starting constructing in two, three  
3 months from now, and that's why if all  
4 goes well, signed by our regional  
5 administrator by the end of September,  
6 we are probably looking at completion  
7 of this water supply line construction  
8 sometime in 2012. So that would mean  
9 we're talking about a year to design  
10 the system, and, typically, when we go  
11 to design we go 30 percent, say, 60  
12 percent, 95 percent, a hundred  
13 percent.

14 So we're going to be coming  
15 back to you guys, especially you guys  
16 that live in the Little Switzerland  
17 Water District for follow up  
18 information on what the findings from  
19 the ongoing design activity for the  
20 new pipeline. What was your question,  
21 again?

22 (Multiple voices,  
23 interruptions, laughing.)

24 ED BLANK: How long was the  
25 construction --

1 Hopewell Precision 7/18/08

2 LORENZO THANTU: I just --  
3 just right now, if all goes well,  
4 you're looking at sometime in 2012  
5 around then, the last part of the  
6 year, end of the fiscal year, and then  
7 get the contract --

8 (Multiple voices,  
9 interruptions.)

10 -- design, say, January 2009,  
11 year and a half design is complete and  
12 after God knows how many meetings to  
13 go over the design and then we will  
14 look at, if all goes well, the initial  
15 construction of the piping system, the  
16 public water, sometime the summer of  
17 2012.

18 ED BLANK: The construction  
19 starts in 2010?

20 LORENZO THANTU: Yeah --  
21 construction 2010 --

22 (Multiple voices,  
23 interruptions.)

24 -- and we took two years; so  
25 2008 to 2010 to design; completed,

1 Hopewell Precision 7/18/08  
2 2010; two years later, 2012, remedy  
3 fully implemented.

4 ED ALS: Yeah, ma'am?  
5 Can you stand -- rise and give  
6 your name so she can hear you?

7 SHIRLEY: I'm Shirley  
8 (inaudible). I'm a five-year resident  
9 of Little Switzerland (inaudible) and  
10 basically the water source, and what  
11 we're concerned about is, obviously,  
12 is the time constraints as well as  
13 past constraints. One thing that  
14 hasn't been mentioned, a list of water  
15 sanctions by the New York State twice  
16 in the last ten years (inaudible)  
17 being replaced by Little Switzerland  
18 sanctions for having reports given  
19 incomplete that were -- let's see, in  
20 the equipment in the -- was lacking in  
21 content. So there will be a need for  
22 the EPA as well as other (inaudible)  
23 that will not continue except for this  
24 water canal.

25 The second thing that needs

1 Hopewell Precision 7/18/08  
2 attention is that as the water area  
3 records you've probably received the  
4 main sources of the water for  
5 (inaudible) our neighborhood as well  
6 as Fishkill Creek. Fishkill Creek is  
7 now a dumping ground. With over 3  
8 million gallons of water (inaudible)  
9 each day. This was documented in the  
10 New York Times as well as Poughkeepsie  
11 Journal --

12 (Multiple voices,  
13 interruptions, inaudible.)

14 New York State clean up  
15 (inaudible) has substantial treatment  
16 problems (inaudible) they put in some  
17 (inaudible) new equipment used to  
18 clean the water levels still  
19 significant copper levels (inaudible)  
20 operate still significant, as appose  
21 to copper levels would give the EPA  
22 more rationale. If they were using  
23 the 2002 values for last ten years --  
24 aware of the violation of the  
25 threshold of the copper in the water

1 Hopewell Precision 7/18/08  
2 is in violation four, five times in  
3 the last ten years. So literally they  
4 are testing the water each year --  
5 \$15.6 million.

6 ED ALS: Is anybody familiar  
7 with the second half of that about the  
8 history of the water district? Well,  
9 your comments are noted, and we will  
10 be addressing in the response of  
11 settlement.

12 We didn't really accent what  
13 we do with the comments, but we take  
14 each and every one of them, and we  
15 decide if they fit into a generic  
16 pattern, and we'll say: Here's a  
17 question that 14 people asked, and we  
18 give a very -- more full response than  
19 we might give tonight. And certain  
20 things we're not even aware of. So  
21 we'll have to do a little homework.  
22 So that's why the response is  
23 something you might want to take a  
24 look at.

25 RANDY BLOOM: My name is

1 Hopewell Precision 7/18/08  
2 Randy Bloom, reside in Little  
3 Switzerland, and this is all new to  
4 us. So we've got a couple of  
5 questions. First, I heard earlier the  
6 issue of whether there would be  
7 contamination of water by the hook up,  
8 and the gentleman over there had said  
9 that you people believed that there  
10 wouldn't be, but I didn't hear  
11 anything in the form of certainty --  
12 ED ALS: He's a scientist --  
13 RANDY BLOOM: Yeah, well --  
14 ED ALS: There's no such thing  
15 as a hundred percent --  
16 (Multiple voices,  
17 interruptions.)  
18 RANDY BLOOM: I think the idea  
19 is that a believer, or a good faith  
20 believer in my estimation, is  
21 insufficient in a situation like this,  
22 where we don't know with a hundred  
23 percent certainty that there won't be  
24 any contamination, and if there is,  
25 what plan has been implemented, if

1 Hopewell Precision 7/18/08

2 any, to deal with that potential  
3 scenario.

4 That's number one, and number  
5 two I'm concerned about the aquifer.  
6 We're going to be putting a big strain  
7 on not only the system itself, but  
8 also the aquifer, and the question  
9 remains is that at some point is that  
10 aquifer going to be depleted by the  
11 additional strain on the system, and I  
12 can tell you, for example, in certain  
13 areas of the country, New Mexico, et  
14 cetera, their aquifer's depleted for  
15 over usage, and, you know, an aquifer  
16 that was designed for "x" number,  
17 generally speaking, when you put more  
18 pokes onto it you see what happens in  
19 ten years. When the aquifer is  
20 completed, where's the alternate water  
21 supply then, and you know about  
22 everybody in the whole, and in  
23 addition, I'm concerned about the --  
24 going back for a minute on the aquifer  
25 completion issue, there seems there

1 Hopewell Precision 7/18/08

2 should be some kind of an  
3 environmental impact study on that  
4 spore so that we could determine  
5 whether in fact that could or what  
6 would happen, and so what we could do  
7 about that, and finally, I'm concerned  
8 that if we're going to put all these  
9 folks on, what happens to the water  
10 pressure for everybody, because right  
11 now the new tank has increased the  
12 water pressure somewhat. Now, if we  
13 increased the load on that, is that  
14 water pressure going to be depleted  
15 for everybody so that everybody will  
16 have poor water, because the pressure  
17 will be very low for everybody.

18 ED ALS: Okay. Thank you for  
19 the comments. The first comment I  
20 think we'll address more in the  
21 response summary, but I would just  
22 like to say that, again, 100 percent  
23 certainty I would say that they have  
24 as much chance, if not more, of a new  
25 contamination problem coming into the

1 Hopewell Precision 7/18/08  
2 system, because somebody else spilled  
3 something pulling this in. In other  
4 words, anything can happen out there,  
5 and we take -- you know, we do the  
6 best job we can with the facts that we  
7 have, and right now we think that  
8 there's no -- you know, Little  
9 Switzerland District is not going to  
10 be pulling to its full impact, because  
11 of the distance and, you know, the  
12 sense of the parameters that are  
13 involved.

14 Secondly the capacity issue --  
15 do we have any sense of the aquifer  
16 capacity?

17 GRANT ANDERSON: I can talk  
18 about that a little bit. The State of  
19 New York will not permit the capacity  
20 that's already been permitted unless  
21 they went out and did a pumping test  
22 to prove they can actually pump that  
23 large and not mine out the aquifer.  
24 Fortunately we do not live in New  
25 Mexico, and the geology is much

1 Hopewell Precision 7/18/08

2 different. We have lots of --

3 (Interruption by laughing.)

4 -- which they don't have in  
5 New Mexico. So the State of New York  
6 would not have permitted that water  
7 supply, if there was any need of  
8 further description. That was proven  
9 with a pumping test, and that we were  
10 not increasing the pumpage in  
11 excedence of what has already been  
12 permitted.

13 RANDY BLOOM: That just seems  
14 somewhat illogical to me. It sounds  
15 as if you have an aquifer, and you  
16 have 135 home on it right now. How  
17 are you going to increase it to, let's  
18 say, 500 in total? That pumpage would  
19 have to be increased in order to feed  
20 those homes. So --

21 GRANT ANDERSON: But that  
22 increased pumpage has already been  
23 permitted. They already have that in  
24 the design of the original system.

25 RANDY BLOOM: But it's never

1 Hopewell Precision 7/18/08

2 been used to capacity. If you're  
3 going to use it to capacity to max it  
4 out, what's going to happen -- what's  
5 the rate of recharge of that aquifer  
6 going forward so that you can make  
7 sure that, you know, in ten years from  
8 now that aquifer is not going to get  
9 depleted, because you've been using it  
10 to its max?

11 ED ALS: He said that that  
12 consideration's been considered when  
13 the permit was given.

14 RANDY BLOOM: No, what -- if  
15 you excuse me, what he said, as far as  
16 what I heard, is that the State  
17 permitted -- permits a maximum  
18 capacity. So this design deals with  
19 the maximum capacity, but --

20 ED ALS: What happens when  
21 that becomes the average?

22 RANDY BLOOM: When that  
23 becomes the average, what is the rate  
24 of that recharge of that aquifer,  
25 because we don't -- we don't know. We

1 Hopewell Precision 7/18/08  
2 haven't been through this. That  
3 aquifer can conceivably -- could be  
4 depleted down the road, because you're  
5 using it to its max.

6 ED ALS: As an average?

7 GRANT ANDERSON: Only because  
8 I know a little bit about the system,  
9 and you're losing probably that much  
10 leakage as we speak on a daily basis.  
11 So you really are already pumping  
12 somewhere close to that. There's a  
13 lot of --

14 (Multiple speakers,  
15 interruptions.)

16 ED ALS: Shhhhh --

17 GRANT ANDERSON: No, no, no.  
18 But you're not wasting any -- what it  
19 is, now, you're pumping a certain  
20 amount of water everyday.

21 RANDY BLOOM: But we're losing  
22 a lot.

23 GRANT ANDERSON: But you're  
24 still --

25 RANDY BLOOM: But you're still

1 Hopewell Precision 7/18/08

2 not pumping up to the max.

3 GRANT ANDERSON: No. They're  
4 pumping a certain amount during the  
5 day, and there's a lot of loss, and if  
6 that loss is captured, that will  
7 offset a lot of it.

8 Let me explain to you a little  
9 bit about the way the pumping test  
10 works. We will go out, if we want to  
11 prove that a water system can pump at  
12 a certain rate, we will go out and we  
13 will pump at that certain rate, and we  
14 will observe the decline in water  
15 levels in what we call observation  
16 levels around it, and as it pumps, the  
17 water level will draw down, and draw  
18 down, and draw down, and then you hit  
19 a point, which we call steady state.  
20 And at that point that means recharge  
21 from all the way around the aquifer  
22 has now equalled the pumping rate. So  
23 what you're saying is -- is -- is that  
24 we haven't tested the system; is not  
25 true. We have tested the system at

1 Hopewell Precision 7/18/08

2 the maximum rate.

3 There are multiple pumping  
4 tests that have been done. Now, I did  
5 not personally conduct those tests,  
6 and I'm trusting the professionals  
7 that did. I'm trusting that the  
8 Dutchess County, you know, evaluated  
9 it correctly and gave a permit in a  
10 proper way, but we've done as much  
11 testing on that to address at this  
12 point as can be done.

13 RANDY BLOOM: Okay.

14 ED ALS: Now, the third point  
15 he brought up was loss of water  
16 pressure, which we talked about at  
17 all? Or --

18 BRENDAN MacDONALD: The  
19 pressure would be the same, but every  
20 user is, you know, every residents  
21 come forth on the property increases  
22 the storage on hand. Like Grant just  
23 explained this, amount of water is  
24 available to be pumped to each home.  
25 You're not going to experience a loss

1 Hopewell Precision 7/18/08  
2 in velocity. The distribution system  
3 is distributing to capacity.

4 RANDY BLOOM: Okay. Thank  
5 you.

6 BRENDAN MacDONALD: Thank you.

7 ED ALS: Okay. Ma'am?

8 TEDDY NOVACK: I live on --

9 ED ALS: Could you restate  
10 your name? I don't think she got it.

11 TEDDY NOVACK: My question is  
12 a little different. If I understood  
13 right, if you are in the district that  
14 you have to sign on and can't use your  
15 well. I'm on the very edge. My well  
16 is high. Why do I have to sign up?

17 ED ALS: Who would like to  
18 answer that?

19 GRANT ANDERSON: I don't know  
20 precisely where your house is or  
21 precisely where your house lies in  
22 relation to our -- to our identified  
23 groundwater plumes, or the other  
24 houses -- pardon me?

25 TEDDY NOVACK: You say that

1 Hopewell Precision 7/18/08

2 the plume moves too; right?

3 GRANT ANDERSON: Yes, the  
4 plumes --

5 TEDDY NOVACK: How much has it  
6 move since the --

7 GRANT ANDERSON: Well, it's  
8 two -- about two and a half miles long  
9 since 1977.

10 TEDDY NOVACK: But if it's  
11 moving down, is it also -- the top  
12 half is that coming down too?

13 GRANT ANDERSON: It's --  
14 it's -- plume movement is a very  
15 complicated thing. I can try to --  
16 there's a lot of things -- there are  
17 things that speed them up. There are  
18 things that slows them down, and they  
19 are very technical, and I'd like to  
20 talk about that later, but in general  
21 we see a -- we see kind of a pour of  
22 the plume that comes down, and that  
23 probably represents a period -- a  
24 maximum period of maximum dumping.

25 Very often these -- these

1 Hopewell Precision 7/18/08

2 plumes are attenuated by the aquifer  
3 material themselves. The aquifer  
4 actually absorbs contamination as it  
5 passes through, and it's sort of like  
6 a sponge with water. You can put  
7 water on the sponge, and it can absorb  
8 it, and hold it, store it for a period  
9 of time, and then eventually puts  
10 enough water in the sponge, and the  
11 water leaks out. That's the way  
12 contamination works through the  
13 aquifer as well.

14 The aquifer will try to store  
15 up some of the contamination, and this  
16 eventually will spill out. This  
17 occurs in a continuous basis all the  
18 way down. It's transferred down. So  
19 that's what explains the fact you have  
20 a kind of a core, higher  
21 concentration, and on the ends you  
22 have a lower concentration.

23 TEDDY NOVACK: Yeah. We seem  
24 to have a deep well, and no problem,  
25 and a lot of the wells were shallow

1 Hopewell Precision 7/18/08

2 wells; right?

3 GRANT ANDERSON: That's  
4 correct.

5 TEDDY NOVACK: So why not  
6 drill deeper wells so people with  
7 shallow wells than spending that kind  
8 of money?

9 GRANT ANDERSON: Well, that is  
10 a very good question, and I knew  
11 someone would ask that question, and  
12 I'm glad that you did. The -- one of  
13 the things that came out of our  
14 remedial investigation, and all the  
15 borings, and all the wells, and all  
16 the testing we did is we showed that  
17 the shallow aquifer, the aquifer  
18 that's not rock, that's just soil, and  
19 it's composed of violative materials,  
20 that aquifer is not -- there is no  
21 confining layer between that aquifer  
22 and the bedrock aquifer. So really  
23 instead of two aquifers we have one  
24 continuous aquifer.

25 Now, the only reason the deep

1 Hopewell Precision 7/18/08  
2 aquifer has not been contaminated to  
3 date is because, A, there is not many  
4 bedrock wells that have been pulling  
5 the surface water down in, and, B, the  
6 general movement of the water is in  
7 the upward direction.

8 The water comes down from the  
9 sides of the valley and percolates  
10 down under, and as it approaches the  
11 stream of the valley's center, it  
12 starts to flow up out of the stream.  
13 So -- so those two things, the fact  
14 that most of the groundwater flow is  
15 upward, combine the fact that we don't  
16 have many wells to suck the  
17 contaminated water back down to the  
18 bedrock is the reason the bedrock is  
19 still clean.

20 If you start putting a whole  
21 bunch of bedrock wells and start  
22 creating these plumes to be drawn down  
23 to the bedrock, what you're doing is  
24 you're taking the contaminated water  
25 on the surface of the aquifer, you're

1 Hopewell Precision 7/18/08  
2 contaminating the bedrock, and from a  
3 technical point of view contaminated  
4 bedrock aquifer is way harder to deal  
5 with than a surface aquifer that's  
6 just soil.

7 TEDDY NOVACK: Okay. But I  
8 still have my first question. Do I  
9 have to sign up for this water system  
10 that I've heard horror stories about?

11 GRANT ANDERSON: I don't  
12 know -- I don't know where your house  
13 is, and I don't know. We would have  
14 to -- that's a detail --

15 TEDDY NOVACK: Okay.

16 ED ALS: I think --

17 TEDDY NOVACK: I think you're  
18 thinking --

19 ED ALS: -- if you are within  
20 the area that he's talking about --  
21 whether she is or isn't -- but if you  
22 are, and your well was impacted, why  
23 are we going to have institutional  
24 control on the hook ups, and that  
25 question is a pretty hefty

1 Hopewell Precision 7/18/08  
2 administrative-type question. I think  
3 we'd like that.

4 TEDDY NOVACK: I don't see why  
5 I have to hook up.

6 ED ALS: Why do you have to  
7 wear seat belts, that kind of thing.

8 UNIDENTIFIED SPEAKER: Who  
9 does?

10 ED ALS: Good for you, but.

11 What were you talking -- I'm  
12 thinking we can do a much better job  
13 with some of these. Bring back to the  
14 office --

15 TEDDY NOVACK: You have my  
16 name.

17 ED ALS: I don't think she  
18 does have it. That's why I asked you  
19 to say it.

20 TEDDY NOVACK: "T-E-D-D-Y,"  
21 Novack. Thank you.

22 LORENZO THANTU: I just want  
23 to say that's a very good question,  
24 that it will show that you will not be  
25 the only one, when we start

1 Hopewell Precision 7/18/08

2 going through this on its face. So  
3 that is a question we will have to  
4 deal with in time, an administrative  
5 approach. I always say that, because  
6 it's not -- it's not an exact  
7 situation with that. In terms of  
8 Don Graham we found a few homeowners  
9 that had the air impacted as well as  
10 groundwater vapors. One of the  
11 homeowners refused to have EPA install  
12 systems in their homes. They refused  
13 our access. So we did not install in  
14 those one or two homes.

15 So it's not identical to this  
16 issue, but kind of identical with  
17 homes that we can't convince to be a  
18 part of this new hook up area, but  
19 that is something I'd like to this  
20 issue.

21 TEDDY NOVACK: I have antique  
22 wood floors --

23 LORENZO THANTU: What type  
24 of --

25 ED ALS: Antique floors.

1 Hopewell Precision 7/18/08

2 TEDDY NOVACK: Antique wood,  
3 and they wanted to come in and drill  
4 holes. We were in Florida, and at the  
5 time I said, "No." And I was told  
6 then I wouldn't get a CO, if I had  
7 wanted to sell.

8 BRENDAN MacDONALD: No, no.

9 TEDDY NOVACK: Oh, yes it was.

10 LORENZO THANTU: It was not  
11 EPA --

12 (Multiple voices,  
13 interruptions.)

14 TEDDY NOVACK: -- drill in my  
15 home on that floor --

16 BRENDAN MacDONALD: Talking  
17 Subslab. What year was that? What  
18 month?

19 TEDDY NOVACK: Last year.

20 LORENZO THANTU: From EPA?  
21 Wasn't Don Graham?

22 TEDDY NOVACK: I don't know  
23 who it was. I was in Florida, and it  
24 was on my machine.

25 LORENZO THANTU: I know Don

1 Hopewell Precision 7/18/08  
2 very well. He would not have anything  
3 --

4 TEDDY NOVACK: Whoever did,  
5 though, told me I could not get a CO  
6 to be able to sell my house, if I did  
7 not agree to let them drill. I would  
8 not let them.

9 BRENDAN MacDONALD: I glad you  
10 didn't.

11 ED ALS: Okay this --

12 CATHY PERON: Cathy Peron.  
13 I'm married to the attorney here.  
14 Just a quick question about what you  
15 said before. You said before you  
16 fixed the leaks that were damaged, and  
17 based on water leakages the capacity's  
18 down. But from what I heard from a  
19 lady that had lived there from a long  
20 time, they fix a leak, and another one  
21 springs up 25 feet down the road. So  
22 what's going to be done about that? I  
23 mean it seems to me that it's --

24 (Multiple voices,  
25 interruptions.)

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-- to fix the leaks?

BRENDAN MacDONALD: Again,  
this is just a planning level link to  
put together --

(Multiple voices,  
interruptions.)

-- planning level cost us  
alternatives is proposed, and we  
looked at, again, the water  
distribution system --

UNIDENTIFIED SPEAKER: Can't  
hear you.

BRENDAN MacDONALD: Pardon?

UNIDENTIFIED SPEAKER: Can't  
hear you in the back.

BRENDAN MacDONALD: Can you  
hear me now?

Again, I said that there is an  
area within Little Switzerland that's  
included in rehabilitation associated  
with the installation of the  
distribution system. I'm also going  
to say we're not going to speak on  
behalf of the water district and how

1 Hopewell Precision 7/18/08  
2 they're operating the rest of that  
3 system. So I can say in this area  
4 you'll probably see efficiencies.  
5 It's going to be efficient, more  
6 efficient than the entire supply area  
7 you're seeing now, but in terms of the  
8 maintenance of the rest of the system  
9 it's best answered by water district.

10 CATHY PERON: I'm still a  
11 little confused, because if you  
12 don't -- you're already pumping at  
13 capacity water limit of the system,  
14 and you don't fix all the water leaks,  
15 it won't be pumping beyond capacity  
16 into the system.

17 BRENDAN MacDONALD: Your  
18 understanding is they're pumping at  
19 capacity now --

20 CATHY PERON: That's what  
21 we've been told, because of the loss  
22 of that capacity --

23 BRENDAN MacDONALD: And I  
24 think that --

25 CATHY PERON: -- because of

1 Hopewell Precision 7/18/08  
2 the leaks. You don't control all of  
3 that --

4 BRENDAN MacDONALD: I  
5 understand --

6 CATHY PERON: -- of the  
7 leakage going to capacity.

8 BRENDAN MacDONALD: I do  
9 understand that. I'm not sure that  
10 they are at the top of their capacity,  
11 but what I do understand about that  
12 system is that they do have additional  
13 capacity to existing wells to supply  
14 to this other area, and that they are  
15 in the process of revamping that  
16 system, and as a result of that rehab,  
17 I have seen decreased rates at the  
18 homes with measurements. Is that not  
19 clear?

20 Pardon me?

21 CATHY PERON: No, it's clear.

22 ED ALS: Well, we'll go into  
23 more detail in writing on that point,  
24 but I think we have to move on,  
25 because we've only gone, in whatever

1 Hopewell Precision 7/18/08  
2 time, about this far, and I know there  
3 are people behind me that have their  
4 hands up too.

5 So, sir, in the back there.

6 HAL ANGLE: My name is Hal  
7 Angle. You're describing the water  
8 flow at the aquifer, but it is  
9 possible that mother nature is going  
10 to clear this up in 15, 20 years, or  
11 how long will it take, and have you  
12 taken samples of homes that have been  
13 contaminated in the past five years or  
14 whatever?

15 ED ALS: That might be Mr.  
16 Risk Assessor, or Lorenzo, or --

17 GRANT ANDERSON: We have been  
18 monitoring on a periodic basis many of  
19 the contaminated wells for a length of  
20 five years now, and those results show  
21 that there are indeed some wells that  
22 are declining in contamination. Some  
23 wells are holding about the same, and  
24 then to answer your initial question:  
25 Would mother nature clean this all up?

1 Hopewell Precision 7/18/08

2 Eventually, yes, mother nature wood,  
3 but that would be 5,000 years.

4 (Multiple voices,  
5 interruptions.)

6 Well, let's look at what we  
7 have here now. The plume is  
8 already -- the plume is already, what,  
9 28 years or maybe around, let's say,  
10 30. The plume is around 30 years old,  
11 and contamination levels were seen,  
12 even now, are in order of magnitude  
13 higher in the center of that plume.  
14 Contamination levels are in order of  
15 magnitude higher than the MCL, the  
16 Maximum Contamination Level. So after  
17 30 years, we still got dangerous human  
18 health risk levels, and let's talk  
19 about what's going on, on the distal  
20 end it. If we just rely on mother  
21 nature, how much further down, down  
22 stream is the plume going to carry?  
23 Does that answer your questions?

24 HAL ANGLE: Sort of, yeah, but  
25 you're -- you kept talking about the

1 Hopewell Precision 7/18/08  
2 water coming down the hill. That's  
3 fresh water. Sooner or later that's  
4 going to be --

5 GRANT ANDERSON: The answer is  
6 later, not sooner. I mean it's --  
7 it's -- one of the things that's going  
8 on with this plume is that we haven't  
9 recorded microbial derogations. Very  
10 often these plumes have a -- have very  
11 little microbe and little bacteria  
12 that will eat the contamination under  
13 special circumstances. We haven't  
14 seen that in this plume. So we don't  
15 have any of the, what we call  
16 reductive deformation or very little  
17 of it going on in the plume.

18 The plume is relying on purely  
19 the dilution effects, the absorption  
20 effects of the contaminants on the  
21 particles. One thing you have to  
22 remember that, when you're talking  
23 about absorption, any particle that's  
24 stuck on the soil particle, that's  
25 completely a reversible process.

1 Hopewell Precision 7/18/08

2 Eventually -- eventually all of the  
3 particles of contamination will be  
4 absorbed by the soil and go back into  
5 the groundwater. So it slows the  
6 plume down and it spreads the plume  
7 out, but it doesn't take the plume  
8 away.

9 ED ALS: Okay, Miss?

10 DEBORAH HALL: Deborah Hall,  
11 Creamery Road. I'd like to say that  
12 I've done a lot of research, and I'm  
13 in touch with lots of people at lots  
14 of sites in New York State and around  
15 the country; at least 40 sites. And  
16 out of all those sites, we've been  
17 really lucky. We've gotten taken care  
18 of, believe it or not, much faster  
19 than any of the other sites, and we've  
20 been tested more than any of the other  
21 sites, and I think that has to do with  
22 the people that represent us, listened  
23 to us, and the people, the EPA people,  
24 working for us.

25 As far as the testing and the

1 Hopewell Precision 7/18/08

2 systems that were put in, they were  
3 top of the line all the way. I've  
4 seen others, and they weren't as good  
5 by far, and I know of many of the  
6 sites that had -- had their situation  
7 only ten percent were tested and they  
8 weren't -- or they were given filters,  
9 and they weren't retested to make sure  
10 the systems were working. We had many  
11 tests before, during, and after. My  
12 point being that I trust that Lorenzo,  
13 and Don Graham, and the hydrogeologist  
14 working for the EPA have been doing  
15 their job, and they are not going  
16 to -- I've never seen them lie to me  
17 with all the questions I've asked  
18 them, and there has been many. I  
19 never had a lie. I never had anybody  
20 try to keep anything from me.

21 So when they answer you now,  
22 and when they answer us later with the  
23 information, the comments, try to  
24 trust. I know it's hard, because  
25 they're the Government.

1 Hopewell Precision 7/18/08

2 (Laughing, clapping.)

3 Because they have been doing a  
4 great job here. They really have.  
5 And my other thought I would like to  
6 say is the cause of this is Hopewell  
7 Precision, and the people that worked  
8 and owned it back in the 70s and 80s I  
9 would like to see them be brought to  
10 justice for putting our health at  
11 risk, our lives, our children, our  
12 neighbors, our relatives, and  
13 everything else; that they're sitting  
14 pretty.

15 In their case crime does pay,  
16 because they haven't paid a penny to  
17 help us. Not only that but their  
18 assessment for Hopewell Precision was  
19 lowered by almost 80 percent.  
20 Whereas, us as homeowners, didn't get  
21 the same kind of, you know, assessment  
22 devaluation; not even close, and I  
23 would like to see the son there  
24 sitting pretty in California be  
25 brought to justice and put behind

1 Hopewell Precision 7/18/08  
2 bars, because he knew what he did was  
3 wrong.

4 ED ALS: Thank you for the  
5 sentiments, and as far as the second  
6 part of that, typically -- I'm not the  
7 site attorney. He's not here tonight.  
8 Typically, you know, Superfund we  
9 typically go after companies if we  
10 think them liable in their pockets  
11 criminal wise. Actions like that have  
12 happened, and they are few and far  
13 between, and to my knowledge they  
14 usually involve breaking regulations  
15 or laws as apposed to things that are  
16 a little bit more nebulous as far as  
17 what was their intent; did they know  
18 this might be a problem.

19 There has to be some kind of a  
20 clear, concise, you know, like a  
21 manifest fraud, something where they  
22 knowingly are doing something, where  
23 they can be criminally indicted for,  
24 and I don't know the details about  
25 Hopewell Precision, but typically that

1 Hopewell Precision 7/18/08  
2 fails the test most of the time. We  
3 don't criminally go after most of  
4 these people, but I'm not saying we  
5 will or we won't.

6 DEBORAH HALL: At least don't  
7 benefit them by saying: Okay, you  
8 used to be assessed by almost 3  
9 million, oh, well, we'll put it to  
10 500,000 now.

11 ED ALS: I don't think we did  
12 that, so I don't --

13 (Laughing.)

14 DEBORAH HALL: EPA can do it.  
15 It's the law. It's the law, and the  
16 law needs to be changed. The EPA  
17 didn't, but I really would like the  
18 EPA to take a look that they did not  
19 dispose of the TCE and the TCA and  
20 whatever else they dumped --

21 ED ALS: We have everybody on  
22 the team, and that includes the site  
23 attorney look at the responsive  
24 summary that goes with our Record of  
25 Decision, and that's going to be one

1 Hopewell Precision 7/18/08  
2 of the questions that -- and our  
3 attorney I'm sure will give you a --  
4 hopefully a gold plated answer for  
5 that. Possibly even -- I don't know.

6 DEBORAH HALL: I'd like to  
7 talk to this attorney. Why don't you  
8 give the attorney my card?

9 ED ALS: Okay.

10 DEBORAH HALL: I have my card.

11 ED ALS: I just want to give  
12 the stenographer a five minute break.  
13 So if we can just hang on for five  
14 minutes so she can relax her fingers.  
15 We'll resume at about ten to.

16 (Whereupon, at 9:42 o'clock  
17 p.m., a recess was taken to 9:51  
18 o'clock p.m. The EPA hearing  
19 resumed.)

20 CECILIA ECHOLS: Hi. I just  
21 want to acknowledge several other  
22 representatives for your community;  
23 Susan Sphere, Congressman Halls'  
24 office; Marge Colton; Sandra  
25 Goldberg; Allison McAvery, and

1 Hopewell Precision 7/18/08  
2 Rob Weiss. They are your County  
3 Legislators. If there's -- if you  
4 have anything to say to them, if you  
5 could just wait until after we hear  
6 from the residents, we appreciate it.  
7 Thank you.

8 ED ALS: Okay. We're ready to  
9 resume, and I believe we were in this  
10 corner over here. You, sir?

11 GEORGE WALKER: George Walker.  
12 I was --

13 (Multiple voices,  
14 interruptions.)

15 -- to that water supply.  
16 That's an appalling story for Little  
17 Switzerland. It seems to me the EPA  
18 should fix that before they attach  
19 anything else to the system. You are  
20 EPA. And when they question, if I  
21 have to audit, it's like an auction.  
22 Is there's a connection cost for me to  
23 go on the system, and what is it?

24 ED ALS: Who wants to handle  
25 that; feasibility study?

1 Hopewell Precision 7/18/08

2 BRENDAN MacDONALD: Can I get  
3 that mike?

4 ED ALS: Here.

5 BRENDAN MacDONALD: You have  
6 two questions. You want the  
7 connection cost and the first half was  
8 the rehab of the entire system?

9 GEORGE WALKER: Little  
10 Switzerland should be fixed up before  
11 you touch anything else. That seems  
12 appropriate at least. That I had  
13 never heard of that. That's  
14 appalling, and you are the EPA. You  
15 can do more than that.

16 BRENDAN MacDONALD: Well, with  
17 the EPA, I'm the consultant for the  
18 EPA. The United States, I'm not.

19 (Laughing.)

20 What I will say they are not  
21 providing water right now to Little  
22 Switzerland. The EPA is not. All of  
23 the feasibility study is to mitigate  
24 the problems in this other area; right  
25 --

1 Hopewell Precision 7/18/08

2 GEORGE WALKER: I understand.

3 BRENDAN MacDONALD: -- okay.

4 So as a part of that, there will be  
5 improvements made to the Little  
6 Switzerland system.

7 GEORGE WALKER: I hope so,  
8 because I don't want to do this --  
9 (Laughing.)

10 BRENDAN MacDONALD: We don't  
11 want to hear about it either, and the  
12 other part, the connection, and the  
13 hook up, and the cost estimates do  
14 include, and they have assumed that  
15 all of the hook ups are made, I  
16 believe, are made directly to the stub  
17 at each property.

18 GEORGE WALKER: So I do have  
19 to pay for the connection?

20 BRENDAN MacDONALD: No, no.

21 GEORGE WALKER: And do you  
22 have an option to connect up to it?

23 BRENDAN MacDONALD: That was  
24 that question that was asked earlier.  
25 I don't want to --

1 Hopewell Precision 7/18/08

2 GEORGE WALKER: I mean the  
3 contaminants; still will be able to  
4 hook up to it?

5 BRENDAN MacDONALD: Right. In  
6 other words, you have the option of  
7 opting yourself out --

8 GEORGE WALKER: Yes.

9 BRENDAN MacDONALD: -- and not  
10 being a part of this, and that is  
11 something that we are going to address  
12 --

13 GEORGE WALKER: My apologies.  
14 Thank you.

15 BRENDAN MacDONALD: Thank you.  
16 You have a question, sir?

17 MIKE ASOMI: Yeah, I have.  
18 Mike Asomi. I just have one comment.  
19 My question is to the comment Deborah  
20 made a comment about the EPA in other  
21 sites. That is, I get that question.  
22 If this started in '79, almost 30  
23 years later, and I'm new to the area  
24 just to find out that (inaudible) it's  
25 a comment more than anything else, and

1 Hopewell Precision 7/18/08  
2 secondary, when you showed the map of  
3 the contaminated area it shows a line.  
4 I'm at Pierce Arrow. It's just what,  
5 north of Ryan Road.

6 BRENDAN MacDONALD: Okay.

7 MIKE ASOMI: So I see the  
8 line. I see my house north and out of  
9 the that range. I only had two tests;  
10 one well, and one air. So I assume  
11 that below that, if I'm below that  
12 line, that line's a real line, and  
13 were there any, you know,  
14 contaminations that were north of that  
15 line?

16 ED ALS: Lorenzo, do you have  
17 --

18 LORENZO THANTU: I thought I  
19 talked to you a few times. If I  
20 recall that case, I thought it was in  
21 the study area.

22 (Multiple voices,  
23 interruptions.)

24 MIKE ASOMI: It's just -- it's  
25 just north of --

1 Hopewell Precision 7/18/08

2 UNIDENTIFIED SPEAKER:

3 Upgrading.

4 MIKE ASOMI: -- upgrading,  
5 because, barely, Hopewell Precision is  
6 in my backyard.

7 (Multiple voices, inaudible.)

8 LORENZO THANTU: So came  
9 back --

10 MIKE ASOMI: I have the  
11 results, and you told me in the voice  
12 mail and notes that it's okay. Again,  
13 it's all numbers and different things;  
14 kind of Greek to me, but what I read I  
15 understood to be okay. I guess what  
16 other people were asking too could  
17 that mean that it's always going to be  
18 okay this upgrading and were there any  
19 other sites along Pierce Arrow that  
20 might have been contaminated for --

21 SUSAN SCHOFIELD: I'll answer  
22 that, Lorenzo. We tested a lot of  
23 wells around the area --

24 ED ALS: This is  
25 Susan Schofield.

1 Hopewell Precision 7/18/08

2 SUSAN SCHOFIELD: -- including  
3 wells that are north or up gradient of  
4 the facility just because we wanted to  
5 be sure that we pinpoint right where  
6 the contamination originated, and to  
7 my knowledge there has never been  
8 contamination identified on the Pierce  
9 Arrow Road. So we feel you're in a  
10 safe area, and that's why, if your  
11 home is on the -- in the north of that  
12 area that you're not within the hook  
13 up area that we designated.

14 MIKE ASOMI: And there was  
15 also we had my well, which was  
16 further, and also two, maybe, testing  
17 wells that were installed, I guess  
18 though.

19 SUSAN SCHOFIELD: Those are  
20 also showed very, very limited low  
21 levels of contamination that we feel  
22 are not really related to the Hopewell  
23 Precision facility itself.

24 ED ALS: And you first -- your  
25 first comment; technically, EPA only

1 Hopewell Precision 7/18/08  
2 recognized this site in the remedial  
3 program as of 2005. That's when it  
4 reached a level of natural prominence,  
5 so-to-speak, even though the problems  
6 were started in 1970s, whatever, and  
7 we actually tuned in the problem, and  
8 like I said earlier, our removal  
9 program isn't bound by the site being  
10 on the Special Priorities List. We  
11 actually respond under Superfund the  
12 sites that aren't on the list with our  
13 removal program. That's for acute --  
14 you know, fairly extensive short-term,  
15 acute problems, which we note was  
16 here.

17 Before I go to this gentleman,  
18 'cause he's had his hand up a very  
19 long time, I just wanted to go to you,  
20 because you've had yours up a very  
21 long time too.

22 ROB WEISS: Thank you.

23 Rob Weiss from 82 Hopewell  
24 Junction. When you had the map of the  
25 plume fields, I noticed Red Wing Park,

1 Hopewell Precision 7/18/08  
2 Red Wing Lake is directly in the path.  
3 For discussion's sake, let's say  
4 everyone's hooked up and the water's  
5 great, but that plume is still moving,  
6 what is going to happen Red Wing Lake  
7 in two, three, four, five years? Will  
8 that contamination go into the lake.  
9 Will it cause a shut down? What is  
10 going to happen? That's our town  
11 park.

12 ED ALS: I think this is an  
13 operable unit question. But Operable  
14 Unit Two -- this is Operable Unit One  
15 this whole -- so I have Operable Unit  
16 Two, I think the definition has  
17 something to do with it; everything  
18 else about this plume, and what it  
19 might do, and things like what might  
20 migrate over the year. Well, we'll  
21 need to pump it to treat it; put in  
22 barriers at least --

23 LORENZO THANTU: Well, I will  
24 just quickly say that to answer your  
25 question we did complete the study

1 Hopewell Precision 7/18/08  
2 that looked at the environmental Red  
3 Wing Lake and Gravel Pit and was  
4 incorporated to the separate study of  
5 unit two. That is in fact the overall  
6 site remedy. But I can tell you that  
7 from the RIS computer that we did find  
8 that groundwater is discharged to the  
9 Red Wing Lake and Gravel Pit.

10 So we did collect another  
11 ground sampling that had been done by  
12 Dutchess County Department of Health,  
13 and the results of surface and deep  
14 water sampling done in Red Wing Lake  
15 did not show any potential for  
16 concern, and we shared all the results  
17 with counsel (inaudible). Those I  
18 think were something spoke out at the  
19 meeting with the investigation board  
20 back in 2005.

21 ROB WEISS: Thank you.

22 MARK PLACOS: Sir, in the  
23 black shirt. Mark Placos. I live in  
24 Little Switzerland, and just a few  
25 basics questions. Were any other

1 Hopewell Precision 7/18/08  
2 alternative water supplies considered?

3 (Multiple voices,  
4 interruption.)

5 What might they be other than  
6 Little Switzerland?

7 LORENZO THANTU: We did FFS,  
8 which focuses on Little Switzerland  
9 Water District as the primary source  
10 of alternative water supply. But  
11 before that, when we scoped up the  
12 FFS, we had lots of discussions with  
13 (inaudible) to look at all the  
14 potential water district in the area  
15 including the Hudson River, and then  
16 based on that initial site  
17 investigation and discussions with  
18 various water district authorities, we  
19 found out in a short time that this  
20 would be that district, that we might  
21 be able to use water especially when  
22 we found out that there was a much  
23 available capacity from the yield from  
24 the two supply wells.

25 MARK PLACOS: So you're saying

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Hopewell Precision 7/18/08

you considered other districts --

LORENZO THANTU: We did --

MARK PLACOS: -- but the reason you picked this district is because it had a higher yield than the --

LORENZO THANTU: Yeah, the others are much farther way, the delivery, the cost of how much more, how long in terms of feet, miles to Hopewell.

MARK PLACOS: The other question I have is the difference in the cost between the two -- two alternatives. The one you're recommending is higher; okay, by a little bit, but whichever one you did it would end up costing more. My question is, who pays for each alternative? I assume for the alternative that you're recommending the water district will pay. What does the money for the alternative -- who pays that?

1 Hopewell Precision 7/18/08

2 LORENZO THANTU: That \$15.6  
3 million is capital cost to -- that  
4 will come from the Superfund money and  
5 that does not include expense that  
6 would be incurred prior to that. That  
7 would be \$5 million. That comes from  
8 the fund money.

9 MARK PLACOS: Federal money?

10 LORENZO THANTU: Federal  
11 money. Only the expense that the  
12 customer would be responsible for  
13 would be --

14 UNIDENTIFIED SPEAKER: Can't  
15 hear you.

16 LORENZO THANTU: Okay. Only  
17 expenses that would be incurred by the  
18 new homeowners that will be served by  
19 the Little Switzerland Water District  
20 would be their monthly utility bills.

21 UNIDENTIFIED SPEAKER: What?

22 LORENZO THANTU: See some  
23 other -- I thought someone said  
24 something.

25 ED ALS: All righty.

1 Hopewell Precision 7/18/08

2 MARYANN LACEY: My name is  
3 Maryann Lacey. I live on 16 Lenart  
4 Place. I've been there for 38 years.  
5 We had -- when we started the  
6 conversation, and you talked about the  
7 Little Switzerland water supply, you  
8 requested the back up TCE level of  
9 five being accepted. I went home and  
10 it got a six. I had that water truck  
11 back up. I got a phone call saying  
12 don't touch it, don't drink it; don't  
13 go near it. Okay. So today I have  
14 zero. I have a POET.

15 I'm not really very  
16 comfortable thinking my home will go  
17 back to a five and saying maybe that  
18 will be okay. As a nurse, when I had  
19 a five, and drinking a five, and I  
20 called poison control, they told me to  
21 take my family, go to the emergency  
22 room, have medical tests, and to this  
23 day my family still has medical  
24 testing done, but they cannot  
25 determine if during the period of

1 Hopewell Precision 7/18/08  
2 contamination we had any damage to our  
3 organs, because it is not possible to  
4 do that.

5 My other half of this said  
6 even if we did go into this water  
7 system, Hopewell Precision came back  
8 to us in 2003, because they were  
9 caught the second time dumping.  
10 They're still functioning. You test  
11 the water every three month. What if  
12 all of a sudden they decide to do  
13 something like this again? In three  
14 months period of time, we could all be  
15 drinking contaminated water all over.  
16 With the POET system, we're sure not  
17 drinking contaminated water.

18 ED ALS: Okay. That's a  
19 comment noted.

20 BRENDAN MacDONALD: I just  
21 want to quickly talk about what you  
22 said about 2003 for a second time.  
23 That's not true. All the historical  
24 dumping was in the late '70s to the  
25 early 80s, and 2003 was a time when

1 Hopewell Precision 7/18/08  
2 EPA got involved in the site water  
3 (inaudible) and that's when we did  
4 testing of 65 homes, and --

5 MARYANN LACEY: But something  
6 must have triggered to all of a sudden  
7 to come and look at us. I mean, I  
8 understand that in the '70s they were  
9 doing stuff. But they didn't all of a  
10 sudden back in 2000: Maybe we'll go  
11 check them out again --

12 LORENZO THANTU: Also --

13 MARYANN LACEY: They're not on  
14 the up and up, and we all know that.  
15 So --

16 SUSAN SCHOFIELD: It's my  
17 understanding that in the early '90s  
18 DEC and (inaudible) did an  
19 investigation of the Hopewell facility  
20 and they put in several monitoring  
21 wells, and unfortunately they put them  
22 in the wrong location. So they did  
23 not intercept as much contamination,  
24 and as part of this ongoing program,  
25 when sites are identified and then

1 Hopewell Precision 7/18/08  
2 sort of unidentified, or not -- no  
3 contamination is really identified,  
4 there's a delisting process that it  
5 goes through, and that's what happened  
6 in the early 2000, 2003 timeframe is  
7 that EPA and DEC, I believe, were  
8 trying to delist this site from their  
9 list of contaminated sites.

10 Well, Lorenzo is saying EPA  
11 was not involved. Okay. But as part  
12 of that process to make sure it was  
13 correct to delist the site, some of  
14 these private wells were sampled, and  
15 it was during that sampling process  
16 that some of that contamination was  
17 identified, which then expensed to the  
18 current project. Does that answer  
19 your question?

20 MARYANN LACEY: No, it doesn't  
21 answer my question, because there is  
22 nothing to prevent Hopewell Precision  
23 from doing it again; nothing at all.

24 SUSAN SCHOFIELD: I can't  
25 speak directly for Hopewell Precision,

1 Hopewell Precision 7/18/08  
2 because I've never inspected their  
3 facility, but it is my understanding  
4 that they no longer use these kinds of  
5 chemicals in their processes.

6 LORENZO THANTU: If I may say  
7 to that, when all the historical  
8 dumping took place, and dissolvents  
9 were used, and that took place until  
10 about '96, that's when they converted  
11 all that degreasing solvents to water  
12 based dissolvents. So since that time  
13 they have not used any TCE or TCA  
14 chemicals.

15 MARYANN LACEY: I definitely  
16 understand what you're saying. But  
17 what I'm saying is we're not dealing  
18 with ethically nice people that I  
19 would feel safe drinking water for  
20 three months and not knowing if they  
21 had again crossed that line, any line.  
22 When I drink water out of the POET  
23 system, I know it does not matter.  
24 That is the only safe water I have  
25 today.

1 Hopewell Precision 7/18/08

2 ED ALS: This is Charles Nace.

3 CHARLES NACE: Chuck Nace,  
4 Toxicologist for EPA.

5 Public waters, they must test  
6 their water every three months to see  
7 what's in there. So if you're  
8 connected to the public water supply,  
9 you can be assured they are testing  
10 water for contaminants and they cannot  
11 supply water to residents if they --  
12 if they have any unsafe levels. So  
13 that you don't have to worry about  
14 checking your own system or making  
15 sure the POET system is working or  
16 leaks aren't breaking through, or you  
17 having bacteria growing in your POET  
18 system affecting things and making  
19 things of that. You'll have a  
20 centralized system that checks that  
21 and distributing clean water. So in  
22 many respects there is a better system  
23 to --

24 MARYANN LACEY: I understand  
25 what you're saying, but 90 days is a

1 Hopewell Precision 7/18/08

2 long time to be drinking

3 contaminants --

4 (Multiple voices,

5 interruptions.)

6 If you take a look -- you

7 know, I'm going you to tell you what

8 happened in my home; okay. The POET

9 system, there are multiple parts,

10 where they tested water. They tested

11 to make sure it doesn't get past the

12 first filtration; okay. And then they

13 start changing canisters. So by the

14 time they get to that third part, I

15 know I'm not drinking contaminated

16 water; okay.

17 So even in that 90-day period,

18 if I went to canister one and possibly

19 got to canister two, I still have

20 another part of filtration that

21 doesn't even go near; okay. All of

22 that takes me through 90 days. Ninety

23 days is a long period of time to drink

24 the contaminant, and I fully

25 understand that, you know, that's what

1 Hopewell Precision 7/18/08  
2 they're doing, and it's great, but,  
3 you know, it's not -- especially in  
4 the area where we live with the kind  
5 of business we have functioning over  
6 there, we have no guarantee that  
7 they're thinking about our health and  
8 they haven't before.

9 GRANT ANDERSON: Let me  
10 address -- I think of the physical  
11 practicalities of our position. Do  
12 you know how many feet down graded  
13 from Hopewell Precision your well is?

14 MARYANN LACEY: I have no  
15 idea.

16 GRANT ANDERSON: I mean, but  
17 is it like a half a mile, quarter of a  
18 mile?

19 (Multiple voices, "Half a  
20 mile.")

21 GRANT ANDERSON: Okay. Okay.  
22 Half a mile. Our studies have shown  
23 that groundwater velocity is -- is --  
24 it averages through the whole system  
25 as about a foot. So, you know, even

1 Hopewell Precision 7/18/08  
2 if Hopewell Precision were to do this  
3 massive midnight dumping on the site,  
4 which they would get into a lot of  
5 trouble for, even if they did that, it  
6 would be -- it would be probably 2000  
7 days before that reached your well, if  
8 you're a half a mile downgrade. So  
9 you don't have to -- I mean, the  
10 contamination, if it were dumped  
11 there, instantly doesn't shoot down to  
12 the aquifer and get into the wells.  
13 It moves at a foot per day, and if you  
14 don't believe me, you can look at the  
15 --

16 ED ALS: That's at groundwater  
17 velocity.

18 GRANT ANDERSON: Exactly.

19 ED ALS: That would be a  
20 maximum?

21 GRANT ANDERSON: Maximum, but,  
22 you know, but you don't have to take  
23 my word for it. Go to the plume,  
24 divide it by the number of days since  
25 1977, and this just shows you how

1 Hopewell Precision 7/18/08  
2 slowly that leak in the plume has been  
3 to be. So 90 days, your safe; can get  
4 you through 90 days.

5 UNIDENTIFIED SPEAKER: She's  
6 safe, but what about that person who's  
7 across the street?

8 GRANT ANDERSON: There is only  
9 a wetland across the street.

10 UNIDENTIFIED SPEAKER: Note my  
11 point.

12 UNIDENTIFIED SPEAKER:  
13 Contamination until day one have to be  
14 tested; you have 90 days.

15 UNIDENTIFIED SPEAKER: Not  
16 drinking that water --

17 ED ALS: Please.

18 UNIDENTIFIED SPEAKER: Will  
19 you turn around now this way, please?

20 (Laughing.)

21 STEVE MOROBONA: Steve  
22 Morobona, Clove Branch Road. I think  
23 Lorenzo stated that the -- called it  
24 MHCL --

25 LORENZO THANTU: Maximum

1 Hopewell Precision 7/18/08

2 Contaminant --

3 (Multiple voices,  
4 interruptions.)

5 STEVE MOROBONA: -- after five  
6 parts per million. My home is over  
7 the plume, and I get tested, and the  
8 testing always comes back, and it's  
9 three parts per billion, two parts per  
10 billion. So obviously I'm below that  
11 limit, but in reality, I still have  
12 poison in my water. So what can you  
13 do for me, and why do I have to wait  
14 four, five, or six years for town  
15 water to come down my way? What can I  
16 do now to safeguard myself (inaudible)  
17 if your analytical equipment's picking  
18 up the toxins? It's there in my  
19 water. It may not be at the five MCL  
20 level, but it's still poison in my  
21 water.

22 LORENZO THANTU: And I hear  
23 you loud and clearly. I mean, I think  
24 we all totally share your concerns,  
25 and I'm happy to study (inaudible)

1 Hopewell Precision 7/18/08

2 through the POET systems, and I come  
3 across a lot of homes, where you have  
4 detection but below the EPA standard,  
5 and pretty much it's been that our  
6 hands are tied, but we would make sure  
7 that we sample your home again within  
8 the length of time to make sure that  
9 you don't have those levels that are  
10 above drinking water standard. These  
11 are (inaudible), as I talked about  
12 earlier, drinking standards for  
13 groundwater. That's what we have to  
14 do with, and that's what we are  
15 dealing with; a very, very tough issue  
16 for at least three years.

17 ED ALS: I think health wise  
18 too we should be stressing that our  
19 MCLs, as far as the best studies we  
20 have, are protected --

21 LORENZO THANTU: And Chuck  
22 will talk about (inaudible) that is  
23 built into setting up those drinking  
24 water standards.

25 CHARLES NACE: Yeah, on the

1 Hopewell Precision 7/18/08  
2 chemicals that are allowable in  
3 drinking water, we generally -- I  
4 personally bought the CCL (inaudible).  
5 Unfortunately, we do live in a world  
6 where there are a lot of chemicals and  
7 groundwater is polluted in many areas,  
8 surface waters (inaudible). We have a  
9 State drinking water and Federal  
10 drinking water standard; really trying  
11 to protect the population as best we  
12 can, and they're -- the numbers that  
13 we generate are based on animal  
14 studies and then add safety factors to  
15 it. So that if we see a concentration  
16 of, let's say, 5,000 milligrams or  
17 hypergrams per liter, and we give it  
18 to the animal, and they -- they get  
19 sick from it. Well, we don't say:  
20 Well, 5,000 is our level. We knock  
21 that down to maybe five or even less  
22 to make sure that we're being  
23 protected, and fighting it down as  
24 close as we can to below zero, and  
25 still be able to provide water to

1 Hopewell Precision 7/18/08  
2 everyone's needs too. It's not a  
3 perfect case or a perfect world. It's  
4 what we have to deal with and work on.

5 ED ALS: Sir?

6 ROBERT BUELLER: Good evening.  
7 I have more comments than anything.

8 ED ALS: Sir --

9 ROBERT BUELLER: I think it's  
10 great that everybody here came out --

11 ED ALS: Sir, your name?

12 ROBERT BUELLER: My name is  
13 Robert Bueller. I live at 14 Hemlock  
14 Drive, Hopewell Junction. I'm within  
15 the unsafe zone. So I represent my  
16 family and many of my neighbors with  
17 the following concerns. I will repeat  
18 some of the concerns you all had. So  
19 that you could hear repeated, so that  
20 you do something about it.

21 "Hopewell Precision caused  
22 this problem and should be made to pay  
23 for all the expenses associated with  
24 the clean up. I don't know why they  
25 are still allowed to be in business.

1 Hopewell Precision 7/18/08

2 Residents should never have to pay one  
3 penny to have clean water to drink.  
4 We have wells now that cost us  
5 nothing. Hopewell Precision should  
6 have to pay for all of our water costs  
7 now and in the future. I now have  
8 unlimited water from my well. My  
9 neighbors and I don't need to worry  
10 about watering our plants and topping  
11 off their swimming pools. We did not  
12 cause this. We should have to never  
13 pay for water. It also seems foolish  
14 to have to disconnect the existing  
15 wells. Let the people use the wells  
16 for their lawns, their pools, and  
17 washing their cars. This would also  
18 make it easy to test for water in the  
19 future to see if over time the wells  
20 are drinkable.

21 "Some people's water comes up  
22 safe in the test. Other people's  
23 water is unsafe. It's hit and miss.  
24 There needs to be as much water as we  
25 want. It needs to cost nothing now

1 Hopewell Precision 7/18/08  
2 and forever. How can you justify us  
3 paying for water? Once we're all  
4 hooked up, we're all going to have to  
5 pay for it. What good is that? We  
6 did not cause this. Hopewell  
7 Precision is still in there. Make  
8 them pay. Why aren't the owners of  
9 Hopewell Precision not in jail?

10 "The EPA has known about this  
11 for more -- whatever; five years or  
12 so. Why has nothing been done? I  
13 know it's not your fault, and there's  
14 a lot of regulations and things. I  
15 think it's good that you are  
16 addressing it and are going to do  
17 something about it.

18 "Now, what happens when  
19 everyone in the area gets cancer,  
20 because we have to wait another four  
21 years to get hooked up to the system?  
22 Maybe we should get free water  
23 delivery in the meantime. Why is it  
24 called a Superfund, if we have to pay  
25 for the water?" I keep going back to

1 Hopewell Precision 7/18/08

2 that.

3 "I'm only living in my home  
4 two years. Why was I never told that  
5 my home could be contaminated, when I  
6 bought it? If my home value just  
7 dropped down to nothing, since I won't  
8 be able to sell it, since my home  
9 value dropped to zero, shouldn't my  
10 taxes be zero?

11 (Interruption by applause,  
12 laughing.)

13 "Why has nobody come to my  
14 house to test the water, since I'm in  
15 a toxic zone?

16 "With all the breakages in  
17 Little Switzerland's water supply,  
18 lets keep our wells as back up so that  
19 when this new system breaks at least  
20 we have water.

21 (Interruption by applause,  
22 laughing.)

23 "We're supposed to just get  
24 sick" -- and I can just go on and on.  
25 I think you get the gist of it. You

1 Hopewell Precision 7/18/08

2 don't have to comment.

3 (Interruption by applause,  
4 laughing.)

5 ED ALS: Very thoughtful  
6 comments.

7 Sir?

8 GLEN McBRIDE: My name is Glen  
9 McBride, and I'm at Clove Branch Road.  
10 First of all I just want to echo the  
11 sentiments of Deborah Hall. There are  
12 a lot of people in this room that have  
13 done a lot for us, and I know there  
14 are many people here in the room, who  
15 may be here for the first time from  
16 Little Switzerland or just getting  
17 involved in this, but after five  
18 years, you can rest assure that we are  
19 in good hands with people that are  
20 helping us, and I appreciate that.

21 I have a couple of questions.  
22 Some were answered a little earlier  
23 about the cost. It seems kind of  
24 ironic to me that the cost of the --  
25 estimated cost were for proposal two

1 Hopewell Precision 7/18/08

2 of keeping the current systems, and  
3 the estimated cost for the Little  
4 Switzerland almost identical and  
5 specific, and especially in light of  
6 the fact that it sounds like a  
7 detailed review of the Little  
8 Switzerland current system has not yet  
9 been done.

10 So let's assume that we go  
11 forward, because that why we're here  
12 tonight, because we're going to go  
13 forward with this feasibility study.  
14 Let's assume that as the details come  
15 out about Little Switzerland we find  
16 that Little Switzerland has to be  
17 totally replaced in order to make this  
18 work, and I know that is not going to  
19 be in the current estimate.

20 Let's suppose that based on  
21 our history of government practices  
22 that this proposal is now going to be  
23 \$30 million and not \$15 million, and I  
24 think that probably could happen.

25 (Multiple voices,

1 Hopewell Precision 7/18/08

2 interruption.)

3 If that happens and that's all  
4 right as long as it's part of the  
5 study and we get that, if that  
6 happens, one, will the committee go  
7 back and look at the other studies  
8 that were done on the other public  
9 water systems to determine now another  
10 cost analysis with what might be more  
11 feasible, and, number two, has there  
12 been any monetary budget for ceiling  
13 been placed on the Hopewell Precision  
14 Superfund Site that we can at least  
15 use in helping making our decision  
16 going forward?

17 In other words, has a -- has  
18 the committee said: \$15 million is  
19 acceptable; \$30 million is not going  
20 to be acceptable for this site; we  
21 just don't have it in the budget?

22 ED ALS: Both great questions,  
23 and we -- we try to do our homework in  
24 the feasibility study such that  
25 15 million doesn't become 30 million,

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but if it did, I can't guarantee that we wouldn't want to go back and revisit the issue.

GLEN McBRIDE: If you could --

ED ALS: If I could --

GLEN McBRIDE: -- see -- under your procedure.

ED ALS: Right, yes. We can do a lot of tests or whatever, and the second question was really good too. I'm trying to remember it.

GLEN McBRIDE: Is there -- has there been a --

ED ALS: Oh, a ceiling --

GLEN McBRIDE: -- a ceiling or a budget to this project --

ED ALS: Yeah, there has been. EPA right now has something called its Remedial Action Priority Panel. When you get into mega-cost projects, and it's going to come out of the Federal Superfund, this priority panel looks at those particular sites, and when -- and, you know, how much they are going

1 Hopewell Precision 7/18/08  
2 to get funded; whether they are going  
3 to get phased.

4 Again, it's money management  
5 that's happened more and more as the  
6 Superfund Program has gotten more  
7 mature and the amount of money has  
8 gotten more competitive to a funding  
9 sense. So it would not be a good  
10 thing to see that explosion cost for  
11 that reason too, because the priority  
12 panel might take a hard look at it.

13 GLEN McBRIDE: So for the  
14 purposes of tonight, we're just trying  
15 to determine if we are going to go  
16 forward with this particular study.  
17 We're not making any other commitments  
18 that this is the way that we're going  
19 to ultimately proceed.

20 ED ALS: Well, we are on -- we  
21 are on the process -- we are on the  
22 path of making a commitment here.  
23 It's not 100 percent ironclad, because  
24 you brought up a couple of good  
25 points.

1 Hopewell Precision 7/18/08

2 GLEN McBRIDE: How can we make  
3 a commitment, when we don't have  
4 realistic numbers of what this is  
5 going to cost?

6 ED ALS: Well, we think they  
7 are realistic, though.

8 GLEN McBRIDE: But you've  
9 already said -- one of the individuals  
10 here right at the beginning said that  
11 the way the procedure works is we do a  
12 feasibility study --

13 ED ALS: Right.

14 GLEN McBRIDE: -- and then we  
15 go in and we do detailed study of the  
16 existing system --

17 ED ALS: Design --

18 GLEN McBRIDE: Design.

19 ED ALS: -- the design; even  
20 more of the nuts and bolts.

21 GLEN McBRIDE: So that hasn't  
22 been done. So what I'm hearing here  
23 it sounds like there is a lot to do --

24 ED ALS: Yes.

25 GLEN McBRIDE: -- it sounds

1 Hopewell Precision 7/18/08

2 like there's a lot of gaps from the  
3 feasibility study that you have not  
4 been able to answer tonight and may be  
5 in the study but --

6 ED ALS: Right. We're --  
7 we've developed general costs. We  
8 will develop those costs even in more  
9 detail as we start looking at the  
10 details of what we have to do, but  
11 typically, when we develop the general  
12 cost of these building studies, we --  
13 I think we hit them in the ballpark  
14 usually. It's just that when you --  
15 when you now want to refine those  
16 costs so that, A, you know how much  
17 money you have to obligate to the  
18 construction, and, B, you start to put  
19 together your -- your bid specs for  
20 the construction so that you know  
21 when -- when a construction company  
22 comes in and bids it whether you think  
23 they're out of the ball park or not,  
24 or, you know, you want to get a good  
25 handle on the kind of money that you

1 Hopewell Precision 7/18/08  
2 need, but typically -- I would say,  
3 typically, on most Superfund sites,  
4 we're in the ballpark with feasibility  
5 study and design final cost estimate.  
6 Would you agree with that or -- pretty  
7 much been your experience?

8 LORENZO THANTU: If anything,  
9 I was just going to say that these  
10 costs estimates that we have in the  
11 FFS likely are as over estimated as --

12 (Multiple voices,  
13 interruption.)

14 -- thirty five, and when we  
15 get a design, that's when we fine tune  
16 the cost, and often times they go  
17 down.

18 Now to answer the question  
19 that you had as to what would happen  
20 if we had to replace the entire  
21 Switzerland Water District  
22 infrastructure. That's the very, very  
23 worse case. I'm sure that will never  
24 happen. What we have looked at based  
25 on the discussions with the Town of

1 Hopewell Precision 7/18/08  
2 East Fishkill engineer is that the  
3 problems that they are dealing with  
4 right now are the leakages, and that's  
5 what we have made from the proposed  
6 plan. That's what we will look at in  
7 the design phase.

8 We aren't going to be  
9 replacing that, the existing 20,000  
10 gallon tank, because that was  
11 installed in 2007, and the pumping  
12 wells are working just fine, with the  
13 maximum capacity of 360 GPM. So the  
14 only thing left is the existing piping  
15 structure, which we would look at as  
16 part of the design, and as I said  
17 earlier, there will be some eight inch  
18 segments of the existing pipeline that  
19 we will replace with ten inch. That's  
20 all addressed in the --

21 ED ALS: And that's cost out.

22 LORENZO THANTU: -- detail  
23 cost for the preferred remedy.

24 ED ALS: Thank you for your  
25 concerns.

1 Hopewell Precision 7/18/08

2 Sir?

3 JOE KESSNER: My name is Joe  
4 Kessner on Creamery Road. I'm in  
5 the contaminated area. I've had the  
6 ventilation system put on my house,  
7 and I feel good about that, because  
8 radon also gets affected and it's  
9 dried out my basement; pretty good.

10 (Laughing.)

11 And those vapors that are  
12 coming into my house they drilled the  
13 basement like they did everyone else,  
14 and they sampled it, and they come in  
15 and sample every so often, yet, and I  
16 like that; at least once a year, once  
17 every six months, for a while anyway,  
18 and but, if that vapor is coming up  
19 into my basement, that's coming off  
20 the water. That means the water's got  
21 to be up in my house somewhere or it's  
22 not in my well and that bothers me.  
23 You know, I'm right on the edge. The  
24 guy next door to me was here, and he  
25 left, and he's got a -- they put the

1 Hopewell Precision 7/18/08

2 a -- all the filter systems, the POET  
3 system, I guess you call it, into his  
4 house, and that POET system would seem  
5 to be to give you ultraclean water.

6 GRANT ANDERSON: It is true  
7 that the contamination that's in the  
8 soil vapor that's in the interior of  
9 your basement came from the water at  
10 some point, but it didn't necessarily  
11 have to come from the water directly  
12 below your house.

13 We have done a lot of studies  
14 where we have contaminated run water  
15 plume, and then we have a contaminated  
16 soil vapor plume and there were only  
17 approximate to each other. It's very  
18 difficult to -- like we can find  
19 contaminated soil vapor, and go  
20 straight down, and find clean water.  
21 So there is the -- the soil vapor does  
22 not come right up the water and shoots  
23 straight up in to a customer's  
24 (inaudible). It comes up and  
25 meanders, it flows around obstacles,

1 Hopewell Precision 7/18/08

2 rocks, clay.

3 So to answer your question,  
4 just because you've got contaminated  
5 soil vapor below your residence does  
6 not necessarily mean that the  
7 groundwater down there is  
8 contaminated. It means there is  
9 contaminated groundwater nearby  
10 somewhere.

11 JOE KESSNER: Now, you come up  
12 with this piping in the Little  
13 Switzerland and impacting those people  
14 up there and what will that do for us?

15 Well, my concern then is, if my well  
16 is okay, what is going to be the cost  
17 of the monthly cost. You've done a  
18 lot of cost estimating. What is the  
19 monthly cost of that water to the  
20 homeowners? What do you expect me to  
21 have to pay? What did they pay in  
22 Little Switzerland today; anybody  
23 know?

24 BRENDAN MacDONALD: \$3 per  
25 pound per gallon.

1 Hopewell Precision 7/18/08

2 TEDDY NOVAK: \$3.95.

3 JOE KESSNER: What's the  
4 usage?

5 BRENDAN MacDONALD: Based on  
6 usage --

7 UNIDENTIFIED SPEAKER: Per  
8 month?

9 UNIDENTIFIED SPEAKER: One  
10 hundred a month?

11 UNIDENTIFIED SPEAKER: That's  
12 whatever \$100 a year.

13 (Multiple voices,  
14 interruptions.)

15 JOE KESSNER: What does it  
16 cost the EPA to put filters on my  
17 house?

18 ED ALS: Well, that's  
19 Alternative Two.

20 UNIDENTIFIED SPEAKER: That's  
21 right. That's the one we want.

22 JOE KESSNER: Okay. Guys,  
23 I've been here four, five years, and  
24 you're new here.

25 (Laughing, interruptions.)

1 Hopewell Precision 7/18/08

2 ROBERT BUELLER: I visited  
3 Hopewell Precision doing business with  
4 them, and I met and talked to the  
5 owners about this. Hopewell  
6 Precision, my understanding, is the  
7 original owner, when this  
8 contamination happened, died. The son  
9 was in Vegas at the time, and  
10 inherited the place, and took over.

11 Since then the place has been  
12 sold, because the son didn't know how  
13 to run it. The people that bought it  
14 were employees. So it's an  
15 employee-owned company. That's my  
16 understanding, and I got that from  
17 these meetings from the people who  
18 were at the meetings at the time,  
19 because the people change. So that's  
20 my understanding, and you can't get  
21 blood out of a rock is what they are  
22 saying.

23 It's not an IBM anymore. It's  
24 a little company. It's company owned,  
25 but talking to the president there, he

1 Hopewell Precision 7/18/08  
2 said they were willing to pay \$25,000  
3 a house for a filter at the time. So  
4 I don't have --

5 UNIDENTIFIED SPEAKER: The  
6 only fellow I heard about --

7 JOE KESSNER: No, the new  
8 guys, the new guys. And now they're  
9 in the new building. They're in the  
10 building next door, and what you said  
11 about the contamination, these are  
12 responsible people that live in the  
13 area that I see, and I'm sure that  
14 they are well aware of the problems  
15 that they are going to have, if they  
16 do anything to contaminate us, and  
17 they seem reasonable and responsive to  
18 it.

19 So Hopewell Precision, again,  
20 where will you get the money from?  
21 There is nobody there. There's not  
22 enough there to --

23 ED ALS: Lorenzo?

24 LORENZO THANTU: Yeah, we  
25 looked into -- I can't think of the

1 Hopewell Precision 7/18/08  
2 name of the current president. Yeah,  
3 I forget his name, and our attorney  
4 has looked into all that including the  
5 financial capability assessment on the  
6 Hopewell Precision, and that was  
7 another figure that was reviewed --

8 (Multiple voices,  
9 interruptions.)

10 -- as far as \$50,000, 25,000,  
11 same ballpark.

12 JOE KESSNER: So that's good  
13 for the people to know. Because you  
14 can't -- "why don't you make them  
15 pay?" There's nobody there to pay.  
16 It's a little company. You can't get  
17 it.

18 ED ALS: Sir, yes.

19 DALEY CHAOUSSO: I have a  
20 question for you, several things.

21 ED ALS: Sir. Sir --

22 DALEY CHAOUSSO: The name,  
23 C-H-A-O-U-S-S-O, Daley -- she asked me  
24 for my name.

25 ED ALS: I understand, but

1 Hopewell Precision 7/18/08

2 someone else I pointed to.

3 LORENZO THANTU: Just going to  
4 follow up on what you just said. My  
5 understanding was that they only  
6 had up to \$50,000 to pay for  
7 everything. But you're just saying  
8 they're willing to pay \$25,000 per  
9 home? That news to me.

10 ED ALS: That's a lot of  
11 homes. That's a lot of money.

12 DALEY CHAOUSSO: Thirty-five  
13 homes.

14 ED ALS: All right, sir.

15 DALEY CHAOUSSO: I live in  
16 this area in the contaminated area  
17 since 1970. In the area that we live,  
18 there is a small island, five houses  
19 that current have no contamination.  
20 However, according to the -- what  
21 Lorenzo said earlier, the accepted  
22 rate of health issue for cancer is one  
23 to 10,000.

24 Now, just on that little  
25 street that seven houses, five houses,

1 Hopewell Precision 7/18/08  
2 you have seven cases of cancer. 50  
3 percent of them died, 50 percent of us  
4 are here to tell about it. So I think  
5 the best solution for this, not  
6 counting the political solution that  
7 you want for us to take right now,  
8 whatever you want to do now with  
9 Little Switzerland political solution,  
10 not the solutions that we want, we not  
11 know if the water's coming from there  
12 is going to be not good. According to  
13 the lady over there that gave you some  
14 fact, that water many times has been  
15 found polluted by the State  
16 Government; am I correct? Am I  
17 correct in that?

18 SUSAN SCHOFIELD: Actually,  
19 that was according to New York State  
20 was in the last ten years the reports  
21 that came down to us inadequate and  
22 lacking any content.

23 DALEY CHAOUSSO: You want us  
24 to be connected to a company like  
25 that? So I think the best solution

1 Hopewell Precision 7/18/08  
2 would be the POET solution, where you  
3 have no contamination whatsoever. You  
4 do not involved all the people.

5 ED ALS: So the fourth  
6 solution?

7 DALEY CHAOUSSO: The POET, the  
8 POET.

9 ED ALS: Oh, the POET  
10 solution. I was going to say,  
11 "There's another solution?"

12 DALEY CHAOUSSO: No, no. And  
13 I think that more or less solve the  
14 problem for the people out there  
15 including the people that and live  
16 within the area that -- the 35 wells  
17 and so forth. So no pollutions  
18 whatsoever.

19 ED ALS: Okay. Sir?

20 MIKE REYNOLDS: Similar  
21 comment. Mike Reynolds from Hamilton  
22 Drive. I do want to thank the EPA in  
23 doing the tests and trying to be  
24 honest with us. I'm concerned with  
25 the \$15 million estimate on

1 Hopewell Precision 7/18/08

2 construction cost, by the Government,  
3 doesn't seem to work out. It just --  
4 it just doesn't; 35 percent estimate I  
5 appreciate considered conservative. I  
6 have very big doubts that that will  
7 actually come through. I think there  
8 is actually a lot more benefit to the  
9 POET system than has been raised. The  
10 water from Little Switzerland is sort  
11 of the main point the EPA would like  
12 to have, and the POET system has kind  
13 of been -- we haven't talked much  
14 about it. I think it's important that  
15 it is considered a little more than  
16 this, and I agree with this young lady  
17 that this should not cost me a dime.

18 My well today does not have  
19 any contaminants. It is potential the  
20 plume can come, but the POET system  
21 could mitigate that, I believe, and in  
22 general there probably isn't a single  
23 answer in terms of what it would do.  
24 It's just a comment. I do believe the  
25 POET system has a lot more benefits

1 Hopewell Precision 7/18/08  
2 than we may be totally talking about  
3 tonight.

4 ED ALS: Okay. Thank you for  
5 that.

6 REBECCA CHAOUSSOCLAU: Good  
7 evening. My name is Rebecca,  
8 "C-H-A-O-U-S-S-O-C-L-A-U." I've lived  
9 on Lenart Place my whole life since  
10 '73 'til today, and I get emotional,  
11 and I'm sorry.

12 Hopewell Precision has caused  
13 my neighbor, my family, and myself  
14 medical bills. You don't have to wait  
15 those four years. Let me tell you, I  
16 have bathed in it. People were born  
17 in it, and people were pregnant in  
18 that -- in that, and I don't think you  
19 guys understand long term what effects  
20 that has on people. It's huge.

21 I have several questions that  
22 I would like addressed. One is you're  
23 saying you can't answer a lot of these  
24 questions. I want to know when we're  
25 going to be getting those answers?

1 Hopewell Precision 7/18/08

2 ED ALS: I'll tell you what,  
3 as you ask the questions, can I  
4 respond --

5 REBECCA CHAOUSSOCLAU: That's  
6 fine.

7 ED ALS: -- 'cause I have  
8 trouble remembering?

9 REBECCA CHAOUSSOCLAU: That's  
10 fine.

11 ED ALS: When we do a  
12 responsive summary, we look at all the  
13 comments that are made tonight, and we  
14 also look at the written comments that  
15 we receive during the public comment  
16 period, and we put together responses  
17 to those comments, and depending on  
18 how those comments go and what  
19 management feels back at the ranch, we  
20 make decisions as to whether this  
21 preferred remedy is going to get  
22 carried forward and become our Record  
23 of Decision.

24 REBECCA CHAOUSSOCLAU: That  
25 doesn't really answer how I'm going to

1 Hopewell Precision 7/18/08

2 get the answers to the questions --

3 ED ALS: The responsive --

4 REBECCA CHAOUSSOCLAU: -- you

5 are not really answering.

6 ED ALS: The responsiveness

7 summary will address every comment

8 made tonight, whether it was answered

9 or not tonight.

10 REBECCA CHAOUSSOCLAU: Will we

11 get that via the mail like we got --

12 ED ALS: The responsive

13 summary is --

14 (Multiple voices,

15 interruptions.)

16 -- usually put in the library.

17 It's a part of the record.

18 REBECCA CHAOUSSOCLAU: And

19 will we be notified when that -- those

20 responses are available?

21 CECILIA ECHOLS: When the

22 Record of Decision is signed.

23 REBECCA CHAOUSSOCLAU: Okay.

24 Again, I would like to -- I believe

25 that really there is some political

1 Hopewell Precision 7/18/08  
2 cahoots going on in terms of trying to  
3 solve -- with the Town of East  
4 Fishkill; they're problems they're  
5 having with Little Switzerland, and  
6 trying to -- and trying to use the  
7 money from the EPA Superfunds to solve  
8 their problems as apposed to really  
9 fixing ours. I think they are trying  
10 to kill two birds with one stone.

11 ED ALS: "They" being?

12 REBECCA CHAOUSSOCLAU: The  
13 Town of East Fishkill. Because after  
14 a significant portion of money that  
15 they release on that would help to  
16 remedy the problems that are going on  
17 in Little Switzerland.

18 ED ALS: Do you -- anything?

19 REBECCA CHAOUSSOCLAU: You  
20 don't have to comment on it, but  
21 it's --

22 (Multiple voices,  
23 interruptions.)

24 -- it's more of a theme. It's  
25 more of a -- it's more of a comment --

1 Hopewell Precision 7/18/08

2

3 BRENDAN MacDONALD: Yeah, that  
4 would help.

5 JOHN HICKMAN: I believe --  
6 Supervisor for the Town of East  
7 Fishkill. I can assure you I have  
8 no -- whichever way this goes. It's  
9 just whatever the people want. If  
10 this works for you and it's what the  
11 people of Little Switzerland want,  
12 then that's fine also.

13 REBECCA CHAOUSSOCLAU: But  
14 there is certainly financial benefit  
15 to the Town and the residents of  
16 Little Switzerland not to have to pick  
17 up the cost associated with fixing  
18 their problems that we are hearing  
19 this evening.

20 UNIDENTIFIED SPEAKER:  
21 Problems are still being fixed.

22 REBECCA CHAOUSSOCLAU: Okay.  
23 I'm just saying. I'm just saying  
24 that's what --

25 JOHN HICKMAN: It does go to

1 Hopewell Precision 7/18/08

2 the Town of East Fishkill.

3 REBECCA CHAOUSSOCLAU: That is  
4 what it sounds like to me. That's  
5 what it sounds like to --

6 JOHN HICKMAN: It goes to the  
7 district.

8 REBECCA CHAOUSSOCLAU: -- to  
9 an observer who hasn't dealt with  
10 Little Switzerland. That's what I'm  
11 hearing; okay. I agree that the  
12 homeowners -- that we did not choose  
13 to have this done to us. It was done  
14 to us. We are living every day with  
15 the ramifications of it, and I don't  
16 think that we should have to pay out  
17 any financial burden on to us at all.

18 ED ALS: Okay.

19 REBECCA CHAOUSSOCLAU: Are  
20 they going to be blasting into bedrock  
21 to deal with the storage tank and  
22 things like that, and how does the  
23 blasting into the bedrock affect the  
24 contamination and how the plume is?

25 ED ALS: "Will they be doing

1 Hopewell Precision 7/18/08

2 it," is your question.

3 BRENDAN MacDONALD: I thought  
4 we understand -- we assume that about  
5 eight hundred feet of pipe would be  
6 placed in bedrock.

7 REBECCA CHAOUSSOCLAU: So how  
8 does that affect how the plume is,  
9 because if you're dealing with bedrock  
10 and moving bedrock, I would assume  
11 that that would be affecting the  
12 plume.

13 GRANT ANDERSON: Well, the  
14 place where the -- where you go into  
15 the bedrock is not a plume. That's  
16 from the water supply --

17 REBECCA CHAOUSSOCLAU: But  
18 that movement, would that have any  
19 affect on any of the contaminated area  
20 of the plume?

21 GRANT ANDERSON: It's too far  
22 away.

23 REBECCA CHAOUSSOCLAU: Okay.

24 DALEY CHAOUSSO: But you do  
25 not know?

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2 GRANT ANDERSON: No, I don't.  
3 You'd have to violate the laws of  
4 physics in order to affect the plume  
5 from that far away.

6 DALEY CHAOUSSO: Yeah, but you  
7 have vibrations. How can you -- you  
8 explained before, this is like a  
9 sponge, and the vibration would travel  
10 through the solid just as liquid.  
11 That's the from the laws of physics.

12 GRANT ANDERSON: Vibrations --  
13 the vibrations that you're talking  
14 about are attenuated by -- by a square  
15 of the distance --

16 DALEY CHAOUSSO: Right.

17 GRANT ANDERSON: -- and the  
18 vibrations from the blasting at the  
19 site just to put the pipe in, down  
20 where the plume is, those vibrations  
21 would be smaller than the vibrations  
22 of a truck --

23 DALEY CHAOUSSO: And the plume  
24 is about 500 feet from Dogwood Drive,  
25 not even; less than 500 feet.

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2 REBECCA CHAOUSSOCLAU: So it  
3 sounds to one of the reasons that they  
4 wanted the EPA is presenting the --  
5 hooking into the water system of  
6 Little Switzerland is so that they  
7 don't have to really pay for anything  
8 else after they're done and kind of  
9 leave, and that's what it really  
10 sounded like. So we -- if that's  
11 done, where is the EPA with us in five  
12 years, in ten years, in 15 years?

13 ED ALS: We have a whole other  
14 operable unit to do, and we have no  
15 idea what that's going to entail.  
16 That might involve a lot of additional  
17 work and a lot of operation  
18 maintenance. I'm not exactly -- do we  
19 have actual operation maintenance on  
20 Alternative Three?

21 LORENZO THANTU: Just cost.

22 ED ALS: Yeah, so it's not  
23 like we wanted -- we actually have a  
24 whole way of keeping tabs on sites  
25 called five-year reviews. We -- we --

1 Hopewell Precision 7/18/08

2 we can always get -- pull back in the  
3 picture if something doesn't go right.

4 REBECCA CHAOUSSOCLAU:

5 They're more -- they're questions kind  
6 of brought up a thought process, I  
7 guess, because it seems to the POET  
8 systems they have to come back and  
9 test every three months. So that  
10 insures -- helps to insure the  
11 homeowners that we're really and truly  
12 safe as apposed to the other way that  
13 comes down like we're insured, never  
14 really safe after this is just done  
15 and gone away.

16 CHRIS VINCALO: I'd just like  
17 to say that the public water system --

18 ED ALS: Give your name.

19 CHRIS VINCALO: My name is  
20 Chris Vincalo with the State  
21 Department of Health. Public water  
22 system's are governed by -- are  
23 required to be tested. You -- you're  
24 saying every three months. The public  
25 water system tests on a quarterly

1 Hopewell Precision 7/18/08  
2 basis. So they also -- they will also  
3 have a sweep of chemical testing.  
4 They're also on the same. It's not  
5 that a POET system is put in place and  
6 let go --

7 REBECCA CHAOUSSOCLAU: Isn't  
8 that a zero like the POET system?

9 CHRIS VINCALO: -- yeah, POET  
10 system are put in place to try to  
11 reduce to zero. Even if they had a  
12 small break through, it's not a  
13 failure. I mean, it's still, you  
14 know, trying to meet accepted limits.  
15 Luckily, POET can meet zero, but they  
16 don't actually have to adhere to be  
17 properly functionable.

18 REBECCA CHAOUSSOCLAU: I want  
19 to know what is being done for the  
20 people that are currently suffering  
21 from medical issues that are  
22 associated with TCE and TCA exposure?

23 ED ALS: Speak to the --

24 REBECCA CHAOUSSOCLAU:  
25 Because I registered so many times,

1 Hopewell Precision 7/18/08

2 and I haven't heard a word.

3 JIM BOWERS: The State  
4 Department -- sorry. Jim Bowers State  
5 Department of Health.

6 We have done a couple of  
7 things to deal with health issues  
8 raised by the community. Currently,  
9 we're doing something called health  
10 statistics review, where we look at  
11 cancer rates at or congenital  
12 malformations -- I'm sorry. Am I  
13 speaking loud enough for the people in  
14 the back?

15 CENTER ROOM FEMALE SPEAKER:  
16 No. And I'm going to interrupt you  
17 here. This is something that Rebecca  
18 and I have brought up to the health --  
19 the department of health many times.  
20 You're going strictly by registries.  
21 If you look at the disabilities  
22 associated with TCE, they're not going  
23 to appear in registry. We've asked  
24 you to go beyond the registry, meet  
25 with the affected people privately to

1 Hopewell Precision 7/18/08

2 deal with their issues.

3 Neurological disorders are not  
4 on public registry. Kidney disorders  
5 are not on public registries. Liver  
6 disorders are not on public registry.  
7 You don't have to go on a public  
8 registry with cancer to (inaudible)  
9 pre cancer effect. Children with  
10 neurological and IEP disorders are not  
11 on public registry. Yet, these are  
12 the areas affected by TCE.

13 So you're going to keep coming  
14 up with all this nice safe boundry,  
15 because you refuse to look where we  
16 asked you to look.

17 JIM BOWERS: Let me -- let me  
18 preface this by saying I'm happy to  
19 come back. I feel like this is going  
20 to take us for a ten minute tangent,  
21 and I don't want to take this -- if  
22 EPA has a problem with it. I'm happy  
23 to come back in a week and have this  
24 meeting with people, who have these  
25 concerns.

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2 UNIDENTIFIED SPEAKER: We'll  
3 see you here next Thursday evening.

4 (Multiple voices,  
5 interruptions.)

6 JIM BOWERS: I'm just --

7 CENTER ROOM FEMALE SPEAKER:  
8 That's fine. Rebecca and I have  
9 brought this up several times every  
10 meeting we go to. Rebecca and I have  
11 brought this up and begged for it,  
12 begged you for it.

13 JIM BOWERS: As I've said on  
14 previous occasions, the reason that  
15 we're doing this whole statistics  
16 review is because it's basically the  
17 first step in a step-wise approach to  
18 considering the community's concerns.  
19 We do this first, because it's the  
20 information that we have available.  
21 We don't have information on, you  
22 know, developmental disabilities among  
23 children. It's just not information  
24 that's collected.

25 CENTER ROOM FEMALE SPEAKER:

1 Hopewell Precision 7/18/08

2 Yeah, and TCE disabilities are not  
3 related to stuff that are on public  
4 registries. We asked you to meet with  
5 us in a somewhat more closed  
6 environment, because, for many people,  
7 you're asking them to talk about  
8 something highly personal and painful.

9 JIM BOWERS: And I appreciate  
10 that. As I'm saying at the beginning  
11 of my statement, in addition to the  
12 health statistics review, we also sent  
13 questionnaires out to all of the  
14 impacted residents, when the well  
15 water -- when the well tests were  
16 first conducted, and we have gained  
17 information from that. Unfortunately,  
18 as you're aware, the response rate was  
19 problematic.

20 CENTER ROOM FEMALE SPEAKER:

21 We discussed with you, once again.  
22 Once these people fill out these  
23 forms, you put their public life  
24 before a -- their private life into a  
25 public record, and many people are not

1 Hopewell Precision 7/18/08  
2 ready to do that, and I'm speaking  
3 from personal opinion.

4 I protected my child for many  
5 years, many years, and I know of other  
6 parents, who have chosen to protect  
7 their children, and many people, even  
8 adults, who aren't ready to go public.  
9 It's painful. You try dealing with my  
10 son for 24 hours, and then tell me if  
11 you're ready to go public first day  
12 you deal with him.

13 JIM BOWERS: I appreciate the  
14 concerns that are here, the emotions  
15 that are here. Unfortunately, the  
16 emotions that you are feeling are  
17 keeping you from reporting from --  
18 yeah, "reporting" I guess is just as  
19 good a word as any -- from just  
20 disclosing these health problems to us  
21 are the same emotions that are  
22 impacting everyone else in the  
23 community, and if people don't talk to  
24 us, there is no way for us to collect  
25 that information --

1 Hopewell Precision 7/18/08

2 CENTER ROOM FEMALE SPEAKER:

3 Talk to you -- put us on a private  
4 venue. Don't make us go public until  
5 we're ready. It's very hard for a  
6 parent to publicly expose their  
7 six-year old's disabilities, when  
8 their six-year old can then have  
9 somebody point to them and not  
10 understand what's going on.

11 REBECCA CHAOUSSOCLAU: It's  
12 hard for a 35-year old to say in a  
13 public forum too.

14 UNIDENTIFIED SPEAKER: So I  
15 waited for my child to at least  
16 understand minimally what people might  
17 be saying about him. And you -- we  
18 said you meet with us in a private  
19 forum and support us instead of just  
20 giving us a piece of paper that's  
21 going to go off to some blank face in  
22 Albany. We begged you for years to do  
23 this, and all you do is hand us paper  
24 that's going to go to who knows who's  
25 office and discussed publicly, with no

1 Hopewell Precision 7/18/08  
2 control -- don't -- I work in the  
3 government. I work in the school.  
4 Don't tell me you don't talk. I  
5 worked in the prison district. Don't  
6 tell me you don't talk. We asked you,  
7 and it's a simple request.

8 JIM BOWERS: I'm happy to  
9 meet --

10 UNIDENTIFIED SPEAKER: Give us  
11 a day.

12 JIM BOWERS: -- with the  
13 residents, like I said. See me  
14 afterwards, you know, I mean --

15 GEORGE SALEM: We can make  
16 arrangements to set up that meeting  
17 for anyone that wants to reach out --

18 (Clapping.)

19 REBECCA CHAOUSSOCLAU: I have  
20 one other question.

21 ED ALS: Okay.

22 REBECCA CHAOUSSOCLAU: I would  
23 like to know, are these comments truly  
24 going to matter, or is it already a  
25 done deal?

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Hopewell Precision 7/18/08

ED ALS: Well --

REBECCA CHAOUSSOCLAU: 'Cause  
it kind a sounds like it's a done  
deal. We're going to --

ED ALS: If this is a mere  
formality, this is too painful to be a  
formality. So --

DALEY CHAOUSSO: Well, some  
people --

ED ALS: Well, we're here,  
because we -- one of our nine  
criterias is public acceptance.

REBECCA CHAOUSSOCLAU: Is it  
just to go through that criteria --

ED ALS: It's on the record.

REBECCA CHAOUSSOCLAU: Is it  
just to get through the criteria, or  
is it truly being listened to and  
given consideration?

ED ALS: We evaluate the nine  
criteria, and each alternative is  
against each other as it relates to  
those, and it does matter.

REBECCA CHAOUSSOCLAU: Thank

1 Hopewell Precision 7/18/08

2 you for your time.

3 ED ALS: Ma'am in the front.

4 SPEAKER FRONT: (Name  
5 inaudible) and I live on 10 Lenart  
6 Place, and effected and I'd like to  
7 state first of all that I feel my  
8 family is safest with a POET system --

9 ED ALS: Okay.

10 SPEAKER FRONT: -- I'd rather  
11 not turn to Little Switzerland for  
12 water. I'd like to ask that  
13 representatives from the water  
14 district and East Fishkill come and  
15 answer questions in a public forum so  
16 that we can have -- make informed  
17 decisions. Right now, we have no idea  
18 what this will cost us to maintain, to  
19 pay; how it will change our taxes; how  
20 it will change -- how long to get the  
21 pipes to your home, and we don't have  
22 any of those answers, and I'd like to  
23 request that officials from the Town  
24 of East Fishkill be here to answer our  
25 questions.

1 Hopewell Precision 7/18/08

2 ED ALS: Okay. Comments  
3 noted. Yes, Town Supervisor.

4 JOHN HICKMAN: This is an EPA  
5 project. So I'm learning a lot of  
6 this. Although they have been very  
7 good working with us, they do have the  
8 answers. We could sit down and --

9 SPEAKER FRONT: I apologize,  
10 sir. They couldn't tell us what this  
11 is going to cost.

12 ED ALS: Do you have any  
13 estimates on the feasibility study on  
14 what this might cost?

15 SPEAKER FRONT: I mean, I  
16 heard your answer --

17 ED ALS: We just know what it  
18 will cost now.

19 Sir?

20 DEBORAH HALL: People right  
21 now, who are getting water from Little  
22 Switzerland, what does it cost them?

23 DALEY CHAOUSSO: We just went  
24 through that.

25 (Multiple voices,

1 Hopewell Precision 7/18/08

2 interruptions.)

3 BRENDAN MacDONALD: I thought  
4 it was \$3 a gallon --

5 (Multiple voices,  
6 interruptions.)

7 DALEY CHAOUSSO: \$11 per  
8 month.

9 BRENDAN MacDONALD: Based on  
10 some of the usage rates the higher  
11 usage estimates that we used in the  
12 feasibility study was about \$50 a  
13 month.

14 UNIDENTIFIED SPEAKER: Will it  
15 change our taxes?

16 DALEY CHAOUSSO: I have a  
17 questions for the supervisor.

18 ED ALS: Go ahead.

19 DALEY CHAOUSSO: I understand  
20 that once you live in the area that's  
21 affected, you want to keep your well,  
22 if your well's good, the Town will not  
23 let you do it. Why?

24 JOHN HICKMAN: There a --  
25 there is a section in the town code

1 Hopewell Precision 7/18/08

2 that says we're not sure --

3 DALEY CHAOUSSO: Why?

4 JOHN HICKMAN: -- excuse me?

5 DALEY CHAOUSSO: Why?

6 JOHN HICKMAN: The Town code  
7 has been written for, like, 20 years  
8 ago. We've been examining with the  
9 attorney (inaudible) this type of a  
10 situation. We are looking into that  
11 right now. That's a question also  
12 asked the Shenandoah district. I  
13 think you're probably looking at the  
14 New York State par five code of the  
15 Department of Health as far as public  
16 water systems, because New York State  
17 also address the same issue. Although  
18 we have it in a code, we're saying it  
19 naturally applies, but you're really  
20 not sure New York State Department of  
21 Health does have their own par five.

22 DALEY CHAOUSSO: Lorenzo  
23 suggested that it's the Town not a  
24 law.

25 JOHN HICKMAN: Who said that;

1 Hopewell Precision 7/18/08

2 Lorenzo?

3 DALEY CHAOUSSO: There was a  
4 code that the Town --

5 JOHN HICKMAN: As part of the  
6 code we're saying (inaudible)  
7 examining that our attorney with the  
8 State heard questions as part of  
9 Shenandoah, but obviously you  
10 understand concern -- everyone's  
11 concerned with the cost of  
12 contamination, but I believe there's  
13 also another code in the New York  
14 State section five of the -- I'm  
15 sorry -- the public water supply that  
16 applies also. We are looking into it.  
17 We certainly don't recommend keeping  
18 your well, because everyone's  
19 concerned with cross contamination.

20 GEORGE SALEM: George Salem,  
21 just above Hopewell Precision on 82  
22 just outside of the box. When they  
23 started doing the center circle TEC  
24 testing I didn't have TCE, but I had  
25 MB. So I have the POET system within;

1 Hopewell Precision 7/18/08  
2 not a perfect system, but you ever  
3 heard the term "tasteless water?"  
4 That's what it is.

5 Also there is -- it's still  
6 very minute, still get minute amounts  
7 of MB from the POET system. Not  
8 completely zero sometimes. It's been  
9 a couple of years since they washed  
10 out with the DEC. The guy -- the guy  
11 from New Paltz told me to leave it on,  
12 nothing to do, so I leave it on. So  
13 we do. Those tanks have to be  
14 rotated. There's a cost associated  
15 with that.

16 There's a -- applied a filter  
17 attached to that. One issue that  
18 we're not -- couldn't answer is that  
19 rate -- a single well the minimum  
20 parts per billion that are considered  
21 safe was for MTB was ten parts per  
22 billion. However, if you were on a  
23 public water system, it was 50, and I  
24 don't understand that, and he didn't  
25 have an answer for me.

1 Hopewell Precision 7/18/08

2 My question would be: Is  
3 there a variation between a home well  
4 in terms of what's parts per billion  
5 and what's accepted --

6 CHRIS VINCALO: The way it is  
7 in New York State, every home  
8 we cannot sample your well. We would  
9 look at your results and compare them  
10 to public water supply, because  
11 outside of this area --

12 (Interruptions, inaudible.)

13 -- water, you know, if  
14 somebody had -- a single homeowner had  
15 a contaminated well and told that  
16 person you got 50 parts per billion,  
17 typically, and the standard public  
18 water is ten, then we can't tell them  
19 they can't drink this. Their well,  
20 you know, is an outside situation that  
21 is going on. But the State couldn't  
22 say -- (inaudible) always compare a  
23 public water. A homeowner's well --  
24 yeah, the only time I would ever say  
25 it, you know, is if there are -- a

1 Hopewell Precision 7/18/08  
2 certain project that for some reason  
3 they were trying to achieve lower  
4 numbers, but no. There is no  
5 homeowner --  
6 UNIDENTIFIED SPEAKER: Make it  
7 up.  
8 UNIDENTIFIED SPEAKER: Want a  
9 reason for it.  
10 ED ALS: Let's return to this  
11 gentleman.  
12 BILL QUINN: Bill Quinn --  
13 (Multiple voices,  
14 interruptions, inaudible.)  
15 UNIDENTIFIED SPEAKER: Sir,  
16 over there, no, I've heard of flavored  
17 water, but --  
18 GEORGE SALEM: The water was  
19 actually tasteless --  
20 UNIDENTIFIED SPEAKER: It  
21 doesn't have a flavor.  
22 UNIDENTIFIED SPEAKER: Was it  
23 clean though?  
24 UNIDENTIFIED SPEAKER: Do you  
25 know if it has a flavor?

1 Hopewell Precision 7/18/08

2 GEORGE SALEM: Fine with me.

3 I never described the water that way

4 --

5 UNIDENTIFIED SPEAKER: I

6 figured he answered you.

7 GEORGE SALEM: If this is a

8 clean run, they can't. They run that

9 pipe, we'd probably tap in, but I know

10 they probably won't but we would -- I

11 would tap into that person for the

12 water system --

13 UNIDENTIFIED SPEAKER: I just

14 want to thank the EPA. I learned a

15 lot from all these people here, even

16 though Little Switzerland got the best

17 seats tonight --

18 (Laughing, interruptions.)

19 -- they're willing to share

20 their water. Would it help the EPA if

21 there was a showing of hands of the

22 people that want a POET system? We

23 don't have to start digging -- can you

24 help --

25 (Multiple voices,

1 Hopewell Precision 7/18/08

2 interruptions.)

3 ED ALS: We don't typically --  
4 we don't typically -- we don't  
5 typically vote, but for the purpose of  
6 the exercise --

7 UNIDENTIFIED SPEAKER: One  
8 question that may have bearing on.

9 ED ALS: A question that has  
10 bearing.

11 GARY DODGE: Gary Dodge, Route  
12 82 --

13 ED ALS: Yeah, go ahead.

14 GARY DODGE: Implementation,  
15 we heard it's going to take until 2012  
16 to bring this --

17 ED ALS: Right.

18 GARY DODGE: -- water down.  
19 How long will it take to implement the  
20 POET system for everyone?

21 ED ALS: Well, there's a --

22 UNIDENTIFIED SPEAKER: Four  
23 months.

24 (Multiple voices,  
25 interruptions, inaudible.)

1 Hopewell Precision 7/18/08

2 GARY DODGE: We could have  
3 good water in four months?

4 ED ALS: Do we want to put  
5 this to a vote? We're not going to  
6 vote --

7 (Multiple voices,  
8 interruptions, inaudible.)

9 ED ALS: Who likes Alternative  
10 Two? That's the POET. This is not a  
11 vote. Just want to see hands.

12 JOE KESSNER: Just a comment,  
13 because I agree there's a lot of  
14 information to be had here before we  
15 make decisions. If you are coming  
16 into this community five years from  
17 now to purchase a home think about how  
18 you would look at these two systems.  
19 Either you have a home that's attached  
20 to a public water system that's being  
21 tested every quarter by law, and you  
22 have -- you know you've got an expense  
23 to it, and that's part of your  
24 decision making, or you're coming into  
25 a home that has this very complicated

1 Hopewell Precision 7/18/08  
2 water treatment system that's being  
3 monitored every three months by the  
4 EPA or the DEC. Just think about  
5 that. I'm sure there are many other  
6 questions. I think it's a good idea,  
7 but I don't know if we're prepared  
8 really to make a decision --

9 ED ALS: This is not a  
10 decision either. It seems like people  
11 want to throw their hands up. Go  
12 ahead.

13 GEORGE SALEM: Just so you  
14 know, the contractor at DEC sent in a  
15 system to maintain it, one \$60 a month  
16 maintenance; just so you know. It's  
17 not -- it's not cost effective.

18 UNIDENTIFIED SPEAKER: Are you  
19 paying for that or --

20 GEORGE SALEM: I'm actually  
21 handy. So I can do plumbing. So I  
22 can do it myself. If you're Joe Blow,  
23 there's a lot of plumbing. You're  
24 going to have --

25 UNIDENTIFIED SPEAKER: There

1 Hopewell Precision 7/18/08  
2 will be costs associated down the road  
3 --  
4 UNIDENTIFIED SPEAKER: \$10 for  
5 an average to pay for parts.  
6 GEORGE SALEM: -- no matter  
7 which way you go. There's costs.  
8 It's not for free.  
9 UNIDENTIFIED SPEAKER: You do  
10 it yourself, how much do you pay?  
11 GEORGE SALEM: If I could, I  
12 would tap into the water. I will tell  
13 you that.  
14 (Multiple voices,  
15 interruptions, inaudible.)  
16 ED ALS: This gentleman here.  
17 CHRIS WILLIAMS: Chris  
18 Williams, Hamilton Road. My question  
19 is: I'm concerned with the  
20 maintenance system Little  
21 Switzerland --  
22 ED ALS: Could you speak up,  
23 sir, because I'm having trouble.  
24 CHRIS WILLIAMS: -- with the  
25 maintenance repairs to the system.

1 Hopewell Precision 7/18/08

2 It's my understanding is they have a  
3 significant tax levy to repair their  
4 maintenance system. Thirty years from  
5 now, when these spread leaks, can you  
6 tell us what the life expectancy is;  
7 can you tell us the reasonable  
8 repairs, not asking forced upon us,  
9 and would you tell us if we stick with  
10 the POET will the EPA fund; if you can  
11 answer that?

12 ED ALS: Feasibility study?

13 BRENDAN MacDONALD: We assumed  
14 that -- we assumed that the  
15 maintenance of the alternate water  
16 supply would be undertaken by the  
17 water district, and that the storage  
18 tank and the distribution system  
19 would -- would provide water for 30  
20 years, but beyond that I would take  
21 that up with the water district.

22 JOHN HICKMAN: If I may  
23 respond to that. I'd just like to  
24 say, any kind of a budget you'd really  
25 be remiss if you don't put a little

1 Hopewell Precision 7/18/08

2 something aside for the repairs a long  
3 for maintenance. So if you see a  
4 water district water bill, you always  
5 get a water bill, you always get a  
6 little certain cost in there just for  
7 that, but we don't want to be hitting  
8 everyone for it big down the road.

9 UNIDENTIFIED SPEAKER: I

10 haven't done any (inaudible) recently  
11 been told that one individual gets an  
12 additional \$750 a year for maintenance  
13 and (inaudible) happening now. My  
14 concern is 25 or 30 years from now, if  
15 we put the system in place and  
16 these -- like, 20, 30 years from now  
17 we have the POET system in, is the EPA  
18 going to maintain the POETs, or are  
19 those filters now going to be my  
20 responsibility?

21 ED ALS: I don't know if there  
22 will be an EPA in 20 or 30 years.

23 UNIDENTIFIED SPEAKER: I'm  
24 sure they will be around.

25 UNIDENTIFIED SPEAKER: I'm

1 Hopewell Precision 7/18/08  
2 more concerned about my paying the  
3 bill than the EPA --

4 ED ALS: A POET present base  
5 cost is a 30 year based; right?

6 LORENZO THANTU: POET, based  
7 on 30 years. So to answer your  
8 question, POET is EPA will pay for all  
9 associated costs, and the (inaudible)  
10 public wells only for the capital  
11 costs to install. Then everything  
12 after that the homeowner would incur  
13 the expenses by the water district.

14 UNIDENTIFIED SPEAKER: So as  
15 long as the EPA is in existence the  
16 POET system will be --

17 (Multiple voices,  
18 interruptions, inaudible.)

19 ED ALS: Second question. Go  
20 ahead.

21 UNIDENTIFIED SPEAKER: -- pipe  
22 taping to private wells --

23 CHARLES NACE: I don't think  
24 we heard that expense (inaudible)  
25 Shenandoah. In a week or two, give me

1 Hopewell Precision 7/18/08

2 a call in the office. We can meet on  
3 it.

4 UNIDENTIFIED SPEAKER: I think  
5 we should at least have the option of  
6 tapping the well to water the lawn --

7 BRENDAN MacDONALD: It's also  
8 a controversy, like I said, cross  
9 contamination.

10 UNIDENTIFIED SPEAKER: And my  
11 last thing is, I don't have any health  
12 associated risk, but I think the New  
13 York State Department of Health should  
14 probably come back follow up here on  
15 (inaudible) the industry, meet with  
16 the -- know privacy laws with this, if  
17 you're going to help them.

18 JIM BOWERS: They're not open  
19 to the public. But we are -- we have  
20 to follow HIPPA laws. We --  
21 confidentiality is something we take  
22 very, very seriously. To be honest,  
23 we -- there are times we -- we can't  
24 get our own data. Part of this deal  
25 is to collect data that even if I'm

1 Hopewell Precision 7/18/08  
2 going to do a study, I'm not going to  
3 have access to. I get, you know, it  
4 strictly identifiers, so.

5 UNIDENTIFIED SPEAKER: I think  
6 the Town's should show a significant  
7 concern that needs to be addressed.

8 ED ALS: Okay. I think we've  
9 done one full 360-degree turn around  
10 the room, and we'll continue that, but  
11 I just want to point out that you can  
12 comment on this project in writing in  
13 lieu of making comments tonight. I  
14 just want to remind you that you can  
15 do that. We can continue. I just  
16 want to point that out.

17 UNIDENTIFIED SPEAKER: Are the  
18 comments section --

19 ED ALS: I don't -- I think  
20 you're -- I'm going this way.

21 UNIDENTIFIED SPEAKER: He  
22 started over here clockwise.

23 ED ALS: Yeah, but I think you  
24 were the only hand I saw as I was  
25 going across here next.

1 Hopewell Precision 7/18/08

2                   GRETTA MULLER: Just for  
3 general information, I'm Gretta  
4 Muller, "M-U-L-L-E-R," 16 Alpine  
5 Drive, Little Switzerland. In  
6 addition to the three, nine, five per  
7 thousand gallons that they're paying,  
8 last year alone, each household was  
9 assessed over \$600 for the Town  
10 takeover of the water system plus the  
11 water tank that was depleted last  
12 year. This has progressively gone up,  
13 since the Town took over. It started  
14 with 400-something, then fifty-five  
15 hundred, and fifty-five, fifty. Now  
16 it's over \$600; just for general  
17 information. I noticed on that chart  
18 that there was a limit to the public  
19 input from July 7 to August 5th --

20                   ED ALS: Right.

21                   GRETTA MULLER: -- well, today  
22 is July 17th. So this is the first  
23 opportunity we, the residents, of  
24 Little Switzerland have to comment on  
25 these various proposals. How much is

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this August 5th written in stone? I mean, this response is less than two weeks to put --

ED ALS: Well, the 13th, looks like 18 days.

GRETТА MULLER: Yeah, today's the 17th.

ED ALS: Yeah, that's 8/12. Yeah, that's 14 days --

GRETТА MULLER: We lost ten days, I mean.

ED ALS: Until the end of July, it's 14 more days --

GRETТА MULLER: Yeah, that's not very much to go through all this to get a paper today --

ED ALS: -- three weeks, so.

GRETТА MULLER: So August 5th is the deadline?

ED ALS: Well, it is a deadline. It's the sort of thing that if folks feel that they need more time to analyze this and get their comment in, they really do need more time, we

1 Hopewell Precision 7/18/08  
2 can -- we can look at that, and  
3 possibly extend the period.

4 GRETТА MULLER: To whom do we  
5 request such a delay?

6 ED ALS: Lorenzo, Project  
7 Manager.

8 GRETТА MULLER: All right.  
9 How high could this -- this new water  
10 tank be?

11 ED ALS: This new water tank  
12 has not been designed yet. So that  
13 answer is -- is not available. Do you  
14 want to --

15 BRENDAN MacDONALD: Yeah, I'll  
16 speak a little bit. In the planing  
17 down there that you have, they're  
18 planning level estimates that we're  
19 working. It does note a tank is going  
20 to be similar to the one that was just  
21 installed. That helps us -- it will  
22 help us in the event that a tank is  
23 installed, because we'll understand a  
24 little about a shake down, and the --  
25 it's basically bringing that tank on

1 Hopewell Precision 7/18/08  
2 line. It also helps us, because it  
3 helps to get a pretty accurate cost  
4 estimate of what that tank would cost.  
5 It's based on volume right now this  
6 tank, which means, it's hasn't been  
7 designed, but the dimensions of it are  
8 not set in stone. No architect has  
9 been there to dress it up. Whatever  
10 it may include, it's only a volume  
11 estimate, and we have a cost  
12 associated with that.

13 GRETTA MULLER: I'm not so  
14 much concerned about the cost. I'm  
15 concerned about the aesthetics of  
16 having -- I'm familiar with the  
17 current water tank, and adding almost  
18 500 units -- well, 400 units, I can  
19 only imagine what kind of size of  
20 water tank you will need for this  
21 system, and I don't think anybody has  
22 considered our property values. This  
23 water tank would be in a residential  
24 area.

25 BRENDAN MacDONALD: The water

1 Hopewell Precision 7/18/08  
2 tank would be -- right now, assumed it  
3 would be placed in the footprint of  
4 the old water tank.

5 GRETТА MULLER: Yeah, I  
6 know --

7 BRENDAN MacDONALD: It's  
8 actually the lower elevation --

9 GRETТА MULLER: I have lived  
10 on Alpine Drive since 1973. I'm very  
11 well aware where the old tank was,  
12 where the new tank is, how big it is.  
13 I was a member of the civic committee  
14 for 17 years. I've had extensive  
15 relations with the public service  
16 division. So I would like to know how  
17 can you make a decision on a plan,  
18 when you cannot even give us the size  
19 of the tank?

20 BRENDAN MacDONALD: The size  
21 of the tank is 250,000 gallons. The  
22 dimensions are not necessarily set in  
23 stone. We don't know what that is  
24 yet. Based on capacity and water use,  
25 you come up with a volume for the need

1 Hopewell Precision 7/18/08

2 of storage.

3 GRETTA MULLER: Well, I tell  
4 you the tank is quite a bit larger  
5 than the old tank used to be. I can  
6 only imagine the size of that tank  
7 that's supposed to service 470 units  
8 additionally. That's the end of my  
9 comments.

10 ED ALS: Okay. Thank you.

11 And regarding -- oh, I'm  
12 sorry. Okay. We're just going to go  
13 back for a second.

14 UNIDENTIFIED SPEAKER: It  
15 seems that equal number of houses have  
16 air contamination. Can you estimate  
17 how to solve that problem?

18 ED ALS: Air contamination?  
19 The soil vapor --

20 UNIDENTIFIED SPEAKER: Yes.

21 ED ALS: -- problems, and what  
22 it's --

23 UNIDENTIFIED SPEAKER: Uh-huhu  
24 h-huh. I can't open my windows.

25 ED ALS: So you're saying

1 Hopewell Precision 7/18/08  
2 it's -- it's from the outside of your  
3 house?

4 UNIDENTIFIED SPEAKER: I've  
5 been told that. I have a subslab  
6 filtration system contaminating my  
7 house.

8 ED ALS: Right, but you're  
9 saying --

10 UNIDENTIFIED SPEAKER: I'm in  
11 that high color zone.

12 ED ALS: But when you're  
13 outside, were you smelling air coming  
14 --

15 UNIDENTIFIED SPEAKER: No, no.  
16 What I'm saying is, what's being done  
17 to clean the soil? What effort is  
18 being done to our health risk to clean  
19 up the soil?

20 ED ALS: I think the real  
21 issue with soil vapor intrusion is in  
22 closed spaces, but maybe we can --  
23 because, usually, if it's coming out  
24 of soil and it's outdoors, it vents --  
25 it's almost like putting the soil

1 Hopewell Precision 7/18/08  
2 vapor system on your house, which is  
3 basically taking what's coming up  
4 through the slab and venting it  
5 outside. The dissipation is pretty  
6 instantaneous.

7 UNIDENTIFIED SPEAKER: And  
8 also --

9 CHRIS VINCALO: -- to address  
10 soil vapor sediment supplied on the  
11 groundwater. So, yeah, there is equal  
12 (inaudible) occurring simultaneously  
13 for that. The further you (inaudible)  
14 immediate exposure, broader exposure  
15 issues. So it's been separated at  
16 this time.

17 UNIDENTIFIED SPEAKER:  
18 They're broader exposure that you're  
19 treating --

20 CHRIS VINCALO: No, I'm saying  
21 for soil vapor we sort of -- we have  
22 the whole entire area groundwater  
23 contaminant issues. We have volatile  
24 stuff identified by soil vapor. So  
25 that has been mitigated. That will

1 Hopewell Precision 7/18/08  
2 also be addressed on a broad scale,  
3 but this was separated out of  
4 something that's being addressed  
5 immediately in the smaller of the  
6 contaminations.

7 UNIDENTIFIED SPEAKER: And  
8 secondly everyone else is concerned  
9 about cost and finances, and not  
10 taking a vote, but I'd rather that the  
11 EPA pays for the rest of my life than  
12 to have to pay myself. That's my  
13 vote.

14 GRANT ANDERSON: When you say  
15 "EPA pays for it," EPA is funded by  
16 tax payor dollars. So it is not  
17 totally without cost just is a --

18 UNIDENTIFIED SPEAKER: Yeah,  
19 but taxes go up when there's a water  
20 leak or a new tank. So, you know.

21 GRANT ANDERSON: Right, and  
22 I'm not saying it should be one way or  
23 the other. I'm just wanted to bring  
24 up a point that the EPA has to get its  
25 money from public funds.

1 Hopewell Precision 7/18/08

2 UNIDENTIFIED SPEAKER: And I  
3 think the Superfund should be putting  
4 money into that.

5 GRANT ANDERSON: No one --

6 UNIDENTIFIED SPEAKER: What?

7 GRANT ANDERSON: No one is  
8 currently adding to the Superfund.  
9 It's coming out of the EPA's general  
10 budget right now.

11 ED ALS: Okay. Back over to  
12 this part of the room. You, sir.

13 PHIL LaMONTIA: Phil LaMontia<sup>7</sup>  
14 Lenart Place. My question is, if  
15 Little Switzerland is already  
16 costing -- if Little Switzerland is  
17 already paying three, nine, five per  
18 thousand gallons, and EPA is paying  
19 for the infrastructure, shouldn't that  
20 lower the cost for all involved?

21 ED ALS: Feasibility study?

22 BRENDAN MacDONALD: Okay.  
23 Again, this is one, essentially, for  
24 your water district; how much you're  
25 paying the water district. Pardon?

1 Hopewell Precision 7/18/08

2 PHIL LaMONTIA: Right now, I  
3 mean, if their flipping the bill;  
4 right? "Cause you guys are --

5 BRENDAN MacDONALD:  
6 Infrastructure for that small part of  
7 Little Switzerland plus the chalk line  
8 on Route 82 --

9 PHIL LaMONTIA: Correct. So  
10 now, you have another 400 larger  
11 houses going up, plus a hundred. That  
12 should lower for all of us, because  
13 they're paying for the infrastructure.  
14 Shouldn't that lower the cost?

15 BRENDAN MacDONALD: I'm not  
16 setting a budget for the water  
17 district. But, that's a great  
18 question.

19 PHIL LaMONTIA: And I have one  
20 other questions about the area.  
21 Just -- it's a general question. If I  
22 have air vapor, and if that motor  
23 breaks, who's responsible for that?  
24 Somebody had one break on the street  
25 and paid for it themselves. Did the

1 Hopewell Precision 7/18/08

2 EPA cover that?

3 LORENZO THANTU: As with the  
4 POET, same thing applies. The EPA  
5 would.

6 PHIL LaMONTIA: Would inherit  
7 it.

8 ED ALS: Sir, again?

9 RANDY BLOOM: Randy, Little  
10 Switzerland. I heard a lot tonight  
11 from a lot of folks that seemed to  
12 prefer the POET system. They seem  
13 more comfortable with that, and based  
14 on that I'm kind of concerned, because  
15 when I look at your cost estimates I  
16 really find them to be a bit, not  
17 necessarily misleading, but confusing.  
18 Let me tell you why.

19 You got down for the second  
20 alternative, which is retain the POET  
21 system 15,000 -- \$50,448,000 as  
22 compared to \$15,670,000 for the hook  
23 up to Little Switzerland. What you're  
24 not taking into consideration is the  
25 annual operating cost is almost a

1 Hopewell Precision 7/18/08  
2 million dollars a year on the second  
3 alternative. So, essentially, I'm  
4 concerned that, you know, dealing with  
5 the Government's desire to save -- to  
6 save money, because really hooking up  
7 to Little Switzerland is a much  
8 cheaper alternative, if it's going to  
9 cost you \$30 million over a 30-year  
10 period on the second option, less the  
11 3 million you put into the POET cost  
12 as apposed to a \$50 million straight  
13 pay out to capital cost to hook up to  
14 Little Switzerland.

15 BRENDAN MacDONALD: I just  
16 want to understand the question. You  
17 said a million dollars a year?

18 RANDY BLOOM: Yeah. You  
19 have -- it's almost a million. It's  
20 \$970,000 --

21 BRENDAN MacDONALD: Okay --

22 RANDY BLOOM: -- annual cost  
23 of maintenance --

24 BRENDAN MacDONALD: Right, and  
25 this is --

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RANDY BLOOM: -- over 30  
years.

BRENDAN MacDONALD: Right, and  
in order to compare the cost  
appropriately with Alternative Three  
is all capital costs --

RANDY BLOOM: Right.

BRENDAN MacDONALD: -- in that  
present value on the second  
alternative --

RANDY BLOOM: Yeah.

BRENDAN MacDONALD: -- the 50  
million gets us through the 30 years  
at a million a year.

RANDY BLOOM: The additional  
(inaudible) on 3.2 million for the  
second alternative capital costs --

BRENDAN MacDONALD: Right, and  
that's really for the additional  
systems; right?

RANDY BLOOM: Right.

BRENDAN MacDONALD: But there  
are some existing systems, and there's  
an ongoing O and M cost. Over the 30

1 Hopewell Precision 7/18/08  
2 years it's basically back up to what  
3 it would cost now and that present  
4 value.

5 RANDY BLOOM: Well, it's kind  
6 of confusing, and I'll tell you why,  
7 because present -- "present worth" for  
8 me is what -- what it's value is  
9 today.

10 BRENDAN MacDONALD: Over the  
11 one million, you know, O and M  
12 annually, plus the 3.2 you have there  
13 in capital?

14 RANDY BLOOM: But that's --  
15 over a 30-year period that wouldn't  
16 make sense, because it's almost a  
17 million a year for 30 years. You're  
18 at 30 million right there.

19 ED ALS: In other words, it's  
20 how much money you have to put aside  
21 today to fund it for 30 years.

22 BRENDAN MacDONALD: That's it.

23 ED ALS: In both cases.

24 RANDY BLOOM: What are you  
25 going to do, amortize it?

1 Hopewell Precision 7/18/08

2 BRENDAN MacDONALD: Just the  
3 one --

4 ED ALS: Use 15 all in one --  
5 in one case you're going to use that  
6 15 million all in one year. In one  
7 case you use that 15 million over 30  
8 years, but you're going to get some  
9 appreciation on the money at the same  
10 time you'll appreciate it, you're  
11 losing it a million a year, but you're  
12 also going to receive money of 15  
13 million somewhat. So that's why over  
14 30 years it comes out to \$15 million.

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16 RANDY BLOOM: And one last  
17 questions on the cost of construction  
18 if picking Alternative Three. If this  
19 is going to start construction, let's  
20 say, in two years from now, and, let's  
21 say, you hope it will be finished in  
22 four, might be six, because we know  
23 about cost overage happening, have you  
24 taken into consideration what the --  
25 what increased cost might be at the

1 Hopewell Precision 7/18/08  
2 time of commencement of work starts?  
3 Because right now, we see  
4 everything -- you got four -- already  
5 almost \$5 gas, and you've got  
6 everything going up, and in two years  
7 from now, when you start, if your bids  
8 come in, you know, sooner than that, I  
9 mean, contractors may not be able to  
10 hold to those bids, because cost  
11 increase in using those contracts is  
12 a -- is a price increase for them plus  
13 if the cost of materials goes up to a  
14 degree.

15 ED ALS: They're going to go  
16 down.

17 RANDY BLOOM: Nothing ever  
18 goes down.

19 BRENDAN MacDONALD: Well,  
20 there are costs associated with the O  
21 and M as well in Alternative Two. If  
22 you're going to make the assumption on  
23 one end that our costs are going to go  
24 up based on goods, and services, or  
25 fuel, or products mega fuel, or

1 Hopewell Precision 7/18/08  
2 whatever they might be, you probably  
3 have to make the same assumption on  
4 the other side. Whether or not they  
5 both start, you know, times zero is  
6 now, or they start in four years.  
7 We're at least in a situation where  
8 we're comparing apples and apples  
9 right now.

10 RANDY BLOOM: Do you think  
11 that construction costs might be more  
12 subject to increase the maintenance  
13 cost, because these contractors, you  
14 know, you got supplies, you got  
15 materials, you got fabrication, you  
16 got all these elements along the road,  
17 which, you know, costs can increase,  
18 because you got the maintenance --

19 BRENDAN MacDONALD: Come up  
20 one time.

21 RANDY BLOOM: Yeah.  
22 Maintenance is maintenance.

23 BRENDAN MacDONALD: There's a  
24 lot of fuel probably associated with  
25 that one and equipment. That's one

1 Hopewell Precision 7/18/08  
2 thing that's really not spoken to;  
3 waste generation or expense of non  
4 renewables that goes along with  
5 Alternative Two.

6 RANDY BLOOM: Thank you.

7 BRENDAN MacDONALD: Thank you.

8 JANE WHEELER: Jane Wheeler on  
9 Hamilton Road, and we have both water  
10 and vapor contamination. I'm kind of  
11 interested in Alternative Three.  
12 Somebody mentioned being able to sell  
13 your house, and I think that my house  
14 is basically not saleable at the  
15 moment with two systems, and in  
16 looking at the public water would be a  
17 great benefit as far as being -- the  
18 value of the house. The other thing  
19 that concerns me -- and the POET  
20 system is not -- you do kind of have  
21 to be there a lot, because you have  
22 people coming into and out of your  
23 house all the time, but other than  
24 that, Alternative Three you're saying  
25 will be completed by 2012. The other

1 Hopewell Precision 7/18/08

2 is for 30 years.

3 Now, we know there is no money  
4 going into the Superfund right now.

5 We don't know what's going to happen  
6 politically in the U.S. We don't know

7 30 years from now -- I'd rather trust  
8 that I get water in 2012 than count on

9 the political situation being such

10 that EPA exists in 30 years and has

11 money to do this. If you don't take

12 Alternative Three, you have the chance

13 that they put in the POET systems and

14 at a certain point they're responsible

15 for maintenance and for the

16 replacement of the equipment and

17 you're stuck, you're still going to --

18 you don't have that hook up and you

19 got, you know, you got to pay somebody

20 to take care of this equipment, which

21 up to now, has been free.

22 So, you know, that's -- that's  
23 on my mind that a solution takes 30

24 years in the making. I'm pretty sure

25 I'm not going to be here in 30 years,

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but probably some of you are, and --

ED ALS: You mean at this meeting?

(Laughing.)

JANE WHEELER: I'm concerned on getting that far ahead.

ED ALS: Okay. Thank you for the comments.

MARYANN LACEY EGAN: Maryann Lacey Egan. I appreciate the fact that we're all here getting our comments, but I would like to know who makes this decision and how do they make it?

ED ALS: The EPA project team and the State of New York.

MARYANN LACEY EGAN: And how?

ED ALS: How do they make the decisions? That process that we talked about earlier; proposed plan is evaluated in nine criteria, public acceptance; that's what this is all about tonight. The State is actually preferring remedy (inaudible.) So

1 Hopewell Precision 7/18/08  
2 they like it, but we're not  
3 evaluating -- this kind of goes back  
4 to your comment. We're going to  
5 evaluate what we hear tonight, and  
6 we're going to see a variety of things  
7 until August 5th or whatever we expand  
8 the comment period to, and our  
9 management and our project team are  
10 going to look at that, and make a  
11 decision, and that's how that works.

12 MARYANN LACEY EGAN: Can I see  
13 those comments?

14 ED ALS: You will see the  
15 comments at the time of the response  
16 of the summary.

17 DALEY CHAOUSSO: Was an  
18 alternative public water system?  
19 Because there's a pipe --

20 ED ALS: Was what kind of  
21 system --

22 DALEY CHAOUSSO: Alternative.T  
23 here's a pipe that comes right through  
24 the (inaudible) two miles away from  
25 here.

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2 ED ALS: Right. We were  
3 talking about alternates that were  
4 considered earlier.

5 DALEY CHAOUSSO: You never  
6 mentioned it to us. You never said  
7 anything is the alternate system.  
8 Why? Or you decide that this will be  
9 the best thing for us.

10 ED ALS: Now?

11 DALEY CHAOUSSO: No. I'm just  
12 questioning you. I know -- I know --

13 ED ALS: We're talking about  
14 why we're here. We're actually asking  
15 you folks to give us your comments.  
16 We haven't made any decisions for you.  
17 That's why we are saying this is our  
18 preferred remedy. When we actually  
19 select it, that's called our selected  
20 remedy. That, in our agency, is a  
21 big, big difference. Right now, this  
22 is preferred what we're talking --

23 DALEY CHAOUSSO: By you.

24 GRANT ANDERSON: I think he's  
25 asking that right now we're

1 Hopewell Precision 7/18/08  
2 saying alternative -- he's saying what  
3 about other -- we weeded those out  
4 before we did --

5 DALEY CHAOUSSO: Why?

6 GRANT ANDERSON: Why didn't  
7 we --

8 BRENDAN MacDONALD: As part of  
9 FFS and the screening process  
10 including any technologies that might  
11 apply in Alternative One including  
12 running the POET system is another  
13 one, and we looked at some, you know,  
14 potential alternate water supplies and  
15 felt that Little Switzerland was  
16 appropriate to represent that  
17 technology and bring forth an  
18 alternative --

19 DALEY CHAOUSSO: May I  
20 comment? So that Little Switzerland  
21 was about 30 years ago. All new pipe  
22 was about three years ago. You mean  
23 the technology was better than the one  
24 we had three years ago? If you saying  
25 it was better, why the State allowed

1 Hopewell Precision 7/18/08

2 to have technology that was not as  
3 good as 30 years ago?

4 BRENDAN MacDONALD: I'm not  
5 familiar with the construction of this  
6 other system; why it's better than  
7 Little Switzerland, but Little  
8 Switzerland was chosen for a number of  
9 reasons.

10 RICHARD DENNISON: One of the  
11 problems --

12 ED ALS: Sir, hold on a  
13 second, sir. Can you state your name?

14 RICHARD DENNISON: Richard  
15 Dennison, Hopewell Junction, Route 82.  
16 That system is quite far away. That  
17 pipeline is quite far away; much  
18 further than Little Switzerland. Also  
19 if you look at the cost of the water  
20 it's much, much more than Little  
21 Switzerland. I think Don can back me  
22 up on that. So it's probably not a  
23 good alternative.

24 JOHN HICKMAN: If I may, I  
25 know -- you're talking about the

1 Hopewell Precision 7/18/08

2 Hudson water drinking water?

3 RICHARD DENNISON: Right.

4 JOHN HICKMAN: Very expensive.

5 You have to sign a contract with the  
6 County, it's really very difficult  
7 such as a taker pay. If you go over,  
8 the taker pay doubles. We go test  
9 other water systems too looking for a  
10 solution. So we looked at that, and I  
11 would say this is why Little  
12 Switzerland is right there. I didn't  
13 see the feasibility study, and I'd  
14 just like to respond to you though,  
15 one thing you forgot, once EPA does  
16 determine this is their preferred  
17 method you come to the Town and then  
18 ask us to form a district; okay,  
19 explain, do some more work on the  
20 local level, also suggestions like  
21 input.

22 ED ALS: Right. Thank you for  
23 pointing that out.

24 JOE KESSNER: Joe Kessner.  
25 What I've heard tonight sounds good.

1 Hopewell Precision 7/18/08

2 One of the points the lady brought up  
3 about the value of the house at the  
4 time, the POET system that you've got  
5 versus town water, and that's a good  
6 argument. So comes up to hybrid, the  
7 answer, I think we're getting no more  
8 than a Culligan-type system put on our  
9 house, maybe a little better, but  
10 there's probably something that people  
11 rent and install on a rental basis  
12 until the water comes in. This gets  
13 things satisfied quickly on -- until  
14 the water comes in. Then you take out  
15 the filter system, and you put the  
16 water system on, and what we talking  
17 about is the rental of that system and  
18 maintenance, like a Culligan guy does,  
19 until the water line comes in. But  
20 the water line does sound like  
21 (inaudible) because the property  
22 values and things like that.

23 ED ALS: That sort of hybrid  
24 approach was that really thought  
25 about? In other words, for the

1 Hopewell Precision 7/18/08

2 Alternative Three?

3 BRENDAN MacDONALD: To have it  
4 posted online?

5 ED ALS: Well, just to have  
6 some kind of a temporary fix until the  
7 water -- because I think one of the  
8 issues that's being identified tonight  
9 is a four-year waiting time before  
10 alternative three kicks in. So.

11 GRANT ANDERSON: Let me say  
12 something about the POET system. The  
13 POET systems are really not designed  
14 as long-term solutions.

15 JOE KESSNER: I understand  
16 that. So as a temporary solution  
17 would make sense?

18 GRANT ANDERSON: Well, they  
19 actually -- the homes that have  
20 contaminated wells have POET systems  
21 on them right now. So that is already  
22 in place, and getting water --

23 JOE KESSNER: When you bring  
24 the pipeline down, are you only going  
25 to give those people water?

1 Hopewell Precision 7/18/08

2 GRANT ANDERSON: No, no.  
3 We're going to bring it to -- to the  
4 rest of the people that are over the  
5 plume or maybe in the future have  
6 seepage. So I think in the four years  
7 they can keep getting water there.  
8 People that currently have a POET  
9 system are receiving okay water. The  
10 people that have their wells that  
11 aren't impacted right now will  
12 continue to be monitored to insure  
13 that they don't exceed MCLs.

14 JOE KESSNER: How many people  
15 have POET systems?

16 LORENZO THANTU: Thirty-nine.

17 JOE KESSNER: I mean, you're  
18 telling me my -- my well isn't  
19 contaminated, but that sounds like 39,  
20 like it already gotten in, and the  
21 water system has changed my mind to  
22 ask for a POET system. So I have to  
23 go for the -- it's now a choice of  
24 water or POET. If you get water,  
25 everybody gets it, and you got

1 Hopewell Precision 7/18/08  
2 sellable property. If you get the  
3 POET system, you got a problem, except  
4 that you get it soon, but the people  
5 need it now. So it's really a none  
6 issue; isn't it; the POET system  
7 versus the pipe.

8 BRENDAN MacDONALD: The study  
9 area the way -- the way it was laid  
10 out is also design to provide water to  
11 homes that would be impacted by the  
12 installation distribution.

13 JOE KESSNER: So it sounds to  
14 me like the people that need the POET  
15 system has it, and the only thing for  
16 the rest of the people is the  
17 pipeline, and that will help them with  
18 their property values and everything  
19 and be a permanent answer.

20 BRENDAN MacDONALD: Also bring  
21 fire suppression.

22 JOE KESSNER: The only thing  
23 is the cost of the impact is what  
24 needs to be shown for the people now  
25 and the future.

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2 (Multiple voices,  
3 interruptions.)

4 JOE KESSNER: Why take out the  
5 old well, if it's fine. If I'm going  
6 to go for the piping, why should I  
7 disconnect my old well?

8 ED ALS: Well, we heard that  
9 one, and it's a good point.

10 We've done a second turn. We  
11 did that second turn. We started with  
12 you, sir.

13 GUS SCHMACKIE: Gus Schmackie,  
14 "S-C-H, I-E." He said that they  
15 looked into all kinds of ways of  
16 bringing in water to the contaminated  
17 area.

18 ED ALS: Yes.

19 GUS SCHMACKIE: That railroad  
20 pipe that comes they got a pump, a  
21 hybrid right out of Van Wyck Junior  
22 High School, and exactly about two  
23 miles from here is my house. I can't  
24 see why I can't use that as a back up  
25 somehow in case this Switzerland

1 Hopewell Precision 7/18/08  
2 something happens to it, you know.  
3 ED ALS: Okay.  
4 GUS SCHMACKIE: I don't care.  
5 They're going to pay for. How  
6 expensive could it be, you know.  
7 They've got that pipe that far  
8 already. So what's the difference of  
9 two miles, and that's all that  
10 contaminated area you guys are talking  
11 about.  
12 ED ALS: Right, okay.  
13 GUS SCHMACKIE: Now, just a  
14 thought, you know.  
15 ED ALS: Right. I just said,  
16 "Thank you for the comment."  
17 GUS SCHMACKIE: You know.  
18 ED ALS: Okay. I think we're  
19 swinging back around again.  
20 GARY DODGE: Gary Dodge. Just  
21 two things. One is just a simple  
22 point of -- and the gentleman's gone  
23 now. He was saying the people who  
24 need the POET system have them.  
25 That's fine, if you really believe

1 Hopewell Precision 7/18/08  
2 that four is safe and five is deadly.  
3 There's really not such a clean  
4 dividing line there.

5 The other thing I wanted to  
6 ask about is the estimate on when this  
7 thing will resolve itself. According  
8 to your report here it says,  
9 "Preliminary assessment of groundwater  
10 plume indicates that it will take 20  
11 to 30 years for the groundwater  
12 contamination to naturally attenuate  
13 to levels below the MCLs" and before I  
14 asked the question a mere 50,000  
15 years, which is correct?

16 ED ALS: 5,000.

17 GARY DODGE: 5,000.

18 GRANT ANDERSON: I said 5,000,  
19 but I just pulled it out of the air,  
20 because I've worked on a lot of  
21 systems, where it is 5,000 years. I'm  
22 not familiar with exactly what this is  
23 tonight.

24 BRENDAN MacDONALD: I don't  
25 know where that came from. I'm sorry.

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2 GARY DODGE: So -- 'cause what  
3 I'm getting from this is if the  
4 duration is 30 years, at the  
5 completion of that 30 years all these  
6 systems should be able to be removed  
7 and discarded.

8 ED ALS: Okay. I heard that  
9 point in several different ways  
10 tonight. Okay.

11 RICHARD DENNISON: Quick  
12 comment -- oh, Richard Dennison.

13 You buy very inexpensive  
14 charcoal filters for people who worry  
15 about five, or two, or three, or four,  
16 and probably bring it down to below  
17 one. Healthy people have any --

18 SUSAN SCHOFIELD: The  
19 canisters that are on the systems that  
20 have people's POET system, that is  
21 activated charcoal and the same thing  
22 but a much smaller scale, Britta or  
23 anything like that though the people  
24 who don't have a system, who didn't  
25 qualify and have low levels that can

1 Hopewell Precision 7/18/08

2 bring piece of mind.

3 GRANT ANDERSON: I would like  
4 to add that if you do choose to use  
5 these that you please follow the  
6 directions on changing the filters  
7 though, because they can get clogged  
8 with organic matter. In which case --

9 (Multiple voices,  
10 interruptions, inaudible.)

11 GRANT ANDERSON: So the  
12 cleaner the system is -- or note, if  
13 you do, follow the directions very  
14 closely please.

15 ED ALS: Sir, in the back?

16 JOHN HOSH: John Hosh. I just  
17 want to make sure the \$15 million  
18 provided in the third option includes  
19 the hookup to the main to individual  
20 homes?

21 BRENDAN MacDONALD: Yes, it  
22 does.

23 Looking good.

24 BILL GROVE: Bill Grove,  
25 Creamery Road. I'm just outside the

1 Hopewell Precision 7/18/08  
2 plume area. Couple of questions, some  
3 of my questions are comments. Some of  
4 these people raised the cost and all,  
5 but the people on the system are fine  
6 with that, yes, but the people that  
7 are just below that level and have  
8 contamination now will benefit a lot  
9 more from the water getting in,  
10 because they will not get the system.  
11 So you go to more people and work that  
12 plume -- cost wise, it's now equal  
13 between people staying on that system  
14 and bringing in a new water system.  
15 If the plume moves in any portion, you  
16 may have another hundred to 200 people  
17 contaminated and your cost figure is  
18 contributing again on those that are  
19 hooked up now to those systems. It  
20 could escalate even higher than that.

21 LORENZO THANTU: Are you  
22 talking about study area --

23 BILL GROVE: What I'm saying  
24 is that the cost involved right now to  
25 bring in that cost and maintain that

1 Hopewell Precision 7/18/08  
2 POET system over all that time is what  
3 you have now.

4 LORENZO THANTU: But also it  
5 includes new POETs that would be  
6 installed on the rest of the homes in  
7 the study area that I showed you where  
8 the figures are. There are 380 homes  
9 in that site area of which 38 have  
10 been installed. To date there is  
11 remaining 325 homes that would benefit  
12 from the POET system, and a lot of  
13 these homes have yet to be impacted we  
14 assume, because of dynamic nature of  
15 the migrated plume from the Hopewell  
16 Precision facility they could be  
17 impacted years down the road. So we  
18 are including all those homes that  
19 might have potentially --

20 BILL GROVE: Those costs will  
21 drop to maintain and could be a lot  
22 less, if that plume doesn't shift --

23 LORENZO THANTU: Right, yes.  
24 So I'll put it to you Alternative Two,  
25 new home installation --

1 Hopewell Precision 7/18/08

2 BILL GROVE: Going to put in  
3 that system you must be hitting that  
4 point five --

5 LORENZO THANTU: Don't have to  
6 go back, and, like -- and continue  
7 monitoring. These are homes, because  
8 we are doing at least on a regular  
9 basis now.

10 PHIL LaMONTIA: Phil LaMontia,  
11 sorry.

12 If we do get the water, will  
13 you take the POET systems out, if that  
14 happens?

15 LORENZO THANTU: Yes.

16 ED ALS: Sir, in the back.

17 CHRIS VILLA: Chris Villa,  
18 Clove Branch Road. I was wanting to  
19 talk about the rock that the young  
20 lady asked. Have you dug this portion  
21 area of Dogwood Road, on Dogwood Road?

22 BRENDAN MacDONALD: No we  
23 haven't. The rock is actually very  
24 shallow there.

25 CHRIS VILLA: Is there any

1 Hopewell Precision 7/18/08  
2 place that you think that main line is  
3 going to be right in the aquifer where  
4 the plume is? The water table gets  
5 pretty high.

6 BRENDAN MacDONALD: I don't  
7 see that line would be --

8 CHRIS VILLA: All right. It  
9 would almost have to be certain areas  
10 to that area that you develop that --  
11 that pipe will end up being right to  
12 the water table, but you got to go up  
13 82. Okay? The point I'm making is  
14 these people in Little Switzerland  
15 that I know the life expectancy of  
16 height of volume, whatever, you're  
17 going to get breaks; weather change,  
18 temperature change, road movement. If  
19 a pipe breaks, who is going to stop  
20 the contamination from that plume  
21 getting into the main line.

22 BRENDAN MacDONALD: The water  
23 line would be pressurized.

24 CHRIS VILLA: I understand,  
25 but it could break. It's no longer

1 Hopewell Precision 7/18/08  
2 pressurized; okay. Somebody's got to  
3 go and repair it; line for the plume,  
4 pumps going to surge.

5 BRENDAN MacDONALD: There will  
6 still be water pressure on the high  
7 end of the line.

8 CHRIS VILLA: You'd have to  
9 shut it down to fix it; correct?

10 (Multiple voices,  
11 interruptions, inaudible.)

12 It's laying -- it's laying in  
13 contaminated water.

14 BRENDAN MacDONALD: This is a  
15 potential occurrence; correct?

16 CHRIS VILLA: I understand  
17 that. Like Little Switzerland they  
18 have a lot of breaks and a lot of  
19 issues like this. Are you prepared  
20 for this? I mean, or is this not --

21 LORENZO THANTU: I just going  
22 to answer the question directly. All  
23 that would be part of the operation,  
24 maintenance, and program once EPA has  
25 installed it, and that would be under

1 Hopewell Precision 7/18/08  
2 the jurisdiction of the water  
3 districts, and that is the way it is  
4 right now infrastructure for the  
5 Little Switzerland, and it would be  
6 the same for that.

7 CHRIS VILLA: I understand.

8 SUSAN SCHOFIELD: I know the  
9 bacteriological, not for chemical.  
10 But any time anything like that  
11 occurs, there are certain rules that  
12 the water company has (inaudible)  
13 testing has occurred, and then testing  
14 has occurred before the system comes  
15 back on line, flushed right, and there  
16 are steps that have to be taken to  
17 make sure cross contamination is  
18 occurring.

19 CENTER ROOM FEMALE SPEAKER:  
20 I think one of his concerns, and  
21 that's a valid one too, it's totally  
22 off on the way the system runs. The  
23 water, the contaminated water, that  
24 breaks, and then goes into the pipes,  
25 and then goes in our homes, it took a

1 Hopewell Precision 7/18/08  
2 long, long time for many of the pipes  
3 in our homes to be flushed of the TCE.  
4 So you're going to go back and you're  
5 going to test the water up at the well  
6 site, which is going to be fine, but  
7 the break occurred is contaminated  
8 water. Are you going to come in and  
9 test our homes?

10 GRANT ANDERSON: There are  
11 places that are along the line for the  
12 contamination test.

13 CENTER ROOM FEMALE SPEAKER:  
14 But our home -- our homes carry the  
15 pipe. Our inner home pipes were  
16 contaminated for a long, long time.  
17 That's why they ran around and tested  
18 our faucets, and I believe, and you  
19 can correct me if I'm wrong, it took  
20 most of us six months to get all the  
21 TCE out of the pipes within our homes.  
22 So you're talking about  
23 recontaminating our taps.

24 GRANT ANDERSON: However, that  
25 was a long term running of the water.

1 Hopewell Precision 7/18/08  
2 This is breaks -- in a large break  
3 where you might get water coming in,  
4 but be recognized quickly.

5 JOHN HICKMAN: Can I say  
6 something? John Hickman, Town  
7 Supervisor, and that I don't -- first,  
8 let me say, if I had a pipe break and  
9 there would be some concern that there  
10 might be some suction back into the  
11 pipe of contaminated water -- I'm not  
12 a water person, I just thought that if  
13 that was to happen, like you said,  
14 there are certain protocols our water  
15 department will follow as far as  
16 repairing the pipe, flushing the pipe,  
17 and when you talk about -- when we  
18 talk about flushing, I believe we're  
19 talking about fire hydrants --

20 CENTER ROOM FEMALE SPEAKER:  
21 We are talking about flushing within  
22 our homes.

23 JOHN HICKMAN: I know -- I  
24 know that's why we have a different  
25 system. We have -- we have our

1 Hopewell Precision 7/18/08  
2 system. I don't operate the system,  
3 but knowing that we do, you know, we  
4 don't have a fire hydrant. We  
5 flush -- we flush the water out in  
6 that way. So I don't think we have a  
7 thing to go and flush your house. You  
8 have a more direct, more efficient way  
9 to flush the system. That's how we do  
10 it, when we have -- when we have  
11 breaks and stuff, or breaks and stuff,  
12 or we'll have to go out on a hydrant  
13 and wash it out. That's one way.

14 DALEY CHAOUSSO: When you say  
15 "we do that" --

16 JOHN HICKMAN: Excuse me?

17 DALEY CHAOUSSO: When you say  
18 "we do this" you refer to the Town?

19 JOHN HICKMAN: I refer to the  
20 water operator that are hired by the  
21 Town of Fishkill. We have a company  
22 that operates our -- that's my only  
23 knowledge --

24 CENTER ROOM FEMALE SPEAKER:  
25 I'm still concerned, and I think

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Hopewell Precision 7/18/08

what -- that's affecting most of us --

JOHN HICKMAN: Oh, absolutely.

CENTER ROOM FEMALE SPEAKER:

On -- no. On the POET system, and I think a lot of people here, my neighbors did, and this -- we are in a situation that wasn't our choice --

JOHN HICKMAN: Certainly.

CENTER ROOM FEMALE SPEAKER:

We're now faced with a huge financial situation that's not our fault, and many of us feel morally we can't do nothing that's going to protect us, but many of us feel morally we need to be given a break financially, because we have been dieing here folks. I mean, you raised the taxes on our houses, the values went down. I mean, many of us have medical bills. We've dealt with health bills. Come on. This has to be a moral responsibility to cut us a break.

ED ALS: Cut you a break.

CENTER ROOM FEMALE SPEAKER:

1 Hopewell Precision 7/18/08

2 We're just getting hit again and  
3 again.

4 JOHN HICKMAN: Yeah, I think  
5 this whole night tonight we're trying  
6 to find you different avenues to give  
7 you some type of -- I'm not advocating  
8 any way. Whatever -- whatever the  
9 public decides they want, they want.  
10 I just want to offer, and I think the  
11 EPA is trying to offer, some solutions  
12 to the dilemma.

13 I feel terrible about the  
14 situation that you're in. I feel  
15 terrible about the situation for the  
16 Shenandoah area. Unfortunately, we  
17 have to deal with what we're dealt,  
18 and, you know, it's -- this is an  
19 option, and that's all I'd like to  
20 say. Thank you.

21 CENTER ROOM FEMALE SPEAKER:  
22 We're just asking for some sort of a  
23 financial break here to get us  
24 through. Many of us are -- we haven't  
25 been dealt fairly with. The fact that

1 Hopewell Precision 7/18/08  
2 the Town even had the nerve to raise  
3 household tax assessment --

4 JOHN HICKMAN: But I mean,  
5 this is the New York State Tax Laws,  
6 New York State guidelines --

7 CENTER ROOM FEMALE SPEAKER:  
8 I know, but there has to be -- and  
9 don't tell me it isn't done, because  
10 piece of paper dozens of times breaks  
11 the difference (inaudible) a dramatic.  
12 I think we're just a very small group  
13 and it just feels like we're being hit  
14 continuously.

15 JOHN HICKMAN: I'm sorry you  
16 feel that way. Believe me. It's not  
17 our intention.

18 CECILIA ECHOLS: Do you have  
19 any more questions?

20 ROBERT BUELLER: More along  
21 the concerns, but -- she had a good  
22 point about the -- see, she's got a  
23 family that many people got sick,  
24 other people got sick, and now you're  
25 going to get a new water bill every

1 Hopewell Precision 7/18/08

2 month. It's like a slap in the face  
3 every time you pay that bill. I'm  
4 paying this, because someone else  
5 screwed us over, and they're still  
6 allowed to operate in this and not  
7 pay. Why aren't they paying our water  
8 bill at least so we don't have to? I  
9 think you can at least go after them.  
10 Put the lawyers on the case. I mean  
11 you guys --

12 DALEY CHAOUSSO: Break with  
13 the company at least 30 percent.

14 ED ALS: Our attorney -- our  
15 attorney will hear about this.

16 CENTER ROOM FEMALE SPEAKER:  
17 Also when is the health department  
18 going to meet with us, because another  
19 question I have, the questions on your  
20 questionnaire don't direct the  
21 disabilities affected by -- that TCE  
22 caused. Your questionnaire talks  
23 about things that are not even related  
24 to disabilities on TCE. So when are  
25 you going to meet with us to talk

1 Hopewell Precision 7/18/08  
2 about the disabilities related to TCE;  
3 not a general forum that anybody can  
4 fill out?

5 DALEY CHAOUSSO: You said  
6 you're open anytime.

7 JIM BOWERS: I'm willing to --  
8 see me after the meeting and we'll  
9 have calendars out --

10 GEORGE SALEM: We'll make sure  
11 that meeting --

12 ROBERT BUELLER: Can you put  
13 that online on the East Fishkill line  
14 water --

15 (Multiple voices,  
16 interruptions.)

17 REBECCA CHAOUSSOCLAU: Can you  
18 mail that to us, because not every  
19 homeowner has access to a website or  
20 an e-mail?

21 CENTER ROOM FEMALE SPEAKER:  
22 And many of the older people find it  
23 difficult. I mean, so much to the  
24 point, where I know a lot of the  
25 people went around with flyers, or

1 Hopewell Precision 7/18/08  
2 they wouldn't have even know about  
3 this meeting. We actually spent out  
4 of our own money to help get flyers  
5 out so that all the older people, and  
6 some of the people, who were -- have  
7 really hectic lives would know.  
8 You're not even given us an efficient  
9 way of getting them here.

10 CECILIA ECHOLS: Anymore  
11 questions?

12 WARREN: Warren (inaudible).  
13 I'm just curious to get an -- when  
14 will we be given an estimate of what  
15 it's going to cost us monthly, when we  
16 get the water bill and any other tax  
17 ramifications put down on us, and I  
18 don't know, any maintenance charges.  
19 I don't know anything.

20 ED ALS: I think we touched on  
21 that earlier, and the answer petty  
22 much is EPA can't really address that.  
23 That's really a water district issue  
24 as far as -- we can say what it will  
25 cost now, but what it's going to cost

1 Hopewell Precision 7/18/08  
2 afterwards is going to be something  
3 else that we can't address in any more  
4 detail, maybe we can address it in a  
5 little more detail in the response  
6 summary.

7 Again, you have another --  
8 another way to make your feelings  
9 known. Obviously, this is all on the  
10 record tonight, but you can also write  
11 in. Even if you did comment, and you  
12 feel you want to add something in  
13 writing, please feel free to do that.  
14 Comment period ends August 5th. I  
15 have had a question about extending it  
16 tonight, and the answer to that  
17 question was is if you're looking for  
18 an extension, you should address that  
19 request to Lorenzo Thantu, the Project  
20 Manager, whose contact information is  
21 in the proposed plan.

22 CECILIA ECHOLS: We would like  
23 to thank everyone for coming out this  
24 evening. If you have any comments,  
25 please send them to Lorenzo. Thank  
you.

Good night.

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C E R T I F I C A T E

STATE OF NEW YORK )

) ss.

COUNTY OF NEW YORK )

I, ROSEMARIE CUMMINGS, a  
Professional Shorthand (Stenotype)  
Reporter and Notary Public of the  
State of New York, do hereby certify  
that the foregoing Transcription, of  
the EPA meeting, dated July 18, 2008,  
taken at the time and place aforesaid,  
is a true and correct transcription of  
my shorthand notes.

I further certify that I am  
neither counsel for nor related to any  
party to said action, nor in any wise  
interested in the result or outcome  
thereof.

IN WITNESS WHEREOF, I have  
hereunto set my hand this 11th day of  
August, 2008.

\_\_\_\_\_

Rosemarie Cummings

**RESPONSIVENESS SUMMARY**

**APPENDIX V-D**

**LETTERS RECEIVED DURING THE COMMENT PERIOD**

From: The Barry Family <jwbarry@optonline.net>  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA  
Subject: Hopewell Precision Area Proposed Plan - Little Switzerland  
Date: 12:50:45 PM Today

RE: Hopewell Precision Area Proposed Plan - Alternative AW-3 - Little Switzerland

I attended the public hearing at the East Fishkill Town Hall on 7/17/08 regarding the referenced topic. At that meeting I expressed some concerns, which I summarize and supplement here.

I have been a resident of Little Switzerland for almost 26 years. My concerns have to do with the ability to provide an acceptable water system for all, given that AW-3 would quadruple the demands on the current Little Switzerland water system.

1) Capacity estimates

I am concerned that the capacity numbers in your proposal on Page 10 ignore any possibility of additional leaks in the new system and do consider "the expected repair of leaks within the Little Switzerland loop." Leaks have been a way of life for 26+ years and continue to this day. I would think that realistically you'd need to consider leaks appearing in the new system and continuing in the current system - even if the EPA proposal includes improvements to the current system. Assuming the continuation of leaks as well as leaks in the new system, the capacity projections could become dangerously close to or exceed the projected capacity.

2) Pressure

I have no way to quantify this, but pressure has been a problem here. What will happen when 75% of the water demands are at the lower Rt. 82 elevation?

3) Another source

Would it make sense to consider another well with a new water system, separate from Little Switzerland?

I support the need to provide an adequate water for everyone, including of course the residences and businesses in the Hopewell Precision contamination site. I would hope that the EPA planning would ensure that the quadrupling of the current system would be adequate for all - rather than degrade the system.

Thank you,  
Patricia Barry

From: "Pete Berasi" <berasi@frontiernet.net>  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA  
Subject: Comment Regarding Hopewell Precision Public Hearing  
Date: 08/04/2008 10:21:18 PM

Dear Mr. Thantu,

I attended the Public Hearing at the East Fishkill Town Hall on July 17, 2008 and would like to communicate my comments to you regarding the EPA Operable Unit 1. The opportunity to express my primary question in person at the Hearing was appreciated as was the courteous and informed response of EPA Staff.

The Hearing provided the opportunity for me to become more informed regarding the toxic plume problem emanating from the Hopewell Precision site and the serious impact it has had upon so many of my neighbors within the community. I, myself, reside within the Little Switzerland area at 9 Alpine Drive and am deeply concerned for the welfare of the residents affected by the toxic plume and believe it is essential to provide them relief in the best manner possible and as soon as possible. Consequently, I agree with EPA staff that the POET systems for individual residences are a temporary solution and a better alternative would be to provide municipal water to the affected households. However, I do have some concerns regarding utilization of the Little Switzerland water supply for this purpose.

My concerns regarding dedication of the Little Switzerland water system to the larger community are as follows:

1. Reliability of the Little Switzerland water distribution system.

Having lived at my current address in the Little Switzerland development for 35 years, I have witnessed the frequent occurrence of water main breaks. These are an ongoing and continuing reality and relate to shoddy construction during build of the distribution system. Fixing of the current leaks will not improve the underlying poor reliability of the system as a whole. More leaks and water main breaks will occur in the future, just as they always have. Staff indicated that a portion of the proposed capital budget will be used to reconstruct the existing distribution system, but detail was not provided as the project has not yet progressed to the design stage. I believe that it is important that the distribution system be replaced along the three primary legs of the system: Innsbruck Blvd, Mt Pass Road, and Dogwood Road. Those sections have the worst reliability history and are the main and oldest portions of the distribution system. It is doubtful to me that the OU1 Alternative 3 will be effective if the poor reliability of the existing distribution system is allowed to continue with connection to the proposed larger system.

2. Aquifer Supply.

It is also my concern that the underlying aquifer may be stressed to provide a 300 to 400% expansion of water distribution on a daily basis. It was stated at the Hearing by EPA Staff that the existing wells have previously been rated and tested for this level of output. However, any testing that may have been performed would have been performed with limited time duration and would not have tested the full capacity over a prolonged period of time. I understand that the aquifer recharges over time, but nevertheless, the long term effect of continuous pumping at capacity upon the aquifer supply is unknown. Moreover, are there any records available which document the actual testing of the system when it was constructed 35 to 40 years ago? This would not be the first instance of something that was claimed to have been done, which, in reality, was not.

3. Water Quality.

It is also my concern that the expansion of pumping on a daily basis may alter the course of the toxic plume and pull it back in the direction of the water district pumps. EPA Staff stated that was an unlikely occurrence due to the nature of the valley and its terrain and geology. That view may

very well be correct, however, it will be essential to have a flawless and consistent monitoring system in place which is adhered to without fail. Actions should also be identified in advance in the event that the monitoring system indicates incursion of VOC's into the system. In my opinion, these actions need to be identified in advance so that, if ever needed, there is no delay in implementation.

#### 4. Spare Pumping Capacity.

With a system using the two existing wells at full capacity every day, it is essential that the Water District have spare pumps available at all times in the event of pump failure. This may be a responsibility of the Water District, but a mandate should be created prior to approval of Alternative 3.

#### 5. Storage Tank Location.

The location of the additional storage tank impinges on the capital cost of the project. Location closer to the wells than the current tank may provide reduction in capital cost through reduction of pipe installation requirements and still provide adequate pressure to the expanded distribution system which is at lower elevations than the current distribution system. The savings to be realized from storage tank siting may then be applied to expanded reconstruction of the current distribution system.

In conclusion, I support the EPA recommendation of advancing Alternative 3 to the design stage and requesting the necessary capital budget. However, I believe it is essential to address the five issues stated above so that in future years the total community tied to the enlarged water District is not subjected to undue hardship because of faulty strategic deployment.

Sincerely,  
Peter H. Berasi

From: "Pete Berasi" <berasi@frontiernet.net>  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA  
Subject: Fw: Comment Regarding Hopewell Precision Public Hearing  
Date: 12:16:24 PM August 11, 2008

Lorenzo Thantu, Project Manager  
U.S. Environmental Protection Agency  
290 Broadway, 20th Floor  
New York, NY 10007-1866

I would like to add one additional comment to those I communicated to you previously regarding the Hopewell Precision Superfund Site public comment. The prior letter is attached below for reference.

The additional comment that I would like to provide at this time supplements my prior comments regarding Item 3 - Water Quality.

Specifically, I believe that an engineering analysis is required to determine the change in the cone of depression surrounding the Little Switzerland pumps reflecting the significant increase in the pumping rate that will be experienced as the water system is expanded dramatically to provide service to the area of the community affected by the toxic plume emanating from the Hopewell Precision site.

The cone of depression around a well is the geometric limit where water flows into the well rather than past it. The more pumping that is experienced, the wider the cone of depression expands. As this occurs, the pumps will draw in water from areas beyond its current extents and, thus, it may pull in contaminated water from either the known toxic plume or other potential contaminants in the area. The study needs to consider the change in the cone of depression over time as well as the effect this will have upon water quality that is delivered to the distribution system. This analysis should include 5, 10, 20, and 30 year time horizons as well as explore worst case analysis during drought events. Engineering models exist to support such analysis, and under the circumstances, I believe that this work is essential to enable a strategic deployment that is safe for the total community.

Thank you for consideration of all the comments I have provided.

Sincerely,  
Peter H. Berasi

cc: Mr. John Hickman, Supervisor, Town of East Fishkill

10 Dogwood Rd.  
Hopewell Junction, N.Y. 12533  
June 11, 2008

Dear Mr. Lorenzo Thantu,

We just received your proposal for the Hopewell Precision Area Ground Water Contamination Site explaining how the EPA plans to install an alternate water supply delivery route via Dogwood Rd.

Our first concern is on which side of Dogwood Rd. will your water pipes run, on the eastern or the western side (where the storm drains are)? Will this affect any of the properties along Dogwood Rd.?

Our major concern is the flooding problems the Legends Development above us has created for our neighborhood. How will your construction affect this problem when the town of East Fishkill has not resolved the flooding issues yet? The failure of our current storm drain system to handle downpours of rain has affected many of our neighbors on Dogwood Rd., Oakridge Road, and even Hemlock Drive to the extent where these roads become completely flooded & sometimes impassible. during, yards are full of water & the small stream along Dogwood Rd. becomes a current of water during many storms throughout the year.

Our neighborhood has been working with the town for over 3 yrs. to rectify these issues by having the Legends developers & town install retaining ponds above Dogwood Rd. However, the current situation is that the retaining ponds are still not sufficient to meet the needs of all of this flooding, as the town engineer has recently related to us. The town of East Fishkill still has to find a final solution to this problem.

We do not know if your are aware of all of these problems, but we hope that the EPA & the town of East Fishkill can find a solution for our neighborhood.

Sincerely,

Duane + Joanna Blair  
10 Dogwood Rd. Hopewell Jct. N.Y.  
Duane & Joanna Blair and other concerned  
neighbors

ALD. H. W. S. L. 1 Dogwood Road Hopewell Jct, NY 12533  
Gaylen & Mark Campion 6 Dogwood Rd. Hopewell Jct, NY 12533  
Jack Maff 7 Dogwood Rd Hopewell Jct NY 12533  
Donald J. Popare 20 Dogwood Rd - Hopewell Jct, NY 12533

RANDY L. BRAUN  
ATTORNEY AT LAW

33 INNSBRUCK BOULEVARD  
HOPEWELL JUNCTION, NEW YORK 12533

TEL: 845-592-2412  
FAX: 845-592-2413

August 17, 2008

**VIA E-MAIL AND FIRST CLASS MAIL**

Mr. Lorenzo Thantu, Project Manager  
U.S. Environmental Protection Agency  
290 Broadway, 20<sup>th</sup> Floor  
New York, New York 10007-1866

Re: Hopewell Precision Superfund Site

Dear Mr. Thantu:

As a resident of Little Switzerland in Hopewell Junction, I would like to take this opportunity to thank you and your staff for attending the public meeting held on July 17, 2008. With all due respect, however, I do not believe that sufficient investigation has been made into the matter to justify implementation of the Proposed Plan.

The question of primary concern to residents of our community, and which was not addressed at the public meeting or in any other forum to my knowledge, is **whether the proposed action is in the best interests of Little Switzerland?** In my considered opinion, the answer is in the negative.

The Proposed Plan would likely open a Pandora's box of problems which could result in permanent, adverse consequences to the Little Switzerland community, including but not limited to issues of health and safety as well as the devaluation of real property. Based upon a review of the literature and statements made by the Environmental Protection Agency (the "EPA"), it is plain that sufficient inquiry has not been made with respect to: (a) the possible migration of contaminants into the Little Switzerland water supply; (b) depletion of the existing aquifer by acceleration or otherwise; (c) whether the Little Switzerland water supply contains contaminants similar to those contained in the Hopewell Precision site; (d) the ability of the aquifer and/or well to support the proposed new hookups without impacting negatively on existing users; (e) the additional stress placed on the current underground pipe structure by making improvements solely to new hookups; (f) the decrease in water pressure by replacing current 8" pipe with larger diameter piping; (g) the plethora of likely pipe breakages and water outages during construction; (h) the nuisance and inconvenience of new construction over of a period of at least two (2) years; (i) additional costs for taxes and maintenance; (j) the discovery of latent conditions during construction requiring costly repair; and (k) the further devaluation of real property due to construction of a new, visibly large water tank.

These issues are of great concern to those of us living in Little Switzerland. Unfortunately, it appears that those concerns are generally dismissed in favor of EPA's apparent desire to implement the Proposed Plan. As was evident from the public meeting, the vast majority of those attending who reside on the plume wish to keep their POET systems for a variety of reasons such as the assurance of water safety; plainly, abandonment of the POET system will not abate the vapor issue in the affected homes located on the plume which is a matter to be addressed separately by those residents with the EPA.

In particular, at the public meeting, EPA staff could not provide absolute assurance that there would be no migration of contaminants into the Little Switzerland water supply. You heard the compelling and heart-wrenching statements of those living on the plume whose children suffered birth defects and/or later physical maladies attributable to contaminants from the Hopewell Precision site. **Does the EPA really want to be responsible for causing other, innocent children (born and unborn) to be subjected to the same dire fate when the current methodology for remediation has been working satisfactorily?**

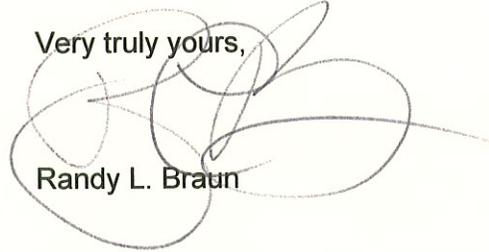
Moreover, the Little Switzerland water supply does not appear to have been tested routinely for the type of contaminants emanating from the Hopewell Precision site. It would be an ironic twist, indeed, if such contaminants were found (even at low levels) in the Little Switzerland water supply, thereby placing those who surrendered their POET systems in a substantially similar predicament to that which had been resolved previously. Regardless of whether the Proposed Plan is implemented, it is imperative that the Little Switzerland water supply be tested for those contaminants as a matter of public health and safety.

Inasmuch as there is virtually no stated difference in cost between the proposed action and maintaining the current POET systems, it appears ludicrous for the EPA to gamble on an unproven course of conduct. I can tell you, as a construction attorney, that the costs for the Proposed Plan are likely to increase significantly from the estimate given. It is rare for any construction project to be brought in on budget, despite the good intentions of those in charge; change orders and extra work orders are a reality of the construction process. This is true particularly in view of the age of the current water piping system and the likelihood of latent, unforeseen site conditions. Accordingly, retention of the POET systems will, no doubt, be a much less expensive alternative in the final analysis while providing definitive, substantial and measurable results to the homes affected.

The fact that so many unknowns remain, and that the Little Switzerland community may be put at grave risk, militates significantly against the Proposed Plan. Conversely, the known and proven benefits of the POET system, including constant monitoring by the EPA, favor its continuation. Implementation of the Proposed Plan fails to benefit the Little Switzerland community in any way. Rather, it places it in great jeopardy with no upside benefit. While I sympathize with those living on the plume, their water is safe with the POET systems. With further study, the EPA may be able to find alternatives which are not as intrusive as the Proposed Plan. However, the health, safety and home investment of each resident of Little Switzerland should not be compromised adversely in the interests of expediency and the Government's apparent misapprehension with respect to the actual, final costs of construction.

Given the foregoing, I respectfully urge you and the EPA to abandon the Proposed Plan in all respects. Thank you for your consideration.

Very truly yours,

A handwritten signature in black ink, consisting of several overlapping loops and a long horizontal stroke extending to the right.

Randy L. Braun

cc: Hon. J. Hickman

From: "R.L. Braun" <rlbraun@braunlegal.net>  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA  
Subject: Hopewell Precision Superfund Site  
Date: 12:32:03 PM Yesterday

August 17, 2008

\*\_VIA E-MAIL AND FIRST CLASS MAIL\_\*  
Mr. Lorenzo Thantu, Project Manager  
U.S. Environmental Protection Agency  
290 Broadway, 20th Floor  
New York, New York 10007-1866

Re: Hopewell Precision Superfund Site

Dear Mr. Thantu:

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The Proposed Plan would likely open a Pandora's box of problems which could result in permanent, adverse consequences to the Little Switzerland community, including but not limited to issues of health and safety as well as the devaluation of real property. Based upon a review of the literature and statements made by the Environmental Protection Agency (the "EPA"), it is plain that sufficient inquiry has not been made with respect to: (a) the possible migration of contaminants into the Little Switzerland water supply; (b) depletion of the existing aquifer by acceleration or otherwise; (c) whether the Little Switzerland water supply contains contaminants similar to those contained in the Hopewell Precision site; (d) the ability of the aquifer and/or well to support the proposed new hookups without impacting negatively on existing users; (e) the additional stress placed on the current underground pipe structure by making improvements solely to new hookups; (f) the decrease in water pressure by replacing current 8" pipe with larger diameter piping; (g) the plethora of likely pipe breakages and water outages during construction; (h) the nuisance and inconvenience of new construction over of a period of at least two (2) years; (i) additional costs for taxes and maintenance; (j) the discovery of latent conditions during construction requiring costly repair; and (k) the further devaluation of real property due to construction of a new, visibly large water tank.

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The fact that so many unknowns remain, and that the Little Switzerland community may be put at grave risk, militates significantly against the Proposed Plan. Conversely, the known and proven benefits of the POET system, including constant monitoring by the EPA, favor its continuation. Implementation of the Proposed Plan fails to benefit the Little Switzerland community in any way. Rather, it places it in great jeopardy with no upside benefit. While I sympathize with those living on the plume, their water is safe with the POET systems. With further study, the EPA may be able to find alternatives which are not as intrusive as the Proposed Plan. However, the health, safety and home investment of each resident of Little Switzerland should not be

From: "K.L. Braun" <klbraun@optonline.net>  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA, "R.L. Braun" <rlbraun@braunlegal.net>  
Subject: Little Switzerland  
Date: 07:43:41 AM Yesterday

Dear Mr. Thantu:

One question that did not come up in the meeting at town hall is: Has the EPA tested our water in Little Switzerland for the same contaminants that are in the plume? If yes, I would appreciate seeing the results of those tests. If not, don't you think you should?

Sincerely,  
Kathy L. Braun

**Kathy L. Braun, Assoc. AIA**

**KL Braun Drafting & Design**

**33 Innsbruck Boulevard**

**Hopewell Junction, NY 12533**

**845-258-8498 Telephone**



**[klbraun@optonline.net](mailto:klbraun@optonline.net) klbraun.vcf**

July 2008

Hopewell Precision Area Groundwater Contamination Site  
To who it may concern-

I Robert Buhler live at 14 Hemlock Drive Hopewell Junction N.Y. 12533  
I represent my family and many of my neighbors with the following concerns  
about cleaning up the contaminated water.

Hopewell Precision caused this problem and should be made to pay for all  
expenses associated with the clean up. Residences should never have to pay one  
penny to have clean water to drink. We have wells now and it costs us nothing.  
Hopewell Precision should have to pay for all of our water costs now and in the  
future. I now have unlimited water from my well. My neighbors and I don't need  
to worry about watering our plants or topping off their swimming pools. We did  
not cause this. We should never have to pay money for water.

It also seems foolish to disconnect the existing wells. Let the people use the  
wells for their lawns, pools, washing the car. This would also make it easy to test  
in the future to see if over time the wells are drinkable. Some peoples water  
comes up safe in the tests, other peoples water is unsafe. It's hit and miss. There  
needs to be as much water as we want. It needs to cost the homeowners nothing,  
now and forever. How can you justify us paying for water? We did not cause this.  
Hopewell Precision is still in business make them pay. Why are the owners of  
Hopewell Precision not in jail? The EPA has known about this for years. Why has  
nothing been done? What happens when everyone in the area gets cancer? Why is  
this called a Superfund if we have to pay for the water? I'm only living in my  
home 2 years, why was I never told that my home could be contaminated? Did  
my home value just drop down to nothing since I won't be able to sell it? Since my  
home value dropped to zero shouldn't my taxes be zero? Why has knowone come  
to my house to test the water since I am in the toxic zone?

Sincerely,

Robert Buhler

*I am also for the POET system*

From: "Wm. Jerry Carey" <wjcarey1@optonline.net>  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA  
Subject: Comments on Hopewell Precision Groundwater Contamination Site  
Date: 08:11:30 PM July 21, 2008

11 Innsbruck Blvd.  
Hopewell Jct., NY

12533

July 21, 2008

Lorenzo Thantu  
Remedial Project Manager  
Eastern New York Remediation Section  
US EPA  
290 Broadway, 20th Floor  
New York, NY 10007-1866

Ref: Hopewell Precision Superfund Proposed Plan dated July 2008

Dear Sir:

Following are the questions and comments I have:

1. Since the existing Little Switzerland Water District (LSWD) distribution system has losses nearly equaling the amount of water actually used by the 135 households, it is obvious that much more rehabilitation is needed than a few scattered patches. I have lived in this neighborhood since 1978 and have witnessed multiple excavations per year to repair leaks. In a great many cases it was obvious that the mains were not buried below the frost line. It is also obvious that there will be endlessly continuing breaks and water losses for this reason, unless a serious rehabilitation plan is implemented. I strongly suggest that any plan to expand the user demand on the LSWD wells must include a new and properly designed and installed distribution system for the existing Little Switzerland neighborhood. Doing so is the only way to eliminate the huge losses and thereby greatly help assure that the well capacity will be sufficient to meet the projected average, maximum and peak water demands of the proposed expanded service area.

2. The LSWD wells are located within a short distance, 1/4 to 1/2 mile, of the Hopewell Precision site on Ryan Drive and the contamination plume. The EPA must provide credible technical proof that the increased pumping of LSWD wells, to support the added users, will not enlarge the zone of influence enough to draw the plume toward the LSWD wells. That would create the worst possible scenario of unintended consequences - adding 135 new impacted homes and re-impacting hundreds of homes and businesses a second time.

EPA must also provide credible technical proof of whether or not there is any hydraulic connection between the groundwater affected by the contamination plume and the aquifer which LSWD wells pump from, taking into account dry and wet years.

3. The proposed plan report states that the contamination plume will continue to migrate south-southwest and impact more private wells. This raises several questions:

- How many additional wells are in the path? Does the Figure 1 study area encompass all homes EPA expects will ever be impacted?

- If the plume migrates further than the Figure 1 study area, how many additional homes can the LSWD wells support?

- Will the plume move further and faster when the 377 private wells stop pumping?

- Why isn't EPA proposing to install a series of extraction wells around the perimeter of the plume to pump and treat the groundwater and prevent the further spread of the plume. It would appear that this would be a more proactive approach than injecting microbes into the groundwater which will involve a factor of uncertainty about where they could migrate to. It would also meet the CERCLA requirement for a principal element of "treatment to permanently and significantly reduce the volume, toxicity, or mobility of the hazardous substances, pollutants and contaminants at a site." I believe our legislators wrote those words for a reason, and certainly EPA would require it on other Superfund sites that are impacting private homes, and where the remedial action is being paid for by a corporation. Why shouldn't EPA's feet be held to the same fire?

4. Alternative AWS-3 states that its annual cost will be \$0. Does this fail to account for such things as:

- periodic sampling and lab analysis costs?
- costs of Town of East Fishkill employees who do routine maintenance of pumps, emergency generator and other parts of the system?
- costs of locating and repairing leaks?

5. Alternative AWS-3 selects the LSWD as the alternate water supply, with no mention of any other source being considered. EPA should be aware that The Legends development has a much newer water system, and a tank that is actually closer to the Hopewell Precision impacted area. This should be evaluated on the basis of water quality and quantity, ease of connecting to the impacted area, and overall cost.

6. In the Summary of Remedial Alternatives it states that an evaluation of the groundwater contamination indicated a 30 year timeframe for the contamination to naturally decrease to levels below the drinking water MCLs. Please provide the study report and all data that lead to that conclusion. Also, if that is the case, why isn't AWS-2 the preferred remedy, as it can be implemented in 4 months rather than 4 years, requires no new tank and no excavation of miles of roads, and would only be needed for 30 years?

Thank you for your consideration of my questions and comments, which are offered with constructive intentions. I would appreciate being kept apprised of all further reports, hearings and decisions.

Sincerely,

William Jeremiah Carey

cc: John Hickman, Supervisor, Town of East Fishkill

**Subject:** Comments on Hopewell Precision Groundwater Contamination Site

**From:** "Wm. Jerry Carey" <wjcarey1@optonline.net>

**Date:** Mon, 21 Jul 2008 20:11:30 -0400

**To:** Thantu.Lorenzo@epa.gov

11 Innsbruck Blvd.  
Hopewell Jct., NY 12533

July 21, 2008

Lorenzo Thantu  
Remedial Project Manager  
Eastern New York Remediation Section  
US EPA  
290 Broadway, 20th Floor  
New York, NY 10007-1866

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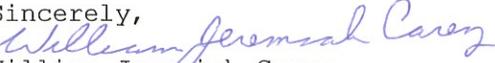
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Sincerely,

  
William Jeremiah Carey

cc: John Hickman, Supervisor, Town of East Fishkill

From: joann colucci <dumbosmom@optonline.net>  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA  
Subject: Little Switzerland Water District expansion  
Date: 09:11:30 AM Today

I am writing to express my strong opposition to the expansion now being proposed. Our area is expanding quickly and you need to plan for a long term solution not a quick fix. I am a Little Switzerland resident but I have my own well and refused to be part of the town well.

I am also a street representative, and until recently, it was my job to call residents on my street who ARE part of the water district ALMOST EVERY WEEK to tell them that there was some problem or other which meant that they would be without water, or were being asked not to wash clothes...etc. After a few years of doing this, I came to the rapid realization that I WILL NEVER GIVE UP MY WELL, and I can see why other residents who do not have contaminated wells would feel the same way. You guys are pretty smart, why don't you figure out a REAL solution to the problem. Who is going to PAY for this 15.6 million dollar project.? I'll tell you one thing ... the day you come to force me to give up MY WELL, you had better bring some TANKS!!! I KNOW when I have a good thing. My water is clean and FREE!!! I would have to be an Idiot to give it up.  
Sincerely,

Joann Colucci

12 Ridgeview Road

From: COMPERIATI@aol.com  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA  
Subject: Hopewell Precision  
Date: 08:59:59 AM July 22, 2008

Hi Lorenzo,

I am writing for 2 reasons.

1) Want to make sure you have updated address for me. For some reason, I received mailing to my old work address regarding the latest proposal with regards to Hopewell Precision Contamination after the meeting. It would be fine to have this info in the future mailed directly to my home to my attention. My address is 32 Hemlock Drive, Hopewell Junction, NY 12533. My \ ex-husband(Neal Simpson) seems to be getting the mailings and he no longer lives at this address.

2) Many of my neighbors attended the informational meeting and to give their feedback. I have concern over the mapping of the study area which cuts my home out of the area. I have had several successful tests but I don't think it would be wise to cut my home out of the area of study given most of my street is on it and there is no telling what could happen with ground water. I know there was lengthy discussion about the proposed water supply from Little Switzerland water district. Not sure how the mapping was determined-if you could look into this for me.

Thanks in advance for your attention to this request.

Regards,  
Liz Comperati  
Realty Executives Williams-Sykes Realty  
w-845-485-9960  
h-845-227-1598

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Joseph A. DeMaro  
111 Baris Lane  
Hopewell Jet, N.Y. 12533  
joedemaro@frontier.net

July 28, 2008

Re: Hopewell Precision

To Mr. Lorenzo Mantu:

I am writing in response to the proposed plan to provide clean water to the Hopewell Precision site from Little Switzerland. First and foremost we should not have to pay for clean water no matter how or where it comes from. We are the victims of a crime, and so far no one is being punished or being held responsible for what they did. Someone was asleep at the wheel while these chemicals were being dumped, poisoning our air, water, soil and bodies.

I am sure I am not alone to say I cannot afford another "tax" aka maintenance fee to maintain the Little Switzerland water system. We should not have to pay anything. This situation was forced upon us and we are not requesting to be looked up to Little Switzerland's water supply just for the hell of it.

OTHER SIDE →

There should be a plan to clean up the aquifer so that someday we can have clean water and soil and air again. Also, receiving water from Little Switzerland should not be the end of the story. I'm sure there are many more unanswered questions and there should be more meetings before a final plan is finalized.

What about those wells that weren't affected. They may or may not be in the future. The EPA should continue to monitor these wells and homeowners should have the option of receiving water from Little Switzerland on an as needed basis, again at no cost to the homeowner. Please take some of these thoughts into consideration before any final plan is put into action.

Thank you  
Joseph A. DeMarco

From: "Carlton D'Souza" <carlton.dsouza@gmail.com>  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA  
Subject: EPA Proposal to add additional water tank in Little Switzerland water district  
Date: 12:05:51 PM Today

Hello Lorenzo,

I am sending you this email to voice my disapproval to your proposal to add 350 additional families to the LSNA water district. I am not sure the EPA has done its due diligence and assessment with regards to the impacts the additional families and new water tank will have on the aging water infrastructure.

Please contact me if you would like to discuss this further.

Thanks,

Carlton D'Souza  
7 Geneva Drive  
Hopewell Junction, NY 12533

From: nancy foster <nancyfoster@optonline.net>  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA  
Subject: Well conversion  
Date: 08:18:44 AM Yesterday

My name is Nancy Foster. My husband, Kurt Muller and I reside at 119 Creamery Rd.

I am very much in favor of connecting to Little Switzerland. I foresee many problems with continued well filtering. The lack of funding to the EPA seems to jeopardize continued excellent service.

I am also concerned about our particular well situation. We have a 16 ft point well. In my mind, that is like putting a bucket out for rain water. Even though I have been assured that the filter is working, I am not comfortable drinking the water.

Would you be so kind to respond to this email. It can only be a "got it" message. Sometimes I doubt emails go through

Thank you very much for your continued excellence.

Nancy Foster

From: William Freitag <willmarge@optonline.net>  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA, willmarge@optonline.net  
Subject:  
Date: 10:09:03 AM Today

I am a 38 year resident of Little Switzerland. I attended the July 17<sup>th</sup> town meeting with an open mind. I believe in helping my neighbor. But, I also believe that using the Little Switzerland Water Company as the answer to this help or solution to the ground water problem is not the long term and correct answer to the problem. The age and poor condition of the LSWC makes this an invalid solution to this critical problem. Using LSWC as "the solution" is not only putting a Band-Aid on this serious water problem but jeopardizes all of the homes and residents of Little Switzerland. If our water system or well is in ANY danger we have only compounded the problem. This is a long term concern and you (EPA) will not be involved long term and have no real skin in this problem or community. This is our home and our community, I urge you to propose a real solution not a short term (least expensive) solution to a real concern. These are our families, our homes, our community, our life you are making unilateral decisions on.

Respectfully,

Margaret Freitag  
10 Mountain Pass Road  
Hopewell Junction, NY 12533  
(845) 226-5305

From: William Freitag <willmarge@optonline.net>  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA, willmarge@optonline.net  
Subject: FW: Hopewell  
Date: 10:08:56 AM Yesterday

Just an after thought. Have you investigated using The Legends water supply as a source of resolving the water situation. As you know, The Legends is a new home community adjacent to Little Switzerland. It is a new system and I am sure much more capable of handling the additional homes on their system. I would appreciate your reply.

**From:** William Freitag [mailto:willmarge@optonline.net]  
**Sent:** Monday, July 28, 2008 10:09 AM  
**To:** 'Thantu.Lorenzo@epa.gov'  
**Cc:** 'willmarge@optonline.net'  
**Subject:**

I am a 38 year resident of Little Switzerland. I attended the July 17<sup>th</sup> town meeting with an open mind. I believe in helping my neighbor. But, I also believe that using the Little Switzerland Water Company as the answer to this help or solution to the ground water problem is not the long term and correct answer to the problem. The age and poor condition of the LSWC makes this an invalid solution to this critical problem. Using LSWC as "the solution" is not only putting a Band-Aid on this serious water problem but jeopardizes all of the homes and residents of Little Switzerland. If our water system or well is in ANY danger we have only compounded the problem. This is a long term concern and you (EPA) will not be involved long term and have no real skin in this problem or community. This is our home and our community, I urge you to propose a real solution not a short term (least expensive) solution to a real concern. These are our families, our homes, our community, our life you are making unilateral decisions on.

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Margaret Freitag  
10 Mountain Pass Road  
Hopewell Junction, NY 12533  
(845) 226-5305

From: RGGODFREY@aol.com  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA, hickmanj@eastfishkillny.org  
Subject: EPA Presentation on the Hopewell Precision Super Fund  
Date: 09:01:57 AM Today

**Richard and Jane Godfrey**  
15 Geneva Drive  
Hopewell Junction, NY 12533

July 18, 2008

Lorenzo Thantu, EPA Remedial Project Manager  
[Thantu.Lorenzo@epa.gov](mailto:Thantu.Lorenzo@epa.gov)

Reference: July 17, 2008 Public Meeting , on the "Hopewell Precision Superfund Site."

Dear Sir:

My wife and I attended the reference meeting and we want to provide feedback and comments regarding the plan that was presented.

We have lived in Little Switzerland for over 37 years and we are very aware of the fragile water system we have lived with for all those years. There have been dozens of leaks that have been repaired and some, that have not been located, still exist. The lack of water pressure has been partly alleviated with the new pressurized water storage tank. However, the added pressure increased the leakage problem the system has always had.

We are convinced that the AWS-3 plan is not the best plan that could be implemented. Our view is that the only benefit of tying into the existing Little Switzerland water system would be to provide a pump house and pumps. I do not know the cost of drilling new wells and building a pumping facility but it is a small portion to the projected \$15.4 million. In fact, the savings from our proposal could more than pay for the new pumping facility.

The cost of using the Little Switzerland water system out weighs the benefit of using the pump house.

1. - There is the addition of some 2000 feet of 10 inch water main to connect the Little Switzerland water system to the new customers.

2. – The requirement to pump water to an added elevation of over 380 feet is expensive and requires a high pressure pump with heavy workload.
3. – To tie into the Little Switzerland water system the storage facility would have to be an expensive pressurized facility or a high water tower. The required pressurized storage facility or high water tower would further increase the energy required to pump water to the storage facility.
4. – This would also then require pressure reduction from the storage tank to the new customers. (Pressure would otherwise be in excess of 200 psi.)
5. – There is the added concern that more pumping from the existing location could expose the Little Switzerland water system to aquifer depletion as well as changing the aquifer flow to include the contamination in our water system.

To reduce the possibility of aquifer depletion and any possibility of attracting the pollutant to the existing Little Switzerland water system we recommend that a new pumping facility should be established some distance from the Little Switzerland's facility.

I discussed the plan with a friend who is a Professional Engineer and owner of a large construction business that specializes in building and rebuilding municipal water systems, His comment was that EPA's AWS-3 plan to use a water storage facility up near our existing tank would produce a very inefficient system.

A much more efficient and less expensive system would be to build a unpressurized water storage facility at the lower level closer to the customers, thereby saving the energy to pump water up 380 feet and eliminating the pressure reduction equipment. This would also eliminate the need for the 2000 feet of 10 inch water main.

The well pumps would be used to fill the new unpressurized storage facility. Instead of building an expensive elevated water tower or pressurized storage facility a second set of pumps would provide pressurized water to the distribution system. A feedback loop from the pressure pumps back to the unpressurized storage facility would provide the safe, constantly controlled pressure to the customers.

We are also concerned about what the plans are for reducing and controlling the contamination in the aquifer. With the closing of all the private wells in the area the “cleansing” affect of the filtered wells will stop. We have read about other situations where “pump and treat remediation' systems” have been used to contain the problem.

What is EPA’s plan to control the spread of contamination or even cleanse the aquifer?

To summarize our position:

1. – To minimize causing a problem with the Little Switzerland water system,  
a new pumping facility should be built.
2. – It is a waste of energy to tie into the existing Little Switzerland water system.
3. – A much more efficient supply system should be built consisting of:
  - A new well and pumping facility to supply water to
  - An unpressurized storage facility at the lower level near the customers.
    - Pumps that would supply the proper pressurized distribution to the customers.

If you have any questions, please don’t hesitate to call.

Sincerely,

Richard Godfrey and Jane Godfrey

CC John Hickman [hickmanj@eastfishkillny.org](mailto:hickmanj@eastfishkillny.org)

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From: Debra Hall <debraduncanh@optonline.net>  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA  
Subject: question about L.S. water  
Date: 03:46:11 AM Today

Lorenzo,

I see that the water was never tested for Radium. Could the EPA please do a test just to make sure the water does not have any radium issues?

The last lead test was done in 2002. The results were 4.5. Why hasn't the water been tested for lead for the last 6 years?

Debra

--

Debra Hall

Hopewell Junction Citizens for Clean Water  
[www.Hopewell-Junction-Citizens-for-Clean-Water.org](http://www.Hopewell-Junction-Citizens-for-Clean-Water.org)  
debraduncanh@optonline.net

Debra Hall  
Sierra Club Mid Hudson Group  
Conservation Chair  
sierradutchess@optonline.net

From: Caryn Halle <livluna@optonline.net>  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA, challe@optonline.net,halle@us.ibm.com,caryn Halle <halle@us.ibm.com>  
Subject: Hopewell Precision Superfund Site  
Date: 08/04/2008 11:56:28 PM

Dr. and Mrs. Scott Halle  
45 Innsbruck Blvd.  
Hopewell Junction, NY 12533

Lorenzo Thantu  
Remedial Project Manager  
Eastern New York Remediation Section  
U.S. Environmental Protection Agency  
290 Broadway, 20th Floor  
New York, New York 10007-1866  
Telephone: (212) 637-4240, Telefax: (212) 637-3966  
Email address: [Thantu.lorenzo@epa.gov](mailto:Thantu.lorenzo@epa.gov)

Dear Lorenzo:

We would like to comment on the EPA proposal for the Hopewell Precision superfund site. We live on Innsbruck Blvd., in the Little Switzerland Neighborhood (LSN) and have many concerns and unanswered questions about the proposal to supply the superfund site area with the water from the Little Switzerland water system. We understand that the current system is providing water to the 135 homes of The Little Switzerland area, and that if this proposal were approved it would extend the usage of the Little Switzerland water system to an additional 363 residential and 14 commercial properties. The EPA proposal states that the increase in the estimated average daily water usage from 60,750 gallon per day to approximately 160,880 gallons per day. There is a "slight" discrepancy with the current usage from the previous water reports from the Town of East Fishkill which estimate based on an annual usage amount, an approximate production of 76,000 gallons per day. According to the EPA proposal, the estimates of peak water demands would increase from 182,250 gallons/day to between 401,5640 and 482,640 gallons/day. The EPA report uses an assumption that the Little Switzerland supply well could support this increased load based on a previously issued permit. The long term capacity of the supply well to deliver the needed water is a critical issue. Without a detailed understanding of the sustainability of water supply wells, and the impact of >165% increase on the supply well and the aquifer, we and the entire community of Little Switzerland have serious reservations about the proposal to adequately supply the Hopewell Precision Area. About twenty to twenty-five years ago, the original supply well to the LSN went unexpectedly dry. We would not like this kind of surprise again. The Town of East Fishkill water department has constantly reminded the residents of LSN, through mailings and posted signs, that we need to conserve water due to the limitations of the LSN water supply system. It thus seems counterintuitive to the LSN residents that the system was always able to supply 2-3 times the current output. Again, we are very

concerned about the long term supply of water and would strongly request an impact study of the proposed expanded system. In order for the LSN system to supply the required amount of water to the expanded system, the EPA proposal says the current water usage at 450 gallons per day should be reduced to 250 gallons per day, since 45% of the current water in the system is lost to leaks. It is well known to the residents that the LSN water system has continuous leaks and during the course of the year there are many pipe breaks. The system is faulty probably due to poor construction and the lack of good town building codes during original system implementation. The EPA proposal states that "some rehabilitation of the existing distribution system MAY BE REQUIRED." The details provided in the EPA proposal for rehabilitation are lacking. A larger concern is that the increase volume of water from an expanded water load in the current system could have unintended consequences to the current pipes in LSN water system. Will the increase load cause an even higher leak rate? Will the pipe breakage increase? Will the water system be constantly shut down for increased repairs? These are serious concerns to us and the other residents of LSN. We are strongly requesting an impact study be done to assess what the proposed system would do to the current piping infrastructure. The current EPA proposal calls for the construction of an additional larger 250,000 gallon water tower in the current footprint of the existing former water supply house. What we do not understand from the EPA proposal is why build the new tower in the LSN neighborhood? If you are trying to supply the Hopewell Precision Area with water, why not build it closer to the area by locating the water tower on the town owned land where the pumping station is situated? The height of 30-60 feet above the area should provide sufficient water pressure to the residents, Why connect the new tower to the existing LSN water system, which is plagued with leaks and breakage issues? Of greatest concern to us is the proposed location of the larger 250,00 gallon water tower. The only current access to this proposed site is RIGHT THROUGH our driveway and backyard. This additional water tower would be visible to us EVERYDAY and would dwarf our house, since the footprint of the original water house is within a few feet of our property. We are currently having our property appraised by a specialist to assess the effective real loss in property value to us, if the new tower is implemented as per the proposal. This assessment, in terms of property value loss, is currently not available in time for the open review process, but will be so at a later date. If need be, we would be forced to take appropriate actions deemed necessary to protect our property value.

Respectfully,  
Scott and Caryn Halle

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<http://link.mail2web.com/Business/Exchange>

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mail2web.com - Microsoft® Exchange solutions from a leading provider -  
<http://link.mail2web.com/Business/Exchange>

From: dinapete@optonline.net  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA  
Subject: Hopewell Precision Superfund Site  
Date: 11:44:11 AM Yesterday

Dear Mr. Thantu:

My husband and I live at 14 Tall Pines Drive, Hopewell Junction, Dutchess County, New York. We reside in the area where the USEPA declared the Hopewell Precision a Superfund Site. We were away when the public meeting was held on July 17, 2008, and therefore were unable to attend.

Our well is located 300 feet below ground and our water has been tested 3 times by the EPA that resulted in receiving great results for the quality of our water. **Our well and water has not been contaminated.** The houses surrounding ours have 20 foot, 30 foot, and maximum 50 foot deep wells and have all been contaminated. They are in the same aquifer or water table where the contamination from Hopewell Precision traveled.

When family and friends from Rockland County, Orange County, Ulster County, and Connecticut come to visit us, they bring empty water bottles and fill them up at our house because they tell us that our water tastes better than bottled water, and we agree.

I do not want to have my well abandoned, nor do I want to be connected to the Little Switzerland Water Supply and have to pay for my water. I have great, free water and do not want the water from Little Switzerland and do not want to pay for it.

Please let me know what is being considered for our residence at 14 Tall Pines Drive. I am 66 years old and my husband is 67. We are both retired and live on Social Security. With everything else costing so much more these days (oil to heat the house, gasoline, food, etc.), we certainly cannot afford to now pay for water. We do not want to be hooked up to Little Switzerland and do not want our well abandoned. If you check your records, you will see how great our water tests came out, and we were told that we do not have to be tested any more.

Please respond to my e-mail. My e-mail address is: [dinapete@optonline.net](mailto:dinapete@optonline.net)

Thank you,

DinaLee Hernandez  
14 Tall Pines Drive  
Hopewell Junction, NY 12533  
(845) 227-8770

From Leonard Hyman:

## Subject:

# Hopewell Precision Groundwater Problem and Recommended Solutions

## My Interest:

I am a current and long term( 38 years) rate payer in the Little Switzerland Water District. Consequently, I have a deep interest in any possible solution that will potentially degrade my current service.

## Background:

As a long term rate payer, I have observed/experienced the whole life of the Little Switzerland Water District. Like many similar water districts, it has migrated from a privately owned enterprise to public ownership. Shortly after its establishment, the Water Company/District became the victim of apparent shoddy construction and installation. Over the years, there has been significant system leakage, an extremely high level of broken pipes incidents and even pump failures. A drive through the Little Switzerland neighborhood will display road patch after road patch, evidence of the frequent repairs required. Additionally, we have had occasional usage warnings due to drought conditions.

## Concerns:

### Supply

The two wells presently provide some degree of supply contingency for the old and porous system that exists. It makes **absolutely no sense** to quadruple the users and not provide another high flow well system. The EPA report displaying a peak demand of 482K gpd demand vs. 518 gpd supply(only a 7% difference), utilizes zero contingency on both the supply and demand sides to cover estimation uncertainty, supply variations, higher peak usage rates, very high business demands, and other eventualities. **The proposal, in its present state, exposes the current rate payers to an extremely high supply risk, one that is clearly unacceptable. The subject proposal is a “something for nothing” proposal and we all know that doesn’t work.**

To assume that the leakage in the Little Switzerland system can be obviated sufficiently to provide some protection, is certainly overly optimistic for several reasons: Firstly, any work to reduce the leakage further is unfunded and the connection to the Hopewell Precision users only covers a small part of the system. Secondly, it is clearly impractical to assume that all the leaks can be stopped. And thirdly, as one leak gets fixed another will pop up in its place. That has been our clear history.

### Financial

The current ratepayers will be exposed to substantial financial risk when it becomes apparent that a third well is required. Similarly, an interim step to reduce leakages further will have an a financial impact. This data is not included in the EPA financial analysis because they are not assumed to be part of the EPA obligation.

**Summary;**

Alternative AWS 3 is very high risk and has not been properly thought out. **It is an extremely unfair burden on the current rate payers.**

From: jifky@optonline.net  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA, hickmanj@eastfishkillny.org  
Subject: Hopewell Precision Proposed Plan  
Date: 03:42:39 PM Yesterday

Mr. Lorenzo Thantu,

I respectfully submit the attached comments and questions to be included in the Summary Section of the Record of Decision (ROD) associated with the Hopewell Precision Area Groundwater Contamination Site Superfund Proposed Plan. A duplicate signed hardcopy has also been mailed to you. Thank you.

John Ifkovits

91 Dogwood Road  
Hopewell Junction, Ny 12533



(845) 227-5608 John%20Ifkovits%20-%20Hopewell%20Precision%20EPA%20questions.pdf

August 4, 2008

Page 1 of 2 August 4, 2008 My name is John Ifkovits residing at 91 Dogwood Road, Hopewell Junction, NY, and I have some concerns with the regard to the Hopewell Precision Superfund Proposed Plan. I have several questions about the information the Plan presents on page 10. I took the time to peruse the reference documents at the East Fishkill library, including the June, 2008 RI and FSS reports but could find no reference to any test data to support the reported yields of 140 & 220 gpm of the Little Switzerland Water District supply wells. My questions regarding the reported yields are:

1. Who performed the tests? Was it an EPA commissioned test?
2. When were the tests performed?
3. Was the test performed before or after the neighboring Legends subdivision water system was put in service?
4. What were the details of the test, including but not limited to duration, pumping rate, total gallons pumped, recovery levels and rate, allowable yield, constant yield, drawdown, etc.?

The paragraphs on page 10 were taken verbatim from the FFS report except the following sentence associated with the reported yields ("The draught recharge rate is estimated to be 373,190 gpd") was omitted in the Proposed Plan. My question with regard to this is: 5. What is the impact of the draught recharge rate of 373,190 gpd not meeting the projected peak demands of 482,640 or 401,640 gpd? As a thirty six year resident of the Little Switzerland neighborhood I am intimately familiar with the history and shoddy initial installation of the Little Switzerland water distribution loop. Although the Town has been doing an admiral job of repairing the obvious leaks that surface, the current household usage is approximately 450 gpd (vs. 250 gpd metered) resulting in a 200 gpd/per household loss due to in my assumption un-locatable leaks. At the meeting at the Town Hall it was stated by the EPA representatives that the refurbishment of the Little Switzerland water distribution loop was outside the scope of the Plan. However, the calculations in the Plan call for the leaks to be repaired in order for the existing supply wells to meet the demand. My question on this subject is: 6. How confident should I be that this Plan can reduce the current household usage rate from 450 gpd to 250 gpd, given the Plan does not include refurbishment of the entire Little Switzerland distribution system? The Plan also states that although the Plan's operation would not provide for a standby well, it is understood that provisional service agreements could be established as necessary (e.g., short term use of drinking water from another source). My questions with regard to this statement are: Page 2 of 2

7. Am I correct in assuming that before the Plan because of lower demand the existing L.S. water system had a standby well, but with the Plan and resulting increased demand we no longer have a standby well? 8. Would "from another source" mean trucking in water or connecting to another nearby system?

9. Who would be responsible for arranging for and funding these provisional service agreements and/or interconnections?

I have been paying a Little Switzerland Water District assessment on my annual tax bill in addition to my quarterly water consumption bill since 1999 and I am not sure how many additional years I will have to pay this. The most recent assessments for my 2007 and 2008 taxes were \$571.08 and \$632.21 respectively. As I understand it the assessment was for the installation of the replacement water tank and other capitol recovery costs (main breaks, etc.) As you may surmise, as a result of these additional assessed costs to my normal quarterly water bills I am not anxious to see any changes to the current system that could prolong or increase my current assessment. My question with regard to this are: 10. What assurance do I have that my annual cost of water including my assessment will not be increased or prolonged due to the implementation of the Plan.(e.g. additional well or distribution refurbishment required due to increased demand, interconnection to another system for backup, etc.) 11. Will the new residential and commercial users be assessed to help pay down the existing bond if it is still unpaid when they join the system. I sympathize with the residents who are within the plume and agree with them when they say "It is not our fault and we should not be forced to pay for the acts of others". However, I also feel the current residents of the Little Switzerland Water District should not be subjected to additional fees and assessments as a result of this Plans implementation. Respectfully Submitted, John Ifkovits

August 4, 2008

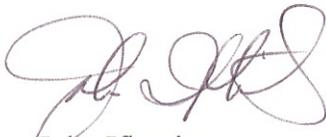
Mr. Lorenzo Thantu  
Remedial Project Manager  
Eastern New York Remediation Section  
U.S. Environmental Protection Agency  
290 Broadway, 20<sup>th</sup> Floor  
New York, New York 10007-1866

Subject: Comments & questions on the Hopewell Precision Proposed Plan

Dear Mr. Thantu,

I respectfully submit the attached comments and questions to be included in the Summary Section of the Record of Decision (ROD) associated with the Hopewell Precision Area Groundwater Contamination Site Superfund Proposed Plan. A duplicate copy has also been emailed to you. Thank you.

Sincerely,



John Ifkovits  
91 Dogwood Road  
Hopewell Junction, Ny 12533  
(845) 227-5608

cc :Town of East Fishkill Supervisor; John Hickman

August 4, 2008

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5. What is the impact of the draught recharge rate of 373,190 gpd not meeting the projected peak demands of 482,640 or 401,640 gpd?

As a thirty six year resident of the Little Switzerland neighborhood I am intimately familiar with the history and shoddy initial installation of the Little Switzerland water distribution loop. Although the Town has been doing an admiral job of repairing the obvious leaks that surface, the current household usage is approximately 450 gpd (vs. 250 gpd metered) resulting in a 200 gpd/per household loss due to in my assumption un-locatable leaks. At the meeting at the Town Hall it was stated by the EPA representatives that the refurbishment of the Little Switzerland water distribution loop was outside the scope of the Plan. However, the calculations in the Plan call for the leaks to be repaired in order for the existing supply wells to meet the demand. My question on this subject is:

6. How confident should I be that this Plan can reduce the current household usage rate from 450 gpd to 250 gpd, given the Plan does not include refurbishment of the entire Little Switzerland distribution system?

The Plan also states that although the Plan's operation would not provide for a standby well, it is understood that provisional service agreements could be established as necessary (e.g., short term use of drinking water from another source). My questions with regard to this statement are:

7. Am I correct in assuming that before the Plan because of lower demand the existing L.S. water system had a standby well, but with the Plan and resulting increased demand we no longer have a standby well?
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9. Who would be responsible for arranging for and funding these provisional service agreements and/or interconnections?

I have been paying a Little Switzerland Water District assessment on my annual tax bill in addition to my quarterly water consumption bill since 1999 and I am not sure how many additional years I will have to pay this. The most recent assessments for my 2007 and 2008 taxes were \$571.08 and \$632.21 respectively. As I understand it the assessment was for the installation of the replacement water tank and other capitol recovery costs (main breaks, etc.) As you may surmise, as a result of these additional assessed costs to my normal quarterly water bills I am not anxious to see any changes to the current system that could prolong or increase my current assessment. My question with regard to this are:

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11. Will the new residential and commercial users be assessed to help pay down the existing bond if it is still unpaid when they join the system.

I sympathize with the residents who are within the plume and agree with them when they say "It is not our fault and we should not be forced to pay for the acts of others". However, I also feel the current residents of the Little Switzerland Water District should not be subjected to additional fees and assessments as a result of this Plans implementation.

Respectfully Submitted,  
John Ifkovits



Christopher Jastrzembski  
4 Geneva Drive  
Hopewell Junction, NY 12533  
July 21, 2008

Lorenzo Thantu  
Remedial Project Manager  
Eastern New York Remediation Section  
U.S. Environmental Protection Agency  
290 Broadway, 20<sup>th</sup> Floor  
New York, NY 10007-1866

Dear Mr. Thantu:

The presentation you gave on Thursday was excellent, and the material you distributed was very informative. Everyone did a great job on the presentation.

As a Little Switzerland water system user, I have several concerns.

- 1.) Any planning of using the Little Switzerland water supply should include replacing, the existing water mains, not just repairing them. I was told that the existing pipes were not properly backfilled when the system was built, and is subject to continued breaks. Also, many years ago, I was told by the fire department that the hydrants are not reliable and should not be used. Reliable service to an additional 350 customers requires an improved infrastructure.
- 2.) I am very concerned that the following changes to water flow around the contaminated site may cause the Little Switzerland wells draw in contaminants from the site. These changes include less draw by individual wells in the study area, increased draw from the Little Switzerland wells, and less leakage of the Little Switzerland water mains, which may affect water flow patterns. Also, the distance from Hopewell Precision to the Little Switzerland wells is only approximately 1400 feet. (Please see the attached aerial photo). The Hopewell Precision site is approximately 85 feet higher than the draw of the Little Switzerland wells, so it is feasible that the Little Switzerland wells can draw water from the contaminated site. I calculated the numbers from USGS topographical maps.
  - a. The elevation of the top of the Little Switzerland wells is approximately 420 feet, but the wells are about 200 feet deep, drawing at approximately an elevation 220 feet.
  - b. The elevation of Hopewell Precision is approximately 305 feet.

Although an additional pump and generator would be needed, perhaps a third well at a location further from the contaminated site, filling the Little Switzerland tank(s) would provide a solution that would provide a clean, adequate supply of water to all on the system.

Sincerely,



Christopher Jastrzembski



$\pm 1400'$  FROM RYAN DRIVE  
TO WELLS  
(YELLOW LINE)

well elevation = 420 (top) - 200' depth  
Hope well precision elevation =  $\pm 305$   
Well Depth =  $\pm 220'$

From: Sarah Knickerbocker <knickers@us.ibm.com>  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA  
Subject: Hopewell Precision Site Question  
Date: 04:40:49 PM Yesterday

Dear Mr. Thantu,

Plumes, by their very nature are constantly moving. We have seen the plume which started at Hopewell Precision has moved about 2.5 miles in about 30 years. Is the EPA taking into consideration the FUTURE movement of the plume when they lay out their water pipes? Do they have a model which predicts the direction and rate of future movements? And, if so, will you lay pipe to cover these areas that will likely be contaminated in the next 5, 10, 15 or even 30 years? Or will you only run pipes to areas that are CURRENTLY contaminated. In the future, is the EPA assuming that when the plume moves, these newly contaminated homes will use the POET system? Will areas on the edge of the plume be continuously tested over the next few years or will the EPA say that their work is done once the pipes are laid?

(I'm sure you have guessed by now that my home is just outside the contaminated area.)

Thanks.

Sarah Knickerbocker  
208 Creamery Road  
Hopewell Junction, NY 12533  
(845) 221-3393

Sarah Knickerbocker, PhD  
Senior Engineer  
IBM Microelectronics  
Hudson Valley Research Park  
Hopewell Junction, NY 12533

From: cek144@optonline.net  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA  
Subject: little switzerland water tower  
Date: 08:29:56 AM July 22, 2008

Mr. Thantu my name is Chris Kyrrou and I live in Little Switzerland directly in front of the aqua fir. I was present at the meeting held on July 17 and I have a few concerns. The question was asked regarding cross contamination between the super fund site and the existing water supply in Little Switzerland and there was not a definitive no this cannot happen. Would it not be better to offer the people in the contaminated area their own well in another location to prevent the possibility of cross contamination. My second concern is the water tank. How large will it be ? Can it be made to look like the old water tank which resembles a house? I also would like to know is this plan definitely going to happen?

Thank You  
Chris Kyrrou

From: cek144@optonline.net  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA  
Subject: little switzerland water  
Date: 08:30:00 AM Today

Mr Thantu I live in the little switzerland area and would like to know if the water tank for those affected can be placed next to the pump station. Would this not make more sense and cost less? I would also like to know how large the tank will be.

Chris Kyrrou

From: Mschablis@aol.com  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA  
Subject: Not hooking up!  
Date: 08/03/2008 09:52:01 AM

My husband Jim and I prefer NOT to hook up to the new water system, as we are definitely NOT willing to pay for something that we now get for free. Our water has tested fine, and so has our air.

In any case, what is wrong with Hopewell Precision paying for the water? They seem to be getting away with no responsibilities in this case, and they HAVE caused the problems! Why should the people in our area be forced to pay for water they wouldn't have needed if Hopewell Precision hadn't been so negligent in the first place!

Thank you.

Karen and Jim Madden

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From: gaetano messina <messinag@yahoo.com>  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA, Margaret Messina <benenati62@hotmail.com>  
Subject: Hopewell Precision Superfund Site  
Date: 09:46:46 AM Yesterday

Dear Mr. Thantu,

This note to address my support for proposition AWS 3.  
I have the POET system and the vapor intrusion system installed in my house,  
but nothing offer a better solution that the permanent proposal to bring central  
water into the area.

The idea that my water is contaminate is a bad feeling, even when all contaminant  
are removed by the filtration system.

Thanks to you and the EPA for all good work done.

My best regards.

Gaetano & Margaret Messina  
1323 Route 82  
Hopewell Junction, NY 12533

From: "Pliakos, Mark (MED US)" <mark.pliakos@siemens.com>  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA, <mpliakos@aol.com>  
Subject: Hopewell Precision Question From Little Switzerland Resident  
Date: 02:23:52 PM Today

Hello Lorenzo

My name is Mark Pliakos and I am a Little Switzerland resident. I attended the EPA meeting in the town hall, and I thank you for the time you put in to answer all our questions.

I have one question (I hope it's simple!).

Do you know the date that the well / aquifer capacity studies were conducted? The report handed out that night indicates we have the capacity for the additional homes, but it does not give a date for those tests. It would be nice to know if the test data is one year old, 5 years old, etc.

Thank You for your time.

**Mark Pliakos**  
32 Mountain Pass Road  
Hopewell Junction NY 12533  
(845) 226-2283

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Thank you

From: Dpliakos@aol.com  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA, Mpliakos@aol.com, Raarf@aol.com, hickmanj@eastfi  
Subject: MARK PLIAKOS question on Little Switzerland Water testing  
Date: 05:34:11 PM Yesterday

Hello

I am going over the EPA information and my water testing reports for the Little Switzerland Water District.

I reviewed my Annual Water Quality report for 2007 and noticed only one testing date (test for Nitrate) was performed in 2007. Many of the tests have not been re-run since 2005. The oldest test is from 2002 for lead.

I also reviewed previous water quality reports presented on the Hopewell Citizens for Clean Water web site (for 2006) and saw the only test that was changed was the Nitrate test.

This implies that each year many of the tests are not re-run and the report is simply a paper-drill that does not contain current water quality data.

Considering the EPA is now planning on hooking more houses to this water supply, I find it hard to believe that the decision is being made with test results that are in some cases six years old.

Also, there is no evidence that any testing was done for the very contaminants that are affecting the residents in the Hopewell Precision Operation Unit.

Please explain how this works or please provide the latest testing data. I have copied the Supervisor because I would like to know why we do not have the most current test results if such results exist.

Thank you for your time.

Mark Pliakos  
32 Mountain Pass Road  
Hopewell Junction NY 12533  
(845) 226-2283  
[mpliakos@aol.com](mailto:mpliakos@aol.com)

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From: "Pliakos, Mark (MED US)" <mark.pliakos@siemens.com>  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA, <mpliakos@aol.com>  
Subject: MARK PLIAKOS Thank You  
Date: 12:33:11 PM Today

Hello Lorenzo;

Thank you for calling my home and leaving me an updated message on my questions. Our phone machine cut off the end of your message, but I understand that answers will be documented in the final report.

I have one additional question / concern. As part of my continued investigation into our water system I have contacted VRI (our water company) and asked if the Fire Hydrants have sufficient pressure and if the hydrants have been checked recently. I was told that the hydrants are not Fire Rated, and that they are flushing hydrants (used only to clean out the water supply pipes, not to supply pressure for fighting fires).

So my additional comment is: We already have pressure that is too low to have our hydrants fire rated; Will the EPA proposal affect our pressure even more?

I am very concerned that without upgrades to all the pipes in our system (not just the pipes associated with the EPA solution) we will loose even more pressure.

Also, I never received a response from Brendan on my question about the date of the well capacity testing.

Thank You again for your quick responses.

Mark Pliakos

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Thank you

25 July 2008

To: Lorenzo Thantu  
Remedial Project Manager  
Eastern New York Remediation Section  
U.S. Environmental Protection Agency  
290 Broadway, 20<sup>th</sup> Floor  
New York, New York 10007-1866

From: Mark Pliakos  
32 Mountain Pass Road  
Hopewell Junction NY 12533  
(845) 226-2283  
[mpliakos@aol.com](mailto:mpliakos@aol.com)

Mr. Thantu;

During the EPA hearing at East Fishkill Town Hall concerning the Hopewell Precision Clean-Up (17 July 08) the basic facts were clearly presented:

- The hazard to human health is contaminated local drinking wells and dangerous vapors in many houses.
- The root cause is contaminated soil that contains the dangerous chemicals, whose plume of contamination continues to expand.
- The EPA split the site into two Operational Units (OU). OU1 objective is to provide clean water to residents of the affected area. OU2 objective is to get to the root cause of the problem by addressing the soil contamination.
- OU1 plan to provide clean drinking water would be complete by 2012.
- The soonest an OU2 plan could start would be at the end of the OU1 activity (2012), meaning the earliest any activity would start to address the root cause of the problem (removing contamination from the soil) is 2012.

I disagree with the proposed EPA decision to split the site into to OU because the decision delays work on the root cause of the problem and inaccurately assess the risk to human health.

**Splitting the site into two Operational Units (OU) delays action on fixing the root cause.** Splitting the site into two Operational Units (OU) will delay dirt removal, which is the root cause of the problem. The EPA stated that the site has been split into two OU so “quick” action can be taken on the water issue and dirt removal would be long term. Assuming no action on OU2 (dirt removal) will take place before OU1 is complete, and assuming EPA estimates are accurate, dirt removal would not begin until 2012 at the

soonest (2012 is the year EPA estimates homes will be hooked up to the new water supply and OU1 action would be complete).

**Splitting the site into two OU delays any action on preventing the plume of pollution from expanding.** OU1 will address water but has no recommendation for removing soil or otherwise mitigating the expansion of the plume of pollution. The current EPA solution will actually delay such activities since the plan is to not address OU2 solutions until an OU1 solution is put in place. Once again we see delayed action on the root cause of the problem because the EPA has chosen to split the site into two OU instead of one OU.

**Splitting the site into two OU results in EPA doing excavation and construction in contaminated dirt.** Digging up the site to install a new water system will disturb and distribute the contaminated dirt, which could spread the very contamination the EPA is trying to contain and put construction workers and residents at risk as the activity raises dust and otherwise spreads the contamination. The goal should be to limit the contamination spread and then remove the contamination. Conducting a construction project that digs up contaminated dirt around 240 or more homes and then puts the dirt back in place while residents wait for OU2 to be acted upon does not seem logical. If anything, the dirt removal should take place at the same time excavation for the water system takes place. Digging up contaminated dirt with properties that release unhealthy vapors into the air and then replacing the contaminated dirt seems counterproductive and dangerous.

**Splitting the site into two OU skews the analysis of the risk to human health associated with each of the alternatives.** The present EPA plan shows the cost of the “Do Nothing” alternative, the “Leave POET Systems in Place” alternative, and the “Hook up to Little Switzerland Water Supply” alternative. Part of the analysis contains risk to human health. Because the site has been split into two OU, the risk to human health of not removing the contaminated dirt is not accurately represented in analysis. The contaminated dirt represents two risks to human health; water pollution and air pollution (vapors in the homes). The risk from vapors in the homes is not addressed with the OU1 solution. So the risk to human health is not being properly evaluated over the time duration of evaluation for each alternative.

**Treating the site as one OU could get all the solutions in place sooner.**

If the site is treated as one OU then a reasonable approach would be as follows:

- (a) Install POET systems in all homes as soon as possible to ensure clean water for residents. This could be done in two months (assume October 2008 complete).
- (b) Starting in November 2008, begin the work to remove the soil and/or contaminants from the soil. Assume this activity will take 2 years. This puts the completion date at November 2010. This option excavates the contaminated soil only once, and would remove years of time the contaminated plume could grow.
- (c) Retest the wells for six months starting in November 2010. If the water is clean, remove the POET systems and let residents use the wells. The EPA will not be required to retest for years.

- (d) If the water is not clean, then begin the Little Switzerland supply option. Taking another two years to complete, this puts the solution at some time in 2012, but provides the opportunity to be done in 2010.

I ask all relevant government officials to contact the EPA and revisit the reason the site was split into two OU. The current OU1 plan will create a \$15.6 Million Capital construction project to connect to a water supply (Little Switzerland) that is old and inefficient, and who's constant leaking represents a serious load on the aquifer, while delaying action on the root cause of the problem and underestimating true risk to human health from dangerous vapors

*Mark Pliakos*

Mark Pliakos

32 Mountain Pass Road

Hopewell Junction NY 12533

(845) 226-2283

[mpliakos@aol.com](mailto:mpliakos@aol.com)

From: "MacDonald, Brendan" <MacDonaldBC@cdm.com>  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA, "Schofield, Susan" <SchofieldSE@cdm.com>  
Subject: FW: MARK PLIAKOS question from Lorenzo  
Date: 08/04/2008 06:54:18 PM

FYI / Another response from Mark-

Brendan

**From:** Pliakos, Mark (MED US) [mailto:mark.pliakos@siemens.com]  
**Sent:** Monday, August 04, 2008 2:34 PM  
**To:** MacDonald, Brendan  
**Subject:** RE: MARK PLIAKOS question from Lorenzo

Hi Brendan

Thank you for the response. It is a little unsettling to go to a meeting where we are told "this option is feasible because the well has more than enough capacity" without having a knowing when the data was collected.

I am running into the same problem concerning data about VOC in our water. For example, if an option is to use Little Switzerland water then we should have tested within the last year (during the feasibility period) to ensure the contaminants in the Hopewell Precision site are not in the Little Switzerland water.

Thanks again for your help.

Mark Pliakos

**From:** MacDonald, Brendan [mailto:MacDonaldBC@cdm.com]  
**Sent:** Monday, August 04, 2008 1:30 PM  
**To:** Pliakos, Mark (MED US)  
**Cc:** mpliakos@aol.com; Schofield, Susan; Thantu.Lorenzo@epamail.epa.gov  
**Subject:** RE: MARK PLIAKOS question from Lorenzo  
Hello Mark.

Thanks for your patience. The wells were installed during the 1960s. The well capacities information obtained to date has been provided by the Town. We are working with the State of New York to obtain additional information and all appropriate information will be provided as part of a response to this question within the Responsiveness Summary.

Regards,

Brendan C. MacDonald, P.E., BCEE, LEED® AP, LSP  
CDM  
125 Maiden Lane, 5th Floor  
New York, New York 10038

tel: (212) 377-4514  
fax: (212) 785-6114  
e-mail: [macdonaldbc@cdm.com](mailto:macdonaldbc@cdm.com)

**From:** Pliakos, Mark (MED US) [mailto:[mark.pliakos@siemens.com](mailto:mark.pliakos@siemens.com)]  
**Sent:** Tuesday, July 29, 2008 12:35 PM  
**To:** MacDonald, Brendan  
**Cc:** [mpliakos@aol.com](mailto:mpliakos@aol.com)  
**Subject:** MARK PLIAKOS question from Lorenzo

Hi Brenden

Lorenzo told me that you would be able to provide the dates for the well capacity testing for the Little Switzerland water system.

I have not received an answer and the close out date for public response to the EPA plan is 5 August.

Can you help me with the dates?

Thank You.

Mark Pliakos  
32 Mountain Pass Road  
Hopewell Junction NY 12533  
(845) 226-2283  
[mpliakos@aol.com](mailto:mpliakos@aol.com)

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Thank you

From: Roberto Romani <robertoromani@mac.com>  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA  
Subject: Hopewell Precision Superfund Site  
Date: 04:38:45 PM 9/10/08

Dear Sir,

I am a school teacher and was away during the comment period (7/7-8/19/08) regarding the contamination of my area. My main concern is the immediate need for potable water.

The proposed plan will not provide my family with safe water any time in the near future. It may be a period of years before the proposed solution is implemented. I would like either a filter installed at my residence or potable water delivered to my residence until the long term project is complete.

Thank you for your attention to this matter.

Sincerely,

Mr. R. Romani  
54 Hemlock Drive  
Hopewell Junction NY 12533

US EPA / Hopewell Precision Superfund Site Hopewell Jct., Dutchess  
County, NY 12533

From: <barbara.roy@boehringer-ingelheim.com>  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA  
Subject: Hopewell Precision Site  
Date: 08:03:54 AM Yesterday

Mr. Thantu,

I have been a resident of the Hopewell Precision Site for 21 years and wanted to express my support in providing an alternative water system to this site. I do not see the POET system as a long term solution. We need to look at the number one issue, the health risk of continuing to pump water from contaminated wells. Below are my comments regarding ASW-2.

Page 9, Paragraph "Reduction in Toxicity, Mobility or Volume" claims that under AWS-2, the continued pumping of ground water would accelerate remediation.

I disagree because the solvents are in all likelihood floating on the top of the underground water of body. The well water is probably being withdrawn from under this top layer of solvents. Continued pumping of the ground water would make the underground VOCs concentration higher since your not tapping into the top layer of solvents. I would also question whether continued well pumping would make the plume move slower causing more environmental damage. Dilution is the Solution to Pollution.

2)I disagree with the Cost Paragraph, on Page 9. If the current annual cost of AWS-2 is \$978,000, why is this figure treated as a fixed annual payment discounted back to the present at a 7% rate.

It is a figure driven by inflation, fuel, filters, labor, etc., and if the 7% rate is to account for inflation, then the present worth of 978,000 of today's services for 30 years would be \$29.34 million (30 years x \$978,000 dollars). This 29.34 dollars plus the 3.292 million for AWS-2 capital cost, makes the grand total of AWS-2 in present worth dollars equal \$32,632,000 dollars. Therefore AWS-3 is less than 1/2 the cost of AWS-2.

4) Has the home owners' facility expenses (square footage, electricity, leakage damage, loss of property value) of the POET filter system been included in the economical analysis?

**Barbara Roy**

From: msomme@optonline.net  
Recipients: Lorenzo Thantu/R2/USEPA/US@EPA  
Subject: Hopewell Precision Town Meeting - Feedback  
Date: 07/25/2008 11:17:29 AM

Lorenzo...

Following the meeting on July 17th, I had a few comments/questions I wanted to log with you.

1) While my water and air sub-slab results came back "negative" for toxins and it appears as though my home is not affected by the plume will there be additional testing as we move forward? When I asked if there were any homes north of the site that were affected the answer was not as definitive as I had hoped. Although I don't know the exact quote...the response was "I don't think" or "I don't recall" that any homes north of the site were affected. That said, I'm not 100% convinced that there's not a chance that I could be impacted (although I'm hopeful that we are not) and would expect that the EPA would continue testing my well water. Said another way, based on input from the geologist (can't recall his name) is it possible that while I'm not affected today that I could be in the future?

2) While there is a defined area affected by the plume this will continue to move southward so what's the remediation plan for those not currently in scope? They too should be made aware of the issue and the current alternative #3 (seeking water from Little Switzerland) does not take into account having to funnel water to additional homes further down 82 (or south in general).

3) Page 9 of the presentation states that there were approximately 67 residences with elevated TCE contamination yet only 53 residences had SVS systems installed. I understand that participating is voluntary but do these individuals really understand the impact of not having this remediated? I believe the EPA should follow-up with these homeowners again in order to make them aware of the potential risks of not taking any action.

4) As I understand it the "dumping" occurred when Hopewell Precision was located at their former site of 15 Ryan Drive and that when they moved to 19 Ryan Drive (which is directly behind my home) they were compliant and no further dumping occurred. Is that accurate? Given the close proximity to my home (and the yard where my kids play) I need some level of assurance that there are no risks...and that I understand the history correctly.

5) Are we sure that Hopewell Precision's current operations are "okay"? Given their history I expect that they should be subject to surprise inspections (for the lack of a better word) by the EPA, DEC, or others to ensure that they are now compliant. While I understand there have been management/ownership changes since the 1980s they should be subject to a higher level of scrutiny in order to protect the well-being of those in the area.

6) Lastly, while it does not appear as though I'll need to link into the new water supply (if that's the alternative that is chosen) I have some concerns for those that will. First, the monthly cost. I don't see why a homeowner should have to be burdened by additional cost due to someone else's negligence. Second, given the problems the current residents of Little Switzerland are experiencing with their water supply (i.e. low pressure, leaks, water main breaks) this will only worsen by adding 350+ homes to this type of system.

Thanks for your time Lorenzo and as you can see by my comments I'm concerned not only for my family but also other affected by this horrible situation. I truly hope that whatever solution is used it mitigates the health risks associated with Hopewell Precision's negligence.

If you have the opportunity to respond to my individual questions I would appreciate it, otherwise I'll look forward to seeing the public response that should be posted in the coming months.

...Michael Somme  
12 Pierce Arrow Road

56 Clove Branch Road  
Hopewell Junction NY 12533  
July 30, 2008

Lorenzo Thantu, Remedial Project Manager  
Eastern New York Remediation Section  
U.S. Environmental Protection Agency  
290 Broadway , 20<sup>th</sup> Floor  
New York NY 10007-1866

RE: Hopewell Precision Site

Dear Mr. Thantu:

I attended the July 17 meeting regarding the Hopewell Precision Superfund Site and have several questions.

Why haven't we had our water tested since 7/24/07 and our air tested since 2/16/07?  
When will we be tested again?

Also, will the EPA continue to test our air and water until POET systems are installed in all homes or the alternate water supply is connected (projected completion 2010)?

Sincerely,



Joan W. Stuckey

56 Clove Branch Road  
Hopewell Junction NY 12533  
July 31, 2008

Lorenzo Thantu, Remedial Project Manager  
Eastern New York Remediation Section  
U.S. Environmental Protection Agency  
290 Broadway, 20<sup>th</sup> Floor  
New York NY 10007-1866

RE: Hopewell Precision Site

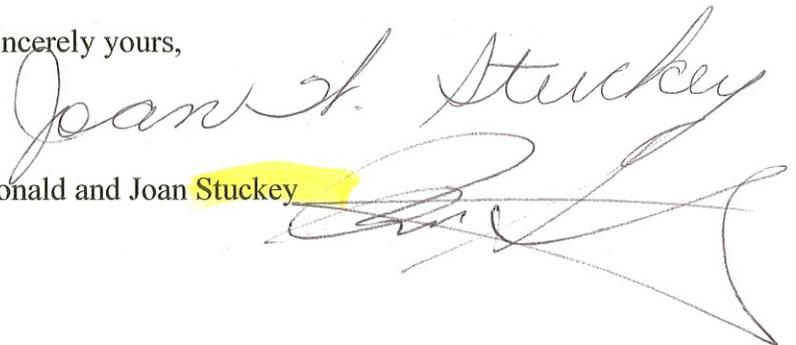
Dear Mr. Thantu:

We would like to submit the following comments on the Proposed Plan for remediation for the residents of the Hopewell Precision Site:

1. We do not like chemically treated public water.
2. The residents of Little Switzerland, the proposed public water supply, have problems with their existing system, and hooking us up to their supply would only strain the system more.
3. We like our well water and at present have no contamination. Because we are near the "plume" we would prefer to have the POET system installed and monitored for possible future problems.
4. While we realize attaching to the Little Switzerland water supply would alleviate further monitoring by the EPA, the overall cost of installing and monitoring the Poet systems wouldn't come close to the estimated \$15 million connection. With the public water system, our taxes would go up for maintenance, and we would have to pay for our water. In the long run, the POET system would save money for the EPA, the Town of East Fishkill taxpayers, and the current private well owners.

Sincerely yours,

Ronald and Joan Stuckey

A handwritten signature in cursive script, appearing to read "Ronald and Joan Stuckey", is written over a yellow highlight on the typed name. The signature is fluid and extends across the width of the typed name.