Department of Environmental Conservation

Division of Environmental Remediation

Record of Decision
Luzerne Road Site
Operable Units No. 2 and 3
Town of Queensbury,
Warren County, New York
Site Number 5-57-010

March 2005

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* Denise M. Sheehan*, Acting Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

Luzerne Road Inactive Hazardous Waste Disposal Site
Operable Units No. 2 & 3
Town of Queensbury, Warren County, New York
Site No. 5-57-010

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedy for Operable Units #2 and #3 of the Luzerne Road site, a Class 2 inactive hazardous waste disposal site. The selected remedial program was chosen in accordance with the New York State Environmental Conservation Law and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for Operable Units # 2 and #3 of the Luzerne Road Site inactive hazardous waste disposal site, and the public's input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

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

Description of Selected Remedy

Based on the results of the Remedial Investigation and Feasibility Study (RI/FS) for the Luzerne Road Site and the criteria identified for evaluation of alternatives, the NYSDEC has selected excavation of on-site contaminated soils with treatment by thermal desorption. The components of the remedy are as follows:

- Excavation of the soils in the PCB containment cell and excavation of the on-site contaminated surface soil to 1 part per million (ppm) in the top one foot, and to 10 ppm in the subsurface soils;
- On-site treatment of all excavated materials by thermal desorption, and backfilling of the treated soils into the excavated areas on-site;
- Development of a site management plan that addresses residual contaminated soils that may be excavated from the site during future redevelopment;

- Development of a site management plan that addresses residual contaminated soils that may be excavated from the site during future redevelopment;
- Institutional controls to prevent use of site groundwater and require compliance with the approved site management plan;
- Long term monitoring of the groundwater to evaluate the effectiveness of the source removal and treatment actions of the PCB contaminated soils; and
- Annual certifications from the property owner, submitted to the NYSDEC, that the institutional controls and engineering controls are still in place.

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs that the remedy selected for this site is protective of human health.

Declaration

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

MAY 31 2005

Date

Dale A. Desnoyers, Director
Division of Environmental Remediation

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RECORD OF DECISION

Luzerne Road Site
Operable Units No. 2 & 3
Town of Queensbury, Warren County, New York
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SECTION 1: SUMMARY OF THE RECORD OF DECISION

The New York State Department of Environmental Conservation (NYSDEC), in consultation with the New York State Department of Health (NYSDOH), has selected this remedy for the Luzerne Road Site, Operable Units 2 and 3, which consists of the polychlorinated biphenyl (PCB) containment cell and historic disposal area and the impacted on-site and off-site groundwater. The presence of hazardous waste has created significant threats to human health and/or the environment that are addressed by this remedy. As more fully described in Sections 3 and 5 of this document, the salvaging of capacitors has resulted in the disposal of hazardous wastes, including PCBs. These wastes have contaminated the soil and groundwater at the site, and have resulted in:

- a significant threat to human health associated with current and potential exposure to soil and groundwater

- a significant environmental threat associated with the impacts of contaminants to the soil and groundwater

In order to restore the Luzerne Road inactive hazardous waste disposal site to predisposal conditions to the extent feasible and authorized by law, but at a minimum to eliminate or mitigate all significant threats, the NYSDEC has selected the following remedy:

- A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program.

- Excavation of the soils in the PCB containment cell and excavation of the on-site contaminated surface soil to 1 part per million (ppm) in the top one foot, and to 10 ppm in the subsurface soils. A demarcation layer will be installed over soils that are residually contaminated above 1 ppm.

- On-site treatment of all excavated materials by thermal desorption. After the treatment of the soils, the site will be restored by placement of the treated soil, placement of topsoil, and seeding of excavated and/or filled areas.

- A site management plan will be developed to address residual contaminated soils that may be excavated from the site during future redevelopment.

- Imposition of an institutional control in form of an environmental easement that will: (a) require compliance with the approved site management plan, (b) limit the use and development of the property to commercial, industrial or recreational uses; (c) restrict use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the New York State Department of Health; and, (d) require the property owner to complete and submit to the NYSDEC an annual certification.

- Long term monitoring of the groundwater to evaluate the effectiveness of the source removal and treatment actions of the PCB contaminated soils.

- The property owner will need to complete and submit to the NYSDEC an annual certification that the institutional controls and engineering controls are still in place.

The selected remedy, discussed in detail in Section 8, is intended to attain the remediation goals identified for this site in Section 6. The remedy must conform with officially promulgated standards and criteria that are directly applicable, or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, criteria and guidance are hereafter called SCGs.

SECTION 2: SITE LOCATION AND DESCRIPTION

The site is located in the Town of Queensbury, Warren County. It is approximately nine acres in total, and is located on Luzerne Road. Luzerne Road is one street north of Main Street (Corinth Road), which is the location of Exit 18 of the Northway (I-87). The surrounding area is mainly flat land located in a combination of residential and light industrial/commercial properties. Immediately to the east of the site, there is property that could be developed as commercial/light industrial. Figure 1 is the site location map.

The only topographic change is the property to the west, which is the Old Glens Falls Landfill Site (5-57-003), another Class 2 Inactive Hazardous Waste Disposal Site. The area to the north has a depression, which could have been a borrow pit for daily cover for the landfill. Figure 2 outlines the two sites. The Glens Falls Landfill has a selected remedy, in the 2003 Record of Decision for that site, for an impermeable landfill cap on the landfill.

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

Operable Unit 1 (OU1) for this site was the initial response action taken by the NYSDEC to prevent exposure to PCBs in 1979, by creating the PCB containment cell to hold the PCB contaminated materials and soils until a viable technology could be attained.

Operable Unit (OU) No. 2, which is the subject of this PRAP, consists of the PCB containment cell, and the surface soils on the rest of the 51 Luzerne Road property, and the back lot of the 53 Luzerne Road property.

OU3, which is also the subject of this PRAP, is the PCB groundwater plume that is monitored by the NYSDEC. Currently, monitoring wells are located through the plume to check the concentrations and movement of the contamination. In addition, a well survey was performed in order to note if there were any private wells using the shallow groundwater aquifer.

Due to site size and variations in both vegetation and topography, the Luzerne Road site study area was divided into six areas for investigation. These areas include the PCB landfill cell, which was considered one area. The "southern area" is the area south of the landfill and is bounded by the cell on its north side, Luzerne Road on its south side, and dirt access roads on its east and west sides. The "western area" is bounded on the east by the landfill cell and the dirt access road leading to the cell; the concrete block building at its southern side; a wooded area on its western side; and the Glens Falls Landfill on its northern side. The "northern area" consists of a 100-foot wide strip paralleling the northern side of the landfill cell. The "eastern area" consists of a 150-foot wide strip paralleling the eastern side of the landfill cell. North of the landfill cell is a wetland area. Figure 3 shows the site areas.

The site consists of the 51 Luzerne Road (Tax Map No. 309.10-1-91) and the back portion of 53 Luzerne Road (Tax Map Lot No. 309.10-1-90). The 51 Luzerne Road property consists of the PCB cell and the "southern area." The back portion of 53 Luzerne Road is the "western area" of the study area, and is owned by a private party. The 51 Luzerne Road land is owned by the State of New York, who took title of the land after the creation of the PCB cell (mentioned further below in the Remedial History).

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

During the 1950's through the 1970's (exact dates are not known), off-spec capacitors were transported to the back lot of 53 Luzerne Road. The capacitors were cut apart and the metals were salvaged. The oils within these capacitors spilled onto the grounds of 53 Luzerne Road. The oils were impregnated with PCBs.

3.2: Remedial History

In 1987, the NYSDEC listed the site as a Class 2 site in the Registry of Inactive Hazardous Waste Disposal Sites in New York. A Class 2 site is a site where hazardous waste presents a significant threat to the public health or the environment and action is required.

Before that classification, in 1979, the State, acting to reduce exposure pathways from the 53 Luzerne Road site, created a containment cell on the adjoining parcel at 51 Luzerne Road. All wastes from 53 Luzerne Road, and other local properties where capacitors were salvaged, as well

as some 13,000 cubic yards of contaminated soils, were emplaced in the clay lined and capped cell. An unknown volume of contaminated soil was left on the 53 Luzerne Road site. That soil was covered with a highly organic layer to reduce the volatilization of the PCBs, and covered with top soil and grass seed. No effort was made to remediate site contaminated groundwater at that time. The State took title of the land after the creation of the PCB cell.

From 1979 to 1985, water that collected at the bottom of the containment cell was pumped out and transported off-site for treatment. In 1985, the leachate removal concluded with the addition of an engineered cover over the cell. However, liquid remained in the cell and was monitored over the next ten years. In 1995, the liquid level in the cell was observed to drop. Therefore, the remaining liquid in the cell was pumped out and treated off-site. There is a negligible amount of liquid still present. The containment cell continues to be monitored.

The USEPA issued a TSCA approval for the construction of the cell and an emergency declaration was issued by the Commissioner of the New York State Department of Health. The purpose of this action was to limit human exposure from the contaminated PCB soils of the residential properties, as well as the 53 Luzerne Road property. The cell was considered a temporary measure (to stop PCB volatilization and prevent direct contact) and not a permanent disposal site.

Three previous site investigations provide environmental media condition data relevant to this site:

In 1987, a Phase II study was conducted for the Glens Falls Landfill (immediately to the west of the site). That study found PCBs in groundwater downgradient of the landfill (in the southeast direction).

In 1991, a study conducted by the owners of 53/55 Luzerne Road found PCB concentrations in the soils up to 62,300 ppm at the 53 Luzerne Road property. Approximately 25 cubic yards of soil were excavated from the 53 Luzerne Road property.

In 1996 to 1997, NYSDEC conducted a supplemental soil and groundwater investigation around the Glens Fall Landfill, and concluded that the soils on 53 Luzerne Road contained elevated PCB concentrations.

SECTION 4: ENFORCEMENT STATUS

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

The PRPs for the site, documented to date, include: Alfred and Roslyn Alkes, property owners from 1951 to 1976; Fred H. Alexy, Leo R. Monahan and Robert E. Geh, property owners from 1976 to 1994; FLR Associates, Ltd., current owner; Marshall Pond, possible transporter; AMG Industries, Inc., possible former operator; City of Glens Falls, possible former transporter; and General Electric Company, possible generator.

No agreement could be reached with any PRP to perform the RI/FS. After the remedy is selected, PRPs will be contacted to assume responsibility for the remedial program. If an agreement cannot be reached with the PRPs, the NYSDEC will evaluate the site for further action under the State Superfund. The PRPs are subject to legal actions by the state for recovery of all response costs the state has incurred.

SECTION 5: SITE CONTAMINATION

A remedial investigation/feasibility study (RI/FS) has been conducted to evaluate the alternatives for addressing the significant threats to human health and the environment.

5.1: Summary of the Remedial Investigation

The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The RI was conducted between July 1999 and March 2001. Additional groundwater sampling was performed in 2002 and 2004.

The field activities and findings of the investigation are described in the RI report.

The following activities were conducted during the RI:

- Research of historical information;
- Collecting and analyzing surface soils samples for PCBs;
- Collecting subsurface soil samples from grade to the depth of the water table, and analyzing the samples for PCBs via analytical screening methods and laboratory certified methods;
- Collecting and analyzing sediment samples from an on-site ditch and a wetland area north of the site;
- Installing 14 shallow, 5 intermediate, and 3 deep monitoring wells for analysis of soils and groundwater as well as physical properties of soil and hydrogeologic conditions;
- Sampling of the 19 new and 5 existing monitoring wells, as well as a groundwater monitoring point adjacent to the containment cell;
- Collecting and analyzing surface soil samples at a dozen private residences ;
- Collecting and analyzing subsurface soil samples using a direct push technique at a dozen private residences;

- A survey of public and private water supply wells in the area around the site;
- Collecting and analyzing soil samples from the PCB containment cell;
- Collection of the PCB containment cell soil samples and soil samples from the back portion of 53 Luzerne Road for grain size analysis, moisture content, and bulk density geotechnical analysis.

To determine whether the soil and groundwater, contain contamination at levels of concern, data from the investigation were compared to the following SCGs:

- Groundwater, drinking water, and surface water SCGs are based on NYSDEC "Ambient Water Quality Standards and Guidance Values" and Part 5 of the New York State Sanitary Code.
- Soil SCGs are based on the NYSDEC "Technical and Administrative Guidance Memorandum (TAGM) 4046; Determination of Soil Cleanup Objectives and Cleanup Levels".
- Sediment SCGs are based on the NYSDEC "Technical Guidance for Screening Contaminated Sediments."

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

5.1.1: Site Geology and Hydrogeology

Medium to fine sands underlie the site from grade to a depth of approximately 85 to 95 feet below ground surface (BGS). The sand is underlain by a clay layer of unknown thickness; depth to clay varies across the site as the clay layer dips southeast. Bedrock was not encountered during the drilling of the groundwater monitoring wells.

The water table is located at 15 feet below the ground surface. Horizontal site hydraulic gradient is approximately 1.24 feet per hundred feet in the shallow zone. An upward vertical gradient exists across the site. Vertical gradients between the intermediate and shallow wells varied from 0.01 feet per foot (ft/ft) to 0.1 ft/ft across the site. Vertical gradients between the intermediate and deep wells varied between 0.065 ft/ft to 0.22 ft/ft across the site, increasing in the downgradient direction.

Site hydraulic conductivity values had geometric mean values of 6.2×10^{-2} centimeters per second (cm/sec) in the shallow saturated zone; 1.43×10^{-2} cm/sec in the intermediate zone; and 1.3×10^{-3} cm/sec in the deep saturated zone. The groundwater flows at approximately 1 foot per day, towards the southeast. The Hudson River is located one mile southeast from the site.

5.1.2: Nature of Contamination

As described in the RI report, many soil, groundwater and sediment samples were collected to characterize the nature and extent of contamination. As summarized in Table 1, outside the containment cell the only category of contaminants that exceed their SCGs for are polychlorinated biphenyls (PCBs). Within the containment cell, benzene, chlorobenzene, xylene, 1,2-dichloroethane and 2-butanone exceed SCGs.

Therefore, the only contaminants of concern for the entire site are PCBs, and the volatile organic compounds (VOCs) within the containment cell. This is from the dismantling of the capacitors and allowing the oils to spill onto the ground. PCBs usually bind onto organic particles. PCBs are primarily hydrophobic, and do not easily dissolve in water.

5.1.3: Extent of Contamination

This section describes the findings of the investigation for all environmental media that were investigated.

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

Table 1 summarizes the degree of contamination for the contaminants of concern in the waste material, surface soil, subsurface soil, and groundwater and compares the data with the SCGs for the site. The following are the media which were investigated and a summary of the finding of the investigation.

Waste Materials

The PCB containment cell is located immediately east of the original disposal area, behind 53 Luzerne Road. There are two layers of clay beneath the waste materials, which are mainly capacitor parts and contaminated soils.

The most contaminated soils are located in the containment cell. Two soil samples were collected within the cell, with analytical results of 2,723 ppm and 12,150 ppm for PCBs. Concentrations of 50 ppm and greater are considered to be hazardous waste in New York State.

In addition to PCBs, five VOCs were detected with concentrations exceeding the TAGM 4046 cleanup criteria in the soils within the cell. There was only one detection of benzene, and the concentration was estimated at 5 ppm (the soil guidance value is 0.224 ppm). Also for the VOCs, chlorobenzene concentrations ranged up to 120 ppm (the guidance value of 1.7 ppm), and xylene ranged up to 20 ppm (the guidance value is 1.2 ppm). The 1,2-dichloroethane concentrations ranged up to 12 ppm (the guidance value is 0.3 ppm). The 2-butanone concentrations ranged up to 34 ppm (the guidance value is 0.3 ppm).

Surface Soil (0 - 1 foot)

A total of 33 surface soil samples were collected and analyzed. The samples are from the top two inches of the soil. Due to the placement of the soil layer over the back portion of 53 Luzerne Road (the original disposal area) in 1979, there are no detections of PCBs in the surface soils.

Immediately south of the PCB cell, where there has been no previous remedial activity, there are several samples with high PCB concentrations. The greatest total PCB concentration detected in site surface soil was 2,984 ppm, found in the southern area.

Figure 4 shows the extent of surficial soil PCB contamination.

Subsurface Soils (1 foot and greater)

Subsurface soil PCB presence is limited to the western and southern areas. PCBs were detected to a depth of 12 feet in the middle of the southern area, and to a depth of 16 feet in the western flank of the southern area. However, most of the PCBs in the southern area are located within the top 4 feet of the soil.

PCBs were also detected to a depth of 24 feet in the western area, which is the original disposal area. The greatest subsurface soil total PCB concentration detected was 17,200 ppm, found in the 0 to 4-foot depth interval located within the west side of the site.

Figure 5 shows the extent of subsurface soil PCB contamination.

Groundwater

Groundwater PCB concentrations generally ranged from below the detection limit to 5.98 ppb directly downgradient of the Glens Falls Landfill. Groundwater PCB concentrations downgradient of the PCB containment cell generally ranged from below detection to 2.42 ppb. PCBs were detected at a concentration of 151 ppb in one piezometer immediately adjacent to the cell. However, PCBs were detected in another well 100 feet downgradient of this well at concentrations ranging from 1.2 ppb to 2.42 ppb. Most of the detections of PCBs were in the shallow groundwater monitoring wells, which ranged from 20 to 35 feet deep. A few detections were found in the intermediate groundwater monitoring wells, which ranged from 60 to 65 feet deep. No detections were found in the deep groundwater monitoring wells, which were between 80 and 90 feet deep.

In addition, groundwater samples collected downgradient of the site by direct push technology in March 2001 contained PCB concentrations ranging up to 5.4 ppb southeast of the landfill cell, although concentrations then decreased considerably downgradient from that point. Samples off-site contain PCB concentrations which are just above the groundwater standard of 0.09 ppb, but are below the drinking water standard of 0.5 ppb. The residential properties downgradient of the cell are served by a public water supply.

Figures 6 and 6A show the extent of PCB contamination in the on-site and off-site groundwater.

Sediment

Sediment samples from 12 locations were collected in drainage ditches around the site. However, due to the sandy soils throughout the site, water is usually not seen in these ditches and these samples were considered "soil" samples. These samples did not contain detectable PCB concentrations.

Residential Soils

Several events of residential surface and subsurface soil sampling were conducted. Collectively, they indicated PCBs were present at concentrations requiring immediate action. NYSDEC executed an Interim Remedial Measure (IRM) in which PCB-containing soil was removed. The IRM was conducted between September 18, 2000 and November 22, 2000. The residential soil sampling data collected and analyzed during the Remedial Investigation (before the excavations) are no longer representative of site conditions, and thus are not presented in this report. The Interim Remedial Measures performed at these properties are described below in Section 5.2, Interim Remedial Measures.

5.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the RI/FS.

Several residential properties within 1 mile of the Luzerne Road Site received capacitors from the site during the time of the salvaging operation. These properties were investigated in 1979, and visibly contaminated soil was removed from some of the properties. During the Remedial Investigation of the Site, these residential properties were investigated with the current analytical methods. Some of the properties contained residual soil contamination. NYSDEC executed an Interim Remedial Measure (IRM) in which PCB-containing soil was removed between September 18, 2000 and November 22, 2000. In June 2003, NYSDEC prepared a separate report addressing the IRM entitled *Post Remediation Report, Interim Remedial Measure, PCB Contaminated Soil Excavation Removal and Disposal Contract, Luzerne Road Site, Site NO. 5-57-010, Town of Queensbury, Warren County, New York.*

In addition, another property with PCB contamination was located in 2002. Sampling of this property in 2002 and 2003 resulted in the excavation of PCB contaminated soil in the Fall 2003. This report is also under separate cover.

No additional remediation or monitoring would be necessary for these properties, as the PCB contaminated soils have been remediated to 1 ppm or less. Therefore, there is no longer the human health exposure to PCBs, and no environmental easements are needed on these properties.

5.3: Summary of Human Exposure Pathways:

This section describes the types of human exposures that may present added health risks to persons at or around the site. A more detailed discussion of the human exposure pathways can be found in Section 7 of the RI report.

An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has five elements: [1] a contaminant source, [2] contaminant release and transport mechanisms, [3] a point of exposure, [4] a route of exposure, and [5] a receptor population.
The source of contamination is the location where contaminants were released to the environment (any waste disposal area or point of discharge). Contaminant release and transport mechanisms carry contaminants from the source to a point where people may be exposed. The exposure point is a location where actual or potential human contact with a contaminated medium may occur. The route of exposure is the manner in which a contaminant actually enters or contacts the body (e.g., ingestion, inhalation, or direct contact). The receptor population is the people who are, or may be, exposed to contaminants at a point of exposure.

An exposure pathway is complete when all five elements of an exposure pathway exist. An exposure pathway is considered a potential pathway when one or more of the elements currently does not exist, but could in the future.

There are potential exposure pathways at the site. These are:

- dermal contact with or incidental ingestion of contaminated surface soil at the site;
- dermal contact with or incidental ingestion of contaminated subsurface soil at the site
- ingestion of contaminated groundwater.

Dermal contact with or incidental ingestion of contaminated surface and subsurface soil is possible since site access is not completely controlled and there are no restrictions in place that would prevent access or future development that could bring subsurface contaminants to the surface. Groundwater in the area is not currently used for drinking but groundwater could be used in the future since there are no restrictions in place to prevent its use. Although the ingestion of contaminated groundwater is a potential exposure pathway, the ingestion of contaminated groundwater is not expected because the surrounding area is serviced by municipal water.

5.4: Summary of Environmental Impacts

This section summarizes the existing and potential future environmental impacts presented by the site. Environmental impacts include existing and potential future exposure pathways to fish

and wildlife receptors, as well as damage to natural resources such as aquifers and wetlands.

The Fish and Wildlife Impact Analysis, which is included in Chapter 8 of the RI report, presents a detailed discussion of the existing and potential impacts from the site to fish and wildlife receptors. The following environmental exposure pathways and ecological risks have been identified:

- In the southern area, which is a small forested area, the existing PCB surface soil contamination could pose potential impacts for songbirds and small mammals that forage regularly in that area.

Site contamination has also impacted the groundwater resource in the shallow aquifer.

SECTION 6: SUMMARY OF THE REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375-1.10. At a minimum, the remedy selected must eliminate or mitigate all significant threats to public health and/or the environment presented by the hazardous waste disposed at the site through the proper application of scientific and engineering principles.

The remediation goals for this site are to eliminate or reduce to the extent practicable:

- Exposures of persons at or around the site to PCBs in the surface and subsurface soils.
- Environmental exposures of flora or fauna to PCBs in the surface and subsurface soils.
- The release of contaminants from soil into groundwater that may create exceedances of groundwater quality standards; and
- Reduce further off-site migration of contaminated groundwater to the extent practical.

Further, the remediation goals for the site include attaining to the extent practicable:

- ambient groundwater quality standards based on NYSDEC “Ambient Water Quality Standards and Guidance Values” and Part 5 of the New York State Sanitary Code; and
- soil cleanup goals based on the NYSDEC “Technical and Administrative Guidance Memorandum (TAGM) 4046; Determination of Soil Cleanup Objectives and Cleanup Levels", which are 1 ppm of total PCBs at the surface (down to one feet below grade) and 10 ppm of total PCBs in the subsurface (1 foot and below).

One of the remediation goals for this site was changed to reflect the fact that the surface soil at

the site is considered to be the top 1 foot of soil. The site is zoned for commercial/light industrial use, which is not expected to change.

SECTION 7: SUMMARY OF THE EVALUATION OF ALTERNATIVES

The selected remedy must be protective of human health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. Potential remedial alternatives for the Luzerne Road Site were identified, screened and evaluated in the FS report which is available at the document repositories established for this site.

A summary of the remedial alternatives that were considered for this site are discussed below. The present worth represents the amount of money invested in the current year that would be sufficient to cover all present and future costs associated with the alternative. This enables the costs of remedial alternatives to be compared on a common basis. As a convention, a time frame of 30 years is used to evaluate present worth costs for alternatives with an indefinite duration. This does not imply that operation, maintenance, or monitoring would cease after 30 years if remediation goals are not achieved.

7.1: Description of Remedial Alternatives

The following potential remedies were considered to address the contaminated surface soils, subsurface soils, and groundwater at the site.

Soil Alternatives

The soil remedial alternatives directly address the contaminated soils at the site, which are the primary source of contamination.

Soil Alternative 1: No Action

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. This alternative would be acceptable only if it is demonstrated that the contamination at the site is below the remedial action objectives of 1 ppm PCBs in the surface soils and 10 ppm PCBs in the subsurface soils, or that natural processes would reduce the contamination to acceptable levels. This alternative does not include institutional controls. This alternative would leave the site in its present condition and would not provide any additional protection to human health or the environment.

Present Worth: *$0*
Capital Cost: *$0*
Annual OM&M: *$0*
Time to Implement: . . . . . *N / A*

Soil Alternative 2: Source Area Capping and Excavation And Off-Site Disposal of the PCB Cell

This alternative consists of consolidating and capping the contaminated surface and subsurface soil material at the site. Since the PCB cell was constructed as an interim remedial measure, this alternative also involves excavation and off-site disposal of contaminated material stored in the cell. This containment alternative reduces direct contact exposure, migration of fugitive dust, and minimizes vertical transport of contaminants into the groundwater. Removal of the PCB cell would also eliminate the potential for leachate to vertically migrate into the groundwater. Excavation of contaminated material would be performed using conventional means and methods. The cap system would meet the requirements of RCRA Subtitle C and 6 NYCRR Part 373 for hazardous waste sites. Institutional controls would be implemented in combination with the cap installation to maintain the integrity of the capping system. Some details of this alternative are shown in Figure 7. Institutional controls would also be implemented to prevent the use of the on-site groundwater without treatment. Environmental easements would be implemented to prevent the disturbance of the cap system.

Present Worth: *$14,552,000*
Capital Cost: *$13,954,000*
Annual OM&M: *$7,203*
Time to Implement . . . . . *1 - 1½ years*

Soil Alternative 3: Excavation and Off-Site Disposal of Contaminated Soils

This alternative consists of excavation and off-site disposal of contaminated soils that exceed the remedial action objective for PCBs of 1 ppm in the surface soils and 10 ppm in the subsurface soils. As more fully described in the FS document, a total of approximately 112,000 cubic yards of contaminated soils would be excavated from the southern, western, and PCB cell areas. Excavation of contaminated material would be performed using conventional means and methods. Along the northern edge of the western area bordering the Glens Falls Landfill, sheet piling would be needed to adequately support the 24-foot excavation in that area. Dewatering may be necessary once depths of 19 feet or more are encountered based on groundwater data in the western area of the site. A demarcation layer would be installed between imported soils and residually contaminated soils. In accordance with New York State Hazardous Waste and TSCA regulations, materials containing PCBs at or above 50 ppm would be disposed of at an RCRA-permitted facility. Contaminated material with concentrations less than 50 ppm is considered non-hazardous waste, and would be disposed of in a non-hazardous, permitted industrial/solid waste facility. Off-site clean fill would be used to backfill the excavated areas. Institutional controls would be implemented to prevent the use of the on-site groundwater without treatment. Environmental easements would be implemented so that all excavations into

any soils with PCB concentrations greater than 1 ppm would adhere to the site management plan.

Present Worth: *$28,479,000*
Capital Cost: *$28,479,000*
Annual OM&M: *$0*
Time to Implement . . . . . *1 - 1½ years*

Soil Alternative 4: Excavation and On-Site Thermal Treatment of Contaminated Soils

This alternative consists of excavating and thermally treating contaminated soils that exceed the remedial action objective for PCBs of 1 ppm in the surface soils and 10 ppm in the subsurface soils. As more fully described in the FS document, a total of approximately 112,000 cubic yards of contaminated soils would be excavated from the southern, western, and PCB cell areas. Excavation of contaminated material would be performed using conventional means and methods. Along the northern edge of the western area bordering the Glens Falls Landfill, sheet piling would be needed to adequately support the 24-foot excavation in that area. Dewatering may be necessary once depths of 19 feet or more are encountered based on groundwater data in the western area of the site. A demarcation layer would be installed over soils that are residually contaminated above 1 ppm. After excavation of contaminated soils, the soil would be hauled and placed in storage piles near the treatment unit. A thermal desorption system would be used to treat the contaminated material. Figures 8 and 11 present a conceptual process for this alternative. This treatment process generally involves the application of heat to contaminated material to volatilize the contaminants (i.e., physical separation process), and then collecting and treating the gas stream. An air pollution control system (APCS) would also be included as part of the treatment system to ensure that air emissions meet stringent air emission requirements determined by the NYSDEC. The treatment technology would also adhere to a Community Air Monitoring Plan to monitor the site during remedial work. Treated soil and clean material from the PCB cell cap would be used for backfilling the excavated areas. Institutional controls would be implemented to prevent the use of the on-site groundwater without treatment. Environmental easements would be implemented so that all excavations into any soils with PCB concentrations greater than 1 ppm would adhere to the site management plan.

Thermal desorption is a proven technology suitable to treat volatile and semi-volatile organics, pesticides, and PCBs.

Present Worth: *$22,041,000*
Capital Cost: *$22,041,000*
Annual OM&M: *$0*
Time to Implement . . . . . *1-2 years*

Soil Alternative 5: Excavation and On-Site Soil Washing of Contaminated Soils

This alternative consists of excavating and washing contaminated soils that exceed the remedial

action objective for PCBs. Similar to Alternatives 3 and 4 and as more fully described in the FS document, a total of approximately 112,000 cubic yards of contaminated soils would be excavated from the southern, western, and PCB cell areas. Excavation of contaminated material would be performed using conventional means and methods. Along the northern edge of the western area bordering the Glens Falls Landfill, sheet piling would be needed to adequately support the 24-foot excavation in that area. Dewatering may be necessary once depths of 19 feet or more are encountered based on groundwater data in the western area of the site. A demarcation layer would be installed over soils that are residually contaminated above 1 ppm.

After excavation, this alternative would involve on-site washing of contaminated surface and subsurface soils. Because the quantity and type of surfactant (a surface-active substance, such as a detergent or soap, that lowers the surface tension of a solvent or water) used to wash contaminated soils and process parameters are site specific, bench scale tests would be required prior to implementation of this alternative. Excavation of contaminated material would be performed using conventional means and methods. Figure 9 presents a conceptual process for this alternative and Figure 10 presents a general process for soil washing that is expected to be utilized at this site. After excavation of contaminated soils, the soils would be hauled and placed in storage piles near the treatment unit.

This treatment process would be performed as a batch process, operating 8 hours per day 5 days per week. The soil would travel to a mixing tank where water and surfactant would be added and the mixture would be agitated to encourage contaminant transfer from the soil matrix to the liquid phase. After sufficient agitation has occurred, wash water would then be separated from the mixture, treated, and disposed of appropriately. The contaminated fines would be set aside from the remaining treated soil in piles; both soil piles would be analytically tested for PCBs.

The soil washing process would result in clean soil, wash water, dissolved contaminants, and/or precipitated solids, and a finer fraction containing adsorbed organics and precipitated soils. The contaminants would be concentrated into a relatively small volume of material, which would be disposed off-site. Treated soil and the previously removed larger size fraction of the soil would be analyzed to confirm that contaminants
have been removed to below SCGs and this material would be used to backfill excavated areas. No additional backfill would be needed to bring the site to original grades. Treated soil and clean material from the PCB cell cap liner would be used for backfilling the excavated areas.

Controls would need to be implemented during the excavation and physical separation of the soil and sediment prior to actually performing the soil washing process to prevent the airborne release of contaminants. These controls would most likely include water to control dust.

Institutional controls would be implemented to prevent the use of the on-site groundwater without treatment. Environmental easements would be implemented so that all excavations into any soils with PCB concentrations greater than 1 ppm would adhere to the site management plan.

Present Worth: *$17,969,000*
Capital Cost: *$17,969,000*

Annual OM&M: *$0*
Time to Implement . . . . . *1-2 years*

Groundwater Alternatives

In addition to addressing the contaminated soils on-site, the contaminated groundwater is addressed in this PRAP. The groundwater remedial alternatives are:

Groundwater Alternative 1 - No Action

This alternative would be acceptable only if it is demonstrated that the contamination at the site is below the remedial action objectives, or that natural processes would reduce the contamination to acceptable levels. This alternative does not include institutional controls.

Present Worth: *$0*
Capital Cost: *$0*
Annual OM&M: *$0*
Time to Implement . . . . . *N / A*

Groundwater Alternative 2 - Long-Term Monitoring

Since the PCB concentrations in groundwater are relatively low, (with the exception of PCB-E1, MW-101-4, MW-101-5), this alternative consists of long-term monitoring of the on-site groundwater. This alternative would not actively reduce contaminant concentration, however, because groundwater in the vicinity of the site is not used as a drinking water source, this alternative is effective in preventing exposure to groundwater contaminants. Institutional controls, such as environmental easements, would also be implemented to minimize future potential exposure to the groundwater without treatment.

Present Worth: *$214,000*
Capital Cost: *$23,000*
Annual OM&M: *$11,372*
Time to Implement . . . . . *0 - 6 months*

Groundwater Alternative 3 - Limited Groundwater Extraction and Treatment, and Long-Term Monitoring

With the exception of PCB-E1 (the monitoring point immediately adjacent to the PCB cell), and MW-101-4 and 101-5 (located just southeast from the tow of Glens Falls landfill), on-site PCB groundwater concentrations ranged between 0.1 and 1.0 ppb. This alternative consists of limited groundwater extraction and treatment from the area south of the PCB cell, in combination with long-term monitoring of on site groundwater. A carbon treatment system would be used to treat

contaminated groundwater in a limited area where the highest PCB concentration is suspected (near PCB-E1). This alternative would be effective in preventing exposure to groundwater contaminants, in addition to actively providing contaminant reduction through limited treatment of the groundwater hot spot area. Institutional controls would be implemented to prevent the use of the on-site groundwater without treatment.

Present Worth: *$817,000*
Capital Cost: *$347,000*
Annual OM&M: *$52,442*
Time to Implement . . . . . *1 year*

7.2 Evaluation of Remedial Alternatives

The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375, which governs the remediation of inactive hazardous waste disposal sites in New York State. A detailed discussion of the evaluation criteria and comparative analysis is included in the FS report.

The first two evaluation criteria are termed "threshold criteria" and must be satisfied in order for an alternative to be considered for selection.

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

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy would meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the NYSDEC has determined to be applicable on a case-specific basis.

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

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

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

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

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

7. Cost-Effectiveness. Capital costs and operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision. The costs for each alternative are presented in Table 2.

This final criterion is considered a "modifying criterion" and is taken into account after evaluating those above. It is evaluated after public comments on the Proposed Remedial Action Plan have been received.

8. Community Acceptance - Concerns of the community regarding the RI/FS reports and the PRAP have been evaluated. The responsiveness summary (Appendix A) presents the public comments received and the manner in which the NYSDEC addressed the concerns raised.

In general, the public comments received were supportive of the selected remedy.

SECTION 8: SUMMARY OF THE SELECTED REMEDY

Based on the Administrative Record (Appendix B) and the discussion presented below, the NYSDEC has selected Soil Alternative 4 and Groundwater Alternative 2 as the remedy for this site. The elements of this remedy are described at the end of this section.

The selected remedy is based on the results of the RI and the evaluation of alternatives presented in the FS. Soil Alternative 4 is selected because, as described below, it satisfies the threshold criteria and provides the best balance of the primary balancing criteria described in Section 7.2. It will achieve the remediation goals for the site by permanently treating the soils that create the significant threat to public health and the environment, it will greatly reduce the source of contamination to groundwater, and it will create the conditions needed to restore groundwater quality to the extent practicable. Soil Alternatives 2, 3, and 5 would also comply with the threshold selection criteria but to a lesser or equal degree or with equal or lower certainty.

Because Soil Alternatives 2, 3, 4, and 5 satisfy the threshold criteria, the five balancing criteria are particularly important in selecting a final remedy for the site soils.

Soil Alternatives 2 (capping), 3 (excavation and removal), 4 (treatment through thermal desorption) and 5 (treatment through soil washing) all have short-term impacts which can easily be controlled. The time needed to achieve the remediation goals would be the longest for Soil Alternatives 4 and 5.

Achieving long-term effectiveness is best accomplished by excavation of the contaminated soils, followed by removal or treatment of the contaminated overburden soils (Soil Alternatives 3, 4 and 5). Soil Alternative 2 would not achieve long-term effectiveness, compared to Soil Alternatives 3, 4 and 5, because hazardous waste would remain on-site. Soil Alternative 3 would require a large amount of backfill from elsewhere to replace the soils hauled off-site. Soil Alternatives 4 and 5 are favorable because the alternatives would require little to no backfill material, as the on-site soils would be treated and placed back on-site.

Soil Alternative 2 would greatly reduce the mobility of contaminants but this reduction is dependent upon the long-term maintenance of the capping system. Also, the hazardous waste would still be present in the subsurface soils. Soil Alternative 3 would limit the mobility of contaminants, as the waste would be contained within an off-site permitted facility. Soil Alternatives 4 and 5 would reduce the volume and mobility of the contaminants by chemical/physical treatment of the majority of the site soils. Any concentrated contamination from the processes would be disposed at an off-site permitted facility. Thermal desorption (Soil Alternative 4) will remove the contaminants from the soil and then destroy the contaminants, whereas soil washing (Soil Alternative 5) would transfer the contaminants from the soil to the washwater and the fine soil particles. The washwater would require treatment, and the contaminated fines would be disposed off-site at an approved facility. Therefore, Soil Alternative 4 will reduce the volume of contaminated material more than Soil Alternative 5 because thermal desorption will destroy the contaminants.

Alternatives 4, 2, and 3 are equally implementable. For Soil Alternative 5, a pilot study would be required to determine the most suitable surfactant (or combination of surfactants) to use to remove the contaminants present at the site.

The costs of the alternatives vary significantly. Although capping (Soil Alternative 2) is less expensive than excavation (Soil Alternative 3) or treatment (Soil Alternatives 4 and 5), it is not a permanent remedy. Soil Alternative 4 is very favorable because it is a permanent remedy that will eliminate the continuing source of groundwater contamination from this site. Off-site disposal (Soil Alternative 3) is the most costly remedy. The costs of Soil Alternatives 4 and 5 are similar to each other in that the actual excavation and disposal of the material are not the largest costs associated with these remedies. Due to the high concentrations and large volume of material to be treated, thermal desorption of the contaminated soils is preferable to soil washing. The cost for soil washing (Soil Alternative 5) would become more expensive if additional passes for the contaminated soil through the soil washing unit are needed in order to achieve the cleanup levels. More passes through the unit would increase the length of the project and increase the time and energy costs.

Based on the remedial alternative evaluation completed in Sections 5 and 6 of the FS, the selected remedy for the Luzerne Road Site consists of excavation and on-site thermal treatment of contaminated soils including the PCB cell (Soil Alternative 4), along with long-term monitoring of the on-site groundwater (Groundwater Alternative 2).

Thermal treatment of contaminated surface and subsurface soils and the contents of the PCB containment cell represents an active remedial approach to treat target contaminants to meet

proposed site cleanup criteria, which is a preferred technology. This alternative also provides for permanent protection of human health and the environment.

Excavation and off-site disposal provides the same level of protection of human health and the environment as the thermal treatment alternative, but is a more costly alternative and is a less desirable alternative because the waste volume and toxicity would not be reduced through treatment. Source area capping and removal and off-site disposal of the waste within the PCB cell would not be a permanent remedy. Potential future exposures would be possible should institutional controls be compromised. This alternative would also limit the use of approximately a three-acre area of the site, where the cap would be installed. Due to the high concentrations and large volume of material to be treated, thermal desorption of the contaminated soils is preferable to soil washing. Washing this amount of material would produce large volumes of washwater, which would require treatment.

Removing and treating PCB contaminated subsurface soil (below the depth of one foot) to 1 ppm (instead of 10 ppm) is not recommended due to the increased cost, estimated to be approximately 10 percent more in capital costs, than the selected alternative. One of the remediation goals for this site was changed to reflect the fact that the surface soil at the site is considered to be the top 1 foot of soil. The site is zoned for commercial/light industrial use, which is not expected to change. The soil cleanup levels developed in NYSDEC TAGM 4046, for the protection of groundwater and/or drinking water standards, is 10 ppm of Total PCBs for the subsurface soils. The soils that contain PCB concentrations greater than 1 ppm but less than 10 ppm at the Luzerne Road Site are expected to be at a significant depth (16 to 24 feet). Environmental easements at the site will prevent the use of the on-site groundwater without treatment and all excavation into PCB contaminated soils above 1 ppm will need to adhere to the site management plan. Therefore, the proposed alternative will provide a similar level of protection for a lower cost.

Combined with on-site thermal treatment of contaminated soils, long-term monitoring and institutional controls is the recommended alternative to address groundwater contamination at the site. This alternative will be protective of human health and the environment. Treating the contaminated soils from the site will remove two of the three suspected sources of groundwater contamination identified during the RI (E & E, 2002). The third source of contamination will be addressed by the Glens Falls Landfill Record of Decision, which is to place an impermeable cap on the landfill. Since no groundwater receptors have been identified at the site, this alternative will minimize any future exposure to on-site contaminated groundwater with the use of institutional controls for the property. Although extraction and treatment of groundwater may provide a higher level of protection of human health and the environment, this alternative is not warranted since the sources of suspected on-site contamination (i.e., site soil and the PCB cell) will be removed under Soil Alternative 4.

The total present worth of the recommended soil and groundwater remedies for the site is $22,248,000. This total is comprised of a capital cost of $22,041,000 for excavation and on-site thermal treatment of contaminated soil from the site; and a present worth cost of $214,000 for the annual costs of long-term monitoring of the groundwater and institutional controls.

The elements of the selected remedy are as follows:

- A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program.

- Excavation of the soils in the PCB containment cell and excavation of the on-site contaminated surface soil to 1 part per million (ppm) in the top one foot, and to 10 ppm in the subsurface soils. A demarcation layer will be installed over soils that are residually contaminated above 1 ppm. There will be at least 1 foot of soil that is 1 ppm or less over this demarcation layer.

- On-site treatment of all excavated materials by thermal desorption. After the treatment of the soils, the site will be restored by placement of the treated soil, placement of topsoil, and seeding of excavated and/or filled areas.

- A site management plan will be developed to address residual subsurface contaminated soils that may be excavated from the site during future redevelopment. The plan will require soil characterization and, where applicable, disposal/reuse in accordance with NYSDEC regulations. Monitoring of the site groundwater will be needed.

- An institutional control in the form of an environmental easement that will: (a) require compliance with the approved site management plan, (b) limit the use and development of the property to commercial/light industrial uses; (c) restrict use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the New York State Department of Health; and, (d) require the property owner to complete and submit to the NYSDEC an annual certification.

- Long term monitoring of the groundwater to evaluate the effectiveness of the source removal and treatment actions of the PCB contaminated soils. This monitoring will also consist of a periodic review of the groundwater. Other remedial alternatives will be evaluated if groundwater cleanup goals are not met.

- The property owner will complete and submit to the NYSDEC an annual certification until the NYSDEC notifies the property owner in writing that this certification is no longer needed. This submittal will contain certification that the institutional controls and engineering controls put in place, pursuant to the Record of Decision, are still in place, have not been altered, and are still effective.

SECTION 9: HIGHLIGHTS OF COMMUNITY PARTICIPATION

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

- Repositories for documents pertaining to the site were established.

- A public contact list, which included nearby property owners, elected officials, local media and other interested parties, was established and used for distributing fact sheets and notices.

- A Fact Sheet announcing the Public Meeting, and describing the proposed remedy, was mailed to everyone on the site contact list in December 2004.

- A Public Meeting was held on January 4, 2005 to discuss the findings of the Remedial Investigation, results of the Feasibility Study, and the details of the proposed remedy. Comments and questions from the public were answered by NYSDEC and NYSDOH staff at this meeting, and included in the Responsiveness Summary.

- In March 2005, a Responsiveness Summary (Appendix A) was prepared and made available to the public to address the comments received during the public comment period for the PRAP, including the comments and questions from the public at the January 4, 2005 public meeting.

TABLE 1

Nature and Extent of Contamination

Range of sampling dates: July 1999-April 2002

WASTE (Within the Cell)	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)[a]	Frequency of Exceeding SCG
PCB/Pesticides	Total PCBs	2,723 to 12,150	10	2 of 2
	(1242 and 1254)			
Volatile Organic Compounds (VOCs)	Benzene	ND[c] to 5 (estimated)	0.06	1 of 8
	Chlorobenzene	ND to 120	1.7	4 of 8
	Xylene	ND to 20	1.2	3 of 8
	1,2-dichloroethane	ND to 12	0.3	2 of 8
	2-butanone	ND to 34	0.3	7 of 8

SURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)[a]	Frequency of Exceeding SCG
PCB/Pesticides	Total PCBs	ND[c] to 2,984	1	24 of 33
	(1242 and 1254)			

SUBSURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)[a]	Frequency of Exceeding SCG
PCB/Pesticides	Total PCBs	ND[c] to 22110	10	95 of 919
	(1242 and 1254)			

[a] ppb = parts per billion, which is equivalent to micrograms per liter, ug/L, in water;
ppm = parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
ug/m^3 = micrograms per cubic meter

[b] SCG = standards, criteria, and guidance values;

[c] ND = No Detection

TABLE 1

Nature and Extent of Contamination

Range of sampling dates: July 1999-April 2002

SHALLOW GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)[a]	Frequency of Exceeding SCG
PCB/Pesticides	Total PCBs	ND[c] to 5.98	0.09	13 of 16
	(1242, 1248, 1254)			
Inorganics (Metals)	Iron	63.3 to 45,300	300	11 of 12
	Lead	ND to 102	25	1 of 12
	Magnesium	572 to 91,000	35,000	2 of 12
	Manganese	10 to 5,220	300	11 of 12
	Selenium	ND to 25.2	10	2 of 12
	Sodium	17,800 to 74,400	20,000	10 of 12
	Thallium	ND to 21.4	0.5	5 of 12
	Zinc	12.3 to 23,500	2,000	1 of 12

INTERMEDIATE GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)[a]	Frequency of Exceeding SCG
PCB/Pesticides	Total PCBs	ND[c] to 1.7	0.09	3 of 5
	(1242 and 1254)			
Inorganics (Metals)	Iron	ND[c] to 752	300	1 of 4

DEEP GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)[a]	Frequency of Exceeding SCG
PCB/Pesticides	Total PCBs	ND[c]	0.09	0 of 3
	(1242 and 1254)			
Inorganics (Metals)	Iron	155 to 4,800	300	3 of 4
	Manganese	40 to 317	300	1 of 4
	Sodium	4,920 to 24,400	20,000	1 of 4

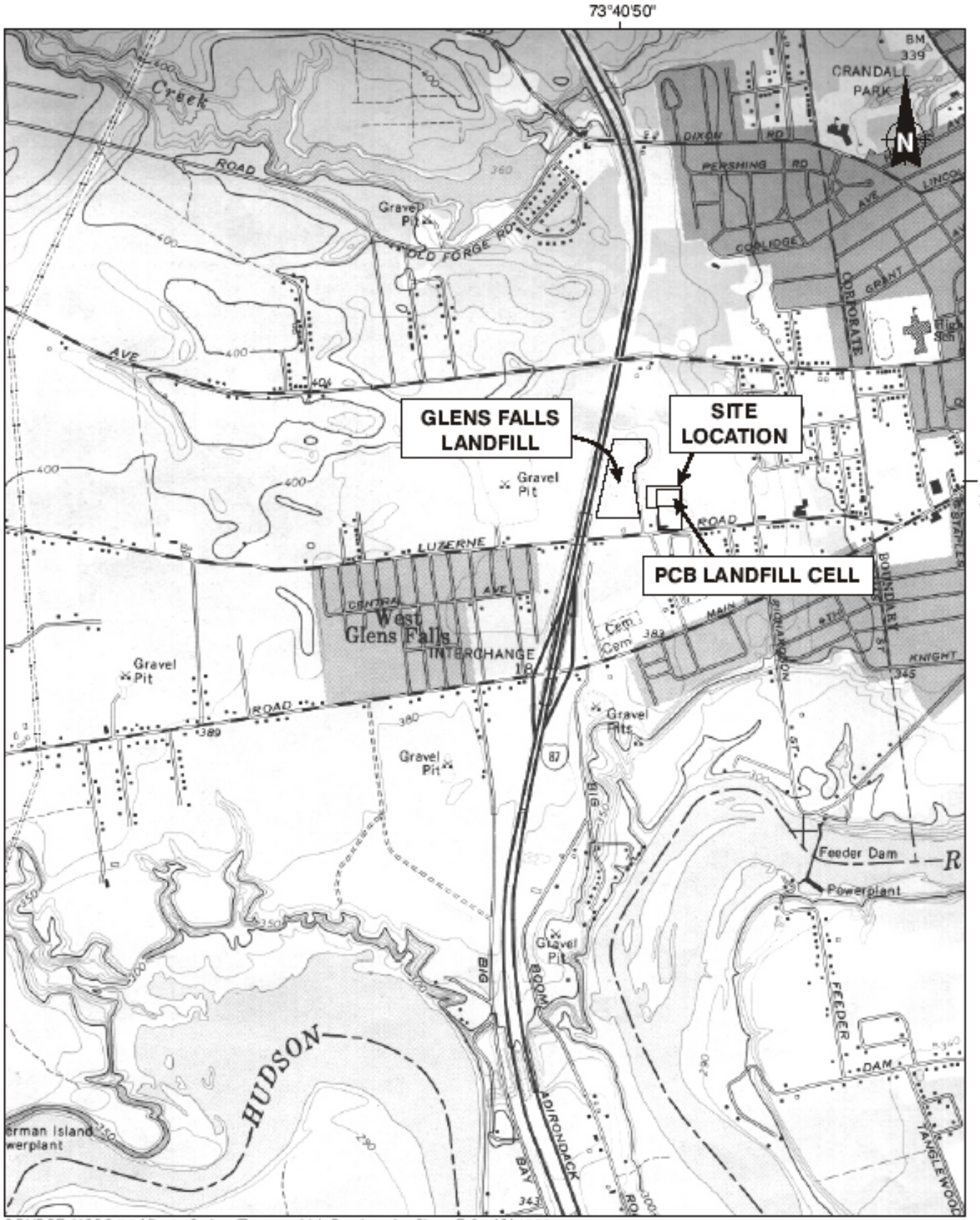
[a] ppb = parts per billion, which is equivalent to micrograms per liter, ug/L, in water;
ppm = parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
ug/m^3 = micrograms per cubic meter

[b] SCG = standards, criteria, and guidance values;

[c] ND = No Detection

Table 2
Remedial Alternative Costs

SOIL REMEDIAL ALTERNATIVES			
Remedial Action	**Capital Cost**	**Annual O&M**	**Total Present Worth**
1. No Action	$0	$0	$0
2. Removal of Cell/Source Area Cap	$13,954,000	$7,203	$14,552,000
3. Excavation and Off-Site Disposal	$28,479,000	$0	$28,479,000
4. Excavation & Thermal Desorption	$22,041,000	$0	$22,041,000
5. Excavation & Soil Washing	$17,969,000	$0	$17,969,000
GROUNDWATER REMEDIAL ALTERNATIVES			
Remedial Action	**Capital Cost**	**Annual O&M**	**Total Present Worth**
1. No Action	$0	$0	$0
2. Long-term Monitoring	$23,000	$11,372	$214,000
3. Extraction & Treatment	$347,000	$52,442	$817,000



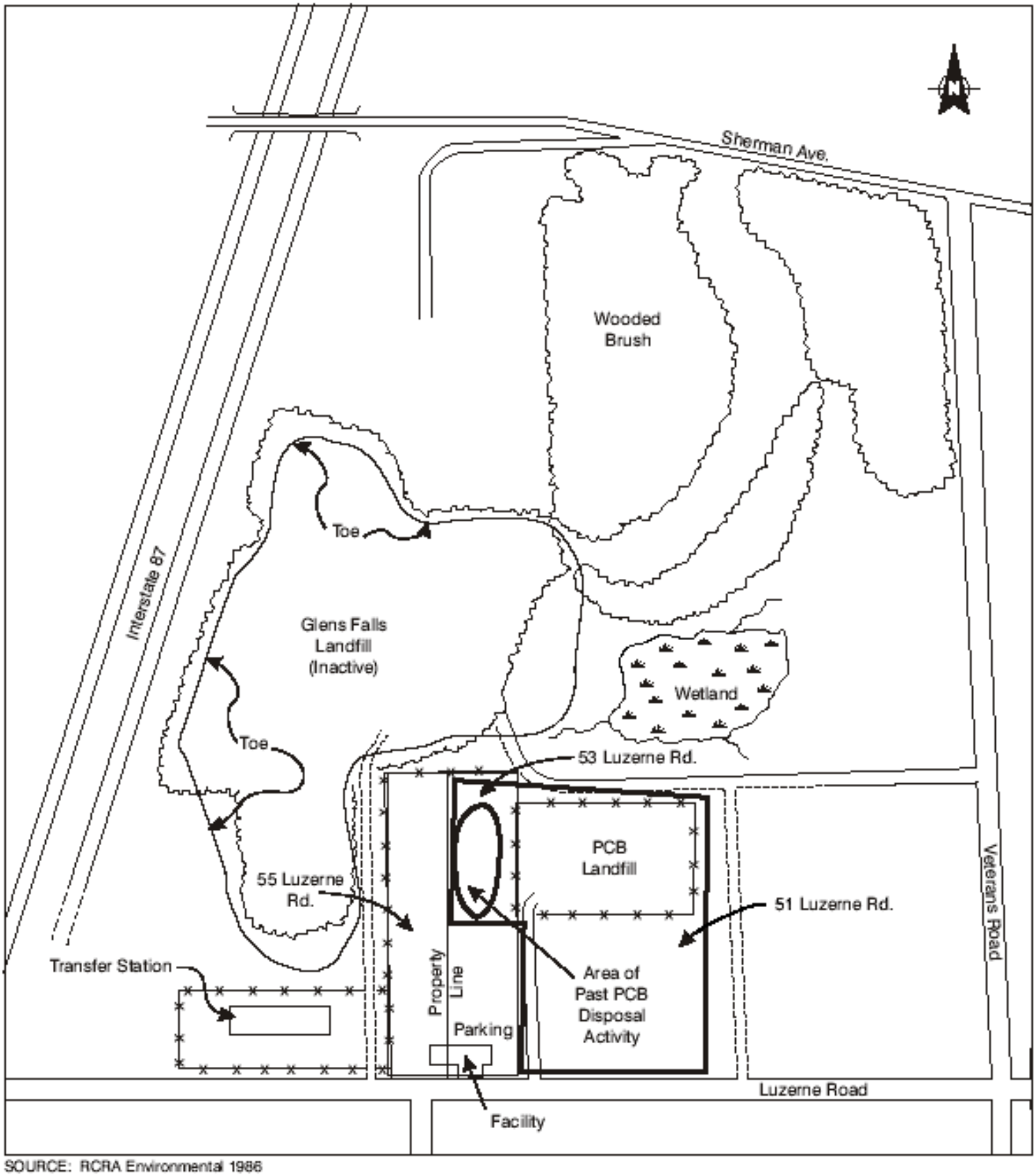
SOURCE: USGS 7.5 Minute Series (Topographic) Quadrangle: Glens Falls, NY, 1966.
Note: Limits of Glens Falls Landfill are approximated based on Site Topography.
Limits of area labeled as Site Location delineate the extent of the on-site study area.

SCALE 1:24,000

0 ½ 1 Mile

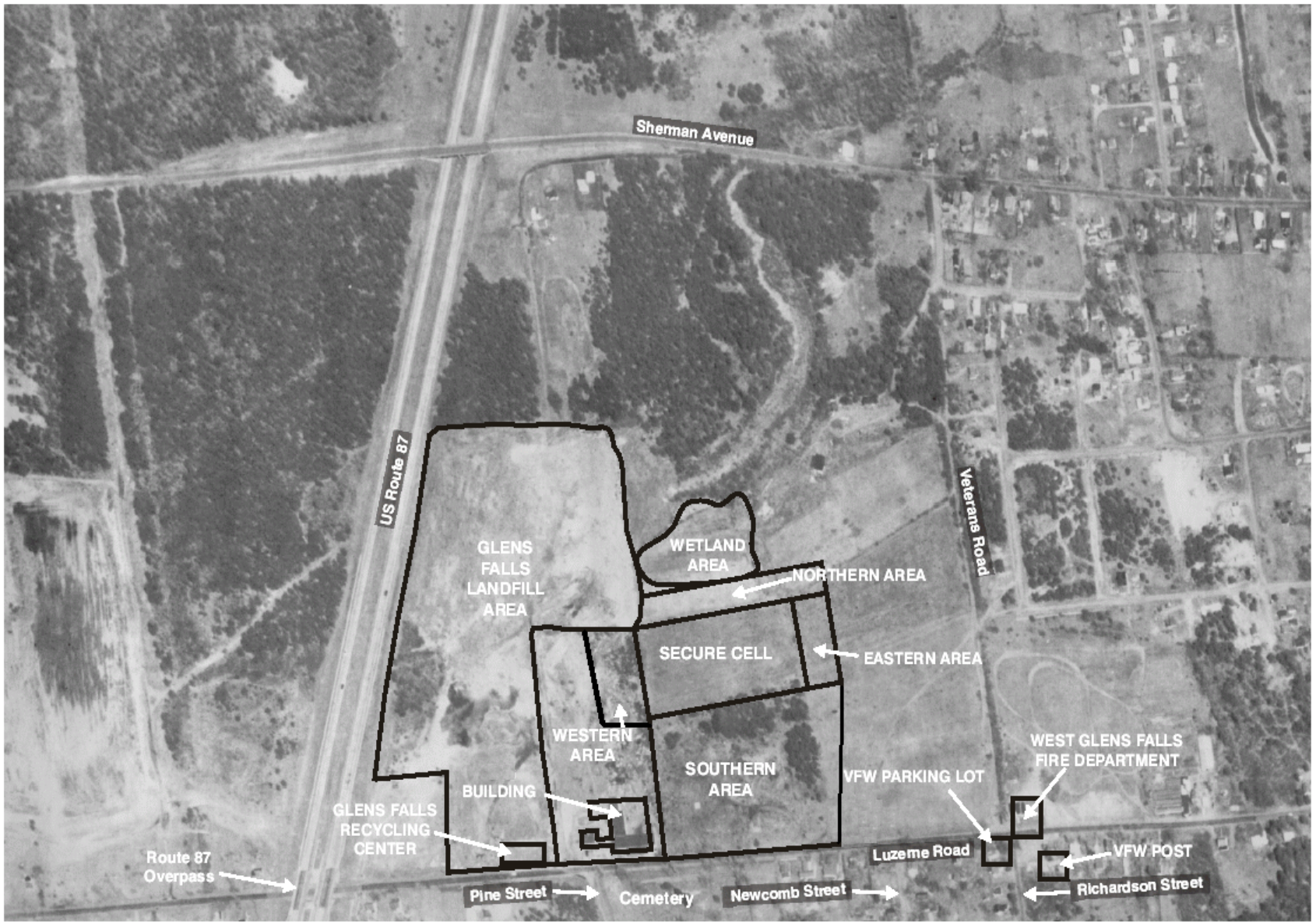
0 .5 1 Kilometer

Figure 1 - Site Location Map, Luzerne Road Site, Queensbury, New York



SOURCE: RCRA Environmental 1986

Figure 2 - Site Map, Luzerne Road Site, Queensbury, New York



BASE MAP SOURCE: Warren County Real Property Department, 1966 Aerial Photo.
SURVEY DATA SOURCE: Ecology and Environment, Inc. 1999.

Figure 3 - SITE FEATURES MAP
LUZERNE ROAD LANDFILL SITE,
QUEENSBURY, NEW YORK

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Luzerne Road Site
Operable Unit No. 2 & 3
Town of Queensbury, Warren County, New York
Site No. 5-57-010

The Proposed Remedial Action Plan (PRAP) for the Luzerne Road Site, was prepared by the New York State Department of Environmental Conservation (NYSDEC) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on December 22, 2004. The PRAP outlined the remedial measure proposed for the contaminated soils and groundwater at the Luzerne Road Site.

The release of the PRAP was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy.

A public meeting was held on January 4, 2005, which included a presentation of the Remedial Investigation (RI) and the Feasibility Study (FS) as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period was to have ended on January 28, 2005. However, at the request of the public, it was extended to March 4, 2005.

This responsiveness summary responds to all questions and comments raised during the public comment period. The following are the comments received, with the NYSDEC's responses:

Public Comment Received During the January 4, 2005 Public Meeting:

COMMENT 1: What is the direction of the groundwater flow?

RESPONSE 1: Groundwater flows southeast at approximately 1 foot per day. It should be noted that this is not the rate of PCB movement in the groundwater.

COMMENT 2: How long does it take to run soil through the thermal unit and at what volume?

RESPONSE 2: It will take 10 to 12 minutes of retention time for material to pass through the thermal unit and remove the PCBs. The volume treated could be from 20 to 40 cubic yards at a time. It will take 1 to 2 construction seasons to complete the treatment.

COMMENT 3: Why would it take so long?

RESPONSE 3: The estimation takes into account some downtime for repairs, holidays, etc.

Construction would occur during the late spring, summer and fall. Wintertime work is not anticipated.

COMMENT 4: What is the time frame for this project in relation to the Glens Falls Landfill?

RESPONSE 4: There is no direct relation to the Glens Falls Landfill project. There is a Record of Decision for the Glens Falls Landfill. For the Luzerne Road Site, this Proposed Remedial Action Plan and public comment period will be followed by the issuance of the Record of Decision. The next phase of that project is the Remedial Design. The Luzerne Road Site will be in the Remedial Design phase after a Record of Decision is issued.

COMMENT 5: Was there any consideration of using material from the Luzerne Road Site at the Glens Falls Landfill?

RESPONSE 5: The Glens Falls Landfill is an unlined, uncontrolled landfill that will be capped to prevent further exposures to hazardous wastes. Also, it has not yet been determined whether the Glens Falls Landfill will need additional grading material. Some reconsolidation and regrading of the wastes will be necessary before the final cap is constructed over the landfill. If additional grading material under the impermeable cap is needed, and the time of the two remedial projects coincide, then consideration of using the treated soil from the Luzerne Road Site can be given.

COMMENT 6: Who is doing the design for the Glens Falls Landfill?

RESPONSE 6: The City of Glens Falls is the responsible party for the Glens Falls Landfill. The City's consultant for the Glens Falls Landfill design has not been selected.

COMMENT 7: Will the process create dust?
How will dust be handled?
Won't a front-end loader kick up the dust?

RESPONSE 7: The excavation and loading of soils to the thermal treatment unit by a front-end loader may create dust. The air will be monitored to measure the amount of dust created at the site, and suppression of the dust will be

performed if necessary.

COMMENT 8: Will this cleanup make the site redevelopable?

RESPONSE 8: Yes. The site will be redevelopable as commercial/light industrial, as long as there is adherence to the site management plan, including site restrictions.

COMMENT 9: Who would pay for post-remediation excavation of site soils for redevelopment, the State or the developer?

RESPONSE 9: The State will fund the remedial action at this site under the "State Superfund." Any post-remediation work would be at the developer's cost.

COMMENT 10: Why not cleanup the site to 1 ppm at depth so the developer would not have to deal with it?

RESPONSE 10: The soil cleanup objectives for PCBs in subsurface soils is 10 ppm, which are protective of public health and the environment. Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375-1.10. At a minimum, the remedy selected must eliminate or mitigate all significant threats to public health and/or the environment presented by the hazardous waste disposed at the site through the proper application of scientific and engineering principles.

The remedial action and remediation goals are selected based on the remedy selection criteria of: protectiveness of human health and the environment; compliance with New York State Standards, Criteria, and Guidance (SCGs); short-term effectiveness; long-term effectiveness and permanence; reduction of toxicity, mobility or volume; implementability; and cost-effectiveness.

Removing the additional soil is not necessary to satisfy the remedy selection criteria. Depending upon the proposed development, the soil that is above concentrations of 1 ppm may not have to be disturbed.

COMMENT 11: What would happen on a really windy day? Would the operation stop?

RESPONSE 11: The site operation would be monitored for dust. If the wind creates a dust problem, dust suppression activities would be needed or the site operations would need to stop if the wind creates a dust problem.

COMMENT 12: Would monitoring be done through all of the construction?

RESPONSE 12: Yes. The monitoring would occur during any construction activity.

COMMENT 13: Do we have the funds to do this project?

RESPONSE 13: It is anticipated that the project would be funded by the "State Superfund." At this time, there are sufficient State Superfund monies available to fund the remedial design and construction for this site.

COMMENT 14: What size would the soil staging area be?

RESPONSE 14: Even though the design of the remedy has not been started, it is estimated to be 2 or 3 acres in size.

COMMENT 15: What monitoring would be done?

RESPONSE 15: Monitoring of the air for particulates and PCBs at the perimeter of the construction area site would be performed in accordance to the Community Air Monitoring Plan (CAMP). An example of a CAMP is attached in Appendix C.

COMMENT 16: What would the size of the stacks be?

RESPONSE 16: The size of the stacks of the baghouse and thermal oxidizer will be determined during the design phase. However, it would be a reasonable assumption for the stacks to be on the order of 30 feet high.

COMMENT 17: What would be the footprint of the treatment area?

RESPONSE 17: The exact footprint of the treatment area will also be determined during the design phase. However, the treatment area may be 2 to 3 acres in size.

COMMENT 18: Will the contractor who bids on the job be aware of the health and safety monitoring requirements?

RESPONSE 18: Yes. The contractor will have to submit a Health and Safety Plan for on-site workers to the NYSDEC, and adhere to the requirements in the Community Health and Safety Plan.

COMMENT 19: What is the NYSDOH's job to ensure the Community Health and Safety Plan be adhered to?

RESPONSE 19: The NYSDEC will provide oversight of the construction activities of the remedy. The NYSDOH and NYSDEC will review monitoring data and other construction documents, and ensure protectiveness of the community.

COMMENT 20: The Town of Queensbury requested to be added to the Department's list of document repositories for this site.

RESPONSE 20: This request was immediately granted. Copies of the pertinent reports, the PRAP, and fact sheets were presented to the Town after the public meeting.

Public Comment Received Via Letter and Email:

On January 27, 2005, Phil Theriault of ESMI of New York submitted a letter with the following comments:

COMMENT 21: There are various types of thermal treatment plants available to remediate soil. The type of plant used depends on the properties of the contaminants and the specific requirements of the remediation effort. General discussion of the equipment arrangement and Figure 11 of the PRAP depict what is commonly known as a "cold plant" configuration which means the process air stream and volatilized contaminants are cooled to enter the baghouse particulate removal equipment prior to entering the thermal oxidizer for destruction. The potential problem with this is the baghouse can only handle up to approximately 400° F and the volatilized contaminants (in this case PCB's or other SVOC's) will condense and collect on the fines and be filtered out at the baghouse without being destroyed.

PCB's boiling point is between 613° and 734° F depending on the specific arochlors. At a baghouse temperature of 400°, the PCB's will not remain in a gaseous phase.

Collected baghouse fines that are (generally) recombined with the treated soil stream would be reintroduction to the treated soil stream.

Alternatively in a "hot plant" configuration the thermal oxidizer receives the gas stream containing volatilized contaminants immediately after desorption, and then elevates the gas stream temperature to destroy them prior to any cooling for introduction to the baghouse or other plant component.

In summary, the hot plant volatizes the contaminants, oxidizes them and then filters out particulate from a cooled gas stream.

RESPONSE 21: The NYSDEC did not intend to specifically call for a “hot plant” or “cold plant” process. Figure 11 was used as an example to describe the thermal desorption process. The specific process for thermal desorption of the PCB contaminated soils at the Luzerne Road Site will be determined during the remedial design.

On January 7, 2005, an email (unsigned) sent from the public included the following comments:

COMMENT 22: What about all us children who now are adults. and have played in yards with pcb's in them and have severe health problems that are linked to pcb's? I lived in west glens falls when I was growing up and remember all the burnings. How can there be a statue of limitations on are heath when we just found out in 2001. What is causing are health problems. I feel so sorry for all the people still living there when that area is a class action2. Where are our rights and adults who are still sick from the pcb's, I can’t even get health ins. because of the pre-ex. cond. Please we should have rights.

RESPONSE 22: The NYSDEC, under this proposed remedy, is proposing to remove the PCBs from the Luzerne Road Site. In 2000 and 2003, PCB contaminated residential properties were remediated. These actions were performed before the Luzerne Road Site was addressed in order to prevent the exposures to residents on their properties. The NYSDEC conducted citizen participation programs to inform the public before the residential excavations in 2000.

In the Fall of 2000, the New York State Department of Health offered a blood serum PCB sampling program to current and past residents of the six homes involved with the dismantling of the PCB-contaminated capacitors. All of the participants in this sampling program, adults and children, fell within what is considered the background range for blood serum PCB levels which is between 2 and 4 parts per billion. The results of the blood serum PCB sampling program do not indicate that persons living in a home with PCB-contaminated yard soil on or near Luzerne Rd. had levels of PCBs in their blood that were above those found in the general public.

The site is a Class 2 Inactive Hazardous Waste Disposal Site, which means that the site poses a significant threat to human health and/or the environment, where action is required. The NYSDEC has investigated this site and developed remedial alternatives for the site. With the release of the Proposed Remedial Action Plan, the NYSDEC proposed a remedy to address the threats posed by the site. After conducting a public meeting and receiving comments on the proposed plan, the NYSDEC responded to the comments and has issued a Record of Decision with the selected

remedy for the site.

On January 10, 2005, Jeremy Hammond e-mailed comments, which included the following:

COMMENT 23: My name is Jeremy Courtney Hammond. I have passed the old PCB site for many years, actually my whole life. In those 25 years I have always been told of the 'PCB site' the big mound, right next to Mount Trashmore (Glens Falls City dump). It's been a legacy of our community, and NOT the best one to have. I believe that the site should be cleaned. Let's stop the quick fixes and leave a clean legacy for the future.

There have been many projects in West Glens Falls (west Queensbury) to clean PCB areas. I wish however that the state would see it to clean the multiple areas of the westend contaminated. I recall a Post-Star newspaper article several years ago, indicating many hotspots including one on Sherman Ave. about a mile or so west of the current pcb dump. PCBs continue to be a stigmata, removing them will improve the area. So where ever your removing PCBs in the Town of Queensbury I encourage it, and I endorse fully any such project including that at the Luzerne site.

RESPONSE 23: In September 2000, eight residential properties with PCB soil contamination were remediated. This included the property on Sherman Ave and other properties one mile west of the site. The NYSDEC remediated another residential property in November 2003. With the residential properties remediated to prevent exposures to citizens, the current proposed remediation will address the Luzerne Road Site.

On March 4, 2005, Rich Schafio of Scenic Hudson submitted a letter with the following comments:

COMMENT 24: Thank you for the opportunity to provide written comments on the Proposed Remedial Action Plan (PRAP) for the Luzerne Road Site**.** In addition, we thank the New York State Department of Environmental Conservation (DEC) for the comment period extension.

Being that the responsible parties have not stepped up to conduct the remedial investigation at this site, we appreciate the Department’s efforts to characterize the contamination as well as its efforts to prepare this PRAP. We also commend the NYSDEC for the site work that has been done over the past several years in an attempt to contain, remediate and reduce public health and environmental threats that emanate from this site. Although important strides have been made, there is still considerable

contamination at this site that presents a public health and environmental threat. There are PCB concentrations of 62,300 ppm in the soil and PCB contamination in the groundwater. Sampling evidence suggests that the containment cell is a continual source of PCB contamination to the groundwater.

RESPONSE 24: The containment cell has been a source of PCB contamination. The NYSDEC monitored the cell throughout the 1980's and 1990's. In addition to sampling of wells around the cell, the leachate level in the cell was measured. During the early to mid-1990's, the leachate level was observed to decline. The NYSDEC pumped the leachate out of the cell and transported it to an approved treatment, storage and disposal facility. There was only a residual amount of leachate in the cell from that point to the present. This small amount is insignificant compared to the historical release and the current infiltration of precipitation through the site subsurface soils. The remedy addresses both issues through the removal and treatment of the PCB contaminated materials in the cell and the site soils.

COMMENT 25: **Proposed Soil Remedy**
We generally support the preferred remedy to excavate approximately 112,000 cubic yards of contaminated soils. The PRAP should however been more descriptive regarding excavation methods. More information should be provided to the public on the types of equipment that will be used and the timing and duration of the use of such equipment.

RESPONSE 25: More information will be provided during the Remedial Design, and the work plans submitted by the thermal and excavation contractors will detail the exact operational activities to take place at the site. This will include efforts to minimize, where possible, the impacts of the treatment operation.

The excavation, processing, and staging of soils will be accomplished during the course of an average construction work day, during daylight hours. It is likely that the thermal unit, once tested and calibrated, will operate on a continuous basis (24 hours a day). This is necessary to maintain a proper operating temperature to achieve the desired removal of organic contaminants. It is not likely the unit will be operated continuously for many months at a time. There will be periodic shutdowns for maintenance, calibration, testing, etc.

COMMENT 26: **Treatment of Contaminated Soils**

We commend the Department for its efforts to explore and implement potential treatment options for dealing with contaminated soils. Finding useful practical alternatives to landfilling that are also protective of the environment and public health is necessary in efforts to remediate this and other hazardous waste sites.

Treatment can increase the overall effectiveness of the cleanup and reduce the need for landfilling. Any short-term increased costs of applying treatment technologies over landfilling provide long term benefits and reduces costs of maintaining and monitoring hazardous waste landfills for years into the future.

We urge the DEC to explore other potential treatment technologies for use at this site such the enzymatic method of decontamination being promoted by Oil-Free Technologies, Inc.

While this treatment technology is not yet proven in the U.S., this may be a good opportunity to pilot this emerging technology and help determine its usefulness at remediating PCB contaminated sites. More information about this process can be found at http://www.oilfreetech.com/.

RESPONSE 26: There was a pilot program performed at the site in September 2000 to demonstrate the effectiveness of a solvent extraction process, overseen by NYSDEC and USEPA. The process had some limitations. It was not ready for a full-scale production level, plus it could take multiple passes through the process in order to reach cleanup levels. Biological decontamination methods were considered in the Feasibility Study, but were not retained due to the lack of experience on PCB sites. It could be possible for some of the material at this site to be given to this firm for an off-site demonstration. The interested contractor would have to meet the appropriate requirements in obtaining treatability study samples, such as acquiring an EPA ID No. For these reasons, thermal desorption was chosen as the selected remedy.

COMMENT 27: **Use of Thermal Desorption at the Luzerne Road Site**

As part of this remedy the DEC is proposing to use a thermal desorption system to treat the contaminated material. The PRAP however is very vague on details of this process. While Scenic Hudson endorses the exploration and use treatment technologies as alternatives to landfills, the limited information provided in the PRAP makes it difficult to endorse this remedy.

The DEC should have done more to substantiate the statement in the PRAP that "Thermal desorption is a proven technology…" (p. 12). It

would behoove the Department to provide more information to the public on the thermal desorption process. More public education is needed so that communities can embrace these processes and not fear them.

RESPONSE 27: Thermal treatment is a technologically proven and extremely effective remedial technology. The technology has been used at a number of hazardous waste sites in New York and throughout the country. The U.S. Environmental Protection Agency currently lists 43 thermal treatment projects underway or planned in the U.S. Another 19 projects using thermal treatment as a remedial component are proposed or under consideration. In NYS, several projects have been recently completed including the Saratoga State Tree Nursery (pesticides), the Glens Falls Dragstrip (PCBs), American Valve (chlorinated solvents), and the GCL Tie & Treating site (creosote) in Sydney, NY.

It is noted that the thermal desorption process was explained at the public meeting. There were no major concerns expressed at the meeting with the thermal desorption process. Citizen participation will continue throughout the remedial design and construction to answer any of the public's questions on thermal desorption. Fact Sheets and information from the EPA and Interstate Technology & Regulatory Council (ITRC) regarding thermal desorption were available at the public meeting as well.

COMMENT 28: **Treatment and Control of Air Emissions**
One of our primary concerns is the potential for air emissions during the collection and treatment of the gas stream created by the thermal desorption unit.

RESPONSE 28: The details of the emissions and the gas stream controls of the thermal desorption unit will be outlined in the remedial design, once the contractor of the thermal desorption unit has been selected. The selected contractor will have to perform a demonstration test of the thermal desorber. Monitoring of this test will help develop the operating envelope of the process (operating temperature, residence time, etc.).

COMMENT 29: More information should be provided on the destructive capabilities of the process and what the end products may be. How will the gas stream be collected and treated? Will the gas stream be burned in an afterburner, collected on activated carbon, or recover in condensation equipment? Will PCBs and VOC's be completely destroyed? What temperature will the unit run at? What will be coming out of the stack? To what degree will acid gas emissions be produced and released? What types of air emissions will be created? What is the likelihood of the formation of dioxins and furans?

RESPONSE 29: The gas stream will be either collected on activated carbon or condensation equipment, or put into the thermal oxidizer. The PCBs would not be destroyed if collected, but they would be if sent into a thermal oxidizer. The thermal desorption unit would operate at about 800EF, with the exhaust gas entering a cyclonic unit at about 400EF. The oxidizer could run at about 1800EF to 2000EF, which would be an operating temperature that would also destroy any dioxins and furans. The exact temperatures and emissions will be outlined in the remedial design. The stack emissions would be tested for:

- constituents of concern present in the soil or media prior to treatment.
- hydrochloric acid (if applicable)
- other acid gas (if applicable)
- total hydrocarbons
- particulates
- visible emissions
- carbon monoxide
- oxygen, and
- applicable metals

Air quality will be monitored rigorously during all aspects of the remediation, including excavation, thermal treatment, and backfilling. As shown in the example Community Air Monitoring Plan (CAMP) in Appendix C, the effort will be extensive and mandatory. Generally, the contractor chosen for the remedial construction will perform the monitoring, under the supervision and review of the NYSDEC and the NYSDOH.

COMMENT 30: The PRAP indicates that an air pollution control system (APCS) would be used "as part of the treatment system to ensure that air emissions meet stringent air emission requirements." Yet the PRAP fails to identify stringent air emission requirements.

RESPONSE 30: The thermal desorption process will need to meet the substantive requirements in 6 NYCRR SUBPART 373-3 (NYSDEC, Division of Solid & Hazardous Materials, Interim Status Standards For Owners and Operators of Hazardous Waste Facilities, March 15, 2002; Statutory Authority: Environmental Conservation Law Section 27-0900 et seq).

COMMENT 31: As previously indicated, the PRAP does not clearly spell out how material will be handled. The public should be given more information regarding the handling and processing of contaminated and treated material. How will material be handled? Will material be stockpiled waiting for treatment? If so what measures will be taken to manage and prevent

releases to the air and ground? Will there be any problems with fugitive emissions from the handling and storage of material?

RESPONSE 31: All material will be handled appropriately as set forth in the remedial design documents. A health and safety plan will also discuss the appropriate measures to prevent fugitive emissions.

COMMENT 32: Will ash be created in the thermal desorption unit? How will it be handled and disposed of?

RESPONSE 32: Ash is not expected to be created during the thermal desorption process. The baghouse will collect any dust after the thermal desorber and before the thermal oxidizer (as in Figure 11). Any dust that is collected will be disposed off-site at an appropriate, permitted facility.

COMMENT 33: Will silt and clay content of soils present a problem in use of thermal desorption, possibly creating a dust that can interfere with emissions equipment?

RESPONSE 33: Silt and clay would not present a problem in this remedial process. Any dust suppression measures would address a dust issue. As mentioned above, the baghouse will also collect any dust after the thermal desorber and before the thermal oxidizer (as in Figure 11). Sand is located at the site, with no significant amount of silt or clay. The containment cell liner will be tested and handled appropriately.

COMMENT 34: **Monitoring of thermal desorption unit**
Are there performance based emission standards for thermal desorption units?
Are there specific monitoring regulations for these units? If not, what will be used? It would seem inappropriate to use incinerator monitoring regulations.
Are there operating standards for thermal desorption units?
Does it make sense to set performance standards?

RESPONSE 34: The selected contractor will have to perform a demonstration test of the thermal desorber. Monitoring of this test will help develop the operating envelope of the process (operating temperature, residence time, etc.). The monitoring regulations will follow: 6 NYCRR SUBPART 373-3 (NYSDEC, Division of Solid & Hazardous Materials, Interim Status Standards For Owners and Operators of Hazardous Waste Facilities, March 15, 2002; Statutory Authority: Environmental Conservation Law

Section 27-0900 et seq); and the ITRC protocol on thermal desorption (Technical Requirements For On-site Thermal Desorption Of Solid Media Contaminated With Hazardous Chlorinated Organics, September 18, 1997 Prepared by The Interstate Technology and Regulatory Cooperation Work Group, Low Temperature Thermal Desorption Work Team).

COMMENT 35: Monitoring of the thermal desorption unit should include real-time monitoring and the monitoring data should be readily available to the public.

This type of information should have been provided so that an informed opinion can be made and substantive comments submitted regarding the use of thermal desorption to treat contaminated material.

It is expected that as this process goes forward, information will be provided that will address air emissions, air quality control measures to reduce emissions, air modeling and engineering practices associated wit thermal desorption.

RESPONSE 35: Air monitoring data will be available to the public through the site's field office and construction project manager.

COMMENT 36: **Comparing Treatment Alternatives**
More substantive information is also necessary to be able to make an informed comparison of thermal desorption and soil washing.

Ironically, the description of soil washing, which is not the preferred remedy, offers slightly more detail than the description of thermal desorption.

For example it is stated in the text that for soil washing:

"After excavation of contaminated soils, the soil would be hauled and placed in storage piles near the treatment unit." Wouldn't this also be the case for thermal desorption?

RESPONSE 36: Yes. This text should have been included in the description of the thermal desorption alternative, and has been added in the Record of Decision.

COMMENT 37: "The soil washing process would result in clean soil, wash water, dissolved contaminants, and/or precipitated soils, and a finer fraction containing absorbed organics and precipitated soils. The contaminants

would be concentrated in to a relatively small volume of material, which would be disposed off-site."

What are the end products of thermal desorption?

RESPONSE 37: The end products of thermal desorption include the treated soil, and emissions from the oxidizer. Emissions from the oxidizer could include breakdown products of the contaminants, such as hydrochloric acid (a breakdown product of PCBs). Other emissions could include total hydrocarbons, particulates, carbon monoxide, oxygen and metals. Dust would be collected in the baghouse and disposed off-site at an approved, permitted facility. The contaminants (PCBs) would be destroyed in the thermal oxidizer.

COMMENT 38: We strongly suggest that the DEC carry out a public education campaign regarding the use of treatment technologies. The Department should be prepared to hold special sessions within the community to discuss this use of thermal desorption at this site and to hear and respond to local concerns. Having local support for use of this and other on-site treatment technologies is imperative.

RESPONSE 38: The public was informed through a fact sheet and a public meeting of the proposed remedial action. Over 400 fact sheets were sent to residents, elected officials and media. Residents living within 200 yards of the site had a fact sheet hand delivered by the NYSDEC. During that time, there were no concerns raised by the residents. During the public meeting, the process of thermal desorption was described in detail. The public, as well as the elected officials and their representatives at this meeting, did not express a concern with thermal desorption.

COMMENT 39: **Dewatering**
The PRAP indicates that dewatering may be necessary. At what point will this be known? How would it affect the cost and implementation of the remedy?

RESPONSE 39: The reason dewatering was mentioned was due to the fact that a very small portion of the materials in the cell may be saturated with water. The water level in the cell was reduced to less than six inches fifteen years ago. This is the level still measured by the DEC.

COMMENT 40: If a dewatering facility is used, we suggest it adhere to the same scrutiny being placed on the facilities for the upper Hudson River PCB dredging project.

RESPONSE 40: There will be no need for a dewatering facility similar to the upper Hudson River PCB dredging project. The amount of material that will need to be dewatered, if present, will not be a significant issue with site operations. However, all necessary precautions will be taken to ensure the protection of the on-site workers and the public.

COMMENT 41: **Groundwater**

According to *Table 3 – Recommended soil cleanup objectives* in the DEC's *Technical and Administrative Guidance Memorandum #4046 – Determination of Soil Cleanup Objectives and Cleanup Levels*, the *Groundwater Standards/Criteria* identified for PCBs is 0.1 ppb. As indicated in the PRAP, levels of PCBs in the groundwater at this site have been found as high as 151ppb adjacent to the containment cell. This is over 1500 times greater than the standard identified. Other ranges found up to 5.98 ppb and from 1.2 ppb to 2.42 ppb, mostly found in shallow groundwater monitoring wells, also significantly exceed the cleanup objective.

As stated in the 1997 Scenic Hudson report ***Forgotten PCB Dump Sites of the Upper Hudson Valley,*** "According to the DEC, the PCB contamination (groundwater) is attributable to leakage from the disposal cell." (p. 24)

While long –term monitoring is important, we urge the Department to choose and implement ***Groundwater Alternative 3 – Limited Groundwater Extraction and Treatment and Long-Term Monitoring.***

RESPONSE 41: As mentioned in Section 5.1.3 of the PRAP (Extent of Contamination), PCBs were detected at a concentration of 151 ppb in one piezometer immediately adjacent to the cell. However, PCBs were detected in another well 100 feet downgradient of this well at concentrations ranging from 1.2 ppb to 2.42 ppb. The leakage from the disposal cell is a historic release, but the site soils continue to cause groundwater contamination at the site. The remedial action addresses the need to remove the cell from this site and to treat the site soils (through excavation and treatment). This source removal will significantly improve the groundwater quality on-site and off-site.

Although Groundwater Alternative 3 is a viable remedial alternative, the NYSDEC does not think it will be necessary with the removal of the sources to the groundwater contamination. As mentioned in Scenic Hudson's 1997 report, there is contamination attributable to the leakage from the cell. If the cell and the surrounding contaminated soils are excavated and treated, then it is expected that the groundwater should

recover. If the monitoring results of the site groundwater does not show improvement in the groundwater, then the NYSDEC will reevaluate whether a different remedial alternative may be necessary.

COMMENT 42: **Institutional Controls**
The institutional controls identified appear comprehensive and adequate, however the monitoring, maintenance and enforcement of these controls will dictate their value. Therefore the annual certification of these controls, including deed notices, access controls and long term monitoring, is imperative. We urge the Department to work closely with the City to see that these controls are strictly enforced.

RESPONSE 42: The NYSDEC will monitor this site's conformance with the institutional controls set forth in this Record of Decision.

COMMENT 43: **Remedial design**
We strongly urge the Department to keep the process open and transparent during the remedial design and implementation phase so that all concerned party's can stay informed and continue to have input into this remedy. We request that the Department identify public input opportunities in the remedial design process that clearly articulate the role the public can play in shaping the remedy.

As mentioned, it is particularly important to engage the public in a discussion of the use of thermal desorption as a treatment technology. The DEC should actively seek public input and support and keep the public informed about activities related to treatment.

In addition, as part of the remedial design phase we urge the DEC to consider:

- redundant emissions monitors.
- redundant thermal desorption equipment to deal with equipment problems that have been experienced at other sites.
- a public education program on the use of treatment technologies such as thermal desorption and soil washing
- setting performance standards for the thermal desorption units

RESPONSE 43: The remedy will be designed and monitored appropriately to ensure the protection of human health and the environment. The remedial design will also look to minimize any adverse impacts from the project, and will be available to the public.

Also, see Response 34 and Response 38.

COMMENT 44: **Long-term Monitoring**

The details of the Department's approach to establish a long-term monitoring program for groundwater is lacking. These details must be clearly and specifically identified. The goals of the cleanup, the design of the cleanup, and the elements of the long term monitoring program need further clarification. We urge the Department do this with considerable public input.

Due to the groundwater contamination that may remain at this site we would urge the Department to establish a minimum of a 100-year monitoring and maintenance program.
Groundwater monitoring data should be readily available to the public.

If the Department moves forward with this cleanup as is proposed and groundwater contamination is left in place to be monitored, we urge that the Department to allow for the possibility that a future remedy may prove to be more effective.

RESPONSE 44: The goals for the cleanup are listed in Section 6 of the PRAP: Summary of the Remediation Goals. The remedial design will address the issues mentioned in the ROD and Responsiveness Summary, and will produce a design for the remedy prescribed in the ROD. The monitoring plan will be comprehensive and will provide the NYSDEC with enough data and basis for the future annual reviews.

A comprehensive monitoring program will be designed to accurately assess the groundwater conditions at the site. Monitoring programs at inactive hazardous waste disposal sites are typically created for the specific site. There will be annual reviews for this site, which will allow the NYSDEC to review the groundwater data. If it is determined that the groundwater quality is not reaching the cleanup levels, then the NYSDEC can consider additional remedial options other than the measures prescribed in the Record of Decision.

COMMENT 45: **Monitoring and Maintenance**

Construction phase and post-construction phase monitoring are very important. The PRAP does not clearly indicate how monitoring and maintenance would be required.

Important issues during the construction phase are:

a) Airborne exposure by contaminated dust, which should be mitigated by a cover system. A comprehensive air monitoring program should be set up during design and implementation. Monitoring during design will establish a baseline for assessing impacts during remediation.
In addition the Community Health and Safety Plan (CHASP) should set up a mechanism for keeping the community informed about health and safety issues such as air quality, during the construction and implementation of the remedy.

b) Other community issues such as noise, odor, and traffic should also be part of the CHASP. We urge the Department to involve the community in the development of the CHASP and the Community Air Monitoring Plan.

It would behoove the Department to initiate the formation of a local committee that can help community members stay engaged and informed.

RESPONSE 45: A Community Air Monitoring Plan (an example is included in Appendix C) will be included in the CHASP. Any interested members of the public will be welcome to talk to NYSDEC staff regarding information related to the site and information of the remedial process.

In addition, a Site Management Plan will address the institutional controls at the site. It will list the actions required before any new use of the site is taken. The Site Management Plan will state the locations of the demarcation layer, if applicable, where excavations will need to address health and safety measures.

COMMENT 46: **'Green' Cleanup**
We urge the Department to design the remedy so that implementation minimizes the impact on the natural environment and the local community. We urge the Department to incorporate the following principles into the design and implementation of this remedial action.

Energy efficiency
Equipment used in all phases of remedial action should be energy efficient.

Low-sulphur fuels
To minimize odors and other air emissions emitted to the local community we urge the department to require the use of low-sulphur fuel in remediation equipment.

Air Emissions
The strictest air emissions standards must be adhered to in operation of the thermal desorption unit. Any exceedances of such standards should force the shut down of the unit until the problem can be remedied and strict air emissions standards can be meet.

RESPONSE 46: Comments noted.

COMMENT 47: **Volatilization**
As previously mentioned, there is the potential for airborne exposure by contaminated dust that should be mitigated by some type of cover system.

Appropriate controls should be put in place to control dust and the potential loss of contaminants to the air. Containment should occur during excavation of soils and dredging. Storage and transportation systems and equipment should be enclosed to minimize unnecessary release of contaminants into the environment during the remediation process. Containment and air protections can include simple cover such as tarping, evacuating trapped air, using negative pressure in storage buildings and running air through filters before it is released.

RESPONSE 47: Volatilization, dust suppression and containment measures will be included in the remedial design (also included in the CAMP in Appendix C).

COMMENT 48: **Natural Resources Damages Claim**
In addition, we would urge the Department to consider initiating a Natural Resources Damages Assessment at this site and pursue an NRD claim.

If the remedial action proceeds as is proposed, contamination will be left in place resulting in more significant natural resource damages into the future, which would have to be taken into consideration in this claim.

RESPONSE 48: Comment noted.

COMMENT 49: **Cost Recovery**
It is unfortunate that the DEC could not reach an agreement with any PRP to perform the RI/FS. Hence it is anticipated that the DEC will not be able to reach a remedial action agreement with the PRP and will use State Superfund monies to implement the remedy.

Although the PRAP identified several PRPs, it is our understanding that

the PCBs on the site are from GE capacitors. We strongly urge the State to actively pursue legal action against GE as the generator of the PCBs to recover all response costs that the state has incurred and will incur in the future in relation to this site.

RESPONSE 49: With issuance of the ROD, the NYSDEC approach the PRPs to perform the remedial design/remedial action. Any willing or viable PRPs will have a chance to fund or perform the remediation. If the PRPs fail to partake in this remediation, the site will be referred to the State Superfund, and the NYSDEC will perform the remedial design/remedial action and pursue cost recovery actions.

COMMENT 50: **Summary**
We generally support the State's remedy selection for the Luzerne Road site. We anticipate that the State will choose, design and implement a remedy, including the use of treatment technologies that are protective of public health and the environment. We also anticipate that the State will involve and engage the public in these decision-making processes. We urge the State to issue a Record of Decision in a timely fashion. If GE, as the generator of the PCBs, refuses to implement the remedy, we expect the State will engage in legal action to recover all costs that the State incurs associated with the investigation and remediation of this site.

If the Department moves forward with this cleanup as is proposed and groundwater contamination is left in place to be monitored, we urge that the Department to allow for the possibility that a future remedy may prove to be more effective.

RESPONSE 50: As previously mentioned, the periodic monitoring reviews will determine whether additional actions are necessary.

On March 4, 2005, Edward K. LaPoint, PE of General Electric submitted a letter with the following comments:

COMMENT 51:

NYSDEC failed to consider a sufficient range of remedial alternatives for the site. The FS and PRAP only considered the following alternatives:

a. No action
b. Source area capping and excavation and offsite disposal of the PCB containment cell
c. Excavation and offsite disposal of contaminated soils
   Excavation and onsite thermal treatment of contaminated soils
   Excavation and onsite soil washing of contaminated soils

At a minimum, the PRAP and Final FS Report should have developed and evaluated the following additional remedial alternatives:

a. An upgrade to the existing PCB containment cell's cap along with a cap for the surface and subsurface soils.
b. Consolidation of PCB-impacted surface and subsurface soils onto the 51. Luzerne Road property, owned by the State of New York, and capping near the existing PCB containment cell.
c. Consolidation of the PCB-impacted surface, subsurface and containment cell soils from the Luzerne Road Site to the adjacent Glens Falls Landfill as part of the capping remedy for the Glens Falls Landfill.
d. Consolidation of some of the PCB-impacted surface, subsurface and containment cell soils from the Luzerne Road Site, segregated based on concentration, to the adjacent Glens Falls Landfill as part of the capping remedy for that site, with offsite disposal of the remaining PCB-impacted material at the Luzerne Road Site.
e. Consolidation of some of the PCB-impacted surface, subsurface and containment cell soils from the Luzerne Road Site, segregated based on concentration, to the adjacent Glens Falls Landfill as part of the capping remedy for that site, with on-site thermal treatment of the remaining PCB-impacted material at the Luzerne Road Site.

A newly constructed cell combining the surface, subsurface, and containment cell materials on the Luzerne Road Site as part of a comprehensive remedy for both the Glens Falls Landfill and the Luzerne Road Site.

NYSDEC did not include any of these remedial alternatives in the PRAP or the Final FS Report. Yet, these remedial alternatives could address the site in a manner protective of human health and the environment, but at significantly lower cost. Because NYSDEC frequently rejects FS reports on the grounds that a sufficient range of alternatives was not considered, this deficiency in its own FS and PRAP is all the more remarkable. NYSDEC should revise the Final FS Report and its PRAP to include the evaluation of these additional remedial alternatives.

With the exception of the no-action alternative, all of the remedial alternatives evaluated involve excavation of the engineered containment cell that NYSDEC constructed in 1979. Yet, capping and

containment remedies are almost always evaluated in FS reports and frequently selected as the preferred remedy. NYSDEC's failure to at least consider this type of remedy at this site is inexplicable, particularly since it has been selected at the adjacent Glens Falls Landfill.

In addition, no in-situ treatment alternative was evaluated in the FS or PRAP. For example, the use of thermal wells to address the PCB-impacted soils is an accepted technology that avoids many of the negatives of excavation and thermal desorption, in part, because this technology eliminates the need for excavation, applies high temperatures to soils beneath the ground surface and presents less construction risks. Thermal wells have been proven as an effective remedy at manufactured gas plants in Massachusetts.

It is not apparent why NYSDEC did not retain Soil Alternative 2 (i.e., excavation of the PCB-impacted soil within the engineered containment cell for offsite disposal, followed by consolidation and capping other PCB-impacted soil at the site in the excavated containment cell). This alternative would comply with the threshold selection criteria, is more easily implemented, could be completed in a shorter time frame, would have less impact on the community, and also costs less than the preferred alternative. A long-term maintenance and monitoring plan could be easily developed and has proven quite effective at numerous sites. At a minimum, NYSDEC should have retained this alternative for evaluation.

RESPONSE 51:

In the October 23, 1979 letter from Richard Dewling, Acting Regional Administrator of the United States Environmental Protection Agency (USEPA) to Robert. F. Flacke, Commissioner of the NYSDEC, the PCB cell at the Luzerne Road Site is considered a temporary measure (to stop PCB volatilization) and not a permanent disposal site. An emergency declaration was issued by the Commissioner of the State Department of Health. The purpose of this action was to limit human exposure from the contaminated PCB soils of the residential properties, as well as the 53 Luzerne Road property. It also states that the PCBs at the Site should be moved to a chemical waste landfill or high temperature incinerator which has been approved as a general purpose disposal site as soon as it becomes feasible. Therefore, the consolidation of any material from the cell or improvement of the cap on the cell was not considered in the FS or PRAP.

The cap on the cell was already upgraded in 1986 in order to prevent any infiltration into the cell. This upgrade was required because the leachate was no longer pumped out and trucked to the GE-Fort Edward plant for treatment. The NYSDEC could not consider a new cap on the cell because, as mentioned above, the PCB containment cell was considered a temporary measure, and not a permanent disposal site. Landfill capping is the presumptive remedy of municipally owned and operated landfills. The material in the PCB containment cell is to be treated by high temperature treatment or moved to a chemical waste landfill.

Alternative 2 presented in the PRAP does call for the capping of the surface and subsurface soils, after some consolidation. This alternative was evaluated in the FS and considered in the PRAP. It is not the intention, however, to create another disposal cell for the remainder of the contaminated soils, either separate from or in conjunction with the Glens Falls Landfill. Upon comparing remedial alternatives, specifically the difference between capping in-place and ex-situ thermal desorption, the reduction of toxicity, mobility, and volume through treatment was considered. A

site-specific remedy that permanently and significantly reduces the volume, toxicity, and/or mobility of the hazardous wastes and/or constituents thereof is to be preferred over a remedy that does not do so. The following is the hierarchy of remedial technologies ranked from most preferable to least preferable:

(i) Destruction, onsite or offsite.
(ii) Separation/treatment, onsite or offsite.
(iii) Solidification/chemical fixation, onsite or offsite.
(iv) Control and isolation offsite or onsite.

Retaining a long-term maintenance and monitoring program of the existing cell could not be evaluated as a legitimate remedial alternative. There is a consequential amount of hazardous waste present at the site, which has led to the contravention of groundwater standards and a significant threat to human health and the environment. A long-term monitoring plan was proposed in Groundwater Alternative 2. This, in conjunction with source area removals and treatment, will be an effective measure to monitor the local groundwater.

The Luzerne Road Site and the Glens Falls Landfill are two separate inactive hazardous waste disposal sites. Consolidation of hazardous waste from one site to another would not be allowed. The Glens Falls Landfill would not be allowed to accept PCB wastes from another site, as it does not have TSCA approval. If additional grading material under the impermeable cap is needed, and the time of the two remedial projects coincide, then consideration of using the treated soil from the Luzerne Road Site can be given. A single remedy for the two inactive hazardous waste disposal sites could not be considered.

The NYSDEC did consider various remedial technologies in the Feasibility Study. Other remedial alternatives were considered for this site before production of the FS. In September 2000, a pilot scale demonstration of an alternative remedial technology was conducted with USEPA and NYSDEC oversight. Other remedial technologies were considered and eliminated in Chapter 3 of the FS, Identification and Screening of Remedial Technologies. These included in-situ technologies such as biological treatment, in-situ thermal desorption, solidification/stabilization, vitrification and soil flushing. Ex-situ technologies were also considered, including: dehalogenation, incineration, solvent extraction and soil washing.

COMMENT 52:

The PRAP should have acknowledged that the selected remedy involves above ground incineration of the contaminated off-gases from the thermal desorption process. Details and discussions of the incineration process should have been included. The Final FS Report at page 3-9 states that thermal desorption " ... is not incineration, because the decomposition or destruction of organic material is not the desired result, although some decomposition may occur." However, in contradiction, the Final FS Report at page 3-10 states the remedy must meet RCRA incinerator emission requirements and "from a permitting perspective ...is considered to be an incinerator." It may also be necessary to obtain a federal TSCA permit for the incineration portion of the process. The text of the PRAP fails to communicate to interested parties that the preferred remedial alternative does involve an incineration process. As shown on Figure 11 of the PRAP, a "thermal oxidizer" will be employed at

temperatures of 2,000 degrees Fahrenheit, which is clearly incineration. The omission of clear language in the PRAP regarding the similarities between the preferred remedy and incineration is especially troubling in light of the much lower public acceptance of incineration remedies, as recognized in the Final FS Report at page 3-10. As NYSDEC knows, there was considerable public debate and controversy surrounding the construction of the Warren/Washington County Municipal Incinerator. It is well known that incineration remedies are a matter of substantial public interest in the Glens Falls area. Accordingly, the PRAP and FS should have included a more extensive discussion of the incineration characteristics of the ex-situ thermal desorption technology, as well as the fact that like incineration there will be air emissions issues.

RESPONSE 52:

The PRAP states that the gas stream will go through an air pollution control system. The PRAP states that thermal desorption of the soil is not incineration. This sentence was in regards to the fact that thermal desorption process would not incinerate the soil. The treated soil will be backfilled on-site, subsequent to meeting the cleanup levels. After the desorption process, the gas stream can either move to a thermal oxidizer or a collection system. Within the remedial design process, the NYSDEC can decide to implement a collection system or thermal oxidizer, depending which system will be more effective.

Thermal desorption is a process used at the ESMI Facility in Fort Edward. Thermal desorption was also used at the Glens Falls Dragstrip.

A federal TSCA permit for the thermal oxidation will not be required, but the substantive requirements under Part 373 will need to be met. The Feasibility Study states that the high temperature thermal desorption is considered to be an incinerator from a permitting perspective, as compared to the emission requirements for a low temperature thermal desorption system.

It was mentioned in the public meeting that the PCBs would be destroyed by the afterburner. There was no debate or controversy from anyone present at the meeting, or any other commentors including locally elected officials. The air emissions issues from this process were also discussed at this meeting. The temperatures at which the soils and gases would be treated were also discussed in the public meeting, again without a concern. NYSDEC and NYSDOH stated that air monitoring would be performed throughout the remedial activities. Most of the concerns at the public meeting were related to any dust from the excavations and subsequent dust suppression techniques.

COMMENT 53:

NYSDEC failed to consider and evaluate a comprehensive remedy that would include the Glens Falls Landfill (Site No. 5-57-003) and the Luzerne Road Site. The Luzerne Road Site is immediately adjacent to the Glens Falls Landfill. It is unclear why dissimilar remedies were developed for these adjacent sites that involved similar activities that resulted in similar contamination.

A Record of Decision (ROD) was issued for the Glens Falls Landfill in April 2003 that calls for consolidation of waste that extends offsite back onto the landfill, re-grading the site, and capping the areas that contain waste. Because the Glens Falls Landfill appears to be the dominant source of groundwater contamination beneath the Luzerne Road Site, NYSDEC should have considered combining the remedial actions for these two adjacent sites, particularly since a comprehensive remedy for both sites would be much more cost-effective than the remedy selected for the Luzerne Road site. The Department's failure to consider a comprehensive remedy for both sites is a substantial flaw.

RESPONSE 53:

The Department appropriately developed separate remedial plans for these two sites. The comment that states it is unclear why dissimilar remedies were developed for the adjacent sites that involved similar activities that resulted in similar contamination is based upon a lack of understanding of the two sites. One was a municipally operated solid waste landfill versus the other site, which was the location of a capacitor salvaging operation, where PCBs were dumped onto the ground. The Glens Falls Landfill received trash from residents, with some industrial waste. The Luzerne Road Site was the disposal site of highly concentrated PCB liquids along with scraps and carcasses of capacitors. The Glens Falls Landfill contribution to groundwater is largely dilute versus higher PCB concentrations in the soils at the Luzerne Road Site. The Luzerne Road Site and the Glens Falls Landfill are two separate and different inactive hazardous waste disposal sites. Consolidation of material from one site to another would not be allowed. The Glens Falls Landfill would not be allowed to accept hazardous wastes from other sites, as it does not have TSCA approval.

COMMENT 54:

It is unclear why NYSDEC considers the PCB containment cell to be a significant threat to human health or environment, justifying a $22 MM excavation and thermal desorption remedy. The current cap, fence, locked gates and future deed restrictions prevents risk of exposure to the surface soils. Indeed, page 7-4 of the RI Report states that the limited access to the cell and the absence of any excavations in the cell area would not lead to subsurface soil exposure. Additionally, at page 7 of the Executive Summary, the RI Report states that "PCB and metal contribution from the Luzerne Road landfill to the groundwater is minimal." Similarly, the shallow groundwater data at the site does not indicate that the PCB landfill cell constitutes a significant additional PCB contribution to the underlying groundwater apart from the adjacent Glen Falls landfill. Accordingly, there does not appear to be enough of a significant threat to human health or the environment to justify the proposed remedy.

RESPONSE 54:

Proper disposal or treatment of the materials within the PCB containment cell is necessary because removal of the cell and its contents is required. There are consequential amounts of PCB contaminated soils that are at or above hazardous waste levels, with levels as high as 62,300 ppm. This site has led to the contravention of groundwater standards on-site and off-site. A significant

threat at this site exists due to significant environmental damage due to the impacts of contaminants to the use of the groundwater. A significant increased risk to public health also exists at this site due to the potential direct contact exposure from the contaminated soils. The management of these soils is to abate the significant threat posed by direct contact of the soils and the contamination of the groundwater.

The cleanup goal of the NYSDEC is to restore inactive hazardous waste sites to predisposal conditions, to the extent feasible and authorized by law. However, it is recognized that restoration to predisposal conditions is not always feasible.

COMMENT 55:

The PRAP selects a 24-inch depth to distinguish between surface and subsurface soils, while the Final FS Report indicates that a 12-inch depth was used. The soil volume calculations presented in the Final FS Report are based on use of a 12-inch depth to differentiate surface and subsurface soil. The estimates presented in the PRAP do not appear to take the increase into consideration. GE feels that the 12-inch depth is equally protective of human health and the environment and that there is no appreciable extra protectiveness gained from selecting the 24-inch depth. Any inconsistency between the two documents should be resolved and revisions should be placed into the local document repositories for review by interested parties.

RESPONSE 55:

The remediation goals have been changed to reflect the fact that the surface soil at this site is the top 1 foot of soil. Therefore, the top 1 foot of soil will be surface soil, with everything below that point to be considered subsurface soil. There are no changes to the cost estimates in Table 2, as the Feasibility Study used the top 1 foot as surface soil. The site management plan will address the management of soils under the top 1 foot that have PCB concentrations over 1 ppm. As stated in the Record of Decision, subsurface soils with PCB concentrations above 10 ppm will require excavation and treatment.

APPENDIX B

Administrative Record

Administrative Record

Luzerne Road Site
Operable Units No. 2 & 3
Site No. 5-57-010

1. Proposed Remedial Action Plan for the Luzerne Road Site, Operable Units No. 2 & 3, dated December 2004, prepared by the NYSDEC.
2. Correspondence from EPA to DEC regarding creation of the PCB Cell, October 23, 1979
3. RI/FS Work Plan, June 1999, Ecology & Environment Engineering, P.C.
4. Final Remedial Investigation Report, August 2002, Ecology & Environment Engineering, P.C.
5. Final Feasibility Study Report, May 2004, Ecology & Environment Engineering, P.C.
6. Interim Remedial Measure - PCB Contaminated Soil Excavation, Removal and Disposal Contract - Post Remediation Report - Luzerne Road Site, June 2003, NYSDEC Bureau of Construction Services
7. Interim Remedial Measure - PCB Contaminated Soil on Property Located Between Alta Avenue and Veterans Road, January 23, 2004, Aztech Technologies, Inc.
8. Citizen Participation Plan, July 1999 (Revised February 2005), NYSDEC
9. Referral Memorandum dated October 10, 1997 for the use of Hazardous Waste Remedial Fund Monies at the Luzerne Road Site.
10. Fact Sheet, Remedial Investigation to Begin at Luzerne Road, July 1999, NYSDEC
11. Fact Sheet, Excavations of Several Residential Properties to Begin, August 2000, NYSDEC
12. Fact Sheet, Luzerne Road Residential Soil Contamination, September 2000, NYSDOH
13. Information Sheet, Luzerne Road Blood Serum PCB Sampling Program, March 2001, NYSDOH
14. Fact Sheet, Remedial Action Proposed for Luzerne Road Site, December 21, 2004, NYSDEC
15. Update Sheet, Public Comment Period Extension Announcement, February 2005, NYSDEC
16. Correspondence related to remedy selection:
    Letter dated January 27, 2005 from Phil Theriault of ESMI of New York
    Email dated January 7, 2005 from (unsigned).
    Email dated January 10, 2005 from Jeremy Hammond
    Letter dated March 4, 2005 from Rich Schafio of Scenic Hudson
    Letter dated March 4, 2005 from Edward K. LaPoint, PE of General Electric