Department of Environmental Conservation

Division of Environmental Remediation

Record of Decision

M. Wallace and Son, Incorporated Site
Cobleskill, Schoharie County
Site Number 4-48-003

March 1999

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

DECLARATION STATEMENT - RECORD OF DECISION

"M. Wallace and Son, Incorporated" Inactive Hazardous Waste Site
Cobleskill, Schoharie County, New York
Site No. 448003

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedial action for the M. Wallace and Son, Incorporated inactive hazardous waste disposal site which was chosen in accordance with the New York State Environmental Conservation Law (ECL). The remedial program selected is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300).

This decision is based upon the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the M. Wallace and Son, Incorporated Inactive Hazardous Waste Site and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A bibliography of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

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

Description of Selected Remedy

Based upon the results of the Remedial Investigation/Feasibility Study (RI/FS) for the M. Wallace and Son, Incorporated Site and the criteria identified for evaluation of alternatives the NYSDEC has selected the following remedies:

- continued collection and treatment of contaminated groundwater
- continued groundwater monitoring
- treatment of backwash water prior to discharge
- continued collection and off-site disposal of light non-aqueous phase liquid (LNAPL)
- design and implementation of an enhanced LNAPL recovery and handling system
- biota sampling
- off-site disposal of excavated soils and excavated sediments;
- the installation of a new public water supply line to the affected residences near the M. Wallace and Son, Incorporated site.

New York State Department of Health Acceptance

The New York State Department of Health concurs with the remedy selected for this site as being protective of human health.

Declaration

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

March 31, 1999
Date

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

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SECTION 1: SUMMARY OF THE RECORD OF DECISION

The New York State Department of Environmental Conservation (NYSDEC) in consultation with the New York State Department of Health (NYSDOH) has selected the remedy to address the significant threat to human health and/or the environment created by the presence of hazardous waste at the M. Wallace and Son, Incorporated Site. As more fully described in Sections 3 and 4 of this document, the salvaging of scrap metals has resulted in the disposal of a number of hazardous wastes, including polychlorinated biphenyls (PCBs) and Lead, at the site. Some of the PCBs were released or have migrated from the site to surrounding areas, including the sediments contained in the outlet of a quarry pond and the sediments at one specific location in the sediments of a creek (known as the Campus Creek) that is located on the campus of the local college. These disposal activities have resulted in the following significant threats to the public health and/or the environment:

- a significant threat to human health associated with impacts of contaminated groundwater upon the wells at nearby residences.
- a significant environmental threat associated with the impacts of contaminated sediments and/or surface water upon the wildlife near this site.

In order to restore the M. Wallace and Son, Incorporated inactive hazardous waste disposal site to pre-disposal conditions to the extent feasible and authorized by law, but at a minimum to eliminate or mitigate the significant threats to the public health and/or the environment that the hazardous waste disposed at the site has caused, the following remedies are proposed:

- continued collection and treatment of contaminated groundwater
- continued groundwater monitoring
- treatment of backwash water prior to discharge
- continued collection and off-site disposal of light non-aqueous phase liquid (LNAPL)
- design and implementation of an enhanced LNAPL recovery and handling system
- biota sampling
- off-site disposal of excavated soils and excavated sediments;
- the installation of a new public water supply line to the affected residences near the M. Wallace and Son, Incorporated Site.

The proposed remedies, discussed in detail in Section 7 of this document, are intended to attain the remediation goals selected for this site in conformity with applicable standards, criteria, and guidance (SCGs) in Section 6 of this ROD.

SECTION 2: SITE LOCATION AND DESCRIPTION

The M. Wallace and Son, Incorporated site is an active scrap- yard and metal reclamation facility, located in Cobleskill, Schoharie County that has operated since 1945. This Class 2 site is No. 448003 on the New York State Registry of Inactive Hazardous Waste Disposal Sites. The 6.6-acre site is bounded to the South by Route 10 (Elm Street), to the West by West Street, to the North by the High School athletic field, and to the East by an apartment complex. The site is within the limits of the Village of Cobleskill (a suburban setting), and is at the base of a hillside (see figure 1.1).

There is a quarry pond located on the site which collects groundwater from the immediate area and from the hillside above the site. The quarry pond water travels through an outlet, along a storm water drainage channel and ultimately to the Cobleskill Creek. Please refer to figure 1.2 for the location of the quarry pond outlet.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

Between the years 1945 and 1980, transformers containing PCBs were purchased from Niagara Mohawk Power Corporation (NiMo) and dismantled at the M. Wallace and Son, Incorporated Site to recover the recyclable metals. This resulted in spills of residual dielectric fluid, which contaminated the site.

The quarry pond located on the site acts as a catch basin for the contaminated groundwater discharging from the hillside. Pond water is actively pumped and treated to remove contamination prior to being discharged to a drainage channel. This action is preventing the spread of contamination through this pathway. An area up-gradient of the quarry pond is where the transformers were dismantled (gutted) to recover the recyclable metals and is called the "gut area" (see Figure 5-1). Groundwater from the hillside transports PCB contamination from beneath the "gut area" and into the quarry pond. Please refer to figures 1.1 and 1.2 for the location map and site plan respectively.

The quarry pond water discharges through the quarry pond outlet, and follows a storm water drainage channel which discharges to the Cobleskill Creek. The results of sediment sampling indicates that PCBs were historically transported along this same route from the quarry pond, to the quarry pond outlet and to the storm water drainage channel. Please refer to figures 3.1 and 3.2 for the quarry pond outlet location and the storm water drainage channel location, respectively.

3.2: Remedial History

1983 - Initial sampling event detected PCBs at about 200 ppm in soil at the "gut area".

1985 - The site was listed on the Registry as a Class 2A.

1987 - An IRM Consent Order with the Attorney General's Office prompted NiMo to conduct a Site Investigation. O'Brien and Gere (OBG) was hired to perform the work, and submitted a work plan.

1990 - Classification changed to a Class 2 as a result of high levels of PCBs documented in soil and sediment data in the Site Investigation (SI) Report generated by OBG.

1991 - A "Gut Area" interim remedial measure was conducted. Twenty-nine hundred (2900) cubic yards of PCB contaminated soil were excavated and disposed off-site at a permitted facility.

1991 - An interim remedial measure was conducted to remove quarry pond outlet sediments contaminated with PCBs. Confirmatory sampling indicated that not all of these sediments were removed.

1992 - Work plan for a Remedial Investigation (RI) was submitted by NiMo. Piles of scrap metal were relocated after decontaminating (or disposing of) most of the scrap metal. A 400 gallons per minute(gpm) water treatment plant for the quarry pond was installed in December and commenced treating water from the quarry pond.

1993 - A biweekly monitoring and LNAPL recovery program began in June.

1993 - Investigations in the quarry pond involved removal of debris at the bottom of the pond. Approximately 5040 cubic yards of sediments were found in the quarry pond that were not previously indicated by the SI Report (OBG 1990). Fourteen hundred (1400) cubic yards (out of 5040 cubic yards) were found to be greater than 1.0 parts per million PCB. A perimeter fence was erected on the West side of the site.

1994 - Erected the building for a new water 100 gallons per minute treatment system (at the quarry pond) which was brought on line in March. The Phase II remedial Investigation Work Plan was approved.

1995 - A supplemental water treatment system (rated at 300 gpm) was installed to enhance the existing 100 gpm system and allow for treating the larger volume of spring run-off water. RI sampling was started in September for Phase II of the RI.

1995 - The RI Report (Phase I and Phase II) and a Fish & Wildlife Impact Analysis (FWIA), which included fish tissue samples (from the storm water drainage channel and Cobleskill Creek), were completed in July and submitted for review.

1996 - The RI Report (Phase I and Phase II) was revised in March and approved. A demonstration of three different extraction methods were evaluated for possible use in the removal of LNAPL.

1997 - Activated carbon treatment installed for off-site residential wells RW-1 and RW-2 in January. Feasibility Study (FS) was completed and approved in October.

1998 - An interim remedial measure removed the remaining impacted sediments from the quarry pond outlet channel and impacted sediments from the Campus Creek in October.

SECTION 4: SITE CONTAMINATION

To evaluate the contamination present at the site and to evaluate alternatives to address the significant threat to human health and the environment posed by the presence of hazardous waste, NiMo has recently conducted a Remedial Investigation/ Feasibility Study (RI/FS).

4.1: Summary of the Remedial Investigation

The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site.

The RI was conducted in two phases. The first phase was conducted between May 1993 and December 1993, then the second phase between September 1994 and March 1996. A report entitled "Remedial Investigation Report - M. Wallace and Son, Inc., Cobleskill, New York" has been prepared describing the field activities and findings of the RI in detail.

The RI included the following activities which were designed to determine the nature and extent of the contamination.

- Geophysical survey to determine depth to bedrock, and the depth of sediments that have collected on the bottom of the quarry pond.
- Installation of soil borings and monitoring wells to allow for collection and analysis of the soils and groundwater. The physical properties of soil, groundwater flow direction and hydro-geologic conditions were determined.
- Installation of additional groundwater monitoring wells to determine if contaminated groundwater had been pushed off-site past West Street during the heavy rains in the spring of 1996.
- Sampling of sediments and fish from the storm water drainage channel and Cobleskill Creek.

To determine which media (soil, groundwater, etc.) contain contamination at levels of concern, the RI analytical data was compared to environmental Standards, Criteria, and Guidance (SCGs). Groundwater, drinking water and surface water SCGs identified for the M. Wallace and Son, Inc. site are based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part V of NYS Sanitary Code. NYSDEC TAGM 4046 soil cleanup guidelines for the protection of groundwater, background conditions, and health-based exposure scenarios were used as SCGs for soil. The guidance values for evaluating contamination in sediments are provided by the "Technical Guidance for Screening Contaminated Sediments".

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

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

4.1.1 Nature of Contamination:

As described in the RI Report, many soil, groundwater, sediment, and surface water samples were collected at the Site to characterize the nature and extent of contamination. The main categories of contaminants at the M. Wallace and Son site are polychlorinated biphenyls (PCBs) and inorganics (metals). PCBs are a component of the dielectric oil in transformers that were salvaged at the site, and are the contaminant of concern. PCBs were present in the areas where transformers were reclaimed at the site, in quarry pond sediments and in the drainage channel sediments. Metals were present in soils where large stockpiles of scrap metal were located.

4.1.2 Extent of Contamination

Table 1 summarizes the extent of contamination for the contaminants of concern in soils, groundwater, sediments, surface water, and fish. Table 1 compares the data with the proposed remedial action levels (SCGs) for the Site. The following are the media which were investigated and a summary of the findings of the investigation. Please refer to figures 2, 3.1, and 3.2 in addition to Table 1.

Soil

Significant concentrations of contaminants were detected in surface soils, as well as subsurface soils, over a majority of the site. PCBs were detected as high as 2000 ppm prior to the interim remedial measure, which involved excavating 2900 cubic yards of contaminated soil. Currently, the highest detection of PCBs in soil is 163 ppm (see Table 1), which poses a significant threat of exposure for humans and wildlife.

Other soil contaminants found at the site (that are typical of a scrapyard) are: Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Dibenzo (a,h)anthracene, Arsenic, Cadmium, Chromium, Lead, and Mercury. Lead was the only heavy metal that failed the Extraction Procedure (EP) Toxicity Test, indicating these soils to be hazardous waste. These contaminants are located in the areas evaluated for remediation.

Groundwater

PCB-LNAPL has been observed floating on top of the groundwater in monitoring wells and a visible sheen has been observed in the quarry pond. The PCB concentrations in the LNAPL were up to 2,230 parts per million (ppm) PCB. This separate phase oil enters the quarry pond where it is collected (as quarry pond water) and treated to a level less than 0.065 ppb PCBs (as part of the water treatment IRM) before it is discharged to the outlet of the quarry pond.

PCBs were also detected in monitoring wells past (west of) West Street during a heavy rain event. The results for this particular event were 0.67 parts per billion (ppb) PCB, but subsequent sampling resulted in non detection at 0.05 ppb for PCB. The groundwater flow direction is generally toward the quarry pond, except in the event of heavy rains or rapid snow melts, which can cause excursions towards West Street. These excursions pose

a significant threat of exposure to human health. The continued pumping and treating of the quarry pond water provides a collection point for the groundwater.

As a precautionary measure the responsible party (NiMo) installed treatment systems on two individual residential wells (known as R1 and R2) that are located down gradient of the West boundary of the site. As long as these individual wells are being used, these treatment systems will be maintained (see figure 5).

Sediments

The accumulation of PCBs in the quarry pond sediments occurred over decades as the PCBs were transported from the soils and bedrock, then carried into the quarry pond. PCBs were detected in the quarry pond sediments to levels as high as 63 ppm. This level of PCBs in sediments could pose a significant threat to the environment if allowed to leave the quarry pond location.

After treatment, the surface water flows 0.7 miles from the quarry pond through open channels and the storm water drainage channel, and is finally discharged to the Cobleskill Creek. The PCBs transported in the surface water have accumulated in sediments to a value of up to 8.2 ppm in the outlet channel of the pond and up to 4.4 ppm in the storm water drainage channel. Based on the site-specific total organic carbon, these values in sediments exceed the screening level in the *NYSDEC Technical Guidance for Screening Contaminated Sediments* for the protection of wildlife (see Table 1). The migration of PCB contaminated sediments, out of the quarry pond, is being controlled by the continued pumping and treating of the quarry pond water.

Surface Water

As mentioned previously, surface water is collected, treated and discharged from the quarry pond. The water eventually reaches the Cobleskill Creek. PCBs have been detected in the quarry pond surface water up to 0.32 ppb, prior to collection and treatment, compared to the surface water standard of 0.00012 ppb (or 0.12 part per trillion). No PCBs were detected in the storm water drainage channel surface water.

Fish

Fish tissue was collected (for analysis) from fish in the storm water drainage channel and Cobleskill Creek. PCBs were detected up to 1.7 ppm, in Fathead Minnows, which does not exceed the USDA tolerance level of 2.0 ppm (for human consumption). However, the NYSDEC guidance value of 0.1 ppm for protecting "fish-eating wildlife" was exceeded. This guidance value is based on a risk assessment detailed in the NYSDEC *Niagara River Biota Contamination Project: Fish Flesh Criteria For Piscivorous Wildlife.*

4.2 Interim Remedial Measures:

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

- Excavation of PCB contaminated surface soils and quarry pond outlet sediments, to remove as much of the accessible source as possible (1991).

- Installation/operation of a water treatment facility to assure that all water discharged from the site is treated, and all contaminated water would be contained on-site (1992).

- A biweekly monitoring and LNAPL recovery program was started in June (1993).

- Removal of man-made debris and drums from the bottom of the quarry pond to eliminate the possibility of unknown sources (1993).

- Erection of a security fence to restrict access to the areas with surface soil contamination along West St (1993).

- Installation of additional water treatment capacity to 400 gallons per minute (1995).

- Installation of two small water treatment systems on two individual wells. The intent is to prevent any potential future exposure to contaminated groundwater at these residences (1997).

- Removal of impacted sediments from the quarry pond outlet channel and the impacted sediments from the Campus Creek (1998).

4.3 Summary of Human Exposure Pathways:

This section describes the types of human exposures that may present added health risks to persons at or around the site. A more detailed discussion of the health risks can be found in Section 5.0 of the RI Report.

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

Completed pathways which exist at the site include:

- ingestion of soils.

- dermal contact with soils.

- inhalation of dusts.

- ingestion of the groundwater from residential wells.

Installation of the security fence around the site has reduced the potential for human exposure (by ingestion) to the on-site soils, except for on-site workers. On-site workers are required to comply with the site Health and Safety Plan and applicable OSHA requirements for personal protection.

4.4 Summary of Environmental Exposure Pathways:

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

The following pathways for environmental exposure have been identified:

- direct contact with the affected sediments in drainage channels and quarry pond.
- ingestion of sediments along with food.
- direct contact with surface water.
- ingestion of surface water.
- direct contact with soils.
- ingestion of soils.
- inhalation of dusts.
- ingestion of affected terrestrial and/or aquatic animals and plants (ie, fish being eaten by piscivorus wildlife).

SECTION 5: 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 are NiMo and M. Wallace & Son, Incorporated.

In 1985, the Attorney General's office, at the NYSDEC's request, commenced a lawsuit against NiMo and M. Wallace & Son, Incorporated. The NYSDEC and NiMo entered into a Judicial Consent Order in February 1994. The Order obligates NiMo to conduct an RI/FS, propose a remedy to the NYSDEC, and implement the remedy selected by the NYSDEC. NiMo has reserved the right to petition the Court if they disagree with the remedy selected by the NYSDEC.

Assuming agreement; the NYSDEC, NiMo, and M. Wallace & Son, Incorporated expect to enter into a final settlement document addressing all out-standing issues, i.e. re-evaluation of the conditions at the site, and all the claims the parties have asserted versus one another (these will include future site use).

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. The overall remedial goal is to meet all Standards, Criteria And Guidance (SCGs) and be protective of human health and the environment. At a minimum, the remedy selected should 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 goals selected for this site are:

- Eliminate, to the extent practicable, ingestion of groundwater affected by the site that does not attain NYSDEC Class GA Ambient Water Quality Criteria.
- Eliminate, to the extent practicable, off-site migration of groundwater that does not attain NYSDEC Class GA Ambient Water Quality Criteria.
- Eliminate, to the extent practicable, migration of LNAPL through removal and hydraulic management.
- Eliminate, to the extent practicable, exposures to contaminated soils.
- Eliminate, to the extent practicable, the migration of PCBs into the drainage channel and creek via erosion of PCB contaminated soils, transport of suspended sediment with surface water, and transport of PCBs contained in groundwater or surface waters.
- Eliminate, to the extent practicable, exceedances of applicable environmental quality standards related to releases of contaminants to the waters of the state.
- Eliminate, to the extent practicable, the exposure of fish and wildlife to levels of PCBs above standards/guidance values.

SECTION 7: SUMMARY OF THE EVALUATION OF ALTERNATIVES

The selected remedy should be protective of human health and the environment, be cost effective, comply with other statutory laws and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. Potential remedial alternatives for the M. Wallace site were identified, screened and evaluated in the report entitled "Feasibility Study Report - M. Wallace and Son, Inc. Scrapyard, Cobleskill, New York," dated October 1997.

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

7.1: Description of Alternatives

The potential remedies are intended to address the contaminated soils, sediments, surface water and groundwater at the site.
Remedial alternatives for the residential water supply were evaluated independent of the remedial alternatives for the impacted environmental media. Alternatives W1 - W3 deal with the residential water supply and alternatives E1 - E4 deal with the impacted environmental media.

Alternative W1:

No Action For Residential Water Supply
The no action alternative is evaluated as a procedural requirement and as a basis for comparison.

This alternative is not applicable because the remedial benefits accomplished with the residential well "activated carbon treatment" IRM requires that this IRM continue to operate.

Alternative W2:

No Further Action - Residential Treatment Systems

Alternative W2 would involve continuing operation of the water treatment systems on RW-1 and RW-2 for the next 30+ years. The water treatment systems currently in place on the two individual wells consist of particulate removal to 10 microns, two granular activated carbon filter canisters in series, ultra-violet (UV) disinfection and water softening (to assist the UV disinfection).

Present Worth:	$ 190,800
Capital Cost:	$ 15,000
Annual O&M:	$ 14,170
Time to Implement	currently in place

Alternative W3:

Extending the Public Water Supply

Alternative W3 would involve the extension of the Village of Cobleskill public water supply so that the residences on West Street that could be potentially impacted (in the future) by ground-water contamination, are put on public water. NiMo would pay for the construction and the household connections, but not for the operation and maintenance of the supply line.

Present Worth:	$ 160,800
Capital Cost:	$ 160,800
Annual O&M:	$ 0,000
Time to Implement	6 months - 1 year

Alternative E1:

No Further Action - Environmental Media

This alternative would recognize remediation of the site conducted under previously completed IRMs. This would involve the continued operation of the 100 gallon per minute water treatment system to manage PCB contaminated surface water from the quarry pond. The temporary 300 gallon per minute water treatment system would continue in its use to handle additional higher flows during heavy rains and snow melts. This alternative also would include continued monitoring of the groundwater. These components would be necessary to continue the effectiveness of the remediation previously completed under the soil excavation IRM and the debris removal IRM.

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:	$ 3,031,800
Capital Cost:	$ 225,000
Annual O&M:	$ 226,200
Time to Implement	3 months - 6 months

Alternative E2:

Limited Action

Alternative E2 would include the components of Alternative E1, plus the collection of light non-aqueous phase liquid (LNAPL), from the fractured bedrock, for treatment. Corehole #3 and Corehole #4 would be enlarged to allow for 6" diameter recovery wells to be installed as well as additional measures such as skimmer pumps and collection systems (see figure 4).

Present Worth:	$ 3,204,800
Capital Cost:	$ 256,500
Annual O&M	$ 237,600
Time to Implement	3 months - 6 months

Alternative E3:

On-Site Capping

Alternative E3 would include the same components as Alternative E2, plus consolidation and capping of the contaminated soils (from 1.0 ppm to 163 ppm PCBs), sediments (from non-detect to 8.2 ppm PCBs) and Lead (from non-detect to 9,700 ppm) on-site.

The consolidation components would include excavation of the impacted soils, excavation of the impacted outlet channel and storm water drainage sediments, and transportation of these materials to the capping area. The restoration components would include backfilling all excavated areas to their original grade, capping the excavated materials with a multi-layer (including a geomembrane and a geotextile layer) vegetative cap, that meets 6NYCRR Section 373-2.14 (g)(l) requirements, a trench to divert the surface run-off water around the cap, and covering (capping) the impacted areas that will be exposed to vehicle traffic with a bituminous cap.

Please refer to figure 5 for the location of the proposed "multi-layer vegetative" cap and the bituminous cap.

Present Worth:	$ 4,600,000
Capital Cost:	$ 1,456,800
Annual O&M:	$ 252,000
Time to Implement	6 months - 1 year

Alternative E4:

Excavation and Off-Site Disposal

Alternative E4 would include the same components as Alternative E2, plus the excavation and transportation of contaminated soils and drainage system sediments to an off-site disposal facility.

Approximately 6,900 tons of soil would be removed where PCBs have impacted the surface soils (see figure 2) greater than the clean-up criteria of 1.0 ppm and the subsurface soils greater than the clean-up criteria of 10 ppm.

Backfilling would also be performed by the placement of an additional layer of at least 9 inches of clean back-fill material and at least 3 inches of topsoil, for re-vegetation, over all soils contaminated with PCBs that are less than 10 ppm but greater than 1 ppm at the surface.

Present Worth:	$ 4,300,000
Capital Cost:	$ 1,351,200
Annual O&M:	$ 237,594
Time to Implement	6 months - 1 year

7.2 Evaluation of Remedial Alternatives

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

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

1. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether or not a remedy will meet applicable environmental laws, regulations, standards, and guidance.

All three of the water supply alternatives (W1-W3) would currently comply with groundwater guidance values because no contamination is currently detected in the residential wells. W1 may not comply in the future if contamination migrates into these same residential wells. W2 and W3 would be designed to comply with the appropriate SCGs.

The first two environmental media alternatives, E1 and E2 would not meet all the appropriate SCGs. E1 would address the groundwater and E2 would speed up the remedial time frame for the groundwater by addressing the LNAPL, but neither alternative would comply with soil clean-up guidance values. E3 and E4 would be designed to comply with the appropriate SCGs.

2. Protection of Human Health and the Environment. This criterion is an overall evaluation of the health and environmental impacts to assess whether each alternative is protective.

W1 would eliminate the precautionary steps taken during the IRM and may not be protective in the future. W2 and W3 would be protective.

E1 and E2 would not protective against potential exposure to surficial soils by humans or fish and wildlife. E3 and E4 would be protective.

W1, E1, and E2 would not satisfy the two threshold criteria. These alternatives will not be considered further.

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.

W2 and W3 would cause little to no short-term adverse impacts. W2 would include brief exposure to untreated groundwater during maintenance, but no contamination has been detected in the residential wells. W3 would require excavation far away from suspected soils. No exposure to contaminated soils would be expected during the extension of the village water supply line in W3.

E3 and E4 would involve movement and excavation of soils and sediments containing PCBs. The risks due to excavation and handling of contaminated soils and sediments would be approximately equal for E3 and E4. E4 would increase risk due to the transportation of contaminated soils to an off-site disposal facility. Appropriate PPE will be worn by the crew and appropriate monitoring of the air (which would occur at regular

intervals) will be used to indicate the need (if any) for implementation of additional measures (i.e. dust control). Both alternatives would achieve the remedial objectives within the same time frame.

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

W2 would be effective, but W3 would be the most permanent in the long term. The responsible party would minimize or eliminate the liability of prolonged maintenance off site with W3. W2 would not be as effective because of the lack of control over what occurs on other people's property.

E3 and E4 would be very effective in the long term. E4 would be more permanent than E3 because the contamination is removed from the site, and any potential future mobilization of PCBs from the soils would be reduced significantly.

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, by treating the wastes.

Neither W2 nor W3 would significantly reduce any of the above. W3 would however eliminate the possibility of exposure to contaminated groundwater. W2 would treat any PCBs in the residential well as ground-water is being used.
E3 would cap the wastes, but not treat them. E3 would reduce the mobility of the wastes but not through treatment, as required by this criteria. E4 would provide the greater reduction in the mobility of the contaminants. E4 would require the off-site disposal of all contaminated soils and drainage system sediments, that would need to be excavated, and disposed of at an appropriate permitted facility.

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

W2 and W3 would both be easy to install. The permits required for extension of the village water line in W3 would be secured quickly.

E3 and E4 would use technologies that are proven to be implementable. E3 would take longer to design, but both would take the same amount of time to implement.

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

The cost estimate of alternative E4 has been re-calculated based on revised, more accurate estimates of soil volumes which are to be disposed as hazardous and non-hazardous waste, respectively. The volume of surface soils and subsurface soils proposed to be excavated have been reduced to only those volumes necessary to achieve the clean-up goals.

The excavated materials would be segregated so that transportation and disposal of the materials would be appropriate for the level of contamination.

This final criterion is considered a modifying criterion and is taken into account after evaluating those above. It is focused upon 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 Proposed Remedial Action Plan have been evaluated. A "Responsiveness Summary" included as Appendix A presents the public comments received and how the Department will address the concerns raised.

In general the public comments were supportive of the selected remedy. Comments were received pertaining to elimination of the practice of "back washing" the water treatment system into the quarry pond.

SECTION 8: SUMMARY OF THE SELECTED REMEDY

Based upon the results of the RI/FS, and the evaluation presented in Section 7, the NYSDEC is selecting Alternative W3, extending the Village of Cobleskill public water supply and Alternative E4, excavation and off-site disposal of contaminated soils and sediments, as the remedy for this site.

This selection is based upon the advantages to provide long-term permanence. Alternative W3 will be the most effective remedial alternative for providing potable water and would cost less than alternative W2. Alternative E4 will be more effective at reducing the mobility of PCB contamination from the soils, and providing a permanent solution at a cost that will be comparable to Alternative E3.

Alternatives W1, E1, and E2 would not satisfy the threshold criteria and could not be considered as viable alternatives.

Both W2 and W3 would be protective against any future potential impacts. W2 would require the responsible party to operate and maintain individual off-site systems. W3 will require permits and approvals by the Village of Cobleskill which would operate and maintain the new section of water supply line. Installing W3 will cost less money and would provide an incentive for new water supply users to hook up rather than drill new wells, while being more protective. W3 has been proposed for the above reasons.

E3 would involve the consolidation and capping of contaminated soils and sediments on-site, while E4 will involve the excavation and off-site disposal of contaminated soils and sediments. Both would be very effective in the long term for protection of human health and the environment. E3 would allow hazardous waste to remain on site. Operation and Maintenance would be more costly and would have to be continued as long as

hazardous waste remains on site. Removal, and off-site disposal, of the soils and sediments is the proposed alternative because of the permanence of the remedy, for a similar cost.

The estimated present worth cost to implement both phases of the remedy is $ 4,460,000. The cost to construct the remedy is estimated to be $ 160,000 for W3 and $ 1,351,200 for E4. The estimated average annual operation and maintenance cost for 30 years is $ 237,600 per year.

The elements of the proposed remedy are as follows:

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

2. The installation of a village public water supply line and residential connections to eliminate any potential future exposure by using the residential wells for drinking water. Until the village public water supply line is completed, Niagara Mohawk will continue to maintain the household activated carbon treatment systems that were installed in January 1997.

3. The continued operation of the quarry pond water treatment systems (100 g.p.m. and 300 g.p.m.) will assure that water leaving the site will meet the site discharge requirements of less than 65 parts per trillion (ppt) PCBs. The treatment system will remain operating until the surface water PCB concentration reaches an acceptable level, and it has been determined by the DEC that the groundwater treatment systems are no longer needed. The practice of "back washing" contaminated water into the pond will be discontinued. The Department will require that any backwash waters also meet the discharge limit of 65 ppt.

4. The removal of LNAPL from coreholes #3 and #4 will continue on a weekly basis. An enhanced LNAPL recovery and handling system will be designed and implemented. The collected LNAPL will be sent off-site for treatment and/or disposal.

5. Excavation of the contaminated soils and transportation of these soils for off-site disposal. The upper portion of the site and the active scrapyard (see figure 2) will be excavated deep enough to achieve the clean-up goal of less than 1 ppm PCBs at the surface. An estimated total of 6,900 tons of material will need to be excavated to achieve the clean-up goal of less than 1 ppm PCBs at the surface and 10 ppm in the subsurface.

6. Excavation in areas with PCB contamination greater than 10 ppm PCBs will continue until the clean up goal of less than 10 ppm PCBs, for subsurface soils, has been achieved (primarily in the rectangular area outlined on figure 2). This extent of excavation will address the lead contamination. Confirmatory sampling will be performed to verify that the excavation of subsurface soils did achieve the clean-up goals.

7. Backfilling will occur to achieve the clean up goal of no greater than 1 ppm PCBs at the surface, and no greater than 10 ppm PCBs twelve inches (or more) below the surface. Therefore, at least 9 inches of

clean back-fill material and at least 3 inches of topsoil (for the re-vegetation of these areas) will cover all soils greater than 1 ppm PCBs.

8. Excavation of the contaminated sediments in the outlet channel and in the storm water channel. Approximately 120 tons of sediment have been removed as part of an October 1998 IRM, and were disposed off-site at an appropriate disposal facility.

9. The quarry pond sediments will not be excavated until the migration of PCB contaminated groundwater into the pond has been reduced to an acceptable level. At a minimum, the conditions at the site will be re-evaluated within 3 years after the operation of the enhanced LNAPL collection system as part of a final settlement document (as described in section 5 of this PRAP).

10. Since the remedy will result in untreated quarry pond sediments (up to 63 ppm PCBs) remaining in place; a long-term monitoring program will be implemented. This program will allow the effectiveness of the selected remedy to be monitored and will be a component of the operation and maintenance for the site. In addition to the usual groundwater monitoring and LNAPL monitoring, fish from the storm water channel will be monitored.

SECTION 9: HIGHLIGHTS OF COMMUNITY PARTICIPATION

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

- A repository for documents pertaining to the site was established.
- A site mailing list was established which included nearby property owners, local political officials local media and other interested parties.
- In June 1991 a Public Meeting was held in Cobleskill to notify the interested public what Interim Remedial Measures would be occurring that summer.
- In January 1999 a Public Meeting was held in Cobleskill to present the Proposed Remedial Action Plan to the interested public and answer questions related questions.
- In March 1999 a Responsiveness Summary was prepared and made available to the public, to address the comments received during the public comment period for the PRAP.

Table 1
Nature and Extent of Contamination

MEDIA	CLASS	CONTAMINANT OF CONCERN	CONCENTRATION RANGE (ppb)	FREQUENCY EXCEEDS SCGs	SCG (ppb)
roundwater	Organic	Polychlorinated Biphenyls (PCBs)	ND to 0.72	2 of 45	0.1
urface water quarry pond)	Organic	Polychlorinated Biphenyls	0.267 to 0.315	5 of 5	0.00012
oils urface)	Organic	Polychlorinated Biphenyls	ND to 163,000	37 of 73	1,000
ubsurface)		Polychlorinated Biphenyls	ND to 16,000	2 of 44	10,000
oils urface)	Heavy Metals (0 - 6")	Arsenic	ND to 44,200	35 of 38	7,500
		Cadmium	ND to 69,000	27 of 38	1,000
		Chromium	12,000 to 198,000	38 of 38	10,000
		Lead	ND to 9,700,000	32 of 38	30,000
		Mercury	ND to 19,600	21 of 38	100
ubsurface)	(6 - 24")	Arsenic	ND to 81,000	10 of 14	7,500
		Cadmium	ND to 47,000	6 of 14	1,000
		Chromium	11,400 to 98,000	14 of 14	10,000
		Lead	ND to 36,600	8 of 14	30,000
		Mercury	ND to 830	7 of 14	100
bsurface)	(24 - 48")	Arsenic	ND to 15,000	4 of 6	7,500
		Chromium	10,100 to 20,400	6 of 6	10,000
		Lead	ND to 52,700	1 of 6	30,000

Soils (surface)	Semivolatile Organic (0 to 6")	Benzo(a)anthracene	ND to 10,000	17 of 37	224
		Chrysene	ND to 10,000	13 of 37	400
		Benzo(b)-fluoranthene	ND to 7,500	8 of 37	1,100
		Benzo(k)-Fluoranthene	ND to 6,400	6 of 37	1,100
		Benzo(a)pyrene	ND to 7,500	22 of 37	61
		Dibenzo(a,h)-anthracene	ND to 2,100	16 of 37	14
(subsurface)	(6 to 24")	Benzo(a)anthracene	ND to 230	1 of 23	224
		Benzo(a)pyrene	ND to 190	5 of 23	61
Sediments	Organic	Polychlorinated Biphenyls (PCBs)	ND to 63,000	49 of 60	14*
Fish Tissue	Organic	Polychlorinated Biphenyls	ND to 1,700	8 of 12	100**

* Based on the Division of Fish and Wildlife sediment criteria of 1.4 ug/g oc (assuming 1% total organic carbon).
**Based on the Division of Fish and Wildlife guidance value of 0.1 ppm for the protection of "fish-eating" wildlife.

Table 2
Remedial Alternative Costs

Remedial Alternative	Capital Cost	Annual O&M	Total Present Worth
W1: No Action - Residential Water Supply	$0	$1500	$44,000
W2: No Further Action - Residential Treatment System	$15,000	$14,170	$190,000
W3: Extending Public Water Supply	$160,000	$0	$160,000
E1: No Further Action - Environmental Media	$225,000	$226,200	$3,031,800
E2: Limited Action	$256,500	$237,600	$3,204,800
E3: On-site Capping	$1,456,800	$252,000	$4,600,000
E4: Excavation and Off-site Disposal	$1,351,200	$237,600	$4,300,000

APPENDIX A

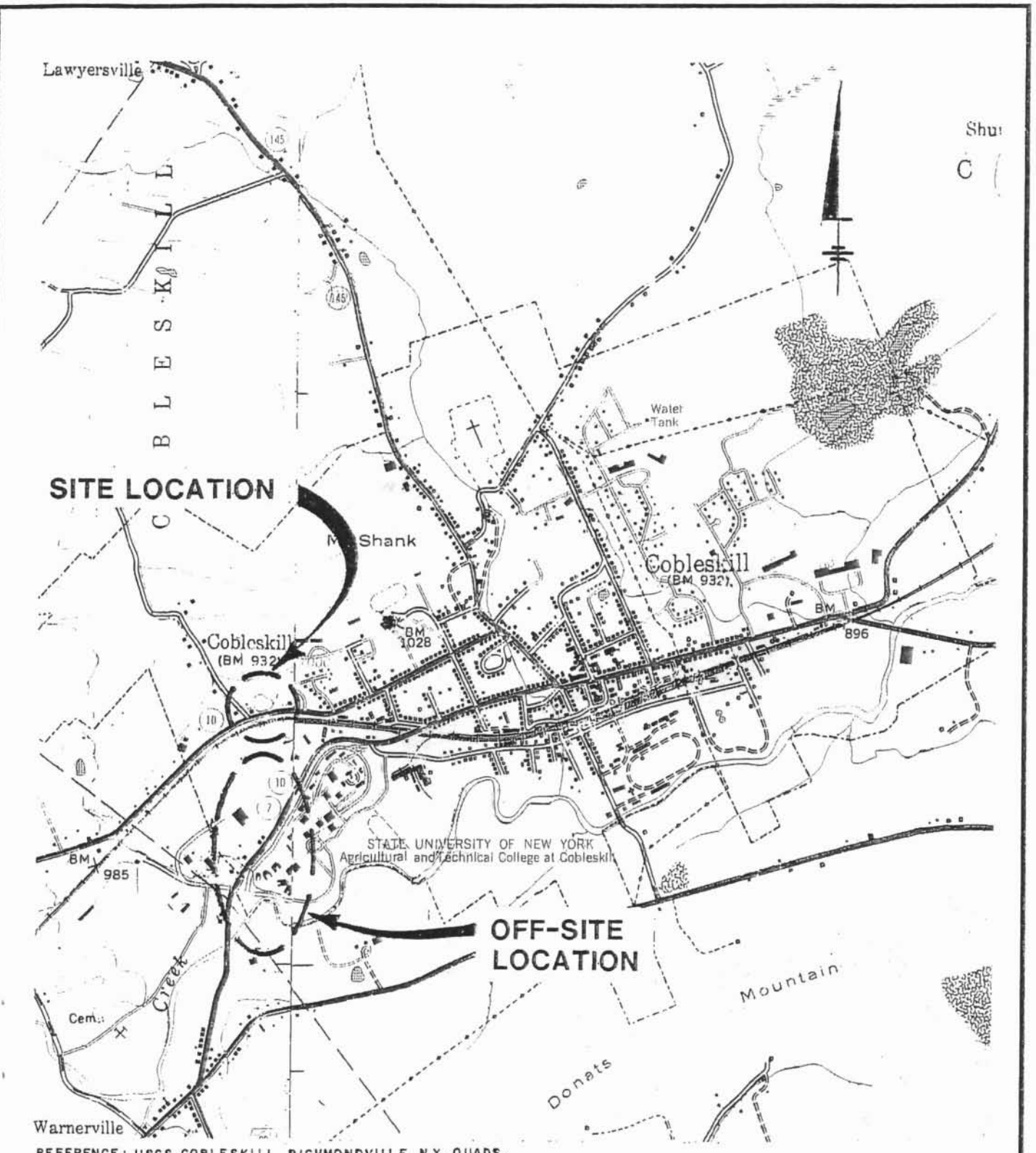
Responsiveness Summary

APPENDIX B

Administrative Record

ADMINISTRATIVE RECORD

- "Site Investigation Work Plan" 1987 by O'Brien and Gere Engineers, Inc.
- "Site Investigation Report" 1990 by O'Brien and Gere Engineers, Inc.
- "Work Plan - Interim Remedial Measures" 1991 by Niagara Mohawk Power Corporation
- "Work Plan for: Removal Of Debris From M. Wallace and Son, Inc." 1992 by Chemical Waste Management Company
- "Phase II Remedial Investigation Work Plan" 1994 by Blasland, Bouck & Lee, Inc.
- "Remedial Investigation Report" revised March 1996 by Blasland, Bouck & Lee, Inc.
- "Light Non-Aqueous Phase Liquid Extraction Demonstration Work Plan" June 1996 by Blasland, Bouck & Lee, Inc.
- "Feasibility Study Report" October 1997 by Blasland, Bouck & Lee, Inc.
- Letter from James F. Morgan to Daniel Lightsey, P.E. dated July 7, 1997
- Letter from James F. Morgan to Daniel Lightsey, P.E. dated March 26, 1998
- "Proposed Remedial Action Plan" January 4, 1999
- Letter from David A. Munro to Brian K. Billinson, Esq., John H. Stenger, Esq., and Douglas H. Zamelis, Esq. dated March 9, 1999



REFERENCE: USGS COBLESKILL, RICHMONDVILLE N.Y. QUADS.

2000' 0 2000'

APPROX. SCALE: 1" = 2000'

QUADRANGLE LOCATION

NIAGARA MOHAWK POWER CORPORATION
M. WALLACE & SON, INC. SCRAPYARD
COBLESKILL, NEW YORK

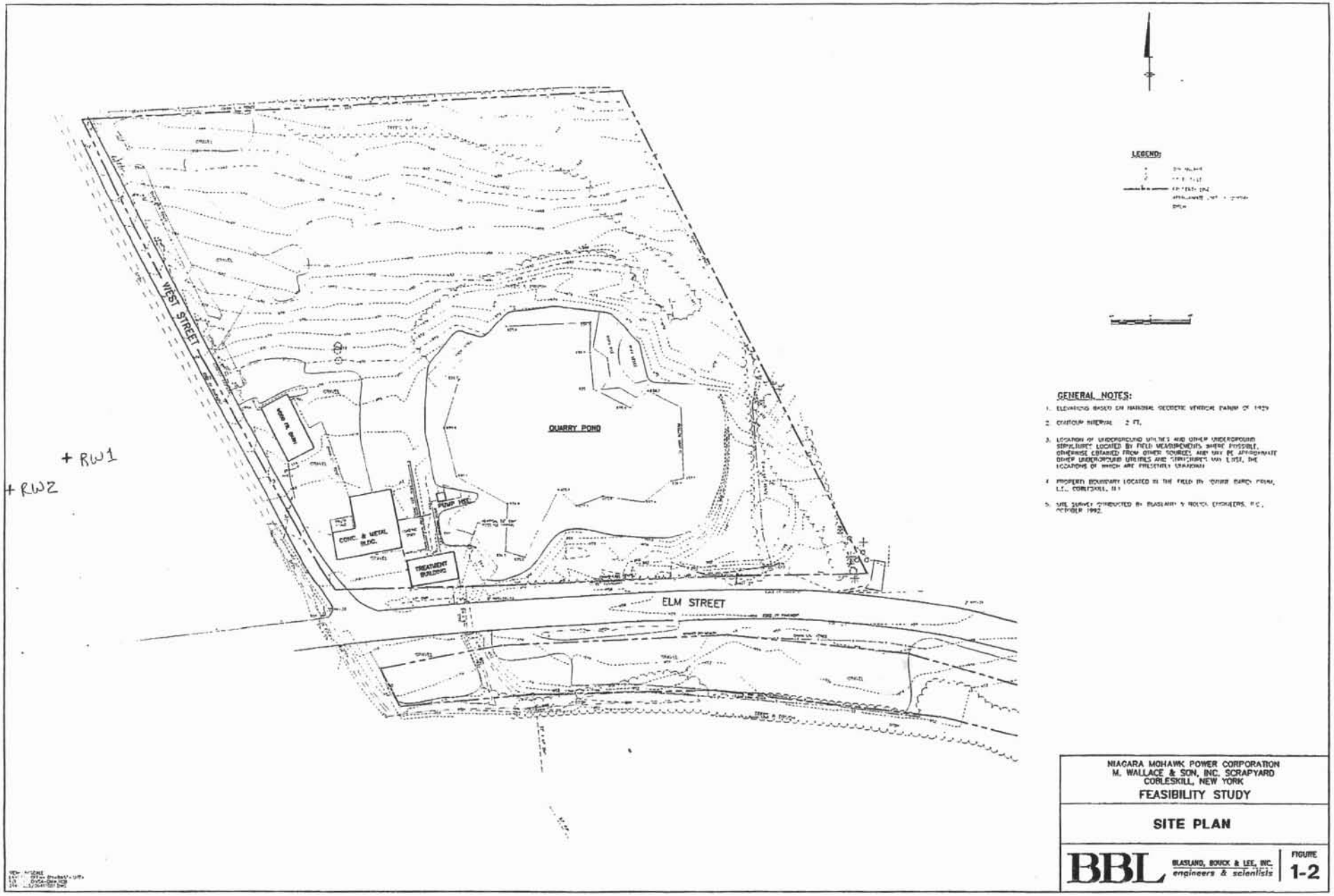
FEASIBILITY STUDY

LOCATION MAP

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE **1-1**

LPCP
20/97 SYR-54-RCB
117085/36417L01.DWG



LEGEND:

GENERAL NOTES:

1. ELEVATIONS BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929
2. CONTOUR INTERVAL 2 FT.
3. LOCATION OF UNDERGROUND UTILITIES AND OTHER UNDERGROUND STRUCTURES LOCATED BY FIELD MEASUREMENTS WHERE POSSIBLE, OTHERWISE OBTAINED FROM OTHER SOURCES AND MAY BE APPROXIMATE. OTHER UNDERGROUND UTILITIES AND STRUCTURES MAY EXIST, THE LOCATIONS OF WHICH ARE PRESENTLY UNKNOWN.
4. PROPERTY BOUNDARY LOCATED IN THE FIELD BY JOHN BIRCH FROM, L.L., COHLESKILL, N.Y.
5. SITE SURVEY CONDUCTED BY BLASLAND & BOUCK ENGINEERS, P.C., OCTOBER 1992.

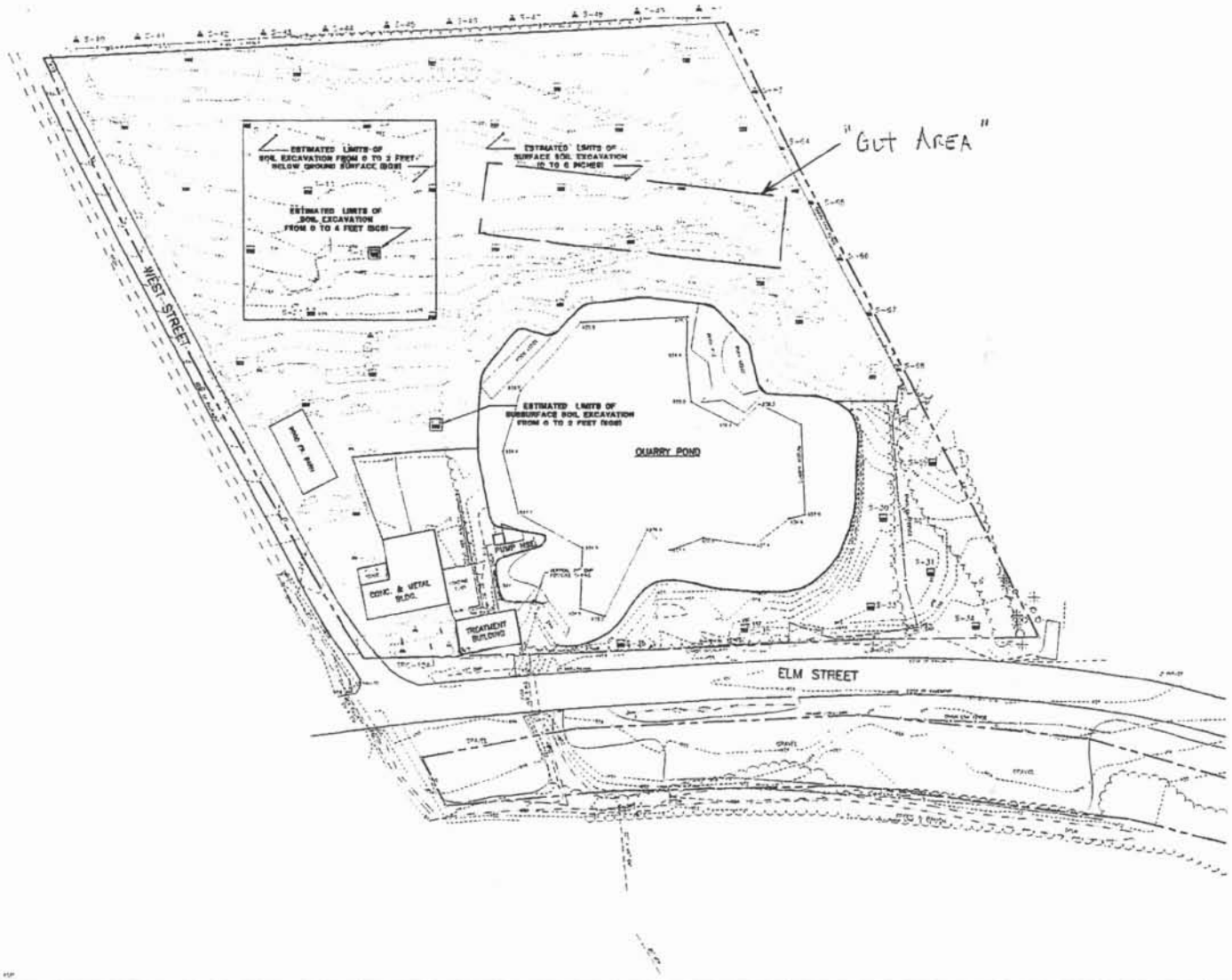
NIAGARA MOHAWK POWER CORPORATION
M. WALLACE & SON, INC. SCRAPYARD
COHLESKILL, NEW YORK

FEASIBILITY STUDY

SITE PLAN

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 1-2



LEGEND:

- SOIL BORING LOCATION
- SURFACE SOIL SAMPLE LOCATION
- TEST PIT / SOIL SAMPLE LOCATION
- GW MONITOR WELL
- MONITOR WELL
- PROPERTY LINE
- APPROXIMATE LIMIT OF WORK
- FENCE

0' 50' 100'

ANALYTICAL NOTES:

1. SAMPLES WERE COLLECTED BY BLASLAND, BOUCK & LEE, INC. IN MAY, AUGUST AND SEPTEMBER 1993 (PHASE I RI) AND IN SEPTEMBER 1994 (PHASE II RI).
2. SAMPLE DESIGNATIONS INDICATE THE FOLLOWING: SS = SURFACE SOIL SAMPLE, SB = SUBSURFACE SOIL SAMPLE, S = DISCRETE SAMPLE, AND D = DUPLICATE SAMPLE.
3. J = ESTIMATED VALUE
4. ppm = PARTS PER MILLION
5. < = EACH AROCLOR ANALYZED WAS NOT DETECTED AT THE CONCENTRATION INDICATED
6. NJ = PRESUMPTIVELY PRESENT AT AN ESTIMATED CONCENTRATION
7. D = DILUTED SOIL SAMPLE ANALYZED

GENERAL NOTES:

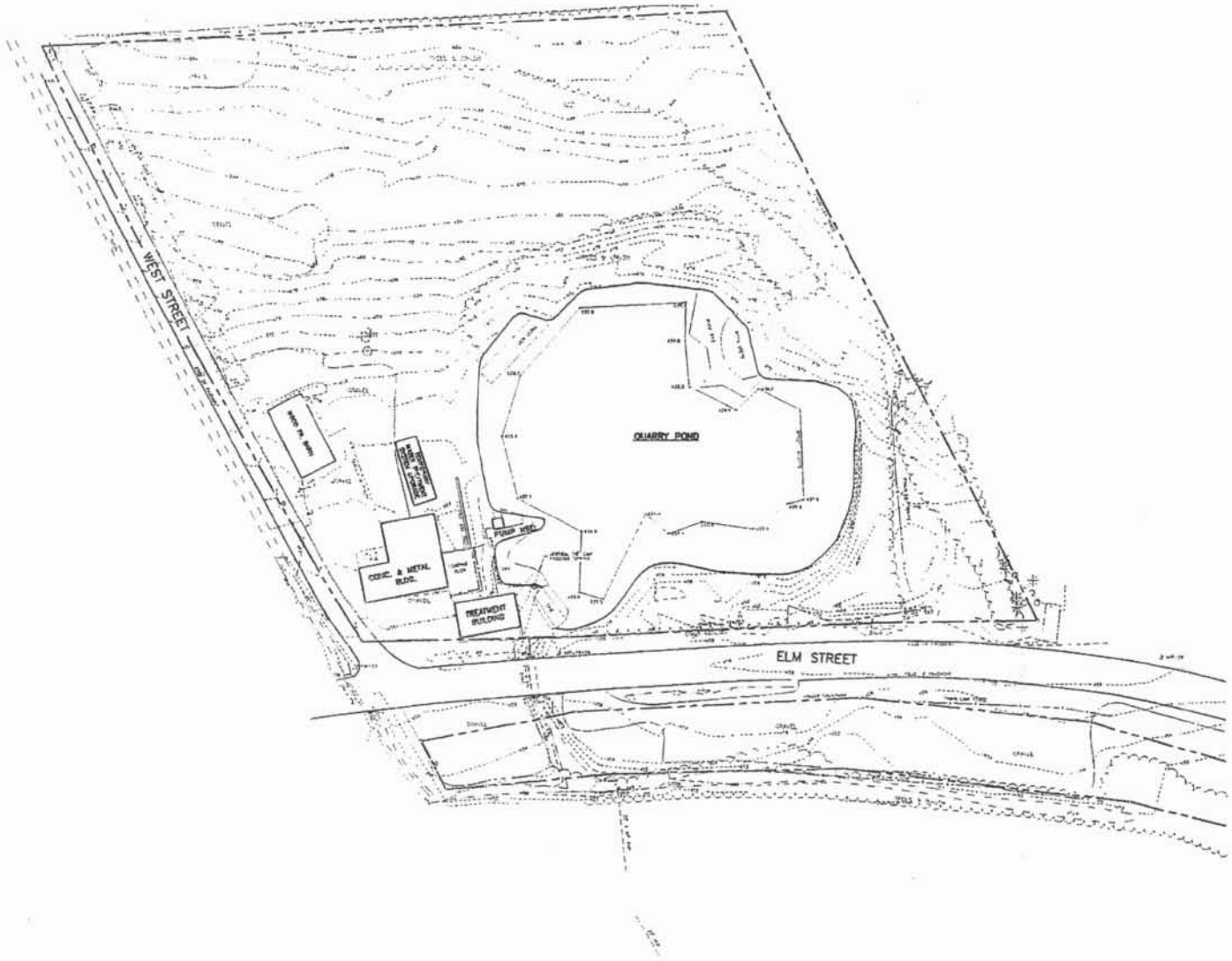
1. ELEVATIONS BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929.
2. CONTOUR INTERVAL = 2 FT
3. LOCATIONS OF UNDERGROUND UTILITIES AND OTHER UNDERGROUND STRUCTURES LOCATED BY FIELD MEASUREMENTS WHERE POSSIBLE, OTHERWISE OBTAINED FROM OTHER SOURCES AND MAY BE APPROXIMATE. OTHER UNDERGROUND UTILITIES AND STRUCTURES MAY EXIST, THE LOCATIONS OF WHICH ARE PRESENTLY UNKNOWN.
4. PROPERTY BOUNDARY LOCATED IN THE FIELD BY JOHNNIE DARCY COLVIN, L.S., COBLESKILL, N.Y.
5. SITE SURVEY CONDUCTED BY BLASLAND, BOUCK & LEE, INC., OCTOBER 1992.

NIAGARA MOHAWK POWER CORPORATION
M. WALLACE & SON, INC. SCRAPYARD
COBLESKILL, NEW YORK

ESTIMATED LIMITS OF SOIL EXCAVATION

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 2



LEGEND:

- GUY ANCHOR
- UTILITY POLE
- PROPERTY LINE
- APPROXIMATE LIMIT OF QUARRY
- DITCH
- ESTIMATED LIMITS OF IMPACTED SOIL
- ESTIMATED LIMITS OF IMPACTED SEDIMENT

GENERAL NOTES:

1. ELEVATIONS BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929.
2. CONTOUR INTERVAL = 2 FT
3. LOCATION OF UNDERGROUND UTILITIES AND OTHER UNDERGROUND STRUCTURES LOCATED BY FIELD MEASUREMENTS WHERE POSSIBLE, OTHERWISE OBTAINED FROM OTHER SOURCES AND MAY BE APPROXIMATE. OTHER UNDERGROUND UTILITIES AND STRUCTURES MAY EXIST, THE LOCATIONS OF WHICH ARE PRESENTLY UNKNOWN.
4. PROPERTY BOUNDARY LOCATED IN THE FIELD BY JOANNE DARCY CRAM, L.S., COHOES, N.Y.
5. SITE SURVEY CONDUCTED BY BLASLAND, BOUCK & LEE, INC., SEPTEMBER 1993.

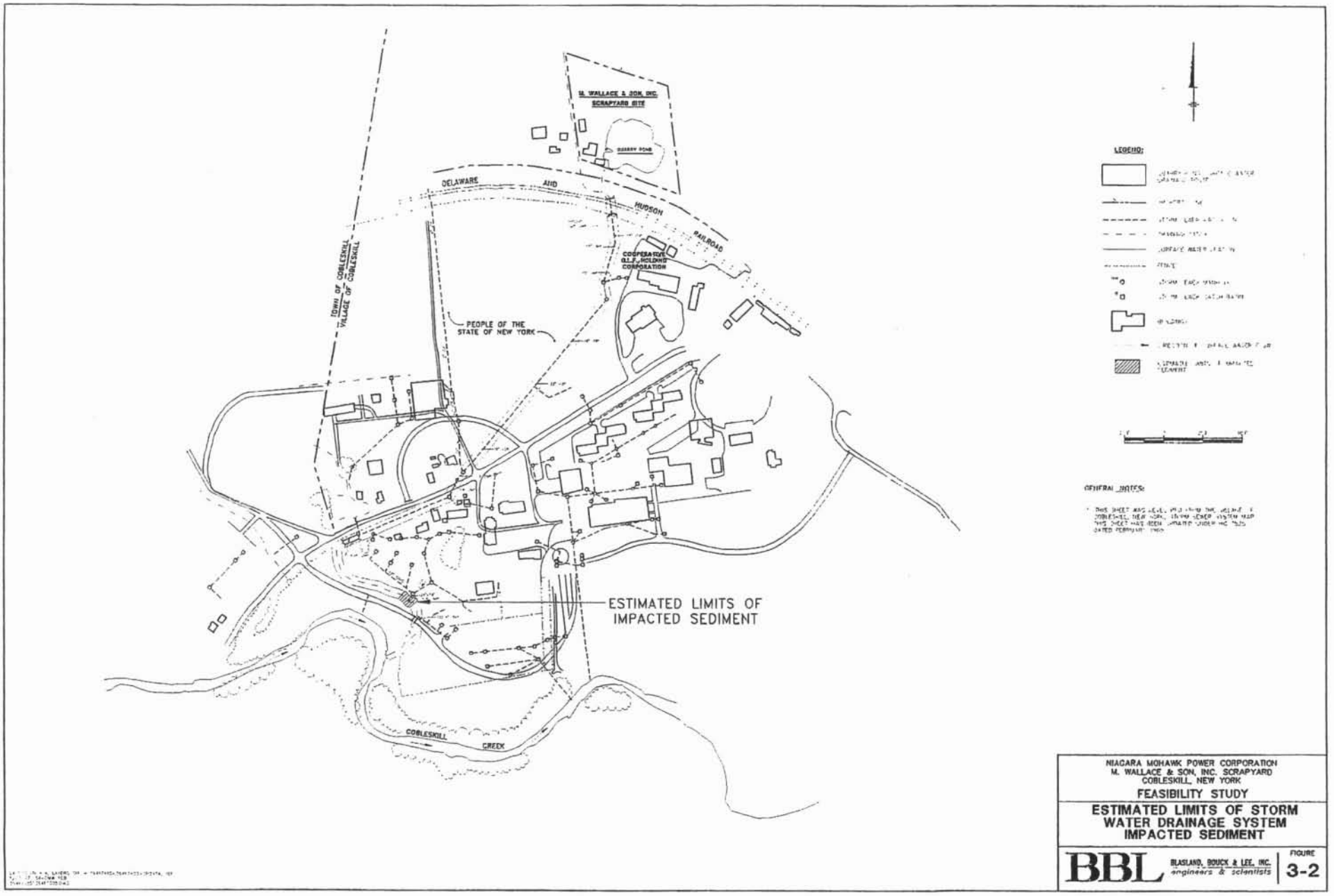
NIAGARA MOHAWK POWER CORPORATION
M. WALLACE & SON, INC. SCRAPYARD
COHOES, NEW YORK

FEASIBILITY STUDY

ESTIMATED LIMITS OF IMPACTED SOIL AND SEDIMENT

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 3-1



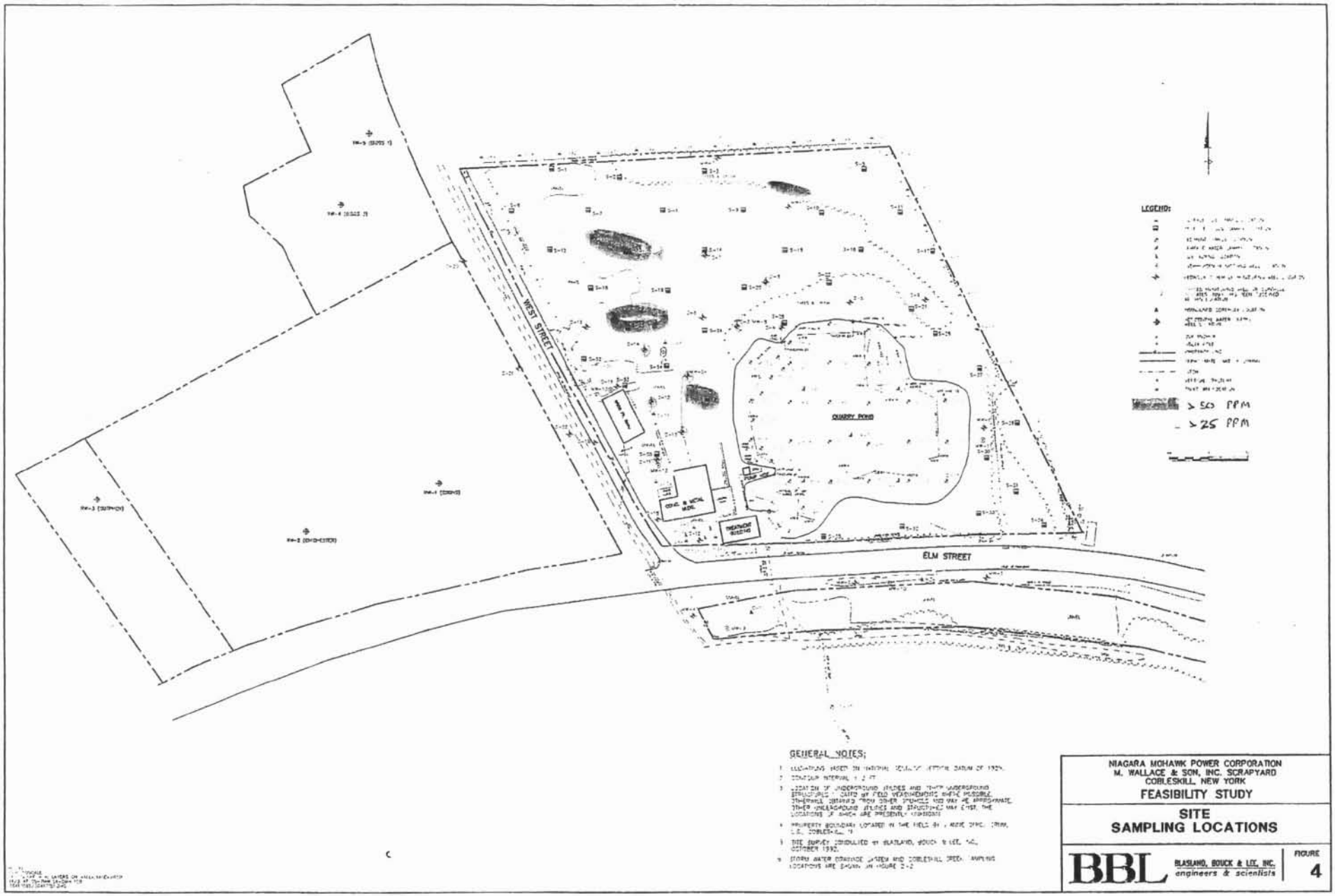
NIAGARA MOHAWK POWER CORPORATION
M. WALLACE & SON, INC. SCRAPYARD
COBLESKILL, NEW YORK

FEASIBILITY STUDY

ESTIMATED LIMITS OF STORM WATER DRAINAGE SYSTEM IMPACTED SEDIMENT

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 3-2



GENERAL NOTES:

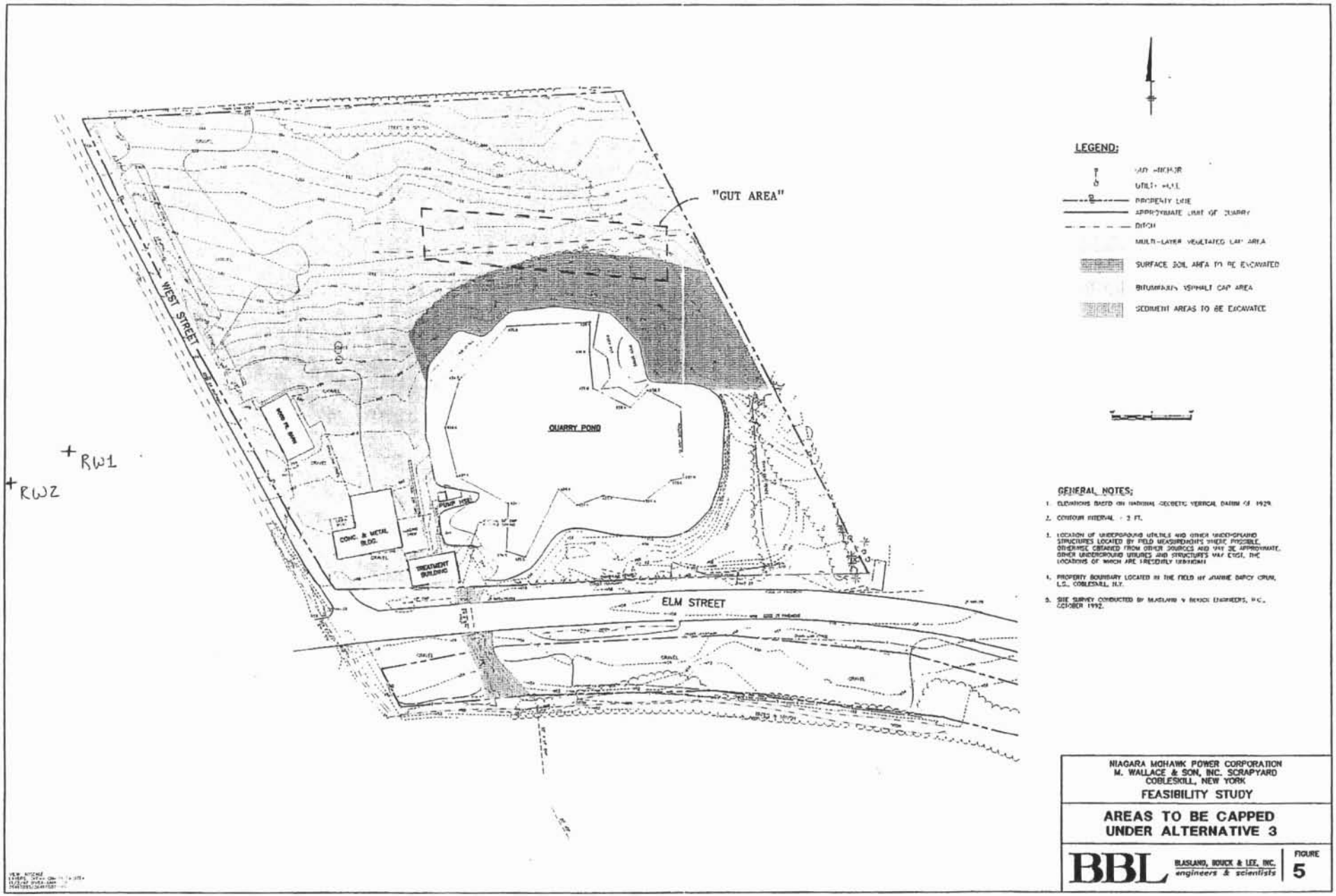
1. ELEVATIONS BASED ON ORIGINAL SCALE OF SITE PLAN OF 1924.
2. CONTOUR INTERVAL = 2 FT.
3. LOCATION OF UNDERGROUND UTILITIES AND OTHER UNDERGROUND STRUCTURES BASED ON FIELD MEASUREMENTS WHERE POSSIBLE. OTHERWISE OBTAINED FROM OTHER SOURCES AND MAY BE APPROXIMATE. OTHER UNDERGROUND UTILITIES AND STRUCTURES MAY EXIST. THE LOCATIONS OF WHICH ARE PRESENTLY UNKNOWN.
4. PROPERTY BOUNDARY SURVEYED IN THE FIELD BY [illegible] OF COHOES, N.Y. AND COBLESKILL, N.Y.
5. SITE SURVEY CONDUCTED BY BLASLAND, BOUCK & LEE, INC. OCTOBER 1990.
6. STORM WATER DRAINAGE SYSTEM AND COBLESKILL CREEK SAMPLING LOCATIONS ARE SHOWN ON FIGURE 2-2.

NIAGARA MOHAWK POWER CORPORATION
M. WALLACE & SON, INC. SCRAPYARD
COBLESKILL, NEW YORK
FEASIBILITY STUDY

SITE
SAMPLING LOCATIONS

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 4



NIAGARA MOHAWK POWER CORPORATION
M. WALLACE & SON, INC. SCRAPYARD
COBLESKILL, NEW YORK

FEASIBILITY STUDY

AREAS TO BE CAPPED UNDER ALTERNATIVE 3

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 5

RESPONSIVENESS SUMMARY

M. Wallace and Son, Incorporated
Proposed Remedial Action Plan
Cobleskill (T), Schoharie County
Site No. 448003

The Proposed Remedial Action Plan (PRAP) for the **M. Wallace and Son, Incorporated site**, was prepared by the New York State Department of Environmental Conservation (NYSDEC) and issued to the local document repository on January 4, 1999. This Plan outlined the preferred remedial measure proposed for the remediation of the contaminated soil and sediment at the M. Wallace and Son, Incorporated site. The preferred remedy includes; the continued collection and treatment of contaminated groundwater, collection and off-site disposal of light non-aqueous phase liquid (LNAPL), excavation of contaminated soils and sediments with off-site disposal, plus the installation of a new public water supply line to the affected residences near the M. Wallace and Son, Incorporated site.

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

A public meeting was held on January 13, 1999 to provide 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. Written comments were received from Robert and Barbara Sutphen (residents), Gerald Hisert (resident), Hancock and Estabrook (legal counsel for the Wallaces), and Niagara Mohawk (the responsible party).

The public comment period for the PRAP ended on February 4, 1999. This Responsiveness Summary responds to the substantive questions and comments raised at the January 13, 1999 public meeting and to the substantive written comments received.

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

COMMENT 1: Will the area of excavation that is expected to reach approximately 4' deep be backfilled to the original grade?

RESPONSE 1: Yes, for the most part. The final grading of the entire site (for proper drainage) may change the original grade slightly.

COMMENT 2: What impact will the clean-up have on the assessment of the value of the property?

RESPONSE 2: The answer is not known. However, if property values were devalued or depressed because of a site, remediation should have a positive effect on the property values.

COMMENT 3: Why is it taking so long to do this remediation, and do you have a time frame of when this project would be completed?

RESPONSE 3: A typical remedial project takes 2-5 years. The investigation phase for this site was longer than average due to the presence of light non aqueous phase liquid (LNAPL) and the sites complex geology. It should be noted that various Interim Remedial Measures (IRMs) were implemented starting in 1991 as our understanding of

the site increased. Implementation of the remedy selected in the Record of Decision could occur in the year 2000, barring any unforseen problems with the design details for the final remedy.

COMMENT 4: How many services (hook-ups) to the water supply extension are expected?

RESPONSE 4: There are two wells that will be replaced by the public water supply extension. The Village of Cobleskill and Niagara Mohawk are working together to design (size)the pipe so that future needs are taken into account.

COMMENT 5: How about new technologies, such as steam cleaning the soils, would they work?

RESPONSE 5: Injecting water or steam into the ground was considered, but ruled out because the complex cracks and fissures in the bedrock (known as Karst terrain) make it difficult to predict the migration of contaminants.

COMMENT 6: What has happened to the people who were involved with dismantling the transformers at the site, and were any health effect studies conducted ?

RESPONSE 6: No health effects studies were performed on former workers.

COMMENT 7: Will dust be controlled during the clean-up?

RESPONSE 7: Yes. Dust monitoring and dust control measures will be components of remedial construction.

COMMENT 8: Did Niagara Mohawk ever offer to buy this property?

RESPONSE 8: James Morgan (a representative of Niagara Mohawk at the meeting) indicated that the company had not offered to buy the property.

COMMENT 9: Who will pay for the clean-up for the next 30 years?

RESPONSE 9: It is expected that Niagara Mohawk Power Corporation will fund the remedial work.

COMMENT 10: This site is in Karst terrain, what impact did this have?

RESPONSE 10: The complex cracks and fissures made the task of determining the extent of contamination difficult. In addition, removing all of the LNAPL from the cracks and fissures in the subsurface geology is very difficult and will require a long term collection effort.

A letter dated January 29, 1999, was received from Robert and Barbara Sutphen which included the following comments:

COMMENT 11: Will our residential well continue to be tested by the Department of Health, and will we be connected to the water supply extension if the well is found to be contaminated ?

RESPONSE 11: Your well will not be sampled as long as the monitoring wells which are located between your

well and the site continue to indicate that site contaminants have not migrated offsite. These Monitoring wells are sampled twice per year. In the event that conditions change and contaminants are detected in the monitoring wells, your well will be sampled. Your well would be connected to the water supply extension at any point in time that contamination is detected in your well.

COMMENT 12: Would Niagara Mohawk, or the NYSDEC, erect a fence along Route 10 to protect pedestrians (especially children) from any potential hazards and improve the aesthetics of the entrance into the Village of Cobleskill ?

RESPONSE 12: The scrap metal that is being stored along Route 10 is not hazardous waste and is not part of the clean-up at this site. The NYSDEC has no authority to erect a fence along Route 10 nor the authority to compel any other party to do so.

A letter dated January 29, 1999, was received from Gerald Hisert which included the following comments:

COMMENT 13: Are recovery wells (RW-1 and RW-2) off-site as it appears on the figures?

RESPONSE 13: RW-1 and RW-2 are residential water supply wells, and therefore are not recovery wells that will be used in the remedial program. These wells are the most likely to be impacted if the contamination were to migrate offsite to the west. These wells are being closely monitored by Niagara Mohawk and the results are reviewed by NYSDOH.

COMMENT 14: What effect has pumping for the water treatment facility had on the local groundwater and, more importantly, on the contaminated groundwater?

RESPONSE 14: The pumping of the water from the quarry pond has been very successful at eliminating the discharge of contaminated water to the storm water drainage system (which includes the Campus Creek and discharges to Cobleskill Creek). Keeping the elevation of the quarry pond water **low** has helped to prevent contamination from migrating across West Street to the maximum extent possible. The extent of influence of the quarry pond (hydraulically) is limited to the property boundaries (on-site).

COMMENT 15: Has the strip of land between Elm Street and the railroad been investigated for PCBs or other contamination? If not, why?

RESPONSE 15: This strip of land **was** investigated, and several drums of paint were removed from this strip of land as a result. In 1991, a large area within this strip of land was graded, covered with plastic, and then covered with several inches of crushed stone in order to allow the temporary placement of cleaned scrap metal which was later placed along Rte 10 (to clear the upper portion of the site) to accommodate the Remedial Investigation.

A letter dated January 29, 1999, was received from Hancock and Estabrook, LLP, which included the following comments:

COMMENT 16: We would respectfully request that the administrative record and all subsequent documents properly identify this corporate entity as "M. Wallace and Son, Inc."

RESPONSE 16: The NYSDEC will refer to the company by its official name in the Record of Decision, administrative record and all subsequent documents.

COMMENT 17: Insomuch as no Quarry Pond sediments have been excavated or removed at this time, the use of the term "all" relative to the sediments that are being proposed to be removed in the PRAP is potentially misleading to readers.
RESPONSE 17: The reference to "all" sediments will be clarified in the Record of Decision.

COMMENT 18: Wallace objects to the PRAP to the extent it fails to meaningfully discuss the future use of the Site or portions thereof.

RESPONSE 18: Your objection is duly noted. Section 5 of the PRAP explains that a Settlement Document needs to be prepared at a future date, that will address the issue of future use of the site. The site's future use does not directly bear on the remedy and, therefore, is not discussed in any substantive manner in the Record of Decision

COMMENT 19: Notwithstanding the present deferral of the future use issue, it is Wallace's position that, pending successful completion of the proposed remedy, it will be possible and lawful for the NYSDEC to modify the boundaries of the Site and/or reclassify the Site on the New York State Registry.

RESPONSE 19: Once the NYSDEC has determined the remedy to be successful and completed, site reclassification and/or modification of the site boundaries may be appropriate.

COMMENT 20: The PRAP provides that "NYSDEC TAGM 4046 soil cleanup guidelines for the protection of groundwater were used as SCGs for soil". TAGM 4046 dated January 24, 1994 (revised) provides that "attainment of these generic soil cleanup objectives will, at a minimum eliminate all significant threats to human health and/or the environment posed by the inactive hazardous waste site. Thus, if confirmatory sampling subsequent to the soil removal effort in the upper portion of the Site confirms that TAGM 4046 soil cleanup objectives have been achieved, the NYSDEC should be able to modify the Site boundary by excluding this upper portion of the Site.

RESPONSE 20: Please refer to response #19.

Two letters dated January 29, 1999, were received from Niagara Mohawk Power Corporation, which included the following comments:

Section 1: Purpose of the Proposed Plan

COMMENT 21: The first paragraph refers to a specific location in the "creek" where PCBs have migrated. This specific location is not in a creek, it's in the storm water drainage system as correctly referred to elsewhere in the PRAP.

RESPONSE 21: The creek that is described in the first paragraph of Section 1 has been known as the "Campus Creek" since the spring of 1991. The name of the creek will be added to the paragraph for clarity.

COMMENT 22: This section of the PRAP identifies that the disposal activities associated with the site have resulted in "a significant environmental threat associated with the impacts of contaminated sediments upon the wildlife near this site". This statement is without sound, factual basis and is inconsistent with the findings and conclusions of the Fish and Wildlife Impact Analysis (FWIA) conducted as part of the NYSDEC-approved Remedial Investigation (RI). As presented in Section 4 of the NYSDEC-approved RI Report (March 1996) and Section 3 of the NYSDEC-approved FS Report (October 1997), the results of the FWIA indicate no obvious impacts to the fish and wildlife resources of the storm water drainage system or Cobleskill Creek. This section of the PRAP must be reworded in the ROD to eliminate the factual misstatements.

RESPONSE 22: According to 6NYCRR Part 375-1.4, the Commissioner may consider various conditions when making the finding of a significant threat to the environment. These include the type, bioaccumulation and persistence of the contaminant, and the bioaccumulation of contaminants to levels that cause or contribute to significant adverse effects on flora or fauna. One contaminant of concern at the site is PCBs which are highly persistent and readily accumulate in fauna.

Fish tissue analysis showed that Fathead Minnows from the storm water drainage system and Common Shiners from Cobleskill Creek contained levels of PCBs above the 0.11 ppm concentration considered by NYSDEC to cause adverse effects in wildlife that consume fish and other aquatic organisms. Sediment sampling in Cobleskill Creek did not detect PCBs, however, sediments in the drainage channel contained PCBs up to 4.3 ppm. At this concentration, PCBs in sediment are a source for PCB uptake by fish and may cause adverse impacts to the aquatic benthic community. It is expected that removing these sediments will remove a source of PCBs.

Obvious impacts are not generally associated with PCB contamination in aquatic environments unless the levels are exceedingly high. Unlike contaminants that may have direct toxicity and result in fish kills or damage to aquatic vegetation, PCBs accumulate in tissues and are passed up the food chain to predators. Bioaccumulation of PCBs in these predators may result in damage to internal organs and eventual death, or in reproductive effects such as reduced fertility and reduced productivity. Determination of these subtle effects of PCB contamination was beyond the scope of the FWIA.

Although there may be no obvious effects seen in the storm water drainage system or Cobleskill Creek, the levels of PCBs found in the tissue of the forage fish indicate the potential for more subtle impacts from PCB bioaccumulation. Fish tissue analysis showed that Fathead Minnows from the storm water drainage system and Common Shiners from Cobleskill Creek contained levels of PCBs above the 0.11 ppm concentration considered by NYSDEC to cause adverse effects in wildlife that consume fish and other aquatic organisms. Wildlife use of the storm water drainage system may indeed be limited considering the proximity of the higher quality habitat in Cobleskill Creek, however, the extent to which forage fish move between these habitats is unknown, and wildlife using the creek may consume fish from both areas. Furthermore, it is important to note that the fish samples were obtained after the Interim Remedial Measures on the quarry pond water were implemented and the impacts from the site could have been greater prior to those actions.

COMMENT 23: The continued collection and treatment of contaminated ground water is identified as a component of the remedy. This component must be correctly stated as presented elsewhere in the PRAP, as the continued operation of the quarry pond water treatment systems.

RESPONSE 23: Duly noted; however, the PRAP language is adequate and the ROD does not reflect any revisions.

COMMENT 24: The collection and off-site disposal of light non-aqueous phase liquids (LNAPLs) must be correctly identified as the *"continued* collection and off-site disposal . . . ". NM implemented a biweekly LNAPL monitoring and removal program in June 1993 and continues to implement this program to monitor and remove LNAPL from the ground-water surface.

RESPONSE 24: The word "continued" has been added.

COMMENT 25: The PRAP is characterized as a "summary of the information that can be found in greater detail in the Remedial Investigation (RI), Feasibility Study (FS), and other relevant reports and documents, available at the document repositories". As previously mentioned to the NYSDEC, on the day of the public meeting for the PRAP the only document in the Cobleskill Public Library (one of the public document repositories) was the NYSDEC-approved RI Report.

RESPONSE 25: The Librarian acknowledged the receipt of the FS and the PRAP . Both the missing documents were mailed to the library immediately upon learning that the documents had apparently disappeared on (or before) the day of the public meeting. On March 3, 1999 a follow-up visit to the library determined the PRAP was again missing. An additional copy was provided to the library.

Section 2: Site Location and Description

COMMENT 26: The first paragraph identifies the size of the site as 3.5 acres. While this is consistent with the NYSDEC Registry listing, it is not consistent with the actual size of the site. As presented in Section 1.3.1 of the NYSDEC-approved FS Report (October 1997), the section of the M. Wallace and Son, Inc. scrapyard located north of Route 10 is the "site" and encompasses an area of approximately 6.6 acres.

RESPONSE 26: The size of the site has been calculated to be 6.0 acres (plus or minus), therefore the acreage will be changed to 6.6 acres.

COMMENT 27: The second paragraph must correctly state that "treated" quarry pond ground water travels through quarry pond outlet channel.

RESPONSE 27: Duly noted; however, the PRAP language is adequate and the ROD does not reflect any revisions.

Section 3. 1: Operational Disposal History

COMMENT 28: The first sentence of this section states that transformers manufactured by NM, and containing PCBs, were dismantled by M. Wallace to recover the recyclable metals. This statement is inaccurate, misleading, and inconsistent with information presented in the NYSDEC-approved RI and FS Reports, as NM did not previously and does not currently manufacture transformers. Moreover, there is no evidence to support the inference that all the transformers contained PCBs. Accordingly, this sentence of the PRAP must be reworded in the ROD as follows:

Between the years 1945 and 1980, the site owner and operator purchased transformers from NM and possibly other sources and transported them to the scrapyard where he dismantled them to recover copper and other components. Some of these transformers contained varying levels of PCBs.

RESPONSE 28: The sentence has been revised in the Record of Decision to reflect the fact that NM does not manufacture transformers.

COMMENT 29: The second paragraph of this section of the PRAP states that the quarry pond acts as a catch basin for the "contaminated groundwater discharging from the hillside". This sentence could give rise to the misunderstanding that contaminated ground water is coming from a location north of the site, as the hillside is not defined in the PRAP. The sentence should be reworded as follows:

"The quarry pond located on the site acts a catch basin for the surrounding contaminated groundwater."

RESPONSE 29: Duly noted; however, the PRAP language is adequate and the ROD does not reflect any revisions.

COMMENT 30: The third paragraph of this section must correctly state that "treated" quarry pond water discharges through the quarry pond outlet channel.

RESPONSE 30: Duly noted; however, the PRAP language is adequate and the ROD does not reflect any revisions.

COMMENT 31: The 1987 investigation conducted by O'Brien and Gere Engineers, Inc. (OBG) is incorrectly referred to as the "first RI". As specified in the NYSDEC-approved RI and FS Reports, as well as the Consent Decree, this investigation is the "initial investigation".

RESPONSE 31: Reference has been changed in the Record of Decision to "1990 Site Investigation Report".

COMMENT 32: The 1990 report prepared by OBG is incorrectly referred to as the "RI Report" (under the 1999 activities) or the "original RI Report" (under the 1993 activities). As presented in the NYSDEC approved RI Report, this report was the Site Investigation Report.

RESPONSE 32: Reference has been changed in the Record of Decision to "1990 Site Investigation Report".

COMMENT 33: The volume of soil removed from the gut area is incorrectly identified as 2,800 cubic yards (cy). The actual volume removed was 2,900 cy, as specified in the NYSDEC-approved RI and FS Reports, as well as in the Consent Decree.

RESPONSE 33: A correction has been made in the Record of Decision to reflect the cubic yardage of 2,900 cubic yards.

COMMENT 34: In 1991 as an IRM, NM removed sediments from the quarry pond outlet channel to the northern side of the railroad embankment and disposed of these sediments off-site, in accordance with applicable rules and regulations. Completion of this IRM must be noted in the ROD.

RESPONSE 34: The clarification has been made in the Record of Decision so that the sediments are identified as being "quarry pond outlet sediments".

COMMENT 35: A work plan for a Supplemental RI was not submitted by NM in 1992.

RESPONSE 35: The name of the Work Plan was changed to "RI Phase II Work Plan".

COMMENT 36: The 100 -gallons per minute (gpm) water treatment system was brought on line in March 1994, not December 1992 as identified in the PRAP. As presented in the NYSDEC-approved RI Report, a temporary 400 gpm system was installed in December 1992 to drain the quarry pond and to facilitate removal of debris from the bottom of the quarry pond. Operation of the temporary water treatment system continued, as specified by the NYSDOL and NYSDEC, until the 100 gpm system was brought on-line in March 1994.

RESPONSE 36: The capacity of the December 1992 system has been corrected.

COMMENT 37: The wording regarding the identification of sediment in the quarry pond is misleading and incorrect, stating that in 1993 2,800 cy of sediment were found in the quarry pond that were not previously identified in the "original OBG 1990 RI Report". As presented in the NYSDEC-approved RI Report and the Consent Decree, NM conducted an underwater reconnaissance of the quarry pond in 1991 to evaluate the extent of sediments that may require removal. At that time, and as documented in the NYSDEC-approved RI Report (Section 1.2.4), approximately 5,000 cy of sediment were estimated to be present in the quarry pond.

RESPONSE 37: Upon review of the 1991 quarry pond sediments sampling results; the approximate volume of silts found in the quarry pond was overlooked (2,930 plus 2,110 equals 5,040 cubic yards). It should be noted that the volume greater than 1.0 ppm PCB was approximately 1,400 cubic yards (out of 5,040). These corrections have been made in the Record of Decision.

COMMENT 38: Commencement of the biweekly monitoring and LNAPL recovery program in June 1993 must be noted. The ROD must also note that NM continues to implement this program.

RESPONSE 38: LNAPL recovery has been added to the discussion of the IRMs.

COMMENT 39: The 300 gpm quarry pond water treatment system was installed in March 1995, not 1994.

RESPONSE 39: The correction has been made.

COMMENT 40: The NYSDEC identifies that sampling was started in September 1994 for the Supplemental RI. None of the RI activities were characterized in the NYSDEC-approved RI and FS Reports as "Supplemental". The Phase I RI field activities were conducted between May and December 1993, and the Phase II RI field activities were conducted between September 1994 and April 1995. The PRAP does not identify the ground-water monitoring activities that have been continued by NM since completion of the RI.

RESPONSE 40: "Supplemental" has been changed to Phase II. The ROD describes the groundwater monitoring activities that have been continued by NM since completion of the RI.

COMMENT 41: The RI Report, not the "Supplemental RI Report", was submitted to the NYSDEC in 1995.

RESPONSE 41: The name of the report has been changed to RI (Phases I & II) Report.

COMMENT 42: The October 1998 removal of impacted sediments from the quarry pond outlet channel and the storm water drainage ditch is noted by the NYSDEC in the PRAP Fact Sheet, but recognition that this activity has been completed is not carried through the PRAP. Similar to the Fact Sheet, completion of this activity as an IRM must be identified in the ROD.

RESPONSE 42: The activity will be added to the IRMs described in the Record of Decision.

Section 4: Site Contamination

COMMENT 43: General Comment - This section, in general, mis-characterizes the issues at the site by emphasizing the highest concentrations and not presenting the data in an appropriate context (e.g., identifying whether or not there is a potential, realistic route of exposure). As presented in the NYSDEC-approved RI and FS Reports, as well as the NYSDEC- and NYSDOL-approved January 1997 Public Fact Sheet, although PCBs and other materials were found in certain soil, sediment, and water samples collected from the site, exposure to these materials and impacts to human health and the environment are unlikely.

RESPONSE 43: This section appropriately summarizes the site data. The likelihood of exposure is addressed in the Section 4.3 and Section 4.4 of the ROD.

COMMENT 44: The volume of soil removed during an IRM is incorrectly identified as 2,800 cy. As mentioned above, the correct soil volume is 2,900 cy.

RESPONSE 44: Please refer to response #33.

COMMENT 45: Under the summary of the extent of contamination for soil, the concentrations of PCBs detected are characterized as posing a "significant threat of exposure for humans and wildlife." This statement mis-characterizes the situation, and must be corrected as previously noted and presented below to be consistent with the conclusions presented in the NYSDEC-approved RI Report:

"Although PCBs were detected in some soil samples at elevated concentrations, exposure to these materials and impacts to human health and the environment are unlikely."

RESPONSE 45: The potential for an exposure or significant threat is not eliminated because the event is unlikely. If the source of contamination were to remain unremediated, the potential for future exposures would remain. No change to the ROD is warranted.

COMMENT 46: The nature and extent of LNAPL should state that LNAPL has been removed on a biweekly basis for more than five years, it has only consistently been observed in two monitoring wells located near the northwest edge of the quarry pond (C-3/MW-8 and C-4), and that the volume of LNAPL present/removed from these wells has substantially decreased overtime.

RESPONSE 46: Duly noted; however, the PRAP language is adequate and the ROD does not reflect any revisions.

COMMENT 47: The results of the ground-water monitoring activities pro-actively conducted by NM since completion of the FS, are not presented. The results of the NYSDEC- and NYSDOL-approved ground-water sampling conducted by NM indicate that PCBs have never been detected in the ground water-samples collected from the residential water supply wells, and that PCBs have not been detected in the off-site monitoring wells during the ground water sampling events conducted by NM since June 1997. The results obtained through June 1997 were presented in the NYSDEC-approved FS Report. The subsequent results have been provided to the NYSDEC and the NYSDOL in letters when the validated analytical results became available.

RESPONSE 47: Section 4.1.2 (Extent Of Contamination) adequately addresses groundwater sampling results.

COMMENT 48: The use of the term "excursions" and the statement that these "excursions" pose a significant threat of exposure to human health is inappropriate and misleading. At a minimum, the aforementioned results of the ground-water sampling conducted by NM should be mentioned, specifically that PCBs have never been detected in any of the residential water supply wells and have not been detected in the off-site monitoring wells since June 1997.

RESPONSE 48: The term "excursion" is appropriate and remains unchanged.

COMMENT 49: The ROD must clarify that the residential water treatment systems installed in January 1997 by NM a precautionary measure are monitored under NYSDEC and NYSDOL supervision to make sure that they operate properly.

RESPONSE 49: Revised language will be added to the Record of Decision.

COMMENT 50: The following statement regarding the quarry pond sediments is misleading and inappropriate, as it is not presented in an appropriate context: "This level of PCBs in sediments could pose a significant threat to the environment if allowed to leave the quarry pond location". There is no current mechanism for these sediments to "leave the quarry pond location". Operation of the quarry pond water treatment systems prevent the discharge of PCBs in excess of 65 ppt to the off-site storm water drainage system. This statement is provided as the last sentence of the text regarding sediments but should also be added to the end of the first paragraph to clarify that there is no current mechanism for PCBs in sediment to "leave the quarry pond location". Furthermore, it should be noted in this section that the migration of PCB contaminated sediments from the quarry pond is currently and has been controlled (prevented) since operation of the quarry pond water treatment system in December 1992.

RESPONSE 50: The PCB contaminated sediments still pose a significant threat to the environment which is why the quarry pond water treatment system is operated. We agree with the comment that the sediments will not leave the pond provided the quarry pond water treatment system is operating. No change to the Record of Decision is needed.

COMMENT 51: The conclusions of the FWIA, which were presented in the RI Report and approved by the NYSDEC, are not accurately presented in the PRAP and are, therefore, misleading. For example, the PRAP identifies (under the extent of contamination in fish) that the NYSDEC-guidance value of 0. 1 ppm for protecting "fish-eating wildlife" was exceeded. However, the PRAP does not clarify, for example, that the potential ecological risks associated with these accedences are considered insignificant because the storm water drainage system offers limited habitat for piscivorus (fish-eating) wildlife (reference Section 4 of the NYSDEC-approved RI Report). It should also be noted that the storm water drainage system has been subsequently subject to an IRM thus further reducing or eliminating any potential risks.

RESPONSE 51: Please refer to response #22.

COMMENT 52: The removal and off-site disposal of sediments from the quarry pond outlet channel to the northern side of the railroad embankment was completed by NM in 1991 as an IRM. Completion of this IRM must be noted in the ROD.

RESPONSE 52: Please refer to response #34.

COMMENT 53: The purpose of the quarry pond water treatment system (second bullet) must be correctly stated as follows (consistent with the NYSDEC-approved RI and FS Reports):

"Installation/operation of water treatment facilities to prevent the discharge of quarry pond water containing PCBs in excess of 65 ppt into the storm water drainage system."

RESPONSE 53: Duly noted; however, the PRAP language is adequate and the ROD does not reflect any revisions.

COMMENT 54: Commencement of the biweekly monitoring and LNAPL removal program in June 1993 must be noted as an IRM, and it must also be noted that this program continues to be implemented by NM.

RESPONSE 54: Please refer to response #38.

COMMENT 55: The October 1998 removal of impacted sediments from the quarry pond outlet channel and the storm water drainage ditch, also completed as an IRM, must be identified.

RESPONSE 55: The October 1998 IRM has been added to the described IRMs.

COMMENT 56: The following conclusions of the NYSDEC-approved Human Health Risk Assessment and the FWIA (presented in Sections 4 and 5, respectively, of the NYSDEC-approved RI Report) need to be included in these sections of the ROD:

Although PCBs and other materials were found in certain soil, sediment, and water samples collected from the site, exposure to these materials and impacts to human health and the environment are unlikely and

There have been no obvious impacts to fish and wildlife in the nearby storm water drainage ditch or Cobleskill Creek.

RESPONSE 56: Please refer to response #22.

COMMENT 57: The last sentence of Section 4.3 states that the security fence around the site has reduced the potential for human exposure (ingestion) to the on-site soils, except for on-site workers. This sentence should be revised to correctly identify that the fence also reduces the potential for dermal contact. Furthermore, the "on-site worker" should be clarified. Access for the on-site scrapyard operator is limited to the active scrapyard portion of the site, which is a minimal area of the site. Access to the remaining portions of the site is limited to authorized personnel who follow the requirements of a Health & Safety Plan to mitigate the potential for exposure to site-related contaminants.

RESPONSE 57: Section 4.3 has been modified to include reference to the Health & Safety Plan.

COMMENT 58: The last bullet of Section 4.4 identifies fish being eaten by piscivorus wildlife as a pathway for environmental exposure. This section should also note that the site and the storm water drainage system offer limited habitat for piscivorus wildlife due to the site specific characteristics listed in Section 4.10.2 of the NYSDEC-approved RI Report. It should also be noted that the storm water drainage system has been subsequently subject to an IRM thus further reducing or eliminating any potential risks.

RESPONSE 58: Please refer to response #22.

Section 5: Enforcement Status

COMMENT 59: The Enforcement Status section must clarify that the Consent Decree entered into by NM and the NYSDEC has not yet been entered into or approved by the Court.

RESPONSE 59: Duly noted; however, the PRAP language is adequate and the ROD does not reflect any revisions.

COMMENT 60: This section identifies that the NYSDEC, NM, and M. Wallace expect to enter into a final settlement document addressing all outstanding issues. NM had previously understood that the NYSDEC and the NYSDOL would include appropriate language in the PRAP and ROD to specifically address the following:

Delisting of the upper portion of the site;

Future access to the site; and

A release of NM for all further liability associated with the upper portion of the site and active scrapyard upon completion of the soil portion of the remedy.

The understanding that these items would be addressed by the NYSDEC and the NYSDOL in the PRAP and the ROD was discussed during several conference calls with the State, as documented in a July 20, 1998 letter from

NM to Mr. Daniel Lightsey, P.E. of the NYSDEC (copy provided as Attachment 2). As presented in that letter, as well as in a May 8, 1998 letter to the NYSDEC (copy provided as Attachment 3), issues regarding future land restrictions, use, access, and liability should have been resolved before the PRAP was issued. Instead, these issues are being deferred by the State until after issuance of the ROD which is specifically in contravention of previous agreements between NM and the State.

RESPONSE 60: There has been no agreement between the NYSDEC and NM regarding specific language that was to be added to the PRAP/ROD regarding such matters. Section 5 of the ROD adequately describes these issues.

Section 6: Summary of the Remediation Goals

COMMENT 61: The remediation goals identified are inconsistent with those presented in Section 3 of the NYSDEC approved FS Report, even though the PRAP purports to be a summary of the information presented in the NYSDEC-approved FS Report.

RESPONSE 61: NYSDEC's identification of remedial goals are not limited by the FS report. The remedial goals are consistent with the goals of other Class 2 sites within New York State.

Section 7. Summary of the Evaluation of Alternatives

COMMENT 62: The summary of alternatives infers that the information presented is a summary of the detailed analysis presented in the NYSDEC-approved FS Report, which is not accurate because the PRAP unilaterally includes revised/new components for most of the alternatives.

RESPONSE 62: The PRAP adequately reflects the alternatives presented in the Feasibility Study. Modifications were made to incorporate additional components, because the NYSDEC is not limited to the scope of the FS in establishing RAOs and remedies. The components that were added consist of fish monitoring and discontinuing the practice of discharging backwash water to the quarry pond.

COMMENT 63: The description of Alternative W3 (Extending the Public Water Supply) must clearly identify that approvals will need to be obtained from (at a minimum) the Village of Cobleskill.

RESPONSE 63: Discussions between Village Officials, NM and the NYSDEC indicate that the extension to the water supply pipeline will be approved. Providing further information on this in the ROD is not warranted.

COMMENT 64: All of the environmental alternatives (E I through E4) presented in the PRAP include the requirement that backwash water can no longer be discharged into the quarry pond; however, this is not included in any of the descriptions or the associated estimated costs for implementation of the identified alternatives. As detailed in a June 10, 1998 letter to the NYSDEC (copy provided as Attachment 5) and more recently in a January 29, 1999 letter to the NYSDEC (copy enclosed with this letter), direct discharge of the backwash water into the quarry pond is still the most appropriate method to manage the backwash water.

RESPONSE 64: This comment directly relates to the second letter received from NM which is addressed in response #84.

COMMENT 65: Alternatives E2, E3, and E4 do not recognize that the sediment removal activities from the quarry pond outlet channel and the storm water drainage system have already been completed by NMPC. As mentioned in the PRAP Fact Sheet (but not the PRAP), NM excavated and removed all the sediments that are being proposed in the PRAP. NM voluntarily completed these sediment removal activities ahead of any schedules while they had a

remedial contractor on-site to assist the Village of Cobleskill with the West End Drainage Improvement Program.

RESPONSE 65: Please refer to comment #55. The IRM will not be added to Alternatives E2, E3, and E4 because the IRM was voluntarily performed by NM ahead of the issuance of the PRAP and ROD. After verification sampling is performed and the results are evaluated, these actions may be found to serve the objectives in the ROD.

COMMENT 66: The description of Alternative E3 identifies that the cap will be a RCRA cap, which was not a requirement identified in the NYSDEC-approved FS Report. The details of the cap presented in the NYSDEC-approved FS Report will, however, meet the final cover and design requirements for a secure land burial facilities set-forth in Section 373-2.14(g)(1).

RESPONSE 66: The reference to a RCRA cap will be changed to reference 6NYCRR Section 373-2.14(g)(1).

COMMENT 67: For Alternative E4, the basis for the soil tonnages is not clear. Based on a January 6, 1999 telephone conversation with the NYSDEC, NM understands that the basis used by the NYSDEC for the soil tonnages presented in the PRAP was a July 7, 1997 letter from NM to the NYSDEC (copy provided as Attachment 7). That letter presented estimated soil tonnages based on PCB concentrations in surface and subsurface soils and were developed at the request of the NYSDEC to justify disposal cost estimates presented in the draft FS Report (February 1997). Those estimates do not equate to the extent of soil identified for excavation and disposal in the PRAP. The estimated limits of soil excavation under Alternative E4 are shown on Figure 2 of the PRAP, which is the same figure provided by NM in their March 26, 1998 letter to the NYSDEC presenting NM's proposed remedy for the site (see Attachment 6). While NM agrees with the NYSDEC that the soil volumes and associated tonnages are estimates, NM believes that the tonnages identified in the PRAP should at least match the estimated limits shown on Figure 2 of the PRAP. Therefore, the soil volume/tonnage estimates should match those presented in NM's March 26, 1998 letter, which correspond to estimated soil excavation limits shown on Figure 2 of the PRAP.

RESPONSE 67: The soil tonnage estimates for Alternative E4 have been revised in the Record of Decision to reflect the quantities provided in the Niagara Mohawk letter dated July 7, 1997 and March 26, 1998. The costs in the Record of Decision are based on these tonnage estimates. However, the NYSDEC believes the quantity of soil requiring offsite disposal will likely be less than the March 26, 1998 quantities. The NYSDEC believes the amount of soil which would be required to be removed for offsite disposal is more likely around 4600 tons which is more in line with the estimate provided in the Niagara Mohawk letter dated July 7, 1997. However, NYSDEC added 50 percent to the tonnage estimates to calculate the estimated costs.

COMMENT 68: The basis for removal of soil adjacent to the quarry pond is not clear. Furthermore, the specific location(s) of these soils is not defined in the PRAP. Based on a January 6, 1999 telephone conversation with the NYSDEC, NM understands that the NYSDEC's basis was information presented in the aforementioned July 7, 1997 letter from NM to the NYSDEC (Attachment 7). That letter does not provide any basis for removal of soils adjacent to the quarry pond with little or no contamination to prevent those soils from eroding into the quarry pond. The estimated limits of soil excavation, as shown on Figure 2 of the PRAP, include some surface soils adjacent to the quarry pond. Those limits, however, were determined based on PCB soil concentrations greater than the soil cleanup objectives presented in the NYSDEC's Technical and Administrative Guidance Memorandum (TAGM) #4046.

Accordingly, additional clarification from the NYSDEC is required to define those soils adjacent to the quarry pond which the NYSDEC has proposed for removal and to provide a basis for this requirement.

RESPONSE 68: The text in the ROD will be revised to clarify that soils with PCB concentrations greater than the soil clean-up objective presented in TAGM 4046 will be removed.

COMMENT 69: The costs presented for Alternative E4 are the same as those provided by NM in a March 26, 1998 letter to the NYSDEC (Attachment 6). That letter presented NM's proposed revised remedy, the components of which are different from those identified by the NYSDEC in the PRAP. For example, treatment of the backwash water and implementation of a biota (fish) sampling program were not included in that cost estimate. In addition, disposal costs are likely to be higher than those used/presented in NM's March 26, 1998 letter because of the recent changes in the RCRA Land Disposal Restrictions. Accordingly, the cost estimate provided in the PRAP is not accurate. This cost was used as a basis for the NYSDEC's selection of E4 (reference page 16 of the PRAP). The estimated costs presented in the ROD for the alternatives must match the components of each remedy.

RESPONSE 69: Niagara Mohawk is correct that the cost for biota (fish) sampling and backwash treatment were not included. These additional costs would need to be added to each alternative and would not influence the comparisons between different alternatives. The estimated cost for biota sampling is $15,000 for one event of biota sampling with an estimated resampling every 5 years, if needed. The cost for disposal of PCB contaminated waste is still estimated to be $130 per ton and was verified by contacting a disposal facility in March 1999. Per Niagara Mohawk's January 29, 1999 letter, the present worth cost for constructing and operating facilities for treating the backwash water is estimated to be $1.3 million. NYSDEC believes that adequate backwash water treatment can be provided by an alternative system which would cost substantially less than $1.3 million.

COMMENT 70: The basis for the NYSDEC defining surface soils as 0 to 12 inches is not provided in the PRAP and is not known. Furthermore, it is inconsistent with the designation of surface soils provided in Table I of the PRAP, as well as the text presented in the NYSDEC-approved RI and FS Reports. Surface soils are defined in Table I of the PRAP and in the NYSDEC-approved Reports as 0 to 6 inches for the site. The basis for defining the surface soils differently than previously presented in the NYSDEC-approved RI and FS Reports must be provided.

RESPONSE 70: It is NYSDEC policy to seek less than 1 ppm PCB in the top foot of site soils in order to provide adequate protection against dermal contact and, at some sites, prevent run off of PCB into surface waters. This does not mean that the top 12 inches of a PCB contaminated site where levels exceed 1 ppm are required to be excavated. For example, in areas of a site where the surface and subsurface soils are less than 10 ppm, providing a foot of clean soil without any soil excavation/removal will generally suffice. In areas where removing, say, the top 6 inches leaves levels less that 10 ppm PCB in the remaining soils (the top 6 inches exceeded 10 ppm), providing a foot of clean soil on top of the excavated area will generally be acceptable.

It should also be noted that Niagara Mohawk's excavation alternative cost estimates provided in the revised removal alternative described in the March 26, 1998 letter (page 5) assume excavating the top 12 inches of the site where the surface soil levels exceed 1 ppm. Apparently, Niagara Mohawk recognized the top foot of soil as comprising the "surface" for the purpose of applying the 1 ppm clean up goal in the letter "due to practical equipment limitations" for excavating. In this regard, as discussed above, site conditions may allow less excavation than the full foot assumed in some areas which should translate to less actual costs.

COMMENT 71: Under the evaluation criterion of short-term effectiveness, Alternative W2 (No Further Action - Residential Water Treatment Systems) is characterized to include brief exposure to untreated groundwater during maintenance. Although the PRAP correctly identifies that no contamination has been detected in the residential wells, the PRAP must clarify that the potential exposure to untreated ground water is limited to maintenance workers and that this potential would be mitigated by the use of worker personal protective equipment and implementation of appropriate waste material handling/disposal practices.

RESPONSE 71: Duly noted; however, the PRAP language is adequate and the ROD does not reflect any revisions.

COMMENT 72: Under the criterion of short-term effectiveness, Alternatives E3 and E4 are stated to include the movement and excavation of sediments containing PCBs". As previously mentioned and as specified in the PRAP Fact Sheet, these sediment removal activities have already been completed by NM. The sediments excavated from the quarry pond outlet channel and the storm water drainage system were disposed of off-site in accordance with applicable rules and regulations.

RESPONSE 72: Please see response #65 and #55.

COMMENT 73: Also under the criterion of short-term effectiveness, there is a statement that air monitoring during implementation of E3 and E4 will "protect all receptors", which is technically not accurate. As presented in the NYSDEC-approved FS Report, the results of an air monitoring program to be developed during the remedial design process would be used to indicate the need (if any) for implementation of additional measures (e.g., dust control) to protect workers and the community from exposure.

RESPONSE 73: The ROD will be modified to include the implementation of additional measures, if needed.

COMMENT 74: Under the cost criterion, the PRAP includes a statement that the cost of Alternative E4 has been recalculated (using soil values in the FS) to reflect costs that are believed to be more consistent with those costs seen at other sites being remediated. The intent of this statement is unclear, as the costs presented in the PRAP for Alternative E4 are the same as those presented in NM'S March 26, 1998 letter (Attachment 6) even though the components of the remedy presented **in the PRAP** are not entirely consistent.

RESPONSE 74: The Record of Decision will be revised to clarify the revised cost estimate calculated by the NYSDEC. See also Response 69.

COMMENT 75: Because the NYSDEC's costs presented in the PRAP do not accurately reflect their proposed remedy components, it is not clear that the cost of implementing Alternative E4 would be comparable to those for implementation of Alternative E3. Even using the costs presented in the PRAP, the capital costs for implementation of Alternative E4 are approximately $900,000 greater than those presented for implementation of Alternative E3. This represents an approximate 60% increase in capital costs, which is a significant increase.

As documented in the PRAP, Alternatives E3 and E4 equally satisfy the NYSDEC's threshold criteria of compliance with New York State Standards, Criteria, and Guidance (SCGs) and protection of human health and the environment. The additional benefits (if any) gained by implementation of Alternative E4 are not clear because (for example) the issues of future use, liability, and access restrictions have not yet been addressed. Accordingly, it is not clear how implementation of Alternative E4 would meet the NCP requirement [40 CFR 300.430(f)(1)(D)] that remedial costs be proportional to the overall effectiveness of the remedial efforts. Therefore, the legal basis and benefits of implementing Alternative 4, instead of an equally effective soil capping alternative must be provided.

RESPONSE 75: As stated in the ROD, the selected alternative provides better long term effectiveness because there will be no waste left to manage, except the LNAPL in the groundwater. It is a more permanent remedy than capping. With respect to the cost difference between the selected remedy and capping, the cost estimates for Alternative E4 was reexamined by the NYSDEC in more detail to determine the present worth cost. NYSDEC believes that the costs for this alternative are closer to $4.3 million. (See the Attachment.)

COMMENT 76: The estimated present worth cost for implementing both phases of the proposed remedy is identified as $5,470,000. This cost does not include (for example) the costs associated with treating the backwash water or conducting a biota sampling program. Furthermore, as previously mentioned, the disposal costs will likely be higher due to recent changes in the regulations.

RESPONSE 76: Please refer to Response #69 and #75.

COMMENT 77: One of the elements of the proposed remedy (Item 3) includes the statement that "the practice of back-washing contaminated water into the pond would be discontinued". This is the first time in the PRAP that this requirement is presented. Certainly, this requirement should be presented earlier in the document; however, as previously stated herein (see Comment 64) and in multiple letters and telephone conference calls to the State, NM strongly disagrees with this requirement.

RESPONSE 77: Please refer to Response #84.

COMMENT 78: As previously mentioned, the basis for the soil tonnages is unclear and inconsistent with the proposed soil excavation limits shown on Figure 2 of the PRAP.

RESPONSE 78: Please see Response #67.

COMMENT 79: The type of confirmatory sampling identified in Item 6 must be defined. Based on previous /conversations with the NYSDEC and as presented most recently in NM's March 26, 1998 letter (Attachment 6) to the NYSDEC, NM understood that soil verification sampling would only be required for PCBs to verify that the PCB cleanup objective for subsurface soils had been met.

RESPONSE 79: The type of confirmatory sampling required will be developed during remedial design.

COMMENT 80: As previously mentioned, the NYSDEC's basis for defining surface soils as 0 to 12 inches (Item 7) is not clear and is not consistent with Table I of the PRAP and the NYSDEC-approved RI and FS Reports for this site.

RESPONSE 80: Please refer to response #70.

COMMENT 81: Item 8 must correctly identify that the sediment removal activities have already been completed by NM.

RESPONSE 81: Please see response #65.

COMMENT 82: Item 10 identifies, for the first time in the PRAP, the NYSDEC's requirement of fish monitoring as part of the proposed remedy. The basis for this requirement appears to be a result of leaving untreated sediments in the quarry pond. This basis, however, is inappropriate and inconsistent with information presented in the PRAP. Page 7 of the PRAP correctly identifies that "migration of PCB contaminated sediments, out of the quarry pond, is being controlled by the continued pumping and treating of the quarry pond water." Accordingly, there is no basis for requiring monitoring of the fish present in the storm water drainage system. Furthermore, the results of previous biota monitoring conducted by NM during 1994 indicated no obvious impacts to the fish and wildlife resources in the storm water drainage system or Cobleskill Creek. This conclusion was presented in the NYSDEC-approved RI Report (Section 4) and was based on conditions that have since been improved by excavation of PCB-impacted sediment from the quarry pond outlet channel and the storm water drainage ditch, and the continued operation of the water treatment systems.

NM had previously justified to the State that no additional fish monitoring was required for this site. This justification was presented in NM's May 8, 1998 letter to the NYSDEC (see Attachment 3) and was provided pursuant to the NYSDEC's suggestion during an April 21, 1998 site meeting that the selected remedy for the site should include long-term fish monitoring. That was the first time that the NYSDEC ever suggested that this may be a component of the site remedy. NM believes that if this was a concern of the NYSDEC, then it should have been identified by the State during

the 1996/1997 FS Report development and review process and/or during the 1994 - 1996 completion of the NYSDEC APPROVED Phase 11 Remedial Investigation which included a biota investigation.

As presented in Sections 3 and 4 of the NYSDEC-approved RI Report, the NYSDEC-approved Phase 11 RI biota investigation included the collection of fish from the storm water drainage system and Cobleskill Creek for analysis for PCBs and percent lipids. Those analytical results and the results of the criteria specific analysis for the site presented in Section 4. 10 of the NYSDEC-approved RI Report, provide the basis for the NYSDEC-approved conclusion of the biota investigation that there are no obvious impacts to the fish and wildlife resources of Cobleskill Creek or the storm water drainage system.

The information presented in NM's aforementioned May 8, 1998 letter (Attachment 3) sufficiently addressed the NYSDEC's concerns regarding long-term fish monitoring, as the NYSDEC provided no response to that letter and when the NYSDEC was subsequently asked about the status of the PRAP, NM was informed that the proposed remedy was consistent with the remedy presented in NM's March 26, 1998 letter (Attachment 6). That NM letter did not include any provisions for long-term fish monitoring. Accordingly, the basis for the NYSDEC's requirement for long-term fish monitoring must be provided.

RESPONSE 82: Please refer to response #22. Fish tissue analysis showed that Fathead Minnows from the storm water drainage system and Common Shiners from Cobleskill Creek contained levels of PCBs above the 0.11 ppm concentration considered by NYSDEC to cause adverse effects in wildlife that consume fish and other aquatic organisms. It has been assumed that PCBs in sediments of the storm water drainage system are the source of the PCBs found in fish tissue, and that excavation of these sediments will eliminate this source. As with other components of the overall site remedy, in order to monitor the effectiveness of sediment excavation in reducing the levels of PCBs in fish tissue, post-excavation analysis of fish tissue is necessary.

It is also possible that low levels of PCBs in surface water are the source of PCBs in fish tissue. This might explain why fish in Cobleskill Creek contained PCBs even though no PCBs were detected in sediments or surface water. Surface water analysis from the storm water drainage system did not detect PCBs above the 65 ppt detection limit, however, surface water concentrations below 65 ppt may still result in accumulation of PCBs in fish tissue above the 0.11 ppm level of concern. No surface water analysis was done in Cobleskill Creek, however, based on the results from the drainage system, it is unlikely that PCBs were above detectable levels.

The treatment of quarry pond surface water began in December 1992 with the temporary 400 gpm system, and the permanent 100 gpm system went on-line in March 1994. The fish sampling was conducted in October 1994 roughly two years after initiation of treatment. There is no way of knowing what levels of PCBs were in fish tissue prior to treatment of the quarry pond discharge. Current conditions may represent a declining impact as a result of the treatment, or they may represent a chronic condition in spite of the treatment. In order to monitor the effectiveness of the treatment system in preventing downstream impacts, fish monitoring is necessary. It is not anticipated that the fish monitoring will be done on an annual basis. Evaluation of the first, post-excavation sampling results will be used to determine the frequency of any additional sampling which may be done on a 3 to 5 year schedule.

COMMENT 83: The detection of volatile organic compounds in ground-water samples collected from the leach field area of the site must be identified in the ROD as unrelated to the scope of the remedy to be implemented by NM (see page I - 11 of the NYSDEC-approved FS Report).

RESPONSE 83: The volatile organic compounds detected in groundwater samples collected from the leach field area is not addressed in this Record of Decision because it is not attributable to Niagara Mohawks waste disposed of at the site.

Comment 84: Comment 84 was a letter (with attachments) received from NM regarding the Proposed Remedial

component that requests the elimination of the practice of "back-washing" the water treatment system into the quarry pond. NM comments disagree with this component in the PRAP.

RESPONSE 84: The M. Wallace and Sons site is located in a Karst geological formation, and as such is interconnected with the surrounding groundwater. Any discharges of water into the quarry are considered as a discharge to the groundwater of the State, and also must therefore meet the groundwater effluent limitations promulgated under Title 6, Chapter X, Part 703.6 of the Environmental Conservation Law. The backwash water discharge must meet the promulgated effluent limit for PCBs to groundwater (0.09 µg/l) in order to be discharged to the quarry. This requirement is not affected by the presence of PCBs in the quarry pond sediments and surrounding groundwater, as the PCBs are not naturally occurring in excess of groundwater standards.

The PCB concentrations in the untreated backwash water preclude the legal discharge of untreated backwash water into the quarry. The concentrations of PCBs in the backwash water (1.60 to 0.47 µg/l) and the groundwater effluent limitation for PCBs (0.09 µg/l) require additional treatment. The NYSDEC suggests that Niagara Mohawk Power Corporation evaluate other alternatives for handling and treating for the backwash water before it is returned to the headworks of the treatment system.