Department of Environmental Conservation

Division of Environmental Remediation

Record of Decision

Alsy Manufacturing, Inc. Site
Hicksville, Nassau County, New York
Site Number 1-30-027

March 2005

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

DECLARATION STATEMENT - RECORD OF DECISION

Alsy Manufacturing, Inc. Inactive Hazardous Waste Disposal Site
Hicksville, Nassau County, New York
Site No. 1-30-027

Statement of Purpose and Basis

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

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

Assessment of the Site

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

Description of Selected Remedv

Based on the results of the Remedial Investigation and Feasibility Study (RI/FS) for the Alsy Manufacturing Inc. site and the criteria identified for evaluation of alternatives, the NYSDEC has selected targeted source soil removal, engineering controls to limit infiltration and direct contact, groundwater monitoring, and institutional controls. The components of the remedy are as follows:

- A limited pre-design investigation will be performed to provide data to support the design of the remedy. This investigation will also determine, quantitatively, if there are concentrations of VOCs in soil gas immediately beneath the building slab. This data will confirm whether or not a soil vapor extraction system must be part of the remedy.

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

- The excavation and appropriate off-site disposal of contaminated soil and rerouting of storm water will be performed. The site will be restored by backfilling the excavation and re-paving the excavated areas with asphalt.

- To prevent exposure to contaminated soils which are not excavated, specific non-vegetated areas (parking lots) will be covered by an engineering control in the form of a paving system. The paving system will consist of new and/or existing asphalt.

- Development of a site management plan to: (a) address residual contaminated soils that may be excavated from the site during future redevelopment through implementation of **a** soils management plan. The soils management plan will require soil characterization and, where applicable, disposal/reuse in accordance with NYSDEC regulations; (b) evaluate the potential for vapor intrusion for any buildings developed on the site, includingprovision for mitigation of any impacts identified; (c) identify any use restrictions; and (d) provide for the operation and maintenance of the components of the remedy.

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

- The property owner will provide an institutional controllengineering control certification, prepared and submitted by a professional engineer or such other expert acceptable to the NYSDEC, until the NYSDEC notifies the property owner in writing that this certification is no longer needed. Such certification shall be filed annually unless another time frame is set forth in the Site Management Plan. This submittal will contain certification that the institutional controls and engineering controls are still in place, allow the NYSDEC access to the site, and that nothing has occurred that would impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan.

- Since the remedy results in contaminated soil and groundwater remaining at the site, a long term monitoring program will be instituted. The monitoring program will include periodic sampling and analysis of on-site and off-site groundwater. This program will allow the effectiveness of/thecontaminated soil removal and storm water management to be monitored and will be a component of the operation, maintenance, and monitoring for the site.

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

New York State Department of Health Acceptance

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

Declaration

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

MAR 31 2005

Date

Dale **A.** Desnoyers, 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 this remedy for the Alsy Manufacturing, Inc. Site (Alsy). The presence ofhazardous waste has created significant threats to human health andlor the environment that are addressed by this remedy. As more fully described in Sections 3 and 5 of this document, discharges of wastes from metal plating operations directly to the ground surface and to dry wells have resulted in the disposal of hazardous wastes, including volatile organic compounds (VOCs) and metal plating wastes (primarily inorganics). These wastes have contaminated the soil and groundwater at the site, and have resulted in:

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

- a significant environmental threat associated with the impacts of contaminants to soil and groundwater. The groundwater at this site is part of a sole-source aquifer.

To eliminate or mitigate these threats, the NYSDEC has selected the following remedy:

- A limited pre-design investigation will be performed to provide data to support the design of the remedy. This investigation will also determine, quantitatively, if there are concentrations of VOCs in soil gas immediately beneath the building slab. This data will confirm whether or not a soil vapor extraction system must be part of the remedy.

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

- The excavation and appropriate off-site disposal of contaminated soil and rerouting of storm water will be performed. The site will be restored by backfilling the excavation and re-paving the excavated areas with asphalt.

- To prevent exposure to contaminated soils which are not excavated, specific non-vegetated areas (parking lots) will be covered by an engineering control in the form of a paving system. The paving system will consist of new and/or existing asphalt.

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

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

SECTION 2: SITE LOCATION AND DESCRIPTION

The site is located at 270 and 280 Duffy Avenue approximately 4000 feet east of the Wantaugh Parkway in an urban area in Hicksville, Nassau County, New York. It is situated on approximately 4 acres of land, bounded: on the north by the Long Island Railroad and a construction and demolition (C&D) debris reclaimer; on the south by Duffy Avenue and a residential neighborhood; and on the east and west by active and vacant industrial or commercial operations. The site contains two (2) one-story commercial buildings (270 and 280 Duffy Avenue) with adjacent paved parking areas. Figures 1 and 2, attached, show the site location and site map.

There are five inactive hazardous waste disposal sites within one-half mile of the Alsy Site. They are: Air Techniques, Inc. (1-30-040); General Instruments Corp. (1-30-020); Anchor Lith Kem KO (Anchor Chem) (1-30-021); Magnusonics Devices (1-30-031); and Bowe Systems and Machinery (1-30-048). The Alsy Site is less than one mile east of the New Cassel Industrial Area in which many inactive hazardous waste disposal sites are located.

SECTION 3: SITE HISTORY

3.1: Operational Disposal History

Prior to 1975, Metalab, a laboratory furniture manufacturer, conducted operations at the Site. Alsy Manufacturing manufactured electric lamps and larnpshades at this facility from 1975 through 1991. Since 1991, the site has been leased to various tenants for non-manufacturing commercial uses. Alsy's manufacturing processes included bronze plating, electroplating, and antiquing. Waste material that was generated included metals plating waste, wastewater treatment sludge, paint thinner, acidic paint stripper, alkaline paint stripper, and 1,1,1-trichloroethane.

Alsy was issued a permit in 1977 for two separate on-site discharge points, one of which received industrial discharges consisting of copper, nickel, zinc, and cyanide. The other discharge point received sanitary wastes.

Between 1977 and 1983, Alsy repeatedly violated the discharge limitations for its 1977 state pollutant discharge elimination system (SPDES) permits. In addition, sampling revealed disposal of unauthorized metals and volatile organic compounds (VOCs).

Between February and August 1984, joint inspection by NYSDEC and the Nassau County Department of Health (NCDH) found violations, including four non-permitted discharge points. Behind the building, three leaching pools, several discharge pipes, and two trenches were found to contain metals and VOC contamination. The areas where the waste disposal occurred is contaminated primarily by heavy metals.

In 1984, Alsy's consultant confirmed the existence of five additional leaching pools and three dry wells at the Site.

In November 1984, Alsy's consultant sampled standing water from behind the building, water from catch basin CB-3 (formerly LP-3, now identified as DW-3) and water from septic pools 1 and 2. The water samples were analyzed for the EP toxicity list of metals. Results showed concentrations of nickel and copper in CB-3 above the permitted discharge limit. Copper also exceeded the discharge limit in the standing water.

In April 1985, the NYSDEC issued a Summary Abatement Order (SAO) for cessation of discharges not in compliance with permits and for cleanup of the leaching pools. In response to the SAO, several leaching pools, catch basins, and soil piles behind the building were sampled. Results showed elevated concentrations of zinc, nickel, aluminum and copper.

3.2: <u>Remedial History</u>

In 1987, the NYSDEC first listed the site as a Class 2a site in the Registry of Inactive Hazardous Waste Disposal Sites in New York (the Registry). Class 2a is a temporary classification assigned to a site that has inadequate and/or insufficient data for inclusion in any of the other classifications. In 1990, the NYSDEC listed the site as a Class 2 site in the Registry of Inactive Hazardous waste' Disposal Sites in New York. A Class 2 site is a site where hazardous waste presents a significant threat to the public health or the environment and action is required.

In May 1985, NYSDEC sampling revealed elevated concentrations of several metals (aluminum, arsenic, cadmium, chromium, copper, iron, lead, magnesium, nickel, and zinc) and VOCs (including toluene, xylenes, ethylbenzene, 1,1,1-trichloroethane, and methylene chloride) in catch basins and leaching pools at the Site.

Between May and November 1985, contaminated leaching pools were reportedly pumped out and sludge was removed from these pools and disposed off-site.

Prior to 1987, five monitoring wells were installed on-site. In January 1987, groundwater fiom two on-site monitoring wells located behind (north of) the building was sampled. Several volatile organic contaminants (VOCs), including 1,l-dichloroethane, 1,1,1-trichloroethane, trichloroethene, and tetrachloroethene; were detected at concentrations exceeding groundwater standards. Metals, including arsenic, chromium, copper, and lead were also found exceeding drinking water standards.

In 1987, two additional groundwater monitoring wells were installed on-site. In June 1987, sampling activities were conducted on-site by the United States Environmental Protection Agency (USEPA). Groundwater samples collected from monitoring wells GW-1 and GW-2 (no longer existing) showed elevated concentrations of metals (aluminum, arsenic, barium, copper, lead, magnesium, manganese, mercury, nickel, vanadium and zinc) and VOCs (1,1-dichloroethane, tetrachloroethene, 1,1,1-trichloroethane and trichloroethene). Soil, sediment, and liquid samples from soil and leachingpools at the northern portion of the site showed elevated concentrations of several metals (arsenic, cadmium, chromium, copper, iron, nickel, and zinc).

In June 1987, a Phase I Investigation Report was issued by NYSDEC.

Between April 1988 and June 1989, existing groundwater monitoring wells GW-1 and GW-2 were sampled and eight additional on-site monitoring wells were installed and sampled. Sample results showed elevated concentrations of 1,1,1-trichloroethane, trichloroethene, tetrachloroethene, dichloroethene, vinyl chloride, and methylene chloride as well as arsenic, barium, cadmium, chromium, lead, and mercury. Soil samples from the bottom of three cleaned leaching pools showed no significant contamination.

SECTION 4: ENFORCEMENT STATUS

Potentially Responsible Parties (PRP's) 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 following is the chronological enforcement, investigation, and remedial history of this site.

In March 1985, a Summary Abatement Order directed Alsy Manufacturing Co. to cease all discharges of industrial pollutants not authorized by their permit, pump out all underground tanks (including cess pools) and dispose the contents off-site, remove all contaminated soil and secure any unauthorized outlets.

In February 1986, the State of New York brought a criminal prosecution against Alsy. In April 1987, the prosecution was settled by an Order on Consent pursuant to which, Alsy paid a $15,000.00 fine.

In November 1989, the NYSDEC executed Order on Consent W1-0028-84-09 with Surrey Corporation (then owner of the site) for a Phase II Investigation.

In 1990, NYSDEC reevaluated the data assembled for the site and reclassified it to a Class "2", which indicated that the site posed a significant threat to both public health and the environment.

The NYSDEC and the Surrey Corporation and Surrey Company entered into a Consent Order on March 28, 1995. The Order obligates the responsible parties to implement a RI/FS remedial program. After the remedy is selected, the NYSDEC will approach the PRPs to implement the selected remedy under an Order on Consent.

SECTION 5: SITE CONTAMINATION

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

5.1: Summary of the Remedial Investigation

The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The RI was conducted between December 1997 and January 2003. The field activities and findings of the investigation are described in the RI report.

The following activities were conducted during the RI. Most of the RI was performed in 1996. It consisted of the following:

- Completion of a Ground-Penetrating Radar (GPR) survey in three areas of the site to identify potential subsurface structures such as drywells and leaching pools;

- Completion of 45 soil borings throughout the site to collect samples of soil, soil gas and groundwater;

- Collection of 5 soil samples from a soil berm along the northern property line;

- Installation of 5 new groundwater monitoring wells around the site;

- Collection of indoor air samples at several locations within the main site building;

- Sampling of 9 new and existing monitoring wells.

In 1998, groundwater was sampled at three depths at each of two off-site locations.

Additional investigation was conducted in 2001 and 2003 and consisted of the following:

- Soil and groundwater were sampled at subsurface structures that were not sampled in 1996;

- Groundwater was sampled at two depths (profiling) in each of three locations off-site along an east-west transect;

- A permanent off-site monitoring well was installed based upon profiling results;

- Two new on-site monitoring wells were installed;

- All of the new and existing monitoring wells were sampled and the well elevations were surveyed;

- A well search was conducted to identify all public, industrial and private supply wells.

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

- Groundwater, drinking water, and surface water SCGs are based on NYSDEC "Ambient Water Quality Standards and Guidance Values" and Part 5 of the New York State Sanitary Code.

- Soil SCGs are based on the NYSDEC "Technical and Administrative Guidance Memorandum (TAGM) 4046; Determination of Soil Cleanup Objectives and Cleanup Levels".

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

5.1.1: Site Geology and Hydrogeology

The site's surface is covered, primarily, by either buildings or asphalt pavement. Beneath the site are two water bearing geologic units, the Upper Glacial Aquifer and the Magothy Aquifer. The Upper Glacial Aquifer (UGA) consists of Upper Pleistocene deposits of poorly sorted sands and gravel found from the surface to a depth of approximately 80 feet (ft) below ground surface (bgs). The UGA is an unconfined aquifer. Beneath the UGA lies the Magothy consisting of finer sands, silt and small amounts of clay. The upper surface of the Magothy formation is found approximately 100 A bgs in this area. In this area the UGA and the Magothy are in direct hydraulic connection. Depth to groundwater was approximately 57 ft bgs in the area of the site in 2002 and groundwater flows in a south southeast direction. Both the UGA and Magothy have been designated as sole-source aquifers and are protected under state and federal legislation.

5.1.2: Nature of Contamination

As described in the RI report, many soil, groundwater and soil gas samples were collected to characterize the nature and extent of contamination. As summarized in Table 1, the main category of contaminants that exceeds their SCGs is inorganics (metals).

The metals of concern are arsenic, beryllium, chromium, copper, lead, mercury, nickel, selenium, and zinc. Many of these metals are associated with the disposal of waste from the historic metal plating operations at the site. These metals are found in the soil in the berm at the northern property line, in the subsurface structures which formerly received the waste, and in the shallow and deep soils in the vicinity of these structures. These metals are also found in groundwater beneath the site. However, only two of the metals, nickel and zinc are migrating from the site with the groundwater. Nickel is above the standard in groundwater, and zinc is below the guidance value in groundwater.

5.1.3: Extent of Contamination

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

Chemical concentrations are reported in parts per billion (ppb) for water, parts per million (ppm) for waste and soil, and micrograms per cubic meter ($\mu g/m^3$) for air samples. For comparison purposes, where applicable, SCGs are provided for each medium.

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

Surface Soil

The only surface soil that was sampled during the 1996 RI was from an unpaved berm along the northern property line. Some or all of this berm was reportedly created from surface soil which was previously located in an area in which waste was reportedly disposed directly to the ground surface. Nickel was detected at up to 487 ppm, zinc was detected at up to 231 ppm, and copper was detected at up to 288 ppm. Other inorganics were not significantly above SGCs. The berm and the analytical results are shown on Figure 3.

Subsurface Soil

Extensive sampling of subsurface soil was performed across the site in two- to four-foot intervals from grade to 46 feet below ground surface (bgs) during the 1996 RI. Sampling in and around several leachingpools extended to 50 feet bgs. Figures **3** through 6 show the soil sampling locations and the inorganic analysis results. All analytical results for the subsurface soil are summarized in Table 1.

The disposal at the site was known to include metals (inorganics) and VOCs. The results of the **RI** demonstrated that metals are the only contaminants of concern (COCs) in the soil. There were no VOCs exceeding SCGs in the 127 subsurface soil samples. Inorganics exceeding SCGs were found in subsurface soil in the areas of the site where waste was historically disposed. The inorganics which exceeded the SCGs in the subsurface soil include arsenic, beryllium, cadmium, chromium, copper, mercury, nickel, selenium, and zinc.

Contaminated soil was found in an abandoned dry well during the sampling in 2001. The dry well (now identified as DW-4) is shown on Figures 5 and 6. Samples collected and analyzed from soil boring number ERM-2 (inside DW-4) visually and analytically confirmed that the soil was contaminated due to disposal of metal plating waste to this former dry well. This contaminated soil exhibits high concentrations of metals, particularly nickel. Total nickel concentrations as high as 106,000 ppm were found. The SCG for nickel is 13 ppm.

Groundwater

Groundwater contamination is a concern at this site. The site is located above a sole-source aquifer. The site is upgradient of public potable supply wells which supply the Hicksville water District. Figures 7 and 8 show the direction of groundwater flow and the extent of nickel contaminated groundwater.

Several VOCs were found to exceed SCGs. The SCG for most of the VOCs is 5 ppb. 1,1,1-trichloroethane was found as high as 12 ppb. Tetrachloroethene was found as high as 9 ppb. 1,2-dichloroethene was found as high as 5.3 ppb. No other VOCs were found to exceed SCGs. No SVOCs were found to exceed SCGs.

In unfiltered (total) inorganics groundwater samples, the following inorganics exceeded SCGs: antimony, arsenic, barium, beryllium, cadmium, chromium, copper, lead, manganese, nickel, selenium, thallium, and zinc.

In filtered (dissolved) groundwater samples, the following inorganics were found to exceed SCGs: antimony, lead, manganese, nickel, and thallium.

The inorganic exceedances which were found in unfiltered groundwater but not filtered or low flow samples are attributed to high turbidity in the groundwater.

Of the remaining metals, manganese, was found in many of the samples. Manganese, however, is naturally occurring and not related to manufacturing processes on site. It was also found in groundwater samples which are considered to be upgradient and background.

Lead was only found in 2 out of 39 filtered samples. These samples were in locations considered to represent background groundwater. Thallium was found in only a small number of samples in areas considered to be upgradient or background location. Lead and thallium are not considered to be site related.

Nickel was found in groundwater at high concentrations and in many sample locations both on and off-site. Nickel was found as high as 8,660 ppb on-site and 3,580 ppb off-site. The groundwater standard for nickel is 100 ppb.

Surface Water

There is no surface water associated with this site.

Soil Gas

Soil gas was sampled during the 1996 RI at two depths at each of 15 locations around the site, including 5 locations beneath the building at 270 Duffy Avenue. Beneath the building, 1,1,1-trichloroethane was found as high as 6,200 micrograms per cubic meter of air ($\mu g/m^{3)}$. Tetrachloroethene was found as high as 2,200 pg/m3. Methylene chloride was found as high as 3,200 $\mu g/m^3$. Only methylenechloride was detected insamples, at concentrations up to 1,000 $\mu g/m^3$, collected outside the building footprint.

Indoor air was sampled during the **1996** RI only for 1,1,1-trichloroethane and trichloroethene. These two compounds were included in historical discharge permits. The sampling was conducted using compound specific colorimetric tubes. Neither of these two compounds was detected in indoor air above the detection limits of the colorimetric tubes.

5.2: Interim Remedial Measures

There were no IRMs performed at this site during the RI/FS.

5.3: Summary of Human Exposure Pathwavs

This section describes the types of human exposures that may present added health risks to persons at or around the site. A more detailed discussion of the human exposure pathways can be found in Section 2.2.1.1.2 of the Feasibility Study, which can be found at the document repositories identified in this **PRAP.**

An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. ***An*** exposure pathway has five elements: **[1]** a contaminant source, **[2]** contaminant release and transport mechanisms, **[3]** a point of exposure, **[4]** a route of exposure, and **[5]** a receptor population.

The source of contamination is the location where contaminants were released to the environment (any waste disposal area or point of discharge). Contaminant release and transport mechanisms carry contaminants from the source to a point where people may be exposed. The exposure point is a location where actual or potential human contact with acontaminated medium may occur. The route of exposure is the manner in which a contaminant actually enters or contacts the body (e.g., ingestion, inhalation, or direct contact). The receptor population is the people who are, or may be, exposed to contaminants at a point of exposure.

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

There are two potential exposure pathways at the site. The potential exposure pathways are:

- Dermal contact with contaminated soil.

- Ingestion of groundwater contaminated with nickel.

Dermal contact with contaminated soils is not expected since the site is covered with pavement or buildings. Employees and trespassers could be exposed to low level metals contamination from surface soils in the berm on the northern edge of the site. The area of the berm located behind and upgradient of the facility contains metals slightly exceeding cleanup guidelines and background conditions, but these levels are not considered to be a health concern. While the potential exists for exposure to these surface soils, the berm is immediately adjacent to Long Island Railroad property and is not a likely area for human activity. Site groundwater is not currently used for drinking, but groundwater could be used in the future since there are no restrictions currently in place to prevent its use. Although the ingestion of contaminated groundwater is a potential exposure pathway, ingestion of contaminated groundwater is not expected because the surrounding area is serviced by municipal water. Testing of downgradient public supply wells has not detected nickel above the standard set for New York State public water supplies.

5.4: Summary of Environmental Impacts

This section summarizes the existing and potential future environmental impacts presented by the site. Environmental impacts include existing and potential future exposure pathways to fish and wildlife receptors, as well as damage to natural resources such as aquifers and wetlands.

The following environmental exposure pathways and ecological risks have been identified:

- Site contamination has impacted the groundwater resource in the Upper Glacial and Magothy aquifers. These are USEPA sole-source/NYS primary aquifers. The Magothy aquifer serves as a source of drinking water in the area. High concentrations of nickel have been found in the groundwater both on- and off-site. The nickel plume is upgradient of active public supply wells.

- There have been no sensitive fish and wildlife habitats identified near this site. Further, there is unlikely to be any wildlife resources present in the limited area (berm) which contains exposed contaminated soil. The berm is a narrow strip of soil between the Long Island Railroad right-of-way, and the asphalt parking lot at the site. No wetlands or sediments, which could be impacted by the contamination, are located near the site.

SECTION 6: SUMMARY OF THE REMEDIATION GOALS

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

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

- exposures of persons at or around the site to inorganics (metals) in contaminated soil and groundwater.

- the release of contaminants from soil into groundwater that may create exceedances of groundwater quality standards; and

- the release of VOC contaminants from subsurface soil under buildings into indoor air through soil vapor.

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

- ambient groundwater quality standards;

- Soil TAGM values

SECTION 7: SUMMARY OF THE EVALUATION OF ALTERNATIVES

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

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

7.1: Description of Remedial Alternatives

The following potential remedies were considered to address the contaminated soil and groundwater at the site.

Alternative 1: No Action

Present Worth: $0
Capital Cost: $0
Annual *OM&M:*
(Years 1-30): $0

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. It requires continued monitoring only, allowing the site to remain in an unremediated state. This alternative would leave the site in its present condition and would not provide any additional protection to human health or the environment.

This alternative would allow for the continued existing use of the site for commercial purposes and would allow for alternative uses as allowed by the existing H-Light Industry Zoning. It would rely upon existing zoning and existing groundwater use restrictions.

There would be no removal of contaminated soil from the site, and therefore the leaching of metals to the groundwater would continue.

There would also be no institutional or engineering controls to prevent future direct contact exposure to contaminated soil.

Alternative 2: Contaminated Dry Well Soil Removal, Storm Water Control and Groundwater Monitoring

Present Worth: ***$695,000***
Capital Cost: ***$391,000***
***Annual** OM&M:*
(Years 1-30): ***$19,000***

This alternative consists of the following major elements:

- Contaminated soil removal;
- Reconfiguration of the storm water infrastructure;
- Installation of a downgradient, off-site groundwater monitoring network;
- Institutional and engineering controls;
- Groundwater monitoring; and
- Soil Vapor Extraction System (if necessary).

Dry well DW-4 would be properly closed by excavating contaminated soil and backfilling with clean soil. This would eliminate leaching of nickel contaminated soil to the groundwater from this former disposal area. To further limit leaching of nickel, two additional dry wells, DW-1 and DW-2 which historically received waste, would be properly closed by excavating soil from the bottom of the dry wells, backfilling with clean soil, and converting them from dry wells to catch basins. These catch basins would convey storm water to a third dry well (now identified as DW-3) which is further away from the main contaminated soil area (DW-4). This effort would reduce infiltration ofprecipitation near or in the former disposal areas.

The asphalt pavement in the areas of historic waste disposal would be maintained in good condition to limit infiltration of rainwater over a wide area. The pavement would also serve to protect against future direct contact exposures to the contaminated soil.

The above actions are expected to result in decreasing groundwater nickel concentrations.

The existing groundwater monitoring network would be enhanced by the installation of additional groundwater monitoring well(s) off-site and downgradient of the contaminated soil area and upgradient of the public supply wells. The groundwater would be monitored to evaluate the performance of the contaminated soil removal and storm water management in reducing the nickel plume concentrations.

If necessary, a soil vapor extraction system would be used to remove any VOC contaminated soil gas beneath the building to prevent any potential indoor air quality problems. The need for the system will be determined during a pre-design investigation for the remedy.

To ensure that the remedy remains protective of human health and the environment, an institutional control in the form of an environmental easement would be placed upon portions of the property. This environmental easement would require any engineering controls such as the asphalt cover to remain in place and effective. It would restrict the site to commercial or light industrial uses (as per existing local zoning), but not including residential, daycare or medical uses. It would preclude the use of groundwater on-site for any purpose unless the water was treated or until it meets standards. Also, it would provide for a soils management plan which would be activated for disturbance of the contaminated soil beneath the asphalt cover.

To implement this remedy, a pre-design study would be completed to provide detailed information to support the remedial design. This study would confirm the target vertical and areal extent of excavation, confirm soil gas VOC concentration under the building, confirm the construction of dry wells DW-I and DW-2 and evaluate the soil immediately outside and adjacent to these dry wells if they are not solid-walled structures. This would take two to three months.

Construction of the remedy would be completed within one year of the approval of the design.

Monitoring of the groundwater would continue for as long as required to demonstrate that the remedy has met its objectives. The environmental easement would run with the land until such time that it is deemed no longer necessary.

Alternative 2A: Contaminated Dry Well Soil Removal, Disposal Area Contaminated Soil Removal, Storm Water Control and Groundwater Monitoring

Present Worth: ***$8,072,000***
Capital Cost: ***$7,768,000***
***Annual** OM&M:*
(Yeursl-30): ***$19,000***

This alternative consists of the following major elements:

- Contaminated soil removal as described in Alternative 2 plus removal of 26,500 cubic yards of contaminated soil to a depth of 15 feet below grade from three historic disposal areas and backfilling the excavation with clean soil;
- Reconfiguration of the storm water infrastructure;
- Installation of a downgradient, off-site groundwater monitoring network;

- Institutional and engineering controls;
- Groundwater monitoring; and
- Soil Vapor Extraction System (if necessary).

To eliminate the potential for future direct contact exposure to the metals-contaminated soil, an estimated 26,500 cubic yards of contaminated soil would be excavated to a maximum depth of fifteen feet below the ground surface. The soil would be excavated from three areas around the site. These areas are known to have received waste. The soil would be disposed off-site by landfilling.

Contaminated soil would also be excavated from Dry Well DW-4, as in Alternative 2. This would eliminate leaching of nickel contaminated soil to the groundwater from this former disposal area. To further limit leaching of nickel, two additional drywells (now identified as DW-1 and DW-2) which historically received waste would be properly closed by excavating several feet soil in the bottom of the drywells, backfilling with clean soil, and converting them from dry wells to catch basins. These catch basins would convey storm water to a third dry well (now identified as DW-3) which is further away from the main contaminated soil area (DW-4). This is the same storm water reconfiguration as in Alternative 2. This effort would reduce infiltration of precipitation in the former contaminated soil areas. If more cost effective, any or all of these four dry wells could be removed to 15 feet below grade and replaced with one or more new dry wells.

Following soil removal and the stormwater reconfiguration, the excavated area would be backfilled with clean soil and the site would be re-paved with asphalt. The asphalt pavement in the areas of historic waste disposal would be maintained in good condition to limit infiltration of rainwater over a wide area. The pavement would also serve to protect against future direct contact exposures to any remaining contaminated soil.

The above actions are expected to result in decreasing groundwater nickel concentrations.

The existing groundwater monitoring network would be enhanced by the installation of additional groundwater monitoring well(s) off-site and downgradient of the contaminated soil area and upgradient of the public supply wells. The groundwater would be monitored to evaluate the performance of the contaminated soil removal and storm water management in reducing the nickel plume concentrations.

If necessary, a soil vapor extraction system would be used to remove any VOC contaminated soil gas beneath the building to prevent any potential indoor air quality problems. The need for the system will be determined during a pre-design investigation for the remedy.

To ensure that the remedy remains protective of human health and the environment, an institutional control in the form of an environmental easement would be placed upon portions of the property. This environmental easement would require any engineering controls such as the asphalt cover to remain in place and effective. It would restrict the site to commercial or light industrial uses (as per existing local zoning), but not including residential, daycare or medical uses. It would preclude the use of groundwater on-site for any purpose unless the water was treated or until it meets standards.

Also, it would provide for a site management plan which would be activated for disturbance of any potentially contaminated soil.

To implement this remedy, a pre-design study would be completed to provide detailed information to support the remedial design. This study would confirm the target vertical and areal extent of excavation, confirm soil gas VOC concentration under the building, confirm the construction of dry wells DW-1 and DW-2 and evaluate the soil immediately outside and adjacent to these dry wells if they are not solid-walled structures. This would take two to three months.

Monitoring of the groundwater would continue for as long as required to demonstrate that the remedy has met its objectives. The environmental easement would run with the land until such time that it is deemed no longer necessary.

Alternative 3 Contaminated Dry Well Soil Removal, Contaminated Soil Removal Exceeding the NYSDEC RSCO Guidelines, Storm Water Control and Active Groundwater Remediation

Present Worth: $18,656,000
Capital Cost: $12,425,000
Annual *OM&M:*
(Years 1l-20): $494,000

This alternative consists of the following major elements:

Removal of all contaminated soil which exceeds SCGs to a depth of 15 feet below grade and backfilling the excavation with clean soil;
Removal of contaminated soil;
Off-site disposal of contaminated soil;
Storm water reconfiguration;
Site restoration;
Construction and operation of a groundwater extraction and treatment system to remediate the nickel plume;
Monitoring of groundwater quality; and,
Soil Vapor Extraction System (if necessary)

To eliminate the potential for future direct contact exposure to the metals-contaminated soil, an estimated 44,600 cubic yards of contaminated soil would be excavated to a maximum depth of fifteen feet below the ground surface. The soil would be excavated from seven areas around the site. The soil would be disposed off-site by landfilling.

Contaminated soil would also be excavated from Dry Well DW-4, as in Alternative 2. This would eliminate leaching of nickel contaminated soil to the groundwater from this former disposal area. To further limit leaching of nickel, two additional drywells (now identified as DW-1 and DW-2) which historically received waste would be properly closed by excavating several feet soil in the bottom of the drywells, backfilling with clean soil, and converting them from dry wells to catch basins. These catch basins would convey storm water to a third dry well (now identified as DW-3) which is further away from the main contaminated soil area (DW-4). This effort would reduce infiltration of precipitation in the former contaminated soil areas. This is the same storm water reconfiguration as in Alternative 2.

Following soil removal and the stormwater reconfiguration, the excavated area would be backfilled with clean soil and the site would be re-paved with asphalt.

The existing nickel groundwater plume would be addressed by active extraction and treatment of the groundwater in addition to the contaminated removal described above.

Groundwater would be extracted from two recovery wells located off-site along the centerline of the plume. The extracted water would be transferred to a water treatment plant located on-site. The nickel would be removed from the groundwater by either chemical precipitation and filtration or ion exchange. (Note: The costs included above are for the precipitation and filtration which were slightly higher than for ion exchange.) The treated water would be discharged to a catch basin on the north side of Duffy Avenue which leads to a nearby storm water recharge basin.

Groundwater quality both on- and off-site would be monitored throughout the remedial effort to assess the performance of the remedy.

If necessary, a soil vapor extraction system would be used to remove any VOC contaminated soil gas beneath the building to prevent any potential indoor air quality problems. The need for the SVE will be determined during a pre-design investigation for the remedy.

To ensure that the site remains protective, an institutional control in the form of an environmental easement would be placed upon portions of the property. This environmental easement would require any engineering controls to remain in place and effective. It would preclude the use of groundwater on-site for any purpose unless the water was treated or until the groundwater meets standards.

7.2: <u>Evaluation of Remedial Alternatives</u>

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

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

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

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

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

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

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

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

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

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

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

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

SECTION 8: SUMMARY OF THE SELECTED REMEDY

Based on the Administrative Record (Appendix B)and the discussion presented below, NYSDEC has selected Alternative 2: Contaminated Dry Well Soil Removal, Storm Water Control and Groundwater Monitoring as the remedy for this site. The elements of this remedy are described at the end of this section.

The selected remedy is based on the results of the **RI** and the evaluation of alternatives presented in the FS. Alternative 2: Contaminated Dry Well Soil Removal, Storm Water Control and Groundwater Monitoring, is selected because, as described below, it satisfies the threshold criteria and provides the best balance of the primary balancing criteria described in Section 7.2. It will achieve the remediation goals for the site by removing or isolating the soils that create a significant threat to public health and the environment. It will greatly reduce the source of contamination to groundwater, thereby, creating the conditions needed to restore groundwater quality to the extent practicable. The groundwater nickel concentrations are expected to decrease following implementation of the remedy. Alternatives 2A and 3, would also comply with the threshold selection criteria.

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

Short-term Effectiveness Alternatives 2,2A and 3 have short-term impacts. Alternative 2, however, has significantly fewer short-term impacts than Alternatives 2A and **3,** including less sheet piling, fewer truckloads of soil moving through the local streets, shorter excavation time, and no water treatment plant construction. Particulate (dust) emissions can be more easily be managed under Alternative 2 through monitoring and active dust suppression.

Long-term Effectiveness and Permanence Alternatives 2,2A and 3 would achieve similar long-term effectiveness and permanence in reducing the concentration of nickel in groundwater. Alternative 2 relies on the removal of a limited volume of soil contaminated soil and reduction of infiltration to restore groundwater quality. Alternative 2A relies less upon reducing infiltration and more upon removal of soil to reduce nickel concentrations in groundwater. A significant volume of soil would be excavated to 15 feet below ground surface (and deeper in structures) in the three areas which are suspected of being the primary areas that received waste in Alternative 2A. Alternative 3 relies on removal of all contaminated soil exceeding RSCOs above 15 feet below ground surface (and deeper in structures) and extraction and treatment of groundwater along the plume to restore groundwater quality.

To eliminate potential direct contact exposures to contaminated soil in the primary disposal areas, Altemative 2 relies upon the asphalt cap and institutional controls. Alternatives 2A and 3 eliminate the potential in these areas, but still require engineering and institutional controls for other areas or other aspects of the remedies.

Long-term effectiveness is best achieved by excavation and removal of the contaminated soils (Alternatives 2,2A and 3) which present a potential direct contact exposure and are a continuing source of contamination to groundwater. Approximately 115 cubic yards of contaminated soil will be removed with Alternative 2. Alternative 2 will focus on removal of the soil with greatest remaining nickel mass. Some metals-contaminated soil will remain at the site under Alternative 2. This soil will be subject to additional engineering and institutional controls to ensure long-term effectivness. Alternative 2A would require the excavation and removal of approximately 26,500 cubic yards of soil. Alternative 3 would require the excavation and removal of approximately 44,600 cubic yards of soil. While Alternatives 2A and 3 would remove significantly more soil, some contaminated soil would remain beyond the bottom of the excavation. Isolated areas of contaminated soil would be present outside of the primary disposal areas under Alternative 2A. Alternative 2 was selected because it achieves similar long term performance as Alternatives 2A and 3 in removing soil with the highest contaminant concentrations, reducing leaching of contaminants to groundwater, and eliminating direct contact exposures of concern. Alternative 2, however, will require more institutional and engineering controls than Alternatives 2 and 3 to ensure the long-term effectiveness and permanence of the remedy.

<u>Reduction of Toxicity. Mobility or Volume</u> There is no reduction of toxicity in any of the alternatives. Alternatives 2, 2A, and 3 would reduce the mobility of contaminants, but under Alternative 2, this reduction depends upon the long-term maintenance of the engineering control (asphalt cover) in addition to the contaminated soil removal. The volume of contaminated soil is reduced under Alternatives 2,2A, and 3. Alternatives 2A and 3 reduce the volume of contaminated soil significantly more than Alternative 2. Alternative 2, however, focuses on the contaminated soil which leaches nickel to groundwater.

<u>Implementability</u> Alternative 2 was selected because it is significantly easier to implement than Alternatives 2A and 3. There is less excavation and no construction related to groundwater treatment. The remedy will also be constructed in less time.

<u>Cost-Effectiveness</u> The cost of the alternatives varies significantly. Alternative 2A and 3 are significantly more costly than Alternative 2.

The estimated present worth cost to implement the selected remedy is $695,000. The cost to construct the remedy is estimated to be $391,000 and the estimated average annual operation, maintenance, and monitoring costs for 30 years is $19,000.

The elements of the selected remedy are as follows:

1. A limited pre-design investigation will be performed to provide data to support the design of the remedy. This investigation will also determine, quantitatively, if there are concentrations of VOCs in soil gas immediately beneath the building slab. This data will confirm whether or not a soil vapor extraction system must be part of the remedy.

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

3. The excavation and appropriate off-site disposal of contaminated soil and rerouting of storm water will be performed. The site will be restored by backfilling the excavation and re-paving the excavated areas with asphalt.

4. To prevent exposure to contaminated soils which are not excavated, specific non-vegetated areas (parking lots) will be covered by an engineering control in the form of a paving system. The paving system will consist of new and/or existing asphalt.

5. Development of a site management plan to: (a) address residual contaminated soils that may be excavated from the site during future redevelopment through implementation of a soils management plan. The soils management plan will require soil characterization and, where applicable, disposal/reuse in accordance with NYSDEC regulations; (b) evaluate the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified; (c) identify any use restrictions; and (d) provide for the operation and maintenance of the components of the remedy.

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

7. The property owner will provide an institutional control/engineering control certification, prepared and submitted by a professional engineer or such other expert acceptable to the NYSDEC, until the NYSDEC notifies the property owner in writing that this certification is no longer needed. Such certification shall be filed annually unless another time frame is set forth in the Site Management Plan. This submittal will contain certification that the institutional controls and engineering controls are still in place, allow the NYSDEC access to the site, and that nothing has occurred that would impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan.

8. Since the remedy results in contaminated soil and groundwater remaining at the site, a long term monitoring program will be instituted. The monitoring program will include periodic sampling and analysis of on-site and off-site groundwater. This program will allow the effectiveness of the contaminated soil removal and storm water management to be monitored and will be a component of the operation, maintenance, and monitoring for the site.

SECTION 9: HIGHLIGHTS OF COMMUNITY PARTICIPATION

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

- Repositories for documents pertaining to the site were established.
- A public contact list, which included nearby property owners, elected officials, local media and other interested parties, was established.
- Fact sheets were issued at key milestones of the remedial investigation.
- A public meeting was held on March 1,2005 to present and receive comment on the **PRAP.**
- A responsiveness summary (Appendix A) was prepared to address the comments received during the public comment period for the PRAP.

TABLE 1
Nature and Extent of Contamination
1996 - 2003

SURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)*	SCG[b] (ppm)[a]	Frequency of Exceeding SCG
Inorganic	Aluminum	9450 - 13300	SB	N/A
	Arsenic	10 - 14	7.5 or SB	5 of 5
	Beryllium	0.30 - 0.42	0.16 or SB	5 of 5
	Cadmium	0.35 - 1.5	1 or SB	2 of 5
	Chromium	15 - 53	10 or SB	5 of 5
	Copper	26 - 288	25 or SB	5 of 5
	Manganese	174 - 258	SB	N/A
	Mercury	0.20 - 0.27	0.1	5 of 5
	Nickel	10 - 487	13 or SB	4 of 5
	Zinc	44 - 231	20 or SB	5 of 5

TABLE 1
Nature and Extent of Contamination
1996 - 2003

SUBSURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)[a]	Frequency of Exceeding SCG
Inorganic	Antimony	ND - 3.4	SB	N/A
	Arsenic	ND - 197	7.5 or SB	7 of 121
	Beryllium	0.05 - 0.74	0.16 or SB	7 of 19
	Cadmium	ND - 2.2	1 or SB	1 of 121
	Chromium	1.2 - 83.8	10 or SB	22 of 121
	Copper	0.85 - 1050	25 or SB	14 of 120
	Lead	0.52 - 1400	SB	N/A
	Manganese	24 - 229	SB	N/A
	Mercury	ND - .54	0.1	5 of 20
	Nickel	0.60 - 106000	13 or SB	44 of 147
	Selenium	ND - 63	2 or SB	1 of 20
	Silver	ND - 0.52	SB	N/A
	Thallium	ND - 1.5	SB	N/A
	Zinc	2.4 - 1890	20 or SB	20 of 120

TABLE 1
Nature and Extent of Contamination
1996 - 2003

GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)"	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs) Profiling	1,1,1-Trichloroethane	ND - 12.0	5	3 of 51
	Tetrachloroethene	ND - 8.4	5	2 of 45
Volatile Organic Compounds (VOCs) Shallow (water table)	1,1,1-Trichloroethane	ND - 8.6	'5	2 of 32
	Tetrachloroethene	ND - 9	5	1 of 30
	1,2-Dichloroethene	ND - 5.3	5	1 of 30
Inorganic Compounds (Total) Profiling	Antimony	ND - 64	3.0	4 of 8
	Arsenic	ND - 165	25	24 of 39
	Beryllium	0.48 - 5.9	3	3 of 8
	Cadmium	ND - 23	5	4 of 39
	Chromium	35 - 4430	50	38 of 39
	Copper	32 - 2600	200	22 of 39
	Lead	3.5 - 222	25	28 of 39
	Manganese	299 - 6040	300	5 of 8
	Nickel	3.1 - 1210	100	20 of 45
	Selenium	ND - 40	10	2 of 8
	Thallium	ND - 44	0.5	6 of 8
	Zinc	7.7 - 6010	2000	12 of 45

TABLE 1
Nature and Extent of Contamination
1996 - 2003

GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)'	SCG[b] (ppb)[a]	Frequency of Exceeding SCG
Inorganic Compounds (Dissolved) Profiling	Antimony	ND - 7.1	3.0	2 of 8
	Lead	ND - 51	25	2 of 39
	Manganese	302 - 4030	300	8 of 8
	Nickel	ND - 3580	100	3 of 46
	Thallium	ND - 14	0.5	3 of 8
Inorganic Compounds (Total) Shallow (water table)	Antimony	ND - 61	3	1 of 13
	Arsenic	ND - 284	25	17 of 29
	Barium	99 - 1480	1000	1 of 13
	Beryllium	ND - 6	3	1 of 13
	Chromium	ND - 992	50	21 of 29
	Copper	6.1 - 975	200	9 of 28
	Lead	ND - 266	25	20 of 29
	Manganese	20 - 7640	300	11 of 13
	Nickel	ND - 8770	100	20 of 33
	Thallium	ND -21	0.5	5 of 13
Inorganic Compounds (Dissolved) Shallow (water table)				
	Manganese	1.8 - 7060	300	9 of 13
	Nickel	ND - 8660	100	7 of 34
	Thallium	ND - 20	0.5	1 of 13

TABLE 1
Nature and Extent of Contamination
1996 - 2003

SOIL GAS	Contaminants of Concern	Concentration Range Detected (µg/m³)[a]	SCG[b] (µg/m³)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	Methylene Chloride	800 - 3200	N/A	N/A
	1,1,1-Trichloroethane	1300 - 6200	N/A	N/A
	Tetrachloroethene	1000 - 2200	N/A	N/A

INDOOR AIR	Contaminants of Concern	Concentration Range Detected (µg/m³)[a]	SCG[b] (µg/m³)[a]	Frequency of Exceeding SCG
Volatile Organic	1,1,1-Trichloroethane	ND	NIA	NIA
	Trichloroethene	ND	NIA	N/A

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

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

ND - Not Detected

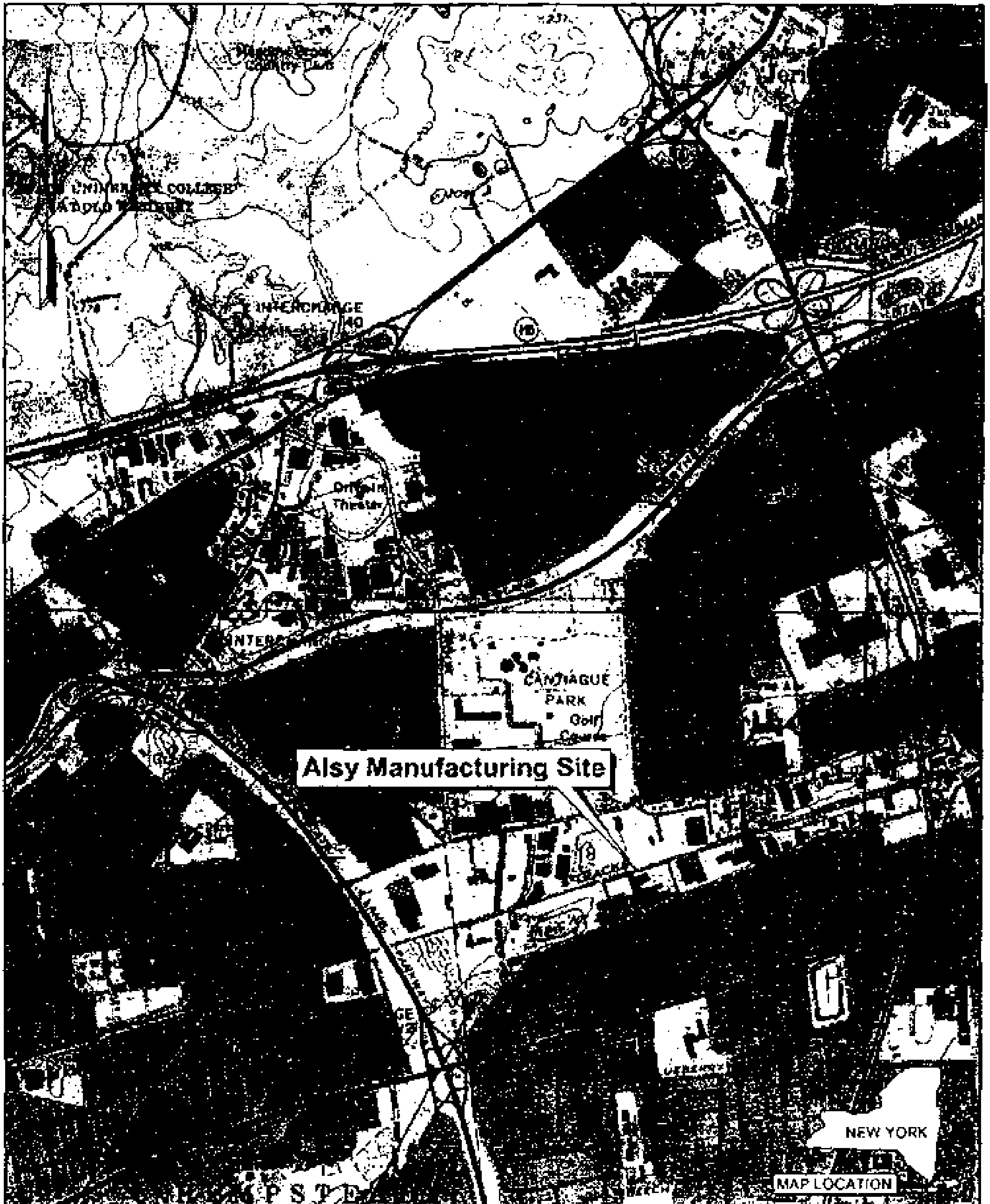
NS - Not Sampled

N/A - Not Applicable

SB - Site Background

TABLE 2
Remedial Alternative Costs

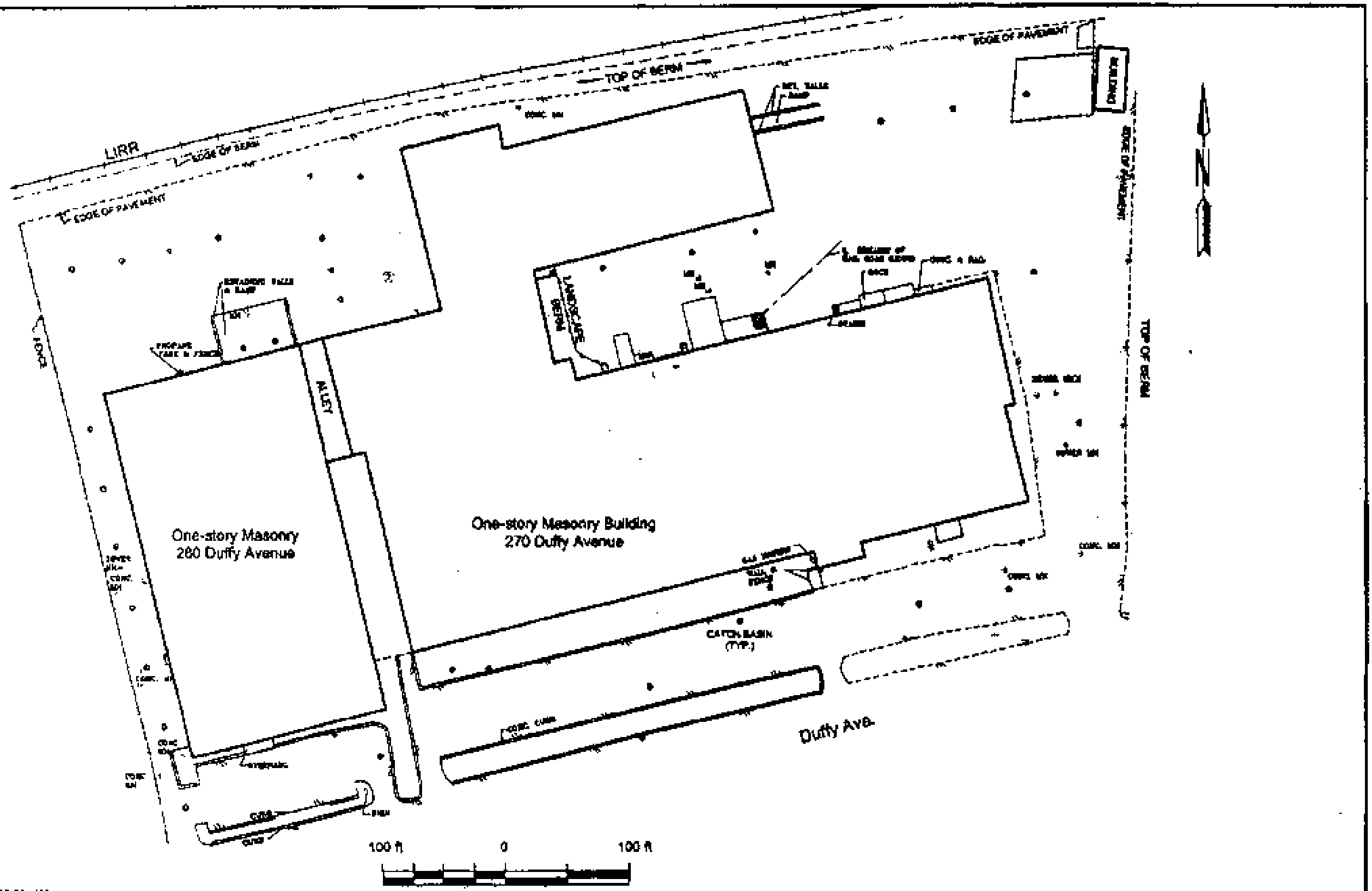
Remedial Alternative	Capital Cost	Annual OM&M	Total Present Worth
Alternative 1: No Action	$0	$0	$0
Alternative 2: Contaminated Dry Well Soil Removal, Storm Water Control and Groundwater Monitoring	$391,000	$19,000	$695,000
Alternative 2A: Contaminated Dry Well Soil Removal, Disposal Area Contaminated Soil Removal, Storm Water Control and Groundwater Monitoring	7,768,000	$19,000	8,072,000
Alternative **3:** Contaminated Dry Well Soil Removal, Contaminated Soil Removal Exceeding the NYSDEC RSCO Guidelines, Storm Water Control and Active Groundwater Remediation	$12,425,000	$494,000	$18,656,0



Map source USGS 7 5 minule sencs quadrangle. Hicksville.NY 1967, photorevised 1979.

0 2000 ft
SCALE IN FEET

LMS Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza Pearl River New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	Site Location Alsy Manufacturing - Oyster Bay, New York	Figure 1



Map source:
Affiliates & Deborah Lee King, L.S., 1996.

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LMS Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Site Sketch** **Alsy Manufacturing - Oyster Bay, New York**	**Figure 2**

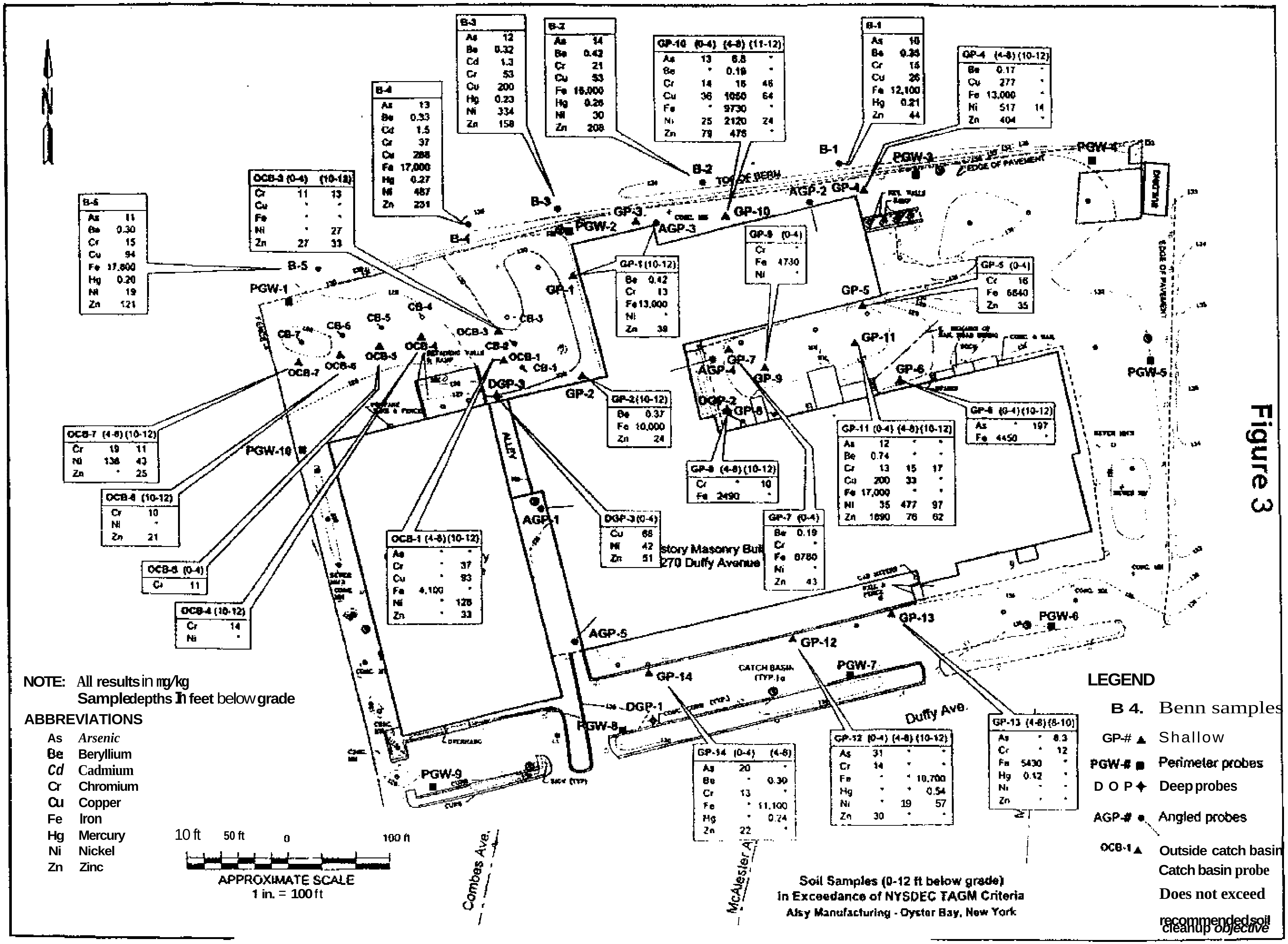

N
B-3 As 12 Be 0.32 Cd 1.3 Cr 53 Cu 200 Hg 0.23 Ni 334 Zn 158
B-2 As 14 Be 0.42 Cr 21 Cu 53 Fe 16,000 Hg 0.26 Ni 30 Zn 208
GP-10 (0-4) (4-8) (11-12) As 13 6.8 * Be * 0.19 * Cr 14 16 46 Cu 36 1050 64 Fe * 9730 * Ni 25 2120 24 Zn 79 475 *
B-1 As 10 Be 0.35 Cr 16 Cu 26 Fe 12,100 Hg 0.21 Zn 44
GP-4 (4-8) (10-12) Be 0.17 * Cu 277 * Fe 13,000 * Ni 517 14 Zn 404 *
B-4 As 13 Be 0.33 Cd 1.5 Cr 37 Cu 288 Fe 17,000 Hg 0.27 Ni 487 Zn 231
OCB-3 (0-4) (10-12) Cr 11 13 Cu * * Fe * * Ni * 27 Zn 27 33
B-5 As 11 Be 0.30 Cr 15 Cu 94 Fe 17,600 Hg 0.20 Ni 19 Zn 121
GP-1 (10-12) Be 0.42 Cr 13 Fe 13,000 Ni * Zn 39
GP-9 (0-4) Cr * Fe 4730 Ni *
GP-5 (0-4) Cr 16 Fe 6840 Zn 35
GP-2 (10-12) Be 0.37 Fe 10,000 Zn 24
GP-6 (0-4) (10-12) As * 197 Fe 4450 *
GP-11 (0-4) (4-8) (10-12) As 12 * * Be 0.74 * * Cr 13 15 17 Cu 200 33 * Fe 17,000 * * Ni 35 477 97 Zn 1890 76 62
GP-8 (4-8) (10-12) Cr * 10 Fe 2490 *
GP-7 (0-4) Be 0.19 Cr * Fe 6780 Ni * Zn 43
DGP-3 (0-4) Cu 68 Ni 42 Zn 51
OCB-7 (4-8) (10-12) Cr 19 11 Ni 136 43 Zn * 25
OCB-6 (10-12) Cr 10 Ni * Zn 21
OCB-5 (0-4) Cr 11
OCB-4 (10-12) Cr 14 Ni *
OCB-1 (4-8) (10-12) As * * Cr * 37 Cu * 93 Fe 4,100 * Ni * 126 Zn * 33
GP-14 (0-4) (4-8) As 20 * Be * 0.30 Cr 13 * Fe * 11,100 Hg * 0.24 Zn 22 *
GP-12 (0-4) (4-8) (10-12) As 31 * * Cr 14 * * Fe * * 10,700 Hg * * 0.54 Ni * 19 57 Zn 30 * *
GP-13 (4-8) (8-10) As * 8.3 Cr * 12 Fe 5430 * Hg 0.12 * Ni * * Zn * *
B-1 B-2 B-3 B-4 B-5 TOP OF BERM EDGE OF PAVEMENT
PGW-1 PGW-2 PGW-3 PGW-4 PGW-5 PGW-6 PGW-7 PGW-8 PGW-9 PGW-10
GP-1 GP-2 GP-3 GP-4 GP-5 GP-6 GP-7 GP-8 GP-9 GP-10 GP-11 GP-12 GP-13 GP-14
AGP-1 AGP-2 AGP-3 AGP-4 AGP-5 DGP-1 DGP-2 DGP-3
CB-1 CB-2 CB-3 CB-4 CB-5 CB-6 CB-7 OCB-1 OCB-3 OCB-4 OCB-5 OCB-6 OCB-7
ALLEY
story Masonry Bui
270 Duffy Avenue
CATCH BASIN (TYP.)
Duffy Ave.
Combes Ave.
McAlester Av.
NOTE: All results in mg/kg
Sample depths in feet below grade
ABBREVIATIONS
As Arsenic
Be Beryllium
Cd Cadmium
Cr Chromium
Cu Copper
Fe Iron
Hg Mercury
Ni Nickel
Zn Zinc
10 ft 50 ft 0 100 ft
APPROXIMATE SCALE
1 in. = 100 ft
Soil Samples (0-12 ft below grade)
in Exceedance of NYSDEC TAGM Criteria
Alsy Manufacturing - Oyster Bay, New York
LEGEND
B 4. Benn samples
GP-# Shallow
PGW-# Perimeter probes
DOP Deep probes
AGP-# Angled probes
OCB-1 Outside catch basin
Catch basin probe
Does not exceed
recommended soil cleanup objective
*

Figure 3

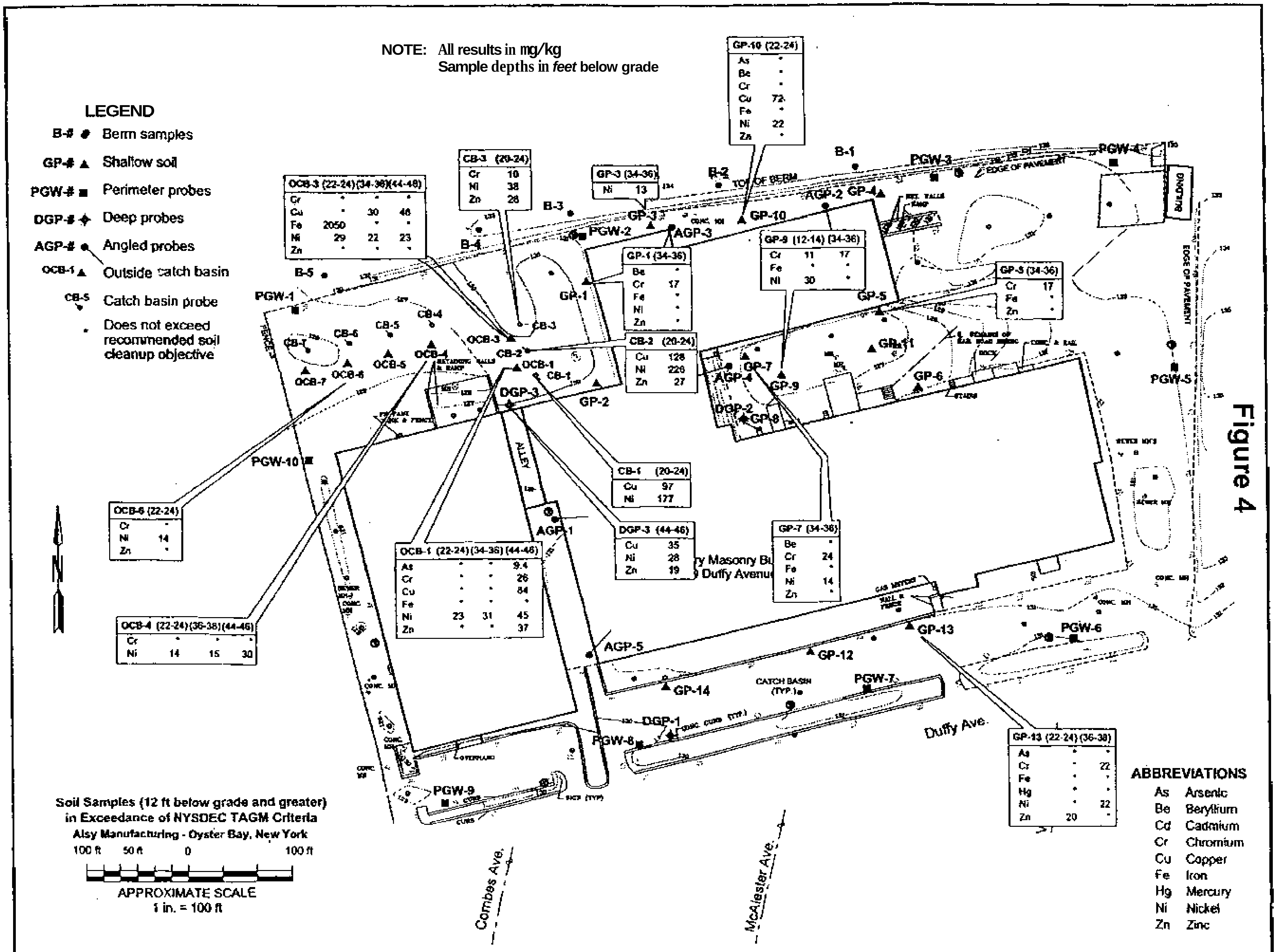

NOTE: All results in mg/kg
Sample depths in feet below grade
LEGEND
B-# Berm samples
GP-# Shallow soil
PGW-# Perimeter probes
DGP-# Deep probes
AGP-# Angled probes
OCB-# Outside catch basin
CB-# Catch basin probe
Does not exceed recommended soil cleanup objective
GP-10 (22-24) As * Be * Cr * Cu 72 Fe * Ni 22 Zn *
CB-3 (20-24) Cr 10 Ni 38 Zn 28
GP-3 (34-36) Ni 13
OCB-3 (22-24)(34-36)(44-46) Cr * * * Cu * 30 46 Fe 2050 * * Ni 29 22 23 Zn * * *
GP-1 (34-36) Be * Cr 17 Fe * Ni * Zn *
GP-9 (12-14) (34-36) Cr 11 17 Fe * * Ni 30 *
GP-5 (34-36) Cr 17 Fe * Zn *
CB-2 (20-24) Cu 128 Ni 226 Zn 27
CB-1 (20-24) Cu 97 Ni 177
DGP-3 (44-46) Cu 35 Ni 28 Zn 19
GP-7 (34-36) Be * Cr 24 Fe * Ni 14 Zn *
OCB-6 (22-24) Cr * Ni 14 Zn *
OCB-1 (22-24) (34-36) (44-46) As * * 9.4 Cr * * 26 Cu * * 84 Fe * * * Ni 23 31 45 Zn * * 37
OCB-4 (22-24)(36-38)(44-46) Cr * * * Ni 14 15 30
GP-13 (22-24) (36-38) As * * Cr * 22 Fe * * Hg * * Ni * 22 Zn 20 *
Masonry Bu
Duffy Avenu
ALLEY
TOP OF BERM
EDGE OF PAVEMENT
CATCH BASIN (TYP.)
Duffy Ave.
Combes Ave.
McAlester Ave.
Figure 4
N
ABBREVIATIONS
As Arsenic
Be Beryllium
Cd Cadmium
Cr Chromium
Cu Copper
Fe Iron
Hg Mercury
Ni Nickel
Zn Zinc
Soil Samples (12 ft below grade and greater) in Exceedance of NYSDEC TAGM Criteria
Alsy Manufacturing - Oyster Bay, New York
100 ft 50 ft 0 100 ft
APPROXIMATE SCALE
1 in. = 100 ft

FIGURE 5
REAR COURTYARD NICKEL AND SPLP NICKEL SOIL CONCENTRATIONS
FORMER ALSY MANUFACTURING SITE
HICKSVILLE, NEW YORK
(August/September 2001)

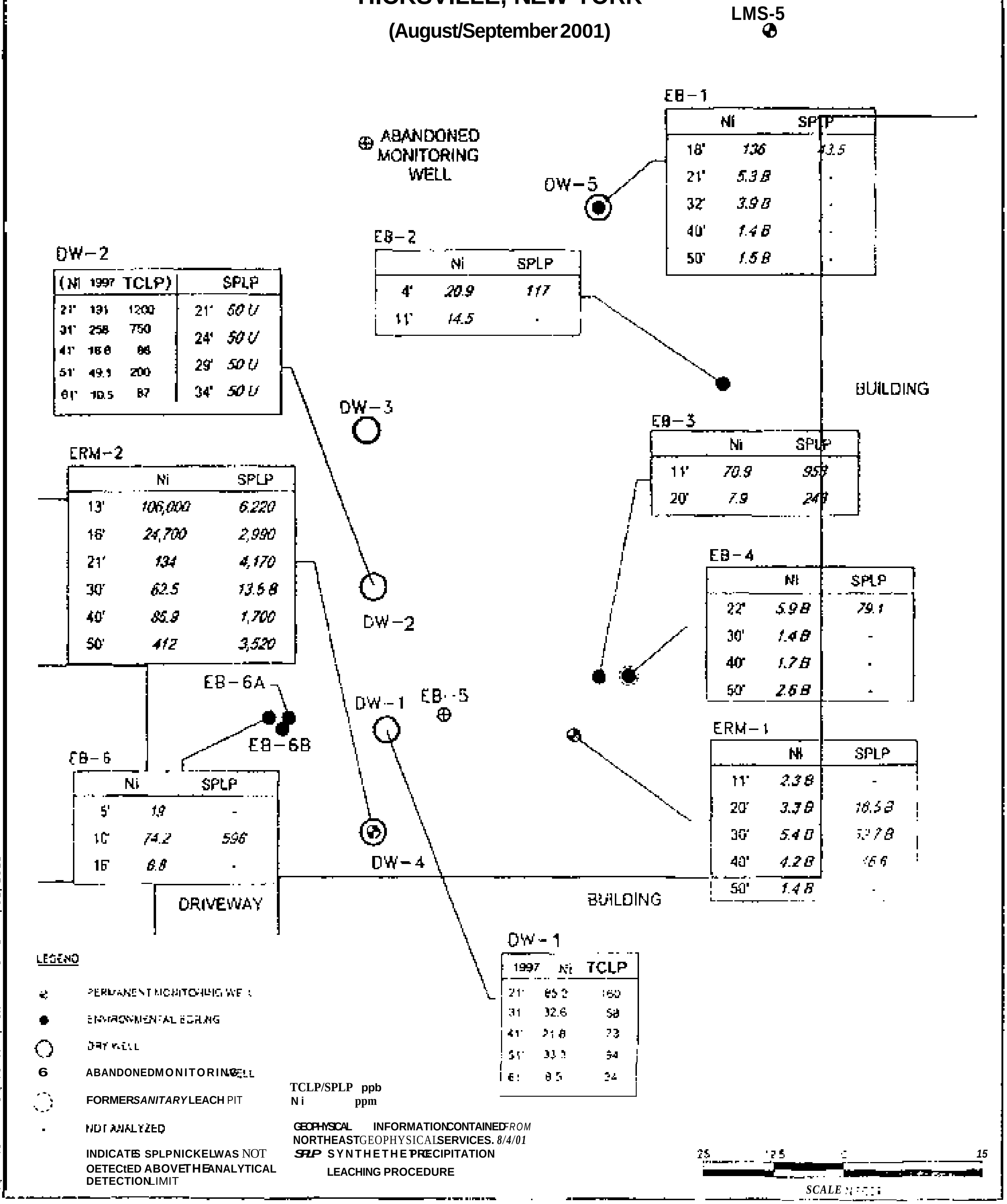


Figure 6
Rear Courtyard Soil Samples Exceeding the NYSDEC RSCO Guidelines for Inorganics
Former Alsy Manufacturing Site
Hicksville, NY

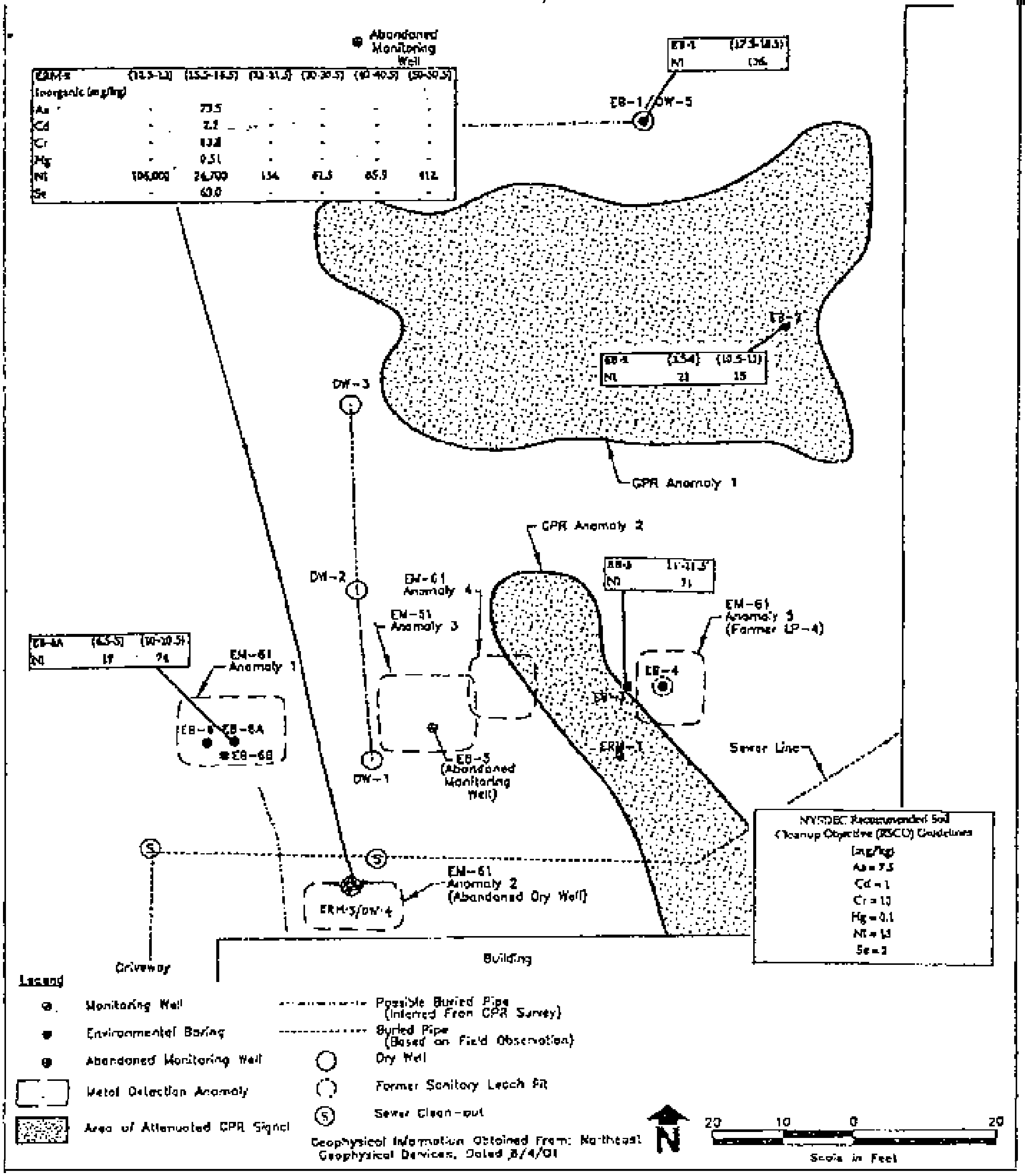
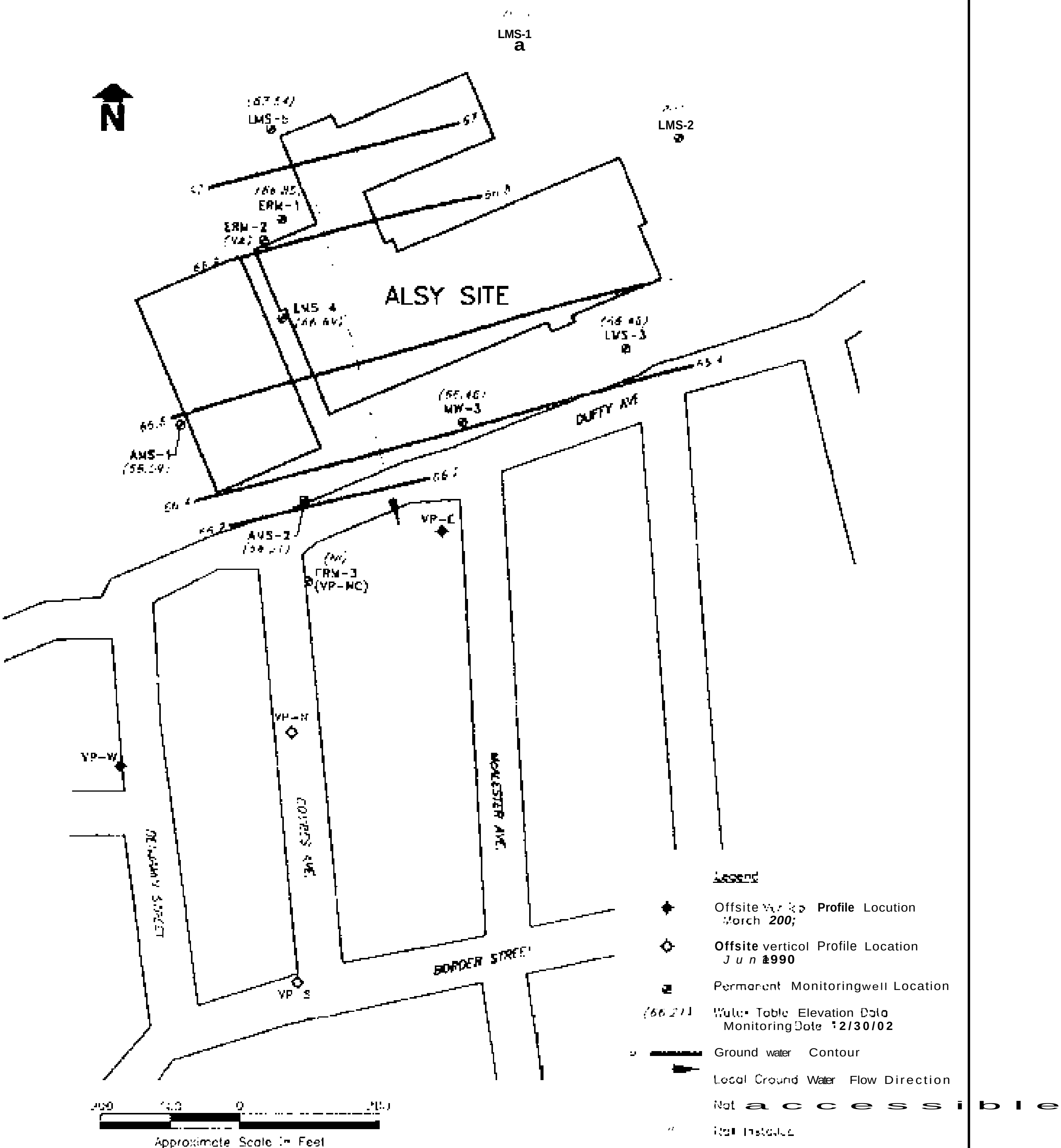


Figure 7
Ground Water Elevations and Flow Map
30 December *2002*
Former Alsy Manufacturing Site
Hicksvllle, New York



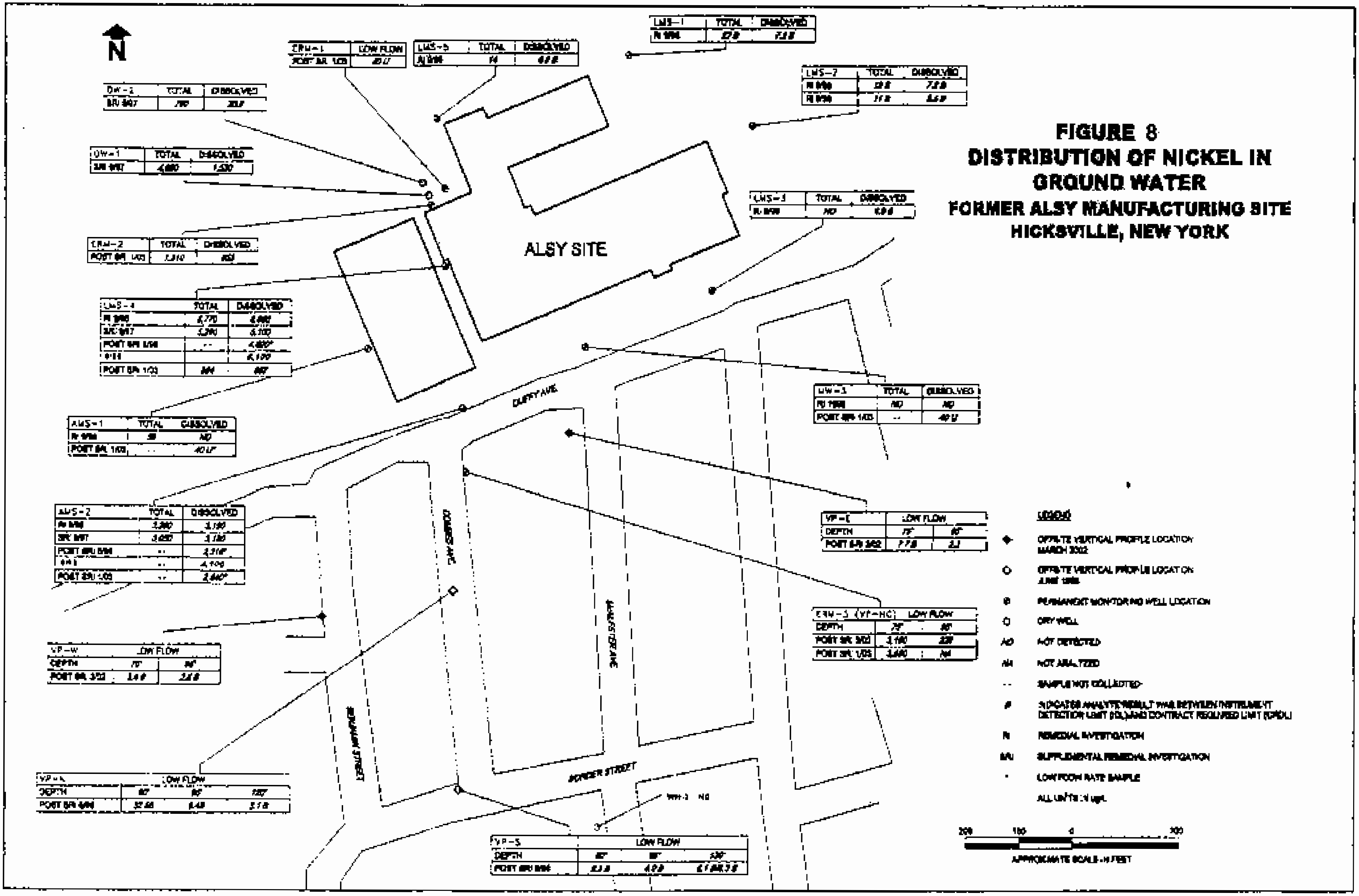


FIGURE 8
DISTRIBUTION OF NICKEL IN GROUND WATER
FORMER ALSY MANUFACTURING SITE
HICKSVILLE, NEW YORK

APPENDIX A .

Responsiveness Summary

RESPONSIVENESS SUMMARY

Alsy Manufacturing Site
Hicksville, Nassau County, New York
Site No. 1-30-027

The Proposed Remedial Action Plan (PRAP) for the Alsy Manufacturing, Inc. site, was prepared by the New York State Department of Environrnental Conservation (NYSDEC) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on February 8,2005. The PRAP outlined the remedial measure proposed for the contaminated soil, soil vapor, and groundwater at the Alsy Manufacturing, Inc. site.

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

A public meeting was held on March 1,2005, which included a presentation of the Remedial Investigation (RI) and the Feasibility Study (FS) as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the PRAP ended on March 8,2005.

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

COMMENT 1: Has nickel in the groundwater in the past at high levels affected our drinking water?

RESPONSE 1: Nickel was detected in the groundwater at high concentrations in the past, and continues to be detected at high concentrations. The nickel was only detected once in a public supply well south of the Alsy Site. That detection was in 1985 at a concentration one-fifth of the groundwater standard of 100 ppb.

COMMENT 2: Has the March 8 public comment period been extended?

RESPONSE 2: The public comment period has not been extended.

COMMENT 3: Were there any other public meetings or other outreach before this fact sheet?

RESPONSE 3: In addition to the March 1,2005 meeting and the fact sheet sent in advance of the meeting, a Press Release was issued to local media outlets on February 9,2005. Additionally, a fact sheet was issued in June 2001 for the Supplemental Investigation.

COMMENT 4: In terms of remediation, why wouldn't soil removal be a way to go?

RESPONSE 4: The selected alternative does include some excavation. The selected remedy targets the soil with the highest concentrations of nickel contamination and which are believed to contribute most to the dissolved nickel plume. Alternatives including greater volumes of soil removal were considered, however, these were not selected as the remedies which best satisfied all of the criteria identified for evaluation of the alternatives. The overall performance of these remedies would be similar, the site would still require institutional and engineering controls, but the short-term impacts and cost would be much greater.

COMMENT 5: Do you have a PRP? Will they assume the expense of the cleanup? Is the remedy that was chosen impacted by fact that the state may potentially have to pay for the cleanup?

RESPONSE 5: See Section 4 of the Record of Decision for a discussion of the site's enforcement history. Potentially Responsible Parties ("PRPs) are those who may be legally liable for the contamination at the Site and could include past or present owners and operators, waste generators and haulers. The NYSDEC executed a Remedial **Investigation/Feasibility** Study Order on Consent with a former owner of the Site, Surrey Corporation/Surrey Company. The NYSDEC will approach the identified PRP(s) and request they implement the selected remedy for the Site. The selected remedy was the remedy that best met all of the criteria to which all of the alternatives were compared and not because the State may pay for the cleanup.

COMMENT 6: Who is the primary responsible party and are they still in business?

RESPONSE 6: See Response Number 5.

COMMENT 7: Is it realistic to say that the state may have to undertake the cleanup?

RESPONSE 7: The NYSDEC expects the identified Responsible Parties to implement the selected remedy for the Site. If the Responsible Parties refuse to implement the selected remedy, the NYSDEC will undertake the remedial activity at the Site using the State Superfund money and will refer the matter to the New York State Attorney General's office to seek recovery of its costs.

COMMENT 8: Since the site is near the public wells, will the cleanup be mandatory? Was Alternative 2 and the active groundwater of Alternative **3** considered as a combined remedy for the site?

RESPONSE 8: A Site where the NYSDEC has determined a significant threat exists requires action to make it protective of human health and the environment. The fact that the site and the contamination are generally upgradient of public supply wells contributes to the determination that the site is a significant threat. Based on the results of the **RI/FS** and the criteria identified for evaluation of the alternatives, the NYSDEC has selected Alternative 2 to address the contamination at, and near, the Site. The combination of Alternative 2 plus an active groundwater remedy was not evaluated. It is anticipated that removal of the source material and the limiting of infiltration of precipitation will cause the concentrations of nickel in the groundwater plume to decrease in a reasonable time without the need for active groundwater remediation. The feasible active groundwater remedies would be very costly, would generate waste, and would use significant amounts of energy. Further, there would be short-term impacts to the neighborhood during construction of an active groundwater remedy. When weighing the selected remedy and active groundwater remediation against all of the criteria, it was determined that the selected remedy was preferred.

COMMENT 9: Has cyanide been assessed in soil and groundwater?

RESPONSE 9: Many samples of soil and groundwater were analyzed for cyanide. The results are reported in the remedial investigation report. Based upon the results, cyanide is not a contaminant of concern at this site.

COMMENT 10: Why is there no active groundwater remediation proposed with this remedy?

RESPONSE 10: See Response Number 8.

COMMENT 11: Has modeling been done on groundwater flow and direction?

RESPONSE 11: Some groundwater flow and direction modeling was done. The results of the modeling can be found in the feasibility study (FS).

COMMENT 12: What happens if there are no decreases in (groundwater) concentrations? Would you go back and find another remedy?

RESPONSE 12: Decreases in the nickel plume will be a performance requirement of the remedy. If the remedy fails to decrease the concentrations of dissolved nickel, then additional remedial measures would be considered.

COMMENT 13: Does the NYSDEC know where the depth and concentration levels of nickel at the leading edge of the plume are?

RESPONSE 13: The leading edge of the plume has not been defined areally or vertically. The remedy, however, calls for the installation of an additional well(s) further downgradient, between the existing off-site monitoring well and the public supply wells. The intent is to locate the new well(s) at or near the leading edge of the plume. The well location will be determined by vertical profiling along a transect perpendicular to the plume to make sure the plume is found. The nickel plume, where sampled, is shallow. The RI showed that the greatest concentrations of dissolved nickel are at the water table, approximately 65 feet below the ground surface. At 95 feet below the water table, the concentrations drop by more than 90%. The public supply wells intake is much deeper at around 460 feet below ground surface, or about 400 feet below the water table.

COMMENT 14: Where were the leaching pools and dry wells? Were they inside the building or outside the building?

RESPONSE 14: The leaching pools and dry wells which are the subject of the selected remedy were located outside and north of the building, between the building and the LIRR tracks at the western side of the 270 Duffy Avenue property.

COMMENT 15: Alsy was given a DEC permit that allowed for limited depositing of material into leaching pools and dry wells. What was the nature of their violations?

RESPONSE 15: The nature of the permit violations are shown in Tables 2-1 and 2-2 of the remedial investigation report. Generally, effluent concentrations of permitted metals and VOCs were periodically exceeded and, discharges of non-permitted VOCs were detected.

COMMENT 16: You plan on negotiating with the responsible party but basically only one party has been identified. Is there only one RP identified? What is your plan for these negotiations? What is the reason for the RP to do the required cleanup? What is the penalty if they don't? Does the State have the money to pay for this cleanup if negotiations do not produce an agreement? Will the state get reimbursed? How much time before negotiations are concluded, and when will cleanup start? Will any cleanup be done in front of the building or on the side?

RESPONSE 16: Refer to Response Number 6 above for the range of parties that can be held liable for the contamination at the Site. The NYSDEC will make reasonable efforts to secure voluntary agreement from the identified Responsible Parties by diligently conducting consent order negotiations. If the NYSDEC is successful in obtaining voluntary agreement fiom the identified Responsible Parties, the NYSDEC expects the work plan to implement the selected remedy to be submitted to the NYSDEC within sixty (60) Days after the effective date of the fully executed consent order. The reason a Responsible Party agrees to implement the selected remedy would be beyond the scope of this document. The State does have the money to implement this remedy if the negotiations do not result in a consent order with the Responsible Party. If the State has to implement the remedy, the State would seek recovery of its costs. There are several steps in the process to implement the selected remedy. If negotiations are concluded successfully and a consent order is executed with a Responsible Party, a limited pre-design study is needed to acquire technical data so that the remedy can be properly and accurately designed. After the design is completed, then the remedial action can begin. The negotiations, the pre-design investigation, and the design could each take 3-6 months. Consequently, nine to eighteen months until the commencement oftheremedial action is a realistic estimate. No remedial action is planned in front of the building.

COMMENT 19: Where is the plume going, in what direction?

RESPONSE 19: The plume leaves the site and is migrating generally just east of due south.

COMMENT 20: How long will cleanup take?

RESPONSE 20: Once the construction of the remedy starts, it should take several months to complete. The groundwater monitoring program will be designed as part of thesite management program consistent with NYSDEC guidance. Generally, groundwater monitoring will continue as long as necessary to show that the selected remedy is effective. Institutional and engineering controls (IC/ECs), such as the environmental easement, site management plan, maintenance of the asphalt, and site use restrictions, will be required.

COMMENT 21: How will the cleanup be conducted so that it does not impact nearby residential neighborhoods?

RESPONSE 21: Most of the construction (sheet piling, soil excavation, etc.) will occur between the site buildings and the LIRR tracks. Some drilling to install monitoring wells will be required south of the site in the residential neighborhood. Part of the reason this remedy was selected was because it has the least impacts to the neighborhood. For the required work, methods typicallyemployed to minimize impacts include active dust control and monitoring to verify that there are no particulate (dust) or volatile organic impacts (including odors) to the neighborhood.

COMMENT 22: What will be done about soil excavation in the front of the buildings?

RESPONSE 22: There is no excavation planned for the front of the building as part of this remedy.

COMMENT 23: Have cases of illnesses been documented in the area. Has a cancer concentration study been conducted?

RESPONSE 23: No site-related illnesses have been determined as a result of the site. No known exposures to site-related contamination have been documented, therefore, no cancer incidence study related to this site was warranted.

COMMENT 24: Estimate of the cost to remove the source of the contaminated soil?

RESPONSE 24: The excavation part of the remedy focuses on contaminated soil which is considered to be the primary source of the nickel plume. It is estimated that the excavation portion of the remedy, including preparation, excavation, disposal, and restoration is approximately $126,000. This cost does not include design costs, groundwater monitoring costs, or any of the institutional and engineering control costs.

COMMENT 25: Why wasn't source removal of the material done right away on this project?

RESPONSE 25: In the past, prior to the remedial investigation, some source removal was performed. This source removal consisted of excavation and disposal of soil from some of the leaching pools, as directed by a summary abatement order from the NYSDEC. The main source of the plume was only identified in 2001. The responsible party wanted to expedite the remedy selection phase and address the entire remedy at the same time. Because there was no time-critical need to perform an Interim Remedial Measure (IRM) given that the remedy selection process was imminent, the NYSDEC did not ask the PRP to implement an IRM.

COMMENT 26: How will the environmental easement stop or control future uses presently allowed for this type of zoned site? The town of Oyster Bay allows these uses now for this site.

RESPONSE 26: The environmental easement will be recorded on the deed for the property and will run with the land until no longer needed. Part of the institutional controls will require that the property owner provide an institutional and engineering controls certification. A requirement of the certification will be to document that the building is being used in accordance with the environmental easement. The restrictions will specify particular uses or classes of uses that are restricted at the site independently from the local zoning. Therefore, even if the zoning changes, the use restriction will remain in place.

COMMENT 27: How do you prevent future activities such as daycare center, medical building from being sited at this building?

RESPONSE 27: See Response Number 26.

COMMENT 28: A redevelopment on the north side of the railroad tracks is currently proposed. This area is now industrial but it is proposed to be residential. Would this proposal be impacted by the cleanup plan for this site?

RESPONSE 28: The remedy should not impact development off site.

COMMENT 29: The material that is being left behind. What sort of impacts will that have? Is this o.k.?

RESPONSE 29: The only material being left behind will be residual metal contamination. The proposed institutional and engineering controls will ensure that the remedy remains protective. Further, the selected remedy targets removal of the most contaminated soil and reduction of nickel leaching to the groundwater.

COMMENT 30: In Jericho Gardens a cancer study was conducted. Some of these elevated levels of cancer have been attributed to the recharge basin. Is there a similar connection at this site?

RESPONSE 30: The exposure scenarios are different for the Jericho Gardens area and the Alsy Manufacturing area. The belief that elevated levels of cancer occurred in the Jericho Gardens area is based on the belief that the Verizon site contaminated the recharge basin with radioactive materials. No radioactive contamination was detected in soils samples collected from the recharge basin. There is no known use of radioactive materials during the manufacturing activities at the Alsy site. No radioactive contamination is associated with the Alsy Manufacturing site.

COMMENT 31: Perchloroethene contamination at the site. Has it been determined? Was this taken into account in the Feasibility Study? How about other VOCs?

RESPONSE 31: During the remedial investigation, samples were analyzed for an extensive list of VOCs which were taken into account in the feasibility study. Presently the only suspected VOCs on site that may require remediation were found in the soil vapor-beneath the 270 building. The remedy includes confirming the concentration of VOCs immediately beneath the floor slab of the 270 building and, if necessary, construction of a soil vapor extraction system to control and remove the VOCs.

COMMENT 32: Did you see any underground storage tanks when you were doing your VOC investigation? Did you do a GPR study on the site?

RESPONSE 32: Ground Penetrating Radar (GPR) studies were performed twice at the site during the investigation. No underground storage tanks (USTs) were found.

COMMENT 33: What are the potential health impacts from inhalation of dust, vapors when work at the site is being done. Has air been tested to see if anything is coming out? What impacts are people working in the building now at risk for?

RESPONSE 33: The NYSDOH requires a community air monitoring plan (CAMP) when any ground-intrusive activity is conducted at a site to prevent residents from inhalation exposures to dust or vapors when excavation work is being done. Currently, there are no known exposure pathways for inhalation of site-related contamination for residents or for individuals working within the former Alsy facility.

COMMENT 34: Has any work been done in investigating whether or not there is a basement in the building at this site? Have you looked at floor drains at this site?

RESPONSE 34: The NYSDEC is not aware of a basement or floor drains in these buildings. Sampling during the remedial investigation surrounded the buildings and there are no indications of sources of contamination beneath the buildings.

COMMENT 35: Was there any contamination found as a result of the 1980's vapor degreaser study? Would we consider going deeper to look for VOCs.

RESPONSE 35: The investigation in the area of the former vapor degreasers occurred in the mid 1980s. VOC contamination was confirmed in the soil and groundwater beneath the degreasers. Consequently, the soil, soil vapor, and groundwater were sampled at various depths to evaluate vertical migration of VOCs. The information from the remedial investigation shows no VOC contaminated groundwater plume and further investigation is not warranted.

COMMENT 36: When you do the soil remediation what sort of impacts will that have on the surrounding community, specifically to children at the Old Country Road Elementary School. How will you protect them?

RESPONSE 36: The construction of the remedy is not expected to impact the surrounding community, including the Old Country Elementary School. There will be some noise associated with the drilling, and a limited number of dump trucks will leave the site with the contaminated soil. Standard techniques used at similar remediation sites to control potential dust and odors will be employed. Active dust control will be utilized as necessary to prevent metals contaminated dust from leaving the area of the excavation. This will be confirmed by real-time air monitoring. See also Response Number **33.**

COMMENT 37: Will you build a tent to control dust particles like what was done at the Sylvania site?

RESPONSE 37: The Sylvania Site was not a typical remediation excavation. An excavation of the type and size planned for the Alsy Site does not require a tent to be protective. A tent is not anticipated for this work. Conventional construction techniques will be used to ensure a protective excavation.

COMMENT 38: Are kids at risk for potential dermal contact in the area that is not being excavated near the railroad tracks?

RESPONSE 38: Low levels of inorganics (metals) contamination exist in the berm in the back of the property. Any trespasser or child could have dermal contact with the contamination, but the levels that exist in the berm do not constitute a health risk or concern. The proximity of the berm to the railroad tracks and the active gravel pit also reduce the attractiveness of that portion of property to trespassers.

COMMENT 39: How do you plan on controlling trespassing activities by young people?

RESPONSE 39: Controlling trespassing activities is not an element of this remedy. Any areas of the site where direct contact with the waste is a concern will be addressed as part of the remedy.

COMMENT 40: Would you consider blacktopping the berm?

RESPONSE 40: Blacktopping the berm is not a component of the selected remedy since the New York State Department of Health has evaluated the concentrations of residual metals in the berm and found that they are not a human exposure concern.

COMMENT 41: Where is the contaminated soil being shipped to?

RESPONSE 41: The disposal must comply with all federal, State, and local regulations. The disposal facility will be selected at the end of the design phase.

John M. Ellsworth, Director of Planning and Environmental Services at Cashin, Spinelli & Ferretti, LLC (a technical consultant to the Town Department of Environmental Resources) submitted a letter dated March 3,2005 on behalf of the Supervisor of the Town of Oyster Bay which included the following comments:

COMMENT 42: What is the anticipated scheduling for commencing and completing the removal of contaminated soils from the Alsy site under the PRAP? At what point in time would the Department of Environmental Conservation make the decision to directly undertake the remedial action plan if it appears that cooperation from the responsible parties is not forthcoming?

RESPONSE 42: See the Response Number 17. If it is determined that the PRP will not undertake the remediation, the NYSDEC would implement the remedy using State funds and would seek to recover funds from responsible parties.

COMMENT 43: Have investigations been completed to determine whether there are nearby private wells in a down-gradient direction which may be adversely impacted by the groundwater contamination emanating from the Alsy site? What were the findings of any such investigations? Although these wells may not be used directly for human consumption, they could serve for imgation purposes, possibly including vegetable gardens, and could pose the potential for human exposure to site-generated contaminants.

RESPONSE 43: A well search was performed in 2003. The results are reported in the feasibility study. Only one private well was identified within one mile of the site. This well is believed to be out of service and has not been inspected by Nassau County since 1967. This well could not be physically located.

COMMENT 44: What is the anticipated capital cost for excavating the 115 cubic yards (cy) ofhighlycontaminated soil and backfilling the affected area with clean fill under the PRAP? Has due consideration been given to the possible implementation of an Interim Remedial Measure (IRM) to remove this small amount of waste residue as quickly as possible, without waiting from the full remedial action plan to be negotiated, investigated, and implemented?

RESPONSE 44: See responses to comments 24 and 25.

COMMENT 45: The account of the Remedial History in Section 3.2 of the PRAP report indicates that, although certain testing has been undertaken, the only actual cleanup activity completed to date on the Alsy site is that in 1985 "contaminated leaching pools were reportedly pumped out and sludge was removed from these pools and disposed off-site." The use of the word "reportedly" in this context suggests uncertainty as to whether this work actually occurred. Clarification is requested to resolve this apparent ambiguity.

RESPONSE 45: This work was done without NYSDEC oversight. Documents in the NYSDEC's records indicate that this work was completed, including correspondence and disposal manifests. Additionally, data collected during the remedial investigation support the conclusion that the work was completed.

COMMENT 46: What is the anticipated time period before the contaminated groundwater plume from the Alsy site would reach the public water supply wells if no mitigative action were taken?

RESPONSE 46: The feasibility study groundwater modeling shows the predicted plume extent as of January 2003. That model also predicted that the concentration of nickel in the public supply wells would never exceed the groundwater standard for nickel even if all of the dissolved nickel mass were pulled into the public supply well.

COMMENT 47: According to the PRAP report, an environmental easement would be placed upon portions of the site under Alternatives 2 and 2A to "restrict the site to commercial or light industrial uses (as per local zoning), but not including residential, daycare or medical uses." This wording appears to suggest that the existing zoning of the site would preclude these particular uses. However, hospitals, convalescent or nursing homes, medical offices, and daycare centers all are permitted as-of-right uses in the parcel's Light Industrial zoning district. How, specifically, would these easements be implemented and enforced? Would the responsibility for ensuring adherence to these restrictions fall upon the Town of Oyster Bay?

RESPONSE 47: The specifics of the environmental easement will be determined during the remedial design and remedial action phases of the project. The use restrictions and other aspects of the engineering control will be implemented and enforced via the certification process described in Response Number 26. It will be the NYSDEC's responsibility to ensure adherence to the institutional and engineering controls which are specific to this remedy and are in addition to existing institutional controls (i.e. zoning, potable well prohibition). Local municipalities also have enforcement authority under Article 71, Title 36 of the ECL.

COMMENT 48: Section **8** of the PRAP report concludes that Alternative 2 "would require more institutional and engineering controls than Alternatives 2A and **3** to ensure the long-term effectiveness and permanence of the remedy." Overall, however, the PRAP report does not adequately describe differences in the extent of institutional and engineering controls that would be included under the three remediation alternatives. For example, Section 7.1 of the report indicates that asphalt pavement would have to be maintained under Alternatives 2, 2A, and 3, but does not define the spatial extent of pavement that would be required for each of these alternatives.

RESPONSE 48: The asphalt, as an engineering control, can prevent direct contact with contaminated soil (in conjunction with the site management plan) and/or reduce infiltration. Each alternative could rely upon the asphalt to a greater or lesser degree for either protecting against direct contact or minimizing infiltration, depending upon the volume of soil excavated and the results of end-point confirmation sampling following the excavation. Under Alternative 2, no shallow excavation is contemplated. Therefore, the site management plan, institutional control and asphalt pavement engineering control will cover greater area of site. Alternative 2A would excavate shallow soil in three discreet areas to a depth which is below most anticipated future construction work such as building footings and utilities, and therefore would reduce the soil volumes which are governed by the site management plan. The area of asphalt as an engineering control, however, could vary depending upon the results of the confirmation samples. Alternative 3 would further reduce the soil volumes governed by the site management plan, but again, the area of asphalt could depend upon the amount of infiltration control required. The details of the engineering and institutional controls will be developed in the remedial design.

COMMENT 49: The PRAP report appears to indicate that Alternative 2A calls for an asphalt cap over the areas of contaminated soil excavation. If this is true, why would an impervious cover be needed in areas where contaminated soils are being removed down to a depth of 15 feet below existing grade? Under Alternative 3, all soils on the site that exceed standards, criteria and guidance (SCO) would be excavated to a depth of 15 feet below existing grade, "and the site would be re-paved with asphalt." Why would an impervious cover still be needed under this alternative, given the extent of contaminated soil removal that would be involved?

RESPONSE 49: Given the surface encumbrances such as the site buildings and the adjacent railroad tracks, 15 feet below grade was considered to be the practical limit for excavation by conventional means. Any contamination deeper than 15 feet which could leach contaminants to the groundwater would have to be isolated from infiltration. The cover would still be necessary for reduction of infiltration, but would no longer be necessary for elimination of the direct contact pathway. It is possible that, based upon confirmatory sampling following excavation, that the area of impervious cover which would be considered an engineering control could be reduced. For estimating purposes, it is assumed that reduction of infiltration would still be necessary, particularly in areas where the disposal was to leaching pools.

COMMENT 50: What is the basis of the large escalation of the estimated capital cost between Alternatives 2 and 2A, and between Alternatives 2A and **3?** The only apparent difference between the remediation work under Alternative 2 versus Alternative 2A is that the latter scenario includes the excavation of an additional 26,385 cy of contaminated soil and backfilling of the affected areas with clean soil. With a capital cost differential of $7,377,000, this translates to approximately $280/cy for additional soil removed under Alternative 2A, which seems to be high.

The PRAP report indicates that the difference in capital cost between Alternatives 2A and **3** is $4,657,000, which would provide for an additional 18,100 cy of soil excavation and backfilling, as well as the construction of a groundwater extraction and treatment system. However, using the $280/cy soil remediation cost derived for Alternative 2A, the remediation of an additional 18,100 cy of soil under Alternative 3 would cost more than $5 million, which is greater than the total increase in cost between Alternatives 2A and 3, without even accounting for the inclusion of a groundwater remediation system in the latter scenario. This apparent discrepancy should be explained.

RESPONSE 50: For consistency, the costs for Alternative 2A were developed using the unit costs that were presented for Alternative 3 in Appendix F of the feasibility study. The costs include not just excavation and backfilling, but also, sheet piling, disposal, sampling, contingencies, restoration, and additional dry well replacement. Due to significant surface encumbrances, extensive sheet piling would be required to perform the excavation adjacent to the buildings and railroad tracks. Also, the greater the area excavated, the greater the number of end-point samples.

The capital cost of the groundwater remediation system, per the feasibility study is approximately 1.5 million dollars. This leaves approximately 3 million dollars to cover the difference in soil excavation capital costs. Using a crude overall unit cost method to extrapolate costs is not as precise as the detailed engineers estimate that was performed to generate the Alternative 2A costs. While the NYSDEC used the same unit costs to develop Alternative 2, the NYSDEC used engineering judgement to estimate capital costs for Alternative 2 which could differ slightly from those estimates used to prepare Alternative 3.

COMMENT 51: It is requested that due consideration be given to expanding the proposed remedy by removing the unpaved berm containing contaminated soils at the northerly end of the site and extending the impervious cap to cover this area.

RESPONSE 51: The NYSDEC and the NYSDOH have looked closely at the low levels of inorganics (metals) contamination in the berm in the back of the property. While anyone could have dermal contact with the contamination, the levels that exist in the berm do not constitute a health risk or human exposure concern. All areas of the site where direct contact with the waste is a concern are addressed as part of the remedy. Removal of the berm was considered and included in the soil excavation volume calculations of Alternative 2A.

APPENDIX B

Administrative Record

Administrative Record

Alsy Manufacturing Site
Hicksville, Nassau County, New York
Site No. 1-30-027

Proposed Remedial Action Plan for the Alsy Manufacturing, Inc. site, dated January 2005, prepared by the NYSDEC.

2. Order on Consent, Index No. W1-0579-92-01, between NYSDEC and Surrey Corporation and Surrey Company, executed on March 28, 1995.

3. "Phase 1 Investigation", June 1987, Prepared by EA Science and Technology.

4. "Site Investigation Work Plan", January 1990, Prepared by Fred C. Hart Associates.

5. "Final Draft Site Inspection Prioritization Report", Volume 1 of 2, March 1992, United States Environmental Protection Agency.

6. "Final Draft Site Lnspection Prioritization Report", Volume 2 of 2, March 1992, Prepared by United States Environmental Protection Agency.

7. "Final Expanded Site Inspection Report" Volume 1 of 3, September 1993, Prepared by NUS Corporation.

8. "Final Expanded Site Inspection Report", Volume 2 of 3, September 1993, Prepared by NUS Corporation.

9. "Final Expanded Site Lnspection Report", Volume 3 of 3, September 1993, Prepared by NUS Corporation.

10. "Remedial Investigation Feasibility Study Work Plan and Citizen Participation Plan Final Draft", March 1996, Prepared by Surrey Corporation and Surrey Company.

11. "Remedial Investigation Report", Volume 1 of 2, December 1997, Prepared by Surrey Corporation and Surrey Company.

12. "Remedial Investigation Report", Volume 2 of 2, December 1997, Prepared by Surrey Corporation and Surrey Company.

13. "Supplemental Remedial Investigation Report", December 1997, Prepared by Surrey Corporation and Surrey Company.

14. "Work Plan for Additional Activities", April 2001, Prepared by Environmental Resources Management.

15. Letter dated June 4,2001, Kevin Carpenter, New York State Department of Environmental Conservation, Conditional Approval of the Work Plan for Additional .Activities.

16. "Feasibility Study Report", August 1998 Prepared by Environmental Resources Management.

17. "August 1998 Progress Reports", September 1998, Prepared by Environmental Resources Management.

18. "Feasibility Study Report", December 2003, Prepared by Environmental Resources Management.

19. Letter dated March 3,2005, From John M. Ellsworth, Cashin, Spinelli, & Ferretti