

RECORD OF DECISION

Operable Unit 2

Goldisc Recordings, Inc.

Village of Holbrook, Town of Islip, Suffolk County, New York



September 1998

RECORD OF DECISION  
DECISION SUMMARY

Goldisc Recordings, Inc.

Village of Holbrook, Suffolk County, New York

United States Environmental Protection Agency  
Region II  
New York, New York  
September 1998

## DECLARATION FOR THE RECORD OF DECISION

### **SITE NAME AND LOCATION**

Goldisc Recordings, Inc.  
Village of Holbrook, Town of Islip, Suffolk County, New York

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

This Record of Decision (ROD) presents the selected remedy for the second operable unit (OU-2) for the Goldisc Recordings Superfund site (Site), located in the Village of Holbrook, Town of Islip, Suffolk County, New York, which was chosen in accordance with the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended, 42 U.S.C. §§ 9601-9675, and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300. The information supporting this remedial action decision is contained in the Administrative Record for the Site. The Administrative Record index is attached (Appendix III).

The New York State Department of Environmental Conservation (NYSDEC) concurs with the selected remedy (Appendix IV).

### **DESCRIPTION OF THE SELECTED REMEDY - MONITORED NATURAL ATTENUATION**

This operable unit represents the second of two planned operable units for the Site. It addresses the fate and transport of the nickel contamination in the groundwater emanating from the Site. The U.S. Environmental Protection Agency (EPA), in consultation with the State of New York, has determined that Monitored Natural Attenuation is an appropriate remedy for the Site because groundwater contamination has declined significantly in recent years and does not pose a significant threat to human health or the environment. Monitored Natural Attenuation would use natural physical processes to restore groundwater at the Site.

A monitoring program will be developed subsequent to the issuance of this ROD in order to provide a profile of future levels of the nickel contamination at the Site.

**DECLARATION**

In accordance with the requirements of CERCLA, as amended, and the NCP, it has been determined that the selected remedy, Monitored Natural Attenuation, is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial action and is cost-effective. The principal threats at the Site have been addressed by the source control OU-1 remedial action.

This ROD documents that all construction activities at the Site have been completed in accordance with Close Out Procedures for National Priorities List Sites - August 1995 (OSWER Directive 9320.2-09).

There is no construction associated with the groundwater remedy. The groundwater monitoring performed to date provides a valid representation of past and present groundwater conditions at the Site and demonstrates that cleanup goals should be achieved within the time period of the selected remedy monitoring program. The scope of this monitoring program is expected to be similar to that of the previous monitoring.

The contaminated surface soils and dry well sediments were cleaned up through a remedial action, identified in the 1995 ROD. Information on that remedial action can be found in the January 1998 Remedial Action Report, contained in the Administrative Record for the Site. Since the implementation of a contingency remedy is unlikely, no further remedial action response is anticipated at the Site. Therefore, the Site now qualifies for inclusion on the Construction Completion List.

  
\_\_\_\_\_  
Jeanne M. Fox  
Regional Administrator

9/30/98  
\_\_\_\_\_  
Date

RECORD OF DECISION  
DECISION SUMMARY

Goldisc Recordings, Inc.

Village of Holbrook, Suffolk County, New York

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

September 1998

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
SITE NAME, LOCATION AND DESCRIPTION . . . . .	1
SITE HISTORY AND ENFORCEMENT ACTIVITIES . . . . .	2
HIGHLIGHTS OF COMMUNITY PARTICIPATION . . . . .	4
SCOPE AND ROLE OF OPERABLE UNIT . . . . .	4
SUMMARY OF SITE CHARACTERISTICS . . . . .	4
SUMMARY OF SITE RISKS . . . . .	9
REMEDIAL ACTION OBJECTIVES . . . . .	12
DESCRIPTION OF REMEDIAL ALTERNATIVES . . . . .	13
SUMMARY OF COMPARATIVE ANALYSIS OF ALTERNATIVES . . . . .	15
DESCRIPTION OF THE SELECTED REMEDY . . . . .	19
STATUTORY DETERMINATIONS . . . . .	20
SITE CONSTRUCTION COMPLETION . . . . .	21
DOCUMENTATION OF SIGNIFICANT CHANGES . . . . .	22

ATTACHMENTS

- APPENDIX I. FIGURES
- APPENDIX II. TABLES
- APPENDIX III. ADMINISTRATIVE RECORD INDEX
- APPENDIX IV. STATE LETTER OF CONCURRENCE
- APPENDIX V. RESPONSIVENESS SUMMARY

## SITE NAME, LOCATION AND DESCRIPTION

The Goldisc Recordings Superfund site (Site) is located at the northeast corner of Veterans Memorial Highway and Broadway Avenue in the Village of Holbrook, Town of Islip, New York. The 34-acre Site consists of two one-story buildings that occupy six acres, three acres of pavement surrounding the buildings, and twenty-five acres of undeveloped land (see Figure 1).

Current zoning at the Site is commercial/industrial. The area surrounding the Site is primarily residential and mixed forest, with some commercial and light industrial development. The Village of Holbrook has an estimated population of 20,525. The Site is bordered to the north and east by mixed forest, to the south by Veterans Memorial Highway, and to the west by Broadway Avenue (see Figure 2).

A municipal water supply wellfield, which provides drinking water for the Suffolk County Water Authority (SCWA), is located approximately 1,200 feet south of the Site on Church Street. SCWA monitors these wells on a frequent basis. All residents of the Town of Islip depend on groundwater as their potable water supply. The closest dwellings are located about 700 feet north of the Site. A New York State (NYS) and federally regulated wetland is located approximately one-half mile south of the Site. A Sunoco gasoline station is located on the southeast corner of Veterans Memorial Highway and Broadway Avenue, just south of the Site. A groundwater remediation system is currently in operation at the station which addresses a release of petroleum product to the groundwater.

Three distinct aquifers underlie the Site. At the base of the system is the Lloyd Aquifer, which exists under highly confined conditions between the relatively impervious bedrock below and the Raritan Confining Unit above. The Lloyd is not utilized for water supply in the Holbrook area because of its extreme depth (>1000 feet) and its susceptibility to salt-water intrusion from the Great South Bay.

The second unit or Magothy Aquifer lies atop the Raritan Confining Unit and is widely used for water supply purposes. The third unit and most shallow of the aquifers is the Upper Glacial Aquifer, which is an unconfined aquifer and is highly susceptible to contamination from domestic septic systems and other manmade pollution sources. This unit is the most permeable of the aquifer units underlying the Site. The thickness of the Upper Glacial aquifer underlying the Site varies widely but is approximately 135 feet. Depth from the surface to the water table ranges from 18 to 32 feet across the Site. Figure 3 shows a hydrogeologic cross section of the study area.

The three Church Street (CS) Public Water Supply Wells (CS-1, CS-2 and CS-3) are located in a cluster approximately 1200 feet south of the Site. CS-1 and CS-2 are both screened in the deeper portion of the Upper Glacial Aquifer. CS-3 is screened in the mid-Magothy Aquifer.

The groundwater flow direction in the northern portion of the Site is generally south to southeast. However, the southeast portion of the Site shows a shift in flow direction to the southwest in response to the radial drawdown resulting from the pumping operations of the CS wellfield. The groundwater flow velocity ranges from 1.3 to 2.9 feet/day, depending on the pumping operations at the wellfield.

The natural hydrologic system in the Holbrook area may be considered to be in a general state of equilibrium with precipitation equal to the sum of surface water runoff, groundwater recharge and evapotranspiration. Precipitation in the Holbrook area averages 46 inches a year. Since the study area is not heavily urbanized, it may be assumed that surface run-off at the Site approximates natural conditions.

#### **SITE HISTORY AND ENFORCEMENT ACTIVITIES**

From 1968 to 1990, the two buildings were occupied by several different companies that generated and stored hazardous substances on the Site. These companies included Goldisc Recordings, Inc. (Goldisc), which produced phonographic records; ElectroSound Group, Inc. (ElectroSound), a company that manufactured audio visual and optical devices; and Genco Auto Electric, Inc. (Genco), which rebuilt automotive engine parts. The First Holbrook Company (First Holbrook) owned the property from 1973 to 1985. In 1985, the Red Ground Corporation became the owner of the property. In 1989, Red Ground Corporation sold the property to a partnership named Red Ground Company. In February 1997, Red Ground Company transferred its interest in 717 and 725 Broadway Avenue, Islip, New York to First Industrial, L.P., a limited partnership. The current occupants of the Site buildings are dry goods merchants and do not perform any manufacturing on-site.

The substances known to have been disposed of on the Site between 1968 and 1990 include wastewater from the various production processes, waste oils, metals, solutions containing high concentrations of xylene and trichloroethylene and other degreasing agents. These substances were reportedly discharged



to the environment through dry wells, leaching pools, storm drains and leaking storage containers located around the buildings.

Since the late 1970s, the Suffolk County Department of Health Services (SCDHS), the New York State Department of Environmental Conservation (NYSDEC) and EPA have conducted various inspections and environmental protection enforcement activities at the Site. In 1978, a representative from the SCDHS inspected the Site and noted stains, puddles, and leaking drums suspected to be related to industrial wastes. In the early 1980s, the SCDHS collected samples from leaching pools, storm drains and cesspools located on the Site. Laboratory analyses of the samples revealed violations of NYS Groundwater Effluent Guidelines. Between 1981 and 1983, laboratory analyses of groundwater samples collected from on-site monitoring wells revealed elevated levels of solvents and metals, including: trichloroethane, trichloroethylene, tetrachloroethylene, lead, nickel, chromium and silver. Analyses of samples obtained from the CS wellfield showed concentrations of tetrachloroethylene slightly exceeding the Federal and State Maximum Contaminant Level (MCL) of 5 micrograms/liter ( $\mu\text{g}/\text{l}$ ) for public drinking water. Based on these findings, the Site was proposed for inclusion on the National Priorities List (NPL) in October 1984 and was added to the NPL in June 1986.

In 1988, DEC entered into an Administrative Order on Consent (AOC) with two of the potentially responsible parties (PRPs), namely, First Holbrook and ElectroSound. The AOC required the two PRPs to conduct an RI (Phase I) at the Site. The Phase I RI was conducted in 1988 and included the investigation of nineteen areas of potential contamination. Groundwater and soil samples were collected and analyzed to determine the nature and extent of contamination in these areas. Elevated levels of lead and tetrachloroethylene were found in groundwater samples. Soil samples were found to contain elevated levels of several metals, volatile organic compounds (VOCs) and semi-volatile organic compounds.

Based on a review of the results, EPA and DEC determined that additional information was necessary in order to better define the extent of contamination at the Site. In late 1990, DEC requested that EPA take over as lead agency for the Site. EPA notified First Holbrook, ElectroSound, Genco, and Red Ground of their potential liability at the Site and requested they finance or undertake the continuing RI/FS. Subsequently, in 1991, EPA entered into an AOC with First Holbrook and ElectroSound. This AOC specifically required the PRPs to conduct a supplemental

RI/FS (or Phase II RI/FS). A subsequent notification of potential liability was issued on August 17, 1995 to an additional seven individuals who are partners of First Holbrook.

#### HIGHLIGHTS OF COMMUNITY PARTICIPATION

The Proposed Plan for OU-2 was released to the public for comment on August 29, 1998. This Proposed Plan and other site-related documents, including the RI/FS reports, were made available to the public at information repositories located at the Town of Islip Town Hall and the Sachem Public Library. The notice of availability for the above-referenced documents was published in Newsday, Suffolk County edition, on August 29, 1998, and a press release was issued on August 27, 1998. The public comment period on these documents was held from August 29, 1998 to September 27, 1995.

On September 17, 1998, EPA conducted a public meeting at the Bohemia Recreation Center to inform local officials and interested citizens about the Superfund process, to review current and planned remedial activities at the Site and to respond to any questions from area residents and other attendees.

Responses to the comments received at the public meeting and in writing during the public comment period are included in the Responsiveness Summary (see Appendix V).

#### SCOPE AND ROLE OF OPERABLE UNIT

EPA divided the remedial work necessary to mitigate contamination stemming from the Site into two operable units. OU-1 addressed the source of contamination at the Site and included the removal of surface soils, removal of soils and sediments from seven dry wells and removal of soils and sediments from a production well vault. The remedy was implemented when approximately 300 cubic yards of contaminated soils were excavated and disposed of off-site during May-July 1997 (see Figure 4).

OU-2 is the subject of this Record of Decision and addresses the remediation of nickel contamination in the groundwater.

#### SUMMARY OF SITE CHARACTERISTICS

In 1988, groundwater remedial investigation field work began at the Site with the Phase I RI, conducted by the PRPs pursuant to an AOC with NYSDEC. The results of this investigation, as well as the results of the Phase II RI, conducted by the PRPs pursuant to an AOC with EPA, are summarized in the August 1995 RI report.

Groundwater investigation field work at the Site has included the collection of groundwater samples from 17 on-site monitoring wells, four off-site monitoring wells, one on-site production well and the three CS public water supply wells. Of the 17 on-site monitoring wells, 15 are shallow (less than 50 feet below ground surface (bgs)), one is intermediate (75 to 90 feet bgs) and one is deep (over 100 foot bgs). Of the five off-site monitoring wells, three are shallow, one is intermediate and one is deep. Two of these off-site monitoring wells are installed upgradient of the Site. All on-site monitoring wells are installed in the Upper Glacial Aquifer. As discussed above, CS-1 and CS-2 are both shallow wells, installed, at similar depths of approximately 160 feet, in the Upper Glacial aquifer. CS-3 is screened at approximately 500 feet in the lower Magothy Aquifer.

#### Monitoring Well Data

In July and August 1988, the Phase I RI groundwater sampling was conducted for metals and VOCs. For the metals, findings showed somewhat elevated levels of nickel, chromium and lead (see Tables 1a-1c). Only one Site-related VOC, 1,1,1-trichloroethane, was detected above Federal and State drinking and groundwater standards; 1,1,1-trichloroethane was detected in three wells, with the highest concentration of 9.8 µg/l found in monitoring well 17I (see Tables 1a-1c).

Two rounds (April 1993 and September 1994) of groundwater samples were collected during the Phase II RI. The groundwater samples were analyzed for Target Analyte List (TAL) metals and Target Compound List (TCL) VOCs. This sampling was intended to complement groundwater sampling conducted during the Phase I RI.

The April 1993 Phase II groundwater sampling effort included collection of samples from eight on-site monitoring wells. The metals analysis showed no levels above Federal or State drinking water standards (see Table 2). Wells impacted by nickel contamination in the Phase I RI were not sampled during the first round Phase II sampling. The only VOC detected at a concentration above a drinking water standard was carbon disulfide in monitoring well 17D (MW-17D) (see Table 3). Analytical results for the split sample from MW-17D did not indicate the presence of carbon disulfide above the drinking water standard. Carbon disulfide has been determined to be a laboratory artifact and not a Site-related contaminant of concern.

The September 1994 Phase II sampling was initiated to investigate further the presence of heavy metals, particularly nickel, in the groundwater at the Site (see Tables 4a and 4b). Samples were collected from 15 on-site monitoring wells and analyzed for nickel, chromium, iron and manganese. All 15 samples were split and analyzed by EPA for all TAL metals. The second round of Phase II metals sampling detected nickel at three wells above the federal MCL, which, at the time, was 100 µg/l.<sup>1</sup> Of the 15 wells sampled during Phase II (second round), only three had levels of nickel above 100 µg/l, namely, MW-11 (140 µg/l), MW-12 (959 µg/l) and MW-16 (278 µg/l). Table 5 provides results of all nickel analyses performed on samples collected from the monitoring wells since 1994.

The Phase II second round of metals analysis also detected the presence of both iron and manganese above their respective secondary drinking water standards (see Tables 4a and 4b). The Federal and State secondary MCLs for iron and manganese are both based on aesthetic properties and are intended to prevent potential problems, such as poor taste, odor, and staining of plumbing fixtures, and do not specifically present a health risk. The highest concentrations of iron (34,900 µg/l) and manganese (2,840 µg/l) were present in the unfiltered sample collected from MW-11R. A filtered sample collected from MW-11R detected iron and manganese at reduced levels of 189 µg/l and 459 µg/l, respectively. In the filtered sample, manganese was still detected in excess of the secondary standard. However, the manganese levels detected represent background conditions in the area. Chromium was not detected above Federal and State drinking water standards.

Comparison of the Phase I and Phase II groundwater sampling results indicated that, in general, VOC concentrations had decreased, such that no Site-related VOCs were above Federal and State drinking water standards. Based on its continued frequent detection at elevated concentrations at the Site and the potential impact to the CS wellfield, nickel was deemed to be the only contaminant of concern in the groundwater at the Site.

Following the completion of the remedial action for OU-1 and in order to evaluate the groundwater further, the PRPs' contractor,

---

<sup>1</sup>In 1995, EPA remanded the MCL for nickel. Subsequently, EPA issued a Health Advisory (HA) of 100 µg/l for nickel; this HA is intended to serve as informal technical guidance only. The HA incorporates additional conservative assumptions related to potential nickel exposure from media other than drinking water. For the Site, a health-based action level for nickel was also developed, utilizing Superfund risk assessment methodologies. This health-based action level, detailed further in the risk discussion, was calculated to be 730 µg/l.

under the direction of EPA, performed supplemental groundwater sampling before (May 1997) and after (December 1997) the source control remedial action was implemented during May-July 1997. The intent of this supplemental groundwater investigation was to obtain additional information regarding the fate of nickel in the groundwater at the Site after the removal of the nickel-contaminated surface soils and dry well sediments.

In May 1997, 10 monitoring wells were sampled in order to establish nickel levels prior to the remedial action for OU-1. The May 1997 results showed that only one well, MW-12, contained nickel levels above EPA's Health Advisory level and NYS Class GA standard of 100 µg/l (see Table 5). Nickel was present at a concentration of 394 µg/l in this well, significantly below the 959 µg/l detected in 1994. Similarly, nickel concentrations in the other wells which had also been above 100 µg/l in 1994 decreased significantly; the nickel concentration in MW-16 decreased from 278 µg/l to 95 µg/l, while the concentration in MW-11 decreased from 140 µg/l to below the detection limit of 14 µg/l. Nickel was also not detected in five of the remaining seven wells sampled.

In December 1997, 13 wells were sampled for nickel in order to assess the post-remediation nickel concentration. The December 1997 results also showed a general decline in nickel concentrations (see Table 5). In particular, MW-12 results showed a reduction from 394 µg/l (May 1997) to 300 µg/l and was the only well that exceeded the NYS Class GA standard of 100 µg/l for nickel. Nickel was not detected in 10 of the remaining 13 wells sampled.

#### Church Street Wellfield

As discussed above, the CS wellfield is located approximately 1200 feet south of the Site. CS-1 is screened from approximately 112 feet to 160 feet in the lower Upper Glacial with a specific capacity of 34.5 gallons/minute/foot (gpm/ft). CS-2 is screened from approximately 126 feet to 157 feet in the lower Upper Glacial with a specific capacity of 43.2 gpm/ft. CS-3 is screened from approximately 444 feet to 505 feet in the mid-Magothy with a specific capacity of 35.1 gpm/ft. Historically, the wellfield production has ranged from three million gallons per day (MGD) (summer) to 60,000 gallons/day (winter). The CS-2 and CS-3 wells may be blended during peak demand periods.

In late 1993, routine monitoring performed by SCWA on the CS wellfield detected the presence of nickel in CS-2 in excess of the former MCL (100 µg/l) for nickel. This prompted SCWA to

remove CS-2 from service and conduct testing to evaluate a suitable method of reducing the concentration of nickel in that supply well. The monitoring of CS-1 and CS-3 have shown that these wells have not been significantly impacted by contamination from the Site. Since January 1995, the highest level of nickel detected at CS-2 was 112  $\mu\text{g}/\text{l}$  in January 1996. CS-2 was subsequently returned to service. Overall results of the SCWA sampling of the CS wells has shown a general decrease in the nickel levels. SCWA has closely monitored the quality of water in CS-2, in addition to its other wells, to ensure that the water distributed from its wellfield meets all Federal and State drinking water standards.

From June 1997 until March 1998, CS-2 was sampled weekly; the highest nickel level of 99.7  $\mu\text{g}/\text{l}$  was found in July 1997. The levels since that time have decreased steadily, and, for the period from January 1998 through June 1998, the average concentration in the influent to CS-2 was 55  $\mu\text{g}/\text{l}$ .

This decreasing trend of nickel concentrations to levels well below 100  $\mu\text{g}/\text{l}$  is consistent with the solute transport modeling results, which were provided in the August 1995 FS. The model incorporated very conservative assumptions intended to overestimate the concentrations of nickel which might reach CS-2. The model, which utilized the maximum concentration that had been found at the Site (959  $\mu\text{g}/\text{l}$  rounded up to 1000  $\mu\text{g}/\text{l}$ ) (see Figure 5), predicted that nickel concentrations reaching CS-2 would peak at 325  $\mu\text{g}/\text{l}$  in 1996, prior to decreasing to levels below 100  $\mu\text{g}/\text{l}$  in 1997. In fact, CS-2 sampling data available to EPA affirm that the model assumptions were very conservative, since the nickel concentrations entering CS-2 reached a peak of 112  $\mu\text{g}/\text{l}$  in January 1996 and have not been above 100  $\mu\text{g}/\text{l}$  since then. It should be noted that, while the sample results since January 1996 have generally indicated concentrations in the 50-70  $\mu\text{g}/\text{l}$  range, concentrations did approach 100  $\mu\text{g}/\text{l}$  in late June 1997, only to decline shortly thereafter.

Given these results, coupled with the source removal and the significant decline of nickel on-site, it is anticipated that nickel concentrations will continue to decrease on-site to levels below the NYS Class GA standard within three years and that levels of nickel at CS-2 will continue to decrease and remain below 100  $\mu\text{g}/\text{l}$ .

In order to monitor further the nickel concentration both upgradient of the CS wellfield and downgradient of the Site, a cluster of two additional monitoring wells, identified as MW-19I and MW-19D, are currently being installed just northeast of the

existing CS wellfield. These wells will be sampled as part of the monitoring program portion of the preferred remedy.

#### SUMMARY OF SITE RISKS

The 1995 RI included a baseline risk assessment which estimated the risks associated with current and future uses of the Site. The baseline risk assessment estimates the human health and ecological risk which could result from the contamination at the Site if no remedial action were taken.

#### Human Health Risk Assessment

A four-step process is utilized for assessing site-related human health risks for a reasonable maximum exposure scenario: Hazard Identification--identifies the contaminants of concern at the Site based on several factors such as toxicity, frequency of occurrence, and concentration. Exposure Assessment--estimates the magnitude of actual and/or potential human exposures, the frequency and duration of these exposures, and the pathway (e.g, ingesting contaminated well-water) by which humans are potentially exposed. Toxicity Assessment--determines the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure (dose) and severity of adverse effects (response). Risk Characterization--summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative (e.g., one-in-a-million excess cancer risk) assessment of site-related risks.

EPA conducted the baseline risk assessment to evaluate the potential risks to human health and the environment associated with the Site in its current state. The risk assessment began with selecting contaminants of concern which would likely pose significant risks to human health and the environment. These contaminants included tetrachloroethylene, 1,1-dichloroethane, 1,1,1-trichloroethane, vinyl chloride, benzo(a)anthracene, chrysene, cadmium, copper, lead, nickel and zinc.

Exposure pathways were evaluated under possible on-site present and future land use conditions. The Site was assumed to retain its current zoning status of commercial/industrial. The exposure pathway considered for groundwater was domestic use of groundwater (including ingestion and inhalation of volatiles by nearby residents using the CS wellfield as the exposure point).

EPA's acceptable cancer risk range is  $10^{-4}$  to  $10^{-6}$  under a reasonable maximum exposure (RME) scenario. This can be interpreted to mean that an individual may have a one in ten

thousand to a one in a million increased chance of developing cancer as a result of exposure to a site-related carcinogen over a 70-year lifetime under the specific exposure conditions at a site. The results of the baseline risk assessment indicated that the groundwater at the Site does not pose an unacceptable risk to human health. The overall carcinogenic risk for domestic use of groundwater, through ingestion and inhalation, is estimated to be  $9.5 \times 10^{-6}$  (risk of 9.5 in a million) under RME assumptions. Much of this risk is attributable to vinyl chloride which was detected at low levels in Site soils but was not detected in the groundwater. Because of its presence in Site soils, vinyl chloride was conservatively assumed to be present in the groundwater at a concentration one-half its detection limit.

To assess the overall potential for noncarcinogenic effects posed by the contaminants at a site, EPA has developed the hazard index (HI). The HI measures the assumed simultaneous subthreshold exposures to several chemicals which could result in an adverse health effect. When the HI exceeds 1.0, there may be concern for potential noncarcinogenic health effects. The calculated HI values for the dermal absorption and direct contact pathways were all calculated to be less than 1. Domestic use of groundwater contributed to an HI value of 0.26; nickel was the major contributor to this HI.

Since significant nickel contamination exists in the Upper Glacial Aquifer, potential risks related to this contamination were closely evaluated. An acceptable health-based action level was developed for nickel in groundwater at the Site. Assuming that the groundwater would be used for domestic purposes, it was determined that groundwater concentrations of nickel below 730  $\mu\text{g}/\text{l}$  would result in an acceptable HI for the Site, i.e., an HI less than or equal to 1.0; conversely, levels above 730  $\mu\text{g}/\text{l}$  could present an unacceptable noncarcinogenic risk for the Site.

Consistent with EPA guidance for conducting Superfund risk assessments, this calculated value assumes that there are no other significant sources of nickel exposure from other environmental media (e.g., air, soil, diet, etc.). As a point of reference, the 95% Upper Confidence Level of the arithmetic mean, calculated utilizing the nickel data from all monitoring wells sampled during all phases of the investigation is 66.5  $\mu\text{g}/\text{l}$ , well below the 730  $\mu\text{g}/\text{l}$  action level.



As noted previously, EPA has issued a Health Advisory for nickel of 100 µg/l which is the same level as the former Federal MCL. The Health Advisory incorporates additional conservative safety factors to account for potential nickel exposure from media other than drinking water; this very conservative level of safety assumes that drinking water only contributes 20% of the expected nickel exposure.

A solute transport model, performed during the 1995 FS to show the potential future concentrations of nickel at the CS wellfield, determined that, under existing conditions, concentrations of nickel in CS-2 are unlikely to ever approach the 730 µg/l site-specific EPA risk-based level. The modeling, using very conservative assumptions, indicated that levels of nickel on-site would need to increase to greater than 2200 µg/l in order to exceed the 730 µg/l risk-based value at the CS wellfield. As discussed above, levels of nickel on-site have decreased from a high of 959 µg/l in 1994 to 300 µg/l in 1998, and levels of nickel at the CS Wellfield have steadily declined since 1996 and have not been 100 µg/l or above since January 1996. Since the source of nickel contamination has been removed, the concentrations of nickel in the Site groundwater are expected to decrease significantly.

#### Ecological Assessment

The ecological risk assessment considered potential exposure routes of Site contamination to terrestrial wildlife. Much of the Site is paved or covered by structures and there is little, if any, potential for wildlife to be exposed to contaminated Site subsurface soils. The only potential route of exposure to wildlife in the Site vicinity is if contaminants were transported through groundwater and discharged via groundwater into surface waters, particularly the state wetland located one-half mile south of the Site. Phase II sampling shows that the wetlands have not been impacted by Site contaminants. Therefore, it was determined that no significant effects on aquatic organisms in the wetlands near the Site could be attributed to groundwater discharge from the Site.

The Site poses no unacceptable carcinogenic or noncarcinogenic risk to human health and the environment.

#### Uncertainties

The procedures and inputs used to assess risks in this evaluation, as in all such assessments, are subject to a wide

variety of uncertainties. In general, the main sources of uncertainty include:

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

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

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

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

#### REMEDIAL ACTION OBJECTIVES

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

The remedial action objective for OU-2 is to prevent the ingestion of drinking water containing concentrations of nickel above the 100 µg/l NYS Class GA standard, which is an ARAR at the Site.

## DESCRIPTION OF REMEDIAL ALTERNATIVES

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

This ROD evaluates, in detail, four remedial alternatives for addressing contaminated groundwater associated with the Site. Each alternative includes capital costs and operation and maintenance (O&M) costs.

The construction time is defined as the period of time needed to construct or implement the remedy and does not include the time required to design the remedy, procure contracts for design and construction or to negotiate with responsible parties for implementation of the remedy.

The remedial alternatives for groundwater (GWR) are as follows:

- ▲ GWR-I: No Action
- ▲ GWR-II: Water Supply - Wellhead Treatment
- ▲ GWR-III: Recovery Well - Groundwater Remediation
- ▲ GWR-IV: Monitored Natural Attenuation

## Alternative GWR-I: No Action

Capital Cost: \$0  
 O & M/yr Cost: \$0  
 Present Worth: \$0

Construction Time: N/A

The Superfund program requires that the no action alternative be considered as a baseline for comparison with other alternatives. Under this no action alternative, no active or passive remediation nor monitoring would occur.

**Alternative GWR-II: Water Supply - Well Head Treatment**

Capital Cost: \$3,319,920  
O & M/yr Cost: \$195,307  
Present Worth: \$4,120,679 (over five years)

Construction Time: 2 years

This alternative would include the installation and operation of a groundwater treatment system at the well head for CS-2 for nickel removal, followed by discharge of the treated groundwater to the existing public water supply distribution system.

At an estimated flow of 200 gpm, the groundwater would be pumped from a holding tank through a particulate filter and through a multi-vessel ion exchange system. The ion exchange process would remove the metal ions, primarily nickel, from solution, using e.g., hydrous aluminum silicates or organic resins. It is estimated that 8,000 gallons of the concentrated nickel waste stream per month would be generated, requiring off-site disposal in a RCRA Subtitle C facility in accordance with land disposal restrictions. Following treatment, the groundwater would be pumped into the existing water supply storage tank and/or into the water distribution system. Use restrictions would be imposed on the development of potable water supply wells at the Site.

**Alternative GWR-III: Recovery Well - Groundwater Remediation**

Capital Cost: \$1,694,585  
O & M/yr. Cost: \$135,583  
Present Worth: \$2,250,475 (over five years)

Construction Time: 2 years

This alternative would include the installation of a groundwater recovery well and treatment system for nickel removal and the discharge of treated groundwater to an existing recharge basin.

A groundwater recovery well, operating at 100 gpm, would be installed immediately downgradient of the Site on the south of Veteran's Highway. The groundwater would be pumped through a particulate filter and a multi-vessel ion exchange system; this ion exchange process is similar to that of Alternative GWR-II. It is estimated that 4,500 gallons of the concentrated nickel waste stream per month would be generated, requiring off-site disposal in a RCRA Subtitle C facility, in accordance with EPA land disposal restrictions. The groundwater would be treated to meet Federal and State groundwater and drinking water standards

prior to discharge to an existing storm water recharge basin. Use restrictions, as described in GWR-II, would also be implemented.

#### Alternative GWR-IV: Monitored Natural Attenuation

Capital Cost: \$0  
O & M/yr Cost: \$2,300  
Present Worth: \$9,430 (over five years)

Construction Time: 6 months

This alternative would use natural physical processes to restore groundwater to ARARs. Use restrictions, as described in Alternative GWR-II, would also be implemented. EPA expects that final cleanup levels would be met throughout the entire area of nickel contamination within a three-year time frame. Groundwater monitoring would include sampling of existing on-site and off-site monitoring wells, both outside and within the area of nickel contamination, including the CS wellfield. Sampling of the wells, i.e., those identified in the proposed monitoring program, would be conducted on a quarterly basis. For cost-estimation purposes, quarterly sampling was assumed; however, the actual frequency of sampling will be determined pursuant to a final sampling plan.

Furthermore, in order to ensure that the CS wellfield is able to continue to supply water that meets all Federal and State groundwater and drinking water standards, an additional monitoring well cluster is currently being installed. This well cluster would also be included in the proposed monitoring program in order to monitor more closely the quality of the groundwater just upgradient of the CS wellfield, particularly CS-2. The monitoring of this well cluster would occur on a more frequent basis. If, at any time during the three-year monitoring period, this well cluster revealed nickel levels above 300 µg/l; then, the appropriateness of the natural attenuation remedy would be reconsidered and contingency measures would be evaluated to ensure that the CS wellfield continues to distribute safe drinking water to its customers. These contingency measures could include well-head treatment, installation of a new supply well and/or the installation of a groundwater extraction and treatment system.

#### SUMMARY OF COMPARATIVE ANALYSIS OF ALTERNATIVES

In selecting a remedy, EPA considered the factors set out in CERCLA §121, 42 U.S.C. §9621, by conducting a detailed analysis

of the viable remedial alternatives pursuant to the NCP, 40 CFR §300.430(e)(9) and OSWER Directive 9355.3-01. The detailed analysis consisted of an assessment of the individual alternatives against each of nine evaluation criteria and a comparative analysis focusing upon the relative performance of each alternative against those criteria. During the detailed evaluation of remedial alternatives, each alternative is assessed against nine evaluation criteria.

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

- ▲ Overall protection of human health and the environment addresses whether or not a remedy provides adequate protection and describes how risks are eliminated, reduced or controlled through treatment, engineering controls or institutional controls.
- ▲ Compliance with ARARs addresses whether or not a remedy will meet all of the applicable or relevant and appropriate requirements and/or provide grounds for invoking a waiver.

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

- ▲ Long-term effectiveness and permanence refers to the ability of a remedy to maintain reliable protection of human health and the environment over time, once cleanup goals have been met. It also addresses the magnitude and effectiveness of the measures that may be required to manage the risk posed by treatment residuals and/or untreated wastes.
- ▲ Reduction of toxicity, mobility or volume through treatment is the anticipated performance of the treatment technologies a remedy may employ.
- ▲ Short-term effectiveness addresses the period of time needed to achieve protection from any adverse impacts on human health and the environment that may be posed during the construction and implementation period until cleanup goals are achieved.
- ▲ Implementability is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.

- ▲ Cost includes both estimated capital and operation and maintenance costs and net present worth costs.

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

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

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

- ▲ Overall Protection of Human Health and the Environment

Alternatives GWR-II, GWR-III and GWR IV are fully protective of human health and the environment. Alternative GWR-III would be most protective, since it would extract and treat the most highly contaminated groundwater, followed by Alternative GWR-II which would extract and treat nickel concentrations which are already deemed safe for drinking. Since Alternative GWR-I does not include any active remediation or controls, it is less protective than the other alternatives.

- ▲ Compliance with ARARs

Alternative GWR-I would not comply with ARARs, since it would not address localized levels of nickel above the NYS Class GA standard in the on-site groundwater. The other three alternatives would achieve the NYS Class GA standard for on-site groundwater in approximately the same time frame.

Compliance with ARARs would be demonstrated through monitoring.

The treated effluent from Alternatives GWR-II and GWR-III would also comply with Federal and State drinking water standards and standards for the transport and disposal of the concentrated nickel waste stream from the ion exchange system.

- ▲ Long-Term Effectiveness and Permanence

Alternatives GWR-II, GWR-III and GWR-IV would all reduce the potential risk associated with groundwater ingestion by

implementing controls or treatment to prevent exposure to localized concentrations of nickel in the on-site groundwater, which exceed the NYS Class GA standard. These alternatives all provide the same relative degree of permanence.

Each of these alternatives, as well as Alternative GWR-I, is expected to result in cleanup levels being achieved within the aquifer within three years.

▲ Reduction in Toxicity, Mobility or Volume Through Treatment

Alternatives GWR-II and GWR-III would provide the greatest degree of reduction in toxicity and volume of affected groundwater through treatment. Alternative GWR-III would control mobility of nickel in the groundwater through the operation of the groundwater recovery system. Alternative GWR-II would control the mobility of nickel in the groundwater through continued normal operation of the CS wellfield. Alternatives GWR-I and GWR-IV would not actively reduce the toxicity, mobility or volume of the nickel in the groundwater.

▲ Short-term Effectiveness

Alternative GWR-III would include excavation activities, installation of collection and discharge systems and construction of the treatment plant; any potential impacts to residents and workers from the construction activities would be minimized though the use of proper protective equipment. Similarly, Alternative GWR-II would require some construction activities. Residuals from the treatment process could pose a minor impact to workers handling and transporting these materials; safe handling and transport procedures would be easily implemented to mitigate these minor impacts.

The implementation of Alternatives GWR-I and GWR-IV would result in no additional risk to the community or on-site workers during remedial activities, since no major construction activities would be conducted.

▲ Implementability

All services, materials and technologies required to implement Alternatives GWR-II and GWR-III are readily available. Alternative GWR-III, however, would require approval and coordination of the SCWA to install the water treatment system at the CS wellfield. Treatability study testing may need to be conducted to design the treatment systems for Alternatives GWR-II and GWR-III.



There are no actions to implement under Alternative GWR-I. The groundwater monitoring program under Alternative GWR-IV would be easily implemented.

▲ Cost

Alternative GWR-II (\$4,120,679) would be the most costly alternative to implement, followed by Alternatives GWR-III (\$2,250,475) and GWR-IV (\$9,430). There are no implementation costs associated with Alternative GWR-I.

▲ State Acceptance

NYSDEC concurs with the preferred alternative, Monitored Natural Attenuation (GWR-IV).

▲ Community Acceptance

The community concurs with the preferred alternative, Monitored Natural Attenuation (Alternative GWR-IV).

#### DESCRIPTION OF THE SELECTED REMEDY

The selected remedy for the groundwater at the Site is Monitored Natural Attenuation. The selected remedy is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial action and is cost-effective.

A monitoring program will be developed subsequent to the issuance of this ROD in order to provide a profile of future levels of the nickel contamination at the Site and its effect on the Church Street wellfield. The scope of this monitoring program is expected to be similar to that of the previous monitoring.

EPA and NYSDEC have determined that site-related groundwater contamination is limited and does not pose a significant threat to human health or the environment; therefore, a more active remediation strategy is not appropriate. This determination is based on the latest groundwater sampling data and the implementation of the Operable Unit One (OU-1) source control remedy, i.e., the excavation and disposal of contaminated soils and dry well sediments. Since the existing levels of contamination are limited, monitored natural attenuation would use natural physical processes to restore groundwater at the Site.

## STATUTORY DETERMINATIONS

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

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

### Protection of Human Health and the Environment

The selected remedy is considered to be fully responsive to this criterion and to the identified remedial action objective.

### Compliance with ARARs

The selected remedy compliance with ARARs would be demonstrated through monitoring.

#### Action-Specific ARARs:

- None applicable.

#### Chemical-Specific ARARs:

- NYSDEC Title 6, Chapter X, Parts 700-706, 1998, Final Combined Regulatory Impact and Environmental Impact Statement, Division of Water.

#### Location-Specific ARARs:

- None applicable.

### Cost-Effectiveness

The selected remedy is cost-effective in that it provides overall effectiveness proportional to its cost. The total present worth

cost of the remedy is \$9,430; low long-term operation and maintenance costs are expected.

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

The selected remedy utilizes permanent solutions and treatment technologies to the maximum extent practicable.

Preference for Treatment as a Principal Element

Although the selected remedy does not require treatment, it is anticipated that through natural attenuation contamination levels will decrease.

**SITE CONSTRUCTION COMPLETION**

This ROD documents that all construction activities at the Site have been completed in accordance with Close Out Procedures for National Priorities List Sites - August 1995 (OSWER Directive 9320.2-09).

There is no construction associated with the groundwater remedy. The groundwater monitoring performed to date provides a valid representation of past and present groundwater conditions at the Site and demonstrates that cleanup goals should be achieved within the time period of the selected remedy monitoring program.

A monitoring program will be developed subsequent to the issuance of this ROD in order to provide a profile of future levels of the nickel contamination at the Site and its effect on the CS wellfield. The scope of this monitoring program is expected to be similar to that of the previous monitoring.

Contaminated soils and dry well sediments were excavated and disposed of off-site, in accordance with the September 1995 ROD. Information on that remedial action can be found in the January 1998 Remedial Action Report, contained in the Administrative Record for the Site. Since the implementation of a contingency remedy is unlikely, no further remedial action response is anticipated at the Site. Therefore, the Site now qualifies for inclusion on the Construction Completion List.

Activities and Schedule for Site Completion

The remedial action activities that remain to be completed for the Site include the following: 1) the five-year monitoring program, 2) the placement of a deed restriction on the Site upon

EPA's request, 3) the five-year review and 4) the preparation of the Final Close Out Report. These activities will be completed according to the following schedule:

Task	Estimated Completion	Responsible Organization
Monitor Groundwater	10/30/03	PRPs/EPA/SCWA
Implement Deed Restriction	01/01/03 [upon EPA's request]	PRPs
Final Close-Out Report	01/01/03	EPA
Five-year Review	06/30/03	EPA
Deletion From NPL	06/30/03	EPA

#### DOCUMENTATION OF SIGNIFICANT CHANGES

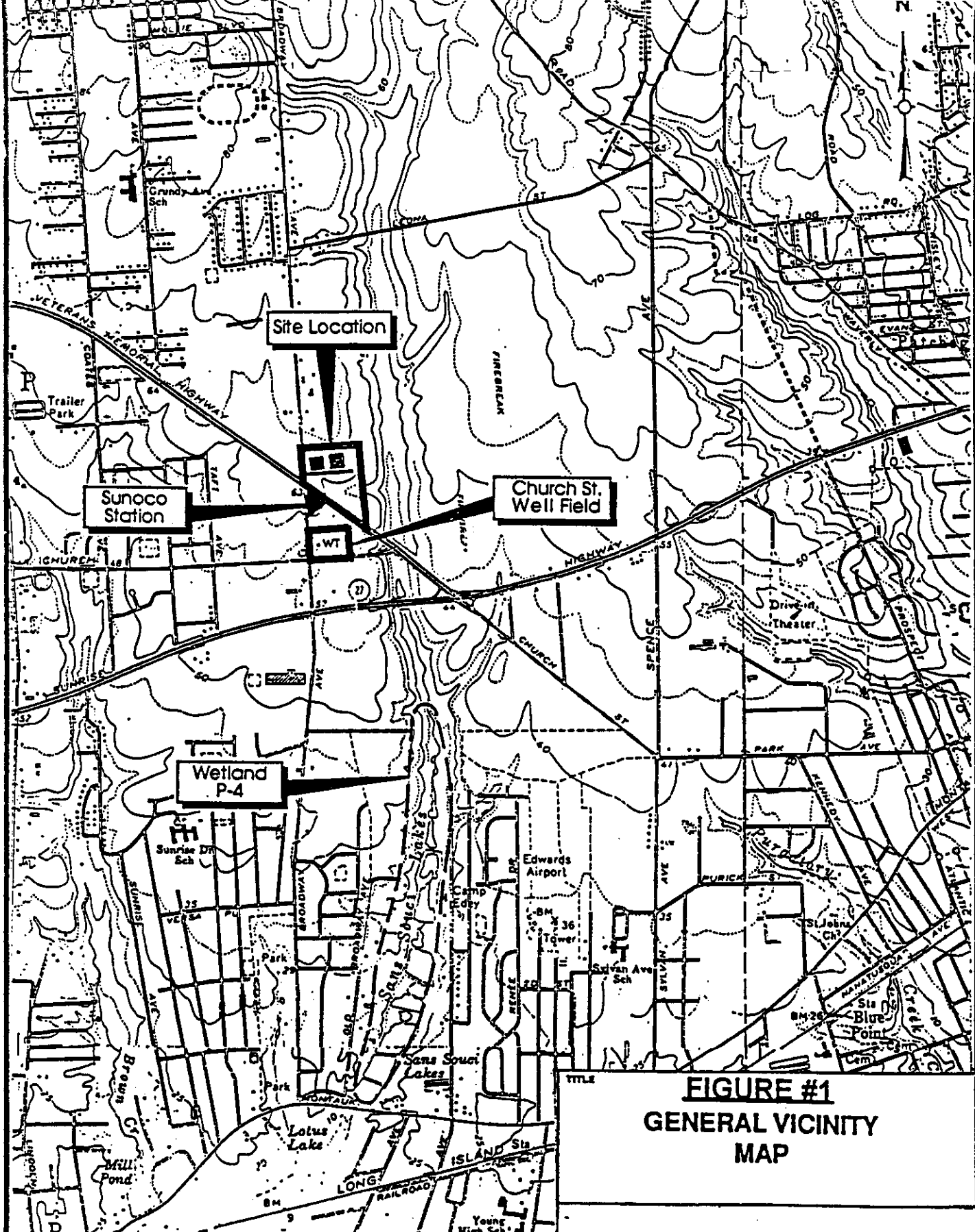
The Proposed Plan for the Site groundwater, identifying the selected remedy as Alternative GWR-III, was released to the public on August 29, 1998. There are no significant changes from the preferred alternative, as presented in the OU-2 Proposed Plan.

The present worth costs of the selected remedy was modified from the preferred alternative in the OU-2 Proposed Plan to reflect EPA's current time frame for aquifer restoration (three years) and groundwater monitoring (five years).

APPENDIX I

FIGURES

**THIS PAGE INTENTIONALLY LEFT BLANK**



**FIGURE #1**  
**GENERAL VICINITY**  
**MAP**

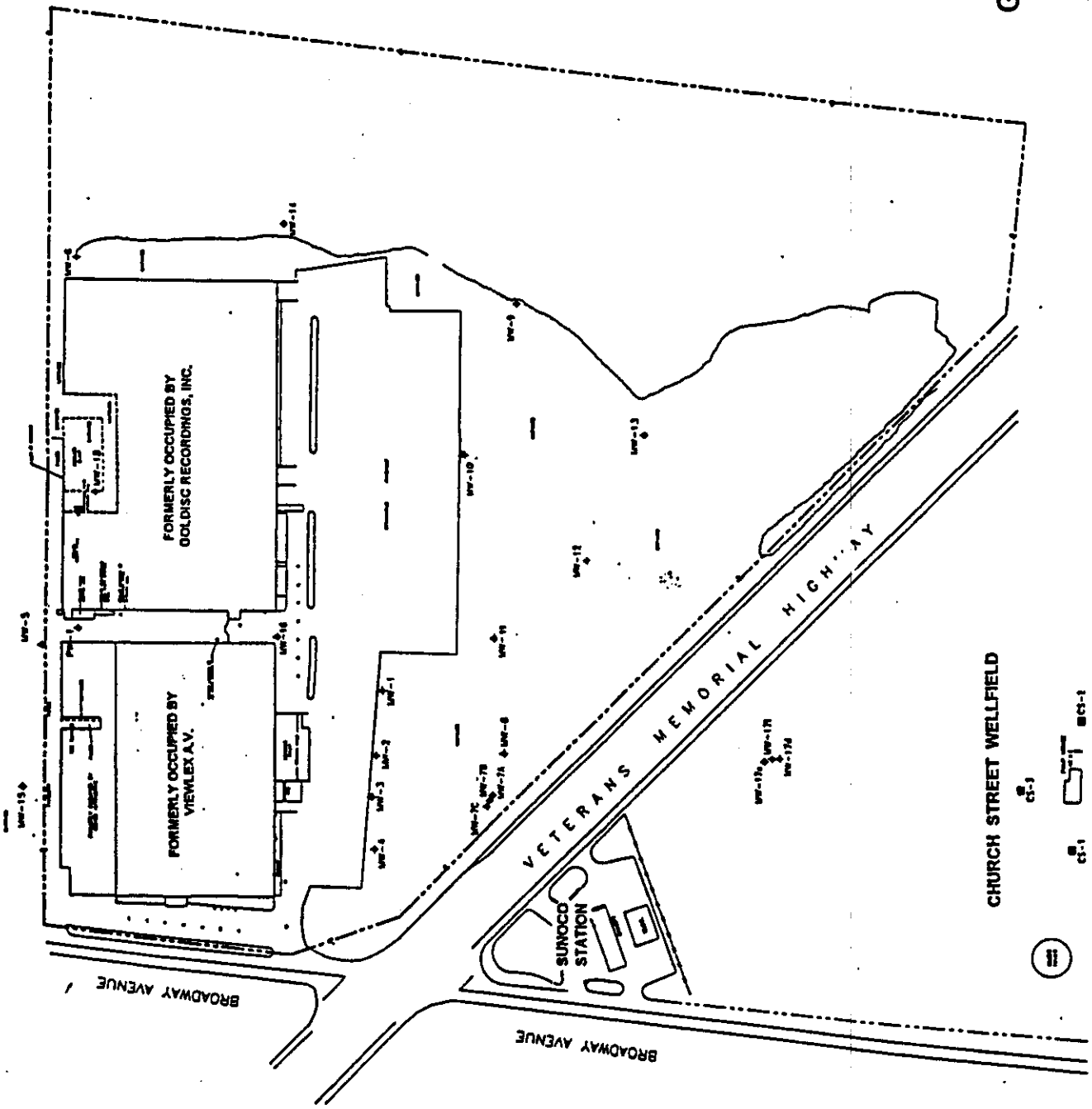
SOURCE: U.S.G.S. Quadrangle Maps, Patchogue & Sayville, NY

SCALE: 1" = 2000'

**GOLDISC RECORDINGS, INC.**

159921

WOODLANDS



LEGEND

- ◆ UNDEVELOPED WOODLANDS
- BUILDING FOOTPRINT
- PROPERTY LINE
- UNDEVELOPED PAVEMENT
- DRIVE DRIVE
- UNDEVELOPED DRIVE DRIVE DRIVE

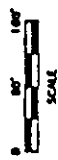
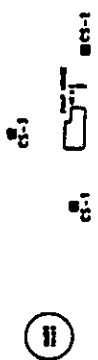


FIGURE #2

GOLDISC RECORDINGS, INC. SITE

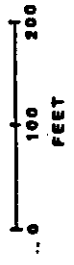
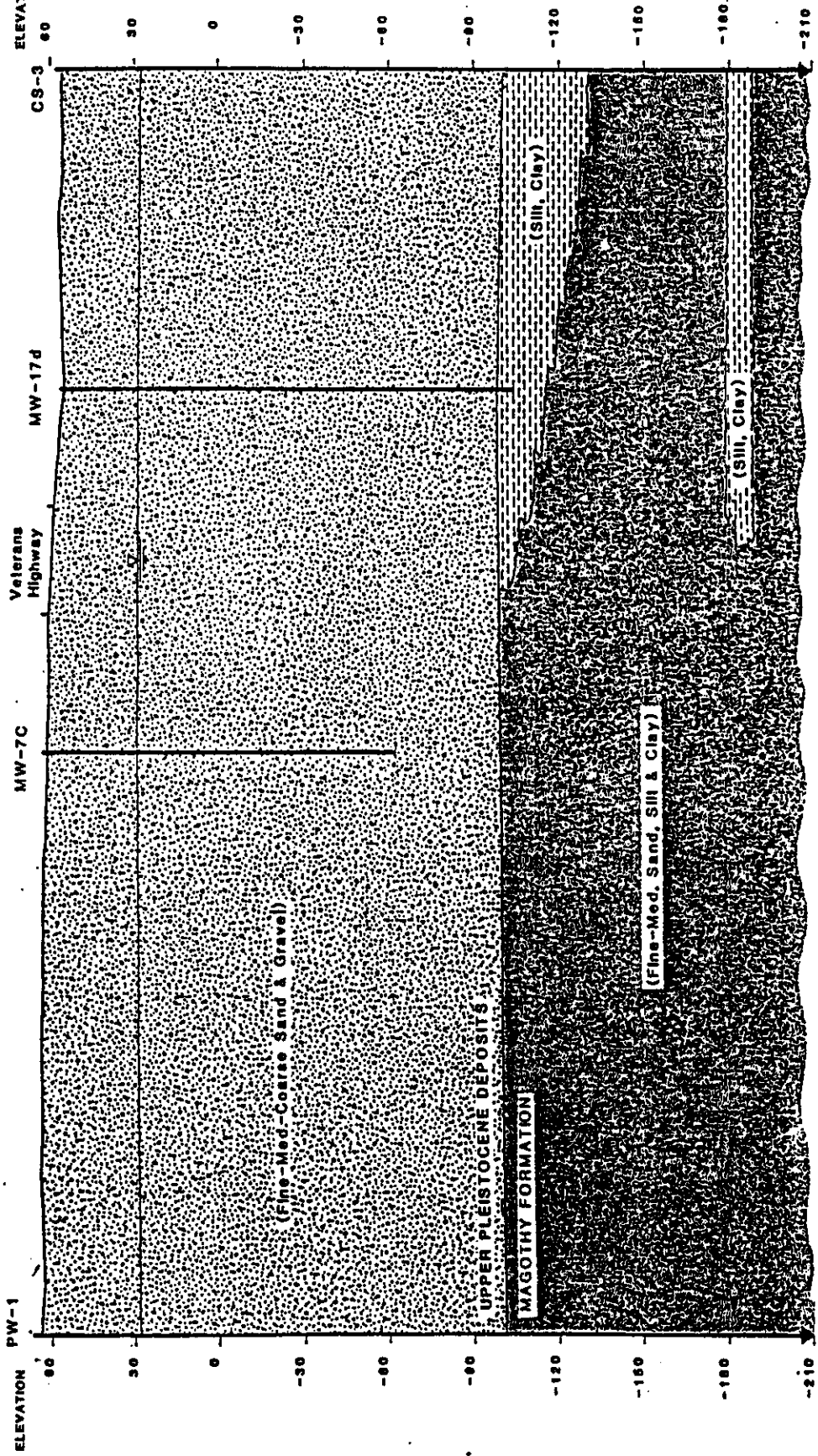
CHURCH STREET WELLFIELD





NORTH

SOUTH



VERTICAL EXAGGERATION: x3.33

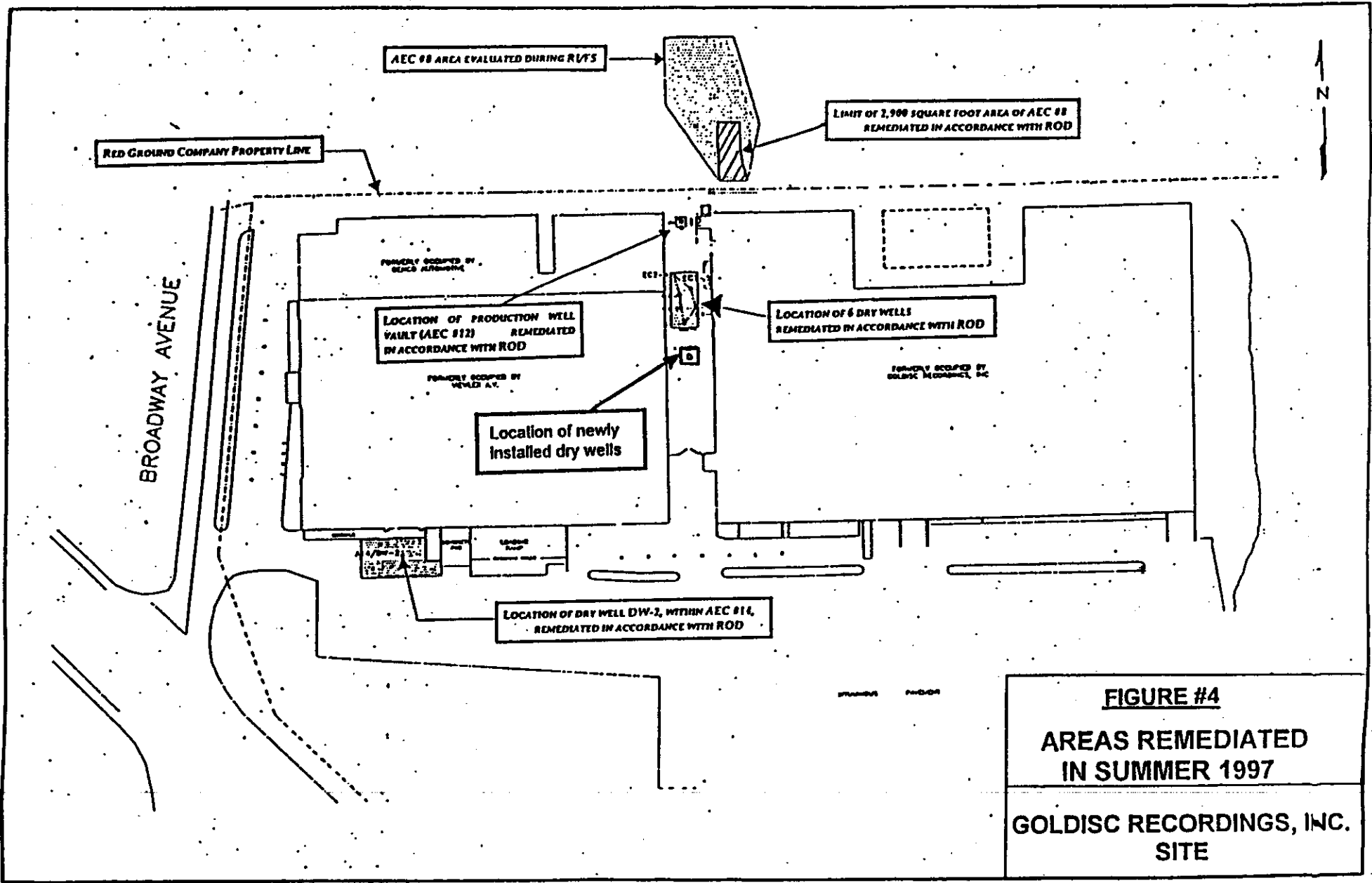
HYDROGEOLOGIC  
CROSS SECTION

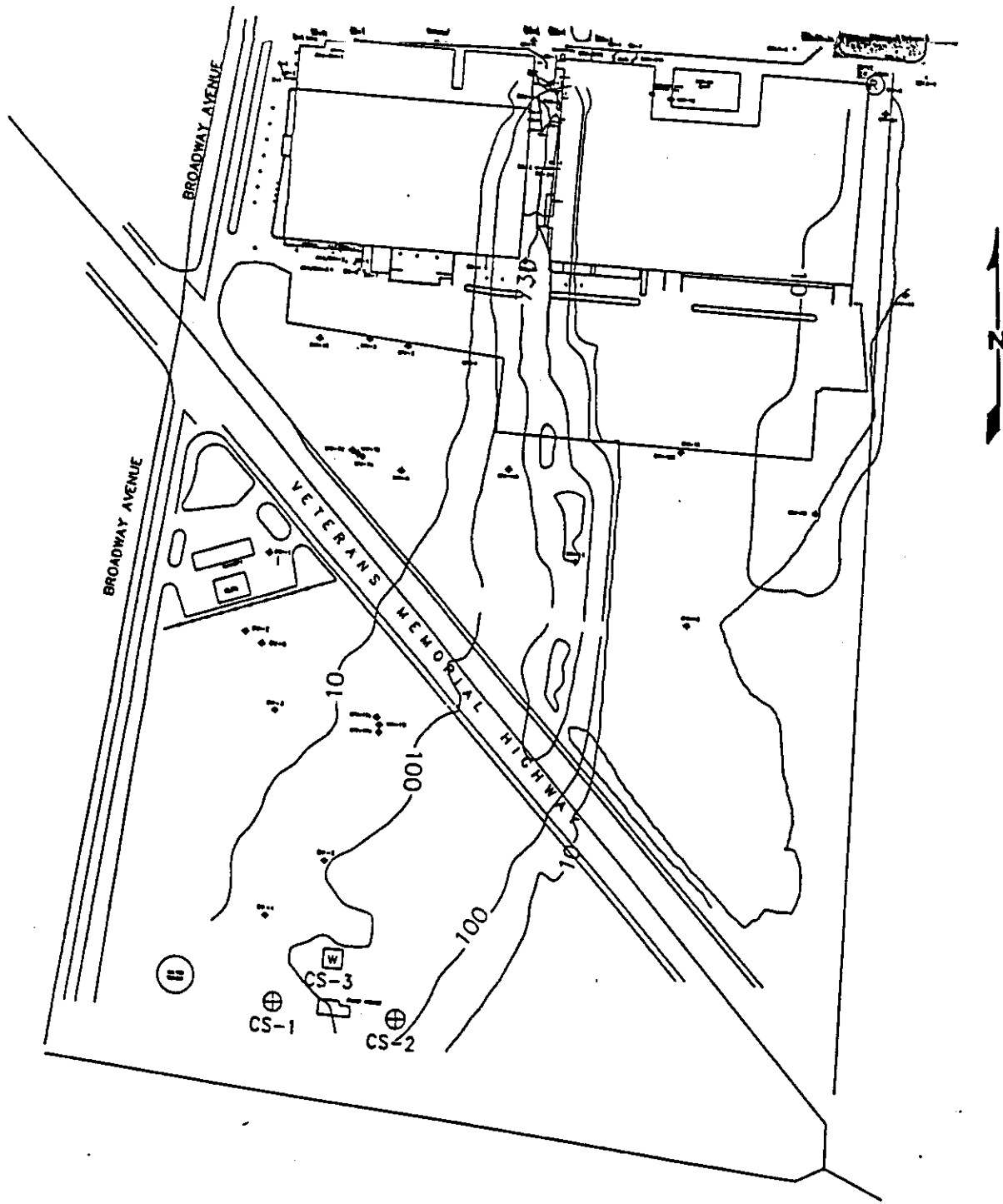
GOLDISC RECORDINGS, INC., SITE

ERM-Northeast

NOV 1990

PROJECT #3





LEGEND

- ⊕ MONITORING WELL (GOLDISC)
- ⊞ PUBLIC WATER SUPPLY WELL
- ⊕ PUMPING WELL



CONTOUR MAP OF STARTING NICKEL CONCENTRATIONS USED IN GOLDISC SOLUTE TRANSPORT MODEL

GOLDISC RECORDINGS, INC. SITE

ERM Environmental Remediation	SCALE	DATE	PAGE
	GRAPHIC		
Client: M.M.	Job No.: 253 009.3	File Name: GOLDBASE	Date: 6/16/95

APPENDIX II

TABLES

**THIS PAGE INTENTIONALLY LEFT BLANK**

**TABLE 1a**  
**PHASE I ANALYTICAL RESULTS FOR GROUND WATER SAMPLES**  
**FORMER GOLDISC SITE**  
**HOLBROOK, NEW YORK**  
 Page 1 of 3

	STD.	MW-2	MW-3	MW-4R	MW-7B	MW-7C	MW-8	MW-9R	MW-10
Date Sampled		7/26/88	7/26/88	7/27/88	7/27/88	7/28/88	7/27/88	7/26/88	7/26/88
<i>Volatile Organics</i>									
Methylene Chloride	5	<5	<5	4.4 B	<5	<5	<5	<5	<5
Acetone	50	<50	<50	2.8 B	<50	<50	<50	<50	<50
Chloroform	100	<5	<5	<5	<5	<5	<5	<5	<5
1,1 Dichloroethane	5	<5	<5	12	<5	<5	<5	<5	<5
1,1,1 Trichloroethane	5	1.4 J	2.5 J	9.7	1.3 J	<5	<5	<5	5.5 J
Tetrachloroethene	5	<5	<5	<5	<5	<5	<5	<5	1.6 J
<b>TOTAL VOCs</b>	—	<b>1.4</b>	<b>2.5</b>	<b>28.9</b>	<b>1.3</b>	<b>U</b>	<b>U</b>	<b>U</b>	<b>7.1</b>
Total VOC TICs	—	U	U	4.0	U	U	U	117	U
<i>Total Metals</i>									
Aluminum	—	2120	3720	224	179	233 J	9990	1130	4250
Calcium	—	9730	15320	15030	10210	14830 J	12780	10120	32930
Total Chromium	—	13	11	<10	<10	<10	<10	<10	73
Hexavalent Chromium	100	<10	<10	<10	<10	<10	26	<10	<10
Cobalt	—	<50	<50	<50	<50	<50	65	<50	<50
Copper	—	<25	<25	<25	<25	<25	37	<25	<25
Iron	300	3259	4490	178	158	<100	9272	1760	39230
Lead	15	<6.0	<20	<5.0	<5.0	<5.0	88	<5.0	<5.0
Magnesium	—	<5000	<5000	<5000	<5000	<5000	<5000	<5000	9770
Manganese	300	532	647	37	154	91 J	1740	202	535
Mercury	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.3	<0.2
Nickel	100	<40	<40	<40	<40	<40	145	<40	<40
Potassium	—	5620	<5000	<5000	<5000	<5000	<5000	<5000	<5000
Sodium	—	31180	15790	19340	12570	8410 J	<5000	<5000	8760
Vanadium	—	<50	<50	<50	<50	<50	<50	<50	50
Zinc	5000	67	36 B	33 B	33 B	<20	617	37 B	79
<i>Dissolved Metals</i>									
Aluminum	—	<100	326	<100	<100	<100	148	<100	212
Calcium	—	12060	15640	14730	10290	7670 J	12290	10120	32990
Chromium	100	11	<10	<10	<10	<10	<10	<10	11
Copper	—	<25	<25	<25	<25	<25	<25	<25	25
Iron	300	<100	<100	<100	<100	<100	<100	<100	161
Lead	50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Magnesium	—	<5000	<5000	<5000	<5000	<5000	<5000	<5000	9900
Manganese	300	17	44	<15	143	<0.2	527	<15	17
Mercury	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nickel	100	<40	<40	<40	<40	<40	140	<40	<40
Potassium	—	5450	<5000	<5000	<5000	<5000	<5000	<5000	<5000
Sodium	—	37170	15640	19980	12800	8320 J	<5000	<5000	8700
Zinc	5000	37 B	83	76	<20	<20	465	44 B	40 B

**NOTES:**

Units are micrograms per liter. Only detected VOCs are reported.  
 TICs: Tentatively Identified Compounds. U: Undetected.  
 B: Compound also detected in blank. J: Estimated concentration.  
 PW-1 was also analyzed for base/neutral/acid extractables, pesticides, and PCBs. All concentrations were below detection limits.

**TABLE 1b**  
**PHASE I ANALYTICAL RESULTS FOR GROUND WATER SAMPLES**  
**FORMER GOLDFISC SITE**  
**HOLBROOK, NEW YORK**  
 Page 2 of 3

	STD	MW-11R	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17S	MW-17I
Date Sampled		7/26/88	7/26/88	7/26/88	7/27/88	7/27/88	7/27/88	8/5/88	8/5/88
<i>Volatile Organics</i>									
Methylene Chloride	5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	50	<50	<50	<50	<50	<50	<50	<50	<50
Chloroform	5	<5	<5	<5	<5	<5	<5	<5	<5
1,1 Dichloroethane	5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1 Trichloroethane	5	<5	<5	<5	<5	<5	<5	<5	9.8 J
Tetrachloroethene	5	<5	<5	<5	<5	<5	<5	<5	<5
<b>TOTAL VOCs</b>	—	U	U	U	U	U	U	U	9.8
Total VOC TICs	—	U	U	U	U	U	U	U	U
<i>Total Metals</i>									
Aluminum	—	9830	1570	373 J	3800	680	2780	375 J	113
Calcium	—	12810	41110	32710	10440	7980	24260	16840	5120
Total Chromium	100	20	<10	<10	<10	<10	<10	<10	<10
Hexavalent Chromium	100	<10	<10	<10	<10	<10	<10	<10	<10
Cobalt	—	<50	<50	<50	<50	<50	<50	<50	<50
Copper	—	<25	<25	<25	<25	<25	<25	<25	<25
Iron	300	13070	1770	225 J	5,650	697	4560	420 J	107
Lead	15	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Magnesium	—	<5000	12710	6840	<5000	<5000	<5000	<5000	<5000
Manganese	300	1530	338	3140	632	89	956	79 J	46
Mercury	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nickel	100	<40	340	<40	<40	<40	630	<40	<40
Potassium	—	<5000	<5000	5170	<5000	<5000	<5000	<5000	<5000
Sodium	—	<5000	<5000	<5000	5450	7580	15200	78150	42420
Vanadium	—	<50	<50	<50	<50	<50	<50	<50	<50
Zinc	5000	155	75	33 B	138	103	291	56 J	25 J
<i>Dissolved Metals</i>									
Aluminum	—	<100	659	223	<100	<100	111	<100	<100
Calcium	—	11620	38820	33050	8530	8270	13410	17050	<5000
Chromium	100	13	<10	<10	<10	<10	<10	<10	<10
Copper	—	<25	<25	<25	<25	<25	<25	<25	<25
Iron	300	<100	<100	<100	<100	<100	<100	<100	<100
Lead	50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Magnesium	—	<5000	13110	6980	<5000	<5000	<5000	<5000	<5000
Manganese	300	<15	28	3150	<15	50	16	56 J	36
Mercury	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nickel	100	<40	265	<40	<40	<40	149	<40	<40
Potassium	—	<5000	<5000	<5000	<5000	<5000	<5000	<5000	<5000
Sodium	—	<5000	<5000	<5000	<5000	6920	8750	86860	45760
Zinc	5000	159	93	63 J	83 B	98 B	85	<50	37 J

**NOTES:**

Units are micrograms per liter. Only detected VOCs are reported.

TICs: Tentatively Identified Compounds.

U: Undetected.

B: Compound also detected in blank.

J: Estimated concentration.

PW-1 was also analyzed for semivolatiles, pesticides, and PCBs. All concentrations were below detection limits.

TABLE 1c  
 PHASE I ANALYTICAL RESULTS FOR GROUND WATER SAMPLES  
 FORMER GOLDISC SITE  
 HOLBROOK, NEW YORK

Page 3 of 3

	STD	MW-17D	MW-18	PW-1	EG-1	CS-1	CS-2	CS-3
Date Sampled		8/5/88	8/11/88	8/11/88	7/28/88	7/27/88	7/27/88	8/5/88
<i>Volatile Organics</i>								
Methylene Chloride	5	<5	<5	<5	3.3 B	4.4 B	4.9 B	<5
Acetone	50	<50	7.0 B	<50	<50	<50	<50	<50
Chloroform	5	<5	<5	<5	<5	<5	<5	<5
1,1 Dichloroethane	5	<5	<5	<5	<5	<5	<5	<5
1,1,1 Trichloroethane	5	<5	<5	<5	<5	<5	2.3 J	<5
Tetrachloroethene	5	<5	<5	<5	<5	<5	<5	<5
TOTAL VOCs	—	U	7	U	3.3	4.4	7.2	U
Total VOC TICs	—	U	U	U	U	U	U	U
<i>Total Metals</i>								
Aluminum	—	<100	2890	<100	456	113	<100	<100
Calcium	—	<5000	16310	<5000	26810	8650	8760	<5000
Total Chromium	100	<10	11	<10	<10	<10	<10	<10
Hexavalent Chromium	100	30 J	10	<10	21	<10	<10	<10
Cobalt	—	<50	<50	<50	<50	<50	<50	<50
Copper	—	<25	<25	169	<25	101	<25	<25
Iron	300	286	2570 J	2305 J	17,500 J	<100	<100	164
Lead	15	8.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Magnesium	—	<5000	<5000	<5000	<5000	<5000	<5000	<5000
Manganese	300	39	783	77	123	47	68	<15
Mercury	2	<0.2	<0.2	<0.2	<0.2	<0.2	0.3	<0.2
Nickel	100	<40	<40	<40	<40	<40	67	<40
Potassium	—	<5000	<5000	<5000	11200	<5000	<5000	<5000
Sodium	—	24920	<5000	<5000	32930	14520	15220	<5000
Vanadium	—	<50	<50	<50	<50	<50	<50	<50
Zinc	5000	112 J	215 B	80 B	196	115 J	38 J	24 J
<i>Dissolved Metals</i>								
Aluminum	—	<100	153	132	196	<100	<100	<100
Calcium	—	<5000	16100	<5000	28930	6750	8880	<5000
Chromium	100	<10	<10	<10	<10	<10	<10	<10
Copper	—	<25	<25	<25	<25	146	<25	<25
Iron	300	<100	345 J	1214 J	24,800 J	<100	<100	168
Lead	50	5.0	<5.0	<5.0	<5.0	9.0	<5.0	<5.0
Magnesium	—	<5000	<5000	<5000	<5000	<5000	<5000	<5000
Manganese	300	28	76	74	402	34	56	<15
Mercury	2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nickel	100	<40	<40	<40	<40	<40	<40	<40
Potassium	—	<5000	<5000	<5000	10080	<5000	<5000	<5000
Sodium	—	23830	<5000	<5000	34420	13690	15700	<5000
Zinc	5000	47 J	76 B	113 B	82 B	41	49 J	76 J

NOTES:

Units are micrograms per liter. Only detected VOCs are reported.  
 TICs: Tentatively Identified Compounds. U: Undetected.  
 B: Compound also detected in blank. J: Estimated concentration.  
 PW-1 was also analyzed for base/neutral/acid extractables, pesticides, and PCBs. All concentrations were below detection limits.



**THIS PAGE INTENTIONALLY LEFT BLANK**

**TABLE 2**  
**PHASE II ANALYTICAL RESULTS FOR 1993 GROUND WATER SAMPLES - METALS**  
**FORMER GOLDDISC SITE**  
**HOLBROOK, NEW YORK**

	STD.	MW-2	MW-4R	MW-8R	MW-9	MW-10R	MW-17S	MW-17I	MW-17D
Date Collected		4/22/93	4/21/93	4/21/93	4/22/93	4/21/93	4/21/93	4/21/93	4/21/93
Aluminum	---	NA	NA	NA	NA	NA	166	187	16.7
Antimony	6 M	NA	NA	NA	NA	NA	<2.4	<2.4	<2.4
Arsenic	50	NA	NA	NA	NA	NA	2.2 J	2.6	2.9 J
Barium	2000	NA	NA	NA	NA	NA	12.8 J	17.8 J	10.6 J
Beryllium	1 M	NA	NA	NA	NA	NA	<0.8	<0.8	<0.8
Cadmium	5	NA	NA	NA	NA	NA	<3.3	<3.3	<3.3
Calcium	---	NA	NA	NA	NA	NA	8090	10,100	9990
Chromium	100	<9.7	<9.7	NA	<9.7	<9.7	<9.7	<9.7	<9.7
Cobalt	---	NA	NA	NA	NA	NA	<12.6	<12.6	<12.6
Copper	---	NA	NA	NA	NA	NA	3.1	5.0	5.1
Iron	300	NA	NA	NA	NA	NA	186 J	65.0	101 J
Lead	15M	NA	NA	1.5 J	NA	NA	1.6 J	3.0 J	2.9 J
Magnesium	---	NA	NA	NA	NA	NA	2060	3980	2230
Manganese	300	NA	NA	NA	NA	NA	6.5	55.6	54.1
Mercury	2	NA	NA	NA	NA	NA	<0.2	<0.2	<0.2
Nickel	100	NA	NA	NA	31.0	<13.6	<13.6	<13.6	<13.6
Potassium	---	NA	NA	NA	NA	NA	1460 J	2150 J	872 J
Selenium	10	NA	NA	NA	NA	NA	1.4 J	<1.2 J	<1.2 J
Silver	50	NA	NA	NA	NA	NA	<0.2 J	<2.0 J	<2.0 J
Sodium	---	NA	NA	NA	NA	NA	18,500	15,900	9840
Thallium	2 M	NA	NA	NA	NA	NA	<0.4 J	<0.4 J	<0.79 J
Vanadium	---	NA	NA	NA	NA	NA	5.6	7.7	8.6
Zinc	5000	NA	NA	NA	NA	NA	33.8	32.4	30.9

**NOTES:** Units are micrograms per liter.

NA: Not Analyzed.

STD: New York State drinking water standard, except those followed by M, which are USEPA MCLs.

U: Undetected.

J: Estimated concentration.

TABLE 3

PHASE II ANALYTICAL RESULTS FOR 1993 GROUND WATER SAMPLES - VOLATILE ORGANIC COMPOUNDS  
FORMER GOLDISC SITE  
HOLBROOK, NEW YORK

Date Collected	STD.	MW-2 4/22/93	MW-4R 4/21/93	MW-8R 4/21/93	MW-9 4/22/93	MW-10R 4/21/93	MW-17S 4/21/93	MW-17I 4/21/93	MW-17D 4/21/93
Chloromethane	5	<10	<10	NA	NA	<10	<10	<10	<10
Bromomethane	5	<10	<10	NA	NA	<10	<10	<10	<10
Vinyl Chloride	2	<10	<10	NA	NA	<10	<10	<10	<10
Chloroethane	5	<10	<10	NA	NA	<10	<10	<10	<10
Methylene Chloride	5	<10	<10	NA	NA	<10	<10	<10	<10
Acetone	50	UR	UR	NA	NA	UR	UR	UR	UR
Carbon Disulfide	50	<10	<10	NA	NA	<10	2J	<10	140
1,1-Dichloroethene	5	<10	<10	NA	NA	<10	<10	<10	<10
1,1-Dichloroethane	5	<10	1J	NA	NA	<10	<10	2J	<10
Total 1,2-Dichloroethene	5 +	<10	<10	NA	NA	<10	<10	<10	<10
Chloroform	100 *	<10	<10	NA	NA	<10	<10	<10	<10
1,2-Dichloroethane	5	<10	<10	NA	NA	<10	<10	<10	<10
2-Butanone	50	UJ	<10	NA	NA	<10	<10	<10	<10
1,1,1-Trichloroethane	5	1J	<10	NA	NA	<10	<10	5J	<10
Carbon Tetrachloride	5	<10	<10	NA	NA	<10	<10	<10	<10
Bromodichloromethane	100 *	<10	<10	NA	NA	<10	<10	<10	<10
1,2-Dichloropropane	5	<10	<10	NA	NA	<10	<10	<10	<10
cis-1,3-Dichloropropene	5	<10	<10	NA	NA	<10	<10	<10	<10
Trichloroethene	5	<10	<10	NA	NA	<10	<10	<10	<10
Dibromochloromethane	100 *	<10	<10	NA	NA	<10	<10	<10	<10
1,1,2-Trichloroethane	5	<10	<10	NA	NA	<10	<10	<10	<10
Benzene	5	<10	<10	NA	NA	<10	<10	<10	<10
trans-1,3-Dichloropropene	5	<10	<10	NA	NA	<10	<10	<10	<10
Bromoform	100 *	<10	<10	NA	NA	<10	<10	<10	<10
4-Methyl-2-Pentanone	50	<10	<10	NA	NA	<10	<10	<10	<10
2-Hexanone	50	<10	<10	NA	NA	<10	<10	<10	<10
Tetrachloroethene	5	<10	<10	NA	NA	1J	<10	<10	<10
1,1,2,2-Tetrachloroethane	5	<10	<10	NA	NA	<10	<10	<10	<10
Toluene	5	<10	<10	NA	NA	<10	<10	<10	<10
Chlorobenzene	5	<10	<10	NA	NA	<10	<10	<10	<10
Ethylbenzene	5	<10	<10	NA	NA	<10	<10	<10	<10
Styrene	5	<10	<10	NA	NA	<10	<10	<10	<10
Total Xylenes	5 +	<10	<10	NA	NA	<10	<10	<10	<10
TOTAL VOCs	100	1	1	NA	NA	1	2	7	140
Total VOC TICs		U	U	NA	NA	U	U	U	U

## NOTES:

Units are micrograms per liter.

STD: New York State drinking water standard.

\*: Total of these compounds not to exceed 100 ug/l.

+: Standard is for each isomer.

R: Value rejected by data validation review.

TICs: Tentatively Identified Compounds.

U: Undetected.

J: Estimated concentration.

NA: Not Analyzed.

**TABLE 4a**  
**PHASE II ANALYTICAL RESULTS FOR 1994 GROUND WATER SAMPLES - METALS**  
**FORMER GOLDISC SITE**  
**HOLBROOK, NEW YORK**

	STD.	MW-2	MW-2 Split	MW-5	MW-5 Split	MW-7A	MW-7A Split	MW-7B	MW-7B Split	MW-7C	MW-7C Split	MW-8R	MW-8R Split	MW-9R	MW-9R Split	MW-10R	MW-10R Split	MW-11R	MW-11R Split
DATE		9/7/94	9/7/94	9/8/94	9/8/94	9/7/94	9/7/94	4/21/94	9/7/94	9/7/94	9/7/94	9/6/94	9/6/94	9/7/94	9/7/94	9/7/94	9/7/94	9/8/94	9/8/94
Silver	—	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U
Aluminum	6 M	NA	<200 U	NA	22900	NA	531	NA	260 U	NA	<200 U	NA	<200 U	NA	<200 U	NA	<200 U	NA	<200 U
Arsenic	50	NA	<10 U	NA	12.1	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U	NA	12.1
Barium	2000	NA	<200 U	NA	<200 U	NA	<200 U	NA	<200 U	NA	<200 U	NA	<200 U	NA	<200 U	NA	<200 U	NA	<200 U
Beryllium	1 M	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U
Calcium	5	NA	15	NA	15	NA	13	NA	13	NA	8	NA	<5 U	NA	8	NA	14	NA	15
Cadmium	—	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U
Cobalt	100	NA	<50 U	NA	<50 U	NA	<50 U	NA	<50 U	NA	<50 U	NA	<50 U	NA	<50 U	NA	<50 U	NA	<50 U
Chromium	100	<9.7	12	<9.7	31	<9.7	<10 U	<9.7	11	<9.7	11	<9.7	23	<9.7	<10 U	<9.7	17	10.8	31
Copper	—	NA	<25 U	NA	42	NA	<25 U	NA	<25 U	NA	<25 U	NA	<25 U	NA	<25 U	NA	<25 U	NA	42
Iron	300	28.2 E	<100 U	16 E	35100 U	97 E	199	18.6 E	<100 U	34.4 E	<100 U	97.8 E	151	32.2 E	<100 U	25.2 E	<100 U	34900	35100
Mercury	50	NA	<0.2 U	NA	<0.2 U	NA	<0.2 U	NA	<0.2 U	NA	<0.2 U	NA	<0.2 U	NA	<0.2 U	NA	<0.2 U	NA	<0.2 U
Potassium	—	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U
Magnesium	300	NA	<5 U	NA	5	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	5
Manganese	2	2 E	<15 U	1.6 E	2940	128	128	64.2	62	2.4 E	<15 U	231	226	239	233	6.6 E	<15 U	2840	2940
Sodium	100 M	NA	30	NA	12	NA	16	NA	14	NA	11	NA	<5 U	NA	<5 U	NA	<5 U	NA	12
Nickel	100	17.6 J E	<40 U	<12.3	127	<12.3	<40 U	<12.3	<40 U	<12.3	<40 U	40.8 J	42	<12.3	<40 U	<12.3	<40 U	140 J	127
Lead	15M	NA	<3 U	NA	25.4	NA	<3 U	NA	<3 U	NA	<3 U	NA	<3 U	NA	<3 U	NA	<3 U	NA	25.4
Antimony	50	NA	<60 U	NA	<60 U	NA	<60 U	NA	<60 U	NA	<60 U	NA	<60 U	NA	<60 U	NA	<60 U	NA	<60 U
Selenium	—	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U
Thallium	2 M	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U
Vanadium	—	NA	<50 U	NA	51	NA	<50 U	NA	<50 U	NA	<50 U	NA	<50 U	NA	<50 U	NA	<50 U	NA	51
Zinc	5000	NA	<20 U	NA	40	NA	<20 U	NA	112 U	NA	<20 U	NA	109	NA	<20 U	NA	<20 U	NA	40

NOTES: Units are micrograms per liter. U: Undetected.  
 NA: Not Analyzed. J: Estimated concentration.  
 STD: New York State drinking water standard, except those followed by M, which are USEPA MCLs.  
 Split- Split sample comparison results

**TABLE 4b**  
**PHASE II ANALYTICAL RESULTS FOR 1994 GROUND WATER SAMPLES - METALS**  
**FORMER GOLDISC SITE**  
**HOLBROOK, NEW YORK**

	STD.	W-11RF	MW-11RF	MW-12	MW-12	MW-13	MW-13	MW-16	MW-16	MW-17S	MW-17S	MW-17I	MW-17I	MW-17D	MW-17D
DATE		9/8/94	9/8/94	9/7/94	9/7/94	9/8/94	9/8/94	9/7/94	9/7/94	9/6/94	9/6/94	9/6/94	9/6/94	9/6/94	9/6/94
			Split		Split		Split		Split		Split		Split		Split
Silver	50	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U
Aluminum	—	NA	671	NA	<200 U	NA	<200 U	NA	<200 U	NA	<200 U	NA	<200 U	NA	<200 U
Arsenic	50	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U
Barium	2000	NA	<200 U	NA	<200 U	NA	<200 U	NA	<200 U	NA	<200 U	NA	<200 U	NA	<200 U
Beryllium	1 M	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U
Calcium	—	NA	15	NA	28	NA	15	NA	10	NA	12	NA	10	NA	11
Cadmium	5	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U
Cobalt	—	NA	<50 U	NA	<50 U	NA	<50 U	NA	<50 U	NA	<50 U	NA	<50 U	NA	<50 U
Chromium	100	<9.7	<10 U	39.7	52	<9.7	<10 U	<9.7	21	<9.7	17	<9.7	12	<9.7	<10 U
Copper	—	NA	56	NA	<25 U	NA	<25 U	NA	<25 U	NA	<25 U	NA	<25 U	NA	<25 U
Iron	300	185	576	259	334	<11.0	<100 U	28.7	11	<100 U	36.9	11	160	54.5	113
Mercury	2	NA	<0.2 U	NA	<0.2 U	NA	<0.2 U	NA	<0.2 U	NA	<0.2 U	NA	<0.2 U	NA	<0.2 U
Potassium	—	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	6	NA	<5 U	NA	<5 U
Magnesium	—	NA	<5 U	NA	5	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U
Manganese	300	459	222	40.4	39	14.3	11	<15 U	18.8	19	11	<15 U	31.6	33	36.3
Sodium	—	NA	12	NA	<5 U	NA	<5 U	NA	<5 U	NA	81	NA	15	NA	8
Nickel	100	63.1	J	41	959	980	<12.3	<40 U	278	277	13.3	J	<40 U	16.2	J
Lead	15M	NA	76	NA	<3 U	NA	<3 U	NA	<3 U	NA	<3 U	NA	4.1	NA	<3 U
Antimony	6M	NA	<60 U	NA	<60 U	NA	<60 U	NA	<60 U	NA	<60 U	NA	<60 U	NA	<60 U
Selenium	10	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U	NA	<5 U
Thallium	2 M	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U	NA	<10 U
Vanadium	—	NA	<50 U	NA	<50 U	NA	<50 U	NA	<50 U	NA	<50 U	NA	<50 U	NA	<50 U
Zinc	5000	NA	112	NA	<20 U	NA	<20 U	NA	<20 U	NA	<20 U	NA	<20 U	NA	<20 U

NOTES: Units are micrograms per liter.

NA: Not Analyzed.

STD: New York State drinking water standard, except those followed by M, which are USEPA MCLs.

Split-Split sample comparison results

U: Undetected.

J: Estimated concentration.

**TABLE #5**

**GOLDISC RECORDINGS, INC. SITE**

**MONITORING WELL SUMMARY FOR NICKEL IN GROUNDWATER**

MONITORING WELL NO.	SCREENED INTERVAL (IN FEET)	MONITORING WELL SAMPLING DATES (CONCENTRATIONS IN $\mu\text{g/l}$ )			
		J/94	9/94	5/97	12/97
MW-7A	22.7 to 32.7	ND	ND	ND	ND
MW-7B	69.3 to 79.3	ND	ND	ND	ND
MW-7C	102 to 122	ND	ND	ND	ND
MW-8	20 to 30	40.8J	42	42.8	ND
MW-9	18.6 to 28.6	ND	ND	ND	ND
MW-10	22.5 to 32.5	ND	ND	ND	ND
MW-11	23 to 33	140J	127	ND	ND
MW-12	24.5 to 34.5	959	980	394	300
MW-14	23 to 33	NS	NS	24.3	ND
MW-16	30.7 to 40.7	278	277	94.6	81.1
MW-17S	18 to 38	13.3BJ	ND	ND	23.5
MW-17I	69 to 89	16.2BJ	ND	ND	ND
MW-17D	137 to 157	ND	ND	ND	ND

\* Monitoring wells have been screened in the Upper Glacial Aquifer.

$\mu\text{g/l}$  - Micrograms per liter

NS - Not sampled

ND - Non-detect

J - Estimated

B - Detected in blank

**THIS PAGE INTENTIONALLY LEFT BLANK**

APPENDIX III

ADMINISTRATIVE RECORD INDEX



**THIS PAGE INTENTIONALLY LEFT BLANK**

GOLDISC RECORDINGS SITE  
OPERABLE UNIT TWO  
ADMINISTRATIVE RECORD FILE  
INDEX OF DOCUMENTS

1.0 SITE IDENTIFICATION

1.5 Previous Operable Unit Information

- P. 100001- Record of Decision, Operable Unit 1, Goldisc  
100087 Recordings, Holbrook, Suffolk County, New York,  
prepared by the U.S. EPA, Region II, September 29,  
1995.
- P. 100088- Letter to addressees, from Ms. Kathleen C.  
100093 Callahan, Director, Emergency and Remedial  
Response Division, U.S. EPA, Region II, re:  
Special Notice Pursuant to Section 122(e) of  
CERCLA 42 U.S.C. 9622(e), First Operable Unit,  
Goldisc Recordings Superfund Site, Town of Islip,  
Suffolk County, N.Y., March 22, 1996.
- P. 100094- Report: Final Remedial Activity Work Plan.  
100369 Former Goldisc Recordings Facility. Village of  
Holbrook. Town of Islip. Suffolk County. New York.  
prepared by ERM-Northeast, prepared for The  
ElectroSound Group, Inc., September 26, 1996.
- P. 100370- Report: Remedial Action Report for the Soil  
100556 Remedy at the Former Goldisc Recordings Facility.  
Village of Holbrook. Town of Islip. Suffolk  
County. New York, prepared by ERM-Northeast,  
prepared for The ElectroSound Group, Inc., January  
19, 1998.

3.0 REMEDIAL INVESTIGATION

3.3 Sampling and Analysis Data/Chain of Custody Forms

- P. 300001- Letter to Mr. Damian J. Duda, Remedial Project  
300010 Manager, Eastern New York Remedial Section  
(ENYRS), U. S. EPA, Region II, from Mr. Michael B.  
Teetsel, C.P.G., Senior Associate, ERM-Northeast,  
and Mr. John Iannone, P.E., Project Director, ERM-  
Northeast, re: Ground Water Sampling Results,  
Former Goldisc Recordings Site, Holbrook, NY, July  
30, 1997. (Attachment: (1) Table 1 - Water  
Chemistry Parameters Monitored in the Field,  
Former Goldisc Recordings Site - Holbrook, N.Y.,  
August 25, 1997; (2) Table 2 - Summary of Nickel  
Analytical Results, Ground Water Samples, Former  
Goldisc Site, Holbrook, N.Y., July 27, 1997; (3)  
Figure 1 - Nickel Distribution in Ground Water  
Sampling date: May 1997, prepared by ERM-  
Northeast, prepared for ElectroSound Group, Inc.,  
July 14, 1997; and (4) Attachment 1 - Data  
Validation Review, Ground Water Analyses, Former  
Goldisc Recordings Site, Holbrook, NY, July 28,  
1997.)
- P. 300011- Letter to Mr. Damian J. Duda, Remedial Project  
300016 Manager, ENYRS, U.S. EPA, Region II, from Mr.  
Michael B. Teetsel, C.P.G., Senior Associate, ERM-  
Northeast, re: December 1997 Ground Water Sampling  
Results, Former Goldisc Recordings Site, Holbrook,  
NY, March 16, 1998. (Attachments: (1) Table 1 -  
Water Chemistry Parameters Monitored in the Field,  
December 1997, Former Goldisc Recordings Site -  
Holbrook, N.Y., February 9, 1998; and (2) Table 2  
- Summary of Nickel Analytical Results, Ground  
Water Samples, Former Goldisc Recordings Site,  
Holbrook, N.Y., March 16, 1998.)
- P. 300017- Suffolk County Water Authority, Church Street  
300059 Wellfield - Data for wells #1, #2, and #3, January  
1995 to June 1998, July 15, 1998.

### 3.5 Correspondence

- P. 300060- Letter to Mr. John J. Iannone, P.E., ERM-  
300060 Northeast, from Mr. Doug Garbarini, Chief, ENYRS,  
U.S. EPA, Region II, re: Remedial Activity Work  
Plan (RAWP) Approval, Goldisc Recordings Superfund  
Site, September 27, 1996.
- P. 300061- Letter to Mr. John J. Iannone, P.E., ERM-  
300061 Northeast, from Mr. Doug Garbarini, Chief, ENYRS,  
U.S. EPA, Region II, re: Remedial Activity Work  
Plan (RAWP), Administrative Order on Consent  
(RI/FS), No. II-CERCLA-10128, Goldisc Recordings  
Superfund Site, April 7, 1997
- P. 300062- Letter to Mr. Leslie J. Levine, Ackerman, Levine &  
300062 Cullen, LLP, from Mr. Doug Garbarini, Chief,  
ENYRS, U.S. EPA, Region II, re: Goldisc Recordings  
Superfund Site, Administrative Order on Consent -  
No. II-CERCLA-10218, Village of Holbrook, Suffolk  
County, N.Y., October 9, 1997.
- P. 300063- Letter to Mr. Doug Garbarini, Chief, ENYRS, U.S.  
300063 EPA, Region II, from Mr. Marsden Chen, Federal  
Projects Section, Bureau of Eastern Remedial  
Action, Division of Environmental Remediation, New  
York State Department of Environmental  
Conservation (NYSDEC), re: Goldisc Recordings Site  
#152022, Proposed Remedial Action Plan, July 27,  
1998.
- P. 300064- Memorandum to File, from Mr. Damian Duda, Remedial  
300065 Project Manager, ENYRS, U.S. EPA, Region II, re:  
Goldisc Recordings Site Meeting with State and  
County Agencies Regarding the Groundwater  
Contamination at the Goldisc Site, August 14,  
1998.

#### 4.0 FEASIBILITY STUDY

##### 4.3 Feasibility Study Reports

- P. 400001- Appendix D to August 1995 Feasibility Study -  
400016 Ground Water Modeling, prepared by ERM-Northeast.

#### 7.0 ENFORCEMENT

##### 7.4 Consent Decrees

- P. 700001 Consent Decree, United States of America,  
700086 Plaintiff, v. ElectroSound Group, Inc., First  
Holbrook Company, Genco Auto Electric, Inc., Red  
Ground Company, Red Ground Corporation,  
Defendants, September 26, 1996.

##### 7.8 Correspondence

- P. 700087- Letter to Mr. John J. Iannone, P.E., ERM-  
700087 Northeast, from Mr. Doug Garbarini, Chief, ENYRS,  
U.S. EPA, Region II, re: Consent Decree - Civil  
Action #CV-97/728, Section XIV. (c) - Remedial  
Action Report Approval, Goldisc Recordings  
Superfund Site, June 23, 1998.

#### 8.0 HEALTH ASSESSMENTS

##### 8.1 ATSDR Health Assessments

- P. 800001- Final Combined Regulatory Impact and Environmental  
800011 Impact Statement, Title 6, Chapter X, Parts 700-  
706, 1998, prepared by the Division of Water,  
NYSDEC, February 10, 1998. (Attachments: (1)  
Combined Regulatory Impact and Draft Environmental  
Impact Statement, Title 6, Chapter X, Parts 700-  
706, Volume 2 of 3, Appendix II, In Part: Health  
(Water Source) Fact Sheets, 1997, prepared by the  
Division of Water, NYSDEC, undated, and (2)  
Exhibit 1: Oral Reference Dose Summary for Nickel  
Taken from the On-Line Integrated Risk Information

System (IRIS) of the U.S. Environmental Protection Agency (as of June 1, 1995), undated.)

**10.0 PUBLIC PARTICIPATION**

**10.3 Public Notices**

- P. 10.00001- Notice: "Notice of Lodging of Consent Decree  
10.00001 Pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as Amended", Federal Register, Vol. 62, No. 39, February 27, 1997.

**10.6 Fact Sheets and Press Releases**

- P. 10.00002- For Release: "ElectroSound Agrees to Clean Up  
10.00003 Federal Superfund Site in Islip, New York; Joins Others in Paying EPA for Past Costs", prepared by the U.S. EPA, Region II, September 26, 1996.
- P. 10.00004- Press Release: "Lazio Applauds Clean Up of  
10.00004 Superfund Site in Islip - Federal Oversight Role Praised", February 19, 1997.
- P. 10.00005- Press Release: "Zachary W. Carter, United States  
10.00006 Attorney for the Eastern District of New York, announced the filing of a Complaint and lodging of a Consent Decree in the civil environmental case against ElectroSound Group, Inc., First Holbrook Company, Genco Auto Electric, Red Ground Corporation and Red Ground Company", prepared by the U.S. Department of Justice, February 20, 1997.
- P. 10.00007- Press Release: "ElectroSound Begins Remedial  
10.00008 Action at Federal Superfund Site in Islip, N.Y.", prepared by the U.S. EPA, Region II, May 5, 1997.

**THIS PAGE INTENTIONALLY LEFT BLANK**

APPENDIX IV

STATE LETTER OF CONCURRENCE



**THIS PAGE INTENTIONALLY LEFT BLANK**

**New York State Department of Environmental Conservation**

**Division of Environmental Remediation**

50 Wolf Road, Albany, New York 12233-7010

Phone: (518) 457-5861 FAX: (518) 485-8404



John P. Cahill  
Commissioner

SEP 29 1998

Mr. Richard Caspe  
Director  
Emergency and Remedial Response Division  
U.S. Environmental Protection Agency  
Region II  
290 Broadway  
New York, NY 10007-1866

Dear Mr. Caspe:

Re: Goldisc Recordings Site ID No, 152022

The New York State Department of Environmental Conservation has reviewed the draft Record of Decision (ROD) for the Goldisc Recordings Site. The Department concurs with the selected remedy of Alternative GWR-IV, as it is detailed in the draft ROD for the site.

Sincerely,

Michael J. O'Loole, Jr.

Director

Division of Environmental Remediation

c: D. Garbarini/D. Duda

03

1998 SEP 29 AM 9:59  
DIRECTOR'S OFFICE

EMERGENCY  
1998

**THIS PAGE INTENTIONALLY LEFT BLANK**

APPENDIX V

RESPONSIVENESS SUMMARY

**THIS PAGE INTENTIONALLY LEFT BLANK**

**RESPONSIVENESS SUMMARY**  
**Goldisc Recordings Site**  
**Operable Unit Two - Groundwater**  
**Town of Islip, Suffolk County, New York**

**INTRODUCTION**

A responsiveness summary is required by Superfund regulation. It provides a summary of citizens' comments and concerns received during the public comment period, and the United States Environmental Protection Agency's (EPA's) responses to those comments and concerns. All comments summarized in this document have been considered in EPA's final decision for selection of a remedial alternative for the Goldisc Recordings site (Site).

**SUMMARY OF COMMUNITY RELATIONS ACTIVITIES**

Community involvement at the Site has been low. In 1991, EPA took over as the lead agency for community relations and remedial activities at the Site. On March 10, 1991, EPA initiated its community relations activities with in-person interviews with local officials and residents of the Village of Holbrook and the Town of Islip. Based on these interviews, the key issue of concern centered around the impacts which Site-related contamination could have on the Suffolk County Water Authority (SCWA) Church Street Wellfield (CSW), particularly Church Street Well No. 2 (CS-2), which is located approximately 1200 feet downgradient of the Site.

The Proposed Plan for the Second Operable Unit (OU-2), which addressed the remediation of contaminated groundwater at the Site, was released to the public for comment on August 29, 1998. The Proposed Plan, the Remedial Investigation (RI) report and the Feasibility Study (FS) and all other documents are available to the public in the Administrative Record file at the EPA Docket Room in Region II, New York and the information repositories at the Islip Town Hall and the Sachem Public Library. A press release announcing the preferred alternative was issued on August 29, 1998 to local media outlets. The notice of availability for the above-referenced documents was published in Newsday [Suffolk County edition] on August 29, 1998. The public comment period on these documents was held from August 29, 1998 to September 27, 1998.

On September 17, 1998, EPA conducted a public meeting at the Hamlet of Bohemia Recreation Center to inform local officials and interested citizens about the Superfund process, the remedial alternatives for the Site and EPA's preferred alternative, and to

provide an opportunity for the interested parties to present oral comments and questions on the preferred alternative to EPA.

Attached to the Responsiveness Summary are the following Appendices:

- Appendix A - Proposed Plan
- Appendix B - Public Notice
- Appendix C - September 17, 1998 Public Meeting Attendance Sheet
- Appendix D - Letters Submitted During the Public Comment Period

#### **SUMMARY OF COMMENTS AND RESPONSES**

Comments were expressed at the public meeting and written comments were received during the public comment period from Counsel, representing Red Ground Corporation and Red Ground Company (RG Companies) and the Holbrook Triangle Civic Association, Inc.

The comments have been categorized as follows:

- A. General Site Issues
- B. Selected Remedy Issues
- C. General Enforcement Issues

A summary of the comments and EPA's responses to the comments is provided below:

#### **A. General Site Issues**

**Comment #1:** One commenter asked how the Site came to be listed on the National Priorities List (NPL).

**Response #1:** During the preliminary investigation/site inspection, the Site was ranked using EPA's Hazard Ranking System (HRS). The Site scored 33.39 which is above the pre-determined benchmark score of 28.5 for ranking Superfund sites. The potential impact of Site contamination on the sole source aquifers underlying the Site and the downgradient public water supply CSW figured strongly in the HRS score for the Site.

**Comment #2:** The RG Companies' Counsel indicated that the size of the Site should be reduced as per the August 1996 Consent Decree (CD).

**Response #2:** As part of the CD, the "Site" was defined as 17.34 acres, relating directly to the remedial action. However, the Site includes the full 34-acre property that was the subject of the RI/FS, as well as the contaminated groundwater. There has been no partial deletion of the Site from the NPL.

**Comment #3:** One commenter wanted to know when the Site will be deleted from the NPL.

**Response #3:** The time frame for deletion of the Site from the NPL is dependent upon the results of the groundwater monitoring program. As noted in the OU-2 Proposed Plan, EPA expects that the nickel levels at the Site will decrease to levels below the New York State Class GA standard of 100 µg/l within 3 years and that the concentrations of nickel at the CSW, which are currently below this standard, will continue to decrease. [As noted at the September public meeting, unvalidated data for samples collected from on-site wells in August 1998 indicate that nickel concentrations have already declined to levels below the standard.] EPA would continue to monitor the nickel contamination for one to two years after the nickel concentrations at the Site decline to levels below the standard to ensure that levels will remain below the standard. If EPA's expectations are correct, then the Site would likely be deleted from the NPL within three to five years. If the time frame to reach the standards is longer or shorter, the time frame for deletion would be adjusted accordingly.

**Comment #4:** One commenter asked if Federal funds were expended to pay for the cleanup at the Site.

**Response #4:** The potentially responsible parties (PRPs) incurred the majority of the Site costs during the RI/FS and the remedial action. EPA did expend Federal funds during the RI/FS under its oversight contract and has incurred costs related to salaries of EPA personnel for oversight of the RI/FS and remedial action. EPA has been reimbursed by the PRPs for some of these costs and will seek reimbursement for the remainder.

**Comment #5:** One commenter from the Suffolk County Department of Health Services (SCDHS) asked about private wells south of the Site.

**Response #5:** A private well survey was conducted as part of the August 1995 RI report; the results of this survey were provided to SCDHS. The survey only indicated a few potential instances where private residences may still have private wells though it was not determined that these wells were actually used for



drinking water. SCDHS indicated at the September public meeting, and in previous meetings with EPA, that it and SCWA will follow up on the private well usage in the area of the Site.

**Comment #6:** A representative of SCDHS asked what actions EPA could take if a private residential well reveals high levels of nickel contamination after EPA signs a ROD selecting the preferred alternative.

**Response #6:** EPA has a process whereby it can amend a ROD if the remedy is no longer deemed to be protective of human health and the environment. If nickel contamination attributable to the Site were detected in a private well that is used for drinking water, EPA could amend the ROD to ensure that the residence has a safe supply of water, e.g., if the residence was not already connected to the public water supply, EPA could either make this connection or a treatment unit could be provided to remove the nickel prior to consumption. If the nickel concentration were above 500 µg/l, EPA could utilize its removal action authority to implement similar actions.

**Comment #7:** SCWA submitted written comments supporting concerns raised in SCDHS's August 21, 1998 letter to EPA, which was submitted prior to the release of the OU-2 Proposed Plan. SCWA also requested that it be reimbursed for costs which it would not have incurred if nickel contamination from the Site had not impacted the CSW.

**Response #7:** EPA responded to concerns raised in SCDHS's August 21, 1998 letter prior to the release of the Proposed Plan and the start of the public comment period. EPA coordinated with SCDHS on the subject of the sentinel well cluster location, residential well surveys and contingency measures for the preferred alternative, as well as on other matters prior to the release of the OU-2 Proposed Plan to ensure that SCDHS's concerns were adequately addressed.

With regard to costs that would be incurred by SCWA for future monitoring, the selected remedy calls for additional monitoring of the CSW. Therefore, expenditures associated with the monitoring of the CSW, as provided for in EPA's Site monitoring plan pursuant to this ROD, would be reimbursable. In order for EPA to reimburse SCWA, EPA and the New York State Department of Environmental Conservation (NYSDEC) would have to modify their existing cooperative agreement for the Site to include such expenditures. NYSDEC would then have to transfer the funds via a separate cooperative agreement with SCWA or other appropriate Suffolk County authority. Since the costs to SCWA to perform

this sampling and analysis are relatively small (\$5 per sample analysis plus staff time to collect the sample), it is possible that the PRPs may be willing to reimburse SCWA for such costs. EPA will explore this alternative with the PRPs when discussing the implementation of the future groundwater monitoring program for the Site.

Unfortunately, EPA cannot reimburse SCWA for past costs associated with sampling, engineering and production, because past costs are not reimbursable under the Superfund Statute. However, SCWA may want to contact the PRPs directly about such reimbursement.

#### B. Selected Remedy Issues

**Comment #8:** One commenter from SCWA asked how EPA decided upon the action level of 300 µg/l of nickel for the sentinel well cluster.

**Response #8:** SCWA, SCDHS, EPA and NYSDEC agreed that it would be appropriate to install an additional cluster of wells that could serve as an early warning or sentinel for nickel contamination which could disrupt the distribution of drinking water from the CSW. SCWA, SCDHS, EPA and NYSDEC conferred on what an appropriate action level would be for the sentinel well cluster, taking into consideration: 1) the levels of nickel that had been detected in the Site groundwater; 2) the distance of the sentinel wells from the CSW; 3) the fact that the sentinel wells would be designed to monitor selectively small intervals in the groundwater table anticipated to have the highest concentrations of nickel; and, 4) the fact that the CSW, with its significant pumping rate, would draw water from a much larger screened interval and would, thus, draw in "clean" groundwater along with the contaminated groundwater, migrating from the Site. As a result, it was determined that nickel levels below 300 µg/l at the sentinel wells would not likely cause the 100 µg/l GA standard to be contravened in water pumped from the CSW. All parties agreed that levels above 300 µg/l of nickel would warrant the governmental authorities to convene and to discuss whether it would be necessary to take any additional actions to ensure that SCWA is able to continue to provide a safe drinking water supply to its customers.

**Comment #9:** One commenter asked about the costs of the preferred alternative.

**Response #9:** The present worth costs for monitored natural attenuation over a five-year period is \$9,430.

**Comment #10:** The RG Companies' Counsel expressed concern about the inconsistencies in the long-term monitoring program's time frame versus costs.

**Response #10:** EPA has revised the costs for the preferred alternative which were presented in the OU-2 Proposed Plan. Since EPA currently anticipates that the nickel standard in the groundwater at the Site will be achieved through monitored natural attenuation within a three-year time frame, the anticipated duration of the monitoring program has been changed to five years, which results in a present-worth cost of \$9,430. Accordingly, EPA also modified the present-worth costs of Alternatives GWR-II and GWR-III to reflect the anticipated time frame for achieving the nickel standard in the Site groundwater.

**Comment #11:** One commenter wanted to know when the source removal occurred.

**Response #11:** The source removal, which included the removal of surface soils, soils and sediments from seven dry wells and the removal of soils and sediments from a production well vault with subsequent off-site disposal of these materials, was implemented by the PRPs between May 1997 and July 1997.

**Comment #12:** One commenter from a local organization expressed concern that the adjoining property north and upgradient of the Site was exposed to Site contamination and that it should not be developed for residential use.

**Response #12:** During the Site investigation in the Phase I and Phase II RIs, soils north of the Site property boundary were investigated. As per the August 1995 ROD, the 1996 Remedial Activity Work Plan and 1996 CD, a source control remedial action was performed in this area, identified as Area #8, where approximately 215 cubic yards of contaminated soil were excavated and disposed of off-site. Therefore, EPA believes that the adjoining property north of the Site can be developed without any restrictions.

**Comment #13:** RG Companies' Counsel asked that the ROD include a discussion on the criteria used to determine when the groundwater monitoring program would cease.

**Response #13:** EPA has previously indicated that it anticipates that the downward trend in the nickel concentrations both in monitoring wells and the CSW will continue. This expectation is based upon the conservative predictions of the solute transport modeling performed for the August 1995 FS, the existing data trends (downward) for both the Site monitoring wells and the CSW and the fact that a remedial action, implemented at the Site, has removed the remaining source of nickel contamination to the groundwater.

It is anticipated that the nickel standard of 100 µg/l will be achieved within a three-year time frame (as mentioned previously, unvalidated data for samples collected from on-site wells in August 1998 indicate that nickel concentrations have already declined to levels below the standard). It is anticipated that one to two years of monitoring will be required, subsequent to the nickel concentrations decreasing below the standard, in order to deem that the concentrations will remain below the standard.

**Comment #14:** One commenter asked about the time frame for the contamination to travel to the CSW.

**Response #14:** The modeling performed for the August 1995 FS utilized a conservative flow rate of 1.5 feet day for the groundwater at the Site. Given the fact that the CSW is 1200 feet south of the Site, groundwater at the Site would take approximately 800 days to reach the CSW.

**Comment #15:** One commenter asked if EPA expects a downward trend of nickel levels in the study area during two years of monitoring.

**Response #15:** A decreasing trend of nickel concentrations to levels well below 100 µg/l is consistent with the solute transport modeling results performed for the August 1995 FS. The model incorporated very conservative assumptions intended to overestimate the concentrations of nickel which might reach CS-2. The model, which utilized the maximum concentration that had been found at the Site (959 µg/l rounded up to 1000 µg/l), predicted that nickel concentrations reaching CS-2 would peak at 325 µg/l in 1996, prior to decreasing to levels below 100 µg/l in 1997.

In fact, CS-2 sampling data available to EPA confirm that the model assumptions were very conservative, since the nickel concentrations entering CS-2 reached a peak of 112 µg/l in January 1996 and have not been above 100 µg/l since then. It should be noted that, while the sample results since January 1996

have generally indicated concentrations in the 50 to 70 µg/l range, concentrations did approach 100 µg/l in late June 1997, only to decline shortly thereafter.

Given these results, it is anticipated that nickel concentrations will continue to decrease on-site and that levels of nickel at CS-2 will continue to decrease and remain below 100 µg/l. As noted at the public meeting, unvalidated data for samples collected from on-site wells in August/September 1998 indicate that nickel concentrations have already declined to levels below the standard.

### C. General Enforcement Issues

**Comment #16:** One commenter wanted to know which PRPs have performed response actions at the Site.

**Response #16:** The PRPs performed the RI/FS and remedial action as a group. The PRPs performed the RI/FS under a 1991 Administrative Order on Consent (AOC) and performed the remedial action for OU-1 under the CD. EPA does not have any specific knowledge of exactly how the PRPs apportioned their responsibilities among themselves.

APPENDIX A

PROPOSED PLAN

**THIS PAGE INTENTIONALLY LEFT BLANK**

---

## Superfund Proposed Plan

## GOLDISC RECORDINGS SITE



EPA  
Region 2

Town of Islip, Village of Holbrook  
Suffolk County, New York

August 1998

---

### PURPOSE OF PROPOSED PLAN

This Proposed Plan identifies a Monitored Natural Attenuation remedy for the second Operable Unit (OU-2) considered for the Goldisc Recordings Superfund site (Site), located in the Town of Islip, Suffolk County, New York. The Proposed Plan was developed by the U.S. Environmental Protection Agency (EPA), as lead agency, with support from the New York State Department of Environmental Conservation (NYSDEC). EPA is issuing this Proposed Plan as part of its public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, 42 U.S.C. §§ 9601-9675 and the National Contingency Plan, 40 C.F.R. § 300.430(f).

This Proposed Plan for OU-2 is being provided to supplement the first Operable Unit (OU-1) August 1995 remedial investigation and feasibility study (RI/FS) reports, to inform the public of EPA's and NYSDEC's preferred remedy for the groundwater and to solicit public comments pertaining to all the remedial alternatives, as well as the preferred alternative on this action.

The remedy, as described in this Proposed Plan, is the preferred remedy for OU-2. Changes to the preferred remedy or a change from the preferred remedy to another remedy may be made, if public comments or additional data indicate that such a change will result in a more appropriate remedial action. The final decision regarding the selected remedy will be made after EPA has taken into consideration all public comments. Therefore, EPA is encouraging public comment on this Proposed Plan.

### COMMUNITY ROLE IN SELECTION PROCESS

EPA and NYSDEC rely on public input to ensure that the concerns of the community are considered in

selecting an effective remedy for each Superfund site. To this end, the RI/FS reports, Proposed Plan and all supporting documentation have been made available to the public for a public comment period which begins on August 29, 1998 and concludes on September 27, 1998.

---

Copies of the RI/FS reports, the Proposed Plan, the supplemental groundwater monitoring well data, the public water supply well data and other supporting documentation are available for review at the following locations:

Islip Town Hall  
655 Main Street  
Islip, New York 11751  
Tel. (516) 224-5490  
Hours: Mon-Fri: 8:30 AM to 5:00 PM

Sachem Public Library  
150 Holbrook Road  
Holbrook, New York 11741  
Tel. (516) 588-5024  
Hours: Mon-Thurs: 9:30 AM to 9:00 PM  
Fri: 9:30 AM to 6:00 PM  
Sat: 9:30 AM to 5:00 PM  
Sun: 12:00 PM to 4:00 PM (9/13 and after)

Environmental Protection Agency  
Superfund File Room - 18<sup>th</sup> Floor  
290 Broadway  
New York, New York 10007-1866  
Tel. (212) 637-4308  
Hours: Mon-Fri: (9:00 AM to 4:30 PM)

---

A public meeting will be held during the public comment period at the Bohemia Recreation Center Hall on Thursday, September 17, 1998 at 7:00 PM to discuss the OU-1 remedial action and the supplemental groundwater sampling data, to elaborate further on the reasons for recommending the preferred remedial alternative and to receive public comments.



**DATES TO REMEMBER**

August 29, 1998 to September 27, 1998  
Public comment period on Proposed Plan

Thursday, September 17, 1998 - 7:00 PM  
Public meeting at the  
Bohemia Recreation Center  
One Ruzicka Way - off Smithtown Avenue  
Bohemia, New York 11716  
(516) 472-7037

Comments received at the public meeting, as well as written comments, will be documented in the Responsiveness Summary section of the OU-2 Record of Decision (ROD), the document which formalizes the selection of the remedy.

All written comments should be addressed to:  
Damian J. Duda  
Remedial Project Manager  
U.S. Environmental Protection Agency  
290 Broadway, 20th Floor  
New York, New York 10007-1866  
(212) 637-4269

**SITE BACKGROUND**

The 34-acre Site is located at the intersection of Veterans Memorial Highway and Broadway Avenue in the Town of Islip, New York (see Figure #1) and consists of two one-story buildings that occupy six acres, three acres of pavement surrounding the buildings and twenty-five acres of undeveloped land. Current zoning at the Site is retail/commercial. The area surrounding the Site is primarily residential and mixed forest, with some commercial and light industrial development. The Site is bordered to the north and east by mixed forest, to the south by Veterans Memorial Highway and to the west by Broadway Avenue (see Figure #1).

A municipal water supply wellfield, the Church Street wellfield, which provides drinking water for the Suffolk County Water Authority (SCWA), is located approximately 1200 feet south and downgradient of the Site. The closest dwellings are located about 700 feet north of the Site. A New York State (NYS) regulated wetland is located approximately one-half mile south of the Site. A Sunoco gasoline station is located on the southeast corner of Veterans Memorial Highway and Broadway Avenue, just south of the Site. Currently, a spill from the Sunoco station

is being remediated in order to alleviate any impact on the Church Street wellfield.

From 1968 to 1990, the two buildings were occupied by several different companies that generated and stored hazardous substances on the Site. These companies included Goldisc Recordings, Inc. (Goldisc), which produced phonographic records; ElectroSound Group, Inc. (ElectroSound), a company that manufactured audio visual and optical devices; and Genco Auto Electric, Inc. (Genco), which rebuilt automotive engine parts. The First Holbrook Company (First Holbrook) owned the property from 1973 to 1985. In 1985, the Red Ground Corporation (Red Ground) became the owner of the property. The tenants occupying the buildings since 1990 are dry goods merchants that do not perform any on-site manufacturing.

Between 1968 and 1990, various discharges were known to have occurred at the Site; these included wastewater from the various production processes, waste oils, metals, solutions containing high concentrations of xylene and trichloroethylene and other degreasing agents. These substances were reportedly discharged to the environment through dry wells, leaching pools, storm drains and leaking storage containers located around the buildings.

Since the late 1970's, the Suffolk County Department of Health Services (SCDHS), NYSDEC and EPA conducted various inspections and environmental protection enforcement activities at the Site. In 1978, a representative from the SCDHS inspected the Site and noted stains, puddles and leaking drums suspected to be related to industrial wastes. In the early 1980's, the SCDHS collected samples from leaching pools, storm drains and cesspools located on the Site. Laboratory analyses of the samples revealed violations of NYS Groundwater Effluent Guidelines. Between 1981 and 1983, laboratory analyses of groundwater samples collected from monitoring wells located on-site revealed elevated levels of solvents and metals, including: trichloroethane, trichloroethylene, tetrachloroethylene, lead, nickel, chromium and silver. Analyses of samples obtained from the Church Street wellfield showed concentrations of tetrachloroethylene slightly exceeding the Maximum Contaminant Level (MCL) of 5 µg/l for public drinking water. Based on these findings, the Site was added to the EPA National Priorities List in June 1986.

In 1988, NYSDEC entered into an Administrative Order on Consent (AOC) with two of the potentially responsible parties (PRPs), namely, First Holbrook

and ElectroSound. The AOC required the two PRPs to conduct an RI at the Site, as required under CERCLA. The 1988 Phase I RI investigated 19 areas of potential contamination. Groundwater and soil samples were collected and analyzed to determine the nature and extent of contamination in these areas. Elevated levels of lead and tetrachloroethylene were found in groundwater samples. Soil samples were found to contain elevated levels of several metals, volatile organic compounds (VOCs) and semi-VOCs (SVOCs).

Based on a review of the results, EPA and NYSDEC determined that additional information was necessary in order to define fully the extent of contamination at the Site. In late 1990, NYSDEC requested that EPA take over as lead agency for the Site. EPA notified First Holbrook, ElectroSound and Red Ground of their potential liability at the Site and requested they finance or undertake the continuing RI/FS. Red Ground refused to enter into negotiations with EPA to conduct additional RI/FS activities. Subsequently, in 1991, EPA entered into an AOC with First Holbrook and ElectroSound. This AOC specifically required the PRPs to conduct a supplemental or Phase II RI/FS.

In August 1995, EPA issued a Proposed Plan for OU-1 which identified the preferred remedy for the source areas (contaminated surface soils and sediment in dry wells) at the Site. In September 1995, after considering public comment on this action, EPA issued a ROD to address the contaminant source area.

In September 1996, EPA entered into a Consent Decree (CD) with First Holbrook, ElectroSound, Genco and Red Ground to perform the remedial action, as identified in the 1995 ROD. Also in September 1996, as part of the CD, EPA negotiated and approved a final Remedial Activity Work Plan (RAWP) that was prepared by ERM-Northeast, ElectroSound's contractor. This RAWP identified the course of action necessary to complete the remedial action, according to the requirements of the 1995 ROD. The remedial action was completed during the Summer of 1997.

#### **SCOPE AND ROLE OF OPERABLE UNIT ONE AND OPERABLE UNIT TWO**

EPA divided the remedial work necessary to mitigate contamination stemming from the Site into two operable units. OU-1 addressed the source of

contamination at the Site and included the removal of surface soils, removal of soils and sediments from seven dry wells and removal of soils and sediments from a production well vault. Approximately 300 cubic yards of contaminated soils were excavated and disposed of off-site during the Summer of 1997. Nickel was the main contaminant in all areas that were excavated except for one area [Area #14], which was contaminated with SVOCs, namely chrysene and benzo(a)anthracene. Confirmatory sampling indicated that contaminants in soils had been reduced to levels that would be protective of human health and the environment and would minimize cross-media impacts to groundwater.

OU-2 is the subject of this Proposed Plan and addresses the remediation of nickel contamination in the groundwater.

#### **REMEDIAL INVESTIGATION SUMMARY**

In 1988, groundwater remedial investigation field work began at the Site with the Phase I RI conducted by the PRPs, pursuant to an AOC with NYSDEC. The results of this investigation, as well as the results of the Phase II RI, conducted by the PRPs pursuant to an AOC with EPA, are summarized in the August 1995 RI report. In order to evaluate the groundwater further, ERM-Northeast, under the direction of EPA, performed supplemental groundwater sampling before (May 1997) and after (December 1997) the implementation of the remedial action which was completed in the Summer of 1997. The intent of this supplemental groundwater investigation was to obtain additional information regarding the fate of nickel in the groundwater at the Site after the removal of the contaminated surface soils and dry well sediments.

Groundwater investigation field work at the Site has included the collection of groundwater samples from 17 on-site monitoring wells, four off-site monitoring wells, one on-site production well and the three SCWA Church Street public water supply wells. Of the 17 on-site monitoring wells, 15 are shallow (less than 50 feet depth), one is intermediate (75 to 90 feet depth) and one is deep (over 100 foot depth). Of the five off-site monitoring wells, three are shallow, one is intermediate and one is deep. Two of these off-site monitoring wells are installed upgradient of the Site. All on-site monitoring wells are installed in the Upper Glacial aquifer. The thickness of the Upper Glacial aquifer underlying the Site is approximately 135 feet. Depth from the surface to the water table

ranges across the Site from 18 to 32 feet. Church Street wells #1 (CS-1) and #2 (CS-2) are both shallow wells, installed, at similar depths of approximately 160 feet, in the Upper Glacial aquifer. Church Street well #3 (CS-3) is screened at approximately 500 feet in the lower Magothy aquifer.

The groundwater flow direction in the northern portion of the Site is generally south to southeast. However, the southeast portion of the Site shows a shift in flow direction to the southwest in response to the radial drawdown resulting from the pumping operations of the Church Street wellfield. The groundwater flow velocity ranges from 1.3 to 2.9 feet/day, depending on the pumping operations at the wellfield.

#### Monitoring Well Data

The Phase I RI included the collection of groundwater samples from 18 monitoring wells, the production well and the three Church Street public water supply wells. The results indicated inorganic contamination, including nickel, chromium and lead, and VOC-contamination, including 1,1,1-trichloroethane, tetrachlorethene and 1,1-dichloroethane.

Two rounds of groundwater samples were taken during Phase II. The groundwater samples were analyzed for Target Analyte List (TAL) metals and/or Target Compound List (TCL) volatile organic compounds (VOCs).

The April 1993 Phase II (first round) groundwater sampling effort included collection of samples from eight on-site monitoring wells. The resultant metals analyses did not indicate the presence of metals, including nickel, above any federal or state drinking water standards. Wells impacted by nickel contamination were not sampled at that time.

The September 1994 Phase II sampling (second round) was initiated to investigate further the presence of heavy metals, particularly nickel, in the groundwater at the Site. ERM-Northeast collected samples from 15 on-site monitoring wells and analyzed these samples for nickel, chromium, iron and manganese. All 15 samples were split and analyzed by EPA for all TAL metals. Based on its frequent detection at elevated concentrations at the Site and the potential impact to the Church Street wellfield, nickel had been deemed to be the primary contaminant of concern at the Site. Table 1 provides

results of all nickel analyses performed on samples collected from the monitoring wells since 1994. This Phase II (second round) of metals analysis detected nickel at some wells above the federal MCL, which was 100 µg/l. Subsequently, in 1995, the MCL for nickel was remanded so a health-based action level for nickel was developed for the Site, utilizing Superfund risk assessment methodologies. This health-based action level, detailed further in the risk discussion, was calculated to be 730 µg/l. Only one sample, collected from MW-12 (959 µg/l), exceeded this level.

Following the remand of the MCL for nickel, EPA issued a Health Advisory of 100 µg/l for nickel; this Health Advisory is intended to serve as informal technical guidance only. The Health Advisory incorporates additional conservative assumptions related to potential nickel exposure from media other than drinking water. It should be noted that, in February 1998, the NYSDEC established a Class GA standard for nickel of 100 µg/l. Of the 15 wells sampled during Phase II (second round), only three had levels of nickel above 100 µg/l, namely, MW-11 (140 µg/l), MW-12 (959 µg/l) and MW-16 (278 µg/l).

The Phase II second round of metals analysis also detected the presence of both iron and manganese above their respective secondary drinking water standards. The secondary federal and state MCLs for iron and manganese are both based on aesthetic properties and are intended to prevent potential problems, such as poor taste, odor, and staining of plumbing fixtures, and do not specifically present a health risk. The highest concentrations of iron (34,900 µg/l) and manganese (2,840 µg/l) were present in the unfiltered sample collected from MW-11R. A filtered sample collected from MW-11R detected iron and manganese at reduced levels of 189 µg/l and 459 µg/l, respectively. In the filtered sample, manganese was still detected in excess of the secondary standard. However, the manganese levels detected represent background conditions in the area.

Comparison of the Phase I and Phase II (first round) groundwater sampling results indicated that the VOC concentrations had decreased. For the Phase II data, the only VOC detected at a concentration above its drinking water standard was carbon disulfide in monitoring well 17D (MW-17D). This concentration was not confirmed by its split sample

and was determined to be a laboratory artifact and not a contaminant of concern.

In May 1997, 10 monitoring wells were sampled in order to establish a nickel level baseline prior to the remedial action for OU-1. The May 1997 results showed that only one well, MW-12, contained nickel levels above EPA's Health Advisory level and NYS Class GA standard of 100 µg/l. Nickel was present at a concentration of 394 µg/l in this well, significantly below the 980 µg/l detected in 1994. Similarly, nickel concentrations in the other wells which had also been above 100 µg/l in 1994 decreased significantly; the nickel concentration in MW-16 decreased from 278 µg/l to 95 µg/l, while the concentration in MW-11 decreased from 140 µg/l to below the detection limit of 14 µg/l. Nickel was also not detected in five of the remaining seven wells sampled.

In December 1997, 13 wells were sampled for nickel in order to assess the post-remediation nickel concentration. The December 1997 results also showed a general decline in nickel concentrations. In particular, MW-12 results showed a reduction from 394 µg/l (May 1997) to 300 µg/l and was the only well that exceeded the NYS Class GA standard of 100 µg/l for nickel. Nickel was not detected in 10 of the remaining 13 wells sampled.

#### Church Street Wellfield

In late 1993, routine monitoring performed by SCWA on the Church Street wellfield detected the presence of nickel in CS-2 in excess of 100 µg/l for nickel. This prompted SCWA to remove CS-2 from service and conduct testing to evaluate a suitable method of reducing the concentration of nickel in the supply well. Since January 1995, the highest level of nickel detected at CS-2 was 112 µg/l in January 1996. Overall results of the SCWA sampling of the Church Street wells has shown a general decrease in the nickel levels. CS-2 has been returned to service, and SCWA has closely monitored the quality of water in CS-2, in addition to its other wells to ensure that the water distributed from its wellfield meets all federal and state drinking water standards.

From June 1997 until March 1998, CS-2 was sampled weekly; the highest nickel level of 99.7 µg/l was found in July 1997. The levels since that time have decreased steadily, and for the period from January 1998 through June 1998 the average concentration in the influent to CS-2 has been 55 µg/l.

This decreasing trend of nickel concentrations to levels below 100 µg/l is consistent with the solute transport modeling results provided in the 1995 FS. The model incorporated conservative assumptions intended to overestimate the concentrations of nickel which might reach CS-2. The model, which utilized the maximum concentration that had been found at the Site (980 µg/l rounded up to 1000 µg/l), predicted that nickel concentrations reaching CS-2 would peak at 325 µg/l in 1996, prior to decreasing to levels below 100 µg/l in 1997. In fact, CS-2 sampling data available to EPA indicate that the model assumptions were conservative, since the nickel concentrations entering CS-2 reached a peak of 112 µg/l in January of 1996. [It should be noted that, while the sample results since January of 1996 have generally indicated concentrations in the 50-70 µg/l range, concentrations did approach 100 µg/l in late June of 1997, only to decline shortly thereafter.] Given these results, coupled with the source removal and the significant decline of nickel on-site, it is anticipated that nickel concentrations will continue to decrease on-site and that levels of nickel at CS-2 will continue to decrease and remain below 100 µg/l.

In order to monitor the nickel concentration upgradient of the Church Street wellfield, a cluster of two additional monitoring wells, identified as MWV-19I and MWV-19D, are currently being installed south of MW-12 in the direction of CS-2. These wells will be sampled as part of the monitoring program identified in the preferred remedy.

#### **SUMMARY OF SITE RISKS**

The 1995 RI included a baseline risk assessment which estimated the risks associated with current and future uses of the Site conditions. The baseline risk assessment estimates the human health and ecological risk which could result from the contamination at the Site, if no remedial action were taken.

#### Health Assessment

As part of the baseline risk assessment, the following four-step process is utilized for assessing site-related human health risks for a reasonable maximum exposure scenario: *Hazard Identification*—identifies the contaminants of concern at the Site based on several factors such as toxicity, frequency of occurrence, and concentration. *Exposure Assessment*—estimates the magnitude of actual and/or potential human exposures, the frequency

and duration of these exposures, and the pathway (e.g., ingesting contaminated well-water) by which humans are potentially exposed. *Toxicity Assessment*--determines the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure (dose) and severity of adverse effects (response). *Risk Characterization*--summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative (e.g., one-in-a-million excess cancer risk) assessment of site-related risks.

The 1995 baseline risk assessment began with selecting contaminants of concern which would be representative of Site risks associated with soil, sediments and groundwater at the Site. These contaminants included tetrachloroethylene, 1,1-dichloroethane, 1,1,1-trichloroethane, vinyl chloride, benzo(a)anthracene, chrysene, cadmium, copper, lead, nickel and zinc.

Exposure pathways were evaluated under possible on-site present and future land use conditions. The Site was assumed to retain its current zoning status of commercial/industrial. The exposure pathway considered for groundwater was domestic use of groundwater (including ingestion and inhalation of volatiles by nearby residents using the Church Street wellfield as the exposure point).

EPA's acceptable cancer risk range is  $10^{-4}$  to  $10^{-6}$  under a reasonable maximum exposure (RME) scenario. This can be interpreted to mean that an individual may have a one in ten thousand to a one in a million increased chance of developing cancer as a result of exposure to a site-related carcinogen over a 70-year lifetime under the specific exposure conditions at a site and other exposure assumptions that result in an overall exposure estimate that is conservative but within a realistic range of exposure. The results of the baseline risk assessment indicated that the groundwater at the Site poses no unacceptable carcinogenic risk to human health. The overall carcinogenic risk for domestic use of groundwater, through ingestion and inhalation, is estimated to be  $9.5 \times 10^{-6}$  (risk of 9.5 in a million) under RME assumptions. Much of this risk is attributable to vinyl chloride, which was detected at low levels in some soil samples during Phase I but has not been detected in recent sampling events on-site nor at the Church Street wellfield.

To assess the overall potential for noncarcinogenic effects posed by the contaminants at a site, EPA has

developed the hazard index (HI). The HI measures the assumed simultaneous subthreshold exposures to several chemicals which could result in an adverse health effect. When the HI exceeds 1.0, there may be concern for potential noncarcinogenic health effects. The calculated HI values for the dermal absorption and direct contact pathways were all calculated to be less than 1. Domestic use of groundwater contributed to an HI value of 0.26; nickel was the major contributor to this HI.

Since significant nickel contamination exists in the Upper Glacial Aquifer, potential risks related to this contamination were closely evaluated. An acceptable health-based action level was developed for nickel in groundwater at the Site. Assuming that the groundwater would be used for domestic purposes, it was determined that groundwater concentrations of nickel below 730  $\mu\text{g/l}$  would result in an acceptable HI for the Site, i.e., an HI less than or equal to 1.0; conversely, levels above 730  $\mu\text{g/l}$  could present an unacceptable noncarcinogenic risk for the Site. Consistent with EPA guidance for conducting Superfund risk assessments, this calculated value assumes that there are no other significant sources of nickel exposure from other environmental media (e.g., air, soil, diet). As a point of reference, the 95% Upper Confidence Level of the arithmetic mean, calculated utilizing nickel data from all monitoring wells sampled during Phase I and II was 66.5  $\mu\text{g/l}$ , well below the 730  $\mu\text{g/l}$  action level. A solute transport model, used to show the potential future concentrations of nickel at the Church Street wellfield, determined that under existing conditions, concentrations of nickel in CS-2 are unlikely to ever approach the 730  $\mu\text{g/l}$  EPA risk-based level. Modeling, using conservative assumptions, indicated that levels of nickel on-site would need to increase to greater than 2200  $\mu\text{g/l}$  in order to exceed the 730  $\mu\text{g/l}$  risk-based value at the Church Street wellfield. As noted above, levels of nickel on-site have decreased from a high of 980  $\mu\text{g/l}$  in 1994 to 300  $\mu\text{g/l}$  in 1998. Since the source of nickel contamination has been removed, the concentrations of nickel in the Site groundwater are expected to decrease significantly.

#### Ecological Assessment

The ecological risk assessment considered potential exposure routes of Site contamination to terrestrial wildlife. Much of the Site is paved or covered by structures and there is little, if any, potential for wildlife to be exposed to contaminated subsurface soils on-site. The only potential route of exposure to

wildlife in the Site vicinity is if contaminants were transported through groundwater and discharge via groundwater into surface waters, particularly the NYS wetlands, located one-half mile south of the Site. Phase II sampling indicated that the wetland had not been impacted by Site contaminants. Therefore, it was determined that no significant effect on aquatic organisms in the wetland in the vicinity of the Site could be attributed to groundwater discharge from the Site.

Actual or threatened releases of hazardous substances from this Site, if not addressed by the preferred alternative or one of the other active measures considered, would not present a current or potential threat to the environment through contact with soils or groundwater.

### REMEDIAL ACTION OBJECTIVES

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

The remedial action objective for OU-2 is to prevent the ingestion of drinking water containing concentrations of nickel above the 100 µg/l NYS Class GA standard, which is an ARAR at the Site.

### SUMMARY OF REMEDIAL ALTERNATIVES

CERCLA requires that each selected site remedy be protective of human health and the environment, be cost-effective, comply with other statutory laws and utilize permanent solutions, alternative technologies and resource recovery alternatives to the maximum extent practicable. In addition, the statute includes a preference for the use of treatment as a principal element for the reduction of toxicity, mobility or volume of the hazardous substances.

The OU-2 groundwater remedial alternatives were screened based on implementability, effectiveness and cost. The screening resulted in remedial alternatives upon which a detailed evaluation was performed. It should be noted that the alternatives discussed below, i.e., Alternatives GWR-I, GWR-II and GWR-III, have been modified from those presented in the 1995 FS; the costs for these three alternatives have been updated to reflect 1998 costs. In addition, a new alternative, Alternative GWR-IV

(Monitored Natural Attenuation) has been added, and the monitoring component of Alternative GWR-I (No Action) has been eliminated. These alternatives are discussed below.

Construction time is defined as the period of time needed to construct or implement the remedy and does not include the time required to design the remedy, procure contracts for design and construction or to negotiate with responsible parties for implementation of the remedy.

The remedial alternatives for groundwater (GWR) are as follows:

- ▲ GWR-I: No Action
- ▲ GWR-II: Water Supply - Wellhead Treatment
- ▲ GWR-III: Recovery Well-Groundwater Remediation
- ▲ GWR-IV: Monitored Natural Attenuation

#### Alternative GWR-I: No Action

Capital Cost: \$0  
 O & M/yr Cost: \$0  
 Present Worth: \$0  
 Construction Time: N/A

The Superfund program requires that the "no action" alternative be considered as a baseline for comparison with other alternatives. Under this no action alternative, no active or passive remediation nor monitoring would occur.

#### Alternative GWR-II: Water Supply - Well Head Treatment

Capital Cost: \$3,319,920  
 O & M/yr Cost: \$ 195,307  
 Present Worth: \$5,033,741  
 Construction Time: 2 years

This alternative would include the installation and operation of a groundwater treatment system at the well head for CS-2 for nickel removal, followed by discharge of the treated groundwater to the existing public water supply distribution system.

At an estimated flow of 200 gpm, the groundwater would be pumped from a holding tank through a particulate filter and through a multi-vessel ion exchange system. The ion exchange process would remove the metal ions, primarily nickel, from solution, using e.g., hydrous aluminum silicates or

organic resins. It is estimated that 8,000 gallons of the concentrated nickel waste stream per month would be generated, requiring off-site disposal in a RCRA Subtitle C facility in accordance with land disposal restrictions. Following treatment, the groundwater would be pumped into the existing water supply storage tank and/or into the water distribution system. Use restrictions would be imposed on the development of potable water supply wells at the Site.

#### **Alternative GWR-III: Recovery Well - Groundwater Remediation**

Capital Cost: \$1,694,585  
 O & M/yr. Cost: \$ 135,583  
 Present Worth: \$2,884,328  
 Construction Time: 2 years

This alternative would include the installation of a groundwater recovery well and treatment system for nickel removal and the discharge of treated groundwater to an existing recharge basin.

A groundwater recovery well, operating at 100 gpm, would be installed immediately downgradient of the Site on the south of Veteran's Highway. The groundwater would be pumped through a particulate filter and a multi-vessel ion exchange system; this ion exchange process is similar to that of Alternative GWR-II. It is estimated that 4,500 gallons of the concentrated nickel waste stream per month would be generated, requiring off-site disposal in a RCRA Subtitle C facility, in accordance with EPA land disposal restrictions. The groundwater would be treated to meet federal and state groundwater and drinking water standards prior to discharge to an existing storm water recharge basin. Use restrictions, as described in GWR-II, would also be implemented.

#### **Alternative GWR-IV: Monitored Natural Attenuation**

Capital Cost: \$ 27,000  
 O & M/yr Cost: \$ 26,213  
 Present Worth: \$382,983  
 Construction Time: 6 months

This alternative would use natural physical processes to restore groundwater to ARARs. Use restrictions, as described in Alternative GWR-II, would also be implemented. EPA expects that final cleanup levels would be met throughout the entire area of nickel

contamination within a three-year timeframe. Groundwater monitoring would include sampling of existing on-site and off-site monitoring wells, both outside and within the area of nickel contamination, as well as the Church Street wellfield. Sampling of the wells, i.e., those identified in the monitoring program, would be conducted on a quarterly basis. In order to ensure that the Church Street wellfield is able to continue to supply water that meets all federal and state drinking water standards, an additional monitoring well cluster is being installed to monitor the quality of the groundwater just upgradient of CS-2; monitoring of this well cluster will occur on a more frequent basis. If this well cluster reveals nickel levels above 300 µg/l, then the appropriateness of the natural attenuation remedy would be reconsidered and contingency measures would be evaluated to ensure that the Church Street wellfield can continue distributing safe drinking water to its customers. These contingency measures might include well-head treatment, installation of a new supply well and/or the installation of a groundwater extraction and treatment system.

#### **EVALUATION OF ALTERNATIVES**

During the detailed evaluation of remedial alternatives, each alternative is assessed against nine evaluation criteria, as described below:

- ▲ Overall protection of human health and the environment addresses whether or not a remedy provides adequate protection and describes how risks are eliminated, reduced, or controlled through treatment, engineering controls or institutional controls.
- ▲ Compliance with ARARs addresses whether or not a remedy will meet all of the applicable or relevant and appropriate requirements and/or provide grounds for invoking a waiver.
- ▲ Long-term effectiveness and permanence refers to the ability of a remedy to maintain reliable protection of human health and the environment over time, once cleanup goals have been met. It also addresses the magnitude and effectiveness of the measures that may be required to manage the risk posed by treatment residuals and/or untreated wastes.
- ▲ Reduction of toxicity, mobility or volume through treatment is the anticipated performance of the treatment technologies a remedy may employ.

- ▲ Short-term effectiveness addresses the period of time needed to achieve protection from any adverse impacts on human health and the environment that may be posed during the construction and implementation period until cleanup goals are achieved.
- ▲ Implementability is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.
- ▲ Cost includes both estimated capital and operation and maintenance costs and net present worth costs.
- ▲ State acceptance indicates whether, based on its review of the RI/FS reports and Proposed Plan, the State concurs with, opposes or has no comment on the preferred alternative.
- ▲ Community acceptance will be assessed in the ROD and refers to the public's general response to the alternatives described in the RI/FS reports and the Proposed Plan.

#### Comparison Among Groundwater Alternatives

- ▲ Overall Protection of Human Health and the Environment

Alternatives GWR-II, GWR-III and GWR IV are fully protective of human health and the environment. Alternative GWR-III would be most protective, since it would extract and treat the most highly contaminated groundwater, followed by Alternative GWR-II which would extract and treat nickel concentrations which are already deemed safe for drinking. Since Alternative GWR-I does not include any active remediation or controls, it is less protective than the other alternatives.

- ▲ Compliance with ARARs

Alternative GWR-I would not comply with ARARs, since it would not address localized levels of nickel above the NYS Class GA standard in the on-site groundwater. The other three alternatives would achieve the NYS Class GA standard for on-site groundwater in approximately the same timeframe.

Compliance with ARARs would be demonstrated through monitoring.

The treated effluent from Alternatives GWR-II and GWR-III would also comply with federal and state drinking water standards and standards for the transport and disposal of the concentrated nickel waste stream from the ion exchange system.

- ▲ Long-Term Effectiveness and Permanence

Alternatives GWR-II, GWR-III and GWR-IV would all reduce the potential risk associated with groundwater ingestion by implementing controls or treatment to prevent exposure to localized concentrations of nickel in the on-site groundwater, which exceed the NYS Class GA standard. These alternatives all provide the same relative degree of permanence.

Each of these alternatives, as well as Alternative GWR-I, is expected to result in cleanup levels being achieved within the aquifer within three years.

- ▲ Reduction in Toxicity, Mobility or Volume Through Treatment

Alternatives GWR-II and GWR-III would provide the greatest degree of reduction in toxicity and volume of affected groundwater through treatment. Alternative GWR-III would control mobility of nickel in the groundwater through operation of the groundwater recovery system. Alternative GWR-II would control the mobility of nickel in the groundwater through continued normal operation of the Church Street wellfield. Alternatives GWR-I and GWR-IV would not actively reduce the toxicity mobility or volume of the nickel in the groundwater.

- ▲ Short-term Effectiveness

Alternative GWR-III would include excavation activities, installation of collection and discharge systems and construction of the treatment plant; any potential impacts to residents and workers would be minimized through the use of proper protective equipment. Similarly, Alternative GWR-II would require some construction activities. Residuals from the treatment process could pose a minor impact to workers handling and transporting these materials; safe handling and transport procedures would be easily implemented.



The implementation of Alternatives GWR-I and GWR-IV would result in no additional risk to the community or on-site workers during remedial activities, since no major construction activities would be conducted.

▲ Implementability

All services, materials and technologies required to implement Alternatives GWR-II and GWR-III are readily available. However, Alternative GWR-III would require approval and coordination of SCWA to install the water treatment system at the Church Street wellfield. Treatability study testing may need to be conducted to design the treatment systems for Alternative GWR-II and GWR-III.

There are no actions to implement under Alternative GWR-I. The groundwater monitoring program under Alternative GWR-IV would be easily implemented.

▲ Cost

Alternative GWR-II (\$5,033,741) would be the most costly alternative to implement, followed by Alternatives GWR-III and GWR-IV. There are no implementation costs associated with Alternative GWR-I.

▲ Community Acceptance

Community acceptance of the preferred groundwater alternative, Monitored Natural Attenuation (Alternative GWR-IV), will be assessed in the ROD, following a review of the public comments received on the RI/FS reports and the Proposed Plan.

▲ State Acceptance

NYSDEC concurs with the preferred alternative, Monitored Natural Attenuation (GWR-IV).

## SUMMARY OF THE PREFERRED MONITORED NATURAL ATTENUATION REMEDY

Based on the results of the OU-1 RI/FS, the OU-1 remedial action and the supplemental groundwater sampling and the installation of well cluster MW-19, EPA and NYSDEC have determined that limited contamination exists in the groundwater at the Site and that the levels of contamination are decreasing and are below the risk-based level established for the

Site. The quality of drinking water provided by CS-2 is improving, and the SCWA is able to distribute water that meets all federal and state drinking water standards.

The removal of the source of nickel contamination in groundwater, namely the soils and sediments in the dry wells, that was completed during the Summer of 1997, will continue to result in further decreases in the nickel concentration in groundwater.

As a result, EPA and NYSDEC have determined that a Monitored Natural Attenuation remedy for the groundwater is fully protective of human health and the environment. Sampling of the wells identified in the monitoring program would be conducted on a quarterly basis. In order to ensure that the Church Street wellfield can continue to supply water that meets all federal and state drinking water standards, an additional monitoring well cluster is being installed to monitor the quality of the groundwater just upgradient of CS-2. Monitoring of this well cluster will occur on a more frequent basis. If this well cluster reveals nickel levels above 300 µg/l, then the appropriateness of the natural attenuation remedy would be reconsidered and contingency measures would be evaluated to ensure that the Church Street wellfield can continue distributing safe drinking water to its customers. These contingency measures might include well-head treatment, installation of a new supply well and/or the installation of a groundwater extraction and treatment system.

It is important to note that the remedy described above is the preferred remedy for OU-2. The final selected remedy will be documented in the ROD only after consideration of all comments on the preferred remedy addressed in this Proposed Plan and the RI/FS reports.

APPENDIX B

PUBLIC NOTICE

**THIS PAGE INTENTIONALLY LEFT BLANK**

PAID ADVERTISEMENT

The United States Environmental Protection Agency Announces  
Preferred Remedy for the  
GOLDISC RECORDINGS SUPERFUND SITE  
Village of Holbrook, Town of Islip,  
Suffolk County, New York

The U.S. Environmental Protection Agency (EPA) has completed its investigation for the Second Operable Unit (OU-2) for the Goldisc Recordings Superfund site (Site) in Holbrook, New York. This operable unit addresses the groundwater at the Site. Last summer, the Agency supervised the successful removal of approximately 300 cubic yards of contaminated soil and sediments on the property, which were the principal source of the nickel contamination, which is the contaminant of concern for the groundwater. With the sources of the contamination eliminated, EPA's proposed plan is to rely on the natural breakdown and dilution of the low level nickel contamination present in the groundwater to gradually reduce the concentrations to meet State drinking water standards. The effectiveness of this process, called natural attenuation, will be measured through a long-term monitoring program, which is a component of EPA's proposed plan.

Before selecting a final remedy, EPA will consider written and oral comments on this preferred remedy. All comments must be received on or before September 27, 1998. The final decision document will include a summary of public comments and EPA's responses.

EPA will hold an informational public meeting on September 17, 1998, at 7:00 P.M. at the Bohemia Recreation Center, located at One Ruzicka Way, Bohemia, New York, to discuss the findings of the groundwater investigation and the preferred remedy.

The OU-2 Proposed Plan, the Remedial Investigation/Feasibility Study reports, the Remedial Action Report for the First Operable Unit and other site-related documents can be reviewed at the information repositories listed below:

Islip Town Hall  
655 Main Street  
Islip, New York 11751

Sachem Public Library  
150 Holbrook Road  
Holbrook, New York 11741

Written comments on the preferred remedy should be sent to:

Damian J. Duda  
Remedial Project Manager  
U.S. Environmental Protection Agency  
290 Broadway, 20th Floor  
New York, New York 10007-1866

Written comments must be received at the above address on or before September 27, 1998.

**THIS PAGE INTENTIONALLY LEFT BLANK**

APPENDIX C

SEPTEMBER 17, 1998 PUBLIC MEETING ATTENDANCE SHEET

**THIS PAGE INTENTIONALLY LEFT BLANK**





**THIS PAGE INTENTIONALLY LEFT BLANK**

APPENDIX D

LETTERS SUBMITTED DURING THE PUBLIC COMMENT PERIOD

**THIS PAGE INTENTIONALLY LEFT BLANK**



**Holbrook Triangle  
Civic Association, Inc.**  
P.O. Box 141, Bohemia, NY 11716

September 9, 1998

Damian Duda  
Remedial Project Manager  
EPA  
Emergency Response & Remedial Division  
20<sup>th</sup> Floor  
290 Broadway  
New York, New York 10007-1866

Dear Damian,

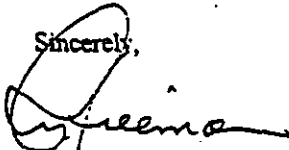
Thank you for keeping me informed of this important matter. Unfortunately I will be unable to attend as I will be in the hospital at that time.

This matter is extremely important to this community as it directly effects our water suply. I appreciate your planning to use " natural attenuation" to eliminate the residue along with continued monitoring. However, we are concerned not only with this but with the adjoining property that is currently zoned residential. This property is directly adjoining this site to the North. The property also was exposed to contamination from the Gold Disc Site. Currently a petition to change the zoning is before the Town of Islip Planning Board to change this zoning to allow for the development of an apartment complex. This could potentially be a source of a considerable problem if at a future date this property is considered hazardous. I would strongly suggest that this property be treated in the same manner as the Gold Disc Site that is not allowed to be developed for residential purposes. This restriction should apply to the adjoining property as well, until such time as the EPA finds that the Gold Disc site and all adjoining property is absolutely clear and no longer requires monitoring.

Please keep me informed as to your findings and plan. If you have any questions or wish to talk to me I should be home around Sept 25<sup>th</sup> My home number is 516-589-6127

Have a very successful meeting.

Sincerely,



Ralph Hillman

President, Holbrook Triangle Civic Association

P.O. BOX 141

Bohemia, NY 11716

COPY: Tom Isles, Planning Commissioner, Town of Islip

.....

**THIS PAGE INTENTIONALLY LEFT BLANK**

**SUFFOLK COUNTY WATER AUTHORITY**

Edward J. Rosevich, P.E.  
Executive Director/Chief Engineer  
Waterworks Division

Mailing Address - P.O. Box 38, Oakdale, NY 11768-0901  
(516) 583-0202  
Fax No.: (516) 589-5277

September 25, 1998

Mr. Damian Duda  
Remedial Project Manager  
Environmental Protection Agency  
Emergency Response Division  
290 Broadway - 20<sup>th</sup> Floor  
New York, New York 10007-1866

**Re: Goldisc Recording Proposed Plan (Site No. 1502022)**

Dear Mr. Duda:

This letter is in response to the Draft Proposed Plan for the Goldisc Recording Superfund Site in Holbrook, New York dated August 1998. The Suffolk County Water Authority (SCWA) supports the position and comments submitted by Mr. Sy F. Robbins of the Suffolk County Department of Health Services (SCDHS) in his letter dated August 21, 1998 (copy attached). The SCWA will also work with the SCDHS to try to identify potential receptors downgradient from the Goldisc site.

In addition to the above-referenced comments, the SCWA would also like to reiterate a position previously taken regarding the financial and production impacts incurred by the SCWA due to the nickel contamination in our supply well. The Draft Report does not include any costs incurred by the SCWA for additional water quality monitoring performed on our Church Street Wells, due to the nickel contamination. The SCWA has sampled all Church Street Wells weekly since the early 1990's and will continue to do so until nickel is no longer detectable in the wells. Under normal circumstances, with no nickel contamination, the SCWA would only be required to sample the Church Street wells for metals two (2) times per year. Therefore, as a minimum, the SCWA requests that the final remedy selected by the EPA in its Record of Decision include reimbursement of all future costs associated with the additional monitoring that will be incurred by the SCWA.

EPA/Goldisc Recording Plan  
(Site No. 1502022)

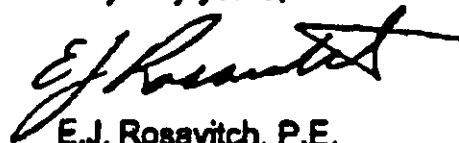
September 25, 1998

Page 2

Additionally, the SCWA requests the reimbursement of past water quality monitoring expenses, engineering, and plant operation costs associated with the loss of production from the Church Street well site.

We trust these comments will be taken into account in the final document. However, if you wish to discuss these comments further, please contact me at (516) 563-0202.

Very truly yours,



E.J. Rosavitch, P.E.  
Chief Engineer

  
EJR/SHM/KMA

Cc: Mr. Doug Garbarini – EPA  
Mr. W. Keuhner – New York State Department of Health  
Mr. J. McCulloigh, New York State Department of Conservation  
Mr. R. Becherer, New York State Department of Conservation  
Mr. W. Keuhner, New York State Department of Health  
Mr. S.F. Robbins – Suffolk County Department of Health Services  
Mr. P. Ponturo – Suffolk County Department of Health Services  
Mr. G. Proios – Suffolk County Executive Office  
Mr. H.J. Miller, P.E.  
Mr. R.H. Gunther, P.E.  
Ms. K. Randazzo  
Mr. S.R. Dassler  
Mr. S. Meyerdierks

# COUNTY OF SUFFOLK



ROBERT J. GAFFNEY  
SUFFOLK COUNTY EXECUTIVE

DEPARTMENT OF HEALTH SERVICES

CLARE B. BRADLEY, M.D., MPH  
ACTING COMMISSIONER

August 21, 1998

Doug Garbarini, Chief  
Eastern New York Remediation Section  
U.S.E.P.A. Region II  
290 Broadway  
New York, NY 10007-1866

Dear Mr. Garbarini:

RE: GOLDISC RECORDING DRAFT PROPOSED PLAN (#152022)

On behalf of the Suffolk County Department of Health Services, I would like to offer the following comments on the draft Proposed Plan for Goldisc Recording, Holbrook (Site #152022) dated August 1998:

- 1) page 1, To call the proposed remedy "Natural Attenuation with Monitoring" is a misnomer, since USEPA guidance clearly indicates that such terminology is reserved for sites that have a low potential for plume migration, which is clearly not the case for Goldisc. The plume of nickel originating at Goldisc would continue to move downgradient at concentrations exceeding NYS GA standards if it was not being intercepted by the Suffolk County Water Authority's Church Street well #2. The remedy should be renamed something like "Monitored No Action with Contingencies."
- 2) page 5, It should made clear that the MW-19 well cluster will be installed directly upgradient of Church Street well #2 to provide outpost monitoring (early warning); these wells should not be installed until the vertical distribution of nickel in this portion of the aquifer has been characterized.
- 3) page 5, A summary of efforts to identify downgradient receptors, including private wells, should be included. A commitment should also be made that additional monitoring downgradient of the Church Street wellfield will be conducted if potential receptors are identified, since it can not be assumed (nor has it been demonstrated) that the wellfield has intercepted all nickel contamination from Goldisc.

DR  
8/31



D. Garbarini  
Aug. 21, 1998  
page 2

If you wish to discuss this matter further, please contact me at (516) 853-3082.

Very truly yours,



Sy F. Robbins, C.P.G.  
County Hydrogeologist  
Division of Environmental Quality

cc: D. Duda, USEPA  
J. McCullough, NYSDEC Albany  
R. Becherer, NYSDEC Region 1  
W. Keuhner, NYSDOH  
P. Ponturo, SCDHS  
E. Rosavitch, SCWA  
G. Proios, Co Exec Office

EJR  
8/31

**DL ROTHBERG & ASSOCIATES, P.C.**

COUNSELLORS AT LAW

230 PARK AVENUE, SUITE 615

NEW YORK, NEW YORK 10169

TEL. 212 • 490 • 2220

FAX 212 • 490 • 2336

September 2, 1998

**BY HAND**

Damian J. Duda  
Remedial Project Manager  
U.S. Environmental Protection Agency  
Region II  
290 Broadway -- 20th floor  
New York, NY 10007-1866

**Re: Comments on USEPA Superfund Proposed Plan  
for Former Goldisc Recordings Superfund Site, OU-2**

Dear Mr. Duda:

These comments to the Superfund Proposed Plan for second operable unit ("OU-2") at the Goldisc Site (the "Proposed Plan"), issued by the United States Environmental Protection Agency ("USEPA") are submitted on behalf of Red Ground Co. and Red Ground Corporation (collectively, "Red Ground"), former owners of the Goldisc Recordings Superfund Site ("Goldisc Site"). Red Ground requests that these comments be docke. d and made a part of the administrative record in this matter.

1. The Proposed Plan Incorrectly Identifies the Goldisc Site

The Site Background section of the Proposed Plan incorrectly identifies the Goldisc Site as be a "34-acre Site" consisting of six developed acres, three acres of pavement, and 25 undeveloped acres. The site map attached to the Proposed Plan shows the 34-acre property described in the Proposed Plan.

In fact, the Goldisc Site is substantially smaller than as described in the Proposed Plan. As defined in the Consent Decree entered into by the USEPA, Red Ground and several other responsible parties, the site is approximately half the size stated in the Proposed Plan, and excludes most of the vacant land:

"Site" shall mean the Goldisc Recordings Superfund Site, encompassing approximately 17.34 acres, comprising the northern portion of the two parcels

designated as Section 217, Block 2, Lots 8.001 and 8.002. The southern border of the Site lies 160 linear feet to the south of dry well DW-2, except that where Lot 8.002 abuts Lot 8.003, the southern border of the Site is coterminous with the northern border of Lot 8.003.

Consent Decree in United States v. ElectroSound Group, Inc., et al., Civ. No. 97-728, p.10. (Enclosed herein is a copy of the map depicting the above-described Site, provided to the USEPA at the time the Consent Decree negotiations were completed.) If the description of the Site in the Proposed Plan were accurate, the Site would include Lot 8.003, which in fact is specifically excluded in its entirety, along with the southern edge of Lots 8.001 and 8.002, by the Consent Decree definition.

2. Red Ground Has Appropriately Cooperated with the USEPA in the RI/FS Process

Also in the Site Background section of the Proposed Plan, the USEPA states that in 1990, when First Holbrook, ESG and Red Ground were noticed of their potential liability at the Site: "Red Ground refused to enter into negotiations with EPA to conduct additional RI/FS activities. Subsequently, in 1991, EPA entered into an AOC with First Holbrook and ElectroSound." Proposed Plan, p. 3. This characterization of the events that transpired in 1991 is totally incorrect.

In fact, in early May 1991, the USEPA transmitted to Red Ground a draft AOC, with an attached draft Statement of Work in connection with the Goldisc Site. Shortly thereafter, counsel for ESG advocated to the USEPA that Red Ground Corporation be included as a party to the AOC. In response, by letter dated May 28, 1991, Red Ground explained to the USEPA that pursuant to the Contract of Sale between Red Ground and First Holbrook for the Goldisc property, First Holbrook and ESG were legally obligated to undertake all necessary measures to remediate the Goldisc property, and Red Ground would rely on that Contract. The May 28, 1991 letter further noted that ESG and First Holbrook had already submitted to the Agency a good faith offer to conduct the supplemental RI/FS activities. Finally, while not stated in the letter, Red Ground would have been in breach of its Contract of Sale with First Holbrook if it signed the AOC, and thus would have risked losing the benefits of the Contract.

In response to this letter, the USEPA continued negotiations with ESG and First Holbrook, eventually reaching final agreement in an AOC that became effective on July 3, 1991. Red Ground, as appropriate, was not a party to that AOC. However, as owner of the property and pursuant to the contract of sale with First Holbrook, Red Ground fully cooperated with the USEPA and participated through its counsel in the remedial investigation process. As the USEPA is aware, Red Ground made great efforts to persuade ESG and First Holbrook to fulfill their commitments to Red Ground, including by commencing a civil action

Damian J. Duda  
September 2, 1998  
Page 3

against ESG and First Holbrook in the Supreme Court, Suffolk County. Red Ground also made every effort to cooperate with the Agency to implement the remedial program, and in fact has assisted the USEPA in obtaining the cooperation and performance of ESG and First Holbrook.

Given the continued legal responsibility for the remediation of First Holbrook and ESG, and the fact that it was ESG that caused the contamination at the Site, Red Ground's actions have been appropriate and Red Ground has acted in good faith. Ultimately, the efforts of all parties resulted in the Consent Decree governing the soil remediation of the property, which has recently been completed.

3. Description of Preferred Natural Attenuation Remedy

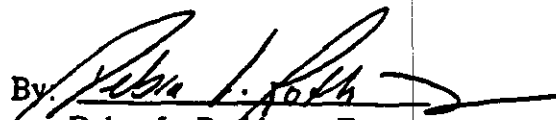
The description of Alternative GWR-IV in the Proposed Plan omits several important details. First, while the press release dated August 27, 1998 concerning the Proposed Plan refers to a "long-term monitoring program," the only reference to the duration of the monitoring effort is made in the text of the Proposed Plan is a statement that the EPA expects final cleanup levels to be met "throughout the entire area of nickel contamination within a three-year timeframe." We understand this to mean that the EPA is proposing a three-year monitoring effort. This should be made explicit. In a related point, the presentation of the costs of Alternative GWR-IV makes little sense in the absence of an explanation of the length of the monitoring period. The present worth value for this Alternative of \$382,983 seems to assume a longer monitoring period than three years without any basis in the text.

Finally, the Proposed Plan should include at least a general discussion of the criteria that the EPA would employ in determining that monitoring may cease, assuming that concentrations of nickel detected continue to decline.

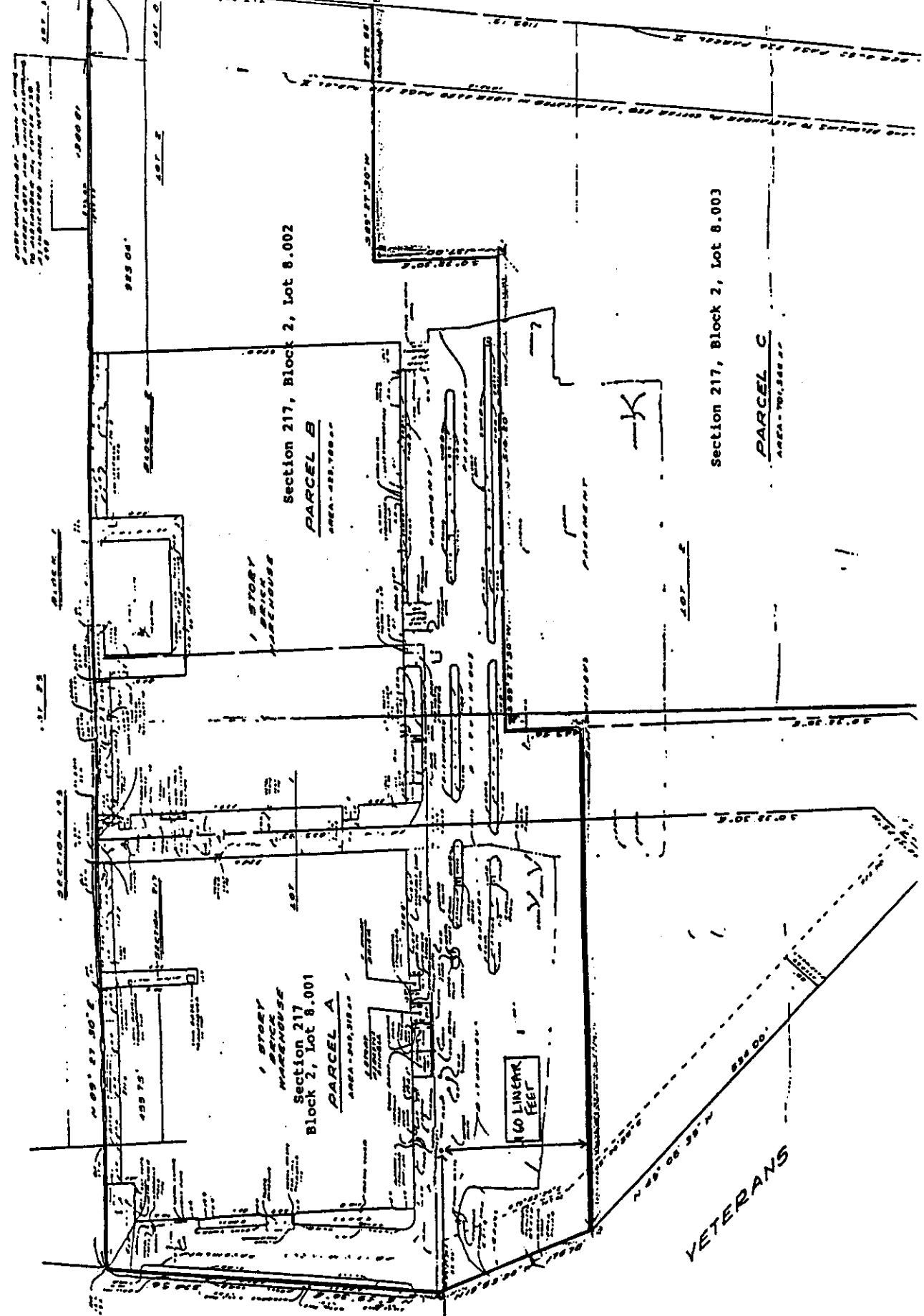
We look forward to a response to the above comments, including a correction of the Site description, in the EPA's Responsiveness Summary.

Sincerely,

DL Rothberg & Associates, P.C.  
Attorneys for Red Ground Corporation  
and Red Ground Company

By:   
Debra L. Rothberg, Esq.

BROADWAY AVENUE



Section 217, Block 2, Lot 8.002  
PARCEL B  
AREA - 229,700 sq ft

Section 217, Block 2, Lot 8.001  
PARCEL A  
AREA - 229,318 sq ft

Section 217, Block 2, Lot 8.003  
PARCEL C  
AREA - 701,500 sq ft

LOCATION OF  
DRY WELL  
DW-1

140 LINER  
FEET

VETERANS