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EPA Superfund Record of Decision:

Syosset Landfill Site (Operable Unit 2), Nassau County, NY 3/28/1996

RECORD OF DECISION

Syosset Landfill Site

Town of Oyster Bay, Nassau County, New York

United States Environmental Protection Agency
Region II
New York, New York
March 1996

DECLARATION STATEMENT
RECORD OF DECISION

SITE NAME AND LOCATION

Syosset Landfill Site
Town of Oyster Bay
Nassau County, New York

STATEMENT OF BASIS AND PURPOSE

This decision document presents the selected remedy for the second operable unit (OU2) for the Syosset Landfill site (the Site), located in the Town of Oyster Bay, Nassau County, New York which was chosen in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision document summarizes the factual and legal basis for selecting the remedy for this Site.

The New York State Department of Environmental Conservation (NYSDEC) concurs with the selected remedy. A letter of concurrence from NYSDEC is appended to this document (see Appendix IV).

An administrative record for the Site contains the documents that form the basis for the United States Environmental Protection Agency 's (EPA's) selection of the remedial action, the index for which is attached as Appendix III.

DESCRIPTION OF SELECTED NO FURTHER ACTION REMEDY

This operable unit represents the second of two operable units for the Site. It addresses the fate and transport of the contaminants in the groundwater emanating from the Site. EPA in consultation with the State of New York has determined that contamination is limited and does not pose a significant threat to human health or the environment; therefore, remediation is not appropriate. This determination is based on the OU2 Remedial Investigation and the expected successful implementation of the OU1 remedy. The major portions of the OU1 remedy include the construction of a landfill cap to further reduce infiltration and/or leaching of contaminants into the groundwater and the implementation of a groundwater well monitoring program.

DECLARATION

In accordance with the requirements of CERCLA, as amended, and the NCP, it has been determined that the no further remedial action remedy is protective of human health and the environment at the Site, 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 are being addressed through

the OU1 remedial action, which includes the installation of a landfill cap to further reduce infiltration or leaching of contaminants into the groundwater and the implementation of an environmental monitoring program.

A review of the remedial action pursuant to CERCLA 121(c), 42 U.S.C. Section 9621(c), will be conducted five years after the commencement of the remedial action for OU1 to ensure that the remedy continues to provide adequate protection to human health and the environment, since the site remedies will result in hazardous substances remaining on-site above health-based levels.

William Phillips

Jeanne M. Fox
Regional Administrator

3/28/96
Date

DECISION SUMMARY

SYOSSET LANDFILL SITE

TOWN OF OYSTER BAY
NASSAU COUNTY, NEW YORK

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II

NEW YORK, NEW YORK

SITE NAME, LOCATION AND DESCRIPTION

The Syosset Landfill site is located in Syosset, in the Town of Oyster Bay, Nassau County, New York. The Site covers approximately 38 acres and is 50 yards north of the Long Island Expressway. It is bordered by Miller Place to the southeast, to the southwest by property formerly occupied by Cerro Conduit Company, and to the northwest by the Long Island Railroad. A residential area and the South Grove Elementary School borders the Site to the northeast. The entire landfill area is enclosed by a six foot high cyclone fence. The Site also includes offices and maintenance facilities for the Town of Oyster Bay Department of Public Works. This area is located to the east, immediately adjacent to the landfill (see Figure 1).

Topographically, the landfill is relatively flat and at similar elevation to the surrounding area. Until recently, the landfill was characterized by barren landscape with clumps of trees. However, the landfill has since been cleared and reshaped in preparation for capping. There are two recharge basins owned by Nassau County which border the landfill to the north and northeast. Both basins collect storm water runoff from the neighboring residential area for recharge to the underlying groundwater aquifers. The total population of Syosset is estimated to be 10,400. All the residents around the Syosset Landfill get their drinking water from public water supply wells.

There are four public water supply wells within a 1-mile radius of the landfill; none of these wells is currently in service. However, there are eight public water supply wells located within 3 miles of the landfill in the general direction of groundwater flow (northeast). The closest are two public water supply wells located approximately 2 miles to the northeast of the landfill. These wells are screened in a deep part of the Magothy Aquifer and are still in service.

The landfill is located in a densely populated residential and industrial area. This area is not known to contain ecologically significant habitats, agricultural land, historic or landmark sites which are directly or potentially affected. There are no wetlands on or adjacent to the landfill. However, a low area on the north side of the landfill supports the growth of the Giant Reed, a common freshwater wetland species. The occurrence of this species is most likely due to infrequent ponding caused by storms. This area has since been cleared and regraded.

The landfill is located in Long Island, New York within the glaciated part of the Atlantic Coastal Plain physiographic province. The landfill is underlain by more than 1,000 feet of unconsolidated deposits of sand, silt, gravel and clay which rest on the bedrock surface. The unconsolidated deposits are separated into three formations: the Upper Glacial Formation (top), the Magothy Formation (middle), and the Raritan Formation (bottom). The upper 60 to 100 feet of unconsolidated sand and gravel deposits in the vicinity of the landfill comprise the Upper Glacial Formation . Before landfilling began, up to 90 feet of the formation was removed during sand mining at the Site. The Magothy Formation , which is comprised of finer sands, silts and clays is directly beneath the Upper Glacial Formation and is hydraulically connected with it. Based on published data, the Magothy Formation is approximately 540 feet thick beneath the Site, and may extend as deep as 630 feet below land surface. The Raritan Formation is the third and deepest unconsolidated formation beneath the Site and rests on the bedrock surface. At the Site only two of the formation s are saturated: the Magothy and the Raritan. The

Upper Glacial Formation is unsaturated in the vicinity of the landfill. The saturated portion of the Magothy Formation (Magothy Aquifer) is the principal source of water for public and industrial use; therefore, this is the aquifer of interest.

SITE HISTORY AND ENFORCEMENT ACTIVITIES

The landfill is owned by the Town of Oyster Bay (the Town), which operated it from approximately 1933 to 1975. Between 1933 and about 1967, no restrictions were imposed on the types of wastes accepted at the landfill. Waste types included: commercial, industrial, residential, demolition, agricultural, sludge material and ash. After about 1967, waste disposal at the landfill was more restricted, though disposal of wastes (including industrial wastes) continued.

Several large companies have been identified as generators of large quantities of waste that were disposed at the landfill over a period of years. Types of waste disposed included heavy metals, solvents, organics, oils, placticizers, and polychlorinated biphenyls (PCBs).

The landfill was closed on January 27, 1975 because of a suspected groundwater pollution problem. In January 1983, Environmental Resources Management - Northeast (ERM) prepared a report summarizing the results of a study that they performed for the Nassau County Department of Health (NCDOH). The report concluded that the groundwater quality was being impacted by landfill leachate. Elevated heavy metal concentrations including arsenic, cadmium, chromium and lead were detected at levels exceeding New York State Primary Drinking Water Standards. One public drinking water well which is downgradient of the Site was closed due to taste and odor problems.

The Site was placed on the Superfund National Priorities List (NPL) in September 1983 as a result of the ERM investigation. On June 19, 1986, EPA and the Town entered into an Administrative Order on Consent (Index No. II CERCLA-60203). The Order required the Town to conduct a Remedial Investigation and Feasibility Study (RI/FS) at the Site.

From April 1987 until September 1989, the field investigation for the RI was performed, which included drilling and installing monitoring wells, collecting groundwater and soil samples for laboratory analyses, a landfill dimension study, and a sub-surface gas study. Since that time, the cleanup of the Site was separated into phases or operable units (OUs).

In September 1990, EPA signed a Record of Decision for OU1, which included capping of the landfill pursuant to New York State Department of Environmental Conservation (NYSDEC) regulations, and provisions for long-term air and groundwater monitoring of the landfill. In addition, because leachate indicator chemicals were identified in groundwater underneath and downgradient of the landfill, the ROD also specified that a supplemental investigation be conducted to study the potential off-site impacts of the landfill, designated as Operable Unit 2 (OU2).

The OU1 ROD is being implemented pursuant to a Consent Decree entered into by EPA and the Town of Oyster Bay. This Consent Decree was entered by the U.S. District Court for the Northern District of New York on February 20, 1991. The Town hired Lockwood, Kessler & Bartlett, Inc. (LKB) to perform the Remedial Design/Remedial Action (RD/RA) at the Site. As part of the RD activities, a Preload program was performed. The Preload program consists of grading the landfill site and placing clean fill material over a portion of the Site to achieve settlement prior to the construction of the Site-wide cap. Achieving this settlement of the landfill prior to cap construction will protect the integrity of the geosynthetic (plastic) membrane cap. The Preload program was initiated in November 1994 and is currently ongoing. Placement of the final cap is expected to be initiated in the Spring of 1996.

The RI for the supplemental groundwater study was prepared by Geraghty and Miller, Inc., a subcontractor to LKB, and is discussed in subsequent sections of this ROD.

HIGHLIGHTS OF COMMUNITY PARTICIPATION

The RI report and the Proposed Plan for OU2 were released to the public for comment on January 26, 1996. These documents were made available to the public at three information repositories maintained at the EPA Region II Office in New York City, the Syosset Public Library, Syosset, New York and the Town of Oyster Bay Town Hall, Oyster Bay, New York. The notice of availability for these documents was published in *Newsday* on January 26, 1996. A public comment period was held from January 26, 1996 through February 25, 1996.

During the public comment period, EPA held a public meeting to present the results of the RI, the risk assessment report, and the Proposed Plan, to answer questions, and to accept both oral and written comments. The public meeting was held at the Syosset High School, Syosset, New York on February 15, 1996. At this meeting, representatives from EPA, NYSDEC and the New York State and Nassau County Departments of Health answered questions about the Site and the proposed no further action remedy and received comments from the local citizens. Community interest focused on ground-water contamination and EPA's Proposed Plan. Comments and responses to those comments received during the public meeting and public comment period are included in the Responsiveness Summary, which is attached as Appendix V.

SCOPE AND ROLE OF RESPONSE ACTION

EPA has divided the remedial work necessary to mitigate contamination stemming from the Site into two operable units. The first operable unit addresses the control of the source of contamination at the Site. The September 1990 ROD for OU1 selected the capping of the landfill as the appropriate source control response action. The purpose of that action was to minimize the infiltration of precipitation into the landfill, thus reducing the quantity of water percolating through the landfill materials. This will minimize the leaching of contaminants and reduce downgradient migration of contaminants. Currently, the remedial design phase of the cap is nearing completion; the remedial action to construct and install the cap should begin in the Spring of 1996.

This ROD addresses the Second Operable Unit. OU2 addresses the further characterization of the fate and transport of the contaminants in the groundwater . Based on the findings of the OU2 RI and EPA's Risk Assessment, the on- and off-site groundwater does not pose a threat to the public health or the environment. The selected remedy for OU1 and the OU2 RI, Risk Assessment and Proposed Plan serve as the basis for the OU2 groundwater remedy.

SUMMARY OF SITE CHARACTERISTICS

Between October 1992 and March 1994, various investigations were conducted by Geraghty and Miller. These investigations included installation of monitoring wells and soil borings; groundwater monitoring well and subsurface gas monitoring well sampling, collection of water level measurements and ambient air sampling.

Site Geology and Hydrology

Fine sands, silt and clays were revealed during the soil borings drilled for the field investigation. The borings were between 192 and 540 feet deep. The Magothy formation consists of fine sand often containing thin, discontinuous layers of silt and clay. The thickness of the Magothy Aquifer is estimated at 400 to 500 feet in the Syosset Landfill study area. The Upper Glacial formation overlies the Magothy Aquifer and the two may act as distinct aquifers, or as one, depending upon the degree of hydraulic connection between the two. The coarse-grained deposits encountered during the field investigation, which are typical of the Upper Glacial Formation, are not saturated beneath and around the landfill. Based on sample/core logs, the thickness of the Upper Glacial formation appears to be more than 130 feet thick.

Hydrogeological conditions encountered during the OU2 RI are generally consistent with the OU1 RI except that two low-permeability units were encountered in the deep aquifer formation (Magothy Aquifer) that appear to be continuous over the study area. The deepest low-permeability unit appears to have prevented the movement of contaminants into the deep zone except at off-site Well RW-12D. Regional shallow groundwater flow was documented to be in a north-northeasterly direction near the Site. The off-site specific horizontal direction of groundwater flow in the shallow, intermediate, and deep zones of the Magothy formation is generally to the north.

Groundwater Sampling and Analytical Results

As part of the OU1 RI, nine groundwater monitoring wells were installed on-site to supplement six existing groundwater monitoring wells. Two rounds of groundwater samples were collected from the monitoring wells.

Volatile Organic Compounds (VOCs), metals, and leachate indicator parameters were detected in some of the on-site wells. The results for metals and VOCs were found to be consistent with regional water quality data. However, the distribution of leachate parameters indicated that groundwater is being impacted by landfill leachate, as evidenced by elevated concentrations of dissolved solids, chloride, ammonia, alkalinity,

and hardness (leachate parameters). This suggests the existence of an off-site plume of leachate-impacted groundwater .

As part of the OU2 RI, nine additional monitoring wells (shallow, intermediate, and deep) were installed at three locations off-site and one location on-site (see Figure 2). Two rounds of groundwater quality samples were collected on November 3, 1993 and December 2, 1993. Samples were collected from the nine new wells and from 13 of the 15 preexisting on-site wells. On and off-site wells were sampled for VOCs, metals (total and dissolved), and leachate indicator parameters. In July 1995, an additional round of samples was collected from seven monitoring wells and analyzed for VOCs.

Volatile Organic Compounds

The VOC data summarized below was derived from the first two rounds of groundwater sampling. The third round, conducted in July 1995, yielded VOC data that was essentially the same as the data from the first two rounds.

Of the thirteen on-site wells sampled, federal and/or state Maximum Contaminant Levels (MCLs) were exceeded in seven monitoring well for at least one of the following eight compounds: vinyl chloride, cis-1,2-dichloroethene, chloroform, benzene, toluene, tetrachloroethene, chlorobenzene and ortho-xylene. Table 1 contains a list of the compounds detected in on-site wells above MCL values and maximum concentrations detected. Of the 13 on-site wells sampled, VOCs were not detected during either sampling round in Wells SY-1 and SY-3DD. Total VOC concentrations were less than 10 micrograms/liter (ug/l) for samples collected from five on-site wells (SY-2D, SY-2R, SY-6, SY-6D, and SY-9) for both sampling rounds. Chlorobenzene was detected in four of the on-site wells (SY-3D, SY-4, SY-1D, and SY-3), with concentrations ranging from 1.3 ug/l to 9.1 ug/l. Tetrachloroethene was detected in Well SY-8, at a concentration of 17 ug/l which is above both the state and federal MCLs of 5 ug/l. The highest total VOC concentration for the on-site wells from either sampling round was 547.9 ug/l detected in Well SY-7. However, this detection is not considered a result of landfill impacts because the well is upgradient of the landfill. SY-7 is a shallow well that only had trace levels of VOCs detected in it during the OU1 RI. Nearly all the total VOC concentrations detected in this well during the OU2 RI sampling consisted of benzene, a gasoline component. Well SY-7 is located adjacent to a pump island where gasoline is dispensed to the Town of Oyster Bay vehicles. Beneath the pump island are two Underground Storage Tanks (USTs) supplying the gasoline. These two USTs were replaced in 1980 due to the age of the steel tanks and the potential for leakage. The steel tanks were replaced with single wall fiberglass tanks which were last tested in 1992, complying with the requirements of the Nassau County Fire Marshall Article III regulations. Based on available information , it would appear that the benzene detected in Well SY-7 is from the UST that may have leaked in the past. The NYSDEC was advised of the high levels of benzene and they will investigate. The concentration of benzene detected in the well was 410 ug/l to 540 ug/l from the first and second round of sampling, respectively. Benzene was not detected in any of the off-site wells at concentrations greater than 1 ug/l.

Of the eight off-site wells sampled, the following VOCs were detected in six of these wells above the federal and/or state MCLs: vinyl chloride, 1,1-dichloroethene, 1,1-dichloroethane, cis-1,2-dichloroethene, 1,1,1-trichloroethane, trichloroethene, toluene, tetrachloroethene, and chlorobenzene (see Table 2). Well RW-12I contained the most exceedances - seven compounds were above federal and/or state MCLs. Well RW-12D had two compounds (vinyl chloride and toluene) which exceeded the MCLs. The remaining four off-site wells (PK-10S, PK-10I, PK-10D and RB-11I) contained only one or two compounds which

exceeded federal and/or state MCLs. In Well PK-10S, 1,1-dichloroethane was detected at a maximum concentration of 6.7 ug/l, which is slightly above the state and federal MCLs of 5 ug/l. Chlorobenzene and 1,1-dichloroethane were also detected in Well PK-10I at maximum concentrations of 20 ug/l and 5.4 ug/l, respectively. These levels are above the federal and state MCLs of 5 ug/l for both compounds. Toluene was detected in Well PK-10D at a maximum concentration of 5.7 ug/l, which is slightly above the state and federal MCLs of 5 ug/l. Tetrachloroethene was detected in Well RB-11I at a maximum concentration of 23 ug/l. This value is above both the federal and state MCLs of 5 ug/l. The VOC concentrations detected in off-site monitoring wells during the OU2 RI ,with the exception of RW-12I, were found to be consistent with regionally degraded groundwater quality.

The total concentration of VOCs detected in Well RW-12I is several times higher than any total VOC concentration found on-site or off-site during either the OU1 or OU2 investigations with the exception of Well SY-7, discussed above. Of the nine compounds detected off-site above both their federal and/ or state MCLs, seven of the compounds (1,1-dichloroethene, 1,1-dichloroethane, cis-1,2-dichloroethene, 1,1,1-trichloroethane, trichloroethene, toluene, and tetrachloroethene) were detected in RW-12I. For 1,1,-dichloroethene the values detected off-site ranged in concentrations from not detect to 26 ug/l, while concentrations found on-site were non-detect . The federal MCL and state MCL is 7 ug/l and 5 ug/l, respectively. For trichloroethene the concentrations found off-site ranged from 6.2 ug/l to 9.8 ug/l, while on-site samples ranged from 2 ug/l to 7 ug/l. Both the federal MCL and state MCL is 5 ug/l. For tetrachloroethene the concentrations found off-site ranged from 68 ug/l to 110 ug/l, while on-site concentrations ranged from 3 ug/l to 19 ug/l. Both the federal MCL and state MCL is 5 ug/. For 1,1-dichloroethane the values detected off-site ranged in concentration from not detected to 17 ug/l, while concentrations found on-site ranged from non-detect to 4 ug/l. Both the federal and state MCLs are 5 ug/l. For cis-1,2-dichloroethane the values detected off-site ranged in concentration from not detected to 5.7 ug/l, while concentrations found on-site were non-detect . Both the federal and state MCLs are 5 ug/l. For 1,1,1-trichloroethane the values detected off-site ranged in concentrations from not detected to 75 ug/l, while concentrations found on-site ranged from non-detect to 2 ug/l. Off-site toluene concentrations ranged from non-detect to 13 ug/l, while concentrations found on-site ranged from non-detect to 2 ug/l.

Contaminant levels in groundwater would normally be expected to be higher at a source (e.g. a landfill) and lower at any downgradient location. This was not the case with Well RW-12I. Given the fact that RW-12I is located near the westernmost edge of the landfill, and adjacent to an industrial area located west of the Long Island Railroad tracks, the VOCs detected in this well may be derived from a source other than the landfill. An Industrial Survey was performed to determine if potential sources of VOCs exist in the vicinity of the landfill. The Industrial Survey identified five off-site properties which may be potential sources of the VOCs detected in Well RW-12I. These properties are located on Robbins Lane and Aerial Way, between 1,400 and 2,100 feet southwest of Well RW-12I. Based on the results from the survey, it was found that each of these properties used one or more of the VOCs detected in the RW-12I Well. Regional hydrogeologic data suggests that the potential off-site sources identified in the Industrial Survey are located hydraulically upgradient of Well RW-12I and may have impacted the well. Additional investigations will be performed by NYSDEC to determine the source of the VOCs in Well RW-12I.

Leachate Indicator Parameters

Groundwater samples were also analyzed for leachate indicator parameters as part of the off-site groundwater _study. The leachate indicator parameters include ammonia, hardness, alkalinity, nitrate, sulfates and chlorides and are extremely useful in determining landfill leachate impacts to groundwater . The leachate indicator parameter detected and their corresponding concentration for both sampling rounds are presented in Table 3.

Results indicate that the highest concentration of leachate parameters are in wells located on the western portion of the landfill as compared to the eastern portion, with few exceptions. Leachate indicator parameter concentrations show impacts to groundwater on-site and these impacts extend off-site to Well PK-10S. However, results for leachate parameters detected.in off-site monitoring wells are significantly less than concentrations detected in on-site wells. Impacts at Well PK-10S are consistent with this well being directly downgradient of the area on-site with the highest leachate indicator concentrations . The impacts of the leachate in the groundwater do not presently pose a health concern because the groundwater is not currently being used as a potable source.

Metals

Groundwater samples were also analyzed for metals , filtered and unfiltered, as part of the off-site groundwater study. The purpose of the two analyses was to determine whether suspended particles in the samples were contributing to the metals detected. The unfiltered samples were sent to the laboratory for analysis of total metals and the filtered samples were sent for analysis of dissolved metals.

On-site results indicated that six metals (antimony, arsenic, beryllium, iron, lead, and sodium) were detected in at least one of the wells at concentrations above the corresponding MCL (see Table 4A). Antimony was detected above the MCL (6 ug/l) in non-filtered samples at least once in six on-site wells at concentrations ranging from 21 ug/l to 91.8 ug/l. Dissolved antimony was only detected above the MCL in filtered samples collected from Wells SY-3 and SY-4. Arsenic was detected above the MCL (50 ug/l) in non-filtered samples at least once in two on-site wells (SY-3 and SY-3D) with concentrations up to 102 ug/l. Dissolved arsenic was not detected above the MCL in either well. Total beryllium was detected only once in Well SY-2R in a non-filtered sample above the MCL (4 ug/l) at a concentration of 7.8 ug/l. Total lead was detected above the MCL (50 ug/l) in non-filtered samples at least once in four on-site wells with total concentrations up to 128 ug/l. However, none of the dissolved lead concentration detected in on-site wells exceeded the MCL. Sodium was detected in all on-site wells, except for Well SY-3DD, during both sampling rounds above the MCL (20,000 ug/l). Concentrations ranged from 20,100 ug/l to 239,000 ug/l.

Of the metals detected in the off-site wells, only iron and sodium were detected above the federal and state MCLs (see Table 4B). Total iron was detected above the MCL in seven wells with concentrations ranging from 342 ug/l to 5,380 ug/l. Dissolved iron was only detected above the MCL in Well PK-10S at a concentration of 694 ug/l. Total sodium was detected above the MCL in five wells at concentrations ranging from 20,500 ug/l to 235,000 ug/l. Dissolved sodium was also detected above the MCL in five wells at concentrations ranging from 20,900 ug/l to 220,000 ug/l . The MCL for iron is 300 ug/l and for sodium is 20,000 ug/l.

Subsurface Gas Sampling

The off-site subsurface gas study was conducted to determine the extent of off-site subsurface gas migration from the landfill, since elevated concentrations of methane gas had been detected during the OU1 RI. As part of the OU2 RI, three new gas monitoring wells were installed. Samples were collected from the three new gas wells and from four (G-6, G-7, G-13, and G-14) of the 19 preexisting on-site gas wells. On and off-site wells were sampled for methane and total organic vapors on three days of low or falling barometric pressure. A summary of the OU2 landfill gas monitoring results is presented in Table 5.

Results indicate that landfill gases were detected at relatively elevated concentrations in one of the gas monitoring wells (G-7) in the southwestern part of the landfill. This result is consistent with the findings of the OU1 RI. A passive gas venting system that will be installed as part of the capping program will allow the landfill gases to be vented. The levels of the gases will then decrease. Landfill gases were not detected in the off-site gas monitoring wells and do not appear to be migrating off-site.

SUMMARY OF SITE RISKS

Based upon the results of the Operable Unit Two Remedial Investigation Report, a Baseline Risk Assessment was conducted to estimate the risks associated with current and future site conditions. The baseline risk assessment estimates the human health risks 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 pathways (e.g., ingesting contaminated well-water) by which humans are potentially exposed. Toxicity Assessment determines the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure (dose) and severity of adverse effects (response). Risk Characterization summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site-related risks.

The baseline risk assessment began with selecting contaminants of concern which would be representative of site risks (see Table 6). These contaminants included 1,1-dichloroethene, tetrachloroethene, trichloroethene, vinyl chloride, arsenic and selenium in groundwater. Several of the contaminants are known to cause cancer in laboratory animals and are suspected or known to be human carcinogens. A summary of toxicity data (cancer slope factors and Reference Doses) for the chemicals of concern are provided in Table 7.

Current federal guidelines for acceptable exposures are an individual lifetime excess carcinogenic risk in the range of 10^{-4} to 10^{-6}. 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 carcinogen over a 70-year lifetime under the specific site exposure conditions.

Based on discussions with the Nassau County Department of Health it was determined that residents obtain their drinking water from a municipal water supply and that private residential wells are not being used for potable purposes. Therefore, present use scenarios for groundwater were not evaluated in this assessment.

Two exposure pathways were evaluated for OU-2 under possible future land use conditions, i.e., exposure to groundwater from the aquifer to individuals residing at the perimeter of the landfill (see Table 8). However, this future exposure scenario is highly unlikely because groundwater withdrawal is controlled by Nassau County. These exposure pathways were evaluated separately for adults and children. The exposure pathways considered quantitatively under the future land use included ingestion of groundwater from the aquifer and inhalation of volatile organic compounds while showering. The dermal contact with groundwater from the aquifer while showering pathway was qualitatively addressed in the risk assessment. Risks calculated for these pathways do not take into account any reductions in groundwater chemical concentrations which are expected to result from installation of the landfill cap which will reduce infiltration or leaching of contaminants into the groundwater aquifer under OU1.

No unacceptable carcinogenic risks, either for adults or children, were found for exposure to groundwater. The greatest risk for adults and children would result from groundwater ingestion at 1.5×10^{-4} and 8.5×10^{-5}, respectively (see Table 9). Cancer risks from exposure to groundwater are attributable primarily to vinyl chloride and arsenic through direct ingestion.

No unacceptable carcinogenic risks, either for adults or children, were found for exposure to groundwater through inhalation of volatile organic compounds while showering. The greatest risks for adults and children are 6.7×10^{-5} and 7.8×10^{-5}, respectively (see Table 9).

To assess the overall potential for noncarcinogenic effects posed by more than one contaminant, EPA has developed a 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.

Noncarcinogenic risks for adults and children are attributable primarily to tetrachloroethene and arsenic through groundwater ingestion (see Table 10). The non-carcinogenic risk shows a total HI from the groundwater pathways is 0.45 for an adult and 1.0 for a child. A non-cancer HI was not calculated for inhalation of volatile organic compounds while showering based on a lack of established inhalation reference doses.

As indicated above, the results of the baseline risk assessment show that, for all exposure pathways evaluated, the noncarcinogenic risks calculated were 1.0 or below for both adults and children.

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, and
- 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. Also, environmental chemistry analysis error can stem from several sources including the errors inherent in the analytical methods and characteristics of the matrix being sampled.

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

Uncertainty in toxicological data occur in extrapolating both from animals to humans and from high to low doses of exposure, as well as from 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 baseline risk assessment provides upper bound estimates of the risks to populations near the landfill and is highly unlikely to underestimate actual risks related to the Site. More specific information concerning public health risks, including a quantitative evaluation of the degree of risk associated with various pathways, is presented in the OU-2 Final Human Health Risk Assessment for the Syosset Landfill site.

SUMMARY OF THE SELECTED NO FURTHER ACTION REMEDY

Based on the findings of the OU1 and OU2 RIs and the Industrial Survey performed for the off-site area, EPA and NYSDEC have determined that the site related groundwater contamination is very limited in extent, was not found to be the probable source of contamination in Well RW-12I and does

not pose any significant risk to human health and the environment. In addition, although groundwater sampling results indicate the infrequent occurrence of contaminants exceeding MCLs, the majority of contaminants do not exceed MCLs or the NYS Drinking Water Standards in the groundwater. The NYSDEC will further investigate the probable source(s) of the high levels of the VOCs detected in Well RW-12I and take action as appropriate.

The OU1 remedial action, a landfill cap, will be constructed during 1996. Upon completion of the cap, the principal threats of the Site will be addressed. The cap will further reduce infiltration or leaching of contaminants into the groundwater. The landfill is being capped in accordance with New York State Part 360 requirements. As part of these requirements, an environmental monitoring program must be implemented. The environmental monitoring program that will be performed as part of the OU1 remedy will take into account sampling for both on-site and off-site groundwater , ambient air, and landfill gas which will further ensure that the OU1 and OU2 remedies remain protective of human health and the environment.

DOCUMENTATION OF SIGNIFICANT CHANGES

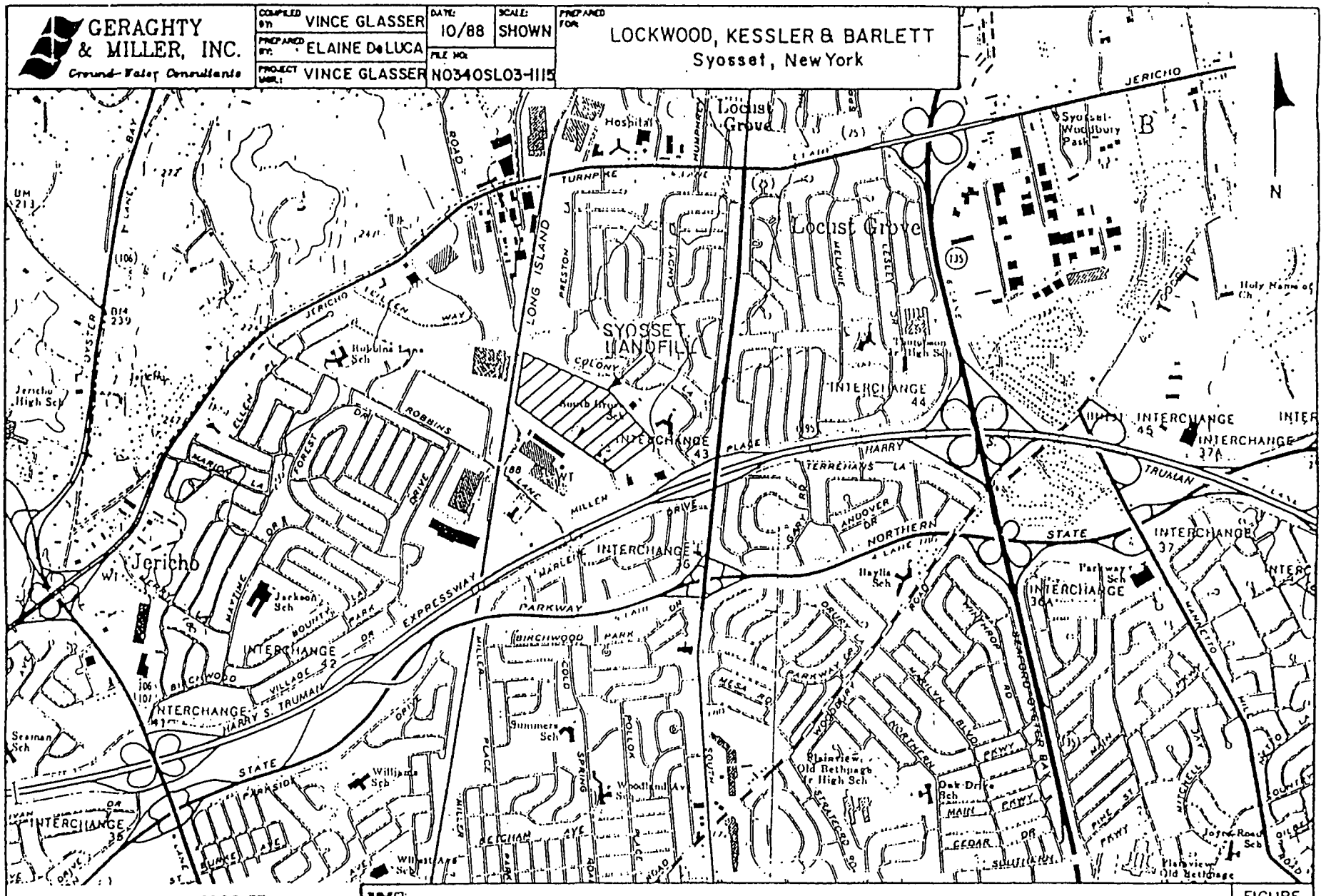
The Proposed Plan for the Syosset Landfill off-site groundwater study was released to the public on January 26, 1996. The Proposed Plan identified a no further action remedy. EPA reviewed all comments submitted. Upon review of the comments, it was determined that no significant changes to the preferred remedy, as it was originally identified in the Proposed Plan, were necessary.

APPENDIX I

FIGURES

GERAGHTY & MILLER, INC.
Ground-Water Consultants

COMPILED BY: VINCE GLASSER	DATE: 10/88	SCALE: SHOWN	PREPARED FOR: LOCKWOOD, KESSLER & BARLETT Syosset, New York
PREPARED BY: ELAINE DeLUCA	FILE NO: N0340SL03-1115		
PROJECT MGR.: VINCE GLASSER			



SUBJECT: SITE LOCATION, Syosset Landfill, Syosset, New York

FIGURE 1-1

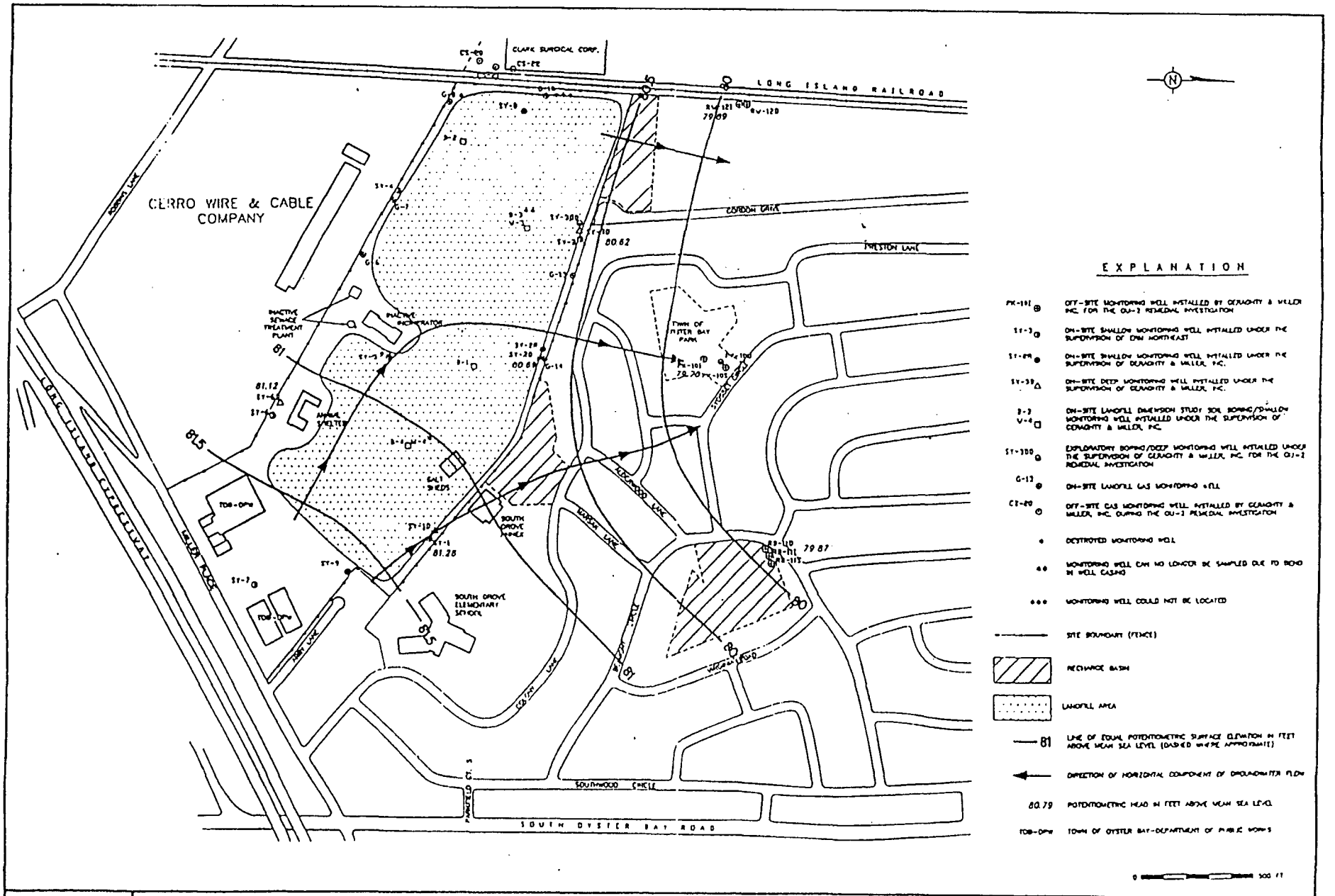


Figure 2

MAP OF SYOSSET LANDFILL SITE SHOWING MONITORING WELL LOCATIONS

Source: *Second Operable Unit Remedial Investigation Report, Syosset Landfill, Syosset, New York*, prepared for Town of Oyster Bay Department of Public Works by Geraghty & Miller, Inc., April 1994.

APPENDIX II

TABLES

Table 1. Concentrations of VOCs Detected in On-site Ground water Samples Above MCLs

Volatile Organic Compounds	Monitoring Wells	Maximum Concentration (ug/l)	Federal and or State Maximum Contaminant Level (ug/l)
Vinyl Chloride	SY-3	2.4	2
cis 1,2 dichloroethene	SY-1D	6.4	5
Chloroform	SY-1D SY-6D	9.1 8.5	5
Benzene	SY-7	540	5
Toluene	SY-7	5.2	5
Tetrachloroethene	SY-8	17	5
Chlorobenzene	SY-3D SY-4	5.5 9.1	5
Ortho-xylene	SY-7	5.1	5

Table 2. Concentrations of VOCs Detected in Off-site Ground water Samples Above MCLs

Volatile Organic Compounds	Monitoring Wells	Maximum Concentration (ug/l)	Federal and or State Maximum Contaminant Level (ug/l)
Vinyl Chloride	RW-12D	17	2
1,1-dichloroethene	RW-12I	26	5
1,1-dichloroethane	PK-10S PK-10I RB-11I RW-12I	6.7 5.4 13 17	5
cis 1,2 dichloroethene	RW-12I	5.7	5
1,1,1 trichloroethane	RW-12I	75	5
Trichloroethene	RW-12I	9.9	5
Toluene	PK-10D RW-12I	5.7 13	5
Tetrachloroethene	RB-11I RW-12I	23 110	5
Chlorobenzene	PK-10I	20	5

Table 3 . Concentrations of Leachate Indicator Parameters Detected in Groundwater Samples Collected from Monitoring Wells During the Second Operable Unit Remedial Investigation, Syosset Landfill, Syosset, New York

Sample ID:	SY-1	SY-1	SY-1D	SY-1D	SY-2R	SY-2R	SY-2D
Sample Date:	11/3/93	11/30/93	11/4/93	12/1/93	11/2/93	12/3/93	11/2/93
Parameter (concentrations in mg/L)							
Ammonia-nitrogen	0.43	0.46	11.8	9.80	<0.04	0.26	4.94
Bicarbonate alkalinity, as CaCO3	46.2	44.6	123	120	38.8	36.0	100
Carbonate	<1.0	<1.00	<1.0	<1.00	<1.0	<1.00	<1.0
Chloride	54.4	52.4	286	287	449	613	108
Hardness, as CaCO3	67.2	59.6	222	224	136	121	68.4
Nitrate-nitrogen	<0.10	0.29	6.21	6.19	2.42	2.41	1.20
Sulfate	20.2	16.0	146	150	56.0	58.4	22.6
Total dissolved solids	189	269	798	803	861	860	282

mg/L Milligrams per liter.
NR Not requested.
CaCO3 Calcium carbonate.
J Estimated value.

Table 3 Concentrations of Leachate Indicator Parameters Detected in Groundwater Samples Collected from Monitoring Wells During the Second Operable Unit Remedial Investigation, Syosset Landfill, Syosset, New York.

Sample ID:	SY-2D	SY-3	SY-3	SY-3D	SY-3D	SY-3DD	SY-3DD
Sample Date:	12/3/93	11/2/93	12/3/93	11/2/93	12/3/93	11/1/93	11/29/93
Parameter (concentrations in mg/L)							
Ammonia-nitrogen	6.98	67.8	123	146	83.6	<0.04	<0.04
Bicarbonate alkalinity, as CaCO3	81.6	716	727	1,180	1,020	14.4	9.60
Carbonate	<1.00	1.28	<1.00	2.72	1.20	<1.0	<1.00
Chloride	97.0	136	176	269	265	4.20	4.6
Hardness, as CaCO3	58.4	362	348	470	468	7.6	6.8
Nitrate-nitrogen	1.39	<0.10	<0.10	0.22	0.46	<0.10	0.32
Sulfate	16.5	32.9	26.9	27.2	22.6	1.8	11.9
Total dissolved solids	299	726	757	1,240	1,400	44.0	54.0

mg/L Milligrams per liter.
NR Not requested.
CaCO3 Calcium carbonate.
J Estimated value.

Table 3 Concentrations of Leachate Indicator Parameters Detected in Groundwater Samples Collected from Monitoring Wells During the Second Operable Unit Remedial Investigation, Syosset Landfill, Syosset, New York.

Sample ID:	SY-4	SY-4	SY-6	SY-6	SY-6D	SY-6D	SY-7
Sample Date:	11/2/93	12/3/93	11/5/93	12/2/93	11/1/93	11/29/93	11/4/93
Parameter (concentrations in mg/L)							
Ammonia-nitrogen	33.8	30.6	0.06	0.09	0.29	0.27	0.97
Bicarbonate alkalinity, as CaCO3	446	449	195	202	19.8	9.80	32.2 J
Carbonate	<1.0	<1.00	<1.0	<1.00	<1.0	<1.00	<1.0 J
Chloride	152	156	43.0	34.3	77.9	87.4	399
Hardness, as CaCO3	346	347	176	181	84.0	81.0	260
Nitrate-nitrogen	5.10	1.85	2.57	2.26	6.03	6.64	0.31
Sulfate	77.8	72.0	10.3	19.8	71.6	63.0	52.7
Total dissolved solids	763	794	287	323	261	293	794

mg/L Milligrams per liter.
NR Not requested.
CaCO3 Calcium carbonate.
J Estimated value.

Table 3 Concentrations of Leachate Indicator Parameters Detected in Groundwater Samples Collected from Monitoring Wells During the Second Operable Unit Remedial Investigation, Syosset Landfill, Syosset, New York.

Sample ID:	SY-7	SY-8	SY-8	SY-9	SY-9	PK-10S	PK-10S
Sample Date:	12/2/93	11/4/93	12/1/93	11/1/93	11/29/93	11/4/93	12/1/93
Parameter (concentrations in mg/L)							
Ammonia-nitrogen	0.36	0.21	0.13	0.76	0.61	0.36	0.06
Bicarbonate alkalinity, as CaCO3	112	59.8	62.0	190	131	23.2	24.2
Carbonate	<1.00	<1.0	<1.00	<1.0	<1.00	<1.0	<1.00
Chloride	808	32.3	32.7	39.3	47.2	15.2	13.7
Hardness, as CaCO3	282	103	106	246	172	68.8	67.8
Nitrate-nitrogen	<0.10	<0.10	<0.10	<0.10	0.07	7.33	8.04
Sulfate	58.9	78.2	80.7	68.3	4,530	39.9	51.4
Total dissolved solids	1,050	218	49.0	346	312	162	181

mg/L Milligrams per liter.
NR Not requested.
CaCO3 Calcium carbonate.
J Estimated value.

Table 3 Concentrations of Leachate Indicator Parameters Detected in Groundwater Samples Collected from Monitoring Wells During the Second Operable Unit Remedial Investigation, Syosset Landfill, Syosset, New York.

Sample ID:	PK-10I	(Rep-2)	PK-10I	(Rep-2)	PK-10D	PK-10D	RB-11S
Sample Date:	11/4/93	11/4/93	12/1/93	12/1/93	11/4/93	12/1/93	11/3/93
Parameter (concentrations in mg/L)							
Ammonia-nitrogen	39.1	39.3	37.9	41.0	<0.04	<0.04	<0.04
Bicarbonate alkalinity, as CaCO3	404	400 J	419	419	24.6	17.8	15.6
Carbonate	<1.0	<1.0 J	<1.00	<1.00	<1.0	<1.00	<1.0
Chloride	291	287	678	498	14.0	14.2	8.0
Hardness, as CaCO3	286	286	312	310	12.2	12.2	17.4
Nitrate-nitrogen	0.39	0.51	0.21	0.21	0.90	0.90	4.42
Sulfate	88.9	109	110	113	15.6	11.5	<10.0
Total dissolved solids	918	848	1,020	1,030	87.0	85.0	47.0

mg/L Milligrams per liter.
NR Not requested.
CaCO3 Calcium carbonate.
J Estimated value.

Table 3 Concentrations of Leachate Indicator Parameters Detected in Groundwater Samples Collected from Monitoring Wells During the Second Operable Unit Remedial Investigation, Syosset Landfill, Syosset, New York.

Sample ID:	RB-11S	RB-11I	(Rep-1)	RB-11I	(Rep-1)	RB-11D	RB-11D
Sample Date:	11/30/93	11/3/93	11/3/93	11/30/93	11/30/93	11/3/93	11/30/93
Parameter (concentrations in mg/L)							
Ammonia-nitrogen	0.09	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Bicarbonate alkalinity, as CaCO3	17.8	14.0	13.0	11.6	10.8	8.20	7.60
Carbonate	<1.00	<1.0	<1.0	<1.00	<1.00	<1.0	<1.00
Chloride	6.4	29.7	29.4	27.9	28.3	3.40	<3.0
Hardness, as CaCO3	19.2	87.2	86.6	89.8	89.4	3.60	4.4
Nitrate-nitrogen	2.15	13.2	12.9	13.3	13.4	0.24	0.62
Sulfate	<10.0	41.6	42.4	<10.0	34.2	<10.0	<10.0
Total dissolved solids	81.0	186	179	262	216	17.0	61.0

mg/L Milligrams per liter.
NR Not requested.
CaCO3 Calcium carbonate.
J Estimated value.

Table 3 Concentrations of Leachate Indicator Parameters Detected in Groundwater Samples Collected from Monitoring Wells During the Second Operable Unit Remedial Investigation, Syosset Landfill, Syosset, New York

Sample ID:	RW-12I	(Rep-3)	RW-12I	(Rep-3)	RW-12D	RW-12D	Field Blank
Sample Date:	11/5/93	11/5/93	12/2/93	12/2/93	11/5/93	12/2/93	11/3/93
Parameter (concentrations in mg/L)							
Ammonia-nitrogen	16.2	17.6	14.9	13.4	<0.04	0.11	NR
Bicarbonate alkalinity, as CaCO3	167	446	162	162	73.8	80.4	NR
Carbonate	<1.0	<1.0	<1.00	<1.00	<1.0	<1.00	NR
Chloride	106	106	118	117	122	139	NR
Hardness, as CaCO3	169	166	164	161	132	144	<1.0
Nitrate-nitrogen	2.56	3.47	4.18	4.04	1.09	0.10	NR
Sulfate	30.6	33.8	48.2	46.1	31.7	54.3	NR
Total dissolved solids	346	348	408	422	320	511	NR

mg/L Milligrams per liter.
NR Not requested.
CaCO3 Calcium carbonate.
J Estimated value.

Table 4A. Concentrations of Metals Detected in On-site Ground water Samples Above MCLs

Metals	Monitoring Wells	Maximum Concentration (ug/l)	Federal and or State Maximum Contaminant Level (ug/l)
Antimony	SY-2R SY-3 SY-3 SY-3DD SY-4 SY-4 SY-7 SY-7 SY-8	36.4 B (Total) 91.8 (Total) 36.7 B (Dissolved) 25.0 B (Total) 38.3 B (Dissolved) 23.1 B (Total) 34.4 B (Total) 46.8 B (Dissolved) 25.5 B (Total)	6
Arsenic	SY-3 SY-3D	75.1 (Total) 102 (Total)	50
Beryllium	SY-2R	7.8	4

J Estimated Value

B Analyte concentration between instrument detection Limit and contract required quantitation limit

Table 4A. Concentrations of Metals Detected in On-site Ground water Samples Above MCLs

Metals	Monitoring Wells	Maximum Concentration (ug/l)	Federal and or State Maximum Contaminant Level (ug/l)
Iron	SY-1	80,000 (Total)	300
	SY-1	23,000 (Dissolved)	
	SY-2R	20,600 (Total)	
	SY-3	295,000 (Total)	
	SY-3	7,900 (Dissolved)	
	SY-3D	34,700 (Total)	
	SY-3D	1,810 (Dissolved)	
	SY-3DD	1,030 (Total)	
	SY-4	45,900 (Total)	
	SY-4	9,810 (Dissolved)	
	SY-6	399 (Dissolved)	
	SY-6	22,200 (Total)	
	SY-6D	3,280 (Total)	
	SY-6D	961 (Dissolved)	
	SY-7	77,800 (Dissolved)	
	SY-7	181,000 (Total)	
	SY-8	2,540 (Dissolved)	
	SY-8	2,450 (Total)	
	SY-9	27,300 (Total)	
	SY-9	6,480 (Dissolved)	
Lead	SY-2R	128 (Total)	50
	SY-3	62.8 (Total)	
	SY-4	65.4 J(Total)	
	SY-9	58.8 (Total)	

J Estimated Value

B Analyte concentration between instrument detection Limit and contract required quantitation limit

Table 4A. Concentrations of Metals Detected in On-site Ground water Samples Above MCLs

Metals	Monitoring Wells	Maximum Concentration (ug/l)	Federal and or State Maximum Contaminant Level (ug/l)
Sodium	SY-1	23,000 (Total)	20,000
	SY-1	23,600 (Dissolved)	
	SY-1D	192,000 J (Total)	
	SY-1D	190,000 (Dissolved)	
	SY-2R	239,000 (Total)	
	SY-2R	232,000 (Dissolved)	
	SY-2D	70,500 (Total)	
	SY-2D	66,600 (Dissolved)	
	SY-3	124,000 (Total)	
	SY-3	116,000 (Dissolved)	
	SY-3D	211,000 (Total)	
	SY-3D	198,000 (Dissolved)	
	SY-4	117,000 (Total)	
	SY-4	118,000 (Dissolved)	
	SY-6	38,900 (Total)	
	SY-6	49,100 J (Dissolved)	
	SY-6D	50,900 (Total)	
	SY-6D	51,200 (Dissolved)	
	SY-7	173,000 (Total)	
	SY-7	175,000 (Dissolved)	
	SY-8	29,300 J (Total)	
	SY-8	29,100 (Dissolved)	
	SY-9	27,600 (Total)	
	SY-9	32,500 J (Dissolved)	

J Estimated Value

B Analyte concentration between instrument detection Limit and contract required quantitation limit

Table 4B. Concentrations of Metals detected in Off-site Ground water Samples Above MCLs

Volatile Organic Compounds	Monitoring Wells	Maximum Concentration (ug/l)	Federal and or State Maximum Contaminant Level (ug/l)
Iron	PK-10S PK-10S PK-10I RB-11S RB-11I RB-11D RW-12I RW-12D	694 (Dissolved) 5,380 (Total) 474 (Total) 1,270 (Total) 959 (Total) 975 (Total) 342 (Total) 552 (Total)	300
Sodium	PK-10S PK-10S PK-10I PK-10I PK-10D PK-10D RW-12I RW-12I RW-12D RW-12D	20,900 (Dissolved) 20,500 (Total) 235,000J (Total) 220,000 (Dissolved) 22,900 (Total) 24,600 (Dissolved) 60,800 (Total) 60,900 J (Dissolved) 66,500 (Total) 65,000 (Dissolved)	20,000

J Estimated Value

B Analyte concentration between instrument detection Limit and contract required quantitation limit

Table ..-5. Summary of Gas Well Monitoring Data, Syosset Landfill, Syosset, New York.

Well No.	February 25, 1994 Barometer (a) (Inches of mercury)	Total VOCs (b) (ppmv)	Methane (c) (ppmv)	Barometer (a) (Inches of mercury)	March 2, 1994 Barometer (a) (Inches of mercury)	Total VOCs (b) (ppmv)	Methane (c) (ppmv)	Barometer (a) (Inches of mercur
G-6	30.01	–	0.6	29.98	30.41	–	–	30.23
G-7		20	520			20	–	
G-8 (d)		(d)	(d)			(d)	(d)	
G-10 (e)		(e)	(e)			(e)	(e)	
G-13		–	–			–	–	
G-14		–	–			–	–	
CS-20		–	–			–	–	
CS-21		–	–			–	–	
CS-22		–	–			–	–	

Well No.	March 7, 1994 Barometer (a) (Inches of mercury)	Total VOCs (b) (ppmv)	Methane (c) (ppmv)	Barometer (a) (Inches of mercury)
G-6	30.17	–	–	30.06
G-7		100	100	
G-8 (d)		(d)	(d)	
G-10 (e)		(e)	(e)	
G-13		–	–	
G-14		–	–	
CS-20		–	–	
CS-21		–	–	
CS-22		–	–	

Measurements made in field by Geraghty & Miller, Inc. using a Foxboro Model 128 organic vapor analyzer (OVA). Instrument calibrated using zero gas and methane standards.

(a) Barometer readings obtained from Newsday Weather Service before and after each measurement round.
(b) Measurements made using a standard OVA probe.
(c) Measurements made using an activated charcoal-filter OVA probe.
(d) Well destoyed.
(e) Well could not be located.
ppmv Parts per million by volume.
– Not detected.

Table 6. Chemicals of Concern in Groundwater

Chemicals of Concern	Frequency	Range (ug/l)	Concentration Used (ug/l)
VOCs			
1,1-Dichloroethene	8/18	(0.2 J - 26.5)	4.4
Tetrachloroethene	10/18	(1.30 - 110)	60
Trichloroethene	10/18	(0.5 J - 9.85)	3.03
Vinyl Chloride	5/18	(0.6 J - 17)	3
Inorganics			
Arsenic	5/18	(1.5 B - 9.70 J)	2.7
Selenium	2/18	(5.4 - 8.4 BJ)	2.1

J = Estimated value.
B = Analyte found in associated blank as well as in sample.

Table 7. Toxicity Information for Contaminants (Non-Carcinogens and Carcinogens) of Concern
Groundwater Ingestion

Contaminants of Concern	Reference Dose (mg/kg/day)	Cancer Potency Factor (mg/kg/day)	Carcinogen Intake Estimate (mg/kg/day)		Non-Carcinogen Intake Estimate (mg/kg/day)	
			Children (0 - 6)	Adults (18 - 70)	Children (0 - 6)	Adults (18 - 70)
VOCs						
1,1-Dichloroethene	9×10^{-3}	6×10^{-1} (oral) 1.2 (inh.)	2.4×10^{-5} (oral) 5.4×10^{-5} (inh.)	4.1×10^{-5} (oral) 4.6×10^{-5} (inh.)	2.8×10^{-4} (oral)	1.2×10^{-4} (oral)
Tetrachloroethene	1×10^{-2}	5.2×10^{-2} (oral) 2×10^{-3} (inh.)	3.3×10^{-4} (oral) 7.4×10^{-4} (inh.)	5.6×10^{-4} (oral) 6.3×10^{-4} (inh.)	3.8×10^{-3} (oral)	1.6×10^{-3} (oral)
Trichloroethene	6×10^{-3}	1.1×10^{-2} (oral) 6.0×10^{-3} (inh.)	1.7×10^{-5} (oral) 3.8×10^{-5} (inh.)	2.8×10^{-5} (oral) 3.2×10^{-5} (inh.)	1.9×10^{-4} (oral)	8.3×10^{-5} (oral)
Vinyl Chloride		1.9 (oral) 3.0×10^{-1} (inh.)	1.6×10^{-5} (oral) 3.8×10^{-5} (inh.)	2.8×10^{-5} (oral) 3.2×10^{-5} (inh.)		
Inorganics						
Arsenic	3×10^{-4}	1.5 (oral)	1.5×10^{-5} (oral)	2.5×10^{-5} (oral)	1.7×10^{-4} (oral)	7.4×10^{-5} (oral)
Selenium	5×10^{-3}				1.3×10^{-4} (oral)	5.8×10^{-5} (oral)

* Inh - inhalation.

Table 8. Exposure Pathways Evaluated.

Media	Hypothetical Future Exposure	Receptors
Groundwater	Groundwater Ingestion	Adults (18 - 70 years)
		Children (0 - 6 years)
	Inhalation of Volatiles while Showering	Adults (18 - 70 years)
		Children (0 - 6 years)
	Dermal Contact while Showering	Addressed qualitatively

Table 9. Risk Estimates for Carcinogens.

Contaminants of Concern	Ingestion of Groundwater		Inhalation During Showering	
	Children (0 - 6 years)	Adults (18 - 70 years)	Children (0 - 6 years)	Adults (18 - 70 years)
VOCs				
1,1-Dichloroethene	1.4×10^{-5}	2.5×10^{-5}	6.5×10^{-5}	5.6×10^{-5}
Tetrachloroethene	1.7×10^{-5}	2.9×10^{-5}	1.5×10^{-6}	1.3×10^{-6}
Trichloroethene	1.8×10^{-7}	3.1×10^{-7}	2.3×10^{-7}	1.9×10^{-7}
Vinyl Chloride	3.1×10^{-5}	5.4×10^{-5}	1.1×10^{-5}	9.7×10^{-6}
Inorganics				
Arsenic	2.2×10^{-5}	3.8×10^{-5}	**	**
Selenium	**	**	**	**
TOTALS				
Age Specific	**8.5×10^{-5}**	**1.5×10^{-4}**	**7.8×10^{-5}**	**6.7×10^{-5}**
Adult & Child	**2.3×10^{-4}**		**1.5×10^{-4}**	

** Not calculated since established Reference Doses are not available for chemicals of potential concern.

Table 10. Risk Estimates for Non-Carcinogens

Contaminants of Concern	Ingestion of Groundwater		Inhalation During Showering	
	Children (0 - 6 years)	Adults (18 - 70 years)	Children (0 - 6 years)	Adults (18 - 70 years)
VOCs				
1,1-Dichloroethene	3.1×10^{-2}	1.3×10^{-2}	**	**
Tetrachloroethene	3.8×10^{-1}	1.6×10^{-1}		
Trichloroethene	3.2×10^{-2}	1.4×10^{-2}		
Inorganics				
Arsenic	5.8×10^{-1}	2.5×10^{-1}		
Selenium	2.7×10^{-2}	1.2×10^{-2}		
TOTAL HI	**1.0**	**0.45**		

** Not calculated since established Reference Doses are not available for chemicals of potential concern.

APPENDIX III

ADMINISTRATIVE RECORD INDEX

SYOSSET LANDFILL SITE
OPERABLE UNIT TWO
ADMINISTRATIVE RECORD FILE
INDEX OF DOCUMENTS

3.0 REMEDIAL INVESTIGATION

3.4 Remedial Investigation Reports

P. 300001-300582 Report: Second Operable Unit, Remedial Investigation Report - Syosset Landfill, Syosset, New York, prepared for Town of Oyster Bay, Department of Public Works, prepared by Geraghty & Miller, Inc., December 1995.

3.3 Work Plans

P. 300583-300642 Report: Work Plan for the Second Operable Unit Remedial Investigation at the Syosset Landfill, Syosset, New York, prepared by Geraghty & Miller, Inc., prepared for Town of Oyster Bay, April 1991.

P. 300643-301474 Report: Site Operations Plan, Second Operable Unit, Remedial Investigation, Syosset Landfill, Syosset, New York, prepared by Geraghty & Miller, Inc., prepared for Town of Oyster Bay, May 1992.

3.5 Correspondence

P. 301475-301483 Letter to Ms. Sherrel Henry, U.S. EPA, Region II, from Mr. Vincent J. Glasser, Senior Scientist/Project Manager, Geraghty & Miller, Inc. and Mr. Michael F. Wolfert, Vice President/Project Director, Geraghty & Miller, Inc., re: Second Operable Unit Remedial Investigation, Syosset Landfill, Syosset, New York (Contract No. DPW 90-535), December 3, 1992. (Attached: Tables 1 - 3).

P. 301484-301500 Letter to Ms. Sherrel Henry, U.S. EPA, Region II, from Messrs. James M. Byrne, P.E., Deputy Commissioner, Division of Engineering, and Mr. Karl J. Leupold, P.E., Commissioner/Public Works, Town of Oyster Bay, Department of Public Works, re: Syosset Landfill, Second Operable Unit Remedial Investigation (OU2 RI) Contract No. DPW 90-535, January 25, 1993. (Attached: 1. Letter to Messrs. Karl J. Leupold, P.E.,

Commissioner/Public Works, and James M. Byrne, P.E., Deputy Commissioner/Division of Engineering, Town of Oyster Bay, Department of Public Works, from Mr. John P. Lekstutis, P.E., Vice President, Lockwood, Kessler & Bartlett, Inc., re: Syosset Landfill, Second Operable Unit Remedial Investigation (OU2 RI) Contract No. DPW 90-535, January 20, 1993 2. Letter to Mr. John P. Lekstutis, P.E., Vice President, Lockwood, Kessler & Bartlett, Inc., from Messrs. Vincent J. Glasser, Senior Scientist/Project Manager, and Michael F. Wolfert, Vice President/Project Director, Geraghty & Miller, Inc., re: Second Operable Unit Remedial Investigation, Syosset Landfill, Syosset, New York, January 19, 1993 (Attached: Table 1 & 2) 3. Memorandum to Mr. John P. Lekstutis, P.E., and Ms. Theresa C. Heneveld, P.E., Lockwood, Kessler & Bartlett, Inc., from Messrs. Michael F. Wolfert and Vincent J. Glasser, Geraghty & Miller, Inc., re: Well Development, January 14, 1993 (Attached: Data). 4. Letter to Mr. John P. Lekstutis, P.E., Vice President, Lockwood, Kessler & Bartlett, Inc., from Messrs. Vincent J. Glasser, Senior Scientist/Project Manager, and Michael F. Wolfert, Vice President/Project Director, Geraghty & Miller, Inc., re: Syosset Landfill - Second Operable Unit Remedial Investigation, January 19, 1993 (Attached: Tables 1 - 3)).

P. 301501-301504 Letter to Ms. Sherrel Henry, U.S. EPA, Region II, from Mr. Karl J. Leupold, P.E., Commissioner/ Public Works, Town of Oyster Bay, Department of Public Works, re: Syosset Landfill Second Operable Unit Remedial Investigation, Contract No. DPW 90-535, June 29, 1993 (Attached: Letter to Mr. John P. Lekstutis, P.E., Vice President, Lockwood, Kessler & Bartlett, Inc., from Ms. Lauren E. Sjogren, Project Scientist/Regional Data, Quality Assurance Manager, Geraghty & Miller, Inc., Messrs. Vincent J. Glasser, Senior Scientist/Project Manager, and Michael F. Wolfert, Vice President/Project Director, Geraghty & Miller, Inc., re: Analytical Results for June 2, 1993 Sampling of Well PK-101, Second Operable Unit Remedial Investigation, Syosset Landfill, Syosset, New York, June 24, 1993. (Attached: Table 1)).

P. 301505-301506 Letter to Ms. Sherrel Henry, U.S. EPA, Region II, from Mr. Karl J. Leupold, P.E., Commissioner/ Public Works, Town of Oyster Bay, Department of Public Works, re: Syosset Landfill Second Operable Unit Remedial Investigation, Contract No. DPW 90-535, October 29, 1993.

P. 301507-301517 Letter to Mr. Karl Leupold, P.E., Commissioner, Department of Public Works, Town of Oyster Bay, from Ms. Carole Petersen, Chief, New York/ Caribbean Superfund Branch II, U.S. EPA, Region II, re: Comments on the Second Operable Unit Remedial Investigation Report for the Syosset Landfill Site, August 23, 1994.

P. 301518-301524 Letter to Mr. Karl Leupold, P.E., Commissioner, Department of Public Works, Town of Oyster Bay, from Ms. Carole Petersen, Chief, New York/ Caribbean Superfund Branch II, U.S. EPA, Region II, re: Comments on the Second Operable Unit Remedial Investigation Report for the Syosset Landfill Site, Syosset, New York, March 7, 1995.

P. 301525-301542 Letter to Messrs. Karl J. Leupold, P.E., Commissioner/Public Works, and James M. Byrne, P.E., Deputy Commissioner/Division of Engineering, Town of Oyster Bay, Department of Public Works, from Mr. John P. Lekstutis, P.E., President, Lockwood, Kessler & Bartlett, Inc., re: Syosset Landfill OU2 Remedial Investigation, Contract No. DPW 90-535, November 9, 1995. (Attached: Memorandum to Ms. Theresa Heneveld, P.E., Lockwood, Kessler & Bartlett, Inc., from Mr. Michael Wolfert, Geraghty & Miller, Inc., re: Groundwater Sampling Results from the Syosset Landfill and Conclusions Regarding Off-Site Groundwater Conditions, November 9, 1995. (Attached: Table 1)).

8.0 HEALTH ASSESSMENTS

8.1 Health Assessments

P. 800001-800159 Report: Final Human Health Risk Assessment, Syosset Landfill Site, Syosset, New York, prepared for U.S. EPA, prepared by CDM Federal Programs Corporation, January 25, 1996.

10.0 PUBLIC PARTICIPATION

10.4 Public Meeting Transcripts

P. 10.00001-10.00057 Transcript: "Public Meeting for the Syosset Landfill Superfund Site, Syosset, New York", transcribed by Fink & Carney Computerized Reporting Services, transcribed on February 15, 1996.

10.9 Proposed Plan

P. 10.00058-10.00067 Plan: Superfund Proposed Plan - Syosset Landfill Site, Town of Oyster Bay, Nassau County, New York, prepared by U.S. EPA, Region II, January 1996.

APPENDIX IV

STATE LETTER OF CONCURRENCE

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233-7010

Michael D. Zagata
Commissioner

MAR 28 1996

Ms. Kathleen Callahan
Director
Emergency & Remedial Response Division
U.S. Environmental Protection Agency
Region II
290 Broadway
New York, NY 10007-1866

Dear Ms. Callahan:

Re: Syosset Landfill (ID #130011) - Record of Decision

The New York State Department of Environmental Conservation has reviewed the EPA's Record of Decision for the second Operable Unit of the Syosset Landfill. We concur with the conclusion that volatile organic contamination in monitoring well RW-12I was not caused by contaminants in the Syosset Landfill, and that the selected "no further action" alternative, in conjunction with the capping and closure of O.U.1, is appropriate for this site.

It is our understanding that the environmental monitoring program implemented for O.U.1 will monitor the off-site groundwater plume. Further, the Department also intends to investigate the source of the contamination in well RW-12I.

If you have any questions, please feel free to contact Mr. Lawrence Alden, of my staff, at (518) 457-1641.

Sincerely,

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

cc: S. Henry, USEPA

APPENDIX V

RESPONSIVENESS SUMMARY

RESPONSIVENESS SUMMARY
FOR THE
SYOSSET LANDFILL SITE
TOWN OF OYSTER BAY, NEW YORK

INTRODUCTION

A Responsiveness Summary is required by Superfund regulations. It provides a summary of citizens' comments and concerns and the U.S. Environmental Protection Agency's (EPA's) and the New York State Department of Environmental Conservation's (NYSDEC's) responses to those comments and concerns. All comments summarized in this document have been considered in EPA's and NYSDEC's final decision for the selected remedy for the Syosset Landfill site (the Site).

This community relations responsiveness summary is divided into the following sections:

I. **Overview:** This section briefly outlines the EPA's no further action remedy.

II. **Background:** This section provides a brief history of community concerns and interests regarding the Syosset Landfill site.

III. **Summary of Public Comments Received During Public Comment Period and Agency Responses:** This section summarizes oral comments received by EPA at the public meeting for the Syosset Landfill site and the comment written provided by the Cerro Wire & Cable Corporation.

I. OVERVIEW

EPA has divided the remedial work necessary to mitigate contamination stemming from the Syosset Landfill site into two operable units. The first operable unit addresses the control of the source of contamination at the Site. The September 1990 Record of Decision (ROD) for the first operable unit (OU1) selected the capping of the Landfill as the appropriate source control response action. The purpose of this action is to minimize the infiltration of precipitation into the landfill, thus reducing the quantity of water percolating through the Landfill materials which will minimize the leaching of contaminants and reduce downgradient migration of contaminants.

EPA generally prefers treatment or removal technologies which reduce the toxicity, mobility, or volume of waste contaminants. In the case of large landfills, however, the sheer quantity of waste makes such methods prohibitive.

At the start of the public comment period, EPA published its recommended no further action remedy for the second operable Unit (OU2). OU2 addresses the further characterization of the

fate and transport of the contaminants in the groundwater. Based on the findings of the OU2 RI and EPA's Risk Assessment, the site-related groundwater contamination does not pose a threat to public health or the environment.

II. BACKGROUND ON COMMUNITY INVOLVEMENT

Community involvement at the Site has been strong, especially with respect to work on the Landfill. EPA has served as the lead Agency for community relations and remedial activities at the Site. The Proposed Plan for the OU2 remedy was released to the public for comment on January 26, 1996. This document, together with the Remedial Investigation report, the baseline Risk Assessment and other reports, was made available to the public in the Administrative Record file at three information repositories maintained at the EPA Region II Office in New York City; the Syosset Public Library, Syosset, New York; and the Town of Oyster Bay Town Hall, Oyster Bay, New York. The notice of availability for the above referenced documents was published in Newsday on January 26, 1996. The public comment period on these documents was open from January 26, 1996 through February 25, 1996.

A public meeting was held on February 15, 1996. The purpose of the public meeting was to review the Proposed Plan for OU2, to present the EPA's no further action remedy and to solicit, record, and consider all comments received from interested parties during the course of the public meeting. Comments submitted in writing have also been considered in this Responsiveness Summary.

Community interest for OU2 focused on groundwater contamination and EPA's Proposed Plan. Approximately 35 people attended the meeting. The audience consisted of a representative from the local environmental citizens' group, local businessmen, residents, and state and local government officials. EPA was asked to clarify some specifics of the Proposed Plan. A summary of the questions posed during the meeting are provided in Section III.

III. SUMMARY OF PUBLIC COMMENTS RECEIVED DURING PUBLIC COMMENT PERIOD AND AGENCY RESPONSES

A. Summary and Response to Local Community Concerns

All of the comments listed in this section were made orally at the Public Meeting on February 15, 1996. The Agency responses summarize, with some refinement, the oral responses provided at the meeting by representatives of EPA, NYSDEC, the New York State Department of Health (NYSDOH), and the Nassau County Department of Health (NCDOH).

1. **OU2 Groundwater Volatile Organic Compound (VOC) Contamination**

   a. Two Syosset residents asked whether the VOC-contaminated groundwater plume or off-site groundwater contamination is near or moving toward the South Grove School.

      EPA and NYSDOH Response: The South Grove Elementary school is located just northeast of the Landfill and groundwater leaving the Landfill is flowing in a northerly direction. The school is therefore mainly cross-gradient of the landfill, although it may receive some flow from the easternmost edge of the landfill. However, VOC concentrations on the eastern side of the Landfill are not very elevated, so there does not appear to be a VOC plume moving towards the school. It should be noted that even if groundwater from the Landfill does flow beneath or past the school, no one is drinking or otherwise exposed to contamination from the Site because the affected groundwater is so deep; on the order of 540 feet below land surface.

   b. A Syosset resident inquired as to the degree of VOC contamination of the groundwater that was detected in off-site monitoring wells.

      EPA Response: In some cases, levels of VOCs exceeded drinking water standards in the groundwater monitoring wells. Of the eight off-site wells sampled, the following VOCs were detected in six of these wells above the federal and/or state MCLs: vinyl chloride, 1,1-dichloroethene, 1,1-dichloroethane, cis-1,2-dichloroethene, 1,1,1-trichloroethane, trichloroethene, toluene, tetrachloroethene, and chlorobenzene. One chemical, 1,1-dichloroethane was detected in four wells in concentrations ranging from 5.4 parts per billion (ppb) to 17 ppb. To give a point of reference, the public drinking supply standard for most volatile organic chemicals, per the New York State Department of Health and federal Maximum Contaminant Levels, is 5 ppb. A more detailed discussion of sampling results is available in the Remedial Investigation report for the Site.

   c. A Syosset resident asked for clarification on why the source of VOC contamination detected in off-site monitoring wells has not been identified.

      EPA Response: The purpose of the OU2 RI was to determine the effect of the Landfill on off-site groundwater, not to determine all sources impacting off-site groundwater. There were eight different monitoring wells installed off-site. There was one in particular (RW-12I) that had high levels compared to levels found at the Landfill. Because the well is located next to an industrial area and the levels of contamination were higher than at the Landfill, it was determined that the Landfill was not the source of the contamination to the well. NYSDEC will investigate to determine the source of the contamination.

   d. Two Syosset residents asked about the extent and direction of plume migration and potential threats to drinking water supplies posed by the VOC contamination.

NYSDOH and NCDOH Responses: The groundwater for the Landfill is traveling north-northeast. There are three public water supply wells located approximately two miles north-northeast from the Landfill. Therefore, the potential does exist for the contamination from the Landfill to eventually reach these wells. The public supply wells are monitored on a quarterly basis, and Nassau County checks the wells in the Jericho Water District monthly. Currently, all of the wells meet New York State and federal drinking water standards. If compounds in any water supply well are found to exceed those standards, the well would be shut down. However, once the OU1 remedy is in place, concentrations in groundwater are expected to decline and residual contamination in the aquifer is not expected to reach these wells.

2. **OU1 Leachate Plume**

a. A Syosset resident expressed confusion as to whether the VOC groundwater contamination detected in well RW-12I was associated with the leachate from the Syosset Landfill.

EPA Response: Groundwater samples were analyzed for leachate indicator parameters as part of the off-site groundwater study. The leachate indicator parameters include ammonia, hardness, alkalinity, nitrate, sulfates and chlorides. These leachate indicator parameters are useful in determining Landfill leachate impacts to groundwater. The results for leachate parameters detected in off-site monitoring wells are significantly less than concentrations detected in on-site wells. Although leachate has been detected in two monitoring wells (PK-10S and RW-12I) near the Landfill, the VOC contamination detected in well RW-12I is not believed to be associated with the Landfill. The increase in VOC concentrations in well RW-12I, compared to other monitoring wells, indicates a probable off-Landfill source. Several industrial facilities are upgradient of the Well RW-12I.

b. A Syosset resident asked what is being done about the Landfill leachate. Another commented that the scheduled completion of the Landfill cap in 1998 allows for more than two years of additional off-site leaching.

EPA Response: The leachate plume is being addressed by capping the landfill. Once the Landfill is capped, the quantity of water percolating through the Landfill materials will be minimized. This will reduce the generation of leachate and reduce downgradient migration of contaminants. Contaminants in the leachate that have migrated off-site will dilute to lower concentrations.

c. A Syosset resident inquired as to the possible sources of contamination detected in well RB-11, which is located in a residential area.

EPA Response: The contamination detected in well RB-11 is probably associated with leachate from the Syosset Landfill. The migration of leachate from the Landfill will be minimized when the Landfill is capped.

d. A Syosset resident asked whether a well which lies to the east of the Syosset Landfill, and which was closed over 10 years ago, might have been contaminated by releases from the landfill. He also asked if any groundwater monitoring was conducted in that area (High Field Road).

EPA and NCDOH Responses: The well was closed 15 years ago due to an odd taste that could not be identified at the time. Jericho Water District took the precautionary measure of shutting down the well. It is not known whether the odor in the water was related to the landfill.

e. A Syosset resident inquired about the levels at which groundwater samples were taken in the RB-11 well, about the sampling data, and about the possibility of near-surface contamination. He also asked whether soil samples were taken in that area.

EPA Response: Groundwater samples were collected from the intermediate level well, about 350 feet below grade. Shallow zone soil samples were taken at 150 feet below grade. All sampling data is available in the Remedial Investigation report. The near-surface zone is unsaturated; there is no groundwater there to be contaminated.

3. Other Environmental Media

a. A retired environmental engineer living in Syosset expressed concern about the migration of Landfill gas outside the boundaries of the Syosset Landfill. He pointed out, however, that the Landfill closed in 1975 and that landfill gas production typically tapers off after 15 years.

EPA Response: Landfill gases do indeed decrease over time. The results of subsurface gas samples taken off-site indicate that gases are not migrating off the Landfill property.

b. A Syosset resident pointed out that there are two buildings at the South Grove Elementary School and asked at which building was sampling of surface soil, dust, and ambient air conducted.

EPA Response: The samples were taken at the building closest to the Landfill. The concern of the parents was that when the Landfill was being reshaped for cap installation, soil and dust particles would somehow get on the school property. Therefore, the school property closest to the Landfill was sampled.

c. A Syosset resident asked whether surface soil, dust, and ambient air sampling indicated

any changes in levels of any compounds between the sampling round conducted before the Preload Program and the sampling conducted during the Preload Program.

EPA and NYSDOH Responses: The levels did not increase. There were some slight variations, but nothing that could be related to remedial work at the Syosset Landfill.

4. **Health Risks**

   a. A Syosset resident asked about health risks associated with the contaminants both in the leachate and in the off-site plume detected at well RW-12I, specifically inquiring about accumulation of compounds in the body.

   NYSDOH Response: Chemicals leaching from the Landfill do not present a health hazard. Neither do the VOCs detected at well RW-12I, since they have not been detected in drinking water wells at levels above state and federal standards. As the VOCs continue to dissipate, they will volatilize, decompose, and be diluted. VOCs do not bioaccumulate, so ingestion of very small concentrations over a long period is not considered a health risk, even based on standards that take the most sensitive individuals, such as children, into account.

5. **Cost Considerations**

   a. A Syosset resident asked whether New York State budget cuts would impact the availability of funding and of qualified staff to perform an investigation of the off-site groundwater contamination.

   NYSDEC Response: The investigation of the contamination in well RW-12I will be done using State Superfund money. There is money available for this investigation and the state will have qualified people to perform the work.

   b. A Syosset resident quoted from an article downloaded from the Internet: "Some of the congressional Superfund reauthorization budget would use cost when selecting site remedies to override other important considerations, such as public health protection and community acceptance . . ." The resident asked whether the decision to install a Landfill cap for OU1 and the preference for a no action alternative for OU2 are based strictly on federal budget cuts rather than technical justifications.

   EPA Response: The decision to cap the Landfill at OU1 was made in 1990, before the budget cuts which the article referenced. The selected remedy for OU2, which is to take no further action with respect to the groundwater contamination, was not based solely on cost. Rather, the decision reflects the findings of the OU1 and OU2 RIs and the Industrial Survey performed for the off-site area. EPA and NYSDEC have determined that the site-related groundwater contamination is very limited in extent and that the Site is

not the likely source of the contamination detected in well RW-12I. Further, the groundwater associated with the Site does not pose any significant risk to human health and the environment and no one is currently drinking the groundwater.

c. A Syosset resident asked about the total cost for the remediation and monitoring of the Syosset Landfill.

EPA and NYSDOH Response: Because the Town of Oyster Bay has performed the work associated with the investigation, remediation and monitoring of the Syosset Landfill, the Town is in a better position than EPA to quantify the cost of that work. However, in the 1990 Record of Decision, the cost for remediation of the Landfill was estimated to be $26.2 million. The resident was referred to the Town for further cost information.

d. A Syosset resident expressed the concern that, if the investigation of groundwater contamination detected in well RW-12I is not completed soon, the party responsible for the contamination may no longer be around to be held accountable. The resident asked if a responsible party can be held accountable even if they are no longer operating at the same site.

NYSDEC response: The State Superfund statute provides funding for remedial work as well as authority to seek recovery of costs from responsible parties that may no longer be operating..

6. Community Relations

a. A Syosset resident asked how the public meeting was publicized, other than the notice that appeared in Newsday (Nassau edition) on January 26, 1996.

EPA Response: EPA maintains a mailing list of individuals who are interested in receiving information on the Site. This list is generated and updated when meetings are held and individuals fill in their name and address on the attendance list. The Proposed Plan and notice of the public meeting were sent to everyone on the most current mailing list.

b. Another Syosset resident commented that she and others who had been to previous Public Meetings had not received the Proposed Plan and Public Meeting notice mailing from EPA. This lack of notice by mail, she felt, resulted in a meeting turnout that was not representative of the community's level of concern.

EPA Response: In a notice that appeared in Newsday (Nassau edition) on January 26, 1996, EPA announced the availability of the Proposed Plan and related documents, as well

as the scheduled Public Meeting. EPA will continue to update the Site mailing list using the sign-in sheets from the February 15, 1996 Public Meeting and information from other sources.

c. The Cerro Wire and Cable Corporation commented in writing that they no longer own the property in question.

   EPA Response: The property will be referred to as the former Cerro property in the Record of Decision.

d. Two Syosset residents asked if sampling and investigation results are available to the public.

   EPA Response: The Remedial Investigation Report is available for review at three information repositories maintained at the EPA Region II Office in New York City, the Syosset Public Library, Syosset, New York and the Town of Oyster Bay Town Hall, Oyster Bay, New York.

e. A Syosset resident asked if the transcript of the Public Meeting would be made available.

   EPA Response: All public comments and agency responses will be described in a Responsiveness Summary that will be part of the Record of Decision for the Syosset Landfill site. Both the Record of Decision and the transcript will be available in the Site Information Repository.

7. **Other Concerns**

a. A Syosset resident wanted to know if the former Cerro property was part of the Syosset Landfill site. He mentioned plans to build a shopping mall on the former Cerro property and expressed concern that such an excavation and construction could result in hazardous waste contamination problems.

   EPA Response: The former Cerro property is separate from the Landfill site. The Cerro site was a State-lead site that has been remediated. In response to this comment, an Oyster Bay Town Councilman present at the meeting commented that the former Cerro site has been remediated and deemed safe. He also pointed out that no application has been filed for use of the former Cerro site for a shopping mall.

b. A Syosset resident asked whether results of Site investigations conducted by the State of New York are reported to or shared with EPA.

EPA Response: The Town of Oyster Bay is performing the remedial work at the Syosset Landfill site, under EPA oversight. EPA and the State do share information, and all investigation results do come to EPA.

c. A retired environmental engineer living in Syosset inquired about the depth to groundwater in the area.

EPA Response: The groundwater table is about 150 feet below grade.

ATTACHMENT A

COMMUNITY RELATIONS ACTIVITIES
FOR THE SYOSSET LANDFILL SITE, SECOND OPERABLE UNIT

- EPA prepared a Responsiveness Summary addressing community questions and concerns about the first operable unit as part of the OU1 Record of Decision (September, 1990)
- EPA released the OU2 Remedial Investigation report and Proposed Plan in January 1996, making them available for public review at the Site Information Repository, located at the Syosset Public Library.
- EPA provided the community with the opportunity to make comments on the Remedial Investigation report and the Proposed Plan during a Public Comment Period that lasted from January 26, 1996 to February 25, 1996.
- EPA mailed copies of the Proposed Plan to all parties on the Site Mailing List.
- EPA published in the Nassau County edition of Newsday on January 26, 1996 a public notice announcing the availability of the OU2 Remedial Investigation report and Proposed Plan, the Public Comment Period, and the Public Meeting.
- EPA held a Public Meeting at Syosset High School on February 15, 1996, to discuss the OU2 Remedial Investigation and Proposed Plan.

Legal Notice 7106

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

PUBLIC COMMENT PERIOD
Proposed Plan for the Second Operable Unit
SYOSSET LANDFILL SUPERFUND SITE
Town of Oyster Bay, Syosset, New York
January 26 - February 25, 1996

PUBLIC MEETING
THURSDAY, FEBRUARY 15, 7:00 p.m.
Syosset High School Auditorium
South Woods Road
Syosset, New York

The U.S. Environmental Protection Agency (EPA) announces the opening of a thirty-day public comment period on the Proposed Plan, Remedial Investigation report, and Risk Assessment for the second operable unit (OU2) at the Syosset Landfill Superfund Site in the Town of Oyster Bay, Syosset, New York. EPA welcomes the public's written and oral comments on these three key documents. As part of this comment period, EPA will hold a public meeting on Thursday, February 15, 1996 at 7 p.m. in the Auditorium of Syosset High School. Members of the community are invited to attend and to express their concerns. EPA will choose the remedy for the Site after the comment period ends.

EPA is the lead agency for addressing environmental problems at the Site, with support from the New York State Department of Environmental Conservation (NYSDEC). EPA has divided the remedial work necessary to mitigate contamination at the Site into two operable units (OU1 and OU2). Previously, EPA issued a Record of Decision which provided for construction of a landfill cap to address the source of Site contamination. Recently, EPA conducted a Remedial Investigation (RI) to assess the nature and extent of the contaminants from the landfill property into the groundwater (OU2). Using the RI results, EPA conducted a baseline Risk Assessment to estimate the human health risk which could result from contamination at the site if no remedial action were taken. The OU2 RI report and Risk Assessment and all documents related to the investigation of the Syosset Landfill Site are available in the information repositories for the Site. The information repositories are at the Syosset Public Library, South Oyster Bay Road, Syosset, NY, (516) 921-7161; the Oyster Bay Town Hall, Audrey Avenue, Oyster Bay, NY, (516) 624-6100; and EPA's Superfund Record Center, 290 Broadway, 18th Floor, New York, NY, (212) 637-4308.

Based on the results of the OU2 RI and Risk Assessment, as well as investigations conducted for OU1, EPA and NYSDEC have determined that the Site-related groundwater contamination is very limited in extent and does not pose any significant risk to human health or the environment. The OU1 landfill cap will be constructed during 1996. EPA and NYSDEC recommend no further action at OU2.

The public may comment orally at the public meeting and/or may submit written comments through February 25, 1996 to:

Sherrel D. Henry
Remedial Project Manager
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866
(212) 637-4273

ATTACHMENT C

FEBRUARY 15, 1996 PUBLIC MEETING

ATTENDANCE SHEET

Need bigger lines "PLEASE PRINT"

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
PUBLIC MEETING
FOR
Syosset Landfill Superfund Site
Syosset, New York

Thursday, February 15, 1996
ATTENDEES

(Please Print Clearly)

NAME	STREET	CITY	ZIP	PHONE	REPRESENTING
C D Johnson	Town Hall	O Bay	11771		Town O. Bay
H. Klap	Barry Lane	Syosset			
J. Goldstein	Nassau Co. Legislature	Lincoln	11501		Democrats of Nassau Legislature
Leonard Symons					Councilman TOB
John Lowry	240 Old Country Rd	Mineola	11501	(516) 571-3866	Nassau Co. Health Dept
Terry Heneveld	11 Ernest Ave	Hicksville	11801		LKB
Timothy Mulvihill	915 Terrace Blvd	New Hyde Pk	11040		NCDH
Ed Shulroff	12 Sherry Ct	Plainview	11803		Assemblyman D. Sidikman
Jim Stefanich	12 Evelyn Dr	Syosset	11791	935-6721	self
*Herb Fahey	26 Virginia Rd	Syosset	11791	921-1519	
Doris Flax	Five Joyce Lane	Woodbury	11797	364-9331	
William F. Cosulich	31 Cherry Ln	Syosset	11791	921-6076	Self
David Kanzenberg	48 Colony Ln	Syosset	11791	496-4120	Syosset Good Civic
John Luisi	49 Colony Ln	Syosset	11791	921-7883	Syosset Groves Civic Assoc.
Shelly Wool	25 Pine Rd	Syosset	11791	364-8759	South Woods PTSA

See last entry

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
PUBLIC MEETING
FOR
Syosset Landfill Superfund Site
Syosset, New York

Thursday, February 15, 1996
ATTENDEES

(Please Print Clearly)

NAME	STREET	CITY	ZIP	PHONE	REPRESENTING
WILLIAM DAY	N260 N. PINE ST	MASSAPEQUA	11758	797-8955	
[illegible]	King Office Park Plaza	Massapequa PK	11762		
Lawrence Alden				(518)457-1641	NYSDEC
Joseph Cruce				(518)458-6305	NYSDOH
JOHN LEKSTUTIS	46 Brownwood St	E. WILLISTON	11596	516 2487499	—
John Tassone	150 Miller Pl.	Syosset	11791	(516)677-5722	Town of Oyster Bay
Donna Weidemann	—				ENVIRON
CHUCK HODGMAN				516 571 3641	Nassau County Health Dept.
Rick Visci	Syosset Central School Dist			364-5662	
David Calicchio	10 Country Drive	Syosset	11791	364-2816	—
DONALD SPIESS	240 OLD COUNTRY RD.,	MINEOLA NY	11783		
MICHAEL KUDSCHYN	150 Miller Pl.	Syosset	11791	577-8619	T.O.B.
FRED GANG	S VILLAGE RD	SYOSSET	11791	681-2280	resident
Meryl Ain	Pell Lane	Syosset	11791	364-5611	Syosset C.S.D.
J. [illegible]	20 Country Rd	Syosset	11791	938-0120	—

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
PUBLIC MEETING
FOR
Syosset Landfill Superfund Site
Syosset, New York

Thursday, February 15, 1996
ATTENDEES

(Please Print Clearly)

NAME	STREET	CITY	ZIP	PHONE	REPRESENTING
Aaron Gershonoff				575-3830	
Maria Anderson	3 Willets La	Syosset, NY	11791		
see TIA or NL * Yakkey	26 Virginia	Rd. Syosset	11791	921-1519	
Assemblyman SIDIKMAN 13th Assembly Dist. wants to be on mailing list.					

ATTACHMENT D

LETTER TRANSMITTED DURING PUBLIC COMMENT PERIOD

LOWENSTEIN, SANDLER, KOHL, FISHER & BOYLAN

A PROFESSIONAL CORPORATION

COUNSELLORS AT LAW

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BRUCE D. SHOULSON
JOHN R. MACKAY 2ND
MARTIN R GOODMAN
JOHN D. SCHUPPER
STEPHEN N DERMER
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ALLEN B. LEVITHAN
R BARRY STIGER
GREGORY B. REILLY
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STEVEN B. FUERST
THEODORE V. WELLS, JR
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TIMOTHY G HANSEN

February 23, 1996

Sherrel D. Henry, Project Manager
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866

Re: Syosset Landfill Site
Superfund Proposed Plan

Dear Ms. Henry:

On behalf of Cerro Wire & Cable Corporation, we submit the following comments to EPA's Proposed Plan for the second operable unit ("OU2") at the Syosset Landfill Superfund Site ("the Site"), located in the Town on Oyster Bay, Nassau County, New York.

EPA's Proposed Plan for OU2 and supporting documents erroneously describe the Site as bounded by Cerro Wire & Cable Corporation ("Cerro") to the southwest. See Second Operable Unit Remedial Investigation Report (December 1995), Executive Summary at E-i; Introduction at 1-2 (Site Description); Figures 1-1 and 1-2; Appendix O (7/13/95 Industrial Area Survey Memo at page 3 and attached Figure and Table 1. See also Final Human Health Risk Assessment (1/25/96), Baseline Human Health Risk Assessment, Executive Summary at 1; Data Collection and Evaluation at 13 (also referred to as Geraghty & Miller Figure 2-1). Cerro does not own the property adjacent to the Site. Cerro sold its Syosset facility to Sy Associates on March 29, 1984. Although Cerro continued to lease the Syosset facility from Sy Associates until June 30, 1987, Cerro ceased its operations at the Syosset facility on November 7, 1986.

February 23, 1996

Since Cerro has neither owned nor occupied the property adjacent to the Site since 1987, kindly remove Cerro's name from the descriptions of the Site and supporting documentation. If you have any questions, please contact me or Richard F. Ricci at (201) 992-8700.

Very truly yours,

Sarah G. Hunt

cc: Richard F. Ricci, Esq.