PRELIMINARY SITE ASSESSMENT

Bartlett Tree Company
Westbury, Nassau County, New York
NYSDEC Site Registry No.130074

Dvirka and Bartilucci
Consulting Engineers

APRIL 1998

PRELIMINARY SITE ASSESSMENT

BARTLETT TREE COMPANY
WESTBURY, NEW YORK
NYSDEC SITE REGISTRY NO. 130074

WORK ASSIGNMENT NO. D002708-22

PREPARED FOR

NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

BY

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APRIL 1998

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Section 1

USEPA SITE INSPECTION QUESTIONNAIRE

BARTLETT TREE COMPANY
WESTBURY, NASSAU COUNTY, NEW YORK

APRIL 1998

SUBMITTED BY:

_____

xxxxxxxxxxxxxxxxxxxxxx
SITE MANAGER

_____

xxxxxxxxxxxxxxxxxxxxx
TASK LEADER

SITE SUMMARY

Provide a brief description of the site and its operational history. State the site name, owner, operator, type of facility and operations, size of property, active or inactive status and years of waste generation. Summarize waste treatment, storage or disposal activities that have or may have occurred at the site; note whether these activities are documented or alleged. Identify all source types and prior spills, floods or fires. Summarize highlights of the PA and other investigations if available.

The Bartlett Tree site in Westbury, Long Island, is the local base of the F.A. Bartlett Tree Expert Company, a nationwide tree care company. The site is active and has been used by the company since the mid-1950's .

The site came to the attention of the New York State Department of Environmental Conservation (NYSDEC) in April 1990, when an anonymous caller to the Region 1 office in Stony Brook, Long Island, reported that pesticides were dumped into a dry well at the site. Specific pesticides and herbicides were named, including malathion, DDT, Sevin, chlordane and lead spray for fruit trees. The caller reported that 200 to 300 gallons of spray were periodically dumped into the dry well over a 30-year period, from the mid 1950's until the dry well was abandoned in 1983. The dry well was then allegedly filled with empty 5-gallon metal pesticide containers, covered with a metal manhole cover and paved over with asphalt.

Previously, on May 5, 1987, two senior representatives of the Bartlett Tree Expert Company had visited the Westbury facility to investigate a May 1987 report that an abandoned "cistern" at the site held empty pesticide containers. They found that the cistern (dry well) was partially filled with water, which they sampled, and they recovered two pesticide containers, (empty, crushed 5-gallon metal pails of Sevin).

The sample of the standing water in the dry well was submitted to an independent laboratory for analysis of select pesticides. The herbicide diazinon was detected at a level of

0.61 ppm. According to their October 1990 letter report, based on these results, the company determined that "the residues detected did not represent a level that could be considered harmful to human health or the environment." After their inspection, they had the dry well backfilled with sand out of concern that it could cave in due to the heavy truck traffic in the driveway.

The Bartlett Tree Company submitted a letter report to the Nassau County Department of Health in October 1990 (Reference 6), describing the inspection and closure of the dry well, and including a copy of the analytical results. No response was received. The Company therefore assumed that their procedure had been acceptable to the County, as explained in subsequent correspondence to NYSDEC in August 1993 (Reference 9), after the NYSDEC had notified the company that it was suspected that hazardous waste had been disposed at the Westbury location, and that the site would be investigated.

Include the following:

Site Conditions and Background

1. Physical location (Address, Latitude, Longitude, Map Reference).

   The Bartlett Tree Company is located in Nassau County, Long Island at 345 Union Avenue, in Westbury, New York 11590. It can be referenced on the USGS Hicksville, NY topographic quadrangle map (Figure 1) at 40°45'13" north latitude and 73°35'13" west longitude.

   The site is at the northeast corner of Post Road and Union Avenue, across the street from the Westbury Station of the Long Island Rail Road.

2. Site characteristics (including a description of buildings/structures on-site and their physical condition).

   The Bartlett Tree Company site in Westbury is a narrow elongated property, as shown in Figure 2. It consists of the original parcel of land (Lot 206) plus a small strip of land running the length of the property on the west (Lot 786) purchased within the past two years. The ground surface has been paved several times, reportedly to minimize mud and runoff. The new parcel of land is not paved. The site covers approximately 0.4 acres, total.

The site is flat, with an average ground surface elevation of 100 feet MSL. Storm water runs off southward toward sewers on Union Avenue. Photographs of the site, taken during the PSA sampling program, are presented in the Photographic Log at the back of this report.

A new chainlink fence along the western and northern property boundaries was recently added after the new strip of land was purchased. However, the site is still accessible through either of the two driveways on Union Avenue.

There are three buildings on site. The main building is the office, which is a 2-story brick and masonry structure of 2,100 square feet, at the front or south end of the site along Union Avenue. Currently, it houses office staff upstairs and storage on the lower level.

Midway along the eastern side of the property are two adjoining wooden buildings. The larger of the two is an 800 square foot garage where large equipment such as wood chippers are kept under lock and key, and where company vehicles are repaired. Attached to the north end of the garage is a 400 square foot locked shed where pesticides are stored. The shed is fireproof and has a concrete floor.

At the rear of the property at the far north end is a one-sided open shed where large mechanical equipment is stored. The dry well is located near the back end of the property, in front of the open shed.

References: 19, 23

1. Release or threatened release into the environment of a hazardous substance, pollutant or contaminant (indicate if from a facility as defined in 40 CFR 300.5).

Site meets the definition of a "facility," and alleged disposal of pesticides into the on-site dry well, confirmed by the pesticides detected in the PSA samples, constitute a "release." 40 CFR 300.5, the National Oil and Hazardous Substances Pollution Control Plan (NCP), defines the terms as follows:

> *Facility... means any building, structure, installation,... well, pit, pond, lagoon... landfill..., or any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located;...*
>
> *Release... means any spilling, leaking,... discharging..., leaching, dumping or disposing into the environment...*
>
> *Several of the pesticides detected in dry well groundwater and soils are listed toxic hazardous wastes (DDD U060, DDT U061), or listed acute hazardous wastes (dieldrin P037, endrin P051), as per 6 NYCRR Part 371, NYSDEC, Identification and Listing of Hazardous Wastes.*

Reference: 15, 42

2. Site assessment activities/observations.

A site visit for the PSA was conducted on November 3, 1995, with representatives of Dvirka and Bartilucci Consulting Engineers (D&B), the NYSDEC Division of Hazardous Waste Remediation (Albany) and the Bartlett Tree Company attending. The dry well on-site was located and inspected, and additional sampling points were selected (Figure 2).

Field sampling was conducted from November 12 to November 18, 1996. The Geoprobe/direct push method of drilling was used to collect soil and groundwater samples for laboratory analysis. All samples were analyzed for the standard list of Target Compound List (TCL) pesticides. All samples were also analyzed for organochlorine pesticides via USEPA SW846 Method 8141, and herbicides via USEPA Method 8150 in order to target the specific substances that had allegedly been disposed on-site. A subset of samples was also analyzed for the full list of TCL parameters, including volatile organic compounds, semivolatile compounds and inorganic constituents. A summary of the sampling program is presented in Table 1, with the sample locations displayed in Figure 2.

Continuous soil samples were collected within the dry well, from 8 feet below ground to 37 feet below ground at the water table. The soil boring log is contained in Appendix A.

Groundwater samples were collected beneath the dry well and at four other locations on site: Station GP-1 in the far upgradient (northeastern) corner of the property, and at Stations GP-2, GP-3 and GP-4 located downgradient of the dry well, along the western property line. Two groundwater samples were collected at each station: a shallow sample at the top of the water table and a deeper sample approximately 15 to 25 feet below the top of the water table. An off-site monitoring well on neighboring property to the west was also sampled.

1. CERCLA status.

Not a Superfund site.

Reference: 16

2. Other actions to date (e.g., Federal removal[1], Federal remedial[2] or pre-remedial actions, State actions, other legal violations).

The Bartlett Tree Company site is listed in the NYSDEC January 1997 Quarterly Status Report of Inactive Hazardous Waste Disposal Sites, as a P, or potential site, where a Registry Qualifying Investigation is underway.

3. State and local authorities role (intervention).

After receiving information about illegal dumping at the site in 1990, the Nassau County Department of Health (NCDH) conducted a site visit and confirmed the existence of the dry well, but no information was obtained to prove or disprove the dry well as a source of contamination.

The County directed the company to obtain an Article XI permit for the storage of hazardous materials. Permit No. 1284 was issued on November 1, 1990, and renewed November 1, 1995 through November 1, 2000.

NCDH has inspected the premises periodically and no permit violations have been noted. In the most recent inspection report dated November 1996, the housekeeping was described as satisfactory.

Reference: 25

Possible Threat to Public Health, Welfare or Environment, and Statutory and Regulatory Authorities

1. Possible threats to public health or welfare.

The PSA samples demonstrate that there is an area on site where groundwater is contaminated with pesticides. This contamination could conceivably migrate downward and impact deeper groundwater in the Magothy Aquifer which is the primary source of drinking water for the public water supply.

The contaminated soil in the dry well is below the ground surface and therefore not accessible to the public. However, the contaminated soil continues to serve as an ongoing source of contaminants to groundwater. As explained above, groundwater contamination is already present and could pose a threat to public health if it migrates to public supply wells. To date, pesticides have not been detected in any of the nearby municipal supply wells (Part IV Question 6).

2. Possible threats to environment.

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1 Short-term or emergency action.

2 Long-term cleanup action.

The site is located in the central portion of Nassau County where groundwater flow has a strong downward component. This area is known as the deep recharge area. Groundwater in the deep recharge area is more vulnerable to sources of contamination than groundwater in discharge areas in the southern part of the County where flow is horizontal or upward.

Near surface contamination affecting the water table aquifer, such as the contamination detected at the Bartlett Tree site, could thus migrate deeper due to the natural downward flow in the deep recharge area. This could impact (contaminate) deeper portions of Long Island's groundwater resources, which is a Sole Source Aquifer.

References: 13, 14

3. Permits - local, state and federal.

   Nassau County Article XI Permit No. 1284 for the storage of hazardous materials, November 1, 1990 through November 5, 1995; renewed November 1, 1995 through November 1, 2000.

Expected Change in the Environmental Conditions: Should Action Be Delayed or Not Taken as Consistent With Report Information and Recommendation

The PSA soil results demonstrate that significant levels of pesticides are present within the dry well itself. Pesticides are also present in the groundwater below the dry well and at least at one other groundwater sampling point on-site. These contaminants will continue to serve as an ongoing source of pesticide contamination to groundwater.

The site is located in a deep groundwater recharge zone, as discussed above, which means that groundwater contaminants introduced in the shallow subsurface could migrate deeper to mix with portions of the aquifer system used for the public water supply.

1. Enforcement History

   See Question 15

2. Cite References

   See References at end of report.

LOCATION MAP

Provide a location map. Indicate site location, site address, latitude, longitude, USGS map reference (quadrangle name) and north arrow.

See Figure 1.

SITE SKETCH

Provide a sketch of the site drawn to scale. Indicate all pertinent features of the site and nearby environments including: delineation of site boundary, land cover/trees and other vegetation, utilities (water, electrical, gas, sewage, storm drains), sources of wastes, areas of visible and buried wastes, buildings, residences, access roads, parking areas, fences or other barriers restricting access to the site, fields, drainage channel or pathways, water bodies, wells, sensitive environments and other features such as hills and valleys. Indicate a north arrow.

See Figure 2.

SITE ASSESSMENT REPORT: SITE INSPECTION

PART I: SITE INFORMATION

1. Site Name/Alias *Bartlett Tree Company/a.k.a. Bartlett Tree Experts*

   Street *345 Union Avenue*

   City *Westbury* State *New York* Zip *11590*

2. County *Nassau* County Code *30* Cong. Dist. *4th*

3. CERCLIS ID NO. *NY 0001408749*

4. Tax Map No.

   Section No. *10* Block No. *228* Lot Nos. *206 and 786*

5. Latitude *40°45'13"N* Longitude *73°35'13"W*

   USGS Quads. *Hicksville, NY*

6. Approximate size of site *0.4 acres*

7. Owner *F.A. Bartlett Tree Expert Company* Telephone No. *(203) 323-1131*

   Street *P.O. Box 3067*

   City *Stamford* State *CT* Zip *06905*

8. Operator *Bartlett Tree Co.* Telephone No. *(516) 334-0648*

   Street *345 Union Avenue*

   City *Westbury* State *NY* Zip *11590*

9. Type of Ownership

   X Private ____ Federal ____ State

   ____ County ____ Municipal ____ Unknown ____ Other

10. Owner/Operator Notification on File

    ____ RCRA 3001 ____ Date ____ CERCLA 103c ____ Date

    ____ None ____ Unknown *X* Other *NYSDEC 8/5/93*

11. Permit Information

Permit	Permit No.	Date Issued	Expiration Date	Comments
Article XI	*1284*	*Nov. 1, 1990*	*Nov. 5, 1995*	*Nassau County permit for Storage of Hazardous Materials*
Article XI	*1284 Renewed*	*Nov. 1, 1995*	*Nov. 1, 2000*	*Nassau County permit for Storage of Hazardous Materials*

12. Site Status

X Active _____ Inactive _____ Unknown

13. Years of Operation *mid 1950's* to *current*

14. Identify the types of waste sources (e.g., landfill, surface impoundment, piles, stained soil, above or below ground tanks or containers, land treatment, etc.) on-site. Initiate as many waste unit numbers as needed to identify all waste sources on site.

(a) Waste Sources

Waste Unit No.	Waste Source Type	Facility Name for Unit
1	*Dry Well*	*Cistern*

(b) Other Areas of Concern

Identify any miscellaneous spills, dumping, etc. on site; describe the materials and identify their locations on site.

See Site Summary

15. Describe the regulatory history of the site, including the scope and objectives of any previous response actions, investigations and litigation by State, Local and Federal agencies (indicate type, affiliation, date of investigations).

The Region 1 office of the NYSDEC Division of Hazardous Waste Remediation referred the case to NYSDEC Bureau of Environmental Criminal Investigations (BECI) soon after receiving an anonymous telephone call in 1990 describing dumping at the site. BECI was unable to pursue the complaint because the statute of limitations had expired between the time when the alleged dumping ceased in 1983 and when the complaint was lodged in 1990. Further, since the complaint was made anonymously, and there were no signed complaints or eye witnesses, the law enforcement branch could not get a search warrant to investigate the site. Therefore, the case was closed and referred back to the regional office.

Reference: 18

a) Is the site or any waste source subject to Petroleum Exclusion? Identify petroleum products and by products that justify this decision.

No. There are no above or below ground gasoline tanks on-site, and no other petroleum products are stored on-site.

Reference: 23

b) Are pesticides produced and stored on-site? Does the facility apply pesticides (FIFRA or Federal Insecticide, Fungicide, and Rodenticide Act) to any part of the property?

Pesticides are stored on-site in the locked Pesticide Storage Shed which has a concrete floor. The pesticides stored on-site are in concentrated form and are mixed as needed for off-site application. No pesticides are applied on-site.

Reference: 19

c) Is the site or any waste source subject to RCRA Subtitle C (briefly explain)?

No. The company does not generate any waste that is manifested off-site.

Reference: 19

d) Is the site or any waste source maintained under the authority of the Nuclear Regulatory Commission (NRC)?

No.

16. Information available from:

Contact	*Mark P. Mateunas, P.E.*
Agency	*New York State Department of Environmental Conservation*
Telephone No.	*518-457-0639*
Preparer	*Loren R. Lasky, P.G.*
Company	*Dvirka and Bartilucci Consulting Engineers*
Date	*June 20, 1997*

PART II: WASTE SOURCE INFORMATION

For each of the waste units identified in Part I, complete the following items.

Waste Unit _____*1*_____ - *Dry Well*

Source Type:

_____	Landfill	_____	Contaminated Soil
_____	Surface Impoundment	_____	Pile
_____	Drums	_____	Land Treatment
_____	Tanks/Containers	___*X*___	Other - *Dry Well*

Description:

1. Describe the types of containers, impoundments or other storage systems (i.e. concrete lined surface impoundment) and any labels that may be present.

   The area of concern on-site has been variously referred to as a cistern or a dry well, as well as a storm drain and a cesspool.

   The dry well was originally described in Bartlett Tree Company correspondence circa October 1990 as a cistern. When the complaint was lodged by the anonymous caller, the area where pesticides were disposed was called a dry well. It was referred to as a storm drain when NYSDEC prepared a Registry Site Classification Decision in 1993. In 1997, in an inquiry conducted as part of this Preliminary Site Assessment, a long time employee of the Bartlett Tree Company explained that the dry well was actually an abandoned cesspool, left from a former building (the old woodworking shop), that had burnt down to the ground.

   References: 5,6

2. Describe the physical condition of the containers or storage systems (i.e. rusted and/or bulging metal drums).

   The dry well, as inspected during the Preliminary Site Assessment field program, appeared to be intact and in good condition. At the surface, the asphalt pavement had worn away, exposing a round metal cover, approximately two feet in diameter. When the cover was removed, as shown in Photograph #4, it could be seen that the cover fit into a

round metal frame set flush with the ground.

The top of the sediment in the dry well was recessed about 8 inches below the ground surface (bgs). The exposed sediment was a rusty brown mixture of sand with a little gravel. Continuous soil samples were collected using the Geoprobe/direct push method from the surface down to the water table. Refusal was encountered at 6 feet bgs, but drilling was resumed by moving off 8 inches to the east. Similar samples were composited for pesticide analysis. The soil boring log is contained in Appendix A.

Elevated PID readings, approximately 400 ppm, were noted in the interval from 8 to 16 feet bgs. Strong septic odors and slightly sweet petroleum solvent-type odors were also noted, as described on the boring log and in the sample information records. Soil and groundwater samples were collected for laboratory analysis, as described in Section III, with the results compiled in Tables 2 through 11.

3. Describe any secondary containment that may be present (e.g. drums on concrete pad in building or above ground tank surrounded by berm).

   There is no secondary containment relative to the drywell, however, there is secondary containment for the stored chemicals.

Hazardous Waste Quantity

Unknown.

It was alleged that 200 to 300 gallons of pesticide mixtures were periodically dumped in the dry well over a 25 or 30 year period, from the mid 1950's until 1983.

Hazardous Substances/Physical State

The materials dumped were reportedly liquid pesticide mixtures leftover in the spray trucks at the end of the day.

PART III. SAMPLING RESULTS

Existing Analytical Data

Review and summarize any previously existing groundwater, soil, sediment, surface water, air, or waste sample analyses. Discuss the precision, accuracy, representativeness and completeness of previous sampling efforts. Describe the concentrations of chemicals of concern based on available data and media impacted. These parameters should be evaluated by examining the results of routine quality control procedures. Any suspected problems with this data should be identified. This is especially if the data cannot be used for HRS purposes. Any problems should receive the immediate attention of the work assignment manager. Identify data gaps.

One sample of standing water from the dry well, termed the "abandoned cistern", was collected by representatives of the Bartlett Tree Company when they inspected the Westbury facility on May 5, 1987. Analysis for select pesticides was performed by an independent laboratory. No DDT, methoxychlor, Lindane or carbaryl (Sevin) was detected. Diazinon was present at a level of 0.61 ppm. (The groundwater standard for Diazinon is 0.7 ppb.) NYSDEC reviewed this data in 1993 and concluded that while Diazinon is not a listed hazardous waste, the level of Diazinon detected in the water sample was cause for concern.

Reference: 6, 10

Site Inspection Sampling Results

As appropriate to the particular site collect samples from air, drainage ditches, soil (surface and subsurface), standing pools of liquids, storage containers, stream and pond surface water, sediments (up gradient, at suspected source and down gradient) and ground water (up gradient, beneath site and down gradient). Samples are to be used for NPL listing purposes or to support an EE/CA (Engineering Evaluation/Cost Analysis) (as opposed to sampling used to

determine immediate fire, explosion or direct contact hazards), and should go through CLP for full TAL and TCL analysis. Background samples are always necessary to document an observed release. Those samples that are considered background samples should be clearly identified.

Soils

The most significant finding in the soil samples were the pesticides in the dry well. High levels of pesticides were found in the dry well soils, with total pesticides in individual samples on the order of ten million parts per billion, (10,000,000 ppb or 10,000 ppm), or 1% by weight (Table 9). As shown in the vertical soil profile in Figure 2, pesticides were detected throughout the entire soil column in the dry well, from the sample at 8 feet bgs down to the water table at 38 feet bgs.

DDT, a once popular, now banned pesticide, was the most frequently detected pesticide. Technical (commercial) grades of DDT are mixtures of several similar compounds. DDT and related compound DDD were also the pesticides found in the highest concentrations. Levels of DDT in one sample were as high as 11,000 ppm (DW-1, 22-28'). DDT is considered nondegradable due to its stability and resistance to destruction by light and oxidation. Other pesticides found in the dry well include: gamma-BHC (Lindane), dieldrin, 4,4'-DDE (another DDT related compound), methoxychlor, alpha-chlordane and gamma-chlordane.

Several of the pesticides detected in the dry well soils (DDD [U060] and DDT [U061]) are listed toxic hazardous wastes or listed acute hazardous wastes (dieldrin [P037]) as per 6 NYCRR Part 371, Identification and Listing of Hazardous Wastes (January 1995).

Each pesticide detected in soil exceeded its respective NYSDEC recommended soil cleanup objective. Total pesticide levels in each individual soil sample were 10 to 1000 times higher than the recommended soil cleanup objective of 10,000 ug/kg for total pesticides.

It should be noted that the high levels of pesticides present in the sample necessitated that

most soil samples be diluted and reanalyzed at dilutions ranging from a factor of 1,000 to 1,000,000. As discussed in the Data Usability Summary Review (DUSR), due to the dilution process, other constituents that may also have been present at lower levels might not have been detected in the diluted sample. Therefore, the analytical results may show fewer pesticides than are actually present in the samples.

The dry well soils were also analyzed for the herbicides and organophosphate pesticides listed in Table 10, including diazinon, carbaryl (Sevin) and malathion. These constituents were generally not detected, with the exception of low levels of 2,4,5-TP (Silvex) and dicambra. No PCBs were detected.

Volatile organic compounds (VOCs) were also detected in the dry well soils, as listed in Table 7 and displayed on Figure 4. The gasoline-related BTEX constituents benzene, ethylbenzene and xylene were present at levels up to 440,000 ug/kg (DW-1 12'-16'). Ethylbenzene and xylene are common carriers for pesticides. Levels of total volatiles in the upper 22 feet of the soil column exceeded the NYSDEC recommended soil cleanup objective for total volatiles of 10,000 ug/kg. As with the soil pesticide data, due to the high concentration of volatiles present, some of the samples had to be diluted and reanalyzed with dilution factors ranging from 5x to 1250x. Due to the dilution process, other constituents that may also have been present at lower levels might not have been detected in the diluted samples. Therefore, the VOC results are also biased low with possible false negatives being reported.

Semivolatile organic compounds (SVOCs) were also detected in the dry well soils, as listed in Table 8 and displayed on Figure 4. The coal tar constituents naphthalene and 2-methylnaphthalene were detected at levels of 44,000 and 290,000 ug/kg (DW-1 16'-18'), exceeding their respective soil cleanup objectives of 13,000 and 36,400 ug/kg. Many other coal tar constituents were detected at lower concentrations, particularly in the shallower samples collected from the upper part of the dry well. 2-Methylnapthalene, which is moderately soluble in water, may tend to bind to organic matter in soil. Naphthalene, which

is insoluble in water, is used as a moth repellent and in dusting powders. It was as an insecticide until chlorinated insecticides came into use.

Inorganic constituents that exceeded soil cleanup objectives (Table 11) included arsenic, beryllium, copper, iron and zinc.

Groundwater

Both groundwater samples collected directly beneath the dry well, DW-1 38' and DW-1 62', contained elevated levels of pesticides. The pesticide data is shown in Table 4. Eight different pesticides were found at levels exceeding the NYSDEC Class GA Groundwater Standards. The groundwater standard is nondetect (ND) for most pesticides.

The highest individual pesticide concentrations detected include 19 ppb DDT at 38 feet (DW-1 38') and 4 ppb DDD and 3.2 ppb gamma-chlordane (Lindane) at 62 feet (DW-1 62'). Other pesticides detected in groundwater include delta-BHC, dieldrin, DDE, endrin and alpha-chlordane. No PCBs, herbicides or organochlorine pesticides (Tables 4 and 5) were detected.

Several of the pesticides detected in groundwater onsite at the dry well are listed toxic hazardous wastes (DDD [U060], DDT [U061]), or listed acute hazardous wastes (dieldrin [P037], endrin [P051]), as per 6 NYCRR Part 371, Identification and Listing of Hazardous Wastes (January 1995).

Exceedances of pesticide standards are shown in Figure 5. No pesticides were detected in groundwater at any of the downgradient samples (as defined by regional groundwater flow), which included GP-2, GP-3, GP-4 and off-site monitoring well MW-1. However two pesticides were detected in an upgradient groundwater sample. The levels of dieldrin and DDE in GP-1 38' exceeded the standards of ND for those constituents.

The fact that pesticides were detected at a location upgradient of the known source area (the dry well) suggests that either: (1) there may be another contamination source on-site, or (2) that locally, the groundwater flow direction may be different than the regional southwesterly flow pattern.

Most of the pesticides found in the groundwater were also detected in the dry well soils, as shown in the following summary table:

PESTICIDES DETECTED IN DRY WELL SOIL AND GROUNDWATER

	MEDIA	
Pesticide	***Soil***	***Groundwater***
delta-BHC	--	*GW*
gamma-BHC (Lindane)	*S*	*GW*
Dieldrin	*S*	*GW*
4,4' - DDE	*S*	*GW*
Endrin	--	*GW*
4,4' - DDT	*S*	*GW*
Methoxychlor	*S*	--
alpha-Chlordane	*S*	*GW*
gamma-chlordane	*S*	--

Volatiles detected in groundwater are listed in Table 2, with exceedances of standards shown in Figure 6. The chlorinated solvents DCE and TCE were found in deep groundwater samples both upgradient and downgradient on-site (GP-1 62' and GP-4 62'), but were not detected at the dry well, suggesting two off-site sources (plumes) for these constituents. PCE was detected in the shallow upgradient sample GP-1 38' at 180 ppb and in the deep sample GP-1 62' at 6 ppb. Low levels of PCE were also detected in the dry well, but not at downgradient station GP-4, suggesting an off-site source for PCE.

BTEX constituents (ethylbenzene and xylene) in groundwater were found only at the dry well. Since elevated levels of BTEX constituents had also been detected in the dry well soils, these constituents appear to be site related.

No significant levels of SVOCs were detected in site groundwater, as presented in Table 3. Trace levels of naphthalene and 2-methylnaphthalene were detected in DW-1 62'. These same two SVOC constituents were also found at elevated levels in dry well soils, suggesting that these constituents are also site related.

Inorganic results are tabulated in Table 6, where unfiltered (total metals) and filtered (dissolved metals) levels are compared. After filtration, typically only iron, manganese and sodium levels remained elevated. Iron and manganese levels are known to be relatively high in Long Island groundwater. Exceedances of groundwater standards for inorganic constituents are shown in Figure 6. Exceedances of standards for antimony and thallium were found in DW-1 62' and GP-4 62'.

References: 30, 31, 42, 44

PART IV. HAZARD ASSESSMENT

Groundwater Route

1. Describe the likelihood of a release of contaminant(s) to the groundwater as follows: observed release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed release, define the supporting analytical evidence and relationship to background.

   A release to groundwater was observed in the November 1996 PSA samples that showed that pesticides (and other constituents) were present in the groundwater beneath the dry well on-site. The specific compounds detected in samples DW-1 (37') and DW-1 (62') are shown in Tables 2 and 4, and include delta-BHC, gamma-BHC (Lindane), dieldrin, 4,4'-DDE endrin, 4,4-DDT and alpha-chlordane. Total pesticides were on the order of 23.8 and 17.1 ug/l, respectively. The groundwater standard is ND (non detect) for most pesticides compounds.

   Two background samples were collected at a location believed to be upgradient of the site, based on published regional water table elevation data. Pesticides were detected in upgradient sample GP-1 (38'), however at a level 100 orders of magnitude lower than detected at the dry well. Local perturbations in groundwater flow direction or other unknown waste sources on-site could be responsible for upgradient detections.

2. Describe the aquifer of concern; include information such as depth, thickness, geologic composition, areas of karst terrain, permeability, overlying strata, confining layers, interconnections, discontinuities, depth to water table, groundwater flow direction.

   The area is underlain by the Upper Glacial Aquifer, an unconsolidated mixture of glacially deposited sand and gravel. These sediments typically have a high porosity and permeability. The Upper Glacial Aquifer has an average thickness of 100 feet in Nassau County and the top of the unit is at the land surface.

   The hydrogeology of Nassau County, Long Island, consists generally of a seaward-thickening wedge of Cretaceous sedimentary strata, forming three aquifers, on top of a southeast-dipping impermeable basement of Precambrian crystalline bedrock. The sedimentary strata in ascending order are the Lloyd Aquifer, the Raritan Clay, Magothy Aquifer (and in southern Nassau County the Jameco Aquifer) and at the ground surface, the Upper Glacial Aquifer. Together, these three water-bearing zones form Long Island's sole source aquifer system.

   Clay layers, such as the Gardiners Clay and the "20 Foot Clay," where present, may act as local confining units, separating the Upper Glacial Aquifer from the underlying Magothy Aquifer which is the principal source of drinking water in Nassau County.

Depth to the water table is between 37 to 38 feet below ground as measured on-site, yielding an average saturated thickness of about 60 to 65 feet. Regional groundwater flow, as shown on the March 1995 Water Table Elevation Contour Map of Nassau County (Attachment 2), is southwestward. A clay layer is expected at approximately 100 feet below ground surface.

References: 4, 11.

3. What is the depth from the lowest point of waste disposal/storage to the highest seasonal level of the saturated zone of the aquifer of concern?

The lowest point of waste disposal, that is, the original depth of the bottom of dry well, is not known.

Based on the PSA soil samples and field observations, it is estimated that the bottom of the dry well may originally have been around 12 feet bgs. A soil color change from orange to gray, elevated PID readings and a strong septic odor were noted at this depth.

4. What is the permeability value of the least permeable continuous intervening stratum between the ground surface and the top of the aquifer of concern?

The sands and gravels of the Upper Glacial Aquifer are relatively permeable. No clay layers or dense impermeable zones were noted above the water table during Geoprobe drilling conducted during the PSA sampling program. Therefore, it does not appear that there are any low permeability stratum between the ground surface and the top of the aquifer of concern.

However, a hard layer of dense black silt was encountered when drilling <u>below</u> the water table. In all the Geoprobe groundwater sample stations, the originally designated sample interval at 15 feet below the top of the water table was dry.

The boreholes had to be advanced another 8 to 10 feet to reach the saturated zone beneath the silt. The silty interval was dry, although it is not known whether it functions totally as an aquiclude or not. The areal extent of the silt is also unknown, although the drillers report encountering a similar very dense black silty layer which resulted in the loss of sampling equipment, at several other nearby sites.

5. What is the net precipitation at the site (inches)?

According to Nassau County precipitation records monitored at Mineola, over the 58-year monitoring period (1937 through 1994), the average net precipitation in Nassau County is 44.45 inches per year.

Reference: 13.

6. What is the distance to and depth of the nearest well that is currently used for drinking purposes?

PUBLIC SUPPLY WELLS NEAR BARTLETT TREE COMPANY SITE

WESTBURY, NEW YORK

County Well ID	*Water District*	*Well Depth (Ft)*	*Aquifer Screened*	*Distance and Bearing From Site*			*Comments*
				(Ft)	*(Mile)*		
**N7785*	*W*	*400*	*M*	*2030*	*(.38)*	*N75W*	*AS*
N101	*W*	*341*	*M*	*2195*	*(.42)*	*N60W*	*AS*
N8457	*CP*	*435*	*M*	*5040*	*(.95)*	*S75W*	
N590	*RF*	*46*	*UG*	*6745*	*(1.28)*	*S50W*	*Not in use*
N7059	*RF*	*47*	*UG*	*8125*	*(1.54)*	*S45W*	*Not in use*
N9521	*RF*	*603*	*M*	*7880*	*(1.49)*	*S35W*	
***N7957*	*RF*	*523*	*M*	*6500*	*(1.23)*	*S25W*	*GAC*
N6046	*RF*	*175*	*M*	*6015*	*(1.14)*	*S15W*	*Abandoned*
N9846	*RF*	*597*	*M*	*6580*	*(1.25)*	*S03W*	
N7500	*MF*	*458*	*M*	*5770*	*(1.09)*	*S10E*	
N2602	*W*	*800*	*L*	*2925*	*(.55)*	*N85E*	
N8497	*W*	*539*	*M*	*3495*	*(.66)*	*N85E*	
N5007	*W*	*259*	*M*	*5445*	*(1.03)*	*N42E*	
N7353	*W*	*390*	*M*	*5690*	*(1.08)*	*N50E*	
N5654	*W*	*538*	*M*	*2900*	*(0.5)*	*S*	

Notes:

Water Districts:

W	*Westbury*
CP	*Carle Place*
RF	*Roosevelt Field*
MF	*Mitchel Field*

Aquifers:

UG	*Upper Glacial*
M	*Magothy*
L	*Lloyd*

Comments:

AS = Air Stripper
GAC = Granular Activated Carbon

Groundwater flow direction: S30W (Reference: 11)
**Nearest well currently used for drinking water purposes*
***Nearest well downgradient of site currently used for drinking water purposes*

References: 4, 11, 13, 20, 21.

The closest public supply well to the site, as shown on the preceding table, are Westbury Water District Wells N7785 and N-101, located at 160 Drexel Avenue, next to the Westbury Water District office and Main Plant. N7785 is a 400-foot deep well and N101 is a 341-foot deep well, both screened in the Magothy Aquifer. (The water from this well is currently treated with an air stripper to remove volatile organic contaminants.) The well is located 2,030 feet (.38 miles) northwest of the site.

Groundwater flow in this part of central Nassau County has historically been southwestward. Recent water table elevation data from Nassau County Department of Health (NCDH), as shown on the March 1995 Water Table Elevation Contour Map (Attachment 2) confirms that flow direction in the site vicinity is to the southwest, with a bearing of approximately S 30°W, as measured off the map.

The closest public water supply well downgradient of the site is Westbury Water District Well N-5654, located at the intersection of Old Country Road and Grand Avenue. This well is 538 feet deep and screened in the Magothy aquifer. It is located approximately 0.5 miles downgradient of the Bartlett Tree site.

According to information obtained from the Westbury and Roosevelt Field Water Districts, pesticides have not been detected in the supply wells listed.

References: 4, 11, 13, 14, 20, 21.

7. If a release to groundwater is observed or suspected, determine the number of people that obtain drinking water from wells that are documented or suspected to be actually contaminated by hazardous substance(s) attributed to an observed release from the site.

   No documented supply well contamination has been attributed to an observed release from the site.

   References: 20, 21.

8. Identify the population served by wells located within 4 miles of the site that draw from the aquifer of concern.

   The aquifer of concern, i.e., the aquifer directly affected by contamination from the site, is the Upper Glacial or water table aquifer. In general, this shallow water bearing zone is no longer utilized for public supply wells because it has been affected by near surface contamination. The population within 4 miles of the site is served by public supply wells that draw water from the Magothy or Lloyd Aquifers, which are below the Upper Glacial Aquifer, and are also part of Long Island's Sole Source Aquifer System. Private wells are not generally used in this area.

References: 20, 21.

State whether groundwater is blended with surface water, groundwater, or both before distribution.

Groundwater for public supply is blended with groundwater from other wells in the distribution system. Surface water is not utilized for potable supply on Long Island.

All groundwater blended into the public supply must meet drinking water standards (MCLs) (with minor exceptions) at the wellhead. Some wells require wellhead treatment, such as air stripping or granular activated carbon filtration, for removal of volatile organic compounds before the water is eligible for blending. In Nassau County, water from some wells with elevated levels of nitrates is permitted to be blended into and diluted in the distribution system.

Reference: 33

Is a designated well head protection area within 4 miles of the site?

Yes. Two of Nassau County's Special Groundwater Protection Areas, one located in the North Hills Area and one in the southeastern area of the Town of North Hempstead, are within 4 miles of the site. These areas are defined in Article X of the Nassau County Public Health Ordinance as "areas where the recharge water is of high quality and contributes to an aquifer system which serves as a source of drinking water in public supply or has such potential and whose land surface is substantially undeveloped at the time of designation."

Specifically, the Article X ordinance applies to zoning requirements for on-lot sanitary waste disposal. The regulations require that within the Special Groundwater Protection Areas, houses cannot be built on less than 1 acre of property unless a variance of Article X is obtained.

In addition, the Countywide Wellhead Protection Regulations defined in Section 5, Article VI of the Nassau County Public Health Ordinance on Public Drinking Water Supply require buffer zones around public supply wells. Specifically, these regulations require that:

(1) all areas within 50 feet of a new public supply well be owned or controlled by the water supplier and used for water supply purposes only, and that

(2) all potential sources of groundwater contamination within between 50 and 100 feet of

a new well be controlled by the water supplier through acquisition of nonpollution easements or equivalent arrangements, and

(3) that land at existing public water supply wells which do not satisfy ownership and control requirements in (1) and (2) above, is not to be divested by the supplier.

However, as discussed in Question 6 above, there are no public supply wells located within 50 or 100 feet of the site.

Does a waste source overlie a designated or proposed wellhead protection area? If a release to groundwater is observed or suspected, does a designated or proposed wellhead protection area lie within the contaminant boundary of the release?

The waste source does not overlie a designated or proposed wellhead protection area. The site is not located within any of the SGPAs described above, nor is the site located within 50 to 100 feet of any new or existing public supply wells, as explained in Question 6.

A release to groundwater has been observed, but the contaminant boundary of the release to groundwater observed in the PSA samples has not been determined. The release has contaminated the Upper Glacial Aquifer, which is part of Long Island's Sole Source Aquifer system.

9. Identify one of the following resource uses of groundwater within 4 miles of the site (i.e., commercial livestock watering, ingredient in commercial food preparation, supply for commercial aquaculture, supply for major, or designated water recreation area, excluding drinking water use, irrigation (5-acre minimum) of commercial food or commercial forage crops, unusable).

According to information obtained from the Westbury Water District, the Nassau County Department of Public Works, and NYSDEC Region 1, other resource uses of groundwater in this area include water used for cooling, as for air conditioners (A/C), water used for irrigation, and for car washing. All available data on industrial wells is compiled in the following table.

The closest groundwater withdrawal point is at a movie theater, approximately .35 miles north, and presumably upgradient of the Bartlett Tree site. This 165 foot deep well (N-3484) pumps up to 300 gpm from Upper Glacial Aquifer for A/C use. Usage probably fluctuates seasonally, with the heaviest withdrawal in the hot summer months.

Another shallow Upper Glacial well upgradient of the site and used for air conditioning, is located approximately 1.1 miles north-northwest of the site, and also has a 300 gpm cap.

Seasonal variations in volume of groundwater withdrawn for cooling could result in seasonal fluctuations in local groundwater flow direction.

References: 11, 20, 35, 41

RESOURCE USES OF GROUNDWATER NEAR THE BARTLETT TREE COMPANY SITE
WESTBURY, NEW YORK

Well Owner	*State Well ID*	*Use*	*Well Depth (ft.)*	*Aquifer*	*Screen Depth (ft)*	*Pumpage*	*Land Surface Elevation (ft, MSL)*	*Location*	*Coordinates*	*Distance and Bearing from Site*		
										(ft.)	*(Mile)*	*Bearing*
Westbury Theater Group	*N-3484*	*Cooling (A/C)*	*165*	*Upper Glacial*	*139-163*	*300 gpm cap*	*106.00*	*205' N/S of Newton 180' E. of Post Road*	*N 40°45'30" W 73°35'13"*	*1875*	*.35*	*N*
Old Westbury Garden	*N-8181*	*Irrigation*	*240*	*Magothy*	*230-240*	*45 gpm cap*	*141.40*	*2000'N of Jericho Tpke. 1500' E. of Old Westbury Rd.*	*N 40°46'11" W 73°35'55"*	*5765*	*(1.10)*	*N-NW*
Westbury Hebrew Congregation	*N-6812*	*Cooling (A/C)*	*97*	*Upper Glacial*	*77-97*	*300 gpm cap*	*123.20*	*1775' N. of Jericho Tpke. 275' E of Old Westbury Rd.*	*N 40°46'07" W 73°36'02"*	*6130*	*(1.15)*	*NW*
Old Country Car Wash	--	*Car Washing*	--		--	--	--	*NE Corner of Grand St. and Old Country Rd. (adjacent to Westbury Water District Well #11 (N-5654)*	--	*2600*	*(0.5)*	*SW*
Holy Rood Cemetery	--	*Irrigation*	--		--	*7 million gal. per year*	--		--	--	--	--

Groundwater flow direction: S30W (Reference:11)
MSL = Mean Sea Level

References: 11, 20, 35, 41

Surface Water Route

10. Describe the likelihood of a release of contaminant(s) to surface water as follows: observed release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed release, define the supporting analytical evidence and relationship to background.

    No release of contaminants to surface water has been observed or is expected. The site is flat and surface water runoff from the site is collected in storm drains along the street (Union Avenue)which discharge to groundwater recharge basins .

11. Identify the nearest down slope surface water. If possible, include a description of possible surface drainage patterns from the site.

    The nearest downslope surface water is the head of East Meadow Brook, located approximately 1.3 miles south of the site. The ground surface is quite flat in the site area, with only a very gentle slope southward towards the Atlantic Ocean.

    References: 22, 36.

12. What is the distance in feet to the nearest down slope surface water? Measure the distance along a course that runoff can be expected to follow.

    The closest downslope surface water, East Meadow Brook, is located approximately 6,800 feet (1.3 miles) south of the site.

    Runoff from the site is not likely to reach East Meadow Brook by overland flow (1) because of the great distance (1.3 miles), and (2) because surface runoff from the site is collected in storm drains along the street south of the site which discharge to recharge basins.

    References: 22, 36

13. Identify all surface water body types within 15 downstream miles.

    Surface water in East Meadow Brook flows southward 4.5 miles along the Meadowbrook Parkway, passing through several freshwater ponds including Mullener Pond and Smith Pond until the water reaches East Meadow Pond, located just north of Sunrise Highway. There, the water divides into three branches and travels via several creeks and channels another 5 miles through the East Bay on the east side of the Meadowbrook Parkway, and through the Middle Bay on the west side of the Meadowbrook Parkway to Jones Outlet, where all the water lets out to the Atlantic Ocean. The outlet to the Atlantic Ocean is a total of 10.8 miles downstream of the site.

Name	*Water Body Type*	*Flow (cfs)*	*Saline/Fresh/Brackish*
East Meadow Brook	*Creek*	*13*	*Fresh*
Mullener Pond	*Pond*	*na*	*Fresh*
Smith Pond	*Pond*	*na*	*Fresh*
East Meadow Pond:	*Pond*	*na*	*Fresh*
- *Freeport Creek or*	*Creek*	*5*	*Brackish*
- *Merrick River to*	*River*	*--*	*Brackish*
Baldwin Bay to	*Bay*	*na*	*Saline*
Middle Bay,	*Bay*	*na*	*Saline*
or			
- *Mud Creek, to*	*Creek*	*0.6*	*Brackish*
Merrick Bay, to	*Bay*	*na*	*Saline*
East Bay, to	*Bay*	*na*	*Saline*
Jones Inlet	*Channel*	*--*	*Saline*
Atlantic Ocean	*Ocean*	*na*	*Saline*

na - not applicable

References: 22, 26, 27, 28

14. Determine the 2-year, 24-hour rainfall (inches) for the site.

Based on the U.S. Weather Bureau map published in the Rainfall Frequency Atlas of the United States, the 2-year 24-hour rainfall for Long Island is between 3.0 and 3.5 inches.

Reference: 2.

15. Determine size of the drainage area (acres) for sources at the site.

The size of the site is 0.4 acres.

16. Describe the predominant soil group in the drainage area.

According to the Soil Survey of Nassau County, the Bartlett Tree site falls within an area of Urban Land, described as nearly level, well-drained, medium-textured soils on plains. The site specific soil map unit, Ug, occurs in areas where at least "85 percent of the surface is covered with asphalt, concrete or other impervious building material. These areas are mostly parking lots, shopping centers, industrial parks or institutional sites."

Reference: 1.

17. Determine the type of floodplain that the site is located within.

The site is not located within a flood plain. The site is located in Zone C, an area determined to be outside the 500-year floodplain, according to the Federal Emergency Management Association (FEMA) Flood Insurance Rate Maps.

Reference: 17.

18. Identify drinking water intakes in surface waters within 15 miles downstream of the point of surface water entry. For each intake identify: the name of the surface water body in which the intake is located, the distance in miles from the point of surface water entry, population served, and stream flow at the intake location.

Not applicable. All drinking water supplies on Long Island are derived from groundwater. There are no surface water intake points for the public water supply.

19. Identify fisheries that exist within 15 miles downstream of the point of surface water entry. For each fishery specify the following information:

Fishery Name	***Water Body Type***	***Flow (cfs)***	***Saline/Fresh/Brackish***
Mullener Pond	*Pond*	*na*	*Fresh*
Smith Pond	*Pond*	*na*	*Fresh*
East Meadow Pond	*Pond*	*na*	*Fresh*
Baldwin Bay	*Bay*	*na*	*Saline*
Middle Bay	*Bay*	*na*	*Saline*
Merrick Bay	*Bay*	*na*	*Saline*
East Bay	*Bay*	*na*	*Saline*

na = not applicable

The freshwater ponds along East Meadow Brook support self-sustaining fish populations and are accessible for recreational fishing. Fish types include blue gill sunfish and large mouth bass.

The New York State Department of Health has issued bans, restrictions or health advisories against fishing in about 10 freshwater ponds on Long Island due to contamination by chlordane. Chlordane, an insecticide, was used extensively for underground termite control until USEPA banned its commercial use in April 1988.

Smith Pond is currently under a health advisory concerning consumption of fish due to chlordane contamination. A similar health advisory for East Meadow Pond (a.k.a. Freeport Reservoir) has been lifted. The fish in East Meadow Pond include blue gill sunfish and pumpkin seed carp. East Meadow Pond reportedly has the best bass fishing in Nassau County.

Offshore in the marine environment, shellfish and fin fish flourish in the bays. However, shellfishing has been banned for at least 40 years due to contamination, as determined by the presence of E. Coli bacteria, a marker of waste. Fin fishing is still permitted although there are no commercial fisheries. There is light "party boat" traffic in the bays, and the consumable fish include flounder, fluke, blackfish, weakfish and striped bass.

References: 26, 27, 28, 31.

20. Identify surface water sensitive environments that exist within 15 miles of the point of surface water entry.

Environment	***Water Body Type***	***Flow (cfs)***	***Wetland Frontage***
Freshwater Wetlands	*East Meadow Brook*	*13*	--
	Mullener Pond	*na*	--
	Smith Pond	*na*	--
	East Meadow Pond	*na*	--
Tidal Wetlands	*Freeport Creek*	*5*	--
	Mud Creek	*0.6*	--
	Merrick River	*na*	--
	Baldwin Bay	*na*	--
	Middle Bay	*na*	--
	Merrick Bay	*na*	--
	East Bay	*na*	--

na = not applicable

References: 22, 26, 27, 28

21. If a release to surface water is observed or suspected, identify any intakes, fisheries, and sensitive environments from question Nos. 18-20 that are or may be actually contaminated by hazardous substance(s) attributed to an observed release of from the site.

No release to surface water of contaminants from the site has been observed.

22. Identify whether the surface water is used for any of the following purposes, such as: irrigation (5 acre minimum) of commercial food or commercial forage crops, watering of commercial livestock, commercial food preparation, recreation, potential drinking water supply.

The surface water in the freshwater ponds is used for recreational fishing as described in Question 19, above. It is not a potential source of drinking water. The surface water in the bays (Baldwin Bay, East Bay, Merrick Bay and Middle Bay) is used for contact recreation and recreational boating and fishing. It is saline water and does not represent a potential drinking water source.

Soil Exposure Pathway

23. Determine the number of people that occupy residences or attend school or day care on or within 200 feet of observed contamination.

There are no residences, schools or daycare centers located within 200 feet of the observed soil contamination in the Bartlett Tree dry well. The closest residence, at 333 Union Avenue, which is on the adjoining property to the west of the site, is approximately 250 feet southwest of the dry well. It is estimated that 2 people currently live in the residence. The Bartlett Tree Company currently employs seven people who work in the office.

24. Determine the number of people that regularly work on or within 200 feet of observed contamination.

It is estimated that 10 to 20 people work within 200 feet of the observed contamination, in the commercial establishments along Union Avenue. The Bartlett Tree Company employs seven people who work in the office on-site.

25. Identify terrestrial sensitive environments on or within 200 feet of observed contamination.

The Bartlett Tree site is located in a highly developed industrial area, most of which is paved, therefore there are no terrestrial sensitive environments in the area.

26. Identify whether there are any of the following resource uses, such as commercial agriculture, silviculture, livestock production or grazing within an observed or suspected soil contamination.

None of the above resource uses are located within the area of observed soil contamination on-site.

Air Route

27. Describe the likelihood of release of hazardous substances to air as follows: observed release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them the site. For observed release, define the supporting analytical evidence and relationship to background.

No air contamination was detected in the ambient air or in the breathing zone when air monitoring was performed during the PSA sampling program.

28. Determine populations that reside within 4 miles of the site.

These population figures were calculated based on 1990 census data and census tract maps supplied by the Nassau County Planning Commission (NCPC). According to the NCPC, the County population has not changed significantly since this census was taken.

Distance	***Population***
On site	*0*
0 - ¼ mile	*1,273*
>¼ - ½ mile	*4,271*
>½ - 1 mile	*10,645*
>1 - 2 miles	*17,750*
>2 - 3 miles	*55,805*
>3 - 4 miles	*117,683*

References: 29, 34.

29. Identify sensitive environments, including wetlands and associated wetlands acreage, within 4 miles of the site.

Distance	***Wetlands Acreage***	***Sensitive Environment***
0 - ¼ mile	*None*	--
>¼ - ½ mile	*None*	--
>½ - 1 mile	*None*	--
>1 - 2 miles	*nd*	*Freshwater wetlands along East Meadow Brook*
>2 - 3 miles	*nd*	*Freshwater wetlands along East Meadow Brook*

Distance	***Wetlands Acreage***	***Sensitive Environment***
>3 - 4 miles	*nd*	*Freshwater wetlands along East Meadow Brook and around Mullener Pond*

nd = not determined

30. If a release to air is observed or suspected, determine the number of people that reside or are suspected to reside within the area of air contamination from the release.

No release to air observed or suspected.

31. If a release to air is observed or suspected, identify any sensitive environments, listed in question No. 29, that are or may be located within the area of air contamination from the release.

No release to air observed or suspected.

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REFERENCES

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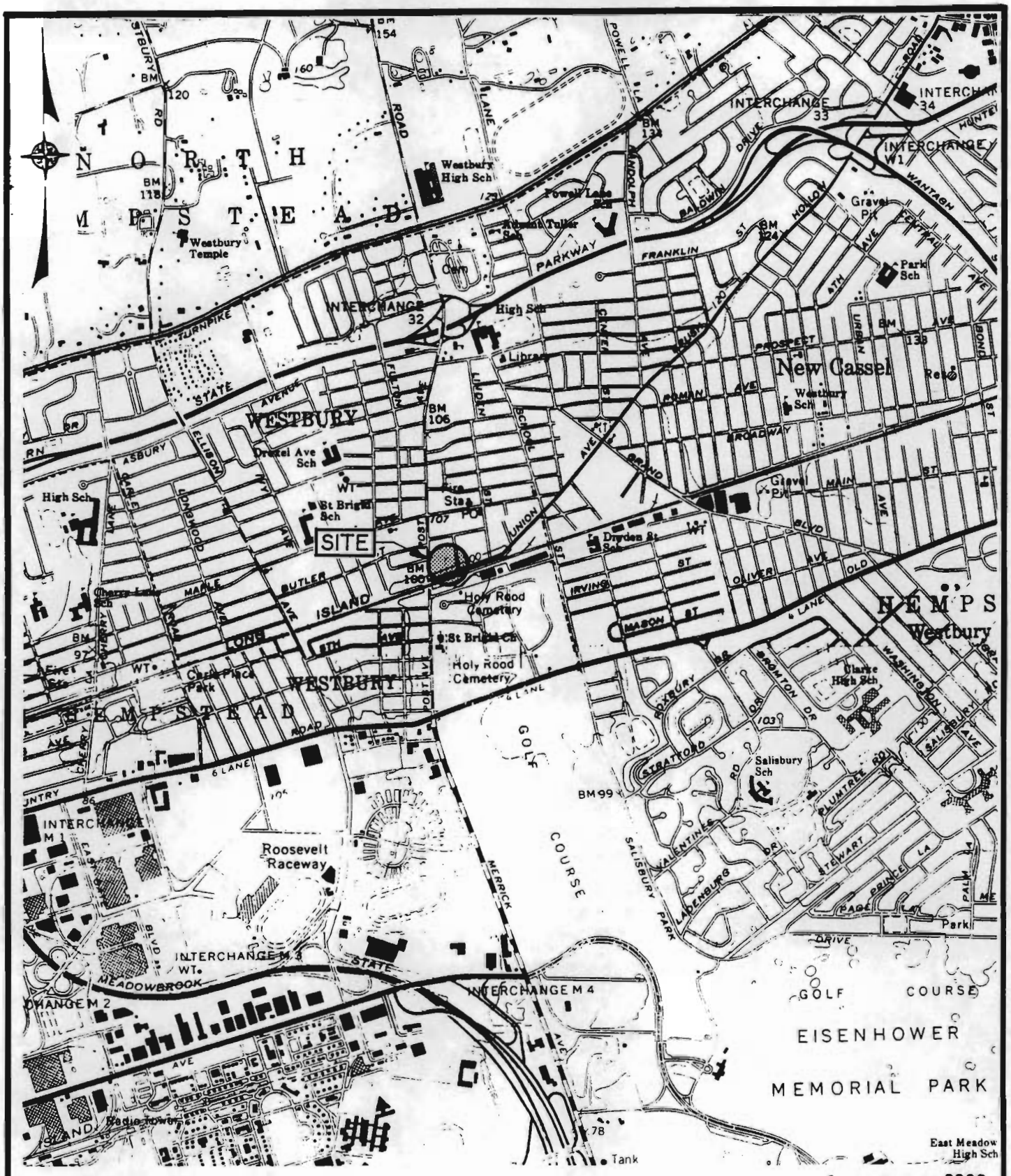
FIGURES



Source: USGS SEA CLIFF, N.Y.; HICKSVILLE, N.Y.; FREEPORT, N.Y.; AND LYNBROOK, N.Y. QUADRANGLES

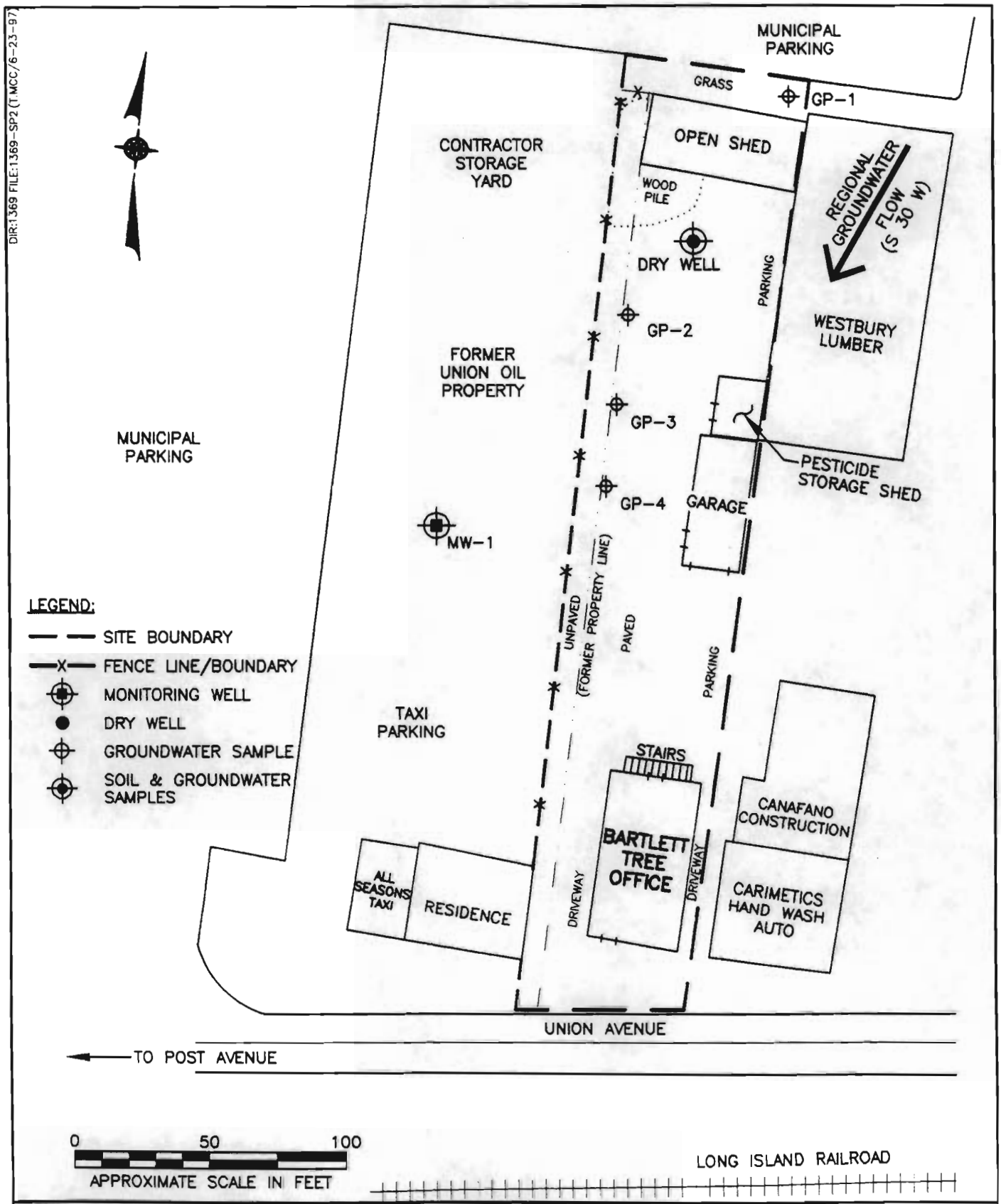
BARTLETT TREE CO.
345 UNION AVENUE
WESTBURY, NEW YORK

N 40° 45' 13"
W 73° 35' 13"

SITE LOCATION MAP

Dvirka and Bartilucci
Consulting Engineers
A Division of William F. Cosulich Associates, P.C.

FIGURE 1



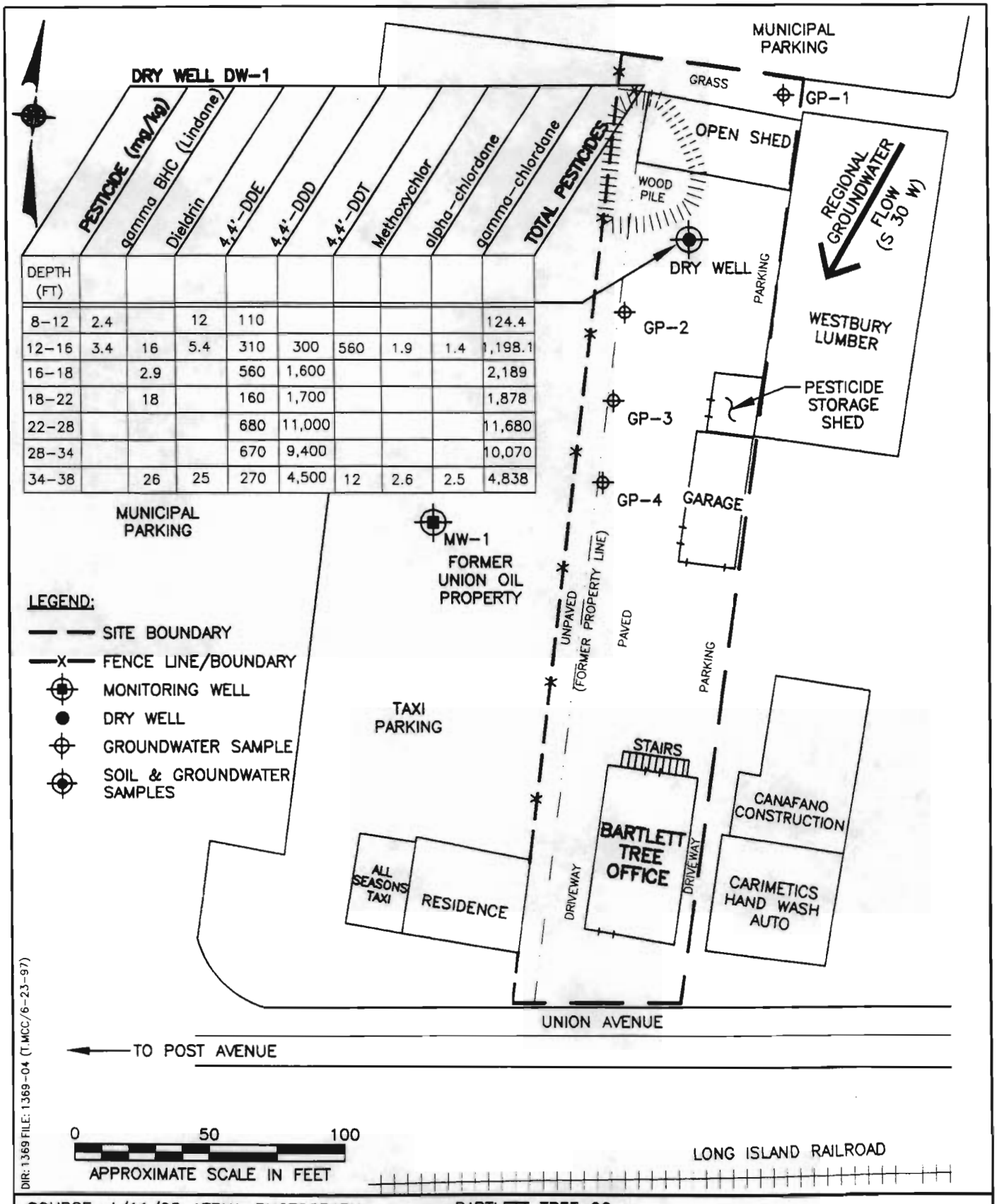
SOURCE: 4/11/95 AERIAL PHOTOGRAPH; FIELD OBSERVATIONS

BARTLETT TREE CO.
WESTBURY, NEW YORK

SITE SKETCH AND PRELIMINARY SITE ASSESSMENT SAMPLING LOCATIONS

Dvirka and Bartilucci Consulting Engineers
A Division of William F. Cosulich Associates, P.C.

FIGURE 2



PESTICIDE (mg/kg) / DEPTH (FT)	gamma BHC (Lindane)	Dieldrin	4,4'-DDE	4,4'-DDD	4,4'-DDT	Methoxychlor	alpha-chlordane	gamma-chlordane	TOTAL PESTICIDES
8–12	2.4		12	110					124.4
12–16	3.4	16	5.4	310	300	560	1.9	1.4	1,198.1
16–18		2.9		560	1,600				2,189
18–22		18		160	1,700				1,878
22–28				680	11,000				11,680
28–34				670	9,400				10,070
34–38		26	25	270	4,500	12	2.6	2.5	4,838

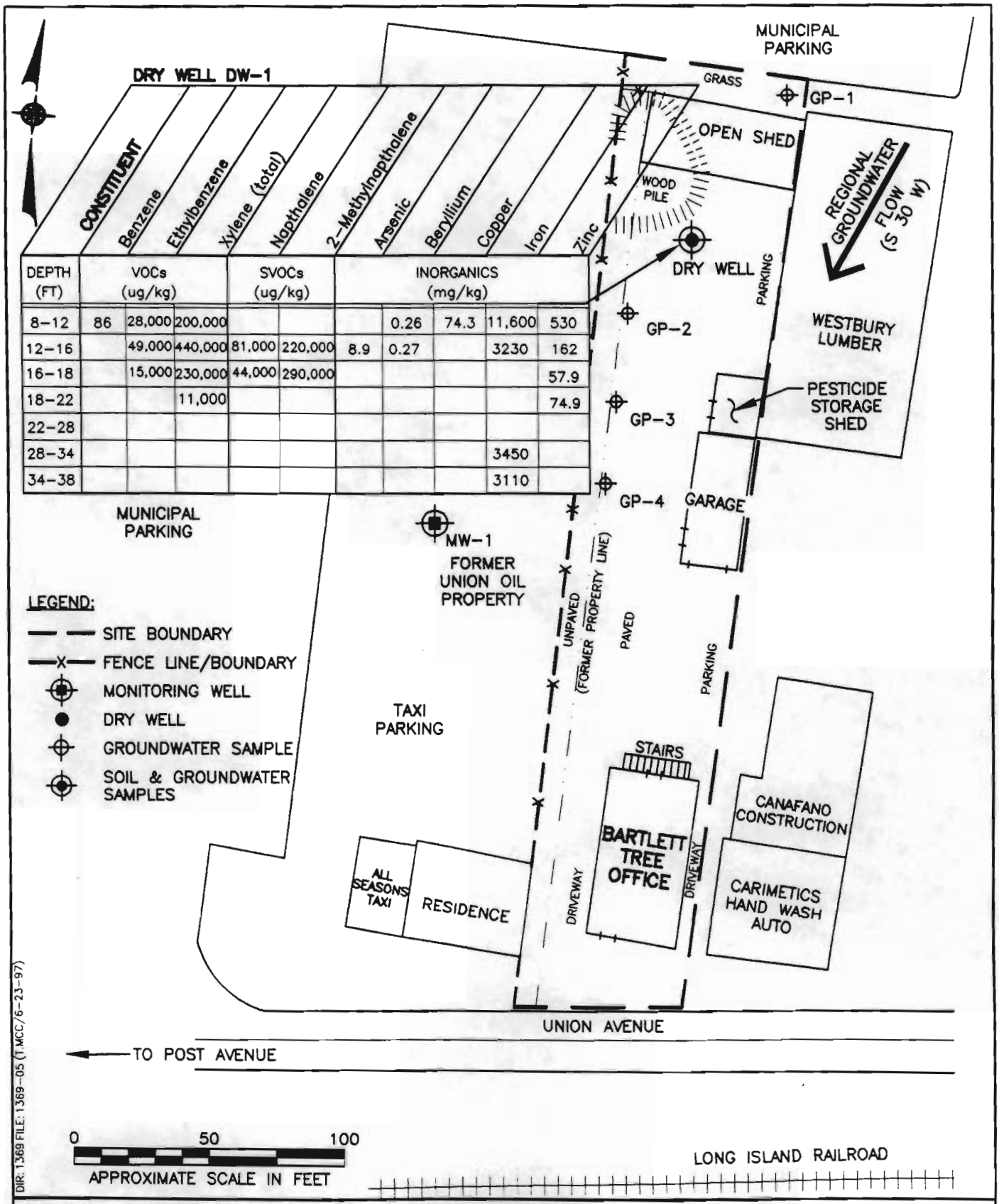
SOURCE: 4/11/95 AERIAL PHOTOGRAPH; FIELD OBSERVATIONS

BARTLETT TREE CO.
WESTBURY, NEW YORK

PRELIMINARY SITE ASSESSMENT
SOIL SAMPLING RESULTS – PESTICIDES
EXCEEDANCES OF SOIL CLEANUP OBJECTIVES

Dvirka and Bartilucci Consulting Engineers
A Division of William F. Cosulich Associates, P.C.

FIGURE 3



CONSTITUENT	Benzene	Ethylbenzene	Xylene (total)	Napthalene	2-Methylnapthalene	Arsenic	Beryllium	Copper	Iron	Zinc
DEPTH (FT)	VOCs (ug/kg)			SVOCs (ug/kg)		INORGANICS (mg/kg)				
8–12	86	28,000	200,000				0.26	74.3	11,600	530
12–16		49,000	440,000	81,000	220,000	8.9	0.27		3230	162
16–18		15,000	230,000	44,000	290,000					57.9
18–22			11,000							74.9
22–28										
28–34									3450	
34–38									3110	

LEGEND:

- SITE BOUNDARY
- FENCE LINE/BOUNDARY
- MONITORING WELL
- DRY WELL
- GROUNDWATER SAMPLE
- SOIL & GROUNDWATER SAMPLES

DIR: 1369 FILE: 1369-05 (T.MCC/6-23-97)

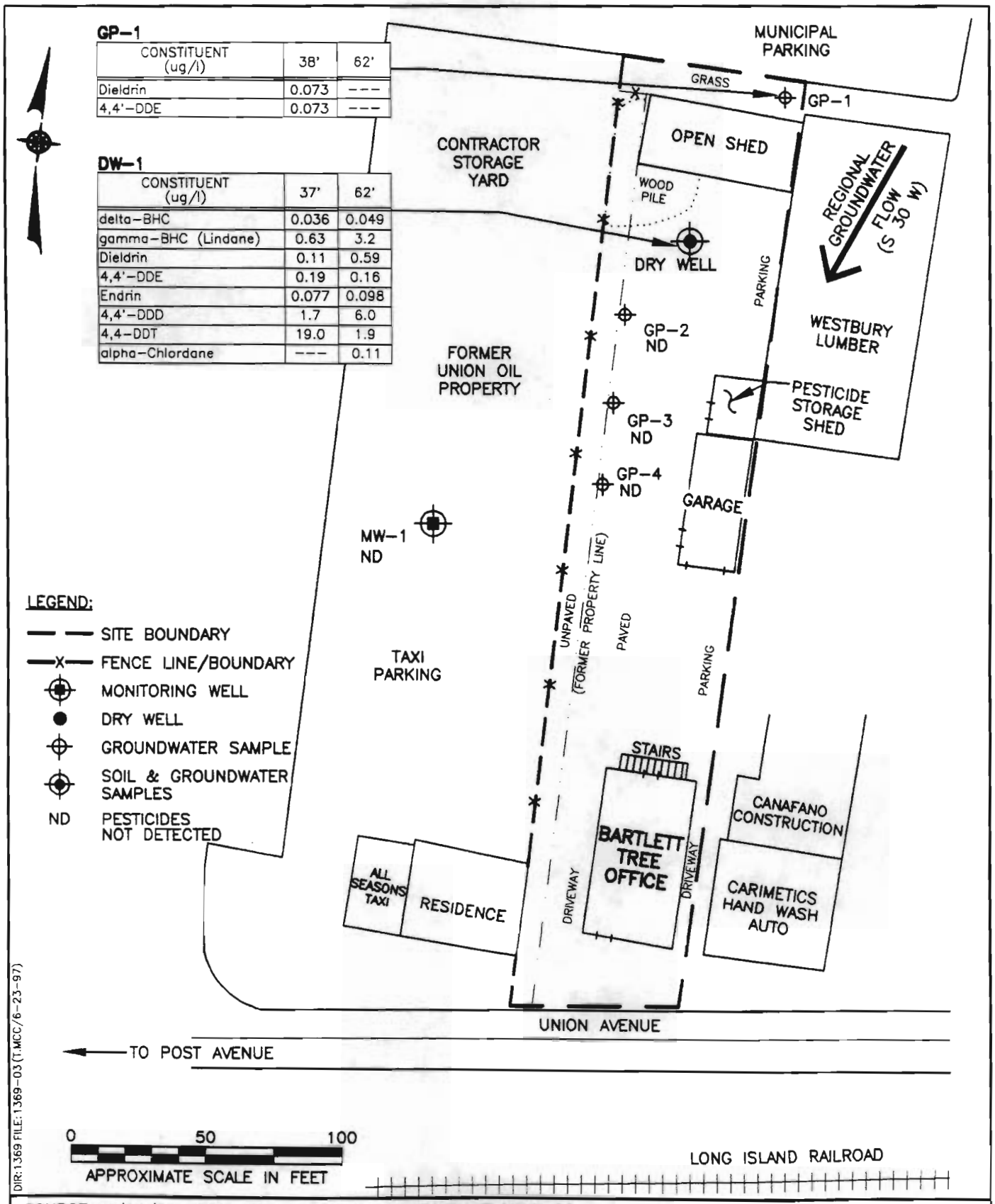
SOURCE: 4/11/95 AERIAL PHOTOGRAPH; FIELD OBSERVATIONS

BARTLETT TREE CO.
WESTBURY, NEW YORK

PRELIMINARY SITE ASSESSMENT
SOIL SAMPLING RESULTS – VOLATILE, SEMIVOLATILE AND INORGANIC CONSTITUENTS EXCEEDANCES OF SOIL CLEANUP OBJECTIVES

Dvirka and Bartilucci Consulting Engineers
A Division of William F. Cosulich Associates, P.C.

FIGURE 4



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SOURCE: 4/11/95 AERIAL PHOTOGRAPH; FIELD OBSERVATIONS

BARTLETT TREE CO.
WESTBURY, NEW YORK

Dvirka and Bartilucci Consulting Engineers
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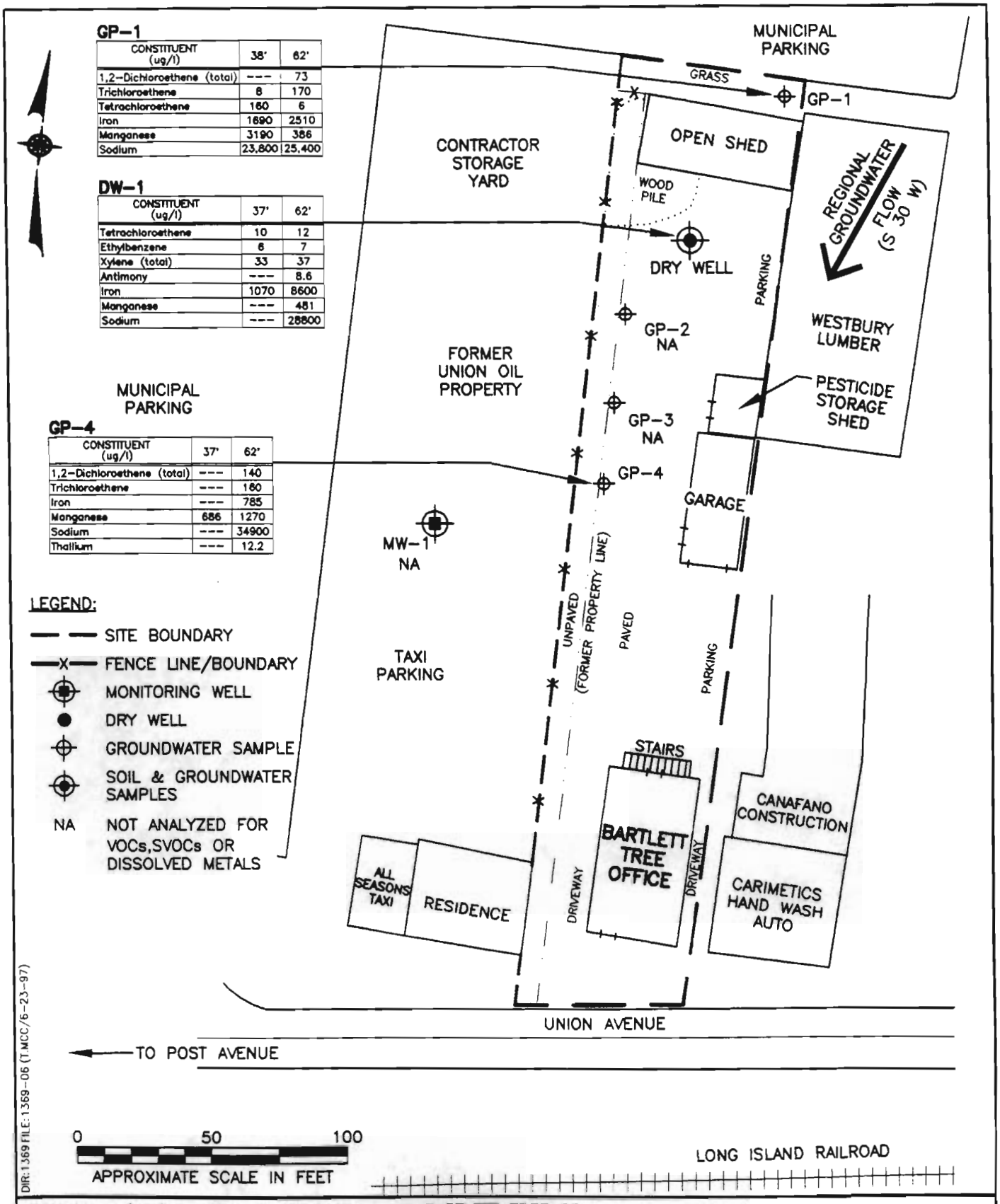
PRELIMINARY SITE ASSESSMENT
GROUNDWATER SAMPLING RESULTS–PESTICIDES
EXCEEDANCES OF GROUNDWATER STANDARDS

FIGURE 5



SOURCE: 4/11/95 AERIAL PHOTOGRAPH; FIELD OBSERVATIONS

BARTLETT TREE CO.
WESTBURY, NEW YORK

PRELIMINARY SITE ASSESSMENT

GROUNDWATER SAMPLING RESULTS–VOLATILE, SEMIVOLATILE AND INORGANIC CONSTITUENTS EXCEEDANCES OF GROUNDWATER STANDARDS

Dvirka and Bartilucci Consulting Engineers
A Division of William F. Cosulich Associates, P.C.

FIGURE 6

TABLES

TABLE 1

SUMMARY OF PSA SAMPLING PROGRAM

BARTLETT TREE COMPANY SITE

Program Element	Environmental Media	Sample Type/Depth	Number of Samples	Equipment	Laboratory Analyses [1,2,3]
Dry Well	Soil/Sediment	Bore through dry well, collect continuous soil cores to water table; composite similar 2 to 6 foot intervals; discreet grab samples for VOC analysis	7	Soil probe with disposable aluminum tray for compositing, disposable polyethylene scoop and sterile wooden tongue depressor	TCL+30 plus Herbicides (DW-1)
	Groundwater	At surface of water in probe at water table and at 25 feet below water table	2	Groundwater probe with dedicated disposable polyethylene tubing equipped with bottom check valve	TCL +30 plus Herbicides (DW-1_
Groundwater Probes: Upgradient (n=1)	Groundwater	At surface of water in probe at water table and at 25 feet below water table	2	Groundwater probe with dedicated disposable polyethylene tubing equipped with bottom check valve	TCL +30 plus Herbicides (GP-1)

TABLE 1

SUMMARY OF PSA SAMPLING PROGRAM

BARTLETT TREE COMPANY SITE
(continued)

Program Element	Environmental Media	Sample Type/Depth	Number of Samples	Equipment	Laboratory Analyses [1,2,3]
Downgradient (n=3)	Groundwater	At surface of water in probe at water table and at 25 feet below water table	6	Groundwater probe with dedicated disposable polyethylene tubing equipped with bottom check valve	1 location for TCL +30* plus Herbicides (GP-4) 2 locations for TCL Pesticides, Herbicides and TAL Metals (GP-2, GP-3)
Off-Site Monitoring Well(s) (Union Oil)	Groundwater	Purge 3 well volumes with bailer.	1	Disposable polyethylene tubing equipped with bottom check valve; disposable polyethylene bailer	TCL Pesticides, Herbicides (MW-1)
Trip Blank	Aqueous	Distilled Water	1**	Sample supplied by laboratory	TCL VOCs
Matrix Spike/ Matrix Spike Duplicate	Soil/Sediment	Soil/Sediment (split of actual sample interval)	1***	Soil probe with disposable polyethylene scoop and/or sterile wooden tongue depressor	TCL +30 plus Herbicides

TABLE 1

SUMMARY OF PSA SAMPLING PROGRAM

BARTLETT TREE COMPANY SITE

(continued)

Program Element	Environmental Media	Sample Type/Depth	Number of Samples	Equipment	Laboratory Analyses [1,2,3]
Matrix Spike/ Matrix Spike Duplicate	Aqueous	Groundwater (split of actual sample)	1***	Groundwater probe with dedicated disposable polyethylene tubing equipped with bottom check valve; disposable polyethylene bailer	TCL +30 plus Herbicides

[1] TCL+30 Analysis includes TCL VOCs, TCL SVOCs, TCL Pesticides/PCBs, TAL Metals and cyanide.

[2] All TCL VOC analyses to include Freon 113.

[3] All pesticide analyses to include USEPA SW846 Method 8141. Herbicides will be analyzed by Method 8150.

*Final selection of samples for TCL +30 analysis to be made in the field based on visual observations and/or screening for volatile organic compounds utilizing a Photoionization Detector (PID) or Flame Ionization Detector (FID).

**One trip blank will accompany each shipment of aqueous samples requiring volatile organic analysis.

***One MS/MSD for each media for every 20 samples collected, or one every 2 weeks.

TABLE 2
BARTLETT TREE COMPANY
NYSDEC PRELIMINARY SITE ASSESSMENT
GROUNDWATER SAMPLING RESULTS
VOLATILE ORGANIC COMPOUNDS

SAMPLE IDENTIFICATION	DW-1	DW-1	GP-1	GP-1	GP-4	GP-4	TB-1	TB-3	CONTRACT REQUIRED DETECTION LIMIT	NYSDEC CLASS GA GROUNDWATER STANDARD/ GUIDELINE
SAMPLE DEPTH	37'	62'	38'	62'	37'	62'	--	--		
DATE OF COLLECTION	11/18/96	11/18/96	11/12/96	11/12/96	11/13/96	11/13/96	11/13/96	11/18/96		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
UNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Chloromethane	U	U	U	U	U	U	U	U	10	5 ST
Bromomethane	U	U	U	U	U	U	U	U	10	5 ST
Vinyl Chloride	U	U	U	U	U	U	U	U	10	2 ST
Chloroethane	U	U	U	U	U	U	U	U	10	5 ST
Methylene Chloride	2 J	2 J	3 JB	3 JB	2 JB	2 JB	20 B	U	10	5 ST
Acetone	U	U	U	U	U	U	U	U	10	50 GV
Carbon Disulfide	U	U	U	U	U	U	U	U	10	----
1,1-Dichloroethene	U	U	U	U	U	U	U	U	10	5 ST
1,1-Dichloroethane	U	U	U	1 J	U	U	U	U	10	5 ST
1,2-Dichloroethene (total)	U	U	4 J	73	U	140	U	U	10	5 ST*
Chloroform	U	U	U	U	U	U	U	U	10	7 ST
1,2-Dichloroethane	U	U	U	U	U	U	U	U	10	5 ST
2-Butanone	U	U	U	U	U	U	U	U	10	50 GV
1,1,1-Trichloroethane	U	U	U	U	U	2 J	U	U	10	5 ST
Carbon Tetrachloride	U	U	U	U	U	U	U	U	10	5 ST
Bromodichloromethane	U	U	U	U	U	U	U	U	10	50 GV
1,2-Dichloropropane	U	U	U	U	U	U	U	U	10	5 ST
cis-1,3-Dichloropropene	U	U	U	U	U	U	U	U	10	5 ST
Trichloroethene	U	U	8 J	170	U	160	U	U	10	5 ST
Dibromochloromethane	U	U	U	U	U	U	U	U	10	50 GV
1,1,2-Trichloroethane	U	U	U	U	U	U	U	U	10	5 ST
Benzene	U	U	U	U	U	U	U	U	10	0.7 ST
trans-1,3-Dichloropropene	U	U	U	U	U	U	U	U	10	5 ST
Bromoform	U	U	U	U	U	U	U	U	10	50 GV
4-Methyl-2-pentanone	U	U	U	U	U	U	U	U	10	----
2-Hexanone	U	U	U	U	U	U	U	U	10	50 GV
Tetrachloroethene	10	12	160	6 J	5 J	U	U	U	10	5 ST
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	U	U	10	5 ST
Toluene	U	U	U	U	U	U	U	U	10	5 ST
Chlorobenzene	U	U	U	U	U	U	U	U	10	5 ST
Ethylbenzene	6 J	7 J	U	U	U	U	U	U	10	5 ST
Styrene	U	U	U	U	U	U	U	U	10	5 ST
Xylene (total)	33	37	U	U	U	U	U	U	10	5 ST*
Freon 113	U	U	U	U	U	U	U	U	10	5 ST
Vinyl Acetate	U	U	U	U	U	U	U	U	10	----
TOTAL VOCs	51	58	175	253	7	304	20	0		

Qualifiers/Abbreviations:
U: Compound analyzed for but not detected.
B: Compound found in the method blank as well as the sample.
J: Compound found at level below CRDL, value estimated.
CRDL: Contract required detection limit.
DF: Dilution factor.
GV: Guidance value.
ST: Standard.

Notes:
* : Applies to each isomer individually.
---- : Not established.
[ ] : Value exceeds standard/guideline.
Detection Limit = DF*CRDL

TABLE 3
BARTLETT TREE COMPANY
NYSDEC PRELIMINARY SITE ASSESSMENT
GROUNDWATER SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

SAMPLE IDENTIFICATION	DW-1	DW-1	GP-1	GP-1	GP-4	GP-4	CONTRACT REQUIRED DETECTION LIMIT	NYSDEC CLASS GA GROUNDWATER STANDARDS/ GUIDELINES
SAMPLE DEPTH	37'	62'	38'	62'	37'	62'		
DATE OF COLLECTION	11/18/96	11/18/96	11/12/96	11/12/96	11/13/96	11/13/96		
DILUTION FACTOR	1	1	1	1	1	1		
UNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Phenol	U	U	U	U	U	U	10	1 ST **
bis(2-Chloroethyl)ether	U	U	U	U	U	U	10	1.0 ST
2-Chlorophenol	U	U	U	U	U	U	10	1 ST **
1,3-Dichlorobenzene	U	U	U	U	U	U	10	5 ST
1,4-Dichlorobenzene	U	U	U	U	U	U	10	4.7 ST *
1,2-Dichlorobenzene	U	U	U	U	U	U	10	4.7 ST *
2-Methylphenol	U	U	U	U	U	U	10	1 ST **
2,2'-oxybis(1-Chloropropane)	U	U	U	U	U	U	10	5 ST
4-Methylphenol	U	U	U	U	U	U	10	1 ST **
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	10	----
Hexachloroethane	U	U	U	U	U	U	10	5 ST
Nitrobenzene	U	U	U	U	U	U	10	5 ST
Isophorone	U	U	U	U	U	U	10	50 GV
2-Nitrophenol	U	U	U	U	U	U	10	1 ST **
2,4-Dimethylphenol	U	U	U	U	U	U	10	1 ST **
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	10	5 ST
2,4-Dichlorophenol	U	U	U	U	U	U	10	1 ST **
1,2,4-Trichlorobenzene	U	U	U	U	U	U	10	5 ST
Naphthalene	U	3 J	U	U	U	U	10	10 GV
4-Chloroaniline	U	U	U	U	U	U	10	5 ST
Hexachlorobutadiene	U	U	U	U	U	U	10	5 ST
4-Chloro-3-methylphenol	U	U	U	U	U	U	10	1 ST **
2-Methylnaphthalene	U	5 J	U	U	U	U	10	----
Hexachlorocyclopentadiene	U	U	U	U	U	U	10	5 ST
2,4,6-Trichlorophenol	U	U	U	U	U	U	10	1 ST **
2,4,5-Trichlorophenol	U	U	U	U	U	U	25	1 ST **
2-Chloronaphthalene	U	U	U	U	U	U	10	10 GV
2-Nitroaniline	U	U	U	U	U	U	25	5 ST
Dimethylphthalate	U	U	U	U	U	U	10	50 GV
Acenaphthylene	U	U	U	U	U	U	10	----
2,6-Dinitrotoluene	U	U	U	U	U	U	10	5 ST
3-Nitroaniline	U	U	U	U	U	U	25	5 ST
Acenaphthene	U	U	U	U	U	U	10	20 GV
2,4-Dinitrophenol	U	U	U	U	U	U	25	1 ST **
4-Nitrophenol	U	U	U	U	U	U	25	1 ST **

TABLE 3 (continued)
BARTLETT TREE COMPANY
NYSDEC PRELIMINARY SITE ASSESSMENT
GROUNDWATER SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

SAMPLE IDENTIFICATION	DW-1	DW-1	GP-1	GP-1	GP-4	GP-4	CONTRACT REQUIRED DETECTION LIMIT	NYSDEC CLASS GA GROUNDWATER STANDARDS/ GUIDELINES
SAMPLE DEPTH	37'	62'	38'	62'	37'	62'		
DATE OF COLLECTION	11/18/96	11/18/96	11/12/96	11/12/96	11/13/96	11/13/96		
DILUTION FACTOR	1	1	1	1	1	1		
UNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Dibenzofuran	U	U	U	U	U	U	10	----
2,4-Dinitrotoluene	U	U	U	U	U	U	10	5 ST
Diethylphthalate	U	U	U	U	U	U	10	50 GV
4-Chlorophenyl-phenylether	U	U	U	U	U	U	10	----
Fluorene	U	U	U	U	U	U	10	50 GV
4-Nitroaniline	U	U	U	U	U	U	25	5 ST
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	25	1 ST **
N-Nitrosodiphenylamine	U	U	U	U	U	U	10	50 GV
4-Bromophenyl-phenylether	U	U	U	U	U	U	10	----
Hexachlorobenzene	U	U	U	U	U	U	10	0.35 ST
Pentachlorophenol	U	U	U	U	U	U	25	1 ST **
Phenanthrene	U	U	U	U	U	U	10	50 GV
Anthracene	U	U	U	U	U	U	10	50 GV
Carbazole	U	U	U	U	U	U	10	----
Di-n-butylphthalate	U	U	U	U	U	U	10	50 ST
Fluoranthene	U	U	U	U	U	U	10	50 GV
Pyrene	U	U	U	U	U	U	10	50 GV
Butylbenzylphthalate	U	U	U	U	U	U	10	50 GV
3,3'-Dichlorobenzidine	U	U	U	U	U	U	10	5 ST
Benzo(a)anthracene	U	U	U	U	U	U	10	0.002 GV
Chrysene	U	U	U	U	U	U	10	0.002 GV
bis(2-Ethylhexyl)phthalate	U	U	1 J	U	U	U	10	50 ST
Di-n-octylphthalate	U	U	U	U	U	U	10	50 GV
Benzo(b)fluoranthene	U	U	U	U	U	U	10	0.002 GV
Benzo(k)fluoranthene	U	U	U	U	U	U	10	0.002 GV
Benzo(a)pyrene	U	U	U	U	U	U	10	ND ST
Indeno(1,2,3-cd)pyrene	U	U	U	U	U	U	10	0.002 GV
Dibenzo(a,h)anthracene	U	U	U	U	U	U	10	----
Benzo(g,h,i)perylene	U	U	U	U	U	U	10	----
TOTAL PAHs	0	3	0	0	0	0		
TOTAL CaPAHs	0	0	0	0	0	0		
TOTAL SVOCs	0	8	1	0	0	0		

Qualifiers/Abbreviations:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
CRDL: Contract required detection limit.
DF: Dilution factor.
ST: Standard.
GV: Guidance value.
ND: Not-detectable.

Notes:
* : Value pertains to the sum of the isomers.
** : Value pertains to total phenols.
: Value exceeds standard/guideline.
---- : Not established.
Detection Limit = DF*CRDL

TABLE 4
BARTLETT TREE COMPANY
NYSDEC PRELIMINARY SITE ASSESSMENT
GROUNDWATER SAMPLING RESULTS
PESTICIDES AND PCBs

SAMPLE IDENTIFICATION	DW-1	DW-1	GP-1	GP-1	GP-2	GP-2	CONTRACT REQUIRED DETECTION LIMIT	NYSDEC CLASS GA GROUNDWATER STANDARD/ GUIDELINE
SAMPLE DEPTH	37'	62'	38'	62'	37'	62'		
DATE OF COLLECTION	11/18/96	11/18/96	11/12/96	11/12/96	11/14/96	11/14/96		
DILUTION FACTOR	1	1	1	1	1	1		
UNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
PESTICIDES								
alpha-BHC	U	U	U	U	U	U	0.05	ND ST*
beta-BHC	U	U	U	U	U	U	0.05	ND ST*
delta-BHC	0.036 JP	0.049 JP	U	U	U	U	0.05	ND ST*
gamma-BHC (Lindane)	0.63	3.2 D	U	U	U	U	0.05	ND ST*
Heptachlor	U	U	U	U	U	U	0.05	ND ST**
Aldrin	U	U	U	U	U	U	0.05	ND ST
Heptachlor Epoxide	U	U	U	U	U	U	0.05	ND ST**
Endosulfan I	U	U	U	U	U	U	0.05	----
Dieldrin	0.11 P	0.59	0.073 J	U	U	U	0.10	ND ST
4,4'-DDE	0.19	0.16	0.073 J	U	U	U	0.10	ND ST***
Endrin	0.077 J	0.098 J	U	U	U	U	0.10	ND ST
Endosulfan II	U	U	U	U	U	U	0.10	----
4,4'-DDD	1.7 P	6 D	U	U	U	U	0.10	ND ST***
Endosulfan Sulfate	U	U	U	U	U	U	0.10	----
4,4'-DDT	19 D	1.9	U	U	U	U	0.10	ND ST***
Methoxychlor	1.9	4.9 JD	U	U	U	U	0.50	35 ST
Endrin Ketone	U	U	U	U	U	U	0.10	5 ST
Endrin Aldehyde	U	U	U	U	U	U	0.10	5 ST
alpha-Chlordane	0.08	0.11 P	U	U	U	U	0.05	0.1 ST****
gamma-Chlordane	0.054 P	0.086 P	U	U	U	U	0.05	0.1 ST****
Toxaphene	U	U	U	U	U	U	5.00	ND ST
TOTAL PESTICIDES	23.777	17.093	0.146	0	0	0		
PCBs								
Aroclor-1016	U	U	U	U	U	U	1.00	0.1 ST*****
Aroclor-1221	U	U	U	U	U	U	2.00	0.1 ST*****
Aroclor-1232	U	U	U	U	U	U	1.00	0.1 ST*****
Aroclor-1242	U	U	U	U	U	U	1.00	0.1 ST*****
Aroclor-1248	U	U	U	U	U	U	1.00	0.1 ST*****
Aroclor-1254	U	U	U	U	U	U	1.00	0.1 ST*****
Aroclor-1260	U	U	U	U	U	U	1.00	0.1 ST*****
TOTAL PCBs	0	0	0	0	0	0		

Qualifiers/Abbreviations:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit, value estimated.
P: Concentration from primary and confirmation columns have a >25% difference, lower value reported.
CRDL: Contract required detection limit.
DF: Dilution factor.
GV: Guidance value.
ST: Standard.
ND: Non-detectable.
D: Result taken from the reanalysis at a 1:10 dilution.

Notes:
* : Value applies to the sum of these substances.
** : Value applies to the sum of these substances.
*** : Value applies to the sum of these substances.
**** : Value applies to the sum of these substances.
***** : Value applies to the sum of these substances.
---- : Not established.
: Value exceeds standard/guideline.
Detection Limit = DF*CRDL

TABLE 4 (continued)
BARTLETT TREE COMPANY
NYSDEC PRELIMINARY SITE ASSESSMENT
GROUNDWATER SAMPLING RESULTS
PESTICIDES AND PCBs

SAMPLE IDENTIFICATION	GP-3	GP-3	GP-4	GP-4	MW-1		CONTRACT REQUIRED DETECTION LIMIT	NYSDEC CLASS GA GROUNDWATER STANDARD/ GUIDELINES
SAMPLE DEPTH	37'	62'	37'	62'	--			
DATE OF COLLECTION	11/13/96	11/14/96	11/13/96	11/13/96	11/14/96			
DILUTION FACTOR	1	1	1	1	1			
UNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)		(ug/L)	(ug/L)
PESTICIDES								
alpha-BHC	U	U	U	U	U		0.05	ND ST*
beta-BHC	U	U	U	U	U		0.05	ND ST*
delta-BHC	U	U	U	U	U		0.05	ND ST*
gamma-BHC (Lindane)	U	U	U	U	U		0.05	ND ST*
Heptachlor	U	U	U	U	U		0.05	ND ST**
Aldrin	U	U	U	U	U		0.05	ND ST
Heptachlor Epoxide	U	U	U	U	U		0.05	ND ST**
Endosulfan I	U	U	U	U	U		0.05	---
Dieldrin	U	U	U	U	U		0.10	ND ST
4,4'-DDE	U	U	U	U	U		0.10	ND ST***
Endrin	U	U	U	U	U		0.10	ND ST
Endosulfan II	U	U	U	U	U		0.10	----
4,4'-DDD	U	U	U	U	U		0.10	ND ST***
Endosulfan Sulfate	U	U	U	U	U		0.10	----
4,4'-DDT	U	U	U	U	U		0.10	ND ST***
Methoxychlor	U	U	U	U	U		0.50	35 ST
Endrin Ketone	U	U	U	U	U		0.10	5 ST
Endrin Aldehyde	U	U	U	U	U		0.10	5 ST
alpha-Chlordane	U	U	U	U	U		0.05	0.1 ST****
gamma-Chlordane	U	U	U	U	U		0.05	0.1 ST****
Toxaphene	U	U	U	U	U		5.00	ND ST
TOTAL PESTICIDES	0	0	0	0	0			
PCBs								
Aroclor-1016	U	U	U	U	U		1.00	0.1 ST*****
Aroclor-1221	U	U	U	U	U		2.00	0.1 ST*****
Aroclor-1232	U	U	U	U	U		1.00	0.1 ST*****
Aroclor-1242	U	U	U	U	U		1.00	0.1 ST*****
Aroclor-1248	U	U	U	U	U		1.00	0.1 ST*****
Aroclor-1254	U	U	U	U	U		1.00	0.1 ST*****
Aroclor-1260	U	U	U	U	U		1.00	0.1 ST*****
TOTAL PCBs	0	0	0	0	0			

Qualifiers/Abbreviations:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit, value estimated.
P: Concentration from primary and confirmation columns have a >25% difference, lower value reported.
CRDL: Contract required detection limit.
DF: Dilution factor.
GV: Guidance value.
ST: Standard.
ND: Non-detectable.

Notes:
* : Value applies to the sum of these substances.
** : Value applies to the sum of these substances.
*** : Value applies to the sum of these substances.
**** : Value applies to the sum of these substances.
***** : Value applies to the sum of these substances.
---- : Not established.
☐ : Value exceeds standard/guideline.
Detection Limit = DF*CRDL

TABLE 5
BARTLETT TREE COMPANY
NYSDEC PRELIMINARY SITE ASSESSMENT
GROUNDWATER SAMPLING RESULTS
HERBICIDES

SAMPLE IDENTIFICATION	DW-1	DW-1	GP-2	GP-2	GP-3	GP-3	GP-4	GP-4	MW-1	CONTRACT REQUIRED DETECTION LIMIT	NYSDEC CLASS GA GROUNDWATER STANDARD/ GUIDELINE
SAMPLE DEPTH	37'	62'	37'	62'	37'	62'	37'	62'	--		
DATE OF COLLECTION	11/18/96	11/18/96	11/14/96	11/14/96	11/13/96	11/14/96	11/13/96	11/13/96	11/14/96		
DILUTION FACTOR	1	1	1	1	1	1	1	1	1		
UNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Diazinon	U	U	U	U	U	U	U	U	U		0.7 ST
Carbaryl (Sevin)	U	U	U	U	U	U	U	U	U		29 ST
Malathion	U	U	U	U	U	U	U	U	U		7.0 ST
2,4-D	U	U	U	U	U	U	U	U	U	2.5	4.4 ST
2,4,5-TP (Silvex)	U	U	U	U	U	U	U	U	U	0.25	0.26 ST
2,4,5-T	U	U	U	U	U	U	U	U	U	0.25	35 ST
2,4-DB	U	U	U	U	U	U	U	U	U	2.5	----
Dalapon	U	U	U	U	U	U	U	U	U	10	50 ST
Dicamba	U	U	U	U	U	U	U	U	U	0.25	0.44 ST
Dinoseb	U	U	U	U	U	U	U	U	U	1.2	1 ST*
2,4-DP (Dichloroprop)	U	U	U	U	U	U	U	U	U	2.5	----
MCPA	U	U	U	U	U	U	U	U	U	1000	0.44
MCPP	U	U	U	U	U	U	U	U	U	1000	----
TOTAL HERBICIDES	0	0	0	0	0	0	0	0	0		

Qualifiers/Abbreviations:
U: Compound analyzed for but not detected.
CRDL: Contract required detection limit.
DF: Dilution factor.
GV: Guidance value.
ST: Standard.
ND: Non-detectable.

Notes:
---- : Not established.
* : Value applies to the sum of these substances.
[ ] : Value exceeds standard/guideline.
Detection Limit = DF*CRDL

TABLE 6
BARTLETT TREE COMPANY
NYSDEC PRELIMINARY SITE ASSESSMENT
GROUNDWATER SAMPLING RESULTS
INORGANIC CONSTITUENTS

SAMPLE IDENTIFICATION	DW-1		DW-1		GP-1		GP-1		INSTRUMENT DETECTION LIMITS	NYSDEC CLASS GA GROUNDWATER STANDARDS/ GUIDELINES
SAMPLE DEPTH	37'		62'		38'		62'			
DATE OF COLLECTION	11/18/96		11/18/96		11/12/96		11/12/96			
DILUTION FACTOR	1	1	1	1	1	1	1	1		
FILTERED/UNFILTERED	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered		
UNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Aluminum	3590	93.1 B	34600	147 B	81000	148 B	36900	142 B	71.4	----
Antimony	13.6 B	U	32.4 B	8.6 B	U	U	14.1 B	6.3 B	8.9	3 GV
Arsenic	U	U	133	U	67	U	159	U	5.1	25 ST
Barium	97.5 B	94.7 B	458	128 B	598	293	783	120 B	12.8	1000 ST
Beryllium	1.7 B	U	3.4 B	U	4.1 B	U	10.3	U	0.10	3 GV
Cadmium	1.7 B	U	U	U	U	U	U	U	0.30	10 ST
Calcium	19400	18700	18900	15000	15800	15200	15600	18200	172	----
Chromium	63.3	3.2 B	340	U	189	U	216	U	1.2	50 ST
Cobalt	7.7 B	3.3 B	64.5	11.6 B	41 B	234	770	9.1 B	1.4	----
Copper	28.6	5.9 B	166	5.9 B	144	11.5 B	103	7.9 B	2.5	200 ST
Iron	13000	1070	404000	8600	87500	1690	539000	2510	17.4	300 ST *
Lead	25.1	U	317	2.2 B	47.6	U	131	U	2.1	25 ST
Magnesium	3420 B	3000 B	9710	7000	5910	10300	10700	2850 B	181	35000 GV
Manganese	218	118	1960	481	2020	3190	9150	386	0.4	300 ST *
Mercury	U	U	U	U	U	U	0.32	U	0.20	2 ST
Nickel	73.5	114	200	28.6 B	120	51.2	247	12.5 B	1.9	----
Potassium	2550 B	3430 B	6930	5790	4950 B	5050	6280	2310 B	418	----
Selenium	U	U	U	6.5	U	U	U	U	4.1	10 ST
Silver	83	U	U	3.6 B	U	3.9 B	U	U	1.4	50 ST
Sodium	19300	16400	32000	28800	25000	23800	21000	25400	650	20000 ST
Thallium	U	U	U	U	U	16.3	U	9.8 B	6.1	4 GV
Vanadium	22.2 B	U	157	2.7 B	154	U	154	U	1.2	----
Zinc	258	173	1110	90.8	212	90.2	749	34.0	3.8	300 ST
Cyanide	U	N/A	U	N/A	U	N/A	U	N/A	10.0	100 ST

Qualifiers/Abbreviations:
U: Compound analyzed for but not detected.
B: Compound concentration is less than the CRDL but greater than the IDL.
IDL: Instrument detection limit.
CRDL: Contract required detection limit.
DF: Dilution factor.
GV: Guidance value.
ST: Standard.
N/A: Compound not analyzed for.

Notes:
* : Standard for the sum of iron and manganese is 500 ug/L.
---- : Not established.
☐ : Value exceeds standard/guideline.
Detection Limit = DF*IDL

TABLE 6 (continued)
BARTLETT TREE COMPANY
NYSDEC PRELIMINARY SITE ASSESSMENT
GROUNDWATER SAMPLING RESULTS
INORGANIC CONSTITUENTS

SAMPLE IDENTIFICATION	GP-2	GP-2	GP-3	GP-3	GP-4		GP-4		INSTRUMENT DETECTION LIMITS	NYSDEC CLASS GA GROUNDWATER STANDARDS/ GUIDELINES
SAMPLE DEPTH	37'	62'	37'	62'	37'		62'			
DATE OF COLLECTION	11/14/96	11/14/96	11/13/96	11/14/96	11/13/96		11/13/96			
DILUTION FACTOR	1	1	1	1	1	1	1	1		
FILTERED/UNFILTERED	unfiltered	unfiltered	unfiltered	unfiltered	unfiltered	filtered	unfiltered	filtered		
UNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Aluminum	5700	12200	19600	17900	43500	138 B	19400	138 B	71.4	----
Antimony	U	U	U	U	U	U	U	U	8.9	3 GV
Arsenic	9.3 B	38.6	8.3 B	71.8	26.7	U	210	U	5.1	25 ST
Barium	125 B	1320	439	1270	404	89.4 B	2440	198 B	12.8	1000 ST
Beryllium	U	2 B	1 B	1.6 B	3 B	U	1.6 B	U	0.10	3 GV
Cadmium	U	U	U	U	U	U	U	U	0.30	10 ST
Calcium	18300	21600	13100	12000	11900	11400	12500	13900	172	----
Chromium	50.9	49.6	83.5	91.2	113	U	132	U	1.2	50 ST
Cobalt	4.3 B	127	17.1 B	153	63.2	15.6 B	224	25.0 B	1.4	----
Copper	9 B	48.6	47.1	49.8	75.2	5.5 B	49.9	5.3 B	2.5	200 ST
Iron	11400	78000	25900	137000	55300	105	229000	785	17.4	300 ST *
Lead	7.6	50.4	18.4	39.2	48	U	44.3	U	2.1	25 ST
Magnesium	3460 B	5670	4120 B	4510 B	7010	1980 B	4370 B	4790 B	181	35000 GV
Manganese	374	5580	896	5330	2990	686	20700	1270	0.4	300 ST *
Mercury	U	0.36	U	U	U	U	U	U	0.20	2 ST
Nickel	25.9 B	55.7	59.7	96.2	82.1	7.2 B	106	27.1 B	1.9	----
Potassium	3230 B	8540	3710 B	7060	6110	2760 B	7610	8410	418	----
Selenium	4.6 B	U	U	U	U	U	U	U	4.1	10 ST
Silver	U	U	U	U	U	U	2.4 B	U	1.4	50 ST
Sodium	18200	34600	11900	33100	9970	9240	33700	34900	650	20000 ST
Thallium	U	U	U	U	U	U	U	12.2	6.1	4 GV
Vanadium	13.2 B	75.9	40 B	114	114	U	136	U	1.2	----
Zinc	40.2	134	113	244	164	25.0	272	46.9	3.8	300 ST
Cyanide	U	U	U	U	U	N/A	U	N/A	10.0	100 ST

Qualifiers/Abbreviations:
U: Compound analyzed for but not detected.
B: Compound concentration is less than the CRDL but greater than the IDL.
IDL: Instrument detection limit.
CRDL: Contract required detection limit.
DF: Dilution factor.
GV: Guidance value.
ST: Standard.
N/A: Compound not analyzed for.

Notes:
* : Standard for the sum of iron and manganese is 500 ug/L.
---- : Not established.
: Value exceeds standard/guideline.
Detection Limit = DF*IDL

TABLE 6 (continued)
BARTLETT TREE COMPANY
NYSDEC PRELIMINARY SITE ASSESSMENT
GROUNDWATER SAMPLING RESULTS
INORGANIC CONSTITUENTS

SAMPLE IDENTIFICATION	MW-1								INSTRUMENT DETECTION LIMITS	NYSDEC CLASS GA GROUNDWATER STANDARDS/ GUIDELINES
SAMPLE DEPTH	--									
DATE OF COLLECTION	11/14/96									
DILUTION FACTOR	1									
UNITS	(ug/L)								(ug/L)	(ug/L)
Aluminum	156 B								71.4	----
Antimony	U								8.9	3 GV
Arsenic	9.3 B								5.1	25 ST
Barium	78.3 B								12.8	1000 ST
Beryllium	U								0.10	3 GV
Cadmium	U								0.30	10 ST
Calcium	23900								172	----
Chromium	2 B								1.2	50 ST
Cobalt	U								1.4	----
Copper	U								2.5	200 ST
Iron	178								17.4	300 ST *
Lead	2.7 B								2.1	25 ST
Magnesium	3800 B								181	35000 GV
Manganese	68.8								0.4	300 ST *
Mercury	U								0.20	2 ST
Nickel	5.3 B								1.9	----
Potassium	3170 B								418	----
Selenium	U								4.1	10 ST
Silver	U								1.4	50 ST
Sodium	14500								650	20000 ST
Thallium	U								6.1	4 GV
Vanadium	U								1.2	----
Zinc	14.7 B								3.8	300 ST
Cyanide	U								10.0	100 ST

Qualifiers/Abbreviations:
U: Compound analyzed for but not detected.
B: Compound concentration is less than the CRDL but greater than the IDL.
IDL: Instrument detection limit.
CRDL: Contract required detection limit.
DF: Dilution factor.
GV: Guidance value.
ST: Standard.

Notes:
* : Standard for the sum of iron and manganese is 500 ug/L.
---- : Not established.
☐ : Value exceeds standard/guideline.
Detection Limit = DF*IDL

TABLE 7
BARTLETT TREE COMPANY
NYSDEC PRELIMINARY SITE ASSESSMENT
SOIL BORING SAMPLING RESULTS
VOLATILE ORGANIC COMPOUNDS

SAMPLE IDENTIFICATION	DW-1	DW-1	DW-1	DW-1	DW-1	DW-1	DW-1	TBLK2	CONTRACT REQUIRED DETECTION LIMIT	NYSDEC RECOMMENDED SOIL CLEANUP OBJECTIVES
SAMPLE DEPTH	8'-12'	12'-16'	16'-18'	18'-22'	22'-28'	28'-34'	34'-38'	--		
DATE OF COLLECTION	11/14/96	11/14/96	11/14/96	11/14/96	11/18/96	11/18/96	11/18/96	11/14/96		
DILUTION FACTOR	5	1250	1250	125	1	1	1	1		
PERCENT SOLIDS	86	95	98	90	94	91	95	--		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/l)	(ug/kg)	(ug/kg)
Chloromethane	U	U	U	U	U	U	U	U	10	---
Bromomethane	U	U	U	U	U	U	U	U	10	---
Vinyl Chloride	U	U	U	U	U	U	U	U	10	200
Chloroethane	U	U	U	U	U	U	U	U	10	1900
Methylene Chloride	31 JB	9200 JB	9000 JB	1400 B	U	4 JB	U	3 JB	10	100
Acetone	68	U	U	U	28	16	20	9 J	10	200
Carbon Disulfide	U	U	U	U	U	U	U	U	10	2700
1,1-Dichloroethene	U	U	U	U	U	U	U	U	10	400
1,1-Dichloroethane	U	U	U	U	U	U	U	U	10	200
1,2-Dichloroethene (total)	U	U	U	U	U	U	U	U	10	300
Chloroform	U	U	U	U	U	U	U	U	10	300
1,2-Dichloroethane	U	U	U	U	U	U	U	U	10	100
2-Butanone	U	U	U	U	U	U	U	U	10	300
1,1,1-Trichloroethane	U	U	U	U	U	U	U	U	10	800
Carbon Tetrachloride	U	U	U	U	U	U	U	U	10	600
Bromodichloromethane	U	U	U	U	U	U	U	U	10	----
1,2-Dichloropropane	U	U	U	U	U	U	U	U	10	----
cis-1,3-Dichloropropene	U	U	U	U	U	U	U	U	10	----
Trichloroethene	U	U	U	U	U	U	U	U	10	700
Dibromochloromethane	U	U	U	U	U	U	U	U	10	----
1,1,2-Trichloroethane	U	U	U	U	U	U	U	U	10	----
Benzene	86	U	U	U	U	U	U	U	10	60
trans-1,3-Dichloropropene	U	U	U	U	U	U	U	U	10	----
Bromoform	U	U	U	U	U	U	U	U	10	----
4-Methyl-2-pentanone	U	U	U	U	U	U	U	U	10	1000
2-Hexanone	U	U	U	U	U	U	U	U	10	----
Tetrachloroethene	U	U	U	840 J	140	81	4 J	U	10	1400
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	U	U	10	600
Toluene	190	U	U	U	U	U	U	U	10	1500
Chlorobenzene	330	U	U	U	U	U	U	U	10	1700
Ethylbenzene	28000 D*	49000	15000	400 J	19	8 J	45	U	10	5500
Styrene	U	U	U	U	U	U	U	U	10	----
Xylene (total)	200000 D**	440000	230000	11000	240	67	480	U	10	1200
Freon 113	U	U	U	U	U	U	U	U	10	600
Vinyl Acetate	U	U	U	U	U	U	U	U	10	----
TOTAL VOCs	228705	498200	254000	13640	427	176	549	12		10000

Qualifiers/Abbreviations:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit, value estimated.
B: Compound found in the blank as well as the sample.
CRDL: Contract required detection limit.
DF: Dilution factor.
%S: Percent solids.

Notes:
[ ]: Value exceeds recommended cleanup objective.
---- : Not established,
Detection Limit = CRDL*DF*(100/%S)
D*: Result taken from the diluted analysis at 1:125
D**: Result taken from the diluted analysis at 1:1250

TABLE 8
BARTLETT TREE COMPANY
NYSDEC PRELIMINARY SITE ASSESSMENT
SOIL BORING SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

SAMPLE IDENTIFICATION	DW-1	DW-1	DW-1	DW-1	DW-1	DW-1	DW-1	CONTRACT REQUIRED DETECTION LIMIT	NYSDEC RECOMMENDED SOIL CLEANUP OBJECTIVES
SAMPLE DEPTH	8'-12'	12'-16'	16'-18'	18'-22'	22'-28'	28'-34'	34'-38'		
DATE OF COLLECTION	11/14/96	11/14/96	11/14/96	11/14/96	11/18/96	11/18/96	11/18/96		
DILUTION FACTOR	1	1	1	1	2	2	2		
PERCENT SOLIDS	86	95	93	94	94	91	95		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Phenol	U	U	U	U	U	U	U	330	30 or MDL
bis(2-Chloroethyl)ether	U	U	U	U	U	U	U	330	----
2-Chlorophenol	U	U	U	U	U	U	U	330	800
1,3-Dichlorobenzene	U	U	U	U	U	U	U	330	1600
1,4-Dichlorobenzene	140 J	160 J	U	U	U	U	U	330	8500
1,2-Dichlorobenzene	U	U	U	U	U	U	U	330	7900
2-Methylphenol	U	U	U	U	U	U	U	330	100 or MDL
2,2'-oxybis(1-Chloropropane)	U	U	U	U	U	U	U	330	----
4-Methylphenol	87 J	U	U	U	U	U	U	330	900
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	U	330	----
Hexachloroethane	U	U	U	U	U	U	U	330	----
Nitrobenzene	U	U	U	U	U	U	U	330	200 or MDL
Isophorone	U	U	U	U	U	U	U	330	4400
2-Nitrophenol	U	U	U	U	U	U	U	330	330 or MDL
2,4-Dimethylphenol	U	U	U	U	U	U	U	330	----
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	U	330	----
2,4-Dichlorophenol	U	U	U	U	U	U	200 J	330	400
1,2,4-Trichlorobenzene	U	U	U	U	U	U	U	330	3400
Naphthalene	12000 D**	**81000 JD***	**44000 JD***	10000 D**	72 J	U	110 J	330	13000
4-Chloroaniline	U	U	U	U	U	U	U	330	220 or MDL
Hexachlorobutadiene	U	100 J	0 J	83 J	U	78 J	U	330	----
4-Chloro-3-methylphenol	U	U	U	U	U	U	U	330	240 or MDL
2-Methylnaphthalene	31000 D**	**220000 D***	**290000 D***	28000 D**	160 J	150 J	380 J	330	36400
Hexachlorocyclopentadiene	U	U	U	U	U	U	U	330	----
2,4,6-Trichlorophenol	U	U	U	U	U	U	U	330	----
2,4,5-Trichlorophenol	U	U	U	U	U	U	U	800	100
2-Chloronaphthalene	U	U	U	U	U	U	U	330	----
2-Nitroaniline	U	U	U	U	U	U	U	800	430 or MDL
Dimethylphthalate	U	U	U	U	U	U	U	330	2000
Acenaphthylene	U	U	U	U	U	U	U	330	41000
2,6-Dinitrotoluene	U	U	U	U	U	U	U	330	1000
3-Nitroaniline	U	U	U	U	U	U	U	800	500 or MDL
Acenaphthene	370 J	500	U	400	U	U	U	330	50000
2,4-Dinitrophenol	U	U	U	U	U	U	U	800	200 or MDL
4-Nitrophenol	U	U	U	U	U	U	U	800	100 or MDL

TABLE 8 (continued)
BARTLETT TREE COMPANY
NYSDEC PRELIMINARY SITE ASSESSMENT
SOIL BORING SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

SAMPLE IDENTIFICATION	DW-1	DW-1	DW-1	DW-1	DW-1	DW-1	DW-1	CONTRACT REQUIRED DETECTION LIMIT	NYSDEC RECOMMENDED SOIL CLEANUP OBJECTIVES
SAMPLE DEPTH	8'-12'	12'-16'	16'-18'	18'-22'	22'-28'	28'-34'	34'-38'		
DATE OF COLLECTION	11/14/96	11/14/96	11/14/96	11/14/96	11/18/96	11/18/96	11/18/96		
DILUTION FACTOR	1	1	1	1	2	2	2		
PERCENT SOLIDS	86	95	93	94	94	91	95		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Dibenzofuran	570	1100	2700	U	U	U	U	330	6200
2,4-Dinitrotoluene	U	U	U	U	U	U	U	330	----
Diethylphthalate	U	U	U	U	110 J	450 J	U	330	7100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	U	330	----
Fluorene	590	U	2400	730	U	U	U	330	50000
4-Nitroaniline	U	U	U	U	U	U	U	800	----
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	U	800	----
N-Nitrosodiphenylamine	U	U	U	U	U	U	U	330	----
4-Bromophenyl-phenylether	U	U	U	U	U	U	U	330	----
Hexachlorobenzene	U	U	U	U	U	U	U	330	410
Pentachlorophenol	U	U	U	U	U	U	U	800	1000 or MDL
Phenanthrene	910	530	1200	330 J	U	U	U	330	50000
Anthracene	51 J	U	U	U	U	U	U	330	50000
Carbazole	U	U	U	U	U	U	U	330	----
Di-n-butylphthalate	220 J	150 J	U	120 J	U	U	U	330	8100
Fluoranthene	200 J	U	67 J	83 J	U	U	U	330	50000
Pyrene	770	400	U	400	U	370 J	U	330	50000
Butylbenzylphthalate	430	U	U	U	U	200 J	U	330	50000
3,3'-Dichlorobenzidine	U	U	U	U	650 J	U	251 J	330	----
Benzo(a)anthracene	87 J	U	U	U	U	U	U	330	224 or MDL
Chrysene	200 J	53 J	U	40 J	U	U	U	330	400
bis(2-Ethylhexyl)phthalate	24000 D**	2900 B	2000 B	570 B	U	U	490 JB	330	50000
Di-n-octylphthalate	130 J	150 J	140 J	U	U	U	U	330	50000
Benzo(b)fluoranthene	U	U	U	U	U	U	U	330	1100
Benzo(k)fluoranthene	U	U	U	U	U	U	U	330	1100
Benzo(a)pyrene	U	U	U	U	U	U	U	330	61 or MDL
Indeno(1,2,3-cd)pyrene	U	U	U	U	U	U	U	330	3200
Dibenzo(a,h)anthracene	U	U	U	U	U	U	U	330	14 or MDL
Benzo(g,h,i)perylene	U	U	U	U	U	U	U	330	50000
TOTAL PAHs	15178	82483	47667	11983	72	370	0		
TOTAL CaPAHs	287	53	0	40	0	0	0		10000
TOTAL SVOCs	71755	307043	342507	40756	992	1248	741		500000

Qualifiers/Abbreviations:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
B: Compound found in the method blank as well as the sample.
CRDL: Contract required detection limit.
DF: Dilution factor.
MDL: Method detection limit.
%S: Percent solids.

Notes:
☐: Value exceeds recommended cleanup objective.
---- : Not established.
Detection Limit = CRDL*DF*(100/%S)
D*: Result taken from the reanalysis at a 1:300 dilution
D**: Result taken from the reanalysis at a 1:10 dilution

TABLE 9
BARTLETT TREE COMPANY
NYSDEC PRELIMINARY SITE ASSESSMENT
SOIL BORING SAMPLING RESULTS
PESTICIDES AND PCBs

SAMPLE IDENTIFICATION	DW-1	DW-1	DW-1	DW-1	DW-1	DW-1	DW-1	CONTRACT REQUIRED DETECTION LIMIT	NYSDEC RECOMMENDED SOIL CLEANUP OBJECTIVES
SAMPLE DEPTH	8'-12'	12'-16'	16'-18'	18'-22'	22'-28'	28'-34'	34'-38'		
DATE OF COLLECTION	11/14/96	11/14/96	11/14/96	11/14/96	11/18/96	11/18/96	11/18/96		
DILUTION FACTOR	1000	1000	10000	10000	100000	100000	10000		
PERCENT SOLIDS	86	95	93	94	94	81	95		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
PESTICIDES									
alpha-BHC	U	U	U	U	U	U	U	1.70	110
beta-BHC	U	U	U	U	U	U	U	1.70	200
delta-BHC	U	U	U	U	U	U	U	1.70	300
gamma-BHC (Lindane)	2400	3400	U	U	U	U	U	1.70	540
Heptachlor	U	U	U	U	U	U	U	1.70	100
Aldrin	U	U	U	U	U	U	U	1.70	41
Heptachlor Epoxide	U	U	U	U	U	U	U	1.70	20
Endosulfan I	U	U	U	U	U	U	U	1.70	900
Dieldrin	U	16000	29000 J	18000 J	U	U	26000 J	3.30	44
4,4'-DDE	12000	5400	U	U	U	U	25000 J	3.30	2100
Endrin	U	U	U	U	U	U	U	3.30	100
Endosulfan II	U	U	U	U	U	U	U	3.30	900
4,4'-DDD	110000 D	310000 PD	560000 P	160000 P	680000 P	670000 P	270000 P	3.30	2900
Endosulfan sulfate	U	U	U	U	U	U	U	3.30	1000
4,4'-DDT	U	300000 D	1600000 D*	1700000 D*	11000000 D**	9400000 D**	4500000 D*	3.30	2100
Methoxychlor	U	560000	U	U	U	U	12000 J	17.00	**
Endrin Ketone	U	U	U	U	U	U	U	3.30	----
Endrin Aldehyde	U	U	U	U	U	U	U	3.30	----
alpha-Chlordane	U	1900 P	U	U	U	U	2600 JP	1.70	540
gamma-Chlordane	U	1400 J	U	U	U	U	2500 JP	1.70	540
Toxaphene	U	U	U	U	U	U	U	170.00	----
TOTAL PESTICIDES	124400	1198100	2189000	1878000	11680000	10070000	4838100		10000
PCBs									
Aroclor-1016	U	U	U	U	U	U	U	33.00	10000*
Aroclor-1221	U	U	U	U	U	U	U	67.00	10000*
Aroclor-1232	U	U	U	U	U	U	U	33.00	10000*
Aroclor-1242	U	U	U	U	U	U	U	33.00	10000*
Aroclor-1248	U	U	U	U	U	U	U	33.00	10000*
Aroclor-1254	U	U	U	U	U	U	U	33.00	10000*
Aroclor-1260	U	U	U	U	U	U	U	33.00	10000*
TOTAL PCBs	0	0	0	0	0	0	0		

Qualifiers/Abbreviations:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit, value estimated.
P: Concentration from primary and confirmation columns have a >25% difference, lower value reported.
CRDL: Contract required detection limit.
DF: Dilution factor.
%S: Percent solids.

Notes:
* : Value is for total PCBs in subsurface soil.
** : Total pesticides not to exceed 10,000 ug/kg.
[ ] : Value exceeds recommended cleanup objective.
---- : Not established.
Detection Limit = CRDL*DF*(100/%S)
D: Result taken from the reanalysis at a 1:10,000 dilution.
D*: Result taken from the reanalysis at a 1:100,000 dilution.
D**: Result taken from the reanalysis at a 1:1,000,000 dilution.

TABLE 10
BARTLETT TREE COMPANY
NYSDEC PRELIMINARY SITE ASSESSMENT
SOIL BORING SAMPLING RESULTS
HERBICIDES

SAMPLE IDENTIFICATION	DW-1	DW-1	DW-1	DW-1	DW-1	DW-1	DW-1	CONTRACT REQUIRED DETECTION LIMIT	NYSDEC RECOMMENDED SOIL CLEANUP OBJECTIVES
SAMPLE DEPTH	8'-12'	12'-16'	16'-18'	18'-22'	22'-28'	28'-34'	34'-38'		
DATE OF COLLECTION	11/14/96	11/14/96	11/14/96	11/14/96	11/18/96	11/18/96	11/18/96		
DILUTION FACTOR	1	1	1	1	1	1	1		
PERCENT SOLIDS	86	95	93	94	94	91	95		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Diazinon	U	U	U	U	U	U	U		----
Carbaryl (Sevin)	U	U	U	U	U	U	U		----
Malathion	U	U	U	U	U	U	U		----
2,4-D	U	U	U	U	U	U	U		500
2,4,5-TP (Silvex)	5.8	U	U	U	7.1	U	U		700
2,4,5-T	U	U	U	U	U	U	U		1900
2,4-DB	U	U	U	U	U	U	U		----
Dalapon	U	U	U	U	U	U	U		----
Dicamba	U	U	U	U	U	11	U		----
Dinoseb	U	U	U	U	U	U	U		----
2,4-DP (Dichloroprop)	U	U	U	U	U	U	U		----
MCPA	U	U	U	U	U	U	U		----
MCPP	U	U	U	U	U	U	U		----

Qualifiers/Abbreviations:
U: Compound analyzed for but not detected.
B: Compound found in the blank as well as the sample.
CRDL: Contract required detection limit.
DF: Dilution factor.
%S: Percent solids.

Notes:
---- : Not established.
☐ : Value exceeds recommended cleanup objective.
Detection Limit = CRDL*DF*(100/%S)

TABLE 11
BARTLETT TREE COMPANY
NYSDEC PRELIMINARY SITE ASSESSMENT
SOIL BORING SAMPLING RESULTS
INORGANIC CONSTITUENTS

SAMPLE IDENTIFICATION	DW-1	DW-1	DW-1	DW-1	DW-1	DW-1	DW-1	INSTRUMENT DETECTION LIMITS	NYSDEC RECOMMENDED SOIL CLEANUP OBJECTIVES
SAMPLE DEPTH	8'-12'	12'-16'	16'-18'	18'-22'	22'-28'	28'-34'	34'-38'		
DATE OF COLLECTION	11/14/96	11/14/96	11/14/96	11/14/96	11/18/96	11/18/96	11/18/96		
DILUTION FACTOR	1	1	1	1	1	1	1		
PERCENT SOLIDS	86	95	93	94	94	91	95		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(mg/kg)
Aluminum	3990	1450	1220	1070	1260	1770	1370	84	SB
Antimony	1.8 B	1.3 B	U	0.93 B	1.3 B	U	1.1 B	31	SB
Arsenic	13.1	**8.9**	4.7	3.7	4.4	2.5	1.1	5	7.5 or SB
Barium	50.3	10 B	4.8 B	4.5 B	4.5 B	8.5 B	8.3 B	55	300 or SB
Beryllium	**0.26 B**	**0.27 B**	0.04 B	0.04 B	0.07 B	0.11 B	0.1 B	4	0.16 or SB
Cadmium	3.5	1.9	0.24 B	U	U	U	U	2	10* or SB
Calcium	9320	1430	94 B	180 B	48.7 B	64.4 B	99 B	4003	SB
Chromium	25.2	5.4	3.1	6.8	3.5	12.1	6.5	4	50* or SB
Cobalt	2.8 B	0.96 B	0.31 B	0.42 B	0.51 B	0.53 B	0.76 B	23	30 or SB
Copper	**74.3**	9.7	3.5	2.8	2.2 B	3	3.3	10	25 or SB
Iron	**11600**	**3230**	1470	1940	1990	**3450**	**3110**	73	2000 or SB
Lead	332	109	4.4	7.8	1.5	2.8	4.4	35	400* or SB
Magnesium	3770	752	U	U	U	U	U	3322	SB
Manganese	141	27.3	5	8.6	5.7	9.3	16.4	5	SB
Mercury	1.2	U	U	U	U	U	U	0.2	0.1
Nickel	12.6	2.8 B	1.6 B	2 B	1.8 B	4.8	3.6 B	38	13 or SB
Potassium	308 B	116 B	63.2 B	76.9 B	91.5 B	145 B	132 B	1693	SB
Selenium	U	U	U	U	U	U	U	5	2 or SB
Silver	0.5 B	0.4 B	U	0.18 B	0.22 B	0.23 B	U	7	SB
Sodium	92.4 B	U	U	67.8 B	77.1 B	U	U	2841	SB
Thallium	U	U	U	U	U	U	U	5	SB
Vanadium	13.5	4.2 B	2.5 B	2.9 B	2.9 B	4 B	5.9	22	150 or SB
Zinc	**530**	**162**	**57.9**	**74.9**	15.7	19.7	11.1	12	20 or SB
Cyanide	U	U	U	U	U	U	U	10	SB

Qualifiers/Abbreviations:
U: Compound analyzed for but not detected.
B: Compound concentration is less than the CRDL but greater than the IDL.
IDL: Instrument detection level.
DF: Dilution factor.
%S: Percent solids.

Notes:
---- : Not established.
▭ : Value exceeds NYSDEC Soil Cleanup Objective.
* : Proposed revised value listed in TAGM 4046.
Detection Limit = IDL*DF*(100/%S)*(Final Vol/Initial Wt)
(Final Vol/Initial Wt) is typically 0.2 - This converts ug/L to mg/kg.

Appendix A

APPENDIX A

BORING LOG FOR DRYWELL (DW-1)

ATTACHMENT 3

DVIRKA AND BARTILUCCI

DRILLING CONTRACTOR
Driller Zebra / B. Hoashi
Inspector D. Obradovich
Rig Type Geoprobe - pick-up
Drilling Method Geoprobe
Drive Hammer Weight N/A

DRILLING LOG
PROJECT NAME Bartlett Tree Co. PSA
PROJECT # 1369-03A
Location/Address Union Ave., Westbury

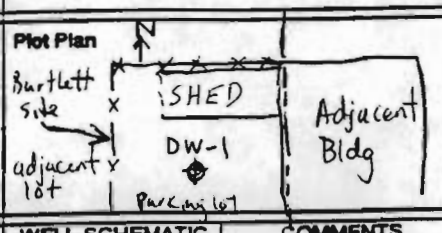
BORING NUMBER DW-1
Sheet 1 of 2
Boring Location Directly south of garage in Northern portion of site

GROUNDWATER OBSERVATIONS

Water Level			
Time			
Date			
Casing Depth			

Weather Overcast, snow flurries
Date/Time Start 11/14/96 1⁰⁰ pm
Date/Time Finish 11/18/96

Plot Plan



Sample Depth	Sample Number	SPT	PID/FID Reading	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
				0-10" Open in dry well (solid cover)		
(0-4')	1		0.0	(0-4') Br.-orange f-c SAND, little(+) f-c gravel, v. moist no odor, tr. silt		
Rec.	2.5'					
(4-8')	2		0.3	(4-8') 0-1' Br.-orange f-c SAND, tr. bluestone gravel & silt, little f-c gravel, no odor, moist 1-2' DK. br. f-c SAND, little f-c gravel & red brick & asphalt, v. moist wet @ btm no odor		Refusal at 6'-- moved off 8" east
Rec.	2.0'					
(8-12')	3		383	(8-12') 0-4' Br.-orange f-c SAND and f. gravel tr. silt, wet 4"-1.8' DK. Br.-grey-blk. silt ~~f sand~~ (organic matter, little f. sand (strong septic odor-), v. moist other odor of petr.?		*Collected analytical btm sed & sample for analysis
Rec.	1.8'					
(12-16')	4		380	(12-16') 0-1.5') Grey-blk. f-c SAND and f-m gravel, little silt & c. gravel, tr. cobble sheen on water in acetate liner (215 ppm PID), wet 1.5-3.8' Orange-br. (yellow-slightly) f-c SAND, little f-c gravel, tr. silt & cobble, moist, strong petr.-sl sweet odor (380 ppm in light mat'l)		*Collected 12-16' sample for analysis
Rec.	3.8'					
16-18'	5		215	(16-18') Orange-tan-grey f-c. SAND, little f-c gravel, tr. silt, moist, (strong odor petr. solv & sl sweet)		*Collected 16-18' sample for analysis
Rec.	18"					
18-20	6		28	(18-20') White, tan, grey f. SAND, little f-m gravel, tr. silt & c. gravel, v. moist-wet, strong odor same as above		*Composited 18-20' & 20-22' samples for analysis
Rec.	13"					

SPT = STANDARD PENETRATION TEST

Soil Stratigraphy Summary

DVIRKA AND BARTILUCCI

DRILLING CONTRACTOR	DRILLING LOG	BORING NUMBER DW-1
Driller Zebra / B. Hoashi	PROJECT NAME Bartlett Tree Co. PSA	Sheet 2 of 2
Inspector D Obradovich	PROJECT # 1369-03A	Boring Location —
Rig Type Geoprobe	Location/Address Union Ave., Westbury	
Drilling Method Geoprobe		
Drive Hammer Weight NA		

GROUNDWATER OBSERVATIONS			
Water Level	37.1'		
Time	200		
Date	11/18/96		
Casing Depth	NA		

Weather P. Cloudy, cool

Date/Time Start 11/18/96 1⁰⁰ pm.

Date/Time Finish 11/18/96 4⁰⁰ "

Plot Plan —

Sample Depth	Sample Number	SPT	PID/FID Reading	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
20-22'	7		16.3	(20-22') White-tan, grey f-m SAND, little (+) f-c gravel, tr. silt		* Composited this sample with 18-20' sample for analysis
Rec.	12"			Br.-red f. sand & silt lenses (~1-2 mm thick) in top 4" of sample, moist		
				moderate petr. odor same as above		
22-24'	8		6.4	(22-24') Tan-br., white f-c SAND,		* Collected TCL VOCs sample from 22-24'
Rec.	7"			tr. (+) f-m gravel, tr. silt, petr. odor moist-v. moist		
24-26'	9		13.9	(24-26') 0-3" Br.-tan f-m SAND		* Composited w/ 22-24 & 26-28 samples
Rec.	13"			3-4" Red-grey-blk. f gravel-little m. gravel & f-c SAND, v. moist 4-7" Br.-red f. gravel & f-c sand, v. moist 7-13'		
26-28'	10		10.8	Orange-br. f-m. sand, tr. c. sand and f. gravel, v. moist tan-white 2" layer w/		* Composited w/ 22-24, & 24-26' samples
Rec.	18"			3 lenses of blk. silt, moist, petr. odor		
				(26-28') White - lt. brown f-c SAND, little (+) f-c gravel, little (+) blk silt, moist		
28-30'	11		6.8	sl. petr. odor		* Composited w/ 30-34' interval
Rec.	17"			(28-30') 0-4" Grey-tan f. sand, little silt, moist, sl. odor occassional blk silt lens		
				4-17" Tan-white f-c SAND, little f-c gravel, v. moist, sl. petr. odor & solvt-sweet)		
30-32	12		4.3	(30-32') Tan f-c SAND, tr. (+) f-m gravel, sl. petr. odor (& sl sweet solvt) moist		
Rec.	20"					
32-34'	13		8.2	(32-34') 0-4" Tan f-c SAND, tr. f-c. gravel, sl. sweet petr./solvt odor, moist	4.1 ppm	
Rec.	10"			4-10" Grey-blk. f gravel & f-c sand, tr. m gravel & silt, sweet petr./solvt odor, v. moist-wet (8.2 ppm in this soil)		
34-36'	14		21	(34-36') 0-2" Grey-blk silt & f. sand moderate sl. sweet petr./solvt odor, moist (21. ppm)		* Collected TCL VOCs sample from 34-36' bg
Rec.	22"			2-22" Orange-br. f-c SAND, tr. (+) f-c gravel, tr. silt, moist, v. sl. petr/solvt odor (4.1 ppm)		
36-38'	15		3.6	(36-38') Tan-orange f-c SAND w/ grey-blk. silt from 0-3" banded, moist	same petr. odor	* Composited w/ 34-36' sample
Rec.	18"		0.0 @ btm	From 12-14" white-tan c. sand, wet petr. odor 14"-15" Red-br. compact silt, tr. clay & f. sand, moist no odor	0.0 ppm	
				END OF SOIL POINT AT 38' bg		

SPT = STANDARD PENETRATION TEST

Soil Stratigraphy Summary —

Appendix B

APPENDIX B

DATA USABILITY SUMMARY REPORT

Data Usability Summary Report

Seven soil and eleven groundwater samples were collected during the field investigation for the PSA at the Bartlett Tree Site. The samples were analyzed for all or part of the following depending on sample location: Target Compound List (TCL) volatile organic compounds (VOCs), TCL semivolatile organic compounds (SVOCs), TCL pesticides/PCBs, TCL herbicides, malathion and Target Analyte List (TAL) metals. The analysis was performed by Nytest Environmental Inc. (NEI), a subcontractor to Dvirka and Bartilucci Consulting Engineers, in accordance with New York State Department of Environmental Conservation (NYSDEC) 12/91 Analytical Services Protocol (ASP).

All required quality assurance/quality control (QA/QC) measures were met with a few exceptions. The exceptions are summarized below by sample matrix.

Soil

For the volatile analysis, the low level matrix spike/matrix spike duplicate (MS/MSD) had all spike recoveries and relative percent differences (RPDs) outside of QC limits. The medium level MS/MSD for volatiles met all QC requirements. The volatile portion of DW-1 (8-12') required two additional dilutions for ethylbenzene and xylene. The most valid results are contained on Table 7.

Three semivolatile samples, DW-1 (12-16'), DW-1 (16-18') and DW-1 (18-22'), had surrogate recoveries outside of QC limits. The samples were reanalyzed at further dilutions due to several compound concentrations exceeding the instrument calibration range, and no further action was required. The best set of data for each sample and compound is included on Table 8.

Three semivolatile analyses, DW-1 (22-28'), DW-1 (28-34') and DW-1 (34-38'), had internal standard area counts outside QC limits. The samples were reanalyzed with similar results; therefore, the data from the initial analysis should be utilized for environmental assessment.

All the pesticide/PCB analyses were conducted at dilutions ranging from 1,000 to 1,000,000, with reanalysis for certain compounds being performed at secondary dilutions. The most usable/ valid data has been summarized on Table 9.

Due to the extremely high dilutions required for analyses, other low level pesticides may be present, but have been diluted and were not detectable; therefore, the total pesticide results have been qualified as estimated, possibly biased low. This does not affect the usability of the data since all total pesticide results were 10 to 1000 times higher than the recommended soil cleanup objective of 10,000 ug/kg for total pesticides.

Metals analysis of the soil samples was in accordance with the specified method and no problems were encountered.

Groundwater

The volatile analysis of the groundwater samples was performed in accordance with the specified method and no problems were encountered.

Three semivolatile samples, DW-1 (62'), GP-4 (37') and GP-4 (62'), were re-extracted outside of holding time due to surrogate recoveries and/or internal standard area counts being outside of QC limits. The re-extracts yielded similar results so the data from the initial runs should be utilized for environmental assessment and are summarized on Table 3.

The pesticide/PCB fraction of two groundwater samples, DW-1 (37') and DW-1 (62'), required reanalysis at 1:10 dilutions due to compound concentrations exceeding the instrument calibration range. The best data set is summarized in Table 4.

Herbicide, malathion and metals analyses were performed in accordance with specified methods and no problems were encountered. Six groundwater samples were analyzed for

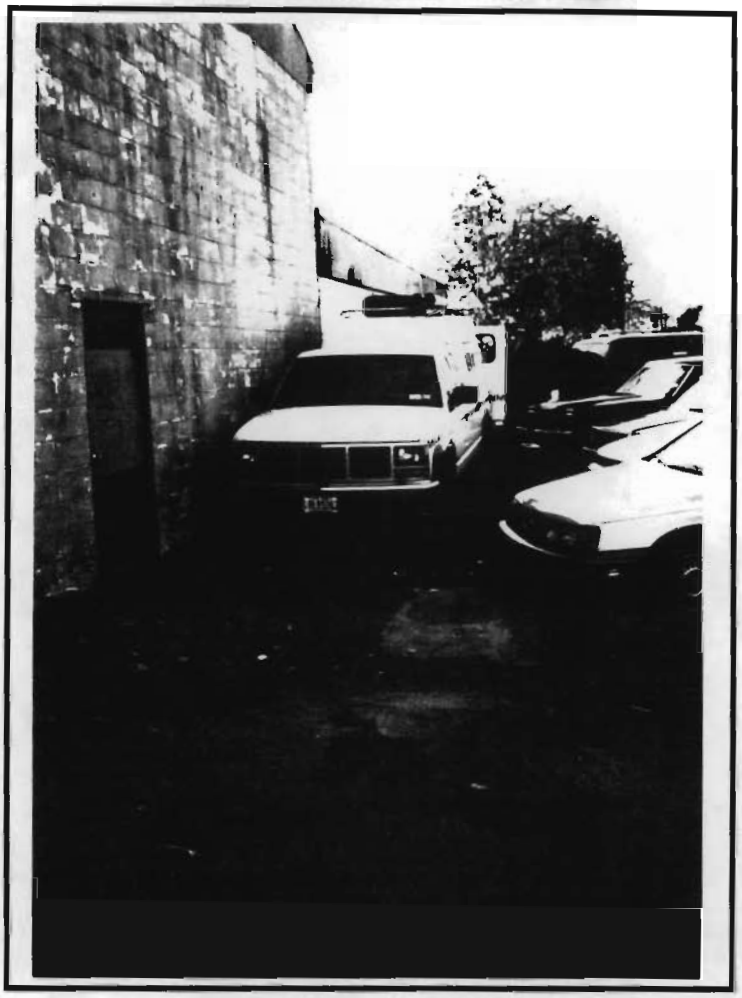
dissolved metals in addition to total metals in order to evaluate the effect of the high turbidity on the sample results.

All data is considered usable for environmental assessment as qualified above.

Appendix C

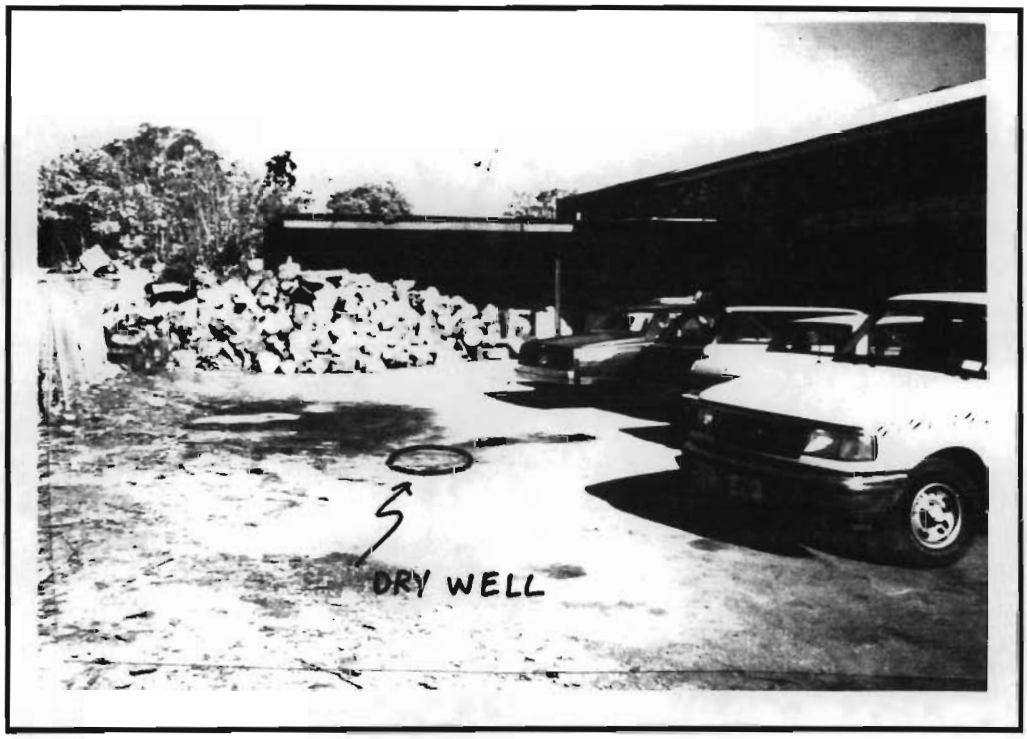
APPENDIX C

PHOTOGRAPHIC LOG



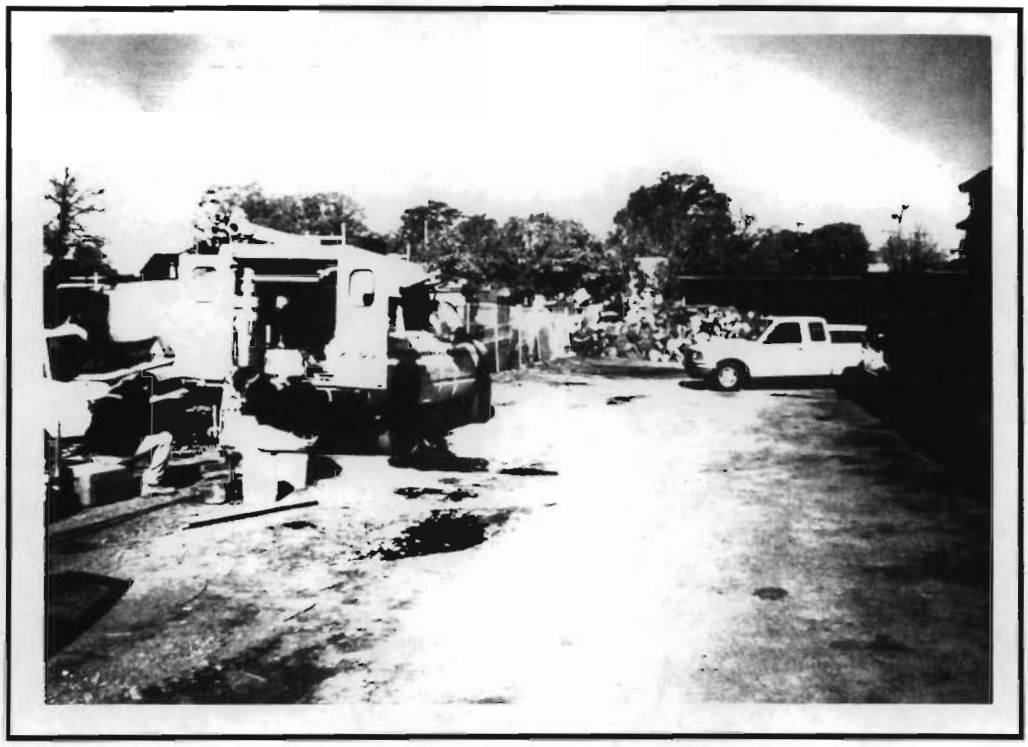
Photograph No. 1 - Location of upgradient groundwater sample GP-1, on grassy strip on north side of Bartlett Tree open equipment shed, view to the west. (November 12, 1995).

Photograph No. 2 - Geoprobe rig at upgradient station GP-1, alongside back wall of Bartlett shed (one story), view to the south. (November 12, 1995).

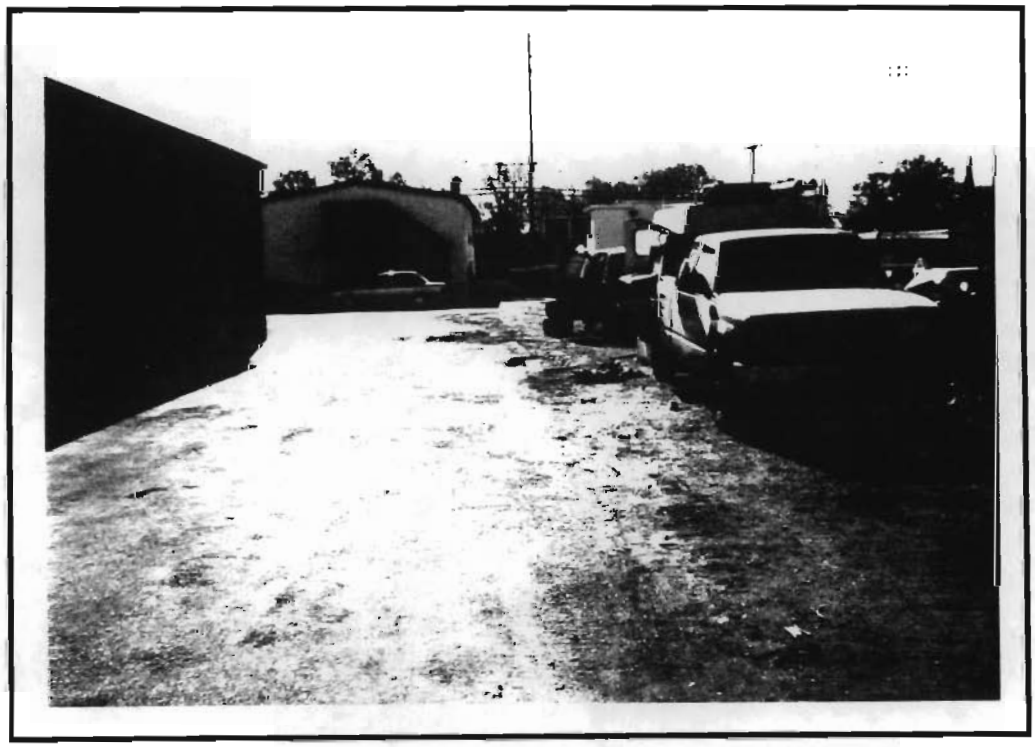


Photograph No. 3 - Dry well location, view towards the back (north) end of site, wood pile and open equipment shed in background. (November 12, 1995).

Photograph No. 4 -Dry well, DW-1, lid opened, rust-colored sand and gravel visible inside. (November 14, 1995).



Photograph No. 5 - GP-4 downgradient groundwater station, view to the north towards rear of property. Note the recently purchased unpaved strip of land along new fence line. (November 13, 1996).



Photograph No. 6 - GP-4, view to the south. Bartlett Tree office, with external staircase, center, Long Island Rail Road station in the background, Bartlett Tree garage at left. (November 13, 1996).

Photograph No. 7 - GP-3 groundwater station, looking north along new fence line (November 13, 1996).

Photograph No. 8 - GP-2, groundwater station, approximately 35 feet downgradient (southwest) of DW-1, view to northwest. (November 14, 1996).

Photograph No. 9 - GP-2 view to the southwest, looking across dry well (center). (November 14, 1996).

Photograph No. 10 - DW-1, soil sampling through the dry well, with Geoprobe; pesticide storage shed at left rear. (November 18, 1996).

Photograph No. 11 - MW-1, off-site on old Union Oil property, looking south toward Union Avenue, Taxi Office (right), Bartlett Tree office (far left). (November 13, 1996).

Photograph No. 12 - MW-1, off-site, looking east towards side of Bartlett Tree garage (center). (November 13, 1996).